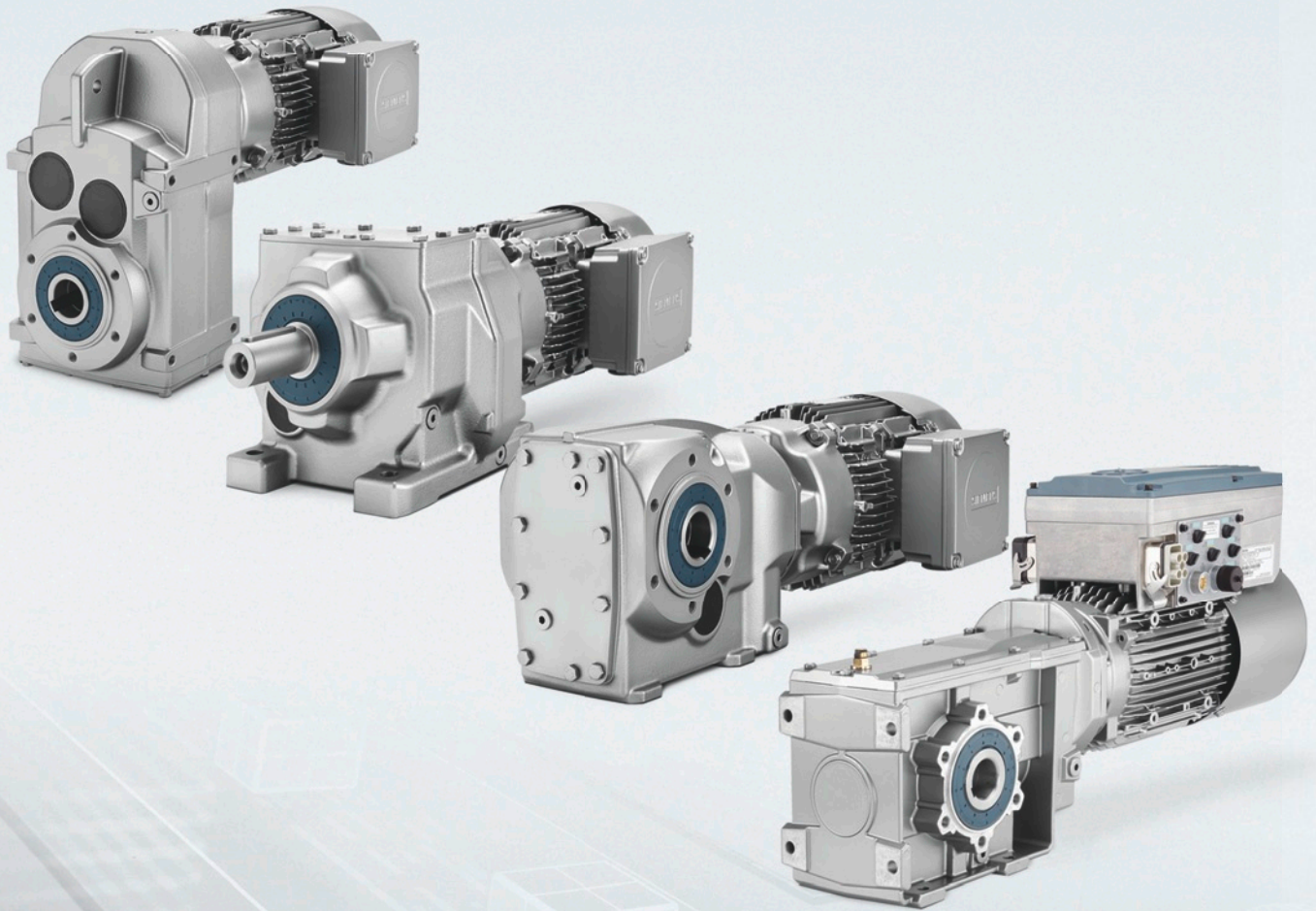


**SIEMENS**



Motion Control

# SIMOGEAR Geared Motors

Helical, parallel shaft, bevel, helical worm  
and worm geared motors



product  
design award

2013

Catalog  
MD 50.1

Edition  
2017  
PDF Update  
02/2018

[siemens.com/gearedmotors](http://siemens.com/gearedmotors)

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Update 02/2018

## Related catalogs

<p><b>SIMOGEAR</b> MD 50.11 Gearboxes with adapter</p> <p>E86060-K5250-A211-A3-7600</p>		<p><b>SIMOTICS NEMA Motors</b> D 81.2 Low Voltage AC Motors Selection and Pricing Guide</p> <p>Further details available on the Internet at: <a href="http://www.usa.siemens.com/motors">www.usa.siemens.com/motors</a></p>	
<p><b>SIMOGEAR</b> MD 50.8 Electric-monorail geared motors Light-load and heavy-load applications</p> <p>E86060-K5250-A181-A2-7600</p>		<p><b>SIMOGEAR Konfigurator</b> <b>SIMOGEAR Configurator</b> Informieren / Projektieren (CD)</p> <p>E86060-D5750-A100-A2-7400</p>	
<p><b>SIMOTICS GP, SD, XP, DP</b> D 81.1 <b>Low-Voltage Motors</b> Type series 1FP1, 1LE1, 1LE5, 1MB1 and 1PC1 Frame sizes 63 to 355 Power range 0.09 to 500 kW E86060-K5581-A111-B2-7600</p>		<p><b>Additional documentation</b></p> <p>You will find all information material, such as brochures, catalogs, manuals and operating instructions for standard drive systems up-to-date on the Internet at the address: <a href="http://www.siemens.com/gearedmotors">www.siemens.com/gearedmotors</a></p> <p>You can order the listed documentation or download it in common file formats (PDF, ZIP).</p>	
<p><b>FLENDER Couplings</b> MD 10.1 Standard Couplings</p> <p>E86060-K5710-A111-A5-7600</p>			
<p><b>FLENDER SIP</b> MD 31.1 Standard Industrial Planetary Gear Units</p> <p>E86060-K5731-A111-A5-7600</p>			
<p><b>Motion Control Drives</b> D 31.1 SINAMICS Inverters for Single-Axis Drives Built-In Units</p> <p>E86060-K5531-A111-A1-7600</p>			
<p><b>Motion Control Drives</b> D 31.2 SINAMICS Inverters for Single-Axis Drives Distributed Inverters</p> <p>E86060-K5531-A121-A1-7600</p>			
<p><b>SIMOTICS S-1FG1</b> D 41 <b>Servo geared motors</b> Helical, Parallel shaft, Bevel and Helical worm geared motors</p> <p>E86060-K5541-A101-A3-7600</p>			
<p><b>Industrial Communication</b> IK PI SIMATIC NET</p> <p>E86060-K6710-A101-B8-7600</p>			





**SIEMENS**

# SIMOGEAR Geared Motors

Helical, parallel shaft, bevel, helical worm  
and worm geared motors

Catalog MD 50.1 · 2017 PDF Update 02/2018

Dear Customer,

We are happy to present you with the new PDF version of Catalog MD 50.1 Edition 2017 – PDF Update 02/2018. Catalog MD 50.1 · 2017 is also available in printed format.

The catalog has been revised and expanded:

- The single-stage and two-stage cooling tower geared motors of series EKF and ZKF with torques of up to 19 000 Nm have now been added.
- Helical geared motors with the VLplus or XLplus reinforced bearing system as well as parallel shaft geared motors and bevel geared motors with the VLplus reinforced bearing system have also been included.
- VSD10 line motors for inverter operation have also been added.

We hope that you often use our new Catalog MD 50.1 and find it helpful.

Your personal contact will be glad to receive your suggestions and recommendations for improvement.

You can find your representative in our contact person database at

[www.siemens.com/automation-contact](http://www.siemens.com/automation-contact)

As a supplement to this catalog, the Drive Technology Configurator (DT Configurator) will help you when selecting the optimum geared motor. You can call up the 2D and 3D data in all of the usual file formats and directly process it further.

The DT Configurator can be used on the Internet without requiring any installation.

The DT Configurator can be found in the Siemens Industry Mall at the following address:

[www.siemens.com/dt-configurator](http://www.siemens.com/dt-configurator)

Please contact your local Siemens office for additional information.

Up-to-date information about SIMOGEAR geared motors is available on the Internet at:

[www.siemens.com/gearedmotors](http://www.siemens.com/gearedmotors)

Best regards,



Dr. Axel Maximilian Dietrich  
Head of Product Management for Geared Motors  
Siemens AG, Digital Factory Division, Motion Control, General Motion Control

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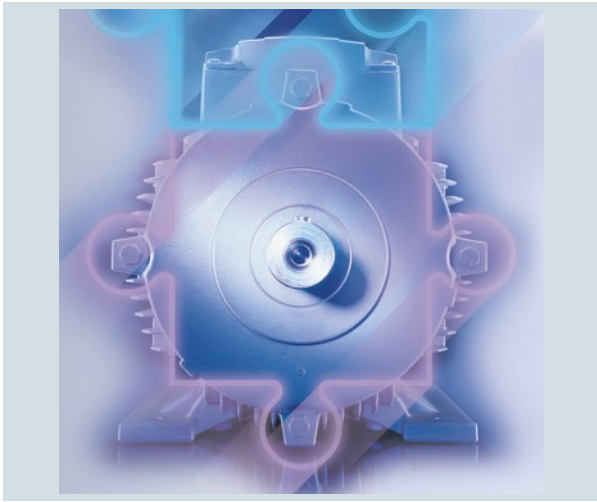
[Electro\\_Motor.ir](http://Electro_Motor.ir)



# SIMOGEAR Geared Motors

Helical, parallel shaft, bevel, helical worm and worm geared motors

Motion Control



**Catalog MD 50.1 · 2017 - PDF Update 02/2018**

Supersedes:

Catalog MD 50.1 · 2017 - PDF Edition

Refer to the Industry Mall for current updates of this catalog:

[www.siemens.com/industrymall](http://www.siemens.com/industrymall)

The products contained in this catalog can also be found in the Interactive Catalog CA 01.

Article No.: E86060-D4001-A510-D8-7600

Please contact your local Siemens branch.

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The products and systems described in this catalog are manufactured/distributed under application of a certified quality management system in accordance with EN ISO 9001 (Certified Registration No. DE-409908 QM08). The certificate is recognized by all IQNet countries.

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# Digital Enterprise

## The building blocks that ensure everything works together perfectly in the digital enterprise

Digitalization is already changing all areas of life and existing business models. It is placing greater pressure on industry while at the same time creating new business opportunities. Today, thanks to scalable solutions from Siemens, companies can already become a digital enterprise and ensure their competitiveness.



### Industry faces tremendous challenges



#### Reduce time-to-market

Today manufacturers have to bring products to market at an ever-increasing pace despite the growing complexity of these products. In the past, a major manufacturer would push aside a small one, but now it is a fast manufacturer that overtakes a slow one.



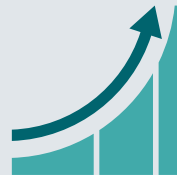
#### Boost flexibility

Consumers want customized products, but at a price they would pay for a mass-produced item. That only works if production is more flexible than ever before.



#### Improve quality

To ensure a high level of quality while meeting legal requirements, companies have to establish closed quality loops and enable the traceability of products.



#### Boost efficiency

Today the product itself needs to be sustainable and environmentally friendly, while energy efficiency in production has become a competitive advantage.



#### Increase security

Increasing networking escalates the threat to production facilities of cyberattacks. Today more than ever, companies need suitable security measures.

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### The digital enterprise has already become a reality

To fully benefit from all the advantages of digitalization, companies first have to achieve complete consistency of their data. Fully digitally integrated business processes, including those of suppliers, can help to create a digital representation of the entire value chain. This requires

- the integration of industrial software and automation,
- expansion of the communication networks,
- security in automation,
- and the use of business-specific industrial services.

### MindSphere

#### The cloud-based open IoT operating system from Siemens

With MindSphere, Siemens offers a cost-effective and scalable cloud platform as a service (PaaS) for the development of applications. The platform, designed as an open operating system for the Internet of Things, makes it possible to improve the efficiency of plants by collecting and analyzing large volumes of production data.

### Totally Integrated Automation (TIA) Where digitalization becomes reality

Totally Integrated Automation (TIA) ensures the seamless transition from the virtual to the real world. It already encompasses all the necessary conditions for transforming the benefits of digitalization into true added value. The data that will form the digital twin for actual production is generated from a common base.

#### Digital Plant

Learn more about the digital enterprise for the process industry  
[www.siemens.com/digitalplant](http://www.siemens.com/digitalplant)

#### Digital Enterprise Suite

Learn more about the digital enterprise for the discrete industry  
[www.siemens.com/digital-enterprise-suite](http://www.siemens.com/digital-enterprise-suite)

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# Integrated Drive Systems

Faster on the market and in the black with Integrated Drive Systems

SIMOGEAR is an important element of a Siemens Integrated Drive System, contributing significantly to increased efficiency, productivity, and availability in industrial production processes.

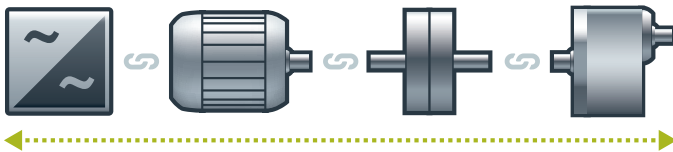
Integrated Drive Systems are Siemens' trendsetting answer to the high degree of complexity that characterizes drive and automation technology today. The world's only true one-stop solution for entire drive systems is characterized in particular by its threefold integration: Horizontal, vertical,

and lifecycle integration ensure that every drive system component fits seamlessly into the whole system, into any automation environment, and even into the entire lifecycle of a plant.

The outcome is an optimal workflow – from engineering all the way to service that entails more productivity, increased efficiency, and better availability. That's how Integrated Drive Systems reduce time to market and time to profit.

## Horizontal integration

**Integrated drive portfolio:** The core elements of a fully integrated drive portfolio are frequency converters, motors, couplings, and gear units. At Siemens, they're all available from a single source. Perfectly integrated, perfectly interacting. For all power and performance classes. As standard solutions or fully customized. No other player in the market can offer a comparable portfolio. Moreover, all Siemens drive components are perfectly matched, so they are optimally interacting.

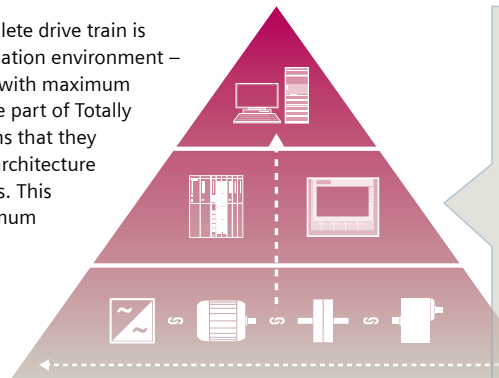


You can boost the availability of your application or plant to up to

**99%\***  
\*e.g., conveyor application

## Vertical integration

Thanks to **vertical integration**, the complete drive train is seamlessly integrated in the entire automation environment – an important prerequisite for production with maximum value added. Integrated Drive Systems are part of Totally Integrated Automation (TIA), which means that they are perfectly embedded into the system architecture of the entire industrial production process. This enables optimal processes through maximum communication and control.



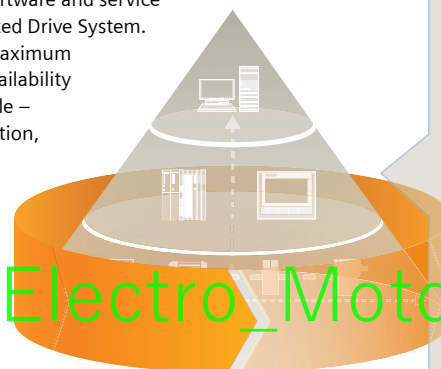
With TIA Portal you can cut your engineering time by up to

**30%**

## Lifecycle integration

**Lifecycle integration** adds the factor of time: Software and service are available for the entire lifecycle of an Integrated Drive System. That way, important optimization potential for maximum productivity, increased efficiency, and highest availability can be leveraged throughout the system's lifecycle – from planning, design, and engineering to operation, maintenance, and all the way even to modernization.

With Integrated Drive Systems, assets become important success factors. They ensure shorter time to market, maximum productivity and efficiency in operation, and shorter time to profit.



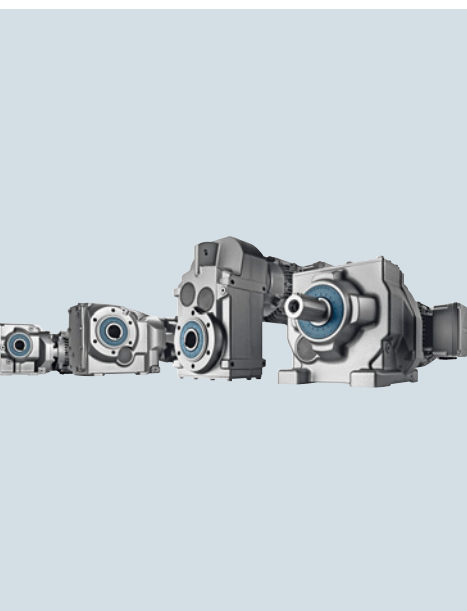
With Integrated Drive Systems you can reduce your maintenance costs by up to

**15%**

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## Introduction



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## Introduction

### Orientation

## Overview

### Geared motors

SIMOGEAR is the new generation of geared motors from Siemens. SIMOGEAR gearboxes are available as helical, parallel shaft, bevel, helical worm, and worm geared motors.

State-of-the-art production technology and improved testing methods ensure the highest degree of quality and reliability.

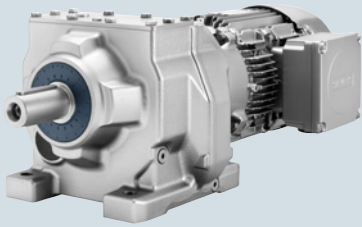
Gearbox type	Gearbox designation	Number of sizes	Maximum output torque	Transmission ratio	Maximum motor power <sup>1)</sup>
			$T_{2N}$ Nm	$i$	$P_1$ kW
<b>Helical geared motors</b>					
	Z19 ... Z189 (2-stage)	13	100 ... 19 000	3.4 ... 62.48	55
	D19 ... D189 (3-stage)	13	100 ... 19 000	36 ... 328	55
	<u>Cooling tower geared motors</u> ZK89 ... ZK189	6	1 060 ... 19 000	3.85 ... 62.48	55

Fig. 1/1 Helical geared motor D/Z

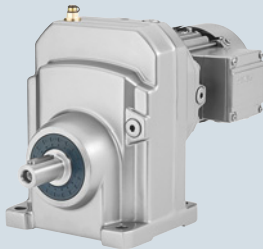
	E39 ... E149 (1-stage)	7	30 ... 1 490	1.29... 9.79	55
	<u>Cooling tower geared motors</u> EK89 ... EK149	4	280 ... 1 490	1.3 ... 9.79	55

Fig. 1/2 Helical geared motor E

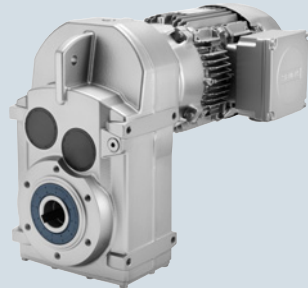
<b>Parallel shaft geared motors</b>					
	FZ29 ... FZ189 (2-stage)	11	150 ... 19 000	4 ... 48	55
	FD29 ... FD189 (3-stage)	11	150 ... 19 000	58 ... 377	55

Fig. 1/3 Parallel shaft geared motor FD/FZ

<b>Bevel geared motors</b>					
	B19 ... B49 (2-stage)	4	50 ... 450	3.6 ... 59	7.5

Fig. 1/4 Bevel geared motor B

<sup>1)</sup> With 4-pole motor for a 50 Hz line frequency in integral type of construction

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## Geared motors

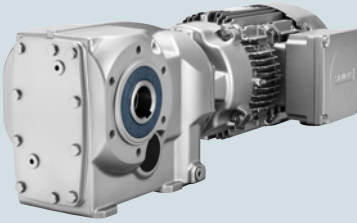
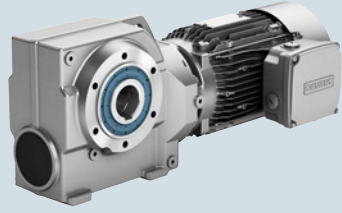
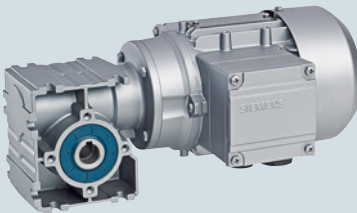
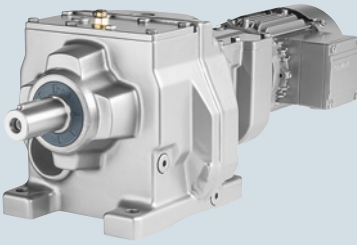
Gearbox type	Gearbox designation	Number of sizes	Maximum output torque $T_{2N}$ Nm	Transmission ratio $i$ -	Maximum motor power <sup>1)</sup> $P_1$ kW
<b>Bevel geared motors</b>					
	K39 ... K189 (3-stage)	10	150 ... 19 500	5.7 ... 237	55
<b>Helical worm geared motors</b>					
	C29 ... C89 (2-stage)	5	61 ... 1 450	6.5 ... 363	7.5
<b>Worm geared motors</b>					
	S09 ... S29 (1-stage)	3	33 ... 116	5.0 ... 100	0.55
<b>Tandem geared motors</b>					
	D-29-Z19 ... D.189-D69 (4-stage to 6-stage)	12	140 ... 19 000	325 ... 27 816	7.5
	FZ.29-Z19 ... FD.189-D69 (4-stage to 6-stage)	11	150 ... 19 000	274 ... 29 900	7.5
	K.39-D/Z19 ... K189-DZ69 (5-stage or 6-stage)	10	220 ... 19 500	170 ... 14 900	7.5
	C.29-D/Z19 ... C.89-D/Z39 (4-stage or 5-stage)	5	80 ... 1 310	270 ... 19 000	7.5

Fig. 1/8 Example of a tandem geared motor

<sup>1)</sup> With 4-pole motor for a 50 Hz line frequency in integral type of construction

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## Introduction

### Orientation

#### Overview

#### Geared motors (continued)

##### Torque classes

SIMOGEAR geared motors are classified according to fixed torque steps.

Within a torque class, for the various gearbox types, almost the same output torques are achieved.

##### Helical gearboxes Z and D (2-stage and 3-stage)

Size	-	19	29	39	49	59	69	79	89	109	129	149	169	189	
Maximum output torque	Nm	-	100	140	200	320	450	600	840	1 680	3 100	5 000	8 000	14 000	19 000

##### Cooling tower gearboxes ZK (2-stage)

Maximum output torque	Nm	-	-	-	-	-	-	-	-	1 680	3 100	5 000	8 000	14 000	19 000
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##### Helical gearbox E (1-stage)

Size	-	-	-	39	49	-	69	-	89	109	129	149	-	-
Maximum output torque	Nm	-	-	65	108	-	205	-	365	565	800	1 490	-	-

##### Cooling tower gearboxes (1-stage)

Maximum output torque	Nm	-	-	-	-	-	-	-	365	565	800	1 490	-	-
-----------------------	----	---	---	---	---	---	---	---	-----	-----	-----	-------	---	---

##### Parallel shaft gearboxes FZ and FD (2-stage and 3-stage)

Size	-	-	29	39	-	49	69	79	89	109	129	149	169	189	
Maximum output torque	Nm	-	-	150	290	-	480	600	1 000	1 850	3 100	4 850	8 000	13 600	19 000

##### Bevel gearbox B (2-stage)

Size	-	19	29	39	-	49	-	-	-	-	-	-	-	-
Maximum output torque	Nm	-	50	110	250	-	450	-	-	-	-	-	-	-

##### Bevel gearbox K (3-stage)

Size	-	-	-	39	-	49	69	79	89	109	129	149	169	189
Maximum output torque	Nm	-	-	220	-	420	600	820	1 600	2 900	4 400	8 000	13 000	19 500

##### Helical worm gearbox C (2-stage)

Size	-	-	29	39	-	49	69	-	89	-	-	-	-	-
Maximum output torque	Nm	-	-	110	235	-	400	675	-	1 450	-	-	-	-

##### Worm gearbox S (1-stage)

Size		09	19	29	-	-	-	-	-	-	-	-	-	-
Maximum output torque	Nm	33	72	116	-	-	-	-	-	-	-	-	-	-

#### Benefits

##### High energy efficiency for a fast return on investment

When developing SIMOGEAR geared motors, significant emphasis was placed on achieving the highest possible energy efficiency.

Using the plug-on pinion principle in the first SIMOGEAR gearbox stage, higher transmission ratios are achieved when compared to gearboxes with slip-on pinion.

This means that frequently instead of 3-stage gearboxes with an efficiency of approx. 94 %, 2-stage helical and parallel shaft gearboxes with a high efficiency of  $\geq 96$  % can be used.

Two-stage SIMOGEAR bevel geared motors B have a mechanical efficiency of  $\geq 96$  %. With a range of transmission ratios from  $i = 3.5$  to 60, they have been specifically designed to address the requirements in conveyor technology.

Together with the new Siemens 1LE1 motors for efficiency classes IE2 (High Efficiency) and IE3 (Premium Efficiency), SIMOGEAR geared motors allow a high amount of energy to be saved and reduce the stress on our environment.

##### Extremely compact and low weight for easy handling in the machine or system in the smallest space

An integrated end shield instead of an adapter plate and end shield reduces the weight and space required in your machine or system. In addition, interfaces and sealing joints are reduced as a result of the integrated end shield.

With the SIMOGEAR bevel gearboxes, the length was able to be significantly reduced through an optimized bearing design.

SIMOGEAR helical gearboxes D/Z29 to D/Z39 (200 Nm), parallel shaft gearboxes F29 (150 Nm), bevel gearboxes B19 to B49 (450 Nm), and helical worm gearboxes C29 (100 Nm) have an aluminum gearbox housing.

##### Harmoniously coordinated modular system to provide the optimum solution for your particular drive task

The fine size graduations of SIMOGEAR gearboxes provide you the optimum drive for every application regarding gearbox type, rated output torque and transmission ratio.

When developing SIMOGEAR geared motors, significant emphasis was placed on achieving well-balanced gearbox properties.

With SIMOGEAR geared motors you can depend on harmonized and coordinated properties regarding:

- Maximum output torque
- Permissible radial force
- Output shaft diameter
- Bearing service life
- Housing stiffness
- Gearing reliability (fatigue endurable)
- Shaft strength (fatigue endurable)

**Benefits** (continued)***Fine ratio stages  
to always obtain the output speed required***

With their wide range of transmission ratios, from very low up to very high, SIMOGEAR geared motors provide the necessary flexibility for your drive application.

As a result of the wide ratio range, 4-pole induction motors can be mainly used – the most cost-effective solution.

Further, the gearboxes are quieter as a result of the lower circumferential velocity of the first gearbox stage.

***Intelligent sealing concept  
for a high degree of maintenance friendliness***

An optimally coordinated sealing concept is available for the SIMOGEAR gearbox output shaft to address the various application areas and ambient conditions.

Gearbox sizes 19 and 29 are lubricated for life.

All SIMOGEAR geared motors with venting have as standard a pressure breather valve.

***The MODULOG modular principle  
for outstanding flexibility***

The motors used for the SIMOGEAR geared motors have a modular design using our well-proven MODULOG modular principle.

At the heart of the system is a basic motor dimensioned for international line supply conditions with power ratings extending from 0.09 to 55 kW (2/4/6/8-pole).

At the non-drive end (NDE), you have an individually configurable MODULOG modular system, e.g. for brakes, backstop, rotary pulse encoder, separately driven fan, and canopy.

This guarantees high availability as well as short delivery times.

**Integration**

SIMOGEAR geared motors are part of the Siemens Integrated Drive System (IDS).

Siemens Integrated Drive System (IDS) stands for standardized, tailored, and modular components, systems, and services. It encompasses the world's most extensive portfolio – from geared motors through motor starters and inverters, identification systems and switchgear up to the automation.

The complete portfolio is exhaustively tested – also in the field – for maximum availability. The components are harmonized and coordinated with one another with standard interfaces and power bus systems.

Siemens Integrated Drive System (IDS) therefore allows you to reduce your installation and commissioning costs, and at the same time increase flexibility and system availability.

Energy-efficient motors, motor starters, soft-starters, and inverters as well as the Power Management system based on SIMATIC PCS 7, SIMATIC WinCC, and multi-function measuring devices ensure a high energy saving potential.

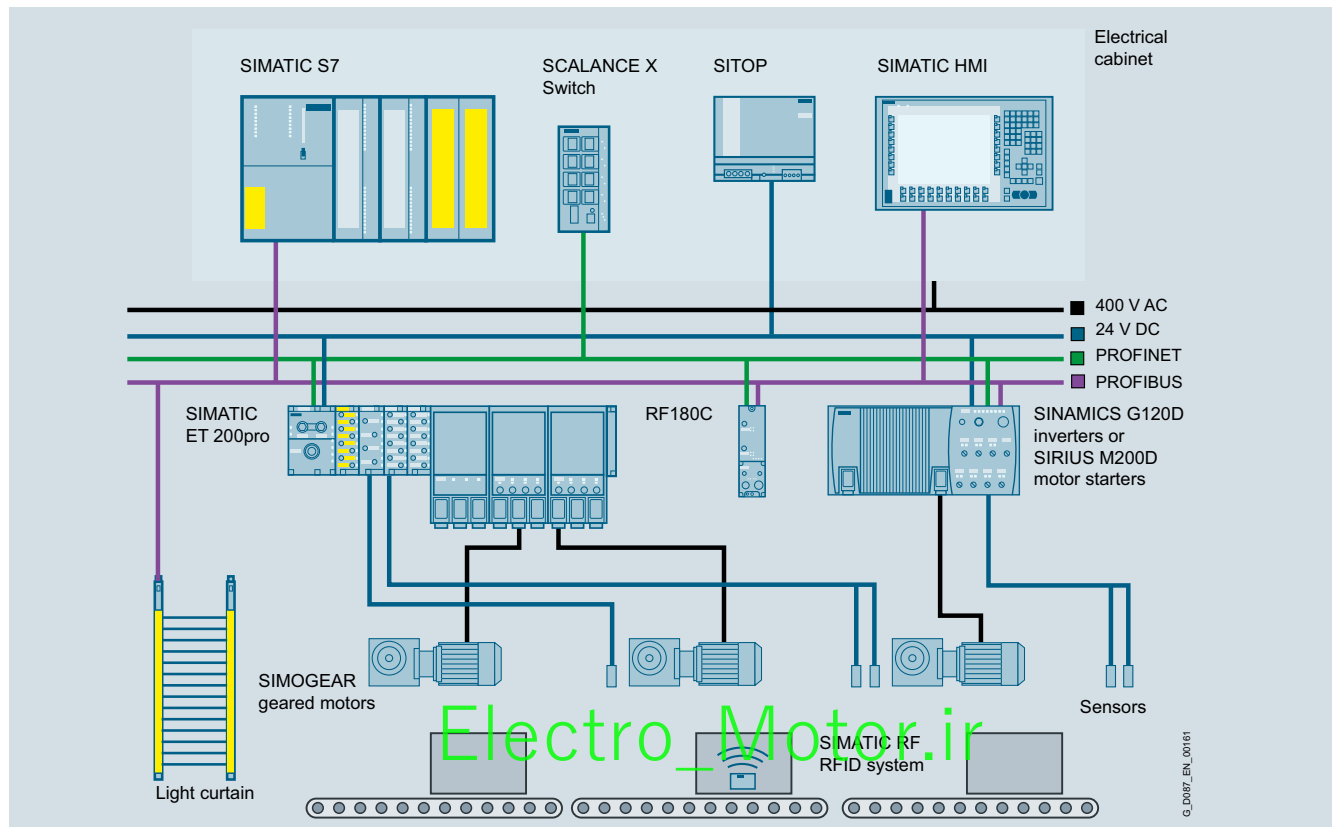


Fig. 1/9 Example of the Siemens Integrated Drive System (IDS) for sophisticated conveyor applications

## Introduction

### Orientation

1

## Configuration

### Drive Technology Configurator (DT Configurator) within the CA 01

The Interactive Catalog CA 01 – the offline Industry Mall of Siemens on DVD-ROM – contains over 100 000 products with approximately 5 million possible drive system product variants. The Drive Technology Configurator (DT Configurator) has been developed to facilitate selection of the correct geared motor and/or inverter from the wide spectrum of drives. It is integrated as a selection tool in Catalog CA 01.

Description	Article No.
<b>Interactive Catalog CA 01</b> on DVD-ROM including Drive Technology Configurator, English	<b>E86060-D4001-A510-D8-7500</b>

### Drive Technology Configurator (DT Configurator)

The Drive Technology (DT) Configurator supports you when configuring the optimum drive technology products for your application – from gearboxes, motors, inverters as well as the associated options and components through to controllers, software licenses and connection systems. With or without detailed knowledge of products: Preselected product groups, targeted navigation through selection menus and direct product selection through entry of the article number support quick, efficient, and convenient configuration.

In addition to all this, comprehensive documentation comprising technical data sheets, 2D dimensional drawings/3D CAD models, operating instructions, certificates, etc. can be selected in the DT Configurator. Immediate ordering is possible by simply transferring a parts list to the shopping cart of the Industry Mall.

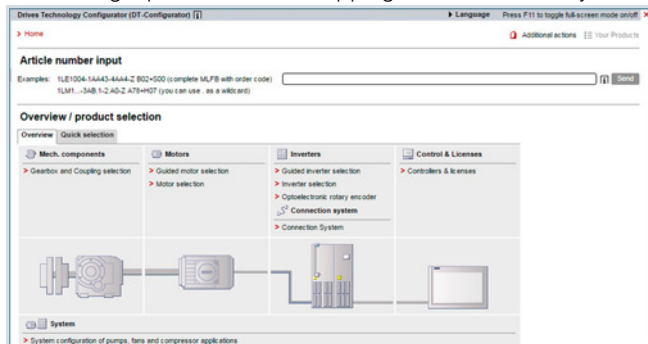


Fig. 1/10 DT Configurator

### Drive Technology Configurator for efficient drive configuration with the following functions

- Fast, efficient configuration of drive products and associated components – gearboxes, motors, inverters, controllers, connection systems
- Configuration of drive systems for pumps, fans and compressor applications from 1 kW to 2.6 MW
- Displayable documentation for configured products and components, such as
  - Data sheets in PDF or RTF format
  - 2D dimensional drawings/3D CAD models in various formats
  - Operating instructions
  - Certificates
  - Start-up calculation for SIMOTICS motors
- Support with retrofitting in conjunction with Spares On Web ([www.siemens.com/sow](http://www.siemens.com/sow))
- Ability to order products directly in the Siemens Industry Mall

### Access to the Drive Technology Configurator

The Drive Technology Configurator can be called up without registration and without a login:  
[www.siemens.com/dt-configurator](http://www.siemens.com/dt-configurator)

### STARTER commissioning tool

The STARTER commissioning tool (V4.3 SP3 and higher) simplifies the commissioning and maintenance of the SINAMICS G110M motor integrated frequency inverter. The operator guidance combined with comprehensive, user-friendly functions for the relevant drive solution allow you to commission the device quickly and easily.

Additional information about the STARTER commissioning tool is available on the Internet at:  
[www.siemens.com/starter](http://www.siemens.com/starter)

### SINAMICS Startdrive commissioning tool

SINAMICS Startdrive is a tool for configuring, commissioning, and diagnosing the SINAMICS family of drives and is integrated into the TIA Portal. SINAMICS Startdrive can be used to implement drive tasks with the SINAMICS G110M (SINAMICS Startdrive V13 and higher), SINAMICS G120, SINAMICS G120C, SINAMICS G120D, and SINAMICS G120P inverter series. The commissioning tool has been optimized with regard to user friendliness and consistent use of the TIA Portal benefits of a common working environment for PLC, HMI and drives.

The SINAMICS Startdrive commissioning tool is available free on the Internet at:  
[www.siemens.com/startdrive](http://www.siemens.com/startdrive)

### SIZER for Siemens Drives

For the project engineering of SIMOGEAR geared motors operating on SINAMICS frequency inverters, the engineering tool "Sizer for Siemens Drives" should be used. This ensures that all the relevant aspects are taken into consideration (line voltage, type of DC link (regulated/unregulated), utilization of the motor in accordance with temperature class B or F, motor current for inverter operation in Y circuit or D circuit, calculation of the regenerative power, dimensioning of the braking resistor with reference to the entered cyclic operation, etc.)

The SIZER for Siemens Drives engineering tool is available free on the Internet at:  
[www.siemens.com/sizer](http://www.siemens.com/sizer)

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### Overview

The Article No. comprises a combination of digits and letters. To obtain a better overview, the Article No. is split up into three, hyphenated blocks.

Example:

2KJ3105-1EM22-2AS1-Z +D01+M55

The first block (data positions 1 to 7) designates the gearbox type; the second (data positions 8 to 12) designates the output shaft and the motor type; and additional design characteristics are coded in the third block (data positions 13 to 16).

### Ordering data

- Complete Article No. with a **-Z** suffix, and order code(s) or plain text.
- If a quotation has been requested, please specify the quotation number in addition to the Article No.
- When ordering a complete geared motor as a replacement unit, the serial number of the original geared motor must be specified.

### Structure of the Article No.

Position of the Article No.	1	2	3	4	5	6	7	-	8	9	10	11	12	-	13	14	15	16	-	Z																								
<b>SIMOGEAR geared motors</b>																																												
<b>1st to 5th position:</b>	Helical gearbox E, 1-stage																			<b>2</b>	<b>K</b>	<b>J</b>	<b>3</b>	<b>0</b>																				
Digit, letter,	Helical gearbox Z, 2-stage																			<b>2</b>	<b>K</b>	<b>J</b>	<b>3</b>	<b>1</b>																				
Letter, digit, digit	Helical gearbox D, 3-stage																			<b>2</b>	<b>K</b>	<b>J</b>	<b>3</b>	<b>2</b>																				
	Parallel shaft gearbox FZ, 2-stage																			<b>2</b>	<b>K</b>	<b>J</b>	<b>3</b>	<b>3</b>																				
	Parallel shaft gearbox FD, 3-stage																			<b>2</b>	<b>K</b>	<b>J</b>	<b>3</b>	<b>4</b>																				
	Bevel gearbox B, 2-stage																			<b>2</b>	<b>K</b>	<b>J</b>	<b>3</b>	<b>5</b>																				
	Bevel gearbox K, 3-stage																			<b>2</b>	<b>K</b>	<b>J</b>	<b>3</b>	<b>5</b>																				
	Helical worm gearbox C, 2-stage																			<b>2</b>	<b>K</b>	<b>J</b>	<b>3</b>	<b>6</b>																				
	Worm gearbox S, 1-stage																			<b>2</b>	<b>K</b>	<b>J</b>	<b>3</b>	<b>7</b>																				
<b>6th to 7th position:</b>	Gearbox size																																											
Digit, digit																																												
<b>8th position:</b>	Output shaft																																											
Digit																																												
<b>9th to 10th position:</b>	Motor frame size																																											
Letter, letter																																												
<b>11th position:</b>	Induction motor LA																																											
Digit	Induction motor LE General Purpose (aluminum)																																											
	Induction motor LES Severe Duty; Basic Line (cast iron)																																											
<b>12th position:</b>	Motor with improved efficiency (Standard Efficiency IE1)																																											
Digit	Motor with high efficiency (High Efficiency IE2)																																											
	Motor with premium efficiency (Premium Efficiency IE3)																																											
<b>13th position:</b>	Frequency, voltage																																											
Digit																																												
<b>14th position:</b>	Foot-mounted design																																											
Letter	Foot/flange-mounted design																																											
	Torque arm Bevel gearbox K																																											
	Torque arm Parallel shaft gearbox F, Bevel gearbox B																																											
	Helical worm gearbox C																																											
	Worm gearbox S																																											
	Flange-mounted design																																											
	Housing flange design																																											
<b>15th to 16th position:</b>	Transmission ratio																																											
Letter, digit																																												
<b>Special designs</b>																																												
Coded	Order code required																																											
Non-coded	Plain text required																																											

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## Introduction

### Guidelines for selection and ordering

#### Article No. code

#### Overview (continued)

##### Ordering example

A helical geared motor is required:

- Gearbox type, size Z59
- Motor 1.5 kW, 4-pole with 50 Hz line frequency
- Output speed 49, transmission ratio  $i = 28.89$
- Solid shaft V35 x 70
- Mounting position M1
- Terminal box position 1A

This results in the following Article No. with order codes:

Position of the Article No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Z	+	Order codes					
Selection criteria	Requirements																								
Gearbox type	Helical gearbox Z, 2-stage	2	K	J	3	1	.	.	-	■	.	.	■	■	-	■	■	■	■	-	■	+	.	+	.
Gearbox size	Size 59	2	K	J	3	1	0	5																	
Output shaft	Solid shaft V35 x 70	2	K	J	3	1	0	5	-	1															
Motor frame size	Frame size 90; 1.5 kW; 4-pole	2	K	J	3	1	0	5	-	1	E	M													
Motor type	Induction motor LE General Purpose	2	K	J	3	1	0	5	-	1	E	M	2												
Motor efficiency	High Efficiency IE2	2	K	J	3	1	0	5	-	1	E	M	2	2											
Line voltage, frequency	230 V Δ/400 V Y // 460 V Y, 50//60 Hz	2	K	J	3	1	0	5	-	1	E	M	2	2	-	2									
Mounting type	Foot-mounted design	2	K	J	3	1	0	5	-	1	E	M	2	2	-	2	A								
Transmission ratio	$i = 28.89$	2	K	J	3	1	0	5	-	1	E	M	2	2	-	2	A	S	1						
Mounting position	M1	2	K	J	3	1	0	5	-	1	E	M	2	2	-	2	A	S	1	-	Z	+	D01		
Terminal box position	1A	2	K	J	3	1	0	5	-	1	E	M	2	2	-	2	A	S	1	-	Z	+	D01	+	M55

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### Type designation of the gearboxes

The type designation is a meaningful name for SIMOGEAR geared motors.

It provides information about the fundamental design of the geared motor and about its main technical features.

Example of gearbox type designation:		F	D	A	F	S	W	89	-	Z	39
<b>Gearbox type</b>											
	Helical gearbox	-									
	Cooling tower gearbox, 1-stage	EKF									
	Cooling tower gearbox, 2-stage	ZKF									
	Parallel shaft gearbox	F									
	Bevel gearbox, 2-stage	B									
	Bevel gearbox, 3-stage	K									
	Helical worm gearbox	C									
	Worm gearbox	S									
<b>Stage</b>											
	1-stage (for helical gearbox only)	E									
	2-stage	Z							-		
	3-stage	D									
<b>Type</b>											
<b>Shaft</b>											
	Solid shaft	-									
	Hollow shaft	A									
	Plug-in shaft	E									
<b>Mounting</b>											
	Foot-mounted design	-									
	Foot/flange-mounted design	B									
	Flange-mounted design	F									
	Housing flange design	Z									
	Torque arm	D									
<b>Connection</b>											
	Feather key / without feather key	-									
	Shrink disk	S									
	Splined shaft	T									
	SIMOLOC assembly system	R									
<b>Special features</b>											
	Reduced-backlash version	-					W				
<b>Gearbox size</b>											
	Helical gearbox, 1-stage							39 ... 149			
	Helical gearbox, 2-stage/3-stage							19 ... 189			
	Cooling tower gearbox, single-stage							89 ... 149			
	Cooling tower gearbox, 2-stage							89 ... 189			
	Parallel shaft gearbox, 2-stage/3-stage							29 ... 189			
	Bevel gearbox, 2-stage							19 ... 49			
	Bevel gearbox, 3-stage							39 ... 189			
	Helical worm gearbox, 2-stage							29 ... 89			
	Worm gearbox, 1-stage							09 ... 29			
<b>Gearbox type - intermediate gearbox</b>											
	Helical gearbox								-	-	
<b>Stage - intermediate gearbox</b>											
	2-stage								-	Z	
	3-stage								-	D	
<b>Gearbox size</b>											
	Helical gearbox, 2-stage/3-stage										19 ... 69

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## Introduction

Guidelines for selection and ordering

### Type designation

#### Type designation of the motors

Example of motor type designation:		LE	90	ZLR	-	4	P	MFW	L	32/14	MN	IA	SI04
<b>Definition of motor</b>													
<b>Motor type</b>	Three-phase motor	Aluminum housing	<b>LA, LE</b>										
		Cast iron housing	<b>LES</b>										
<b>Type</b>	Integral mounting												
	IEC B14 flange												
<b>Motor frame size</b>	Specified acc. to EN 50347		<b>63 ... 250</b>										
<b>Overall length</b>	Extended housing			<b>Z</b>									
	Overall length specified acc. to EN 50347			<b>S, L, M</b>									
	Packet length / power value			<b>A ... Z</b>									
<b>Number of poles</b>	2-pole						<b>2</b>						
	4-pole						<b>4</b>						
	6-pole						<b>6</b>						
	8-pole						<b>8</b>						
<b>Special features</b>													
<b>Efficiency class</b>	Different to IE2 or IE3						<b>-</b>						
	IE2 (High Efficiency)						<b>E</b>						
	IE3 (Premium Efficiency)						<b>P</b>						
<b>SINAMICS G110M</b>	With motor integrated frequency inverter SINAMICS G110M							<b>M</b>					
<b>Ventilation</b>	Self ventilation						<b>-</b>						
	Forced ventilation						<b>F</b>						
	High inertia fan						<b>I</b>						
<b>Canopy</b>	With protective cover						<b>W</b>						
<b>Handwheel</b>	With handwheel						<b>D</b>						
<b>Backstop</b>	With backstop						<b>X</b>						
<b>Brake</b>													
<b>Brake type</b>	DC brake								<b>L, FDX</b>				
<b>Rated braking torque</b>	L brakes									<b>4 ... 400</b>			
	FDX brakes									<b>30, 40</b>			
	Adjusted braking torque									<b>/1.4 ... 1 000</b>			
<b>Brake options</b>													
	Microswitch for monitoring brake release										<b>M</b>		
	Standard version										<b>N</b>		
	Enclosed brake										<b>G</b>		
	Manual brake release										<b>H</b>		
	Manual brake release with locking mechanism										<b>HA</b>		
<b>Encoder</b>													
	Incremental encoder											<b>IN</b>	
	Resolver											<b>IR</b>	
	Absolute encoder											<b>IA</b>	
	Prepared for encoder mounting											<b>IV</b>	
<b>Functional safety</b>													
	Functionally safe rotary encoder												<b>SI04</b>

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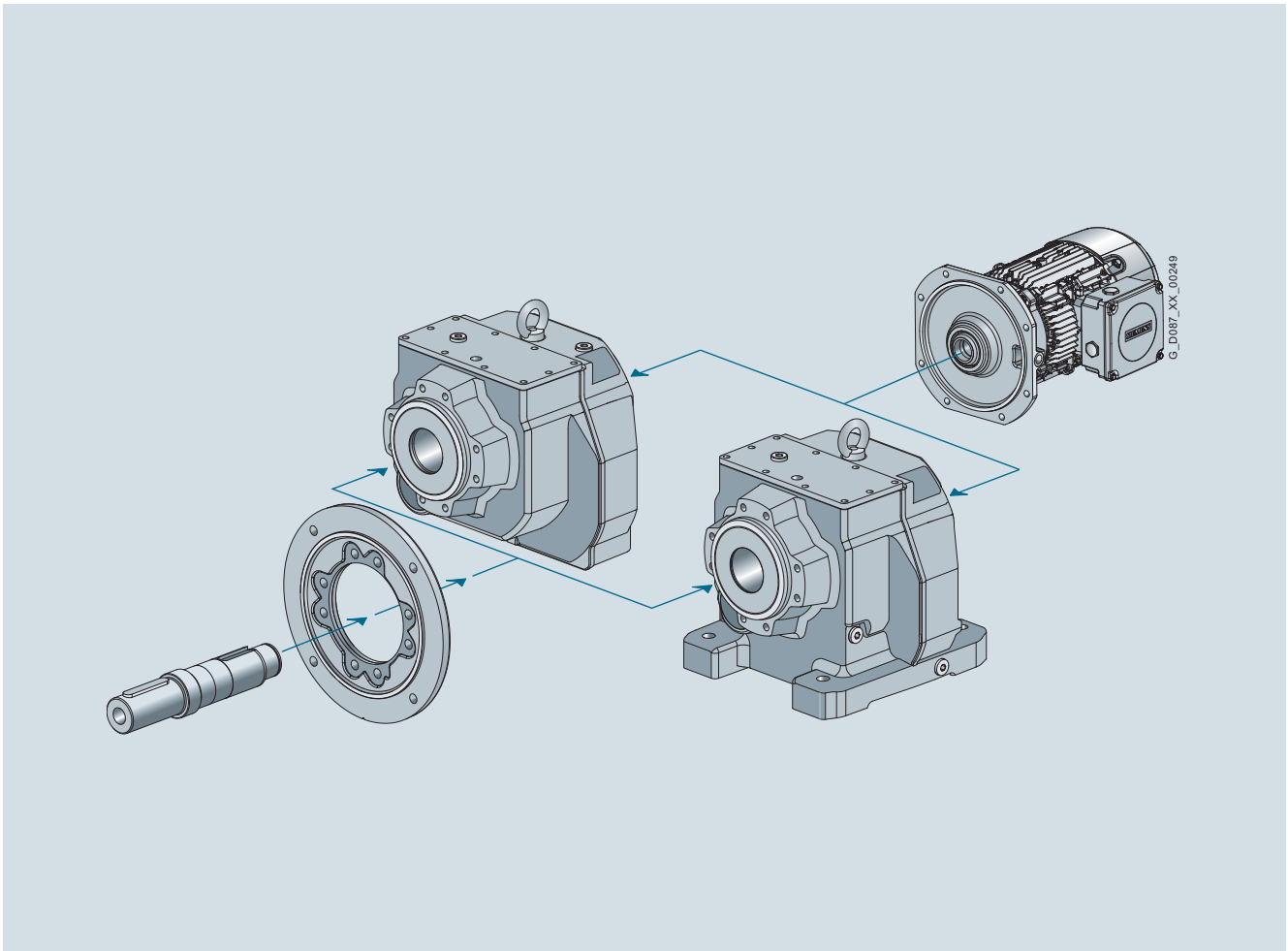
**Overview**
**Helical geared motors**


Fig. 1/11 Modular system, helical geared motor

SIMOGEAR helical geared motors are available in the following versions for mounting in any position:

- 2 or 3 stages
- 1 stage for high output speeds
- 4 to 6 stages for especially low output speeds
- Foot-mounted design
- Flange-mounted design
- Flange-mounted design with VLplus and XLplus reinforced bearing systems
- Design with integrated housing flange
- Combined foot/flange-mounted design (frame size 29 to 89)
- Cooling tower version
- Solid shaft design with and without feather key

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## Introduction

Guidelines for selection and ordering

### Designs

#### Overview (continued)

#### Parallel shaft geared motors

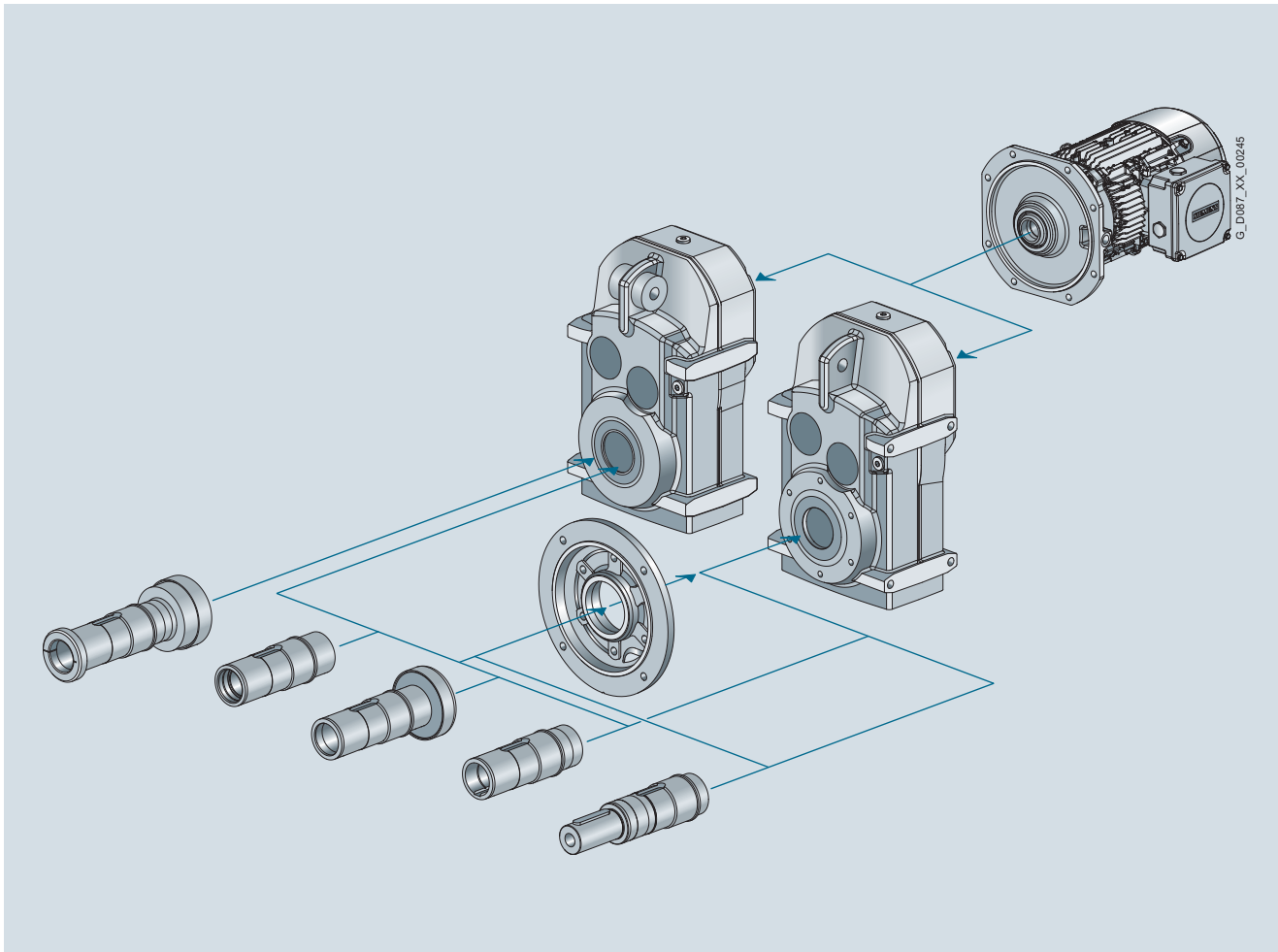


Fig. 1/12 Modular system, parallel shaft geared motor

SIMOGEAR parallel shaft geared motors are available in the following versions for mounting in any position:

- 2 or 3 stages
- 4 to 6 stages for especially low output speeds
- Shaft-mounted design with torque arm
- Flange-mounted design
- Flange-mounted design with VLplus reinforced bearing system
- Design with integrated housing flange
- Foot-mounted design
- Hollow shaft design with feather key, splined shaft, shrink disk or SIMOLOC assembly system
- Solid shaft design with and without feather key

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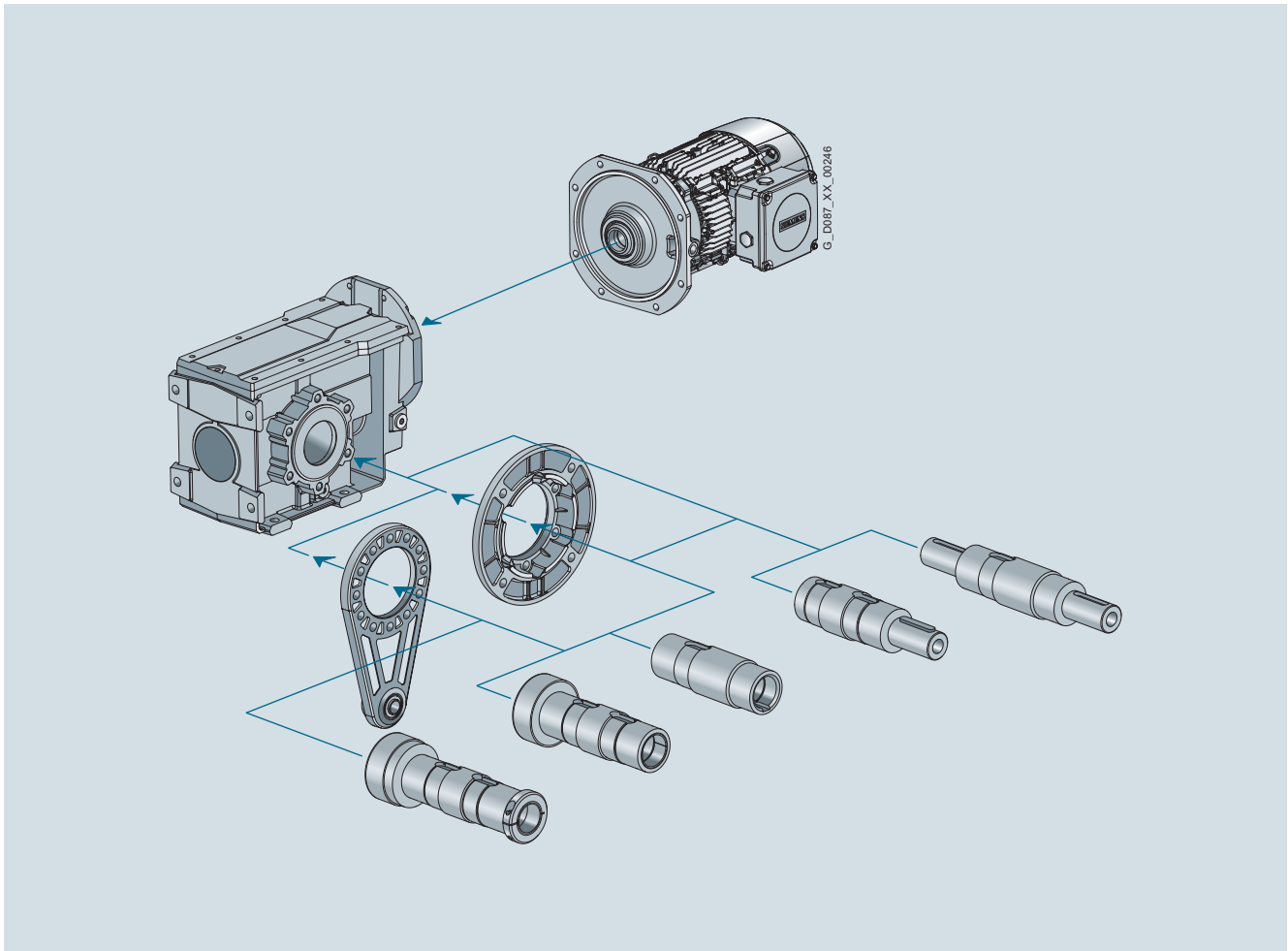
**Overview** (continued)**Bevel geared motors B**

Fig. 1/13 Modular system, bevel geared motor B

SIMOGEAR bevel geared motors B are available in the following versions for mounting in any position:

- 2 stages
- Shaft-mounted design with torque arm
- Flange-mounted design
- Design with integrated housing flange
- Foot-mounted design
- Hollow shaft design with feather key, splined shaft, shrink disk or SIMOLOC assembly system
- Solid shaft design with and without feather key (at one end or both ends)

For 2-stage bevel gearboxes B, the torque arm is supplied loose to enable it to be mounted as required on site. The position of the torque arm can be freely selected.

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## Introduction

Guidelines for selection and ordering

### Designs

#### Overview (continued)

#### Bevel geared motors K

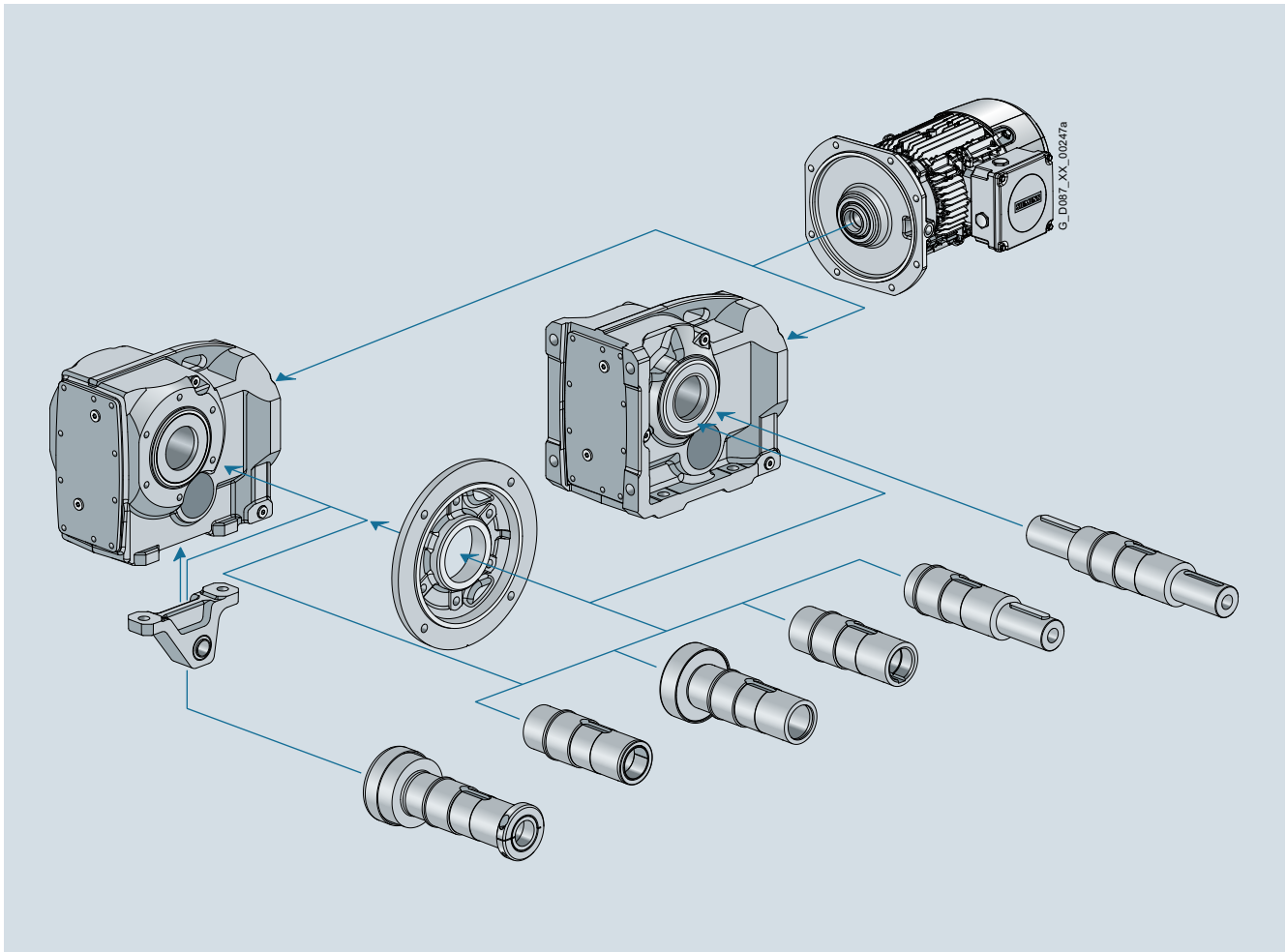


Fig. 1/14 Modular system, bevel geared motor K

SIMOGEAR bevel geared motors K are available in the following versions for mounting in any position:

- 3 stages
- 5 or 6 stages for very low output speeds
- Shaft-mounted design with torque arm
- Flange-mounted design
- Flange-mounted design with VLplus reinforced bearing system
- Design with integrated housing flange
- Foot-mounted design
- Hollow shaft design with feather key, splined shaft, shrink disk or SIMOLOC assembly system
- Solid shaft design with and without feather key (at one end or both ends)

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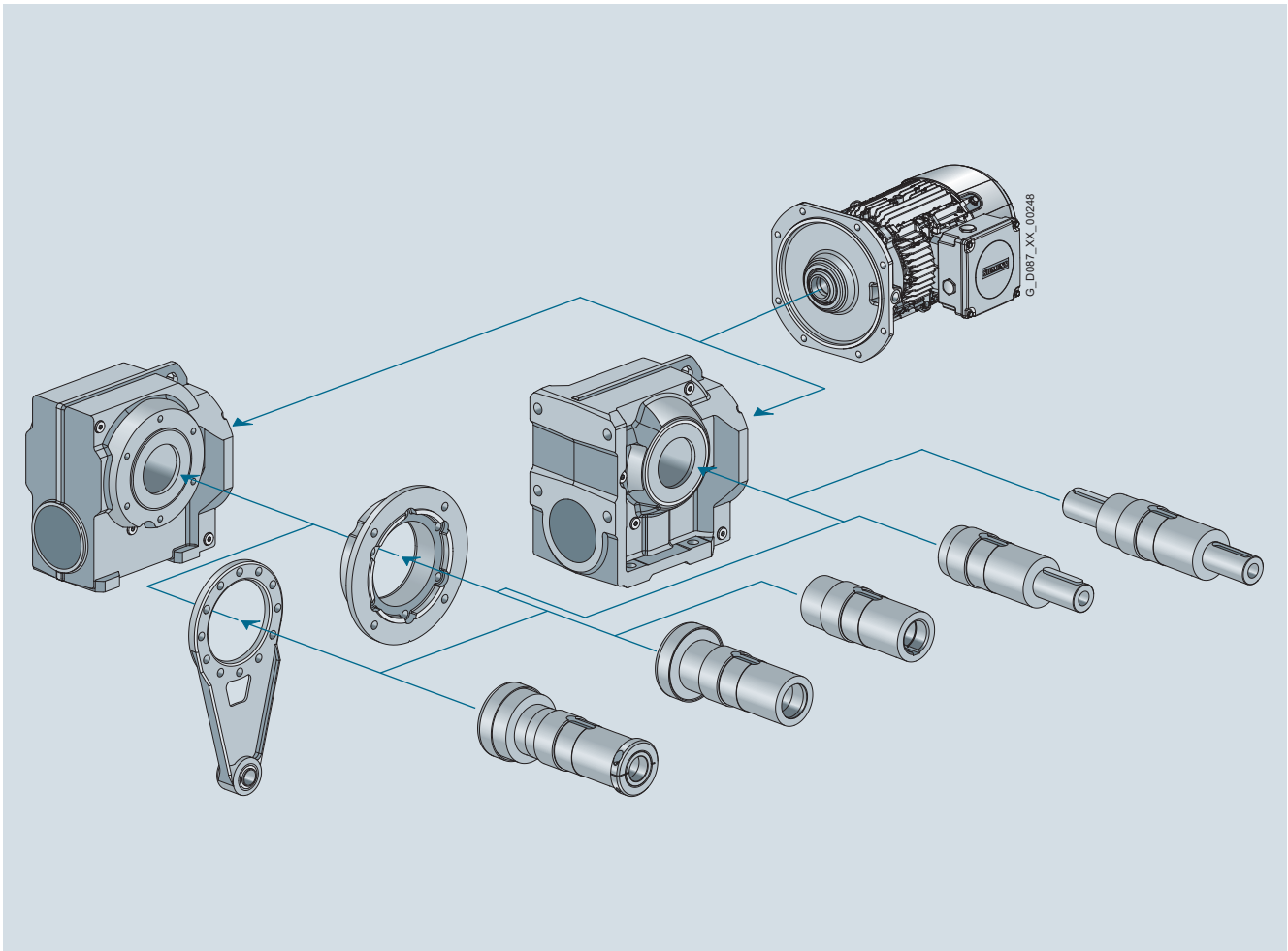
**Overview** (continued)**Helical worm geared motors**

Fig. 1/15 Modular system, helical worm gearbox

SIMOGEAR helical worm gearboxes are available in the following versions for mounting in any position:

- 2 stages
- 4 or 5 stages for very low output speeds
- Shaft-mounted design with torque arm
- Flange-mounted design
- Design with integrated housing flange
- Foot-mounted design
- Hollow shaft design with feather key, shrink disk or SIMOLOK assembly system
- Solid shaft design with and without feather key (at one end or both ends)

For helical worm gearboxes, the torque arm is supplied loose to enable it to be mounted as required on site. The position of the torque arm can be freely selected.

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## Introduction

Guidelines for selection and ordering

### Designs

#### Overview (continued)

#### Worm geared motors

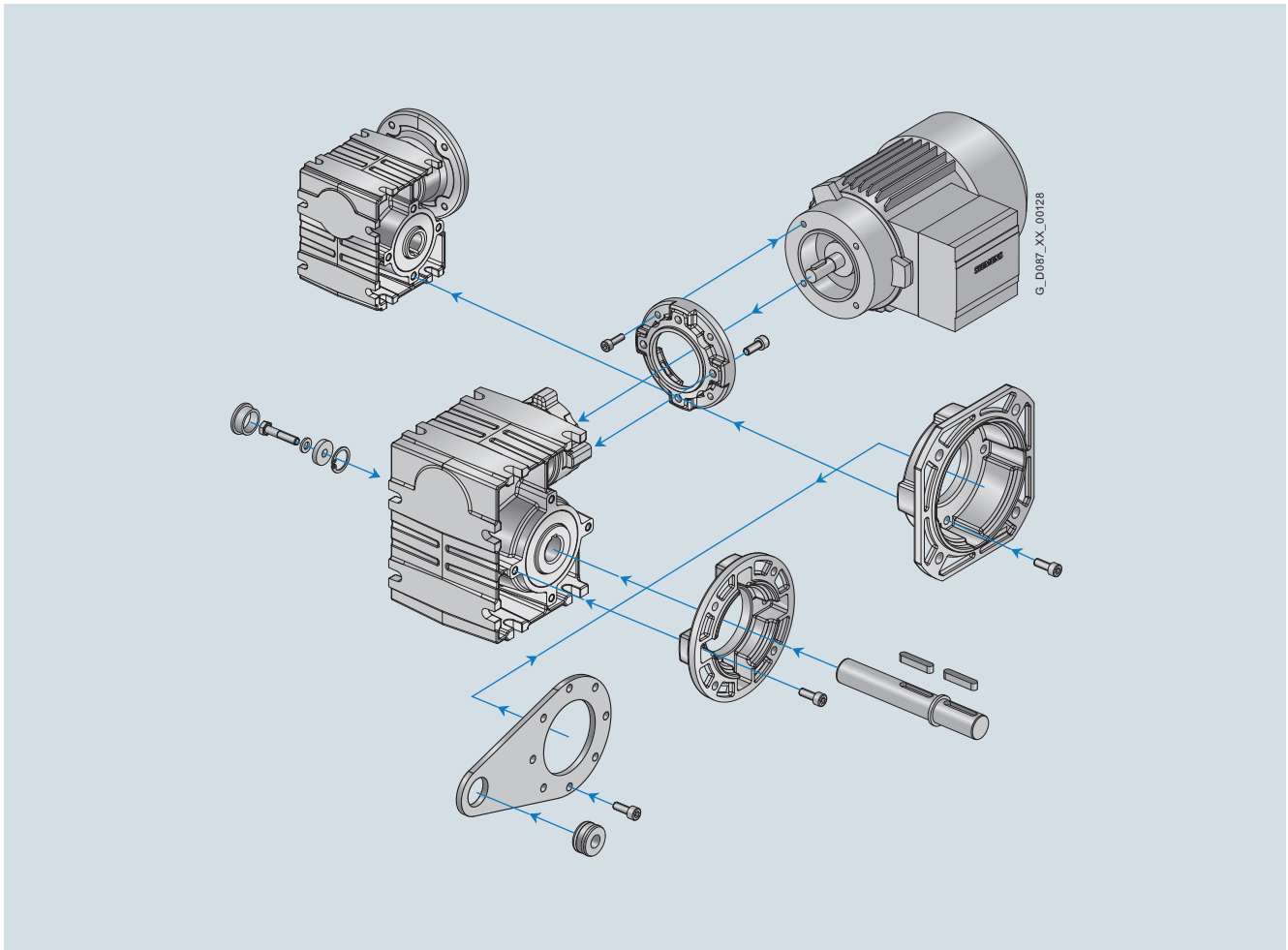


Fig. 1/16 Modular system, worm gearbox

SIMOGEAR worm gearboxes are available in the following versions for mounting in any position:

- 1 stage
- Shaft-mounted design with torque arm
- Flange-mounted design
- Design with integrated housing flange
- Foot-mounted design
- Solid shaft design with feather key (at one end or both ends)
- Hollow shaft design with feather key
- Hollow shaft design with plug-in shaft

For worm gearboxes, the torque arm is supplied loose to enable it to be mounted as required on site. The position of the torque arm can be freely selected.

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### Structure of the tables for geared motors up to 55 kW

In the selection tables you will find the most frequently used versions and combinations of geared motors sorted according to the motor power. Additional combinations can be selected with our SIMOGEAR Configurator.

The power ratings and torques specified in the catalog refer to mounting position M1 and comparable types of construction, where the input stage does not run completely immersed in oil.

Further, standard equipment and standard lubrication of the geared motors as well as normal ambient conditions are assumed.

The specified output speeds are guide values.

You can calculate the rated input speed based on the rated motor speed and the transmission ratio. Please note that the actual output speed will depend on the motor load and the line supply conditions.

$P_{\text{rated}}$	$n_2$	$T_2$	$i$	$F_{R2}$	$f_B$	$m$	Article No.	Order code
kW	rpm	Nm	-	N	-	kg		Number of poles
<b>0.37</b>	<b>Type designation FD.49-LA71MH4</b>							
	13	270	105.10	8 640	1.8	27	<b>2KJ3403 - ■ CE11 - ■ ■ G1</b>	

↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)	↓ (6)	↓ (7)	↓ (8)	↓ (9)
----------	----------	----------	----------	----------	----------	----------	----------	----------

- |  |                                    |
|--|------------------------------------|
| (1) Rated motor power at 50 Hz   | (6) Service factor                 |
| (2) Geared motor output speed  | (7) Drive weight without any oil   |
| (3) Geared motor output torque   | (8) Article No.                    |
| (4) Transmission ratio   | (9) Order code for number of poles |
| (5) Permissible radial force at the center of shaft extension (foot-mounted design with solid shaft) |                                    |

### Structure of the tables for transmission ratios and torques

In the selection tables for transmission ratios and torques, the gearboxes are sorted according to gearbox type and ratio.

$i$	$n_2$	$T_{2N}$	$F_{R2}$	$\varphi$	$J_G$	$R_{\text{ex}}$	Motor frame size										Article No.			
-	rpm	Nm	N		$10^{-4} \text{ kgm}^2$	-	<b>63</b>	<b>71</b>	<b>80</b>	<b>90</b>	<b>100</b>	<b>112</b>	<b>132</b>	<b>160</b>	<b>180</b>	<b>200</b>	<b>225</b>	<b>250</b>		
<b>Type designation D.59</b>																				
<b>76.38</b>	19	450	7 660	8	0.59	611/8	✓	✓	✓	✓	✓	✓	✓							<b>2KJ3205 - ■ ■ ■ ■ ■ - E1</b>

↓ (1)	↓ (2)	↓ (3)	↓ (4)	(5)	↓ (6)	↓ (7)	↓ (8)	↓ (9)
----------	----------	----------	----------	-----	----------	----------	----------	----------

- |  |   |
|--|---|
| (1) Transmission ratio   | (6) Moment of inertia of the gearbox reduced to the input shaft |
| (2) Geared motor output speed at a motor speed of 1 450 rpm  | (7) Ratio, number of teeth                                      |
| (3) Maximum gearbox output torque with service factor of $f_B = 1$   | (8) Geometrically possible geared motor combination             |
| (4) Permissible radial force at the center of shaft extension (foot-mounted design with solid shaft)   | (9) Article No.   |
| (5) Torsional backlash in minutes of arc for reduced-backlash version (order code G99)<br>If torsional backlash is not specified, the option "reduced-backlash version" is not possible with this ratio. |   |

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## Introduction

Guidelines for selection and ordering

### Notes on selection tables

#### Structure of the efficiency tables

Left-hand side

<i>i</i>	$n_{\text{mot}} = 2\,800 \text{ rpm}$				$n_{\text{mot}} = 1\,400 \text{ rpm}$				$n_{\text{mot}} = 900 \text{ rpm}$				Article No.
	$n_2$	$T_{2N}$	$P_{\text{mot}}$	$\eta$	$n_2$	$T_{2N}$	$P_{\text{mot}}$	$\eta$	$n_2$	$T_{2N}$	$P_{\text{mot}}$	$\eta$	
-	rpm	Nm	kW	%	rpm	Nm	kW	%	rpm	Nm	kW	%	
<b>Type designation C.49</b>													
<b>127.64</b>	22	300	0.95	73	11.0	355	0.56	73	7.1	355	0.37	71	<b>2KJ3603 - ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ F2</b>

↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
(1)	(2)	(3)	(4)	(5)	(2)	(3)	(4)	(5)	(2)	(3)	(4)	(5)	(6)

- |   |                 |
|---|-----------------|
| (1) Transmission ratio  | (4) Input power |
| (2) Geared motor output speed at specified motor speed $n_{\text{mot}}$ | (5) Efficiency  |
| (3) Maximum gearbox output torque with service factor of $f_B = 1$      | (6) Article No. |

#### Structure of the motor power tables

##### Motors with IE2 High Efficiency

Left-hand side

Frame size	Motor	$P_{\text{rated}}$	$n_{\text{rated}}$	$T_{\text{rated}}$	$I_{\text{rated}}$	$\cos \varphi$	$\eta$		$I_{\text{St}}/I_{\text{rated}}$	Article No.	Order code
							4/4 load	3/4 load			
		kW	rpm	Nm	A	-	%	%	-	Data position	Number of poles
							9th	10th	11th	12th	
<b>4-pole, 1 500 rpm at 50 Hz</b>											
<b>80</b>	LE80MD4E	0.55	1 440	3.65	1.39	0.74	77.1	76.8	5.3	<b>D C 2 2 -</b>	
<b>2-pole, 3 000 rpm at 50 Hz</b>											
<b>80</b>	LE80MA2E	0.75	2 805	2.55	1.67	0.84	77.4	79.5	4.9	<b>D B 2 2 P00</b>	

↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8)	(9)	(10)	(10)	(11)	(12)	(13)

- |                       |  |
|-----------------------|--|
| (1) Motor frame size  | (8) Efficiency                           |
| (2) Motor designation | (9) Relative starting current            |
| (3) Rated power       | (10) Article No. of the motor frame size |
| (4) Rated speed       | (11) Article No. of the motor type       |
| (5) Rated torque      | (12) Article No. of the motor series     |
| (6) Rated current     | (13) Order code for number of poles      |
| (7) Power factor      |  |

For different voltages, the starting, average acceleration and breakdown torque change acc. to a square law from their rated value.

Right-hand side

Frame size	Motor	$T_{\text{St}}/T_{\text{rated}}$	$T_{\text{Bk}}/T_{\text{rated}}$	$T_{\text{A}}/T_{\text{rated}}$	$L_{\text{pFA}}$	$L_{\text{WA}}$	$Z_0$	$J_{\text{mot}}$	$m_{\text{mot}}$	Article No.	Order code			
												Data position	Number of poles	
		-	-	-	dB (A)	dB (A)	1/h	$10^{-4} \text{ kgm}^2$	kg	9th	10th	11th	12th	
<b>4-pole, 1 500 rpm at 50 Hz</b>														
<b>80</b>	LE80MD4E	2.2	3.1	2.4	53	64	9 000	17	9.3	<b>D C 2 2 -</b>				
<b>2-pole, 3 000 rpm at 50 Hz</b>														
<b>80</b>	LE80MA2E	1.9	2.3	2.0	60	71	6 000	8	8.3	<b>D B 2 2 P00</b>				

↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(11)	(12)	(13)	(14)

- |  |  |
|--|--|
| (1) Motor frame size                       | (8) No-load switching frequency          |
| (2) Motor designation                      | (9) Moment of inertia                    |
| (3) Relative starting torque               | (10) Weight (without end shield at DE)   |
| (4) Relative breakdown torque              | (11) Article No. of the motor frame size |
| (5) Relative average acceleration torque   | (12) Article No. of the motor type       |
| (6) Measuring surface sound pressure level | (13) Article No. of the motor series     |
| (7) Sound power level                      | (14) Order code for number of poles      |

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**Structure of the motor power tables** (continued)**NEMA Energy Efficient motors MG1**

## Left-hand side

Frame size	Motor	$P_{rated}$		$n_{rated}$	$T_{rated}$	EISA CC no. CC032A	$I_{rated}$	$\cos \varphi$	$\eta$	$I_{St}/I_{rated}$		$T_{St}/T_{rated}$
		kW	hp							rpm	Nm	
<b>4-pole, 1 800 rpm at 60 Hz, 50 Hz power</b>												
80	LE80ZMQ4P	0.75	1.00	1 760	4.07	✓	1.53	0.71	85.50	84.50	8.30	3.10
<b>2-pole, 3 600 rpm at 60 Hz, 50 Hz power</b>												
80	LE80ME2P	0.75	1.00	3 480	2.06	✓	1.46	0.84	77.00	78.00	7.10	3.00
	LE80ZMJ2P	1.10	1.50	3 500	3	✓	1.98	0.83	84.00	84.00	8.40	3.30

↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓  
(1) (2) (3) (3) (4) (5) (6) (7) (8) (9) (9) (10) (11)

- (1) Motor frame size
- (2) Motor designation
- (3) Rated power
- (4) Rated speed
- (5) Rated torque
- (6) Energy Independence and Security Act
- (7) Rated current
- (8) Power factor
- (9) Efficiency
- (10) Starting current
- (11) Relative starting torque

For different voltages, the starting, average acceleration and breakdown torque change acc. to a square law from their rated value.

## Right-hand side

Frame size	Motor	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{pfa}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code												
									Data position	9th	10th	11th	12th	Number of poles	Specification										
<b>4-pole, 1 800 rpm at 60 Hz, 50 Hz power</b>																									
80	LE80ZMQ4P	4.70	O.R.	55	66	O.R.	29	10.00	D	F	2	3	-	N38	N35										
<b>2-pole, 3 600 rpm at 60 Hz, 50 Hz power</b>																									
80	LE80ME2P	3.60	O.R.	64	75	O.R.	11	9.30	D	B	2	3	P00	N38	N35										
	LE80ZMJ2P	4.50	O.R.	64	75	O.R.	13	10.00	D	M	2	3	P00	N38	N35										

↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓  
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (10) (11) (12) (13) (14)

- (1) Motor frame size
- (2) Motor designation
- (3) Relative breakdown torque
- (4) Relative average acceleration torque
- (5) Measuring surface sound pressure level
- (6) Sound power level
- (7) No-load switching frequency
- (8) Moment of inertia
- (9) Weight (without end shield at DE)
- (10) Article No. of the motor frame size
- (11) Article No. of the motor type
- (12) Article No. of the motor series
- (13) Order code for number of poles
- (14) Order code for special specifications

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## Introduction

Guidelines for selection and ordering

### Notes on selection tables

#### Structure of the motor power tables (continued)

##### VSD10 line motors for inverter operation

###### Left-hand side

Frame size	Motor	$P_{rated}$	Circuit	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$	Article No.				Order code	
		kW		Hz	Nm	A		-	%	Data position				Power
									9th	10th	11th	12th		

###### 4-pole, 1 500 rpm at 50 Hz power

100	LE100LB4V	2.2	Y	52.9	14.0	5.2	0.81	79.7	F	L	2	8	P92	-
-----	-----------	-----	---	------	------	-----	------	------	---	---	---	---	-----	---

###### 4-pole, 1 800 rpm at 60 Hz power

112	LE112ME4V	4.55	Y	62.2	24.0	8.3	0.85	85.0	G	H	2	8	P92	-
-----	-----------	------	---	------	------	-----	------	------	---	---	---	---	-----	---

↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(10)	(11)	(12)	(13)	(14)

- |                       |  |
|-----------------------|--|
| (1) Motor frame size  | (8) Power factor                         |
| (2) Motor designation | (9) Efficiency                           |
| (3) Rated power       | (10) Article No. of the motor frame size |
| (4) Circuit           | (11) Article No. of the motor type       |
| (5) Rated speed       | (12) Article No. of the motor series     |
| (6) Rated torque      | (13) Order code for power                |
| (7) Rated current     | (14) Order code for number of poles      |

For different voltages, the starting, average acceleration and breakdown torque change acc. to a square law from their rated value.

###### Right-hand side

Frame size	Motor	$L_{pFA}$	$L_{WA}$	Mech. speed limit	$J_{mot}$	$m_{mot}$	Preferred SINAMICS G120-PM240 Other SINAMICS inverters also possible Type <sup>1)</sup>	Frame size	IES class acc. to EN 50598-2	Article No.				Order code	
		dB (A)	dB (A)	rpm	$10^{-4}$ kgm <sup>2</sup> kg	Data position				Power	No. of poles				
										9th	10th	11th	12th		

###### 4-pole, 1 500 rpm at 50 Hz power

100	LE100LB4V	79.0	91.0	4 200	59	15	6SL3210-1PE16-1.L1	FSA	IES1	F	L	2	8	P92	-
-----	-----------	------	------	-------	----	----	--------------------	-----	------	---	---	---	---	-----	---

###### 4-pole, 1 800 rpm at 60 Hz power

112	LE112ME4V	77.2	89.2	4 200	100	27	6SL3210-1PE21-1.L0	FSB	IES1	G	H	2	8	P92	-
-----	-----------	------	------	-------	-----	----	--------------------	-----	------	---	---	---	---	-----	---

<sup>1)</sup> In addition to the Power Module, a Control Unit and an Operator Panel are required (see Catalog D 31.1 and/or D 35).

↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(11)	(12)	(13)	(14)

- |  |  |
|--|--|
| (1) Motor frame size                       | (9) Frame size                           |
| (2) Motor designation                      | (10) IES class acc. to EN 50598-2        |
| (3) Measuring surface sound pressure level | (11) Article No. of the motor frame size |
| (4) Sound power level                      | (12) Article No. of the motor type       |
| (5) Mechanical speed limit                 | (13) Article No. of the motor series     |
| (6) Moment of inertia                      | (14) Order code for power                |
| (7) Weight (without end shield at DE)      | (15) Order code for number of poles      |
| (8) Preferred SINAMICS G120-PM240          |  |

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## Overview

### Shaft heights

DIN 747 shaft heights for machines

Shaft height mm	Tolerance mm
≤ 250	-0.5
> 250	-1

Note:

For foot-mounted gearboxes, the mounted motor can extend below the mounting surface of the gearbox.

### Shaft extensions

DIN 748-1 cylindrical shaft extensions

Diameter tolerance:

Diameter mm	Tolerance mm
≤ 50	ISO k6
> 50	ISO m6

Centering holes according to DIN 332, form DR:

Diameter mm	Thread size
> 16 ... 21	M6
> 21 ... 24	M8
> 24 ... 30	M10
> 30 ... 38	M12
> 38 ... 50	M16
> 50 ... 85	M20
> 85 ... 130	M24
> 130	M30

Undercut acc. to DIN 509:

Diameter mm	Undercut acc. to DIN 509	Suggested construction, minimum hollow on mating piece mm
> 16 ... 18	E1.0x0.2	0.9 x 45 °
> 18 ... 50	E1.2x0.2	1.1 x 45 °
> 50 ... 80	E1.6x0.3	1.4 x 45 °
> 80 ... 125	E2.5x0.4	2.2 x 45 °

### Hollow shafts

Hollow shaft with feather key

Diameter tolerance  $\varnothing$ : ISO H7 measured using a mandrel gauge

Feather key: acc. to DIN 6885-1 (high form)

Hollow shafts with shrink disk

Diameter tolerance  $\varnothing$ : ISO H7 with mandrel gauge, measured in the area of the shrink disk seat. Hub seat, output side equipped with journal bearing sleeve.

Minimum requirement for the design of the customer shaft:

- Elastic limit  $Re \geq 360 \text{ N/mm}^2$
- Module of elasticity, approx.  $206 \text{ kN/mm}^2$
- Without tapped hole on the face
- Customer shaft must not be in contact with shaft shoulder

Hollow shafts with splines

Splines according to DIN 5480

Hollow shafts for the SIMOLOC assembly system

The diameters of the taper bushing and the bronze bushing are designed to hold a customer shaft with tolerance h11.

Minimum requirement for the design of the customer shaft:

- Bright steel drawn DIN EN 10278 (tolerance  $\varnothing$ : ISO h11)
- Elastic limit  $Re \geq 360 \text{ N/mm}^2$
- Module of elasticity, approx.  $206 \text{ kN/mm}^2$
- Straightness less than  $0.5 \text{ mm/m}$

Note:

Deviation from the specified straightness will cause radial runout of the customer's shaft. Customer shafts with minor radial runout ensure optimum operating conditions for geared motors. This has a positive impact on the service life of the drive train.

### Flanges

Centering edge tolerance:

Outer flange diameter mm	Tolerance mm
≤ 300	ISO j6
> 350	ISO h6

### Vent valves

The gearboxes are shown in the dimensional drawings with screw plugs.

If venting is required, then depending on the type of construction, an activated vent valve is installed.

The contour dimension can change slightly as a result.

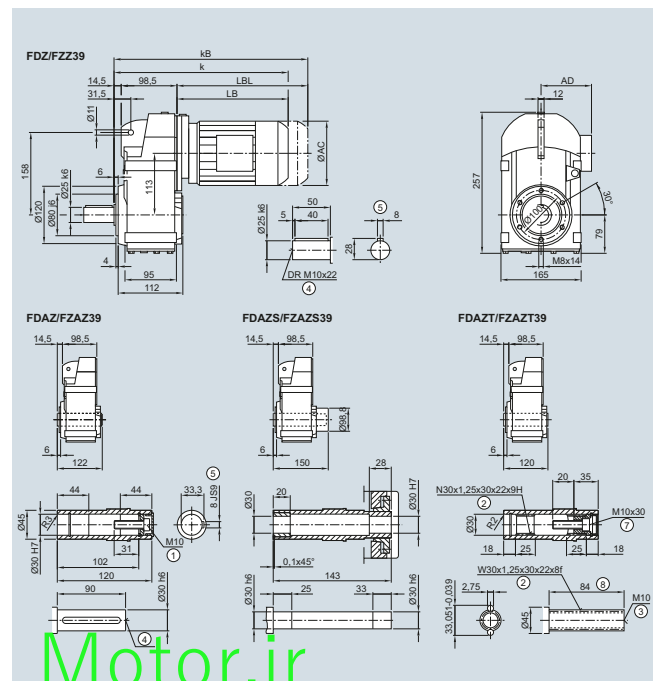


Fig. 1/17 Example, dimensional drawings



## Introduction

### General technical specifications














#### Geared motors for use worldwide

1

#### Overview

The following certificates are available for SIMOGEAR geared motors. You can select these individually, or combine them freely into a multi-certificate.

#### Specifications

Country/economic area	Marking Examples	Legal/normative requirements
Europe/EU 		<b>Low Voltage Directive (LVD) 2006/95/EC</b>
		<b>Eco-design Directive 2009/125/EC</b> EU Regulation (EC) No. 640/2009 to implement the eco-design directive and amending regulation (EU) No. 4/2014
USA 	<b>MG1-12</b>	<b>NEMA MG1-12</b> National standard
		<b>UL 1004</b> Standard of the Underwriters Laboratories Inc. (testing and certification body)
	<b>CC032 A</b>	<b>EISA</b> Energy Independence Security Act
Canada 		<b>CSA-C22.2 No. 100</b> Standard of the Canadian Standards Association
	<b>Energy Verified</b>	<b>EER</b> Energy Efficiency Regulations
China 		<b>CCC</b> China Compulsory Certification
		<b>CEL – China Energy Label</b> Based on the national standard GB 18613-2012 <b>ECL</b> Energy Conservation Law of PRC
Russian Federation 		<b>EAC</b> Eurasian Conformity
Belarus 		
Kazakhstan 		

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**Motors for the North American market**

Motors in frame sizes 63 to 250 are available in designs which meet the UL-R and CSA standards.

Order code:

Design in accordance with UL-R and CSA

**N38**

Note:

In the USA, a distinction is made between the rated voltage of the supply system and the rated voltage of the motor. See the table below for the assignment:

Country	Rated voltage of the supply system	Rated voltage of the motor
USA	208 V	200 V
	240 V	230 V
	480 V	460 V
Canada	600 V	575 V

**UL-R – Underwriters Laboratories Inc.**

The motors are listed for up to 600 V by Underwriters Laboratories Inc. ("Recognition Mark" = R/C). Motor voltages up to 600 V are certified according to UL. "UL Recognition Mark" is included on the rating plate of the motor.

In addition, the motor is designed to meet the NEMA MG1-12 electrical standard and includes the following data on the rating plate:

- Rated voltage(s)
- Nominal efficiency
- Design letter
- Code letter
- CONT
- NEMA MG1-12.

Externally or internally mounted components such as:

- Motor protection
- Heating element
- Forced ventilation
- Brake
- Encoder
- Plug connection

are UL-R/C, CSA, or C-US listed or used by manufacturers in accordance with regulations. UL-R/C cable glands must be used for the cable entry.

**CSA – Canadian Standard Association**

The motors are approved for up to 690 V in accordance with the "Canadian Standard Association" (CSA). Externally or internally mounted components which are used are listed by CSA or are used by manufacturers in accordance with regulations. The CSA mark and the rated voltage are stamped on the rating plate.

When energy-saving motors are ordered, they also have the "CSA-E mark" on the rating plate.

**Motors for the Chinese market**

CCC-certified motors, frame sizes 63 to 90, are available for export to China.

The "China Energy Label" required for import into China is available for motors in frame sizes from 80 to 250.

The motors are marked according to the requirements with CCC, CEL or both specifications.

Order code:

Design for the Chinese market

**N67**

**CCC – China Compulsory Certification**

"Small power motors" which are exported to China must be certified up to a rated power of:

2-pole: ≤ 2.2 kW

4-pole: ≤ 1.1 kW

6-pole: ≤ 0.75 kW

8-pole: ≤ 0.55 kW

**Motors requiring certification** are certified by CQC (China Quality Certification Center).

When ordered, the "CCC (Safety Mark)" logo is stamped on the rating plate and packaging.

Note:

Chinese customs checks the need for certification of imported products by means of the commodity code.

The following do not need to be certified:

- Motors imported to China which have already been installed in a machine
- Repair parts

**CEL – China Energy Label**

China introduced mandatory energy efficiency labeling for electric motors in June 2008.

From September 1, 2008, and until the transition phase expires, the affected electric motors may only be imported into China and sold in the country with a valid "China Energy Label".

The motor must be labeled with the "China Energy Label" sticker, which states the efficiency class.

In addition to the Energy Label (dimensions 80 x 54 mm), the efficiency is also stamped on the rating plate.

2-pole, 4-pole, and 6-pole motors with a line frequency of 50 Hz and a rated voltage of up to 1 000 V must be appropriately marked. Efficiency classes 2 and 3 apply here to motors with rated powers from 0.75 to 375 kW.

## Introduction

### General technical specifications

#### Geared motors for use worldwide

##### Motors for the Eurasian market

SIMOGEAR geared motors are certified for the Eurasian economic area.

In the Russia, Kasachstan and Belarus customs union, new technical regulations and uniform conformity requirements (EAC) have been introduced. These replace the previous GOST-R certificates which thus lose their validity.

The certificate is mandatory for export and is required by the customs authorities.

The EAC certificate is valid for all geared motors. For gearboxes with adapters the EAC certificate is not necessary because the EAC certificate only refers to the motor.

Order code:

Design in accordance with EAC

**N30**

##### Without CE marking for export

For geared motors to be exported outside the European Economic Area, the order option "without CE marking for export" is available. The CE marking is not displayed on the rating plate of these motors.

These geared motors may only be exported to countries outside the European economic area which do not require the CE marking.

Order code:

Without CE marking

**N68**

##### Explosion protection according to ATEX

SIMOGEAR gearboxes are available for operation in hazardous areas. The explosion-proof versions of the helical, parallel shaft, bevel, helical worm and worm gearboxes comply with Directive 2014/34/EU (ATEX) which came into force on April 20, 2016.

The gearboxes are approved for use in zones 1 and 2 (gases) and zones 21 and 22 (dust).

Ex atmosphere/Zone		Category	Frequency	SIMOGEAR gearbox available
G (gas and steam)	D (dust)			
0	20	1	constantly or long-term	no
1	21	2	infrequently	yes
2	22	3	rarely or briefly	yes

Use in explosive atmosphere G (gases) is permissible for temperature classes T1 to T4. With use in explosive atmosphere D (dust), it must be noted that the maximum permissible temperature for the gearbox is 120 °C.

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**Efficiency classes and efficiencies according to IEC 60034-30-1**

**Harmonization of the efficiency classes**

Various energy efficiency standards exist worldwide for induction motors. To promote international standardization, the international standard IEC 60034-30-1 03/2014 (Rotating electrical machines – Part 30: Efficiency classes of single-speed, three-phase, cage-induction motors (IE code)) was drawn up. This groups low-voltage asynchronous motors into new efficiency classes (first released in October 2008).

Applicability (excerpt)

- Low-voltage motors up to 1 000 V (50/60 Hz with line operation)
- Rating: 0.12 to 1 000 kW; with 2, 4, 6, or 8 poles
- Operating mode: S1

The efficiencies in IEC 60034-30-1 are based on the method for determining losses according to IEC 60034-2-1:2014.

**IE efficiency classes**

The efficiency classes are grouped according to the following nomenclature (IE = International Efficiency):

- IE1 (Standard Efficiency)
- IE2 (High Efficiency)
- IE3 (Premium Efficiency)
- IE4 (Super Premium Efficiency)

**Comparison of IE efficiency classes**

IEC 60034-30-1	NEMA-MG1	GB 18613-2012
IE4 <sup>1)</sup>		Grade 1 (IE4)
IE3	Premium Efficient (60 Hz)	Grade 2 (IE3)
IE2	Energy Efficient (60 Hz)	Grade 3 (IE2)

<sup>1)</sup> Defined in IEC/TS 60034-31.

**Note:**

All efficiency classes are stated with reference to 50 Hz data (unless specified otherwise).

**Measuring method according to IEC 60034-2-1:2014 for determining the efficiency**

With this measuring method, motor losses are no longer applied as a percentage, but are determined by standard methods. The nominal efficiencies are therefore reduced from EFF1 to IE2 and from EFF2 to IE1, even though there have been no technical or physical changes to the motors.

Previously: PLL = 0.5 % of P1 was added (IEC 60034-2)  
Now: PLL = individual measurement (IEC 60034-1)

PLL = load-dependent supplementary losses

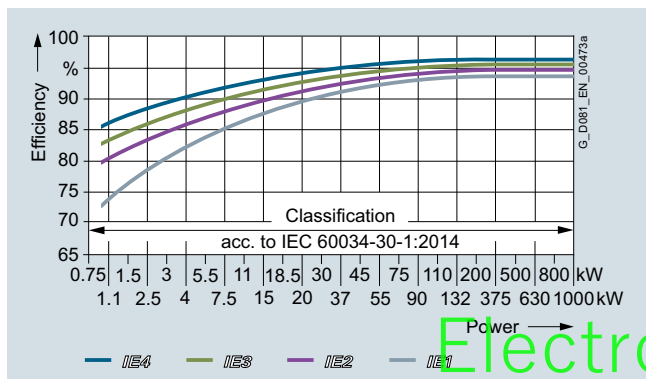


Fig. 1/18 IE1-IE3 efficiencies 4-pole at 50 Hz

Minimum efficiencies according to IEC 60034-30-1:2014

Rated power $P_{rated}$ kW	Efficiency $\eta$ in % IEC IE class							
	IE1 – Standard Efficiency				IE2 – High Efficiency			
	2-pole	4-pole	6-pole	8-pole	2-pole	4-pole	6-pole	8-pole
0.18	52.8	57.0	45.5	38.0	60.4	64.7	56.6	45.9
0.20	54.6	58.5	47.6	39.7	61.9	65.9	58.2	47.4
0.25	58.2	61.5	52.1	43.4	64.8	68.5	61.6	50.6
0.37	63.9	66.0	59.7	49.7	69.5	72.7	67.6	56.1
0.40	64.9	66.8	61.1	50.9	70.4	73.5	68.8	57.2
0.55	69.0	70.0	65.8	56.1	74.1	77.1	73.1	61.7
0.75	72.1	72.1	70.0	61.2	77.4	79.6	75.9	66.2
1.1	75.0	75.0	72.9	66.5	79.6	81.4	78.1	70.8
1.5	77.2	77.2	75.2	70.2	81.3	82.8	79.8	74.1
2.2	79.7	79.7	77.7	74.2	83.2	84.3	81.8	77.6
3.0	81.5	81.5	79.7	77.0	84.6	85.5	83.3	80.0
4.0	83.1	83.1	81.4	79.2	85.8	86.6	84.6	81.9
5.5	84.7	84.7	83.1	81.4	87.0	87.7	86.0	83.8
7.5	86.0	86.0	84.7	83.1	88.1	88.7	87.2	85.3
11	87.6	87.6	86.4	85.0	89.4	89.8	88.7	86.9
15	88.7	88.7	87.7	86.2	90.3	90.6	89.7	88.0
18.5	89.3	89.3	88.6	86.9	90.9	91.2	90.4	88.6
22	89.9	89.9	89.2	87.4	91.3	91.6	90.9	89.1
30	90.7	90.7	90.2	88.3	92.0	92.3	91.7	89.8
37	91.2	91.2	90.8	88.8	92.5	92.7	92.2	90.3
45	91.7	91.7	91.4	89.2	92.9	93.1	92.7	90.7
55	92.1	92.1	91.9	89.7	93.2	93.5	93.1	91.0
75	92.7	92.7	92.6	90.3	93.8	94.0	93.7	91.6
90	93.0	93.0	92.9	90.7	94.1	94.2	94.0	91.9
110	93.3	93.3	93.3	91.1	94.3	94.5	94.3	92.3
132	93.5	93.5	93.5	91.5	94.6	94.7	94.6	92.6
160	93.8	93.8	93.8	91.9	94.8	94.9	94.8	93.0
200 ... 375	94.0	94.0	94.0	92.5	95.0	95.1	95.0	93.5

Rated power $P_{rated}$ kW	Efficiency $\eta$ in % IEC IE class							
	IE3 – Premium Efficiency				IE4 – Super Premium Efficiency			
	2-pole	4-pole	6-pole	8-pole	2-pole	4-pole	6-pole	8-pole
0.18	65.9	69.9	63.9	58.7	70.8	74.7	70.1	67.2
0.20	67.2	71.1	65.4	60.6	71.9	75.8	71.4	68.4
0.25	69.7	73.5	68.6	64.1	74.3	77.9	74.1	70.8
0.37	73.8	77.3	73.5	69.3	78.1	81.1	78.0	74.3
0.40	74.6	78.0	74.4	70.1	78.9	81.7	78.7	74.9
0.55	77.8	80.8	77.2	73.0	81.5	83.9	80.9	77.0
0.75	80.7	82.5	78.9	75.0	83.5	85.7	82.7	78.4
1.1	82.7	84.1	81.0	77.7	85.2	87.2	84.5	80.8
1.5	84.2	85.3	82.5	79.7	86.5	88.2	85.9	82.6
2.2	85.9	86.7	84.3	81.9	88.0	89.5	87.4	84.5
3.0	87.1	87.7	85.6	83.5	89.1	90.4	88.6	85.9
4.0	88.1	88.6	86.8	84.8	90.0	91.1	89.5	87.1
5.5	89.2	89.6	88.0	86.2	90.9	91.9	90.5	88.3
7.5	90.1	90.4	89.1	87.3	91.7	92.6	91.3	89.3
11	91.2	91.4	90.3	88.6	92.6	93.3	92.3	90.4
15	91.9	92.1	91.2	89.6	93.3	93.9	92.9	91.2
18.5	92.4	92.6	91.7	90.1	93.7	94.2	93.4	91.7
22	92.7	93.0	92.2	90.6	94.0	94.5	93.7	92.1
30	93.3	93.6	92.9	91.3	94.5	94.9	94.2	92.7
37	93.7	93.9	93.3	91.8	94.8	95.2	94.5	93.1
45	94.0	94.2	93.7	92.2	95.0	95.4	94.8	93.4
55	94.3	94.6	94.1	92.5	95.3	95.7	95.1	93.7
75	94.7	95.0	94.6	93.1	95.6	96.0	95.4	94.2
90	95.0	95.2	94.9	93.4	95.8	96.1	95.6	94.4
110	95.2	95.4	95.1	93.7	96.0	96.3	95.8	94.7
132	95.4	95.6	95.4	94.0	96.2	96.4	96.0	94.9
160	95.6	95.8	95.6	94.3	96.3	96.6	96.2	95.1
200 ... 375	95.8	96.0	95.8	94.6	96.5	96.7	96.3	95.4

## Introduction

### General technical specifications

#### General information regarding efficiency in accordance with International Efficiency

1

#### Efficiency classes and efficiencies according to IEC 60034-30-1 (continued)

##### Background information

Comprehensive laws have been introduced in the European Union with the objective of reducing energy consumption and therefore CO<sub>2</sub> emissions. EU Directive 640/2009 concerns the energy consumption or efficiency of induction motors in the industrial environment. This Directive is now in force in every country of the European economic area.

For further details on internationally applicable standards and legal requirements, visit:

[www.siemens.com/international-efficiency](http://www.siemens.com/international-efficiency)

##### Exceptions to the EU Directive

- Motors that are designed to be operated totally submerged in a liquid;
- Motors fully integrated into a product (e.g. a gearbox, pump, fan or compressor) whose energy efficiency cannot be measured independently of the product;
- Motors that are specially designed for operation under the following conditions:
  - At altitudes greater than 4 000 meters above sea level;
  - At ambient temperatures above 60 °C;
  - At maximum operating temperatures above 400 °C;
  - At ambient temperatures below -30 °C (any motor)
  - With cooling liquid temperatures at the product intake of below 5 °C or above 25 °C;
  - In hazardous areas in the context of Directive 94/9/EU of the European Parliament and Council;
- Brake motors

The following motors are not involved:

- 8-pole motors
- Pole-changing motors
- Synchronous motors
- Motors for intermittent duty S2 to S9
- Single-phase motors
- Motors specially developed for inverter operation in accordance with IEC 60034-25

##### The following changes came/will come into effect on the dates below:

##### Since July 27, 2014, the following exceptions have been valid in accordance with EU Regulation 04/2014:

- At altitudes exceeding 4 000 m (above sea level)
- Where ambient temperatures exceed 60 °C
- At ambient temperatures of less than -30 °C, or less than 0 °C with water cooling
- Where coolant temperatures at the inlet to a product are less than 0 °C or exceed 32 °C

##### From January 1, 2015:

Compliance with the legally required minimum efficiency class IE3 for power ratings from 7.5 to 375 kW or, as an alternative, IE2 motor plus frequency inverter

##### Changes in accordance with EU Motor Regulation 640/2009

Low-voltage motors with a power rating of between 7.5 and 375 kW and efficiency IE2 must be labeled as follows with effect from January 1, 2015:

This obligation applies only within the European Economic Area. Correct application is the sole responsibility of the customer.

##### From January 1, 2017:

Compliance with the legally required minimum efficiency class IE3 for power ratings from 0.75 to 375 kW or, as an alternative, IE2 motor plus frequency inverter

##### Note:

Different minimum efficiency class requirements apply in China, Korea and Australia. Other countries will be available soon.

##### Motors for the North American market

The Energy Policy Act (EPAct) was superseded in December 2010 by the Energy Independence Security Act (EISA).

The following motors must fulfill the NEMA Premium Efficient Level:

- 1 to 200 hp
- 2, 4 and 6-pole
- 230 V, 460 V, motors with feet

For details, see NEMA MG1, Table 12-12.

##### Abbreviations

**NEMA:** National Electrical Manufacturers Association

**IEC:** International Electrotechnical Commission

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**Geared motor noise**

SIMOGEAR geared motors have noise levels below the permissible noise levels defined for gearboxes in VDI Guideline 2159 and for motors in IEC 60034-9.

When used in conjunction with gearboxes, the motor noise values  $L_{pFA}$  or  $L_{WA}$  increase on average by 3 to 5 dB (A).

The circumferential velocity of the motor pinion has a significant influence on the additional gearbox noise level. This is the reason that higher speeds or low transmission ratios result in higher noise.

Here, SIMOGEAR geared motors provide a decisive advantage, as the motor plug-on pinion allows transmission ratios of up to 12 in the input stage.

Code	Description	Unit
$L_{pFA}$	A-weighted measuring-surface sound-pressure level	dB (A)
$L_{WA}$	Sound power level	dB (A)

**Motor noise in line operation**

The noise level is measured according to ISO 1680 in a low-reflection room and is specified as an A-weighted measuring surface sound pressure level  $L_{pFA}$  in dB (A). This value is the spatial average value of the sound pressure levels measured at the measuring surface. The measuring surface is a cube 1 m away from the surface of the motor. The sound power level  $L_{WA}$  is also specified in dB (A).

The values specified in the motor selection tables apply to the motor without gearbox at 50 Hz

[Selection and ordering data page 8/14.](#)

The tolerance is +3 dB. At 60 Hz, the values are approximately 4 dB (A) higher. Noise values for inverter operation on request.

**Direction of rotation****Overview**

All geared motors are connected as standard so that the motor rotates in the clockwise direction.

It is necessary to specify the desired direction of rotation of the output shaft when ordering a geared motor with backstop.

Direction of rotation	Clockwise	Counterclockwise
Abbreviation	CW (clockwise)	CCW (counterclockwise)
Description	Clockwise direction of rotation (when viewing the input/output shaft)	Counterclockwise direction of rotation (when viewing the input/output shaft)
Order code	<b>K18</b>	<b>K19</b>

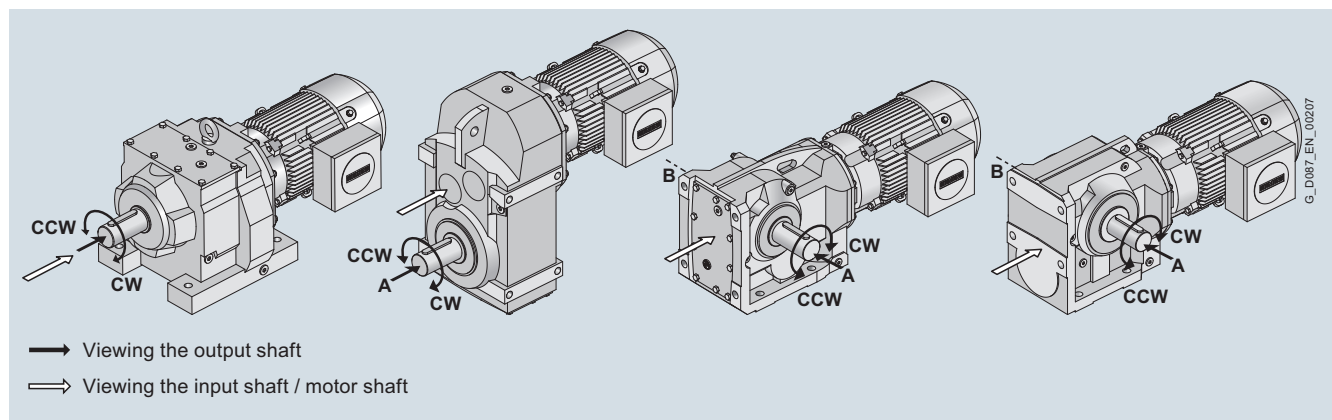


Fig. 1/19 Definition of the direction of rotation

**Direction of rotation, input to output**

Gearbox type	Size	Gearbox stages	Output side	Direction of rotation	
				Input shaft	Output shaft
Z	19 ... 189	2	-	CW	CW
D	19 ... 189	3	-	CW	CCW
FZ	29 ... 189	2	-	CW	CW
FD	29 ... 189	3	-	CW	CCW
B	19 ... 49	2	A	CW	CW
			B	CW	CCW
K	39 ... 189	3	A	CW	CCW
			B	CW	CCW
C	29 ... 89	2	A	CW	CW
			B	CW	CCW
S	09 ... 29	1	A	CW	CCW
			B	CW	CW

**Note:**

For bevel gearboxes B and K, helical worm gearboxes C, and worm gearboxes S, the direction of rotation must be specified when viewing the DE or NDE.

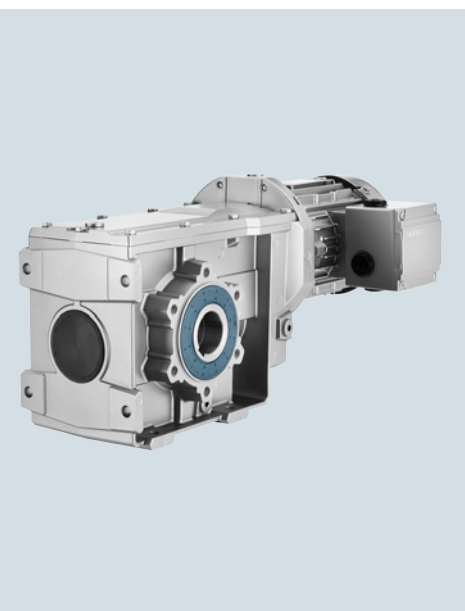
## Introduction

Notes

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## Configuring guide

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- 2/2 Configuring sequence
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**2/4 Configuring a gearbox**

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## Configuring guide

### Determining the drive data

#### Configuring sequence

#### Overview

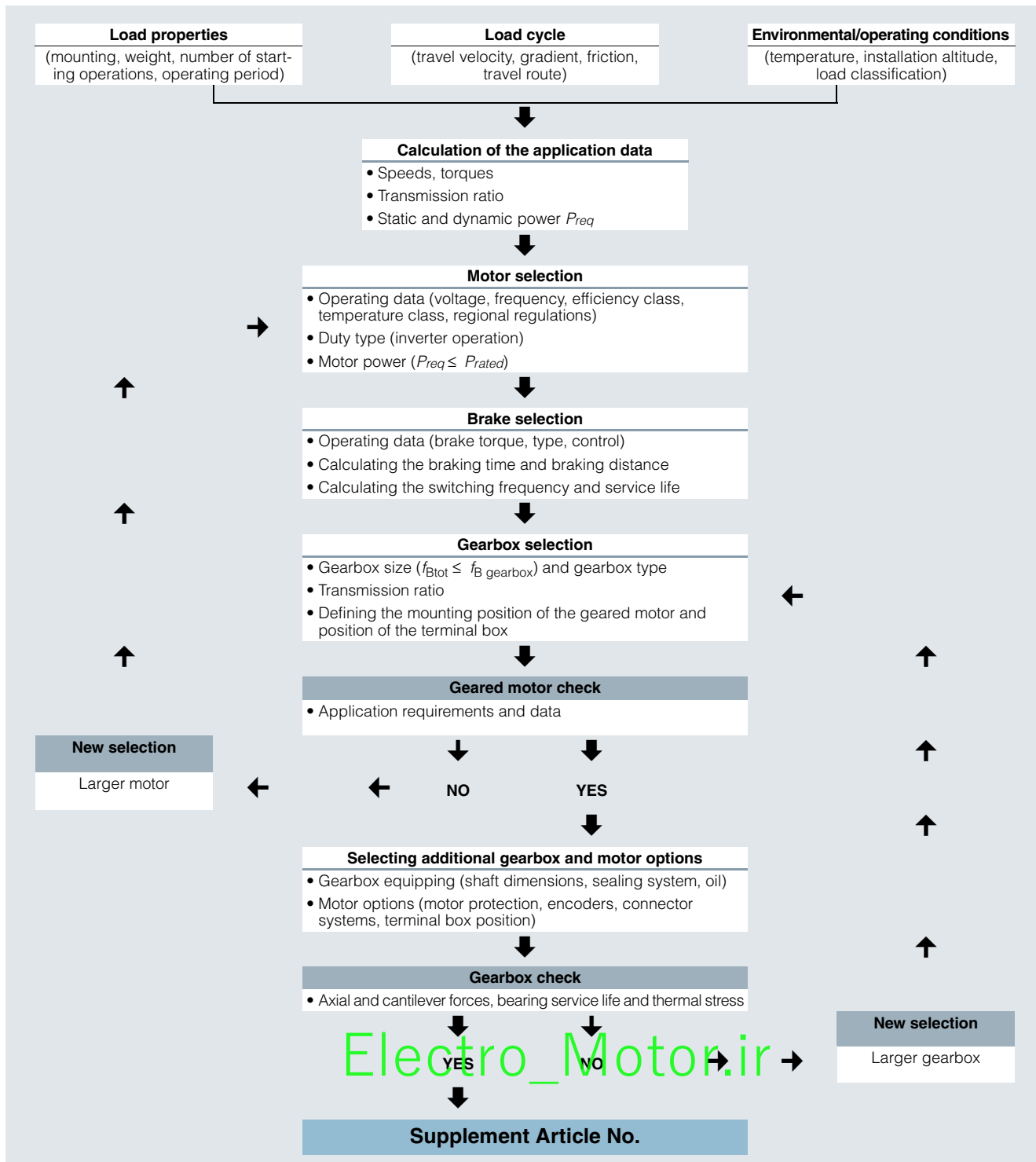
General configuring notes are provided for the standard versions in this catalog.

SIMOGEAR geared motors permit individual solutions to be created for a wide range of drive applications. In order to select the correct drive, initially specific data for the application must be known or determined.

For drives operating under special conditions, e.g. frequent reversing, short-time or intermittent duty, abnormal temperatures, reversal braking, extreme cantilever forces at the gearbox output shaft, etc. please contact your Siemens contact person with all of your technical questions.

You will find additional information on our website at [www.siemens.com/gearedmotors](http://www.siemens.com/gearedmotors)

The flow diagram illustrates the process for selecting and dimensioning a geared motor using a traction drive as an example. However, the specific requirements and boundary conditions associated with the application in question must always be taken into account.



General		Basic version and load data		
General	<b>Gearbox type:</b>	<input type="checkbox"/> Helical gearbox <input type="checkbox"/> Parallel shaft gearbox <input type="checkbox"/> Bevel gearbox <input type="checkbox"/> Helical worm gearbox <input type="checkbox"/> Worm gearbox		
	<b>Power rating:</b>	_____	kW	
	<b>Output speed:</b>	_____	rpm	
	<b>Service factor:</b>	_____		
	<b>Starting operations/hour:</b>	_____	s/h	
	<b>Line voltage:</b>	_____	V	
	<b>Line frequency:</b>	<input type="checkbox"/> 50 Hz <input type="checkbox"/> 60 Hz <input type="checkbox"/> For inverter operation <input type="checkbox"/> Maximum frequency _____	Hz	
	<b>Operating period/day:</b>	<input type="checkbox"/> 8 hours <input type="checkbox"/> 16 hours <input type="checkbox"/> 24 hours		
	<b>Environmental conditions</b>			
	<b>Installation altitude:</b>	_____	m	<input type="checkbox"/> Outdoor operation <input type="checkbox"/> Increased environmental stress
<b>Air humidity:</b>	_____	%	<input type="checkbox"/> Normal environmental stress <input type="checkbox"/> Aggressive environmental stress	
<b>Temperature:</b>	from _____ to _____	°C		
<b>Brief description of the system:</b> (e.g. sector, conveyor system, etc.)		_____		

Gearbox		Mounting and mounting position	
Gearbox	<b>Mounting position:</b>	<input type="checkbox"/> M1 <input type="checkbox"/> M2 <input type="checkbox"/> M3 <input type="checkbox"/> M4 <input type="checkbox"/> M5 <input type="checkbox"/> M6	<b>Terminal box position:</b> _____
	<b>Mounting type:</b>	<input type="checkbox"/> Foot-mounted design <input type="checkbox"/> Flange-mounted design <input type="checkbox"/> Housing flange design <input type="checkbox"/> Shaft-mounted design	
	<b>Shafts</b>		
	<b>Design:</b>	<input type="checkbox"/> Solid shaft with/without feather key <input type="checkbox"/> Hollow shaft with feather key <input type="checkbox"/> Hollow shaft with shrink disk <input type="checkbox"/> Hollow shaft with splines <input type="checkbox"/> SIMOLOC assembly system	
	<b>Shaft dimensions:</b> (d x l)	_____ x _____	mm
<b>Other options:</b> (e.g. axial/radial force)		_____	

Motor		Electrical design		
Motor	<b>Motor protection:</b>	<input type="checkbox"/> PTC thermistor <input type="checkbox"/> Winding thermostat <input type="checkbox"/> Temperature sensor KTY 84-130 <input type="checkbox"/> 1x resistance thermometer Pt100		
	<b>Mechanical design</b>			
	<b>Degree of protection:</b>	<input type="checkbox"/> IP55 <input type="checkbox"/> IP65 <input type="checkbox"/> IP56		
	<b>Cooling &amp; ventilation:</b>	<input type="checkbox"/> Self ventilation <input type="checkbox"/> Forced ventilation		
	<b>Motor plugs:</b>	<input type="checkbox"/> HAN 10E <input type="checkbox"/> HAN K4/4 <input type="checkbox"/> Others _____ <input type="checkbox"/> HAN Q8 <input type="checkbox"/> HAN Q12		
	<b>Mounted components</b>			
	<b>Brake:</b>	<input type="checkbox"/> Brake <input type="checkbox"/> Manual release	Voltage: _____ V	
	<b>Encoder:</b>	<input type="checkbox"/> Incremental encoder <input type="checkbox"/> Absolute encoder <input type="checkbox"/> Resolver <input type="checkbox"/> Prepared for encoder mounting <input type="checkbox"/> Functionally safe rotary encoder		
	<b>Other options:</b>		_____	
	<b>SINAMICS G110M</b>			
<b>Power Module:</b>	Power rating: _____	kW	Motor connection: _____	
<b>Control Unit:</b>	Type of connection: _____		Communication: _____	
<b>Supported options:</b>	<input type="checkbox"/> Internal braking resistor <input type="checkbox"/> Externally mounted components _____		Accessories: <input type="checkbox"/> IOP Handheld <input type="checkbox"/> SD card <input type="checkbox"/> PC connecting cable	

General options		Surface treatment	
General options	<b>Surface protection:</b>	<input type="checkbox"/> C1 <input type="checkbox"/> C2 <input type="checkbox"/> C3 <input type="checkbox"/> C4 <input type="checkbox"/> C5 <input type="checkbox"/> unpainted <input type="checkbox"/> C3 primed <input type="checkbox"/> C4 primed	<input type="checkbox"/> RAL color: _____
	<b>Other options:</b>		_____

## Configuring guide

### Configuring a gearbox

2

#### Standards

DIN/ISO	
DIN 743	Output shafts
ISO 281, ISO 76	Bearings
DIN 7190	Interference fits
DIN 6892	Parallel key connection
DIN 3990	Cylindrical gear toothing
DIN 3991	Bevel gear toothing
DIN 3996	Worm gear toothing

Calculation to AGMA available on request.

#### Gearbox efficiency

The efficiency of the gearbox is determined in part by the gear teeth, the rolling-contact bearing friction, and the shaft seal friction.

##### **Helical, parallel shaft and bevel gearboxes**

SIMOGEAR helical, parallel shaft, and bevel geared motors have a very high efficiency. Generally, efficiencies of 96 % (2-stage) and 94 % (3-stage) can be assumed. These gearbox types can be operated with energy-efficient motors to create an excellent solution.

##### **Helical worm and worm gearboxes**

The first stage of the helical worm gearbox is designed as a helical stage. With the optimally tuned transmission ratios of the worm stage, the best possible overall efficiency is achieved, which is considerably higher than that of worm gearboxes alone.

Precise efficiency data can be found in the tables in chapter "Helical worm gearboxes".

Owing to the high degrees of efficiency, the SIMOGEAR helical worm gearboxes are not self-locking.

##### Running-in period

The tooth flanks on new helical worm and worm gearboxes will not yet be fully smoothed, meaning that the friction angle will be greater and efficiency lower during the running-in period. The higher the transmission ratio, the more pronounced the effect.

The running-in process should take approximately 24 hours of operation at full load. In most cases, the catalog values will then be reached.

##### **Self-locking with worm gearboxes**

In respect of restoring torques on worm gearboxes, the efficiency is considerably reduced in comparison to standard efficiency. The restoring efficiency can be calculated as follows:  $\eta' = 2 - 1/\eta$ . At a standard efficiency of  $\eta \leq 0.5$ , worm gearboxes are usually self-locking, which is determined by the particular lead angle of the worm gear teeth.

Self-locking only occurs with certain combinations of SIMOGEAR gearboxes and is not always of benefit, as the associated loss of efficiency is then relatively high, which in turn requires increased motor power.

A worm gearbox is "self-locking while stationary" (static self-locking), if it is not possible to start from stationary when the worm wheel is driving.

A worm gearbox is "self-braking while running" (dynamic self-locking), if it is not possible to continue running when the worm wheel is driving while the gearbox is running – that is, if the running gearbox comes to a stop while the worm wheel is driving.

Shocks can neutralize self-locking.

A self-locking gearbox is therefore no substitute for a brake or backstop. If you want to use the self-locking braking effect for a technical purpose, please contact us.

##### **Efficiency optimization**

As a result of the large range of transmission ratios, in many cases, instead of a 3-stage gearbox, a 2-stage SIMOGEAR gearbox can be used.

This means that the efficiency is improved by approximately 2 % when compared to conventional drives.

Further, the efficiency can be improved by optimizing the mounting position and the input speed.

##### **Splashing losses**

For certain gearbox types of construction, the first stage can be completely immersed in the gearbox oil. In the case of large gearboxes with a high input speed, particularly with vertical mounting positions, this may lead to increased splashing losses, which cannot be neglected.

If you wish to use gearboxes such as these, then please contact Siemens. If at all possible, you should choose horizontal types of construction in order to keep splashing losses to a minimum.

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### Service factor

#### Determining the required service factor

The operating conditions are crucial in determining the service factor and for selecting the geared motor. These are taken into account by the service factor  $f_{Btot}$ .

In standard operation, i.e. with a uniform load provided by the driven machine, small masses to be accelerated, and a low switching frequency, the service factor of  $f_{Btot} = 1$  can be selected.

For different operating conditions, the service sector can be taken from the tables. When the motor power and the gearbox output speed are known, a gearbox type is selected with a service factor that meets the following condition:

$$f_{Btot} = f_{B1} \leq f_B$$

The gearbox size or rated gearbox torque and the resulting service factor are not standardized and depend on the manufacturer.

#### Determining the load classification

The service factor of the driven machine  $f_{Btot}$  is determined from the load classification, switching frequency, and operating period per day.

The operating conditions can vary greatly. To determine the service factor, empirical values can be derived from the configuration of other similar applications. The driven machines can be assigned to three load groups according to their load classification. These groups are assessed based on their mass acceleration factor  $m_{AF}$ .

#### Load groups of driven machines

Load classification	Mass acceleration factor	Driven machine (examples)
<b>I</b> Almost shock-free	$\leq 0.3$	Electric generators, belt conveyors, apron conveyors, screw conveyors, lightweight elevators, electric hoists, machine tool feed drives, turbo blowers, centrifugal compressors, mixers and agitators when mixing materials with uniform density
<b>II</b> Moderate shock loads	$\leq 3$	Machine tool main drives, heavy elevators, slewing gear, cranes, shaft ventilators, mixers and agitators when mixing materials with non-uniform densities, reciprocating pumps with multiple cylinders, metering pumps
<b>III</b> Heavy shock loads	$\leq 10$	Punching presses, shears, rubber kneaders, machinery used in rolling mills and the iron and steel industry, mechanical shovels, heavy centrifuges, heavyweight metering pumps, rotary drilling rigs, briquetting presses, pug mills

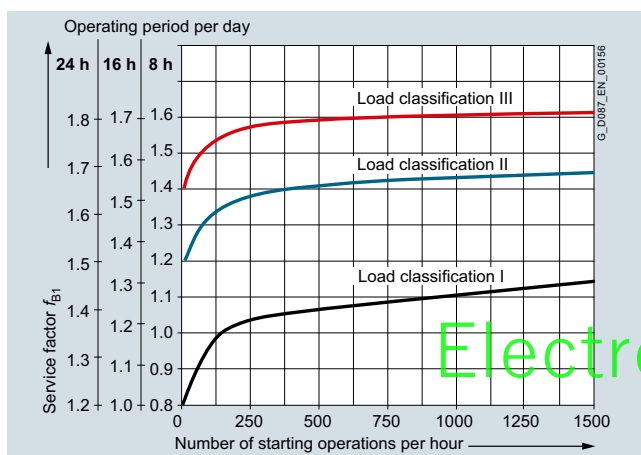


Fig. 2/1 Service factor  $f_{B1}$

#### Note:

When selecting and dimensioning drives with the following special application conditions, please contact Siemens.

- Frequent reversing
- Short time and intermittent operation
- Abnormal temperatures
- Reversal braking
- Extreme and/or circulating radial forces at the gearbox output shaft
- Fluctuating loads

#### Mass acceleration factor

The mass acceleration factor  $m_{AF}$  is calculated as follows:

$$m_{AF} = \frac{J_X}{(J_{mot} + J_B + J_Z)}$$

All external moments of inertia are moments of inertia of the driven machine and the gearbox, which are to be reduced to the motor speed.

The calculation is made using the following formula:

$$J_X = J_2 \cdot \left(\frac{n_2}{n_1}\right)^2 = \frac{J_2}{(i)^2}$$

In most cases the relatively insignificant moment of inertia of the gearbox can be ignored.

The mass acceleration factor  $m_{AF}$  is calculated as follows with reference to the gearbox and the adapter:

$$m_{AF} = \frac{J_X + J_G + J_{AD}}{(J_{mot} + J_B + J_Z)}$$

Code	Description	Unit
$i$	Transmission ratio	-
$J_2$	Moment of inertia of the load referred to the output speed of the gearbox	kgm <sup>2</sup>
$J_{AD}$	Moment of inertia of the adapter referred to the input speed	kgm <sup>2</sup>
$J_B$	Moment of inertia of the brake	kgm <sup>2</sup>
$J_G$	Moment of inertia of the gear unit referred to the input speed	kgm <sup>2</sup>
$J_{mot}$	Moment of inertia of the motor	kgm <sup>2</sup>
$J_X$	Moment of inertia of the load referred to the input speed	kgm <sup>2</sup>
$J_Z$	Additional moment of inertia of a high inertia fan	kgm <sup>2</sup>
$m_{AF}$	Mass acceleration factor	-
$n_1$	Input speed of the gearbox	rpm
$n_2$	Output speed of the gearbox	rpm

## Configuring guide

### Configuring a gearbox

2

#### Service factor (continued)

##### Service factors for helical worm gearboxes and worm gearboxes

With helical worm gearboxes and worm gearboxes, two additional service factors are used which take the duty cycle and ambient temperature into account. These additional factors can be determined from the graphs opposite. The total service factor is thus calculated as follows:

$$f_{Btot} = f_{B1} \cdot f_{B2} \cdot f_{B3}$$

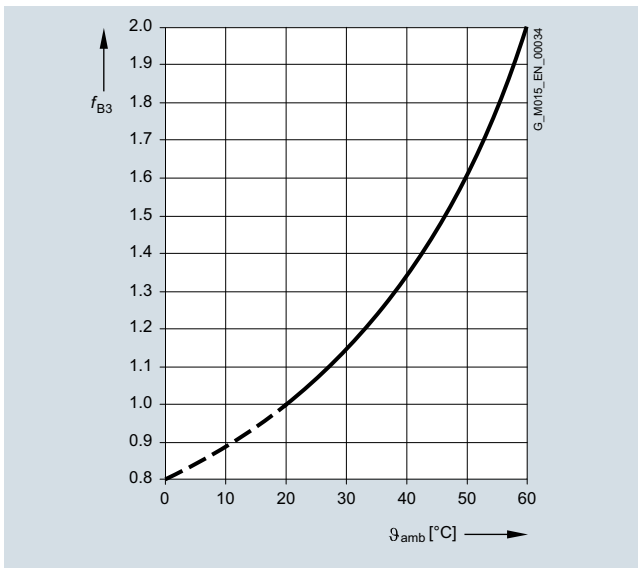


Fig. 2/2 Service factor ambient temperature

##### Example calculation for helical worm gearbox

Mass acceleration factor 2.5 (load classification II), runtime 15 hours per day (read at 16 hours), and 70 starts per hour result in a service factor of  $f_{B1} = 1.4$  according to the service factor table.

A load duration of 30 minutes per hour gives a duty cycle (DC) of 50 %. Thus, the service factor is  $f_{B2} = 0.94$  according to the service factor diagram.

At an ambient temperature of  $\vartheta_{amb} = 20$  °C, the service factor diagram gives a service factor of  $f_{B3} = 1.0$ .

The service factor required is therefore

$$f_{Btot} = 1.4 \cdot 0.94 \cdot 1.0 = 1.32$$

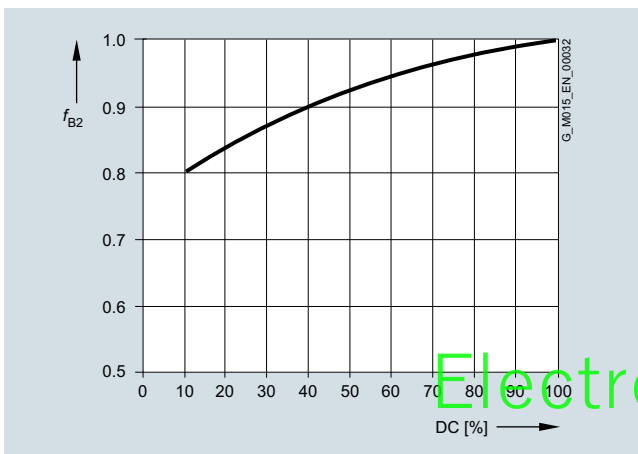


Fig. 2/3 Service factor "short-time duty"

#### Required torque

Once the load situation (drive data) and the service factor have been clarified, then the required output torque can be determined.

$$T_2 = \frac{P_{mot} \cdot 9550}{n_1 / (i \cdot \eta)} = \frac{P_{mot} \cdot 9550}{n_2} \cdot \eta$$

Code	Description	Unit
$\eta$	Gearbox efficiency	%
$i$	Transmission ratio	-
$n_1$	Input speed of the gearbox	rpm
$n_2$	Output speed of the gearbox	rpm
$P_{mot}$	Motor power	kW
$T_2$	Required output torque of the driven machine	Nm

#### Input speed

For an identical power and output speed, in the selection tables 4-pole geared motors have priority over 6-pole motors.

As result of the very wide range of transmission ratios of SIMOGEAR gearboxes, it is hardly necessary to use motors with other pole numbers. In addition to the good availability worldwide, 4-pole motors generally offer the optimum solution regarding price, length, noise level and service life.

Further, from the modular system, motors with other pole numbers can be mounted. As a consequence, the following special combinations can be implemented:

- Extremely high output speeds (2-pole motors)
- Extremely low output speeds (8-pole motors)
- Lower noise solutions (6-pole or 8-pole motors)

For inverter operation, the gearboxes are driven at variable speeds.

When configuring the system, we recommend that the maximum input speed in continuous operation is maintained, wherever possible, at 1 500 rpm.

At higher motor speeds above 1 500 rpm you will generally experience higher than average noise levels and a lower than average bearing service life. This depends to a large extent on the transmission ratio and gearbox size in question. Furthermore, higher speeds additionally influence the thermal properties of the gearbox and service intervals.

#### Tandem gearboxes

An additional helical gearbox is mounted in front of the main gearbox on tandem gearboxes, allowing the gear to generate very low output speeds.

The SIMOGEAR product portfolio includes four-stage, five-stage and six-stage gearboxes.

When a gearbox version with low output speeds is selected, additional checks may need to be carried out when the gearbox is configured.

#### Checking the maximum motor power

The maximum motor power  $P_{\text{rated}}$  connected to the gearbox must be reduced according to the maximum output torque at the gearbox  $T_{2N}$ . For this purpose, the maximum permissible motor torque  $T_{1\text{max}}$  must be calculated and the relevant motor current value then determined.

#### Protective measures

The following precautions must be taken in order to ensure that the continuous power consumption of the motor never exceeds the calculated maximum motor torque  $T_{1\text{max}}$ :

- Line operation:  
Set the tripping current of the motor circuit breaker to this current value.
- Inverter operation:  
Limit the output current of the inverter according to the calculated motor current.

#### Brake motors

The braking torque  $T_{\text{br}}$  must be limited according to the maximum permissible motor torque  $T_{1\text{max}}$  for tandem geared motors with a brake. In this case, the maximum permissible braking torque corresponds to twice the value of the motor torque. Please contact Siemens for advice about higher switching frequencies.

$$T_{\text{brmax}} = 2 \times T_{1\text{max}}$$

#### Preventing gearbox blockage

Tandem gearboxes must be protected against blockage at the output end. Blockage can result in indeterminable torques and shaft loads and cause irreparable damage to the gearbox. If the risk of blockage cannot be eliminated, you can install friction clutches, for example.

Code	Description	Unit
$P_{\text{rated}}$	Rated motor power	kW
$T_{1\text{max}}$	Maximum permissible motor torque	Nm
$T_{2N}$	Maximum output torque of the gearbox	Nm
$T_{\text{brmax}}$	Maximum braking torque	Nm

## Configuring guide

### Configuring a gearbox

2

#### Gearbox fastening

Gearboxes and geared motors are normally secured by bolts of grade 8.8.

When the largest possible motor frame size is attached to the gearbox and with a higher load classification, elevated levels of vibration and/or smaller service factors, further measures need to be taken for flange-mounted designs of gearboxes and geared motors.

Recommended bolt quality for DZ/ZZ and DF/ZF:

Helical gearboxes DZ/ZZ and DF/ZF with the smallest available output flanges must be bolted to the mounting surface with bolts of grade 10.9 (see table).

Gearbox type	Flange	Strength class of bolt/nut	
DZ/ZZ29	DF/ZF29	A120	10.9 <sup>1)</sup>
DZ/ZZ39	DF/ZF39	A120	10.9 <sup>1)</sup>
DZ/ZZ49	DF/ZF49	A140	10.9
DZ/ZZ59	DF/ZF59	A160	10.9
DZ/ZZ69	DF/ZF69	A200	10.9
DZ/ZZ79	DF/ZF79	A250	10.9
DZ/ZZ89	DF/ZF89	A300	10.9
DZ/ZZ109	DF/ZF109	A350	10.9
DZ/ZZ129	DF/ZF129	A350	10.9
DZ/ZZ149	DF/ZF149	A450	10.9
DZ/ZZ169	DF/ZF169	A450	10.9
DZ/ZZ189	DF/ZF189	A550	10.9

<sup>1)</sup> Use suitable washers underneath the bolt head

Recommended bolt quality for FF/FAF and KF/KAF:

Parallel shaft gearboxes FF/FAF and bevel gearboxes KF/KAF in combination with larger motors must be bolted to the mounting surface with bolts of grade 10.9 (see table).

Gearbox type	Flange	Motor frame size														
			63	71	80	90	100	112	132	160	180	200	225	250		
FF/FAF39	KF/KAF39	A160	8.8	8.8	8.8	10.9	10.9									
FF/FAF49	KF/KAF49	A200	8.8	8.8	8.8	8.8	10.9	10.9								
FF/FAF69	KF/KAF69	A250	8.8	8.8	8.8	8.8	8.8	8.8	10.9							
FF/FAF79	KF/KAF79	A250	8.8	8.8	8.8	8.8	8.8	8.8	10.9							
FF/FAF89	KF/KAF89	A300		8.8	8.8	8.8	8.8	10.9	10.9	10.9						
FF/FAF109	KF/KAF109	A350			8.8	8.8	8.8	8.8	8.8	10.9	10.9					
FF/FAF129	KF/KAF129	A450				8.8	8.8	8.8	8.8	8.8	8.8	8.8				
FF/FAF149	KF/KAF149	A450				8.8	8.8	8.8	8.8	8.8	8.8	8.8	10.9	10.9	10.9	
FF/FAF169	KF/KAF169	A550					8.8	8.8	8.8	8.8	8.8	10.9	10.9	10.9	10.9	
FF/FAF189	KF/KAF189	A660						8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	10.9

We recommend that you consider the following possibilities:

- Selection of a larger output flange
- Use of bolts of grade 10.9
- Use of an anaerobic adhesive to improve the friction lock between the gearbox and the mounting surface

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### Shaft load and bearing service life

#### Available radial force

The radial forces either come from the driven machine (mixer, hoisting gear) or they are caused by the transmission elements.

The available radial force  $F_{Ravail}$  at the output shaft is obtained as follows:

- The required geared motor output torque  $T_2$
- Average diameter of the mounted transmission element  $d_0$
- Transmission element type, e.g. sprocket wheel

The transmission element type determines the additional factor  $C$  (see table).

$$F_{Ravail} = 2000 \cdot \frac{T_2}{d_0} \cdot C$$

#### Additional factor $C$ for the transmission element type

Transmission element	Explanation	Additional factor $C$
Gear wheel	> 17 teeth	1.00
	≤ 17 teeth	1.15
Sprocket wheel	≥ 20 teeth	1.00
	14 ... 19 teeth	1.25
	≤ 13 teeth	1.40
Toothed belts	Preloading force	1.50
V-belts	Preloading force	2.00
Flat belts	Preloading force	2.50
Agitator/mixer	Rotating radial force	2.50

#### Permissible radial force

The permissible radial force  $F_{R2}$  is determined by the required bearing service life, among other things. The nominal service life  $L_{h10}$  is determined in accordance with ISO 281. Normally, calculating the nominal bearing service life is completely adequate.

The bearing service life can be calculated for special operating conditions and in special cases on request, based on the modified service life  $L_{na}$ .

The selection tables specify the permissible radial force  $F_{R2}$  for the output shafts of foot-mounted gearboxes with solid shaft. These table values refer to the force application point at the center of the shaft extension and are minimum values, which apply under the most unfavorable conditions (force application angle, mounting position, direction of rotation).

If the values in the table are not sufficient, or if other gearbox designs are being used, please contact Siemens.

#### Permissible axial force

If no radial force is present, then max. 50 % of the permissible radial force can be applied as a permissible axial force  $F_{ax}$  (tension or compression).

#### Higher permissible radial and axial forces

The permissible radial force load can be increased, taking the force application angle  $\alpha$  and the direction of rotation into account. Installing reinforced bearings also means that higher loads are permitted on the output shaft.

If higher radial or axial forces or combined loads comprising radial and axial forces occur, then please contact Siemens.

#### Note:

Bevel gearboxes B and K and helical worm gearboxes C in type of construction M1 with foot mounting on the face side:

A maximum of 50 % of the radial force  $F_{R2}$  specified in the tables is permissible.

Helical geared motors ZB and DB in foot/flange-mounted designs: When transmitting torque through the flange surface, a maximum of 50 % of the radial force  $F_{R2}$  specified in the tables is permissible.

#### Variables for defining shaft load and bearing service life

Code	Description	Unit
$\alpha$	Force application angle	°
$a$	Gearbox constant	kNmm
$b, d, l, y, z$	Gearbox constants	mm
$C$	Additional factor to calculate the radial force	-
$d_0$	Average diameter of the mounted transmission element	mm
$F_{ax}$	Permissible axial force	N
$F_x$	Permissible radial force from out of center force application point	N
$F_{xperm1}$	Permissible radial force, limited by the bearing service life, at a distance of $x$ from the shaft shoulder	N
$F_{xperm2}$	Permissible radial force, limited by the shaft strength, at a distance of $x$ from the shaft shoulder	N
$F_{Ravail}$	Available radial force from the mounted transmission element	N
$F_{R2}$	Permissible radial force at the center of shaft extension (1/2)	N
$L_{h10}$	Nominal service life	h
$L_{na}$	Modified service life	h
$T_2$	Geared motor output torque	Nm
$x$	Distance from the shaft shoulder up to the point where force is applied	mm

#### Definition of the point of application of radial and axial forces

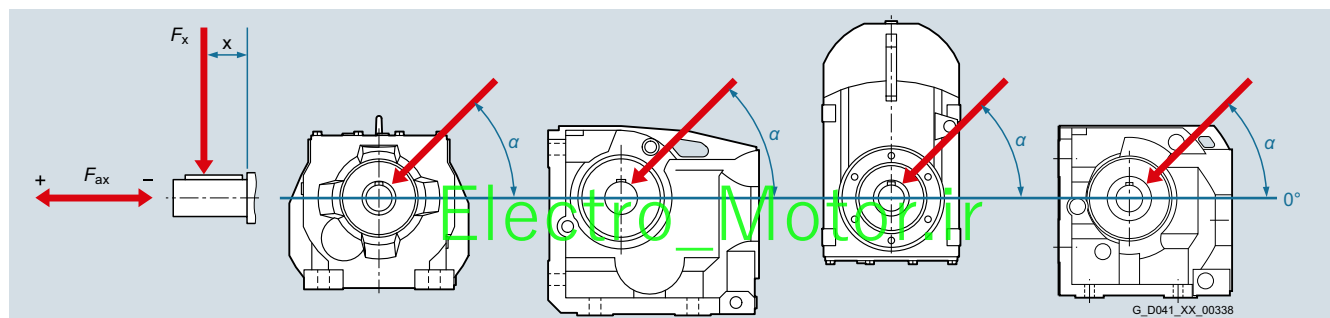


Fig. 2/4 Diagram showing force application point

## Configuring guide

### Configuring a gearbox

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#### Shaft load and bearing service life (continued)

##### Radial force conversion for out of center force application point

If the force is not applied at the center of the shaft extension, the permissible radial force must be calculated using the following formula.

The lower value of  $F_{xperm1}$  (bearing service life) and  $F_{xperm2}$  (strength) is the permissible radial force. The calculation is applicable without axial force.

Permissible radial force according to the bearing service life

$$F_{xperm1} = F_{R2} \cdot \frac{y}{(z + x)}$$

Permissible radial force according to the shaft strength

$$F_{xperm2} = \frac{a}{(b + x)}$$

#### Gearbox constants for calculating the radial force

Gearbox size	Constants					
	y mm	z mm	a kNm	b mm	d mm	l mm
<b>Helical gearboxes Z and D</b>						
19	91	71	52.8	12	20	40
29	104	79	137	12	25	50
39	116	91	109	0	25	50
49	138	108	260	15	30	60
59	143.5	108.5	414	19	35	70
69	169	134	385	0	35	70
79	172.5	132.5	536	0	40	80
89	212.5	162.5	929	0	50	100
109	250	190	1 212	0	60	120
129	297	227	2 051	0	70	140
149	319	234	4 930	0	90	170
169	398	293	7 350	0	110	210
189	469	364	11 235	0	120	210
<b>Helical gearbox E</b>						
39	99.5	79.5	60	0	20	40
49	119.0	94.0	100	0	25	50
69	139.6	109.6	183	0	30	60
89	154.4	114.4	320	0	40	80
109	183.4	133.4	525	0	50	100
129	189.4	129.4	810	0	60	120
149	213.6	143.6	1 120	0	70	140
<b>Parallel shaft gearbox F</b>						
29	108.5	83.5	159	0	25	50
39	123.5	98.5	146	0	25	50
49	154.5	124.5	239	0	30	60
69	175	140	378	0	35	70
79	191	151	544	0	40	80
89	226	176	884	0	50	100
109	256	196	1 500	0	60	120
129	324	254	2 625	0	70	140
149	385	300	5 525	0	90	170
169	460	355	7 728	0	110	210
189	538	433	11 655	0	120	210
<b>Bevel gearbox B</b>						
19	97.5	77.5	38	0	20	40
29	117	97	83	0	20	40
39	143.5	113.5	209	0	30	60
49	175	140	392	0	35	70

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### Shaft load and bearing service life (continued)

Gearbox constants for calculating the radial force

Gearbox size	Constants					
	y mm	z mm	a kNmm	b mm	d mm	l mm
<b>Bevel gearbox K</b>						
39	123.5	98.5	152	0	25	50
49	154.5	124.5	235	0	30	60
69	175	140	378	0	35	70
79	191	151	556	0	40	80
89	226	176	916	0	50	100
109	256	196	1 470	0	60	120
129	324	254	2 800	0	70	140
149	385	300	5 525	0	90	170
169	459.5	354.5	7 350	0	110	210
189	538	433	10 920	0	120	210
<b>Helical worm gearbox C</b>						
29	117.5	97.5	84	0	20	40
39	123.5	98.5	157	0	25	50
49	154.5	124.5	236	0	30	60
69	171.5	136.5	410	0	35	70
89	220.0	175.0	736	0	45	90
<b>Worm gearbox S</b>						
09	83.5	63.5	36	0	16	40
19	98.0	78.0	76	0	20	40
29	120.5	100.5	72	0	20	40

### Permissible torque for SIMOLOC assembly system

It is important to note that the maximum permissible torque is dependent on the selected machine shaft diameter.

Diameter of customer's shaft	Max. permissible torque T2					
	Nm					
	29	39	49	69	79	89
<b>Metric shafts</b>						
20	115					
25	150	205				
30		290	375			
35			480	460	840	
40				600	1 000	1 110
50						1 750
<b>Imperial shafts</b>						
0.75"	100					
1"	150	205				
1.1875"		290	375			
1.25"		290	415			
1.375"			480	460	840	
1.4375"			480	500	915	
1.5"				545	1 000	
1.625"				600	1 000	1 180
1.75"						1 375
1.9375"						1 680
2"						1 750

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## Configuring guide

### Configuring a three-phase motor

2

#### Determining the duty type

The power ratings for continuous duty with constant load (duty type S1) are listed in the power tables. The motor power ratings listed in the catalog can be converted to the lower duty cycle using the corresponding  $k_{DC}$  factors for S1, S2, and S3 duty types.

$$P_{DC} = P_{rated} \cdot k_{DC}$$

Code	Description	Unit
$P_{DC}$	Power for the new duty cycle	kW
$P_{rated}$	Rated motor power	kW
$k_{DC}$	Factor for increased power	-

For increased power, you should note that the breakdown torque ratio must not fall below 1.6. This same regulation applies when differentiating between the following groups of duty types:

Duty types according to EN 60034-1 (IEC 60034-1)

Duty type	Description	Information required	Factor for increased power $k_{DC}$	
<b>S1</b>	Continuous duty Cyclic duration factor = 100 %	-	-	-
<b>S2</b>	Constant load for a brief time, e.g. S2 - 30 min	Load duration	60 min	1.10
			30 min	1.20
			10 min	1.40
<b>S3</b>	Intermittent periodic duty, where starting has no significant influence (cyclic operation), e.g. S3 - 40 %	Cyclic duration factor in % (referred to 10 min)	60 %	1.10
			40 %	1.15
			25 %	1.30
			15 %	1.40
<b>S4 ... S10</b>	Intermittent periodic duty with the influence of starting	Cyclic duration factor in % (referred to 10 min), starts per hour, load torque, and moment of inertia  The duty type and motor power can be determined if the number of starting operations per hour, starting time, load duration, type of braking, braking time, idle time, cycle time, standstill time, and required power are specified.	On request	-

#### Operating modes

##### S1

Continuous duty with constant load

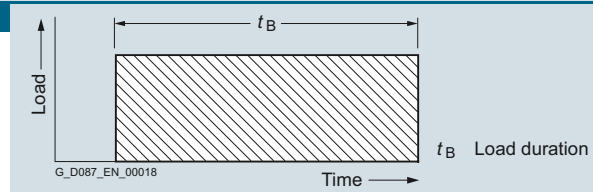


Fig. 2/5 Duty type S1

Where starting and electrical braking do not affect the stator winding temperature rise:

##### S2

Short-time duty

Recommendation: Operating times 10, 30, 60, and 90 minutes

After each period of duty the motor remains at zero current until the winding has cooled down to the coolant temperature.

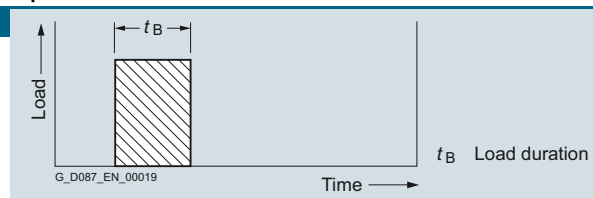


Fig. 2/6 Duty type S2

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### Determining the duty type (continued)

#### Operating modes

Where starting and electrical braking do not affect the stator winding temperature rise:

#### S3

Intermittent duty

Where starting does not affect the temperature. Unless specified otherwise, the duty cycle time is 10 minutes. Values of 15 %, 25 %, 40 %, and 60 % are recommended for the cyclic duration factor.

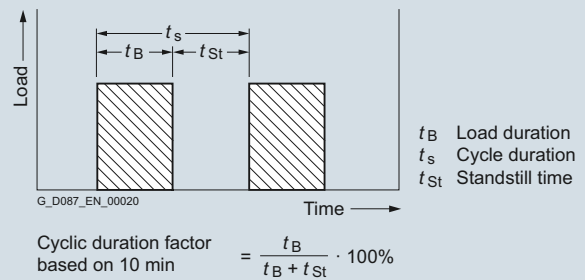


Fig. 2/7 Duty type S3

#### S6

Continuous duty with intermittent load

The cycle duration, if nothing else has been agreed, is 10 minutes. Values of 15 %, 25 %, 40 %, and 60 % are recommended for the load duration factor.

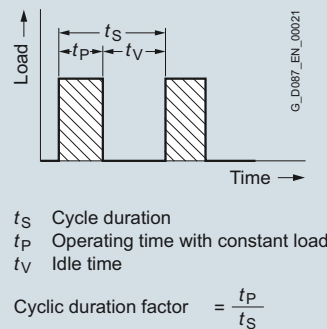


Fig. 2/8 Duty type S6

#### S10

Operation with discrete constant loads

In this case, a maximum of four discrete loads are available, where each load results in the thermal steady state. For this duty type, a load of the same value as the one used for the S1 duty type should be selected.

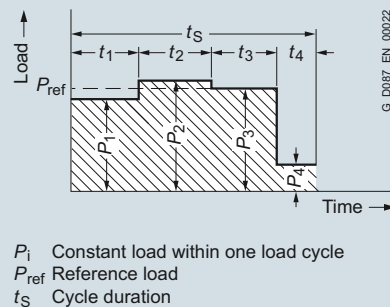


Fig. 2/9 Duty type S10

Starting and braking influence the temperature rise of the stator winding and the rotor cage:

#### S4

Intermittent duty where starting influences the temperature

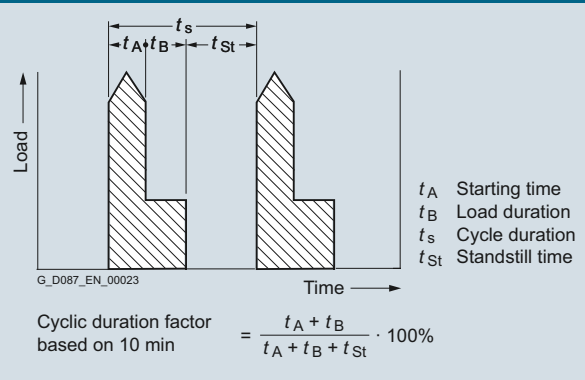


Fig. 2/10 Duty type S4

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## Configuring guide

### Configuring a three-phase motor

#### Determining the duty type (continued)

##### Duty types (continued)

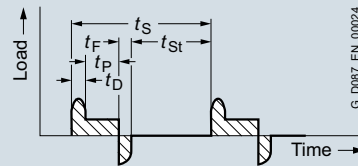
##### Starting and braking influence the temperature rise of the stator winding and the rotor cage:

##### S5

Intermittent duty where starting and braking influences the temperature

For the **S4** and **S5 duty types**, this code should be followed by the cyclic duration factor, the moment of inertia of the motor ( $J_{mot}$ ), and the moment of inertia of the load ( $J_x$ ), both referred to the motor shaft.

The cycle duration, if nothing else has been agreed, is 10 minutes. Values of 15 %, 25 %, 40 %, and 60 % are recommended for the cyclic duration factor.



$t_S$  Cycle duration  
 $t_D$  Starting time  
 $t_P$  Operating time with constant load  
 $t_F$  Time with electrical braking  
 $t_{St}$  Standstill time with windings at zero current

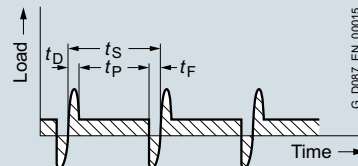
$$\text{Cyclic duration factor} = \frac{t_D + t_P + t_F}{t_S}$$

Fig. 2/11 Duty type S5

##### S7

Continuous duty with starting and braking

For S7 and S8 duty types, the moment of inertia of the load ( $J_x$ ) referred to the motor shaft must be known.



$t_S$  Cycle duration  
 $t_D$  Starting time  
 $t_P$  Operating time with constant load  
 $t_F$  Time with electrical braking

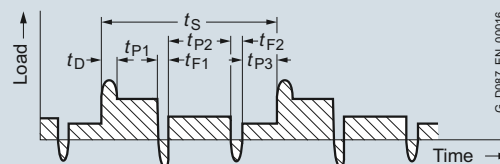
$$\text{Cyclic duration factor} = 1$$

Fig. 2/12 Duty type S7

##### S8

Continuous duty with non-periodic load and speed changes (inverter operation)

Most of the intermittent operating conditions occurring in practice are a combination of the above mentioned duty types. All of the operating conditions must be known in order to precisely determine a suitable motor.



$t_S$  Cycle duration  
 $t_D$  Starting time  
 $t_P$  Operating time with constant load (P1, P2, P3)  
 $t_F$  Time with electrical braking (F1, F2)

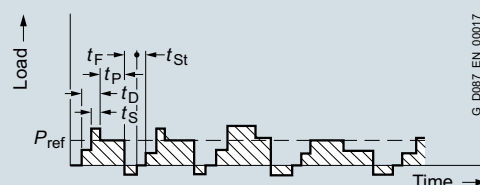
$$\text{Cyclic duration factor} = \frac{t_D + t_{P1}}{t_S} \cdot \frac{t_{F1} + t_{P2}}{t_S} \cdot \frac{t_{F2} + t_{P3}}{t_S}$$

Fig. 2/13 Duty type S8

##### S9

Continuous duty with non-periodic load and speed changes (inverter operation)

Most of the intermittent operating conditions occurring in practice are a combination of the above mentioned duty types. All of the operating conditions must be known in order to precisely determine a suitable motor.



$t_D$  Starting time  
 $t_P$  Operating time with constant load  
 $t_F$  Time with electrical braking  
 $t_{St}$  Standstill time with windings at zero current  
 $t_S$  Time with overload

Fig. 2/14 Duty type S9

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### Number of starting operations

A higher number of starting operations means that the motor winding will be subject to a thermal load.

The permissible switching frequency  $Z_{perm}$  has to be determined for different operating cases.

This value is influenced by the corresponding load torque, the additional moment of inertia, the power requirement, and the cyclic duration factor. These can be evaluated using the factors  $k_M$ ,  $k_{FI}$ , and  $k_P$ .

For 60 Hz operation, the calculated permissible switching frequency  $Z_{perm}$  must be reduced by 25 %. See the technical specifications for brakes in [chapter 11](#) for the permissible switching frequency for operation with function rectifiers.

The permissible no-load switching frequency  $Z_A$  for motors with brake L must be obtained from table „No-load switching frequency for brakes L“ on page 11/39.

$$Z_{perm} = Z_A \cdot k_M \cdot k_{FI} \cdot k_P$$

The permissible no-load switching frequency  $Z_0$  for motors without brakes must be obtained from the [Selection and ordering data page 8/14](#).

$$Z_{perm} = Z_0 \cdot k_M \cdot k_{FI} \cdot k_P$$

Code	Description	Unit
DC	Cyclic duration factor	%
$J_{mot}$	Moment of inertia of motor and brake	kgm <sup>2</sup>
$J_Z$	Additional moment of inertia of a high inertia fan	kgm <sup>2</sup>
$J_X$	Reduced moment of inertia on motor shaft	kgm <sup>2</sup>
$J_{add}$	Additional moment of inertia	kgm <sup>2</sup>
$k_{FI}$	Factor for taking into account the additional moment of inertia	-
$k_M$	Factor for taking into account the load torque while accelerating	-
$k_P$	Factor for taking into account the required power and duty cycle	-
$P_S$	Actual steady-state motor power	kW
$P_{rated}$	Rated motor power	kW
$T_A$	Acceleration torque of the motor	Nm
$T_{rated}$	Rated motor torque	Nm
$T_x$	Reduced load torque	Nm
$t_R$	Duty cycle (decimal)	
$Z_A$	No-load switching frequency, motor with brake	1/h
$Z_0$	No-load switching frequency, motor without brake	1/h
$Z_{perm}$	Permissible switching frequency	1/h

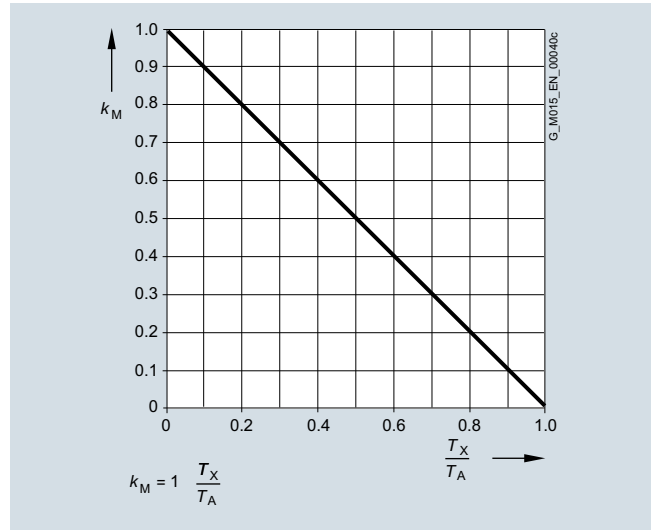


Fig. 2/15 Torque when accelerating

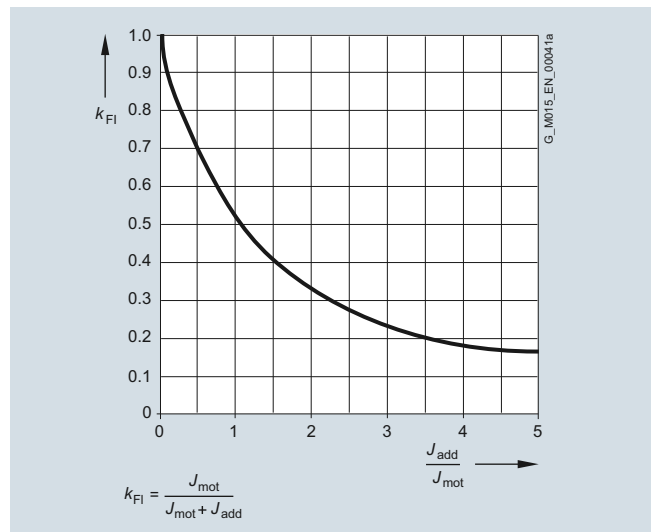


Fig. 2/16 Additional moment of inertia

$$J_{add} = J_X + J_Z$$

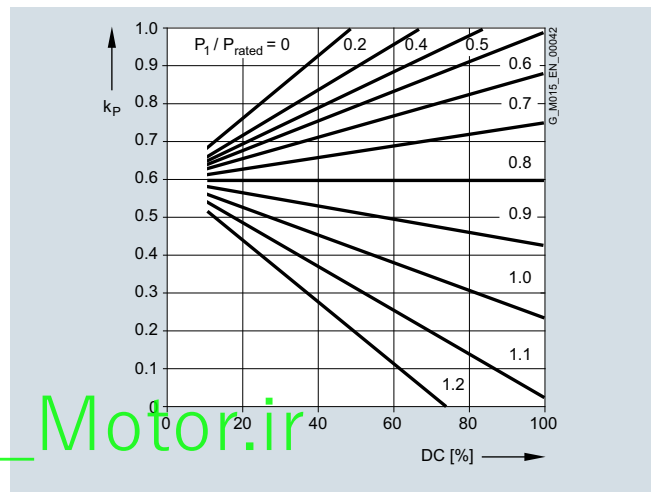


Fig. 2/17 Power requirement and duty cycle

$$k_P = t_R \cdot (1 - (P_S / P_{rated})^2) + 0.6 \cdot (1 - t_R) + 0.24 \cdot t_R$$

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## Configuring guide

### Configuring a three-phase motor

2

#### Additional moments of inertia

The motor moment of inertia with standard fan is specified in the motor selection lists. The higher moment of inertia should be used for metal or high-inertia fans. This is also valid for mounted brakes, backstops and encoder systems.

#### Line feeder cables

Line feeder cables must be adequately dimensioned. The number of required parallel (if applicable) feeder cables is determined by the maximum connectable conductor cross-section, the type of cable, the cable installation, the ambient temperature and the permissible current. In Germany, DIN VDE 0298 must be applied when dimensioning cables.

#### Undervoltage

For an undervoltage condition as a result of weak line supplies, catalog values such as motor power, torque and speed are not reached. This is especially important when considering motor starting.

#### Motor protection

A distinction is made between current-dependent and temperature-dependent protective devices for motors.

#### Current-dependent protective devices

**Fuses** are only used to protect line cables in the event of a short-circuit. They are not suitable for protecting the motor against overload. The motors are usually protected by thermally-delayed overload protective devices (circuit breakers for motor protection or overload relays).

This protection is current-dependent and is particularly effective in the case of a locked rotor. For normal operation with short starting operations, starting currents that are not excessive and for low numbers of starting operations, motor circuit breakers provide adequate protection. Motor circuit breakers are not suitable for heavy duty starting or high numbers of starting operations. Differences in the thermal time constants for the protective devices and the motor results in unnecessary early tripping when the circuit breaker is set to the rated current.

#### Temperature-dependent protective devices

Temperature-dependent protective devices are integrated in the motor winding and can be implemented as **temperature sensors** and **temperature switches**.

The number of temperature-dependent protective devices depends on the number of windings and their function.

The alarm is normally set to 10 K below the switch-off temperature. The rated response temperatures of the protective devices depend on the thermal class of the motors.

In order to achieve full thermal protection it is necessary to combine a thermally-delayed overcurrent release and a PTC thermistor.

#### Coolant temperature and installation altitude

The rated power specified in the [selection tables in chapter 8](#) is valid for a coolant temperature of +40 °C and an installation altitude of 1 000 m above sea level.

Please contact Siemens for higher coolant temperatures.

The table with correction factors provides a rough idea of the derating required if conditions are different.

This results in a permissible motor power of:

$$P_{\text{perm}} = P_{\text{rated}} \cdot k_{\text{HT}}$$

Code	Description	Unit
$P_{\text{perm}}$	Permissible motor power	kW
$P_{\text{rated}}$	Rated motor power	kW
$k_{\text{HT}}$	Factor for abnormal coolant temperature and installation altitude	-

#### Factor $k_{\text{HT}}$ for different installation altitude and coolant temperature

Installation altitude SA m	Coolant temperature CT					
	< +30 °C	+30...+40 °C	+45 °C	+50 °C	+55 °C	+60 °C
1 000	1.07	1.00	0.96	0.92	0.87	0.82
1 500	1.04	0.97	0.93	0.89	0.84	0.79
2 000	1.00	0.94	0.90	0.86	0.82	0.77
2 500	0.96	0.90	0.86	0.83	0.78	0.74
3 000	0.92	0.86	0.82	0.79	0.75	0.70
3 500	0.88	0.82	0.79	0.75	0.71	0.67
4 000	0.82	0.77	0.74	0.71	0.67	0.63

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### Degrees of protection

The motors are supplied in IP55 to standard IEC 60034-5. They can be installed in dusty or humid environments. The motors are suitable for operation in tropical climates. Guide value below 60 % relative air humidity for a coolant temperature of +40 °C.

Other requirements on request.

First digit	Brief description	Second digit	Brief description
4	The motor is protected against solid objects larger than 1 mm.	4	The motor is protected against water splashed from all sides.
5	The motor is protected against dust.	5	The motor is protected against strong jets of water
6	The machine is dust-tight.	6	The motor is protected against "heavy seas" or powerful jets of water.
		7	The motor is protected against immersion
		8	The motor is protected against long periods of immersion under pressure.

The first digit of the degree of protection indicates the degree to which an enclosure provides protection against contact and the ingress of foreign bodies.

The second digit indicates the protection that an enclosure offers regarding the ingress of water.

Increased corrosion protection as well as additional protective measures for the winding (protection against moisture and acid, corrosion protection in the motor) can support the selected degree of protection.

The degree of protection only refers to the motor. When selecting higher degrees of protection, the equipping on the gearbox side should be taken into account (seals, vents).

### Cooling and ventilation

When the geared motor is mounted and the air intake is restricted, you must ensure that a minimum clearance is maintained between the fan cover and the wall and that the cooling air is not immediately drawn in again.

Further, it must be guaranteed that the cooling air flow to the gearbox is not obstructed. As a consequence, the gearbox operating temperature can be further reduced.

#### Forced ventilation

The use of a separately driven fan is recommended to increase motor utilization at low speeds and to limit noise generation at speeds significantly higher than the synchronous speed. Both are mainly used in conjunction with inverter operation.

Typical areas of application for forced ventilation:

- High number of starting operations
- Inverter drives with a control range > 1:20
- Inverter drives with rated torque at low speeds
- Noise reduction
- At high speeds

## Configuring guide

### Configuring a brake

2

#### Overview

The brakes can be used as working brakes or holding brakes. A holding brake is suitable for holding masses and loads at a fixed position. A working brake is also capable of decelerating masses and loads.

The brakes are designed as fail-safe spring-operated brakes. When the brake is mounted, it increases the length of the motor. The dimensions are shown in the dimensional drawings. The spring-operated disk brakes are suitable for a standard ambient temperature range of -20 to +40 °C.

#### Variables

Code	Description	Unit
$f_{br}$	Braking torque correction factor	-
$J_{AD}$	Moment of inertia of the adapter	kgm <sup>2</sup>
$J_G$	Moment of inertia of the gearbox	kgm <sup>2</sup>
$J_{mot}$	Moment of inertia of the motor	kgm <sup>2</sup>
$J_x$	Moment of inertia of the load referred to the motor shaft	kgm <sup>2</sup>
$J_z$	Additional moment of inertia of a high inertia fan	kgm <sup>2</sup>
$k$	Factor for taking into account operating conditions	-
$L_{rated}$	Service life of the brake lining until readjustment	h
$L_{ratedmax}$	Service life of the brake lining until replacement	h
$n_{br}$	Braking speed	rpm
$\eta$	Efficiency	%
$Q_{perm}$	Permissible operating energy	J
$s_{br}$	Braking distance	m
$t_1$	Application time of the brake	ms
$t_{br}$	Braking time	s
$T_{br}$	Rated braking torque	Nm
$T_x$	Reduced load torque	Nm
$v$	Travel velocity	m/s
$W$	Friction energy per braking operation	J
$W_{tot}$	Friction energy until the brake lining is replaced	MJ
$W_V$	Friction energy until the brake is readjusted	MJ
$Z$	Number of starting operations	1/h

#### Determining the braking torque

The braking torque must be selected in accordance with the particular drive application. The following criteria are decisive when it comes to making the selection:

- Static safety
- Required braking time
- Permissible brake delay
- Possible braking distance
- Brake wear

The braking torque is determined using the safety factor  $k$ , which can be selected in the range from 1.0 to 2.5. As a general rule of thumb, the factor for horizontal motion is approx. 1.0 to 1.5 and for vertical motion approx. 2.0 to 2.5. However, the precise braking torque depends to a large extent on the particular operating conditions.

The rated braking torque is referred to a speed of  $n = 100$  rpm and decreases with increasing motor speed. When calculating the braking torque, this is taken into account using the correction factor  $f_{br}$ . This means that the rated braking torque is applicable for most braking operations for inverter operation.

For line operation, braking is directly from the motor speed. In addition, for vertical conveyors, the increased speed when moving downwards must be taken into account.

$$T_{br} > T_x \cdot k \cdot f_{br}$$

#### Braking torques as a function of the speed and permissible speed limits

The braking torque available decreases with increasing motor speed.

The maximum permissible speeds from which emergency stops can be made are listed in the [table on page 11/36](#). These speeds should be considered as guide values and must be checked for the specific operating conditions.

The maximum permissible friction energy depends on the switching frequency and is shown for individual brakes in the [diagram "Permissible operating energy" on page 11/36](#). Increased wear can be expected when the brakes are used for emergency stops.

#### Braking energy per braking operation

The braking energy  $W$  per braking operation comprises the energy of the moments of inertia to be braked and the energy which must be applied in order to brake against a load torque:

$T_x$  is positive if the load torque is working against the braking torque (horizontal motion, upward vertical motion).

$T_x$  is negative if it supports the brake (downward vertical motion).

The permissible operating energy  $Q_{perm}$  must be checked against the relevant switching frequency using the [diagram "Permissible operating energy" on page 11/36](#). This is of particular importance for emergency-stop circuits.

$$W = \frac{T_{br}}{T_{br} \pm T_x \cdot \eta} \cdot \frac{(J_G + J_{AD} + J_{mot} + J_z + J_x \cdot \eta) \cdot n_{br}^2}{182.5}$$

$$W < Q_{perm}$$

#### Service life of the brake lining

The service life of the brake lining  $L_{rated}$  until the air gap has to be readjusted depends on various factors. The main influencing factors include the masses to be braked, the motor speed, the number of starting operations, and, therefore, the temperature at the friction surfaces.

This means it is not possible to specify a value for the friction energy until readjustment that is valid for all operating conditions. However, a wear calculation can be made according to the friction energy, so that the service life can be defined in normal operation.

#### Brake service life

The brake lining is subject to wear as a result of friction. As a consequence, the air gap increases and the brake application time lengthens. The air gap can be readjusted. The friction lining should be replaced after a certain number of readjustments.

Service life of the brake lining until readjustment

$$L_{rated} = \frac{W_V}{W \cdot Z}$$

Service life of the brake lining until replacement

$$L_{ratedmax} = \frac{W_{tot}}{W \cdot Z}$$



### Brake control

#### Definition of switching times (VDI 2241)

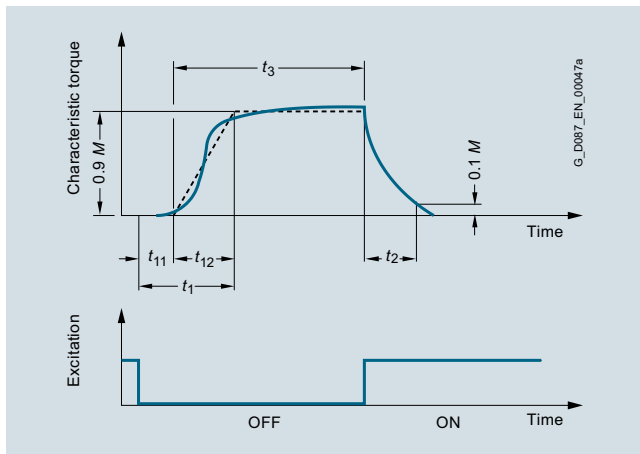


Fig. 2/18 Brake switching times

Switching times:

- $t_1$  Application time of the brake
- $t_2$  Disconnection time
- $t_3$  Slipping time
- $t_{11}$  Response time
- $t_{12}$  Rise time

#### Fast brake application

##### Disconnection on the AC side

If the brake is disconnected from the line supply, the brake is applied. With AC brake voltages, the brake application time is extended as a result of the inductance of the solenoid (disconnection on the AC side). This results in a considerable delay before the brake is mechanically applied. In order to achieve short brake application times, the circuit must also be disconnected on the DC side.

##### Rectifier for disconnection on the DC side

Electromagnetically released spring-operated disk brakes can be disconnected on the AC side and the DC side. Disconnection on the DC side means that the inductance and thus the magnetic field in the brake solenoid are reduced very quickly.

For disconnection on the DC side, a wire jumper can be removed from rectifier and replaced by the contacts of an external switch. This enables significantly shorter application times to be achieved than those achieved for disconnection on the AC side.

#### Function rectifiers for fast brake application

If function rectifiers are used for fast brake application, then there is no need for an external switch and therefore less wiring is required.

##### Disconnection on the DC side using current sensing

One option of disconnecting on the DC side is to sense the motor current. If the motor current falls below the rectifier's sensor current when disconnected from the three-phase line supply, the brake solenoid is disconnected from the DC voltage electronically without any contacts.

Used in conjunction with disconnection on the DC side by means of current sensing, rectifiers are generally suitable for being connected in parallel with the motor connection, even in applications involving moving loads or large moments of inertia. Brakes controlled in this way are completely wired to the motor terminal board. Inverter operation is not permissible.

##### Disconnection on the DC side using voltage sensing

Another option of disconnecting on the DC side is by sensing the rectifier supply voltage.

An integrated switching transistor switches off the load if the input voltage falls below a specified switching threshold. Used in conjunction with disconnection on the DC side using voltage sensing, rectifiers are generally suitable for operation with separate AC-side brake control using an additional switching contact.

Connection in parallel with the motor connection is also possible, but it is not recommended, as the rectifier disconnection response will be impaired by the influence of the motor winding. In addition, many applications involve driving loads or large moments of inertia. This can cause the no-load voltage generated when the motor coasts down to considerably delay brake application if the switching threshold for voltage sensing is not fallen below.

If connection in parallel with the motor connection is nevertheless desired or required, disconnection on the DC side using current sensing is recommended.

#### Fast brake release

##### Function rectifiers for fast brake release

##### Rectifiers with overexcitation (high-speed excitation)

Rectifiers with overexcitation operate for approximately  $300 \text{ ms} \pm 15 \%$  with bridge rectification, i.e. when being released, the brakes are supplied with twice the rated solenoid voltage.

After this time the rectifiers automatically switch from bridge to half-wave rectification and the brakes are operated with the rated solenoid voltage. This results in shorter release times and higher brake switching frequencies. The friction lining wear is also reduced, the permissible friction energy until the air gap is re-adjusted increases, and starting losses are reduced.

Rectifiers with overexcitation are generally suitable for being connected in parallel to the motor connection or for a separate circuit in the case of inverter operation (note connection information for disconnection on the DC side).

## Configuring guide

### Configuring a brake

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#### Brake switching time

The total time it takes the motor to come to a standstill comprises the following times:

- Brake application time  $t_1$
- Braking time  $t_{br}$

The first is the time it takes the brake to reach 90 % of its braking torque. This time may be circuit- and control-dependent.

The braking time is determined as follows:

$$t_{br} = \frac{(J_G + J_{AD} + J_{mot} + J_z + J_x \cdot \eta) \cdot n_{br}}{9.55 \cdot (T_{br} \pm T_x \cdot \eta)}$$

If  $T_x$  supports the braking operation,  $T_x$  is positive; otherwise it is negative.

#### Braking distance and positioning accuracy

Braking distance  $s_{br}$  is the distance traveled by the driven machine during braking time  $t_{br}$  and application time  $t_1$ .

With linear motion, a positioning accuracy of between  $\pm 12\%$  and  $\pm 15\%$  can be assumed. However, this can be heavily influenced by the condition of the brake.

The formula below applies to horizontal motion and upward vertical motion.

$$s_{br} = v \cdot \left( \frac{t_1}{1000} + 0.5 \cdot t_{br} \right)$$

#### Cyclic duration factor

The cyclic duration factor  $DC$  is the ratio between the load duration and the cyclic duration. The cyclic duration is the sum of the ON times (operational periods) and the no-voltage periods.

$$DC = \frac{t_s}{t_s + t_o} \cdot 100$$

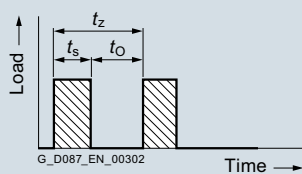


Fig. 2/19 Cyclic duration factor

Code	Description	Unit
$DC$	Cyclic duration factor	%
$t_s$	Close time (on-load factor)	s
$t_o$	Open time (off-load factor)	s
$t_z$	Cycle time (duty cycle time)	s

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### Incremental encoders

Incremental encoders are used to determine the position of rotor shafts and are used to approach a precisely defined angular position. This is achieved by photoelectrically scanning the graduation on an indexing disk. With incremental measuring methods, the graduation consists of a regular grid structure. The position information is obtained by counting the individual increments (measuring steps) from a set zero point. Since an absolute reference is required to determine positions, the indexing disks are provided with an additional track that has a reference mark. The absolute position determined by the reference mark is assigned exactly one measuring step. The reference mark must, therefore, be scanned before an absolute reference can be established or the last selected reference point found.

The incremental signals are transmitted as square-wave pulse train sequences  $U_{a1}$  (A) and  $U_{a2}$  (B), phase-shifted through  $90^\circ$  elec. The reference mark signal consists of a reference pulse  $U_{a0}$  (N), which is gated with the incremental signals.

In addition, the integrated electronics generate inverse signals  $\overline{U_{a1}}$  ( $\overline{A}$ ),  $\overline{U_{a2}}$  ( $\overline{B}$ ), and  $\overline{U_{a0}}$  ( $\overline{N}$ ) for noise-proof transmission. The illustrated sequence of output signals – with  $U_{a2}$  lagging behind  $U_{a1}$  – applies for clockwise rotation of the motor.

The fault-detection signal  $\overline{U_{aS}}$  indicates fault conditions such as breakage of the supply cables or failure of the light source, etc. It can be used to shut down machines in automated production environments.

The distance between two successive edges of the incremental signals  $U_{a1}$  and  $U_{a2}$  using 1-fold, 2-fold, or 4-fold evaluation is one measuring step.

The maximum permissible speed or travel velocity must never be exceeded, not even for a short time.

Incremental encoders are used with applications which require a precisely defined position to be approached/relocated. In the case of incremental encoders, the machine must travel to a reference point after each power-off state, as the position is not usually stored in the controller, and movements of the machine while the power is off are not recorded.

For the technical specifications of the incremental encoder, please refer to chapter "Motor options" on [page 11/42](#).

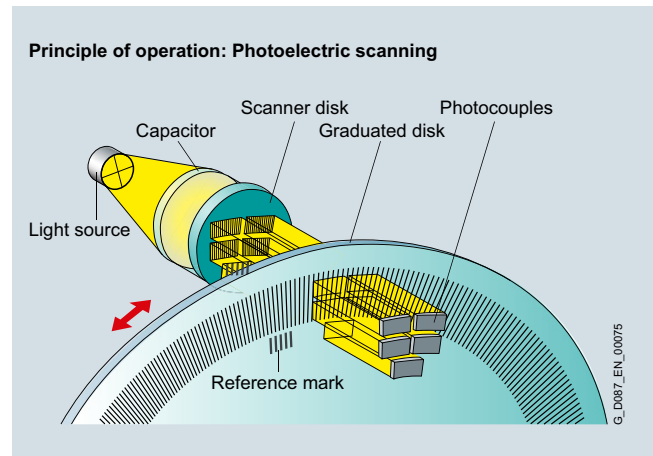


Fig. 2/20 Principle of operation, photoelectric scanning

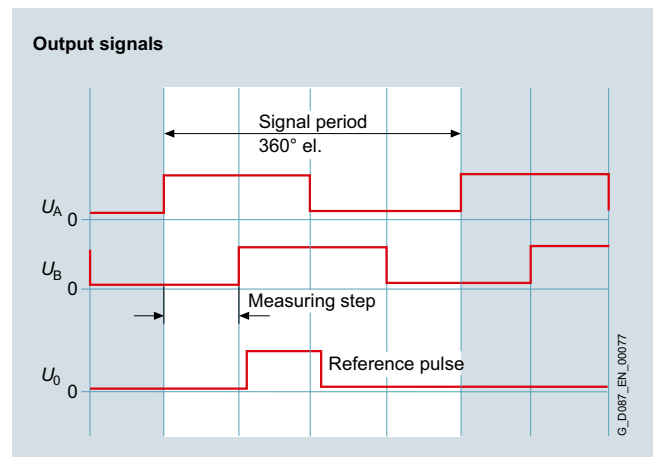


Fig. 2/21 Output signals

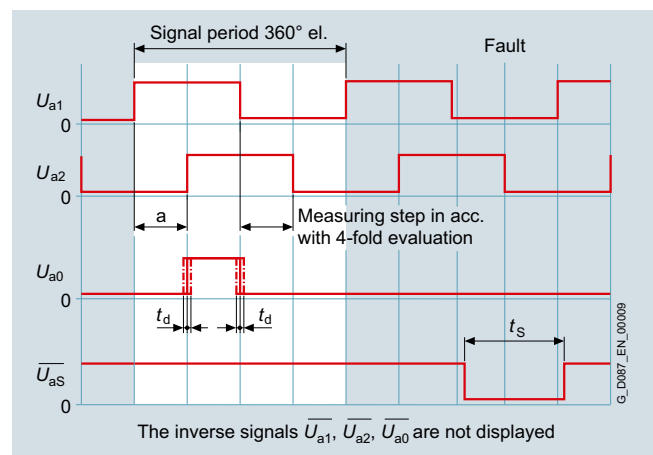


Fig. 2/22 Inverse output signals

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## Configuring guide

### Configuring an encoder

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#### Resolvers

Resolvers are rotary measuring systems where the angle of rotation is inductively sensed without contact. They operate with analog measured value acquisition, i.e. a measuring signal value can be continuously assigned to each value of the measured variable.

The method of operation mainly corresponds to that of a rotary transformer consisting of rotor and stator. If an AC voltage is applied to the stator winding, the magnetic flux created in the rotor winding induces an amplitude-modulated voltage of the same frequency.

The amplitude change over time is modulated by the angle-dependent change of the rotor. The envelope curve shows the respective angle. At the zero crossing of these envelope ends, the modulated voltage makes a phase step of  $180^\circ$  el.

In practice, resolvers with several stator windings are generally used. The voltage at the secondary winding continuously changes with the spatial angle in the phase position with regard to the voltage at one of the primary windings. A phase discriminator delivers a signal that is proportional to the angle of rotation.

Resolvers are used for applications which do not require such accurate position sensing as is possible with incremental encoders due to their higher resolution. They are used under harsh conditions regarding vibration, shock loads, and/or temperature.

For the technical specifications of the resolver, please refer to chapter "Motor options" on [page 11/45](#).

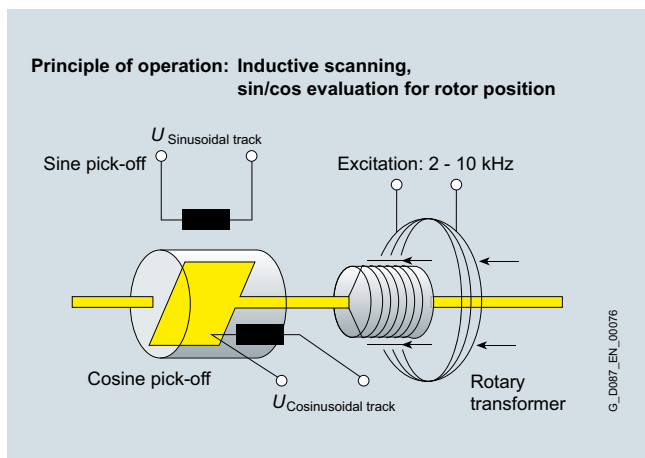


Fig. 2/23 Principle of operation, inductive scanning

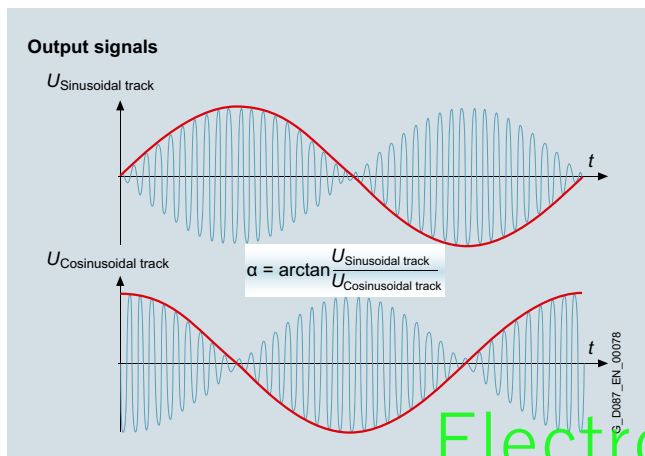


Fig. 2/24 Output signals

#### Absolute encoders

Absolute encoders are used to determine the position of rotor shafts and to approach a precisely defined angular position.

With the absolute measuring method, the position value is available from the encoder immediately after switch-on and can be called at any time by the subsequent electronics. There is no need to move the axes to find the reference position. The absolute position information is read from the graduation on the indexing disk, which consists of several parallel indexing tracks. The track with the finest scale division is interpolated for the position value and is used to generate an optional incremental signal at the same time. The indexing disks are photoelectrically scanned.

With singleturn rotary encoders the absolute position information is repeated at each revolution. Multiturn rotary encoders can also differentiate between revolutions.

Absolute encoders are used with applications which require a precisely defined position to be approached/relocated.

For the technical specifications of the absolute encoder, please refer to chapter "Motor options" on [page 11/46](#).

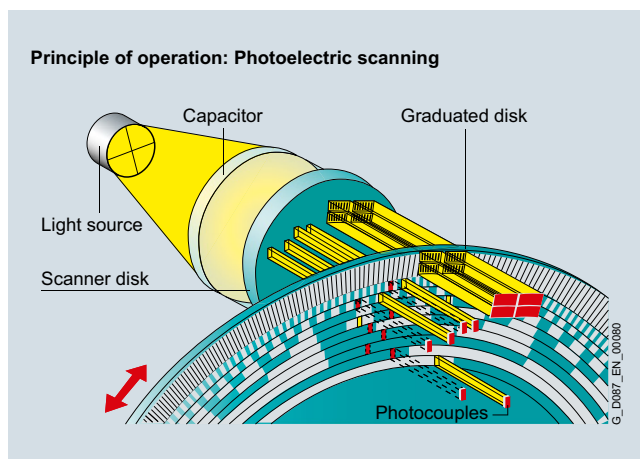


Fig. 2/25 Principle of operation, photoelectric scanning

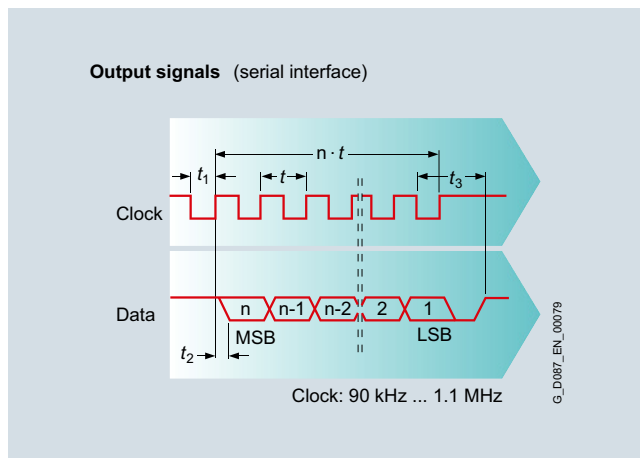


Fig. 2/26 Output signals

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### Functionally safe rotary encoders



Fig. 2/27 Functionally safe rotary encoder IN 8.5834FS2

#### Legal framework

The purpose of the Machinery Directive (2006/42/EC) is to ensure that all machines placed on the market within the European Economic Area meet common minimum safety requirements.

#### Functional safety - electric drives

The standards listed under the Machinery Directive define appropriate safety functions that must be implemented for electric, variable-speed drive systems. When viewed in this context, a drive train essentially comprises the elements "sensor – controller – actuator" which work together to ensure functional safety.

The distributor or operator of the machine/installation bears responsibility for the required safety functions and their properties.

In cases where Siemens provides support with the definition of safety-relevant components at the project planning stage, Siemens shall not accept any responsibility for the selection of components or the implementation of safety functions.

#### Trend toward integrated safety systems

The trend toward greater complexity and higher modularity of machines has seen a shift in safety functions away from the classical central safety functions (for example, shutdown of the complete machine using a main disconnecting means) and into the machine control system and the drives. Frequently, this also significantly increases the productivity. This is because, for instance, equipping times can be reduced and during these set-up times, depending on the machine type, other parts can still continue to produce.

#### Please note the following with respect to functionally safe rotary encoders:

- Functional safety can be ensured only if the functionally safe rotary encoder is evaluated by a suitable control and evaluation unit.
- The motors must be equipped as standard with thermal motor protection and a suitable evaluation unit.
- The maximum permissible input speed is 3 000 rpm.
- The maximum permissible angular acceleration of the functionally safe rotary encoder is 4 000 rad/s<sup>2</sup>.
- The maximum permissible air gaps for brake motors with functionally safe rotary encoder are different, see [table "Technical specifications of brake with functionally safe rotary encoder" on page 11/ 54](#).
- The motors are supplied as standard with the option "Encoder under cover" (**Q95**) as mechanical protection.
- Brake motors with functionally safe rotary encoder are not compatible with option "wear-resistant friction lining" (**C03**).
- The function rectifiers (**C59** and **C60**) cannot be combined with the functionally safe rotary encoder.
- The functionally safe rotary encoder is suitable for typical industrial environments, but not for harsh industrial conditions such as those typical of offshore or chemical industry applications.
- Resonance effects must be avoided in systems supplied by an inverter or similar power control devices.

#### Environmental conditions

With respect to mechanical environmental conditions, the motors are approved for vibration and shocks in accordance with EN 60721-3-3 Class 3M3.

Geared motors with a functionally safe rotary encoder may be operated within an ambient temperature range of -20 °C to +40 °C.

#### Installation of SIMOGEAR geared motors

Geared motors must be installed such that the drive fastening elements in the machine are aligned uniformly and precisely. Vibration and resonance with rotational frequency and with multiples of the line frequency must be prevented. Care must be taken to ensure unobstructed ventilation (flow of cooling air and exhaust air must not be hindered).

#### Electrical connection of motors

The electrical connection of the motors must conform to the tolerance limits defined by EN 60034-1 for zone A (voltage  $\pm 5\%$ , frequency  $\pm 2\%$ ).

#### Encoder connections

The encoders must be connected by suitable connecting cables (max. 50 m cable length). The shield of the connecting cables must be bonded over a large area/grounded at both ends (at encoder and at controller).

The following cables are recommended for use with SINAMICS S120 (SMC20):

Description	Article No.
Connecting cable for incremental encoder IN 8.5834FS2, IN 8.5834FS3	<b>6FX5002-2CG00-■■■■■</b>
Connecting cable for absolute encoder IA 8.5883FS2, IA 8.5883FS3	<b>6FX5002-2CH00-■■■■■</b>

For connectors for connecting cables, see chapter [Motor options page 11/58](#).

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## Configuring guide

### Configuring an encoder

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#### Functionally safe rotary encoders (continued)

##### **Function**

##### Safe actual value sensing with encoder

A drive monitor with encoder is necessary for operation of a series of safety functions.

Further information about safety functions can be found in the Safety Integrated Function Manual.  
<https://support.industry.siemens.com/cs/ww/en/view/109751320>

##### Safe actual value sensing with functionally safe rotary encoder

A functionally safe rotary encoder (sensor) must be used in conjunction with a suitable encoder evaluation system (controller) and an inverter (actuator) in order to implement certain safety function.

##### Safety functions

The following safety functions can be implemented with the functionally safe rotary encoders integrated in SIMOGEAR:

- SS2: Safe Stop 2
- SOS: Safe Operating Stop
- SLS: Safely-Limited Speed
- SSM: Safe Speed Monitor
- SSR: Safe Speed Range
- SDI: Safe Direction
- SLA: Safely-Limited Acceleration
- SAR: Safe Acceleration Range
- SLI: Safely-Limited Increment
- SLP: Safely-Limited Position
- SCA: Safe Cam

For detailed descriptions of individual functions, please refer to Catalog [D 31.2](#)

For the technical specifications of the functionally safe rotary encoder, please refer to chapter "Motor options" on [page 11/50](#).

##### Note:

Before you commission SIMOGEAR geared motors with the functionally safe rotary encoder, please read the information in operating instructions BA 2730.

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**Operation of geared motors on a frequency inverter**

It is possible in principle to operate the geared motors on a frequency inverter.

Please note the following supplementary conditions:

- Maximum speed of the geared motor in the field-weakening range
- Maximum speed of the brake, see [page 11/36](#)
- Speed limits of the backstop, see [page 11/63](#)

**Motor characteristic**

During the acceleration process, frequency inverters shift the speed-torque characteristic of the three-phase asynchronous motor over the traversing range to enable jerk-free acceleration. This enables the motor to be operated at different speeds (e.g. rapid traverse/creep speed), but also protects the mechanical components of the plant and gearbox.

Two main motor operating ranges are applicable for inverter operation:

Constant flux (constant torque)

For frequency inverters with an unregulated DC link (e.g. SINAMICS G110M) the output voltage can be as high as the line-side input voltage minus any voltage drops in the inverter (for example, for SINAMICS G110M:

$$U_{Output} = 0.87 \times U_{Input}$$

If the maximum output voltage has not yet been achieved, the inverter output voltage can be increased as the motor speed increases until **V/f = constant** applies. As a consequence, the magnetic flux, the motor current, and therefore the transferred **continuous torque are constant** (provided that the motor is adequately cooled → in the case of self-cooling, the torque must be reduced in accordance with the motor characteristic at low speeds due to the reduced cooling). Alternatively, if a separately driven fan is used, the full motor torque can be utilized.

Field-weakening range

If the speed increases further when the maximum output voltage has been reached,  $V/f \neq$  remains constant. The magnetic flux reduces with increasing motor speed, the motor current and therefore the transferred continuous torque reduces with respect to  $1/n$ , and the breakdown torque reduces according to  $1/n^2$  (see motor characteristic). The motor can be operated in the field-weakening range at constant power as far as the limit of stability (see under "Mechanical load, grease service life").

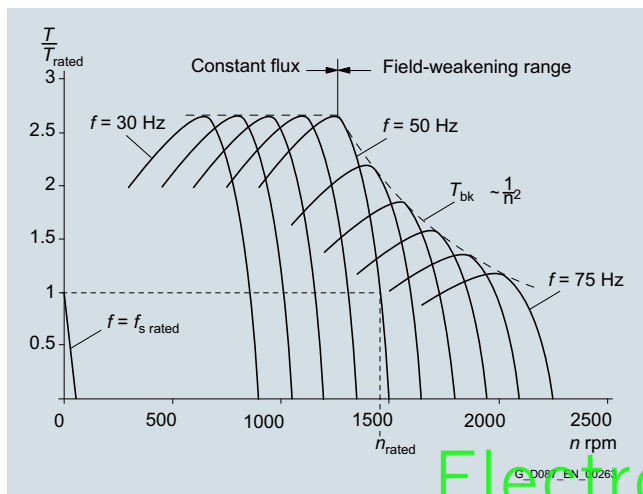


Fig. 2/28 Example for a 4-pole, three-phase asynchronous motor

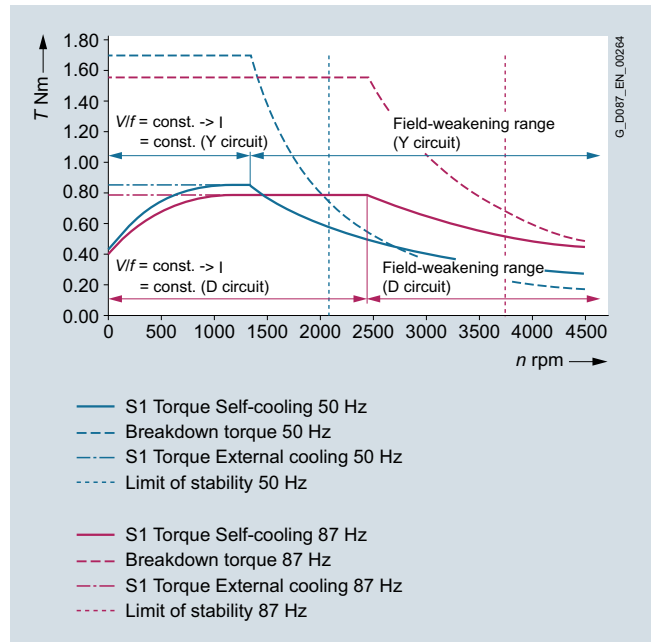


Fig. 2/29 Torque-speed characteristic for asynchronous motor (based on the example of LA63ME4)

**Utilization in accordance with temperature class F**

For rated power and line operation, the motor is utilized in accordance with temperature class B (130 °C maximum permissible constant temperature referred to a maximum cooling air temperature of 40 °C). Siemens motors are designed as standard to temperature class F (155 °C maximum permissible constant temperature referred to a maximum cooling air temperature of 40 °C).

For inverter operation at reduced output voltage, the power reserve of the motor can be used to achieve the rated power.

In this case, the rated torque is applied to the motor and the frequency inverter outputs a frequency at which the motor achieves rated speed.

At this operating point the slip and current input are higher than under line operation, so that the constant motor temperature increases accordingly. Prerequisite for utilization of the motor in accordance with temperature class F is that the frequency inverter is capable of outputting a sufficiently high level of current:

$$I_{FUoutRated} \geq I_{Motor Rated Inc}$$

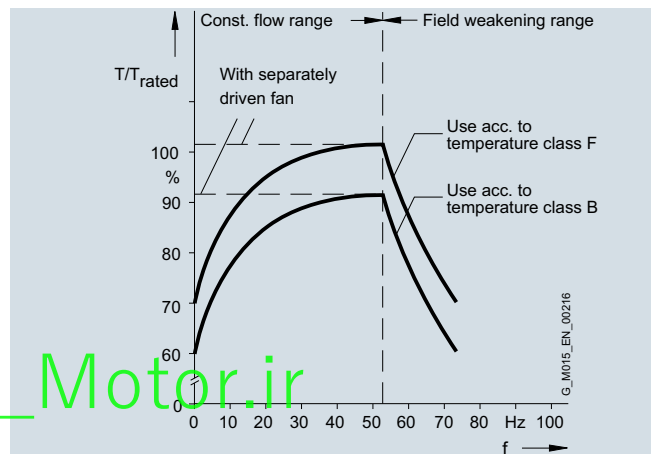


Fig. 2/30



## Configuring guide

### Configuring the motor for inverter operation

2

#### Peak load / acceleration torque

Based on experience, a safety margin of 30 % must be maintained from the breakdown torque:

$$T_{\max.} = 0.7 \times T_{Bk}$$

The engineering software "Sizer for Siemens Drives" incorporates a safety margin for the actual breakdown torque when the breakdown torque characteristic is displayed.

At a sufficiently high level of inverter output current, the motor can therefore be accelerated with approximately 0.7 times its breakdown torque.

When operating with a high switching frequency, the motor's acceleration torque may have to be limited to its rated torque. As a general rule, the rms current must not exceed the rated motor current. It is recommended that the respective traversing cycle is entered in the engineering software "Sizer for Siemens Drives", because the rms values will then be calculated automatically and represented in combination with the respective motor characteristic.

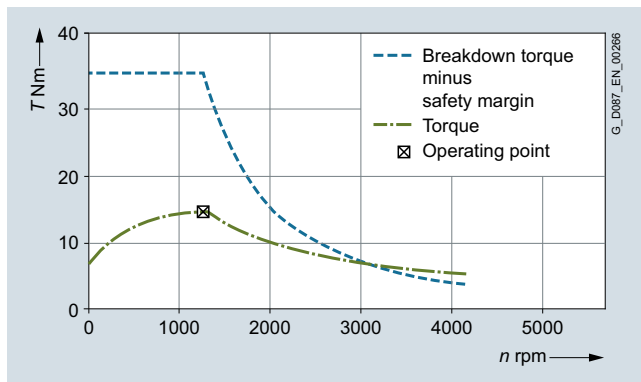


Fig. 2/31

#### Permissible voltage stress

More stress is placed on the insulation of the motor winding with inverter operation than with line operation. The voltage stress also depends on the type of inverter used. The inverter subjects the motor winding to stress specially as voltage pulses are quickly switched.

The maximum voltage is influenced by the rise time of the pulses, the cable length and the type of cable used between motor and inverter.

Output filters at the inverter can reduce the maximum motor voltage to uncritical values. When using output filters, the control type, pulse frequency, output frequency, and limit torque that can be realized need to be observed, among other factors.

With inverters without output filters, impermissible voltage peaks can occur even with a relatively short motor cable. Regenerative operation, in particular, can stress the motor insulation. This stress occurs predominantly during vertical motion and is dependent on the line voltage, inverter type, cable length, and cable type.

For further details, see [chapter "Motor options" page 11/8](#).

#### Bearing currents

Additional bearing currents can flow when motors are operated from inverters. They are mainly caused by the steep voltage rises which occur during switching. Without output filters, significant voltage variations can occur at the winding terminals. This phenomenon mainly occurs for larger machines.

EMC-compliant installation of the drive system is a basic prerequisite for preventing premature bearing damage as a result of bearing currents.

Important measures for reducing bearing currents are:

- Using cables with a symmetrical cable cross-section.
- Using grounding cables with low impedance over a wide frequency range (0 Hz up to approximately 70 MHz), e.g. braided copper straps, HF finely-stranded conductors
- Separate HF equipotential-bonding cable between motor housing and driven machine
- Separate HF equipotential-bonding cable between motor housing and inverter PE busbar
- 360° HF contact of the cable shield at the motor housing and the inverter PE busbar. This can be achieved using EMC glands at the motor and EMC shield clips at the inverter, for example.
- Use of motor reactors
- Common-mode filters at the inverter output.
- Insulated motor bearing at the non-drive end (NDE).

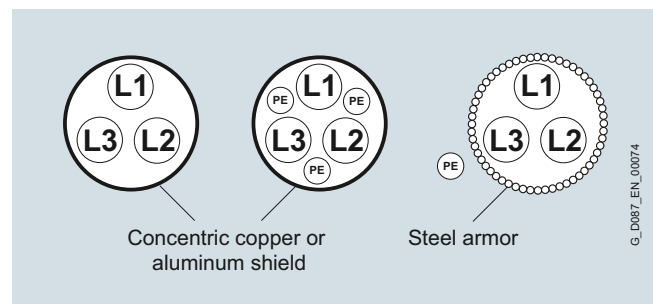


Fig. 2/32 Motors connected to an inverter

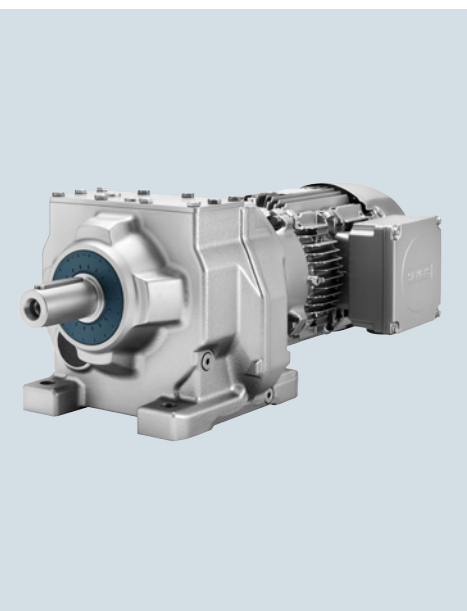
#### Mechanical load, grease service life

High speeds that exceed the rated speed and the resulting increased vibration alter the mechanical smooth running operation and the bearings are subject to increased mechanical stress. This reduces the grease service life and the bearing service life.

More detailed information on request.

# Electro\_Motor.ir

## Helical geared motors



<b>3/2</b>	<b>Orientation</b>
<b>3/3</b>	<b>Geared motors up to 55 kW</b>
3/3	Selection and ordering data
<b>3/74</b>	<b>Transmission ratios and torques</b>
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<b>3/90</b>	<b>Transmission ratios and torques for very low speeds</b>
3/90	Selection and ordering data
<b>3/102</b>	<b>Dimensions</b>
3/102	Dimensional drawing overview
3/104	Helical geared motors D./Z.19
3/107	Helical geared motors D./Z.29
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3/115	Helical geared motors D./Z.49
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3/121	Helical geared motors D./Z.69
3/124	Helical geared motors D./Z.79
3/127	Helical geared motors D./Z.89
3/132	Helical geared motors D./Z.109
3/137	Helical geared motors D./Z.129
3/142	Helical geared motors D./Z.149
3/146	Helical geared motors D./Z.169
3/150	Helical geared motors D./Z.189
3/152	Helical geared motors E.39
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## SIMOGEAR geared motors

### Helical geared motors

#### Orientation

#### SIMOGEAR helical geared motor Z and D

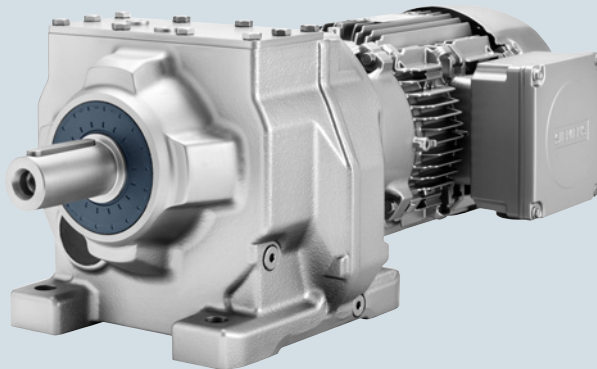


Fig. 3/1 Helical geared motor Z and D

#### SIMOGEAR helical geared motor E

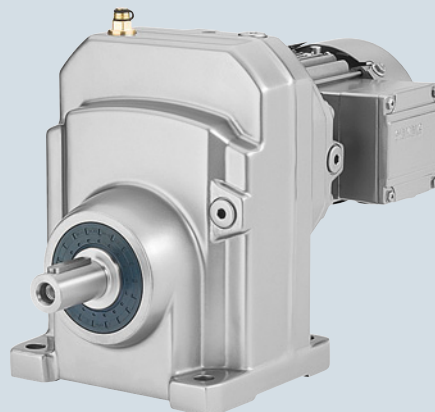


Fig. 3/2 Helical geared motor E

Gearbox designation	Number of frame sizes	Maximum output torque	Gear ratio	Maximum motor power
		$T_{2N}$ Nm	$i$ -	$P_1$ kW
Z19 ... Z189 (2-stage)	13	100 ... 19 000	3.4 ... 57	55
D19 ... D189 (3-stage)	13	100 ... 19 000	36 ... 328	55
E39 ... E149 (1-stage)	7	30 ... 1 490	1.29 ... 9.79	55
D-29-Z19 ... D.189-D69 (4-stage to 6-stage)	12	140 ... 19 000	325 ... 27 816	7.5

SIMOGEAR helical geared motors are available in the following versions:

#### Transmission stages

- 2-stage or 3-stage helical geared motors
- 1-stage helical geared motors for high output speeds
- 4-stage to 6-stage helical geared motors for very low output speeds

#### Versions

- Foot-mounted design
- Flange-mounted design with or without VLplus and XLplus reinforced bearing systems
- Design with integrated housing flange
- Combined foot/flange-mounted design
- Cooling tower version

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**Selection and ordering data**

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.09</b>	<b>D.69-LA63MF6</b>							
	2.6	330	328.49	11 400	1.8	27	2KJ3206 - ■ BD11 - ■ ■ S1	P01
	2.9	295	292.08	11 400	2.0	27	2KJ3206 - ■ BD11 - ■ ■ R1	P01
	<b>D.59-LA63MF6</b>							
	2.8	310	307.02	7 890	1.4	22	2KJ3205 - ■ BD11 - ■ ■ S1	P01
	3.1	275	272.99	7 950	1.6	22	2KJ3205 - ■ BD11 - ■ ■ R1	P01
	3.5	240	239.70	8 000	1.9	22	2KJ3205 - ■ BD11 - ■ ■ Q1	P01
	3.9	220	217.91	8 030	2.0	22	2KJ3205 - ■ BD11 - ■ ■ P1	P01
	<b>D.49-LA63MF6</b>							
	3.0	280	280.89	5 980	1.1	20	2KJ3204 - ■ BD11 - ■ ■ S1	P01
	3.4	250	249.76	6 040	1.3	20	2KJ3204 - ■ BD11 - ■ ■ R1	P01
	3.9	220	219.30	6 100	1.4	20	2KJ3204 - ■ BD11 - ■ ■ Q1	P01
	4.3	200	199.36	6 150	1.6	20	2KJ3204 - ■ BD11 - ■ ■ P1	P01
	<b>D.49-LA63MD4</b>							
	5.0	172	280.89	6 200	1.9	19	2KJ3204 - ■ BB11 - ■ ■ S1	
	5.6	153	249.76	6 240	2.1	19	2KJ3204 - ■ BB11 - ■ ■ R1	
	<b>D.39-LA63MF6</b>							
	3.6	235	235.29	3 490	0.84	10	2KJ3203 - ■ BD11 - ■ ■ R1	P01
	4.1	210	208.69	4 120	0.95	10	2KJ3203 - ■ BD11 - ■ ■ Q1	P01
	4.7	183	181.07	4 790	1.1	10	2KJ3203 - ■ BD11 - ■ ■ P1	P01
	5.2	166	164.61	5 220	1.2	10	2KJ3203 - ■ BD11 - ■ ■ N1	P01
	<b>D.39-LA63MD4</b>							
	6.0	144	235.29	5 770	1.4	10	2KJ3203 - ■ BB11 - ■ ■ R1	
	6.7	128	208.69	5 800	1.6	10	2KJ3203 - ■ BB11 - ■ ■ Q1	
	7.7	111	181.07	5 800	1.8	10	2KJ3203 - ■ BB11 - ■ ■ P1	
	8.5	101	164.61	5 800	2.0	10	2KJ3203 - ■ BB11 - ■ ■ N1	
	<b>D.29-LA63MF6</b>							
	5.1	170	167.63	2 910	0.83	8	2KJ3202 - ■ BD11 - ■ ■ N1	P01
	5.6	154	152.39	3 340	0.91	8	2KJ3202 - ■ BD11 - ■ ■ M1	P01
	<b>D.29-LA63MD4</b>							
	6.4	134	217.89	3 870	1.0	8	2KJ3202 - ■ BB11 - ■ ■ Q1	
	7.3	118	192.93	4 060	1.2	8	2KJ3202 - ■ BB11 - ■ ■ P1	
	8.4	103	167.63	4 060	1.4	8	2KJ3202 - ■ BB11 - ■ ■ N1	
	9.2	94	152.39	4 060	1.5	8	2KJ3202 - ■ BB11 - ■ ■ M1	
	11	80	129.68	4 060	1.8	8	2KJ3202 - ■ BB11 - ■ ■ L1	
	12	72	117.89	4 060	1.9	8	2KJ3202 - ■ BB11 - ■ ■ K1	
	14	63	102.79	4 060	2.2	8	2KJ3202 - ■ BB11 - ■ ■ J1	
	15	56	92.01	4 060	2.5	8	2KJ3202 - ■ BB11 - ■ ■ H1	
	17	50	81.71	4 060	2.8	8	2KJ3202 - ■ BB11 - ■ ■ G1	
	19	46	75.42	4 060	3.0	8	2KJ3202 - ■ BB11 - ■ ■ F1	
	21	40	65.52	4 060	3.5	8	2KJ3202 - ■ BB11 - ■ ■ E1	
	25	35	56.93	4 060	4.0	8	2KJ3202 - ■ BB11 - ■ ■ D1	
	27	32	51.40	4 060	4.4	8	2KJ3202 - ■ BB11 - ■ ■ C1	
	29	30	48.37	4 060	4.7	8	2KJ3202 - ■ BB11 - ■ ■ B1	
	<b>Z.29-LA63MD4</b>							
	34	25	41.40	4 060	5.5	8	2KJ3102 - ■ BB11 - ■ ■ A2	
	38	22	36.72	4 060	6.2	8	2KJ3102 - ■ BB11 - ■ ■ X1	
	44	20	31.86	4 060	7.2	8	2KJ3102 - ■ BB11 - ■ ■ W1	

**Article No. supplement**

Shaft design

Frequency and voltage

Gearbox mounting type

 Electro Motor.ir  
 1 or 9  
 2 or 9-

A, B, F or H

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.09	<b>Z.29-LA63MD4</b>							
	48	18	28.96	4 060	7.9	8	2KJ3102 - ■ BB11 - ■ ■ V1	
	56	15	24.84	4 060	9.2	8	2KJ3102 - ■ BB11 - ■ ■ U1	
	62	14	22.58	4 020	10	8	2KJ3102 - ■ BB11 - ■ ■ T1	
	71	12	19.80	3 850	12	8	2KJ3102 - ■ BB11 - ■ ■ S1	
	79	11	17.67	3 710	13	8	2KJ3102 - ■ BB11 - ■ ■ R1	
	89	10	15.75	3 580	14	8	2KJ3102 - ■ BB11 - ■ ■ Q1	
96	9	14.54	3 490	13	8	2KJ3102 - ■ BB11 - ■ ■ P1		
0.09	<b>D.19-LA63MD4</b>							
	7.6	113	184.86	1 390	0.88	7	2KJ3201 - ■ BB11 - ■ ■ Q1	
	8.6	100	163.69	1 650	1.0	7	2KJ3201 - ■ BB11 - ■ ■ P1	
	9.8	87	142.23	1 920	1.1	7	2KJ3201 - ■ BB11 - ■ ■ N1	
	11	79	129.30	2 080	1.3	7	2KJ3201 - ■ BB11 - ■ ■ M1	
	13	68	110.02	2 290	1.5	7	2KJ3201 - ■ BB11 - ■ ■ L1	
	14	61	100.02	2 330	1.6	7	2KJ3201 - ■ BB11 - ■ ■ K1	
	16	54	87.21	2 360	1.9	7	2KJ3201 - ■ BB11 - ■ ■ J1	
	18	48	78.07	2 390	2.1	7	2KJ3201 - ■ BB11 - ■ ■ H1	
	20	43	69.32	2 420	2.3	7	2KJ3201 - ■ BB11 - ■ ■ G1	
	22	39	63.99	2 440	2.5	7	2KJ3201 - ■ BB11 - ■ ■ F1	
	25	34	55.59	2 460	2.9	7	2KJ3201 - ■ BB11 - ■ ■ E1	
	29	30	48.30	2 480	3.4	7	2KJ3201 - ■ BB11 - ■ ■ D1	
	32	27	43.61	2 500	3.7	7	2KJ3201 - ■ BB11 - ■ ■ C1	
	34	25	41.04	2 510	4.0	7	2KJ3201 - ■ BB11 - ■ ■ B1	
0.09	<b>Z.19-LA63MD4</b>							
	40	22	34.97	2 520	4.7	6	2KJ3101 - ■ BB11 - ■ ■ W1	
	45	19	30.97	2 540	5.3	6	2KJ3101 - ■ BB11 - ■ ■ V1	
	52	16	26.91	2 550	6.1	6	2KJ3101 - ■ BB11 - ■ ■ U1	
	57	15	24.46	2 560	6.7	6	2KJ3101 - ■ BB11 - ■ ■ T1	
	67	13	20.82	2 570	7.8	6	2KJ3101 - ■ BB11 - ■ ■ S1	
	74	12	18.92	2 530	8.6	6	2KJ3101 - ■ BB11 - ■ ■ R1	
	85	10	16.50	2 420	9.8	6	2KJ3101 - ■ BB11 - ■ ■ Q1	
	95	9	14.77	2 340	10	6	2KJ3101 - ■ BB11 - ■ ■ P1	
	107	8	13.12	2 250	11	6	2KJ3101 - ■ BB11 - ■ ■ N1	
	116	7	12.11	2 200	12	6	2KJ3101 - ■ BB11 - ■ ■ M1	
	133	7	10.52	2 100	13	6	2KJ3101 - ■ BB11 - ■ ■ L1	
	153	6	9.14	2 010	14	6	2KJ3101 - ■ BB11 - ■ ■ K1	
	170	5	8.25	1 940	15	6	2KJ3101 - ■ BB11 - ■ ■ J1	
	180	5	7.76	1 910	15	6	2KJ3101 - ■ BB11 - ■ ■ H1	
	224	4	6.25	1 760	15	6	2KJ3101 - ■ BB11 - ■ ■ F1	
	0.12	<b>D.69-LA63MG6</b>						
3.0		375	328.49	11 300	1.6	27	2KJ3206 - ■ BE11 - ■ ■ S1	P01
3.4		335	292.08	11 400	1.8	27	2KJ3206 - ■ BE11 - ■ ■ R1	P01
3.9	290	256.46	11 400	2.0	27	2KJ3206 - ■ BE11 - ■ ■ Q1	P01	
0.12	<b>D.59-LA63MG6</b>							
	3.3	350	307.02	7 820	1.3	22	2KJ3205 - ■ BE11 - ■ ■ S1	P01
	3.7	310	272.99	7 890	1.4	22	2KJ3205 - ■ BE11 - ■ ■ R1	P01
4.2	275	239.70	7 950	1.6	22	2KJ3205 - ■ BE11 - ■ ■ Q1	P01	

## Article No. supplement

Shaft design

Frequency and voltage

Gearbox mounting type

Electro Motor.ir

A, B, F or H

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.12</b>	<b>D.59-LA63ME4</b>							
	4.4	260	307.02	7 970	1.7	22	2KJ3205 - ■ BC11 - ■ ■ S1	
	4.9	230	272.99	8 020	1.9	22	2KJ3205 - ■ BC11 - ■ ■ R1	
	<b>D.49-LA63MG6</b>							
	3.6	320	280.89	5 780	0.99	20	2KJ3204 - ■ BE11 - ■ ■ S1	P01
	4.0	285	249.76	5 970	1.1	20	2KJ3204 - ■ BE11 - ■ ■ R1	P01
	4.6	250	219.30	6 040	1.3	20	2KJ3204 - ■ BE11 - ■ ■ Q1	P01
	<b>D.49-LA63ME4</b>							
	4.8	235	280.89	6 070	1.3	19	2KJ3204 - ■ BC11 - ■ ■ S1	
	5.4	210	249.76	6 120	1.5	19	2KJ3204 - ■ BC11 - ■ ■ R1	
	6.2	186	219.30	6 170	1.7	19	2KJ3204 - ■ BC11 - ■ ■ Q1	
	6.8	169	199.36	6 210	1.9	19	2KJ3204 - ■ BC11 - ■ ■ P1	
	<b>D.39-LA63MG6</b>							
	4.8	235	208.69	3 490	0.84	10	2KJ3203 - ■ BE11 - ■ ■ Q1	P01
	5.5	205	181.07	4 240	0.96	10	2KJ3203 - ■ BE11 - ■ ■ P1	P01
	<b>D.39-LA63ME4</b>							
	5.7	200	235.29	4 370	1.0	10	2KJ3203 - ■ BC11 - ■ ■ R1	
	6.5	177	208.69	4 940	1.1	10	2KJ3203 - ■ BC11 - ■ ■ Q1	
	7.5	154	181.07	5 510	1.3	10	2KJ3203 - ■ BC11 - ■ ■ P1	
	8.2	140	164.61	5 800	1.4	10	2KJ3203 - ■ BC11 - ■ ■ N1	
9.6	120	141.17	5 800	1.7	10	2KJ3203 - ■ BC11 - ■ ■ M1		
11	109	128.34	5 800	1.8	10	2KJ3203 - ■ BC11 - ■ ■ L1		
12	96	112.53	5 800	2.1	10	2KJ3203 - ■ BC11 - ■ ■ K1		
<b>D.29-LA63MG6</b>								
6.6	175	152.39	2 780	0.8	8	2KJ3202 - ■ BE11 - ■ ■ M1	P01	
<b>D.29-LA63ME4</b>								
7.0	164	192.93	3 070	0.85	8	2KJ3202 - ■ BC11 - ■ ■ P1		
8.1	142	167.63	3 650	0.98	8	2KJ3202 - ■ BC11 - ■ ■ N1		
8.9	129	152.39	4 000	1.1	8	2KJ3202 - ■ BC11 - ■ ■ M1		
10	110	129.68	4 060	1.3	8	2KJ3202 - ■ BC11 - ■ ■ L1		
11	100	117.89	4 060	1.4	8	2KJ3202 - ■ BC11 - ■ ■ K1		
13	87	102.79	4 060	1.6	8	2KJ3202 - ■ BC11 - ■ ■ J1		
15	78	92.01	4 060	1.8	8	2KJ3202 - ■ BC11 - ■ ■ H1		
17	69	81.71	4 060	2.0	8	2KJ3202 - ■ BC11 - ■ ■ G1		
18	64	75.42	4 060	2.2	8	2KJ3202 - ■ BC11 - ■ ■ F1		
21	56	65.52	4 060	2.5	8	2KJ3202 - ■ BC11 - ■ ■ E1		
24	48	56.93	4 060	2.9	8	2KJ3202 - ■ BC11 - ■ ■ D1		
26	44	51.40	4 060	3.2	8	2KJ3202 - ■ BC11 - ■ ■ C1		
28	41	48.37	4 060	3.4	8	2KJ3202 - ■ BC11 - ■ ■ B1		
<b>Z.29-LA63ME4</b>								
33	35	41.40	4 060	4.0	8	2KJ3102 - ■ BC11 - ■ ■ A2		
37	31	36.72	4 060	4.5	8	2KJ3102 - ■ BC11 - ■ ■ X1		
42	27	31.86	4 060	5.2	8	2KJ3102 - ■ BC11 - ■ ■ W1		
47	25	28.96	4 060	5.7	8	2KJ3102 - ■ BC11 - ■ ■ V1		
54	21	24.84	4 060	6.6	8	2KJ3102 - ■ BC11 - ■ ■ U1		
60	19	22.58	4 040	7.3	8	2KJ3102 - ■ BC11 - ■ ■ T1		
68	17	19.80	3 870	8.3	8	2KJ3102 - ■ BC11 - ■ ■ S1		
76	15	17.67	3 740	9.3	8	2KJ3102 - ■ BC11 - ■ ■ R1		
86	13	15.75	3 600	10	8	2KJ3102 - ■ BC11 - ■ ■ Q1		
93	12	14.54	3 510	9.7	8	2KJ3102 - ■ BC11 - ■ ■ P1		

**Article No. supplement**

Shaft design

1 or 9

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Frequency and voltage

2 or 9

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Gearbox mounting type

A, B, F or H

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.12	<b>Z.29-LA63ME4</b>							
	106	11	12.73	3 360	13	8	2KJ3102 - ■ BC11 - ■ ■ N1	
	121	10	11.16	3 220	15	8	2KJ3102 - ■ BC11 - ■ ■ M1	
	195	6	6.92	2 750	13	8	2KJ3102 - ■ BC11 - ■ ■ G1	
	<b>D.19-LA63ME4</b>							
	9.5	121	142.23	1 220	0.83	7	2KJ3201 - ■ BC11 - ■ ■ N1	
	10	110	129.30	1 450	0.91	7	2KJ3201 - ■ BC11 - ■ ■ M1	
	12	93	110.02	1 800	1.1	7	2KJ3201 - ■ BC11 - ■ ■ L1	
	13	85	100.02	1 960	1.2	7	2KJ3201 - ■ BC11 - ■ ■ K1	
	15	74	87.21	2 180	1.4	7	2KJ3201 - ■ BC11 - ■ ■ J1	
	17	66	78.07	2 300	1.5	7	2KJ3201 - ■ BC11 - ■ ■ H1	
	19	59	69.32	2 340	1.7	7	2KJ3201 - ■ BC11 - ■ ■ G1	
	21	54	63.99	2 360	1.8	7	2KJ3201 - ■ BC11 - ■ ■ F1	
	24	47	55.59	2 400	2.1	7	2KJ3201 - ■ BC11 - ■ ■ E1	
	28	41	48.30	2 430	2.4	7	2KJ3201 - ■ BC11 - ■ ■ D1	
	31	37	43.61	2 450	2.7	7	2KJ3201 - ■ BC11 - ■ ■ C1	
	33	35	41.04	2 460	2.9	7	2KJ3201 - ■ BC11 - ■ ■ B1	
	<b>Z.19-LA63ME4</b>							
	39	30	34.97	2 480	3.4	6	2KJ3101 - ■ BC11 - ■ ■ W1	
	44	26	30.97	2 500	3.8	6	2KJ3101 - ■ BC11 - ■ ■ V1	
	50	23	26.91	2 520	4.4	6	2KJ3101 - ■ BC11 - ■ ■ U1	
	55	21	24.46	2 530	4.8	6	2KJ3101 - ■ BC11 - ■ ■ T1	
	65	18	20.82	2 540	5.7	6	2KJ3101 - ■ BC11 - ■ ■ S1	
	71	16	18.92	2 530	6.2	6	2KJ3101 - ■ BC11 - ■ ■ R1	
	82	14	16.50	2 430	7.1	6	2KJ3101 - ■ BC11 - ■ ■ Q1	
	91	12	14.77	2 350	7.6	6	2KJ3101 - ■ BC11 - ■ ■ P1	
	103	11	13.12	2 260	8.2	6	2KJ3101 - ■ BC11 - ■ ■ N1	
	111	10	12.11	2 210	8.6	6	2KJ3101 - ■ BC11 - ■ ■ M1	
	128	9	10.52	2 110	9.3	6	2KJ3101 - ■ BC11 - ■ ■ L1	
	148	8	9.14	2 020	10	6	2KJ3101 - ■ BC11 - ■ ■ K1	
	164	7	8.25	1 950	11	6	2KJ3101 - ■ BC11 - ■ ■ J1	
	174	7	7.76	1 920	11	6	2KJ3101 - ■ BC11 - ■ ■ H1	
	199	6	6.77	1 830	12	6	2KJ3101 - ■ BC11 - ■ ■ G1	
216	5	6.25	1 770	11	6	2KJ3101 - ■ BC11 - ■ ■ F1		
249	5	5.43	1 690	12	6	2KJ3101 - ■ BC11 - ■ ■ E1		
287	4	4.71	1 620	12	6	2KJ3101 - ■ BC11 - ■ ■ D1		
317	4	4.26	1 570	13	6	2KJ3101 - ■ BC11 - ■ ■ C1		
337	3	4.01	1 540	14	6	2KJ3101 - ■ BC11 - ■ ■ B1		
<b>E.39-LA63ME4</b>								
146	8	9.22	3 000	3.8	10	2KJ3001 - ■ BC11 - ■ ■ S1		
0.18	<b>D.79-LA71MG6</b>							
	2.6	665	330.23	13 600	1.3	38	2KJ3207 - ■ CD11 - ■ ■ S1	P01
	2.8	605	300.21	13 700	1.4	38	2KJ3207 - ■ CD11 - ■ ■ R1	P01
	3.3	515	255.33	13 800	1.6	38	2KJ3207 - ■ CD11 - ■ ■ Q1	P01
	3.7	465	232.12	13 900	1.8	38	2KJ3207 - ■ CD11 - ■ ■ P1	P01
	<b>D.69-LA71MG6</b>							
	2.6	660	328.49	10 800	0.90	28	2KJ3206 - ■ CD11 - ■ ■ S1	P01
	2.9	590	292.08	11 000	1.0	28	2KJ3206 - ■ CD11 - ■ ■ R1	P01
	3.3	515	256.46	11 100	1.2	28	2KJ3206 - ■ CD11 - ■ ■ Q1	P01
	3.6	470	233.14	11 200	1.3	28	2KJ3206 - ■ CD11 - ■ ■ P1	P01

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.18	<b>D.69-LA63MF4</b>							
	4.1	415	328.49	11 200	1.4	27	2KJ3206 - ■ BD11 - ■ ■ S1	
	4.6	370	292.08	11 300	1.6	27	2KJ3206 - ■ BD11 - ■ ■ R1	
	5.3	325	256.46	11 400	1.8	27	2KJ3206 - ■ BD11 - ■ ■ Q1	
	5.8	295	233.14	11 400	2.0	27	2KJ3206 - ■ BD11 - ■ ■ P1	
	<b>D.59-LA71MG6</b>							
	3.1	550	272.99	6 310	0.82	23	2KJ3205 - ■ CD11 - ■ ■ R1	P01
	3.5	485	239.70	7 470	0.93	23	2KJ3205 - ■ CD11 - ■ ■ Q1	P01
	3.9	440	217.91	7 680	1.0	23	2KJ3205 - ■ CD11 - ■ ■ P1	P01
	<b>D.59-LA63MF4</b>							
	4.4	390	307.02	7 760	1.2	22	2KJ3205 - ■ BD11 - ■ ■ S1	
	4.9	345	272.99	7 830	1.3	22	2KJ3205 - ■ BD11 - ■ ■ R1	
	5.6	305	239.70	7 900	1.5	22	2KJ3205 - ■ BD11 - ■ ■ Q1	
	6.2	275	217.91	7 950	1.6	22	2KJ3205 - ■ BD11 - ■ ■ P1	
	7.2	235	186.43	8 010	1.9	22	2KJ3205 - ■ BD11 - ■ ■ N1	
	8.0	215	169.48	8 040	2.1	22	2KJ3205 - ■ BD11 - ■ ■ M1	
	<b>D.49-LA63MF4</b>							
	4.8	355	280.89	4 890	0.89	20	2KJ3204 - ■ BD11 - ■ ■ S1	
	5.4	315	249.76	5 910	1.0	20	2KJ3204 - ■ BD11 - ■ ■ R1	
6.2	275	219.30	5 990	1.1	20	2KJ3204 - ■ BD11 - ■ ■ Q1		
6.8	250	199.36	6 040	1.3	20	2KJ3204 - ■ BD11 - ■ ■ P1		
7.9	215	170.57	6 110	1.5	20	2KJ3204 - ■ BD11 - ■ ■ N1		
8.7	197	155.06	6 150	1.6	20	2KJ3204 - ■ BD11 - ■ ■ M1		
9.8	175	137.06	6 200	1.8	20	2KJ3204 - ■ BD11 - ■ ■ L1		
11	159	124.60	6 230	2	20	2KJ3204 - ■ BD11 - ■ ■ K1		
<b>D.39-LA63MF4</b>								
7.5	230	181.07	3 610	0.87	10	2KJ3203 - ■ BD11 - ■ ■ P1		
8.2	210	164.61	4 120	0.95	10	2KJ3203 - ■ BD11 - ■ ■ N1		
9.6	180	141.17	4 870	1.1	10	2KJ3203 - ■ BD11 - ■ ■ M1		
11	163	128.34	5 290	1.2	10	2KJ3203 - ■ BD11 - ■ ■ L1		
12	143	112.53	5 790	1.4	10	2KJ3203 - ■ BD11 - ■ ■ K1		
13	128	100.44	5 800	1.6	10	2KJ3203 - ■ BD11 - ■ ■ J1		
15	114	89.51	5 800	1.8	10	2KJ3203 - ■ BD11 - ■ ■ H1		
16	105	82.63	5 800	1.9	10	2KJ3203 - ■ BD11 - ■ ■ G1		
19	92	72.34	5 800	2.2	10	2KJ3203 - ■ BD11 - ■ ■ F1		
<b>D.29-LA63MF4</b>								
10	165	129.68	3 040	0.85	8	2KJ3202 - ■ BD11 - ■ ■ L1		
11	150	117.89	3 440	0.93	8	2KJ3202 - ■ BD11 - ■ ■ K1		
13	131	102.79	3 950	1.1	8	2KJ3202 - ■ BD11 - ■ ■ J1		
15	117	92.01	4 060	1.2	8	2KJ3202 - ■ BD11 - ■ ■ H1		
17	104	81.71	4 060	1.3	8	2KJ3202 - ■ BD11 - ■ ■ G1		
18	96	75.42	4 060	1.5	8	2KJ3202 - ■ BD11 - ■ ■ F1		
21	83	65.52	4 060	1.7	8	2KJ3202 - ■ BD11 - ■ ■ E1		
24	72	56.93	4 060	1.9	8	2KJ3202 - ■ BD11 - ■ ■ D1		
26	65	51.40	4 060	2.1	8	2KJ3202 - ■ BD11 - ■ ■ C1		
28	62	48.37	4 060	2.3	8	2KJ3202 - ■ BD11 - ■ ■ B1		
<b>Z.29-LA63MF4</b>								
33	53	41.40	4 060	2.7	8	2KJ3102 - ■ BD11 - ■ ■ A2		
37	47	36.72	4 060	3.0	8	2KJ3102 - ■ BD11 - ■ ■ X1		
42	41	31.86	4 060	3.5	8	2KJ3102 - ■ BD11 - ■ ■ W1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.18</b>	<b>Z.29-LA63MF4</b>							
	47	37	28.96	4 060	3.8	8	2KJ3102 - ■ BD11 - ■ ■ V1	
	54	32	24.84	4 060	4.4	8	2KJ3102 - ■ BD11 - ■ ■ U1	
	60	29	22.58	3 980	4.9	8	2KJ3102 - ■ BD11 - ■ ■ T1	
	68	25	19.80	3 830	5.6	8	2KJ3102 - ■ BD11 - ■ ■ S1	
	76	22	17.67	3 700	6.2	8	2KJ3102 - ■ BD11 - ■ ■ R1	
	86	20	15.75	3 560	7.0	8	2KJ3102 - ■ BD11 - ■ ■ Q1	
	93	18	14.54	3 480	6.5	8	2KJ3102 - ■ BD11 - ■ ■ P1	
	106	16	12.73	3 330	8.6	8	2KJ3102 - ■ BD11 - ■ ■ N1	
	121	14	11.16	3 200	9.9	8	2KJ3102 - ■ BD11 - ■ ■ M1	
	133	13	10.12	3 100	11	8	2KJ3102 - ■ BD11 - ■ ■ L1	
	142	12	9.53	3 040	12	8	2KJ3102 - ■ BD11 - ■ ■ K1	
	161	11	8.40	2 920	13	8	2KJ3102 - ■ BD11 - ■ ■ J1	
	185	9	7.29	2 790	14	8	2KJ3102 - ■ BD11 - ■ ■ H1	
	195	9	6.92	2 730	8.5	8	2KJ3102 - ■ BD11 - ■ ■ G1	
	223	8	6.06	2 620	13	8	2KJ3102 - ■ BD11 - ■ ■ F1	
	254	7	5.31	2 510	14	8	2KJ3102 - ■ BD11 - ■ ■ E1	
	280	6	4.82	2 430	14	8	2KJ3102 - ■ BD11 - ■ ■ D1	
	297	6	4.54	2 390	14	8	2KJ3102 - ■ BD11 - ■ ■ C1	
	338	5	4.00	2 290	15	8	2KJ3102 - ■ BD11 - ■ ■ B1	
<b>Z.29-LA63ME2</b>								
160	11	17.67	2 930	13	8	2KJ3102 - ■ BC11 - ■ ■ R1	P00	
179	10	15.75	2 820	15	8	2KJ3102 - ■ BC11 - ■ ■ Q1	P00	
194	9	14.54	2 750	14	8	2KJ3102 - ■ BC11 - ■ ■ P1	P00	
<b>D.19-LA63MF4</b>								
15	111	87.21	1 430	0.90	7	2KJ3201 - ■ BD11 - ■ ■ J1		
17	99	78.07	1 670	1.0	7	2KJ3201 - ■ BD11 - ■ ■ H1		
19	88	69.32	1 900	1.1	7	2KJ3201 - ■ BD11 - ■ ■ G1		
21	82	63.99	2 020	1.2	7	2KJ3201 - ■ BD11 - ■ ■ F1		
24	71	55.59	2 250	1.4	7	2KJ3201 - ■ BD11 - ■ ■ E1		
28	62	48.30	2 320	1.6	7	2KJ3201 - ■ BD11 - ■ ■ D1		
31	56	43.61	2 350	1.8	7	2KJ3201 - ■ BD11 - ■ ■ C1		
33	52	41.04	2 370	1.9	7	2KJ3201 - ■ BD11 - ■ ■ B1		
<b>Z.19-LA63MF4</b>								
39	44	34.97	2 410	2.2	7	2KJ3101 - ■ BD11 - ■ ■ W1		
44	39	30.97	2 440	2.5	7	2KJ3101 - ■ BD11 - ■ ■ V1		
50	34	26.91	2 460	2.9	7	2KJ3101 - ■ BD11 - ■ ■ U1		
55	31	24.46	2 480	3.2	7	2KJ3101 - ■ BD11 - ■ ■ T1		
65	26	20.82	2 500	3.8	7	2KJ3101 - ■ BD11 - ■ ■ S1		
71	24	18.92	2 480	4.2	7	2KJ3101 - ■ BD11 - ■ ■ R1		
82	21	16.50	2 380	4.7	7	2KJ3101 - ■ BD11 - ■ ■ Q1		
91	19	14.77	2 300	5.1	7	2KJ3101 - ■ BD11 - ■ ■ P1		
103	17	13.12	2 220	5.4	7	2KJ3101 - ■ BD11 - ■ ■ N1		
111	15	12.11	2 170	5.7	7	2KJ3101 - ■ BD11 - ■ ■ M1		
128	13	10.52	2 080	6.2	7	2KJ3101 - ■ BD11 - ■ ■ L1		
148	12	9.14	1 990	6.7	7	2KJ3101 - ■ BD11 - ■ ■ K1		
164	10	8.25	1 930	7.0	7	2KJ3101 - ■ BD11 - ■ ■ J1		
174	10	7.76	1 890	7.4	7	2KJ3101 - ■ BD11 - ■ ■ H1		
199	9	6.77	1 810	7.9	7	2KJ3101 - ■ BD11 - ■ ■ G1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.18	<b>Z.19-LA63MF4</b>							
	216	8	6.25	1 740	7.0	7	2KJ3101 - ■ BD11 - ■ ■ F1	
	249	7	5.43	1 670	7.7	7	2KJ3101 - ■ BD11 - ■ ■ E1	
	287	6	4.71	1 600	8.2	7	2KJ3101 - ■ BD11 - ■ ■ D1	
	317	5	4.26	1 550	8.7	7	2KJ3101 - ■ BD11 - ■ ■ C1	
	337	5	4.01	1 520	9.0	7	2KJ3101 - ■ BD11 - ■ ■ B1	
	<b>Z.19-LA63ME2</b>							
	171	10	16.50	1 900	9.8	6	2KJ3101 - ■ BC11 - ■ ■ Q1	P00
	191	9	14.77	1 840	11	6	2KJ3101 - ■ BC11 - ■ ■ P1	P00
	215	8	13.12	1 770	11	6	2KJ3101 - ■ BC11 - ■ ■ N1	P00
	233	7	12.11	1 730	12	6	2KJ3101 - ■ BC11 - ■ ■ M1	P00
	268	6	10.52	1 650	13	6	2KJ3101 - ■ BC11 - ■ ■ L1	P00
	309	6	9.14	1 580	14	6	2KJ3101 - ■ BC11 - ■ ■ K1	P00
	342	5	8.25	1 530	15	6	2KJ3101 - ■ BC11 - ■ ■ J1	P00
	363	5	7.76	1 500	15	6	2KJ3101 - ■ BC11 - ■ ■ H1	P00
	451	4	6.25	1 390	15	6	2KJ3101 - ■ BC11 - ■ ■ F1	P00
	<b>E.39-LA63MF4</b>							
	146	12	9.22	3 000	2.6	10	2KJ3001 - ■ BD11 - ■ ■ S1	
	165	10	8.20	3 000	3.3	10	2KJ3001 - ■ BD11 - ■ ■ R1	
0.25	<b>D.79-LA71MH6</b>							
	2.6	915	330.23	12 800	0.92	39	2KJ3207 - ■ CE11 - ■ ■ S1	P01
	2.9	830	300.21	13 400	1.0	39	2KJ3207 - ■ CE11 - ■ ■ R1	P01
	3.4	705	255.33	13 600	1.2	39	2KJ3207 - ■ CE11 - ■ ■ Q1	P01
	3.7	640	232.12	13 600	1.3	39	2KJ3207 - ■ CE11 - ■ ■ P1	P01
	<b>D.79-LA71MG4</b>							
	4.1	580	330.23	13 700	1.4	38	2KJ3207 - ■ CD11 - ■ ■ S1	
	4.5	530	300.21	13 800	1.6	38	2KJ3207 - ■ CD11 - ■ ■ R1	
	5.3	450	255.33	13 900	1.9	38	2KJ3207 - ■ CD11 - ■ ■ Q1	
	5.8	410	232.12	13 900	2.0	38	2KJ3207 - ■ CD11 - ■ ■ P1	
	<b>D.69-LA71MH6</b>							
	3.4	710	256.46	10 700	0.84	29	2KJ3206 - ■ CE11 - ■ ■ Q1	P01
	3.7	645	233.14	10 900	0.93	29	2KJ3206 - ■ CE11 - ■ ■ P1	P01
	<b>D.69-LA71MG4</b>							
	4.1	580	328.49	11 000	1.0	28	2KJ3206 - ■ CD11 - ■ ■ S1	
	4.6	515	292.08	11 100	1.2	28	2KJ3206 - ■ CD11 - ■ ■ R1	
	5.3	450	256.46	11 200	1.3	28	2KJ3206 - ■ CD11 - ■ ■ Q1	
	5.8	410	233.14	11 300	1.5	28	2KJ3206 - ■ CD11 - ■ ■ P1	
	6.8	350	199.47	11 300	1.7	28	2KJ3206 - ■ CD11 - ■ ■ N1	
	7.4	320	181.33	11 400	1.9	28	2KJ3206 - ■ CD11 - ■ ■ M1	
	8.4	280	160.29	11 500	2.1	28	2KJ3206 - ■ CD11 - ■ ■ L1	
	<b>D.59-LA71MG4</b>							
	4.4	540	307.02	6 490	0.83	23	2KJ3205 - ■ CD11 - ■ ■ S1	
	4.9	480	272.99	7 560	0.93	23	2KJ3205 - ■ CD11 - ■ ■ R1	
	5.6	420	239.70	7 710	1.1	23	2KJ3205 - ■ CD11 - ■ ■ Q1	
	6.2	385	217.91	7 770	1.2	23	2KJ3205 - ■ CD11 - ■ ■ P1	
	7.2	330	186.43	7 860	1.4	23	2KJ3205 - ■ CD11 - ■ ■ N1	
	8.0	300	169.48	7 910	1.5	23	2KJ3205 - ■ CD11 - ■ ■ M1	
	9.0	265	149.81	7 960	1.7	23	2KJ3205 - ■ CD11 - ■ ■ L1	
9.9	240	136.19	8 000	1.9	23	2KJ3205 - ■ CD11 - ■ ■ K1		
11	210	119.30	8 050	2.1	23	2KJ3205 - ■ CD11 - ■ ■ J1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.25</b>								
<b>D.49-LA71MG4</b>								
6.2	385	219.30	4 130	0.83	21	21	2KJ3204 - ■ CD11 - ■ ■ Q1	
6.8	350	199.36	5 020	0.91	21	21	2KJ3204 - ■ CD11 - ■ ■ P1	
7.9	300	170.57	5 940	1.1	21	21	2KJ3204 - ■ CD11 - ■ ■ N1	
8.7	270	155.06	6 000	1.2	21	21	2KJ3204 - ■ CD11 - ■ ■ M1	
9.8	240	137.06	6 060	1.3	21	21	2KJ3204 - ■ CD11 - ■ ■ L1	
11	220	124.60	6 100	1.5	21	21	2KJ3204 - ■ CD11 - ■ ■ K1	
12	193	109.14	6 160	1.7	21	21	2KJ3204 - ■ CD11 - ■ ■ J1	
13	178	100.75	6 190	1.8	21	21	2KJ3204 - ■ CD11 - ■ ■ H1	
15	158	89.20	6 230	2.0	21	21	2KJ3204 - ■ CD11 - ■ ■ G1	
<b>D.39-LA71MG4</b>								
9.6	250	141.17	3 110	0.80	11	11	2KJ3203 - ■ CD11 - ■ ■ M1	
11	225	128.34	3 740	0.88	11	11	2KJ3203 - ■ CD11 - ■ ■ L1	
12	199	112.53	4 390	1.0	11	11	2KJ3203 - ■ CD11 - ■ ■ K1	
13	178	100.44	4 920	1.1	11	11	2KJ3203 - ■ CD11 - ■ ■ J1	
15	158	89.51	5 410	1.3	11	11	2KJ3203 - ■ CD11 - ■ ■ H1	
16	146	82.63	5 720	1.4	11	11	2KJ3203 - ■ CD11 - ■ ■ G1	
19	128	72.34	5 800	1.6	11	11	2KJ3203 - ■ CD11 - ■ ■ F1	
21	112	63.43	5 800	1.8	11	11	2KJ3203 - ■ CD11 - ■ ■ E1	
<b>Z.39-LA71MG4</b>								
24	99	55.95	5 800	2.0	11	11	2KJ3103 - ■ CD11 - ■ ■ A2	
27	88	49.75	5 800	2.3	11	11	2KJ3103 - ■ CD11 - ■ ■ X1	
<b>D.29-LA71MG4</b>								
15	163	92.01	3 100	0.86	9	9	2KJ3202 - ■ CD11 - ■ ■ H1	
17	145	81.71	3 570	0.97	9	9	2KJ3202 - ■ CD11 - ■ ■ G1	
18	133	75.42	3 890	1.0	9	9	2KJ3202 - ■ CD11 - ■ ■ F1	
21	116	65.52	4 060	1.2	9	9	2KJ3202 - ■ CD11 - ■ ■ E1	
24	101	56.93	4 060	1.4	9	9	2KJ3202 - ■ CD11 - ■ ■ D1	
26	91	51.40	4 060	1.5	9	9	2KJ3202 - ■ CD11 - ■ ■ C1	
28	86	48.37	4 060	1.6	9	9	2KJ3202 - ■ CD11 - ■ ■ B1	
<b>Z.29-LA71MG4</b>								
33	73	41.40	4 060	1.9	9	9	2KJ3102 - ■ CD11 - ■ ■ A2	
37	65	36.72	4 060	2.2	9	9	2KJ3102 - ■ CD11 - ■ ■ X1	
42	56	31.86	4 060	2.5	9	9	2KJ3102 - ■ CD11 - ■ ■ W1	
47	51	28.96	4 060	2.7	9	9	2KJ3102 - ■ CD11 - ■ ■ V1	
54	44	24.84	4 030	3.2	9	9	2KJ3102 - ■ CD11 - ■ ■ U1	
60	40	22.58	3 920	3.5	9	9	2KJ3102 - ■ CD11 - ■ ■ T1	
68	35	19.80	3 770	4.0	9	9	2KJ3102 - ■ CD11 - ■ ■ S1	
76	31	17.67	3 650	4.5	9	9	2KJ3102 - ■ CD11 - ■ ■ R1	
86	28	15.75	3 520	5.0	9	9	2KJ3102 - ■ CD11 - ■ ■ Q1	
93	26	14.54	3 430	4.7	9	9	2KJ3102 - ■ CD11 - ■ ■ P1	
106	22	12.73	3 300	6.2	9	9	2KJ3102 - ■ CD11 - ■ ■ N1	
121	20	11.16	3 160	7.1	9	9	2KJ3102 - ■ CD11 - ■ ■ M1	
133	18	10.12	3 070	7.8	9	9	2KJ3102 - ■ CD11 - ■ ■ L1	
142	17	9.53	3 010	8.3	9	9	2KJ3102 - ■ CD11 - ■ ■ K1	
161	15	8.40	2 900	9.3	9	9	2KJ3102 - ■ CD11 - ■ ■ J1	
185	13	7.29	2 770	10	9	9	2KJ3102 - ■ CD11 - ■ ■ H1	
195	12	6.92	2 710	6.1	9	9	2KJ3102 - ■ CD11 - ■ ■ G1	
223	11	6.06	2 600	9.3	9	9	2KJ3102 - ■ CD11 - ■ ■ F1	

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Electro Motor.ir

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.25</b>	<b>Z.29-LA71MG4</b>							
	254	9	5.31	2 490	9.7	9	2KJ3102 - ■ CD11 - ■ ■ E1	
	280	9	4.82	2 420	10	9	2KJ3102 - ■ CD11 - ■ ■ D1	
	297	8	4.54	2 370	10	9	2KJ3102 - ■ CD11 - ■ ■ C1	
	338	7	4.00	2 280	11	9	2KJ3102 - ■ CD11 - ■ ■ B1	
	389	6	3.47	2 180	11	9	2KJ3102 - ■ CD11 - ■ ■ A1	
	<b>Z.29-LA63MF2</b>							
	160	15	17.67	2 900	9.4	8	2KJ3102 - ■ BD11 - ■ ■ R1	P00
	180	13	15.75	2 800	10	8	2KJ3102 - ■ BD11 - ■ ■ Q1	P00
	195	12	14.54	2 730	9.8	8	2KJ3102 - ■ BD11 - ■ ■ P1	P00
	222	11	12.73	2 610	13	8	2KJ3102 - ■ BD11 - ■ ■ N1	P00
	254	9	11.16	2 510	15	8	2KJ3102 - ■ BD11 - ■ ■ M1	P00
	409	6	6.92	2 140	13	8	2KJ3102 - ■ BD11 - ■ ■ G1	P00
	<b>D.19-LA71MG4</b>							
	19	123	69.32	1 180	0.82	8	2KJ3201 - ■ CD11 - ■ ■ G1	
	21	113	63.99	1 390	0.88	8	2KJ3201 - ■ CD11 - ■ ■ F1	
	24	98	55.59	1 690	1.0	8	2KJ3201 - ■ CD11 - ■ ■ E1	
	28	85	48.30	1 960	1.2	8	2KJ3201 - ■ CD11 - ■ ■ D1	
	31	77	43.61	2 120	1.3	8	2KJ3201 - ■ CD11 - ■ ■ C1	
33	73	41.04	2 210	1.4	8	2KJ3201 - ■ CD11 - ■ ■ B1		
<b>Z.19-LA71MG4</b>								
39	62	34.97	2 320	1.6	8	2KJ3101 - ■ CD11 - ■ ■ W1		
44	55	30.97	2 360	1.8	8	2KJ3101 - ■ CD11 - ■ ■ V1		
50	48	26.91	2 390	2.1	8	2KJ3101 - ■ CD11 - ■ ■ U1		
55	43	24.46	2 420	2.3	8	2KJ3101 - ■ CD11 - ■ ■ T1		
65	37	20.82	2 450	2.7	8	2KJ3101 - ■ CD11 - ■ ■ S1		
71	34	18.92	2 410	3.0	8	2KJ3101 - ■ CD11 - ■ ■ R1		
82	29	16.50	2 320	3.4	8	2KJ3101 - ■ CD11 - ■ ■ Q1		
91	26	14.77	2 250	3.6	8	2KJ3101 - ■ CD11 - ■ ■ P1		
103	23	13.12	2 180	3.9	8	2KJ3101 - ■ CD11 - ■ ■ N1		
111	21	12.11	2 130	4.1	8	2KJ3101 - ■ CD11 - ■ ■ M1		
128	19	10.52	2 040	4.5	8	2KJ3101 - ■ CD11 - ■ ■ L1		
148	16	9.14	1 960	4.8	8	2KJ3101 - ■ CD11 - ■ ■ K1		
164	15	8.25	1 900	5.1	8	2KJ3101 - ■ CD11 - ■ ■ J1		
174	14	7.76	1 870	5.3	8	2KJ3101 - ■ CD11 - ■ ■ H1		
199	12	6.77	1 790	5.7	8	2KJ3101 - ■ CD11 - ■ ■ G1		
216	11	6.25	1 710	5.1	8	2KJ3101 - ■ CD11 - ■ ■ F1		
249	10	5.43	1 640	5.5	8	2KJ3101 - ■ CD11 - ■ ■ E1		
287	8	4.71	1 570	5.9	8	2KJ3101 - ■ CD11 - ■ ■ D1		
317	8	4.26	1 530	6.2	8	2KJ3101 - ■ CD11 - ■ ■ C1		
337	7	4.01	1 500	6.5	8	2KJ3101 - ■ CD11 - ■ ■ B1		
<b>Z.19-LA63MF2</b>								
150	16	18.92	1 950	6.3	7	2KJ3101 - ■ BD11 - ■ ■ R1	P00	
172	14	16.50	1 870	7.1	7	2KJ3101 - ■ BD11 - ■ ■ Q1	P00	
192	12	14.77	1 820	7.6	7	2KJ3101 - ■ BD11 - ■ ■ P1	P00	
216	11	13.12	1 750	8.2	7	2KJ3101 - ■ BD11 - ■ ■ N1	P00	
234	10	12.11	1 710	8.6	7	2KJ3101 - ■ BD11 - ■ ■ M1	P00	
269	9	10.52	1 630	9.4	7	2KJ3101 - ■ BD11 - ■ ■ L1	P00	
310	8	9.14	1 560	10	7	2KJ3101 - ■ BD11 - ■ ■ K1	P00	

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Electro Motor.ir

## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.25	<b>Z.19-LA63MF2</b>							
	343	7	8.25	1 520	11	7	2KJ3101 - ■ BD11 - ■ ■ J1	P00
	365	7	7.76	1 490	11	7	2KJ3101 - ■ BD11 - ■ ■ H1	P00
	418	6	6.77	1 420	12	7	2KJ3101 - ■ BD11 - ■ ■ G1	P00
	453	5	6.25	1 370	11	7	2KJ3101 - ■ BD11 - ■ ■ F1	P00
	521	5	5.43	1 310	12	7	2KJ3101 - ■ BD11 - ■ ■ E1	P00
	601	4	4.71	1 250	12	7	2KJ3101 - ■ BD11 - ■ ■ D1	P00
	664	4	4.26	1 220	13	7	2KJ3101 - ■ BD11 - ■ ■ C1	P00
	706	3	4.01	1 190	14	7	2KJ3101 - ■ BD11 - ■ ■ B1	P00
	<b>E.39-LA71MG4</b>							
	146	16	9.22	3 000	1.8	11	2KJ3001 - ■ CD11 - ■ ■ S1	
	165	14	8.20	3 000	2.3	11	2KJ3001 - ■ CD11 - ■ ■ R1	
	188	13	7.20	3 000	3.1	11	2KJ3001 - ■ CD11 - ■ ■ Q1	
	206	12	6.55	3 000	3.5	11	2KJ3001 - ■ CD11 - ■ ■ P1	
241	10	5.60	3 000	4.0	11	2KJ3001 - ■ CD11 - ■ ■ N1		
265	9	5.09	3 000	4.4	11	2KJ3001 - ■ CD11 - ■ ■ M1		
0.37	<b>D.79-LA71MH4</b>							
	4.1	850	330.23	13 400	0.99	39	2KJ3207 - ■ CE11 - ■ ■ S1	
	4.6	770	300.21	13 500	1.1	39	2KJ3207 - ■ CE11 - ■ ■ R1	
	5.4	655	255.33	13 600	1.3	39	2KJ3207 - ■ CE11 - ■ ■ Q1	
	5.9	595	232.12	13 700	1.4	39	2KJ3207 - ■ CE11 - ■ ■ P1	
	6.6	530	207.10	13 800	1.6	39	2KJ3207 - ■ CE11 - ■ ■ N1	
	7.4	475	185.70	13 900	1.8	39	2KJ3207 - ■ CE11 - ■ ■ M1	
	8.2	430	167.39	13 900	1.9	39	2KJ3207 - ■ CE11 - ■ ■ L1	
	8.9	395	154.51	14 000	2.1	39	2KJ3207 - ■ CE11 - ■ ■ K1	
	<b>D.69-LA71MH4</b>							
	4.7	750	292.08	10 600	0.80	29	2KJ3206 - ■ CE11 - ■ ■ R1	
	5.3	660	256.46	10 800	0.91	29	2KJ3206 - ■ CE11 - ■ ■ Q1	
	5.9	600	233.14	11 000	1.0	29	2KJ3206 - ■ CE11 - ■ ■ P1	
	6.9	510	199.47	11 100	1.2	29	2KJ3206 - ■ CE11 - ■ ■ N1	
7.6	465	181.33	11 200	1.3	29	2KJ3206 - ■ CE11 - ■ ■ M1		
8.5	410	160.29	11 300	1.5	29	2KJ3206 - ■ CE11 - ■ ■ L1		
9.4	375	145.71	11 300	1.6	29	2KJ3206 - ■ CE11 - ■ ■ K1		
11	325	127.63	11 400	1.8	29	2KJ3206 - ■ CE11 - ■ ■ J1		
12	300	117.82	11 400	2.0	29	2KJ3206 - ■ CE11 - ■ ■ H1		
13	265	104.31	11 500	2.2	29	2KJ3206 - ■ CE11 - ■ ■ G1		
<b>D.59-LA71MH4</b>								
6.3	560	217.91	6 130	0.80	25	2KJ3205 - ■ CE11 - ■ ■ P1		
7.3	480	186.43	7 560	0.94	25	2KJ3205 - ■ CE11 - ■ ■ N1		
8.1	435	169.48	7 690	1.0	25	2KJ3205 - ■ CE11 - ■ ■ M1		
9.1	385	149.81	7 770	1.2	25	2KJ3205 - ■ CE11 - ■ ■ L1		
10	350	136.19	7 820	1.3	25	2KJ3205 - ■ CE11 - ■ ■ K1		
11	305	119.30	7 900	1.5	25	2KJ3205 - ■ CE11 - ■ ■ J1		
12	280	110.12	7 940	1.6	25	2KJ3205 - ■ CE11 - ■ ■ H1		
14	250	97.50	7 990	1.8	25	2KJ3205 - ■ CE11 - ■ ■ G1		
17	205	81.15	8 060	2.2	25	2KJ3205 - ■ CE11 - ■ ■ F1		
18	197	76.38	8 070	2.3	25	2KJ3205 - ■ CE11 - ■ ■ E1		
<b>D.49-LA71MH4</b>								
8.8	400	155.06	3 750	0.80	22	2KJ3204 - ■ CE11 - ■ ■ M1		
10	350	137.06	5 020	0.9	22	2KJ3204 - ■ CE11 - ■ ■ L1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.37</b>	<b>D.49-LA71MH4</b>							
	11	320	124.60	5 780	1.0	22	2KJ3204 - ■ CE11 - ■ ■ K1	
	13	280	109.14	5 980	1.1	22	2KJ3204 - ■ CE11 - ■ ■ J1	
	14	260	100.75	6 020	1.2	22	2KJ3204 - ■ CE11 - ■ ■ H1	
	15	230	89.20	6 080	1.4	22	2KJ3204 - ■ CE11 - ■ ■ G1	
	18	191	74.24	6 160	1.7	22	2KJ3204 - ■ CE11 - ■ ■ F1	
	20	180	69.88	6 190	1.8	22	2KJ3204 - ■ CE11 - ■ ■ E1	
	22	161	62.61	6 220	2.0	22	2KJ3204 - ■ CE11 - ■ ■ D1	
	<b>Z.49-LA71MH4</b>							
	26	134	52.14	6 280	2.4	22	2KJ3104 - ■ CE11 - ■ ■ B2	
	<b>D.39-LA71MH4</b>							
	15	230	89.51	3 610	0.87	13	2KJ3203 - ■ CE11 - ■ ■ H1	
	17	210	82.63	4 120	0.94	13	2KJ3203 - ■ CE11 - ■ ■ G1	
	19	187	72.34	4 690	1.1	13	2KJ3203 - ■ CE11 - ■ ■ F1	
	22	164	63.43	5 270	1.2	13	2KJ3203 - ■ CE11 - ■ ■ E1	
	<b>Z.39-LA71MH4</b>							
	24	144	55.95	5 770	1.4	12	2KJ3103 - ■ CE11 - ■ ■ A2	
	28	128	49.75	5 800	1.6	12	2KJ3103 - ■ CE11 - ■ ■ X1	
	31	113	43.68	5 800	1.8	12	2KJ3103 - ■ CE11 - ■ ■ W1	
	35	102	39.71	5 800	2.0	12	2KJ3103 - ■ CE11 - ■ ■ V1	
	40	88	33.97	5 800	2.3	12	2KJ3103 - ■ CE11 - ■ ■ U1	
	44	80	30.88	5 800	2.5	12	2KJ3103 - ■ CE11 - ■ ■ T1	
	50	70	27.30	5 800	2.8	12	2KJ3103 - ■ CE11 - ■ ■ S1	
	<b>D.29-LA71MH4</b>							
	21	169	65.52	2 940	0.83	11	2KJ3202 - ■ CE11 - ■ ■ E1	
	24	147	56.93	3 520	0.95	11	2KJ3202 - ■ CE11 - ■ ■ D1	
	27	133	51.40	3 890	1.1	11	2KJ3202 - ■ CE11 - ■ ■ C1	
28	125	48.37	4 060	1.1	11	2KJ3202 - ■ CE11 - ■ ■ B1		
<b>Z.29-LA71MH4</b>								
33	107	41.40	4 060	1.3	11	2KJ3102 - ■ CE11 - ■ ■ A2		
37	95	36.72	4 060	1.5	11	2KJ3102 - ■ CE11 - ■ ■ X1		
43	82	31.86	4 060	1.7	11	2KJ3102 - ■ CE11 - ■ ■ W1		
47	75	28.96	4 060	1.9	11	2KJ3102 - ■ CE11 - ■ ■ V1		
55	64	24.84	3 900	2.2	11	2KJ3102 - ■ CE11 - ■ ■ U1		
61	58	22.58	3 800	2.4	11	2KJ3102 - ■ CE11 - ■ ■ T1		
69	51	19.80	3 660	2.7	11	2KJ3102 - ■ CE11 - ■ ■ S1		
78	46	17.67	3 540	3.1	11	2KJ3102 - ■ CE11 - ■ ■ R1		
87	41	15.75	3 430	3.4	11	2KJ3102 - ■ CE11 - ■ ■ Q1		
94	38	14.54	3 350	3.2	11	2KJ3102 - ■ CE11 - ■ ■ P1		
108	33	12.73	3 220	4.3	11	2KJ3102 - ■ CE11 - ■ ■ N1		
123	29	11.16	3 100	4.9	11	2KJ3102 - ■ CE11 - ■ ■ M1		
135	26	10.12	3 010	5.4	11	2KJ3102 - ■ CE11 - ■ ■ L1		
144	25	9.53	2 950	5.7	11	2KJ3102 - ■ CE11 - ■ ■ K1		
163	22	8.40	2 840	6.4	11	2KJ3102 - ■ CE11 - ■ ■ J1		
188	19	7.29	2 720	6.9	11	2KJ3102 - ■ CE11 - ■ ■ H1		
198	18	6.92	2 660	4.2	11	2KJ3102 - ■ CE11 - ■ ■ G1		
226	16	6.06	2 550	6.4	11	2KJ3102 - ■ CE11 - ■ ■ F1		
258	14	5.31	2 450	6.6	11	2KJ3102 - ■ CE11 - ■ ■ E1		
284	12	4.82	2 380	6.9	11	2KJ3102 - ■ CE11 - ■ ■ D1		
302	12	4.54	2 330	7.2	11	2KJ3102 - ■ CE11 - ■ ■ C1		

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# SIMOGEAR geared motors

## Helical geared motors

### Geared motors up to 55 kW

#### Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.37</b>	<b>Z.29-LA71MH4</b>							
	342	10	4.00	2 250	7.4	11	2KJ3102 - ■ CE11 - ■ ■ B1	
	395	9	3.47	2 150	7.8	11	2KJ3102 - ■ CE11 - ■ ■ A1	
	<b>Z.29-LA71MG2</b>							
	155	23	17.67	2 890	6.1	9	2KJ3102 - ■ CD11 - ■ ■ R1	P00
	174	20	15.75	2 790	6.9	9	2KJ3102 - ■ CD11 - ■ ■ Q1	P00
	188	19	14.54	2 720	6.4	9	2KJ3102 - ■ CD11 - ■ ■ P1	P00
	215	16	12.73	2 610	8.5	9	2KJ3102 - ■ CD11 - ■ ■ N1	P00
	246	14	11.16	2 510	9.7	9	2KJ3102 - ■ CD11 - ■ ■ M1	P00
	271	13	10.12	2 430	11	9	2KJ3102 - ■ CD11 - ■ ■ L1	P00
	288	12	9.53	2 390	11	9	2KJ3102 - ■ CD11 - ■ ■ K1	P00
	326	11	8.40	2 290	13	9	2KJ3102 - ■ CD11 - ■ ■ J1	P00
	376	9	7.29	2 190	14	9	2KJ3102 - ■ CD11 - ■ ■ H1	P00
	396	9	6.92	2 140	8.4	9	2KJ3102 - ■ CD11 - ■ ■ G1	P00
	452	8	6.06	2 060	13	9	2KJ3102 - ■ CD11 - ■ ■ F1	P00
	516	7	5.31	1 970	13	9	2KJ3102 - ■ CD11 - ■ ■ E1	P00
	568	6	4.82	1 910	14	9	2KJ3102 - ■ CD11 - ■ ■ D1	P00
	604	6	4.54	1 870	14	9	2KJ3102 - ■ CD11 - ■ ■ C1	P00
	685	5	4.00	1 800	15	9	2KJ3102 - ■ CD11 - ■ ■ B1	P00
	<b>D.19-LA71MH4</b>							
	28	125	48.30	1 140	0.80	9	2KJ3201 - ■ CE11 - ■ ■ D1	
	31	112	43.61	1 410	0.89	9	2KJ3201 - ■ CE11 - ■ ■ C1	
	33	106	41.04	1 530	0.94	9	2KJ3201 - ■ CE11 - ■ ■ B1	
	<b>Z.19-LA71MH4</b>							
	39	90	34.97	1 860	1.1	9	2KJ3101 - ■ CE11 - ■ ■ W1	
	44	80	30.97	2 060	1.3	9	2KJ3101 - ■ CE11 - ■ ■ V1	
	51	69	26.91	2 290	1.4	9	2KJ3101 - ■ CE11 - ■ ■ U1	
	56	63	24.46	2 320	1.6	9	2KJ3101 - ■ CE11 - ■ ■ T1	
	66	54	20.82	2 340	1.9	9	2KJ3101 - ■ CE11 - ■ ■ S1	
	72	49	18.92	2 290	2.0	9	2KJ3101 - ■ CE11 - ■ ■ R1	
	83	43	16.50	2 210	2.3	9	2KJ3101 - ■ CE11 - ■ ■ Q1	
	93	38	14.77	2 160	2.5	9	2KJ3101 - ■ CE11 - ■ ■ P1	
	104	34	13.12	2 090	2.7	9	2KJ3101 - ■ CE11 - ■ ■ N1	
	113	31	12.11	2 050	2.8	9	2KJ3101 - ■ CE11 - ■ ■ M1	
	130	27	10.52	1 970	3.1	9	2KJ3101 - ■ CE11 - ■ ■ L1	
	150	24	9.14	1 900	3.3	9	2KJ3101 - ■ CE11 - ■ ■ K1	
	166	21	8.25	1 850	3.5	9	2KJ3101 - ■ CE11 - ■ ■ J1	
	177	20	7.76	1 810	3.6	9	2KJ3101 - ■ CE11 - ■ ■ H1	
	202	18	6.77	1 740	3.9	9	2KJ3101 - ■ CE11 - ■ ■ G1	
	219	16	6.25	1 650	3.5	9	2KJ3101 - ■ CE11 - ■ ■ F1	
	252	14	5.43	1 590	3.8	9	2KJ3101 - ■ CE11 - ■ ■ E1	
	291	12	4.71	1 530	4.0	9	2KJ3101 - ■ CE11 - ■ ■ D1	
	322	11	4.26	1 480	4.3	9	2KJ3101 - ■ CE11 - ■ ■ C1	
	342	10	4.01	1 460	4.4	9	2KJ3101 - ■ CE11 - ■ ■ B1	
	<b>Z.19-LA71MG2</b>							
	166	21	16.50	1 850	4.7	8	2KJ3101 - ■ CD11 - ■ ■ Q1	P00
	186	19	14.77	1 790	5.0	8	2KJ3101 - ■ CD11 - ■ ■ P1	P00
	209	17	13.12	1 730	5.4	8	2KJ3101 - ■ CD11 - ■ ■ N1	P00
	226	16	12.11	1 690	5.6	8	2KJ3101 - ■ CD11 - ■ ■ M1	P00

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.37</b>	<b>Z.19-LA71MG2</b>							
	260	14	10.52	1 620	6.1	8	2KJ3101 - ■ CD11 - ■ ■ L1	P00
	300	12	9.14	1 550	6.6	8	2KJ3101 - ■ CD11 - ■ ■ K1	P00
	332	11	8.25	1 500	7.0	8	2KJ3101 - ■ CD11 - ■ ■ J1	P00
	353	10	7.76	1 480	7.3	8	2KJ3101 - ■ CD11 - ■ ■ H1	P00
	405	9	6.77	1 420	7.8	8	2KJ3101 - ■ CD11 - ■ ■ G1	P00
	438	8	6.25	1 360	6.9	8	2KJ3101 - ■ CD11 - ■ ■ F1	P00
	505	7	5.43	1 300	7.6	8	2KJ3101 - ■ CD11 - ■ ■ E1	P00
	582	6	4.71	1 250	8.1	8	2KJ3101 - ■ CD11 - ■ ■ D1	P00
	643	6	4.26	1 210	8.6	8	2KJ3101 - ■ CD11 - ■ ■ C1	P00
683	5	4.01	1 190	8.9	8	2KJ3101 - ■ CD11 - ■ ■ B1	P00	
<b>0.55</b>	<b>E.49-LA71MH4</b>							
	141	25	9.70	4 000	3.4	18	2KJ3002 - ■ CE11 - ■ ■ S1	
	<b>E.39-LA71MH4</b>							
	149	24	9.22	3 000	1.3	13	2KJ3001 - ■ CE11 - ■ ■ S1	
	167	21	8.20	3 000	1.6	13	2KJ3001 - ■ CE11 - ■ ■ R1	
	190	19	7.20	3 000	2.2	13	2KJ3001 - ■ CE11 - ■ ■ Q1	
	209	17	6.55	3 000	2.4	13	2KJ3001 - ■ CE11 - ■ ■ P1	
	245	14	5.60	3 000	2.8	13	2KJ3001 - ■ CE11 - ■ ■ N1	
	269	13	5.09	3 000	3.0	13	2KJ3001 - ■ CE11 - ■ ■ M1	
	304	12	4.50	3 000	4.1	13	2KJ3001 - ■ CE11 - ■ ■ L1	
335	10	4.09	3 000	4.6	13	2KJ3001 - ■ CE11 - ■ ■ K1		
<b>0.55</b>	<b>D.89-LE80MB4</b>							
	4.6	1 130	311.60	18 500	1.5	65	2KJ3208 - ■ DB21 - ■ ■ S1	
	5.1	1 030	283.28	18 500	1.6	65	2KJ3208 - ■ DB21 - ■ ■ R1	
	5.7	925	254.09	18 500	1.8	65	2KJ3208 - ■ DB21 - ■ ■ Q1	
	6.3	830	228.45	18 500	2.0	65	2KJ3208 - ■ DB21 - ■ ■ P1	
	<b>D.79-LA71ZML4</b>							
	5.4	975	255.33	11 900	0.86	39	2KJ3207 - ■ CH11 - ■ ■ Q1	
	5.9	890	232.12	13 200	0.94	39	2KJ3207 - ■ CH11 - ■ ■ P1	
	6.6	790	207.10	13 400	1.1	39	2KJ3207 - ■ CH11 - ■ ■ N1	
	7.4	710	185.70	13 500	1.2	39	2KJ3207 - ■ CH11 - ■ ■ M1	
8.2	640	167.39	13 600	1.3	39	2KJ3207 - ■ CH11 - ■ ■ L1		
8.9	590	154.51	13 700	1.4	39	2KJ3207 - ■ CH11 - ■ ■ K1		
9.7	540	141.04	13 800	1.6	39	2KJ3207 - ■ CH11 - ■ ■ J1		
12	420	110.14	13 900	2.0	39	2KJ3207 - ■ CH11 - ■ ■ G1		
12	445	117.03	13 900	1.9	39	2KJ3207 - ■ CH11 - ■ ■ H1		
13	395	104.03	14 000	2.1	39	2KJ3207 - ■ CH11 - ■ ■ F1		
<b>0.55</b>	<b>D.79-LE80MB4</b>							
	5.6	930	255.33	12 600	0.9	42	2KJ3207 - ■ DB21 - ■ ■ Q1	
	6.2	845	232.12	13 400	0.99	42	2KJ3207 - ■ DB21 - ■ ■ P1	
	7.0	755	207.10	13 500	1.1	42	2KJ3207 - ■ DB21 - ■ ■ N1	
	7.8	675	185.70	13 600	1.2	42	2KJ3207 - ■ DB21 - ■ ■ M1	
	8.6	610	167.39	13 700	1.4	42	2KJ3207 - ■ DB21 - ■ ■ L1	
	9.3	560	154.51	13 700	1.5	42	2KJ3207 - ■ DB21 - ■ ■ K1	
	10	510	141.04	13 800	1.6	42	2KJ3207 - ■ DB21 - ■ ■ J1	
	12	425	117.03	13 900	2.0	42	2KJ3207 - ■ DB21 - ■ ■ H1	
	13	400	110.14	13 900	2.1	42	2KJ3207 - ■ DB21 - ■ ■ G1	
14	375	104.03	14 000	2.2	42	2KJ3207 - ■ DB21 - ■ ■ F1		

## Article No. supplement

Shaft design

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Frequency and voltage

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Gearbox mounting type

A, B, F or H

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Electro Motor.ir

**SIMOGEAR geared motors**

## Helical geared motors

## Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.55</b>								
<b>D.69-LA71ZML4</b>								
7.6	695	181.33	10 800	0.86	29	29	2KJ3206 - ■ CH11 - ■ ■ M1	
8.5	615	160.29	10 900	0.98	29	29	2KJ3206 - ■ CH11 - ■ ■ L1	
9.4	555	145.71	11 000	1.1	29	29	2KJ3206 - ■ CH11 - ■ ■ K1	
11	485	127.63	11 100	1.2	29	29	2KJ3206 - ■ CH11 - ■ ■ J1	
12	450	117.82	11 200	1.3	29	29	2KJ3206 - ■ CH11 - ■ ■ H1	
13	400	104.31	11 300	1.5	29	29	2KJ3206 - ■ CH11 - ■ ■ G1	
16	330	86.82	11 400	1.8	29	29	2KJ3206 - ■ CH11 - ■ ■ F1	
17	310	81.71	11 400	1.9	29	29	2KJ3206 - ■ CH11 - ■ ■ E1	
19	280	73.22	11 500	2.1	29	29	2KJ3206 - ■ CH11 - ■ ■ D1	
<b>D.69-LE80MB4</b>								
7.2	725	199.47	10 700	0.82	32	32	2KJ3206 - ■ DB21 - ■ ■ N1	
7.9	660	181.33	10 800	0.91	32	32	2KJ3206 - ■ DB21 - ■ ■ M1	
9.0	585	160.29	11 000	1.0	32	32	2KJ3206 - ■ DB21 - ■ ■ L1	
9.9	530	145.71	11 100	1.1	32	32	2KJ3206 - ■ DB21 - ■ ■ K1	
11	465	127.63	11 200	1.3	32	32	2KJ3206 - ■ DB21 - ■ ■ J1	
12	430	117.82	11 200	1.4	32	32	2KJ3206 - ■ DB21 - ■ ■ H1	
14	380	104.31	11 300	1.6	32	32	2KJ3206 - ■ DB21 - ■ ■ G1	
17	315	86.82	11 400	1.9	32	32	2KJ3206 - ■ DB21 - ■ ■ F1	
18	295	81.71	11 400	2.0	32	32	2KJ3206 - ■ DB21 - ■ ■ E1	
20	265	73.22	11 500	2.2	32	32	2KJ3206 - ■ DB21 - ■ ■ D1	
<b>D.59-LE80MB4</b>								
9.6	545	149.81	6 400	0.82	27	27	2KJ3205 - ■ DB21 - ■ ■ L1	
11	495	136.19	7 300	0.91	27	27	2KJ3205 - ■ DB21 - ■ ■ K1	
12	435	119.30	7 690	1.0	27	27	2KJ3205 - ■ DB21 - ■ ■ J1	
13	400	110.12	7 740	1.1	27	27	2KJ3205 - ■ DB21 - ■ ■ H1	
15	355	97.50	7 820	1.3	27	27	2KJ3205 - ■ DB21 - ■ ■ G1	
18	295	81.15	7 910	1.5	27	27	2KJ3205 - ■ DB21 - ■ ■ F1	
19	275	76.38	7 950	1.6	27	27	2KJ3205 - ■ DB21 - ■ ■ E1	
21	250	68.43	7 990	1.8	27	27	2KJ3205 - ■ DB21 - ■ ■ D1	
<b>D.59-LA71ZML4</b>								
10	520	136.19	6 840	0.86	25	25	2KJ3205 - ■ CH11 - ■ ■ K1	
11	455	119.30	7 650	0.98	25	25	2KJ3205 - ■ CH11 - ■ ■ J1	
12	420	110.12	7 710	1.1	25	25	2KJ3205 - ■ CH11 - ■ ■ H1	
14	370	97.50	7 790	1.2	25	25	2KJ3205 - ■ CH11 - ■ ■ G1	
17	310	81.15	7 890	1.4	25	25	2KJ3205 - ■ CH11 - ■ ■ F1	
18	290	76.38	7 920	1.5	25	25	2KJ3205 - ■ CH11 - ■ ■ E1	
20	260	68.43	7 970	1.7	25	25	2KJ3205 - ■ CH11 - ■ ■ D1	
<b>Z.59-LE80MB4</b>								
25	205	56.99	8 060	2.2	27	27	2KJ3105 - ■ DB21 - ■ ■ A2	
28	189	51.81	8 080	2.4	27	27	2KJ3105 - ■ DB21 - ■ ■ X1	
<b>Z.59-LA71ZML4</b>								
24	215	56.99	8 040	2.1	24	24	2KJ3105 - ■ CH11 - ■ ■ A2	
26	199	51.81	8 070	2.3	24	24	2KJ3105 - ■ CH11 - ■ ■ X1	
<b>D.49-LA71ZML4</b>								
14	385	100.75	4 130	0.83	22	22	2KJ3204 - ■ CH11 - ■ ■ H1	
15	340	89.20	5 270	0.94	22	22	2KJ3204 - ■ CH11 - ■ ■ G1	
18	285	74.24	5 970	1.1	22	22	2KJ3204 - ■ CH11 - ■ ■ F1	
20	265	69.88	6 010	1.2	22	22	2KJ3204 - ■ CH11 - ■ ■ E1	
22	240	62.61	6 060	1.3	22	22	2KJ3204 - ■ CH11 - ■ ■ D1	

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Shaft design

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Gearbox mounting type

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.55</b>	<b>D.49-LE80MB4</b>							
	13	395	109.14	3 880	0.80	25	2KJ3204 - ■ DB21 - ■ ■ J1	
	14	365	100.75	4 640	0.87	25	2KJ3204 - ■ DB21 - ■ ■ H1	
	16	325	89.20	5 660	0.98	25	2KJ3204 - ■ DB21 - ■ ■ G1	
	19	270	74.24	6 000	1.2	25	2KJ3204 - ■ DB21 - ■ ■ F1	
	21	255	69.88	6 030	1.3	25	2KJ3204 - ■ DB21 - ■ ■ E1	
	23	225	62.61	6 090	1.4	25	2KJ3204 - ■ DB21 - ■ ■ D1	
	<b>Z.49-LA71ZML4</b>							
	26	200	52.14	6 150	1.6	22	2KJ3104 - ■ CH11 - ■ ■ B2	
	29	182	47.40	6 180	1.8	22	2KJ3104 - ■ CH11 - ■ ■ A2	
	34	155	40.31	6 240	2.1	22	2KJ3104 - ■ CH11 - ■ ■ X1	
	37	141	36.65	6 260	2.3	22	2KJ3104 - ■ CH11 - ■ ■ W1	
	42	125	32.70	6 300	2.6	22	2KJ3104 - ■ CH11 - ■ ■ V1	
	47	112	29.32	6 240	2.8	22	2KJ3104 - ■ CH11 - ■ ■ U1	
	<b>Z.49-LE80MB4</b>							
	28	190	52.14	6 170	1.7	25	2KJ3104 - ■ DB21 - ■ ■ B2	
	30	173	47.40	6 200	1.9	25	2KJ3104 - ■ DB21 - ■ ■ A2	
	36	147	40.31	6 250	2.2	25	2KJ3104 - ■ DB21 - ■ ■ X1	
	39	134	36.65	6 280	2.4	25	2KJ3104 - ■ DB21 - ■ ■ W1	
	44	119	32.70	6 310	2.7	25	2KJ3104 - ■ DB21 - ■ ■ V1	
	<b>D.39-LA71ZML4</b>							
22	240	63.43	3 360	0.82	13	2KJ3203 - ■ CH11 - ■ ■ E1		
<b>D.39-LE80MB4</b>								
23	230	63.43	3 610	0.86	15	2KJ3203 - ■ DB21 - ■ ■ E1		
<b>Z.39-LA71ZML4</b>								
24	215	55.95	3 990	0.93	12	2KJ3103 - ■ CH11 - ■ ■ A2		
28	191	49.75	4 590	1.0	12	2KJ3103 - ■ CH11 - ■ ■ X1		
31	167	43.68	5 090	1.2	12	2KJ3103 - ■ CH11 - ■ ■ W1		
35	152	39.71	5 180	1.3	12	2KJ3103 - ■ CH11 - ■ ■ V1		
40	130	33.97	5 270	1.5	12	2KJ3103 - ■ CH11 - ■ ■ U1		
44	118	30.88	5 310	1.7	12	2KJ3103 - ■ CH11 - ■ ■ T1		
50	105	27.30	5 300	1.9	12	2KJ3103 - ■ CH11 - ■ ■ S1		
55	95	24.82	5 300	2.1	12	2KJ3103 - ■ CH11 - ■ ■ R1		
63	83	21.74	5 270	2.4	12	2KJ3103 - ■ CH11 - ■ ■ Q1		
68	77	20.07	5 220	2.6	12	2KJ3103 - ■ CH11 - ■ ■ P1		
77	68	17.77	5 070	2.9	12	2KJ3103 - ■ CH11 - ■ ■ N1		
93	57	14.79	4 810	3.4	12	2KJ3103 - ■ CH11 - ■ ■ M1		
98	53	13.92	4 720	3.5	12	2KJ3103 - ■ CH11 - ■ ■ L1		
<b>Z.39-LE80MB4</b>								
29	181	49.75	4 840	1.1	14	2KJ3103 - ■ DB21 - ■ ■ X1		
33	159	43.68	5 140	1.3	14	2KJ3103 - ■ DB21 - ■ ■ W1		
36	145	39.71	5 200	1.4	14	2KJ3103 - ■ DB21 - ■ ■ V1		
42	124	33.97	5 280	1.6	14	2KJ3103 - ■ DB21 - ■ ■ U1		
47	113	30.88	5 300	1.8	14	2KJ3103 - ■ DB21 - ■ ■ T1		
53	100	27.30	5 290	2.0	14	2KJ3103 - ■ DB21 - ■ ■ S1		
58	90	24.82	5 300	2.2	14	2KJ3103 - ■ DB21 - ■ ■ R1		
66	79	21.74	5 250	2.5	14	2KJ3103 - ■ DB21 - ■ ■ Q1		
72	73	20.07	5 180	2.7	14	2KJ3103 - ■ DB21 - ■ ■ P1		
81	65	17.77	5 000	3.1	14	2KJ3103 - ■ DB21 - ■ ■ N1		

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Shaft design

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# SIMOGEAR geared motors

## Helical geared motors

### Geared motors up to 55 kW

#### Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.55</b>								
<b>Z.29-LA71ZML4</b>								
33	159	41.40	3 200	0.88	11	2KJ3102 - ■ CH11 - ■ ■ A2		
37	141	36.72	3 680	0.99	11	2KJ3102 - ■ CH11 - ■ ■ X1		
43	122	31.86	3 940	1.1	11	2KJ3102 - ■ CH11 - ■ ■ W1		
47	111	28.96	3 850	1.3	11	2KJ3102 - ■ CH11 - ■ ■ V1		
55	95	24.84	3 720	1.5	11	2KJ3102 - ■ CH11 - ■ ■ U1		
61	87	22.58	3 630	1.6	11	2KJ3102 - ■ CH11 - ■ ■ T1		
69	76	19.80	3 520	1.8	11	2KJ3102 - ■ CH11 - ■ ■ S1		
78	68	17.67	3 420	2.1	11	2KJ3102 - ■ CH11 - ■ ■ R1		
87	60	15.75	3 320	2.3	11	2KJ3102 - ■ CH11 - ■ ■ Q1		
94	56	14.54	3 250	2.2	11	2KJ3102 - ■ CH11 - ■ ■ P1		
108	49	12.73	3 130	2.9	11	2KJ3102 - ■ CH11 - ■ ■ N1		
123	43	11.16	3 020	3.3	11	2KJ3102 - ■ CH11 - ■ ■ M1		
135	39	10.12	2 940	3.6	11	2KJ3102 - ■ CH11 - ■ ■ L1		
144	36	9.53	2 890	3.8	11	2KJ3102 - ■ CH11 - ■ ■ K1		
198	26	6.92	2 600	2.8	11	2KJ3102 - ■ CH11 - ■ ■ G1		
226	23	6.06	2 500	4.3	11	2KJ3102 - ■ CH11 - ■ ■ F1		
258	20	5.31	2 410	4.5	11	2KJ3102 - ■ CH11 - ■ ■ E1		
284	18	4.82	2 340	4.7	11	2KJ3102 - ■ CH11 - ■ ■ D1		
302	17	4.54	2 300	4.8	11	2KJ3102 - ■ CH11 - ■ ■ C1		
342	15	4.00	2 210	5.0	11	2KJ3102 - ■ CH11 - ■ ■ B1		
395	13	3.47	2 120	5.3	11	2KJ3102 - ■ CH11 - ■ ■ A1		
<b>Z.29-LE80MB4</b>								
39	134	36.72	3 860	1.0	13	2KJ3102 - ■ DB21 - ■ ■ X1		
45	116	31.86	3 900	1.2	13	2KJ3102 - ■ DB21 - ■ ■ W1		
50	106	28.96	3 810	1.3	13	2KJ3102 - ■ DB21 - ■ ■ V1		
58	91	24.84	3 670	1.5	13	2KJ3102 - ■ DB21 - ■ ■ U1		
64	82	22.58	3 590	1.7	13	2KJ3102 - ■ DB21 - ■ ■ T1		
73	72	19.80	3 480	1.9	13	2KJ3102 - ■ DB21 - ■ ■ S1		
81	64	17.67	3 380	2.2	13	2KJ3102 - ■ DB21 - ■ ■ R1		
91	57	15.75	3 280	2.4	13	2KJ3102 - ■ DB21 - ■ ■ Q1		
99	53	14.54	3 200	2.3	13	2KJ3102 - ■ DB21 - ■ ■ P1		
113	46	12.73	3 090	3.0	13	2KJ3102 - ■ DB21 - ■ ■ N1		
129	41	11.16	2 980	3.4	13	2KJ3102 - ■ DB21 - ■ ■ M1		
142	37	10.12	2 900	3.8	13	2KJ3102 - ■ DB21 - ■ ■ L1		
151	35	9.53	2 850	4.0	13	2KJ3102 - ■ DB21 - ■ ■ K1		
208	25	6.92	2 560	3.0	13	2KJ3102 - ■ DB21 - ■ ■ G1		
238	22	6.06	2 460	4.5	13	2KJ3102 - ■ DB21 - ■ ■ F1		
271	19	5.31	2 370	4.7	13	2KJ3102 - ■ DB21 - ■ ■ E1		
299	18	4.82	2 300	4.9	13	2KJ3102 - ■ DB21 - ■ ■ D1		
317	17	4.54	2 260	5.1	13	2KJ3102 - ■ DB21 - ■ ■ C1		
360	15	4.00	2 170	5.2	13	2KJ3102 - ■ DB21 - ■ ■ B1		
415	13	3.47	2 080	5.5	13	2KJ3102 - ■ DB21 - ■ ■ A1		
<b>Z.19-LA71ZML4</b>								
44	119	30.97	1 260	0.84	9	2KJ3101 - ■ CH11 - ■ ■ V1		
51	103	26.91	1 590	0.97	9	2KJ3101 - ■ CH11 - ■ ■ U1		
56	94	24.46	1 770	1.1	9	2KJ3101 - ■ CH11 - ■ ■ T1		
66	80	20.82	2 060	1.3	9	2KJ3101 - ■ CH11 - ■ ■ S1		
72	72	18.92	2 130	1.4	9	2KJ3101 - ■ CH11 - ■ ■ R1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.55</b>	<b>Z.19-LA71ZML4</b>							
	83	63	16.50	2 070	1.6	9	2KJ3101 - ■ CH11 - ■ ■ Q1	
	93	57	14.77	2 020	1.7	9	2KJ3101 - ■ CH11 - ■ ■ P1	
	104	50	13.12	1 980	1.8	9	2KJ3101 - ■ CH11 - ■ ■ N1	
	113	46	12.11	1 950	1.9	9	2KJ3101 - ■ CH11 - ■ ■ M1	
	130	40	10.52	1 880	2.1	9	2KJ3101 - ■ CH11 - ■ ■ L1	
	150	35	9.14	1 820	2.2	9	2KJ3101 - ■ CH11 - ■ ■ K1	
	166	32	8.25	1 770	2.3	9	2KJ3101 - ■ CH11 - ■ ■ J1	
	177	30	7.76	1 740	2.5	9	2KJ3101 - ■ CH11 - ■ ■ H1	
	202	26	6.77	1 680	2.6	9	2KJ3101 - ■ CH11 - ■ ■ G1	
	219	24	6.25	1 560	2.3	9	2KJ3101 - ■ CH11 - ■ ■ F1	
	252	21	5.43	1 510	2.5	9	2KJ3101 - ■ CH11 - ■ ■ E1	
	291	18	4.71	1 460	2.7	9	2KJ3101 - ■ CH11 - ■ ■ D1	
	322	16	4.26	1 430	2.9	9	2KJ3101 - ■ CH11 - ■ ■ C1	
	342	15	4.01	1 410	3.0	9	2KJ3101 - ■ CH11 - ■ ■ B1	
<b>Z.19-LE80MB4</b>								
46	113	30.97	1 390	0.89	11	2KJ3101 - ■ DB21 - ■ ■ V1		
54	98	26.91	1 690	1.0	11	2KJ3101 - ■ DB21 - ■ ■ U1		
59	89	24.46	1 880	1.1	11	2KJ3101 - ■ DB21 - ■ ■ T1		
69	76	20.82	2 140	1.3	11	2KJ3101 - ■ DB21 - ■ ■ S1		
76	69	18.92	2 110	1.4	11	2KJ3101 - ■ DB21 - ■ ■ R1		
87	60	16.50	2 050	1.6	11	2KJ3101 - ■ DB21 - ■ ■ Q1		
97	54	14.77	2 010	1.8	11	2KJ3101 - ■ DB21 - ■ ■ P1		
110	48	13.12	1 950	1.9	11	2KJ3101 - ■ DB21 - ■ ■ N1		
119	44	12.11	1 920	2.0	11	2KJ3101 - ■ DB21 - ■ ■ M1		
137	38	10.52	1 860	2.2	11	2KJ3101 - ■ DB21 - ■ ■ L1		
158	33	9.14	1 800	2.3	11	2KJ3101 - ■ DB21 - ■ ■ K1		
175	30	8.25	1 750	2.5	11	2KJ3101 - ■ DB21 - ■ ■ J1		
186	28	7.76	1 730	2.6	11	2KJ3101 - ■ DB21 - ■ ■ H1		
213	25	6.77	1 660	2.8	11	2KJ3101 - ■ DB21 - ■ ■ G1		
230	23	6.25	1 540	2.5	11	2KJ3101 - ■ DB21 - ■ ■ F1		
265	20	5.43	1 490	2.7	11	2KJ3101 - ■ DB21 - ■ ■ E1		
306	17	4.71	1 450	2.9	11	2KJ3101 - ■ DB21 - ■ ■ D1		
338	16	4.26	1 400	3.0	11	2KJ3101 - ■ DB21 - ■ ■ C1		
359	15	4.01	1 380	3.1	11	2KJ3101 - ■ DB21 - ■ ■ B1		
413	13	3.49	1 330	3.4	11	2KJ3101 - ■ DB21 - ■ ■ A1		
<b>Z.19-LA71MH2</b>								
170	31	16.50	1 760	3.2	9	2KJ3101 - ■ CE11 - ■ ■ Q1	P00	
190	28	14.77	1 710	3.4	9	2KJ3101 - ■ CE11 - ■ ■ P1	P00	
213	25	13.12	1 660	3.7	9	2KJ3101 - ■ CE11 - ■ ■ N1	P00	
231	23	12.11	1 620	3.9	9	2KJ3101 - ■ CE11 - ■ ■ M1	P00	
266	20	10.52	1 560	4.2	9	2KJ3101 - ■ CE11 - ■ ■ L1	P00	
306	17	9.14	1 510	4.5	9	2KJ3101 - ■ CE11 - ■ ■ K1	P00	
339	16	8.25	1 460	4.8	9	2KJ3101 - ■ CE11 - ■ ■ J1	P00	
361	15	7.76	1 430	5.0	9	2KJ3101 - ■ CE11 - ■ ■ H1	P00	
414	13	6.77	1 380	5.4	9	2KJ3101 - ■ CE11 - ■ ■ G1	P00	
448	12	6.25	1 300	4.8	9	2KJ3101 - ■ CE11 - ■ ■ F1	P00	
516	10	5.43	1 260	5.2	9	2KJ3101 - ■ CE11 - ■ ■ E1	P00	
594	9	4.71	1 210	5.5	9	2KJ3101 - ■ CE11 - ■ ■ D1	P00	

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Electro\_Motor.ir

# SIMOGEAR geared motors

## Helical geared motors

### Geared motors up to 55 kW

#### Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.55	<b>Z.19-LA71MH2</b>							
	657	8	4.26	1 170	5.9	9	2KJ3101 - ■ CE11 - ■ ■ C1	P00
	698	8	4.01	1 150	6.1	9	2KJ3101 - ■ CE11 - ■ ■ B1	P00
	<b>E.69-LA71ZML4</b>							
	147	36	9.30	6 100	3.4	25	2KJ3003 - ■ CH11 - ■ ■ S1	
	162	32	8.45	6 100	3.2	25	2KJ3003 - ■ CH11 - ■ ■ R1	
	<b>E.69-LE80MB4</b>							
	155	34	9.30	6 100	3.5	28	2KJ3003 - ■ DB21 - ■ ■ S1	
	170	31	8.45	6 100	3.4	28	2KJ3003 - ■ DB21 - ■ ■ R1	
	<b>E.49-LA71ZML4</b>							
	141	37	9.70	4 000	2.3	18	2KJ3002 - ■ CH11 - ■ ■ S1	
	155	34	8.82	4 000	3.2	18	2KJ3002 - ■ CH11 - ■ ■ R1	
	183	29	7.50	4 000	3.7	18	2KJ3002 - ■ CH11 - ■ ■ Q1	
	201	26	6.82	4 000	4.0	18	2KJ3002 - ■ CH11 - ■ ■ P1	
	225	23	6.08	4 000	4.5	18	2KJ3002 - ■ CH11 - ■ ■ N1	
	<b>E.49-LE80MB4</b>							
	148	35	9.70	4 000	2.4	21	2KJ3002 - ■ DB21 - ■ ■ S1	
	163	32	8.82	4 000	3.4	21	2KJ3002 - ■ DB21 - ■ ■ R1	
	192	27	7.50	4 000	3.9	21	2KJ3002 - ■ DB21 - ■ ■ Q1	
	211	25	6.82	4 000	4.2	21	2KJ3002 - ■ DB21 - ■ ■ P1	
	<b>E.39-LE80MB4</b>							
	176	30	8.20	3 000	1.1	15	2KJ3001 - ■ DB21 - ■ ■ R1	
	200	26	7.20	3 000	1.5	15	2KJ3001 - ■ DB21 - ■ ■ Q1	
	220	24	6.55	3 000	1.7	15	2KJ3001 - ■ DB21 - ■ ■ P1	
	257	20	5.60	3 000	2.0	15	2KJ3001 - ■ DB21 - ■ ■ N1	
	283	19	5.09	3 000	2.2	15	2KJ3001 - ■ DB21 - ■ ■ M1	
	320	16	4.50	3 000	2.9	15	2KJ3001 - ■ DB21 - ■ ■ L1	
352	15	4.09	3 000	3.2	15	2KJ3001 - ■ DB21 - ■ ■ K1		
402	13	3.58	3 000	4.4	15	2KJ3001 - ■ DB21 - ■ ■ J1		
435	12	3.31	3 000	4.8	15	2KJ3001 - ■ DB21 - ■ ■ H1		
<b>E.39-LA71ZML4</b>								
149	35	9.22	3 000	0.85	13	2KJ3001 - ■ CH11 - ■ ■ S1		
167	31	8.20	3 000	1.1	13	2KJ3001 - ■ CH11 - ■ ■ R1		
190	28	7.20	3 000	1.4	13	2KJ3001 - ■ CH11 - ■ ■ Q1		
209	25	6.55	3 000	1.6	13	2KJ3001 - ■ CH11 - ■ ■ P1		
245	22	5.60	3 000	1.9	13	2KJ3001 - ■ CH11 - ■ ■ N1		
269	20	5.09	3 000	2.0	13	2KJ3001 - ■ CH11 - ■ ■ M1		
304	17	4.50	3 000	2.8	13	2KJ3001 - ■ CH11 - ■ ■ L1		
335	16	4.09	3 000	3.1	13	2KJ3001 - ■ CH11 - ■ ■ K1		
383	14	3.58	3 000	4.2	13	2KJ3001 - ■ CH11 - ■ ■ J1		
414	13	3.31	3 000	4.6	13	2KJ3001 - ■ CH11 - ■ ■ H1		
0.75	<b>D.129-LE90SQ6P</b>							
	2.5	2 880	373.00	28 300	1.7	174	2KJ3211 - ■ EC23 - ■ ■ S1	P01
	2.7	2 660	344.17	28 400	1.9	174	2KJ3211 - ■ EC23 - ■ ■ R1	P01
	2.9	2 450	316.90	28 500	2.0	174	2KJ3211 - ■ EC23 - ■ ■ Q1	P01
	<b>D.109-LE90SQ6P</b>							
	2.7	2 700	348.88	20 200	1.1	111	2KJ3210 - ■ EC23 - ■ ■ T1	P01
	2.9	2 430	314.98	20 200	1.3	111	2KJ3210 - ■ EC23 - ■ ■ S1	P01
	3.2	2 210	285.72	20 200	1.4	111	2KJ3210 - ■ EC23 - ■ ■ R1	P01
	3.5	2 040	263.74	20 200	1.5	111	2KJ3210 - ■ EC23 - ■ ■ Q1	P01

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.75</b>	<b>D.109-LE90SQ6P</b>							
	3.9	1 850	239.75	20 200	1.7	111	2KJ3210 - ■ EC23 - ■ ■ P1	P01
	<b>D.89-LE90SQ6P</b>							
	3.6	1 960	254.09	18 500	0.85	69	2KJ3208 - ■ EC23 - ■ ■ Q1	P01
	4.0	1 760	228.45	18 500	0.95	69	2KJ3208 - ■ EC23 - ■ ■ P1	P01
	<b>D.89-LE80ZMQ4P</b>							
	4.7	1 530	311.60	18 500	1.1	67	2KJ3208 - ■ DF23 - ■ ■ S1	
	5.1	1 390	283.28	18 500	1.2	67	2KJ3208 - ■ DF23 - ■ ■ R1	
	5.7	1 250	254.09	18 500	1.3	67	2KJ3208 - ■ DF23 - ■ ■ Q1	
	6.3	1 120	228.45	18 500	1.5	67	2KJ3208 - ■ DF23 - ■ ■ P1	
7.0	1 020	206.62	18 500	1.6	67	2KJ3208 - ■ DF23 - ■ ■ N1		
7.6	940	190.73	18 500	1.8	67	2KJ3208 - ■ DF23 - ■ ■ M1		
8.3	860	174.71	18 500	1.9	67	2KJ3208 - ■ DF23 - ■ ■ L1		
<b>D.79-LE80ZMQ4P</b>								
7.0	1 020	207.10	11 200	0.82	44	2KJ3207 - ■ DF23 - ■ ■ N1		
7.8	915	185.70	12 800	0.92	44	2KJ3207 - ■ DF23 - ■ ■ M1		
8.7	825	167.39	13 400	1.0	44	2KJ3207 - ■ DF23 - ■ ■ L1		
9.4	760	154.51	13 500	1.1	44	2KJ3207 - ■ DF23 - ■ ■ K1		
10	695	141.04	13 600	1.2	44	2KJ3207 - ■ DF23 - ■ ■ J1		
12	575	117.03	13 700	1.5	44	2KJ3207 - ■ DF23 - ■ ■ H1		
13	540	110.14	13 800	1.5	44	2KJ3207 - ■ DF23 - ■ ■ G1		
14	510	104.03	13 800	1.6	44	2KJ3207 - ■ DF23 - ■ ■ F1		
16	435	88.52	13 900	1.9	44	2KJ3207 - ■ DF23 - ■ ■ E1		
19	375	75.83	14 000	2.2	44	2KJ3207 - ■ DF23 - ■ ■ D1		
<b>D.69-LE80ZMQ4P</b>								
10	720	145.71	10 700	0.83	34	2KJ3206 - ■ DF23 - ■ ■ K1		
11	630	127.63	10 900	0.95	34	2KJ3206 - ■ DF23 - ■ ■ J1		
12	580	117.82	11 000	1.0	34	2KJ3206 - ■ DF23 - ■ ■ H1		
14	515	104.31	11 100	1.2	34	2KJ3206 - ■ DF23 - ■ ■ G1		
17	425	86.82	11 200	1.4	34	2KJ3206 - ■ DF23 - ■ ■ F1		
18	400	81.71	11 300	1.5	34	2KJ3206 - ■ DF23 - ■ ■ E1		
20	360	73.22	11 300	1.7	34	2KJ3206 - ■ DF23 - ■ ■ D1		
<b>Z.69-LE80ZMQ4P</b>								
24	300	60.97	11 400	2.0	33	2KJ3106 - ■ DF23 - ■ ■ A2		
26	270	55.43	11 500	2.2	33	2KJ3106 - ■ DF23 - ■ ■ X1		
<b>D.59-LE80ZMQ4P</b>								
13	540	110.12	6 490	0.83	29	2KJ3205 - ■ DF23 - ■ ■ H1		
15	480	97.50	7 560	0.93	29	2KJ3205 - ■ DF23 - ■ ■ G1		
18	400	81.15	7 740	1.1	29	2KJ3205 - ■ DF23 - ■ ■ F1		
19	375	76.38	7 780	1.2	29	2KJ3205 - ■ DF23 - ■ ■ E1		
21	335	68.43	7 850	1.3	29	2KJ3205 - ■ DF23 - ■ ■ D1		
<b>Z.59-LE80ZMQ4P</b>								
25	280	56.99	7 940	1.6	29	2KJ3105 - ■ DF23 - ■ ■ A2		
28	255	51.81	7 980	1.8	29	2KJ3105 - ■ DF23 - ■ ■ X1		
33	215	44.06	8 040	2.1	29	2KJ3105 - ■ DF23 - ■ ■ W1		
36	198	40.06	8 040	2.3	29	2KJ3105 - ■ DF23 - ■ ■ V1		
41	177	35.74	7 790	2.5	29	2KJ3105 - ■ DF23 - ■ ■ U1		
45	158	32.05	7 560	2.8	29	2KJ3105 - ■ DF23 - ■ ■ T1		
<b>D.49-LE80ZMQ4P</b>								
20	365	74.24	4 640	0.81	27	2KJ3204 - ■ DF23 - ■ ■ F1		

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Electro\_Motor.ir

## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.75	<b>D.49-LE80ZMQ4P</b>							
	21	345	69.88	5 150	0.93	27	2KJ3204 - ■ DF23 - ■ ■ E1	
	23	305	62.61	5 930	1.0	27	2KJ3204 - ■ DF23 - ■ ■ D1	
	<b>Z.49-LE80ZMQ4P</b>							
	28	255	52.14	6 030	1.2	27	2KJ3104 - ■ DF23 - ■ ■ B2	
	31	230	47.40	6 080	1.4	27	2KJ3104 - ■ DF23 - ■ ■ A2	
	36	199	40.31	6 150	1.6	27	2KJ3104 - ■ DF23 - ■ ■ X1	
	40	181	36.65	6 180	1.8	27	2KJ3104 - ■ DF23 - ■ ■ W1	
	44	162	32.70	6 160	2.0	27	2KJ3104 - ■ DF23 - ■ ■ V1	
	49	145	29.32	5 990	2.2	27	2KJ3104 - ■ DF23 - ■ ■ U1	
	55	131	26.43	5 820	2.5	27	2KJ3104 - ■ DF23 - ■ ■ T1	
	59	120	24.39	5 700	2.7	27	2KJ3104 - ■ DF23 - ■ ■ S1	
	65	110	22.27	5 550	2.9	27	2KJ3104 - ■ DF23 - ■ ■ R1	
	<b>Z.39-LE80ZMQ4P</b>							
	29	245	49.75	3 240	0.81	16	2KJ3103 - ■ DF23 - ■ ■ X1	
	33	215	43.68	3 720	0.93	16	2KJ3103 - ■ DF23 - ■ ■ W1	
	37	196	39.71	3 910	1.0	16	2KJ3103 - ■ DF23 - ■ ■ V1	
	43	168	33.97	4 160	1.2	16	2KJ3103 - ■ DF23 - ■ ■ U1	
	47	153	30.88	4 280	1.3	16	2KJ3103 - ■ DF23 - ■ ■ T1	
	53	135	27.30	4 400	1.5	16	2KJ3103 - ■ DF23 - ■ ■ S1	
	58	123	24.82	4 460	1.6	16	2KJ3103 - ■ DF23 - ■ ■ R1	
	67	107	21.74	4 530	1.9	16	2KJ3103 - ■ DF23 - ■ ■ Q1	
	72	99	20.07	4 540	2.0	16	2KJ3103 - ■ DF23 - ■ ■ P1	
	82	88	17.77	4 540	2.3	16	2KJ3103 - ■ DF23 - ■ ■ N1	
	98	73	14.79	4 510	2.6	16	2KJ3103 - ■ DF23 - ■ ■ M1	
	104	69	13.92	4 480	2.7	16	2KJ3103 - ■ DF23 - ■ ■ L1	
	116	62	12.47	4 410	2.9	16	2KJ3103 - ■ DF23 - ■ ■ K1	
	137	52	10.62	4 210	3.2	16	2KJ3103 - ■ DF23 - ■ ■ J1	
	159	45	9.10	4 020	3.5	16	2KJ3103 - ■ DF23 - ■ ■ H1	
	185	39	7.84	3 850	3.8	16	2KJ3103 - ■ DF23 - ■ ■ G1	
	224	32	6.46	3 630	4.6	16	2KJ3103 - ■ DF23 - ■ ■ F1	
	<b>Z.29-LE80ZMQ4P</b>							
	46	157	31.86	2 890	0.89	15	2KJ3102 - ■ DF23 - ■ ■ W1	
	50	143	28.96	3 050	0.98	15	2KJ3102 - ■ DF23 - ■ ■ V1	
	58	123	24.84	3 230	1.1	15	2KJ3102 - ■ DF23 - ■ ■ U1	
	64	112	22.58	3 320	1.3	15	2KJ3102 - ■ DF23 - ■ ■ T1	
	73	98	19.80	3 320	1.4	15	2KJ3102 - ■ DF23 - ■ ■ S1	
	82	87	17.67	3 240	1.6	15	2KJ3102 - ■ DF23 - ■ ■ R1	
	92	78	15.75	3 150	1.8	15	2KJ3102 - ■ DF23 - ■ ■ Q1	
	100	72	14.54	3 090	1.7	15	2KJ3102 - ■ DF23 - ■ ■ P1	
	114	63	12.73	2 990	2.2	15	2KJ3102 - ■ DF23 - ■ ■ N1	
	130	55	11.16	2 890	2.5	15	2KJ3102 - ■ DF23 - ■ ■ M1	
	143	50	10.12	2 810	2.8	15	2KJ3102 - ■ DF23 - ■ ■ L1	
	152	47	9.53	2 770	3.0	15	2KJ3102 - ■ DF23 - ■ ■ K1	
	173	42	8.40	2 670	3.3	15	2KJ3102 - ■ DF23 - ■ ■ J1	
	199	36	7.29	2 570	3.6	15	2KJ3102 - ■ DF23 - ■ ■ H1	
	210	34	6.92	2 490	2.2	15	2KJ3102 - ■ DF23 - ■ ■ G1	
	239	30	6.06	2 400	3.3	15	2KJ3102 - ■ DF23 - ■ ■ F1	
	273	26	5.31	2 320	3.5	15	2KJ3102 - ■ DF23 - ■ ■ E1	

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.75	<b>Z.29-LE80ZMQ4P</b>							
	301	24	4.82	2 250	3.6	15	2KJ3102 - ■ DF23 - ■ ■ D1	
	319	22	4.54	2 220	3.7	15	2KJ3102 - ■ DF23 - ■ ■ C1	
	362	20	4.00	2 130	3.8	15	2KJ3102 - ■ DF23 - ■ ■ B1	
	418	17	3.47	2 050	4.1	15	2KJ3102 - ■ DF23 - ■ ■ A1	
	<b>Z.29-LE80ME2P</b>							
	159	45	17.67	2 740	3.1	14	2KJ3102 - ■ DB23 - ■ ■ R1	P00
	178	40	15.75	2 650	3.5	14	2KJ3102 - ■ DB23 - ■ ■ Q1	P00
	193	37	14.54	2 600	3.2	14	2KJ3102 - ■ DB23 - ■ ■ P1	P00
	220	32	12.73	2 500	4.3	14	2KJ3102 - ■ DB23 - ■ ■ N1	P00
	405	18	6.92	2 060	4.2	14	2KJ3102 - ■ DB23 - ■ ■ G1	P00
	<b>Z.19-LE80ZMQ4P</b>							
	59	121	24.46	1 220	0.83	13	2KJ3101 - ■ DF23 - ■ ■ T1	
	70	103	20.82	1 590	0.97	13	2KJ3101 - ■ DF23 - ■ ■ S1	
	77	94	18.92	1 770	1.1	13	2KJ3101 - ■ DF23 - ■ ■ R1	
	88	82	16.50	1 900	1.2	13	2KJ3101 - ■ DF23 - ■ ■ Q1	
	98	73	14.77	1 870	1.3	13	2KJ3101 - ■ DF23 - ■ ■ P1	
	111	65	13.12	1 830	1.4	13	2KJ3101 - ■ DF23 - ■ ■ N1	
	120	60	12.11	1 810	1.5	13	2KJ3101 - ■ DF23 - ■ ■ M1	
	138	52	10.52	1 760	1.6	13	2KJ3101 - ■ DF23 - ■ ■ L1	
159	45	9.14	1 710	1.7	13	2KJ3101 - ■ DF23 - ■ ■ K1		
176	41	8.25	1 670	1.8	13	2KJ3101 - ■ DF23 - ■ ■ J1		
187	38	7.76	1 650	1.9	13	2KJ3101 - ■ DF23 - ■ ■ H1		
214	33	6.77	1 600	2.0	13	2KJ3101 - ■ DF23 - ■ ■ G1		
232	31	6.25	1 460	1.8	13	2KJ3101 - ■ DF23 - ■ ■ F1		
267	27	5.43	1 420	2.0	13	2KJ3101 - ■ DF23 - ■ ■ E1		
308	23	4.71	1 380	2.1	13	2KJ3101 - ■ DF23 - ■ ■ D1		
340	21	4.26	1 350	2.2	13	2KJ3101 - ■ DF23 - ■ ■ C1		
362	20	4.01	1 330	2.3	13	2KJ3101 - ■ DF23 - ■ ■ B1		
415	17	3.49	1 290	2.5	13	2KJ3101 - ■ DF23 - ■ ■ A1		
<b>Z.19-LE80ME2P</b>								
170	42	16.50	1 690	2.3	13	2KJ3101 - ■ DB23 - ■ ■ Q1	P00	
190	38	14.77	1 640	2.5	13	2KJ3101 - ■ DB23 - ■ ■ P1	P00	
214	34	13.12	1 590	2.7	13	2KJ3101 - ■ DB23 - ■ ■ N1	P00	
232	31	12.11	1 570	2.8	13	2KJ3101 - ■ DB23 - ■ ■ M1	P00	
267	27	10.52	1 510	3.1	13	2KJ3101 - ■ DB23 - ■ ■ L1	P00	
307	23	9.14	1 460	3.3	13	2KJ3101 - ■ DB23 - ■ ■ K1	P00	
340	21	8.25	1 420	3.5	13	2KJ3101 - ■ DB23 - ■ ■ J1	P00	
361	20	7.76	1 400	3.7	13	2KJ3101 - ■ DB23 - ■ ■ H1	P00	
414	17	6.77	1 350	3.9	13	2KJ3101 - ■ DB23 - ■ ■ G1	P00	
449	16	6.25	1 260	3.5	13	2KJ3101 - ■ DB23 - ■ ■ F1	P00	
517	14	5.43	1 220	3.8	13	2KJ3101 - ■ DB23 - ■ ■ E1	P00	
596	12	4.71	1 170	4.1	13	2KJ3101 - ■ DB23 - ■ ■ D1	P00	
658	11	4.26	1 140	4.3	13	2KJ3101 - ■ DB23 - ■ ■ C1	P00	
700	10	4.01	1 130	4.5	13	2KJ3101 - ■ DB23 - ■ ■ B1	P00	
804	9	3.49	1 080	4.8	13	2KJ3101 - ■ DB23 - ■ ■ A1	P00	
<b>E.69-LE80ZMQ4P</b>								
156	46	9.30	6 100	2.6	30	2KJ3003 - ■ DF23 - ■ ■ S1		
172	42	8.45	6 100	2.5	30	2KJ3003 - ■ DF23 - ■ ■ R1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.75	<b>E.49-LE80ZMQ4P</b>							
	149	48	9.70	4 000	1.8	23	2KJ3002 - ■ DF23 - ■ ■ S1	
	164	44	8.82	4 000	2.5	23	2KJ3002 - ■ DF23 - ■ ■ R1	
	193	37	7.50	4 000	2.9	23	2KJ3002 - ■ DF23 - ■ ■ Q1	
	213	34	6.82	4 000	3.1	23	2KJ3002 - ■ DF23 - ■ ■ P1	
	238	30	6.08	4 000	3.5	23	2KJ3002 - ■ DF23 - ■ ■ N1	
	266	27	5.45	4 000	3.8	23	2KJ3002 - ■ DF23 - ■ ■ M1	
	295	24	4.92	4 000	4.2	23	2KJ3002 - ■ DF23 - ■ ■ L1	
	319	22	4.54	4 000	4.5	23	2KJ3002 - ■ DF23 - ■ ■ K1	
	350	20	4.14	4 000	5.0	23	2KJ3002 - ■ DF23 - ■ ■ J1	
	<b>E.39-LE80ZMQ4P</b>							
	177	40	8.20	3 000	0.84	17	2KJ3001 - ■ DF23 - ■ ■ R1	
	201	36	7.20	3 000	1.1	17	2KJ3001 - ■ DF23 - ■ ■ Q1	
	221	32	6.55	3 000	1.2	17	2KJ3001 - ■ DF23 - ■ ■ P1	
	259	28	5.60	3 000	1.4	17	2KJ3001 - ■ DF23 - ■ ■ N1	
	285	25	5.09	3 000	1.6	17	2KJ3001 - ■ DF23 - ■ ■ M1	
	322	22	4.50	3 000	2.2	17	2KJ3001 - ■ DF23 - ■ ■ L1	
	355	20	4.09	3 000	2.4	17	2KJ3001 - ■ DF23 - ■ ■ K1	
	405	18	3.58	3 000	3.3	17	2KJ3001 - ■ DF23 - ■ ■ J1	
	438	16	3.31	3 000	3.5	17	2KJ3001 - ■ DF23 - ■ ■ H1	
	495	14	2.93	3 000	4.5	17	2KJ3001 - ■ DF23 - ■ ■ G1	
	594	12	2.44	2 980	5.4	17	2KJ3001 - ■ DF23 - ■ ■ F1	
	633	11	2.29	2 920	5.8	17	2KJ3001 - ■ DF23 - ■ ■ E1	
	1.1	<b>D.129-LE90ZLR6P</b>						
2.5		4 190	373	27 500	1.2	177	2KJ3211 - ■ EM23 - ■ ■ S1	P01
2.7		3 860	344.17	27 700	1.3	177	2KJ3211 - ■ EM23 - ■ ■ R1	P01
3.0		3 560	316.90	27 900	1.4	177	2KJ3211 - ■ EM23 - ■ ■ Q1	P01
3.5		3 030	270.24	28 200	1.6	177	2KJ3211 - ■ EM23 - ■ ■ P1	P01
<b>D.129-LE90SM4P</b>								
3.8		2 750	373.00	28 300	1.8	174	2KJ3211 - ■ EK23 - ■ ■ S1	
4.1		2 530	344.17	28 500	2.0	174	2KJ3211 - ■ EK23 - ■ ■ R1	
<b>D.109-LE90ZLR6P</b>								
3.0		3 530	314.98	20 200	0.88	114	2KJ3210 - ■ EM23 - ■ ■ S1	P01
3.3	3 210	285.72	20 200	0.97	114	2KJ3210 - ■ EM23 - ■ ■ R1	P01	
3.5	2 960	263.74	20 200	1.0	114	2KJ3210 - ■ EM23 - ■ ■ Q1	P01	
3.9	2 690	239.75	20 200	1.2	114	2KJ3210 - ■ EM23 - ■ ■ P1	P01	
<b>D.109-LE90SM4P</b>								
4.1	2 570	348.88	20 200	1.2	111	2KJ3210 - ■ EK23 - ■ ■ T1		
4.5	2 320	314.98	20 200	1.3	111	2KJ3210 - ■ EK23 - ■ ■ S1		
5.0	2 100	285.72	20 200	1.5	111	2KJ3210 - ■ EK23 - ■ ■ R1		
5.4	1 940	263.74	20 200	1.6	111	2KJ3210 - ■ EK23 - ■ ■ Q1		
5.9	1 760	239.75	20 200	1.8	111	2KJ3210 - ■ EK23 - ■ ■ P1		
7.0	1 490	203.01	20 200	2.1	111	2KJ3210 - ■ EK23 - ■ ■ N1		
<b>D.89-LE90SM4P</b>								
5.0	2 080	283.28	18 000	0.8	69	2KJ3208 - ■ EK23 - ■ ■ R1		
5.6	1 870	254.09	18 500	0.9	69	2KJ3208 - ■ EK23 - ■ ■ Q1		
6.2	1 680	228.45	18 500	1.0	69	2KJ3208 - ■ EK23 - ■ ■ P1		
6.9	1 520	206.62	18 500	1.1	69	2KJ3208 - ■ EK23 - ■ ■ N1		
7.5	1 400	190.73	18 500	1.2	69	2KJ3208 - ■ EK23 - ■ ■ M1		
8.2	1 280	174.71	18 500	1.3	69	2KJ3208 - ■ EK23 - ■ ■ L1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
1.1	<b>D.89-LE90SM4P</b>							
	9.7	1 080	146.59	18 500	1.6	69	2KJ3208 - ■ EK23 - ■ ■ K1	
	10	1 010	137.97	18 500	1.7	69	2KJ3208 - ■ EK23 - ■ ■ J1	
	11	930	126.58	18 500	1.8	69	2KJ3208 - ■ EK23 - ■ ■ H1	
	13	815	110.57	18 500	2.1	69	2KJ3208 - ■ EK23 - ■ ■ G1	
	<b>D.79-LE90SM4P</b>							
	10	1 040	141.04	10 900	0.81	46	2KJ3207 - ■ EK23 - ■ ■ J1	
	12	860	117.03	13 400	0.97	46	2KJ3207 - ■ EK23 - ■ ■ H1	
	13	810	110.14	13 400	1.0	46	2KJ3207 - ■ EK23 - ■ ■ G1	
	14	765	104.03	13 500	1.1	46	2KJ3207 - ■ EK23 - ■ ■ F1	
	16	650	88.52	13 600	1.3	46	2KJ3207 - ■ EK23 - ■ ■ E1	
	19	555	75.83	13 700	1.5	46	2KJ3207 - ■ EK23 - ■ ■ D1	
	21	490	66.67	13 800	1.7	46	2KJ3207 - ■ EK23 - ■ ■ C1	
<b>Z.79-LE90SM4P</b>								
26	400	54.47	13 900	2.1	45	2KJ3107 - ■ EK23 - ■ ■ A2		
29	365	49.52	14 000	2.3	45	2KJ3107 - ■ EK23 - ■ ■ X1		
<b>D.69-LE90SM4P</b>								
16	640	86.82	10 900	0.94	34	2KJ3206 - ■ EK23 - ■ ■ F1		
17	600	81.71	11 000	1.0	34	2KJ3206 - ■ EK23 - ■ ■ E1		
19	540	73.22	11 100	1.1	34	2KJ3206 - ■ EK23 - ■ ■ D1		
<b>Z.69-LE90SM4P</b>								
23	445	60.97	11 200	1.3	34	2KJ3106 - ■ EK23 - ■ ■ A2		
26	405	55.43	11 300	1.5	34	2KJ3106 - ■ EK23 - ■ ■ X1		
30	345	47.14	11 400	1.7	34	2KJ3106 - ■ EK23 - ■ ■ W1		
33	315	42.86	11 400	1.9	34	2KJ3106 - ■ EK23 - ■ ■ V1		
37	280	38.24	11 500	2.1	34	2KJ3106 - ■ EK23 - ■ ■ U1		
42	250	34.29	11 500	2.4	34	2KJ3106 - ■ EK23 - ■ ■ T1		
46	225	30.90	11 500	2.6	34	2KJ3106 - ■ EK23 - ■ ■ S1		
<b>D.59-LE90SM4P</b>								
19	560	76.38	6 130	0.80	30	2KJ3205 - ■ EK23 - ■ ■ E1		
21	500	68.43	7 210	0.89	30	2KJ3205 - ■ EK23 - ■ ■ D1		
<b>Z.59-LE90SM4P</b>								
25	420	56.99	7 710	1.1	29	2KJ3105 - ■ EK23 - ■ ■ A2		
28	380	51.81	7 780	1.2	29	2KJ3105 - ■ EK23 - ■ ■ X1		
32	325	44.06	7 860	1.4	29	2KJ3105 - ■ EK23 - ■ ■ W1		
36	295	40.06	7 700	1.5	29	2KJ3105 - ■ EK23 - ■ ■ V1		
40	260	35.74	7 510	1.7	29	2KJ3105 - ■ EK23 - ■ ■ U1		
44	235	32.05	7 300	1.9	29	2KJ3105 - ■ EK23 - ■ ■ T1		
49	210	28.89	7 120	2.1	29	2KJ3105 - ■ EK23 - ■ ■ S1		
53	197	26.66	6 970	2.3	29	2KJ3105 - ■ EK23 - ■ ■ R1		
59	179	24.34	6 800	2.5	29	2KJ3105 - ■ EK23 - ■ ■ Q1		
71	149	20.20	6 470	3.0	29	2KJ3105 - ■ EK23 - ■ ■ P1		
75	140	19.01	6 360	3.2	29	2KJ3105 - ■ EK23 - ■ ■ N1		
<b>Z.49-LE90SM4P</b>								
27	380	52.14	5 630	0.83	27	2KJ3104 - ■ EK23 - ■ ■ B2		
30	345	47.40	5 850	0.92	27	2KJ3104 - ■ EK23 - ■ ■ A2		
35	295	40.31	5 950	1.1	27	2KJ3104 - ■ EK23 - ■ ■ X1		
39	270	36.65	6 000	1.2	27	2KJ3104 - ■ EK23 - ■ ■ W1		
44	240	32.70	5 900	1.3	27	2KJ3104 - ■ EK23 - ■ ■ V1		
49	215	29.32	5 750	1.5	27	2KJ3104 - ■ EK23 - ■ ■ U1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.1</b>								
<b>Z.49-LE90SM4P</b>								
	54	195	26.43	5 600	1.6	27	2KJ3104 - ■ EK23 - ■ ■ T1	
	58	180	24.39	5 500	1.8	27	2KJ3104 - ■ EK23 - ■ ■ S1	
	64	164	22.27	5 370	1.9	27	2KJ3104 - ■ EK23 - ■ ■ R1	
	77	136	18.48	5 120	2.3	27	2KJ3104 - ■ EK23 - ■ ■ Q1	
	82	128	17.39	5 040	2.5	27	2KJ3104 - ■ EK23 - ■ ■ P1	
	87	121	16.42	4 960	2.6	27	2KJ3104 - ■ EK23 - ■ ■ N1	
	102	103	13.98	4 750	3.1	27	2KJ3104 - ■ EK23 - ■ ■ M1	
	119	88	11.97	4 550	3.6	27	2KJ3104 - ■ EK23 - ■ ■ L1	
<b>Z.39-LE90SM4P</b>								
	42	250	33.97	2 160	0.80	18	2KJ3103 - ■ EK23 - ■ ■ U1	
	46	225	30.88	2 530	0.88	18	2KJ3103 - ■ EK23 - ■ ■ T1	
	52	200	27.30	2 820	0.99	18	2KJ3103 - ■ EK23 - ■ ■ S1	
	57	183	24.82	3 000	1.1	18	2KJ3103 - ■ EK23 - ■ ■ R1	
	66	160	21.74	3 250	1.2	18	2KJ3103 - ■ EK23 - ■ ■ Q1	
	71	148	20.07	3 360	1.4	18	2KJ3103 - ■ EK23 - ■ ■ P1	
	80	131	17.77	3 500	1.5	18	2KJ3103 - ■ EK23 - ■ ■ N1	
	96	109	14.79	3 650	1.8	18	2KJ3103 - ■ EK23 - ■ ■ M1	
	102	103	13.92	3 670	1.8	18	2KJ3103 - ■ EK23 - ■ ■ L1	
	114	92	12.47	3 720	2.0	18	2KJ3103 - ■ EK23 - ■ ■ K1	
	134	78	10.62	3 760	2.2	18	2KJ3103 - ■ EK23 - ■ ■ J1	
	157	67	9.10	3 740	2.4	18	2KJ3103 - ■ EK23 - ■ ■ H1	
	182	58	7.84	3 710	2.6	18	2KJ3103 - ■ EK23 - ■ ■ G1	
	221	48	6.46	3 330	3.1	18	2KJ3103 - ■ EK23 - ■ ■ F1	
	234	45	6.08	3 330	3.3	18	2KJ3103 - ■ EK23 - ■ ■ E1	
	261	40	5.45	3 310	3.5	18	2KJ3103 - ■ EK23 - ■ ■ D1	
	307	34	4.64	3 240	3.8	18	2KJ3103 - ■ EK23 - ■ ■ C1	
	358	29	3.98	3 100	4.1	18	2KJ3103 - ■ EK23 - ■ ■ B1	
	415	25	3.43	2 960	4.4	18	2KJ3103 - ■ EK23 - ■ ■ A1	
<b>Z.39-LE80ZMJ2P</b>								
	160	66	17.77	3 740	3.0	16	2KJ3103 - ■ DM23 - ■ ■ N1 P00	
	192	55	14.79	3 690	3.5	16	2KJ3103 - ■ DM23 - ■ ■ M1 P00	
	204	52	13.92	3 650	3.7	16	2KJ3103 - ■ DM23 - ■ ■ L1 P00	
	227	46	12.47	3 540	3.9	16	2KJ3103 - ■ DM23 - ■ ■ K1 P00	
	267	39	10.62	3 380	4.3	16	2KJ3103 - ■ DM23 - ■ ■ J1 P00	
	312	34	9.10	3 230	4.7	16	2KJ3103 - ■ DM23 - ■ ■ H1 P00	
	362	29	7.84	3 090	5.1	16	2KJ3103 - ■ DM23 - ■ ■ G1 P00	
<b>Z.29-LE90SM4P</b>								
	63	166	22.58	1 930	0.84	17	2KJ3102 - ■ EK23 - ■ ■ T1	
	72	146	19.80	2 190	0.96	17	2KJ3102 - ■ EK23 - ■ ■ S1	
	81	130	17.67	2 380	1.1	17	2KJ3102 - ■ EK23 - ■ ■ R1	
	90	116	15.75	2 540	1.2	17	2KJ3102 - ■ EK23 - ■ ■ Q1	
	98	107	14.54	2 630	1.1	17	2KJ3102 - ■ EK23 - ■ ■ P1	
	112	94	12.73	2 730	1.5	17	2KJ3102 - ■ EK23 - ■ ■ N1	
	128	82	11.16	2 750	1.7	17	2KJ3102 - ■ EK23 - ■ ■ M1	
	141	75	10.12	2 690	1.9	17	2KJ3102 - ■ EK23 - ■ ■ L1	
	150	70	9.53	2 660	2.0	17	2KJ3102 - ■ EK23 - ■ ■ K1	
	170	62	8.40	2 580	2.2	17	2KJ3102 - ■ EK23 - ■ ■ J1	
	195	54	7.29	2 490	2.4	17	2KJ3102 - ■ EK23 - ■ ■ H1	

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.1</b>								
<b>Z.29-LE90SM4P</b>								
206	51	6.92	2 390	1.5	17	2KJ3102 - ■ EK23 - ■ ■ G1		
235	45	6.06	2 310	2.2	17	2KJ3102 - ■ EK23 - ■ ■ F1		
268	39	5.31	2 240	2.3	17	2KJ3102 - ■ EK23 - ■ ■ E1		
296	36	4.82	2 180	2.4	17	2KJ3102 - ■ EK23 - ■ ■ D1		
314	34	4.54	2 150	2.5	17	2KJ3102 - ■ EK23 - ■ ■ C1		
356	30	4.00	2 080	2.6	17	2KJ3102 - ■ EK23 - ■ ■ B1		
411	26	3.47	2 000	2.7	17	2KJ3102 - ■ EK23 - ■ ■ A1		
<b>Z.29-LE80ZMJ2P</b>								
160	66	17.67	2 610	2.1	15	2KJ3102 - ■ DM23 - ■ ■ R1 P00		
180	58	15.75	2 540	2.4	15	2KJ3102 - ■ DM23 - ■ ■ Q1 P00		
195	54	14.54	2 490	2.2	15	2KJ3102 - ■ DM23 - ■ ■ P1 P00		
223	47	12.73	2 410	3.0	15	2KJ3102 - ■ DM23 - ■ ■ N1 P00		
254	41	11.16	2 330	3.4	15	2KJ3102 - ■ DM23 - ■ ■ M1 P00		
280	38	10.12	2 260	3.7	15	2KJ3102 - ■ DM23 - ■ ■ L1 P00		
297	35	9.53	2 230	4.0	15	2KJ3102 - ■ DM23 - ■ ■ K1 P00		
338	31	8.40	2 150	4.4	15	2KJ3102 - ■ DM23 - ■ ■ J1 P00		
389	27	7.29	2 070	4.8	15	2KJ3102 - ■ DM23 - ■ ■ H1 P00		
410	26	6.92	2 000	2.9	15	2KJ3102 - ■ DM23 - ■ ■ G1 P00		
468	22	6.06	1 930	4.5	15	2KJ3102 - ■ DM23 - ■ ■ F1 P00		
534	20	5.31	1 860	4.6	15	2KJ3102 - ■ DM23 - ■ ■ E1 P00		
588	18	4.82	1 810	4.8	15	2KJ3102 - ■ DM23 - ■ ■ D1 P00		
624	17	4.54	1 780	5.0	15	2KJ3102 - ■ DM23 - ■ ■ C1 P00		
709	15	4.00	1 710	5.1	15	2KJ3102 - ■ DM23 - ■ ■ B1 P00		
817	13	3.47	1 640	5.4	15	2KJ3102 - ■ DM23 - ■ ■ A1 P00		
<b>Z.19-LE80ZMJ2P</b>								
150	70	18.92	1 580	1.4	13	2KJ3101 - ■ DM23 - ■ ■ R1 P00		
172	61	16.50	1 550	1.6	13	2KJ3101 - ■ DM23 - ■ ■ Q1 P00		
192	55	14.77	1 520	1.7	13	2KJ3101 - ■ DM23 - ■ ■ P1 P00		
216	49	13.12	1 480	1.9	13	2KJ3101 - ■ DM23 - ■ ■ N1 P00		
234	45	12.11	1 460	2.0	13	2KJ3101 - ■ DM23 - ■ ■ M1 P00		
269	39	10.52	1 420	2.1	13	2KJ3101 - ■ DM23 - ■ ■ L1 P00		
310	34	9.14	1 380	2.3	13	2KJ3101 - ■ DM23 - ■ ■ K1 P00		
344	31	8.25	1 350	2.4	13	2KJ3101 - ■ DM23 - ■ ■ J1 P00		
365	29	7.76	1 330	2.5	13	2KJ3101 - ■ DM23 - ■ ■ H1 P00		
419	25	6.77	1 290	2.7	13	2KJ3101 - ■ DM23 - ■ ■ G1 P00		
454	23	6.25	1 180	2.4	13	2KJ3101 - ■ DM23 - ■ ■ F1 P00		
522	20	5.43	1 150	2.6	13	2KJ3101 - ■ DM23 - ■ ■ E1 P00		
602	18	4.71	1 110	2.8	13	2KJ3101 - ■ DM23 - ■ ■ D1 P00		
665	16	4.26	1 080	3.0	13	2KJ3101 - ■ DM23 - ■ ■ C1 P00		
707	15	4.01	1 070	3.1	13	2KJ3101 - ■ DM23 - ■ ■ B1 P00		
812	13	3.49	1 040	3.3	13	2KJ3101 - ■ DM23 - ■ ■ A1 P00		
<b>E.89-LE90SM4P</b>								
147	71	9.67	8 000	3.9	46	2KJ3004 - ■ EK23 - ■ ■ T1		
<b>E.69-LE90SM4P</b>								
153	69	9.30	6 100	1.8	30	2KJ3003 - ■ EK23 - ■ ■ S1		
169	62	8.45	6 100	1.7	30	2KJ3003 - ■ EK23 - ■ ■ R1		
188	56	7.58	6 100	3.7	30	2KJ3003 - ■ EK23 - ■ ■ Q1		
209	50	6.82	6 100	3.4	30	2KJ3003 - ■ EK23 - ■ ■ P1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
1.1	<b>E.69-LE90SM4P</b>							
	231	46	6.17	6 100	4.5	30	2KJ3003 - ■ EK23 - ■ ■ N1	
	250	42	5.69	6 100	3.9	30	2KJ3003 - ■ EK23 - ■ ■ M1	
	<b>E.49-LE90SM4P</b>							
	147	72	9.70	4 000	1.2	23	2KJ3002 - ■ EK23 - ■ ■ S1	
	162	65	8.82	4 000	1.7	23	2KJ3002 - ■ EK23 - ■ ■ R1	
	190	55	7.50	4 000	1.9	23	2KJ3002 - ■ EK23 - ■ ■ Q1	
	209	50	6.82	4 000	2.1	23	2KJ3002 - ■ EK23 - ■ ■ P1	
	234	45	6.08	4 000	2.3	23	2KJ3002 - ■ EK23 - ■ ■ N1	
	261	40	5.45	4 000	2.6	23	2KJ3002 - ■ EK23 - ■ ■ M1	
	290	36	4.92	4 000	2.8	23	2KJ3002 - ■ EK23 - ■ ■ L1	
	314	34	4.54	4 000	3.0	23	2KJ3002 - ■ EK23 - ■ ■ K1	
	344	30	4.14	4 000	3.3	23	2KJ3002 - ■ EK23 - ■ ■ J1	
	414	25	3.44	4 000	4.0	23	2KJ3002 - ■ EK23 - ■ ■ H1	
	440	24	3.24	4 000	4.2	23	2KJ3002 - ■ EK23 - ■ ■ G1	
	466	23	3.06	4 000	4.5	23	2KJ3002 - ■ EK23 - ■ ■ F1	
	548	19	2.60	3 930	5.3	23	2KJ3002 - ■ EK23 - ■ ■ E1	
	<b>E.39-LE90SM4P</b>							
	218	48	6.55	3 000	0.83	19	2KJ3001 - ■ EK23 - ■ ■ P1	
254	41	5.60	3 000	0.97	19	2KJ3001 - ■ EK23 - ■ ■ N1		
280	38	5.09	3 000	1.1	19	2KJ3001 - ■ EK23 - ■ ■ M1		
317	33	4.50	3 000	1.4	19	2KJ3001 - ■ EK23 - ■ ■ L1		
348	30	4.09	3 000	1.6	19	2KJ3001 - ■ EK23 - ■ ■ K1		
398	26	3.58	3 000	2.2	19	2KJ3001 - ■ EK23 - ■ ■ J1		
431	24	3.31	3 000	2.4	19	2KJ3001 - ■ EK23 - ■ ■ H1		
486	22	2.93	3 000	3.0	19	2KJ3001 - ■ EK23 - ■ ■ G1		
584	18	2.44	2 940	3.6	19	2KJ3001 - ■ EK23 - ■ ■ F1		
622	17	2.29	2 890	3.9	19	2KJ3001 - ■ EK23 - ■ ■ E1		
692	15	2.06	2 790	4.3	19	2KJ3001 - ■ EK23 - ■ ■ D1		
814	13	1.75	2 650	5.1	19	2KJ3001 - ■ EK23 - ■ ■ C1		
950	11	1.50	2 530	5.5	19	2KJ3001 - ■ EK23 - ■ ■ B1		
1 105	10	1.29	2 410	5.7	19	2KJ3001 - ■ EK23 - ■ ■ A1		
1.5	<b>D.149-LE100LLB6P</b>							
	3.0	4 850	328.38	52 700	1.6	275	2KJ3212 - ■ FM23 - ■ ■ W1	P01
	3.5	4 150	281.04	53 000	1.9	275	2KJ3212 - ■ FM23 - ■ ■ V1	P01
	3.7	3 900	264.51	53 100	2.0	275	2KJ3212 - ■ FM23 - ■ ■ U1	P01
	<b>D.129-LE100LLB6P</b>							
	2.6	5 500	373.00	26 700	0.91	191	2KJ3211 - ■ FM23 - ■ ■ S1	P01
	2.8	5 080	344.17	27 000	0.98	191	2KJ3211 - ■ FM23 - ■ ■ R1	P01
	3.1	4 680	316.90	27 200	1.1	191	2KJ3211 - ■ FM23 - ■ ■ Q1	P01
	3.6	3 990	270.24	27 600	1.3	191	2KJ3211 - ■ FM23 - ■ ■ P1	P01
	<b>D.129-LE90ZLR4P</b>							
	3.9	3 690	373.00	27 800	1.4	177	2KJ3211 - ■ EM23 - ■ ■ S1	
	4.2	3 410	344.17	28 000	1.5	177	2KJ3211 - ■ EM23 - ■ ■ R1	
	4.6	3 140	316.90	28 100	1.6	177	2KJ3211 - ■ EM23 - ■ ■ Q1	
	5.3	2 670	270.24	28 400	1.9	177	2KJ3211 - ■ EM23 - ■ ■ P1	
	5.7	2 520	254.34	28 500	2.0	177	2KJ3211 - ■ EM23 - ■ ■ N1	
	6.1	2 340	236.03	28 600	2.1	177	2KJ3211 - ■ EM23 - ■ ■ M1	
	<b>D.109-LE100LLB6P</b>							
	3.7	3 890	263.74	20 000	0.80	127	2KJ3210 - ■ FM23 - ■ ■ Q1	P01

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.5</b>	<b>D.109-LE90ZLR4P</b>							
	4.1	3 450	348.88	20 200	0.90	114	2KJ3210 - ■ EM23 - ■ ■ T1	
	4.6	3 120	314.98	20 200	0.99	114	2KJ3210 - ■ EM23 - ■ ■ S1	
	5.1	2 830	285.72	20 200	1.1	114	2KJ3210 - ■ EM23 - ■ ■ R1	
	5.5	2 610	263.74	20 200	1.2	114	2KJ3210 - ■ EM23 - ■ ■ Q1	
	6.0	2 370	239.75	20 200	1.3	114	2KJ3210 - ■ EM23 - ■ ■ P1	
	7.1	2 010	203.01	20 200	1.5	114	2KJ3210 - ■ EM23 - ■ ■ N1	
	7.6	1 890	191.07	20 200	1.6	114	2KJ3210 - ■ EM23 - ■ ■ M1	
	8.2	1 740	176.45	20 200	1.8	114	2KJ3210 - ■ EM23 - ■ ■ L1	
	9.2	1 550	157.00	20 200	2.0	114	2KJ3210 - ■ EM23 - ■ ■ K1	
10.0	1 380	139.44	20 200	2.2	114	2KJ3210 - ■ EM23 - ■ ■ J1		
<b>D.89-LE90ZLR4P</b>								
7.0	2 040	206.62	18 300	0.82	72	2KJ3208 - ■ EM23 - ■ ■ N1		
7.6	1 890	190.73	18 500	0.89	72	2KJ3208 - ■ EM23 - ■ ■ M1		
8.3	1 730	174.71	18 500	0.97	72	2KJ3208 - ■ EM23 - ■ ■ L1		
9.9	1 450	146.59	18 500	1.2	72	2KJ3208 - ■ EM23 - ■ ■ K1		
10	1 360	137.97	18 500	1.2	72	2KJ3208 - ■ EM23 - ■ ■ J1		
11	1 250	126.58	18 500	1.3	72	2KJ3208 - ■ EM23 - ■ ■ H1		
13	1 090	110.57	18 500	1.5	72	2KJ3208 - ■ EM23 - ■ ■ G1		
15	980	98.99	18 500	1.7	72	2KJ3208 - ■ EM23 - ■ ■ F1		
17	855	86.56	18 500	2.0	72	2KJ3208 - ■ EM23 - ■ ■ E1		
19	735	74.30	18 500	2.3	72	2KJ3208 - ■ EM23 - ■ ■ D1		
<b>D.79-LE90ZLR4P</b>								
14	1 030	104.03	11 000	0.81	49	2KJ3207 - ■ EM23 - ■ ■ F1		
16	875	88.52	13 300	0.96	49	2KJ3207 - ■ EM23 - ■ ■ E1		
19	750	75.83	13 500	1.1	49	2KJ3207 - ■ EM23 - ■ ■ D1		
22	660	66.67	13 600	1.3	49	2KJ3207 - ■ EM23 - ■ ■ C1		
<b>Z.79-LE90ZLR4P</b>								
27	540	54.47	13 800	1.6	48	2KJ3107 - ■ EM23 - ■ ■ A2		
29	490	49.52	13 800	1.7	48	2KJ3107 - ■ EM23 - ■ ■ X1		
33	440	44.42	13 900	1.9	48	2KJ3107 - ■ EM23 - ■ ■ W1		
36	395	39.94	14 000	2.1	48	2KJ3107 - ■ EM23 - ■ ■ V1		
40	355	36.12	14 000	2.3	48	2KJ3107 - ■ EM23 - ■ ■ U1		
43	330	33.34	14 000	2.5	48	2KJ3107 - ■ EM23 - ■ ■ T1		
47	300	30.54	14 100	2.8	48	2KJ3107 - ■ EM23 - ■ ■ S1		
<b>D.69-LE90ZLR4P</b>								
20	725	73.22	10 700	0.83	37	2KJ3206 - ■ EM23 - ■ ■ D1		
<b>Z.69-LE90ZLR4P</b>								
24	600	60.97	11 000	0.99	37	2KJ3106 - ■ EM23 - ■ ■ A2		
26	550	55.43	11 000	1.1	37	2KJ3106 - ■ EM23 - ■ ■ X1		
31	465	47.14	11 200	1.3	37	2KJ3106 - ■ EM23 - ■ ■ W1		
34	425	42.86	11 200	1.4	37	2KJ3106 - ■ EM23 - ■ ■ V1		
38	375	38.24	11 300	1.6	37	2KJ3106 - ■ EM23 - ■ ■ U1		
42	340	34.29	11 400	1.8	37	2KJ3106 - ■ EM23 - ■ ■ T1		
47	305	30.90	11 400	2.0	37	2KJ3106 - ■ EM23 - ■ ■ S1		
51	280	28.53	11 500	2.1	37	2KJ3106 - ■ EM23 - ■ ■ R1		
55	255	26.04	11 500	2.3	37	2KJ3106 - ■ EM23 - ■ ■ Q1		
67	210	21.61	11 600	2.8	37	2KJ3106 - ■ EM23 - ■ ■ P1		
71	200	20.34	11 600	3.0	37	2KJ3106 - ■ EM23 - ■ ■ N1		
75	190	19.21	11 600	3.2	37	2KJ3106 - ■ EM23 - ■ ■ M1		

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# SIMOGEAR geared motors

## Helical geared motors

### Geared motors up to 55 kW

#### Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.5</b>								
<b>Z.59-LE90ZLR4P</b>								
25	565	56.99	7 210	0.80	32	2KJ3105 - ■ EM23 - ■ ■ A2		
28	510	51.81	7 570	0.88	32	2KJ3105 - ■ EM23 - ■ ■ X1		
33	435	44.06	7 400	1.0	32	2KJ3105 - ■ EM23 - ■ ■ W1		
36	395	40.06	7 270	1.1	32	2KJ3105 - ■ EM23 - ■ ■ V1		
40	350	35.74	7 120	1.3	32	2KJ3105 - ■ EM23 - ■ ■ U1		
45	315	32.05	6 950	1.4	32	2KJ3105 - ■ EM23 - ■ ■ T1		
50	285	28.89	6 790	1.6	32	2KJ3105 - ■ EM23 - ■ ■ S1		
54	260	26.66	6 680	1.7	32	2KJ3105 - ■ EM23 - ■ ■ R1		
59	240	24.34	6 530	1.9	32	2KJ3105 - ■ EM23 - ■ ■ Q1		
72	200	20.20	6 240	2.2	32	2KJ3105 - ■ EM23 - ■ ■ P1		
76	188	19.01	6 140	2.4	32	2KJ3105 - ■ EM23 - ■ ■ N1		
81	178	17.95	6 050	2.5	32	2KJ3105 - ■ EM23 - ■ ■ M1		
95	151	15.27	5 800	3.0	32	2KJ3105 - ■ EM23 - ■ ■ L1		
110	130	13.09	5 560	3.5	32	2KJ3105 - ■ EM23 - ■ ■ K1		
<b>Z.49-LE90ZLR4P</b>								
36	400	40.31	5 300	0.80	30	2KJ3104 - ■ EM23 - ■ ■ X1		
39	360	36.65	5 650	0.88	30	2KJ3104 - ■ EM23 - ■ ■ W1		
44	320	32.70	5 550	0.99	30	2KJ3104 - ■ EM23 - ■ ■ V1		
49	290	29.32	5 070	1.1	30	2KJ3104 - ■ EM23 - ■ ■ U1		
55	260	26.43	5 320	1.2	30	2KJ3104 - ■ EM23 - ■ ■ T1		
59	240	24.39	5 230	1.3	30	2KJ3104 - ■ EM23 - ■ ■ S1		
65	220	22.27	5 120	1.4	30	2KJ3104 - ■ EM23 - ■ ■ R1		
78	183	18.48	4 910	1.7	30	2KJ3104 - ■ EM23 - ■ ■ Q1		
83	172	17.39	4 840	1.9	30	2KJ3104 - ■ EM23 - ■ ■ P1		
88	163	16.42	4 770	2.0	30	2KJ3104 - ■ EM23 - ■ ■ N1		
103	139	13.98	4 580	2.3	30	2KJ3104 - ■ EM23 - ■ ■ M1		
121	119	11.97	4 400	2.7	30	2KJ3104 - ■ EM23 - ■ ■ L1		
137	104	10.53	4 260	3.1	30	2KJ3104 - ■ EM23 - ■ ■ K1		
163	88	8.88	4 060	3.6	30	2KJ3104 - ■ EM23 - ■ ■ J1		
187	77	7.74	3 910	4.2	30	2KJ3104 - ■ EM23 - ■ ■ H1		
189	76	7.64	3 870	3.9	30	2KJ3104 - ■ EM23 - ■ ■ G1		
200	72	7.21	3 800	4.1	30	2KJ3104 - ■ EM23 - ■ ■ F1		
235	61	6.14	3 640	4.4	30	2KJ3104 - ■ EM23 - ■ ■ E1		
275	52	5.26	3 480	4.7	30	2KJ3104 - ■ EM23 - ■ ■ D1		
313	46	4.62	3 350	4.9	30	2KJ3104 - ■ EM23 - ■ ■ C1		
371	39	3.90	3 180	5.3	30	2KJ3104 - ■ EM23 - ■ ■ B1		
<b>Z.49-LE90SM2P</b>								
156	92	18.48	4 110	3.5	27	2KJ3104 - ■ EK23 - ■ ■ Q1	P00	
166	86	17.39	4 040	3.7	27	2KJ3104 - ■ EK23 - ■ ■ P1	P00	
176	82	16.42	3 970	3.9	27	2KJ3104 - ■ EK23 - ■ ■ N1	P00	
<b>Z.39-LE90ZLR4P</b>								
58	245	24.82	1 420	0.81	21	2KJ3103 - ■ EM23 - ■ ■ R1		
66	215	21.74	1 840	0.93	21	2KJ3103 - ■ EM23 - ■ ■ Q1		
72	199	20.07	2 050	1.0	21	2KJ3103 - ■ EM23 - ■ ■ P1		
81	176	17.77	2 350	1.1	21	2KJ3103 - ■ EM23 - ■ ■ N1		
98	147	14.79	2 670	1.3	21	2KJ3103 - ■ EM23 - ■ ■ M1		
104	138	13.92	2 770	1.4	21	2KJ3103 - ■ EM23 - ■ ■ L1		
116	124	12.47	2 890	1.5	21	2KJ3103 - ■ EM23 - ■ ■ K1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.5</b>	<b>Z.39-LE90ZLR4P</b>							
	136	105	10.62	3 060	1.6	21	2KJ3103 - ■ EM23 - ■ ■ J1	
	159	90	9.10	3 150	1.8	21	2KJ3103 - ■ EM23 - ■ ■ H1	
	184	78	7.84	3 180	1.9	21	2KJ3103 - ■ EM23 - ■ ■ G1	
	224	64	6.46	2 810	2.3	21	2KJ3103 - ■ EM23 - ■ ■ F1	
	238	60	6.08	2 840	2.4	21	2KJ3103 - ■ EM23 - ■ ■ E1	
	265	54	5.45	2 850	2.6	21	2KJ3103 - ■ EM23 - ■ ■ D1	
	311	46	4.64	2 870	2.8	21	2KJ3103 - ■ EM23 - ■ ■ C1	
	363	40	3.98	2 840	3.1	21	2KJ3103 - ■ EM23 - ■ ■ B1	
	421	34	3.43	2 830	3.3	21	2KJ3103 - ■ EM23 - ■ ■ A1	
<b>Z.39-LE90SM2P</b>								
162	88	17.77	3 160	2.3	18	2KJ3103 - ■ EK23 - ■ ■ N1	P00	
195	73	14.79	3 210	2.6	18	2KJ3103 - ■ EK23 - ■ ■ M1	P00	
207	69	13.92	3 210	2.7	18	2KJ3103 - ■ EK23 - ■ ■ L1	P00	
231	62	12.47	3 210	2.9	18	2KJ3103 - ■ EK23 - ■ ■ K1	P00	
272	53	10.62	3 180	3.2	18	2KJ3103 - ■ EK23 - ■ ■ J1	P00	
317	45	9.10	3 150	3.5	18	2KJ3103 - ■ EK23 - ■ ■ H1	P00	
368	39	7.84	3 020	3.8	18	2KJ3103 - ■ EK23 - ■ ■ G1	P00	
447	32	6.46	2 820	4.6	18	2KJ3103 - ■ EK23 - ■ ■ F1	P00	
475	30	6.08	2 800	4.9	18	2KJ3103 - ■ EK23 - ■ ■ E1	P00	
529	27	5.45	2 710	5.2	18	2KJ3103 - ■ EK23 - ■ ■ D1	P00	
622	23	4.64	2 580	5.6	18	2KJ3103 - ■ EK23 - ■ ■ C1	P00	
725	20	3.98	2 460	6.1	18	2KJ3103 - ■ EK23 - ■ ■ B1	P00	
<b>Z.29-LE90ZLR4P</b>								
82	175	17.67	1 170	0.80	20	2KJ3102 - ■ EM23 - ■ ■ R1		
92	156	15.75	1 450	0.90	20	2KJ3102 - ■ EM23 - ■ ■ Q1		
99	144	14.54	1 620	0.83	20	2KJ3102 - ■ EM23 - ■ ■ P1		
114	126	12.73	1 860	1.1	20	2KJ3102 - ■ EM23 - ■ ■ N1		
129	111	11.16	2 040	1.3	20	2KJ3102 - ■ EM23 - ■ ■ M1		
143	100	10.12	2 170	1.4	20	2KJ3102 - ■ EM23 - ■ ■ L1		
152	94	9.53	2 230	1.5	20	2KJ3102 - ■ EM23 - ■ ■ K1		
172	83	8.40	2 330	1.7	20	2KJ3102 - ■ EM23 - ■ ■ J1		
198	72	7.29	2 370	1.8	20	2KJ3102 - ■ EM23 - ■ ■ H1		
209	69	6.92	2 100	1.1	20	2KJ3102 - ■ EM23 - ■ ■ G1		
238	60	6.06	2 190	1.7	20	2KJ3102 - ■ EM23 - ■ ■ F1		
272	53	5.31	2 130	1.7	20	2KJ3102 - ■ EM23 - ■ ■ E1		
300	48	4.82	2 090	1.8	20	2KJ3102 - ■ EM23 - ■ ■ D1		
318	45	4.54	2 060	1.9	20	2KJ3102 - ■ EM23 - ■ ■ C1		
361	40	4.00	1 990	1.9	20	2KJ3102 - ■ EM23 - ■ ■ B1		
416	34	3.47	1 930	2.0	20	2KJ3102 - ■ EM23 - ■ ■ A1		
<b>Z.29-LE90SM2P</b>								
163	88	17.67	2 280	1.6	17	2KJ3102 - ■ EK23 - ■ ■ R1	P00	
183	78	15.75	2 370	1.8	17	2KJ3102 - ■ EK23 - ■ ■ Q1	P00	
198	72	14.54	2 370	1.7	17	2KJ3102 - ■ EK23 - ■ ■ P1	P00	
227	63	12.73	2 300	2.2	17	2KJ3102 - ■ EK23 - ■ ■ N1	P00	
259	55	11.16	2 230	2.5	17	2KJ3102 - ■ EK23 - ■ ■ M1	P00	
285	50	10.12	2 180	2.8	17	2KJ3102 - ■ EK23 - ■ ■ L1	P00	
303	47	9.53	2 150	3.0	17	2KJ3102 - ■ EK23 - ■ ■ K1	P00	
343	42	8.40	2 080	3.3	17	2KJ3102 - ■ EK23 - ■ ■ J1	P00	

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
1.5	<b>Z.29-LE90SM2P</b>							
	396	36	7.29	2 000	3.6	17	2KJ3102 - ■ EK23 - ■ ■ H1	P00
	417	34	6.92	1 930	2.2	17	2KJ3102 - ■ EK23 - ■ ■ G1	P00
	476	30	6.06	1 860	3.3	17	2KJ3102 - ■ EK23 - ■ ■ F1	P00
	543	26	5.31	1 800	3.5	17	2KJ3102 - ■ EK23 - ■ ■ E1	P00
	599	24	4.82	1 750	3.6	17	2KJ3102 - ■ EK23 - ■ ■ D1	P00
	635	22	4.54	1 730	3.7	17	2KJ3102 - ■ EK23 - ■ ■ C1	P00
	721	20	4.00	1 670	3.8	17	2KJ3102 - ■ EK23 - ■ ■ B1	P00
831	17	3.47	1 600	4.1	17	2KJ3102 - ■ EK23 - ■ ■ A1	P00	
<b>E.89-LE90ZLR4P</b>								
149	96	9.67	8 000	2.9	49	2KJ3004 - ■ EM23 - ■ ■ T1		
166	86	8.73	8 000	3.2	49	2KJ3004 - ■ EM23 - ■ ■ S1		
182	78	7.92	8 000	3.6	49	2KJ3004 - ■ EM23 - ■ ■ R1		
198	72	7.31	8 000	3.6	49	2KJ3004 - ■ EM23 - ■ ■ Q1		
218	66	6.64	8 000	3.9	49	2KJ3004 - ■ EM23 - ■ ■ P1		
273	52	5.29	8 000	4.0	49	2KJ3004 - ■ EM23 - ■ ■ M1		
<b>E.69-LE90ZLR4P</b>								
155	92	9.30	6 100	1.3	33	2KJ3003 - ■ EM23 - ■ ■ S1		
171	84	8.45	6 100	1.3	33	2KJ3003 - ■ EM23 - ■ ■ R1		
191	75	7.58	6 100	2.7	33	2KJ3003 - ■ EM23 - ■ ■ Q1		
212	68	6.82	6 100	2.5	33	2KJ3003 - ■ EM23 - ■ ■ P1		
234	61	6.17	6 100	3.4	33	2KJ3003 - ■ EM23 - ■ ■ N1		
254	56	5.69	6 100	2.9	33	2KJ3003 - ■ EM23 - ■ ■ M1		
277	52	5.21	6 100	3.9	33	2KJ3003 - ■ EM23 - ■ ■ L1		
330	43	4.38	6 100	4.6	33	2KJ3003 - ■ EM23 - ■ ■ K1		
351	41	4.12	6 100	4.0	33	2KJ3003 - ■ EM23 - ■ ■ J1		
382	38	3.78	6 100	5.3	33	2KJ3003 - ■ EM23 - ■ ■ H1		
<b>E.49-LE90ZLR4P</b>								
149	96	9.70	4 000	0.89	26	2KJ3002 - ■ EM23 - ■ ■ S1		
164	87	8.82	4 000	1.2	26	2KJ3002 - ■ EM23 - ■ ■ R1		
193	74	7.50	4 000	1.4	26	2KJ3002 - ■ EM23 - ■ ■ Q1		
212	68	6.82	4 000	1.5	26	2KJ3002 - ■ EM23 - ■ ■ P1		
238	60	6.08	4 000	1.7	26	2KJ3002 - ■ EM23 - ■ ■ N1		
265	54	5.45	4 000	1.9	26	2KJ3002 - ■ EM23 - ■ ■ M1		
294	49	4.92	4 000	2.1	26	2KJ3002 - ■ EM23 - ■ ■ L1		
318	45	4.54	4 000	2.3	26	2KJ3002 - ■ EM23 - ■ ■ K1		
349	41	4.14	4 000	2.5	26	2KJ3002 - ■ EM23 - ■ ■ J1		
420	34	3.44	4 000	3.0	26	2KJ3002 - ■ EM23 - ■ ■ H1		
446	32	3.24	4 000	3.1	26	2KJ3002 - ■ EM23 - ■ ■ G1		
472	30	3.06	4 000	3.3	26	2KJ3002 - ■ EM23 - ■ ■ F1		
556	26	2.60	3 860	4.0	26	2KJ3002 - ■ EM23 - ■ ■ E1		
648	22	2.23	3 690	4.6	26	2KJ3002 - ■ EM23 - ■ ■ D1		
737	19	1.96	3 540	5.3	26	2KJ3002 - ■ EM23 - ■ ■ C1		
876	16	1.65	3 360	6.3	26	2KJ3002 - ■ EM23 - ■ ■ B1		
<b>E.39-LE90ZLR4P</b>								
321	45	4.50	3 000	1.1	22	2KJ3001 - ■ EM23 - ■ ■ L1		
353	40	4.09	3 000	1.2	22	2KJ3001 - ■ EM23 - ■ ■ K1		
404	36	3.58	3 000	1.6	22	2KJ3001 - ■ EM23 - ■ ■ J1		
437	33	3.31	3 000	1.8	22	2KJ3001 - ■ EM23 - ■ ■ H1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
1.5	<b>E.39-LE90ZLR4P</b>							
	493	29	2.93	3 000	2.2	22	2KJ3001 - ■ EM23 - ■ ■ G1	
	592	24	2.44	2 870	2.7	22	2KJ3001 - ■ EM23 - ■ ■ F1	
	631	23	2.29	2 820	2.9	22	2KJ3001 - ■ EM23 - ■ ■ E1	
	701	20	2.06	2 730	3.2	22	2KJ3001 - ■ EM23 - ■ ■ D1	
	826	17	1.75	2 600	3.8	22	2KJ3001 - ■ EM23 - ■ ■ C1	
	963	15	1.50	2 480	4.1	22	2KJ3001 - ■ EM23 - ■ ■ B1	
	1 120	13	1.29	2 370	4.2	22	2KJ3001 - ■ EM23 - ■ ■ A1	
2.2	<b>D.169-LE112ZMKB6P</b>							
	3.0	7 080	327.18	72 700	2.0	458	2KJ3213 - ■ GJ23 - ■ ■ V1	P01
	<b>D.149-LE112ZMKB6P</b>							
	3.0	7 110	328.38	51 600	1.1	280	2KJ3212 - ■ GJ23 - ■ ■ W1	P01
	3.5	6 080	281.04	52 100	1.3	280	2KJ3212 - ■ GJ23 - ■ ■ V1	P01
	3.7	5 720	264.51	52 300	1.4	280	2KJ3212 - ■ GJ23 - ■ ■ U1	P01
	3.9	5 370	247.95	52 400	1.5	280	2KJ3212 - ■ GJ23 - ■ ■ T1	P01
	<b>D.149-LE100ZLSA4P</b>							
	4.5	4 700	328.38	52 700	1.7	278	2KJ3212 - ■ FN23 - ■ ■ W1	
	5.2	4 030	281.04	53 100	2.0	278	2KJ3212 - ■ FN23 - ■ ■ V1	
	5.5	3 790	264.51	53 200	2.1	278	2KJ3212 - ■ FN23 - ■ ■ U1	
	<b>D.129-LE112ZMKB6P</b>							
	3.6	5 850	270.24	26 500	0.85	194	2KJ3211 - ■ GJ23 - ■ ■ P1	P01
	<b>D.129-LE100ZLSA4P</b>							
	3.9	5 340	373.00	26 800	0.93	194	2KJ3211 - ■ FN23 - ■ ■ S1	
	4.3	4 930	344.17	27 100	1.0	194	2KJ3211 - ■ FN23 - ■ ■ R1	
	4.6	4 540	316.90	27 300	1.1	194	2KJ3211 - ■ FN23 - ■ ■ Q1	
	5.4	3 870	270.24	27 700	1.3	194	2KJ3211 - ■ FN23 - ■ ■ P1	
	5.8	3 640	254.34	27 800	1.4	194	2KJ3211 - ■ FN23 - ■ ■ N1	
	6.2	3 380	236.03	28 000	1.5	194	2KJ3211 - ■ FN23 - ■ ■ M1	
	7.0	2 990	208.67	28 200	1.7	194	2KJ3211 - ■ FN23 - ■ ■ L1	
	7.9	2 670	186.28	28 400	1.9	194	2KJ3211 - ■ FN23 - ■ ■ K1	
	8.7	2 400	167.63	28 500	2.1	194	2KJ3211 - ■ FN23 - ■ ■ J1	
	<b>D.109-LE100ZLSA4P</b>							
	5.6	3 780	263.74	20 100	0.82	130	2KJ3210 - ■ FN23 - ■ ■ Q1	
	6.1	3 430	239.75	20 200	0.90	130	2KJ3210 - ■ FN23 - ■ ■ P1	
	7.2	2 910	203.01	20 200	1.1	130	2KJ3210 - ■ FN23 - ■ ■ N1	
	7.7	2 740	191.07	20 200	1.1	130	2KJ3210 - ■ FN23 - ■ ■ M1	
	8.3	2 530	176.45	20 200	1.2	130	2KJ3210 - ■ FN23 - ■ ■ L1	
	9.3	2 250	157.00	20 200	1.4	130	2KJ3210 - ■ FN23 - ■ ■ K1	
	11	2 000	139.44	20 200	1.6	130	2KJ3210 - ■ FN23 - ■ ■ J1	
	12	1 790	124.82	20 200	1.7	130	2KJ3210 - ■ FN23 - ■ ■ H1	
	14	1 530	106.70	20 200	2.0	130	2KJ3210 - ■ FN23 - ■ ■ G1	
<b>D.89-LE100ZLSA4P</b>								
10	2 100	146.59	17 900	0.80	88	2KJ3208 - ■ FN23 - ■ ■ K1		
11	1 970	137.97	18 500	0.85	88	2KJ3208 - ■ FN23 - ■ ■ J1		
12	1 810	126.58	18 500	0.93	88	2KJ3208 - ■ FN23 - ■ ■ H1		
13	1 580	110.57	18 500	1.1	88	2KJ3208 - ■ FN23 - ■ ■ G1		
15	1 420	98.99	18 500	1.2	88	2KJ3208 - ■ FN23 - ■ ■ F1		
17	1 240	86.56	18 500	1.4	88	2KJ3208 - ■ FN23 - ■ ■ E1		
20	1 060	74.30	18 500	1.6	88	2KJ3208 - ■ FN23 - ■ ■ D1		
22	940	65.67	18 500	1.8	88	2KJ3208 - ■ FN23 - ■ ■ C1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>	<b>Z.89-LE100ZLSA4P</b>							
	26	820	57.36	18 500	2.0	87	2KJ3108 - ■ FN23 - ■ ■ A2	
	28	740	51.78	18 500	2.3	87	2KJ3108 - ■ FN23 - ■ ■ X1	
	31	670	46.97	18 500	2.5	87	2KJ3108 - ■ FN23 - ■ ■ W1	
	<b>D.79-LE100ZLSA4P</b>							
	22	955	66.67	12 200	0.88	65	2KJ3207 - ■ FN23 - ■ ■ C1	
	26	805	56.25	13 400	1.0	65	2KJ3207 - ■ FN23 - ■ ■ B1	
	30	700	49.02	13 600	1.2	65	2KJ3207 - ■ FN23 - ■ ■ A1	
	<b>Z.79-LE100ZLSA4P</b>							
	33	635	44.42	13 600	1.3	64	2KJ3107 - ■ FN23 - ■ ■ W1	
	37	570	39.94	13 700	1.5	64	2KJ3107 - ■ FN23 - ■ ■ V1	
	41	515	36.12	13 800	1.6	64	2KJ3107 - ■ FN23 - ■ ■ U1	
	44	475	33.34	13 900	1.8	64	2KJ3107 - ■ FN23 - ■ ■ T1	
	48	435	30.54	13 900	1.9	64	2KJ3107 - ■ FN23 - ■ ■ S1	
	57	365	25.62	14 000	2.3	64	2KJ3107 - ■ FN23 - ■ ■ R1	
	61	345	24.12	14 000	2.4	64	2KJ3107 - ■ FN23 - ■ ■ Q1	
	66	315	22.13	14 100	2.6	64	2KJ3107 - ■ FN23 - ■ ■ P1	
	76	275	19.33	13 600	3.0	64	2KJ3107 - ■ FN23 - ■ ■ N1	
	<b>D.69-LE100ZLSA4P</b>							
	32	660	46.01	10 800	0.91	55	2KJ3206 - ■ FN23 - ■ ■ A1	
	<b>Z.69-LE100ZLSA4P</b>							
	38	545	38.24	11 100	1.1	55	2KJ3106 - ■ FN23 - ■ ■ U1	
	43	490	34.29	11 100	1.2	55	2KJ3106 - ■ FN23 - ■ ■ T1	
	47	440	30.90	11 200	1.4	55	2KJ3106 - ■ FN23 - ■ ■ S1	
	51	405	28.53	11 300	1.5	55	2KJ3106 - ■ FN23 - ■ ■ R1	
	56	370	26.04	11 300	1.6	55	2KJ3106 - ■ FN23 - ■ ■ Q1	
	68	310	21.61	11 400	1.9	55	2KJ3106 - ■ FN23 - ■ ■ P1	
	72	290	20.34	11 400	2.1	55	2KJ3106 - ■ FN23 - ■ ■ N1	
	76	275	19.21	11 500	2.2	55	2KJ3106 - ■ FN23 - ■ ■ M1	
	90	230	16.34	11 000	2.6	55	2KJ3106 - ■ FN23 - ■ ■ L1	
	105	200	14.00	10 500	3.0	55	2KJ3106 - ■ FN23 - ■ ■ K1	
	119	177	12.31	10 100	3.4	55	2KJ3106 - ■ FN23 - ■ ■ J1	
	172	122	8.50	9 070	3.7	55	2KJ3106 - ■ FN23 - ■ ■ F1	
	203	104	7.23	8 630	4.3	55	2KJ3106 - ■ FN23 - ■ ■ E1	
	<b>Z.59-LE100ZLSA4P</b>							
	41	510	35.74	6 450	0.88	50	2KJ3105 - ■ FN23 - ■ ■ U1	
	46	460	32.05	5 980	0.98	50	2KJ3105 - ■ FN23 - ■ ■ T1	
	51	410	28.89	6 260	1.1	50	2KJ3105 - ■ FN23 - ■ ■ S1	
	55	380	26.66	6 170	1.2	50	2KJ3105 - ■ FN23 - ■ ■ R1	
	60	345	24.34	6 080	1.3	50	2KJ3105 - ■ FN23 - ■ ■ Q1	
	73	290	20.20	5 850	1.6	50	2KJ3105 - ■ FN23 - ■ ■ P1	
	77	270	19.01	5 790	1.7	50	2KJ3105 - ■ FN23 - ■ ■ N1	
	82	255	17.95	5 720	1.7	50	2KJ3105 - ■ FN23 - ■ ■ M1	
	96	215	15.27	5 520	2.1	50	2KJ3105 - ■ FN23 - ■ ■ L1	
	112	188	13.09	5 310	2.4	50	2KJ3105 - ■ FN23 - ■ ■ K1	
	127	165	11.51	5 140	2.7	50	2KJ3105 - ■ FN23 - ■ ■ J1	
	151	139	9.71	4 930	3.2	50	2KJ3105 - ■ FN23 - ■ ■ H1	
	173	121	8.46	4 750	3.7	50	2KJ3105 - ■ FN23 - ■ ■ G1	
	182	116	8.07	4 660	3.5	50	2KJ3105 - ■ FN23 - ■ ■ F1	
	214	98	6.86	4 470	4.2	50	2KJ3105 - ■ FN23 - ■ ■ E1	

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$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>	<b>Z.59-LE90ZLR2P</b>							
	152	138	19.01	4 920	3.3	32	2KJ3105 - ■ EM23 - ■ ■ N1	P00
	161	130	17.95	4 850	3.4	32	2KJ3105 - ■ EM23 - ■ ■ M1	P00
	189	111	15.27	4 640	4.1	32	2KJ3105 - ■ EM23 - ■ ■ L1	P00
	<b>Z.49-LE100ZLSA4P</b>							
	55	375	26.43	4 830	0.84	48	2KJ3104 - ■ FN23 - ■ ■ T1	
	60	350	24.39	4 770	0.91	48	2KJ3104 - ■ FN23 - ■ ■ S1	
	66	315	22.27	4 720	1.0	48	2KJ3104 - ■ FN23 - ■ ■ R1	
	79	265	18.48	4 560	1.2	48	2KJ3104 - ■ FN23 - ■ ■ Q1	
	84	245	17.39	4 170	1.3	48	2KJ3104 - ■ FN23 - ■ ■ P1	
	89	235	16.42	4 230	1.4	48	2KJ3104 - ■ FN23 - ■ ■ N1	
	105	200	13.98	4 320	1.6	48	2KJ3104 - ■ FN23 - ■ ■ M1	
	122	172	11.97	4 170	1.9	48	2KJ3104 - ■ FN23 - ■ ■ L1	
	139	151	10.53	4 050	2.1	48	2KJ3104 - ■ FN23 - ■ ■ K1	
	165	127	8.88	3 890	2.5	48	2KJ3104 - ■ FN23 - ■ ■ J1	
	189	111	7.74	3 750	2.9	48	2KJ3104 - ■ FN23 - ■ ■ H1	
	192	110	7.64	3 700	2.7	48	2KJ3104 - ■ FN23 - ■ ■ G1	
	203	103	7.21	3 650	2.8	48	2KJ3104 - ■ FN23 - ■ ■ F1	
	239	88	6.14	3 500	3.0	48	2KJ3104 - ■ FN23 - ■ ■ E1	
	279	75	5.26	3 360	3.2	48	2KJ3104 - ■ FN23 - ■ ■ D1	
	317	66	4.62	3 250	3.4	48	2KJ3104 - ■ FN23 - ■ ■ C1	
	376	56	3.90	3 090	3.7	48	2KJ3104 - ■ FN23 - ■ ■ B1	
	431	49	3.40	2 970	3.9	48	2KJ3104 - ■ FN23 - ■ ■ A1	
	<b>Z.49-LE90ZLR2P</b>							
	156	134	18.48	3 940	2.4	30	2KJ3104 - ■ EM23 - ■ ■ Q1	P00
	166	126	17.39	3 880	2.5	30	2KJ3104 - ■ EM23 - ■ ■ P1	P00
	176	119	16.42	3 830	2.7	30	2KJ3104 - ■ EM23 - ■ ■ N1	P00
	207	102	13.98	3 670	3.1	30	2KJ3104 - ■ EM23 - ■ ■ M1	P00
	241	87	11.97	3 520	3.7	30	2KJ3104 - ■ EM23 - ■ ■ L1	P00
	274	77	10.53	3 400	4.2	30	2KJ3104 - ■ EM23 - ■ ■ K1	P00
	325	65	8.88	3 240	5.0	30	2KJ3104 - ■ EM23 - ■ ■ J1	P00
	378	56	7.64	3 090	5.3	30	2KJ3104 - ■ EM23 - ■ ■ G1	P00
	<b>Z.39-LE100ZLSA4P</b>							
	99	210	14.79	1 070	0.91	36	2KJ3103 - ■ FN23 - ■ ■ M1	
	105	200	13.92	1 190	0.95	36	2KJ3103 - ■ FN23 - ■ ■ L1	
	117	179	12.47	1 490	1.0	36	2KJ3103 - ■ FN23 - ■ ■ K1	
	138	152	10.62	1 860	1.1	36	2KJ3103 - ■ FN23 - ■ ■ J1	
	161	131	9.10	2 100	1.2	36	2KJ3103 - ■ FN23 - ■ ■ H1	
	187	112	7.84	2 310	1.3	36	2KJ3103 - ■ FN23 - ■ ■ G1	
	227	93	6.46	1 880	1.6	36	2KJ3103 - ■ FN23 - ■ ■ F1	
	241	87	6.08	1 970	1.7	36	2KJ3103 - ■ FN23 - ■ ■ E1	
	269	78	5.45	2 080	1.8	36	2KJ3103 - ■ FN23 - ■ ■ D1	
	316	66	4.64	2 220	2.0	36	2KJ3103 - ■ FN23 - ■ ■ C1	
	368	57	3.98	2 290	2.1	36	2KJ3103 - ■ FN23 - ■ ■ B1	
	427	49	3.43	2 340	2.3	36	2KJ3103 - ■ FN23 - ■ ■ A1	
	<b>Z.39-LE90ZLR2P</b>							
	163	129	17.77	2 130	1.5	21	2KJ3103 - ■ EM23 - ■ ■ N1	P00
	195	108	14.79	2 330	1.8	21	2KJ3103 - ■ EM23 - ■ ■ M1	P00
	208	101	13.92	2 410	1.9	21	2KJ3103 - ■ EM23 - ■ ■ L1	P00

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>								
<b>Z.39-LE90ZLR2P</b>								
232	91	12.47	2 480	2.0	21	2KJ3103 - ■ EM23 - ■ ■ K1	P00	
272	77	10.62	2 580	2.2	21	2KJ3103 - ■ EM23 - ■ ■ J1	P00	
318	66	9.10	2 630	2.4	21	2KJ3103 - ■ EM23 - ■ ■ H1	P00	
369	57	7.84	2 650	2.6	21	2KJ3103 - ■ EM23 - ■ ■ G1	P00	
447	47	6.46	2 350	3.1	21	2KJ3103 - ■ EM23 - ■ ■ F1	P00	
475	44	6.08	2 360	3.3	21	2KJ3103 - ■ EM23 - ■ ■ E1	P00	
530	40	5.45	2 350	3.5	21	2KJ3103 - ■ EM23 - ■ ■ D1	P00	
623	34	4.64	2 350	3.9	21	2KJ3103 - ■ EM23 - ■ ■ C1	P00	
726	29	3.98	2 340	4.2	21	2KJ3103 - ■ EM23 - ■ ■ B1	P00	
843	25	3.43	2 310	4.5	21	2KJ3103 - ■ EM23 - ■ ■ A1	P00	
<b>Z.29-LE100ZLSA4P</b>								
131	160	11.16	715	0.87	34	2KJ3102 - ■ FN23 - ■ ■ M1		
145	145	10.12	955	0.96	34	2KJ3102 - ■ FN23 - ■ ■ L1		
154	137	9.53	1 070	1.0	34	2KJ3102 - ■ FN23 - ■ ■ K1		
174	120	8.40	1 330	1.1	34	2KJ3102 - ■ FN23 - ■ ■ J1		
201	105	7.29	1 520	1.2	34	2KJ3102 - ■ FN23 - ■ ■ H1		
242	87	6.06	1 340	1.2	34	2KJ3102 - ■ FN23 - ■ ■ F1		
276	76	5.31	1 510	1.2	34	2KJ3102 - ■ FN23 - ■ ■ E1		
304	69	4.82	1 600	1.2	34	2KJ3102 - ■ FN23 - ■ ■ D1		
323	65	4.54	1 650	1.3	34	2KJ3102 - ■ FN23 - ■ ■ C1		
366	57	4.00	1 750	1.3	34	2KJ3102 - ■ FN23 - ■ ■ B1		
422	50	3.47	1 800	1.4	34	2KJ3102 - ■ FN23 - ■ ■ A1		
<b>Z.29-LE90ZLR2P</b>								
164	128	17.67	1 210	1.1	20	2KJ3102 - ■ EM23 - ■ ■ R1	P00	
183	115	15.75	1 380	1.2	20	2KJ3102 - ■ EM23 - ■ ■ Q1	P00	
199	106	14.54	1 510	1.1	20	2KJ3102 - ■ EM23 - ■ ■ P1	P00	
227	92	12.73	1 690	1.5	20	2KJ3102 - ■ EM23 - ■ ■ N1	P00	
259	81	11.16	1 800	1.7	20	2KJ3102 - ■ EM23 - ■ ■ M1	P00	
286	74	10.12	1 860	1.9	20	2KJ3102 - ■ EM23 - ■ ■ L1	P00	
303	69	9.53	1 920	2.0	20	2KJ3102 - ■ EM23 - ■ ■ K1	P00	
344	61	8.40	1 970	2.3	20	2KJ3102 - ■ EM23 - ■ ■ J1	P00	
396	53	7.29	1 900	2.5	20	2KJ3102 - ■ EM23 - ■ ■ H1	P00	
418	50	6.92	1 820	1.5	20	2KJ3102 - ■ EM23 - ■ ■ G1	P00	
477	44	6.06	1 770	2.3	20	2KJ3102 - ■ EM23 - ■ ■ F1	P00	
544	39	5.31	1 710	2.4	20	2KJ3102 - ■ EM23 - ■ ■ E1	P00	
600	35	4.82	1 680	2.5	20	2KJ3102 - ■ EM23 - ■ ■ D1	P00	
637	33	4.54	1 650	2.5	20	2KJ3102 - ■ EM23 - ■ ■ C1	P00	
722	29	4.00	1 600	2.6	20	2KJ3102 - ■ EM23 - ■ ■ B1	P00	
833	25	3.47	1 550	2.8	20	2KJ3102 - ■ EM23 - ■ ■ A1	P00	
<b>E.89-LE100ZLSA4P</b>								
151	139	9.67	8 000	2.0	65	2KJ3004 - ■ FN23 - ■ ■ T1		
168	125	8.73	8 000	2.2	65	2KJ3004 - ■ FN23 - ■ ■ S1		
185	114	7.92	8 000	2.5	65	2KJ3004 - ■ FN23 - ■ ■ R1		
200	105	7.31	8 000	2.5	65	2KJ3004 - ■ FN23 - ■ ■ Q1		
221	95	6.64	8 000	2.7	65	2KJ3004 - ■ FN23 - ■ ■ P1		
261	81	5.62	8 000	4.0	65	2KJ3004 - ■ FN23 - ■ ■ N1		
277	76	5.29	8 000	2.8	65	2KJ3004 - ■ FN23 - ■ ■ M1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>2.2</b>	<b>E.69-LE100ZLSA4P</b>								
	193	109		7.58	6 100	1.9	51	2KJ3003 - ■ FN23 - ■ ■ Q1	
	215	98		6.82	6 100	1.7	51	2KJ3003 - ■ FN23 - ■ ■ P1	
	237	88		6.17	6 100	2.3	51	2KJ3003 - ■ FN23 - ■ ■ N1	
	257	82		5.69	6 100	2.0	51	2KJ3003 - ■ FN23 - ■ ■ M1	
	281	75		5.21	6 100	2.7	51	2KJ3003 - ■ FN23 - ■ ■ L1	
	334	63		4.38	6 100	3.2	51	2KJ3003 - ■ FN23 - ■ ■ K1	
	356	59		4.12	6 100	2.8	51	2KJ3003 - ■ FN23 - ■ ■ J1	
	388	54		3.78	6 100	3.7	51	2KJ3003 - ■ FN23 - ■ ■ H1	
	444	47		3.30	6 100	4.2	51	2KJ3003 - ■ FN23 - ■ ■ G1	
	497	42		2.95	6 100	4.7	51	2KJ3003 - ■ FN23 - ■ ■ F1	
	568	37		2.58	6 100	5.3	51	2KJ3003 - ■ FN23 - ■ ■ E1	
	<b>E.49-LE100ZLSA4P</b>								
	241	87		6.08	4 000	1.2	44	2KJ3002 - ■ FN23 - ■ ■ N1	
	269	78		5.45	4 000	1.3	44	2KJ3002 - ■ FN23 - ■ ■ M1	
	298	71		4.92	4 000	1.4	44	2KJ3002 - ■ FN23 - ■ ■ L1	
	323	65		4.54	4 000	1.6	44	2KJ3002 - ■ FN23 - ■ ■ K1	
	354	59		4.14	4 000	1.7	44	2KJ3002 - ■ FN23 - ■ ■ J1	
	426	49		3.44	4 000	2.0	44	2KJ3002 - ■ FN23 - ■ ■ H1	
	452	46		3.24	4 000	2.2	44	2KJ3002 - ■ FN23 - ■ ■ G1	
	479	44		3.06	3 950	2.3	44	2KJ3002 - ■ FN23 - ■ ■ F1	
	563	37		2.60	3 770	2.7	44	2KJ3002 - ■ FN23 - ■ ■ E1	
	657	32		2.23	3 590	3.2	44	2KJ3002 - ■ FN23 - ■ ■ D1	
	747	28		1.96	3 460	3.7	44	2KJ3002 - ■ FN23 - ■ ■ C1	
	888	24		1.65	3 280	4.4	44	2KJ3002 - ■ FN23 - ■ ■ B1	
	1 017	21		1.44	3 140	4.9	44	2KJ3002 - ■ FN23 - ■ ■ A1	
		<b>E.39-LE100ZLSA4P</b>							
358		59		4.09	2 880	0.82	37	2KJ3001 - ■ FN23 - ■ ■ K1	
409		51		3.58	2 950	1.1	37	2KJ3001 - ■ FN23 - ■ ■ J1	
443		48		3.31	2 960	1.2	37	2KJ3001 - ■ FN23 - ■ ■ H1	
500		42		2.93	2 890	1.5	37	2KJ3001 - ■ FN23 - ■ ■ G1	
600		35		2.44	2 750	1.9	37	2KJ3001 - ■ FN23 - ■ ■ F1	
640		33		2.29	2 710	2.0	37	2KJ3001 - ■ FN23 - ■ ■ E1	
711		30		2.06	2 620	2.2	37	2KJ3001 - ■ FN23 - ■ ■ D1	
837		25		1.75	2 510	2.6	37	2KJ3001 - ■ FN23 - ■ ■ C1	
977		22		1.50	2 400	2.8	37	2KJ3001 - ■ FN23 - ■ ■ B1	
1 136		18		1.29	2 300	2.9	37	2KJ3001 - ■ FN23 - ■ ■ A1	
<b>3</b>		<b>D.169-LE132SH6P</b>							
	3.0	9 660		327.18	71 700	1.4	480	2KJ3213 - ■ HF23 - ■ ■ V1 P01	
	3.2	9 010		305.28	72 000	1.6	480	2KJ3213 - ■ HF23 - ■ ■ U1 P01	
	3.6	8 010		271.40	72 400	1.7	480	2KJ3213 - ■ HF23 - ■ ■ T1 P01	
	4.0	7 190		243.68	72 700	1.9	480	2KJ3213 - ■ HF23 - ■ ■ S1 P01	
		<b>D.149-LE132SH6P</b>							
		3.0	9 690		328.38	50 300	0.82	302	2KJ3212 - ■ HF23 - ■ ■ W1 P01
		3.5	8 300		281.04	51 000	0.96	302	2KJ3212 - ■ HF23 - ■ ■ V1 P01
		3.7	7 810		264.51	51 300	1.0	302	2KJ3212 - ■ HF23 - ■ ■ U1 P01
	3.9	7 320		247.95	51 500	1.1	302	2KJ3212 - ■ HF23 - ■ ■ T1 P01	
		<b>D.149-LE100ZLSB4P</b>							
		4.4	6 460		328.38	51 900	1.2	278	2KJ3212 - ■ FP23 - ■ ■ W1
5.2	5 530		281.04	52 300	1.4	278	2KJ3212 - ■ FP23 - ■ ■ V1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>3</b>	<b>D.149-LE100ZLSB4P</b>							
	5.5	5 200	264.51	52 500	1.5	278	2KJ3212 - ■ FP23 - ■ ■ U1	
	5.9	4 880	247.95	52 700	1.6	278	2KJ3212 - ■ FP23 - ■ ■ T1	
	6.6	4 320	219.80	52 900	1.8	278	2KJ3212 - ■ FP23 - ■ ■ S1	
	7.5	3 840	195.24	53 100	2.1	278	2KJ3212 - ■ FP23 - ■ ■ R1	
	<b>D.129-LE100ZLSB4P</b>							
	4.6	6 240	316.90	26 300	0.80	194	2KJ3211 - ■ FP23 - ■ ■ Q1	
	5.4	5 320	270.24	26 800	0.94	194	2KJ3211 - ■ FP23 - ■ ■ P1	
	5.7	5 000	254.34	27 000	1.0	194	2KJ3211 - ■ FP23 - ■ ■ N1	
	6.2	4 640	236.03	27 200	1.1	194	2KJ3211 - ■ FP23 - ■ ■ M1	
	7.0	4 100	208.67	27 500	1.2	194	2KJ3211 - ■ FP23 - ■ ■ L1	
	7.8	3 660	186.28	27 800	1.4	194	2KJ3211 - ■ FP23 - ■ ■ K1	
	8.7	3 300	167.63	28 000	1.5	194	2KJ3211 - ■ FP23 - ■ ■ J1	
	10	2 860	145.49	28 300	1.7	194	2KJ3211 - ■ FP23 - ■ ■ H1	
	11	2 570	130.84	28 400	1.9	194	2KJ3211 - ■ FP23 - ■ ■ G1	
	13	2 250	114.36	28 600	2.2	194	2KJ3211 - ■ FP23 - ■ ■ F1	
	<b>D.109-LE100ZLSB4P</b>							
	7.6	3 760	191.07	20 100	0.82	130	2KJ3210 - ■ FP23 - ■ ■ M1	
	8.2	3 470	176.45	20 200	0.89	130	2KJ3210 - ■ FP23 - ■ ■ L1	
	9.3	3 090	157.00	20 200	1.0	130	2KJ3210 - ■ FP23 - ■ ■ K1	
10	2 740	139.44	20 200	1.1	130	2KJ3210 - ■ FP23 - ■ ■ J1		
12	2 450	124.82	20 200	1.3	130	2KJ3210 - ■ FP23 - ■ ■ H1		
14	2 100	106.70	20 200	1.5	130	2KJ3210 - ■ FP23 - ■ ■ G1		
15	1 870	95.28	20 200	1.7	130	2KJ3210 - ■ FP23 - ■ ■ F1		
17	1 650	84.21	20 200	1.9	130	2KJ3210 - ■ FP23 - ■ ■ E1		
20	1 450	73.90	20 200	2.1	130	2KJ3210 - ■ FP23 - ■ ■ D1		
23	1 260	64.34	20 200	2.4	130	2KJ3210 - ■ FP23 - ■ ■ C1		
<b>D.89-LE100ZLSB4P</b>								
15	1 940	98.99	18 500	0.86	88	2KJ3208 - ■ FP23 - ■ ■ F1		
17	1 700	86.56	18 500	0.99	88	2KJ3208 - ■ FP23 - ■ ■ E1		
20	1 460	74.30	18 500	1.1	88	2KJ3208 - ■ FP23 - ■ ■ D1		
22	1 290	65.67	18 500	1.3	88	2KJ3208 - ■ FP23 - ■ ■ C1		
<b>Z.89-LE100ZLSB4P</b>								
25	1 120	57.36	18 500	1.5	87	2KJ3108 - ■ FP23 - ■ ■ A2		
28	1 020	51.78	18 500	1.6	87	2KJ3108 - ■ FP23 - ■ ■ X1		
31	925	46.97	18 500	1.8	87	2KJ3108 - ■ FP23 - ■ ■ W1		
34	850	43.36	18 500	2.0	87	2KJ3108 - ■ FP23 - ■ ■ V1		
37	775	39.41	18 500	2.2	87	2KJ3108 - ■ FP23 - ■ ■ U1		
44	655	33.38	18 500	2.6	87	2KJ3108 - ■ FP23 - ■ ■ T1		
46	615	31.41	18 500	2.7	87	2KJ3108 - ■ FP23 - ■ ■ S1		
<b>D.79-LE100ZLSB4P</b>								
30	965	49.02	10 700	0.87	65	2KJ3207 - ■ FP23 - ■ ■ A1		
<b>Z.79-LE100ZLSB4P</b>								
33	875	44.42	11 200	0.96	64	2KJ3107 - ■ FP23 - ■ ■ W1		
36	785	39.94	11 700	1.1	64	2KJ3107 - ■ FP23 - ■ ■ V1		
40	710	36.12	12 100	1.2	64	2KJ3107 - ■ FP23 - ■ ■ U1		
44	655	33.34	12 300	1.3	64	2KJ3107 - ■ FP23 - ■ ■ T1		
48	600	30.54	12 500	1.4	64	2KJ3107 - ■ FP23 - ■ ■ S1		
57	500	25.62	12 800	1.7	64	2KJ3107 - ■ FP23 - ■ ■ R1		
60	475	24.12	12 800	1.8	64	2KJ3107 - ■ FP23 - ■ ■ Q1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>3</b>	<b>Z.79-LE100ZLSB4P</b>							
	66	435	22.13	12 800	1.9	64	2KJ3107 - ■ FP23 - ■ ■ P1	
	75	380	19.33	12 800	2.2	64	2KJ3107 - ■ FP23 - ■ ■ N1	
	84	340	17.31	12 700	2.5	64	2KJ3107 - ■ FP23 - ■ ■ M1	
	96	295	15.13	12 400	2.8	64	2KJ3107 - ■ FP23 - ■ ■ L1	
	112	255	12.99	11 900	3.3	64	2KJ3107 - ■ FP23 - ■ ■ K1	
	127	225	11.48	11 500	3.7	64	2KJ3107 - ■ FP23 - ■ ■ J1	
<b>Z.69-LE100ZLSB4P</b>								
38	750	38.24	9 110	0.80	55	2KJ3106 - ■ FP23 - ■ ■ U1		
42	675	34.29	9 760	0.89	55	2KJ3106 - ■ FP23 - ■ ■ T1		
47	605	30.90	10 300	0.99	55	2KJ3106 - ■ FP23 - ■ ■ S1		
51	560	28.53	10 600	1.1	55	2KJ3106 - ■ FP23 - ■ ■ R1		
56	510	26.04	11 000	1.2	55	2KJ3106 - ■ FP23 - ■ ■ Q1		
67	425	21.61	11 200	1.4	55	2KJ3106 - ■ FP23 - ■ ■ P1		
72	400	20.34	11 300	1.5	55	2KJ3106 - ■ FP23 - ■ ■ N1		
76	375	19.21	11 200	1.6	55	2KJ3106 - ■ FP23 - ■ ■ M1		
89	320	16.34	10 700	1.9	55	2KJ3106 - ■ FP23 - ■ ■ L1		
104	275	14.00	10 300	2.2	55	2KJ3106 - ■ FP23 - ■ ■ K1		
118	240	12.31	9 970	2.5	55	2KJ3106 - ■ FP23 - ■ ■ J1		
140	205	10.39	9 490	2.9	55	2KJ3106 - ■ FP23 - ■ ■ H1		
161	178	9.05	9 120	3.3	55	2KJ3106 - ■ FP23 - ■ ■ G1		
171	167	8.50	8 940	2.7	55	2KJ3106 - ■ FP23 - ■ ■ F1		
201	142	7.23	8 530	3.1	55	2KJ3106 - ■ FP23 - ■ ■ E1		
235	122	6.20	8 140	3.6	55	2KJ3106 - ■ FP23 - ■ ■ D1		
267	107	5.45	7 830	4.0	55	2KJ3106 - ■ FP23 - ■ ■ C1		
316	91	4.60	7 430	4.9	55	2KJ3106 - ■ FP23 - ■ ■ B1		
<b>Z.59-LE100ZLSB4P</b>								
55	525	26.66	5 620	0.86	50	2KJ3105 - ■ FP23 - ■ ■ R1		
60	475	24.34	5 590	0.94	50	2KJ3105 - ■ FP23 - ■ ■ Q1		
72	395	20.20	5 140	1.1	50	2KJ3105 - ■ FP23 - ■ ■ P1		
77	370	19.01	5 350	1.2	50	2KJ3105 - ■ FP23 - ■ ■ N1		
81	350	17.95	5 360	1.3	50	2KJ3105 - ■ FP23 - ■ ■ M1		
95	300	15.27	5 200	1.5	50	2KJ3105 - ■ FP23 - ■ ■ L1		
111	255	13.09	5 060	1.7	50	2KJ3105 - ■ FP23 - ■ ■ K1		
126	225	11.51	4 920	2.0	50	2KJ3105 - ■ FP23 - ■ ■ J1		
150	191	9.71	4 730	2.4	50	2KJ3105 - ■ FP23 - ■ ■ H1		
172	167	8.46	4 580	2.7	50	2KJ3105 - ■ FP23 - ■ ■ G1		
180	159	8.07	4 500	2.6	50	2KJ3105 - ■ FP23 - ■ ■ F1		
212	135	6.86	4 330	3.0	50	2KJ3105 - ■ FP23 - ■ ■ E1		
247	116	5.88	4 160	3.5	50	2KJ3105 - ■ FP23 - ■ ■ D1		
281	102	5.17	4 020	4.0	50	2KJ3105 - ■ FP23 - ■ ■ C1		
334	86	4.36	3 840	4.7	50	2KJ3105 - ■ FP23 - ■ ■ B1		
383	75	3.80	3 700	5.4	50	2KJ3105 - ■ FP23 - ■ ■ A1		
<b>Z.49-LE100ZLSB4P</b>								
79	360	18.48	4 200	0.88	48	2KJ3104 - ■ FP23 - ■ ■ Q1		
84	340	17.39	4 160	0.93	48	2KJ3104 - ■ FP23 - ■ ■ P1		
89	320	16.42	4 140	0.99	48	2KJ3104 - ■ FP23 - ■ ■ N1		
104	275	13.98	4 030	1.2	48	2KJ3104 - ■ FP23 - ■ ■ M1		
122	235	11.97	3 930	1.4	48	2KJ3104 - ■ FP23 - ■ ■ L1		

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Electro\_Motor.ir

## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>3</b>								
<b>Z.49-LE100ZLSB4P</b>								
	138	205	10.53	3 610	1.5	48	2KJ3104 - ■ FP23 - ■ ■ K1	
	164	175	8.88	3 710	1.8	48	2KJ3104 - ■ FP23 - ■ ■ J1	
	188	152	7.74	3 600	2.1	48	2KJ3104 - ■ FP23 - ■ ■ H1	
	190	150	7.64	3 230	2.0	48	2KJ3104 - ■ FP23 - ■ ■ G1	
	202	142	7.21	3 330	2.0	48	2KJ3104 - ■ FP23 - ■ ■ F1	
	237	121	6.14	3 370	2.2	48	2KJ3104 - ■ FP23 - ■ ■ E1	
	277	104	5.26	3 250	2.4	48	2KJ3104 - ■ FP23 - ■ ■ D1	
	315	91	4.62	3 150	2.5	48	2KJ3104 - ■ FP23 - ■ ■ C1	
	373	77	3.90	3 010	2.7	48	2KJ3104 - ■ FP23 - ■ ■ B1	
	428	67	3.40	2 900	2.9	48	2KJ3104 - ■ FP23 - ■ ■ A1	
<b>Z.39-LE100ZLSB4P</b>								
	137	205	10.62	545	0.81	36	2KJ3103 - ■ FP23 - ■ ■ J1	
	160	179	9.10	910	0.88	36	2KJ3103 - ■ FP23 - ■ ■ H1	
	186	154	7.84	1 270	0.96	36	2KJ3103 - ■ FP23 - ■ ■ G1	
	225	127	6.46	825	1.1	36	2KJ3103 - ■ FP23 - ■ ■ F1	
	239	120	6.08	950	1.2	36	2KJ3103 - ■ FP23 - ■ ■ E1	
	267	107	5.45	1 180	1.3	36	2KJ3103 - ■ FP23 - ■ ■ D1	
	314	91	4.64	1 450	1.4	36	2KJ3103 - ■ FP23 - ■ ■ C1	
	366	78	3.98	1 640	1.5	36	2KJ3103 - ■ FP23 - ■ ■ B1	
	424	68	3.43	1 750	1.7	36	2KJ3103 - ■ FP23 - ■ ■ A1	
<b>Z.29-LE100ZLSB4P</b>								
	173	165	8.40	150	0.83	34	2KJ3102 - ■ FP23 - ■ ■ J1	
	200	144	7.29	495	0.91	34	2KJ3102 - ■ FP23 - ■ ■ H1	
	240	119	6.06	360	0.84	34	2KJ3102 - ■ FP23 - ■ ■ F1	
	274	105	5.31	620	0.87	34	2KJ3102 - ■ FP23 - ■ ■ E1	
	302	95	4.82	805	0.91	34	2KJ3102 - ■ FP23 - ■ ■ D1	
	320	89	4.54	915	0.94	34	2KJ3102 - ■ FP23 - ■ ■ C1	
	364	79	4.00	1 070	0.96	34	2KJ3102 - ■ FP23 - ■ ■ B1	
	419	68	3.47	1 250	1.0	34	2KJ3102 - ■ FP23 - ■ ■ A1	
<b>E.129-LE100ZLSB4P</b>								
	149	193	9.79	13 500	3.4	114	2KJ3006 - ■ FP23 - ■ ■ T1	
	174	165	8.38	13 500	4.0	114	2KJ3006 - ■ FP23 - ■ ■ S1	
	185	155	7.88	13 500	4.3	114	2KJ3006 - ■ FP23 - ■ ■ R1	
<b>E.109-LE100ZLSB4P</b>								
	202	142	7.19	10 500	4.0	89	2KJ3005 - ■ FP23 - ■ ■ Q1	
	215	133	6.76	10 500	4.2	89	2KJ3005 - ■ FP23 - ■ ■ P1	
	232	124	6.28	10 500	4.6	89	2KJ3005 - ■ FP23 - ■ ■ N1	
<b>E.89-LE100ZLSB4P</b>								
	150	190	9.67	8 000	1.5	65	2KJ3004 - ■ FP23 - ■ ■ T1	
	167	172	8.73	8 000	1.6	65	2KJ3004 - ■ FP23 - ■ ■ S1	
	184	156	7.92	8 000	1.8	65	2KJ3004 - ■ FP23 - ■ ■ R1	
	199	144	7.31	8 000	1.8	65	2KJ3004 - ■ FP23 - ■ ■ Q1	
	219	131	6.64	8 000	2.0	65	2KJ3004 - ■ FP23 - ■ ■ P1	
	259	111	5.62	8 000	2.9	65	2KJ3004 - ■ FP23 - ■ ■ N1	
	275	104	5.29	8 000	2.0	65	2KJ3004 - ■ FP23 - ■ ■ M1	
	298	96	4.89	8 000	3.7	65	2KJ3004 - ■ FP23 - ■ ■ L1	
	334	86	4.35	8 000	4.2	65	2KJ3004 - ■ FP23 - ■ ■ K1	
	377	76	3.86	8 000	4.7	65	2KJ3004 - ■ FP23 - ■ ■ J1	
	421	68	3.46	8 000	5.4	65	2KJ3004 - ■ FP23 - ■ ■ H1	

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>3</b>	<b>E.69-LE100ZLSB4P</b>							
	192	149	7.58	6 100	1.4	51	2KJ3003 - ■ FP23 - ■ ■ Q1	
	213	134	6.82	6 100	1.3	51	2KJ3003 - ■ FP23 - ■ ■ P1	
	236	121	6.17	6 100	1.7	51	2KJ3003 - ■ FP23 - ■ ■ N1	
	256	112	5.69	6 100	1.5	51	2KJ3003 - ■ FP23 - ■ ■ M1	
	279	103	5.21	6 100	1.9	51	2KJ3003 - ■ FP23 - ■ ■ L1	
	332	86	4.38	6 100	2.3	51	2KJ3003 - ■ FP23 - ■ ■ K1	
	353	81	4.12	6 100	2.0	51	2KJ3003 - ■ FP23 - ■ ■ J1	
	385	74	3.78	6 100	2.7	51	2KJ3003 - ■ FP23 - ■ ■ H1	
	441	65	3.30	6 100	3.1	51	2KJ3003 - ■ FP23 - ■ ■ G1	
	493	58	2.95	6 100	3.4	51	2KJ3003 - ■ FP23 - ■ ■ F1	
	564	51	2.58	6 100	3.9	51	2KJ3003 - ■ FP23 - ■ ■ E1	
	655	44	2.22	6 100	4.5	51	2KJ3003 - ■ FP23 - ■ ■ D1	
	742	39	1.96	6 100	5.1	51	2KJ3003 - ■ FP23 - ■ ■ C1	
	871	33	1.67	6 100	6.0	51	2KJ3003 - ■ FP23 - ■ ■ B1	
	<b>E.49-LE100ZLSB4P</b>							
	239	120	6.08	4 000	0.87	44	2KJ3002 - ■ FP23 - ■ ■ N1	
	267	107	5.45	4 000	0.96	44	2KJ3002 - ■ FP23 - ■ ■ M1	
	296	97	4.92	4 000	1.1	44	2KJ3002 - ■ FP23 - ■ ■ L1	
	320	89	4.54	4 000	1.1	44	2KJ3002 - ■ FP23 - ■ ■ K1	
	351	82	4.14	4 000	1.3	44	2KJ3002 - ■ FP23 - ■ ■ J1	
	423	68	3.44	3 960	1.5	44	2KJ3002 - ■ FP23 - ■ ■ H1	
	449	64	3.24	3 900	1.6	44	2KJ3002 - ■ FP23 - ■ ■ G1	
	475	60	3.06	3 840	1.7	44	2KJ3002 - ■ FP23 - ■ ■ F1	
	560	51	2.60	3 680	2.0	44	2KJ3002 - ■ FP23 - ■ ■ E1	
	652	44	2.23	3 510	2.3	44	2KJ3002 - ■ FP23 - ■ ■ D1	
	742	39	1.96	3 380	2.7	44	2KJ3002 - ■ FP23 - ■ ■ C1	
	882	32	1.65	3 230	3.2	44	2KJ3002 - ■ FP23 - ■ ■ B1	
	1 010	28	1.44	3 100	3.6	44	2KJ3002 - ■ FP23 - ■ ■ A1	
	<b>E.39-LE100ZLSB4P</b>							
	406	70	3.58	1 880	0.82	37	2KJ3001 - ■ FP23 - ■ ■ J1	
	440	65	3.31	2 010	0.89	37	2KJ3001 - ■ FP23 - ■ ■ H1	
	497	58	2.93	2 040	1.1	37	2KJ3001 - ■ FP23 - ■ ■ G1	
	635	45	2.29	2 260	1.5	37	2KJ3001 - ■ FP23 - ■ ■ E1	
	706	41	2.06	2 210	1.6	37	2KJ3001 - ■ FP23 - ■ ■ D1	
	831	34	1.75	2 300	1.9	37	2KJ3001 - ■ FP23 - ■ ■ C1	
	970	30	1.50	2 230	2.1	37	2KJ3001 - ■ FP23 - ■ ■ B1	
1 128	25	1.29	2 230	2.1	37	2KJ3001 - ■ FP23 - ■ ■ A1		
<b>4</b>	<b>D.189-LE132MJ6P</b>							
	3.1	12 300	313.63	107 000	1.5	698	2KJ3214 - ■ HK23 - ■ ■ T1	P01
	3.5	11 000	280.59	107 000	1.7	698	2KJ3214 - ■ HK23 - ■ ■ S1	P01
	3.8	9 960	253.06	107 000	1.9	698	2KJ3214 - ■ HK23 - ■ ■ R1	P01
	<b>D.169-LE132MJ6P</b>							
	3.0	12 800	327.18	70 600	1.1	485	2KJ3213 - ■ HK23 - ■ ■ V1	P01
	3.2	12 000	305.28	70 900	1.2	485	2KJ3213 - ■ HK23 - ■ ■ U1	P01
	3.6	10 600	271.40	71 400	1.3	485	2KJ3213 - ■ HK23 - ■ ■ T1	P01
	4.0	9 590	243.68	71 800	1.5	485	2KJ3213 - ■ HK23 - ■ ■ S1	P01
	<b>D.169-LE112ZMKB4P</b>							
	4.5	8 560	327.18	72 200	1.6	458	2KJ3213 - ■ GJ23 - ■ ■ V1	
	4.8	7 980	305.28	72 400	1.8	458	2KJ3213 - ■ GJ23 - ■ ■ U1	

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
4	<b>D.169-LE112ZMKB4P</b>								
	5.4	7 100		271.40		72 700	2.0	458	2KJ3213 - ■ GJ23 - ■ ■ T1
	<b>D.149-LE132MJ6P</b>								
	3.9	9 760		247.95		50 300	0.82	307	2KJ3212 - ■ HK23 - ■ ■ T1 P01
	<b>D.149-LE112ZMKB4P</b>								
	4.4	8 590		328.38		50 900	0.93	280	2KJ3212 - ■ GJ23 - ■ ■ W1
	5.2	7 350		281.04		51 500	1.1	280	2KJ3212 - ■ GJ23 - ■ ■ V1
	5.5	6 920		264.51		51 700	1.2	280	2KJ3212 - ■ GJ23 - ■ ■ U1
	5.9	6 480		247.95		51 900	1.2	280	2KJ3212 - ■ GJ23 - ■ ■ T1
	6.6	5 750		219.80		52 200	1.4	280	2KJ3212 - ■ GJ23 - ■ ■ S1
7.5	5 100		195.24		52 600	1.6	280	2KJ3212 - ■ GJ23 - ■ ■ R1	
8.3	4 610		176.18		52 800	1.7	280	2KJ3212 - ■ GJ23 - ■ ■ Q1	
9.4	4 080		156.11		53 000	2.0	280	2KJ3212 - ■ GJ23 - ■ ■ P1	
11	3 610		138.26		53 300	2.2	280	2KJ3212 - ■ GJ23 - ■ ■ N1	
<b>D.129-LE112ZMKB4P</b>									
6.2	6 170		236.03		26 300	0.81	194	2KJ3211 - ■ GJ23 - ■ ■ M1	
7.0	5 460		208.67		26 700	0.92	194	2KJ3211 - ■ GJ23 - ■ ■ L1	
7.8	4 870		186.28		27 100	1.0	194	2KJ3211 - ■ GJ23 - ■ ■ K1	
8.7	4 380		167.63		27 400	1.1	194	2KJ3211 - ■ GJ23 - ■ ■ J1	
10	3 800		145.49		27 700	1.3	194	2KJ3211 - ■ GJ23 - ■ ■ H1	
11	3 420		130.84		27 900	1.5	194	2KJ3211 - ■ GJ23 - ■ ■ G1	
13	2 990		114.36		28 200	1.7	194	2KJ3211 - ■ GJ23 - ■ ■ F1	
14	2 670		102.05		28 400	1.9	194	2KJ3211 - ■ GJ23 - ■ ■ E1	
16	2 350		89.91		28 600	2.1	194	2KJ3211 - ■ GJ23 - ■ ■ D1	
<b>D.109-LE112ZMKB4P</b>									
10	3 640		139.44		20 200	0.85	130	2KJ3210 - ■ GJ23 - ■ ■ J1	
12	3 260		124.82		20 200	0.95	130	2KJ3210 - ■ GJ23 - ■ ■ H1	
14	2 790		106.70		20 200	1.1	130	2KJ3210 - ■ GJ23 - ■ ■ G1	
15	2 490		95.28		20 200	1.2	130	2KJ3210 - ■ GJ23 - ■ ■ F1	
17	2 200		84.21		20 200	1.4	130	2KJ3210 - ■ GJ23 - ■ ■ E1	
20	1 930		73.90		20 200	1.6	130	2KJ3210 - ■ GJ23 - ■ ■ D1	
23	1 680		64.34		20 200	1.8	130	2KJ3210 - ■ GJ23 - ■ ■ C1	
<b>Z.109-LE112ZMKB4P</b>									
29	1 330		51.17		20 200	2.3	128	2KJ3110 - ■ GJ23 - ■ ■ X1	
<b>D.89-LE112ZMKB4P</b>									
20	1 940		74.30		18 500	0.86	88	2KJ3208 - ■ GJ23 - ■ ■ D1	
22	1 710		65.67		18 500	0.98	88	2KJ3208 - ■ GJ23 - ■ ■ C1	
<b>Z.89-LE112ZMKB4P</b>									
25	1 500		57.36		18 500	1.1	87	2KJ3108 - ■ GJ23 - ■ ■ A2	
28	1 350		51.78		18 500	1.2	87	2KJ3108 - ■ GJ23 - ■ ■ X1	
31	1 220		46.97		18 500	1.4	87	2KJ3108 - ■ GJ23 - ■ ■ W1	
34	1 130		43.36		18 500	1.5	87	2KJ3108 - ■ GJ23 - ■ ■ V1	
37	1 030		39.41		18 500	1.6	87	2KJ3108 - ■ GJ23 - ■ ■ U1	
44	870		33.38		18 500	1.9	87	2KJ3108 - ■ GJ23 - ■ ■ T1	
46	820		31.41		18 500	2.0	87	2KJ3108 - ■ GJ23 - ■ ■ S1	
50	755		29.01		18 500	2.2	87	2KJ3108 - ■ GJ23 - ■ ■ R1	
57	675		25.81		18 500	2.5	87	2KJ3108 - ■ GJ23 - ■ ■ Q1	
64	600		22.92		18 500	2.8	87	2KJ3108 - ■ GJ23 - ■ ■ P1	
71	535		20.52		18 500	3.1	87	2KJ3108 - ■ GJ23 - ■ ■ N1	

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>4</b>	<b>Z.79-LE112ZMKB4P</b>							
	37	1 040	39.94	13 100	0.80	65	2KJ3107 - ■ GJ23 - ■ ■ V1	
	40	945	36.12	13 200	0.89	65	2KJ3107 - ■ GJ23 - ■ ■ U1	
	44	870	33.34	13 300	0.96	65	2KJ3107 - ■ GJ23 - ■ ■ T1	
	48	795	30.54	13 400	1.1	65	2KJ3107 - ■ GJ23 - ■ ■ S1	
	57	670	25.62	10 200	1.3	65	2KJ3107 - ■ GJ23 - ■ ■ R1	
	61	630	24.12	10 400	1.3	65	2KJ3107 - ■ GJ23 - ■ ■ Q1	
	66	575	22.13	10 700	1.5	65	2KJ3107 - ■ GJ23 - ■ ■ P1	
	76	505	19.33	10 900	1.7	65	2KJ3107 - ■ GJ23 - ■ ■ N1	
	84	450	17.31	11 000	1.9	65	2KJ3107 - ■ GJ23 - ■ ■ M1	
	96	395	15.13	11 100	2.1	65	2KJ3107 - ■ GJ23 - ■ ■ L1	
	112	340	12.99	11 000	2.5	65	2KJ3107 - ■ GJ23 - ■ ■ K1	
	127	300	11.48	11 000	2.8	65	2KJ3107 - ■ GJ23 - ■ ■ J1	
	150	255	9.76	10 700	3.2	65	2KJ3107 - ■ GJ23 - ■ ■ H1	
	174	215	8.37	10 300	3.6	65	2KJ3107 - ■ GJ23 - ■ ■ G1	
	178	210	8.19	10 000	3.3	65	2KJ3107 - ■ GJ23 - ■ ■ F1	
	204	187	7.16	9 780	3.9	65	2KJ3107 - ■ GJ23 - ■ ■ E1	
	237	161	6.15	9 350	4.4	65	2KJ3107 - ■ GJ23 - ■ ■ D1	
	269	142	5.43	9 020	4.8	65	2KJ3107 - ■ GJ23 - ■ ■ C1	
		<b>Z.69-LE112ZMKB4P</b>						
51		745	28.53	10 600	0.80	56	2KJ3106 - ■ GJ23 - ■ ■ R1	
56		680	26.04	7 580	0.88	56	2KJ3106 - ■ GJ23 - ■ ■ Q1	
68		565	21.61	8 620	1.1	56	2KJ3106 - ■ GJ23 - ■ ■ P1	
72		530	20.34	8 930	1.1	56	2KJ3106 - ■ GJ23 - ■ ■ N1	
76		500	19.21	9 160	1.2	56	2KJ3106 - ■ GJ23 - ■ ■ M1	
89		425	16.34	9 670	1.4	56	2KJ3106 - ■ GJ23 - ■ ■ L1	
104		365	14.00	9 960	1.6	56	2KJ3106 - ■ GJ23 - ■ ■ K1	
119		320	12.31	9 700	1.9	56	2KJ3106 - ■ GJ23 - ■ ■ J1	
141		270	10.39	9 270	2.2	56	2KJ3106 - ■ GJ23 - ■ ■ H1	
161		235	9.05	8 930	2.5	56	2KJ3106 - ■ GJ23 - ■ ■ G1	
172		220	8.50	8 750	2.0	56	2KJ3106 - ■ GJ23 - ■ ■ F1	
202		189	7.23	8 360	2.4	56	2KJ3106 - ■ GJ23 - ■ ■ E1	
235		162	6.20	8 000	2.7	56	2KJ3106 - ■ GJ23 - ■ ■ D1	
268		143	5.45	7 700	3.0	56	2KJ3106 - ■ GJ23 - ■ ■ C1	
317		120	4.60	7 330	3.7	56	2KJ3106 - ■ GJ23 - ■ ■ B1	
364		105	4.01	7 030	4.2	56	2KJ3106 - ■ GJ23 - ■ ■ A1	
		<b>Z.59-LE112ZMKB4P</b>						
	72	525	20.20	4 930	0.85	51	2KJ3105 - ■ GJ23 - ■ ■ P1	
	77	495	19.01	4 910	0.90	51	2KJ3105 - ■ GJ23 - ■ ■ N1	
	81	470	17.95	4 880	0.96	51	2KJ3105 - ■ GJ23 - ■ ■ M1	
	96	400	15.27	3 960	1.1	51	2KJ3105 - ■ GJ23 - ■ ■ L1	
	112	340	13.09	4 470	1.3	51	2KJ3105 - ■ GJ23 - ■ ■ K1	
	127	300	11.51	4 620	1.5	51	2KJ3105 - ■ GJ23 - ■ ■ J1	
	150	250	9.71	4 500	1.8	51	2KJ3105 - ■ GJ23 - ■ ■ H1	
	173	220	8.46	4 370	2.0	51	2KJ3105 - ■ GJ23 - ■ ■ G1	
	181	210	8.07	4 280	1.9	51	2KJ3105 - ■ GJ23 - ■ ■ F1	
	213	179	6.86	4 140	2.3	51	2KJ3105 - ■ GJ23 - ■ ■ E1	
	248	154	5.88	4 000	2.7	51	2KJ3105 - ■ GJ23 - ■ ■ D1	
	282	135	5.17	3 880	3.0	51	2KJ3105 - ■ GJ23 - ■ ■ C1	

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
4	<b>Z.59-LE112ZMKB4P</b>							
	335	114		4.36	3 720	3.6	51	2KJ3105 - ■ GJ23 - ■ ■ B1
	384	99		3.80	3 600	4.1	51	2KJ3105 - ■ GJ23 - ■ ■ A1
	<b>Z.49-LE112ZMKB4P</b>							
	104	365		13.98	3 670	0.87	49	2KJ3104 - ■ GJ23 - ■ ■ M1
	122	310		11.97	3 630	1.0	49	2KJ3104 - ■ GJ23 - ■ ■ L1
	139	275		10.53	3 560	1.2	49	2KJ3104 - ■ GJ23 - ■ ■ K1
	164	230		8.88	3 490	1.4	49	2KJ3104 - ■ GJ23 - ■ ■ J1
	189	200		7.74	3 410	1.6	49	2KJ3104 - ■ GJ23 - ■ ■ H1
	191	200		7.64	3 320	1.5	49	2KJ3104 - ■ GJ23 - ■ ■ G1
	202	189		7.21	3 290	1.5	49	2KJ3104 - ■ GJ23 - ■ ■ F1
	238	161		6.14	3 190	1.6	49	2KJ3104 - ■ GJ23 - ■ ■ E1
	278	138		5.26	2 670	1.8	49	2KJ3104 - ■ GJ23 - ■ ■ D1
	316	121		4.62	2 900	1.9	49	2KJ3104 - ■ GJ23 - ■ ■ C1
	374	102		3.90	2 900	2.0	49	2KJ3104 - ■ GJ23 - ■ ■ B1
	429	89		3.40	2 810	2.1	49	2KJ3104 - ■ GJ23 - ■ ■ A1
	<b>E.129-LE112ZMKB4P</b>							
	149	255		9.79	13 500	2.6	114	2KJ3006 - ■ GJ23 - ■ ■ T1
	174	215		8.38	13 500	3.0	114	2KJ3006 - ■ GJ23 - ■ ■ S1
	185	205		7.88	13 500	3.2	114	2KJ3006 - ■ GJ23 - ■ ■ R1
	198	193		7.39	13 500	4.1	114	2KJ3006 - ■ GJ23 - ■ ■ Q1
	<b>E.109-LE112ZMKB4P</b>							
	203	188		7.19	10 500	3.0	89	2KJ3005 - ■ GJ23 - ■ ■ Q1
	216	177		6.76	10 500	3.2	89	2KJ3005 - ■ GJ23 - ■ ■ P1
	232	164		6.28	10 500	3.4	89	2KJ3005 - ■ GJ23 - ■ ■ N1
	263	145		5.55	10 500	3.9	89	2KJ3005 - ■ GJ23 - ■ ■ M1
	295	130		4.95	10 500	4.3	89	2KJ3005 - ■ GJ23 - ■ ■ L1
	327	117		4.46	10 500	4.8	89	2KJ3005 - ■ GJ23 - ■ ■ K1
	<b>E.89-LE112ZMKB4P</b>							
	151	250		9.67	8 000	1.1	65	2KJ3004 - ■ GJ23 - ■ ■ T1
	167	225		8.73	8 000	1.2	65	2KJ3004 - ■ GJ23 - ■ ■ S1
	184	205		7.92	8 000	1.4	65	2KJ3004 - ■ GJ23 - ■ ■ R1
	200	191		7.31	8 000	1.4	65	2KJ3004 - ■ GJ23 - ■ ■ Q1
	220	174		6.64	8 000	1.5	65	2KJ3004 - ■ GJ23 - ■ ■ P1
	260	147		5.62	8 000	2.2	65	2KJ3004 - ■ GJ23 - ■ ■ N1
	276	138		5.29	8 000	1.5	65	2KJ3004 - ■ GJ23 - ■ ■ M1
	299	128		4.89	8 000	2.8	65	2KJ3004 - ■ GJ23 - ■ ■ L1
	336	114		4.35	8 000	3.2	65	2KJ3004 - ■ GJ23 - ■ ■ K1
	378	101		3.86	8 000	3.6	65	2KJ3004 - ■ GJ23 - ■ ■ J1
	422	90		3.46	8 000	4.0	65	2KJ3004 - ■ GJ23 - ■ ■ H1
	493	77		2.96	8 000	4.6	65	2KJ3004 - ■ GJ23 - ■ ■ G1
	553	69		2.64	8 000	5.2	65	2KJ3004 - ■ GJ23 - ■ ■ F1
	627	61		2.33	8 000	5.9	65	2KJ3004 - ■ GJ23 - ■ ■ E1
		<b>E.69-LE112ZMKB4P</b>						
193		198		7.58	6 100	1.0	52	2KJ3003 - ■ GJ23 - ■ ■ Q1
214		178		6.82	6 100	0.95	52	2KJ3003 - ■ GJ23 - ■ ■ P1
237		161		6.17	6 100	1.3	52	2KJ3003 - ■ GJ23 - ■ ■ N1
257		149		5.69	6 100	1.1	52	2KJ3003 - ■ GJ23 - ■ ■ M1
280		136		5.21	6 100	1.5	52	2KJ3003 - ■ GJ23 - ■ ■ L1
	333	115		4.38	6 100	1.7	52	2KJ3003 - ■ GJ23 - ■ ■ K1

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>4</b>	<b>E.69-LE112ZMKB4P</b>							
	354	108	4.12	6 100	1.5	52	2KJ3003 - ■ GJ23 - ■ ■ J1	
	386	99	3.78	6 100	2.0	52	2KJ3003 - ■ GJ23 - ■ ■ H1	
	442	86	3.30	6 100	2.3	52	2KJ3003 - ■ GJ23 - ■ ■ G1	
	495	77	2.95	6 100	2.6	52	2KJ3003 - ■ GJ23 - ■ ■ F1	
	566	68	2.58	6 100	2.9	52	2KJ3003 - ■ GJ23 - ■ ■ E1	
	658	58	2.22	6 100	3.4	52	2KJ3003 - ■ GJ23 - ■ ■ D1	
	745	51	1.96	6 100	3.8	52	2KJ3003 - ■ GJ23 - ■ ■ C1	
	874	44	1.67	6 100	4.5	52	2KJ3003 - ■ GJ23 - ■ ■ B1	
	1 021	37	1.43	6 100	5.2	52	2KJ3003 - ■ GJ23 - ■ ■ A1	
<b>4</b>	<b>E.49-LE112ZMKB4P</b>							
	322	119	4.54	3 790	0.86	45	2KJ3002 - ■ GJ23 - ■ ■ K1	
	353	108	4.14	3 920	0.94	45	2KJ3002 - ■ GJ23 - ■ ■ J1	
	424	90	3.44	3 800	1.1	45	2KJ3002 - ■ GJ23 - ■ ■ H1	
	451	85	3.24	3 750	1.2	45	2KJ3002 - ■ GJ23 - ■ ■ G1	
	477	80	3.06	3 700	1.3	45	2KJ3002 - ■ GJ23 - ■ ■ F1	
	562	68	2.60	3 550	1.5	45	2KJ3002 - ■ GJ23 - ■ ■ E1	
	655	58	2.23	3 410	1.7	45	2KJ3002 - ■ GJ23 - ■ ■ D1	
	745	51	1.96	3 290	2.0	45	2KJ3002 - ■ GJ23 - ■ ■ C1	
	885	43	1.65	3 140	2.4	45	2KJ3002 - ■ GJ23 - ■ ■ B1	
1 014	38	1.44	3 010	2.7	45	2KJ3002 - ■ GJ23 - ■ ■ A1		
<b>4</b>	<b>E.39-LE112ZMKB4P</b>							
	498	77	2.93	905	0.85	40	2KJ3001 - ■ GJ23 - ■ ■ G1	
	973	39	1.50	1 580	1.6	40	2KJ3001 - ■ GJ23 - ■ ■ B1	
1 132	34	1.29	1 580	1.6	40	2KJ3001 - ■ GJ23 - ■ ■ A1		
<b>5.5</b>	<b>D.189-LE132ZMS6P</b>							
	3.1	16 900	313.63	107 000	1.1	700	2KJ3214 - ■ HL23 - ■ ■ T1	P01
	3.5	15 100	280.59	107 000	1.3	700	2KJ3214 - ■ HL23 - ■ ■ S1	P01
	3.8	13 700	253.06	107 000	1.4	700	2KJ3214 - ■ HL23 - ■ ■ R1	P01
	4.3	12 100	223.66	107 000	1.6	700	2KJ3214 - ■ HL23 - ■ ■ Q1	P01
	<b>D.189-LE132ZST4P</b>							
	4.7	11 200	313.63	107 000	1.7	700	2KJ3214 - ■ HJ23 - ■ ■ T1	
	5.2	10 000	280.59	107 000	1.9	700	2KJ3214 - ■ HJ23 - ■ ■ S1	
	5.8	9 070	253.06	107 000	2.1	700	2KJ3214 - ■ HJ23 - ■ ■ R1	
	<b>D.169-LE132ZMS6P</b>							
3.2	16 500	305.28	69 200	0.85	487	2KJ3213 - ■ HL23 - ■ ■ U1	P01	
3.6	14 600	271.40	69 900	0.95	487	2KJ3213 - ■ HL23 - ■ ■ T1	P01	
4.0	13 100	243.68	70 500	1.1	487	2KJ3213 - ■ HL23 - ■ ■ S1	P01	
<b>D.169-LE132ZST4P</b>								
4.5	11 700	327.18	71 000	1.2	487	2KJ3213 - ■ HJ23 - ■ ■ V1		
4.8	10 900	305.28	71 300	1.3	487	2KJ3213 - ■ HJ23 - ■ ■ U1		
5.4	9 730	271.40	71 700	1.4	487	2KJ3213 - ■ HJ23 - ■ ■ T1		
6.0	8 730	243.68	72 100	1.6	487	2KJ3213 - ■ HJ23 - ■ ■ S1		
6.6	7 900	220.58	72 400	1.8	487	2KJ3213 - ■ HJ23 - ■ ■ R1		
7.6	6 940	193.75	72 800	2.0	487	2KJ3213 - ■ HJ23 - ■ ■ Q1		
<b>D.149-LE132ZST4P</b>								
5.5	9 480	264.51	50 400	0.84	309	2KJ3212 - ■ HJ23 - ■ ■ U1		
5.9	8 890	247.95	50 700	0.90	309	2KJ3212 - ■ HJ23 - ■ ■ T1		
6.7	7 880	219.80	51 200	1.0	309	2KJ3212 - ■ HJ23 - ■ ■ S1		
7.5	7 000	195.24	51 600	1.1	309	2KJ3212 - ■ HJ23 - ■ ■ R1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
5.5	<b>D.149-LE132ZST4P</b>							
	8.3	6 310	176.18	52 000	1.3	309	2KJ3212 - ■ HJ23 - ■ ■ Q1	
	9.4	5 590	156.11	52 300	1.4	309	2KJ3212 - ■ HJ23 - ■ ■ P1	
	11	4 950	138.26	52 600	1.6	309	2KJ3212 - ■ HJ23 - ■ ■ N1	
	12	4 410	123.04	52 900	1.8	309	2KJ3212 - ■ HJ23 - ■ ■ M1	
	13	3 950	110.26	53 100	2.0	309	2KJ3212 - ■ HJ23 - ■ ■ L1	
	<b>D.129-LE132ZST4P</b>							
	8.7	6 010	167.63	26 400	0.83	224	2KJ3211 - ■ HJ23 - ■ ■ J1	
	10	5 210	145.49	26 900	0.96	224	2KJ3211 - ■ HJ23 - ■ ■ H1	
	11	4 690	130.84	27 200	1.1	224	2KJ3211 - ■ HJ23 - ■ ■ G1	
	13	4 100	114.36	27 500	1.2	224	2KJ3211 - ■ HJ23 - ■ ■ F1	
	14	3 650	102.05	27 800	1.4	224	2KJ3211 - ■ HJ23 - ■ ■ E1	
	16	3 220	89.91	28 100	1.6	224	2KJ3211 - ■ HJ23 - ■ ■ D1	
	19	2 820	78.78	28 300	1.8	224	2KJ3211 - ■ HJ23 - ■ ■ C1	
	<b>Z.129-LE132ZST4P</b>							
	23	2 240	62.48	28 600	2.2	220	2KJ3111 - ■ HJ23 - ■ ■ X1	
	<b>D.109-LE132ZST4P</b>							
	14	3 820	106.70	20 000	0.81	160	2KJ3210 - ■ HJ23 - ■ ■ G1	
	15	3 410	95.28	20 200	0.91	160	2KJ3210 - ■ HJ23 - ■ ■ F1	
	17	3 010	84.21	20 200	1.0	160	2KJ3210 - ■ HJ23 - ■ ■ E1	
	20	2 650	73.90	20 200	1.2	160	2KJ3210 - ■ HJ23 - ■ ■ D1	
	23	2 300	64.34	20 200	1.3	160	2KJ3210 - ■ HJ23 - ■ ■ C1	
	<b>Z.109-LE132ZST4P</b>							
	29	1 830	51.17	20 200	1.7	158	2KJ3110 - ■ HJ23 - ■ ■ X1	
	34	1 560	43.64	20 200	2.0	158	2KJ3110 - ■ HJ23 - ■ ■ W1	
	36	1 470	41.07	20 200	2.1	158	2KJ3110 - ■ HJ23 - ■ ■ V1	
	38	1 360	38.12	20 200	2.3	158	2KJ3110 - ■ HJ23 - ■ ■ U1	
	43	1 200	33.70	20 200	2.6	158	2KJ3110 - ■ HJ23 - ■ ■ T1	
	<b>D.89-LE132ZST4P</b>							
	26	2 000	55.84	18 500	0.84	119	2KJ3208 - ■ HJ23 - ■ ■ B1	
	31	1 710	47.87	18 500	0.98	119	2KJ3208 - ■ HJ23 - ■ ■ A1	
	<b>Z.89-LE132ZST4P</b>							
	37	1 410	39.41	18 500	1.2	118	2KJ3108 - ■ HJ23 - ■ ■ U1	
	44	1 190	33.38	18 500	1.4	118	2KJ3108 - ■ HJ23 - ■ ■ T1	
	47	1 120	31.41	18 500	1.5	118	2KJ3108 - ■ HJ23 - ■ ■ S1	
	50	1 040	29.01	18 500	1.6	118	2KJ3108 - ■ HJ23 - ■ ■ R1	
	57	925	25.81	18 500	1.8	118	2KJ3108 - ■ HJ23 - ■ ■ Q1	
	64	820	22.92	18 500	2.0	118	2KJ3108 - ■ HJ23 - ■ ■ P1	
	71	735	20.52	18 500	2.3	118	2KJ3108 - ■ HJ23 - ■ ■ N1	
	84	625	17.54	18 500	2.7	118	2KJ3108 - ■ HJ23 - ■ ■ M1	
	94	560	15.66	18 400	3.0	118	2KJ3108 - ■ HJ23 - ■ ■ L1	
	106	495	13.84	17 800	3.4	118	2KJ3108 - ■ HJ23 - ■ ■ K1	
	121	435	12.15	17 200	3.7	118	2KJ3108 - ■ HJ23 - ■ ■ J1	
	213	245	6.89	14 600	4.3	118	2KJ3108 - ■ HJ23 - ■ ■ E1	
	<b>Z.79-LE132ZST4P</b>							
	57	915	25.62	13 100	0.91	96	2KJ3107 - ■ HJ23 - ■ ■ R1	
	61	865	24.12	12 900	0.97	96	2KJ3107 - ■ HJ23 - ■ ■ Q1	
	66	790	22.13	12 700	1.1	96	2KJ3107 - ■ HJ23 - ■ ■ P1	
	76	690	19.33	12 400	1.2	96	2KJ3107 - ■ HJ23 - ■ ■ N1	
	85	620	17.31	8 480	1.4	96	2KJ3107 - ■ HJ23 - ■ ■ M1	

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
5.5	<b>Z.79-LE132ZST4P</b>							
	97	540	15.13	8 910	1.5	96	2KJ3107 - ■ HJ23 - ■ ■ L1	
	113	465	12.99	9 190	1.8	96	2KJ3107 - ■ HJ23 - ■ ■ K1	
	128	410	11.48	9 370	2.0	96	2KJ3107 - ■ HJ23 - ■ ■ J1	
	150	350	9.76	9 450	2.3	96	2KJ3107 - ■ HJ23 - ■ ■ H1	
	175	300	8.37	9 470	2.6	96	2KJ3107 - ■ HJ23 - ■ ■ G1	
	179	290	8.19	8 530	2.4	96	2KJ3107 - ■ HJ23 - ■ ■ F1	
	205	255	7.16	8 570	2.8	96	2KJ3107 - ■ HJ23 - ■ ■ E1	
	238	220	6.15	8 550	3.2	96	2KJ3107 - ■ HJ23 - ■ ■ D1	
	270	195	5.43	8 510	3.5	96	2KJ3107 - ■ HJ23 - ■ ■ C1	
	317	166	4.62	8 410	4.7	96	2KJ3107 - ■ HJ23 - ■ ■ B1	
<b>Z.69-LE132ZST4P</b>								
72	725	20.34	10 300	0.82	86	2KJ3106 - ■ HJ23 - ■ ■ N1		
76	685	19.21	10 200	0.87	86	2KJ3106 - ■ HJ23 - ■ ■ M1		
90	585	16.34	9 890	1.0	86	2KJ3106 - ■ HJ23 - ■ ■ L1		
105	500	14.00	7 210	1.2	86	2KJ3106 - ■ HJ23 - ■ ■ K1		
119	440	12.31	7 700	1.4	86	2KJ3106 - ■ HJ23 - ■ ■ J1		
141	370	10.39	8 200	1.6	86	2KJ3106 - ■ HJ23 - ■ ■ H1		
162	320	9.05	8 510	1.8	86	2KJ3106 - ■ HJ23 - ■ ■ G1		
172	305	8.50	7 090	1.5	86	2KJ3106 - ■ HJ23 - ■ ■ F1		
203	255	7.23	7 560	1.7	86	2KJ3106 - ■ HJ23 - ■ ■ E1		
236	220	6.20	7 730	2.0	86	2KJ3106 - ■ HJ23 - ■ ■ D1		
269	195	5.45	7 520	2.2	86	2KJ3106 - ■ HJ23 - ■ ■ C1		
318	165	4.60	7 170	2.7	86	2KJ3106 - ■ HJ23 - ■ ■ B1		
365	144	4.01	6 890	3.1	86	2KJ3106 - ■ HJ23 - ■ ■ A1		
<b>Z.59-LE132ZST4P</b>								
96	545	15.27	4 220	0.82	81	2KJ3105 - ■ HJ23 - ■ ■ L1		
112	465	13.09	4 220	0.96	81	2KJ3105 - ■ HJ23 - ■ ■ K1		
127	410	11.51	4 180	1.1	81	2KJ3105 - ■ HJ23 - ■ ■ J1		
151	345	9.71	3 370	1.3	81	2KJ3105 - ■ HJ23 - ■ ■ H1		
173	300	8.46	3 750	1.5	81	2KJ3105 - ■ HJ23 - ■ ■ G1		
182	285	8.07	2 750	1.4	81	2KJ3105 - ■ HJ23 - ■ ■ F1		
214	245	6.86	3 150	1.7	81	2KJ3105 - ■ HJ23 - ■ ■ E1		
249	210	5.88	3 490	1.9	81	2KJ3105 - ■ HJ23 - ■ ■ D1		
283	185	5.17	3 670	2.2	81	2KJ3105 - ■ HJ23 - ■ ■ C1		
336	156	4.36	3 540	2.6	81	2KJ3105 - ■ HJ23 - ■ ■ B1		
386	136	3.80	3 440	3.0	81	2KJ3105 - ■ HJ23 - ■ ■ A1		
<b>Z.49-LE132ZST4P</b>								
139	375	10.53	3 160	0.85	79	2KJ3104 - ■ HJ23 - ■ ■ K1		
165	315	8.88	3 150	1.0	79	2KJ3104 - ■ HJ23 - ■ ■ J1		
189	275	7.74	3 110	1.2	79	2KJ3104 - ■ HJ23 - ■ ■ H1		
192	270	7.64	3 010	1.1	79	2KJ3104 - ■ HJ23 - ■ ■ G1		
203	255	7.21	3 000	1.1	79	2KJ3104 - ■ HJ23 - ■ ■ F1		
239	220	6.14	2 930	1.2	79	2KJ3104 - ■ HJ23 - ■ ■ E1		
279	189	5.26	2 870	1.3	79	2KJ3104 - ■ HJ23 - ■ ■ D1		
317	166	4.62	2 820	1.4	79	2KJ3104 - ■ HJ23 - ■ ■ C1		
376	140	3.90	2 730	1.5	79	2KJ3104 - ■ HJ23 - ■ ■ B1		
431	122	3.40	2 210	1.6	79	2KJ3104 - ■ HJ23 - ■ ■ A1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
5.5	<b>E.149-LE132ZST4P</b>							
	150	350		9.76	16 000	3.4	182	2KJ3007 - ■ HJ23 - ■ ■ S1
	161	325		9.11	16 000	3.9	182	2KJ3007 - ■ HJ23 - ■ ■ R1
	<b>E.129-LE132ZST4P</b>							
	150	350		9.79	13 500	1.9	144	2KJ3006 - ■ HJ23 - ■ ■ T1
	175	300		8.38	13 500	2.2	144	2KJ3006 - ■ HJ23 - ■ ■ S1
	186	280		7.88	13 500	2.4	144	2KJ3006 - ■ HJ23 - ■ ■ R1
	198	265		7.39	13 500	3.0	144	2KJ3006 - ■ HJ23 - ■ ■ Q1
	224	235		6.55	13 500	3.4	144	2KJ3006 - ■ HJ23 - ■ ■ P1
	252	205		5.82	13 500	3.8	144	2KJ3006 - ■ HJ23 - ■ ■ N1
	279	188		5.25	13 500	4.2	144	2KJ3006 - ■ HJ23 - ■ ■ M1
	315	167		4.65	13 500	4.8	144	2KJ3006 - ■ HJ23 - ■ ■ L1
	356	148		4.12	13 500	5.3	144	2KJ3006 - ■ HJ23 - ■ ■ K1
	<b>E.109-LE132ZST4P</b>							
	204	255		7.19	10 500	2.2	119	2KJ3005 - ■ HJ23 - ■ ■ Q1
	217	240		6.76	10 500	2.3	119	2KJ3005 - ■ HJ23 - ■ ■ P1
	233	225		6.28	10 500	2.5	119	2KJ3005 - ■ HJ23 - ■ ■ N1
	264	199		5.55	10 500	2.8	119	2KJ3005 - ■ HJ23 - ■ ■ M1
	296	177		4.95	10 500	3.2	119	2KJ3005 - ■ HJ23 - ■ ■ L1
	328	160		4.46	10 500	3.5	119	2KJ3005 - ■ HJ23 - ■ ■ K1
	379	139		3.87	10 500	4.0	119	2KJ3005 - ■ HJ23 - ■ ■ J1
	421	125		3.48	10 500	4.4	119	2KJ3005 - ■ HJ23 - ■ ■ H1
	482	109		3.04	10 500	5.0	119	2KJ3005 - ■ HJ23 - ■ ■ G1
	541	97		2.71	10 500	5.6	119	2KJ3005 - ■ HJ23 - ■ ■ F1
	<b>E.89-LE132ZST4P</b>							
	221	235		6.64	8 000	1.1	96	2KJ3004 - ■ HJ23 - ■ ■ P1
	261	200		5.62	8 000	1.6	96	2KJ3004 - ■ HJ23 - ■ ■ N1
	277	190		5.29	8 000	1.1	96	2KJ3004 - ■ HJ23 - ■ ■ M1
	300	175		4.89	8 000	2.1	96	2KJ3004 - ■ HJ23 - ■ ■ L1
	337	156		4.35	8 000	2.3	96	2KJ3004 - ■ HJ23 - ■ ■ K1
	380	138		3.86	8 000	2.6	96	2KJ3004 - ■ HJ23 - ■ ■ J1
	423	124		3.46	8 000	2.9	96	2KJ3004 - ■ HJ23 - ■ ■ H1
	495	106		2.96	8 000	3.4	96	2KJ3004 - ■ HJ23 - ■ ■ G1
	555	95		2.64	8 000	3.8	96	2KJ3004 - ■ HJ23 - ■ ■ F1
	629	84		2.33	8 000	4.3	96	2KJ3004 - ■ HJ23 - ■ ■ E1
	715	74		2.05	7 920	4.9	96	2KJ3004 - ■ HJ23 - ■ ■ D1
	823	64		1.78	7 640	5.7	96	2KJ3004 - ■ HJ23 - ■ ■ C1
	964	54		1.52	7 320	6.6	96	2KJ3004 - ■ HJ23 - ■ ■ B1
	<b>E.69-LE132ZST4P</b>							
	281	187		5.21	6 100	1.1	82	2KJ3003 - ■ HJ23 - ■ ■ L1
	334	157		4.38	6 100	1.3	82	2KJ3003 - ■ HJ23 - ■ ■ K1
	356	148		4.12	6 100	1.1	82	2KJ3003 - ■ HJ23 - ■ ■ J1
	388	136		3.78	6 100	1.5	82	2KJ3003 - ■ HJ23 - ■ ■ H1
	444	118		3.30	6 100	1.7	82	2KJ3003 - ■ HJ23 - ■ ■ G1
	497	106		2.95	6 100	1.9	82	2KJ3003 - ■ HJ23 - ■ ■ F1
	568	92		2.58	6 100	2.1	82	2KJ3003 - ■ HJ23 - ■ ■ E1
	660	80		2.22	6 100	2.5	82	2KJ3003 - ■ HJ23 - ■ ■ D1
	747	70		1.96	6 100	2.8	82	2KJ3003 - ■ HJ23 - ■ ■ C1
	877	60		1.67	6 100	3.3	82	2KJ3003 - ■ HJ23 - ■ ■ B1
	1 024	51		1.43	6 100	3.8	82	2KJ3003 - ■ HJ23 - ■ ■ A1

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
5.5	<b>E.49-LE132ZST4P</b>							
	426	123	3.44	2 540	0.82	75	2KJ3002 - ■ HJ23 - ■ ■ H1	
	452	116	3.24	2 690	0.87	75	2KJ3002 - ■ HJ23 - ■ ■ G1	
	479	110	3.06	2 800	0.92	75	2KJ3002 - ■ HJ23 - ■ ■ F1	
	563	93	2.60	2 950	1.1	75	2KJ3002 - ■ HJ23 - ■ ■ E1	
	747	70	1.96	3 060	1.5	75	2KJ3002 - ■ HJ23 - ■ ■ C1	
	888	59	1.65	3 010	1.7	75	2KJ3002 - ■ HJ23 - ■ ■ B1	
	1 017	52	1.44	2 900	2.0	75	2KJ3002 - ■ HJ23 - ■ ■ A1	
7.5	<b>D.189-LE132ZMS4P</b>							
	4.7	15 200	313.63	107 000	1.2	700	2KJ3214 - ■ HL23 - ■ ■ T1	
	5.2	13 600	280.59	107 000	1.4	700	2KJ3214 - ■ HL23 - ■ ■ S1	
	5.8	12 300	253.06	107 000	1.5	700	2KJ3214 - ■ HL23 - ■ ■ R1	
	6.6	10 800	223.66	107 000	1.7	700	2KJ3214 - ■ HL23 - ■ ■ Q1	
	7.2	9 960	204.44	107 000	1.9	700	2KJ3214 - ■ HL23 - ■ ■ P1	
	8.0	8 960	183.92	107 000	2.1	700	2KJ3214 - ■ HL23 - ■ ■ N1	
	<b>D.169-LE132ZMS4P</b>							
	4.5	15 900	327.18	69 400	0.88	487	2KJ3213 - ■ HL23 - ■ ■ V1	
	4.8	14 800	305.28	69 800	0.94	487	2KJ3213 - ■ HL23 - ■ ■ U1	
	5.4	13 200	271.40	70 400	1.1	487	2KJ3213 - ■ HL23 - ■ ■ T1	
	6.0	11 800	243.68	70 900	1.2	487	2KJ3213 - ■ HL23 - ■ ■ S1	
	6.7	10 700	220.58	71 300	1.3	487	2KJ3213 - ■ HL23 - ■ ■ R1	
	7.6	9 440	193.75	71 800	1.5	487	2KJ3213 - ■ HL23 - ■ ■ Q1	
	8.4	8 550	175.57	72 200	1.6	487	2KJ3213 - ■ HL23 - ■ ■ P1	
	9.4	7 610	156.36	72 500	1.8	487	2KJ3213 - ■ HL23 - ■ ■ N1	
	10	6 840	140.41	72 800	2.0	487	2KJ3213 - ■ HL23 - ■ ■ M1	
	<b>D.149-LE132ZMS4P</b>							
7.5	9 510	195.24	50 400	0.84	309	2KJ3212 - ■ HL23 - ■ ■ R1		
8.3	8 580	176.18	50 900	0.93	309	2KJ3212 - ■ HL23 - ■ ■ Q1		
9.4	7 600	156.11	51 400	1.1	309	2KJ3212 - ■ HL23 - ■ ■ P1		
11	6 730	138.26	51 800	1.2	309	2KJ3212 - ■ HL23 - ■ ■ N1		
12	5 990	123.04	52 100	1.3	309	2KJ3212 - ■ HL23 - ■ ■ M1		
13	5 370	110.26	52 400	1.5	309	2KJ3212 - ■ HL23 - ■ ■ L1		
15	4 760	97.75	52 700	1.7	309	2KJ3212 - ■ HL23 - ■ ■ K1		
17	4 200	86.29	53 000	1.9	309	2KJ3212 - ■ HL23 - ■ ■ J1		
19	3 690	75.87	53 200	2.2	309	2KJ3212 - ■ HL23 - ■ ■ H1		
21	3 340	68.71	53 400	2.4	309	2KJ3212 - ■ HL23 - ■ ■ G1		
<b>D.129-LE132ZMS4P</b>								
13	5 570	114.36	26 700	0.9	224	2KJ3211 - ■ HL23 - ■ ■ F1		
14	4 970	102.05	27 000	1.0	224	2KJ3211 - ■ HL23 - ■ ■ E1		
16	4 380	89.91	27 400	1.1	224	2KJ3211 - ■ HL23 - ■ ■ D1		
19	3 830	78.78	27 700	1.3	224	2KJ3211 - ■ HL23 - ■ ■ C1		
<b>Z.129-LE132ZMS4P</b>								
24	3 040	62.48	28 200	1.6	220	2KJ3111 - ■ HL23 - ■ ■ X1		
27	2 600	53.47	28 400	1.9	220	2KJ3111 - ■ HL23 - ■ ■ W1		
29	2 450	50.33	28 500	2.0	220	2KJ3111 - ■ HL23 - ■ ■ V1		
31	2 290	47.18	28 600	2.2	220	2KJ3111 - ■ HL23 - ■ ■ U1		
35	2 030	41.82	28 800	2.5	220	2KJ3111 - ■ HL23 - ■ ■ T1		
<b>D.109-LE132ZMS4P</b>								
20	3 600	73.90	20 200	0.86	160	2KJ3210 - ■ HL23 - ■ ■ D1		
23	3 130	64.34	20 200	0.99	160	2KJ3210 - ■ HL23 - ■ ■ C1		

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Electro\_Motor.ir

## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
7.5	<b>Z.109-LE132ZMS4P</b>							
	29	2 490	51.17	20 200	1.2	158	2KJ3110 - ■ HL23 - ■ ■ X1	
	34	2 120	43.64	20 200	1.5	158	2KJ3110 - ■ HL23 - ■ ■ W1	
	36	2 000	41.07	20 200	1.5	158	2KJ3110 - ■ HL23 - ■ ■ V1	
	39	1 850	38.12	20 200	1.7	158	2KJ3110 - ■ HL23 - ■ ■ U1	
	44	1 640	33.70	20 200	1.9	158	2KJ3110 - ■ HL23 - ■ ■ T1	
	49	1 460	30.08	20 200	2.1	158	2KJ3110 - ■ HL23 - ■ ■ S1	
	54	1 310	27.07	20 200	2.3	158	2KJ3110 - ■ HL23 - ■ ■ R1	
	63	1 140	23.49	20 200	2.6	158	2KJ3110 - ■ HL23 - ■ ■ Q1	
	70	1 030	21.13	20 200	2.7	158	2KJ3110 - ■ HL23 - ■ ■ P1	
	80	900	18.47	20 200	3.0	158	2KJ3110 - ■ HL23 - ■ ■ N1	
	89	800	16.48	20 200	3.3	158	2KJ3110 - ■ HL23 - ■ ■ M1	
	<b>Z.89-LE132ZMS4P</b>							
37	1 920	39.41	18 500	0.87	118	2KJ3108 - ■ HL23 - ■ ■ U1		
44	1 620	33.38	18 500	1.0	118	2KJ3108 - ■ HL23 - ■ ■ T1		
47	1 530	31.41	18 500	1.1	118	2KJ3108 - ■ HL23 - ■ ■ S1		
51	1 410	29.01	18 500	1.2	118	2KJ3108 - ■ HL23 - ■ ■ R1		
57	1 250	25.81	18 500	1.3	118	2KJ3108 - ■ HL23 - ■ ■ Q1		
64	1 110	22.92	18 500	1.5	118	2KJ3108 - ■ HL23 - ■ ■ P1		
72	1 000	20.52	18 500	1.7	118	2KJ3108 - ■ HL23 - ■ ■ N1		
84	855	17.54	18 300	2.0	118	2KJ3108 - ■ HL23 - ■ ■ M1		
94	760	15.66	17 800	2.2	118	2KJ3108 - ■ HL23 - ■ ■ L1		
106	670	13.84	17 300	2.5	118	2KJ3108 - ■ HL23 - ■ ■ K1		
121	590	12.15	16 700	2.8	118	2KJ3108 - ■ HL23 - ■ ■ J1		
139	515	10.58	16 100	3.1	118	2KJ3108 - ■ HL23 - ■ ■ H1		
163	440	9.04	15 400	3.5	118	2KJ3108 - ■ HL23 - ■ ■ G1		
190	375	7.74	14 700	4.1	118	2KJ3108 - ■ HL23 - ■ ■ F1		
213	335	6.89	14 300	3.1	118	2KJ3108 - ■ HL23 - ■ ■ E1		
243	295	6.05	13 800	3.6	118	2KJ3108 - ■ HL23 - ■ ■ D1		
279	255	5.26	13 200	4.1	118	2KJ3108 - ■ HL23 - ■ ■ C1		
327	215	4.50	12 600	4.8	118	2KJ3108 - ■ HL23 - ■ ■ B1		
<b>Z.79-LE132ZMS4P</b>								
76	940	19.33	11 600	0.89	96	2KJ3107 - ■ HL23 - ■ ■ N1		
85	840	17.31	11 400	1.0	96	2KJ3107 - ■ HL23 - ■ ■ M1		
97	735	15.13	11 100	1.1	96	2KJ3107 - ■ HL23 - ■ ■ L1		
113	630	12.99	10 700	1.3	96	2KJ3107 - ■ HL23 - ■ ■ K1		
128	555	11.48	10 400	1.5	96	2KJ3107 - ■ HL23 - ■ ■ J1		
151	475	9.76	10 000	1.7	96	2KJ3107 - ■ HL23 - ■ ■ H1		
176	405	8.37	7 870	1.9	96	2KJ3107 - ■ HL23 - ■ ■ G1		
179	395	8.19	6 570	1.8	96	2KJ3107 - ■ HL23 - ■ ■ F1		
205	345	7.16	6 890	2.1	96	2KJ3107 - ■ HL23 - ■ ■ E1		
239	300	6.15	7 060	2.4	96	2KJ3107 - ■ HL23 - ■ ■ D1		
271	265	5.43	7 200	2.6	96	2KJ3107 - ■ HL23 - ■ ■ C1		
318	225	4.62	7 300	3.4	96	2KJ3107 - ■ HL23 - ■ ■ B1		
371	193	3.96	7 320	4.0	96	2KJ3107 - ■ HL23 - ■ ■ A1		
<b>Z.69-LE132ZMS4P</b>								
105	680	14.00	8 970	0.88	86	2KJ3106 - ■ HL23 - ■ ■ K1		
119	600	12.31	8 760	1.0	86	2KJ3106 - ■ HL23 - ■ ■ J1		
141	505	10.39	8 480	1.2	86	2KJ3106 - ■ HL23 - ■ ■ H1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
7.5	<b>Z.69-LE132ZMS4P</b>							
	162	440	9.05	6 060	1.3	86	2KJ3106 - ■ HL23 - ■ ■ G1	
	173	410	8.50	8 100	1.1	86	2KJ3106 - ■ HL23 - ■ ■ F1	
	203	350	7.23	7 800	1.3	86	2KJ3106 - ■ HL23 - ■ ■ E1	
	237	300	6.20	5 730	1.5	86	2KJ3106 - ■ HL23 - ■ ■ D1	
	270	265	5.45	6 050	1.6	86	2KJ3106 - ■ HL23 - ■ ■ C1	
	320	220	4.60	6 470	2.0	86	2KJ3106 - ■ HL23 - ■ ■ B1	
	367	195	4.01	6 560	2.3	86	2KJ3106 - ■ HL23 - ■ ■ A1	
<b>Z.59-LE132ZMS4P</b>								
128	560	11.51	3 580	0.8	81	2KJ3105 - ■ HL23 - ■ ■ J1		
151	470	9.71	3 620	0.95	81	2KJ3105 - ■ HL23 - ■ ■ H1		
174	410	8.46	3 610	1.1	81	2KJ3105 - ■ HL23 - ■ ■ G1		
182	390	8.07	3 520	1.0	81	2KJ3105 - ■ HL23 - ■ ■ F1		
214	330	6.86	3 500	1.2	81	2KJ3105 - ■ HL23 - ■ ■ E1		
250	285	5.88	3 440	1.4	81	2KJ3105 - ■ HL23 - ■ ■ D1		
284	250	5.17	2 270	1.6	81	2KJ3105 - ■ HL23 - ■ ■ C1		
337	210	4.36	2 720	1.9	81	2KJ3105 - ■ HL23 - ■ ■ B1		
387	185	3.80	2 930	2.2	81	2KJ3105 - ■ HL23 - ■ ■ A1		
<b>Z.49-LE132ZMS4P</b>								
190	375	7.74	2 710	0.85	79	2KJ3104 - ■ HL23 - ■ ■ H1		
204	350	7.21	2 580	0.83	79	2KJ3104 - ■ HL23 - ■ ■ F1		
239	295	6.14	2 610	0.89	79	2KJ3104 - ■ HL23 - ■ ■ E1		
279	255	5.26	2 580	0.96	79	2KJ3104 - ■ HL23 - ■ ■ D1		
318	225	4.62	2 560	1.0	79	2KJ3104 - ■ HL23 - ■ ■ C1		
377	190	3.90	2 510	1.1	79	2KJ3104 - ■ HL23 - ■ ■ B1		
432	166	3.40	2 470	1.2	79	2KJ3104 - ■ HL23 - ■ ■ A1		
<b>E.149-LE132ZMS4P</b>								
151	475	9.76	16 000	2.5	182	2KJ3007 - ■ HL23 - ■ ■ S1		
161	440	9.11	16 000	2.8	182	2KJ3007 - ■ HL23 - ■ ■ R1		
181	395	8.10	16 000	3.4	182	2KJ3007 - ■ HL23 - ■ ■ Q1		
202	350	7.27	16 000	3.8	182	2KJ3007 - ■ HL23 - ■ ■ P1		
223	320	6.58	16 000	4.1	182	2KJ3007 - ■ HL23 - ■ ■ N1		
<b>E.129-LE132ZMS4P</b>								
150	475	9.79	13 500	1.4	144	2KJ3006 - ■ HL23 - ■ ■ T1		
175	405	8.38	13 500	1.6	144	2KJ3006 - ■ HL23 - ■ ■ S1		
187	380	7.88	13 500	1.7	144	2KJ3006 - ■ HL23 - ■ ■ R1		
199	360	7.39	13 500	2.2	144	2KJ3006 - ■ HL23 - ■ ■ Q1		
224	315	6.55	13 500	2.5	144	2KJ3006 - ■ HL23 - ■ ■ P1		
253	280	5.82	13 500	2.8	144	2KJ3006 - ■ HL23 - ■ ■ N1		
280	255	5.25	13 500	3.1	144	2KJ3006 - ■ HL23 - ■ ■ M1		
316	225	4.65	13 500	3.5	144	2KJ3006 - ■ HL23 - ■ ■ L1		
357	200	4.12	13 500	3.9	144	2KJ3006 - ■ HL23 - ■ ■ K1		
401	179	3.67	13 500	4.4	144	2KJ3006 - ■ HL23 - ■ ■ J1		
447	160	3.29	13 200	4.9	144	2KJ3006 - ■ HL23 - ■ ■ H1		
505	142	2.91	12 800	5.4	144	2KJ3006 - ■ HL23 - ■ ■ G1		
<b>E.109-LE132ZMS4P</b>								
204	350	7.19	10 500	1.6	119	2KJ3005 - ■ HL23 - ■ ■ Q1		
217	325	6.76	10 500	1.7	119	2KJ3005 - ■ HL23 - ■ ■ P1		
234	305	6.28	10 500	1.8	119	2KJ3005 - ■ HL23 - ■ ■ N1		
265	270	5.55	10 500	2.1	119	2KJ3005 - ■ HL23 - ■ ■ M1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
7.5	<b>E.109-LE132ZMS4P</b>							
	297	240	4.95	10 500	2.3	119	2KJ3005 - ■ HL23 - ■ ■ L1	
	330	215	4.46	10 500	2.6	119	2KJ3005 - ■ HL23 - ■ ■ K1	
	380	189	3.87	10 500	2.9	119	2KJ3005 - ■ HL23 - ■ ■ J1	
	422	170	3.48	10 500	3.2	119	2KJ3005 - ■ HL23 - ■ ■ H1	
	484	148	3.04	10 500	3.7	119	2KJ3005 - ■ HL23 - ■ ■ G1	
	542	132	2.71	10 500	4.1	119	2KJ3005 - ■ HL23 - ■ ■ F1	
	615	116	2.39	10 500	4.6	119	2KJ3005 - ■ HL23 - ■ ■ E1	
	700	102	2.10	10 500	5.2	119	2KJ3005 - ■ HL23 - ■ ■ D1	
	803	89	1.83	10 100	5.9	119	2KJ3005 - ■ HL23 - ■ ■ C1	
	880	81	1.67	9 900	6.5	119	2KJ3005 - ■ HL23 - ■ ■ B1	
	<b>E.89-LE132ZMS4P</b>							
	221	320	6.64	8 000	0.8	96	2KJ3004 - ■ HL23 - ■ ■ P1	
	262	270	5.62	8 000	1.2	96	2KJ3004 - ■ HL23 - ■ ■ N1	
	278	255	5.29	8 000	0.81	96	2KJ3004 - ■ HL23 - ■ ■ M1	
	301	235	4.89	8 000	1.5	96	2KJ3004 - ■ HL23 - ■ ■ L1	
	338	210	4.35	8 000	1.7	96	2KJ3004 - ■ HL23 - ■ ■ K1	
	381	188	3.86	8 000	1.9	96	2KJ3004 - ■ HL23 - ■ ■ J1	
	425	169	3.46	8 000	2.2	96	2KJ3004 - ■ HL23 - ■ ■ H1	
497	144	2.96	8 000	2.5	96	2KJ3004 - ■ HL23 - ■ ■ G1		
557	129	2.64	8 000	2.8	96	2KJ3004 - ■ HL23 - ■ ■ F1		
631	114	2.33	7 990	3.2	96	2KJ3004 - ■ HL23 - ■ ■ E1		
717	100	2.05	7 730	3.6	96	2KJ3004 - ■ HL23 - ■ ■ D1		
826	87	1.78	7 460	4.2	96	2KJ3004 - ■ HL23 - ■ ■ C1		
967	74	1.52	7 160	4.9	96	2KJ3004 - ■ HL23 - ■ ■ B1		
1 131	63	1.30	6 880	5.7	96	2KJ3004 - ■ HL23 - ■ ■ A1		
<b>E.69-LE132ZMS4P</b>								
336	210	4.38	6 100	0.94	82	2KJ3003 - ■ HL23 - ■ ■ K1		
357	200	4.12	6 100	0.82	82	2KJ3003 - ■ HL23 - ■ ■ J1		
389	184	3.78	6 100	1.1	82	2KJ3003 - ■ HL23 - ■ ■ H1		
445	161	3.30	6 100	1.2	82	2KJ3003 - ■ HL23 - ■ ■ G1		
498	144	2.95	6 100	1.4	82	2KJ3003 - ■ HL23 - ■ ■ F1		
570	126	2.58	6 100	1.6	82	2KJ3003 - ■ HL23 - ■ ■ E1		
662	108	2.22	6 100	1.8	82	2KJ3003 - ■ HL23 - ■ ■ D1		
750	96	1.96	6 100	2.1	82	2KJ3003 - ■ HL23 - ■ ■ C1		
880	81	1.67	6 100	2.4	82	2KJ3003 - ■ HL23 - ■ ■ B1		
1 028	70	1.43	6 100	2.8	82	2KJ3003 - ■ HL23 - ■ ■ A1		
<b>E.49-LE132ZMS4P</b>								
565	127	2.60	1 380	0.81	75	2KJ3002 - ■ HL23 - ■ ■ E1		
10 21	70	1.44	2 050	1.5	75	2KJ3002 - ■ HL23 - ■ ■ A1		
9.2	<b>D.189-LE160MPA4P</b>							
	4.7	18 700	313.63	107 000	1.0	717	2KJ3214 - ■ JQ23 - ■ ■ T1	
	5.2	16 700	280.59	107 000	1.1	717	2KJ3214 - ■ JQ23 - ■ ■ S1	
	5.8	15 100	253.06	107 000	1.3	717	2KJ3214 - ■ JQ23 - ■ ■ R1	
	6.6	13 300	223.66	107 000	1.4	717	2KJ3214 - ■ JQ23 - ■ ■ Q1	
	7.2	12 200	204.44	107 000	1.6	717	2KJ3214 - ■ JQ23 - ■ ■ P1	
	8.0	10 900	183.92	107 000	1.7	717	2KJ3214 - ■ JQ23 - ■ ■ N1	
	8.9	9 820	164.36	107 000	1.9	717	2KJ3214 - ■ JQ23 - ■ ■ M1	
	9.9	8 880	148.63	107 000	2.1	717	2KJ3214 - ■ JQ23 - ■ ■ L1	

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>9.2</b>	<b>D.169-LE160MPA4P</b>							
	5.4	16 200	271.40	69 300	0.86	504	2KJ3213 - ■ JQ23 - ■ ■ T1	
	6.0	14 500	243.68	69 900	0.96	504	2KJ3213 - ■ JQ23 - ■ ■ S1	
	6.7	13 100	220.58	70 500	1.1	504	2KJ3213 - ■ JQ23 - ■ ■ R1	
	7.6	11 500	193.75	71 000	1.2	504	2KJ3213 - ■ JQ23 - ■ ■ Q1	
	8.4	10 400	175.57	71 500	1.3	504	2KJ3213 - ■ JQ23 - ■ ■ P1	
	9.4	9 340	156.36	71 900	1.5	504	2KJ3213 - ■ JQ23 - ■ ■ N1	
	10	8 390	140.41	72 200	1.7	504	2KJ3213 - ■ JQ23 - ■ ■ M1	
	12	7 480	125.28	72 600	1.9	504	2KJ3213 - ■ JQ23 - ■ ■ L1	
	13	6 670	111.69	72 900	2.1	504	2KJ3213 - ■ JQ23 - ■ ■ K1	
<b>D.149-LE160MPA4P</b>								
9.4	9 330	156.11	50 500	0.86	325	2KJ3212 - ■ JQ23 - ■ ■ P1		
11	8 260	138.26	51 000	0.97	325	2KJ3212 - ■ JQ23 - ■ ■ N1		
12	7 350	123.04	51 500	1.1	325	2KJ3212 - ■ JQ23 - ■ ■ M1		
13	6 590	110.26	51 800	1.2	325	2KJ3212 - ■ JQ23 - ■ ■ L1		
15	5 840	97.75	52 200	1.4	325	2KJ3212 - ■ JQ23 - ■ ■ K1		
17	5 150	86.29	52 500	1.6	325	2KJ3212 - ■ JQ23 - ■ ■ J1		
19	4 530	75.87	52 800	1.8	325	2KJ3212 - ■ JQ23 - ■ ■ H1		
21	4 100	68.71	53 000	1.9	325	2KJ3212 - ■ JQ23 - ■ ■ G1		
<b>Z.149-LE160MPA4P</b>								
26	3 380	56.64	53 400	2.4	319	2KJ3112 - ■ JQ23 - ■ ■ W1		
28	3 150	52.84	53 500	2.4	319	2KJ3112 - ■ JQ23 - ■ ■ V1		
<b>D.129-LE160MPA4P</b>								
14	6 090	102.05	26 400	0.82	241	2KJ3211 - ■ JQ23 - ■ ■ E1		
16	5 370	89.91	26 800	0.93	241	2KJ3211 - ■ JQ23 - ■ ■ D1		
19	4 700	78.78	27 200	1.1	241	2KJ3211 - ■ JQ23 - ■ ■ C1		
<b>Z.129-LE160MPA4P</b>								
24	3 730	62.48	27 800	1.3	237	2KJ3111 - ■ JQ23 - ■ ■ X1		
27	3 190	53.47	28 100	1.6	237	2KJ3111 - ■ JQ23 - ■ ■ W1		
29	3 000	50.33	28 200	1.7	237	2KJ3111 - ■ JQ23 - ■ ■ V1		
31	2 820	47.18	28 300	1.8	237	2KJ3111 - ■ JQ23 - ■ ■ U1		
35	2 500	41.82	28 500	2.0	237	2KJ3111 - ■ JQ23 - ■ ■ T1		
40	2 220	37.15	28 600	2.3	237	2KJ3111 - ■ JQ23 - ■ ■ S1		
44	2 000	33.52	28 800	2.5	237	2KJ3111 - ■ JQ23 - ■ ■ R1		
49	1 770	29.70	28 900	2.8	237	2KJ3111 - ■ JQ23 - ■ ■ Q1		
<b>D.109-LE160MPA4P</b>								
23	3 840	64.34	20 000	0.81	178	2KJ3210 - ■ JQ23 - ■ ■ C1		
<b>Z.109-LE160MPA4P</b>								
29	3 050	51.17	20 200	1.0	175	2KJ3110 - ■ JQ23 - ■ ■ X1		
34	2 600	43.64	20 200	1.2	175	2KJ3110 - ■ JQ23 - ■ ■ W1		
36	2 450	41.07	20 200	1.3	175	2KJ3110 - ■ JQ23 - ■ ■ V1		
39	2 270	38.12	20 200	1.4	175	2KJ3110 - ■ JQ23 - ■ ■ U1		
44	2 010	33.70	20 200	1.5	175	2KJ3110 - ■ JQ23 - ■ ■ T1		
49	1 790	30.08	20 200	1.7	175	2KJ3110 - ■ JQ23 - ■ ■ S1		
54	1 610	27.07	20 200	1.9	175	2KJ3110 - ■ JQ23 - ■ ■ R1		
63	1 400	23.49	20 200	2.1	175	2KJ3110 - ■ JQ23 - ■ ■ Q1		
70	1 260	21.13	20 200	2.2	175	2KJ3110 - ■ JQ23 - ■ ■ P1		
80	1 100	18.47	20 200	2.5	175	2KJ3110 - ■ JQ23 - ■ ■ N1		
89	985	16.48	20 200	2.7	175	2KJ3110 - ■ JQ23 - ■ ■ M1		
101	865	14.52	19 800	3.0	175	2KJ3110 - ■ JQ23 - ■ ■ L1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>9.2</b>	<b>Z.109-LE160MPA4P</b>							
	116	760	12.72	19 200	3.3	175	2KJ3110 - ■ JQ23 - ■ ■ K1	
	133	660	11.09	18 600	3.7	175	2KJ3110 - ■ JQ23 - ■ ■ J1	
	145	605	10.12	18 200	4.0	175	2KJ3110 - ■ JQ23 - ■ ■ H1	
	<b>Z.89-LE160MPA4P</b>							
	44	1 990	33.38	18 500	0.84	137	2KJ3108 - ■ JQ23 - ■ ■ T1	
	47	1 870	31.41	18 500	0.89	137	2KJ3108 - ■ JQ23 - ■ ■ S1	
	51	1 730	29.01	18 500	0.97	137	2KJ3108 - ■ JQ23 - ■ ■ R1	
	57	1 540	25.81	18 500	1.1	137	2KJ3108 - ■ JQ23 - ■ ■ Q1	
	64	1 370	22.92	18 500	1.2	137	2KJ3108 - ■ JQ23 - ■ ■ P1	
	72	1 220	20.52	18 400	1.4	137	2KJ3108 - ■ JQ23 - ■ ■ N1	
	84	1 040	17.54	17 800	1.6	137	2KJ3108 - ■ JQ23 - ■ ■ M1	
	94	935	15.66	17 300	1.8	137	2KJ3108 - ■ JQ23 - ■ ■ L1	
	106	825	13.84	16 800	2.0	137	2KJ3108 - ■ JQ23 - ■ ■ K1	
	121	725	12.15	16 300	2.2	137	2KJ3108 - ■ JQ23 - ■ ■ J1	
	139	630	10.58	15 800	2.5	137	2KJ3108 - ■ JQ23 - ■ ■ H1	
	163	540	9.04	15 100	2.9	137	2KJ3108 - ■ JQ23 - ■ ■ G1	
	190	460	7.74	14 500	3.3	137	2KJ3108 - ■ JQ23 - ■ ■ F1	
	213	410	6.89	14 100	2.5	137	2KJ3108 - ■ JQ23 - ■ ■ E1	
	243	360	6.05	13 600	2.9	137	2KJ3108 - ■ JQ23 - ■ ■ D1	
	279	310	5.26	13 100	3.4	137	2KJ3108 - ■ JQ23 - ■ ■ C1	
	327	265	4.50	12 500	3.9	137	2KJ3108 - ■ JQ23 - ■ ■ B1	
	382	230	3.85	11 900	4.6	137	2KJ3108 - ■ JQ23 - ■ ■ A1	
	<b>Z.79-LE160MPA4P</b>							
	85	1 030	17.31	10 800	0.81	114	2KJ3107 - ■ JQ23 - ■ ■ M1	
	97	900	15.13	10 600	0.93	114	2KJ3107 - ■ JQ23 - ■ ■ L1	
	113	775	12.99	10 300	1.1	114	2KJ3107 - ■ JQ23 - ■ ■ K1	
	128	685	11.48	10 000	1.2	114	2KJ3107 - ■ JQ23 - ■ ■ J1	
	151	580	9.76	9 760	1.4	114	2KJ3107 - ■ JQ23 - ■ ■ H1	
	176	500	8.37	6 440	1.6	114	2KJ3107 - ■ JQ23 - ■ ■ G1	
	179	490	8.19	4 820	1.5	114	2KJ3107 - ■ JQ23 - ■ ■ F1	
	205	425	7.16	5 410	1.7	114	2KJ3107 - ■ JQ23 - ■ ■ E1	
	239	365	6.15	5 860	1.9	114	2KJ3107 - ■ JQ23 - ■ ■ D1	
	271	325	5.43	6 090	2.1	114	2KJ3107 - ■ JQ23 - ■ ■ C1	
	318	275	4.62	6 380	2.8	114	2KJ3107 - ■ JQ23 - ■ ■ B1	
	371	235	3.96	6 540	3.3	114	2KJ3107 - ■ JQ23 - ■ ■ A1	
	<b>E.149-LE160MPA4P</b>							
	151	580	9.76	16 000	2.1	198	2KJ3007 - ■ JQ23 - ■ ■ S1	
	161	540	9.11	16 000	2.3	198	2KJ3007 - ■ JQ23 - ■ ■ R1	
	181	480	8.10	16 000	2.7	198	2KJ3007 - ■ JQ23 - ■ ■ Q1	
	202	435	7.27	16 000	3.1	198	2KJ3007 - ■ JQ23 - ■ ■ P1	
	223	390	6.58	16 000	3.4	198	2KJ3007 - ■ JQ23 - ■ ■ N1	
	254	345	5.78	16 000	4.3	198	2KJ3007 - ■ JQ23 - ■ ■ M1	
	281	310	5.24	16 000	4.8	198	2KJ3007 - ■ JQ23 - ■ ■ L1	
	<b>E.129-LE160MPA4P</b>							
	150	585	9.79	13 500	1.1	161	2KJ3006 - ■ JQ23 - ■ ■ T1	
	175	500	8.38	13 500	1.3	161	2KJ3006 - ■ JQ23 - ■ ■ S1	
	187	470	7.88	13 500	1.4	161	2KJ3006 - ■ JQ23 - ■ ■ R1	
	199	440	7.39	13 500	1.8	161	2KJ3006 - ■ JQ23 - ■ ■ Q1	

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>9.2</b>	<b>E.129-LE160MPA4P</b>							
	224	390	6.55	13 500	2.0	161	2KJ3006 - ■ JQ23 - ■ ■ P1	
	253	345	5.82	13 500	2.3	161	2KJ3006 - ■ JQ23 - ■ ■ N1	
	280	310	5.25	13 500	2.5	161	2KJ3006 - ■ JQ23 - ■ ■ M1	
	316	275	4.65	13 500	2.9	161	2KJ3006 - ■ JQ23 - ■ ■ L1	
	357	245	4.12	13 500	3.2	161	2KJ3006 - ■ JQ23 - ■ ■ K1	
	401	215	3.67	13 400	3.6	161	2KJ3006 - ■ JQ23 - ■ ■ J1	
	447	197	3.29	13 000	4.0	161	2KJ3006 - ■ JQ23 - ■ ■ H1	
	505	174	2.91	12 600	4.4	161	2KJ3006 - ■ JQ23 - ■ ■ G1	
	572	154	2.57	12 200	5.0	161	2KJ3006 - ■ JQ23 - ■ ■ F1	
	650	135	2.26	11 800	5.6	161	2KJ3006 - ■ JQ23 - ■ ■ E1	
	717	123	2.05	11 500	6.2	161	2KJ3006 - ■ JQ23 - ■ ■ D1	
	<b>E.109-LE160MPA4P</b>							
204	430	7.19	10 500	1.3	137	2KJ3005 - ■ JQ23 - ■ ■ Q1		
217	400	6.76	10 500	1.4	137	2KJ3005 - ■ JQ23 - ■ ■ P1		
234	375	6.28	10 500	1.5	137	2KJ3005 - ■ JQ23 - ■ ■ N1		
265	330	5.55	10 500	1.7	137	2KJ3005 - ■ JQ23 - ■ ■ M1		
297	295	4.95	10 500	1.9	137	2KJ3005 - ■ JQ23 - ■ ■ L1		
330	265	4.46	10 500	2.1	137	2KJ3005 - ■ JQ23 - ■ ■ K1		
380	230	3.87	10 500	2.4	137	2KJ3005 - ■ JQ23 - ■ ■ J1		
422	205	3.48	10 500	2.6	137	2KJ3005 - ■ JQ23 - ■ ■ H1		
484	182	3.04	10 500	3.0	137	2KJ3005 - ■ JQ23 - ■ ■ G1		
542	162	2.71	10 500	3.4	137	2KJ3005 - ■ JQ23 - ■ ■ F1		
615	143	2.39	10 500	3.8	137	2KJ3005 - ■ JQ23 - ■ ■ E1		
700	126	2.10	10 300	4.3	137	2KJ3005 - ■ JQ23 - ■ ■ D1		
803	109	1.83	10 000	4.8	137	2KJ3005 - ■ JQ23 - ■ ■ C1		
880	100	1.67	9 780	5.3	137	2KJ3005 - ■ JQ23 - ■ ■ B1		
1 028	86	1.43	9 390	5.4	137	2KJ3005 - ■ JQ23 - ■ ■ A1		
<b>E.89-LE160MPA4P</b>								
262	335	5.62	8 000	0.95	115	2KJ3004 - ■ JQ23 - ■ ■ N1		
301	290	4.89	8 000	1.2	115	2KJ3004 - ■ JQ23 - ■ ■ L1		
338	260	4.35	8 000	1.4	115	2KJ3004 - ■ JQ23 - ■ ■ K1		
381	230	3.86	8 000	1.6	115	2KJ3004 - ■ JQ23 - ■ ■ J1		
425	205	3.46	8 000	1.8	115	2KJ3004 - ■ JQ23 - ■ ■ H1		
497	177	2.96	8 000	2.0	115	2KJ3004 - ■ JQ23 - ■ ■ G1		
557	158	2.64	8 000	2.3	115	2KJ3004 - ■ JQ23 - ■ ■ F1		
631	139	2.33	7 810	2.6	115	2KJ3004 - ■ JQ23 - ■ ■ E1		
717	123	2.05	7 570	2.9	115	2KJ3004 - ■ JQ23 - ■ ■ D1		
826	106	1.78	7 320	3.4	115	2KJ3004 - ■ JQ23 - ■ ■ C1		
967	91	1.52	7 040	4.0	115	2KJ3004 - ■ JQ23 - ■ ■ B1		
1 131	78	1.30	6 760	4.6	115	2KJ3004 - ■ JQ23 - ■ ■ A1		
<b>E.69-LE160MPA4P</b>								
389	225	3.78	1 000	0.89	90	2KJ3003 - ■ JQ23 - ■ ■ H1		
445	197	3.30	6 100	1.0	90	2KJ3003 - ■ JQ23 - ■ ■ G1		
498	176	2.95	6 100	1.1	90	2KJ3003 - ■ JQ23 - ■ ■ F1		
662	133	2.22	6 100	1.5	90	2KJ3003 - ■ JQ23 - ■ ■ D1		
750	117	1.96	6 100	1.7	90	2KJ3003 - ■ JQ23 - ■ ■ C1		
880	100	1.67	6 030	2.0	90	2KJ3003 - ■ JQ23 - ■ ■ B1		
1 028	86	1.43	5 890	2.3	90	2KJ3003 - ■ JQ23 - ■ ■ A1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>11</b>								
<b>D.189-LE160MPB4P</b>								
	4.7	22 300	313.63	107 000	0.85	709	2KJ3214 - ■ JR23 - ■ ■ T1	
	5.3	19 900	280.59	107 000	0.95	709	2KJ3214 - ■ JR23 - ■ ■ S1	
	5.8	18 000	253.06	107 000	1.1	709	2KJ3214 - ■ JR23 - ■ ■ R1	
	6.6	15 900	223.66	107 000	1.2	709	2KJ3214 - ■ JR23 - ■ ■ Q1	
	7.2	14 500	204.44	107 000	1.3	709	2KJ3214 - ■ JR23 - ■ ■ P1	
	8.0	13 000	183.92	107 000	1.5	709	2KJ3214 - ■ JR23 - ■ ■ N1	
	9.0	11 700	164.36	107 000	1.6	709	2KJ3214 - ■ JR23 - ■ ■ M1	
	9.9	10 500	148.63	107 000	1.8	709	2KJ3214 - ■ JR23 - ■ ■ L1	
	11	9 340	131.17	107 000	2.0	709	2KJ3214 - ■ JR23 - ■ ■ K1	
<b>D.169-LE160MPB4P</b>								
	6.1	17 300	243.68	68 900	0.81	496	2KJ3213 - ■ JR23 - ■ ■ S1	
	6.7	15 700	220.58	69 500	0.89	496	2KJ3213 - ■ JR23 - ■ ■ R1	
	7.6	13 700	193.75	70 200	1.0	496	2KJ3213 - ■ JR23 - ■ ■ Q1	
	8.4	12 500	175.57	70 700	1.1	496	2KJ3213 - ■ JR23 - ■ ■ P1	
	9.4	11 100	156.36	71 200	1.3	496	2KJ3213 - ■ JR23 - ■ ■ N1	
	11	10 000	140.41	71 600	1.4	496	2KJ3213 - ■ JR23 - ■ ■ M1	
	12	8 920	125.28	72 000	1.6	496	2KJ3213 - ■ JR23 - ■ ■ L1	
	13	7 950	111.69	72 400	1.8	496	2KJ3213 - ■ JR23 - ■ ■ K1	
	15	7 050	99.06	72 700	2.0	496	2KJ3213 - ■ JR23 - ■ ■ J1	
	16	6 470	90.94	72 900	2.2	496	2KJ3213 - ■ JR23 - ■ ■ H1	
<b>D.149-LE160MPB4P</b>								
	11	9 840	138.26	50 300	0.81	317	2KJ3212 - ■ JR23 - ■ ■ N1	
	12	8 760	123.04	50 800	0.91	317	2KJ3212 - ■ JR23 - ■ ■ M1	
	13	7 850	110.26	51 200	1.0	317	2KJ3212 - ■ JR23 - ■ ■ L1	
	15	6 960	97.75	51 600	1.1	317	2KJ3212 - ■ JR23 - ■ ■ K1	
	17	6 140	86.29	52 100	1.3	317	2KJ3212 - ■ JR23 - ■ ■ J1	
	19	5 400	75.87	52 400	1.5	317	2KJ3212 - ■ JR23 - ■ ■ H1	
	21	4 890	68.71	52 700	1.6	317	2KJ3212 - ■ JR23 - ■ ■ G1	
<b>Z.149-LE160MPB4P</b>								
	26	4 030	56.64	53 100	2.0	311	2KJ3112 - ■ JR23 - ■ ■ W1	
	28	3 760	52.84	53 200	2.0	311	2KJ3112 - ■ JR23 - ■ ■ V1	
	31	3 340	46.98	53 200	2.3	311	2KJ3112 - ■ JR23 - ■ ■ U1	
	35	3 000	42.18	51 800	2.5	311	2KJ3112 - ■ JR23 - ■ ■ T1	
<b>D.129-LE160MPB4P</b>								
	19	5 610	78.78	26 700	0.89	233	2KJ3211 - ■ JR23 - ■ ■ C1	
<b>Z.129-LE160MPB4P</b>								
	24	4 450	62.48	27 300	1.1	229	2KJ3111 - ■ JR23 - ■ ■ X1	
	28	3 800	53.47	27 700	1.3	229	2KJ3111 - ■ JR23 - ■ ■ W1	
	29	3 580	50.33	27 900	1.4	229	2KJ3111 - ■ JR23 - ■ ■ V1	
	31	3 360	47.18	28 000	1.5	229	2KJ3111 - ■ JR23 - ■ ■ U1	
	35	2 970	41.82	28 200	1.7	229	2KJ3111 - ■ JR23 - ■ ■ T1	
	40	2 640	37.15	28 400	1.9	229	2KJ3111 - ■ JR23 - ■ ■ S1	
	44	2 380	33.52	28 500	2.1	229	2KJ3111 - ■ JR23 - ■ ■ R1	
	50	2 110	29.70	28 600	2.4	229	2KJ3111 - ■ JR23 - ■ ■ Q1	
	56	1 870	26.30	27 800	2.7	229	2KJ3111 - ■ JR23 - ■ ■ P1	
	63	1 660	23.41	27 100	3.0	229	2KJ3111 - ■ JR23 - ■ ■ N1	
<b>Z.109-LE160MPB4P</b>								
	29	3 640	51.17	20 200	0.85	167	2KJ3110 - ■ JR23 - ■ ■ X1	
	34	3 100	43.64	20 200	1.0	167	2KJ3110 - ■ JR23 - ■ ■ W1	

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
11	<b>Z.109-LE160MPB4P</b>							
	36	2 920	41.07	20 200	1.1	167	2KJ3110 - ■ JR23 - ■ ■ V1	
	39	2 710	38.12	20 200	1.1	167	2KJ3110 - ■ JR23 - ■ ■ U1	
	44	2 400	33.70	20 200	1.3	167	2KJ3110 - ■ JR23 - ■ ■ T1	
	49	2 140	30.08	20 200	1.4	167	2KJ3110 - ■ JR23 - ■ ■ S1	
	54	1 920	27.07	20 200	1.6	167	2KJ3110 - ■ JR23 - ■ ■ R1	
	63	1 670	23.49	20 200	1.7	167	2KJ3110 - ■ JR23 - ■ ■ Q1	
	70	1 500	21.13	20 200	1.9	167	2KJ3110 - ■ JR23 - ■ ■ P1	
	80	1 310	18.47	20 200	2.1	167	2KJ3110 - ■ JR23 - ■ ■ N1	
	90	1 170	16.48	19 900	2.2	167	2KJ3110 - ■ JR23 - ■ ■ M1	
	102	1 030	14.52	19 400	2.5	167	2KJ3110 - ■ JR23 - ■ ■ L1	
	116	905	12.72	18 800	2.8	167	2KJ3110 - ■ JR23 - ■ ■ K1	
	133	790	11.09	18 200	3.1	167	2KJ3110 - ■ JR23 - ■ ■ J1	
	146	720	10.12	17 900	3.4	167	2KJ3110 - ■ JR23 - ■ ■ H1	
	169	620	8.71	17 200	3.8	167	2KJ3110 - ■ JR23 - ■ ■ G1	
	175	595	8.41	17 000	3.8	167	2KJ3110 - ■ JR23 - ■ ■ F1	
	199	525	7.41	16 500	4.3	167	2KJ3110 - ■ JR23 - ■ ■ E1	
	<b>Z.89-LE160MPB4P</b>							
	51	2 060	29.01	15 700	0.81	129	2KJ3108 - ■ JR23 - ■ ■ R1	
	57	1 830	25.81	17 000	0.91	129	2KJ3108 - ■ JR23 - ■ ■ Q1	
64	1 630	22.92	17 900	1.0	129	2KJ3108 - ■ JR23 - ■ ■ P1		
72	1 460	20.52	17 700	1.1	129	2KJ3108 - ■ JR23 - ■ ■ N1		
84	1 240	17.54	17 200	1.3	129	2KJ3108 - ■ JR23 - ■ ■ M1		
94	1 110	15.66	16 800	1.5	129	2KJ3108 - ■ JR23 - ■ ■ L1		
107	985	13.84	16 400	1.7	129	2KJ3108 - ■ JR23 - ■ ■ K1		
121	865	12.15	15 900	1.9	129	2KJ3108 - ■ JR23 - ■ ■ J1		
139	750	10.58	15 400	2.1	129	2KJ3108 - ■ JR23 - ■ ■ H1		
163	640	9.04	14 800	2.4	129	2KJ3108 - ■ JR23 - ■ ■ G1		
191	550	7.74	14 200	2.8	129	2KJ3108 - ■ JR23 - ■ ■ F1		
214	490	6.89	13 900	2.1	129	2KJ3108 - ■ JR23 - ■ ■ E1		
244	430	6.05	13 400	2.5	129	2KJ3108 - ■ JR23 - ■ ■ D1		
280	375	5.26	12 900	2.8	129	2KJ3108 - ■ JR23 - ■ ■ C1		
328	320	4.50	12 300	3.3	129	2KJ3108 - ■ JR23 - ■ ■ B1		
383	270	3.85	11 800	3.9	129	2KJ3108 - ■ JR23 - ■ ■ A1		
<b>Z.79-LE160MPB4P</b>								
114	925	12.99	9 850	0.91	106	2KJ3107 - ■ JR23 - ■ ■ K1		
128	815	11.48	9 680	1.0	106	2KJ3107 - ■ JR23 - ■ ■ J1		
151	695	9.76	9 400	1.2	106	2KJ3107 - ■ JR23 - ■ ■ H1		
176	595	8.37	4 990	1.3	106	2KJ3107 - ■ JR23 - ■ ■ G1		
180	580	8.19	8 880	1.2	106	2KJ3107 - ■ JR23 - ■ ■ F1		
206	510	7.16	8 650	1.4	106	2KJ3107 - ■ JR23 - ■ ■ E1		
240	435	6.15	4 550	1.6	106	2KJ3107 - ■ JR23 - ■ ■ D1		
272	385	5.43	4 970	1.8	106	2KJ3107 - ■ JR23 - ■ ■ C1		
319	325	4.62	5 440	2.4	106	2KJ3107 - ■ JR23 - ■ ■ B1		
372	280	3.96	5 700	2.7	106	2KJ3107 - ■ JR23 - ■ ■ A1		
<b>E.149-LE160MPB4P</b>								
151	695	9.76	16 000	1.7	190	2KJ3007 - ■ JR23 - ■ ■ S1		
162	645	9.11	16 000	1.9	190	2KJ3007 - ■ JR23 - ■ ■ R1		
182	575	8.10	16 000	2.3	190	2KJ3007 - ■ JR23 - ■ ■ Q1		

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**SIMOGEAR geared motors**

## Helical geared motors

## Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>11</b>								
<b>E.149-LE160MPB4P</b>								
	203	515	7.27	16 000	2.6	190	2KJ3007 - ■ JR23 - ■ ■ P1	
	224	465	6.58	16 000	2.8	190	2KJ3007 - ■ JR23 - ■ ■ N1	
	255	410	5.78	16 000	3.6	190	2KJ3007 - ■ JR23 - ■ ■ M1	
	281	370	5.24	16 000	4.0	190	2KJ3007 - ■ JR23 - ■ ■ L1	
	316	330	4.67	16 000	4.4	190	2KJ3007 - ■ JR23 - ■ ■ K1	
	352	295	4.19	15 800	5.0	190	2KJ3007 - ■ JR23 - ■ ■ J1	
<b>E.129-LE160MPB4P</b>								
	151	695	9.79	13 500	0.95	153	2KJ3006 - ■ JR23 - ■ ■ T1	
	176	595	8.38	13 500	1.1	153	2KJ3006 - ■ JR23 - ■ ■ S1	
	187	560	7.88	13 500	1.2	153	2KJ3006 - ■ JR23 - ■ ■ R1	
	200	525	7.39	13 500	1.5	153	2KJ3006 - ■ JR23 - ■ ■ Q1	
	225	465	6.55	13 500	1.7	153	2KJ3006 - ■ JR23 - ■ ■ P1	
	253	415	5.82	13 500	1.9	153	2KJ3006 - ■ JR23 - ■ ■ N1	
	281	370	5.25	13 500	2.1	153	2KJ3006 - ■ JR23 - ■ ■ M1	
	317	330	4.65	13 500	2.4	153	2KJ3006 - ■ JR23 - ■ ■ L1	
	358	290	4.12	13 500	2.7	153	2KJ3006 - ■ JR23 - ■ ■ K1	
	402	260	3.67	13 100	3.0	153	2KJ3006 - ■ JR23 - ■ ■ J1	
	448	230	3.29	12 800	3.3	153	2KJ3006 - ■ JR23 - ■ ■ H1	
	507	205	2.91	12 400	3.7	153	2KJ3006 - ■ JR23 - ■ ■ G1	
	574	183	2.57	12 100	4.2	153	2KJ3006 - ■ JR23 - ■ ■ F1	
	653	161	2.26	11 700	4.7	153	2KJ3006 - ■ JR23 - ■ ■ E1	
	720	146	2.05	11 400	5.2	153	2KJ3006 - ■ JR23 - ■ ■ D1	
	829	127	1.78	11 000	6.0	153	2KJ3006 - ■ JR23 - ■ ■ C1	
<b>E.109-LE160MPB4P</b>								
	205	510	7.19	10 500	1.1	129	2KJ3005 - ■ JR23 - ■ ■ Q1	
	218	480	6.76	10 500	1.2	129	2KJ3005 - ■ JR23 - ■ ■ P1	
	235	445	6.28	10 500	1.3	129	2KJ3005 - ■ JR23 - ■ ■ N1	
	266	395	5.55	10 500	1.4	129	2KJ3005 - ■ JR23 - ■ ■ M1	
	298	350	4.95	10 500	1.6	129	2KJ3005 - ■ JR23 - ■ ■ L1	
	331	315	4.46	10 500	1.8	129	2KJ3005 - ■ JR23 - ■ ■ K1	
	381	275	3.87	10 500	2.0	129	2KJ3005 - ■ JR23 - ■ ■ J1	
	424	245	3.48	10 500	2.2	129	2KJ3005 - ■ JR23 - ■ ■ H1	
	485	215	3.04	10 500	2.5	129	2KJ3005 - ■ JR23 - ■ ■ G1	
	544	193	2.71	10 500	2.8	129	2KJ3005 - ■ JR23 - ■ ■ F1	
	617	170	2.39	10 500	3.2	129	2KJ3005 - ■ JR23 - ■ ■ E1	
	702	150	2.10	10 200	3.6	129	2KJ3005 - ■ JR23 - ■ ■ D1	
	806	130	1.83	9 890	4.1	129	2KJ3005 - ■ JR23 - ■ ■ C1	
	883	119	1.67	9 650	4.5	129	2KJ3005 - ■ JR23 - ■ ■ B1	
	1 031	102	1.43	9 280	4.6	129	2KJ3005 - ■ JR23 - ■ ■ A1	
<b>E.89-LE160MPB4P</b>								
	262	400	5.62	8 000	0.80	107	2KJ3004 - ■ JR23 - ■ ■ N1	
	302	345	4.89	8 000	1.0	107	2KJ3004 - ■ JR23 - ■ ■ L1	
	339	310	4.35	8 000	1.2	107	2KJ3004 - ■ JR23 - ■ ■ K1	
	382	275	3.86	8 000	1.3	107	2KJ3004 - ■ JR23 - ■ ■ J1	
	426	245	3.46	8 000	1.5	107	2KJ3004 - ■ JR23 - ■ ■ H1	
	498	210	2.96	8 000	1.7	107	2KJ3004 - ■ JR23 - ■ ■ G1	
	559	188	2.64	7 820	1.9	107	2KJ3004 - ■ JR23 - ■ ■ F1	
	633	166	2.33	7 620	2.2	107	2KJ3004 - ■ JR23 - ■ ■ E1	

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
11	<b>E.89-LE160MPB4P</b>							
	720	146	2.05	7 400	2.5	107	2KJ3004 - ■ JR23 - ■ ■ D1	
	829	127	1.78	7 160	2.9	107	2KJ3004 - ■ JR23 - ■ ■ C1	
	970	108	1.52	6 900	3.3	107	2KJ3004 - ■ JR23 - ■ ■ B1	
	1 135	93	1.30	6 630	3.9	107	2KJ3004 - ■ JR23 - ■ ■ A1	
	<b>E.69-LE160MPB4P</b>							
	447	235	3.30	5 190	0.85	82	2KJ3003 - ■ JR23 - ■ ■ G1	
	500	210	2.95	5 390	0.95	82	2KJ3003 - ■ JR23 - ■ ■ F1	
	883	119	1.67	5 450	1.6	82	2KJ3003 - ■ JR23 - ■ ■ B1	
	1 031	102	1.43	5 370	1.9	82	2KJ3003 - ■ JR23 - ■ ■ A1	
15	<b>D.189-LE160ZLL4P</b>							
	6.6	21 700	223.66	107 000	0.87	734	2KJ3214 - ■ JU23 - ■ ■ Q1	
	7.2	19 800	204.44	107 000	0.96	734	2KJ3214 - ■ JU23 - ■ ■ P1	
	8.0	17 800	183.92	107 000	1.1	734	2KJ3214 - ■ JU23 - ■ ■ N1	
	9.0	15 900	164.36	107 000	1.2	734	2KJ3214 - ■ JU23 - ■ ■ M1	
	9.9	14 400	148.63	107 000	1.3	734	2KJ3214 - ■ JU23 - ■ ■ L1	
	11	12 700	131.17	107 000	1.5	734	2KJ3214 - ■ JU23 - ■ ■ K1	
	13	11 300	116.88	107 000	1.7	734	2KJ3214 - ■ JU23 - ■ ■ J1	
	14	10 200	105.89	107 000	1.8	734	2KJ3214 - ■ JU23 - ■ ■ H1	
	15	9 250	95.24	107 000	2.1	734	2KJ3214 - ■ JU23 - ■ ■ G1	
	<b>D.169-LE160ZLL4P</b>							
	8.4	17 000	175.57	69 000	0.82	521	2KJ3213 - ■ JU23 - ■ ■ P1	
	9.4	15 100	156.36	69 700	0.92	521	2KJ3213 - ■ JU23 - ■ ■ N1	
	11	13 600	140.41	70 300	1.0	521	2KJ3213 - ■ JU23 - ■ ■ M1	
	12	12 100	125.28	70 800	1.2	521	2KJ3213 - ■ JU23 - ■ ■ L1	
	13	10 800	111.69	71 300	1.3	521	2KJ3213 - ■ JU23 - ■ ■ K1	
	15	9 620	99.06	71 800	1.5	521	2KJ3213 - ■ JU23 - ■ ■ J1	
	16	8 830	90.94	72 100	1.6	521	2KJ3213 - ■ JU23 - ■ ■ H1	
	18	7 780	80.12	72 400	1.8	521	2KJ3213 - ■ JU23 - ■ ■ G1	
	22	6 380	65.72	72 900	2.2	521	2KJ3213 - ■ JU23 - ■ ■ F1	
<b>D.149-LE160ZLL4P</b>								
15	9 490	97.75	50 400	0.84	342	2KJ3212 - ■ JU23 - ■ ■ K1		
17	8 380	86.29	51 000	0.95	342	2KJ3212 - ■ JU23 - ■ ■ J1		
19	7 360	75.87	51 500	1.1	342	2KJ3212 - ■ JU23 - ■ ■ H1		
21	6 670	68.71	51 800	1.2	342	2KJ3212 - ■ JU23 - ■ ■ G1		
<b>Z.149-LE160ZLL4P</b>								
26	5 500	56.64	52 400	1.5	336	2KJ3112 - ■ JU23 - ■ ■ W1		
28	5 130	52.84	52 500	1.5	336	2KJ3112 - ■ JU23 - ■ ■ V1		
31	4 560	46.98	51 500	1.7	336	2KJ3112 - ■ JU23 - ■ ■ U1		
35	4 090	42.18	50 300	1.9	336	2KJ3112 - ■ JU23 - ■ ■ T1		
39	3 700	38.18	49 200	2.0	336	2KJ3112 - ■ JU23 - ■ ■ S1		
44	3 250	33.54	47 700	2.5	336	2KJ3112 - ■ JU23 - ■ ■ R1		
49	2 950	30.39	46 600	2.7	336	2KJ3112 - ■ JU23 - ■ ■ Q1		
<b>Z.129-LE160ZLL4P</b>								
24	6 060	62.48	26 400	0.82	254	2KJ3111 - ■ JU23 - ■ ■ X1		
28	5 190	53.47	26 900	0.96	254	2KJ3111 - ■ JU23 - ■ ■ W1		
29	4 880	50.33	27 100	1.0	254	2KJ3111 - ■ JU23 - ■ ■ V1		
31	4 580	47.18	27 300	1.1	254	2KJ3111 - ■ JU23 - ■ ■ U1		
35	4 060	41.82	27 600	1.2	254	2KJ3111 - ■ JU23 - ■ ■ T1		
40	3 600	37.15	27 800	1.4	254	2KJ3111 - ■ JU23 - ■ ■ S1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
15	<b>Z.129-LE160ZLL4P</b>							
	44	3 250	33.52	27 800	1.5	254	2KJ3111 - ■ JU23 - ■ ■ R1	
	50	2 880	29.70	27 300	1.7	254	2KJ3111 - ■ JU23 - ■ ■ Q1	
	56	2 550	26.30	26 700	2.0	254	2KJ3111 - ■ JU23 - ■ ■ P1	
	63	2 270	23.41	26 100	2.2	254	2KJ3111 - ■ JU23 - ■ ■ N1	
	70	2 030	20.98	25 500	2.5	254	2KJ3111 - ■ JU23 - ■ ■ M1	
	79	1 800	18.60	24 900	2.8	254	2KJ3111 - ■ JU23 - ■ ■ L1	
	90	1 590	16.42	24 200	3.1	254	2KJ3111 - ■ JU23 - ■ ■ K1	
	102	1 400	14.43	23 500	3.5	254	2KJ3111 - ■ JU23 - ■ ■ J1	
	<b>Z.109-LE160ZLL4P</b>							
39	3 700	38.12	20 100	0.84	192	2KJ3110 - ■ JU23 - ■ ■ U1		
44	3 270	33.70	20 200	0.95	192	2KJ3110 - ■ JU23 - ■ ■ T1		
49	2 920	30.08	20 200	1.1	192	2KJ3110 - ■ JU23 - ■ ■ S1		
54	2 620	27.07	20 200	1.2	192	2KJ3110 - ■ JU23 - ■ ■ R1		
63	2 280	23.49	19 900	1.3	192	2KJ3110 - ■ JU23 - ■ ■ Q1		
70	2 050	21.13	19 600	1.4	192	2KJ3110 - ■ JU23 - ■ ■ P1		
80	1 790	18.47	19 200	1.5	192	2KJ3110 - ■ JU23 - ■ ■ N1		
90	1 600	16.48	18 900	1.6	192	2KJ3110 - ■ JU23 - ■ ■ M1		
102	1 410	14.52	18 500	1.8	192	2KJ3110 - ■ JU23 - ■ ■ L1		
116	1 230	12.72	18 100	2.0	192	2KJ3110 - ■ JU23 - ■ ■ K1		
133	1 070	11.09	17 600	2.3	192	2KJ3110 - ■ JU23 - ■ ■ J1		
146	980	10.12	17 300	2.5	192	2KJ3110 - ■ JU23 - ■ ■ H1		
169	845	8.71	16 700	2.8	192	2KJ3110 - ■ JU23 - ■ ■ G1		
175	815	8.41	16 400	2.8	192	2KJ3110 - ■ JU23 - ■ ■ F1		
199	720	7.41	16 000	3.2	192	2KJ3110 - ■ JU23 - ■ ■ E1		
227	630	6.50	15 500	3.6	192	2KJ3110 - ■ JU23 - ■ ■ D1		
261	550	5.66	15 000	4.2	192	2KJ3110 - ■ JU23 - ■ ■ C1		
285	500	5.17	14 700	4.5	192	2KJ3110 - ■ JU23 - ■ ■ B1		
331	430	4.45	14 200	5.0	192	2KJ3110 - ■ JU23 - ■ ■ A1		
<b>Z.89-LE160ZLL4P</b>								
72	1 990	20.52	12 100	0.84	154	2KJ3108 - ■ JU23 - ■ ■ N1		
84	1 700	17.54	13 800	0.99	154	2KJ3108 - ■ JU23 - ■ ■ M1		
94	1 520	15.66	14 700	1.1	154	2KJ3108 - ■ JU23 - ■ ■ L1		
107	1 340	13.84	15 300	1.2	154	2KJ3108 - ■ JU23 - ■ ■ K1		
121	1 180	12.15	15 000	1.4	154	2KJ3108 - ■ JU23 - ■ ■ J1		
139	1 020	10.58	14 600	1.5	154	2KJ3108 - ■ JU23 - ■ ■ H1		
163	875	9.04	14 100	1.8	154	2KJ3108 - ■ JU23 - ■ ■ G1		
191	750	7.74	13 600	2.0	154	2KJ3108 - ■ JU23 - ■ ■ F1		
214	665	6.89	13 400	1.6	154	2KJ3108 - ■ JU23 - ■ ■ E1		
244	585	6.05	13 000	1.8	154	2KJ3108 - ■ JU23 - ■ ■ D1		
280	510	5.26	12 500	2.1	154	2KJ3108 - ■ JU23 - ■ ■ C1		
328	435	4.50	12 000	2.4	154	2KJ3108 - ■ JU23 - ■ ■ B1		
383	370	3.85	11 500	2.8	154	2KJ3108 - ■ JU23 - ■ ■ A1		
<b>Z.79-LE160ZLL4P</b>								
151	945	9.76	8 640	0.86	131	2KJ3107 - ■ JU23 - ■ ■ H1		
176	810	8.37	8 480	0.97	131	2KJ3107 - ■ JU23 - ■ ■ G1		
180	795	8.19	8 150	0.9	131	2KJ3107 - ■ JU23 - ■ ■ F1		
206	695	7.16	8 020	1.0	131	2KJ3107 - ■ JU23 - ■ ■ E1		
240	595	6.15	7 840	1.2	131	2KJ3107 - ■ JU23 - ■ ■ D1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
15	<b>Z.79-LE160ZLL4P</b>							
	272	525	5.43	7 680	1.3	131	2KJ3107 - ■ JU23 - ■ ■ C1	
	319	445	4.62	7 460	1.7	131	2KJ3107 - ■ JU23 - ■ ■ B1	
	372	385	3.96	3 760	2.0	131	2KJ3107 - ■ JU23 - ■ ■ A1	
	<b>E.149-LE160ZLL4P</b>							
	151	945	9.76	16 000	1.3	215	2KJ3007 - ■ JU23 - ■ ■ S1	
	162	885	9.11	16 000	1.4	215	2KJ3007 - ■ JU23 - ■ ■ R1	
	182	785	8.10	16 000	1.7	215	2KJ3007 - ■ JU23 - ■ ■ Q1	
	203	705	7.27	16 000	1.9	215	2KJ3007 - ■ JU23 - ■ ■ P1	
	224	635	6.58	16 000	2.1	215	2KJ3007 - ■ JU23 - ■ ■ N1	
	255	560	5.78	16 000	2.7	215	2KJ3007 - ■ JU23 - ■ ■ M1	
	281	505	5.24	16 000	2.9	215	2KJ3007 - ■ JU23 - ■ ■ L1	
	316	450	4.67	15 700	3.3	215	2KJ3007 - ■ JU23 - ■ ■ K1	
	352	405	4.19	15 300	3.6	215	2KJ3007 - ■ JU23 - ■ ■ J1	
	394	360	3.74	14 900	4.1	215	2KJ3007 - ■ JU23 - ■ ■ H1	
443	320	3.33	14 500	4.6	215	2KJ3007 - ■ JU23 - ■ ■ G1		
498	285	2.96	14 100	5.1	215	2KJ3007 - ■ JU23 - ■ ■ F1		
544	260	2.71	13 800	5.5	215	2KJ3007 - ■ JU23 - ■ ■ E1		
<b>E.129-LE160ZLL4P</b>								
176	810	8.38	13 500	0.82	178	2KJ3006 - ■ JU23 - ■ ■ S1		
187	765	7.88	13 500	0.87	178	2KJ3006 - ■ JU23 - ■ ■ R1		
200	715	7.39	13 500	1.1	178	2KJ3006 - ■ JU23 - ■ ■ Q1		
225	635	6.55	13 500	1.3	178	2KJ3006 - ■ JU23 - ■ ■ P1		
253	565	5.82	13 500	1.4	178	2KJ3006 - ■ JU23 - ■ ■ N1		
281	510	5.25	13 500	1.6	178	2KJ3006 - ■ JU23 - ■ ■ M1		
317	450	4.65	13 200	1.8	178	2KJ3006 - ■ JU23 - ■ ■ L1		
358	400	4.12	12 900	2.0	178	2KJ3006 - ■ JU23 - ■ ■ K1		
402	355	3.67	12 600	2.2	178	2KJ3006 - ■ JU23 - ■ ■ J1		
448	320	3.29	12 300	2.4	178	2KJ3006 - ■ JU23 - ■ ■ H1		
507	280	2.91	12 000	2.7	178	2KJ3006 - ■ JU23 - ■ ■ G1		
574	250	2.57	11 600	3.1	178	2KJ3006 - ■ JU23 - ■ ■ F1		
653	215	2.26	11 300	3.5	178	2KJ3006 - ■ JU23 - ■ ■ E1		
720	199	2.05	11 000	3.8	178	2KJ3006 - ■ JU23 - ■ ■ D1		
829	173	1.78	10 700	4.4	178	2KJ3006 - ■ JU23 - ■ ■ C1		
1 010	142	1.46	10 100	5.3	178	2KJ3006 - ■ JU23 - ■ ■ B1		
1 190	120	1.24	9 750	6.2	178	2KJ3006 - ■ JU23 - ■ ■ A1		
<b>E.109-LE160ZLL4P</b>								
205	695	7.19	10 500	0.81	154	2KJ3005 - ■ JU23 - ■ ■ Q1		
218	655	6.76	10 500	0.86	154	2KJ3005 - ■ JU23 - ■ ■ P1		
235	610	6.28	10 500	0.93	154	2KJ3005 - ■ JU23 - ■ ■ N1		
266	535	5.55	10 500	1.0	154	2KJ3005 - ■ JU23 - ■ ■ M1		
298	480	4.95	10 500	1.2	154	2KJ3005 - ■ JU23 - ■ ■ L1		
331	430	4.46	10 500	1.3	154	2KJ3005 - ■ JU23 - ■ ■ K1		
381	375	3.87	10 500	1.5	154	2KJ3005 - ■ JU23 - ■ ■ J1		
424	335	3.48	10 500	1.6	154	2KJ3005 - ■ JU23 - ■ ■ H1		
485	295	3.04	10 500	1.8	154	2KJ3005 - ■ JU23 - ■ ■ G1		
544	260	2.71	10 500	2.1	154	2KJ3005 - ■ JU23 - ■ ■ F1		
617	230	2.39	10 200	2.3	154	2KJ3005 - ■ JU23 - ■ ■ E1		
702	200	2.10	9 940	2.6	154	2KJ3005 - ■ JU23 - ■ ■ D1		

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
15	<b>E.109-LE160ZLL4P</b>							
	806	178	1.83	9 590	3.0	154	2KJ3005 - ■ JU23 - ■ ■ C1	
	883	162	1.67	9 390	3.3	154	2KJ3005 - ■ JU23 - ■ ■ B1	
	1 031	139	1.43	9 040	3.3	154	2KJ3005 - ■ JU23 - ■ ■ A1	
	<b>E.89-LE160ZLL4P</b>							
	339	420	4.35	7 010	0.85	132	2KJ3004 - ■ JU23 - ■ ■ K1	
	382	375	3.86	7 190	0.96	132	2KJ3004 - ■ JU23 - ■ ■ J1	
	426	335	3.46	7 360	1.1	132	2KJ3004 - ■ JU23 - ■ ■ H1	
	498	285	2.96	7 470	1.3	132	2KJ3004 - ■ JU23 - ■ ■ G1	
	559	255	2.64	7 360	1.4	132	2KJ3004 - ■ JU23 - ■ ■ F1	
	633	225	2.33	7 210	1.6	132	2KJ3004 - ■ JU23 - ■ ■ E1	
	720	199	2.05	7 020	1.8	132	2KJ3004 - ■ JU23 - ■ ■ D1	
	829	173	1.78	6 830	2.1	132	2KJ3004 - ■ JU23 - ■ ■ C1	
	970	148	1.52	6 600	2.4	132	2KJ3004 - ■ JU23 - ■ ■ B1	
	1 135	126	1.30	6 370	2.9	132	2KJ3004 - ■ JU23 - ■ ■ A1	
18.5	<b>D.189-LES180MQ4P</b>							
	8.0	22 100	183.92	107 000	0.86	783	2KJ3214 - ■ KL33 - ■ ■ N1	
	8.9	19 800	164.36	107 000	0.96	783	2KJ3214 - ■ KL33 - ■ ■ M1	
	9.9	17 900	148.63	107 000	1.1	783	2KJ3214 - ■ KL33 - ■ ■ L1	
	11	15 800	131.17	107 000	1.2	783	2KJ3214 - ■ KL33 - ■ ■ K1	
	13	14 000	116.88	107 000	1.3	783	2KJ3214 - ■ KL33 - ■ ■ J1	
	14	12 700	105.89	107 000	1.5	783	2KJ3214 - ■ KL33 - ■ ■ H1	
	15	11 400	95.24	107 000	1.7	783	2KJ3214 - ■ KL33 - ■ ■ G1	
	19	9 540	79.14	107 000	2.0	783	2KJ3214 - ■ KL33 - ■ ■ F1	
	21	8 480	70.36	107 000	2.2	783	2KJ3214 - ■ KL33 - ■ ■ E1	
	<b>D.169-LES180MQ4P</b>							
	10	16 900	140.41	69 000	0.83	570	2KJ3213 - ■ KL33 - ■ ■ M1	
	12	15 100	125.28	69 700	0.93	570	2KJ3213 - ■ KL33 - ■ ■ L1	
	13	13 400	111.69	70 400	1.0	570	2KJ3213 - ■ KL33 - ■ ■ K1	
	15	11 900	99.06	70 900	1.2	570	2KJ3213 - ■ KL33 - ■ ■ J1	
	16	10 900	90.94	71 300	1.3	570	2KJ3213 - ■ KL33 - ■ ■ H1	
	18	9 660	80.12	71 700	1.4	570	2KJ3213 - ■ KL33 - ■ ■ G1	
	22	7 920	65.72	72 400	1.8	570	2KJ3213 - ■ KL33 - ■ ■ F1	
	25	6 950	57.63	72 800	2.0	570	2KJ3213 - ■ KL33 - ■ ■ E1	
	33	5 430	45.06	73 300	2.6	570	2KJ3213 - ■ KL33 - ■ ■ D1	
	<b>Z.169-LES180MQ4P</b>							
	40	4 400	36.55	73 700	2.7	553	2KJ3113 - ■ KL33 - ■ ■ Q1	
	<b>D.149-LES180MQ4P</b>							
	19	9 150	75.87	50 600	0.87	397	2KJ3212 - ■ KL33 - ■ ■ H1	
	21	8 280	68.71	51 000	0.97	397	2KJ3212 - ■ KL33 - ■ ■ G1	
	24	7 210	59.82	51 500	1.1	397	2KJ3212 - ■ KL33 - ■ ■ F1	
	30	5 910	49.05	50 500	1.4	397	2KJ3212 - ■ KL33 - ■ ■ E1	
	34	5 240	43.51	49 400	1.5	397	2KJ3212 - ■ KL33 - ■ ■ D1	
	37	4 750	39.41	48 400	1.7	397	2KJ3212 - ■ KL33 - ■ ■ C1	
	43	4 130	34.31	47 000	1.9	397	2KJ3212 - ■ KL33 - ■ ■ B1	
<b>Z.149-LES180MQ4P</b>								
48	3 660	30.39	45 800	2.2	415	2KJ3112 - ■ KL33 - ■ ■ Q1		
54	3 260	27.07	44 600	2.5	415	2KJ3112 - ■ KL33 - ■ ■ P1		
60	2 930	24.30	43 500	2.7	415	2KJ3112 - ■ KL33 - ■ ■ N1		
68	2 610	21.69	42 300	3.1	415	2KJ3112 - ■ KL33 - ■ ■ M1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>18.5</b>	<b>Z.129-LES180MQ4P</b>							
	56	3 170	26.30	25 700	1.6	331	2KJ3111 - ■ KL33 - ■ ■ P1	
	63	2 820	23.41	25 200	1.8	331	2KJ3111 - ■ KL33 - ■ ■ N1	
	70	2 530	20.98	24 700	2.0	331	2KJ3111 - ■ KL33 - ■ ■ M1	
	79	2 240	18.60	24 200	2.2	331	2KJ3111 - ■ KL33 - ■ ■ L1	
	89	1 980	16.42	23 600	2.5	331	2KJ3111 - ■ KL33 - ■ ■ K1	
	102	1 740	14.43	23 000	2.8	331	2KJ3111 - ■ KL33 - ■ ■ J1	
	112	1 570	13.07	22 500	3.1	331	2KJ3111 - ■ KL33 - ■ ■ H1	
	129	1 370	11.38	21 800	3.5	331	2KJ3111 - ■ KL33 - ■ ■ G1	
	157	1 120	9.33	20 900	4.1	331	2KJ3111 - ■ KL33 - ■ ■ F1	
	172	1 020	8.53	20 200	3.5	331	2KJ3111 - ■ KL33 - ■ ■ E1	
	195	900	7.50	19 600	4.0	331	2KJ3111 - ■ KL33 - ■ ■ D1	
	216	815	6.79	19 100	4.4	331	2KJ3111 - ■ KL33 - ■ ■ C1	
	<b>Z.109-LES180MQ4P</b>							
	69	2 540	21.13	18 500	1.1	271	2KJ3110 - ■ KL33 - ■ ■ P1	
79	2 220	18.47	18 300	1.2	271	2KJ3110 - ■ KL33 - ■ ■ N1		
89	1 980	16.48	18 100	1.3	271	2KJ3110 - ■ KL33 - ■ ■ M1		
101	1 750	14.52	17 700	1.5	271	2KJ3110 - ■ KL33 - ■ ■ L1		
115	1 530	12.72	17 400	1.6	271	2KJ3110 - ■ KL33 - ■ ■ K1		
132	1 330	11.09	17 000	1.8	271	2KJ3110 - ■ KL33 - ■ ■ J1		
145	1 220	10.12	16 700	2.0	271	2KJ3110 - ■ KL33 - ■ ■ H1		
168	1 050	8.71	16 300	2.3	271	2KJ3110 - ■ KL33 - ■ ■ G1		
174	1 010	8.41	16 000	2.3	271	2KJ3110 - ■ KL33 - ■ ■ F1		
198	890	7.41	15 600	2.6	271	2KJ3110 - ■ KL33 - ■ ■ E1		
225	780	6.50	15 200	2.9	271	2KJ3110 - ■ KL33 - ■ ■ D1		
259	680	5.66	14 700	3.4	271	2KJ3110 - ■ KL33 - ■ ■ C1		
283	620	5.17	14 400	3.7	271	2KJ3110 - ■ KL33 - ■ ■ B1		
329	535	4.45	13 900	4.0	271	2KJ3110 - ■ KL33 - ■ ■ A1		
<b>Z.89-LES180MQ4P</b>								
94	1 880	15.66	10 300	0.89	230	2KJ3108 - ■ KL33 - ■ ■ L1		
106	1 660	13.84	11 700	1.0	230	2KJ3108 - ■ KL33 - ■ ■ K1		
121	1 460	12.15	12 800	1.1	230	2KJ3108 - ■ KL33 - ■ ■ J1		
138	1 270	10.58	13 800	1.2	230	2KJ3108 - ■ KL33 - ■ ■ H1		
162	1 090	9.04	13 500	1.4	230	2KJ3108 - ■ KL33 - ■ ■ G1		
189	930	7.74	13 200	1.6	230	2KJ3108 - ■ KL33 - ■ ■ F1		
213	830	6.89	12 600	1.3	230	2KJ3108 - ■ KL33 - ■ ■ E1		
242	730	6.05	12 700	1.5	230	2KJ3108 - ■ KL33 - ■ ■ D1		
279	630	5.26	12 300	1.7	230	2KJ3108 - ■ KL33 - ■ ■ C1		
326	540	4.50	11 800	2.0	230	2KJ3108 - ■ KL33 - ■ ■ B1		
381	460	3.85	11 300	2.3	230	2KJ3108 - ■ KL33 - ■ ■ A1		
<b>E.149-LES180MQ4P</b>								
280	630	5.24	15 600	2.4	294	2KJ3007 - ■ KL33 - ■ ■ L1		
314	560	4.67	15 200	2.6	294	2KJ3007 - ■ KL33 - ■ ■ K1		
350	505	4.19	14 900	2.9	294	2KJ3007 - ■ KL33 - ■ ■ J1		
392	450	3.74	14 500	3.3	294	2KJ3007 - ■ KL33 - ■ ■ H1		
440	400	3.33	14 200	3.7	294	2KJ3007 - ■ KL33 - ■ ■ G1		
495	355	2.96	13 800	4.1	294	2KJ3007 - ■ KL33 - ■ ■ F1		
541	325	2.71	13 500	4.5	294	2KJ3007 - ■ KL33 - ■ ■ E1		
613	285	2.39	13 100	5.1	294	2KJ3007 - ■ KL33 - ■ ■ D1		
747	235	1.96	12 500	6.2	294	2KJ3007 - ■ KL33 - ■ ■ C1		

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**SIMOGEAR geared motors**

## Helical geared motors

## Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>18.5</b>	<b>E.129-LES180MQ4P</b>								
	356	495	4.12	12 400	1.6	255	2KJ3006 - ■ KL33 - ■ ■ K1		
	399	440	3.67	12 100	1.8	255	2KJ3006 - ■ KL33 - ■ ■ J1		
	445	395	3.29	11 900	2.0	255	2KJ3006 - ■ KL33 - ■ ■ H1		
	503	350	2.91	11 600	2.2	255	2KJ3006 - ■ KL33 - ■ ■ G1		
	570	310	2.57	11 300	2.5	255	2KJ3006 - ■ KL33 - ■ ■ F1		
	648	270	2.26	11 000	2.8	255	2KJ3006 - ■ KL33 - ■ ■ E1		
	715	245	2.05	10 800	3.1	255	2KJ3006 - ■ KL33 - ■ ■ D1		
	823	215	1.78	10 400	3.5	255	2KJ3006 - ■ KL33 - ■ ■ C1		
	1 003	176	1.46	9 970	4.3	255	2KJ3006 - ■ KL33 - ■ ■ B1		
	1 181	150	1.24	9 560	5.0	255	2KJ3006 - ■ KL33 - ■ ■ A1		
<b>18.5</b>	<b>E.109-LES180MQ4P</b>								
	421	420	3.48	10 500	1.3	232	2KJ3005 - ■ KL33 - ■ ■ H1		
	482	365	3.04	10 400	1.5	232	2KJ3005 - ■ KL33 - ■ ■ G1		
	541	325	2.71	10 200	1.7	232	2KJ3005 - ■ KL33 - ■ ■ F1		
	613	285	2.39	9 950	1.9	232	2KJ3005 - ■ KL33 - ■ ■ E1		
	698	250	2.10	9 670	2.1	232	2KJ3005 - ■ KL33 - ■ ■ D1		
	801	220	1.83	9 360	2.4	232	2KJ3005 - ■ KL33 - ■ ■ C1		
	877	200	1.67	9 170	2.6	232	2KJ3005 - ■ KL33 - ■ ■ B1		
	1 024	172	1.43	8 850	2.7	232	2KJ3005 - ■ KL33 - ■ ■ A1		
	<b>18.5</b>	<b>E.89-LES180MQ4P</b>							
		555	315	2.64	6 310	1.1	208	2KJ3004 - ■ KL33 - ■ ■ F1	
715		245	2.05	6 490	1.5	208	2KJ3004 - ■ KL33 - ■ ■ D1		
823		215	1.78	6 470	1.7	208	2KJ3004 - ■ KL33 - ■ ■ C1		
964		183	1.52	6 350	2.0	208	2KJ3004 - ■ KL33 - ■ ■ B1		
1 127		157	1.30	6 150	2.3	208	2KJ3004 - ■ KL33 - ■ ■ A1		
<b>22</b>	<b>D.189-LES180ZLN4P</b>								
	8.9	23 400	164.36	107 000	0.81	788	2KJ3214 - ■ KN33 - ■ ■ M1		
	9.9	21 200	148.63	107 000	0.89	788	2KJ3214 - ■ KN33 - ■ ■ L1		
	11	18 700	131.17	107 000	1.0	788	2KJ3214 - ■ KN33 - ■ ■ K1		
	13	16 700	116.88	107 000	1.1	788	2KJ3214 - ■ KN33 - ■ ■ J1		
	14	15 100	105.89	107 000	1.3	788	2KJ3214 - ■ KN33 - ■ ■ H1		
	15	13 600	95.24	107 000	1.4	788	2KJ3214 - ■ KN33 - ■ ■ G1		
	19	11 300	79.14	107 000	1.7	788	2KJ3214 - ■ KN33 - ■ ■ F1		
	21	10 000	70.36	107 000	1.9	788	2KJ3214 - ■ KN33 - ■ ■ E1		
	26	8 010	56.08	107 000	2.4	788	2KJ3214 - ■ KN33 - ■ ■ D1		
	<b>22</b>	<b>D.169-LES180ZLN4P</b>							
		13	15 900	111.69	69 400	0.88	575	2KJ3213 - ■ KN33 - ■ ■ K1	
		15	14 100	99.06	70 100	0.99	575	2KJ3213 - ■ KN33 - ■ ■ J1	
		16	12 900	90.94	70 500	1.1	575	2KJ3213 - ■ KN33 - ■ ■ H1	
		18	11 400	80.12	71 000	1.2	575	2KJ3213 - ■ KN33 - ■ ■ G1	
		22	9 390	65.72	71 800	1.5	575	2KJ3213 - ■ KN33 - ■ ■ F1	
26		8 230	57.63	72 300	1.7	575	2KJ3213 - ■ KN33 - ■ ■ E1		
33		6 440	45.06	72 900	2.2	575	2KJ3213 - ■ KN33 - ■ ■ D1		
35		5 920	41.43	73 100	2.4	575	2KJ3213 - ■ KN33 - ■ ■ C1		
40		5 190	36.33	73 400	2.7	575	2KJ3213 - ■ KN33 - ■ ■ B1		
<b>22</b>		<b>Z.169-LES180ZLN4P</b>							
40	5 220	36.55	73 400	2.3	558	2KJ3113 - ■ KN33 - ■ ■ Q1			
<b>22</b>	<b>D.149-LES180ZLN4P</b>								
21	9 820	68.71	50 300	0.8	402	2KJ3212 - ■ KN33 - ■ ■ G1			

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
22	<b>D.149-LES180ZLN4P</b>							
	25	8 550	59.82	50 500	0.94	402	2KJ3212 - ■ KN33 - ■ ■ F1	
	30	7 010	49.05	49 000	1.1	402	2KJ3212 - ■ KN33 - ■ ■ E1	
	34	6 210	43.51	48 000	1.3	402	2KJ3212 - ■ KN33 - ■ ■ D1	
	37	5 630	39.41	47 100	1.4	402	2KJ3212 - ■ KN33 - ■ ■ C1	
	43	4 900	34.31	45 900	1.6	402	2KJ3212 - ■ KN33 - ■ ■ B1	
	<b>Z.149-LES180ZLN4P</b>							
	48	4 340	30.39	44 800	1.8	420	2KJ3112 - ■ KN33 - ■ ■ Q1	
	54	3 860	27.07	43 700	2.1	420	2KJ3112 - ■ KN33 - ■ ■ P1	
	60	3 470	24.30	42 700	2.3	420	2KJ3112 - ■ KN33 - ■ ■ N1	
	68	3 100	21.69	41 600	2.6	420	2KJ3112 - ■ KN33 - ■ ■ M1	
	76	2 760	19.33	40 500	2.9	420	2KJ3112 - ■ KN33 - ■ ■ L1	
	86	2 450	17.15	39 400	3.3	420	2KJ3112 - ■ KN33 - ■ ■ K1	
	<b>Z.129-LES180ZLN4P</b>							
	56	3 750	26.30	24 600	1.3	336	2KJ3111 - ■ KN33 - ■ ■ P1	
	63	3 340	23.41	24 300	1.5	336	2KJ3111 - ■ KN33 - ■ ■ N1	
	70	2 990	20.98	23 900	1.7	336	2KJ3111 - ■ KN33 - ■ ■ M1	
	79	2 650	18.60	23 500	1.9	336	2KJ3111 - ■ KN33 - ■ ■ L1	
	90	2 340	16.42	23 000	2.1	336	2KJ3111 - ■ KN33 - ■ ■ K1	
	102	2 060	14.43	22 400	2.4	336	2KJ3111 - ■ KN33 - ■ ■ J1	
	112	1 860	13.07	22 000	2.6	336	2KJ3111 - ■ KN33 - ■ ■ H1	
	129	1 620	11.38	21 400	2.9	336	2KJ3111 - ■ KN33 - ■ ■ G1	
158	1 330	9.33	20 500	3.5	336	2KJ3111 - ■ KN33 - ■ ■ F1		
172	1 210	8.53	19 800	3.0	336	2KJ3111 - ■ KN33 - ■ ■ E1		
196	1 070	7.50	19 200	3.4	336	2KJ3111 - ■ KN33 - ■ ■ D1		
216	970	6.79	18 800	3.7	336	2KJ3111 - ■ KN33 - ■ ■ C1		
249	845	5.91	18 200	4.3	336	2KJ3111 - ■ KN33 - ■ ■ B1		
303	690	4.85	17 300	4.7	336	2KJ3111 - ■ KN33 - ■ ■ A1		
<b>Z.109-LES180ZLN4P</b>								
70	3 020	21.13	17 400	0.94	276	2KJ3110 - ■ KN33 - ■ ■ P1		
80	2 640	18.47	17 300	1.0	276	2KJ3110 - ■ KN33 - ■ ■ N1		
89	2 350	16.48	17 200	1.1	276	2KJ3110 - ■ KN33 - ■ ■ M1		
101	2 070	14.52	17 000	1.2	276	2KJ3110 - ■ KN33 - ■ ■ L1		
116	1 810	12.72	16 700	1.4	276	2KJ3110 - ■ KN33 - ■ ■ K1		
133	1 580	11.09	16 400	1.6	276	2KJ3110 - ■ KN33 - ■ ■ J1		
145	1 440	10.12	16 200	1.7	276	2KJ3110 - ■ KN33 - ■ ■ H1		
169	1 240	8.71	15 800	1.9	276	2KJ3110 - ■ KN33 - ■ ■ G1		
175	1 200	8.41	15 500	1.9	276	2KJ3110 - ■ KN33 - ■ ■ F1		
198	1 050	7.41	15 200	2.2	276	2KJ3110 - ■ KN33 - ■ ■ E1		
226	925	6.50	14 800	2.5	276	2KJ3110 - ■ KN33 - ■ ■ D1		
260	805	5.66	14 400	2.8	276	2KJ3110 - ■ KN33 - ■ ■ C1		
284	735	5.17	14 100	3.1	276	2KJ3110 - ■ KN33 - ■ ■ B1		
330	635	4.45	13 700	3.4	276	2KJ3110 - ■ KN33 - ■ ■ A1		
<b>Z.89-LES180ZLN4P</b>								
106	1 970	13.84	7 850	0.85	235	2KJ3108 - ■ KN33 - ■ ■ K1		
121	1 730	12.15	9 460	0.94	235	2KJ3108 - ■ KN33 - ■ ■ J1		
139	1 510	10.58	10 800	1.1	235	2KJ3108 - ■ KN33 - ■ ■ H1		
163	1 290	9.04	12 000	1.2	235	2KJ3108 - ■ KN33 - ■ ■ G1		
190	1 100	7.74	12 700	1.4	235	2KJ3108 - ■ KN33 - ■ ■ F1		

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Electro Motor.ir

## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
22	<b>Z.89-LES180ZLN4P</b>							
	213	985	6.89	10 200	1.1	235	2KJ3108 - ■ KN33 - ■ ■ E1	
	243	865	6.05	10 900	1.2	235	2KJ3108 - ■ KN33 - ■ ■ D1	
	279	750	5.26	11 600	1.4	235	2KJ3108 - ■ KN33 - ■ ■ C1	
	327	640	4.50	11 500	1.6	235	2KJ3108 - ■ KN33 - ■ ■ B1	
	382	550	3.85	11 100	1.9	235	2KJ3108 - ■ KN33 - ■ ■ A1	
	<b>E.149-LES180ZLN4P</b>							
	281	745	5.24	15 000	2.0	299	2KJ3007 - ■ KN33 - ■ ■ L1	
	315	665	4.67	14 700	2.2	299	2KJ3007 - ■ KN33 - ■ ■ K1	
	351	595	4.19	14 500	2.5	299	2KJ3007 - ■ KN33 - ■ ■ J1	
	393	535	3.74	14 100	2.8	299	2KJ3007 - ■ KN33 - ■ ■ H1	
	441	475	3.33	13 800	3.1	299	2KJ3007 - ■ KN33 - ■ ■ G1	
	497	420	2.96	13 500	3.5	299	2KJ3007 - ■ KN33 - ■ ■ F1	
	542	385	2.71	13 200	3.8	299	2KJ3007 - ■ KN33 - ■ ■ E1	
	615	340	2.39	12 800	4.3	299	2KJ3007 - ■ KN33 - ■ ■ D1	
	750	280	1.96	12 200	5.2	299	2KJ3007 - ■ KN33 - ■ ■ C1	
	855	245	1.72	11 900	5.9	299	2KJ3007 - ■ KN33 - ■ ■ B1	
	1 097	192	1.34	11 100	6.7	299	2KJ3007 - ■ KN33 - ■ ■ A1	
	<b>E.129-LES180ZLN4P</b>							
	357	585	4.12	11 900	1.3	260	2KJ3006 - ■ KN33 - ■ ■ K1	
	401	525	3.67	11 600	1.5	260	2KJ3006 - ■ KN33 - ■ ■ J1	
	447	470	3.29	11 400	1.7	260	2KJ3006 - ■ KN33 - ■ ■ H1	
505	415	2.91	11 200	1.9	260	2KJ3006 - ■ KN33 - ■ ■ G1		
572	365	2.57	11 000	2.1	260	2KJ3006 - ■ KN33 - ■ ■ F1		
650	320	2.26	10 700	2.4	260	2KJ3006 - ■ KN33 - ■ ■ E1		
717	290	2.05	10 500	2.6	260	2KJ3006 - ■ KN33 - ■ ■ D1		
826	250	1.78	10 200	3.0	260	2KJ3006 - ■ KN33 - ■ ■ C1		
1 007	205	1.46	9 760	3.6	260	2KJ3006 - ■ KN33 - ■ ■ B1		
1 185	177	1.24	9 360	4.2	260	2KJ3006 - ■ KN33 - ■ ■ A1		
<b>E.109-LES180ZLN4P</b>								
422	495	3.48	10 200	1.1	237	2KJ3005 - ■ KN33 - ■ ■ H1		
484	430	3.04	10 000	1.3	237	2KJ3005 - ■ KN33 - ■ ■ G1		
542	385	2.71	9 850	1.4	237	2KJ3005 - ■ KN33 - ■ ■ F1		
615	340	2.39	9 620	1.6	237	2KJ3005 - ■ KN33 - ■ ■ E1		
700	300	2.10	9 360	1.8	237	2KJ3005 - ■ KN33 - ■ ■ D1		
803	260	1.83	9 110	2.0	237	2KJ3005 - ■ KN33 - ■ ■ C1		
880	235	1.67	8 950	2.2	237	2KJ3005 - ■ KN33 - ■ ■ B1		
1 028	200	1.43	8 660	2.3	237	2KJ3005 - ■ KN33 - ■ ■ A1		
<b>E.89-LES180ZLN4P</b>								
557	375	2.64	5 080	0.95	213	2KJ3004 - ■ KN33 - ■ ■ F1		
967	215	1.52	5 660	1.7	213	2KJ3004 - ■ KN33 - ■ ■ B1		
1 131	186	1.30	5 600	1.9	213	2KJ3004 - ■ KN33 - ■ ■ A1		
30	<b>D.189-LES200ZLU4P</b>							
	13	22 700	116.88	107 000	0.83	858	2KJ3214 - ■ LN33 - ■ ■ J1	
	14	20 600	105.89	107 000	0.92	858	2KJ3214 - ■ LN33 - ■ ■ H1	
	15	18 500	95.24	107 000	1.0	858	2KJ3214 - ■ LN33 - ■ ■ G1	
	19	15 400	79.14	107 000	1.2	858	2KJ3214 - ■ LN33 - ■ ■ F1	
	21	13 700	70.36	107 000	1.4	858	2KJ3214 - ■ LN33 - ■ ■ E1	
	26	10 900	56.08	107 000	1.7	858	2KJ3214 - ■ LN33 - ■ ■ D1	
	33	8 690	44.63	107 000	2.2	858	2KJ3214 - ■ LN33 - ■ ■ C1	

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>30</b>	<b>D.189-LES200ZLU4P</b>							
	40	7 140	36.67	107 000	2.7	858	2KJ3214 - ■ LN33 - ■ ■ B1	
	<b>D.169-LES200ZLU4P</b>							
	18	15 600	80.12	69 500	0.9	645	2KJ3213 - ■ LN33 - ■ ■ G1	
	22	12 800	65.72	70 600	1.1	645	2KJ3213 - ■ LN33 - ■ ■ F1	
	26	11 200	57.63	71 100	1.2	645	2KJ3213 - ■ LN33 - ■ ■ E1	
	33	8 780	45.06	72 100	1.6	645	2KJ3213 - ■ LN33 - ■ ■ D1	
	35	8 070	41.43	72 300	1.7	645	2KJ3213 - ■ LN33 - ■ ■ C1	
	40	7 080	36.33	72 700	2.0	645	2KJ3213 - ■ LN33 - ■ ■ B1	
	<b>Z.169-LES200ZLU4P</b>							
	45	6 400	32.88	72 900	2.2	634	2KJ3113 - ■ LN33 - ■ ■ P1	
	50	5 720	29.38	73 200	2.4	634	2KJ3113 - ■ LN33 - ■ ■ N1	
	55	5 170	26.57	73 400	2.7	634	2KJ3113 - ■ LN33 - ■ ■ M1	
	<b>D.149-LES200ZLU4P</b>							
	30	9 560	49.05	45 500	0.84	472	2KJ3212 - ■ LN33 - ■ ■ E1	
	34	8 480	43.51	44 900	0.94	472	2KJ3212 - ■ LN33 - ■ ■ D1	
	37	7 680	39.41	44 300	1.0	472	2KJ3212 - ■ LN33 - ■ ■ C1	
	43	6 680	34.31	43 500	1.2	472	2KJ3212 - ■ LN33 - ■ ■ B1	
	<b>Z.149-LES200ZLU4P</b>							
	54	5 270	27.07	41 800	1.5	494	2KJ3112 - ■ LN33 - ■ ■ P1	
	60	4 730	24.30	41 000	1.7	494	2KJ3112 - ■ LN33 - ■ ■ N1	
	68	4 220	21.69	40 100	1.9	494	2KJ3112 - ■ LN33 - ■ ■ M1	
	76	3 760	19.33	39 100	2.1	494	2KJ3112 - ■ LN33 - ■ ■ L1	
	86	3 340	17.15	38 100	2.4	494	2KJ3112 - ■ LN33 - ■ ■ K1	
	93	3 060	15.74	37 400	2.6	494	2KJ3112 - ■ LN33 - ■ ■ J1	
	106	2 700	13.87	36 400	3.0	494	2KJ3112 - ■ LN33 - ■ ■ H1	
	129	2 210	11.38	34 700	3.6	494	2KJ3112 - ■ LN33 - ■ ■ G1	
	202	1 410	7.27	31 200	3.4	494	2KJ3112 - ■ LN33 - ■ ■ D1	
	247	1 160	5.96	29 600	4.2	494	2KJ3112 - ■ LN33 - ■ ■ C1	
	281	1 010	5.23	28 600	4.8	494	2KJ3112 - ■ LN33 - ■ ■ B1	
<b>Z.129-LES200ZLU4P</b>								
63	4 560	23.41	22 200	1.1	411	2KJ3111 - ■ LN33 - ■ ■ N1		
70	4 080	20.98	22 000	1.2	411	2KJ3111 - ■ LN33 - ■ ■ M1		
79	3 620	18.60	21 800	1.4	411	2KJ3111 - ■ LN33 - ■ ■ L1		
90	3 200	16.42	21 500	1.6	411	2KJ3111 - ■ LN33 - ■ ■ K1		
102	2 810	14.43	21 100	1.8	411	2KJ3111 - ■ LN33 - ■ ■ J1		
112	2 540	13.07	20 800	1.9	411	2KJ3111 - ■ LN33 - ■ ■ H1		
129	2 210	11.38	20 400	2.1	411	2KJ3111 - ■ LN33 - ■ ■ G1		
158	1 810	9.33	19 600	2.6	411	2KJ3111 - ■ LN33 - ■ ■ F1		
172	1 660	8.53	18 900	2.2	411	2KJ3111 - ■ LN33 - ■ ■ E1		
196	1 460	7.50	18 400	2.5	411	2KJ3111 - ■ LN33 - ■ ■ D1		
216	1 320	6.79	18 100	2.7	411	2KJ3111 - ■ LN33 - ■ ■ C1		
249	1 150	5.91	17 600	3.1	411	2KJ3111 - ■ LN33 - ■ ■ B1		
303	945	4.85	16 800	3.5	411	2KJ3111 - ■ LN33 - ■ ■ A1		
<b>Z.109-LES200ZLU4P</b>								
89	3 210	16.48	15 200	0.82	351	2KJ3110 - ■ LN33 - ■ ■ M1		
101	2 830	14.52	15 200	0.91	351	2KJ3110 - ■ LN33 - ■ ■ L1		
116	2 470	12.72	15 200	1.0	351	2KJ3110 - ■ LN33 - ■ ■ K1		
133	2 160	11.09	15 100	1.1	351	2KJ3110 - ■ LN33 - ■ ■ J1		
145	1 970	10.12	15 000	1.2	351	2KJ3110 - ■ LN33 - ■ ■ H1		

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Electro\_Motor.ir

## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
30	<b>Z.109-LES200ZLU4P</b>							
	169	1 690	8.71	14 800	1.4	351	2KJ3110 - ■ LN33 - ■ ■ G1	
	175	1 630	8.41	14 400	1.4	351	2KJ3110 - ■ LN33 - ■ ■ F1	
	198	1 440	7.41	14 200	1.6	351	2KJ3110 - ■ LN33 - ■ ■ E1	
	226	1 260	6.50	13 900	1.8	351	2KJ3110 - ■ LN33 - ■ ■ D1	
	260	1 100	5.66	13 600	2.1	351	2KJ3110 - ■ LN33 - ■ ■ C1	
	284	1 000	5.17	13 500	2.3	351	2KJ3110 - ■ LN33 - ■ ■ B1	
	330	865	4.45	13 100	2.5	351	2KJ3110 - ■ LN33 - ■ ■ A1	
	<b>E.149-LES200ZLU4P</b>							
	315	910	4.67	13 600	1.6	374	2KJ3007 - ■ LN33 - ■ ■ K1	
	351	815	4.19	13 500	1.8	374	2KJ3007 - ■ LN33 - ■ ■ J1	
	393	725	3.74	13 200	2.0	374	2KJ3007 - ■ LN33 - ■ ■ H1	
	441	645	3.33	13 000	2.3	374	2KJ3007 - ■ LN33 - ■ ■ G1	
	497	575	2.96	12 700	2.5	374	2KJ3007 - ■ LN33 - ■ ■ F1	
	542	525	2.71	12 600	2.8	374	2KJ3007 - ■ LN33 - ■ ■ E1	
	615	465	2.39	12 200	3.1	374	2KJ3007 - ■ LN33 - ■ ■ D1	
	750	380	1.96	11 700	3.8	374	2KJ3007 - ■ LN33 - ■ ■ C1	
	855	335	1.72	11 400	4.4	374	2KJ3007 - ■ LN33 - ■ ■ B1	
	1 097	260	1.34	10 800	4.9	374	2KJ3007 - ■ LN33 - ■ ■ A1	
	<b>E.129-LES200ZLU4P</b>							
	401	715	3.67	10 200	1.1	335	2KJ3006 - ■ LN33 - ■ ■ J1	
	447	640	3.29	10 400	1.2	335	2KJ3006 - ■ LN33 - ■ ■ H1	
	505	565	2.91	10 300	1.4	335	2KJ3006 - ■ LN33 - ■ ■ G1	
	572	500	2.57	10 200	1.5	335	2KJ3006 - ■ LN33 - ■ ■ F1	
	650	440	2.26	10 000	1.7	335	2KJ3006 - ■ LN33 - ■ ■ E1	
	717	400	2.05	9 830	1.9	335	2KJ3006 - ■ LN33 - ■ ■ D1	
	826	345	1.78	9 610	2.2	335	2KJ3006 - ■ LN33 - ■ ■ C1	
	1 007	285	1.46	9 220	2.7	335	2KJ3006 - ■ LN33 - ■ ■ B1	
	1 185	240	1.24	8 910	3.1	335	2KJ3006 - ■ LN33 - ■ ■ A1	
	<b>E.109-LES200ZLU4P</b>							
484	590	3.04	7 660	0.92	312	2KJ3005 - ■ LN33 - ■ ■ G1		
542	525	2.71	7 980	1.0	312	2KJ3005 - ■ LN33 - ■ ■ F1		
803	355	1.83	8 310	1.5	312	2KJ3005 - ■ LN33 - ■ ■ C1		
880	325	1.67	8 320	1.6	312	2KJ3005 - ■ LN33 - ■ ■ B1		
1 028	275	1.43	8 180	1.7	312	2KJ3005 - ■ LN33 - ■ ■ A1		
37	<b>D.189-LES225SD4P</b>							
	16	22 700	95.24	107 000	0.83	935	2KJ3214 - ■ MF33 - ■ ■ G1	
	19	18 900	79.14	107 000	1.0	935	2KJ3214 - ■ MF33 - ■ ■ F1	
	21	16 800	70.36	107 000	1.1	935	2KJ3214 - ■ MF33 - ■ ■ E1	
	26	13 400	56.08	107 000	1.4	935	2KJ3214 - ■ MF33 - ■ ■ D1	
	33	10 600	44.63	107 000	1.8	935	2KJ3214 - ■ MF33 - ■ ■ C1	
	<b>Z.189-LES225SD4P</b>							
	43	8 180	34.25	107 000	2.3	853	2KJ3114 - ■ MF33 - ■ ■ L1	
	48	7 340	30.73	107 000	2.6	853	2KJ3114 - ■ MF33 - ■ ■ K1	
	54	6 560	27.46	105 100	2.9	853	2KJ3114 - ■ MF33 - ■ ■ J1	
	<b>D.169-LES225SD4P</b>							
	22	15 700	65.72	69 500	0.89	721	2KJ3213 - ■ MF33 - ■ ■ F1	
	26	13 700	57.63	70 200	1.0	721	2KJ3213 - ■ MF33 - ■ ■ E1	
	33	10 700	45.06	71 300	1.3	721	2KJ3213 - ■ MF33 - ■ ■ D1	
	36	9 900	41.43	71 700	1.4	721	2KJ3213 - ■ MF33 - ■ ■ C1	

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
37	<b>D.169-LES225SD4P</b>							
	41	8 680		36.33	72 100	1.6	721	2KJ3213 - MF33 - B1
	<b>Z.169-LES225SD4P</b>							
	50	7 020		29.38	72 700	2.0	677	2KJ3113 - MF33 - N1
	56	6 350		26.57	72 100	2.2	677	2KJ3113 - MF33 - M1
	63	5 600		23.45	70 000	2.5	677	2KJ3113 - MF33 - L1
	71	4 990		20.90	68 200	2.8	677	2KJ3113 - MF33 - K1
	78	4 520		18.93	66 600	3.1	677	2KJ3113 - MF33 - J1
	<b>D.149-LES225SD4P</b>							
	38	9 420		39.41	41 900	0.85	546	2KJ3212 - MF33 - C1
	43	8 200		34.31	41 300	0.98	546	2KJ3212 - MF33 - B1
	53	6 720		28.13	40 300	1.2	546	2KJ3212 - MF33 - A1
	<b>Z.149-LES225SD4P</b>							
	61	5 800		24.30	39 400	1.4	539	2KJ3112 - MF33 - N1
	68	5 180		21.69	38 700	1.5	539	2KJ3112 - MF33 - M1
	76	4 620		19.33	37 900	1.7	539	2KJ3112 - MF33 - L1
	86	4 100		17.15	37 000	2.0	539	2KJ3112 - MF33 - K1
	94	3 760		15.74	36 400	2.1	539	2KJ3112 - MF33 - J1
	107	3 310		13.87	35 500	2.4	539	2KJ3112 - MF33 - H1
	130	2 720		11.38	34 000	2.9	539	2KJ3112 - MF33 - G1
	148	2 380		9.98	33 000	3.4	539	2KJ3112 - MF33 - F1
	189	1 860		7.80	31 100	4.3	539	2KJ3112 - MF33 - E1
	203	1 730		7.27	30 700	2.8	539	2KJ3112 - MF33 - D1
	248	1 420		5.96	29 200	3.4	539	2KJ3112 - MF33 - C1
	283	1 250		5.23	28 200	3.9	539	2KJ3112 - MF33 - B1
	361	975		4.09	26 400	5.0	539	2KJ3112 - MF33 - A1
	<b>Z.129-LES225SD4P</b>							
	70	5 010		20.98	20 400	1.0	455	2KJ3111 - MF33 - M1
	79	4 440		18.60	20 300	1.1	455	2KJ3111 - MF33 - L1
	90	3 920		16.42	20 200	1.3	455	2KJ3111 - MF33 - K1
	102	3 450		14.43	20 000	1.4	455	2KJ3111 - MF33 - J1
	113	3 120		13.07	19 800	1.6	455	2KJ3111 - MF33 - H1
	130	2 720		11.38	19 500	1.7	455	2KJ3111 - MF33 - G1
158	2 230		9.33	18 900	2.1	455	2KJ3111 - MF33 - F1	
173	2 030		8.53	18 100	1.8	455	2KJ3111 - MF33 - E1	
197	1 790		7.50	17 800	2.0	455	2KJ3111 - MF33 - D1	
218	1 620		6.79	17 500	2.2	455	2KJ3111 - MF33 - C1	
250	1 410		5.91	17 000	2.6	455	2KJ3111 - MF33 - B1	
305	1 160		4.85	16 400	2.8	455	2KJ3111 - MF33 - A1	
<b>Z.109-LES225SD4P</b>								
116	3 040		12.72	13 800	0.83	393	2KJ3110 - MF33 - K1	
133	2 650		11.09	13 900	0.93	393	2KJ3110 - MF33 - J1	
146	2 410		10.12	13 900	1.0	393	2KJ3110 - MF33 - H1	
170	2 080		8.71	13 800	1.1	393	2KJ3110 - MF33 - G1	
176	2 010		8.41	13 400	1.1	393	2KJ3110 - MF33 - F1	
199	1 770		7.41	13 300	1.3	393	2KJ3110 - MF33 - E1	
227	1 550		6.50	13 200	1.5	393	2KJ3110 - MF33 - D1	
261	1 350		5.66	13 000	1.7	393	2KJ3110 - MF33 - C1	
286	1 230		5.17	12 800	1.8	393	2KJ3110 - MF33 - B1	
332	1 060		4.45	12 600	2.0	393	2KJ3110 - MF33 - A1	

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## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>37</b>	<b>E.149-LES225SD4P</b>								
	353	1 000		4.19	12 600	1.5	419	2KJ3007 - ■ MF33 - ■ ■ J1	
	395	890		3.74	12 500	1.7	419	2KJ3007 - ■ MF33 - ■ ■ H1	
	444	795		3.33	12 300	1.9	419	2KJ3007 - ■ MF33 - ■ ■ G1	
	499	705		2.96	12 100	2.1	419	2KJ3007 - ■ MF33 - ■ ■ F1	
	545	645		2.71	12 000	2.3	419	2KJ3007 - ■ MF33 - ■ ■ E1	
	618	570		2.39	11 700	2.6	419	2KJ3007 - ■ MF33 - ■ ■ D1	
	754	465		1.96	11 300	3.1	419	2KJ3007 - ■ MF33 - ■ ■ C1	
	859	410		1.72	11 000	3.6	419	2KJ3007 - ■ MF33 - ■ ■ B1	
	1103	320		1.34	10 400	4.0	419	2KJ3007 - ■ MF33 - ■ ■ A1	
<b>37</b>	<b>E.129-LES225SD4P</b>								
	449	785		3.29	8 430	0.99	379	2KJ3006 - ■ MF33 - ■ ■ H1	
	508	695		2.91	8 760	1.1	379	2KJ3006 - ■ MF33 - ■ ■ G1	
	721	490		2.05	9 140	1.6	379	2KJ3006 - ■ MF33 - ■ ■ D1	
	830	425		1.78	9 070	1.8	379	2KJ3006 - ■ MF33 - ■ ■ C1	
	1012	345		1.46	8 790	2.2	379	2KJ3006 - ■ MF33 - ■ ■ B1	
	1192	295		1.24	8 500	2.5	379	2KJ3006 - ■ MF33 - ■ ■ A1	
	<b>37</b>	<b>E.109-LES225SD4P</b>							
		545	645		2.71	5 910	0.84	354	2KJ3005 - ■ MF33 - ■ ■ F1
	<b>45</b>	<b>D.189-LES225YMF4P</b>							
19		23 000		79.14	107 000	0.83	980	2KJ3214 - ■ MT33 - ■ ■ F1	
21		20 400		70.36	107 000	0.93	980	2KJ3214 - ■ MT33 - ■ ■ E1	
26		16 300		56.08	107 000	1.2	980	2KJ3214 - ■ MT33 - ■ ■ D1	
33		12 900		44.63	107 000	1.5	980	2KJ3214 - ■ MT33 - ■ ■ C1	
<b>45</b>		<b>Z.189-LES225YMF4P</b>							
		43	9 950		34.25	107 000	1.9	898	2KJ3114 - ■ MT33 - ■ ■ L1
		48	8 930		30.73	106 700	2.1	898	2KJ3114 - ■ MT33 - ■ ■ K1
		54	7 980		27.46	103 800	2.4	898	2KJ3114 - ■ MT33 - ■ ■ J1
		60	7 130		24.53	100 900	2.7	898	2KJ3114 - ■ MT33 - ■ ■ H1
	66	6 520		22.44	98 600	2.9	898	2KJ3114 - ■ MT33 - ■ ■ G1	
<b>45</b>	<b>D.169-LES225YMF4P</b>								
	26	16 700		57.63	69 100	0.84	766	2KJ3213 - ■ MT33 - ■ ■ E1	
	33	13 100		45.06	70 500	1.1	766	2KJ3213 - ■ MT33 - ■ ■ D1	
	36	12 000		41.43	70 900	1.2	766	2KJ3213 - ■ MT33 - ■ ■ C1	
	41	10 500		36.33	71 400	1.3	766	2KJ3213 - ■ MT33 - ■ ■ B1	
<b>45</b>	<b>Z.169-LES225YMF4P</b>								
	50	8 540		29.38	71 800	1.6	722	2KJ3113 - ■ MT33 - ■ ■ N1	
	56	7 720		26.57	70 400	1.8	722	2KJ3113 - ■ MT33 - ■ ■ M1	
	63	6 810		23.45	68 600	2.1	722	2KJ3113 - ■ MT33 - ■ ■ L1	
	71	6 070		20.90	66 900	2.3	722	2KJ3113 - ■ MT33 - ■ ■ K1	
	78	5 500		18.93	65 400	2.5	722	2KJ3113 - ■ MT33 - ■ ■ J1	
	87	4 950		17.03	63 800	2.8	722	2KJ3113 - ■ MT33 - ■ ■ H1	
	104	4 110		14.15	61 100	3.4	722	2KJ3113 - ■ MT33 - ■ ■ G1	
	201	2 140		7.37	51 700	3.7	722	2KJ3113 - ■ MT33 - ■ ■ C1	
	251	1 710		5.88	48 700	4.6	722	2KJ3113 - ■ MT33 - ■ ■ B1	
<b>45</b>	<b>D.149-LES225YMF4P</b>								
	43	9 970		34.31	38 900	0.8	591	2KJ3212 - ■ MT33 - ■ ■ B1	
	53	8 170		28.13	38 300	0.98	591	2KJ3212 - ■ MT33 - ■ ■ A1	
<b>45</b>	<b>Z.149-LES225YMF4P</b>								
61	7 060		24.30	37 700	1.1	584	2KJ3112 - ■ MT33 - ■ ■ N1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
45	<b>Z.149-LES225YMF4P</b>							
	68	6 300	21.69	37 100	1.3	584	2KJ3112 - ■ MT33 - ■ ■ M1	
	76	5 620	19.33	36 500	1.4	584	2KJ3112 - ■ MT33 - ■ ■ L1	
	86	4 980	17.15	35 800	1.6	584	2KJ3112 - ■ MT33 - ■ ■ K1	
	94	4 570	15.74	35 300	1.7	584	2KJ3112 - ■ MT33 - ■ ■ J1	
	107	4 030	13.87	34 500	2.0	584	2KJ3112 - ■ MT33 - ■ ■ H1	
	130	3 300	11.38	33 200	2.4	584	2KJ3112 - ■ MT33 - ■ ■ G1	
	148	2 900	9.98	32 300	2.8	584	2KJ3112 - ■ MT33 - ■ ■ F1	
	189	2 260	7.80	30 600	3.5	584	2KJ3112 - ■ MT33 - ■ ■ E1	
	203	2 110	7.27	30 200	2.3	584	2KJ3112 - ■ MT33 - ■ ■ D1	
	248	1 730	5.96	28 800	2.8	584	2KJ3112 - ■ MT33 - ■ ■ C1	
	283	1 520	5.23	27 900	3.2	584	2KJ3112 - ■ MT33 - ■ ■ B1	
	361	1 180	4.09	26 200	4.1	584	2KJ3112 - ■ MT33 - ■ ■ A1	
	<b>Z.129-LES225YMF4P</b>							
70	6 100	20.98	12 900	0.82	500	2KJ3111 - ■ MT33 - ■ ■ M1		
79	5 400	18.60	16 700	0.92	500	2KJ3111 - ■ MT33 - ■ ■ L1		
90	4 770	16.42	18 700	1.0	500	2KJ3111 - ■ MT33 - ■ ■ K1		
102	4 190	14.43	18 700	1.2	500	2KJ3111 - ■ MT33 - ■ ■ J1		
113	3 800	13.07	18 600	1.3	500	2KJ3111 - ■ MT33 - ■ ■ H1		
130	3 300	11.38	18 500	1.4	500	2KJ3111 - ■ MT33 - ■ ■ G1		
158	2 710	9.33	18 100	1.7	500	2KJ3111 - ■ MT33 - ■ ■ F1		
173	2 480	8.53	17 200	1.5	500	2KJ3111 - ■ MT33 - ■ ■ E1		
197	2 180	7.50	17 000	1.7	500	2KJ3111 - ■ MT33 - ■ ■ D1		
218	1 970	6.79	16 800	1.8	500	2KJ3111 - ■ MT33 - ■ ■ C1		
250	1 710	5.91	16 400	2.1	500	2KJ3111 - ■ MT33 - ■ ■ B1		
305	1 410	4.85	15 900	2.3	500	2KJ3111 - ■ MT33 - ■ ■ A1		
<b>Z.109-LES225YMF4P</b>								
146	2 940	10.12	12 700	0.83	438	2KJ3110 - ■ MT33 - ■ ■ H1		
170	2 530	8.71	12 800	0.94	438	2KJ3110 - ■ MT33 - ■ ■ G1		
176	2 440	8.41	12 300	0.94	438	2KJ3110 - ■ MT33 - ■ ■ F1		
199	2 150	7.41	12 400	1.1	438	2KJ3110 - ■ MT33 - ■ ■ E1		
227	1 890	6.50	12 300	1.2	438	2KJ3110 - ■ MT33 - ■ ■ D1		
261	1 640	5.66	12 300	1.4	438	2KJ3110 - ■ MT33 - ■ ■ C1		
286	1 500	5.17	12 200	1.5	438	2KJ3110 - ■ MT33 - ■ ■ B1		
332	1 290	4.45	12 000	1.7	438	2KJ3110 - ■ MT33 - ■ ■ A1		
<b>E.149-LES225YMF4P</b>								
353	1 210	4.19	10 600	1.2	464	2KJ3007 - ■ MT33 - ■ ■ J1		
395	1 080	3.74	11 000	1.4	464	2KJ3007 - ■ MT33 - ■ ■ H1		
444	965	3.33	11 200	1.5	464	2KJ3007 - ■ MT33 - ■ ■ G1		
499	860	2.96	11 400	1.7	464	2KJ3007 - ■ MT33 - ■ ■ F1		
545	785	2.71	11 300	1.9	464	2KJ3007 - ■ MT33 - ■ ■ E1		
618	695	2.39	11 100	2.1	464	2KJ3007 - ■ MT33 - ■ ■ D1		
754	570	1.96	10 800	2.6	464	2KJ3007 - ■ MT33 - ■ ■ C1		
859	500	1.72	10 500	2.9	464	2KJ3007 - ■ MT33 - ■ ■ B1		
1 103	390	1.34	10 000	3.3	464	2KJ3007 - ■ MT33 - ■ ■ A1		
<b>E.129-LES225YMF4P</b>								
449	955	3.29	6 110	0.82	424	2KJ3006 - ■ MT33 - ■ ■ H1		
508	845	2.91	6 660	0.91	424	2KJ3006 - ■ MT33 - ■ ■ G1		
830	515	1.78	7 770	1.5	424	2KJ3006 - ■ MT33 - ■ ■ C1		

## Article No. supplement

Shaft design

1 of 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, B, F or H

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Electro Motor.ir

## SIMOGEAR geared motors

## Helical geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
45	<b>E.129-LES225YMF4P</b>							
	1 012	425	1.46	7 830	1.8	424	2KJ3006 - ■ MT33 - ■ ■ B1	
	1 192	360	1.24	7 830	2.1	424	2KJ3006 - ■ MT33 - ■ ■ A1	
55	<b>D.189-LES250MD4P</b>							
	26	20 000	56.08	107 000	0.95	1 083	2KJ3214 - ■ NM33 - ■ ■ D1	
	33	15 900	44.63	107 000	1.2	1 083	2KJ3214 - ■ NM33 - ■ ■ C1	
	40	13 100	36.67	107 000	1.5	1 083	2KJ3214 - ■ NM33 - ■ ■ B1	
	<b>Z.189-LES250MD4P</b>							
	54	9 810	27.46	102 300	1.9	1 001	2KJ3114 - ■ NM33 - ■ ■ J1	
	60	8 760	24.53	99 600	2.2	1 001	2KJ3114 - ■ NM33 - ■ ■ H1	
	66	8 010	22.44	97 400	2.4	1 001	2KJ3114 - ■ NM33 - ■ ■ G1	
	74	7 120	19.95	94 600	2.7	1 001	2KJ3114 - ■ NM33 - ■ ■ F1	
	87	6 040	16.93	90 700	3.1	1 001	2KJ3114 - ■ NM33 - ■ ■ E1	
	<b>D.169-LES250MD4P</b>							
	33	16 100	45.06	69 300	0.87	870	2KJ3213 - ■ NM33 - ■ ■ D1	
	35	14 800	41.43	69 800	0.95	870	2KJ3213 - ■ NM33 - ■ ■ C1	
	40	12 900	36.33	70 500	1.1	870	2KJ3213 - ■ NM33 - ■ ■ B1	
	52	10 100	28.41	69 200	1.4	870	2KJ3213 - ■ NM33 - ■ ■ A1	
	<b>Z.169-LES250MD4P</b>							
	63	8 370	23.45	66 700	1.7	826	2KJ3113 - ■ NM33 - ■ ■ L1	
	70	7 460	20.90	65 200	1.9	826	2KJ3113 - ■ NM33 - ■ ■ K1	
	78	6 760	18.93	63 900	2.1	826	2KJ3113 - ■ NM33 - ■ ■ J1	
	86	6 080	17.03	62 500	2.3	826	2KJ3113 - ■ NM33 - ■ ■ H1	
	104	5 050	14.15	60 000	2.8	826	2KJ3113 - ■ NM33 - ■ ■ G1	
117	4 490	12.58	58 400	3.1	826	2KJ3113 - ■ NM33 - ■ ■ F1		
147	3 580	10.03	55 300	3.9	826	2KJ3113 - ■ NM33 - ■ ■ E1		
199	2 630	7.37	51 200	3.0	826	2KJ3113 - ■ NM33 - ■ ■ C1		
250	2 100	5.88	48 300	3.8	826	2KJ3113 - ■ NM33 - ■ ■ B1		
314	1 670	4.68	45 400	4.7	826	2KJ3113 - ■ NM33 - ■ ■ A1		
<b>D.149-LES250MD4P</b>								
52	10 000	28.13	35 900	0.8	693	2KJ3212 - ■ NM33 - ■ ■ A1		
<b>Z.149-LES250MD4P</b>								
76	6 900	19.33	34 800	1.2	686	2KJ3112 - ■ NM33 - ■ ■ L1		
86	6 120	17.15	34 300	1.3	686	2KJ3112 - ■ NM33 - ■ ■ K1		
93	5 620	15.74	33 900	1.4	686	2KJ3112 - ■ NM33 - ■ ■ J1		
106	4 950	13.87	33 300	1.6	686	2KJ3112 - ■ NM33 - ■ ■ H1		
129	4 060	11.38	32 200	2.0	686	2KJ3112 - ■ NM33 - ■ ■ G1		
147	3 560	9.98	31 400	2.2	686	2KJ3112 - ■ NM33 - ■ ■ F1		
188	2 780	7.80	29 900	2.9	686	2KJ3112 - ■ NM33 - ■ ■ E1		
202	2 590	7.27	29 600	1.9	686	2KJ3112 - ■ NM33 - ■ ■ D1		
247	2 130	5.96	28 300	2.3	686	2KJ3112 - ■ NM33 - ■ ■ C1		
281	1 860	5.23	27 500	2.6	686	2KJ3112 - ■ NM33 - ■ ■ B1		
359	1 460	4.09	25 900	3.3	686	2KJ3112 - ■ NM33 - ■ ■ A1		
<b>Z.129-LES250MD4P</b>								
90	5 860	16.42	10 400	0.85	601	2KJ3111 - ■ NM33 - ■ ■ K1		
102	5 150	14.43	14 300	0.96	601	2KJ3111 - ■ NM33 - ■ ■ J1		
112	4 670	13.07	16 800	1.0	601	2KJ3111 - ■ NM33 - ■ ■ H1		
129	4 060	11.38	17 200	1.2	601	2KJ3111 - ■ NM33 - ■ ■ G1		
158	3 330	9.33	17 000	1.4	601	2KJ3111 - ■ NM33 - ■ ■ F1		
172	3 040	8.53	16 200	1.2	601	2KJ3111 - ■ NM33 - ■ ■ E1		

## Article No. supplement

Shaft design

1 or 9

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Frequency and voltage

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Gearbox mounting type

A, B, F or H

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## SIMOGEAR geared motors

### Helical geared motors

Geared motors up to 55 kW

#### Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
55	<b>Z.129-LES250MD4P</b>							
	196	2 680	7.50	16 000	1.4	601	2KJ3111 - ■ NM33 - ■ ■ D1	
	216	2 420	6.79	15 900	1.5	601	2KJ3111 - ■ NM33 - ■ ■ C1	
	249	2 110	5.91	15 700	1.7	601	2KJ3111 - ■ NM33 - ■ ■ B1	
	303	1 730	4.85	15 300	1.9	601	2KJ3111 - ■ NM33 - ■ ■ A1	
	<b>E.129-LES250MD4P</b>							
	441	1 190	3.33	8 910	1.2	566	2KJ3007 - ■ NM33 - ■ ■ G1	
	497	1 050	2.96	9 390	1.4	566	2KJ3007 - ■ NM33 - ■ ■ F1	
	542	965	2.71	9 610	1.5	566	2KJ3007 - ■ NM33 - ■ ■ E1	
	615	850	2.39	9 870	1.7	566	2KJ3007 - ■ NM33 - ■ ■ D1	
	750	700	1.96	9 960	2.1	566	2KJ3007 - ■ NM33 - ■ ■ C1	
	855	615	1.72	10 000	2.4	566	2KJ3007 - ■ NM33 - ■ ■ B1	
	1 097	475	1.34	9 640	2.7	566	2KJ3007 - ■ NM33 - ■ ■ A1	
	1 185	440	1.24	6 430	1.7	525	2KJ3006 - ■ NM33 - ■ ■ A1	

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## SIMOGEAR geared motors

## Helical geared motors

## Transmission ratios and torques

## Selection and ordering data

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.19</b>																	
184.86	7.8	100	1 650	13.1	0.02	50468/273	✓	✓									2KJ3201 - ■■■■■■ - ■■ Q1
163.69	8.9	100	1 650	13.2	0.03	74481/455	✓	✓									2KJ3201 - ■■■■■■ - ■■ P1
142.23	10	100	1 650	13.2	0.04	64713/455	✓	✓									2KJ3201 - ■■■■■■ - ■■ N1
129.30	11	100	1 650	13.2	0.04	11766/91	✓	✓									2KJ3201 - ■■■■■■ - ■■ M1
110.02	13	100	1 650	13.2	0.06	50061/455	✓	✓									2KJ3201 - ■■■■■■ - ■■ L1
100.02	14	100	1 650	13.2	0.07	9102/91	✓	✓									2KJ3201 - ■■■■■■ - ■■ K1
87.21	17	100	1 650	13.3	0.08	1221/14	✓	✓									2KJ3201 - ■■■■■■ - ■■ J1
78.07	19	100	1 650	13.3	0.11	7104/91	✓	✓									2KJ3201 - ■■■■■■ - ■■ H1
69.32	21	100	1 650	13.3	0.13	12617/182	✓	✓									2KJ3201 - ■■■■■■ - ■■ G1
63.99	23	100	1 650	13.3	0.16	75702/1183	✓	✓									2KJ3201 - ■■■■■■ - ■■ F1
55.59	26	100	1 650	13.4	0.17	35409/637	✓	✓									2KJ3201 - ■■■■■■ - ■■ E1
48.30	30	100	1 650	13.3	0.18	21978/455	✓	✓									2KJ3201 - ■■■■■■ - ■■ D1
43.61	33	100	1 650	13.3	0.22	1221/28	✓	✓									2KJ3201 - ■■■■■■ - ■■ C1
41.04	35	100	1 650	13.3	0.26	4884/119	✓	✓									2KJ3201 - ■■■■■■ - ■■ B1
35.78	41	100	1 650	13.4	0.29	3256/91	✓	✓									2KJ3201 - ■■■■■■ - ■■ A1
<b>Z.19</b>																	
34.97	41	100	1 650	12.6	0.02	1364/39	✓	✓									2KJ3101 - ■■■■■■ - ■■ W1
30.97	47	100	1 650	13.2	0.03	2013/65	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ V1
26.91	54	100	1 650	13.3	0.04	1749/65	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ U1
24.46	59	100	1 650	13.3	0.05	318/13	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ T1
20.82	70	100	1 650	13.5	0.06	1353/65	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ S1
18.92	77	100	1 790	13.5	0.08	246/13	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ R1
16.50	88	99	1 900	13.7	0.09	33/2	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ Q1
14.77	98	95	1 870	13.8	0.12	192/13	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ P1
13.12	111	91	1 830	13.9	0.15	341/26	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ N1
12.11	120	88	1 810	13.9	0.18	2046/169	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ M1
10.52	138	82	1 760	14.3	0.20	957/91	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ L1
9.14	159	78	1 710	13.9	0.21	594/65	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ K1
8.25	176	74	1 670	14.1	0.27	33/4	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ J1
7.76	187	73	1 650	14.1	0.32	132/17	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ H1
6.77	214	68	1 600	14.5	0.36	88/13	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ G1
6.25	232	56	1 460	20.3	0.19	1705/273	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ F1
5.43	267	53	1 420	21.0	0.22	1595/294	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ E1
4.71	308	49	1 380	20.3	0.22	33/7	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ D1
4.26	340	47	1 350	20.7	0.29	715/168	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ C1
4.01	362	46	1 330	20.7	0.32	1430/357	✓	✓	✓								2KJ3101 - ■■■■■■ - ■■ B1
3.49	415	43	1 290	21.5	0.39	220/63			✓								2KJ3101 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data (continued)**

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	φ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.29</b>																	
<b>217.89</b>	6.7	140	3 710	10.7	0.02	7626/35	✓	✓									2KJ3202 - ■■■■■■ - ■■ Q1
<b>192.93</b>	7.5	140	3 710	10.8	0.03	67527/350	✓	✓	✓	✓							2KJ3202 - ■■■■■■ - ■■ P1
<b>167.63</b>	8.7	140	3 710	10.8	0.04	58671/350	✓	✓	✓	✓							2KJ3202 - ■■■■■■ - ■■ N1
<b>152.39</b>	9.5	140	3 710	10.8	0.05	58671/385	✓	✓	✓	✓							2KJ3202 - ■■■■■■ - ■■ M1
<b>129.68</b>	11	140	3 710	10.9	0.06	45387/350	✓	✓	✓	✓							2KJ3202 - ■■■■■■ - ■■ L1
<b>117.89</b>	12	140	3 710	10.9	0.08	45387/385	✓	✓	✓	✓							2KJ3202 - ■■■■■■ - ■■ K1
<b>102.79</b>	14	140	3 710	10.9	0.09	14391/140	✓	✓	✓	✓	✓						2KJ3202 - ■■■■■■ - ■■ J1
<b>92.01</b>	16	140	3 710	10.9	0.12	35424/385	✓	✓	✓	✓	✓						2KJ3202 - ■■■■■■ - ■■ H1
<b>81.71</b>	18	140	3 710	10.9	0.14	11439/140	✓	✓	✓	✓	✓						2KJ3202 - ■■■■■■ - ■■ G1
<b>75.42</b>	19	140	3 710	10.9	0.17	34317/455	✓	✓	✓	✓	✓						2KJ3202 - ■■■■■■ - ■■ F1
<b>65.52</b>	22	140	3 710	11.0	0.19	32103/490	✓	✓	✓	✓	✓						2KJ3202 - ■■■■■■ - ■■ E1
<b>56.93</b>	25	140	3 710	10.9	0.19	9963/175	✓	✓	✓	✓	✓						2KJ3202 - ■■■■■■ - ■■ D1
<b>51.40</b>	28	140	3 710	11.0	0.25	14391/280	✓	✓	✓	✓	✓						2KJ3202 - ■■■■■■ - ■■ C1
<b>48.37</b>	30	140	3 710	11.0	0.29	28782/595	✓	✓	✓	✓	✓						2KJ3202 - ■■■■■■ - ■■ B1
<b>42.17</b>	34	140	3 710	11.0	0.33	1476/35	✓	✓	✓	✓	✓						2KJ3202 - ■■■■■■ - ■■ A1
<b>Z.29</b>																	
<b>41.40</b>	35	140	3 710	10.8	0.04	207/5	✓	✓									2KJ3102 - ■■■■■■ - ■■ A2
<b>36.72</b>	39	140	3 670	10.8	0.05	918/25	✓	✓	✓	✓							2KJ3102 - ■■■■■■ - ■■ X1
<b>31.86</b>	46	140	3 330	10.9	0.06	1593/50	✓	✓	✓	✓							2KJ3102 - ■■■■■■ - ■■ W1
<b>28.96</b>	50	140	3 110	10.9	0.07	1593/55	✓	✓	✓	✓							2KJ3102 - ■■■■■■ - ■■ V1
<b>24.84</b>	58	140	2 770	11.0	0.09	621/25	✓	✓	✓	✓							2KJ3102 - ■■■■■■ - ■■ U1
<b>22.58</b>	64	140	2 570	11.0	0.11	1242/55	✓	✓	✓	✓							2KJ3102 - ■■■■■■ - ■■ T1
<b>19.80</b>	73	140	2 300	11.2	0.13	99/5	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ S1
<b>17.67</b>	82	140	2 070	11.3	0.15	972/55	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ R1
<b>15.75</b>	92	140	1 850	11.4	0.18	63/4	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ Q1
<b>14.54</b>	100	120	2 240	11.4	0.23	189/13	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ P1
<b>12.73</b>	114	140	1 470	11.6	0.26	891/70	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ N1
<b>11.16</b>	130	140	1 250	11.9	0.27	279/25	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ M1
<b>10.12</b>	143	140	1 090	12.1	0.34	81/8	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ L1
<b>9.53</b>	152	140	1 000	12.1	0.40	162/17	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ K1
<b>8.40</b>	173	138	855	11.7	0.45	42/5	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ J1
<b>7.29</b>	199	130	860	11.9	0.60	729/100	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ H1
<b>6.92</b>	210	75	1 900	17.4	0.29	90/13	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ G1
<b>6.06</b>	239	100	945	17.9	0.34	297/49	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ F1
<b>5.31</b>	273	91	1 050	18.6	0.37	186/35	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ E1
<b>4.82</b>	301	86	1 080	18.9	0.46	135/28	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ D1
<b>4.54</b>	319	84	1 070	18.9	0.54	540/119	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ C1
<b>4.00</b>	362	76	1 160	18.2	0.63	4/1	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ B1
<b>3.47</b>	418	70	1 240	18.5	0.84	243/70	✓	✓	✓	✓	✓						2KJ3102 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

**SIMOGEAR geared motors**

## Helical geared motors

## Transmission ratios and torques

**Selection and ordering data** (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.39</b>																	
<b>235.29</b>	6.2	200	4 370	8.1	0.03	179998/765	✓	✓									2KJ3203 - ■■■■■■ - ■■ R1
<b>208.69</b>	6.9	200	4 370	8.2	0.05	15652/75	✓	✓	✓	✓							2KJ3203 - ■■■■■■ - ■■ Q1
<b>181.07</b>	8	200	4 370	8.2	0.05	230867/1275	✓	✓	✓	✓							2KJ3203 - ■■■■■■ - ■■ P1
<b>164.61</b>	8.8	200	4 370	8.2	0.07	461734/2805	✓	✓	✓	✓							2KJ3203 - ■■■■■■ - ■■ N1
<b>141.17</b>	10	200	4 370	8.2	0.08	179998/1275	✓	✓	✓	✓							2KJ3203 - ■■■■■■ - ■■ M1
<b>128.34</b>	11	200	4 370	8.2	0.10	359996/2805	✓	✓	✓	✓							2KJ3203 - ■■■■■■ - ■■ L1
<b>112.53</b>	13	200	4 370	8.2	0.12	86086/765	✓	✓	✓	✓	✓	✓					2KJ3203 - ■■■■■■ - ■■ K1
<b>100.44</b>	14	200	4 370	8.3	0.15	93912/935	✓	✓	✓	✓	✓	✓					2KJ3203 - ■■■■■■ - ■■ J1
<b>89.51</b>	16	200	4 370	8.3	0.17	27391/306	✓	✓	✓	✓	✓	✓					2KJ3203 - ■■■■■■ - ■■ H1
<b>82.63</b>	18	200	4 370	8.3	0.21	4214/51	✓	✓	✓	✓	✓	✓					2KJ3203 - ■■■■■■ - ■■ G1
<b>72.34</b>	20	200	4 370	8.3	0.25	6149/85	✓	✓	✓	✓	✓	✓					2KJ3203 - ■■■■■■ - ■■ F1
<b>63.43</b>	23	200	4 370	8.4	0.23	242606/3825	✓	✓	✓	✓	✓	✓					2KJ3203 - ■■■■■■ - ■■ E1
<b>57.54</b>	25	200	4 370	8.4	0.33	3913/68	✓	✓	✓	✓	✓	✓					2KJ3203 - ■■■■■■ - ■■ D1
<b>54.16</b>	27	200	4 370	8.4	0.39	15652/289	✓	✓	✓	✓	✓	✓					2KJ3203 - ■■■■■■ - ■■ C1
<b>47.74</b>	30	200	4 350	8.3	0.43	109564/2295	✓	✓	✓	✓	✓	✓					2KJ3203 - ■■■■■■ - ■■ B1
<b>41.43</b>	35	200	3 920	8.4	0.58	35217/850	✓	✓	✓	✓	✓	✓					2KJ3203 - ■■■■■■ - ■■ A1
<b>Z.39</b>																	
<b>55.95</b>	26	200	4 370	7.7	0.06	7553/135	✓	✓									2KJ3103 - ■■■■■■ - ■■ A2
<b>49.75</b>	29	200	4 370	7.7	0.07	3731/75	✓	✓	✓	✓							2KJ3103 - ■■■■■■ - ■■ X1
<b>43.68</b>	33	200	4 070	7.8	0.08	1092/25	✓	✓	✓	✓							2KJ3103 - ■■■■■■ - ■■ W1
<b>39.71</b>	37	200	3 790	7.8	0.10	2184/55	✓	✓	✓	✓							2KJ3103 - ■■■■■■ - ■■ V1
<b>33.97</b>	43	200	3 340	7.9	0.12	2548/75	✓	✓	✓	✓							2KJ3103 - ■■■■■■ - ■■ U1
<b>30.88</b>	47	200	3 080	7.9	0.14	5096/165	✓	✓	✓	✓							2KJ3103 - ■■■■■■ - ■■ T1
<b>27.30</b>	53	200	2 760	8.0	0.17	273/10	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ S1
<b>24.82</b>	58	200	2 520	8.0	0.22	273/11	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ R1
<b>21.74</b>	67	200	2 190	8.1	0.25	3913/180	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ Q1
<b>20.07</b>	72	200	2 000	8.1	0.31	301/15	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ P1
<b>17.77</b>	82	200	1 720	8.3	0.36	533/30	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ N1
<b>14.79</b>	98	193	1 500	8.4	0.47	1183/80	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ M1
<b>13.92</b>	104	189	1 470	8.4	0.55	1183/85	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ L1
<b>12.47</b>	116	180	1 470	8.6	0.60	3367/270	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ K1
<b>10.62</b>	137	169	1 440	8.8	0.78	637/60	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ J1
<b>9.10</b>	159	158	1 430	9.0	1.02	91/10			✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ H1
<b>7.84</b>	185	148	1 420	9.3	1.30	2821/360			✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ G1
<b>6.46</b>	224	146	225	13.4	0.57	2379/368	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ F1
<b>6.08</b>	238	147	100	13.4	0.66	2379/391	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ E1
<b>5.45</b>	266	140	150	13.8	0.74	2257/414	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ D1
<b>4.64</b>	312	130	490	14.3	0.97	427/92	✓	✓	✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ C1
<b>3.98</b>	364	121	820	14.8	1.28	183/46			✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ B1
<b>3.43</b>	423	112	1 070	15.4	1.65	1891/552			✓	✓	✓	✓					2KJ3103 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

Electro\_Motor.ir



**Selection and ordering data** (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.49</b>																	
<b>280.89</b>	5.2	320	5 780	7.3	0.06	60673/216	✓	✓									2KJ3204 - ■■■■■■ - ■■ S1
<b>249.76</b>	5.8	320	5 780	7.3	0.07	29971/120	✓	✓	✓	✓							2KJ3204 - ■■■■■■ - ■■ R1
<b>219.30</b>	6.6	320	5 780	7.4	0.08	2193/10	✓	✓	✓	✓							2KJ3204 - ■■■■■■ - ■■ Q1
<b>199.36</b>	7.3	320	5 780	7.4	0.10	2193/11	✓	✓	✓	✓							2KJ3204 - ■■■■■■ - ■■ P1
<b>170.57</b>	8.5	320	5 780	7.4	0.12	5117/30	✓	✓	✓	✓							2KJ3204 - ■■■■■■ - ■■ N1
<b>155.06</b>	9.4	320	5 780	7.4	0.14	5117/33	✓	✓	✓	✓							2KJ3204 - ■■■■■■ - ■■ M1
<b>137.06</b>	11	320	5 780	7.4	0.17	2193/16	✓	✓	✓	✓	✓	✓					2KJ3204 - ■■■■■■ - ■■ L1
<b>124.60</b>	12	320	5 780	7.4	0.22	10965/88	✓	✓	✓	✓	✓	✓					2KJ3204 - ■■■■■■ - ■■ K1
<b>109.14</b>	13	320	5 780	7.4	0.25	31433/288	✓	✓	✓	✓	✓	✓					2KJ3204 - ■■■■■■ - ■■ J1
<b>100.75</b>	14	320	5 780	7.4	0.31	31433/312	✓	✓	✓	✓	✓	✓					2KJ3204 - ■■■■■■ - ■■ H1
<b>89.20</b>	16	320	5 780	7.4	0.37	29971/336	✓	✓	✓	✓	✓	✓	✓				2KJ3204 - ■■■■■■ - ■■ G1
<b>74.24</b>	20	320	5 780	7.5	0.50	9503/128	✓	✓	✓	✓	✓	✓	✓				2KJ3204 - ■■■■■■ - ■■ F1
<b>69.88</b>	21	320	5 780	7.5	0.58	559/8	✓	✓	✓	✓	✓	✓	✓				2KJ3204 - ■■■■■■ - ■■ E1
<b>62.61</b>	23	320	5 780	7.5	0.65	27047/432	✓	✓	✓	✓	✓	✓	✓				2KJ3204 - ■■■■■■ - ■■ D1
<b>53.30</b>	27	320	5 780	7.5	0.85	5117/96	✓	✓	✓	✓	✓	✓	✓				2KJ3204 - ■■■■■■ - ■■ C1
<b>45.69</b>	32	320	5 780	7.6	1.12	731/16			✓	✓	✓	✓	✓				2KJ3204 - ■■■■■■ - ■■ B1
<b>39.34</b>	37	320	5 540	7.6	1.43	22661/576			✓	✓	✓	✓	✓				2KJ3204 - ■■■■■■ - ■■ A1
<b>Z.49</b>																	
<b>52.14</b>	28	320	5 900	7.0	0.17	4171/80	✓	✓	✓	✓							2KJ3104 - ■■■■■■ - ■■ B2
<b>47.40</b>	31	320	5 780	7.0	0.21	4171/88	✓	✓	✓	✓							2KJ3104 - ■■■■■■ - ■■ A2
<b>40.31</b>	36	320	5 650	7.1	0.25	645/16	✓	✓	✓	✓							2KJ3104 - ■■■■■■ - ■■ X1
<b>36.65</b>	40	320	5 220	7.1	0.31	3225/88	✓	✓	✓	✓							2KJ3104 - ■■■■■■ - ■■ W1
<b>32.70</b>	44	320	5 520	7.1	0.36	3139/96	✓	✓	✓	✓	✓	✓					2KJ3104 - ■■■■■■ - ■■ V1
<b>29.32</b>	49	320	5 280	7.2	0.43	645/22	✓	✓	✓	✓	✓	✓					2KJ3104 - ■■■■■■ - ■■ U1
<b>26.43</b>	55	320	5 060	7.2	0.50	2537/96	✓	✓	✓	✓	✓	✓					2KJ3104 - ■■■■■■ - ■■ T1
<b>24.39</b>	59	320	4 890	7.2	0.59	2537/104	✓	✓	✓	✓	✓	✓					2KJ3104 - ■■■■■■ - ■■ S1
<b>22.27</b>	65	320	4 710	7.2	0.71	1247/56	✓	✓	✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ R1
<b>18.48</b>	78	320	4 350	7.4	0.90	2365/128	✓	✓	✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ Q1
<b>17.39</b>	83	320	4 230	7.4	1.03	2365/136	✓	✓	✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ P1
<b>16.42</b>	88	320	4 130	7.4	1.17	2365/144	✓	✓	✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ N1
<b>13.98</b>	104	320	3 850	7.5	1.44	559/40	✓	✓	✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ M1
<b>11.97</b>	121	320	3 590	7.5	1.76	2107/176			✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ L1
<b>10.53</b>	138	320	3 390	7.5	2.10	2021/192			✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ K1
<b>8.88</b>	163	320	3 130	7.8	2.70	817/92			✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ J1
<b>7.74</b>	187	320	3 100	8.0	3.60	387/50			✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ H1
<b>7.64</b>	190	295	3 000	11.8	1.18	649/85	✓	✓	✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ G1
<b>7.21</b>	201	290	2 980	11.8	1.34	649/90	✓	✓	✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ F1
<b>6.14</b>	236	265	2 940	12.2	1.67	767/125	✓	✓	✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ E1
<b>5.26</b>	276	245	2 880	12.2	2.10	2891/550			✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ D1
<b>4.62</b>	314	225	2 820	12.2	2.60	2773/600			✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ C1
<b>3.90</b>	372	205	2 740	12.2	3.30	2242/575			✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ B1
<b>3.40</b>	426	191	2 210	12.2	4.40	2124/625			✓	✓	✓	✓	✓				2KJ3104 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

## SIMOGEAR geared motors

## Helical geared motors

## Transmission ratios and torques

## Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.59</b>																	
307.02	4.7	450	7 660	6.8	0.06	66317/216	✓	✓									2KJ3205 - ■■■■■■ - ■■ S1
272.99	5.3	450	7 660	6.8	0.07	32759/120	✓	✓	✓	✓							2KJ3205 - ■■■■■■ - ■■ R1
239.70	6	450	7 660	6.8	0.08	2397/10	✓	✓	✓	✓							2KJ3205 - ■■■■■■ - ■■ Q1
217.91	6.7	450	7 660	6.8	0.10	2397/11	✓	✓	✓	✓							2KJ3205 - ■■■■■■ - ■■ P1
186.43	7.8	450	7 660	6.9	0.12	5593/30	✓	✓	✓	✓							2KJ3205 - ■■■■■■ - ■■ N1
169.48	8.6	450	7 660	6.9	0.14	5593/33	✓	✓	✓	✓							2KJ3205 - ■■■■■■ - ■■ M1
149.81	9.7	450	7 660	6.9	0.17	2397/16	✓	✓	✓	✓	✓	✓					2KJ3205 - ■■■■■■ - ■■ L1
136.19	11	450	7 660	6.9	0.22	11985/88	✓	✓	✓	✓	✓	✓					2KJ3205 - ■■■■■■ - ■■ K1
119.30	12	450	7 660	6.9	0.26	34357/288	✓	✓	✓	✓	✓	✓					2KJ3205 - ■■■■■■ - ■■ J1
110.12	13	450	7 660	6.9	0.31	34357/312	✓	✓	✓	✓	✓	✓					2KJ3205 - ■■■■■■ - ■■ H1
97.50	15	450	7 660	6.9	0.37	32759/336	✓	✓	✓	✓	✓	✓	✓				2KJ3205 - ■■■■■■ - ■■ G1
81.15	18	450	7 660	7.0	0.50	10387/128	✓	✓	✓	✓	✓	✓	✓				2KJ3205 - ■■■■■■ - ■■ F1
76.38	19	450	7 660	7.0	0.59	611/8	✓	✓	✓	✓	✓	✓	✓				2KJ3205 - ■■■■■■ - ■■ E1
68.43	21	450	7 660	7.0	0.65	29563/432	✓	✓	✓	✓	✓	✓	✓				2KJ3205 - ■■■■■■ - ■■ D1
58.26	25	450	7 660	7.0	0.85	5593/96	✓	✓	✓	✓	✓	✓	✓				2KJ3205 - ■■■■■■ - ■■ C1
49.94	29	450	7 660	7.1	1.12	799/16			✓	✓	✓	✓	✓				2KJ3205 - ■■■■■■ - ■■ B1
43.00	34	450	7 230	7.1	1.44	24769/576			✓	✓	✓	✓	✓				2KJ3205 - ■■■■■■ - ■■ A1
<b>Z.59</b>																	
56.99	25	450	7 660	6.5	0.18	4559/80	✓	✓	✓	✓							2KJ3105 - ■■■■■■ - ■■ A2
51.81	28	450	7 660	6.5	0.21	4559/88	✓	✓	✓	✓							2KJ3105 - ■■■■■■ - ■■ X1
44.06	33	450	7 310	6.6	0.26	705/16	✓	✓	✓	✓							2KJ3105 - ■■■■■■ - ■■ W1
40.06	36	450	7 020	6.6	0.32	3525/88	✓	✓	✓	✓							2KJ3105 - ■■■■■■ - ■■ V1
35.74	41	450	6 690	6.6	0.37	3431/96	✓	✓	✓	✓	✓	✓					2KJ3105 - ■■■■■■ - ■■ U1
32.05	45	450	6 180	6.7	0.44	705/22	✓	✓	✓	✓	✓	✓					2KJ3105 - ■■■■■■ - ■■ T1
28.89	50	450	5 690	6.7	0.52	2773/96	✓	✓	✓	✓	✓	✓					2KJ3105 - ■■■■■■ - ■■ S1
26.66	54	450	5 330	6.7	0.62	2773/104	✓	✓	✓	✓	✓	✓					2KJ3105 - ■■■■■■ - ■■ R1
24.34	60	450	4 930	6.7	0.73	1363/56	✓	✓	✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ Q1
20.20	72	450	5 230	6.9	0.94	2585/128	✓	✓	✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ P1
19.01	76	450	5 090	6.9	1.08	2585/136	✓	✓	✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ N1
17.95	81	450	4 960	6.9	1.23	2585/144	✓	✓	✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ M1
15.27	95	450	4 600	7.0	1.51	611/40	✓	✓	✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ L1
13.09	111	450	4 280	7.2	1.85	2303/176			✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ K1
11.51	126	450	4 030	7.3	2.30	2209/192			✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ J1
9.71	149	450	3 710	7.5	2.90	893/92			✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ H1
8.46	171	450	3 600	8.0	3.90	423/50			✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ G1
8.07	180	410	3 500	10.6	1.45	121/15	✓	✓	✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ F1
6.86	211	410	3 480	11.0	1.81	858/125	✓	✓	✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ E1
5.88	247	410	3 440	11.3	2.30	147/25			✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ D1
5.17	280	410	2 210	11.6	2.80	517/100			✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ C1
4.36	333	405	2 650	12.0	3.60	2508/575			✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ B1
3.80	382	405	2 920	13.4	4.90	2376/625			✓	✓	✓	✓	✓				2KJ3105 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.69</b>																	
328.49	4.4	600	11 000	6.5	0.06	62084/189	✓	✓									2KJ3206 - ■■■■■■ - ■■ S1
292.08	5.0	600	11 000	6.5	0.07	30668/105	✓	✓	✓	✓							2KJ3206 - ■■■■■■ - ■■ R1
256.46	5.7	600	11 000	6.6	0.08	8976/35	✓	✓	✓	✓							2KJ3206 - ■■■■■■ - ■■ Q1
233.14	6.2	600	11 000	6.6	0.10	1632/7	✓	✓	✓	✓							2KJ3206 - ■■■■■■ - ■■ P1
199.47	7.3	600	11 000	6.6	0.12	2992/15	✓	✓	✓	✓							2KJ3206 - ■■■■■■ - ■■ N1
181.33	8	600	11 000	6.6	0.14	544/3	✓	✓	✓	✓							2KJ3206 - ■■■■■■ - ■■ M1
160.29	9	600	11 000	6.6	0.17	1122/7	✓	✓	✓	✓	✓	✓					2KJ3206 - ■■■■■■ - ■■ L1
145.71	10	600	11 000	6.6	0.22	1020/7	✓	✓	✓	✓	✓	✓	✓				2KJ3206 - ■■■■■■ - ■■ K1
127.63	11	600	11 000	6.6	0.26	8041/63	✓	✓	✓	✓	✓	✓	✓				2KJ3206 - ■■■■■■ - ■■ J1
117.82	12	600	11 000	6.6	0.31	32164/273	✓	✓	✓	✓	✓	✓	✓				2KJ3206 - ■■■■■■ - ■■ H1
104.31	14	600	11 000	6.6	0.37	15334/147	✓	✓	✓	✓	✓	✓	✓	✓			2KJ3206 - ■■■■■■ - ■■ G1
86.82	17	600	11 000	6.7	0.50	2431/28	✓	✓	✓	✓	✓	✓	✓	✓			2KJ3206 - ■■■■■■ - ■■ F1
81.71	18	600	11 000	6.7	0.59	572/7	✓	✓	✓	✓	✓	✓	✓	✓			2KJ3206 - ■■■■■■ - ■■ E1
73.22	20	600	11 000	6.7	0.66	13838/189	✓	✓	✓	✓	✓	✓	✓	✓			2KJ3206 - ■■■■■■ - ■■ D1
62.33	23	600	11 000	6.7	0.86	187/3	✓	✓	✓	✓	✓	✓	✓	✓			2KJ3206 - ■■■■■■ - ■■ C1
53.43	27	600	11 000	6.7	1.14	374/7			✓	✓	✓	✓	✓	✓			2KJ3206 - ■■■■■■ - ■■ B1
46.01	32	600	11 000	6.7	1.46	5797/126			✓	✓	✓	✓	✓	✓			2KJ3206 - ■■■■■■ - ■■ A1
<b>Z.69</b>																	
60.97	24	600	11 000	6.2	0.18	2134/35	✓	✓	✓	✓							2KJ3106 - ■■■■■■ - ■■ A2
55.43	26	600	11 000	6.2	0.22	388/7	✓	✓	✓	✓							2KJ3106 - ■■■■■■ - ■■ X1
47.14	31	600	11 000	6.3	0.28	330/7	✓	✓	✓	✓							2KJ3106 - ■■■■■■ - ■■ W1
42.86	34	600	11 000	6.3	0.34	300/7	✓	✓	✓	✓							2KJ3106 - ■■■■■■ - ■■ V1
38.24	38	600	11 000	6.4	0.39	803/21	✓	✓	✓	✓	✓	✓					2KJ3106 - ■■■■■■ - ■■ U1
34.29	42	600	11 000	6.4	0.47	240/7	✓	✓	✓	✓	✓	✓					2KJ3106 - ■■■■■■ - ■■ T1
30.90	47	600	10 400	6.4	0.56	649/21	✓	✓	✓	✓	✓	✓					2KJ3106 - ■■■■■■ - ■■ S1
28.53	51	600	9 860	6.4	0.66	2596/91	✓	✓	✓	✓	✓	✓					2KJ3106 - ■■■■■■ - ■■ R1
26.04	56	600	9 200	6.5	0.79	1276/49	✓	✓	✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ Q1
21.61	67	600	7 910	6.6	1.01	605/28	✓	✓	✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ P1
20.34	71	600	7 510	6.6	1.16	2420/119	✓	✓	✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ N1
19.21	75	600	7 140	6.6	1.32	1210/63	✓	✓	✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ M1
16.34	89	600	9 850	6.7	1.64	572/35	✓	✓	✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ L1
14.00	104	600	9 260	6.8	2.00	14/1			✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ K1
12.31	118	600	8 790	7.0	2.50	517/42			✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ J1
10.39	140	600	8 200	7.1	3.20	1672/161			✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ H1
9.05	160	591	7 920	7.7	4.30	1584/175			✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ G1
8.50	171	446	8 000	10.0	1.67	1760/207	✓	✓	✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ F1
7.23	201	447	7 540	10.3	2.10	832/115	✓	✓	✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ E1
6.20	234	445	7 290	10.6	2.70	1568/253			✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ D1
5.45	266	429	7 090	10.9	3.40	376/69			✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ C1
4.60	315	446	6 810	11.3	4.40	2432/529			✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ B1
4.01	362	445	5 440	11.6	5.80	2304/575			✓	✓	✓	✓	✓				2KJ3106 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

## SIMOGEAR geared motors

## Helical geared motors

## Transmission ratios and torques

## Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.79</b>																	
330.23	4.4	840	13 400	6.1	0.17	369861/1120	✓	✓	✓							2KJ3207 - ■■■■■■ - ■■ S1	
300.21	4.8	840	13 400	6.1	0.20	369861/1232	✓	✓	✓							2KJ3207 - ■■■■■■ - ■■ R1	
255.33	5.7	840	13 400	6.2	0.25	57195/224	✓	✓	✓							2KJ3207 - ■■■■■■ - ■■ Q1	
232.12	6.2	840	13 400	6.2	0.30	285975/1232	✓	✓	✓							2KJ3207 - ■■■■■■ - ■■ P1	
207.10	7	840	13 400	6.2	0.35	92783/448	✓	✓	✓	✓	✓					2KJ3207 - ■■■■■■ - ■■ N1	
185.70	7.8	840	13 400	6.2	0.42	57195/308	✓	✓	✓	✓	✓					2KJ3207 - ■■■■■■ - ■■ M1	
167.39	8.7	840	13 400	6.2	0.49	74989/448	✓	✓	✓	✓	✓					2KJ3207 - ■■■■■■ - ■■ L1	
154.51	9.4	840	13 400	6.2	0.58	224967/1456	✓	✓	✓	✓	✓					2KJ3207 - ■■■■■■ - ■■ K1	
141.04	10	840	13 400	6.2	0.69	110577/784	✓	✓	✓	✓	✓	✓	✓			2KJ3207 - ■■■■■■ - ■■ J1	
117.03	12	840	13 400	6.2	0.87	209715/1792	✓	✓	✓	✓	✓	✓	✓			2KJ3207 - ■■■■■■ - ■■ H1	
110.14	13	840	13 400	6.2	1.00	209715/1904	✓	✓	✓	✓	✓	✓	✓			2KJ3207 - ■■■■■■ - ■■ G1	
104.03	14	840	13 400	6.2	1.14	69905/672	✓	✓	✓	✓	✓	✓	✓			2KJ3207 - ■■■■■■ - ■■ F1	
88.52	16	840	13 400	6.2	1.39	49569/560	✓	✓	✓	✓	✓	✓	✓			2KJ3207 - ■■■■■■ - ■■ E1	
75.83	19	840	13 400	6.2	1.69	26691/352		✓	✓	✓	✓	✓	✓			2KJ3207 - ■■■■■■ - ■■ D1	
66.67	22	840	13 400	6.2	2.10	59737/896		✓	✓	✓	✓	✓	✓			2KJ3207 - ■■■■■■ - ■■ C1	
56.25	26	840	13 400	6.2	2.60	72447/1288		✓	✓	✓	✓	✓	✓			2KJ3207 - ■■■■■■ - ■■ B1	
49.02	30	840	12 600	6.2	3.50	34317/700		✓	✓	✓	✓	✓	✓			2KJ3207 - ■■■■■■ - ■■ A1	
<b>Z.79</b>																	
54.47	27	840	13 400	6.1	0.43	3813/70	✓	✓	✓							2KJ3107 - ■■■■■■ - ■■ A2	
49.52	29	840	12 600	6.1	0.53	3813/77	✓	✓	✓							2KJ3107 - ■■■■■■ - ■■ X1	
44.42	33	840	11 700	6.2	0.73	533/12	✓	✓	✓	✓	✓					2KJ3107 - ■■■■■■ - ■■ W1	
39.94	36	840	10 900	6.2	0.83	3075/77	✓	✓	✓	✓	✓					2KJ3107 - ■■■■■■ - ■■ V1	
36.12	40	840	10 100	6.2	0.92	1517/42	✓	✓	✓	✓	✓					2KJ3107 - ■■■■■■ - ■■ U1	
33.34	43	840	13 400	6.2	1.08	3034/91	✓	✓	✓	✓	✓					2KJ3107 - ■■■■■■ - ■■ T1	
30.54	47	840	13 400	6.3	1.41	2993/98	✓	✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ S1	
25.62	57	840	13 300	6.0	1.52	205/8	✓	✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ R1	
24.12	60	840	13 000	6.0	1.73	410/17	✓	✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ Q1	
22.13	66	840	12 600	6.1	1.90	1394/63	✓	✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ P1	
19.33	75	840	11 900	6.1	2.7	1353/70	✓	✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ N1	
17.31	84	840	11 400	6.2	3.3	2665/154		✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ M1	
15.13	96	840	10 800	6.3	3.9	1271/84		✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ L1	
12.99	112	840	10 100	6.3	4.3	2091/161		✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ K1	
11.48	126	840	9 640	6.7	5.5	287/25		✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ J1	
9.76	149	815	9 080	6.9	7.0	205/21			✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ H1	
8.37	173	790	8 580	7.1	9.3	410/49			✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ G1	
8.19	177	715	8 460	9.2	4.0	3965/484		✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ F1	
7.16	203	730	8 030	9.4	4.8	1891/264		✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ E1	
6.15	236	715	7 850	9.6	5.4	3111/506		✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ D1	
5.43	267	685	7 690	10.5	6.9	2989/550		✓	✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ C1	
4.62	314	775	7 460	10.9	9.1	305/66			✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ B1	
3.96	366	775	3 730	11.3	12.0	305/77			✓	✓	✓	✓	✓			2KJ3107 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.89</b>																	
<b>311.60</b>	4.7	1 680	18 500	5.7	0.41	132432/425			✓	✓							2KJ3208 - ■■■■■■ - ■■ S1
<b>283.28</b>	5.1	1 680	18 500	5.7	0.50	264864/935			✓	✓							2KJ3208 - ■■■■■■ - ■■ R1
<b>254.09</b>	5.7	1 680	18 500	5.7	0.70	64792/255			✓	✓	✓	✓					2KJ3208 - ■■■■■■ - ■■ Q1
<b>228.45</b>	6.3	1 680	18 500	5.7	0.79	42720/187			✓	✓	✓	✓					2KJ3208 - ■■■■■■ - ■■ P1
<b>206.62</b>	7	1 680	18 500	5.7	0.87	52688/255			✓	✓	✓	✓					2KJ3208 - ■■■■■■ - ■■ N1
<b>190.73</b>	7.6	1 680	18 500	5.7	1.03	210752/1105			✓	✓	✓	✓					2KJ3208 - ■■■■■■ - ■■ M1
<b>174.71</b>	8.3	1 680	18 500	5.7	1.35	103952/595			✓	✓	✓	✓	✓	✓			2KJ3208 - ■■■■■■ - ■■ L1
<b>146.59</b>	9.9	1 680	18 500	5.7	1.43	2492/17			✓	✓	✓	✓	✓	✓			2KJ3208 - ■■■■■■ - ■■ K1
<b>137.97</b>	11	1 680	18 500	5.7	1.63	39872/289			✓	✓	✓	✓	✓	✓			2KJ3208 - ■■■■■■ - ■■ J1
<b>126.58</b>	11	1 680	18 500	5.7	1.78	5696/45			✓	✓	✓	✓	✓	✓			2KJ3208 - ■■■■■■ - ■■ H1
<b>110.57</b>	13	1 680	18 500	5.7	2.5	46992/425			✓	✓	✓	✓	✓	✓			2KJ3208 - ■■■■■■ - ■■ G1
<b>98.99</b>	15	1 680	18 500	5.7	3.1	18512/187			✓	✓	✓	✓	✓	✓			2KJ3208 - ■■■■■■ - ■■ F1
<b>86.56</b>	17	1 680	18 500	5.7	3.7	22072/255			✓	✓	✓	✓	✓	✓			2KJ3208 - ■■■■■■ - ■■ E1
<b>74.30</b>	20	1 680	18 500	5.7	4.0	8544/115			✓	✓	✓	✓	✓	✓			2KJ3208 - ■■■■■■ - ■■ D1
<b>65.67</b>	22	1 680	18 500	5.7	5.0	139552/2125			✓	✓	✓	✓	✓	✓			2KJ3208 - ■■■■■■ - ■■ C1
<b>55.84</b>	26	1 680	18 500	5.7	6.4	2848/51				✓	✓	✓	✓				2KJ3208 - ■■■■■■ - ■■ B1
<b>47.87</b>	30	1 680	18 500	5.7	8.5	5696/119				✓	✓	✓	✓				2KJ3208 - ■■■■■■ - ■■ A1
<b>Z.89</b>																	
<b>57.36</b>	25	1 680	18 500	5.4	1.34	2581/45			✓	✓	✓	✓					2KJ3108 - ■■■■■■ - ■■ A2
<b>51.78</b>	28	1 680	18 500	5.4	1.46	2848/55			✓	✓	✓	✓					2KJ3108 - ■■■■■■ - ■■ X1
<b>46.97</b>	31	1 680	18 500	5.4	1.71	1691/36			✓	✓	✓	✓					2KJ3108 - ■■■■■■ - ■■ W1
<b>43.36</b>	33	1 680	18 500	5.4	2.0	1691/39			✓	✓	✓	✓					2KJ3108 - ■■■■■■ - ■■ V1
<b>39.41</b>	37	1 680	18 500	5.5	2.3	2759/70			✓	✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ U1
<b>33.38</b>	43	1 680	18 500	5.5	2.8	267/8			✓	✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ T1
<b>31.41</b>	46	1 680	18 500	5.5	2.8	534/17			✓	✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ S1
<b>29.01</b>	50	1 680	18 500	5.6	4.3	3916/135			✓	✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ R1
<b>25.81</b>	56	1 680	18 500	5.6	5.3	2581/100			✓	✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ Q1
<b>22.92</b>	63	1 680	17 400	5.6	6.4	1513/66			✓	✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ P1
<b>20.52</b>	71	1 680	16 000	5.7	6.4	7387/360			✓	✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ N1
<b>17.54</b>	83	1 680	14 200	5.7	7.5	6052/345			✓	✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ M1
<b>15.66</b>	93	1 680	12 900	6.0	9.5	1958/125			✓	✓	✓	✓	✓	✓	✓		2KJ3108 - ■■■■■■ - ■■ L1
<b>13.84</b>	105	1 680	11 500	6.1	11	623/45				✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ K1
<b>12.15</b>	119	1 630	10 700	5.9	15	3827/315				✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ J1
<b>10.58</b>	137	1 590	10 700	6.0	19	3649/345				✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ H1
<b>9.04</b>	160	1 560	11 900	6.1	24	2848/315				✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ G1
<b>7.74</b>	187	1 530	12 700	6.3	30	178/23				✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ F1
<b>6.89</b>	210	1 050	10 100	8.6	12	62/9				✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ E1
<b>6.05</b>	240	1 060	10 900	8.8	17	2666/441				✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ D1
<b>5.26</b>	276	1 060	11 600	9.0	21	2542/483				✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ C1
<b>4.50</b>	322	1 060	11 500	9.3	28	1984/441				✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ B1
<b>3.85</b>	377	1 060	11 100	9.7	35	620/161				✓	✓	✓	✓	✓			2KJ3108 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques

##### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.109</b>																	
348.88	4.2	3 100	20 200	5.5	1.27	263755/756				✓	✓	✓					2KJ3210 - ■■■■■■ - ■■ T1
314.98	4.6	3 100	20 200	5.5	1.36	72760/231				✓	✓	✓					2KJ3210 - ■■■■■■ - ■■ S1
285.72	5.1	3 100	20 200	5.5	1.60	864025/3024				✓	✓	✓					2KJ3210 - ■■■■■■ - ■■ R1
263.74	5.5	3 100	20 200	5.5	1.88	864025/3276				✓	✓	✓					2KJ3210 - ■■■■■■ - ■■ Q1
239.75	6	3 100	20 200	5.5	2.1	281945/11176				✓	✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ P1
203.01	7.1	3 100	20 200	5.5	2.6	45475/224				✓	✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ N1
191.07	7.6	3 100	20 200	5.5	2.6	2675/14				✓	✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ M1
176.45	8.2	3 100	20 200	5.6	4.0	100045/567				✓	✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ L1
157.00	9.2	3 100	20 200	5.6	5.0	52751/336				✓	✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ K1
139.44	10	3 100	20 200	5.6	5.9	773075/5544				✓	✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ J1
124.82	12	3 100	20 200	5.6	5.8	754885/6048				✓	✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ H1
106.70	14	3 100	20 200	5.6	6.7	154615/1449				✓	✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ G1
95.28	15	3 100	20 200	5.6	8.5	20009/210				✓	✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ F1
84.21	17	3 100	20 200	5.6	9.6	9095/108					✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ E1
73.90	20	3 100	20 200	5.6	13	391085/5292					✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ D1
64.34	23	3 100	20 200	5.6	16	372895/5796					✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ C1
55.00	26	3 090	20 200	5.6	20	72760/1323					✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ B1
47.08	31	2 930	20 200	5.7	25	45475/966					✓	✓	✓	✓			2KJ3210 - ■■■■■■ - ■■ A1
<b>Z.109</b>																	
51.17	28	3 100	20 200	5.4	4.7	5015/98				✓	✓	✓	✓	✓			2KJ3110 - ■■■■■■ - ■■ X1
43.64	33	3 100	20 200	5.4	6.0	9775/224				✓	✓	✓	✓	✓			2KJ3110 - ■■■■■■ - ■■ W1
41.07	35	3 100	20 200	5.4	6.8	575/14				✓	✓	✓	✓	✓			2KJ3110 - ■■■■■■ - ■■ V1
38.12	38	3 100	20 200	5.4	7.4	9605/252				✓	✓	✓	✓	✓			2KJ3110 - ■■■■■■ - ■■ U1
33.70	43	3 100	20 200	5.4	9.0	1887/56				✓	✓	✓	✓	✓			2KJ3110 - ■■■■■■ - ■■ T1
30.08	48	3 100	20 000	5.5	11	9265/308				✓	✓	✓	✓	✓			2KJ3110 - ■■■■■■ - ■■ S1
27.07	54	3 040	19 300	5.5	13	9095/336				✓	✓	✓	✓	✓			2KJ3110 - ■■■■■■ - ■■ R1
23.49	62	2 920	18 400	5.5	15	7565/322				✓	✓	✓	✓	✓			2KJ3110 - ■■■■■■ - ■■ Q1
21.13	69	2 830	17 900	5.7	18	1479/70				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ P1
18.47	79	2 720	17 100	5.8	21	6205/336					✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ N1
16.48	88	2 630	16 600	5.8	25	1615/98				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ M1
14.52	100	2 570	15 900	5.9	30	4675/322				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ L1
12.72	114	2 510	15 100	6.0	37	1870/147				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ K1
11.09	131	2 460	14 400	6.1	44	255/23				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ J1
10.12	143	2 430	13 900	6.1	51	425/42				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ H1
8.71	166	2 380	13 200	6.3	64	2805/322					✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ G1
8.41	172	2 290	12 800	8.6	29	589/70				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ F1
7.41	196	2 280	12 300	8.7	34	341/46				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ E1
6.50	223	2 280	12 300	8.8	42	682/105				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ D1
5.66	256	2 290	12 200	9.0	51	651/115				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ C1
5.17	280	2 280	12 200	9.1	60	31/6				✓	✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ B1
4.45	326	2 150	12 000	9.4	75	1023/230					✓	✓	✓	✓	✓		2KJ3110 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.129</b>																	
373.00	3.9	5 000	27 000	6.4	3.3	523481/1404				✓	✓	✓					2KJ3211 - ■■■■■■ - ■■ S1
344.17	4.2	5 000	27 000	6.4	3.9	523481/1521				✓	✓	✓					2KJ3211 - ■■■■■■ - ■■ R1
316.90	4.6	5 000	27 000	6.4	4.5	259541/819				✓	✓	✓	✓	✓			2KJ3211 - ■■■■■■ - ■■ Q1
270.24	5.4	5 000	27 000	6.4	5.6	505885/1872				✓	✓	✓	✓	✓			2KJ3211 - ■■■■■■ - ■■ P1
254.34	5.7	5 000	27 000	6.4	6.4	505885/1989				✓	✓	✓	✓	✓			2KJ3211 - ■■■■■■ - ■■ N1
236.03	6.1	5 000	27 000	6.4	6.9	497087/2106				✓	✓	✓	✓	✓			2KJ3211 - ■■■■■■ - ■■ M1
208.67	6.9	5 000	27 000	6.4	8.4	162763/780				✓	✓	✓	✓	✓			2KJ3211 - ■■■■■■ - ■■ L1
186.28	7.8	5 000	27 000	6.4	9.9	479491/2574				✓	✓	✓	✓	✓			2KJ3211 - ■■■■■■ - ■■ K1
167.63	8.7	5 000	27 000	6.4	12	470693/2808				✓	✓	✓	✓	✓			2KJ3211 - ■■■■■■ - ■■ J1
145.49	10	5 000	27 000	6.4	14	391511/2691				✓	✓	✓	✓	✓			2KJ3211 - ■■■■■■ - ■■ H1
130.84	11	5 000	27 000	6.4	16	127571/975				✓	✓	✓	✓	✓			2KJ3211 - ■■■■■■ - ■■ G1
114.36	13	5 000	27 000	6.5	19	321127/2808				✓	✓	✓	✓				2KJ3211 - ■■■■■■ - ■■ F1
102.05	14	5 000	27 000	6.5	23	83581/819				✓	✓	✓	✓				2KJ3211 - ■■■■■■ - ■■ E1
89.91	16	5 000	27 000	6.5	27	241945/2691				✓	✓	✓	✓				2KJ3211 - ■■■■■■ - ■■ D1
78.78	18	5 000	27 000	6.5	31	193556/2457				✓	✓	✓	✓				2KJ3211 - ■■■■■■ - ■■ C1
68.66	21	5 000	27 000	6.5	37	61586/897				✓	✓	✓	✓				2KJ3211 - ■■■■■■ - ■■ B1
62.66	23	5 000	27 000	6.5	44	21995/351				✓	✓	✓	✓				2KJ3211 - ■■■■■■ - ■■ A1
<b>Z.129</b>																	
62.48	23	5 000	27 000	6.2	7.5	11371/182				✓	✓	✓	✓	✓			2KJ3111 - ■■■■■■ - ■■ X1
53.47	27	5 000	27 000	6.2	9.5	5561/104				✓	✓	✓	✓	✓			2KJ3111 - ■■■■■■ - ■■ W1
50.33	29	5 000	27 000	6.2	11	11122/221				✓	✓	✓	✓	✓			2KJ3111 - ■■■■■■ - ■■ V1
47.18	31	5 000	27 000	6.2	12	11039/234				✓	✓	✓	✓	✓			2KJ3111 - ■■■■■■ - ■■ U1
41.82	35	5 000	27 000	6.3	14	10873/260				✓	✓	✓	✓	✓			2KJ3111 - ■■■■■■ - ■■ T1
37.15	39	5 000	26 000	6.3	17	5312/143				✓	✓	✓	✓	✓			2KJ3111 - ■■■■■■ - ■■ S1
33.52	43	5 000	24 900	6.3	20	1743/52				✓	✓	✓	✓	✓			2KJ3111 - ■■■■■■ - ■■ R1
29.70	49	5 000	23 700	6.3	25	8881/299				✓	✓	✓	✓	✓			2KJ3111 - ■■■■■■ - ■■ Q1
26.30	55	5 000	22 600	6.4	28	8549/325				✓	✓	✓	✓	✓	✓		2KJ3111 - ■■■■■■ - ■■ P1
23.41	62	5 000	21 500	6.4	33	913/39				✓	✓	✓	✓	✓	✓		2KJ3111 - ■■■■■■ - ■■ N1
20.98	69	5 000	20 500	6.5	40	1909/91				✓	✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ M1
18.60	78	5 000	19 500	6.5	47	5561/299				✓	✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ L1
16.42	88	5 000	18 100	6.6	57	1494/91				✓	✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ K1
14.43	100	4 940	16 200	6.6	69	332/23				✓	✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ J1
13.07	111	4 850	16 600	6.6	78	3569/273				✓	✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ H1
11.38	127	4 760	17 200	6.6	95	3403/299					✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ G1
9.33	155	4 660	17 000	6.7	126	1577/169					✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ F1
8.53	170	3 640	16 200	7.4	66	162/19				✓	✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ E1
7.50	193	3 630	16 100	8.3	80	3276/437				✓	✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ D1
6.79	214	3 630	15 900	8.3	91	129/19				✓	✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ C1
5.91	245	3 610	15 700	8.5	112	2583/437					✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ B1
4.85	299	3 270	15 300	8.8	151	63/13					✓	✓	✓	✓	✓	✓	2KJ3111 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version



## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques

##### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.149</b>																	
328.38	4.4	8 000	51 200	5.5	7.1	321813/980					✓	✓	✓	✓			2KJ3212 - ■■■■■ - ■■ W1
281.04	5.2	8 000	51 200	5.5	9	157383/560					✓	✓	✓	✓			2KJ3212 - ■■■■■ - ■■ V1
264.51	5.5	8 000	51 200	5.5	10	157383/595					✓	✓	✓	✓			2KJ3212 - ■■■■■ - ■■ U1
247.95	5.8	8 000	51 200	5.5	11	4959/20					✓	✓	✓	✓			2KJ3212 - ■■■■■ - ■■ T1
219.80	6.6	8 000	51 200	5.5	14	307719/1400					✓	✓	✓	✓			2KJ3212 - ■■■■■ - ■■ S1
195.24	7.4	8 000	51 200	5.5	16	75168/385					✓	✓	✓	✓			2KJ3212 - ■■■■■ - ■■ R1
176.18	8.2	8 000	51 200	5.5	19	7047/40					✓	✓	✓	✓			2KJ3212 - ■■■■■ - ■■ Q1
156.11	9.3	8 000	51 200	5.5	23	251343/1610					✓	✓	✓	✓			2KJ3212 - ■■■■■ - ■■ P1
138.26	10	8 000	51 200	5.5	26	241947/1750					✓	✓	✓	✓	✓		2KJ3212 - ■■■■■ - ■■ N1
123.04	12	8 000	51 200	5.5	31	8613/70					✓	✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ M1
110.26	13	8 000	51 200	5.5	37	54027/490					✓	✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ L1
97.75	15	8 000	51 200	5.5	43	157383/1610					✓	✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ K1
86.29	17	8 000	51 200	5.5	52	21141/245					✓	✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ J1
75.87	19	8 000	51 200	5.5	63	61074/805					✓	✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ H1
68.71	21	8 000	51 200	5.6	70	33669/490					✓	✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ G1
59.82	24	8 000	51 200	5.6	85	96309/1610						✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ F1
49.05	30	8 000	47 700	5.6	110	44631/910						✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ E1
43.51	33	8 000	45 700	5.8	72	55042/1265					✓	✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ D1
39.41	37	8 000	44 000	5.8	82	91031/2310					✓	✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ C1
34.31	42	8 000	41 800	5.8	101	86797/2530						✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ B1
28.13	52	8 000	38 700	5.9	133	40223/1430						✓	✓	✓	✓	✓	2KJ3212 - ■■■■■ - ■■ A1
<b>Z.149</b>																	
56.64	26	8 000	50 300	5.2	19	4814/85					✓	✓	✓	✓			2KJ3112 - ■■■■■ - ■■ W1
52.84	27	7 710	49 500	5.2	21	2378/45					✓	✓	✓	✓			2KJ3112 - ■■■■■ - ■■ V1
46.98	31	7 570	47 600	5.2	25	2349/50					✓	✓	✓	✓			2KJ3112 - ■■■■■ - ■■ U1
42.18	34	7 660	45 600	5.2	30	464/11					✓	✓	✓	✓			2KJ3112 - ■■■■■ - ■■ T1
38.18	38	7 550	44 100	5.2	35	2291/60					✓	✓	✓	✓			2KJ3112 - ■■■■■ - ■■ S1
33.54	43	8 000	41 400	5.2	43	3857/115					✓	✓	✓	✓			2KJ3112 - ■■■■■ - ■■ R1
30.39	48	8 000	39 900	5.2	50	3799/125					✓	✓	✓	✓	✓		2KJ3112 - ■■■■■ - ■■ Q1
27.07	54	8 000	38 100	5.3	59	406/15					✓	✓	✓	✓	✓		2KJ3112 - ■■■■■ - ■■ P1
24.30	60	8 000	36 600	5.3	70	2552/105					✓	✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ N1
21.69	67	8 000	35 000	5.3	81	2494/115					✓	✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ M1
19.33	75	8 000	33 400	5.4	96	58/3					✓	✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ L1
17.15	85	8 000	31 900	5.4	113	1972/115					✓	✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ K1
15.74	92	8 000	30 800	5.4	127	551/35					✓	✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ J1
13.87	105	8 000	29 200	5.5	150	319/23						✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ H1
11.38	127	8 000	28 700	5.5	203	1479/130						✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ G1
9.98	145	8 000	28 300	5.6	227	1247/125						✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ F1
7.80	186	8 000	27 500	5.9	360	39/5						✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ E1
7.27	199	4 880	27 500	7.5	173	836/115						✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ D1
5.96	243	4 870	26 600	7.7	237	1938/325						✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ C1
5.23	277	4 870	26 000	7.7	273	3268/625						✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ B1
4.09	355	4 870	24 700	7.7	432	2964/725						✓	✓	✓	✓	✓	2KJ3112 - ■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques

#### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.		
							63	71	80	90	100	112	132	160		180	200
<b>D.169</b>																	
327.18	4.4	14 000	70 100	5.0	18	472768 / 1445					✓	✓	✓				2KJ3213 - ■■■■■■ - ■■ V1
305.28	4.7	14 000	70 100	5.0	19	233536 / 765					✓	✓	✓				2KJ3213 - ■■■■■■ - ■■ U1
271.40	5.3	14 000	70 100	5.0	23	115344 / 425					✓	✓	✓				2KJ3213 - ■■■■■■ - ■■ T1
243.68	6.0	14 000	70 100	5.0	28	45568 / 187					✓	✓	✓				2KJ3213 - ■■■■■■ - ■■ S1
220.58	6.6	14 000	70 100	5.0	33	56248 / 255					✓	✓	✓				2KJ3213 - ■■■■■■ - ■■ R1
193.75	7.5	14 000	70 100	5.0	40	378784 / 1955					✓	✓	✓				2KJ3213 - ■■■■■■ - ■■ Q1
175.57	8.3	14 000	70 100	5.0	46	373088 / 2125					✓	✓	✓	✓			2KJ3213 - ■■■■■■ - ■■ P1
156.36	9.3	14 000	70 100	5.0	54	39872 / 255					✓	✓	✓	✓	✓		2KJ3213 - ■■■■■■ - ■■ N1
140.41	10	14 000	70 100	5.0	64	250624 / 1785					✓	✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ M1
125.28	12	14 000	70 100	5.0	74	244928 / 1955					✓	✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ L1
111.69	13	14 000	70 100	5.0	85	5696 / 51					✓	✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ K1
99.06	15	14 000	70 100	5.0	101	11392 / 115					✓	✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ J1
90.94	16	14 000	70 100	5.0	112	54112 / 595					✓	✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ H1
80.12	18	14 000	70 100	5.0	132	31328 / 391						✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ G1
65.72	22	14 000	70 100	5.1	176	4272 / 65						✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ F1
57.63	25	14 000	70 100	5.1	193	122464 / 2125						✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ E1
45.06	32	14 000	70 100	5.1	301	111072 / 2465						✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ D1
41.43	35	14 000	70 100	5.2	200	134657 / 3250						✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ C1
36.33	40	14 000	70 500	5.2	225	340603 / 9375						✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ B1
28.41	51	14 000	69 200	5.3	353	102973 / 3625						✓	✓	✓	✓	✓	2KJ3213 - ■■■■■■ - ■■ A1
<b>Z.169</b>																	
36.55	40	12 100	70 800	4.7	79	13706/375						✓	✓	✓	✓		2KJ3113 - ■■■■■■ - ■■ Q1
32.88	44	14 000	68 200	4.7	94	11837/360						✓	✓	✓	✓		2KJ3113 - ■■■■■■ - ■■ P1
29.38	49	14 000	65 300	4.8	109	9256/315						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ N1
26.57	55	14 000	62 900	4.8	131	9167/345						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ M1
23.45	62	14 000	60 200	4.8	154	7387/315						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ L1
20.90	69	14 000	59 400	4.8	183	2403/115						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ K1
18.93	77	14 000	58 600	4.8	203	5963/315						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ J1
17.03	85	14 000	57 800	4.8	245	1958/115						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ H1
14.15	102	14 000	56 100	4.8	308	2759/195						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ G1
12.58	115	13 900	54 900	4.8	377	4717/375						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ F1
10.03	145	13 900	52 600	5.1	521	4361/435						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ E1
7.98	182	13 800	50 100	5.3	689	1157/145							✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ D1
7.37	197	7 960	49 100	7.0	409	848/115						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ C1
5.88	247	7 900	46 700	7.1	571	3920/667						✓	✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ B1
4.68	310	7 820	44 200	7.3	768	3120/667							✓	✓	✓	✓	2KJ3113 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

# Electro\_Motor.ir

**SIMOGEAR geared motors**

Helical geared motors

**Transmission ratios and torques****Selection and ordering data** (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>D.189</b>																	
<b>313.63</b>	4.6	19 000	107 000	4.7	36	533169/1700						✓	✓	✓			2KJ3214 - ■■■■■■ - ■■ T1
<b>280.59</b>	5.2	19 000	107 000	4.7	43	262353/935						✓	✓	✓			2KJ3214 - ■■■■■■ - ■■ S1
<b>253.06</b>	5.7	19 000	107 000	4.7	49	172081/680						✓	✓	✓			2KJ3214 - ■■■■■■ - ■■ R1
<b>223.66</b>	6.5	19 000	107 000	4.7	61	87451/391						✓	✓	✓			2KJ3214 - ■■■■■■ - ■■ Q1
<b>204.44</b>	7.1	19 000	107 000	4.7	71	434434/2125						✓	✓	✓	✓		2KJ3214 - ■■■■■■ - ■■ P1
<b>183.92</b>	7.9	19 000	107 000	4.7	84	375193/2040						✓	✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ N1
<b>164.36</b>	8.8	19 000	107 000	4.7	98	41912/255						✓	✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ M1
<b>148.63</b>	9.8	19 000	107 000	4.7	116	290563/1955						✓	✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ L1
<b>131.17</b>	11	19 000	107 000	4.7	136	33449/255						✓	✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ K1
<b>116.88</b>	12	19 000	107 000	4.7	160	228501/1955						✓	✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ J1
<b>105.89</b>	14	19 000	107 000	4.7	175	27001/255						✓	✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ H1
<b>95.24</b>	15	19 000	107 000	4.7	210	186186/1955							✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ G1
<b>79.14</b>	18	19 000	107 000	4.7	257	6727/85							✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ F1
<b>70.36</b>	21	19 000	107 000	4.7	314	149513/2125							✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ E1
<b>56.08</b>	26	19 000	107 000	4.7	421	138229/2465							✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ D1
<b>44.63</b>	32	19 000	107 000	4.8	531	110019/2465								✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ C1
<b>36.67</b>	40	19 000	104 200	4.8	475	10633/290							✓	✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ B1
<b>29.18</b>	50	19 000	97 800	4.8	617	8463/290								✓	✓	✓	2KJ3214 - ■■■■■■ - ■■ A1
<b>Z.189</b>																	
<b>34.25</b>	42	19 000	101 700	4.5	140	3596/105							✓	✓	✓	✓	2KJ3114 - ■■■■■■ - ■■ L1
<b>30.73</b>	47	19 000	97 900	4.5	166	3534/115							✓	✓	✓	✓	2KJ3114 - ■■■■■■ - ■■ K1
<b>27.46</b>	53	19 000	94 100	4.6	199	961/35							✓	✓	✓	✓	2KJ3114 - ■■■■■■ - ■■ J1
<b>24.53</b>	59	19 000	90 400	4.6	236	2821/115							✓	✓	✓	✓	2KJ3114 - ■■■■■■ - ■■ H1
<b>22.44</b>	65	19 000	87 500	4.6	262	2356/105							✓	✓	✓	✓	2KJ3114 - ■■■■■■ - ■■ G1
<b>19.95</b>	73	19 000	83 900	4.6	314	2294/115							✓	✓	✓	✓	2KJ3114 - ■■■■■■ - ■■ F1
<b>16.93</b>	86	19 000	79 000	4.6	400	2201/130							✓	✓	✓	✓	2KJ3114 - ■■■■■■ - ■■ E1
<b>14.63</b>	99	19 000	74 900	4.7	481	1829/125							✓	✓	✓	✓	2KJ3114 - ■■■■■■ - ■■ D1
<b>11.97</b>	121	19 000	72 500	4.8	666	1736/145							✓	✓	✓	✓	2KJ3114 - ■■■■■■ - ■■ C1
<b>9.83</b>	148	18 800	70 100	4.8	875	1426/145								✓	✓	✓	2KJ3114 - ■■■■■■ - ■■ B1
<b>7.65</b>	190	16 000	66 800	4.8	1 283	1147/150									✓	✓	2KJ3114 - ■■■■■■ - ■■ A1

1) Only in conjunction with reduced-backlash version

Electro\_Motor.ir

## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques for high speeds

#### Selection and ordering data

<i>i</i>	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi^{1)}$	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$ -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>E.39</b>																	
9.22	157	30	3 000	-	0.001	83/9	✓	✓									2KJ3001 - ■■■■■■ - ■■ S1
8.20	177	34	3 000	-	0.001	41/5	✓	✓	✓	✓							2KJ3001 - ■■■■■■ - ■■ R1
7.20	201	40	3 000	-	0.003	36/5	✓	✓	✓	✓							2KJ3001 - ■■■■■■ - ■■ Q1
6.55	221	40	3 000	-	0.004	72/11	✓	✓	✓	✓							2KJ3001 - ■■■■■■ - ■■ P1
5.60	259	40	3 000	-	0.007	28/5	✓	✓	✓	✓							2KJ3001 - ■■■■■■ - ■■ N1
5.09	285	40	3 000	-	0.01	56/11	✓	✓	✓	✓							2KJ3001 - ■■■■■■ - ■■ M1
4.50	322	48	3 000	-	0.02	9/2	✓	✓	✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ L1
4.09	355	48	3 000	-	0.02	45/11	✓	✓	✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ K1
3.58	405	58	2 550	-	0.03	43/12	✓	✓	✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ J1
3.31	438	58	2 400	-	0.05	43/13	✓	✓	✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ H1
2.93	495	65	1 620	-	0.07	41/14	✓	✓	✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ G1
2.44	594	65	1 200	-	0.13	39/16	✓	✓	✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ F1
2.29	633	66	1 330	-	0.16	39/17	✓	✓	✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ E1
2.06	704	66	1 370	-	0.19	37/18	✓	✓	✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ D1
1.75	829	66	1 490	-	0.29	7/4	✓	✓	✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ C1
1.50	967	61	1 560	-	0.45	3/2			✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ B1
1.29	1 124	54	1 600	-	0.64	31/24			✓	✓	✓	✓					2KJ3001 - ■■■■■■ - ■■ A1
<b>E.49</b>																	
9.70	149	86	4 000	-	0.003	97/10	✓	✓	✓	✓							2KJ3002 - ■■■■■■ - ■■ S1
8.82	164	108	4 000	-	0.004	97/11	✓	✓	✓	✓							2KJ3002 - ■■■■■■ - ■■ R1
7.50	193	107	4 000	-	0.007	15/2	✓	✓	✓	✓							2KJ3002 - ■■■■■■ - ■■ Q1
6.82	213	104	4 000	-	0.01	75/11	✓	✓	✓	✓							2KJ3002 - ■■■■■■ - ■■ P1
6.08	238	104	4 000	-	0.02	73/12	✓	✓	✓	✓	✓	✓					2KJ3002 - ■■■■■■ - ■■ N1
5.45	266	103	4 000	-	0.02	60/11	✓	✓	✓	✓	✓	✓					2KJ3002 - ■■■■■■ - ■■ M1
4.92	295	102	4 000	-	0.03	59/12	✓	✓	✓	✓	✓	✓					2KJ3002 - ■■■■■■ - ■■ L1
4.54	319	102	4 000	-	0.05	59/13	✓	✓	✓	✓	✓	✓					2KJ3002 - ■■■■■■ - ■■ K1
4.14	350	102	4 000	-	0.09	29/7	✓	✓	✓	✓	✓	✓	✓				2KJ3002 - ■■■■■■ - ■■ J1
3.44	422	101	3 510	-	0.15	55/16	✓	✓	✓	✓	✓	✓	✓				2KJ3002 - ■■■■■■ - ■■ H1
3.24	448	101	3 350	-	0.19	55/17	✓	✓	✓	✓	✓	✓	✓				2KJ3002 - ■■■■■■ - ■■ G1
3.06	474	101	3 200	-	0.23	55/18	✓	✓	✓	✓	✓	✓	✓				2KJ3002 - ■■■■■■ - ■■ F1
2.60	558	102	2 540	-	0.36	13/5	✓	✓	✓	✓	✓	✓	✓				2KJ3002 - ■■■■■■ - ■■ E1
2.23	650	102	1 930	-	0.55	49/22			✓	✓	✓	✓	✓				2KJ3002 - ■■■■■■ - ■■ D1
1.96	740	103	1 420	-	0.78	47/24			✓	✓	✓	✓	✓				2KJ3002 - ■■■■■■ - ■■ C1
1.65	879	103	975	-	1.1	38/23			✓	✓	✓	✓	✓				2KJ3002 - ■■■■■■ - ■■ B1
1.44	1 007	102	1 140	-	1.81	36/25			✓	✓	✓	✓	✓				2KJ3002 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

# Electro\_Motor.ir

## SIMOGEAR geared motors

## Helical geared motors

## Transmission ratios and torques for high speeds

## Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub>	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>E.69</b>																	
9.30	156	120	6 100	-	0.007	93/10		✓	✓	✓							2KJ3003 - ■■■■■■ - ■■ S1
8.45	172	105	6 100	-	0.01	93/11		✓	✓	✓							2KJ3003 - ■■■■■■ - ■■ R1
7.58	191	205	6 100	-	0.02	91/12		✓	✓	✓	✓						2KJ3003 - ■■■■■■ - ■■ Q1
6.82	213	170	6 100	-	0.02	75/11		✓	✓	✓	✓						2KJ3003 - ■■■■■■ - ■■ P1
6.17	235	205	6 100	-	0.03	37/6		✓	✓	✓	✓						2KJ3003 - ■■■■■■ - ■■ N1
5.69	255	165	6 100	-	0.05	74/13		✓	✓	✓	✓						2KJ3003 - ■■■■■■ - ■■ M1
5.21	278	200	6 100	-	0.09	73/14		✓	✓	✓	✓	✓					2KJ3003 - ■■■■■■ - ■■ L1
4.38	331	200	6 100	-	0.15	35/8		✓	✓	✓	✓	✓	✓				2KJ3003 - ■■■■■■ - ■■ K1
4.12	352	165	6 100	-	0.19	70/17		✓	✓	✓	✓	✓	✓				2KJ3003 - ■■■■■■ - ■■ J1
3.78	384	200	6 100	-	0.23	34/9		✓	✓	✓	✓	✓	✓				2KJ3003 - ■■■■■■ - ■■ H1
3.30	439	200	6 100	-	0.36	33/10		✓	✓	✓	✓	✓	✓				2KJ3003 - ■■■■■■ - ■■ G1
2.95	492	200	5 680	-	0.55	65/22			✓	✓	✓	✓	✓				2KJ3003 - ■■■■■■ - ■■ F1
2.58	562	197	5 120	-	0.78	31/12			✓	✓	✓	✓	✓				2KJ3003 - ■■■■■■ - ■■ E1
2.22	653	196	4 500	-	1.10	51/23			✓	✓	✓	✓	✓				2KJ3003 - ■■■■■■ - ■■ D1
1.96	740	196	4 050	-	1.81	49/25			✓	✓	✓	✓	✓				2KJ3003 - ■■■■■■ - ■■ C1
1.67	868	196	4 130	-	2.6	5/3				✓	✓	✓	✓				2KJ3003 - ■■■■■■ - ■■ B1
1.43	1 014	195	4 170	-	3.7	10/7					✓	✓	✓	✓			2KJ3003 - ■■■■■■ - ■■ A1
<b>E.89</b>																	
9.67	150	280	8 000	-	0.02	29/3			✓	✓	✓	✓					2KJ3004 - ■■■■■■ - ■■ T1
8.73	166	280	8 000	-	0.02	96/11			✓	✓	✓	✓					2KJ3004 - ■■■■■■ - ■■ S1
7.92	183	280	8 000	-	0.03	95/12			✓	✓	✓	✓					2KJ3004 - ■■■■■■ - ■■ R1
7.31	198	260	8 000	-	0.05	95/13			✓	✓	✓	✓					2KJ3004 - ■■■■■■ - ■■ Q1
6.64	218	260	8 000	-	0.09	93/14			✓	✓	✓	✓	✓				2KJ3004 - ■■■■■■ - ■■ P1
5.62	258	320	8 000	-	0.15	45/8			✓	✓	✓	✓	✓				2KJ3004 - ■■■■■■ - ■■ N1
5.29	274	210	8 000	-	0.19	90/17			✓	✓	✓	✓	✓				2KJ3004 - ■■■■■■ - ■■ M1
4.89	297	360	8 000	-	0.23	44/9			✓	✓	✓	✓	✓				2KJ3004 - ■■■■■■ - ■■ L1
4.35	333	360	8 000	-	0.36	87/20			✓	✓	✓	✓	✓				2KJ3004 - ■■■■■■ - ■■ K1
3.86	376	360	7 520	-	0.55	85/22			✓	✓	✓	✓	✓				2KJ3004 - ■■■■■■ - ■■ J1
3.46	419	365	6 830	-	0.78	83/24			✓	✓	✓	✓	✓				2KJ3004 - ■■■■■■ - ■■ H1
2.96	490	360	6 030	-	1.1	68/23			✓	✓	✓	✓	✓				2KJ3004 - ■■■■■■ - ■■ G1
2.64	549	360	5 410	-	1.81	66/25			✓	✓	✓	✓	✓	✓			2KJ3004 - ■■■■■■ - ■■ F1
2.33	622	360	5 260	-	2.6	7/3				✓	✓	✓	✓	✓			2KJ3004 - ■■■■■■ - ■■ E1
2.05	707	360	5 430	-	3.7	43/21				✓	✓	✓	✓	✓			2KJ3004 - ■■■■■■ - ■■ D1
1.78	815	365	5 550	-	5.4	41/23				✓	✓	✓	✓	✓			2KJ3004 - ■■■■■■ - ■■ C1
1.52	954	360	5 580	-	7.6	32/21				✓	✓	✓	✓	✓			2KJ3004 - ■■■■■■ - ■■ B1
1.3	1 115	360	5 580	-	11	30/23				✓	✓	✓	✓	✓			2KJ3004 - ■■■■■■ - ■■ A1
<b>E.109</b>																	
7.19	202	565	10 500	-	0.15	115/16				✓	✓	✓	✓	✓			2KJ3005 - ■■■■■■ - ■■ Q1
6.76	214	565	10 500	-	0.19	115/17				✓	✓	✓	✓	✓			2KJ3005 - ■■■■■■ - ■■ P1
6.28	231	565	10 500	-	0.23	113/18				✓	✓	✓	✓	✓			2KJ3005 - ■■■■■■ - ■■ N1
5.55	261	560	10 500	-	0.36	111/20				✓	✓	✓	✓	✓			2KJ3005 - ■■■■■■ - ■■ M1
4.95	293	560	10 500	-	0.55	109/22				✓	✓	✓	✓	✓			2KJ3005 - ■■■■■■ - ■■ L1
4.46	325	560	10 500	-	0.78	107/24				✓	✓	✓	✓	✓			2KJ3005 - ■■■■■■ - ■■ K1
3.87	375	555	10 000	-	1.10	89/23				✓	✓	✓	✓	✓			2KJ3005 - ■■■■■■ - ■■ J1
3.48	417	550	9 390	-	1.81	87/25				✓	✓	✓	✓	✓			2KJ3005 - ■■■■■■ - ■■ H1
3.04	477	545	8 440	-	2.6	73/24					✓	✓	✓	✓	✓		2KJ3005 - ■■■■■■ - ■■ G1
2.71	535	545	7 670	-	3.7	19/7					✓	✓	✓	✓	✓	✓	2KJ3005 - ■■■■■■ - ■■ F1
2.39	607	540	6 850	-	5.4	55/23					✓	✓	✓	✓	✓	✓	2KJ3005 - ■■■■■■ - ■■ E1
2.10	690	535	5 980	-	7.8	44/21						✓	✓	✓	✓	✓	2KJ3005 - ■■■■■■ - ■■ D1
1.83	792	530	5 060	-	11	42/23						✓	✓	✓	✓	✓	2KJ3005 - ■■■■■■ - ■■ C1
1.67	868	530	5 170	-	14	5/3						✓	✓	✓	✓	✓	2KJ3005 - ■■■■■■ - ■■ B1
1.43	1 014	465	5 420	-	21	33/23							✓	✓	✓	✓	2KJ3005 - ■■■■■■ - ■■ A1

1) Only in conjunction with reduced-backlash version

## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques for high speeds

#### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>E.129</b>																	
9.79	148	665	13 500	-	0.09	137/14				✓	✓	✓	✓	✓			2KJ3006 - ■■■■■■ - ■■ T1
8.38	173	665	13 500	-	0.15	67/8				✓	✓	✓	✓	✓			2KJ3006 - ■■■■■■ - ■■ S1
7.88	184	665	13 500	-	0.19	134/17				✓	✓	✓	✓	✓			2KJ3006 - ■■■■■■ - ■■ R1
7.39	196	800	13 500	-	0.23	133/18				✓	✓	✓	✓	✓			2KJ3006 - ■■■■■■ - ■■ Q1
6.55	221	800	13 100	-	0.36	131/20				✓	✓	✓	✓	✓			2KJ3006 - ■■■■■■ - ■■ P1
5.82	249	800	12 500	-	0.55	64/11				✓	✓	✓	✓	✓			2KJ3006 - ■■■■■■ - ■■ N1
5.25	276	795	12 000	-	0.78	21/4				✓	✓	✓	✓	✓			2KJ3006 - ■■■■■■ - ■■ M1
4.65	312	795	11 100	-	1.10	107/23				✓	✓	✓	✓	✓			2KJ3006 - ■■■■■■ - ■■ L1
4.12	352	785	10 200	-	1.81	103/25				✓	✓	✓	✓	✓	✓		2KJ3006 - ■■■■■■ - ■■ K1
3.67	395	780	9 380	-	2.6	11/3				✓	✓	✓	✓	✓	✓		2KJ3006 - ■■■■■■ - ■■ J1
3.29	441	780	8 570	-	3.7	23/7				✓	✓	✓	✓	✓	✓	✓	2KJ3006 - ■■■■■■ - ■■ H1
2.91	498	770	7 780	-	5.4	67/23				✓	✓	✓	✓	✓	✓	✓	2KJ3006 - ■■■■■■ - ■■ G1
2.57	564	765	6 880	-	9.5	18/7				✓	✓	✓	✓	✓	✓	✓	2KJ3006 - ■■■■■■ - ■■ F1
2.26	642	760	5 930	-	14	52/23				✓	✓	✓	✓	✓	✓	✓	2KJ3006 - ■■■■■■ - ■■ E1
2.05	707	765	5 450	-	18	43/21				✓	✓	✓	✓	✓	✓	✓	2KJ3006 - ■■■■■■ - ■■ D1
1.78	815	760	5 830	-	25	41/23					✓	✓	✓	✓	✓	✓	2KJ3006 - ■■■■■■ - ■■ C1
1.46	993	755	6 190	-	40	19/13					✓	✓	✓	✓	✓	✓	2KJ3006 - ■■■■■■ - ■■ B1
1.24	1 169	745	6 350	-	66	31/25					✓	✓	✓	✓	✓	✓	2KJ3006 - ■■■■■■ - ■■ A1
<b>E.149</b>																	
9.76	149	1 200	16 000	-	0.17	166/17				✓	✓	✓	✓				2KJ3007 - ■■■■■■ - ■■ S1
9.11	159	1 260	16 000	-	0.22	82/9				✓	✓	✓	✓				2KJ3007 - ■■■■■■ - ■■ R1
8.10	179	1 330	15 200	-	0.33	81/10				✓	✓	✓	✓				2KJ3007 - ■■■■■■ - ■■ Q1
7.27	199	1 350	14 300	-	0.5	80/11				✓	✓	✓	✓				2KJ3007 - ■■■■■■ - ■■ P1
6.58	220	1 330	13 500	-	0.69	79/12				✓	✓	✓	✓				2KJ3007 - ■■■■■■ - ■■ N1
5.78	251	1 490	10 800	-	1.08	133/23				✓	✓	✓	✓				2KJ3007 - ■■■■■■ - ■■ M1
5.24	277	1 490	9 900	-	1.58	131/25				✓	✓	✓	✓	✓			2KJ3007 - ■■■■■■ - ■■ L1
4.67	310	1 480	8 900	-	2.3	14/3				✓	✓	✓	✓	✓	✓		2KJ3007 - ■■■■■■ - ■■ K1
4.19	346	1 480	7 940	-	4.0	88/21				✓	✓	✓	✓	✓	✓	✓	2KJ3007 - ■■■■■■ - ■■ J1
3.74	388	1 480	6 890	-	4.6	86/23				✓	✓	✓	✓	✓	✓	✓	2KJ3007 - ■■■■■■ - ■■ H1
3.33	435	1 480	5 850	-	6.7	10/3				✓	✓	✓	✓	✓	✓	✓	2KJ3007 - ■■■■■■ - ■■ G1
2.96	490	1 460	4 950	-	9.6	68/23				✓	✓	✓	✓	✓	✓	✓	2KJ3007 - ■■■■■■ - ■■ F1
2.71	535	1 460	4 140	-	12	19/7				✓	✓	✓	✓	✓	✓	✓	2KJ3007 - ■■■■■■ - ■■ E1
2.39	607	1 460	3 530	-	18	55/23					✓	✓	✓	✓	✓	✓	2KJ3007 - ■■■■■■ - ■■ D1
1.96	740	1 470	4 840	-	9.6	51/26					✓	✓	✓	✓	✓	✓	2KJ3007 - ■■■■■■ - ■■ C1
1.72	843	1 460	5 130	-	42	43/25					✓	✓	✓	✓	✓	✓	2KJ3007 - ■■■■■■ - ■■ B1
1.34	1 082	1 280	5 810	-	119	39/29					✓	✓	✓	✓	✓	✓	2KJ3007 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques for very low speeds

##### Selection and ordering data

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup> °	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.29-Z19</b>															
<b>8 025</b>	0.18	140	3 710	-	0.08	1966032/245	✓	✓						2KJ3221 - ■■■■■■ - ■■ C1	
<b>7 183</b>	0.20	140	3 710	-	0.11	251652096/35035	✓	✓						2KJ3221 - ■■■■■■ - ■■ B1	
<b>6 379</b>	0.23	140	3 710	-	0.13	20315664/3185	✓	✓						2KJ3221 - ■■■■■■ - ■■ A1	
<b>Z.29-D19</b>															
<b>5 890</b>	0.25	140	3 710	-	0.02	13399254/2275	✓	✓						2KJ3121 - ■■■■■■ - ■■ P1	
<b>5 215</b>	0.28	140	3 710	-	0.03	118648233/22750	✓	✓						2KJ3121 - ■■■■■■ - ■■ N1	
<b>4 531</b>	0.32	140	3 710	-	0.04	103087809/22750	✓	✓						2KJ3121 - ■■■■■■ - ■■ M1	
<b>4 119</b>	0.35	140	3 710	-	0.04	9371619/2275	✓	✓						2KJ3121 - ■■■■■■ - ■■ L1	
<b>3 505</b>	0.41	140	3 710	-	0.06	79747173/22750	✓	✓						2KJ3121 - ■■■■■■ - ■■ K1	
<b>3 187</b>	0.45	140	3 710	-	0.07	7249743/2275	✓	✓						2KJ3121 - ■■■■■■ - ■■ J1	
<b>2 779</b>	0.52	140	3 710	-	0.08	1945053/700	✓	✓						2KJ3121 - ■■■■■■ - ■■ H1	
<b>2 487</b>	0.58	140	3 710	-	0.11	5658336/2275	✓	✓						2KJ3121 - ■■■■■■ - ■■ G1	
<b>2 209</b>	0.66	140	3 710	-	0.13	20098881/9100	✓	✓						2KJ3121 - ■■■■■■ - ■■ F1	
<b>2 039</b>	0.71	140	3 710	-	0.16	60296643/29575	✓	✓						2KJ3121 - ■■■■■■ - ■■ E1	
<b>1 771</b>	0.82	140	3 710	-	0.17	56406537/31850	✓	✓						2KJ3121 - ■■■■■■ - ■■ D1	
<b>1 539</b>	0.94	140	3 710	-	0.18	17505477/11375	✓	✓						2KJ3121 - ■■■■■■ - ■■ C1	
<b>1 389</b>	1.0	140	3 710	-	0.22	1945053/1400	✓	✓						2KJ3121 - ■■■■■■ - ■■ B1	
<b>1 308</b>	1.1	140	3 710	-	0.26	3890106/2975	✓	✓						2KJ3121 - ■■■■■■ - ■■ A1	
<b>Z.29-Z19</b>															
<b>1 114</b>	1.3	140	3 710	-	0.02	362142/325	✓	✓						2KJ3120 - ■■■■■■ - ■■ P1	
<b>987</b>	1.5	140	3 710	-	0.03	3206709/3250	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ N1	
<b>857</b>	1.7	140	3 710	-	0.04	2786157/3250	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ M1	
<b>779</b>	1.9	140	3 710	-	0.05	253287/325	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ L1	
<b>663</b>	2.2	140	3 710	-	0.07	2155329/3250	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ K1	
<b>603</b>	2.4	140	3 710	-	0.08	195939/325	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ J1	
<b>526</b>	2.8	140	3 710	-	0.09	52569/100	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ H1	
<b>471</b>	3.1	140	3 710	-	0.12	152928/325	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ G1	
<b>418</b>	3.5	140	3 710	-	0.15	543213/1300	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ F1	
<b>386</b>	3.8	140	3 710	-	0.18	1629639/4225	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ E1	
<b>335.06</b>	4.3	140	3 710	-	0.20	1524501/4550	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ D1	
<b>291.15</b>	5.0	140	3 710	-	0.21	473121/1625	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ C1	
<b>262.85</b>	5.5	140	3 710	-	0.27	52569/200	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ B1	
<b>247.38</b>	5.9	140	3 710	-	0.32	105138/425	✓	✓	✓					2KJ3120 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

<i>i</i>	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi^{1)}$	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.39-D19</b>															
<b>8 760</b>	0.17	200	4 370	-	0.08	744588/85	✓	✓							<b>2KJ3223</b> - ■■■■■■ - ■■ <b>A1</b>
<b>Z.39-D19</b>															
<b>8 075</b>	0.18	200	4 370	-	0.02	201872/25	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>P1</b>
<b>7 150</b>	0.2	200	4 370	-	0.03	893772/125	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>N1</b>
<b>6 212</b>	0.23	200	4 370	-	0.04	776556/125	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>M1</b>
<b>5 648</b>	0.26	200	4 370	-	0.04	141192/25	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>L1</b>
<b>4 806</b>	0.3	200	4 370	-	0.06	600732/125	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>K1</b>
<b>4 369</b>	0.33	200	4 370	-	0.07	109224/25	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>J1</b>
<b>3 810</b>	0.38	200	4 370	-	0.08	95238/25	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>H1</b>
<b>3 410</b>	0.43	200	4 370	-	0.11	85248/25	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>G1</b>
<b>3 028</b>	0.48	200	4 370	-	0.13	75702/25	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>F1</b>
<b>2 795</b>	0.52	200	4 370	-	0.16	908424/325	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>E1</b>
<b>2 428</b>	0.6	200	4 370	-	0.17	424908/175	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>D1</b>
<b>2 110</b>	0.69	200	4 370	-	0.18	263736/125	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>C1</b>
<b>1 905</b>	0.76	200	4 370	-	0.22	47619/25	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>B1</b>
<b>1 793</b>	0.81	200	4 370	-	0.26	761904/425	✓	✓							<b>2KJ3123</b> - ■■■■■■ - ■■ <b>A1</b>
<b>Z.39-Z19</b>															
<b>1 528</b>	0.95	200	4 370	-	0.02	38192/25	✓	✓							<b>2KJ3122</b> - ■■■■■■ - ■■ <b>S1</b>
<b>1 353</b>	1.1	200	4 370	-	0.03	169092/125	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>R1</b>
<b>1 175</b>	1.2	200	4 370	-	0.04	146916/125	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>Q1</b>
<b>1 068</b>	1.4	200	4 370	-	0.05	26712/25	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>P1</b>
<b>909</b>	1.6	200	4 370	-	0.07	113652/125	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>N1</b>
<b>827</b>	1.8	200	4 370	-	0.08	20664/25	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>M1</b>
<b>721</b>	2.0	200	4 370	-	0.09	18018/25	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>L1</b>
<b>645</b>	2.2	200	4 370	-	0.12	16128/25	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>K1</b>
<b>573</b>	2.5	200	4 370	-	0.15	14322/25	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>J1</b>
<b>529</b>	2.7	200	4 370	-	0.18	171864/325	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>H1</b>
<b>459</b>	3.2	200	4 370	-	0.20	11484/25	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>G1</b>
<b>399</b>	3.6	200	4 370	-	0.21	49896/125	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>F1</b>
<b>360</b>	4.0	200	4 370	-	0.27	9009/25	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>E1</b>
<b>339.16</b>	4.3	200	4 370	-	0.32	144144/425	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>D1</b>
<b>295.68</b>	4.9	200	4 370	-	0.36	7392/25	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>C1</b>
<b>272.80</b>	5.3	200	4 370	-	0.19	1364/5	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>B1</b>
<b>236.97</b>	6.1	200	4 370	-	0.22	8294/35	✓	✓	✓						<b>2KJ3122</b> - ■■■■■■ - ■■ <b>A1</b>

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques for very low speeds

##### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup> °	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.49-D19</b>															
13 709	0.11	320	5 780	-	0.06	9980343/728	✓	✓						2KJ3225 - ■■■■■■ - ■■ D1	
12 463	0.12	320	5 780	-	0.07	49901715/4004	✓	✓						2KJ3225 - ■■■■■■ - ■■ C1	
10 867	0.13	320	5 780	-	0.08	1217115/112	✓	✓						2KJ3225 - ■■■■■■ - ■■ B1	
9 727	0.15	320	5 780	-	0.11	9736920/1001	✓	✓						2KJ3225 - ■■■■■■ - ■■ A1	
<b>Z.49-D19</b>															
9 638	0.15	320	5 900	-	0.02	52625507/5460	✓	✓						2KJ3125 - ■■■■■■ - ■■ P1	
8 535	0.17	320	5 900	-	0.03	310660251/36400	✓	✓						2KJ3125 - ■■■■■■ - ■■ N1	
7 415	0.20	320	5 900	-	0.04	269917923/36400	✓	✓						2KJ3125 - ■■■■■■ - ■■ M1	
6 741	0.22	320	5 900	-	0.04	24537993/3640	✓	✓						2KJ3125 - ■■■■■■ - ■■ L1	
5 736	0.25	320	5 900	-	0.06	208804431/36400	✓	✓						2KJ3125 - ■■■■■■ - ■■ K1	
5 215	0.28	320	5 900	-	0.07	18982221/3640	✓	✓						2KJ3125 - ■■■■■■ - ■■ J1	
4 547	0.32	320	5 900	-	0.08	5092791/1120	✓	✓						2KJ3125 - ■■■■■■ - ■■ H1	
4 070	0.36	320	5 900	-	0.11	1851924/455	✓	✓						2KJ3125 - ■■■■■■ - ■■ G1	
3 614	0.40	320	5 900	-	0.13	52625507/14560	✓	✓						2KJ3125 - ■■■■■■ - ■■ F1	
3 336	0.43	320	5 900	-	0.16	157876521/47320	✓	✓						2KJ3125 - ■■■■■■ - ■■ E1	
2 898	0.50	320	5 900	-	0.17	147690939/50960	✓	✓						2KJ3125 - ■■■■■■ - ■■ D1	
2 518	0.58	320	5 900	-	0.18	45835119/18200	✓	✓						2KJ3125 - ■■■■■■ - ■■ C1	
2 274	0.64	320	5 900	-	0.22	5092791/2240	✓	✓						2KJ3125 - ■■■■■■ - ■■ B1	
2 140	0.68	320	5 900	-	0.26	5092791/2380	✓	✓						2KJ3125 - ■■■■■■ - ■■ A1	
<b>Z.49-Z19</b>															
1 823	0.80	320	5 900	-	0.02	1422311/780	✓	✓						2KJ3124 - ■■■■■■ - ■■ S1	
1 615	0.90	320	5 900	-	0.03	8396223/5200	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ R1	
1 403	1.0	320	5 900	-	0.04	7295079/5200	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ Q1	
1 275	1.1	320	5 900	-	0.05	663189/520	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ P1	
1 085	1.3	320	5 900	-	0.07	5643363/5200	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ N1	
987	1.5	320	5 900	-	0.08	513033/520	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ M1	
860	1.7	320	5 900	-	0.09	137643/160	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ L1	
770	1.9	320	5 900	-	0.12	50052/65	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ K1	
684	2.1	320	5 900	-	0.15	1422311/2080	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ J1	
631	2.3	320	5 900	-	0.18	4266933/6760	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ H1	
548	2.6	320	5 900	-	0.20	3991647/7280	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ G1	
476	3.0	320	5 900	-	0.21	1238787/2600	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ F1	
430	3.4	320	5 900	-	0.27	137643/320	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ E1	
405	3.6	320	5 900	-	0.32	137643/340	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ D1	
353	4.1	320	5 900	-	0.36	45881/130	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ C1	
325.62	4.5	320	5 900	-	0.19	1422311/4368	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ B1	
282.85	5.1	320	5 900	-	0.22	1330549/4704	✓	✓	✓					2KJ3124 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

# Electro\_Motor.ir

## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.59-D19</b>															
14 985	0.10	450	7 660	-	0.06	10908747/728	✓	✓						2KJ3227 - ■■■■■■ - ■■ D1	
13 622	0.11	450	7 660	-	0.07	54543735/4004	✓	✓						2KJ3227 - ■■■■■■ - ■■ C1	
11 878	0.12	450	7 660	-	0.08	1330335/112	✓	✓						2KJ3227 - ■■■■■■ - ■■ B1	
10 632	0.14	450	7 660	-	0.11	10642680/1001	✓	✓						2KJ3227 - ■■■■■■ - ■■ A1	
<b>D.59-Z19</b>															
739	2.0	450	7 660	-	0.22	579275/784	✓	✓	✓					2KJ3226 - ■■■■■■ - ■■ J1	
642	2.3	450	7 660	-	0.23	35955/56	✓	✓	✓					2KJ3226 - ■■■■■■ - ■■ H1	
580	2.5	450	7 660	-	0.30	259675/448	✓	✓	✓					2KJ3226 - ■■■■■■ - ■■ G1	
546	2.7	450	7 660	-	0.35	15275/28	✓	✓	✓					2KJ3226 - ■■■■■■ - ■■ F1	
507	2.9	450	7 660	-	0.20	1362295/2688	✓	✓	✓					2KJ3226 - ■■■■■■ - ■■ E1	
440	3.3	450	7 660	-	0.23	16567265/37632	✓	✓	✓					2KJ3226 - ■■■■■■ - ■■ D1	
383	3.8	450	7 660	-	0.24	342771/896	✓	✓	✓					2KJ3226 - ■■■■■■ - ■■ C1	
345.36	4.2	450	7 660	-	0.31	7426705/21504	✓	✓	✓					2KJ3226 - ■■■■■■ - ■■ B1	
325.05	4.5	450	7 660	-	0.37	436865/1344	✓	✓	✓					2KJ3226 - ■■■■■■ - ■■ A1	
<b>Z.59-D19</b>															
9 577	0.15	450	7 660	-	0.02	5229173/546	✓	✓						2KJ3127 - ■■■■■■ - ■■ P1	
8 480	0.17	450	7 660	-	0.03	30868989/3640	✓	✓						2KJ3127 - ■■■■■■ - ■■ N1	
7 368	0.20	450	7 660	-	0.04	26820597/3640	✓	✓						2KJ3127 - ■■■■■■ - ■■ M1	
6 698	0.22	450	7 660	-	0.04	26820597/4004	✓	✓						2KJ3127 - ■■■■■■ - ■■ L1	
5 700	0.25	450	7 660	-	0.06	20748009/3640	✓	✓						2KJ3127 - ■■■■■■ - ■■ K1	
5 182	0.28	450	7 660	-	0.07	20748009/4004	✓	✓						2KJ3127 - ■■■■■■ - ■■ J1	
4 518	0.32	450	7 660	-	0.08	506049/112	✓	✓						2KJ3127 - ■■■■■■ - ■■ H1	
4 044	0.36	450	7 660	-	0.11	4048392/1001	✓	✓						2KJ3127 - ■■■■■■ - ■■ G1	
3 591	0.40	450	7 660	-	0.13	5229173/1456	✓	✓						2KJ3127 - ■■■■■■ - ■■ F1	
3 315	0.44	450	7 660	-	0.16	15687519/4732	✓	✓						2KJ3127 - ■■■■■■ - ■■ E1	
2 880	0.50	450	7 660	-	0.17	14675421/5096	✓	✓						2KJ3127 - ■■■■■■ - ■■ D1	
2 502	0.58	450	7 660	-	0.18	4554441/1820	✓	✓						2KJ3127 - ■■■■■■ - ■■ C1	
2 259	0.64	450	7 660	-	0.22	506049/224	✓	✓						2KJ3127 - ■■■■■■ - ■■ B1	
2 126	0.68	450	7 660	-	0.26	506049/238	✓	✓						2KJ3127 - ■■■■■■ - ■■ A1	
<b>Z.59-Z19</b>															
1 812	0.80	450	7 660	-	0.02	141329/78	✓	✓						2KJ3126 - ■■■■■■ - ■■ G1	
1 604	0.90	450	7 660	-	0.03	834297/520	✓	✓	✓					2KJ3126 - ■■■■■■ - ■■ F1	
1 394	1.0	450	7 660	-	0.04	724881/520	✓	✓	✓					2KJ3126 - ■■■■■■ - ■■ E1	
1 267	1.1	450	7 660	-	0.05	724881/572	✓	✓	✓					2KJ3126 - ■■■■■■ - ■■ D1	
1 078	1.3	450	7 660	-	0.07	560757/520	✓	✓	✓					2KJ3126 - ■■■■■■ - ■■ C1	
980	1.5	450	7 660	-	0.08	560757/572	✓	✓	✓					2KJ3126 - ■■■■■■ - ■■ B1	
855	1.7	450	7 660	-	0.09	13677/16	✓	✓	✓					2KJ3126 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

## Helical geared motors

## Transmission ratios and torques for very low speeds

## Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup> °	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.69-D19</b>															
14 575	0.10	600	11 000	-	0.07	9284040/637	✓	✓						2KJ3230 - ■■■■■■ - ■■ C1	
12 708	0.11	600	11 000	-	0.08	622710/49	✓	✓						2KJ3230 - ■■■■■■ - ■■ B1	
11 375	0.13	600	11 000	-	0.11	7246080/637	✓	✓						2KJ3230 - ■■■■■■ - ■■ A1	
<b>D.69-Z19</b>															
1 532	0.95	600	11 000	-	0.20	976140/637	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ Q1	
1 332	1.1	600	11 000	-	0.21	121176/91	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ P1	
1 202	1.2	600	11 000	-	0.27	8415/7	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ N1	
1 131	1.3	600	11 000	-	0.32	7920/7	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ M1	
986	1.5	600	11 000	-	0.37	89760/91	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ L1	
910	1.6	600	11 000	-	0.19	579700/637	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ K1	
791	1.8	600	11 000	-	0.22	271150/343	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ J1	
687	2.1	600	11 000	-	0.23	33660/49	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ H1	
620	2.3	600	11 000	-	0.30	60775/98	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ G1	
584	2.5	600	11 000	-	0.35	28600/49	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ F1	
542	2.7	600	11 000	-	0.20	318835/588	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ E1	
471	3.1	600	11 000	-	0.23	3877445/8232	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ D1	
409	3.5	600	11 000	-	0.24	80223/196	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ C1	
370	3.9	600	11 000	-	0.31	1738165/4704	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ B1	
347.77	4.2	600	11 000	-	0.37	102245/294	✓	✓	✓					2KJ3228 - ■■■■■■ - ■■ A1	
<b>Z.69-D19</b>															
10 247	0.14	600	11 000	-	0.02	19581584/1911	✓	✓						2KJ3130 - ■■■■■■ - ■■ Q1	
9 073	0.16	600	11 000	-	0.03	28898628/3185	✓	✓						2KJ3130 - ■■■■■■ - ■■ P1	
7 883	0.18	600	11 000	-	0.04	25108644/3185	✓	✓						2KJ3130 - ■■■■■■ - ■■ N1	
7 167	0.2	600	11 000	-	0.04	4565208/637	✓	✓						2KJ3130 - ■■■■■■ - ■■ M1	
6 098	0.24	600	11 000	-	0.06	19423668/3185	✓	✓						2KJ3130 - ■■■■■■ - ■■ L1	
5 544	0.26	600	11 000	-	0.07	3531576/637	✓	✓						2KJ3130 - ■■■■■■ - ■■ K1	
4 834	0.3	600	11 000	-	0.08	236874/49	✓	✓						2KJ3130 - ■■■■■■ - ■■ J1	
4 327	0.34	600	11 000	-	0.11	2756352/637	✓	✓						2KJ3130 - ■■■■■■ - ■■ H1	
3 843	0.38	600	11 000	-	0.13	2447698/637	✓	✓						2KJ3130 - ■■■■■■ - ■■ G1	
3 547	0.41	600	11 000	-	0.16	29372376/8281	✓	✓						2KJ3130 - ■■■■■■ - ■■ F1	
3 081	0.47	600	11 000	-	0.17	13738692/4459	✓	✓						2KJ3130 - ■■■■■■ - ■■ E1	
2 677	0.54	600	11 000	-	0.18	8527464/3185	✓	✓						2KJ3130 - ■■■■■■ - ■■ D1	
2 417	0.6	600	11 000	-	0.22	118437/49	✓	✓						2KJ3130 - ■■■■■■ - ■■ C1	
2 275	0.64	600	11 000	-	0.26	1894992/833	✓	✓						2KJ3130 - ■■■■■■ - ■■ B1	
1 983	0.73	600	11 000	-	0.29	1263328/637	✓	✓						2KJ3130 - ■■■■■■ - ■■ A1	
<b>Z.69-Z19</b>															
1 939	0.75	600	11 000	-	0.02	529232/273	✓	✓						2KJ3128 - ■■■■■■ - ■■ B1	
1 717	0.84	600	11 000	-	0.03	781044/455	✓	✓	✓					2KJ3128 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

Electro\_Motor.ir

## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.79-D39</b>															
15 344	0.09	840	13 400	-	0.21	5738565/374	✓	✓	✓	✓	✓	✓		2KJ3232 - ■■■■■■ - ■■ D1	
13 434	0.11	840	13 400	-	0.25	6394401/476	✓	✓	✓	✓	✓	✓		2KJ3232 - ■■■■■■ - ■■ C1	
11 778	0.12	840	13 400	-	0.23	22025159/1870	✓	✓	✓	✓	✓	✓		2KJ3232 - ■■■■■■ - ■■ B1	
10 686	0.14	840	13 400	-	0.33	31972005/2992	✓	✓	✓	✓	✓	✓		2KJ3232 - ■■■■■■ - ■■ A1	
<b>Z.79-D39</b>															
10 451	0.14	840	13 400	-	0.03	47969467/4590	✓	✓						2KJ3132 - ■■■■■■ - ■■ R1	
9 269	0.16	840	13 400	-	0.05	2085629/225	✓	✓						2KJ3132 - ■■■■■■ - ■■ Q1	
8 043	0.18	840	13 400	-	0.05	123052111/15300	✓	✓						2KJ3132 - ■■■■■■ - ■■ P1	
7 311	0.20	840	13 400	-	0.07	123052111/16830	✓	✓	✓	✓				2KJ3132 - ■■■■■■ - ■■ N1	
6 271	0.23	840	13 400	-	0.08	47969467/7650	✓	✓	✓	✓				2KJ3132 - ■■■■■■ - ■■ M1	
5 700	0.25	840	13 400	-	0.10	47969467/8415	✓	✓	✓	✓				2KJ3132 - ■■■■■■ - ■■ L1	
4 998	0.29	840	13 400	-	0.12	22941919/4590	✓	✓	✓	✓	✓	✓		2KJ3132 - ■■■■■■ - ■■ K1	
4 461	0.33	840	13 400	-	0.15	4171258/935	✓	✓	✓	✓	✓	✓		2KJ3132 - ■■■■■■ - ■■ J1	
3 976	0.36	840	13 400	-	0.17	14599403/3672	✓	✓	✓	✓	✓	✓		2KJ3132 - ■■■■■■ - ■■ H1	
3 670	0.40	840	13 400	-	0.21	1123031/306	✓	✓	✓	✓	✓	✓		2KJ3132 - ■■■■■■ - ■■ G1	
3 213	0.45	840	13 400	-	0.25	3277417/1020	✓	✓	✓	✓	✓	✓		2KJ3132 - ■■■■■■ - ■■ F1	
2 817	0.51	840	13 400	-	0.23	64654499/22950	✓	✓	✓	✓	✓	✓		2KJ3132 - ■■■■■■ - ■■ E1	
2 556	0.57	840	13 400	-	0.33	2085629/816	✓	✓	✓	✓	✓	✓		2KJ3132 - ■■■■■■ - ■■ D1	
2 406	0.60	840	13 400	-	0.39	2085629/867	✓	✓	✓	✓	✓	✓		2KJ3132 - ■■■■■■ - ■■ C1	
2 120	0.68	840	13 400	-	0.43	14599403/6885	✓	✓	✓	✓	✓	✓		2KJ3132 - ■■■■■■ - ■■ B1	
1 840	0.79	840	13 400	-	0.58	6256887/3400	✓	✓	✓	✓	✓	✓		2KJ3132 - ■■■■■■ - ■■ A1	
<b>Z.79-Z39</b>															
2 485	0.58	840	13 400	-	0.06	4025749/1620	✓	✓						2KJ3131 - ■■■■■■ - ■■ T1	
2 210	0.66	840	13 400	-	0.07	1988623/900	✓	✓	✓	✓				2KJ3131 - ■■■■■■ - ■■ S1	
1 940	0.75	840	13 400	-	0.08	48503/25	✓	✓	✓	✓				2KJ3131 - ■■■■■■ - ■■ R1	
1 764	0.82	840	13 400	-	0.10	97006/55	✓	✓	✓	✓				2KJ3131 - ■■■■■■ - ■■ Q1	
1 509	0.96	840	13 400	-	0.12	339521/225	✓	✓	✓	✓				2KJ3131 - ■■■■■■ - ■■ P1	
1 372	1.1	840	13 400	-	0.14	679042/495	✓	✓	✓	✓				2KJ3131 - ■■■■■■ - ■■ N1	
1 213	1.2	840	13 400	-	0.17	48503/40	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ M1	
1 102	1.3	840	13 400	-	0.22	48503/44	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ L1	
966	1.5	840	13 400	-	0.26	2085629/2160	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ K1	
891	1.6	840	13 400	-	0.31	160433/180	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ J1	
789	1.8	840	13 400	-	0.36	284089/360	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ H1	
657	2.2	840	13 400	-	0.48	630539/960	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ G1	
618	2.3	840	13 400	-	0.56	630539/1020	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ F1	
554	2.6	840	13 400	-	0.61	1794611/3240	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ E1	
472	3.1	840	13 400	-	0.79	339521/720	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ D1	
455	3.2	840	13 400	-	0.36	21853/48	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ C1	
379	3.8	840	13 400	-	0.48	48503/128	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ B1	
357	4.1	840	13 400	-	0.56	48503/136	✓	✓	✓	✓	✓	✓		2KJ3131 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

# Electro\_Motor.ir

## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques for very low speeds

##### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup> °	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.89-D39</b>															
16 496	0.09	1 680	18 500	-	0.12	214526312/13005	✓	✓	✓	✓	✓	✓		2KJ3234 - ■■■■■■ - ■■ B1	
14 723	0.1	1 680	18 500	-	0.15	234028704/15895	✓	✓	✓	✓	✓	✓		2KJ3234 - ■■■■■■ - ■■ A1	
<b>D.89-Z39</b>															
715	2.0	1 680	18 500	-	0.63	6987123/9775	✓	✓	✓	✓	✓	✓		2KJ3233 - ■■■■■■ - ■■ H1	
673	2.2	1 680	18 500	-	0.73	111793968/166175	✓	✓	✓	✓	✓	✓		2KJ3233 - ■■■■■■ - ■■ G1	
603	2.4	1 680	18 500	-	0.83	17676824/29325	✓	✓	✓	✓	✓	✓		2KJ3233 - ■■■■■■ - ■■ F1	
513	2.8	1 680	18 500	-	1.09	5016396/9775	✓	✓	✓	✓	✓	✓		2KJ3233 - ■■■■■■ - ■■ E1	
480	3.0	1 680	18 500	-	0.66	1270386/2645	✓	✓	✓	✓	✓	✓		2KJ3233 - ■■■■■■ - ■■ D1	
452	3.2	1 680	18 500	-	0.77	20326176/44965	✓	✓	✓	✓	✓	✓		2KJ3233 - ■■■■■■ - ■■ C1	
405	3.6	1 680	18 500	-	0.87	3213968/7935	✓	✓	✓	✓	✓	✓		2KJ3233 - ■■■■■■ - ■■ B1	
345	4.2	1 680	18 500	-	1.15	912072/2645	✓	✓	✓	✓	✓	✓		2KJ3233 - ■■■■■■ - ■■ A1	
<b>Z.89-D39</b>															
13 495	0.11	1 680	18 500	-	0.03	464574838/34425	✓	✓						2KJ3134 - ■■■■■■ - ■■ N1	
11 970	0.12	1 680	18 500	-	0.05	40397812/3375	✓	✓						2KJ3134 - ■■■■■■ - ■■ M1	
10 385	0.14	1 680	18 500	-	0.05	595867727/57375	✓	✓						2KJ3134 - ■■■■■■ - ■■ .L1	
9 441	0.15	1 680	18 500	-	0.07	1191735454/126225	✓	✓	✓	✓				2KJ3134 - ■■■■■■ - ■■ K1	
8 097	0.18	1 680	18 500	-	0.08	464574838/57375	✓	✓	✓	✓				2KJ3134 - ■■■■■■ - ■■ J1	
7 361	0.20	1 680	18 500	-	0.1	929149676/126225	✓	✓	✓	✓				2KJ3134 - ■■■■■■ - ■■ H1	
6 454	0.22	1 680	18 500	-	0.12	222187966/34425	✓	✓	✓	✓	✓	✓		2KJ3134 - ■■■■■■ - ■■ G1	
5 761	0.25	1 680	18 500	-	0.15	80795624/14025	✓	✓	✓	✓	✓	✓		2KJ3134 - ■■■■■■ - ■■ F1	
5 134	0.28	1 680	18 500	-	0.17	70696171/13770	✓	✓	✓	✓	✓	✓		2KJ3134 - ■■■■■■ - ■■ E1	
4 739	0.31	1 680	18 500	-	0.21	10876334/2295	✓	✓	✓	✓	✓	✓		2KJ3134 - ■■■■■■ - ■■ D1	
4 149	0.35	1 680	18 500	-	0.25	15870569/3825	✓	✓	✓	✓	✓	✓		2KJ3134 - ■■■■■■ - ■■ C1	
3 638	0.40	1 680	18 500	-	0.23	626166086/172125	✓	✓	✓	✓	✓	✓		2KJ3134 - ■■■■■■ - ■■ B1	
3 300	0.44	1 680	18 500	-	0.33	10099453/3060	✓	✓	✓	✓	✓	✓		2KJ3134 - ■■■■■■ - ■■ A1	
<b>Z.89-Z39</b>															
3 209	0.45	1 680	18 500	-	0.06	19494293/6075	✓	✓						2KJ3133 - ■■■■■■ - ■■ N1	
2 853	0.51	1 680	18 500	-	0.07	9629711/3375	✓	✓	✓	✓				2KJ3133 - ■■■■■■ - ■■ M1	
2 505	0.58	1 680	18 500	-	0.08	939484/375	✓	✓	✓	✓				2KJ3133 - ■■■■■■ - ■■ .L1	
2 278	0.64	1 680	18 500	-	0.10	1878968/825	✓	✓	✓	✓				2KJ3133 - ■■■■■■ - ■■ K1	
1 949	0.74	1 680	18 500	-	0.12	6576388/3375	✓	✓	✓	✓				2KJ3133 - ■■■■■■ - ■■ J1	
1 771	0.82	1 680	18 500	-	0.14	13152776/7425	✓	✓	✓	✓				2KJ3133 - ■■■■■■ - ■■ H1	
1 566	0.93	1 680	18 500	-	0.17	234871/150	✓	✓	✓	✓	✓	✓		2KJ3133 - ■■■■■■ - ■■ G1	
1 423	1.0	1 680	18 500	-	0.22	234871/165	✓	✓	✓	✓	✓	✓		2KJ3133 - ■■■■■■ - ■■ F1	
1 247	1.2	1 680	18 500	-	0.26	10099453/8100	✓	✓	✓	✓	✓	✓		2KJ3133 - ■■■■■■ - ■■ E1	
1 151	1.3	1 680	18 500	-	0.31	776881/675	✓	✓	✓	✓	✓	✓		2KJ3133 - ■■■■■■ - ■■ D1	
1 019	1.4	1 680	18 500	-	0.36	1375673/1350	✓	✓	✓	✓	✓	✓		2KJ3133 - ■■■■■■ - ■■ C1	
848	1.7	1 680	18 500	-	0.48	3053323/3600	✓	✓	✓	✓	✓	✓		2KJ3133 - ■■■■■■ - ■■ B1	
798	1.8	1 680	18 500	-	0.56	3053323/3825	✓	✓	✓	✓	✓	✓		2KJ3133 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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# SIMOGEAR geared motors

## Helical geared motors

### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.109-D39</b>															
19 321	0.08	3 100	20 200	-	0.05	59992439/3105	✓	✓						2KJ3236 - ■■■■■■ - ■■ T1	
17 565	0.08	3 100	20 200	-	0.07	119984878/6831	✓	✓	✓	✓				2KJ3236 - ■■■■■■ - ■■ S1	
15 064	0.1	3 100	20 200	-	0.08	2033642/135	✓	✓	✓	✓				2KJ3236 - ■■■■■■ - ■■ R1	
13 695	0.11	3 100	20 200	-	0.10	4067284/297	✓	✓	✓	✓				2KJ3236 - ■■■■■■ - ■■ Q1	
12 008	0.12	3 100	20 200	-	0.12	22370062/1863	✓	✓	✓	✓	✓	✓		2KJ3236 - ■■■■■■ - ■■ P1	
10 717	0.14	3 100	20 200	-	0.15	8134568/759	✓	✓	✓	✓	✓	✓		2KJ3236 - ■■■■■■ - ■■ N1	
9 551	0.15	3 100	20 200	-	0.18	35588735/3726	✓	✓	✓	✓	✓	✓		2KJ3236 - ■■■■■■ - ■■ M1	
8 817	0.16	3 100	20 200	-	0.21	5475190/621	✓	✓	✓	✓	✓	✓		2KJ3236 - ■■■■■■ - ■■ L1	
7 719	0.19	3 100	20 200	-	0.25	11185031/1449	✓	✓	✓	✓	✓	✓		2KJ3236 - ■■■■■■ - ■■ K1	
6 768	0.21	3 100	20 200	-	0.23	63042902/9315	✓	✓	✓	✓	✓	✓		2KJ3236 - ■■■■■■ - ■■ J1	
6 140	0.24	3 100	20 200	-	0.33	5084105/828	✓	✓	✓	✓	✓	✓		2KJ3236 - ■■■■■■ - ■■ H1	
<b>D.109-Z39</b>															
5 970	0.24	3 100	20 200	-	0.06	33365917/5589	✓	✓						2KJ3235 - ■■■■■■ - ■■ A2	
5 308	0.27	3 100	20 200	-	0.07	16481959/3105	✓	✓	✓	✓				2KJ3235 - ■■■■■■ - ■■ X1	
4 661	0.31	3 100	20 200	-	0.09	1607996/345	✓	✓	✓	✓				2KJ3235 - ■■■■■■ - ■■ W1	
4 237	0.34	3 100	20 200	-	0.10	3215992/759	✓	✓	✓	✓				2KJ3235 - ■■■■■■ - ■■ V1	
3 625	0.4	3 100	20 200	-	0.12	11255972/3105	✓	✓	✓	✓				2KJ3235 - ■■■■■■ - ■■ U1	
3 296	0.44	3 100	20 200	-	0.15	22511944/6831	✓	✓	✓	✓				2KJ3235 - ■■■■■■ - ■■ T1	
2 913	0.5	3 100	20 200	-	0.17	401999/138	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ S1	
2 648	0.55	3 100	20 200	-	0.23	2009995/759	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ R1	
2 320	0.62	3 100	20 200	-	0.27	17285957/7452	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ Q1	
2 141	0.68	3 100	20 200	-	0.32	1329689/621	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ P1	
1 896	0.76	3 100	20 200	-	0.38	16481959/8694	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ N1	
1 578	0.92	3 100	20 200	-	0.50	5225987/3312	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ M1	
1 485	0.98	3 100	20 200	-	0.59	307411/207	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ L1	
1 331	1.1	3 100	20 200	-	0.64	14873963/11178	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ K1	
1 133	1.3	3 100	20 200	-	0.84	2813993/2484	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ J1	
971	1.5	3 100	20 200	-	1.10	401999/414			✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ H1	
836	1.7	3 100	20 200	-	1.40	12461969/14904			✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ G1	
690	2.1	3 100	20 200	-	0.73	122609695/177744	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ F1	
649	2.2	3 100	20 200	-	0.84	7212335/11109	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ E1	
582	2.5	3 100	20 200	-	0.96	348966055/599886	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ D1	
495	2.9	3 100	20 200	-	1.28	9431515/19044	✓	✓	✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ C1	
424	3.4	3 100	20 200	-	1.69	9431515/22218			✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ B1	
366	4	3 100	20 200	-	2.20	292376965/799848			✓	✓	✓	✓		2KJ3235 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

### Helical geared motors

#### Transmission ratios and torques for very low speeds

##### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup> °	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.129-D49</b>															
19 506	0.07	5 000	27 000	-	0.12	1643206859/84240	✓	✓	✓	✓				2KJ3238 - ■■■■■■ - ■■ L1	
17 733	0.08	5 000	27 000	-	0.14	1643206859/92664	✓	✓	✓	✓				2KJ3238 - ■■■■■■ - ■■ K1	
15 675	0.09	5 000	27 000	-	0.17	234743837/14976	✓	✓	✓	✓	✓	✓		2KJ3238 - ■■■■■■ - ■■ J1	
14 250	0.1	5 000	27 000	-	0.22	1173719185/82368	✓	✓	✓	✓	✓	✓		2KJ3238 - ■■■■■■ - ■■ H1	
12 482	0.12	5 000	27 000	-	0.26	10093984991/808704	✓	✓	✓	✓	✓	✓		2KJ3238 - ■■■■■■ - ■■ G1	
11 522	0.13	5 000	27 000	-	0.31	10093984991/876096	✓	✓	✓	✓	✓	✓		2KJ3238 - ■■■■■■ - ■■ F1	
10 201	0.14	5 000	27 000	-	0.37	9624497317/943488	✓	✓	✓	✓	✓	✓	✓	2KJ3238 - ■■■■■■ - ■■ E1	
8 490	0.17	5 000	27 000	-	0.50	234743837/27648	✓	✓	✓	✓	✓	✓	✓	2KJ3238 - ■■■■■■ - ■■ D1	
7 991	0.18	5 000	27 000	-	0.59	13808461/1728	✓	✓	✓	✓	✓	✓	✓	2KJ3238 - ■■■■■■ - ■■ C1	
7 160	0.2	5 000	27 000	-	0.65	8685521969/1213056	✓	✓	✓	✓	✓	✓	✓	2KJ3238 - ■■■■■■ - ■■ B1	
6 096	0.24	5 000	27 000	-	0.85	1643206859/269568	✓	✓	✓	✓	✓	✓	✓	2KJ3238 - ■■■■■■ - ■■ A1	
<b>D.129-Z49</b>															
5 963	0.24	5 000	27 000	-	0.18	1339420717/224640	✓	✓	✓	✓				2KJ3237 - ■■■■■■ - ■■ B2	
5 420	0.27	5 000	27 000	-	0.21	1339420717/247104	✓	✓	✓	✓				2KJ3237 - ■■■■■■ - ■■ A2	
4 610	0.31	5 000	27 000	-	0.27	69042305/14976	✓	✓	✓	✓				2KJ3237 - ■■■■■■ - ■■ X1	
4 191	0.35	5 000	27 000	-	0.32	345211525/82368	✓	✓	✓	✓				2KJ3237 - ■■■■■■ - ■■ W1	
3 739	0.39	5 000	27 000	-	0.37	1008017653/269568	✓	✓	✓	✓	✓	✓		2KJ3237 - ■■■■■■ - ■■ V1	
3 353	0.43	5 000	27 000	-	0.45	69042305/20592	✓	✓	✓	✓	✓	✓		2KJ3237 - ■■■■■■ - ■■ U1	
3 022	0.48	5 000	27 000	-	0.53	814699199/269568	✓	✓	✓	✓	✓	✓		2KJ3237 - ■■■■■■ - ■■ T1	
2 790	0.52	5 000	27 000	-	0.63	814699199/292032	✓	✓	✓	✓	✓	✓		2KJ3237 - ■■■■■■ - ■■ S1	
2 547	0.57	5 000	27 000	-	0.74	400445369/157248	✓	✓	✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ R1	
2 113	0.69	5 000	27 000	-	0.95	759465355/359424	✓	✓	✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ Q1	
1 989	0.73	5 000	27 000	-	1.09	759465355/381888	✓	✓	✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ P1	
1 878	0.77	5 000	27 000	-	1.24	759465355/404352	✓	✓	✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ N1	
1 598	0.91	5 000	27 000	-	1.53	13808461/8640	✓	✓	✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ M1	
1 369	1.1	5 000	27 000	-	1.89	676614589/494208			✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ L1	
1 204	1.2	5 000	27 000	-	2.3	648997667/539136			✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ K1	
1 016	1.4	5 000	27 000	-	2.9	262360759/258336			✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ J1	
885	1.6	5 000	27 000	-	3.9	13808461/15600			✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ H1	
873	1.7	5 000	27 000	-	1.51	208411423/238680	✓	✓	✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ G1	
825	1.8	5 000	27 000	-	1.71	208411423/252720	✓	✓	✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ F1	
702	2.1	5 000	27 000	-	2.2	18946493/27000	✓	✓	✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ E1	
601	2.4	5 000	27 000	-	2.8	928378157/1544400			✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ D1	
529	2.7	5 000	27 000	-	3.4	890485171/1684800			✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ C1	
446	3.3	5 000	27 000	-	4.5	359983367/807300			✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ B1	
389	3.7	5 000	27 000	-	6	18946493/48750			✓	✓	✓	✓	✓	2KJ3237 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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# SIMOGEAR geared motors

## Helical geared motors

### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.149-D49</b>															
24 180	0.06	8 000	51 200	-	0.08	118481211/4900	✓	✓							2KJ3241 - ■■■■■■ - ■■ N1
21 982	0.07	8 000	51 200	-	0.10	118481211/5390	✓	✓	✓	✓					2KJ3241 - ■■■■■■ - ■■ M1
18 807	0.08	8 000	51 200	-	0.12	13164579/700	✓	✓	✓	✓					2KJ3241 - ■■■■■■ - ■■ L1
17 097	0.08	8 000	51 200	-	0.14	13164579/770	✓	✓	✓	✓					2KJ3241 - ■■■■■■ - ■■ K1
15 112	0.10	8 000	51 200	-	0.17	118481211/7840	✓	✓	✓	✓	✓	✓			2KJ3241 - ■■■■■■ - ■■ J1
13 739	0.11	8 000	51 200	-	0.22	118481211/8624	✓	✓	✓	✓	✓	✓			2KJ3241 - ■■■■■■ - ■■ H1
12 034	0.12	8 000	51 200	-	0.26	188692299/15680	✓	✓	✓	✓	✓	✓			2KJ3241 - ■■■■■■ - ■■ G1
11 108	0.13	8 000	51 200	-	0.31	566076897/50960	✓	✓	✓	✓	✓	✓			2KJ3241 - ■■■■■■ - ■■ F1
9 835	0.15	8 000	51 200	-	0.37	539747739/54880	✓	✓	✓	✓	✓	✓	✓		2KJ3241 - ■■■■■■ - ■■ E1
8 186	0.18	8 000	51 200	-	0.50	513418581/62720	✓	✓	✓	✓	✓	✓	✓		2KJ3241 - ■■■■■■ - ■■ D1
7 704	0.19	8 000	51 200	-	0.59	30201093/3920	✓	✓	✓	✓	✓	✓	✓		2KJ3241 - ■■■■■■ - ■■ C1
6 903	0.21	8 000	51 200	-	0.66	54121047/7840	✓	✓	✓	✓	✓	✓	✓		2KJ3241 - ■■■■■■ - ■■ B1
5 877	0.25	8 000	51 200	-	0.86	13164579/2240	✓	✓	✓	✓	✓	✓	✓		2KJ3241 - ■■■■■■ - ■■ A1
<b>D.149-Z49</b>															
5 749	0.25	8 000	51 200	-	0.18	225346617/39200	✓	✓	✓	✓					2KJ3240 - ■■■■■■ - ■■ B2
5 226	0.28	8 000	51 200	-	0.22	225346617/43120	✓	✓	✓	✓					2KJ3240 - ■■■■■■ - ■■ A2
4 445	0.33	8 000	51 200	-	0.28	6969483/1568	✓	✓	✓	✓					2KJ3240 - ■■■■■■ - ■■ X1
4 041	0.36	8 000	51 200	-	0.34	34847415/8624	✓	✓	✓	✓					2KJ3240 - ■■■■■■ - ■■ W1
3 605	0.4	8 000	51 200	-	0.39	56530251/15680	✓	✓	✓	✓	✓	✓			2KJ3240 - ■■■■■■ - ■■ V1
3 233	0.45	8 000	51 200	-	0.47	6969483/2156	✓	✓	✓	✓	✓	✓			2KJ3240 - ■■■■■■ - ■■ U1
2 914	0.5	8 000	51 200	-	0.55	45688833/15680	✓	✓	✓	✓	✓	✓			2KJ3240 - ■■■■■■ - ■■ T1
2 690	0.54	8 000	51 200	-	0.66	137066499/50960	✓	✓	✓	✓	✓	✓			2KJ3240 - ■■■■■■ - ■■ S1
2 455	0.59	8 000	51 200	-	0.78	67371669/27440	✓	✓	✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ R1
2 037	0.71	8 000	51 200	-	1.0	25554771/12544	✓	✓	✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ Q1
1 917	0.76	8 000	51 200	-	1.16	25554771/13328	✓	✓	✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ P1
1 811	0.80	8 000	51 200	-	1.31	2839419/1568	✓	✓	✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ N1
1 541	0.94	8 000	51 200	-	1.62	30201093/19600	✓	✓	✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ M1
1 320	1.1	8 000	51 200	-	2.0	2323161/1760			✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ L1
1 161	1.2	8 000	51 200	-	2.5	36396189/31360			✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ K1
979	1.5	8 000	51 200	-	3.2	1919133/1960			✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ J1
853	1.7	8 000	51 200	-	4.2	20908449/24500			✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ H1
842	1.7	8 000	51 200	-	1.81	35063523/41650	✓	✓	✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ G1
795	1.8	8 000	51 200	-	2.0	3895947/4900	✓	✓	✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ F1
677	2.1	8 000	51 200	-	2.6	41438709/61250	✓	✓	✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ E1
580	2.5	8 000	51 200	-	3.4	3187593/5500			✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ D1
510	2.8	8 000	51 200	-	4.3	49938957/98000			✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ C1
430	3.4	8 000	51 200	-	5.7	2633229/6125			✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ B1
375	3.9	8 000	51 200	-	7.5	57376674/153125			✓	✓	✓	✓	✓		2KJ3240 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

# Electro\_Motor.ir

## SIMOGEAR geared motors

## Helical geared motors

## Transmission ratios and torques for very low speeds

## Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup> °	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.169-D69</b>															
23 323	0.06	14 000	70 100	-	0.08	28571136/1225	✓	✓	✓	✓				2KJ3243 - ■■■■■■ - ■■ N1	
21 203	0.07	14 000	70 100	-	0.10	5194752/245	✓	✓	✓	✓				2KJ3243 - ■■■■■■ - ■■ M1	
18 140	0.08	14 000	70 100	-	0.12	9523712/525	✓	✓	✓	✓				2KJ3243 - ■■■■■■ - ■■ L1	
16 491	0.09	14 000	70 100	-	0.15	1731584/105	✓	✓	✓	✓				2KJ3243 - ■■■■■■ - ■■ K1	
14 577	0.10	14 000	70 100	-	0.17	3571392/245	✓	✓	✓	✓	✓	✓		2KJ3243 - ■■■■■■ - ■■ J1	
13 252	0.11	14 000	70 100	-	0.23	649344/49	✓	✓	✓	✓	✓	✓		2KJ3243 - ■■■■■■ - ■■ H1	
11 608	0.12	14 000	70 100	-	0.26	25594976/2205	✓	✓	✓	✓	✓	✓		2KJ3243 - ■■■■■■ - ■■ G1	
10 715	0.14	14 000	70 100	-	0.32	102379904/9555	✓	✓	✓	✓	✓	✓		2KJ3243 - ■■■■■■ - ■■ F1	
9 487	0.15	14 000	70 100	-	0.39	48809024/5145	✓	✓	✓	✓	✓	✓	✓	2KJ3243 - ■■■■■■ - ■■ E1	
7 896	0.18	14 000	70 100	-	0.52	1934504/245	✓	✓	✓	✓	✓	✓	✓	2KJ3243 - ■■■■■■ - ■■ D1	
7 431	0.2	14 000	70 100	-	0.61	30952064/4165	✓	✓	✓	✓	✓	✓	✓	2KJ3243 - ■■■■■■ - ■■ C1	
6 659	0.22	14 000	70 100	-	0.68	44047168/6615	✓	✓	✓	✓	✓	✓	✓	2KJ3243 - ■■■■■■ - ■■ B1	
5 669	0.26	14 000	70 100	-	0.89	595232/105	✓	✓	✓	✓	✓	✓	✓	2KJ3243 - ■■■■■■ - ■■ A1	
<b>D.169-Z.69</b>															
5 545	0.26	14 000	70 100	-	0.21	115475008/20825	✓	✓	✓	✓				2KJ3242 - ■■■■■■ - ■■ A2	
5 041	0.29	14 000	70 100	-	0.26	20995456/4165	✓	✓	✓	✓				2KJ3242 - ■■■■■■ - ■■ X1	
4 287	0.34	14 000	70 100	-	0.33	3571392/833	✓	✓	✓	✓				2KJ3242 - ■■■■■■ - ■■ W1	
3 898	0.37	14 000	70 100	-	0.40	3246720/833	✓	✓	✓	✓				2KJ3242 - ■■■■■■ - ■■ V1	
3 478	0.42	14 000	70 100	-	0.47	43451936/12495	✓	✓	✓	✓	✓	✓		2KJ3242 - ■■■■■■ - ■■ U1	
3 118	0.47	14 000	70 100	-	0.57	2597376/833	✓	✓	✓	✓	✓	✓		2KJ3242 - ■■■■■■ - ■■ T1	
2 811	0.52	14 000	70 100	-	0.67	35118688/12495	✓	✓	✓	✓	✓	✓		2KJ3242 - ■■■■■■ - ■■ S1	
2 594	0.56	14 000	70 100	-	0.8	140474752/54145	✓	✓	✓	✓	✓	✓		2KJ3242 - ■■■■■■ - ■■ R1	
2 368	0.61	14 000	70 100	-	0.95	69046912/29155	✓	✓	✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ Q1	
1 965	0.74	14 000	70 100	-	1.25	1636888/833	✓	✓	✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ P1	
1 849	0.78	14 000	70 100	-	1.44	26190208/14161	✓	✓	✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ N1	
1 747	0.83	14 000	70 100	-	1.62	13095104/7497	✓	✓	✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ M1	
1 486	0.98	14 000	70 100	-	2.1	30952064/20825	✓	✓	✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ L1	
1 273	1.1	14 000	70 100	-	2.6	108224/85	✓	✓	✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ K1	
1 119	1.3	14 000	70 100	-	3.2	13987952/12495	✓	✓	✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ J1	
944	1.5	14 000	70 100	-	4.2	90475264/95795			✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ H1	
823	1.8	14 000	70 100	-	5.7	85713408/104125			✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ G1	
773	1.9	14 000	70 100	-	3.2	19047424/24633			✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ F1	
658	2.2	14 000	70 100	-	4.3	45021184/68425			✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ E1	
564	2.6	14 000	70 100	-	5.6	12121088/21505	✓	✓	✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ D1	
496	2.9	14 000	70 100	-	7.1	20346112/41055	✓	✓	✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ C1	
418	3.5	14 000	70 100	-	9.7	131600384/314755			✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ B1	
364	4.0	14 000	70 100	-	13	124674048/342125			✓	✓	✓	✓	✓	2KJ3242 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

Electro\_Motor.ir

## Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>D.189-D69</b>															
27 816	0.05	19 000	107 000	-	0.07	15994264/575	✓	✓	✓	✓				2KJ3245 - ■■■■■■ - ■■ P1	
24 424	0.06	19 000	107 000	-	0.09	14043744/575	✓	✓	✓	✓				2KJ3245 - ■■■■■■ - ■■ N1	
22 204	0.07	19 000	107 000	-	0.11	2553408/115	✓	✓	✓	✓				2KJ3245 - ■■■■■■ - ■■ M1	
18 996	0.08	19 000	107 000	-	0.12	10922912/575	✓	✓	✓	✓				2KJ3245 - ■■■■■■ - ■■ L1	
17 269	0.08	19 000	107 000	-	0.15	1985984/115	✓	✓	✓	✓				2KJ3245 - ■■■■■■ - ■■ K1	
15 265	0.09	19 000	107 000	-	0.18	1755468/115	✓	✓	✓	✓	✓	✓		2KJ3245 - ■■■■■■ - ■■ J1	
13 877	0.1	19 000	107 000	-	0.23	319176/23	✓	✓	✓	✓	✓	✓		2KJ3245 - ■■■■■■ - ■■ H1	
12 155	0.12	19 000	107 000	-	0.27	4193618/345	✓	✓	✓	✓	✓	✓		2KJ3245 - ■■■■■■ - ■■ G1	
11 220	0.13	19 000	107 000	-	0.32	1290344/115	✓	✓	✓	✓	✓	✓		2KJ3245 - ■■■■■■ - ■■ F1	
9 934	0.15	19 000	107 000	-	0.39	7997132/805	✓	✓	✓	✓	✓	✓	✓	2KJ3245 - ■■■■■■ - ■■ E1	
8 269	0.18	19 000	107 000	-	0.53	1901757/230	✓	✓	✓	✓	✓	✓	✓	2KJ3245 - ■■■■■■ - ■■ D1	
7 782	0.19	19 000	107 000	-	0.62	15214056/1955	✓	✓	✓	✓	✓	✓	✓	2KJ3245 - ■■■■■■ - ■■ C1	
6 973	0.21	19 000	107 000	-	0.69	7216924/1035	✓	✓	✓	✓	✓	✓	✓	2KJ3245 - ■■■■■■ - ■■ B1	
5 936	0.24	19 000	107 000	-	0.91	682682/115	✓	✓	✓	✓	✓	✓	✓	2KJ3245 - ■■■■■■ - ■■ A1	
<b>D.189-Z69</b>															
5 807	0.25	19 000	107 000	-	0.24	56760132/9775	✓	✓	✓	✓				2KJ3244 - ■■■■■■ - ■■ A2	
5 279	0.27	19 000	107 000	-	0.29	10320024/1955	✓	✓	✓	✓				2KJ3244 - ■■■■■■ - ■■ X1	
4 490	0.32	19 000	107 000	-	0.37	1755468/391	✓	✓	✓	✓				2KJ3244 - ■■■■■■ - ■■ W1	
4 082	0.36	19 000	107 000	-	0.45	1595880/391	✓	✓	✓	✓				2KJ3244 - ■■■■■■ - ■■ V1	
3 642	0.4	19 000	107 000	-	0.53	7119398/1955	✓	✓	✓	✓	✓	✓		2KJ3244 - ■■■■■■ - ■■ U1	
3 265	0.44	19 000	107 000	-	0.64	1276704/391	✓	✓	✓	✓	✓	✓		2KJ3244 - ■■■■■■ - ■■ T1	
2 943	0.49	19 000	107 000	-	0.77	5754034/1955	✓	✓	✓	✓	✓	✓		2KJ3244 - ■■■■■■ - ■■ S1	
2 717	0.53	19 000	107 000	-	0.91	5311416/1955	✓	✓	✓	✓	✓	✓		2KJ3244 - ■■■■■■ - ■■ R1	
2 480	0.58	19 000	107 000	-	1.08	33939048/13685	✓	✓	✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ Q1	
2 058	0.7	19 000	107 000	-	1.45	1609179/782	✓	✓	✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ P1	
1 937	0.75	19 000	107 000	-	1.65	12873432/6647	✓	✓	✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ N1	
1 829	0.79	19 000	107 000	-	1.87	2145572/1173	✓	✓	✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ M1	
1 556	0.93	19 000	107 000	-	2.4	15214056/9775	✓	✓	✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ L1	
1 333	1.1	19 000	107 000	-	3.1	2606604/1955			✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ K1	
1 172	1.2	19 000	107 000	-	3.8	2291861/1955			✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ J1	
989	1.5	19 000	107 000	-	5.1	44471856/44965			✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ H1	
862	1.7	19 000	107 000	-	6.8	42131232/48875			✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ G1	
810	1.8	19 000	107 000	-	4.5	21845824/26979	✓	✓	✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ F1	
689	2.1	19 000	107 000	-	6	154906752/224825	✓	✓	✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ E1	
590	2.5	19 000	107 000	-	8	26539968/44965			✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ D1	
519	2.8	19 000	107 000	-	10	23335312/44965			✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ C1	
438	3.3	19 000	107 000	-	14	452804352/1034195			✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ B1	
382	3.8	19 000	107 000	-	18	428972544/1124125			✓	✓	✓	✓	✓	2KJ3244 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

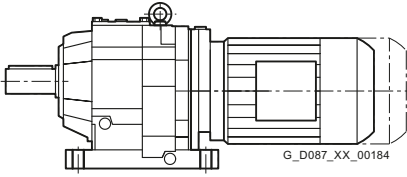
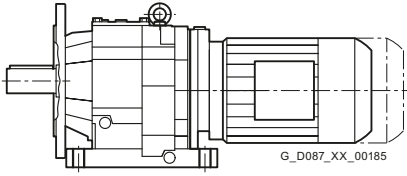
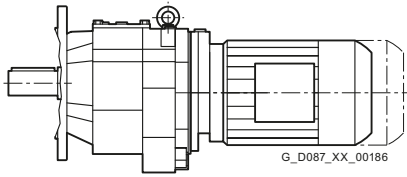
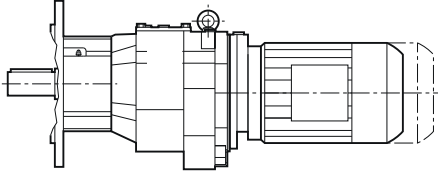
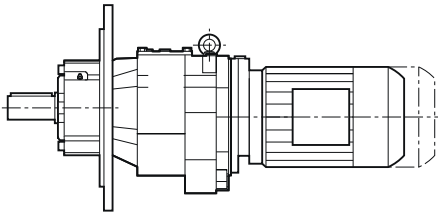
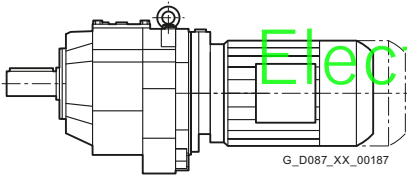
# SIMOGEAR geared motors

## Helical geared motors

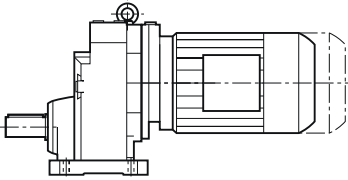
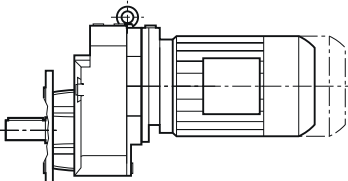
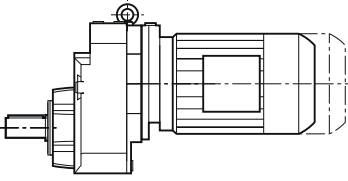
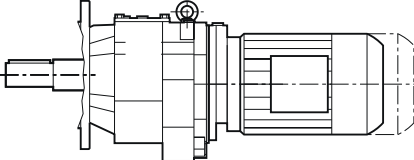
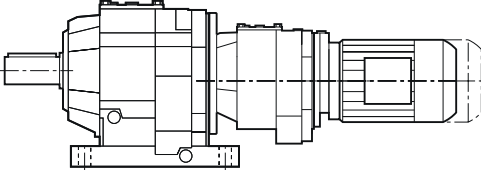
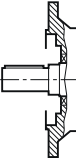
### Dimensions

#### Dimensional drawing overview

Information about dimensional drawings can be found in chapter "Introduction" on page 1/21.

Design	Size	Dimensional drawing on page
<b>Helical geared motor Z and D</b>		
<i>Foot-mounted design</i>		
	D/Z19	3/104
	D/Z29	3/107
	D/Z39	3/111
	D/Z49	3/115
	D/Z59	3/118
	D/Z69	3/121
	D/Z79	3/124
	D/Z89	3/127
	D/Z109	3/132
	D/Z129	3/137
	D/Z149	3/142
	D/Z169	3/146
	D/Z189	3/150
	<i>Foot/flange-mounted design</i>	
	DB/ZB29	3/108
	DB/ZB39	3/112
	DB/ZB49	3/115
	DB/ZB59	3/118
	DB/ZB69	3/121
	DB/ZB79	3/124
DB/ZB89	3/127	
<i>Flange-mounted design</i>		
	DF/ZF19	3/105
	DF/ZF29	3/109
	DF/ZF39	3/113
	DF/ZF49	3/116
	DF/ZF59	3/119
	DF/ZF69	3/122
	DF/ZF79	3/125
	DF/ZF89	3/128
	DF/ZF109	3/133
	DF/ZF129	3/138
	DF/ZF149	3/143
	DF/ZF169	3/147
DF/ZF189	3/151	
<i>Flange-mounted design with VLplus reinforced bearing system</i>		
	DF/ZF89	3/129
	DF/ZF109	3/134
	DF/ZF129	3/139
	DF/ZF149	3/144
	DF/ZF169	3/148
<i>Flange-mounted design with XLplus reinforced bearing system</i>		
	DF/ZF89	3/130
	DF/ZF109	3/135
	DF/ZF129	3/140
	DF/ZF149	3/145
	DF/ZF169	3/149
<i>Housing flange design</i>		
	DZ/ZZ19	3/106
	DZ/ZZ29	3/110
	DZ/ZZ39	3/114
	DZ/ZZ49	3/117
	DZ/ZZ59	3/120
	DZ/ZZ69	3/123
	DZ/ZZ79	3/126
	DZ/ZZ89	3/131
	DZ/ZZ109	3/136
	DZ/ZZ129	3/141

**Dimensional drawing overview** (continued)

Design	Frame size	Dimensional drawing on page
<b>Helical geared motor E</b>		
<i>Foot-mounted design</i>		
	E39	3/152
	E49	3/155
	E69	3/158
	E89	3/161
	E109	3/164
	E129	3/167
	E149	3/170
<i>Flange-mounted design</i>		
	EF39	3/153
	EF49	3/156
	EF69	3/159
	EF89	3/162
	EF109	3/165
	EF129	3/168
	EF149	3/171
<i>Housing flange design</i>		
	EZ39	3/154
	EZ49	3/157
	EZ69	3/160
	EZ89	3/163
	EZ109	3/166
	EZ129	3/169
	EZ149	3/172
<b>Cooling tower geared motor</b>		
	ZKF89	3/173
	ZKF109	3/174
	ZKF129	3/175
	ZKF149	3/176
	ZKF169	3/177
	ZKF189	3/178
	EKF89	3/179
	EKF109	3/180
	EKF129	3/181
	EKF149	3/182
<b>Helical tandem geared motor</b>		
	D./Z.29-D/Z19 ... D.189-D/Z69	3/183
<b>Additional versions and options</b>		
<i>Inner contour of the flange design</i>		
	DF/ZF19 ... DF/ZF189	3/184
	EF39 ... EF149	3/185

# Electro\_Motor.ir

## SIMOGEAR geared motors

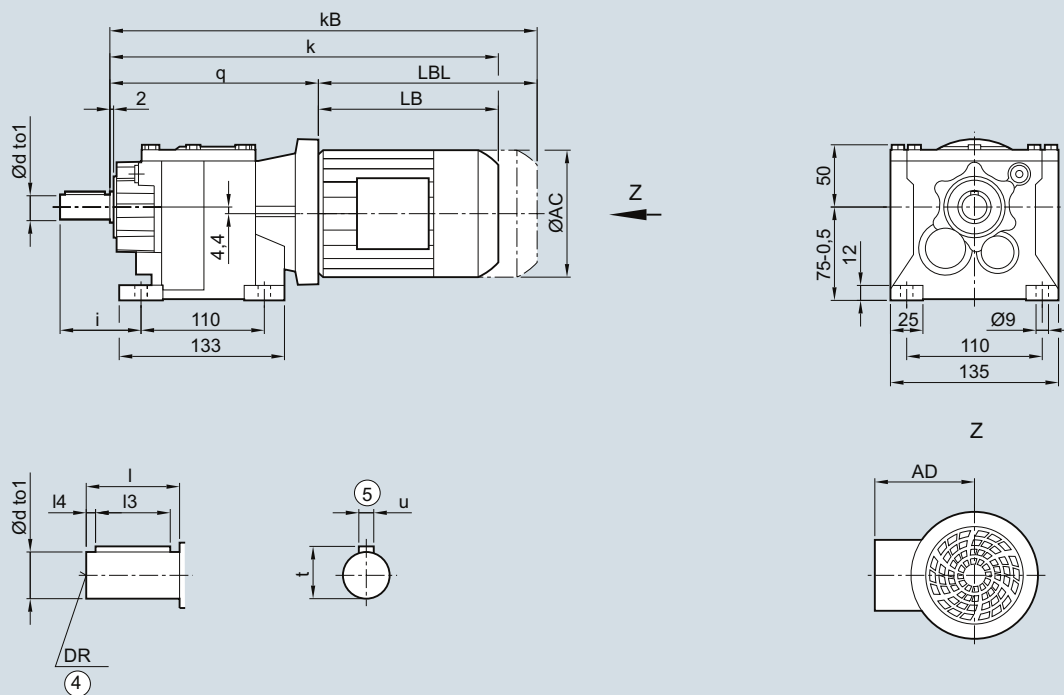
### Helical geared motors

#### Dimensions

#### D/Z19 gearbox in a foot-mounted design

##### DZ030

##### D/Z19



Shaft	d	to1	l	l3	l4	t	u	i	DR
	16	k6	28	22	3	18.0	5	46	M5
	16	k6	40	32	4	18.0	5	58	M8
	20	k6	40	32	4	22.5	6	58	M6x16

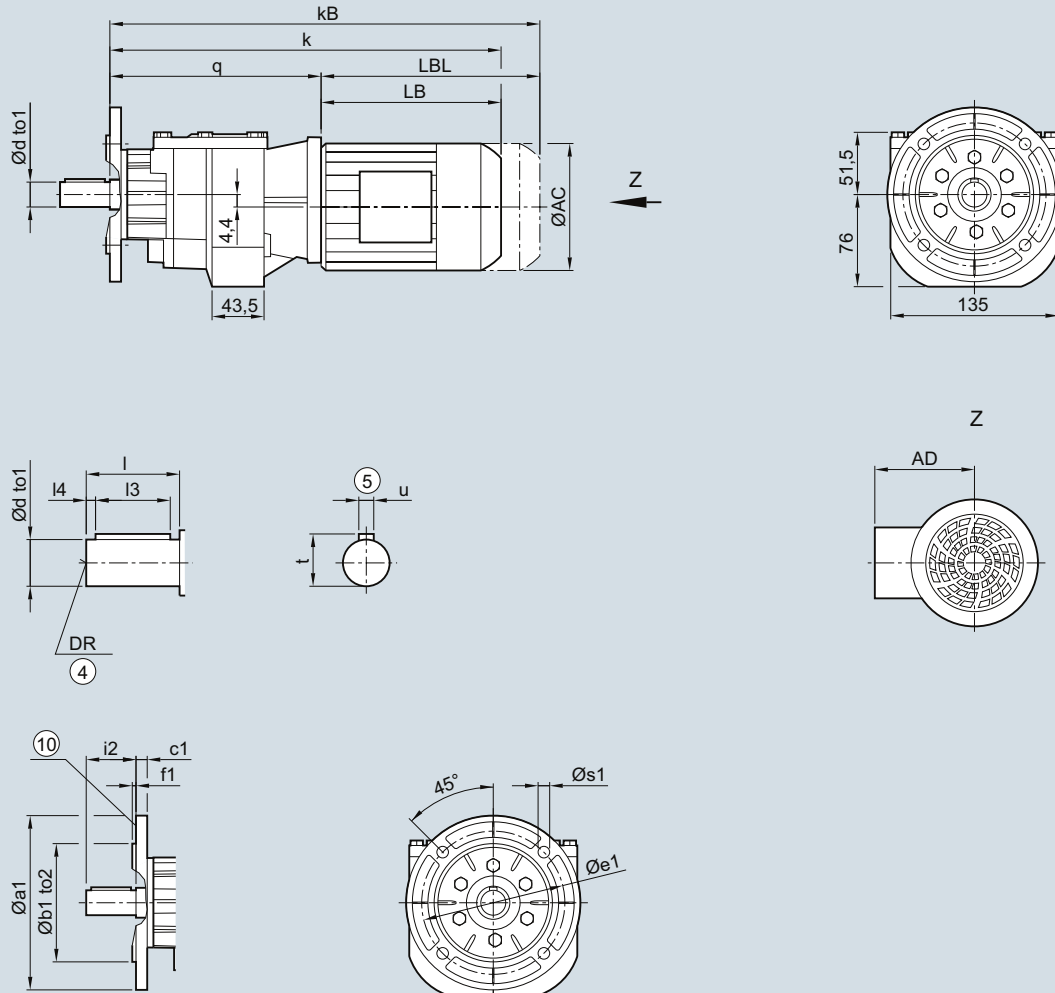
Motor	LA 63	71	71Z	LE 80	80Z
q	159.5	167.5	167.5	168.0	168.0
AC	117.8	138.8	138.8	156.3	156.3
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2
k	320.0	352.0	371.0	408.0	443.0
kB	364.5	407.0	425.0	468.0	503.0
LB	160.5	184.5	203.5	240.0	275.0
LBL	205.0	239.5	258.5	300.0	335.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.



**DF/ZF19 gearbox in a flange-mounted design**
**DZF030**
**DF/ZF19**


Flange	a1	b1	to2	c1	e1	f1	s1	Shaft	d	to1	l	l3	l4	t	u	i2	DR
	120	80	j6	8	100	3.0	6.6		16	k6	28	22	3	18.0	5	28	M5
	140	95	j6	9	115	3.0	9.0		16	k6	40	32	4	18.0	5	40	M8
	160	110	j6	9	130	3.5	9.0		20	k6	40	32	4	22.5	6	40	M6x16
Motor	LA																
	<b>63</b>			<b>71</b>				<b>71Z</b>				<b>LE</b>				<b>80Z</b>	
q	168.5			176.5				176.5				177.0				177.0	
AC	117.8			138.8				138.8				156.3				156.3	
AD <sup>1)</sup>	124.0			134.0				134.0				149.2				149.2	
k	329.0			361.0				380.0				417.0				452.0	
kB	373.5			416.0				435.0				477.0				512.0	
LB	160.5			184.5				203.5				240.0				275.0	
LBL	205.0			239.5				258.5				300.0				335.0	

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

# SIMOGEAR geared motors

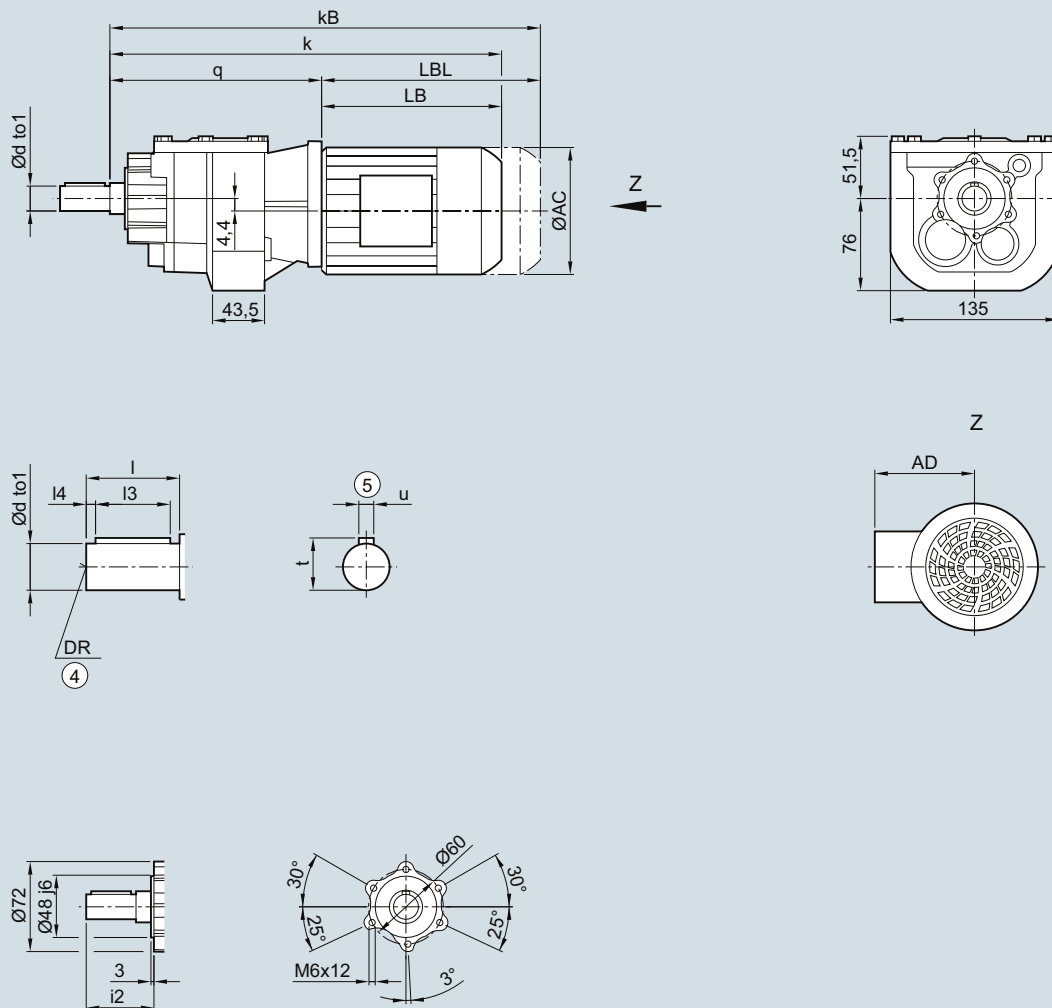
## Helical geared motors

### Dimensions

#### DZ/ZZ19 gearbox in a housing flange design

##### DZZ030

##### DZ/ZZ19

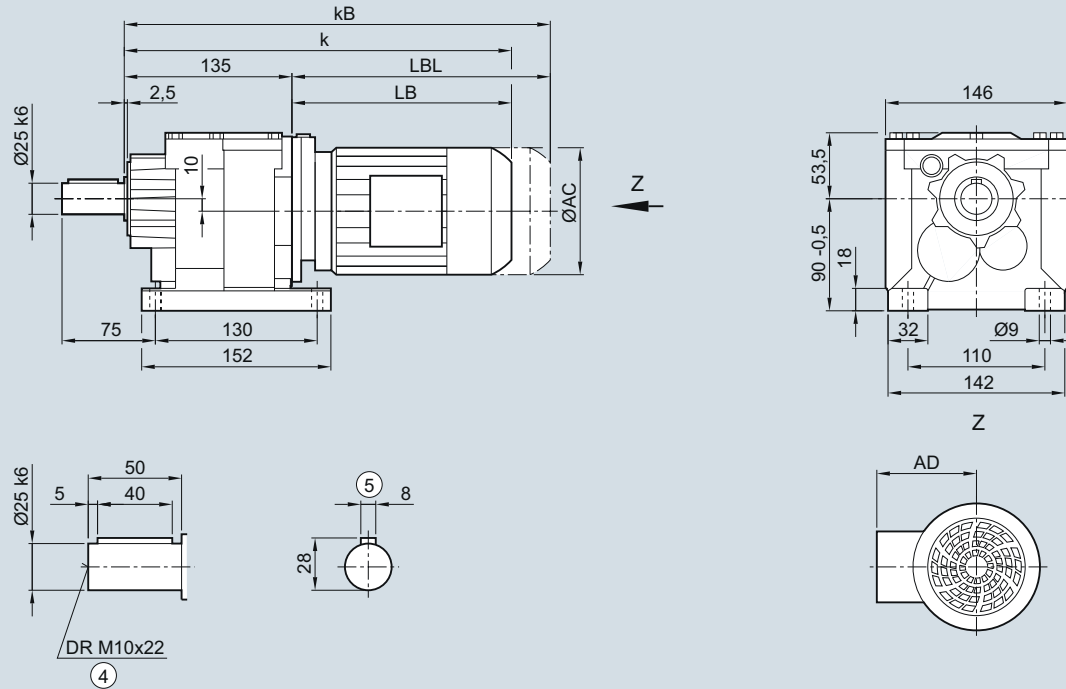


Shaft	d	to1	l	l3	l4	t	u	i2	DR
	16	k6	28	22	3	18.0	5	42	M5
	16	k6	40	32	4	18.0	5	54	M8
	20	k6	40	32	4	22.5	6	54	M6x16
Motor	LA					LE			
	<b>63</b>		<b>71</b>		<b>71Z</b>		<b>80</b>		<b>80Z</b>
q	168.5		176.5		176.5		177.0		177.0
AC	117.8		138.8		138.8		156.3		156.3
AD <sup>1)</sup>	124.0		134.0		134.0		149.2		149.2
k	329.0		361.0		380.0		417.0		452.0
kB	373.5		416.0		435.0		477.0		512.0
LB	160.5		184.5		203.5		240.0		275.0
LBL	205.0		239.5		258.5		300.0		335.0

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

**D/Z29 gearbox in a foot-mounted design**
**DZ030**
**D/Z29**


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	329.0	361.0	380.0	425.0	460.0	486.5	526.5	543.0	578.0
kB	373.5	416.0	435.0	485.0	520.0	556.5	595.5	621.5	656.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

## SIMOGEAR geared motors

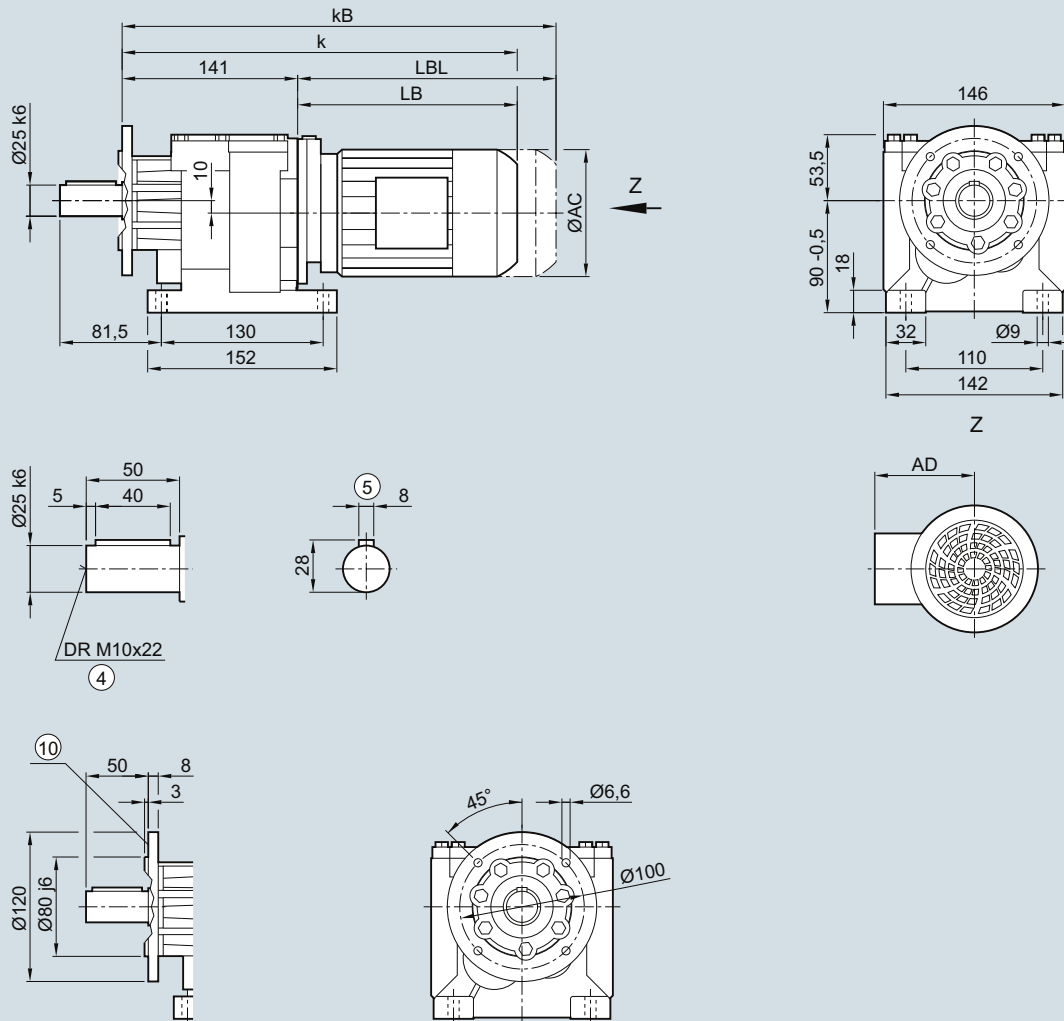
Helical geared motors

### Dimensions

#### DB/ZB29 gearbox in a foot/flange-mounted design

DZB030

DB/ZB29



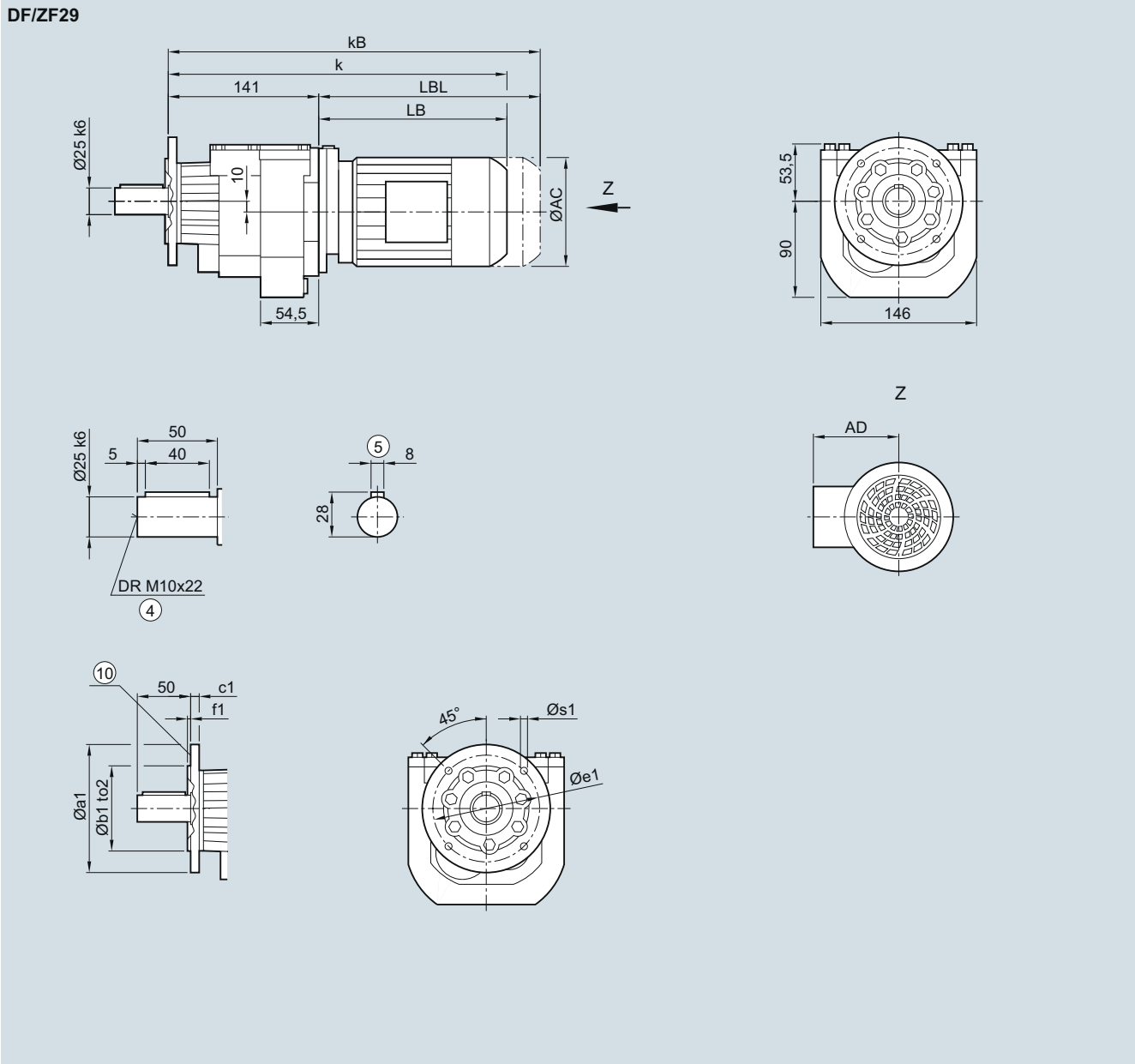
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	335.0	367.0	386.0	431.0	466.0	492.5	532.5	549.0	584.0
kB	379.5	422.0	441.0	491.0	526.0	562.5	602.5	627.5	662.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

**DF/ZF29 gearbox in a flange-mounted design**
**DZF030**


Flange	a1	b1	to2	c1	e1	f1	s1
	120	80	j6	8	100	3.0	6.6
	140	95	j6	9	115	3.0	9.0
	160	110	j6	9	130	3.5	9.0

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	335.0	367.0	386.0	431.0	466.0	492.5	532.5	549.0	584.0
kB	379.5	422.0	441.0	491.0	526.0	562.5	602.5	627.5	662.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

## SIMOGEAR geared motors

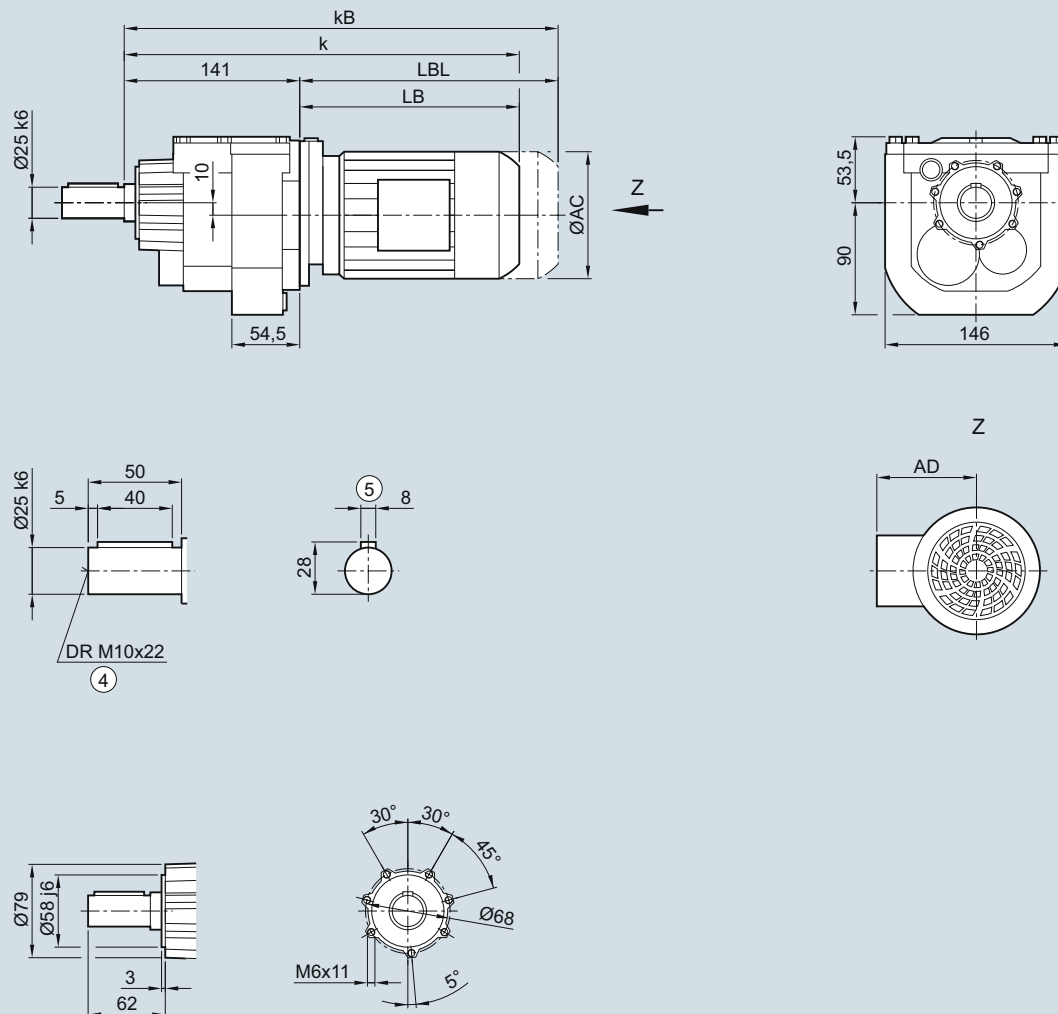
Helical geared motors

### Dimensions

#### DZ/ZZ29 gearbox in a housing flange design

##### DZZ030

##### DZ/ZZ29

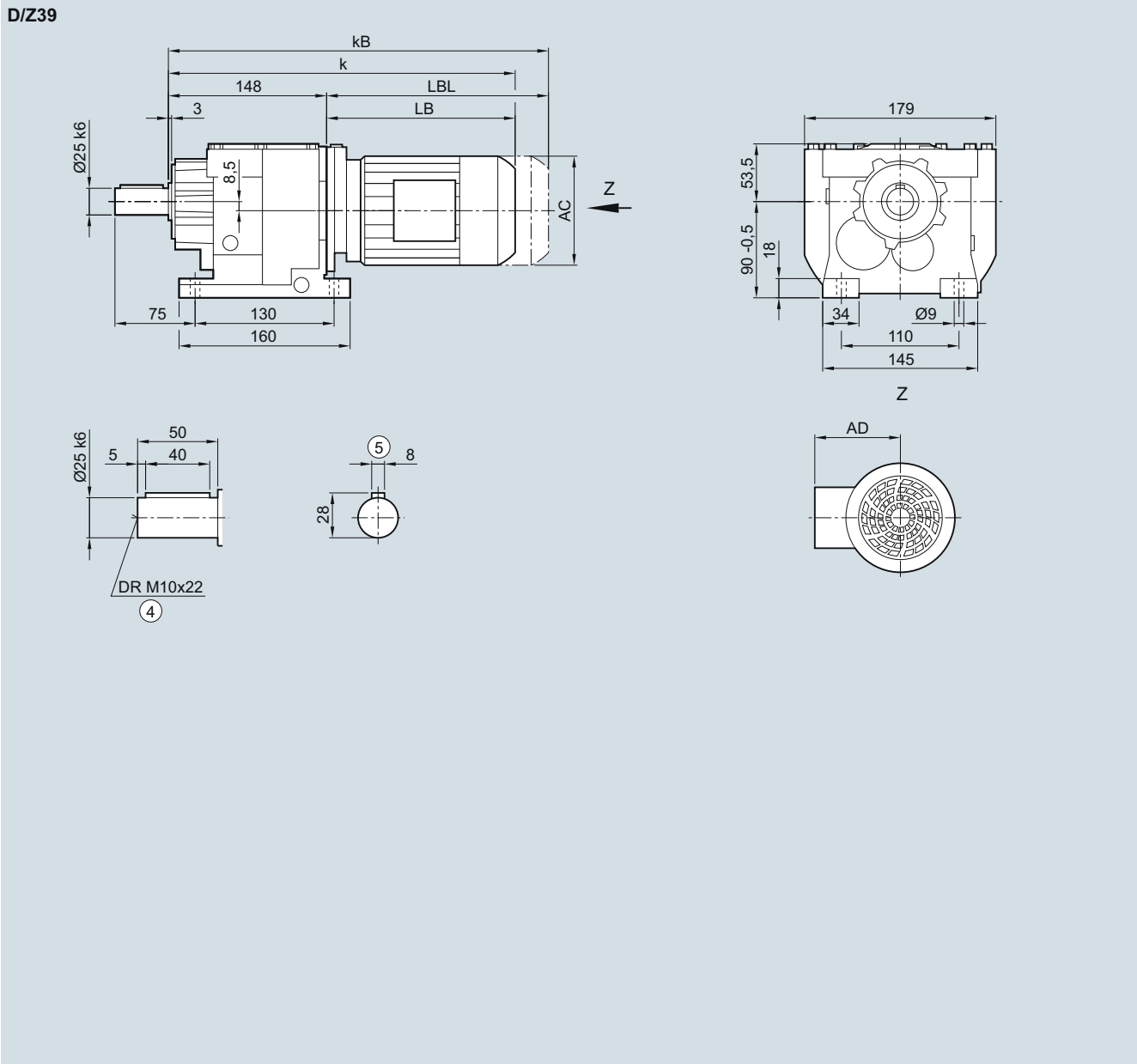


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	335.0	367.0	386.0	431.0	466.0	492.5	532.5	549.0	584.0
kB	379.5	422.0	441.0	491.0	526.0	562.5	602.5	627.5	662.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

**D/Z39 gearbox in a foot-mounted design**
**DZ030**


3

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	342.0	374.0	393.0	438.0	473.0	499.5	539.5	556.0	591.0	566.0	591.0
kB	386.5	429.0	448.0	498.0	533.0	569.5	609.5	634.5	669.5	639.0	664.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1



# SIMOGEAR geared motors

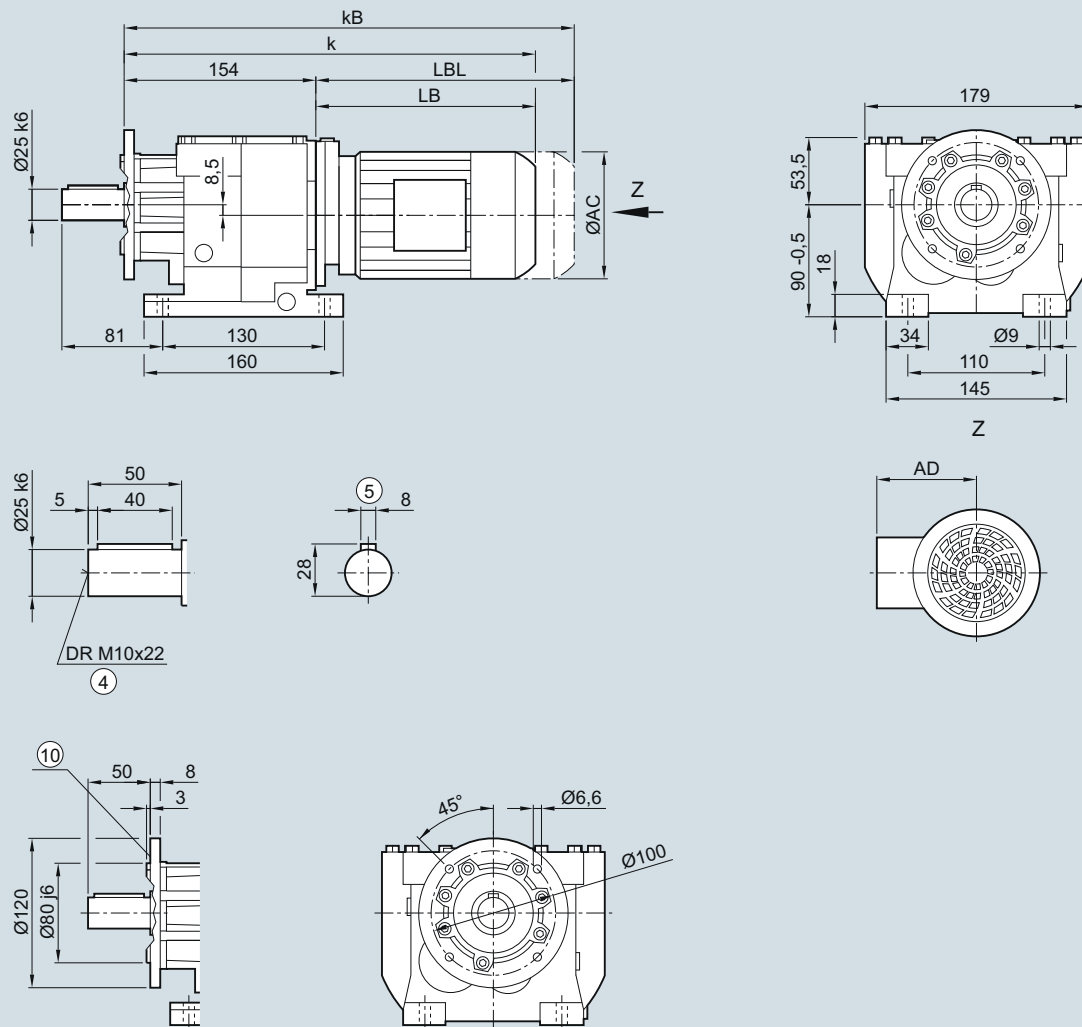
## Helical geared motors

### Dimensions

#### DB/ZB39 gearbox in a foot/flange-mounted design

##### DZB030

##### DB/ZB39



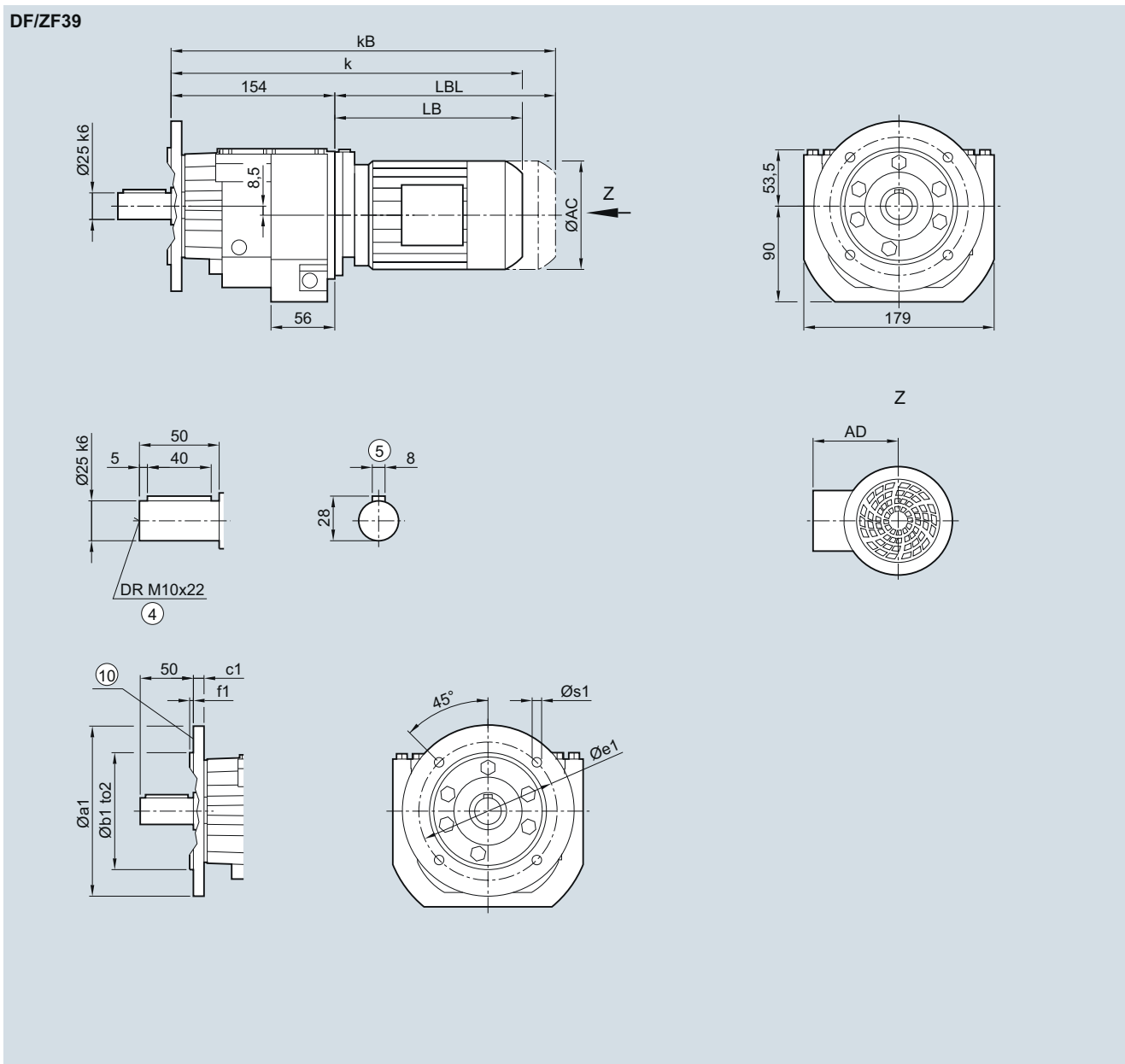
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	348.0	380.0	399.0	444.0	479.0	505.5	545.5	562.0	597.0	572.0	597.0
kB	392.5	435.0	454.0	504.0	539.0	575.5	615.5	640.5	675.5	645.0	670.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

**DF/ZF39 gearbox in a flange-mounted design**
**DZF030**


Flange	a1	b1	to2	c1	e1	f1	s1
	120	80	j6	8	100	3.0	6.6
	160	110	j6	10	130	3.5	9.0
	200	130	j6	12	165	3.5	11.0

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	348.0	380.0	399.0	444.0	479.0	505.5	545.5	562.0	597.0	572.0	597.0
kB	392.5	435.0	454.0	504.0	539.0	575.5	615.5	640.5	675.5	645.0	670.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

# SIMOGEAR geared motors

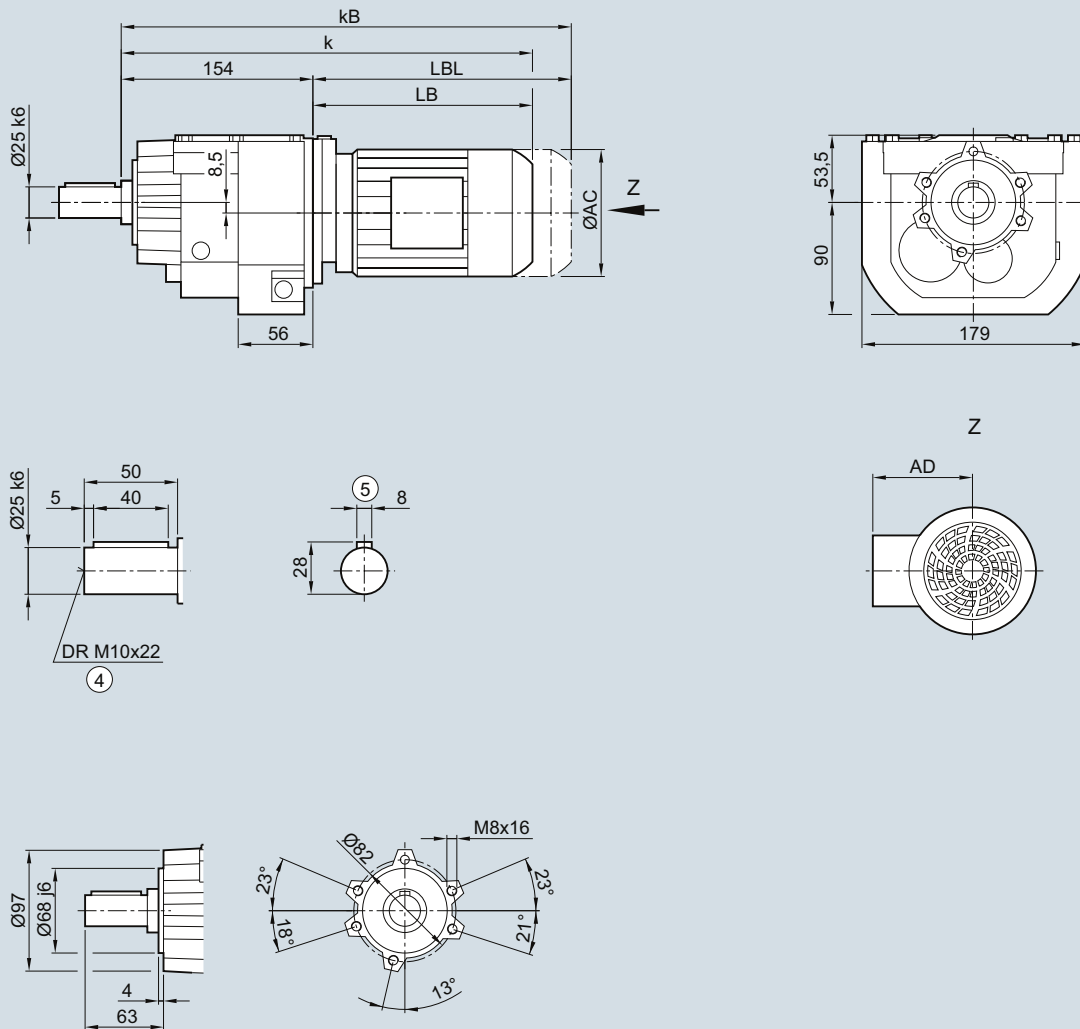
Helical geared motors

## Dimensions

### DZ/ZZ39 gearbox in a housing flange design

DZZ030

DZ/ZZ39

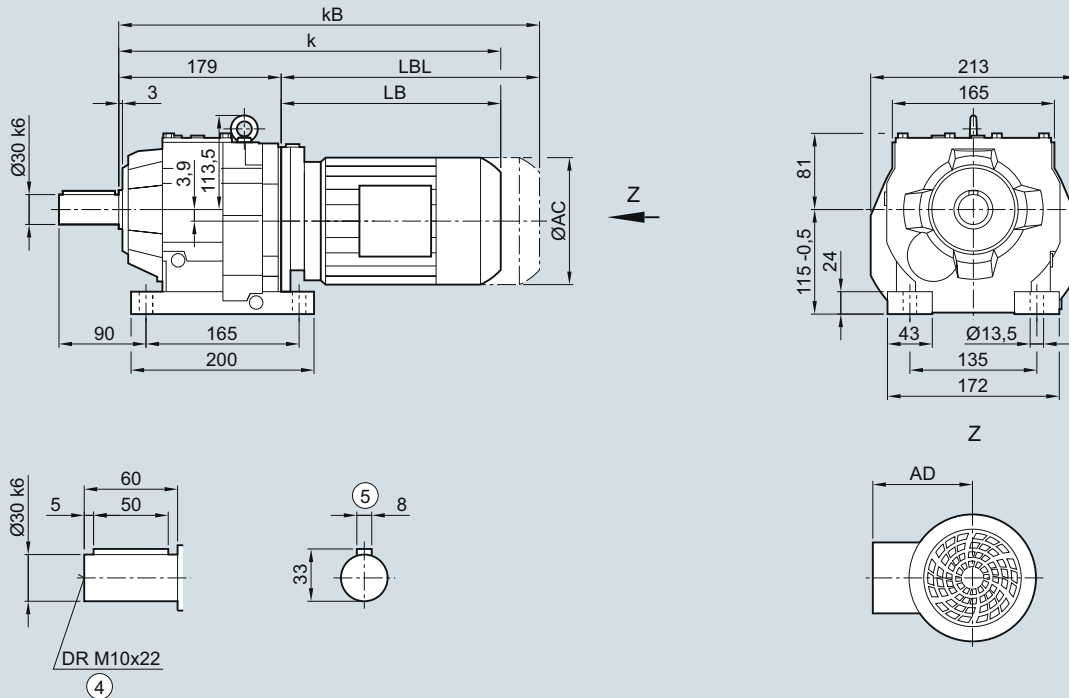
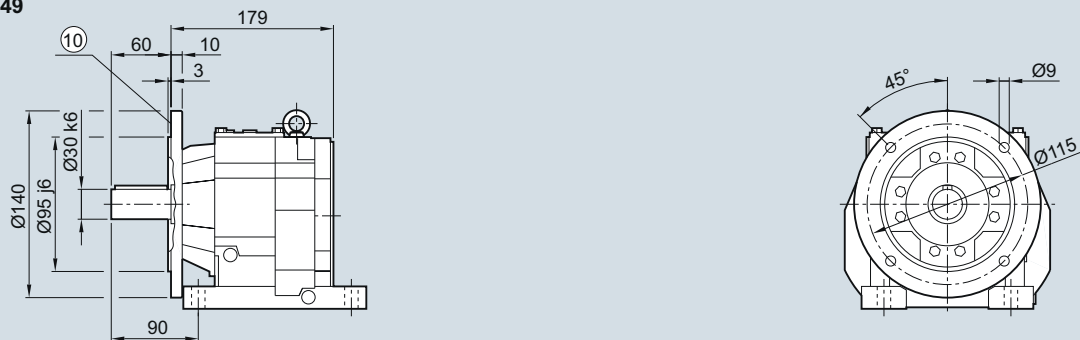


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	348.0	380.0	399.0	444.0	479.0	505.5	545.5	562.0	597.0	572.0	597.0
kB	392.5	435.0	454.0	504.0	539.0	575.5	615.5	640.5	675.5	645.0	670.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

**D/Z49 gearbox in a foot-mounted design and DB/ZB49 gearbox in a foot/flange-mounted design**
**DZ030, DZB030**
**D/Z49**

**DB/ZB49**


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	363.5	395.5	414.5	459.5	494.5	521.0	561.0	577.5	612.5	587.5	622.0	640.5	690.5
kB	408.0	450.5	469.5	519.5	554.5	591.0	631.0	656.0	691.0	660.5	695.0	745.0	795.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

<sup>④</sup> DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>⑤</sup> Feather key/keyway DIN 6885-1

<sup>⑩</sup> For inner contour see page 3/184

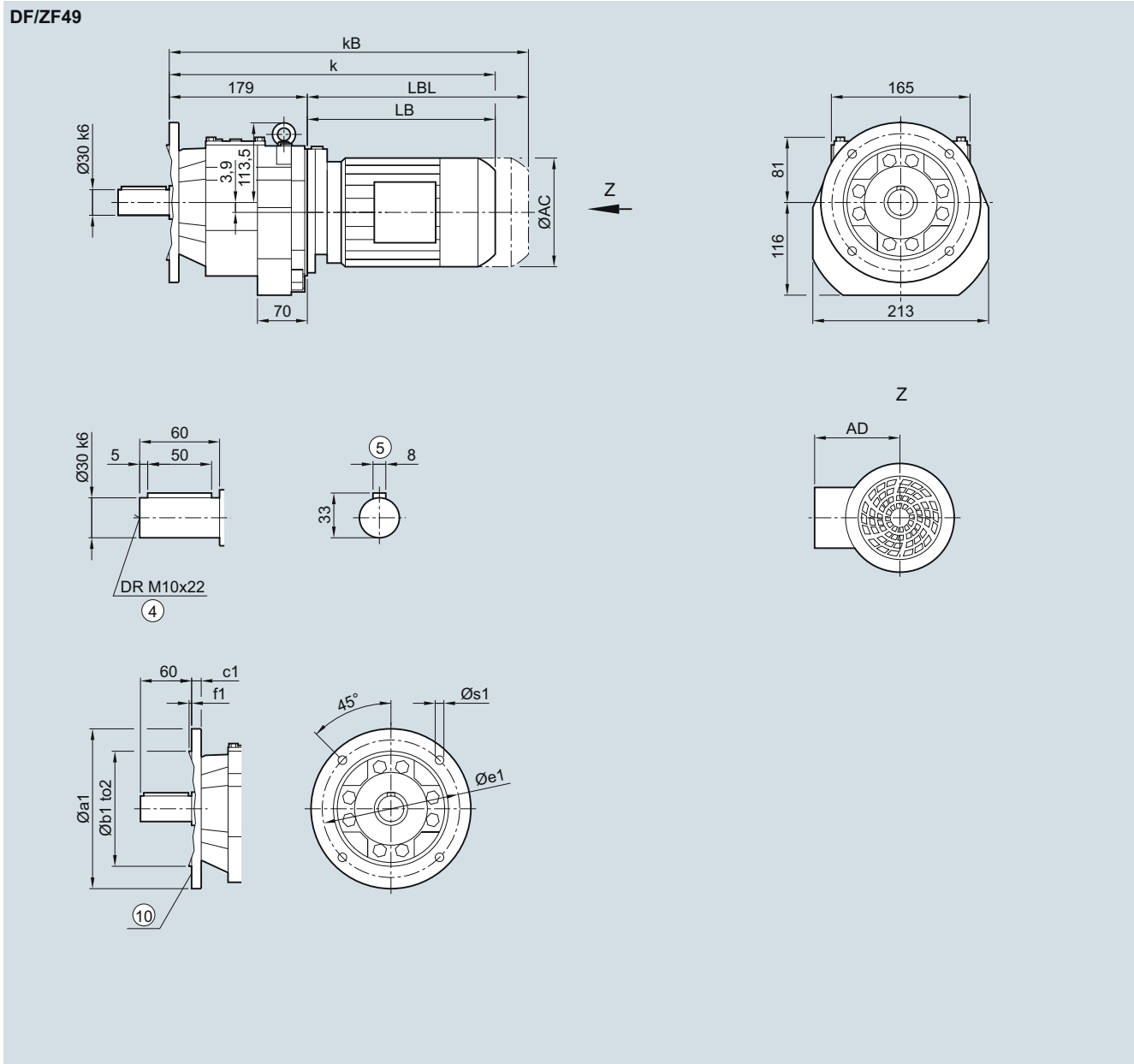
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### DF/ZF49 gearbox in a flange-mounted design

##### DZF030



Flange	a1	b1	to2	c1	e1	f1	s1
	140	95	j6	10	115	3.0	9.0
	160	110	j6	10	130	3.5	9.0
	200	130	j6	12	165	3.5	11.0

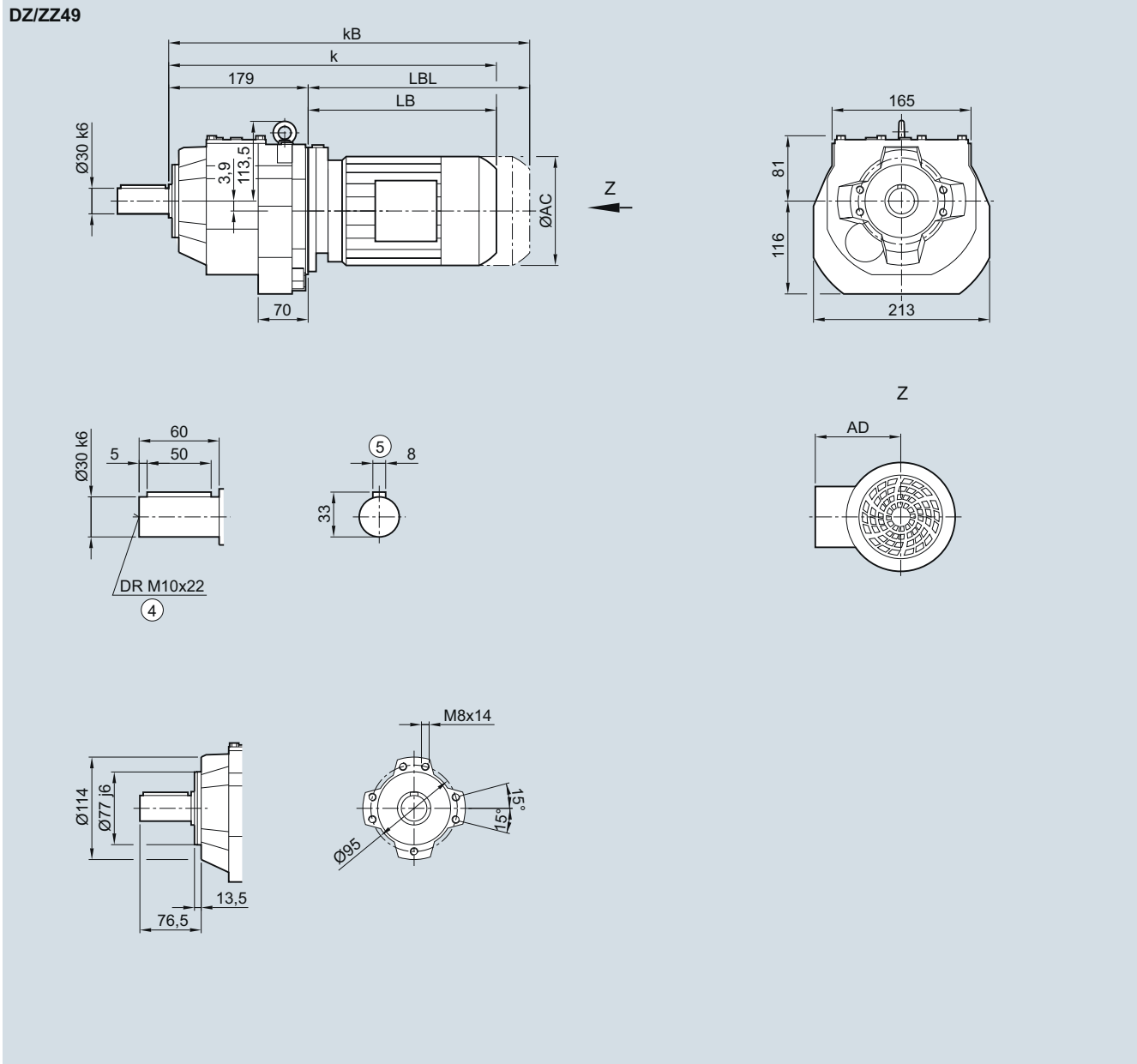
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	363.5	395.5	414.5	459.5	494.5	521.0	561.0	577.5	612.5	587.5	622.0	640.5	690.5
kB	408.0	450.5	469.5	519.5	554.5	591.0	631.0	656.0	691.0	660.5	695.0	745.0	795.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

**DZ/ZZ49 gearbox in a housing flange design**
**DZZ030**


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	363.5	395.5	414.5	459.5	494.5	521.0	561.0	577.5	612.5	587.5	622.0	640.5	690.5
kB	408.0	450.5	469.5	519.5	554.5	591.0	631.0	656.0	691.0	660.5	695.0	745.0	795.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

<sup>④</sup> DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>⑤</sup> Feather key/keyway DIN 6885-1

## SIMOGEAR geared motors

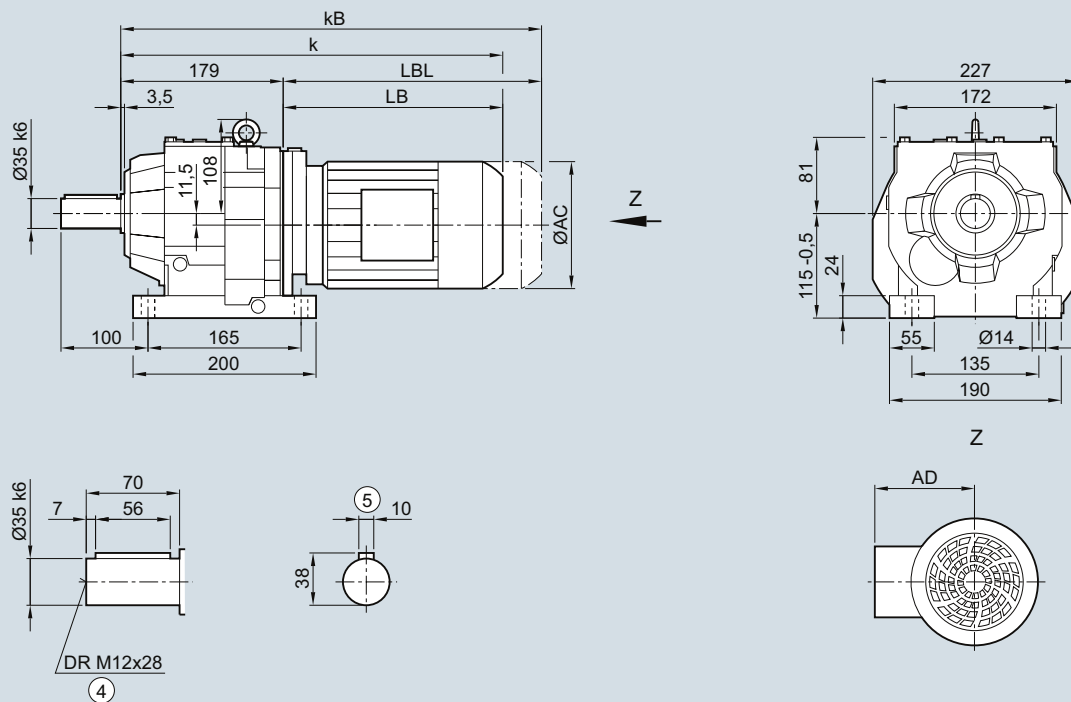
Helical geared motors

### Dimensions

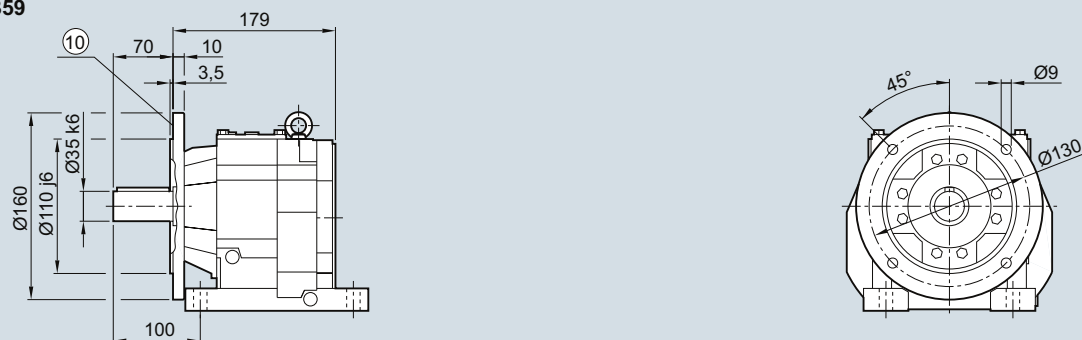
D/Z59 gearbox in a foot-mounted design and DB/ZB59 gearbox in a foot/flange-mounted design

DZ030, DZB030

D/Z59



DB/ZB59



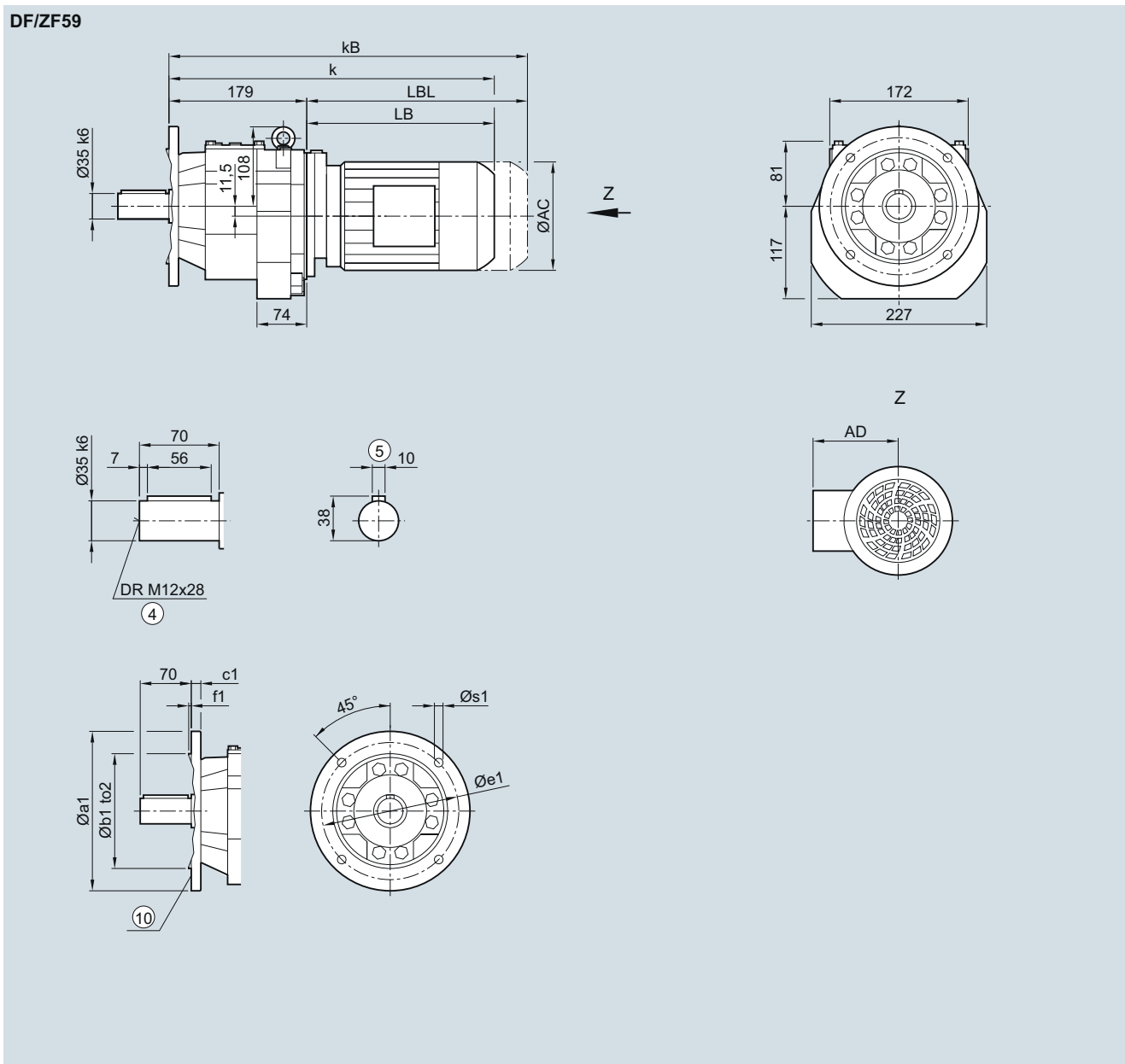
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	363.5	395.5	414.5	459.5	494.5	521.0	561.0	577.5	612.5	587.5	622.0	640.5	690.5
kB	408.0	450.5	469.5	519.5	554.5	591.0	631.0	656.0	691.0	660.5	695.0	745.0	795.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

**DF/ZF59 gearbox in a flange-mounted design**
**DZF030**


Flange	a1	b1	to2	c1	e1	f1	s1
	160	110	j6	10	130	3.5	9.0
	200	130	j6	12	165	3.5	11.0
	250	180	j6	15	215	4.0	13.5

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	363.5	395.5	414.5	459.5	494.5	521.0	561.0	577.5	612.5	587.5	622.0	640.5	690.5
kB	408.0	450.5	469.5	519.5	554.5	581.0	631.0	656.0	691.0	660.5	695.0	745.0	795.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

<sup>④</sup> DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>⑤</sup> Feather key/keyway DIN 6885-1

<sup>⑩</sup> For inner contour see page 3/184



## SIMOGEAR geared motors

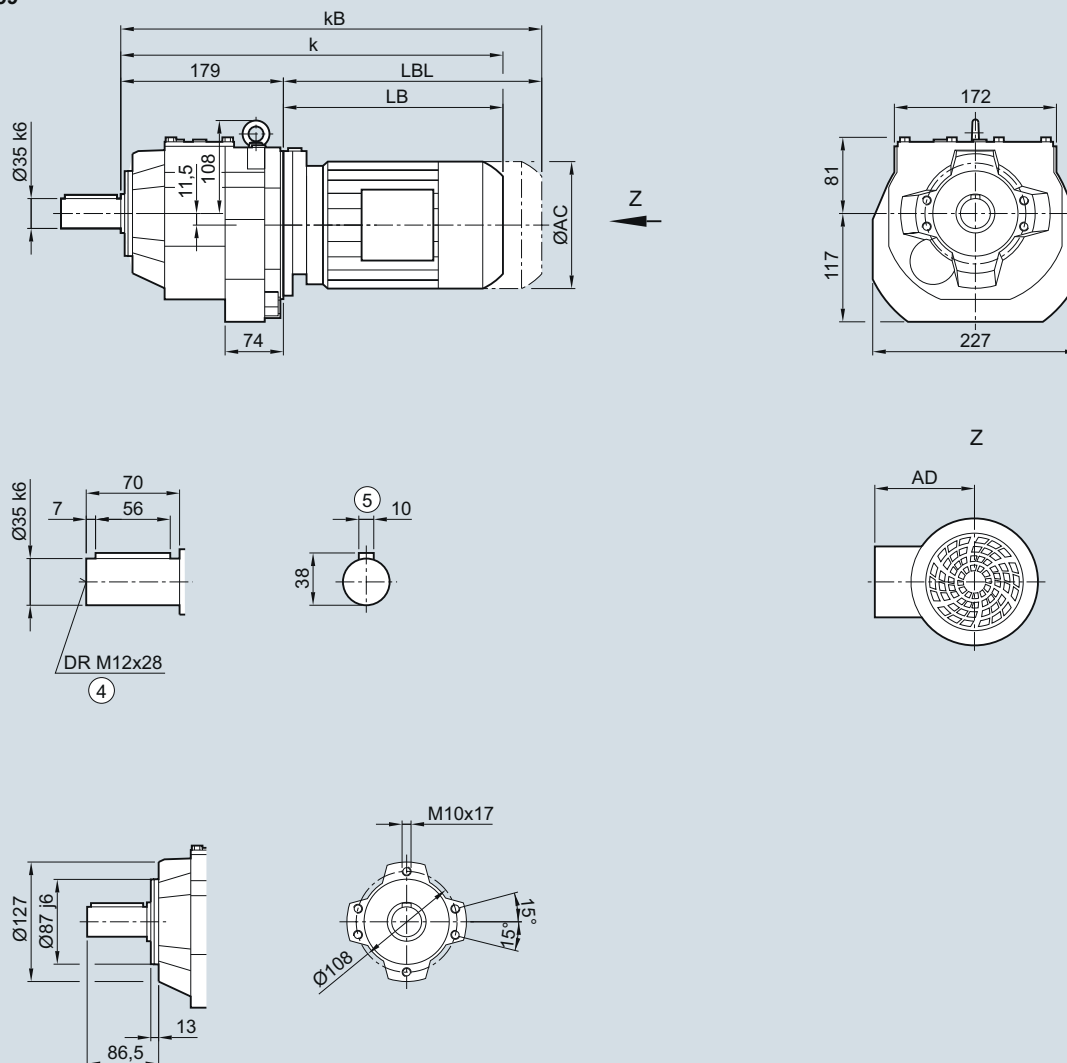
### Helical geared motors

#### Dimensions

#### DZ/ZZ59 gearbox in a housing flange design

##### DZZ030

##### DZ/ZZ59



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	363.5	395.5	414.5	459.5	494.5	521.0	561.0	577.5	612.5	587.5	622.0	640.5	690.5
kB	408.0	450.5	469.5	519.5	554.5	591.0	631.0	656.0	691.0	650.5	695.0	745.0	795.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

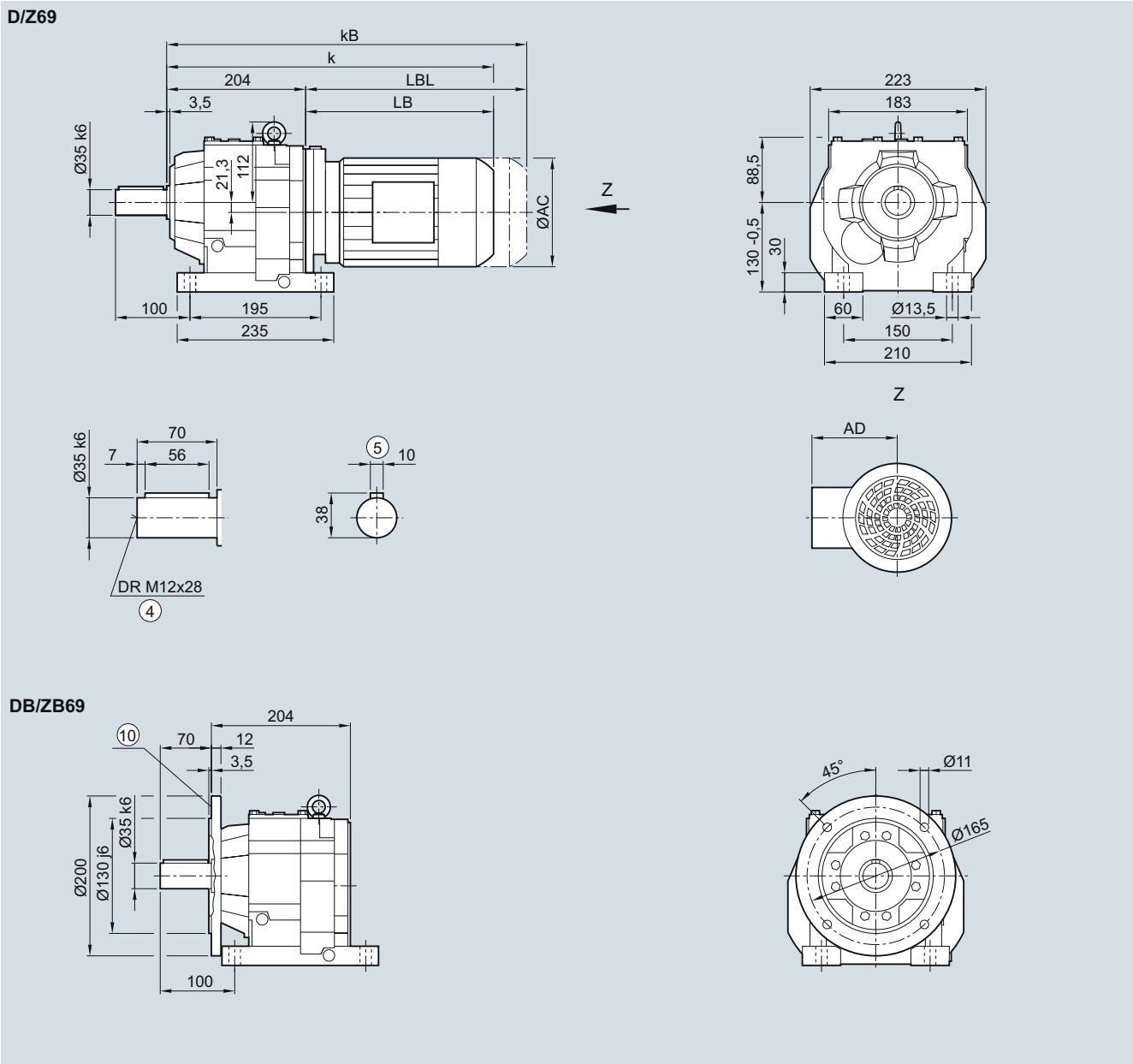
④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

**D/Z69 gearbox in a foot-mounted design and DB/ZB69 gearbox in a foot/flange-mounted design**

**DZ030, DZB030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	388.5	420.5	439.5	484.5	519.5	546.0	586.0	602.5	637.5	612.5	647.0	665.5	715.5
kB	433.0	475.5	494.5	544.5	579.5	616.0	656.0	681.0	716.0	635.5	720.0	770.0	820.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

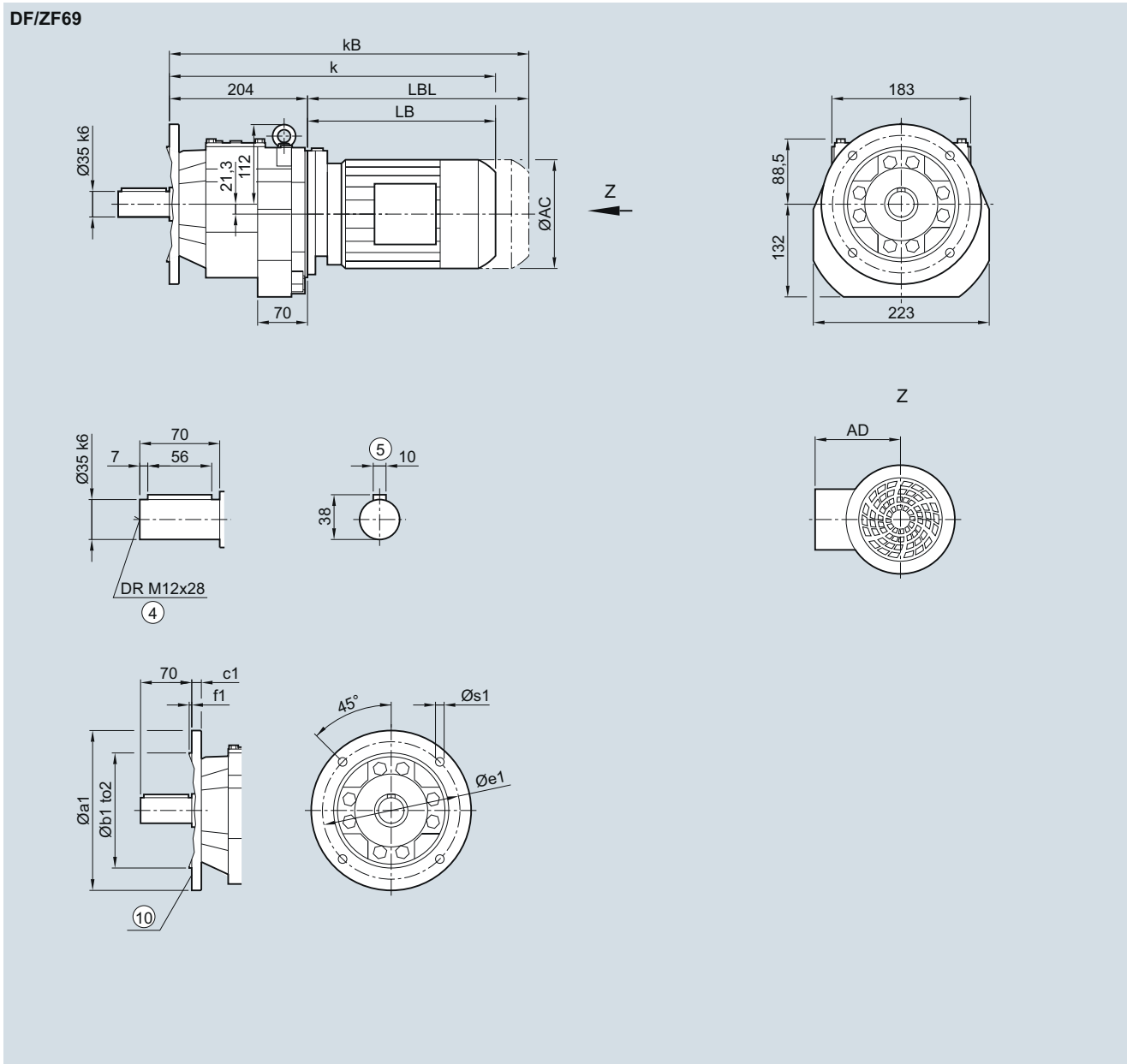
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### DF/ZF69 gearbox in a flange-mounted design

##### DZF030



Flange	a1	b1	to2	c1	e1	f1	s1
200	200	130	j6	12	165	3.5	11.0
250	250	180	j6	15	215	4.0	13.5

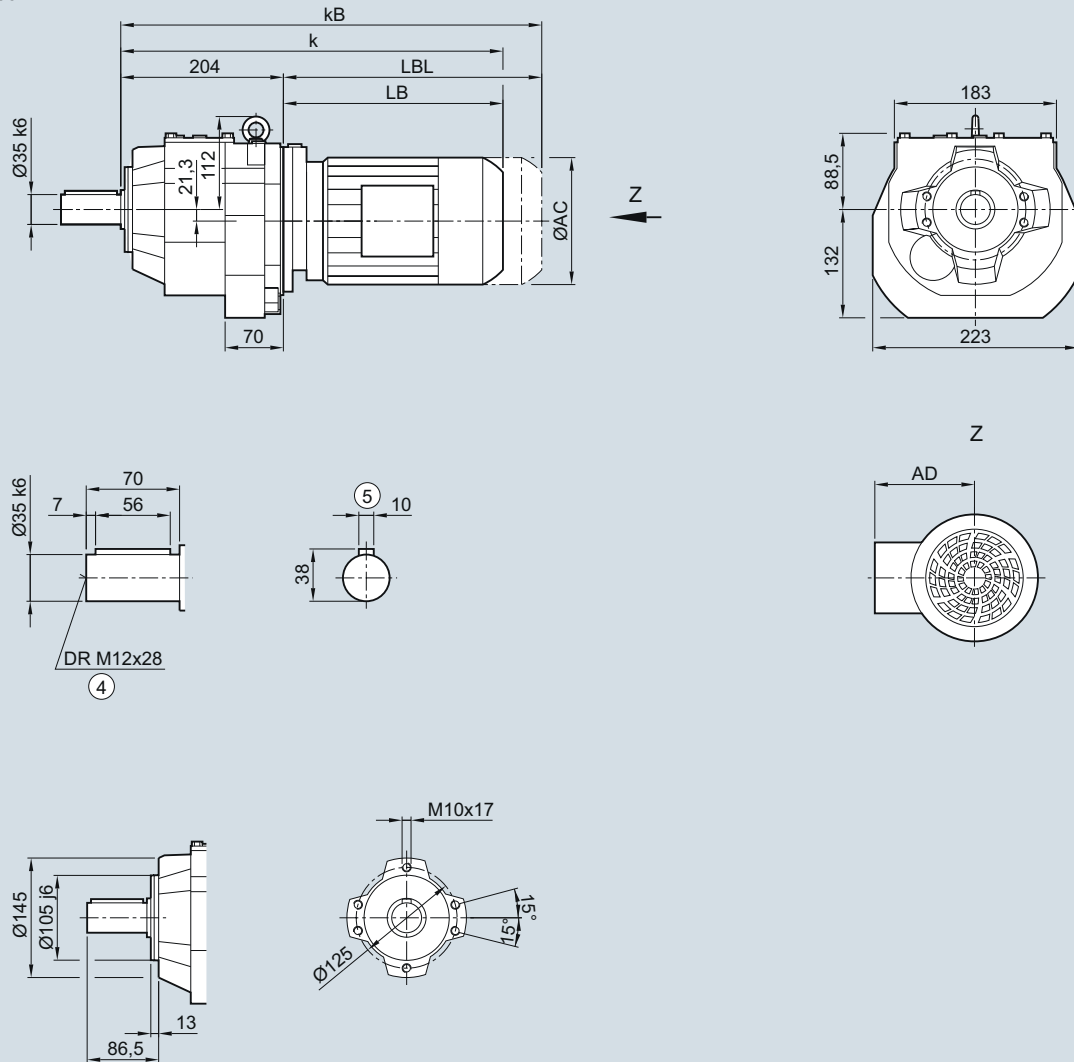
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	388.5	420.5	439.5	484.5	519.5	546.0	586.0	602.5	637.5	612.5	647.0	665.5	715.5
kB	433.0	475.5	494.5	544.5	579.5	616.0	656.0	681.0	715.0	635.5	720.0	770.0	820.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

**DZ/ZZ69 gearbox in a housing flange design**
**DZZ030**
**DZ/ZZ69**


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	388.5	420.5	439.5	484.5	519.5	546.0	586.0	602.5	637.5	612.5	647.0	665.5	715.5
kB	433.0	475.5	494.5	544.5	579.5	606.0	656.0	681.0	716.0	635.5	720.0	770.0	820.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

<sup>④</sup> DIN 332

<sup>⑤</sup> Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

## SIMOGEAR geared motors

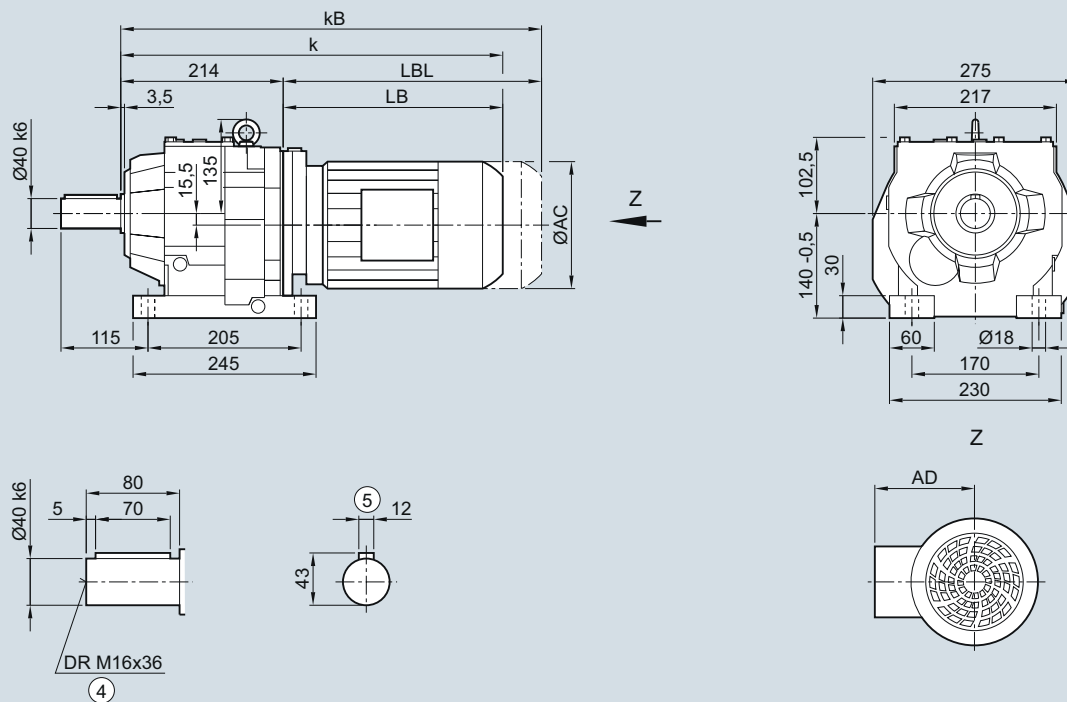
Helical geared motors

### Dimensions

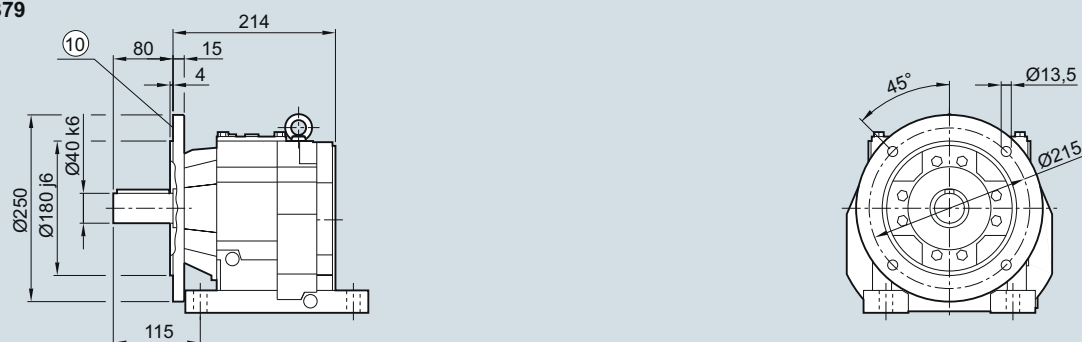
D/Z79 gearbox in a foot-mounted design and DB/ZB79 gearbox in a foot/flange-mounted design

DZ030, DZB030

D/Z79



DB/ZB79



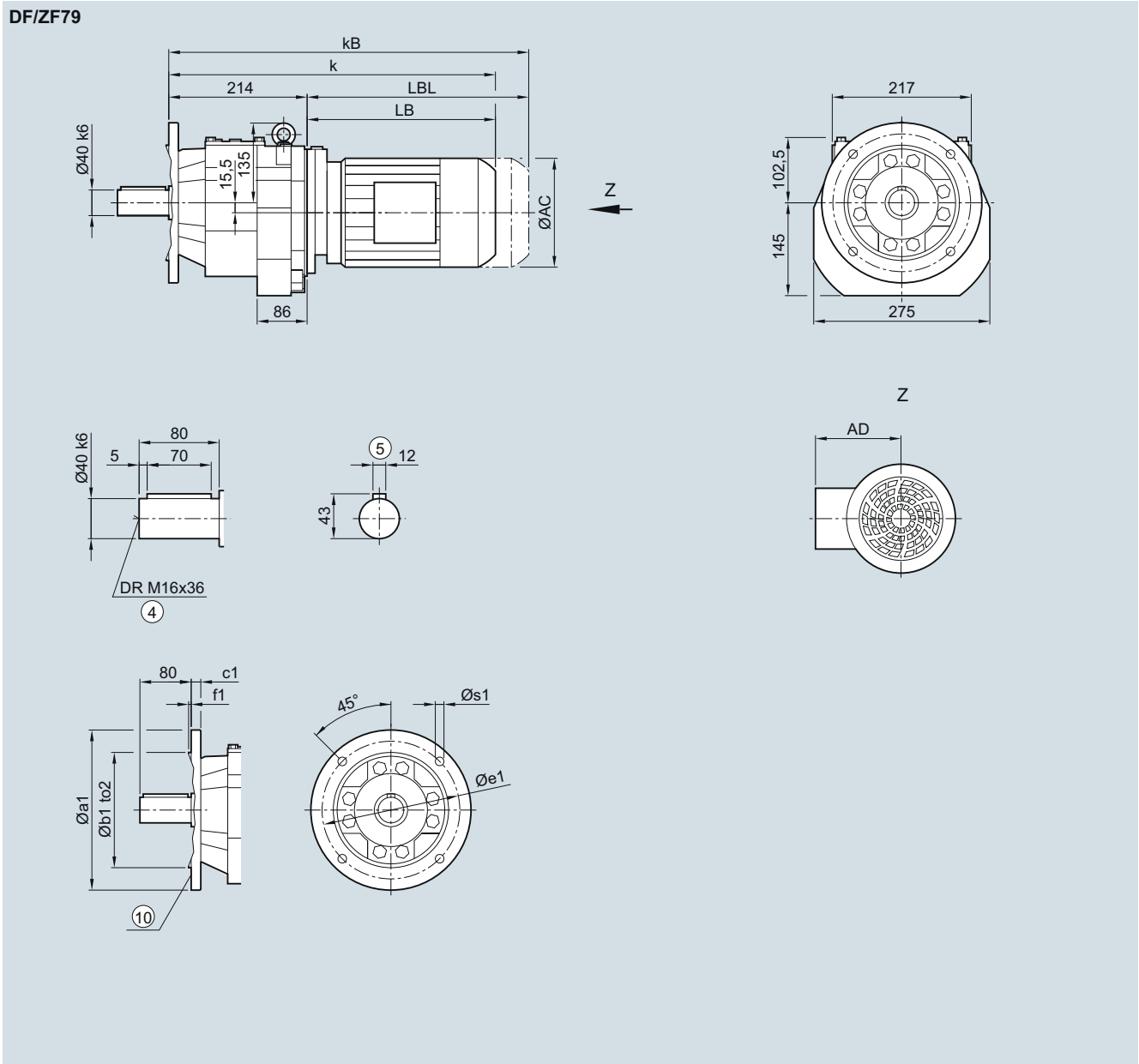
Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	428.5	447.5	488.5	523.5	550.0	590.0	606.5	641.5	616.5	641.5	669.5	719.5	751.5	811.5
kB	483.5	502.5	548.5	583.5	620.0	660.0	685.0	720.0	689.5	714.5	774.0	824.0	867.5	927.5
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

**DF/ZF79 gearbox in a flange-mounted design**
**DZF030**


Flange	a1	b1	to2	c1	e1	f1	s1
	250	180	j6	15	215	4.0	13.5
	300	230	j6	16	265	4.0	13.5
	350	250	j6	16	300	5.0	17.5

Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	428.5	447.5	488.5	523.5	550.0	590.0	606.5	641.5	616.5	641.5	669.5	719.5	751.5	811.5
kB	483.5	502.5	548.5	583.5	620.0	660.0	685.0	720.0	689.5	714.5	774.0	824.0	867.5	927.5
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

# SIMOGEAR geared motors

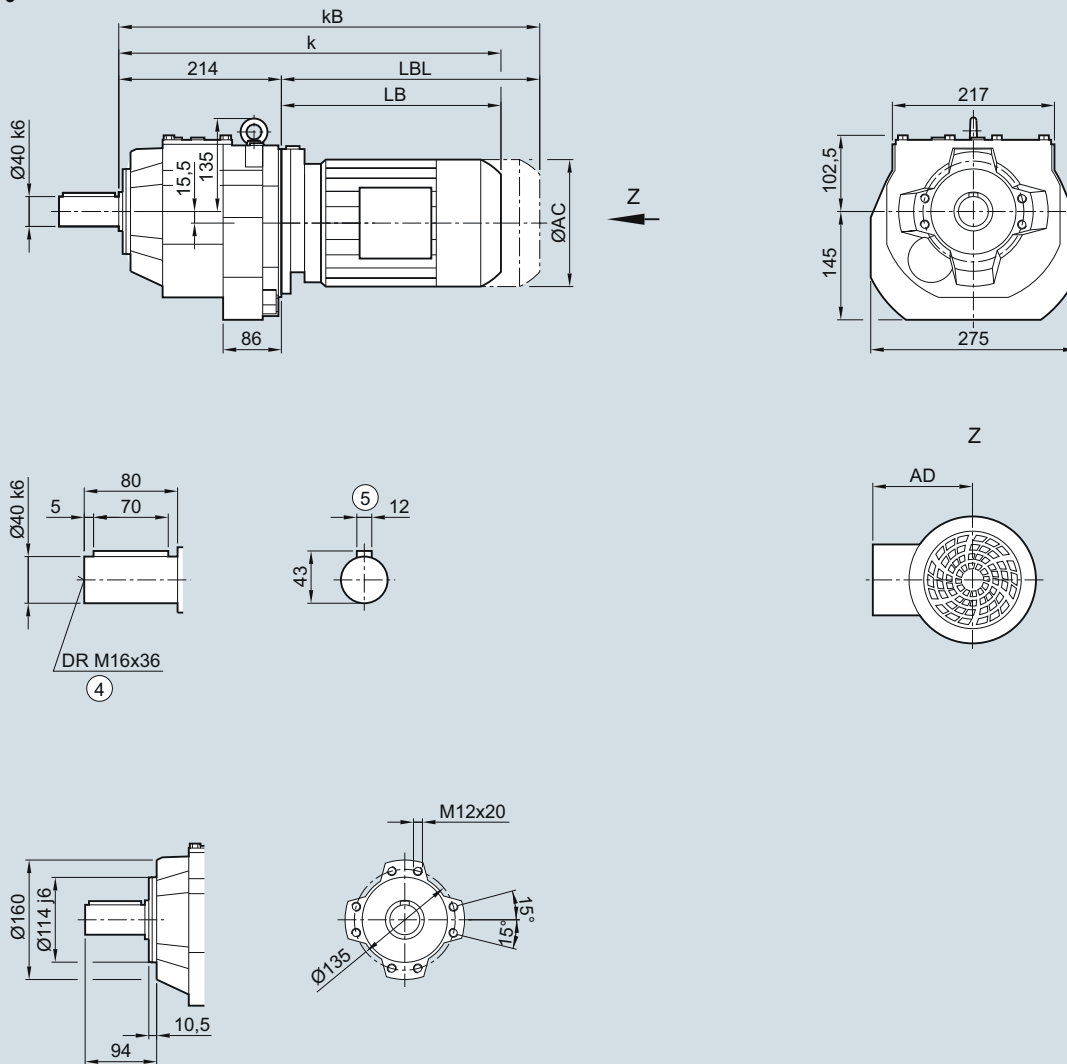
## Helical geared motors

### Dimensions

#### DZ/ZZ79 gearbox in a housing flange design

##### DZZ030

##### DZ/ZZ79

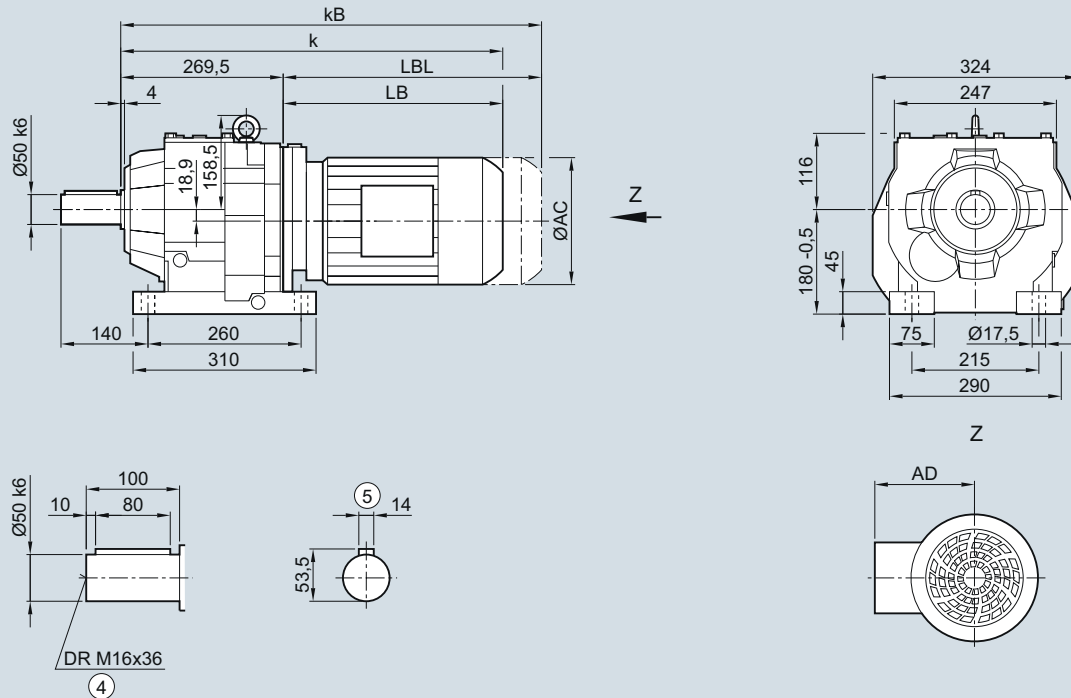
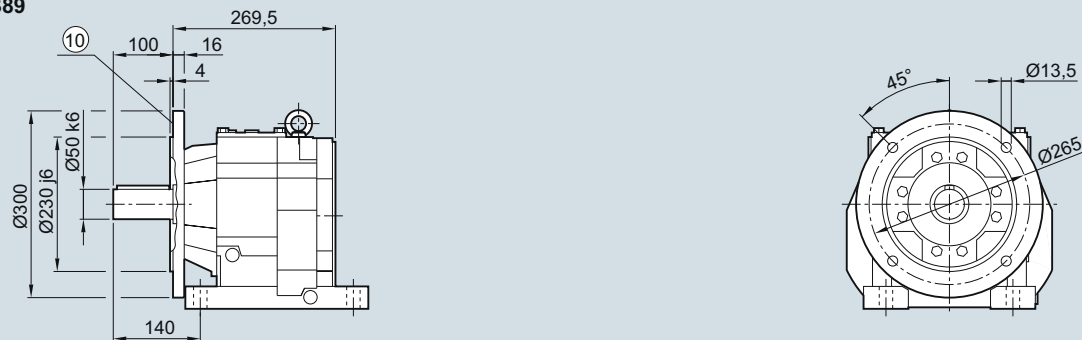


Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	428.5	447.5	488.5	523.5	550.0	590.0	606.5	641.5	616.5	641.5	669.5	719.5	751.5	811.5
kB	483.5	502.5	548.5	583.5	620.0	660.0	685.0	720.0	689.5	714.5	774.0	824.0	867.5	927.5
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**D/Z89 gearbox in a foot-mounted design and DB/ZB89 gearbox in a foot/flange-mounted design**
**DZ030, DZB030**
**D/Z89**

**DB/ZB89**


Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	531.0	566.0	592.5	632.5	645.0	680.0	655.0	680.0	708.0	758.0	790.0	850.0	863.0	893.0
kB	591.0	626.0	662.5	702.5	723.5	758.5	728.0	733.0	812.5	862.5	906.0	966.0	992.0	1 022.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184



# SIMOGEAR geared motors

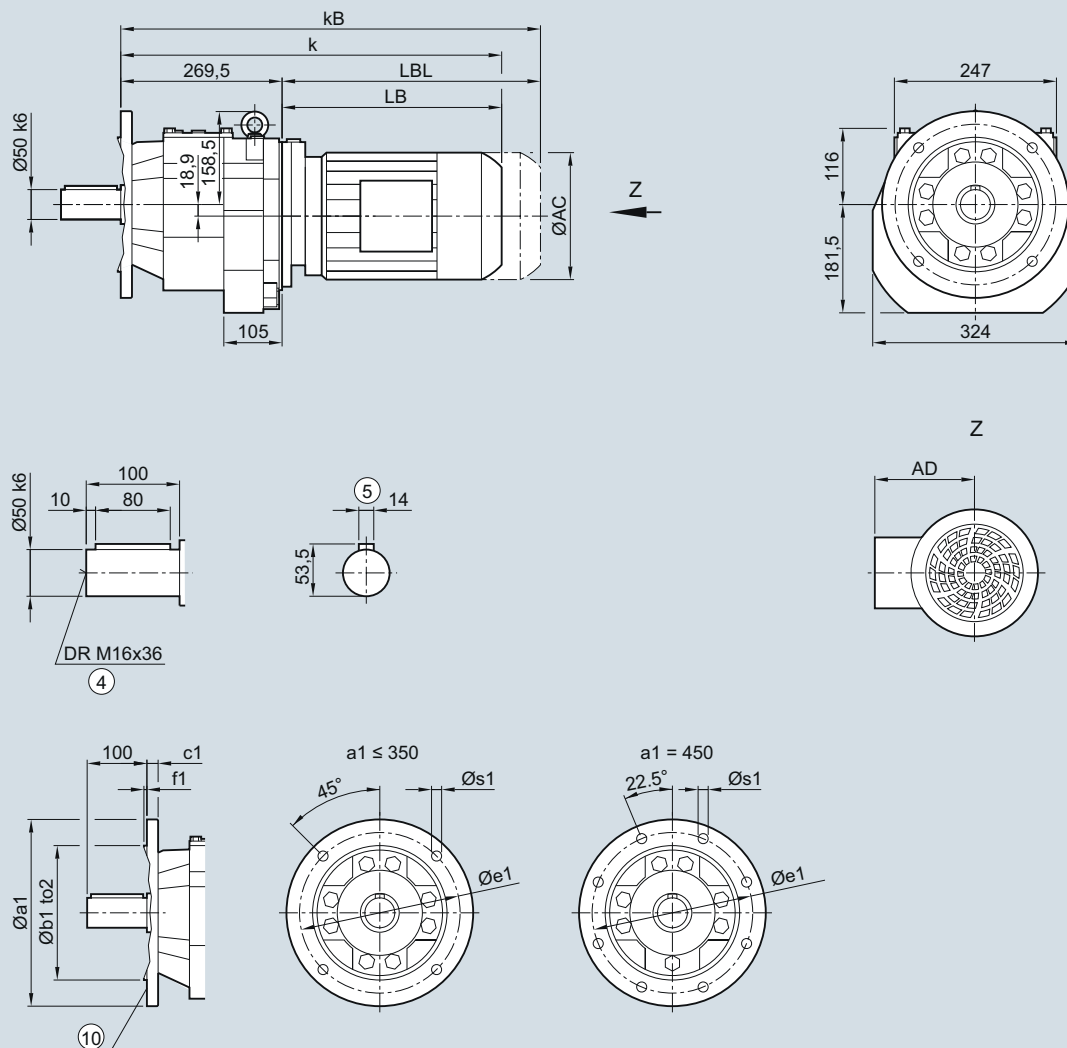
## Helical geared motors

### Dimensions

#### DF/ZF89 gearbox in a flange-mounted design

##### DZF030

##### DF/ZF89



Flange	a1	b1	to2	c1	e1	f1	s1
	300	230	j6	16	265	4.0	13.5
	350	250	j6	18	300	5.0	17.5
	450	350	h6	18	400	5.0	17.5

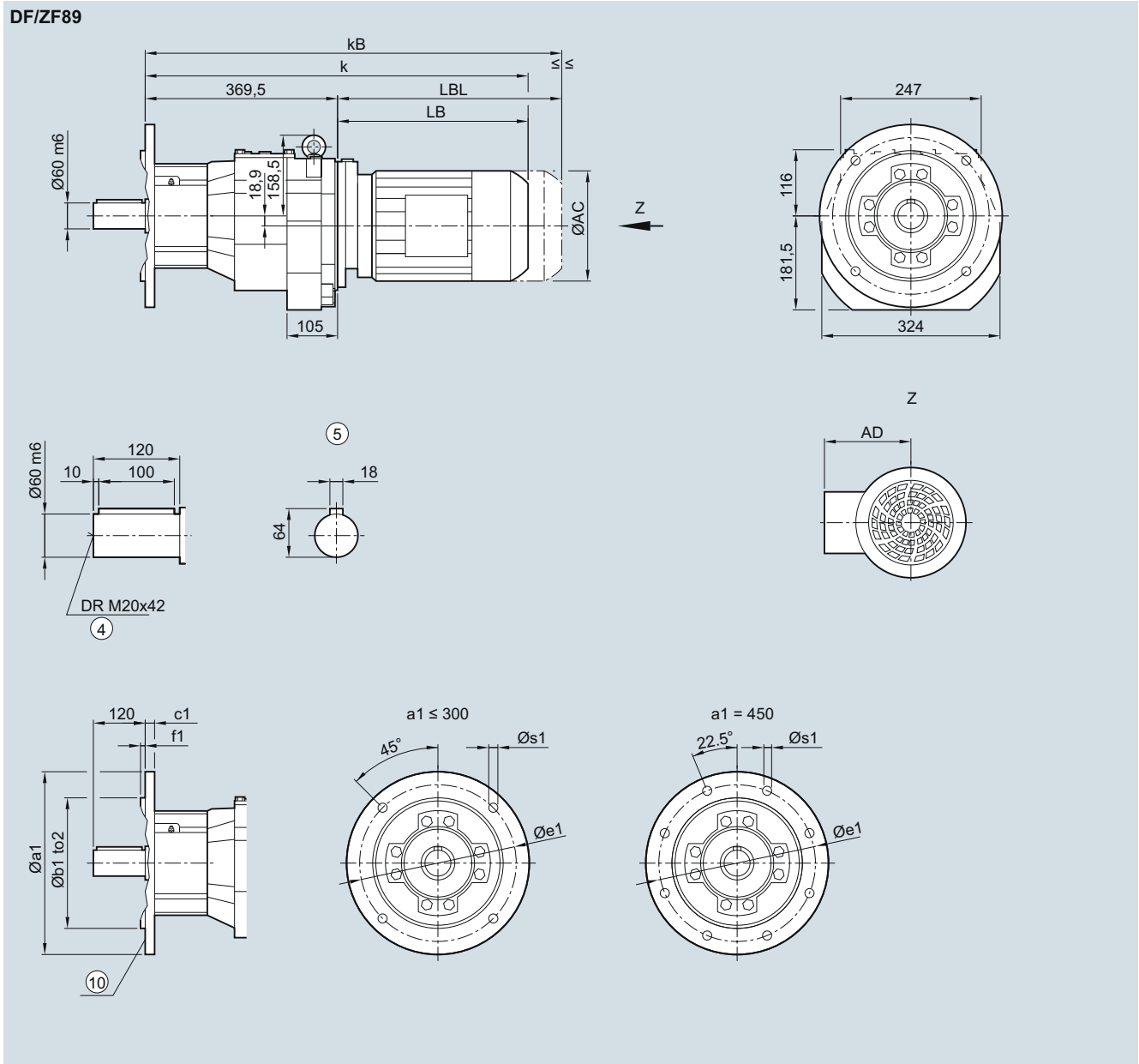
Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	531.0	566.0	592.5	632.5	645.0	680.0	655.0	680.0	708.0	758.0	790.0	850.0	863.0	893.0
kB	591.0	626.0	662.5	702.5	723.5	758.5	728.0	733.0	812.5	862.5	906.0	966.0	992.0	1 022.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

**DF/ZF89 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)**
**DZF040**


Flange	a1	b1	to2	c1	e1	f1	s1
	300	230	j6	16	265	4.0	13.5
	350	250	j6	18	300	5.0	17.5
	450	350	h6	18	400	5.0	17.5

Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	631.0	666.0	692.5	732.5	745.0	780.0	755.0	780.0	808.0	858.0	890.0	950.0	963.0	993.0
kB	691.0	726.0	762.5	802.5	823.5	858.5	828.0	853.0	912.5	962.5	1006.0	1066.0	1092.0	1122.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

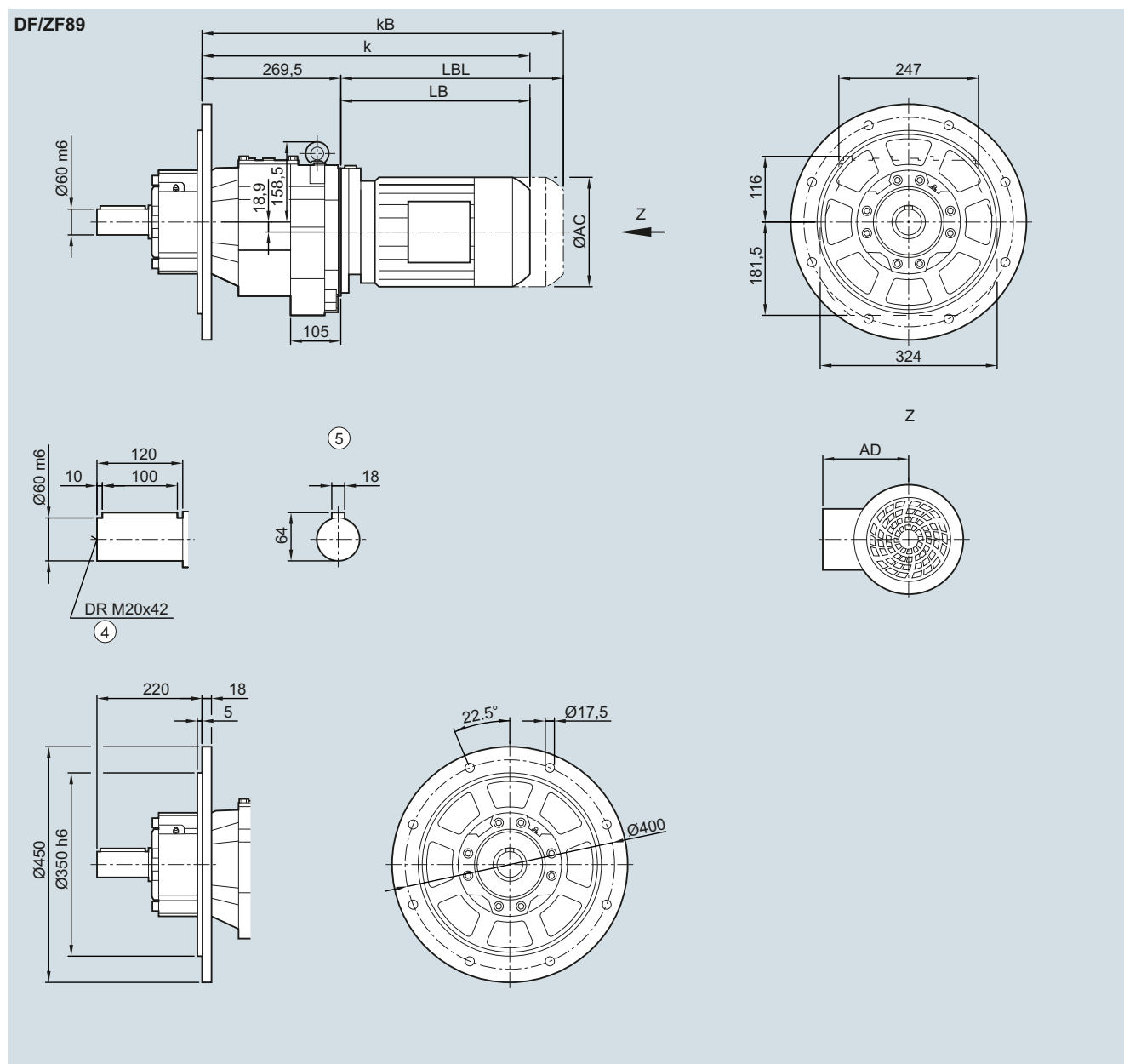
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### DF/ZF89 gearbox in a flange-mounted design with XLplus reinforced bearing system (G31)

##### DZF040



Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	531.0	566.0	592.5	632.5	645.0	680.0	655.0	680.0	708.0	758.0	790.0	850.0	863.0	893.0
kB	591.0	626.0	662.5	702.5	723.5	758.5	728.0	733.0	812.5	862.5	906.0	966.0	992.0	1 022.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

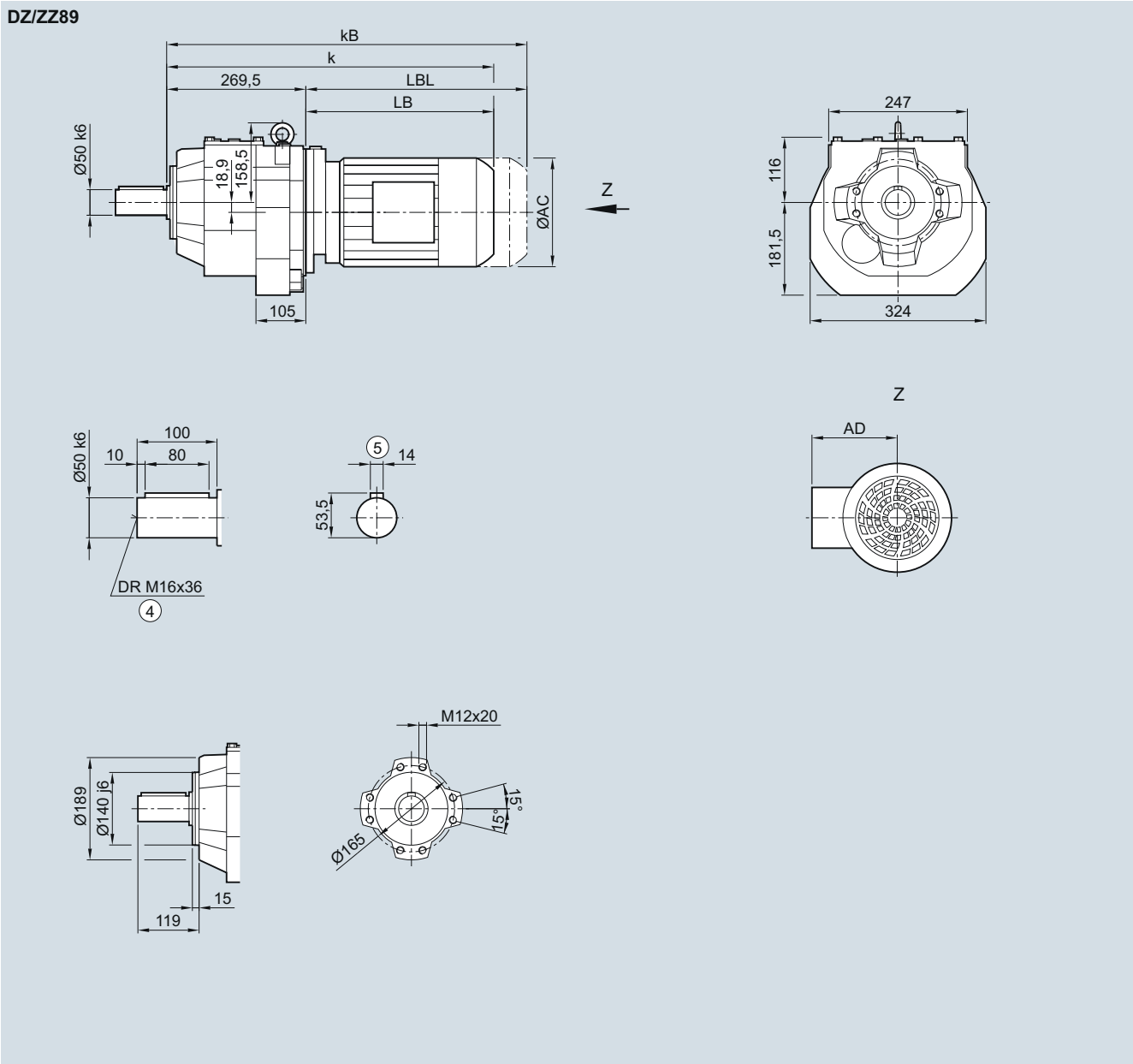
④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**DZ/ZZ89 gearbox in a housing flange design**

**DZZ030**



3

Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	531.0	566.0	592.5	632.5	645.0	680.0	655.0	680.0	708.0	758.0	790.0	850.0	863.0	893.0
kB	591.0	626.0	662.5	702.5	723.5	758.5	728.0	733.0	812.5	862.5	906.0	966.0	992.0	1 022.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

# SIMOGEAR geared motors

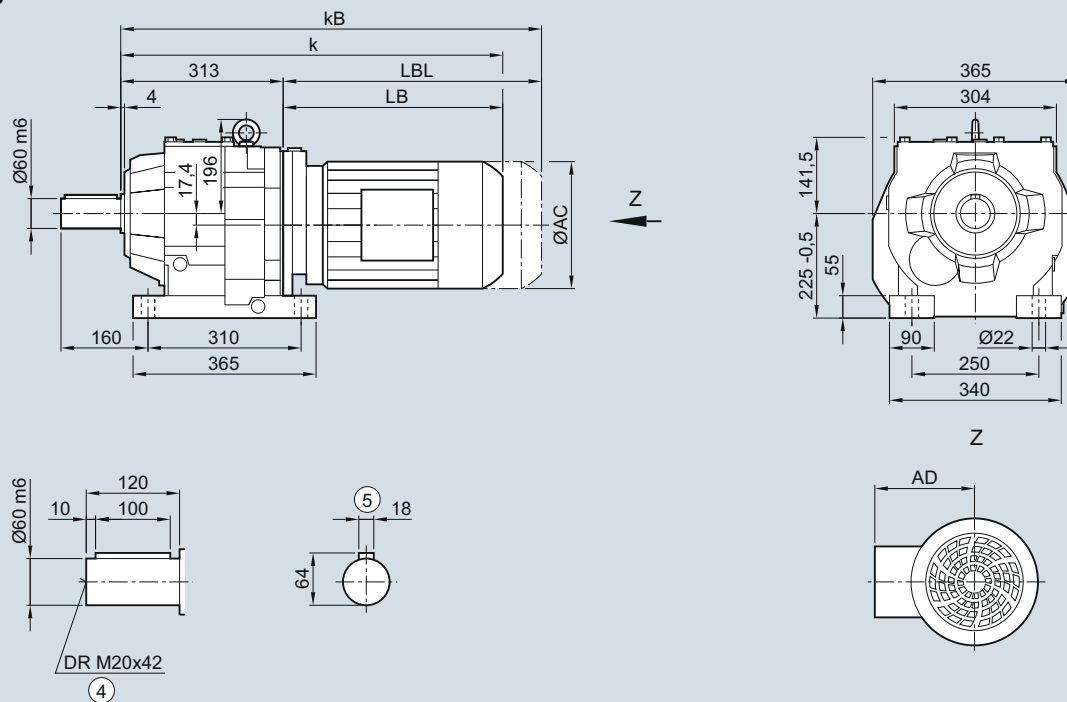
## Helical geared motors

### Dimensions

#### D/Z109 gearbox in a foot-mounted design

##### DZ030

##### D/Z109

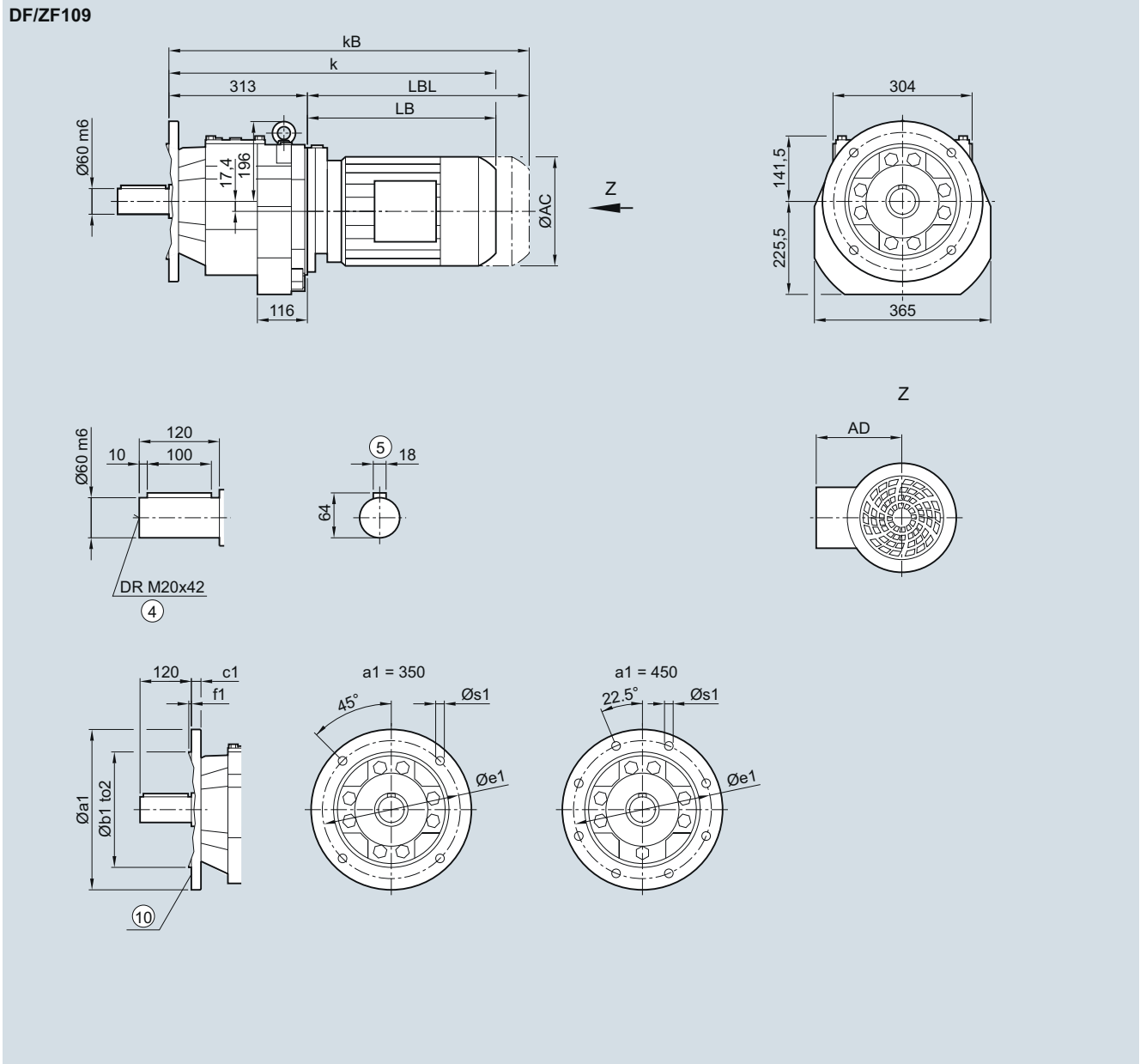


Motor	LE 90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0
k	629.0	669.0	679.5	714.5	689.5	714.5	742.5	792.5	824.5	884.5	897.5	927.5	965.5	990.5	1 011.0	1 071.0
kB	699.0	739.0	758.0	793.0	762.5	787.5	847.0	897.0	940.5	1 000.5	1 026.5	1 056.5	1 112.5	1 137.5	1 239.0	1 299.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

**DF/ZF109 gearbox in a flange-mounted design**
**DZF030**


Flange	a1	b1	to2	c1	e1	f1	s1
	350	250	h6	18	300	5	17.5
	450	350	h6	22	400	5	17.5

Motor	LE 90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0
k	629.0	669.0	679.5	714.5	689.5	714.5	742.5	792.5	824.5	884.5	897.5	927.5	965.5	990.5	1 011.0	1 071.0
kB	699.0	739.0	758.0	793.0	762.5	787.5	847.0	897.0	940.5	1 000.5	1 025.5	1 056.5	1 112.5	1 137.5	1 239.0	1 299.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

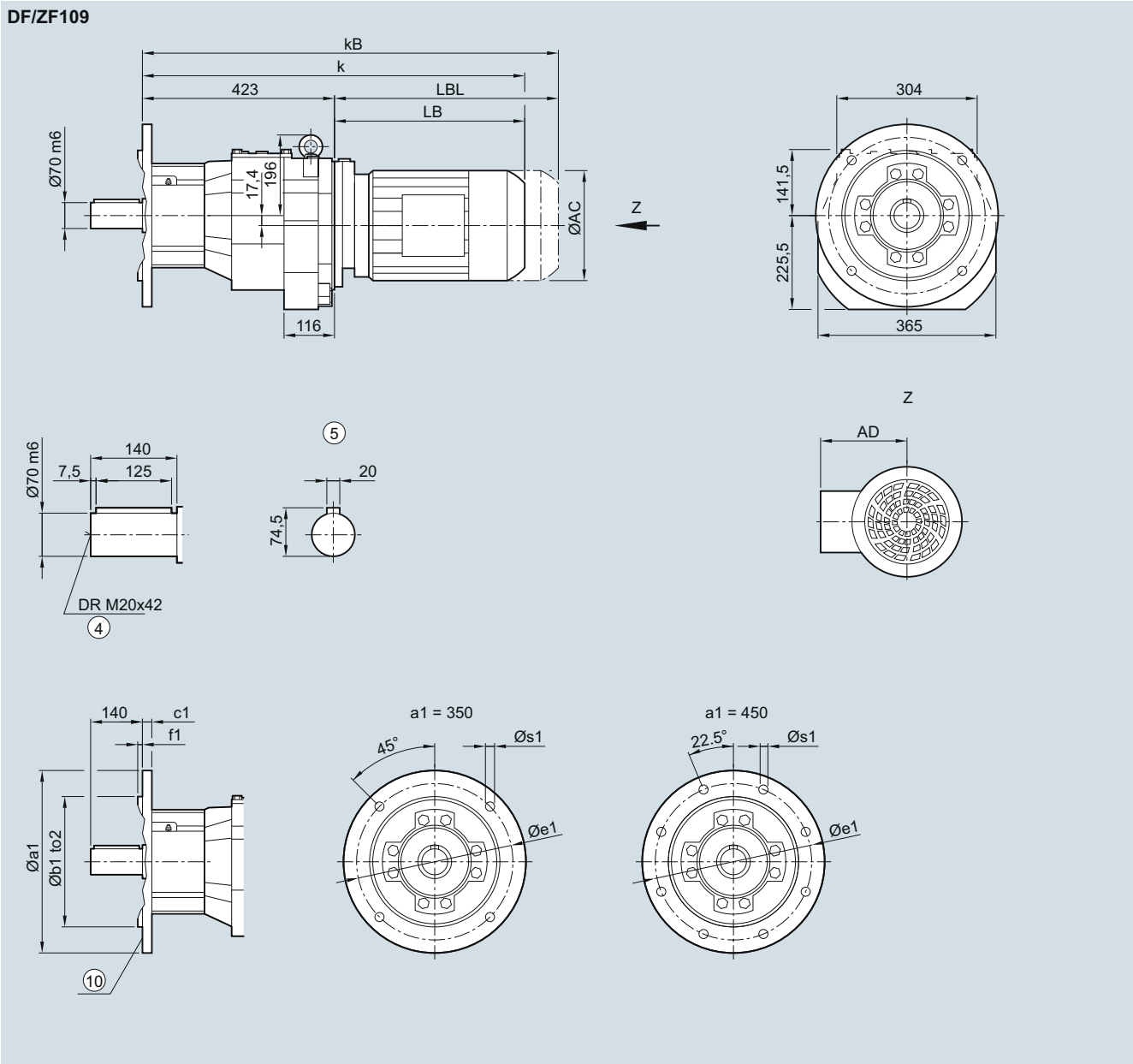
# SIMOGEAR geared motors

Helical geared motors

## Dimensions

### DF/ZF109 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)

DZF040



Flange	a1	b1	to2	c1	e1	f1	s1
	350	250	h6	18	300	5	17.5
	450	350	h6	22	400	5	17.5

Motor	LE 90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0
k	739.0	779.0	789.5	824.5	799.5	824.5	852.5	902.5	934.5	994.5	1007.5	1037.5	1075.5	1100.5	1121.0	1181.0
kB	809.0	849.0	868.0	903.0	872.5	897.5	957.0	1007.0	1050.5	1105.5	1135.5	1166.5	1222.5	1247.5	1349.0	1409.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

④ DIN 332

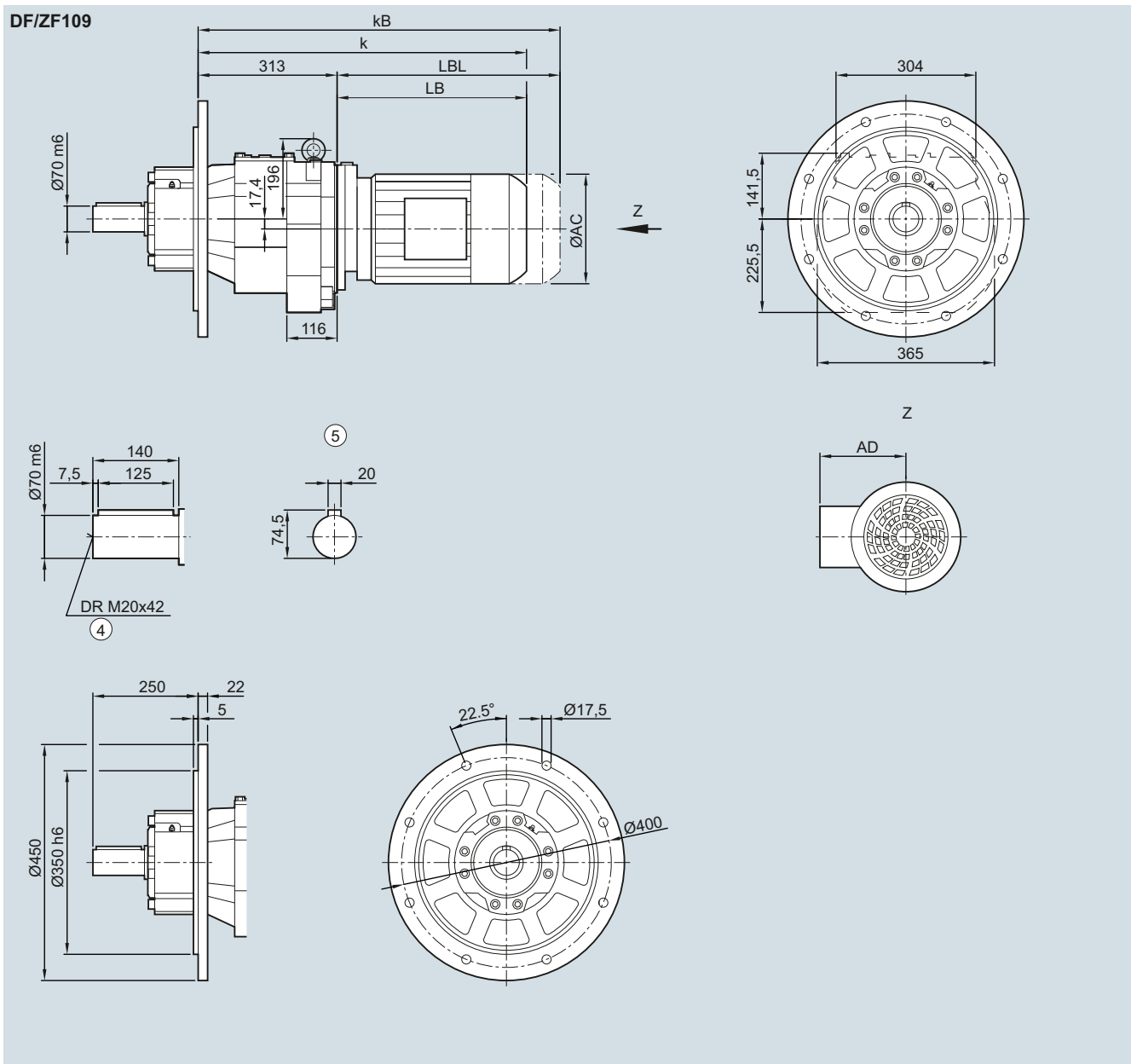
⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

**DF/ZF109 gearbox in a flange-mounted design with XLplus reinforced bearing system (G31)**

**DZF040**



Motor	LE										LES					
	90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0
k	629.0	669.0	679.5	714.5	689.5	714.5	742.5	792.5	824.5	884.5	897.5	927.5	965.5	990.5	1 011.0	1 071.0
kB	699.0	739.0	758.0	793.0	762.5	787.5	847.0	897.0	940.5	1 000.5	1 025.5	1 056.5	1 112.5	1 137.5	1 239.0	1 299.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.



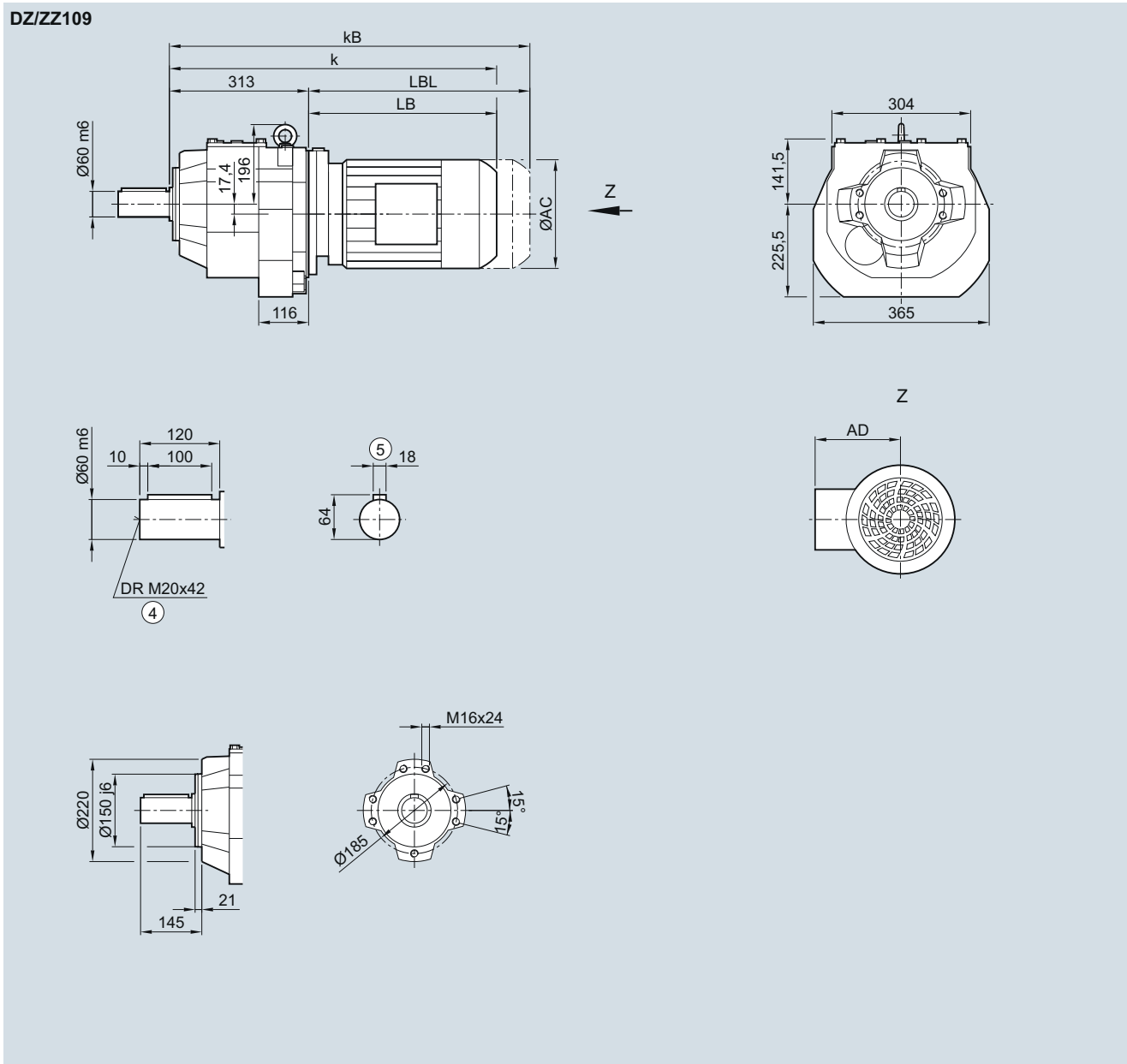
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### DZ/ZZ109 gearbox in a housing flange design

##### DZZ030

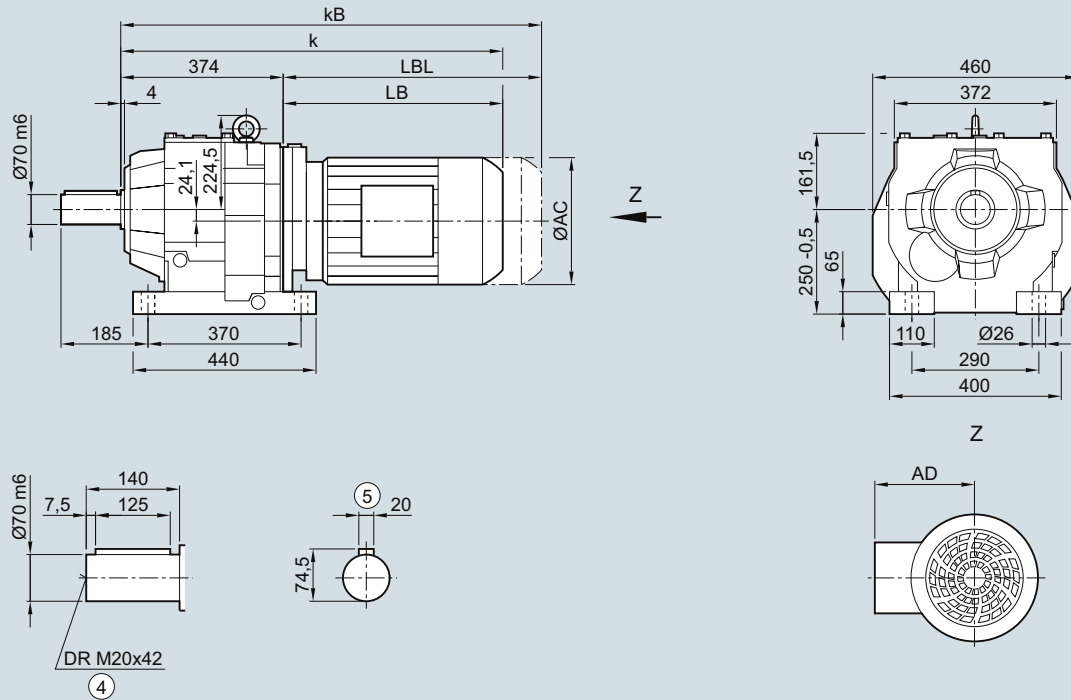


Motor	LE										LES					
	90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0
k	629.0	669.0	679.5	714.5	689.5	714.5	742.5	792.5	824.5	884.5	897.5	927.5	965.5	990.5	1 011.0	1 071.0
kB	699.0	739.0	758.0	793.0	762.5	787.5	847.0	897.0	940.5	1 000.5	1 025.5	1 056.5	1 112.5	1 137.5	1 239.0	1 299.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**D/Z129 gearbox in a foot-mounted design**
**DZ030**
**D/Z129**


Motor	LE 90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	683.0	723.0	731.5	766.5	741.5	766.5	792.5	842.5	874.5	934.5	947.5	977.5	1 015.5	1 040.5	1 061.0	1 121.0	1 172.5
kB	753.0	793.0	810.0	845.0	814.5	839.5	897.0	947.0	990.5	1 050.5	1 076.5	1 106.5	1 162.5	1 187.5	1 289.0	1 349.0	1 397.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1 023.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

# SIMOGEAR geared motors

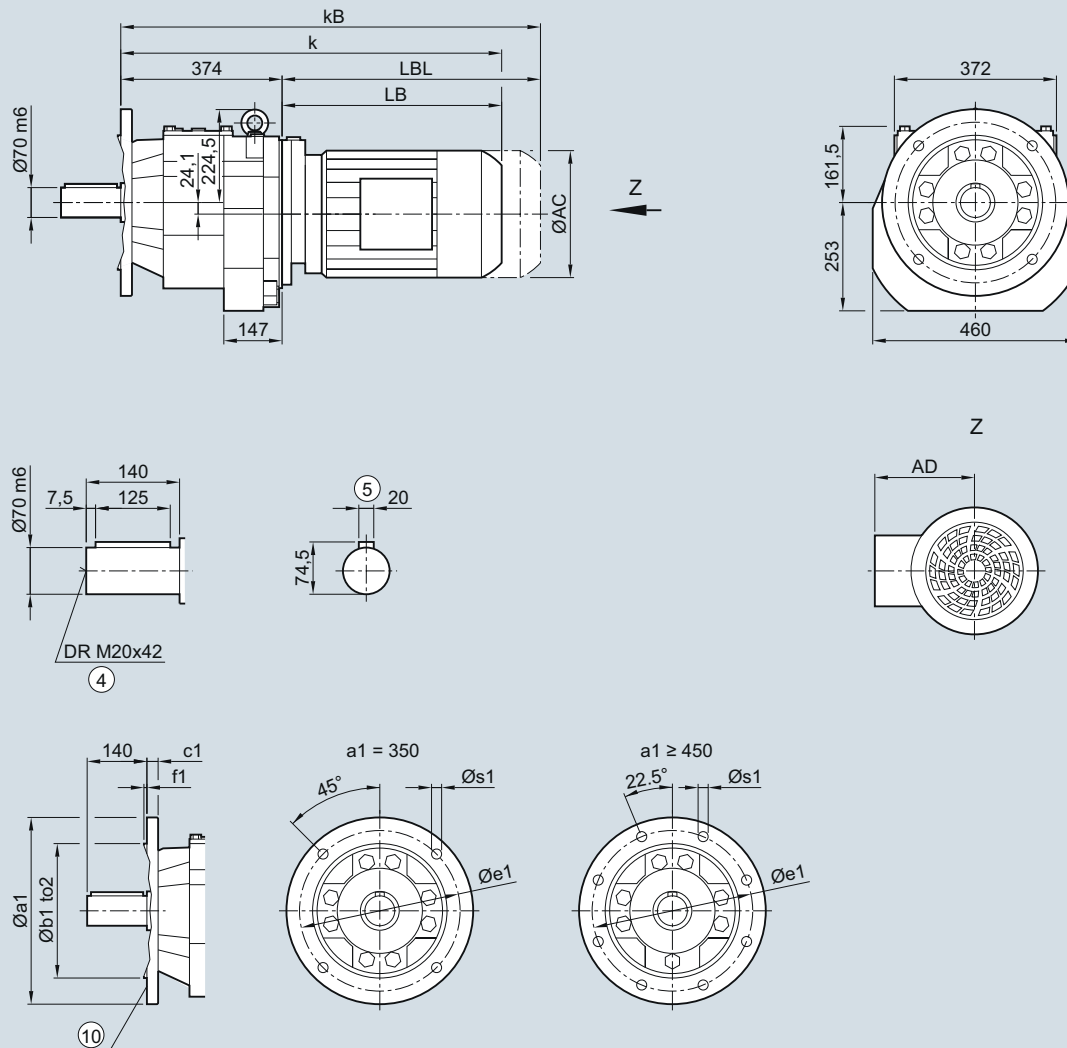
## Helical geared motors

### Dimensions

#### DF/ZF129 gearbox in a flange-mounted design

##### DZF030

##### DF/ZF129



Flange	a1	b1	to2	c1	e1	f1	s1
	350	250	h6	20	300	5	17.5
	450	350	h6	22	400	5	17.5
	550	450	h6	22	500	5	17.5

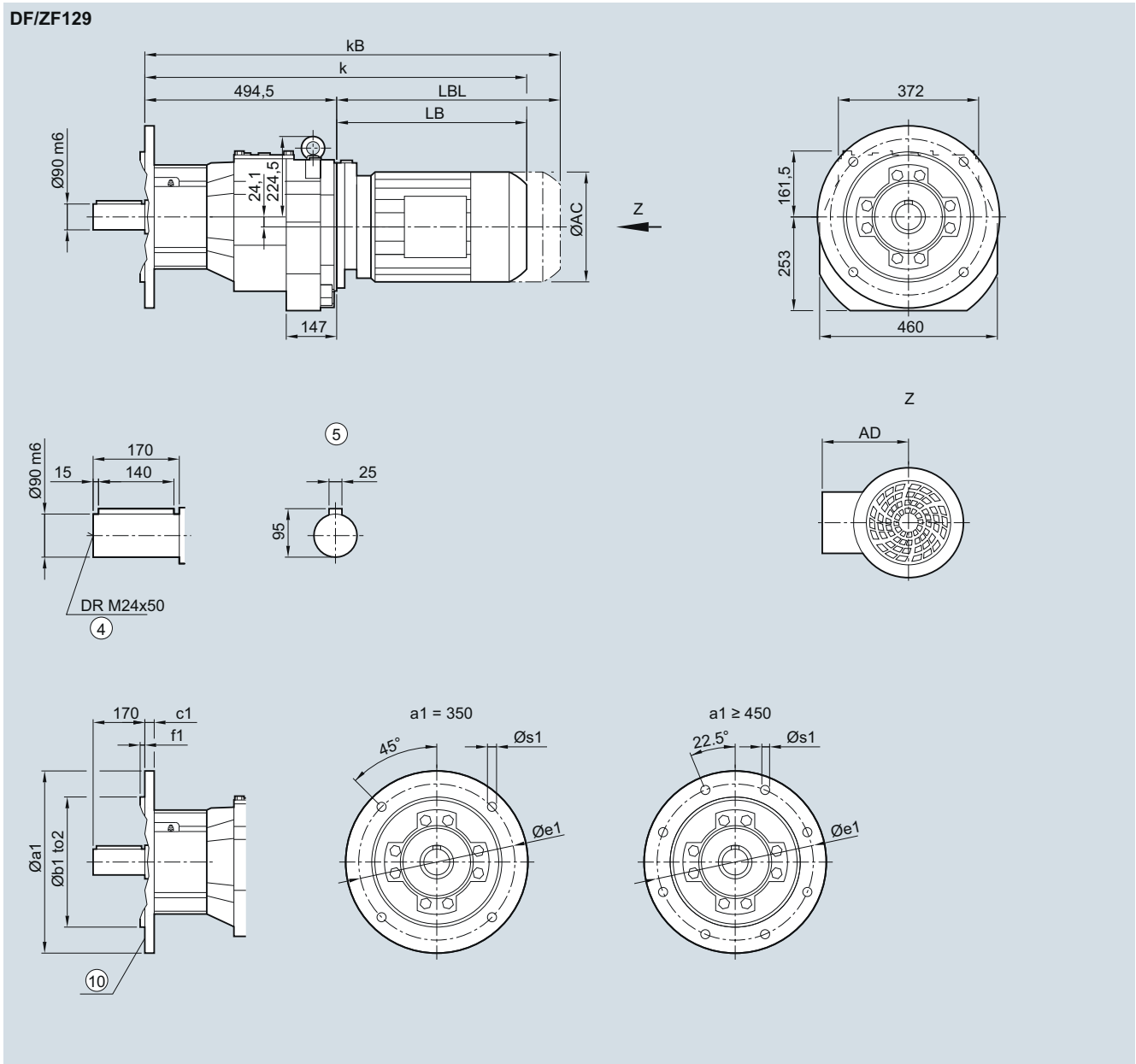
Motor	LE								LES								
	90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	683.0	723.0	731.5	766.5	741.5	766.5	792.5	842.5	874.5	934.5	947.5	977.5	1 015.5	1 040.5	1 061.0	1 121.0	1 172.5
kB	753.0	793.0	810.0	845.0	814.5	839.5	897.0	947.0	990.5	1 050.5	1 063.5	1 066.5	1 162.5	1 187.5	1 289.0	1 349.0	1 397.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1 023.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

**DF/ZF129 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)**
**DZF040**


Flange	a1	b1	to2	c1	e1	f1	s1
	350	250	h6	20	300	5	17.5
	450	350	h6	22	400	5	17.5
	550	450	h6	22	500	5	17.5

Motor	LE								LES								
	90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	803.0	843.0	851.5	886.5	861.5	886.5	912.5	962.5	994.5	1054.5	1067.5	1097.5	1135.5	1160.5	1181.0	1241.0	1292.5
kB	873.0	913.0	930.0	965.0	934.5	959.5	1017.0	1067.0	1110.5	1170.5	1196.5	1226.5	1282.5	1307.5	1409.0	1469.0	1517.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1023.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

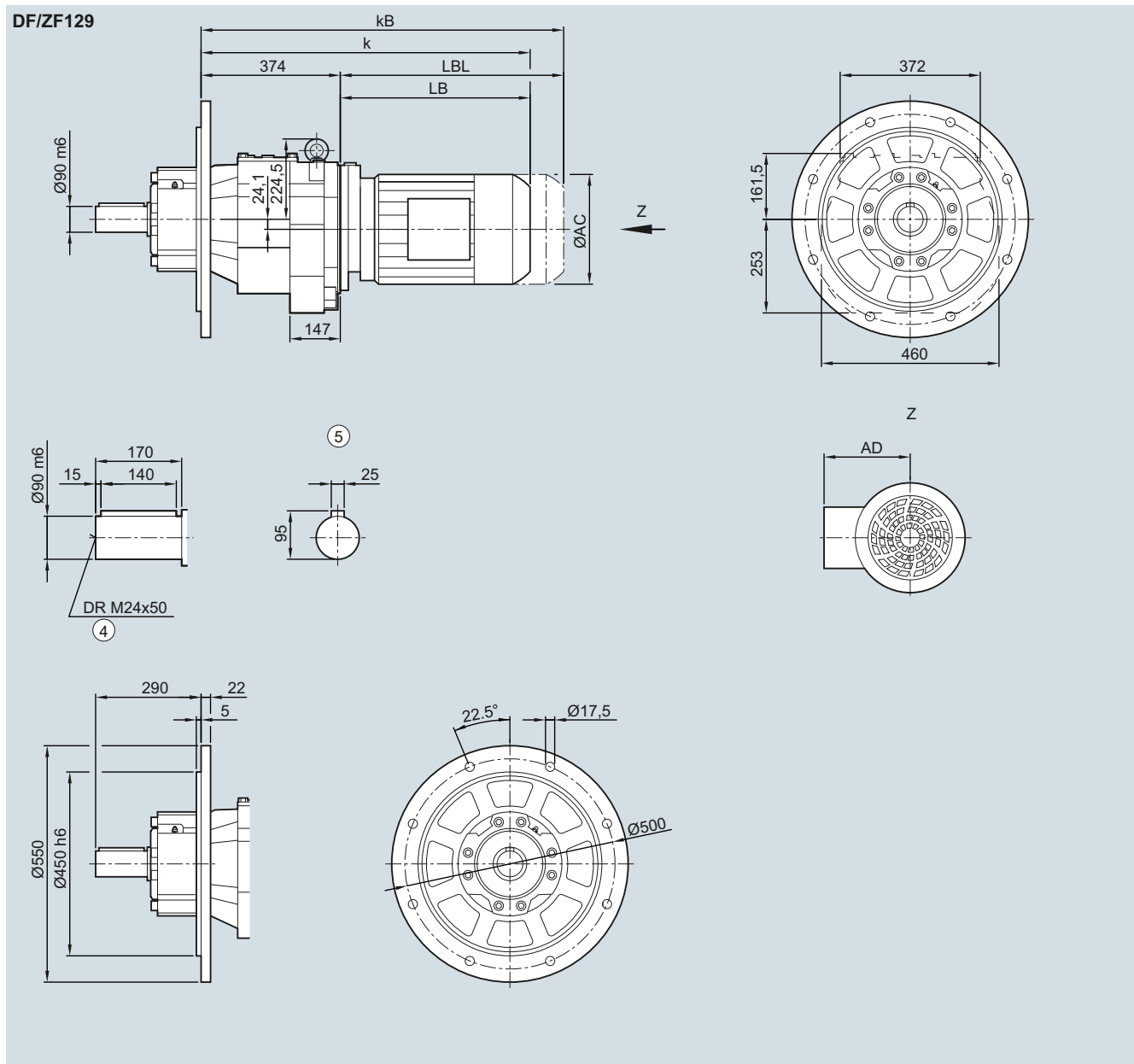
## SIMOGEAR geared motors

Helical geared motors

### Dimensions

#### DF/ZF129 gearbox in a flange-mounted design with XLplus reinforced bearing system (G31)

##### DZF040

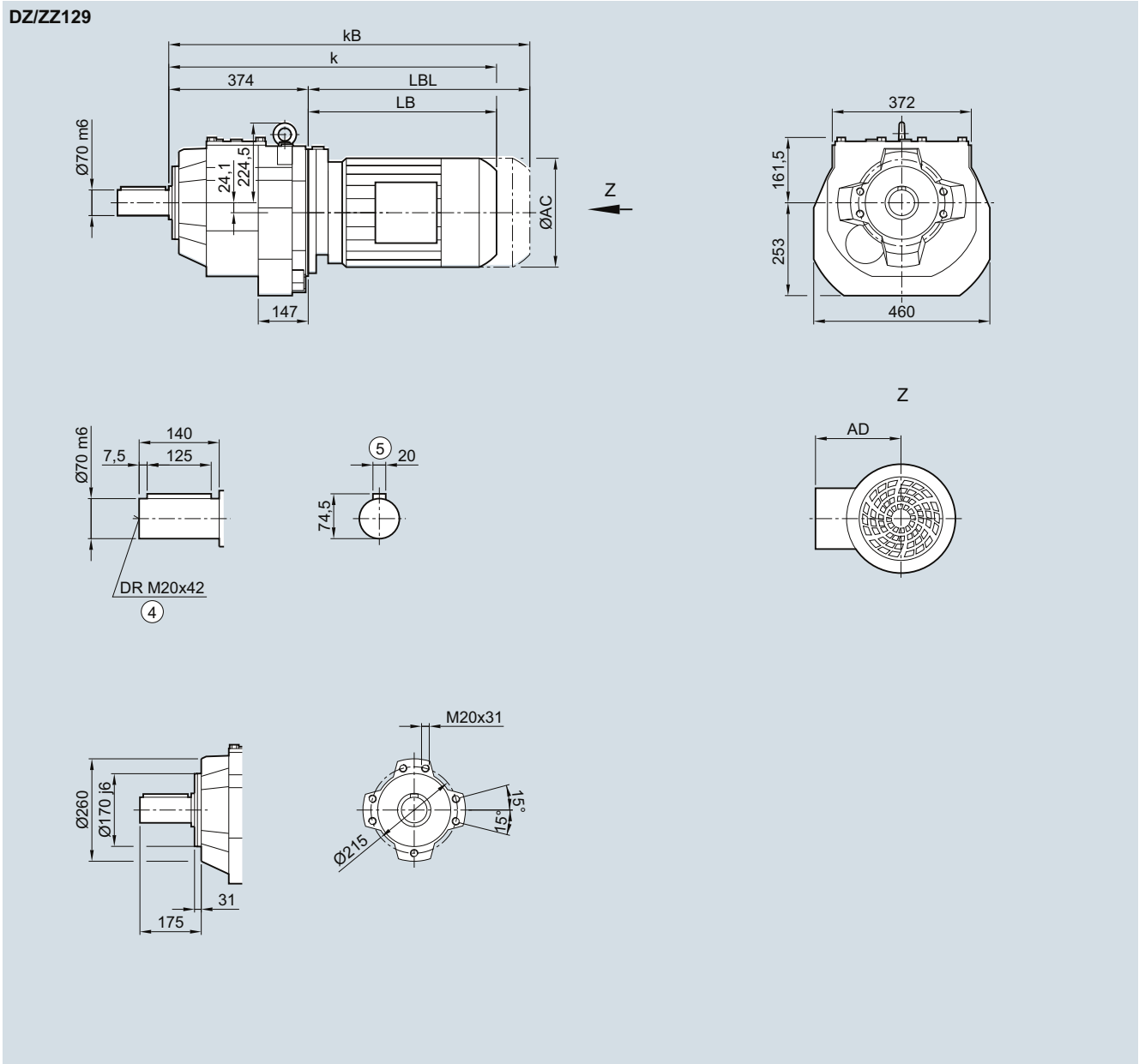


Motor	LE 90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	683.0	723.0	731.5	766.5	741.5	766.5	792.5	842.5	874.5	934.5	947.5	977.5	1 015.5	1 040.5	1 061.0	1 121.0	1 172.5
kB	753.0	793.0	810.0	845.0	814.5	839.5	897.0	947.0	990.5	1 050.5	1 076.5	1 106.5	1 162.5	1 187.5	1 289.0	1 349.0	1 397.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1 023.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**DZ/ZZ129 gearbox in a housing flange design**
**DZZ030**


Motor	LE										LES						
	90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	683.0	723.0	731.5	766.5	741.5	766.5	792.5	842.5	874.5	934.5	947.5	977.5	1 015.5	1 040.5	1 061.0	1 121.0	1 172.5
kB	753.0	793.0	810.0	845.0	814.5	839.5	897.0	947.0	990.5	1 050.5	1 076.5	1 106.5	1 162.5	1 187.5	1 289.0	1 349.0	1 397.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1 023.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

# SIMOGEAR geared motors

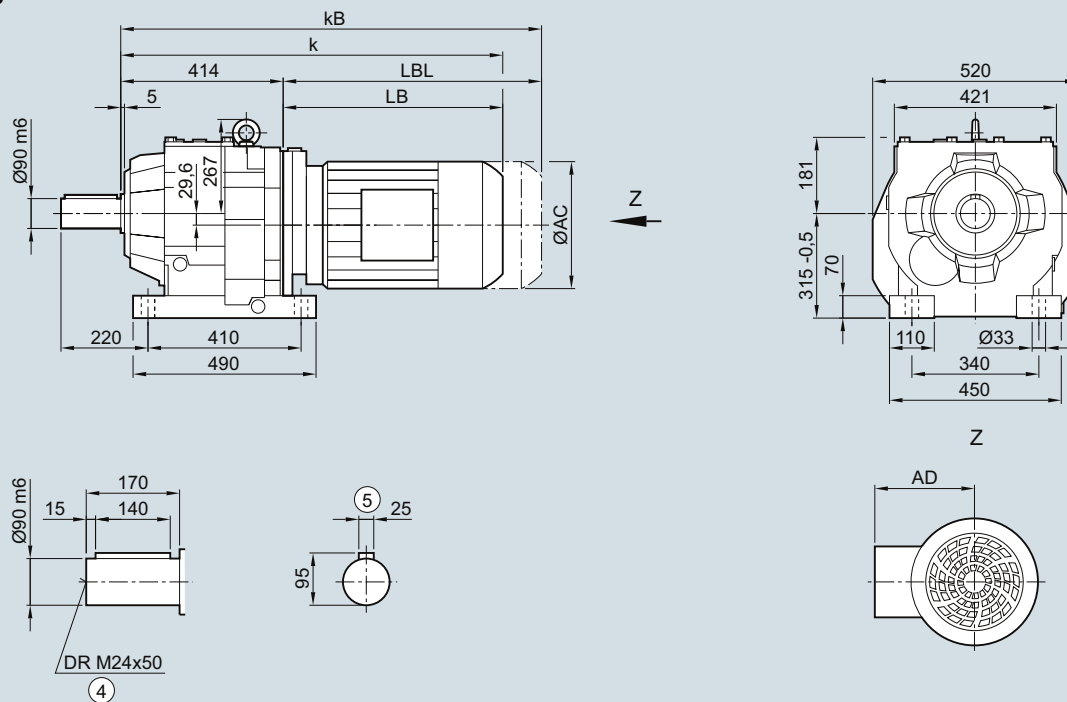
## Helical geared motors

### Dimensions

#### D/Z149 gearbox in a foot-mounted design

##### DZ030

D/Z149

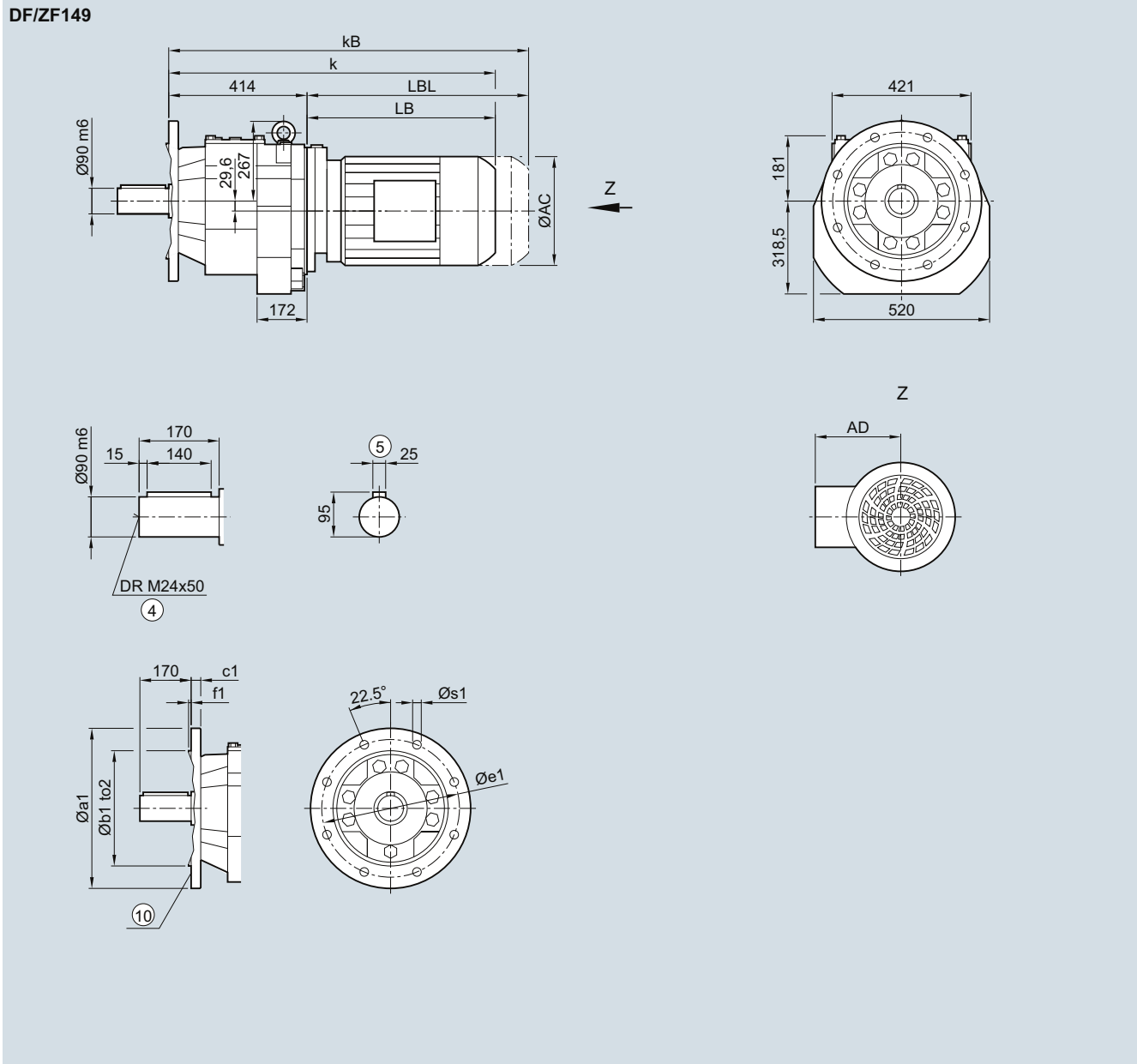


Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	770.0	805.0	780.0	805.0	826.0	876.0	908.0	968.0	981.0	1 011.0	1 049.0	1 074.0	1 094.5	1 154.5	1 206.0
kB	848.5	883.5	853.0	878.0	930.5	980.5	1 024.0	1 084.0	1 100.0	1 140.0	1 196.0	1 221.0	1 322.5	1 382.5	1 431.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**DF/ZF149 gearbox in a flange-mounted design**
**DZF030**


Flange	a1	b1	to2	c1	e1	f1	s1
	450	350	h6	22	400	5	17.5
	550	450	h6	25	500	5	17.5

Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	770.0	805.0	780.0	805.0	826.0	876.0	908.0	968.0	981.0	1 011.0	1 049.0	1 074.0	1 094.5	1 154.5	1 206.0
kB	848.5	883.5	853.0	878.0	930.5	980.5	1 024.0	1 084.0	1 100.0	1 140.0	1 196.0	1 221.0	1 322.5	1 382.5	1 431.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184



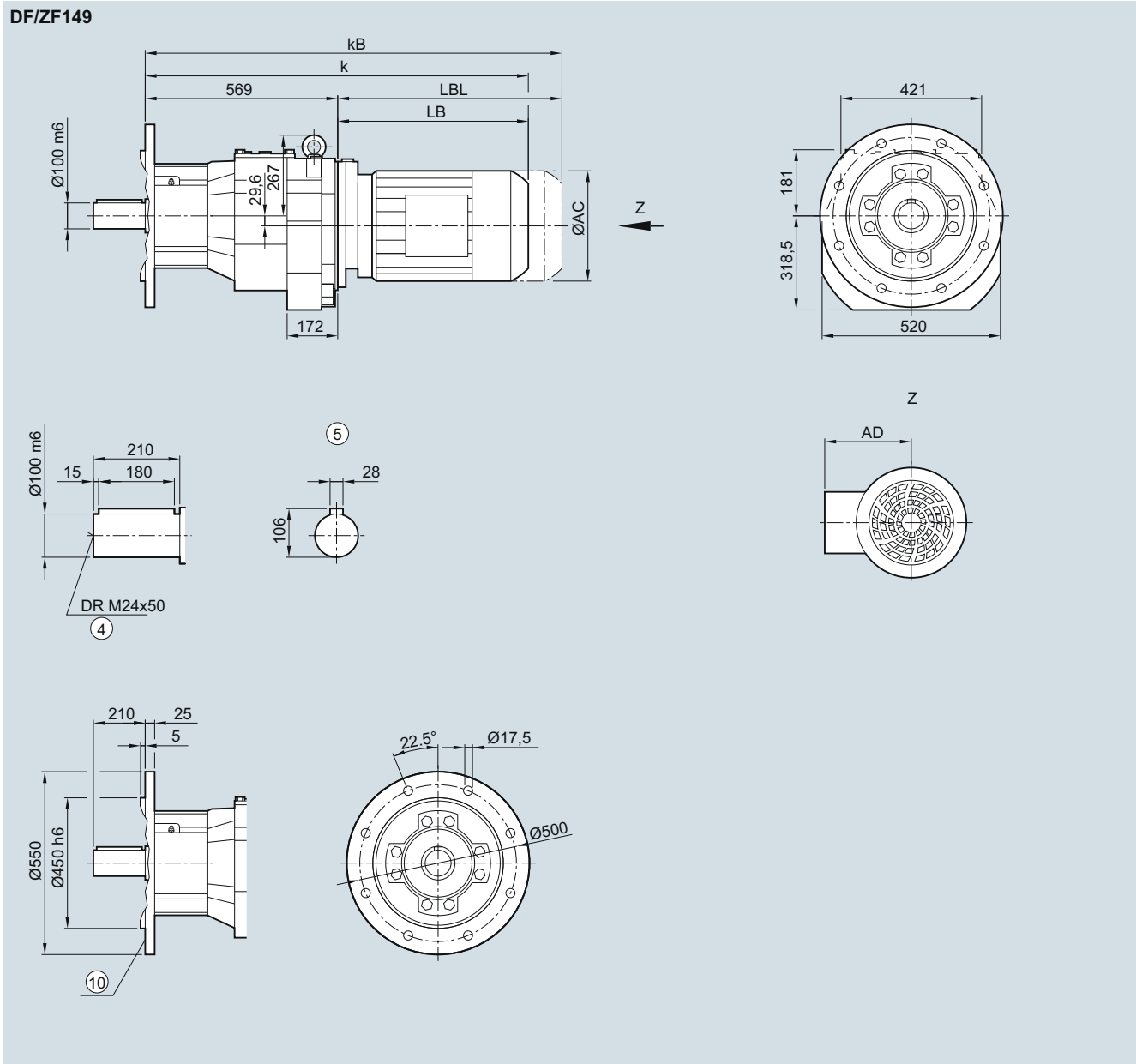
## SIMOGEAR geared motors

Helical geared motors

### Dimensions

#### DF/ZF149 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)

##### DZF040



Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	925.0	960.0	935.0	960.0	994.0	1031.0	1063.0	1123.0	1136.0	1166.0	1204.0	1229.0	1249.5	1309.5	1361.0
kB	1003.5	1038.5	1008.0	1033.0	1085.5	1135.5	1179.0	1239.0	1265.0	1295.0	1351.0	1376.0	1477.5	1537.5	1586.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1017.0

④ DIN 332

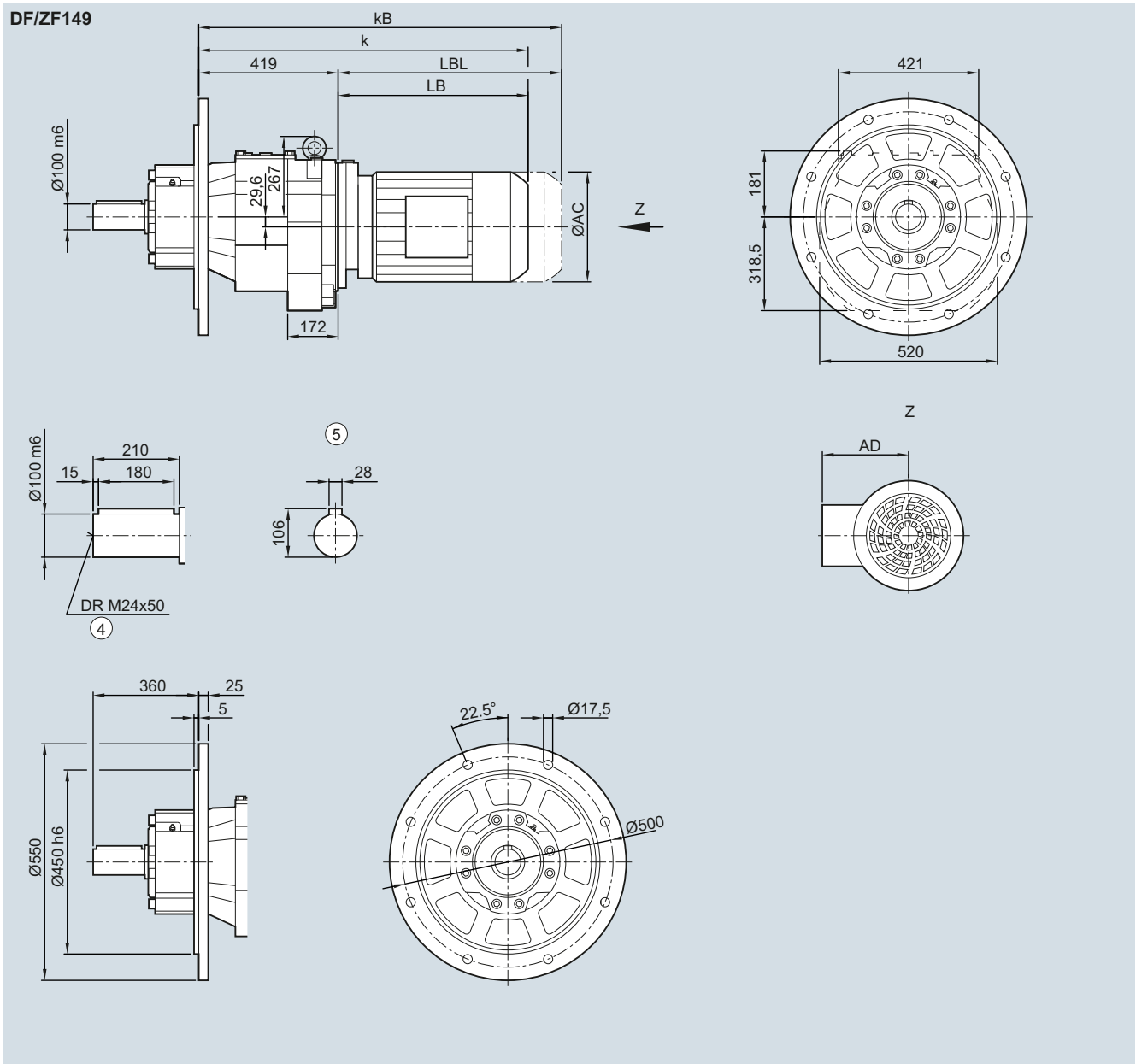
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

**DF/ZF149 gearbox in a flange-mounted design with XLplus reinforced bearing system (G31)**

**DZF040**



Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	775.0	810.0	785.0	810.0	831.0	881.0	913.0	973.0	986.0	1 016.0	1 054.0	1 079.0	1 099.5	1 159.5	1 211.0
kB	853.5	888.5	858.0	883.0	935.5	985.5	1 029.0	1 089.0	1 115.0	1 145.0	1 226.0	1 327.5	1 387.5	1 436.0	1 436.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

# SIMOGEAR geared motors

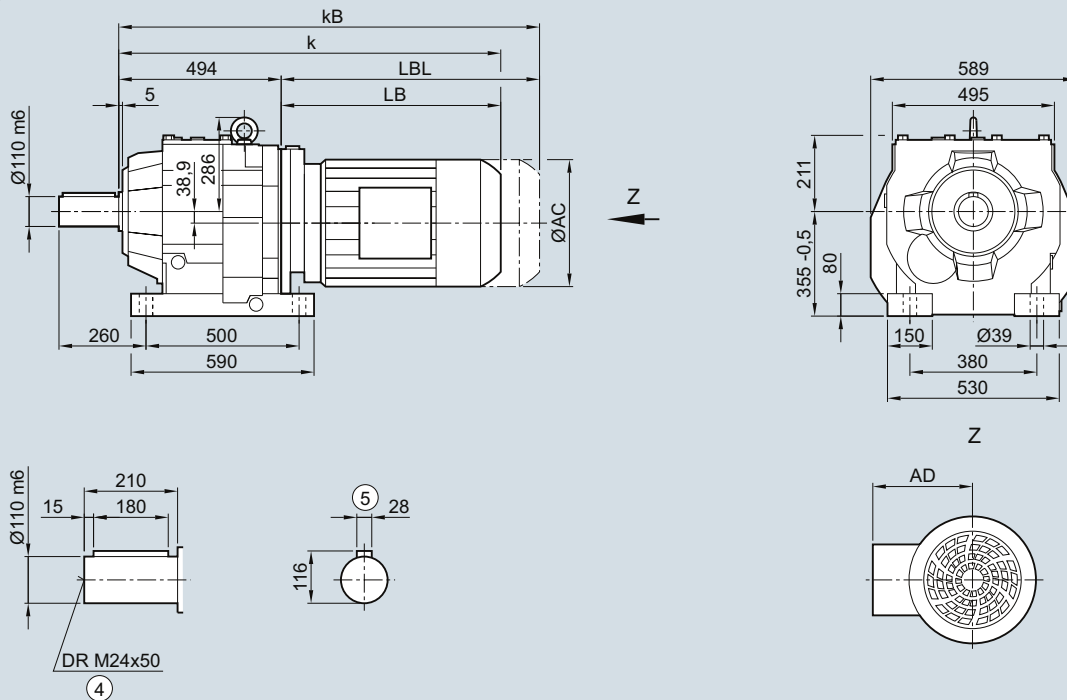
Helical geared motors

## Dimensions

### D/Z169 gearbox in a foot-mounted design

DZ030

D/Z169



Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	847.5	872.5	893.0	943.0	975.0	1 035.0	1 047.5	1 077.5	1 115.5	1 140.5	1 160.0	1 220.0	1 267.5
kB	920.5	945.5	997.5	1 047.5	1 097.5	1 157.0	1 176.5	1 206.5	1 262.5	1 287.5	1 388.0	1 448.0	1 492.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

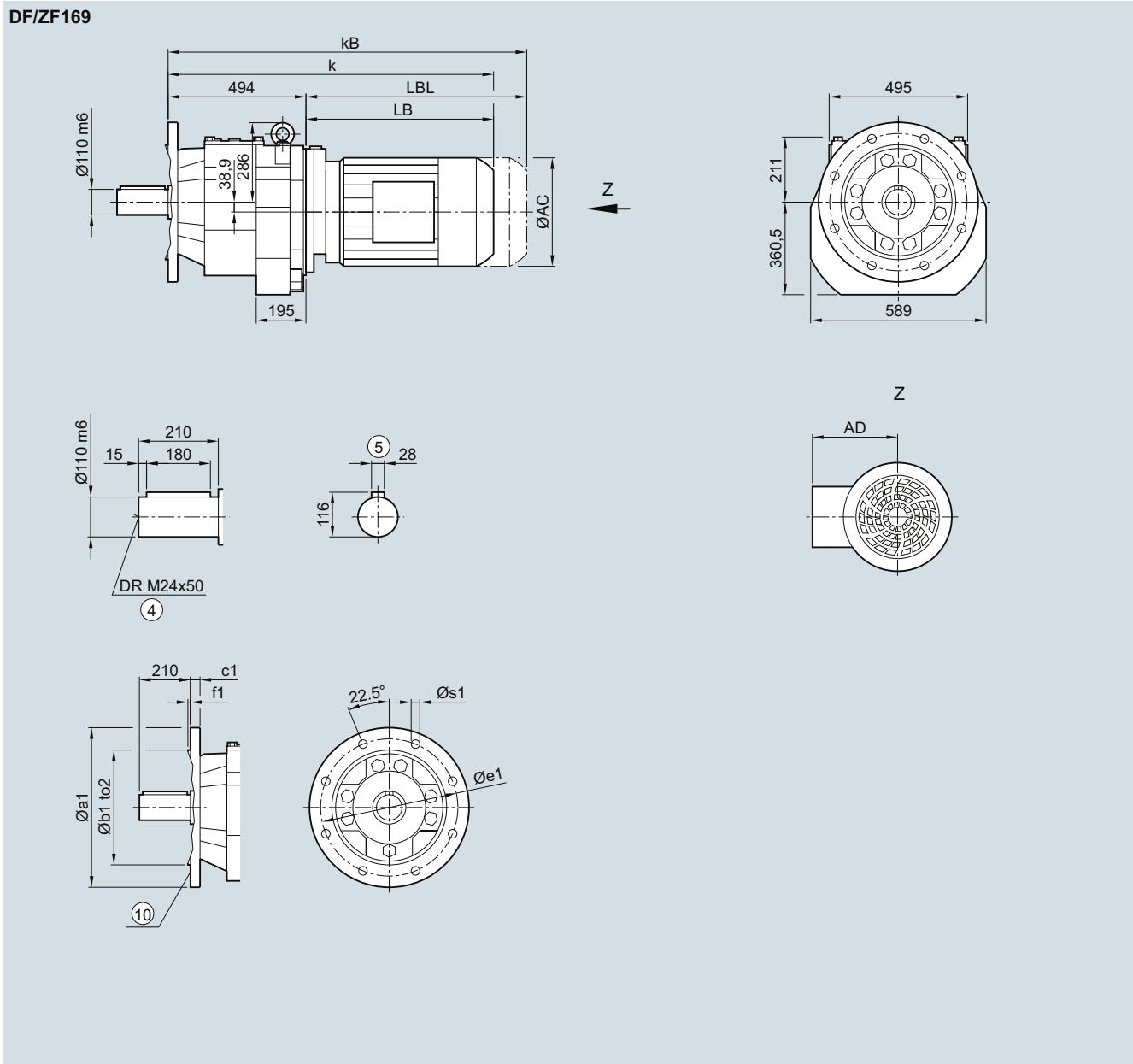
④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

**DF/ZF169 gearbox in a flange-mounted design**

**DZF030**



Flange	a1	b1	to2	c1	e1	f1	s1
	450	350	h6	22	400	5	17.5
	550	450	h6	25	500	5	17.5
	660	550	h6	25	600	6	17.5

Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	847.5	872.5	893.0	943.0	975.0	1 035.0	1 047.5	1 077.5	1 115.5	1 140.5	1 160.0	1 220.0	1 267.5
k <sub>B</sub>	920.5	945.5	997.5	1 047.5	1 097.5	1 157.0	1 176.5	1 206.5	1 267.5	1 287.5	1 388.0	1 448.0	1 492.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

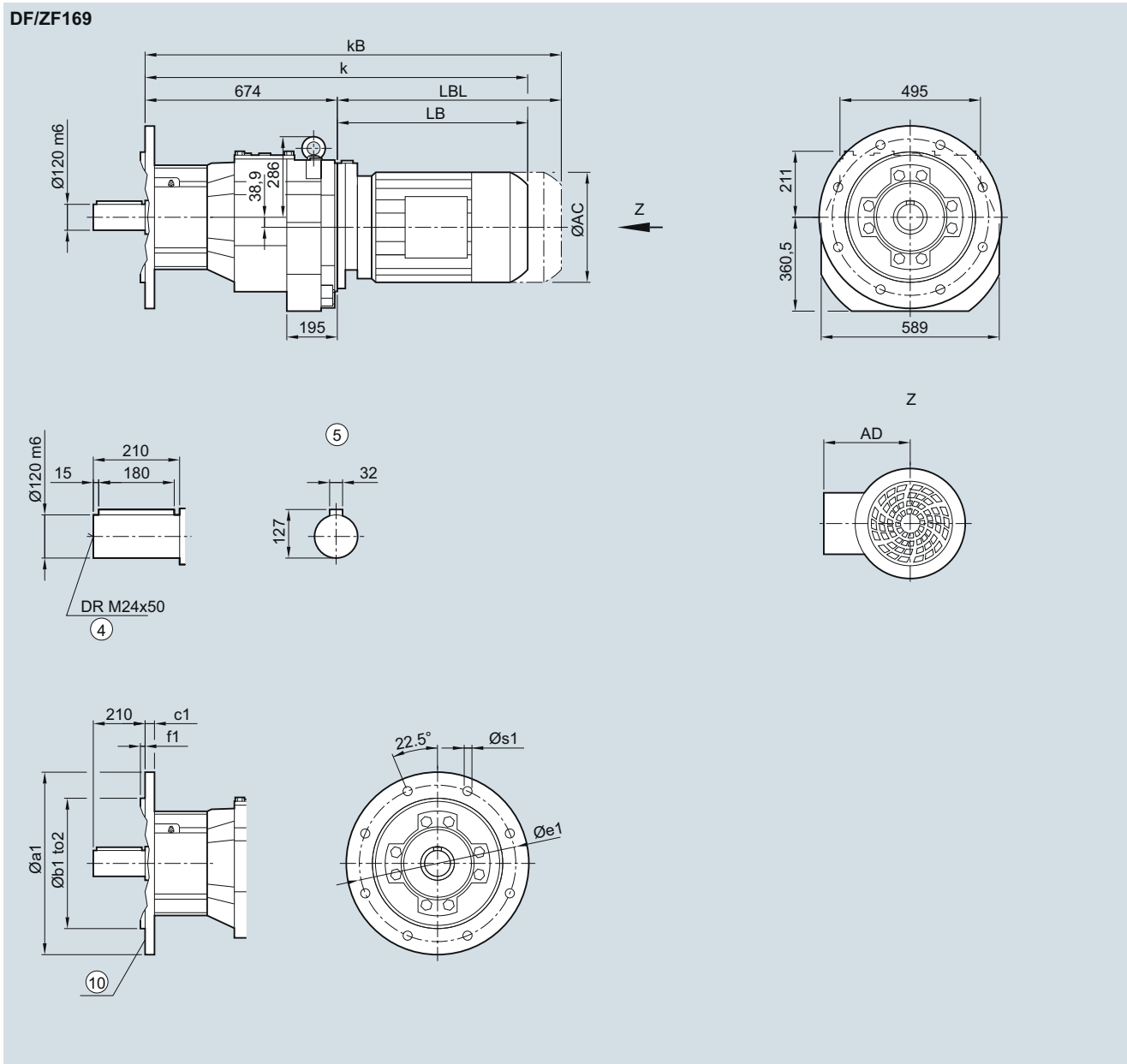
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### DF/ZF169 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)

##### DZF040



Flange	a1	b1	to2	c1	e1	f1	s1
	450	350	h6	22	400	5	17.5
	550	450	h6	25	500	5	17.5
	660	550	h6	25	600	6	17.5

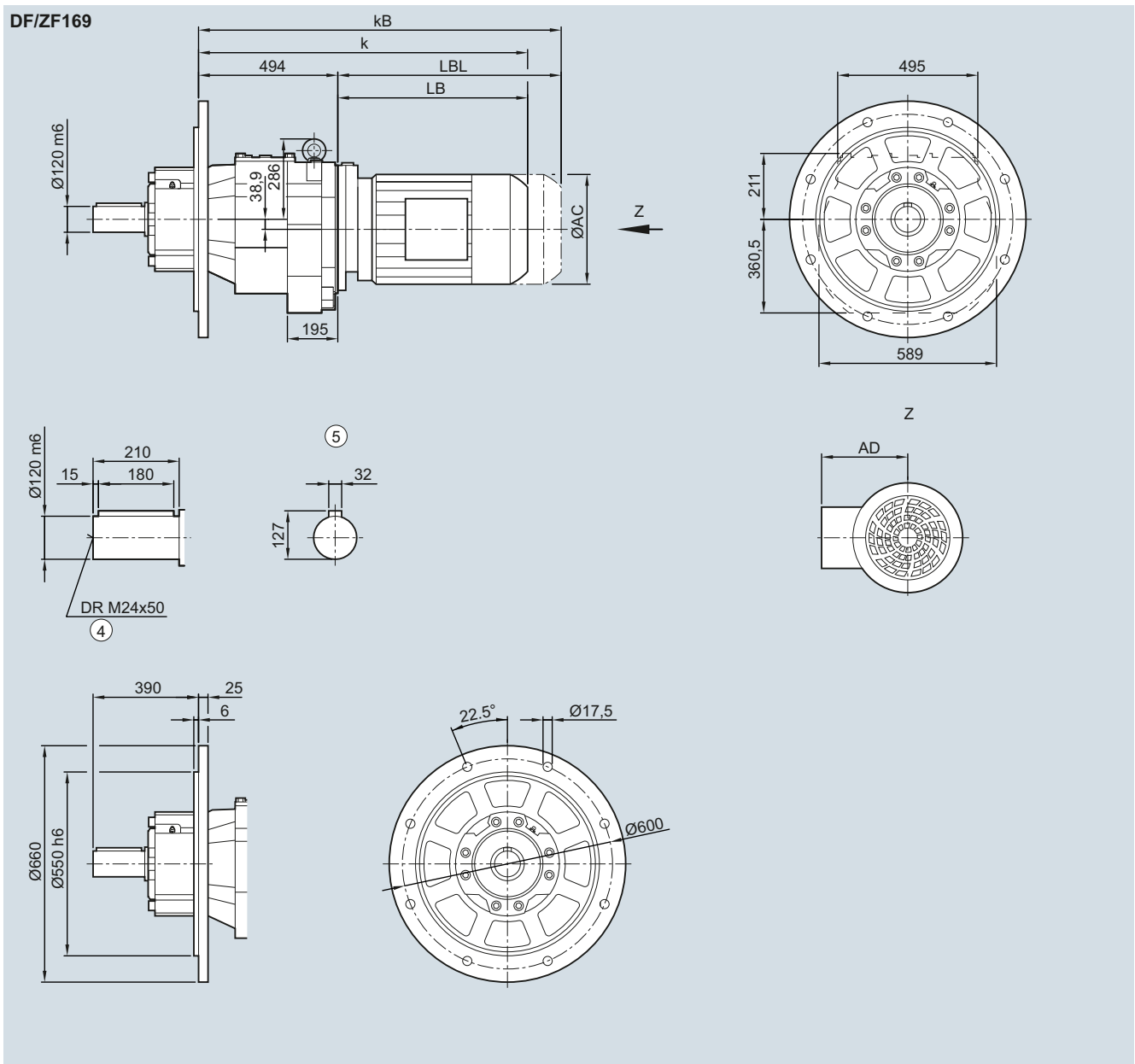
Motor	LE						LES						
	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	1 027.5	1 052.5	1 073.0	1 123.0	1 155.0	1 215.0	1 227.5	1 257.5	1 295.5	1 320.5	1 340.0	1 400.0	1 447.5
kB	1 100.5	1 125.5	1 177.5	1 227.5	1 277.5	1 337.0	1 356.5	1 386.5	1 447.5	1 467.5	1 568.0	1 628.0	1 672.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

**DF/ZF169 gearbox in a flange-mounted design with XLplus reinforced bearing system (G31)**
**DZF040**


Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	847.5	872.5	893.0	943.0	975.0	1 035.0	1 047.5	1 077.5	1 115.5	1 140.5	1 160.0	1 220.0	1 267.5
kB	920.5	945.5	997.5	1 047.5	1 091.0	1 151.0	1 176.5	1 206.5	1 262.5	1 287.5	1 388.0	1 448.0	1 492.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

<sup>④</sup> DIN 332

<sup>⑤</sup> Feather key/keyway DIN 6885-1

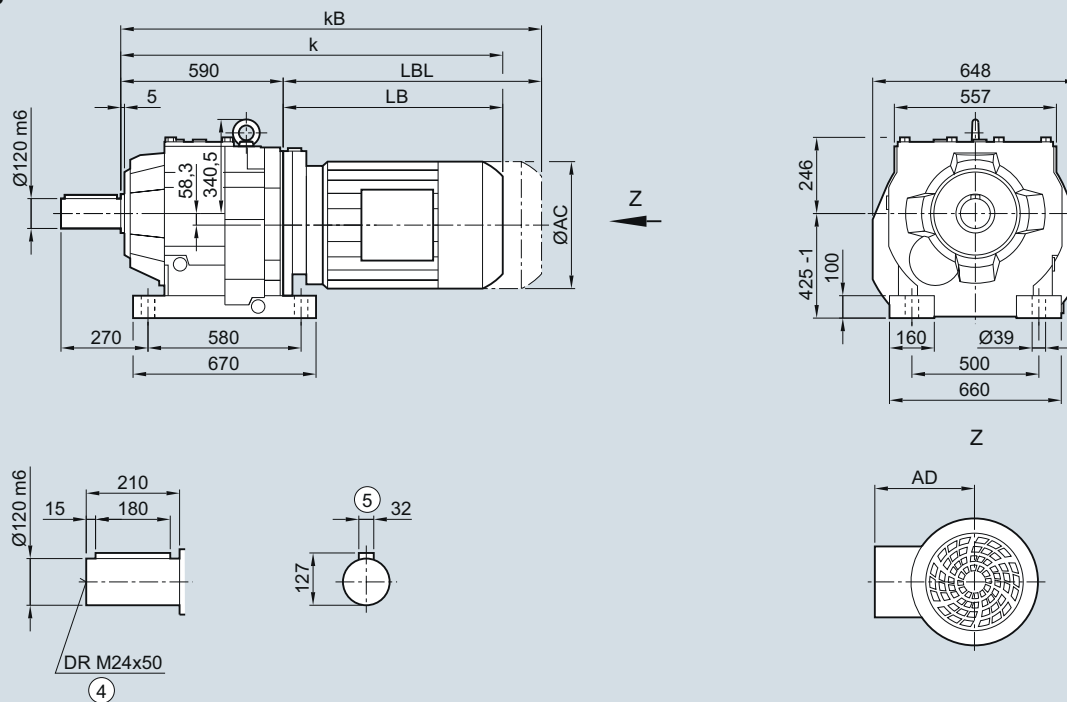
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**SIMOGEAR geared motors**

Helical geared motors

**Dimensions****D/Z189 gearbox in a foot-mounted design****DZ030**

D/Z189

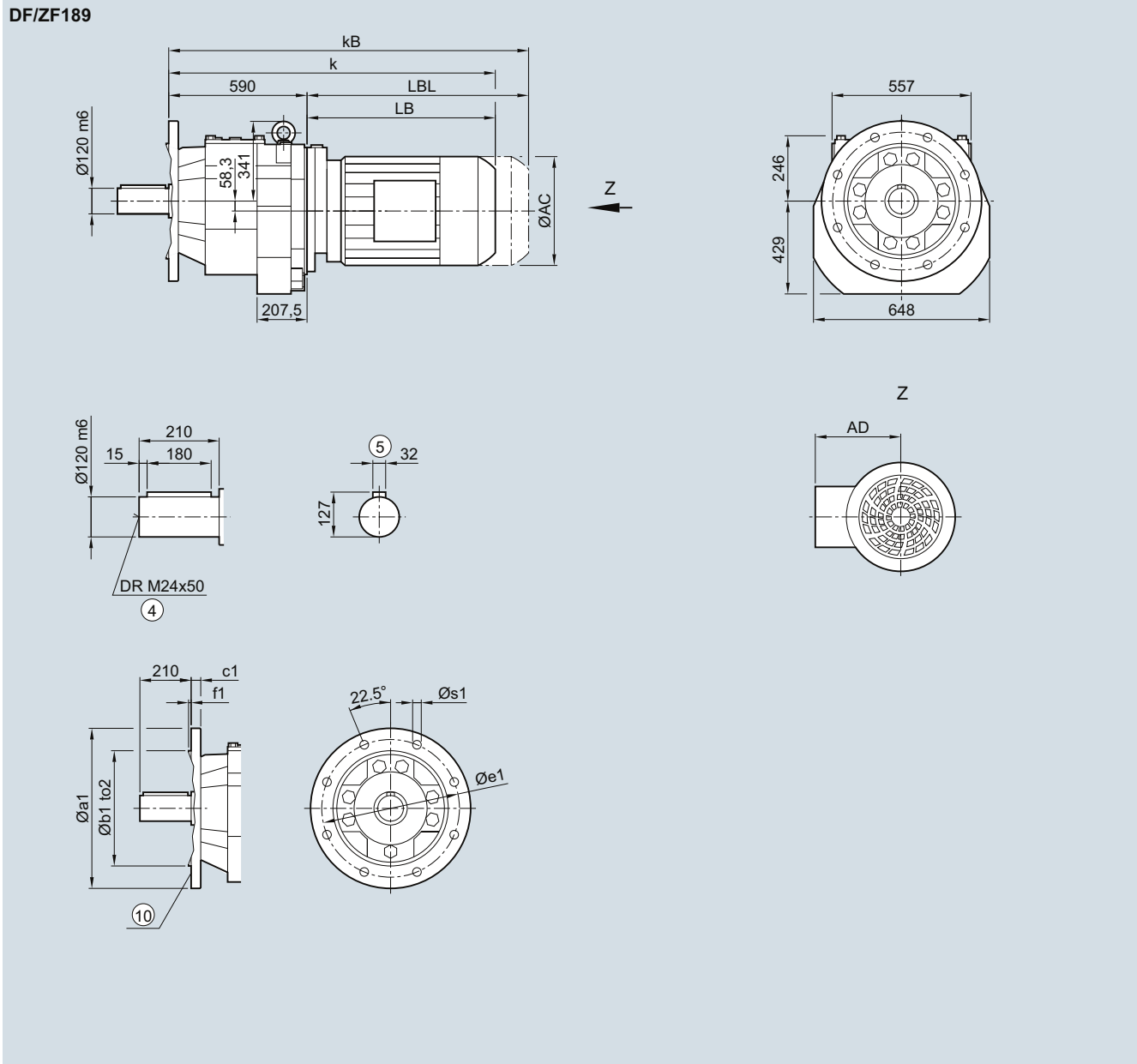


Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	943.5	968.5	989.0	1 039.0	1 071.0	1 131.0	1 143.5	1 173.5	1 211.5	1 236.5	1 256.0	1 316.0	1 363.5
kB	1 016.5	1 041.5	1 093.5	1 143.5	1 167.0	1 247.0	1 272.5	1 302.5	1 353.5	1 383.5	1 484.0	1 544.0	1 588.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

**DF/ZF189 gearbox in a flange-mounted design**
**DZF030**


Flange	a1	b1	to2	c1	e1	f1	s1
	550	450	h6	25	500	5	17.5
	660	550	h6	28	600	6	22.0

Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	943.5	968.5	989.0	1 039.0	1 071.0	1 131.0	1 143.5	1 173.5	1 211.5	1 236.5	1 256.0	1 316.0	1 363.5
kB	1 016.5	1 041.5	1 093.5	1 143.5	1 167.0	1 247.0	1 272.5	1 302.5	1 353.5	1 383.5	1 484.0	1 544.0	1 588.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184



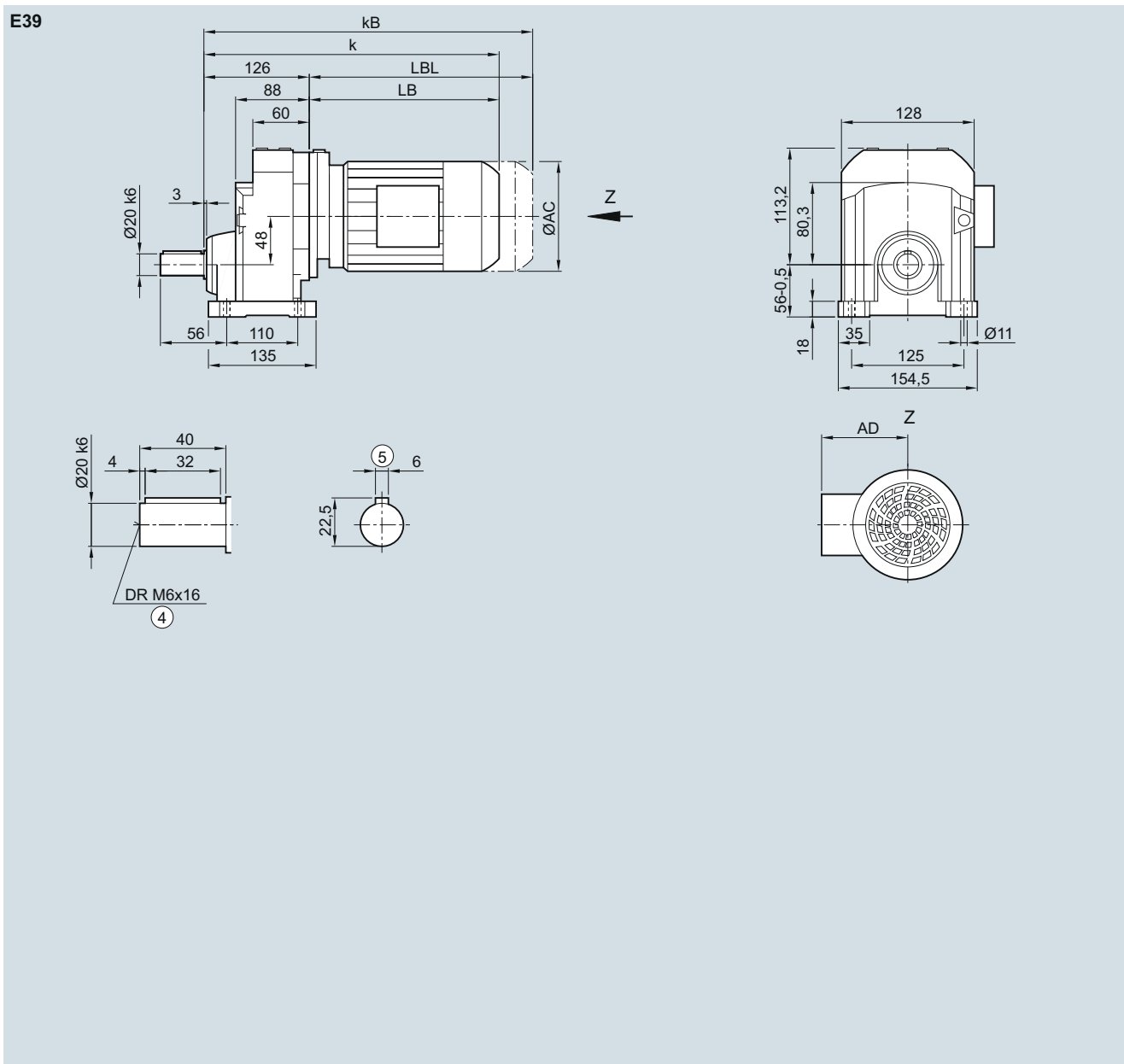
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### E39 gearbox in a foot-mounted design

##### E030

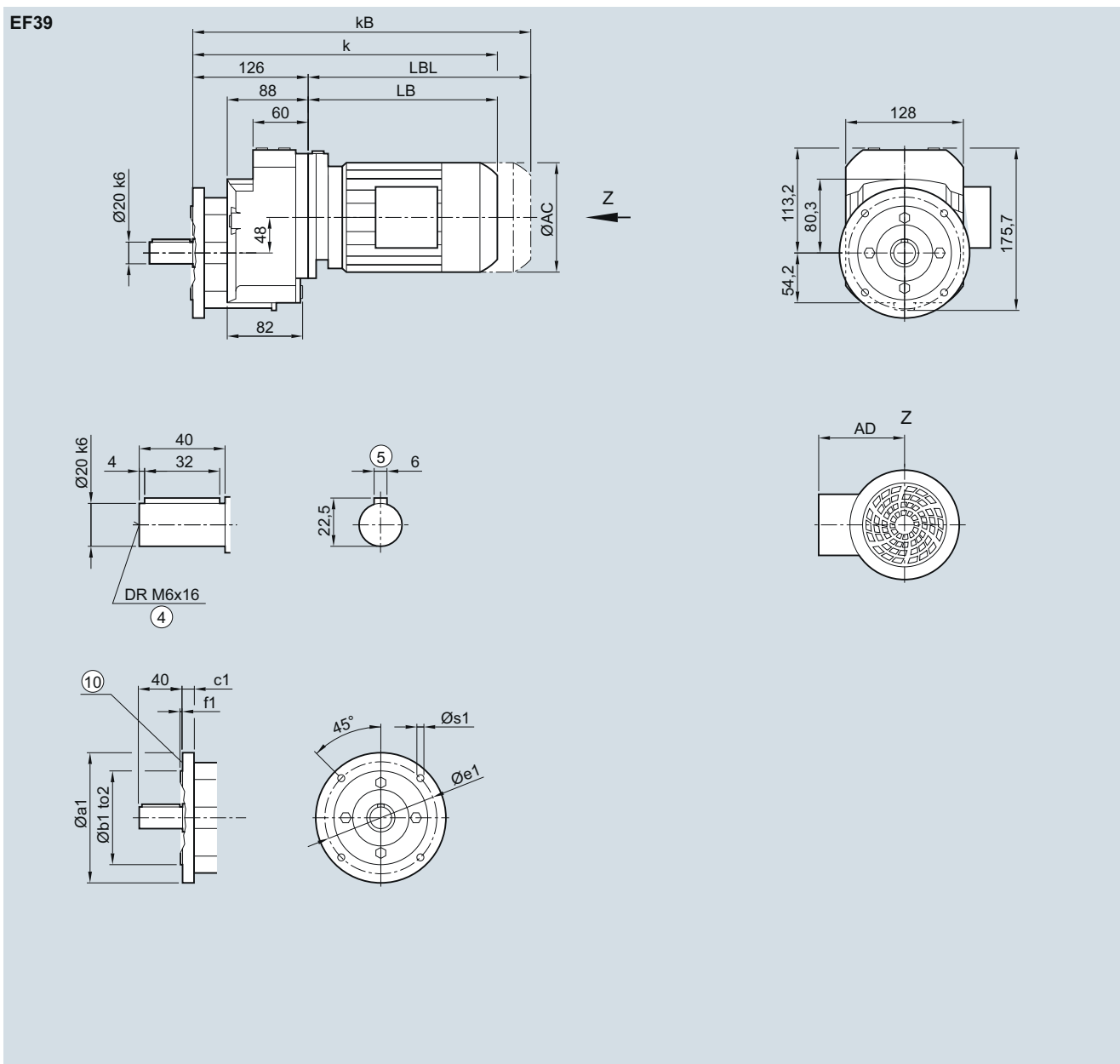


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	320.0	352.0	371.0	446.0	451.0	477.5	517.5	534.0	569.0	544.0	569.0
kB	364.5	407.0	426.0	476.0	511.0	547.5	587.5	612.5	647.5	617.0	642.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

**EF39 gearbox in a flange-mounted design**
**EF030**


Flange	a1	b1	to2	c1	e1	f1	s1
	120	80	j6	8	100	3.0	6.8
	140	95	j6	7	115	3.0	9.0
	160	110	j6	10	130	3.5	9.0
	200	130	j6	12	165	3.5	11.0

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	320.0	352.0	371.0	416.0	451.0	477.5	517.5	534.0	569.0	544.0	569.0
kB	364.5	407.0	426.0	476.0	511.0	547.5	587.5	625.5	647.5	617.0	642.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

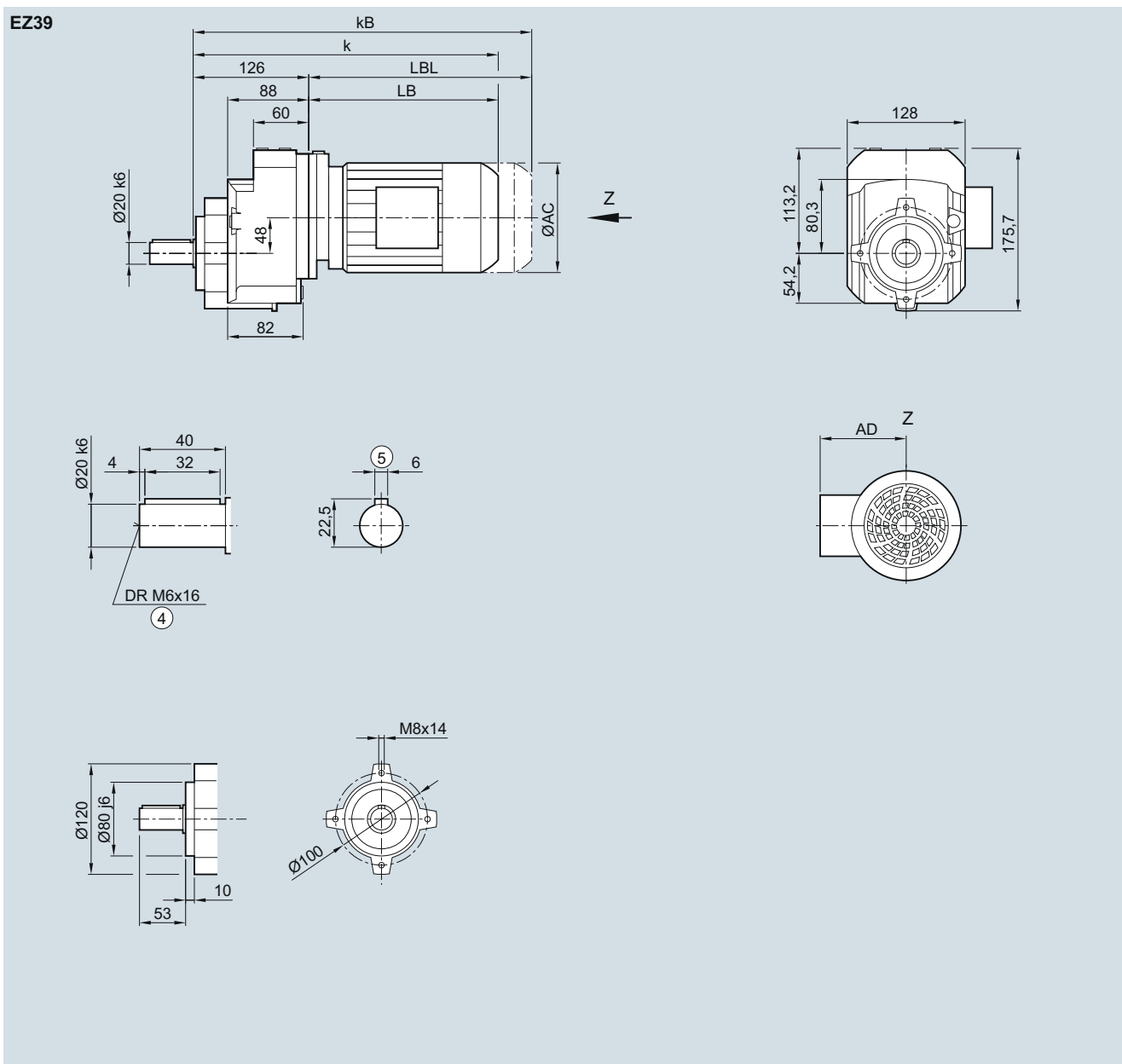
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### EZ39 gearbox in a housing flange design

##### EZ030



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	320.0	352.0	371.0	446.0	451.0	477.5	517.5	534.0	569.0	544.0	569.0
k <sub>B</sub>	364.5	407.0	426.0	476.0	511.0	547.5	587.5	612.5	647.5	617.0	642.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

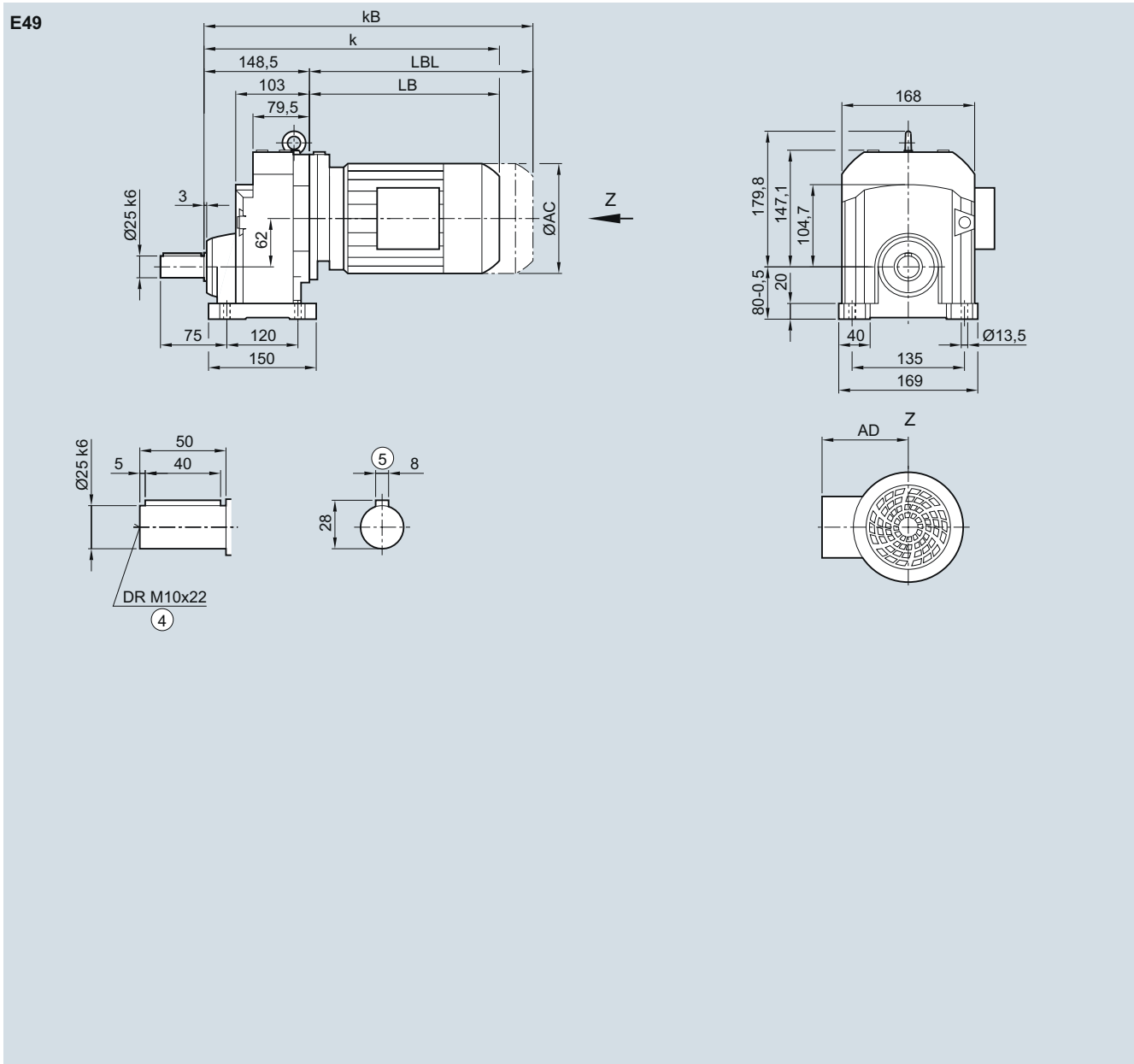
④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**E49 gearbox in a foot-mounted design**

**E030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	333.0	365.0	384.0	429.0	464.0	490.5	530.5	547.0	582.0	557.0	591.5	610.0	660.0
kB	377.5	420.0	439.0	489.0	524.0	560.5	600.5	625.5	660.5	630.0	664.5	714.5	764.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

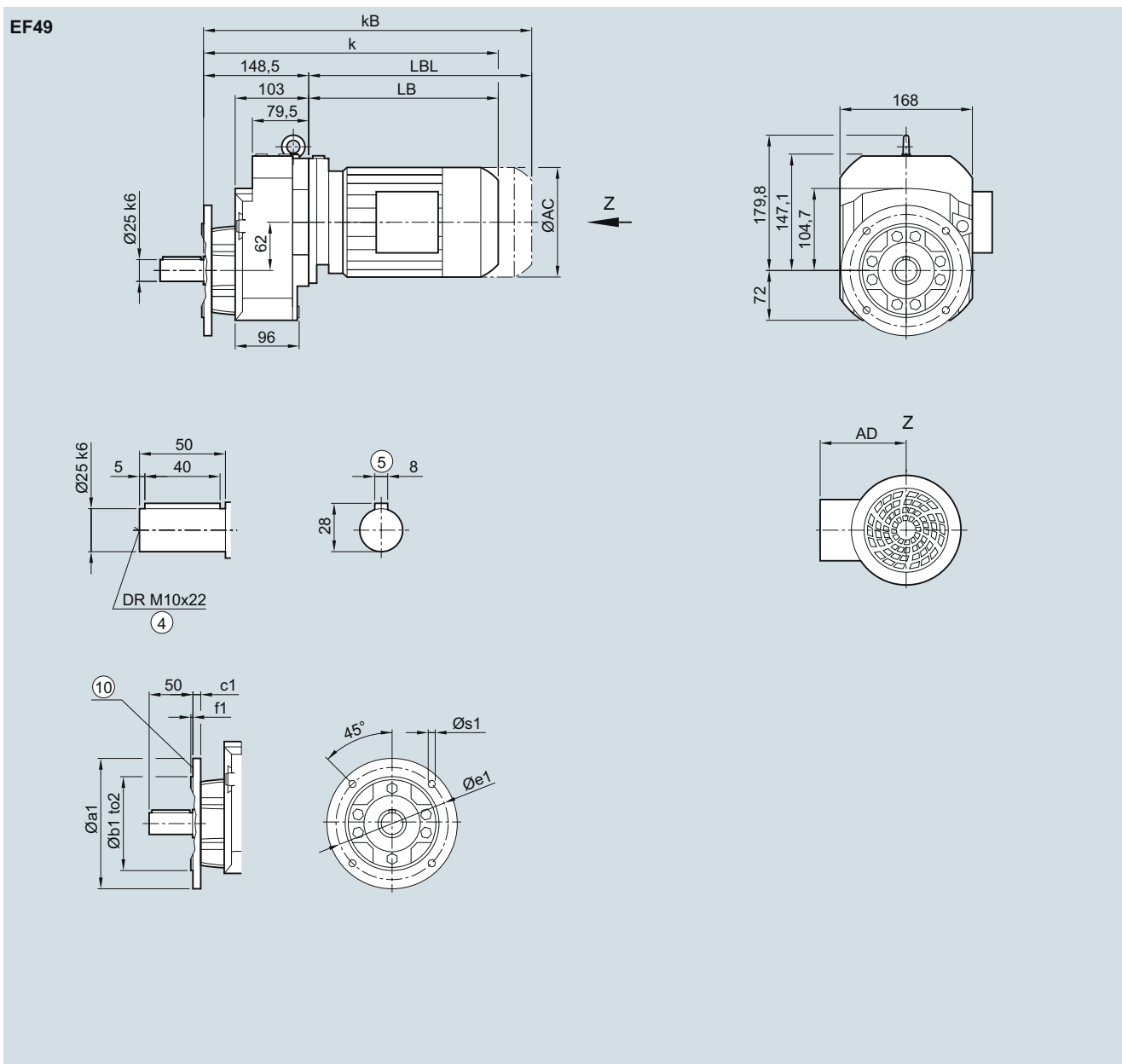
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### EF49 gearbox in a flange-mounted design

##### EF030



Flange	a1	b1	to2	c1	e1	f1	s1
	160	110	j6	10	130	3.5	9.0
	200	130	j6	12	165	3.5	11.0
	250	180	j6	15	215	4.0	13.5

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	333.0	365.0	384.0	429.0	464.0	490.5	530.5	547.0	582.0	557.0	591.5	610.0	660.0
kB	377.5	420.0	439.0	489.0	524.0	560.5	600.5	625.5	660.5	630.0	664.5	714.5	764.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

④ DIN 332

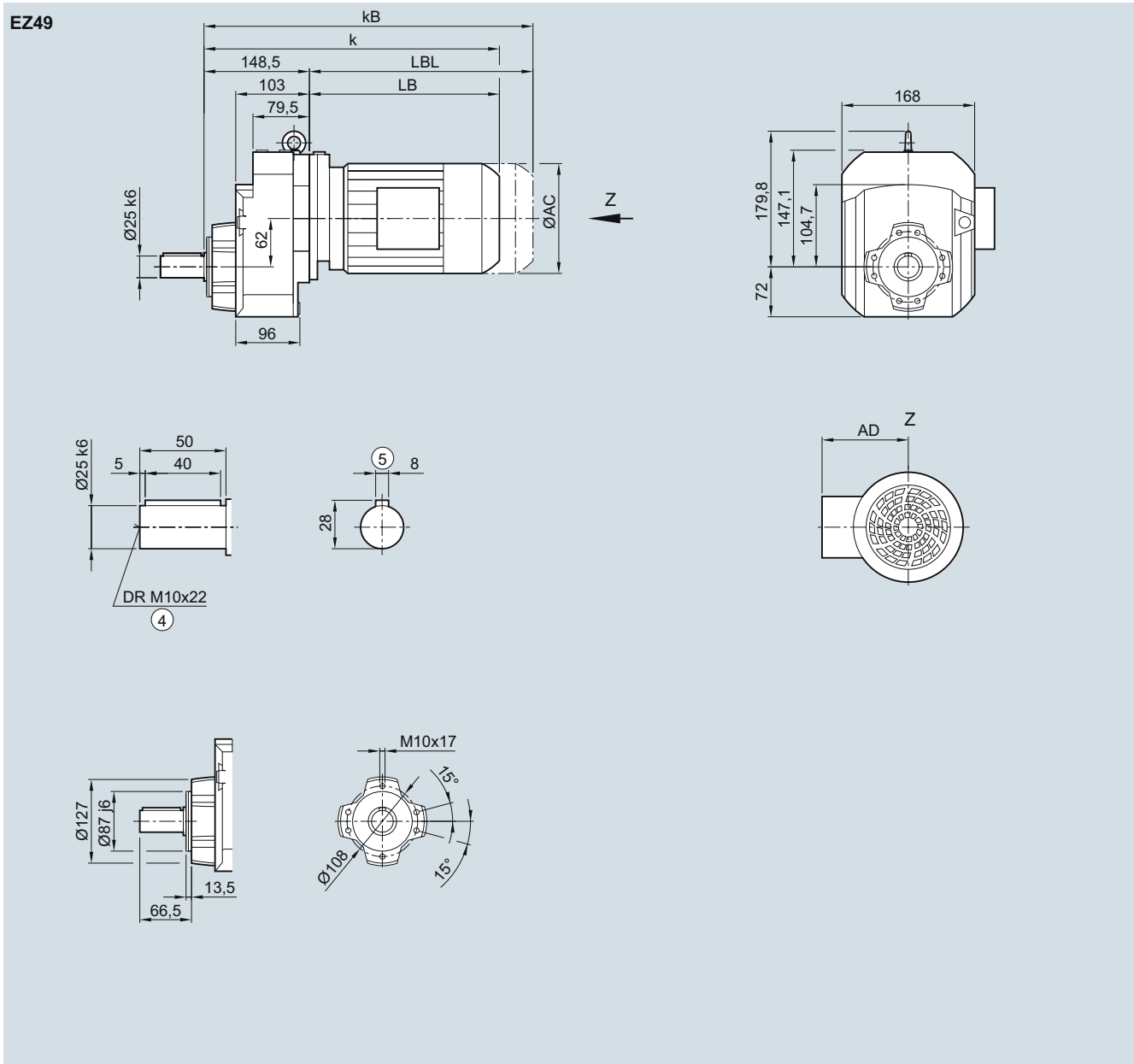
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

**EZ49 gearbox in a housing flange design**

**EZ030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	333.0	365.0	384.0	429.0	464.0	490.5	530.5	547.0	582.0	557.0	591.5	610.0	660.0
kB	377.5	420.0	439.0	489.0	524.0	560.5	600.5	625.5	660.5	630.0	664.5	714.5	764.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

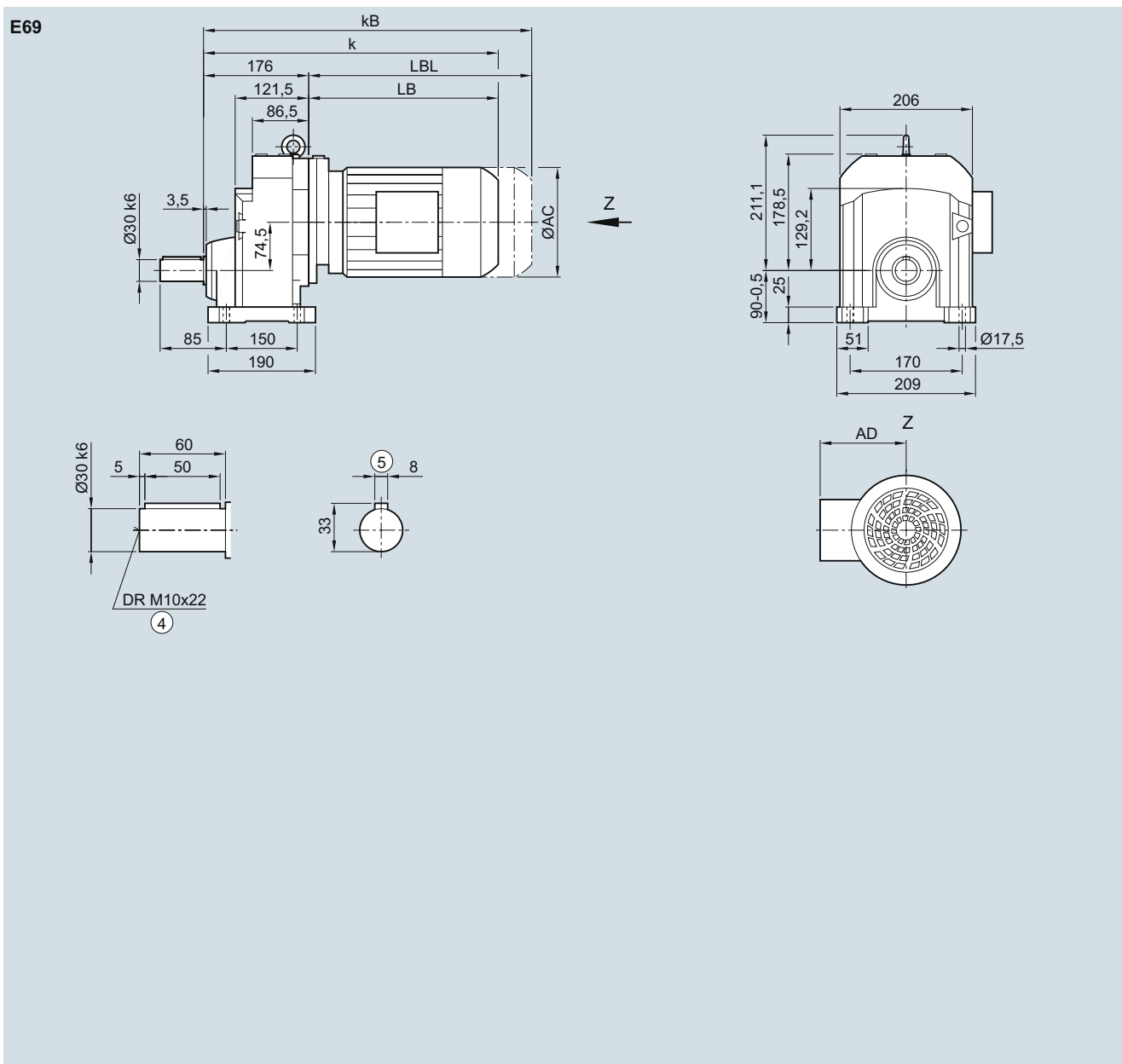
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### E69 gearbox in a foot-mounted design

##### E030



Motor	LA 71	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0
k	390.5	409.5	450.5	485.5	512.0	552.0	568.5	603.5	578.5	603.5	631.5	681.5	713.5
kB	445.5	464.5	510.5	545.5	582.0	622.0	647.0	682.0	651.5	676.5	736.0	786.0	829.5
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5

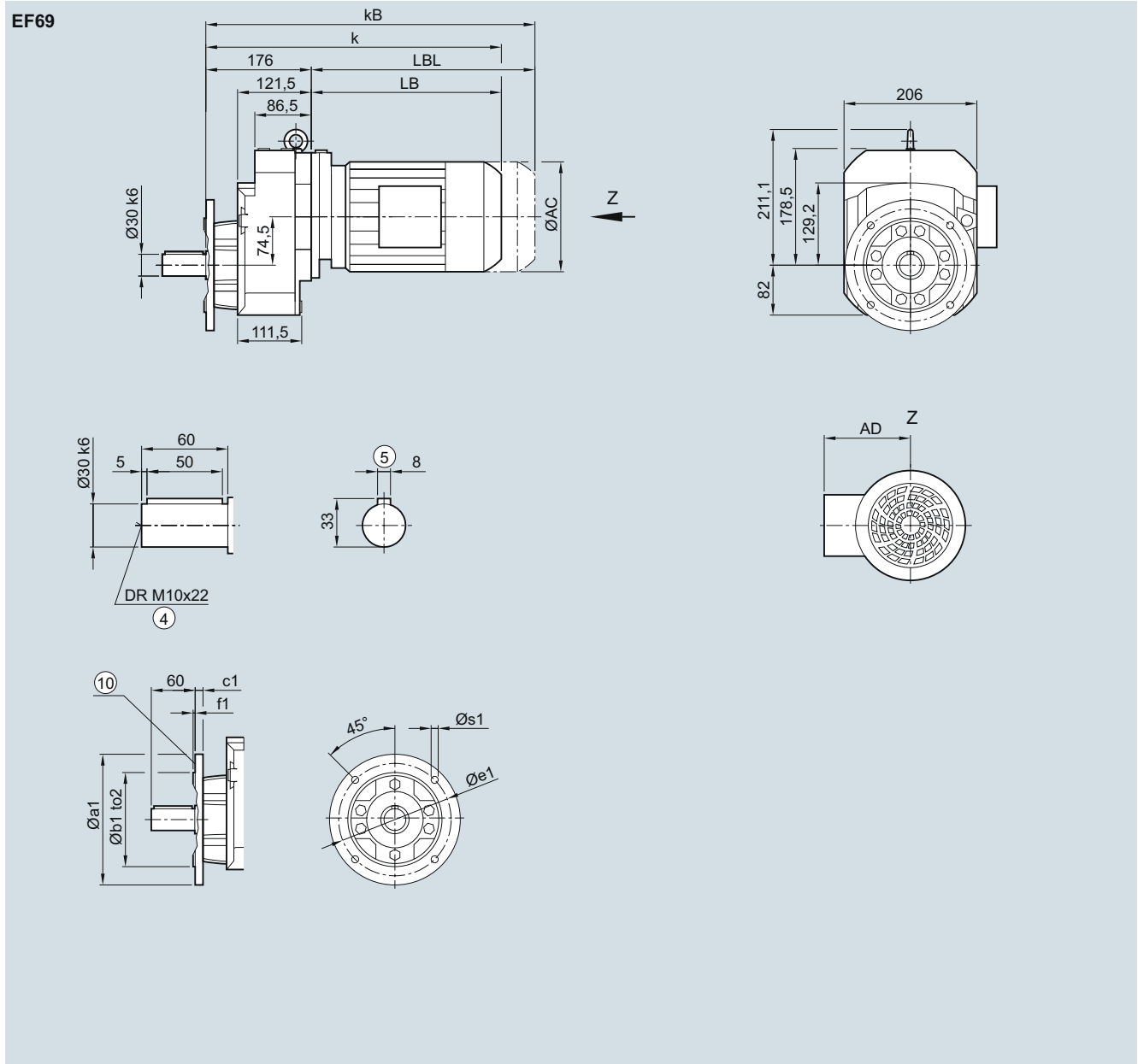
④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

**EF69 gearbox in a flange-mounted design**

**EF030**



Flange	a1	b1	to2	c1	e1	f1	s1						
	200	130	j6	12	165	3.5	11.0						
	250	180	j6	15	215	4.0	13.5						
Motor	LA 71	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0
k	390.5	409.5	450.5	485.5	512.0	552.0	568.5	603.5	578.5	603.5	631.5	681.5	713.5
kB	445.5	464.5	510.5	545.5	582.0	622.0	647.0	682.0	651.5	676.5	736.0	786.0	829.5
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5

④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184



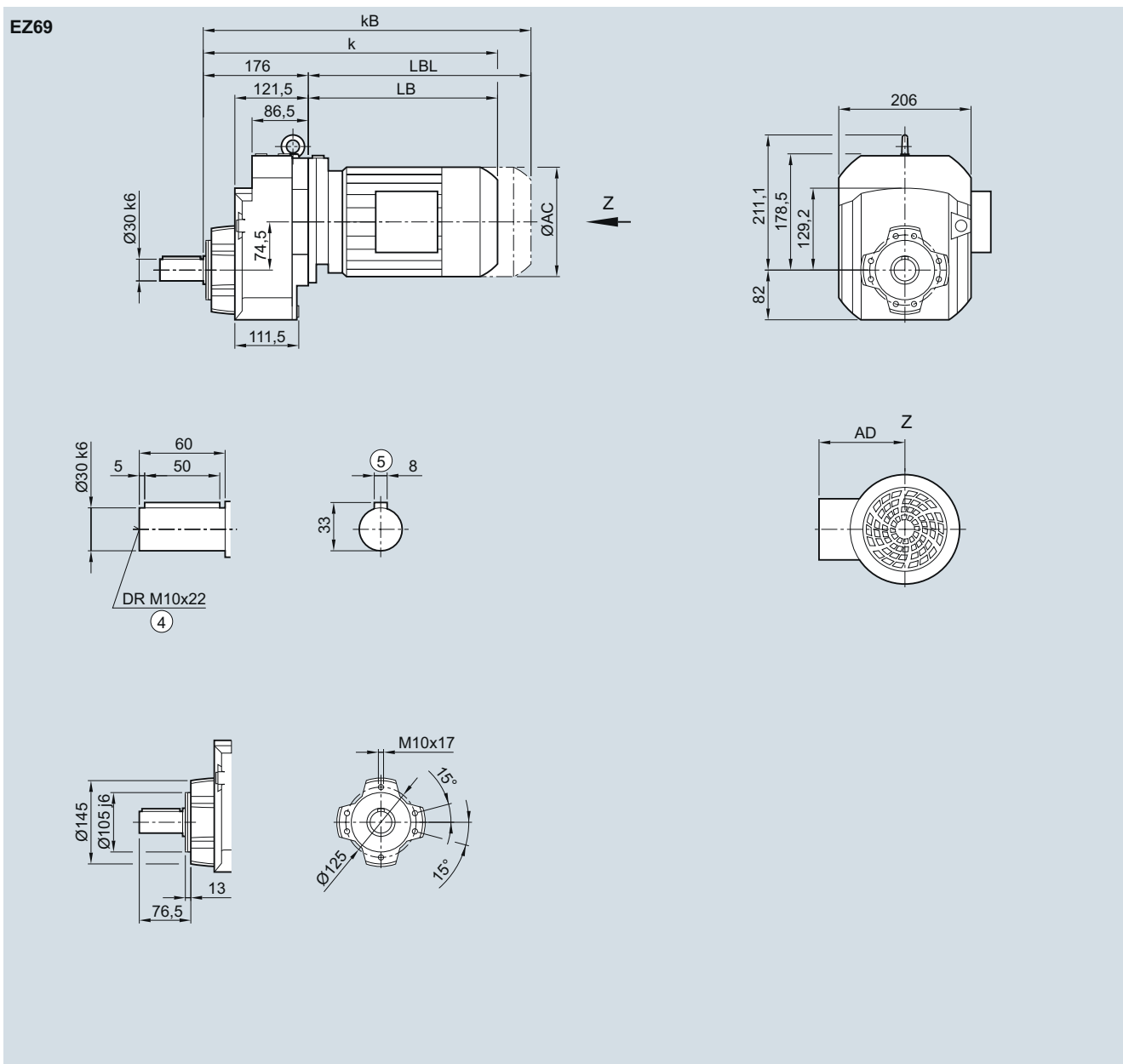
## SIMOGEAR geared motors

### Helical geared motors

#### Dimensions

#### EZ69 gearbox in a housing flange design

##### EZ030

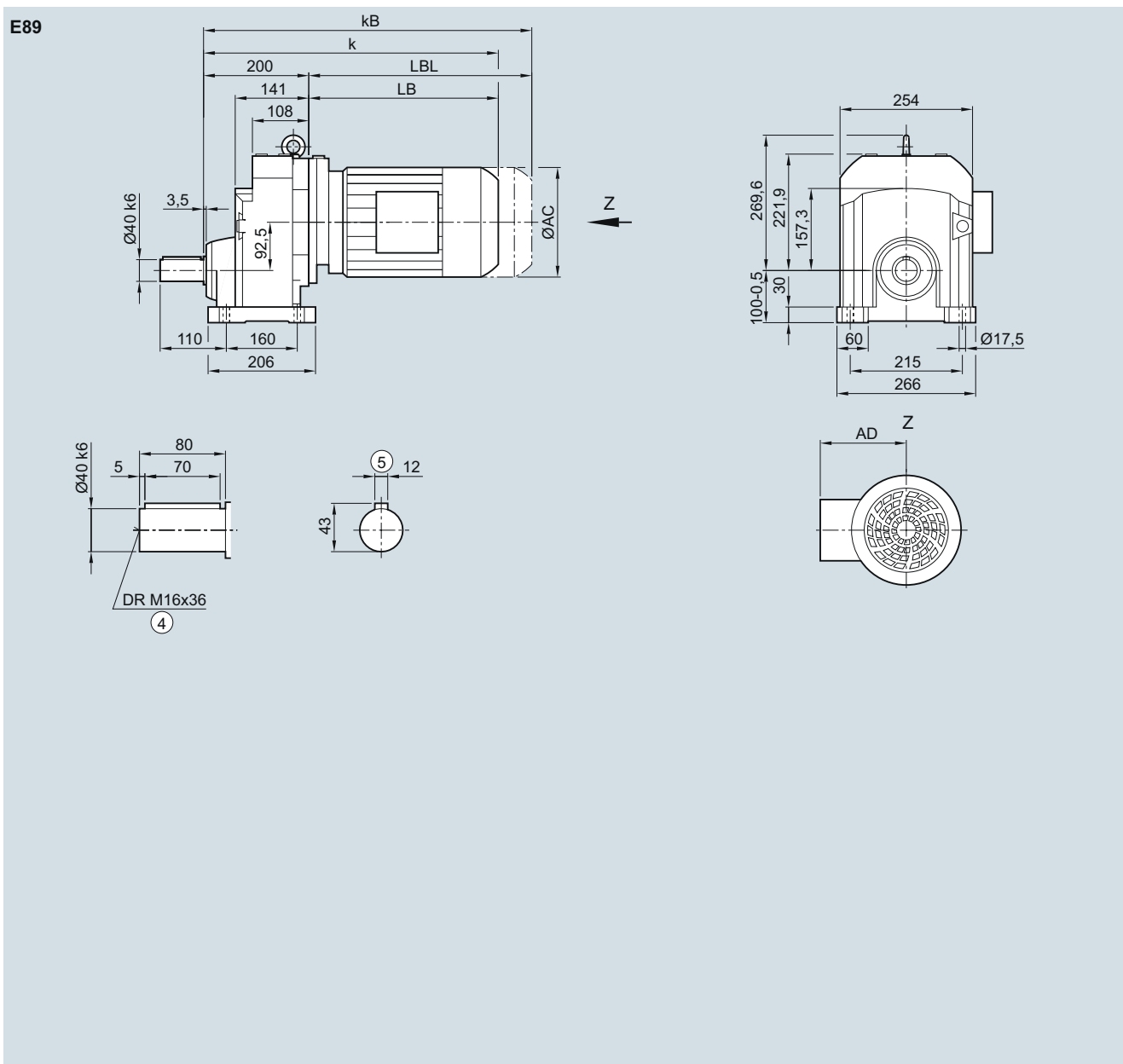


Motor	LA 71	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0
k	390.5	409.5	450.5	485.5	512.0	552.0	568.5	603.5	578.5	603.5	631.5	681.5	713.5
k <sub>B</sub>	445.5	464.5	510.5	545.5	582.0	622.0	647.0	682.0	657.5	676.5	736.0	786.0	829.5
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**E89 gearbox in a foot-mounted design**
**E030**


3

Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	461.5	496.5	523.0	563.0	576.5	610.5	585.5	610.5	638.5	688.5	720.5	780.5	793.5	823.5
kB	521.5	556.5	593.0	633.0	654.0	689.0	658.5	683.5	743.0	793.0	836.5	896.5	922.5	952.5
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

④ DIN 332

1) AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

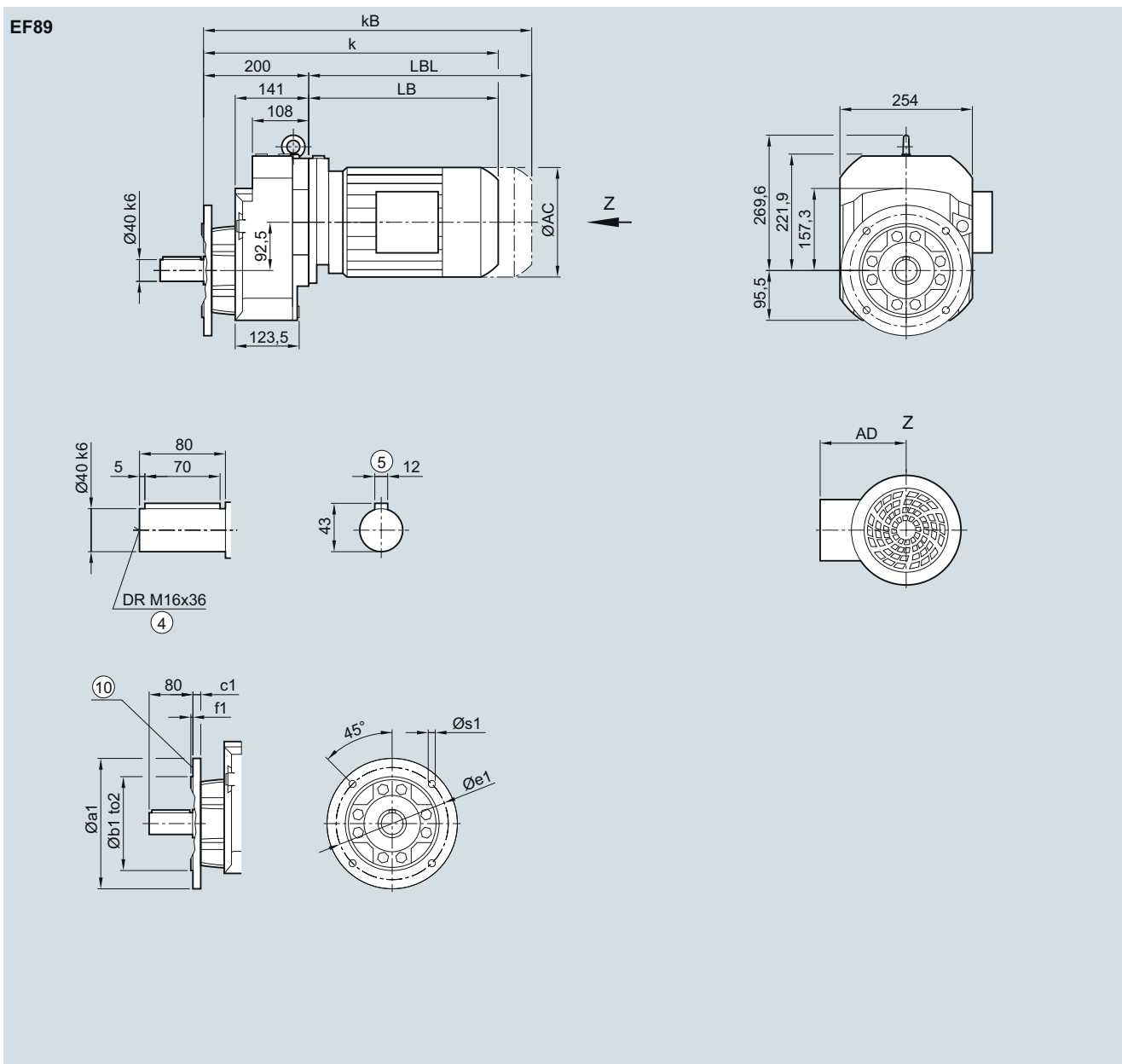
## SIMOGEAR geared motors

### Helical geared motors

#### Dimensions

#### EF89 gearbox in a flange-mounted design

##### EF030



Flange	a1	b1	to2	c1	e1	f1	s1							
	250	180	j6	15	215	4.0	13.5							
	300	230	j6	16	265	4.0	13.5							
	350	250	j6	16	300	5.0	17.5							
Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	461.5	496.5	523.0	563.0	575.5	610.5	585.5	610.5	638.5	688.5	720.5	780.5	793.5	823.5
kB	521.5	556.5	593.0	633.0	651.0	689.0	653.5	683.5	743.0	793.0	836.5	896.5	922.5	952.5
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

④ DIN 332

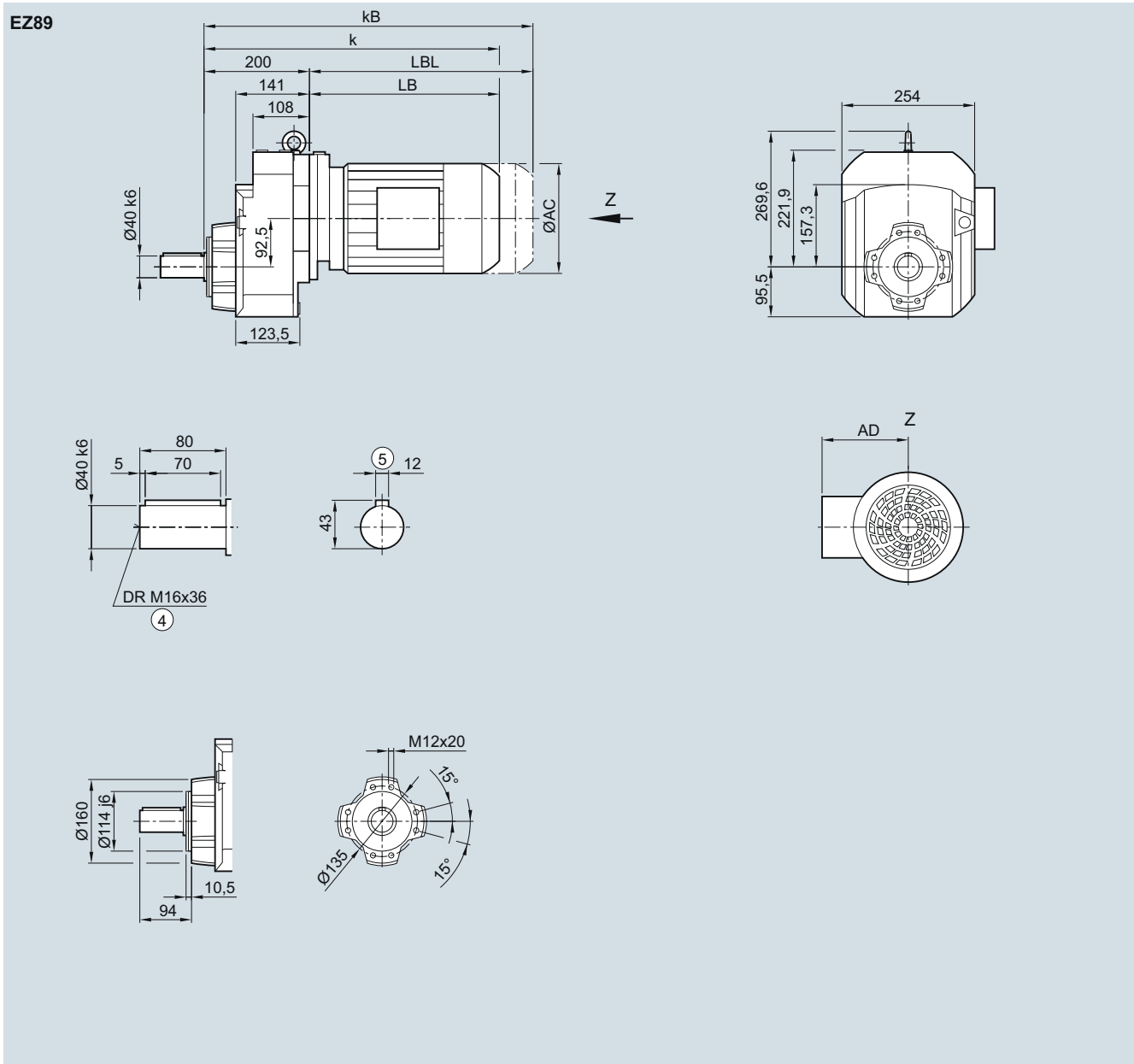
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

**EZ89 gearbox in a housing flange design**

**EZ030**



Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	461.5	496.5	523.0	563.0	575.5	610.5	585.5	610.5	638.5	688.5	720.5	780.5	793.5	823.5
k <sub>B</sub>	521.5	556.5	593.0	633.0	654.0	689.0	658.5	683.5	743.0	793.0	836.5	896.5	922.5	952.5
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

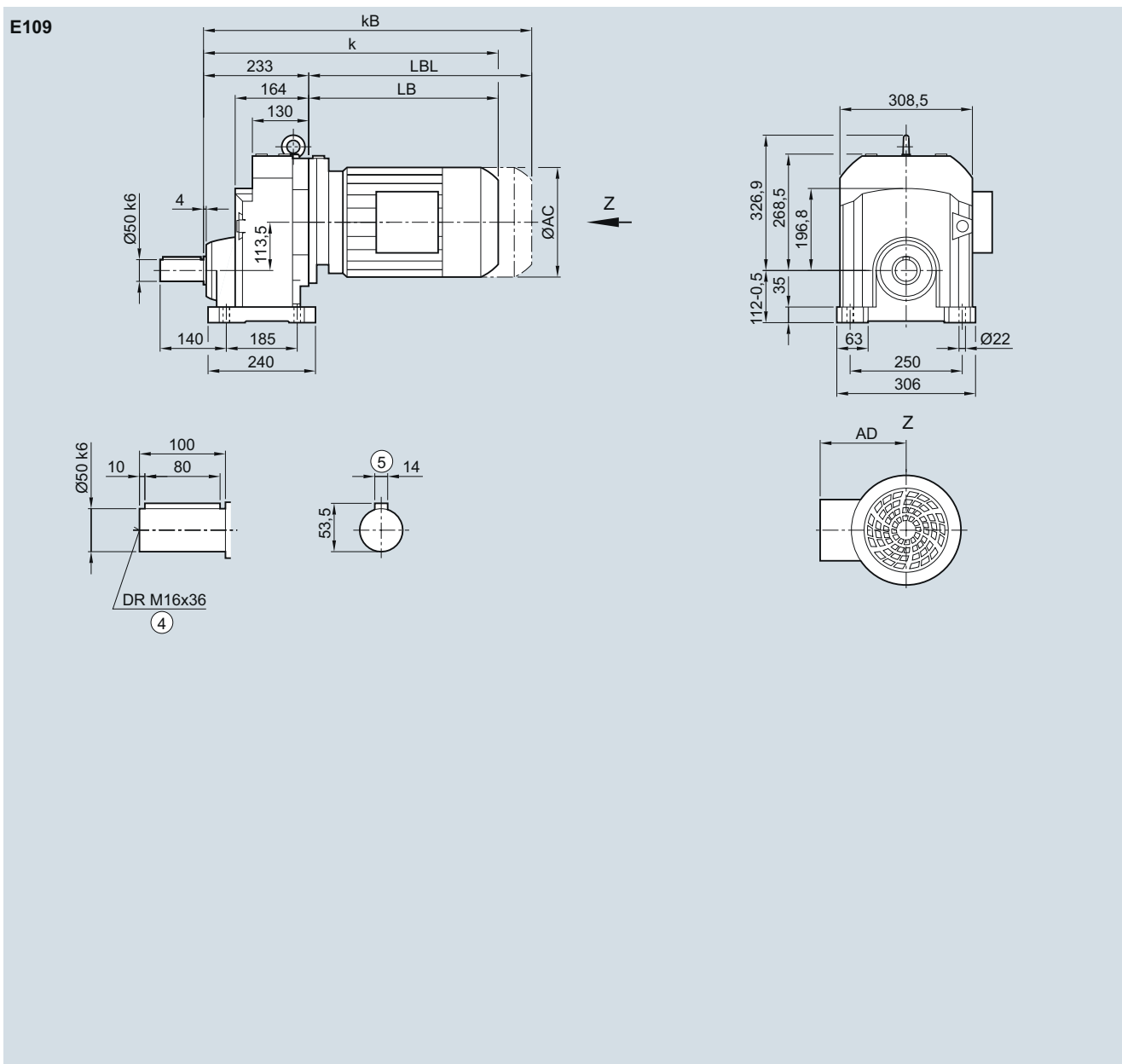
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### E109 gearbox in a foot-mounted design

##### E030



Motor	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	549.0	589.0	599.5	634.5	609.5	634.5	662.5	712.5	744.5	804.5	817.5	847.5	885.5	910.5	931.0	991.0
kB	619.0	659.0	678.0	713.0	682.5	707.5	767.0	817.0	860.5	920.5	946.5	976.5	1032.5	1057.5	1159.0	1219.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

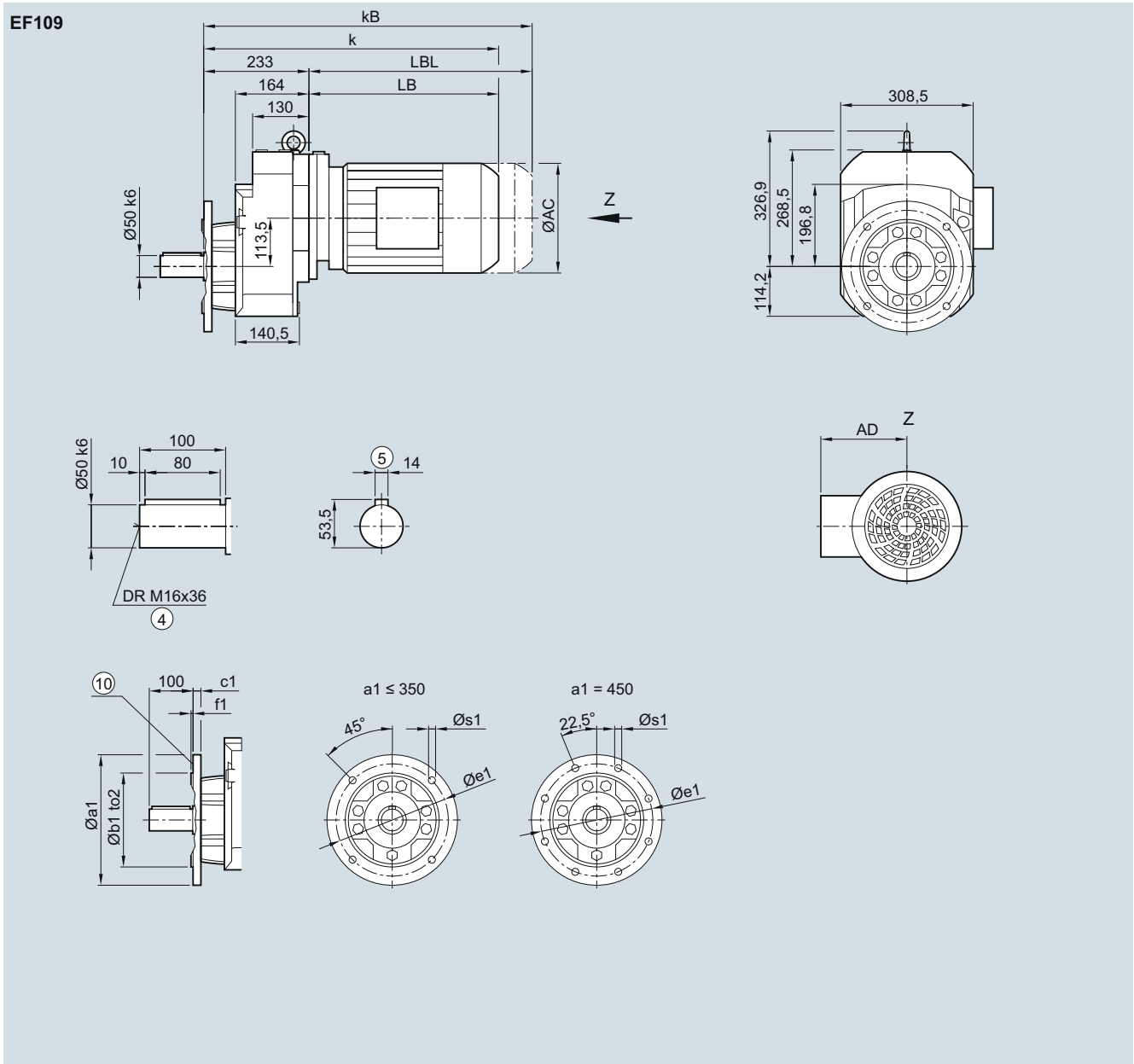
④ DIN 332

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

**EF109 gearbox in a flange-mounted design**

**EF030**



Flange	a1	b1	to2	c1	e1	f1	s1
	300	230	j6	16	265	4.0	13.5
	350	250	j6	18	300	5.0	17.5
	450	350	h6	18	400	5.0	17.5

Motor	LE								LES							
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	549.0	589.0	599.5	634.5	609.5	634.5	662.5	712.5	744.5	804.5	817.5	847.5	885.5	910.5	931.0	991.0
kB	619.0	659.0	678.0	713.0	682.5	707.5	767.0	817.0	860.5	920.5	946.5	976.5	1032.5	1057.5	1159.0	1219.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

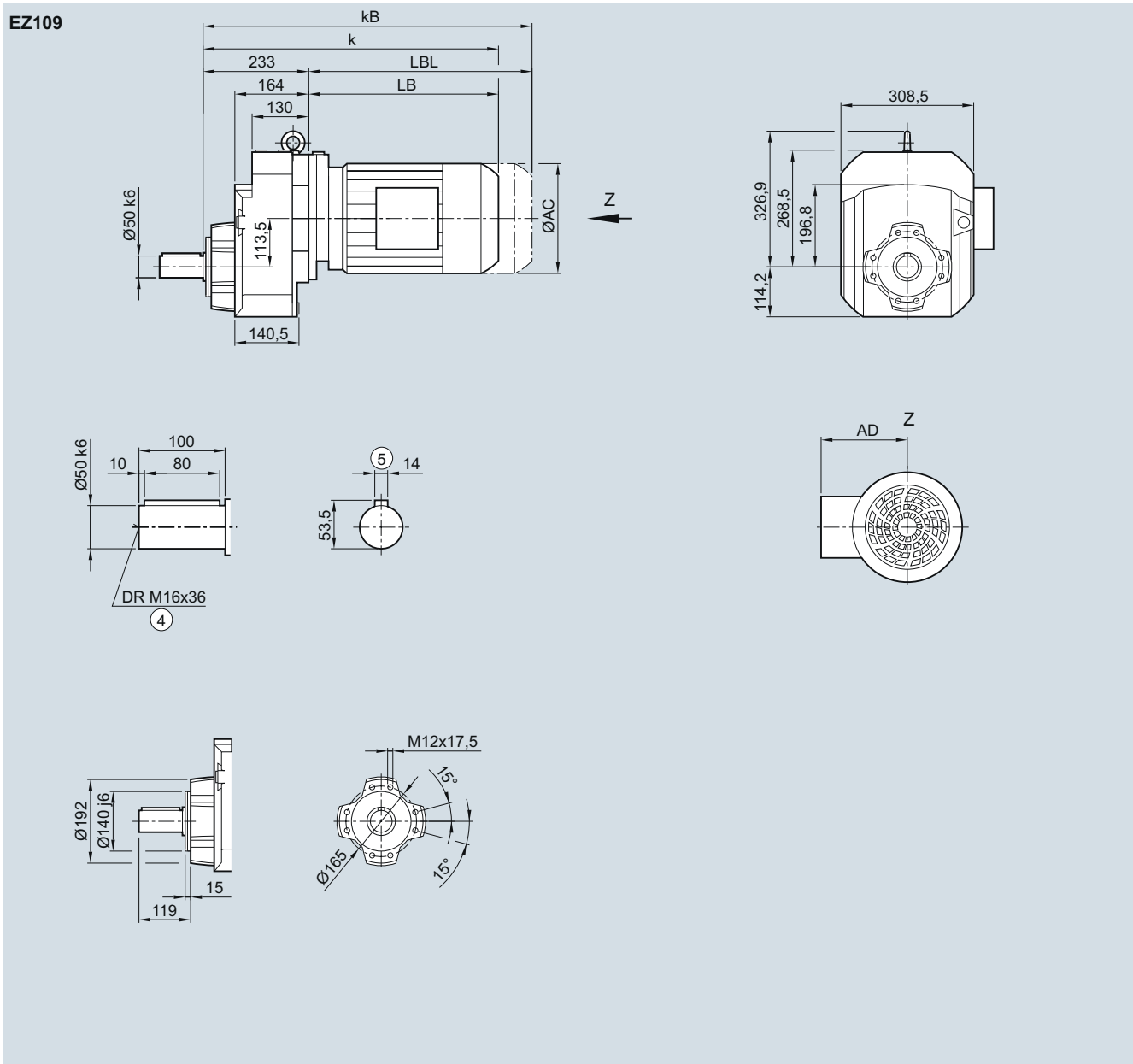
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### EZ109 gearbox in a housing flange design

##### EZ030

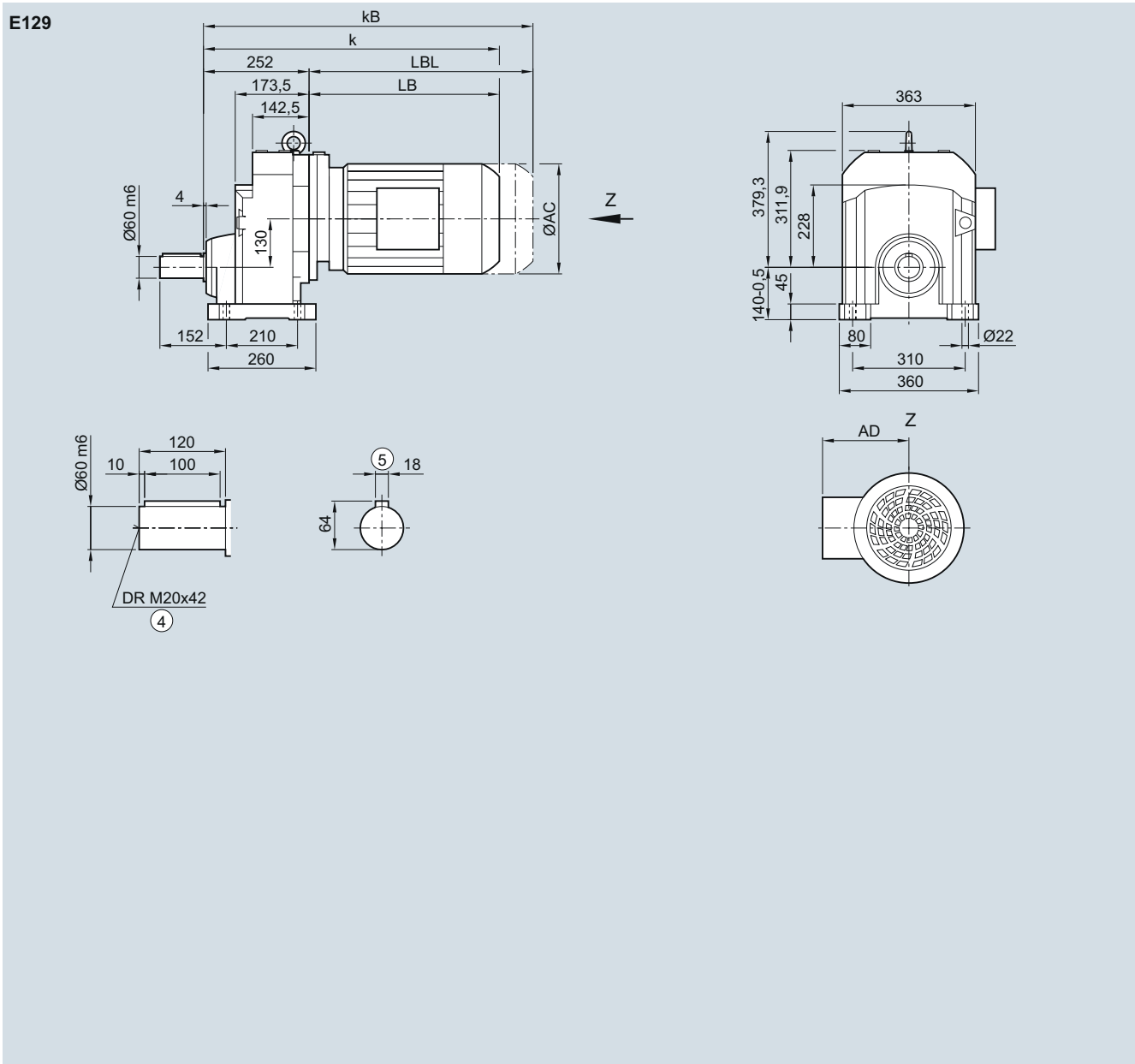


Motor	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	549.0	589.0	599.5	634.5	609.5	634.5	662.5	712.5	744.5	804.5	817.5	847.5	885.5	910.5	931.0	991.0
kB	619.0	659.0	678.0	713.0	682.5	707.5	767.0	817.0	860.5	920.5	946.5	976.5	1032.5	1057.5	1159.0	1219.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**E129 gearbox in a foot-mounted design**
**E030**


3

Motor	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0
k	561.0	601.0	609.5	644.5	619.5	644.5	670.5	720.5	752.5	812.5	825.5	855.5	893.5	918.5	945.0	1 005.0	1 050.5
kB	631.0	671.0	688.0	723.0	692.5	717.5	775.0	825.0	868.5	923.5	954.5	984.5	1 040.5	1 065.5	1 173.0	1 233.0	1 275.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	693.0	753.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	921.0	981.0	1 023.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.



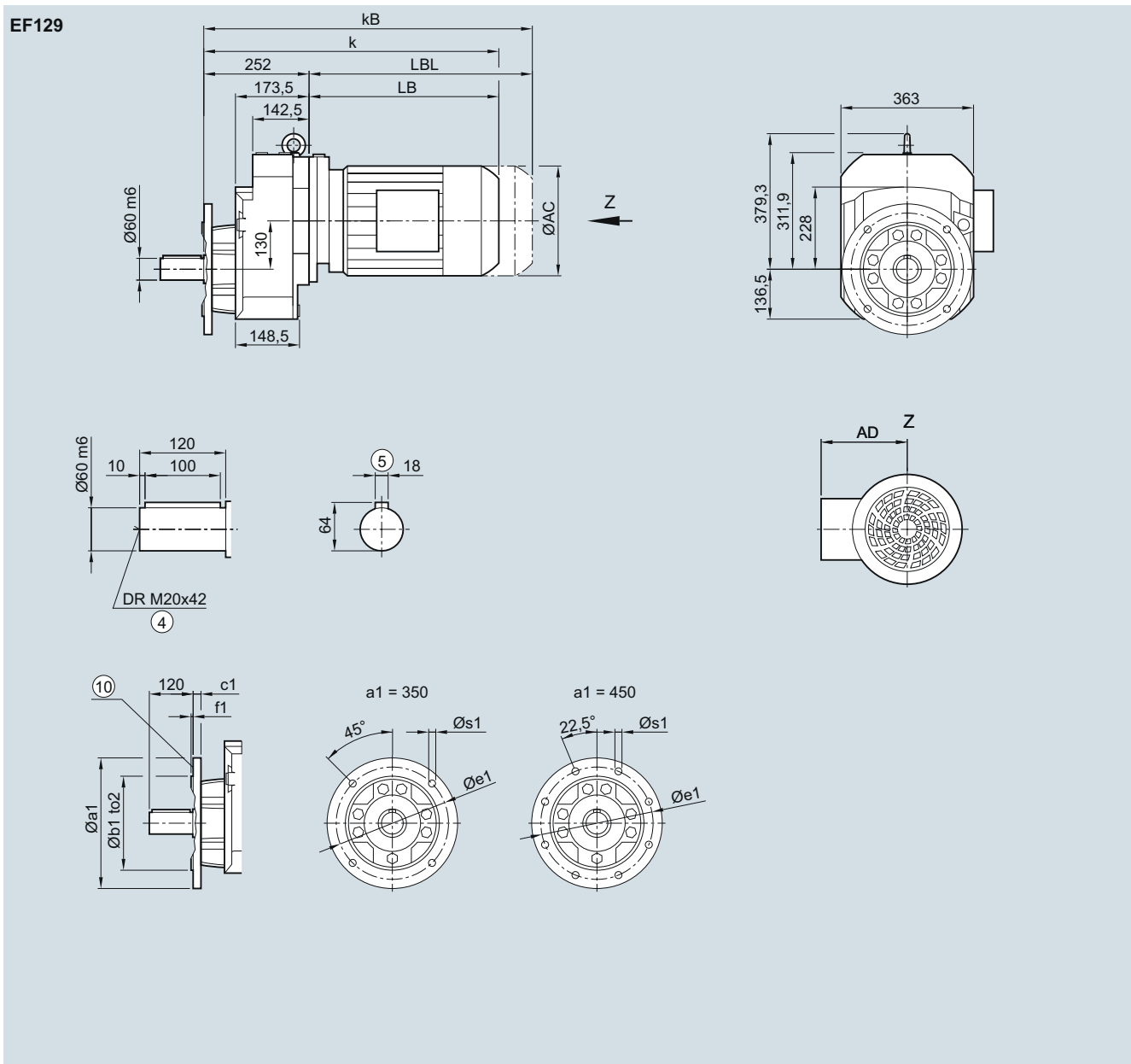
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### EF129 gearbox in a flange-mounted design

##### EF030



Flange	a1	b1	to2	c1	e1	f1	s1
	350	250	h6	18	300	5	17.5
	450	350	h6	22	400	5	17.5

Motor	LE								LES								
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0
k	561.0	601.0	609.5	644.5	619.5	644.5	670.5	720.5	752.5	812.5	825.5	855.5	893.5	918.5	945.0	1 005.0	1 050.5
kB	631.0	671.0	688.0	723.0	692.5	717.5	775.0	825.0	866.5	923.5	954.5	984.5	1 040.5	1 065.5	1 173.0	1 233.0	1 275.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	693.0	753.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	921.0	981.0	1 023.5

④ DIN 332

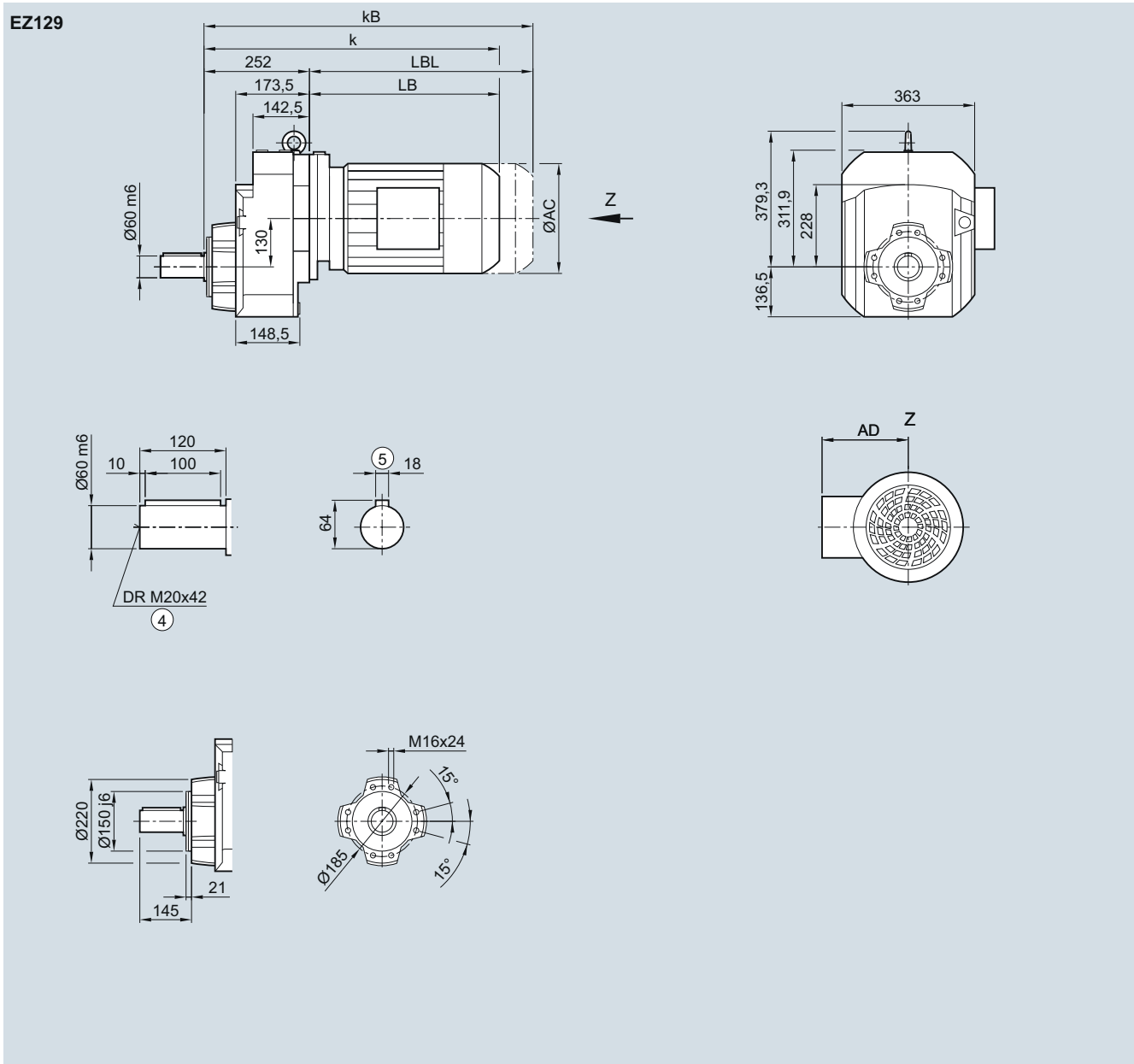
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 3/184

**EZ129 gearbox in a housing flange design**

**EZ030**



Motor	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0
k	561.0	601.0	609.5	644.5	619.5	644.5	670.5	720.5	752.5	812.5	825.5	855.5	893.5	918.5	945.0	1 005.0	1 050.5
kB	631.0	671.0	688.0	723.0	692.5	717.5	775.0	825.0	868.5	923.5	954.5	984.5	1 040.5	1 065.5	1 173.0	1 233.0	1 275.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	693.0	753.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	921.0	981.0	1 023.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

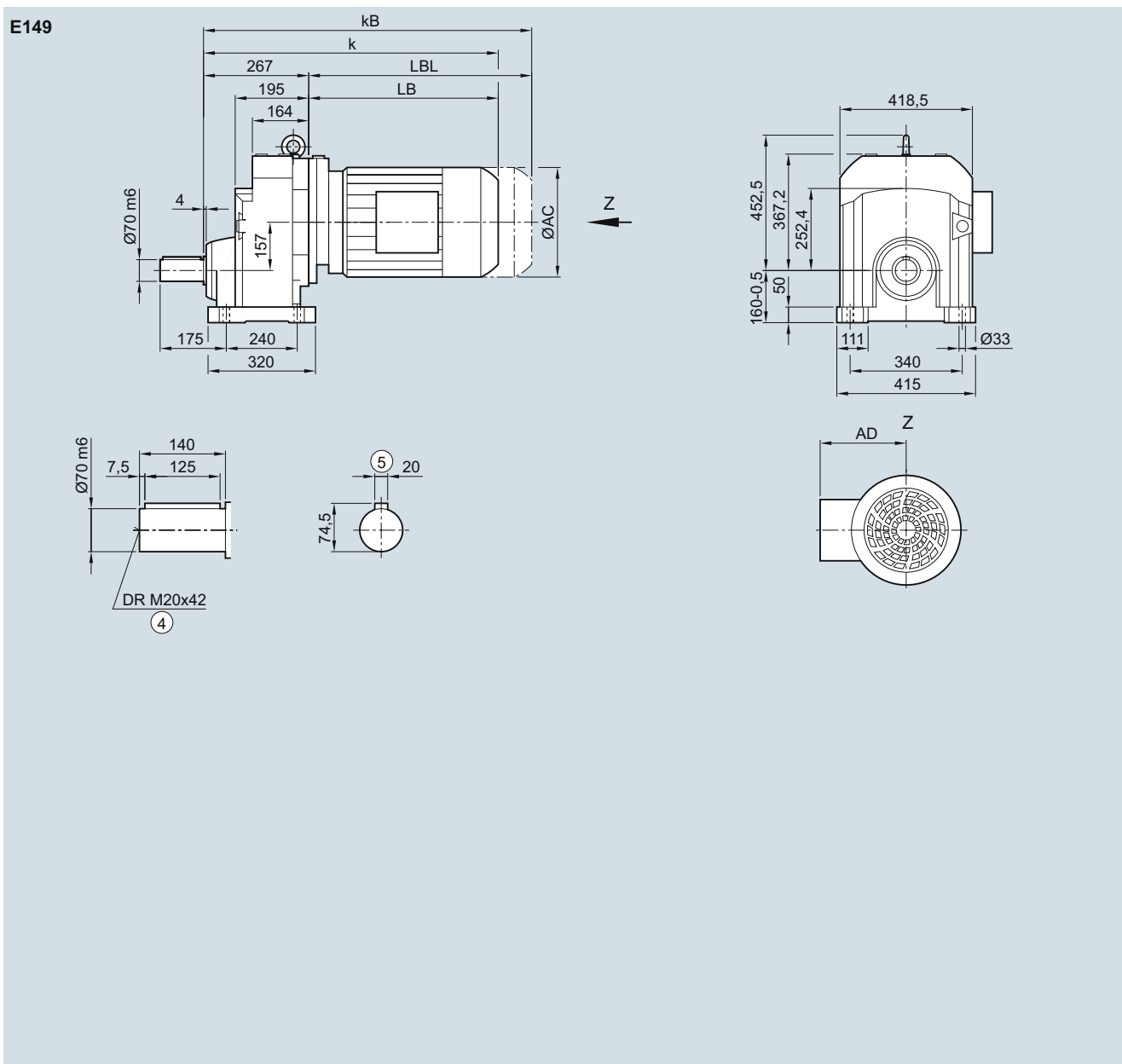
# SIMOGEAR geared motors

## Helical geared motors

### Dimensions

#### E149 gearbox in a foot-mounted design

##### E030



Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0
k	623.0	658.0	633.0	658.0	679.0	729.0	761.0	821.0	834.0	864.0	902.0	927.0	947.5	1 007.5	1 059.0
kB	701.5	736.5	706.0	731.0	783.5	833.5	877.0	937.0	963.0	993.0	1 049.0	1 074.0	1 175.5	1 235.5	1 284.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

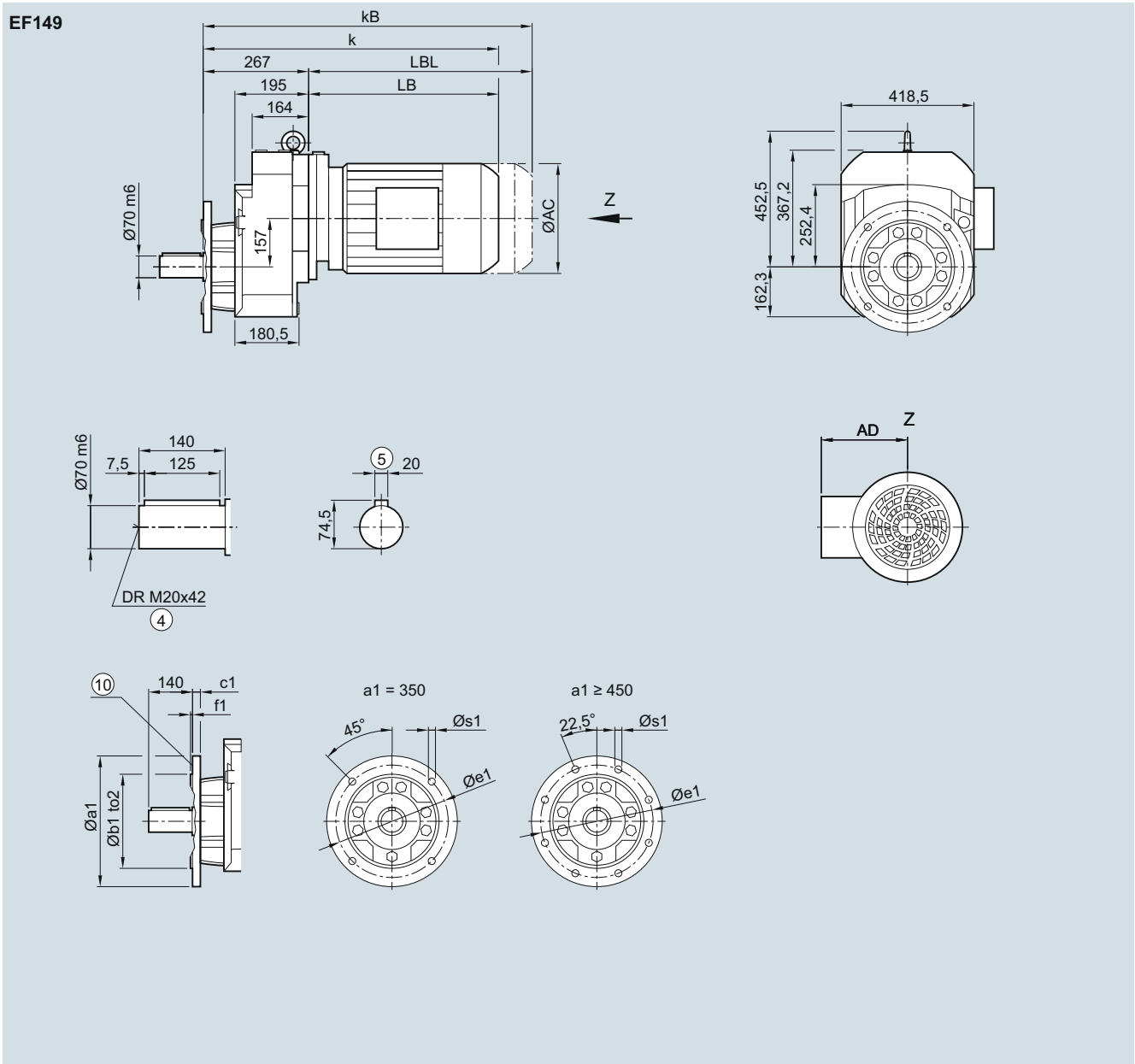
④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

**EF149 gearbox in a flange-mounted design**

**EF030**



Flange	a1	b1	to2	c1	e1	f1	s1
	350	250	h6	20	300	5	17.5
	450	350	h6	22	400	5	17.5
	550	450	h6	22	500	5	17.5

Motor	LE				LES											
	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250	
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0	
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0	
k	623.0	658.0	633.0	658.0	679.0	729.0	761.0	821.0	834.0	864.0	902.0	927.0	947.5	1 007.5	1 059.0	
kB	701.5	736.5	706.0	731.0	783.5	833.5	877.0	937.0	963.0	993.0	1 049.0	1 074.0	1 175.5	1 235.5	1 284.0	
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0	
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0	

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

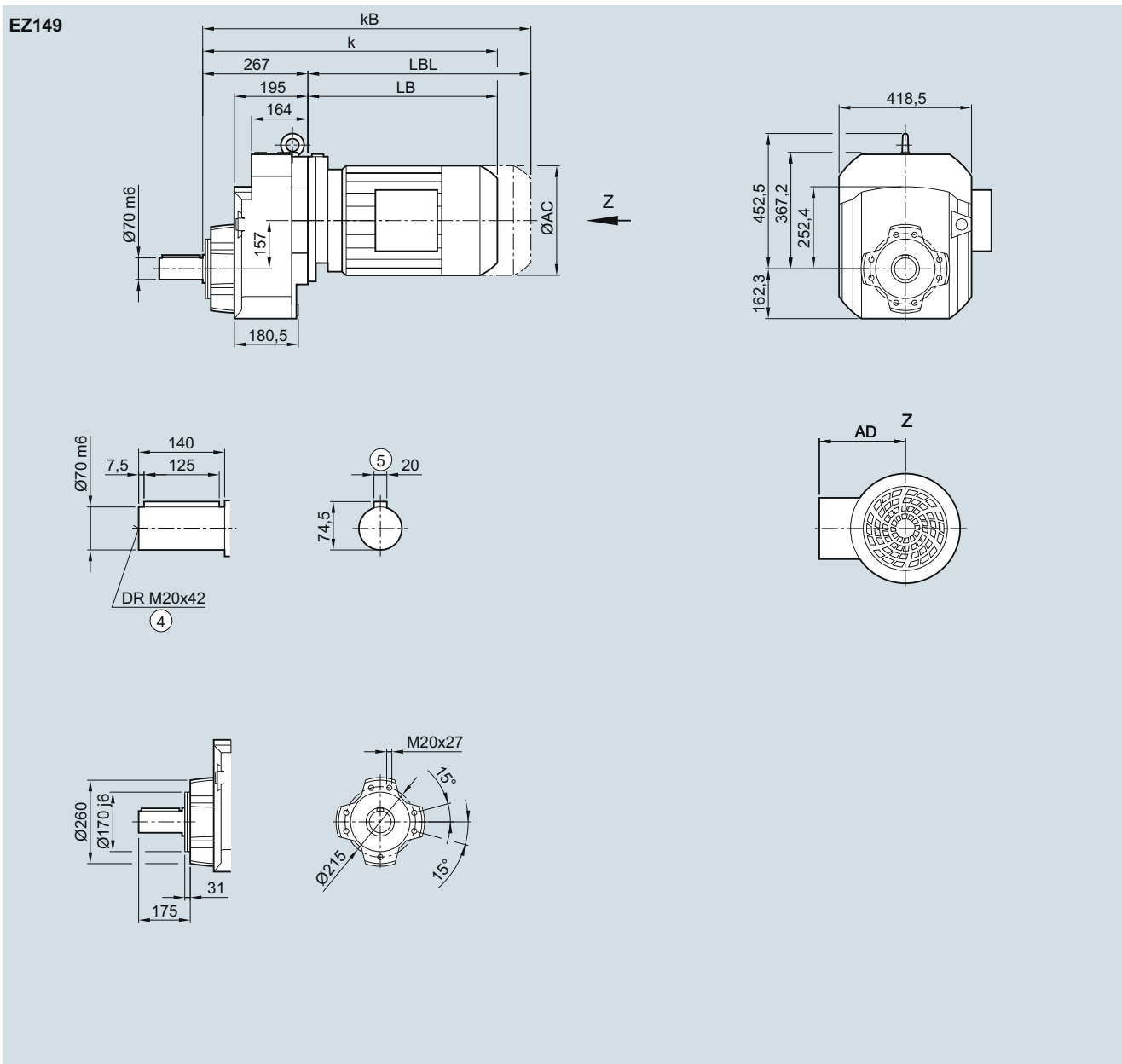
# SIMOGEAR geared motors

Helical geared motors

## Dimensions

### EZ149 gearbox in a housing flange design

EZ030

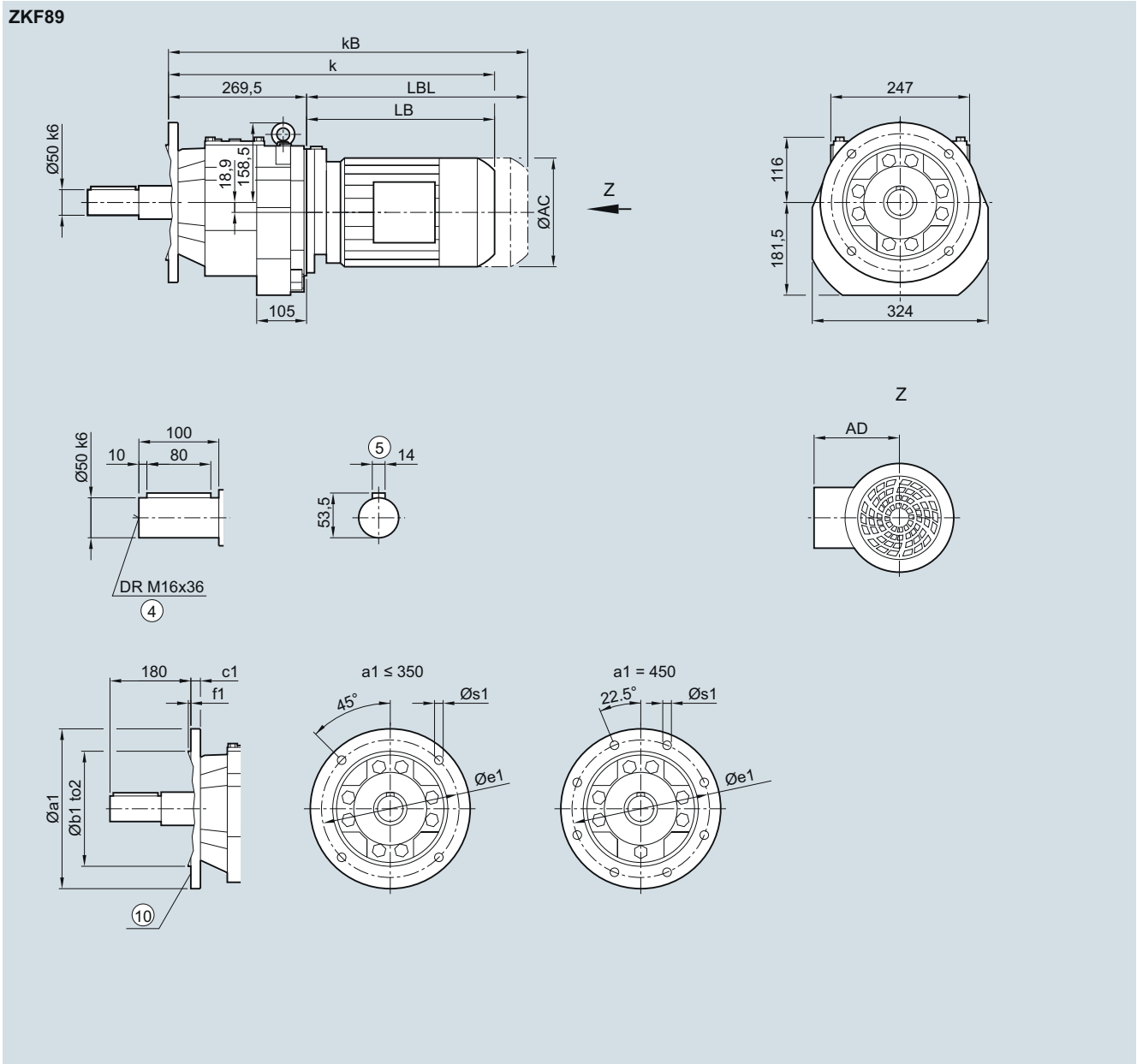


Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0
k	623.0	658.0	633.0	658.0	679.0	729.0	761.0	821.0	834.0	864.0	902.0	927.0	947.5	1 007.5	1 059.0
kB	701.5	736.5	706.0	731.0	783.5	833.5	877.0	937.0	963.0	993.0	1 049.0	1 074.0	1 175.5	1 235.5	1 284.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**ZKF89 gearbox in a flange-mounted design**
**ZKF030**


Flange	a1	b1	to2	c1	e1	f1	s1
	300	230	j6	16	265	4.0	13.5
	350	250	j6	18	300	5.0	17.5
	450	350	h6	18	400	5.0	17.5

Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	531.0	566.0	592.5	632.5	645.0	680.0	655.0	680.0	708.0	758.0	790.0	850.0	863.0	893.0
kB	591.0	626.0	662.5	702.5	723.5	758.5	728.0	733.0	812.5	862.5	906.0	966.0	992.0	1 022.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

## SIMOGEAR geared motors

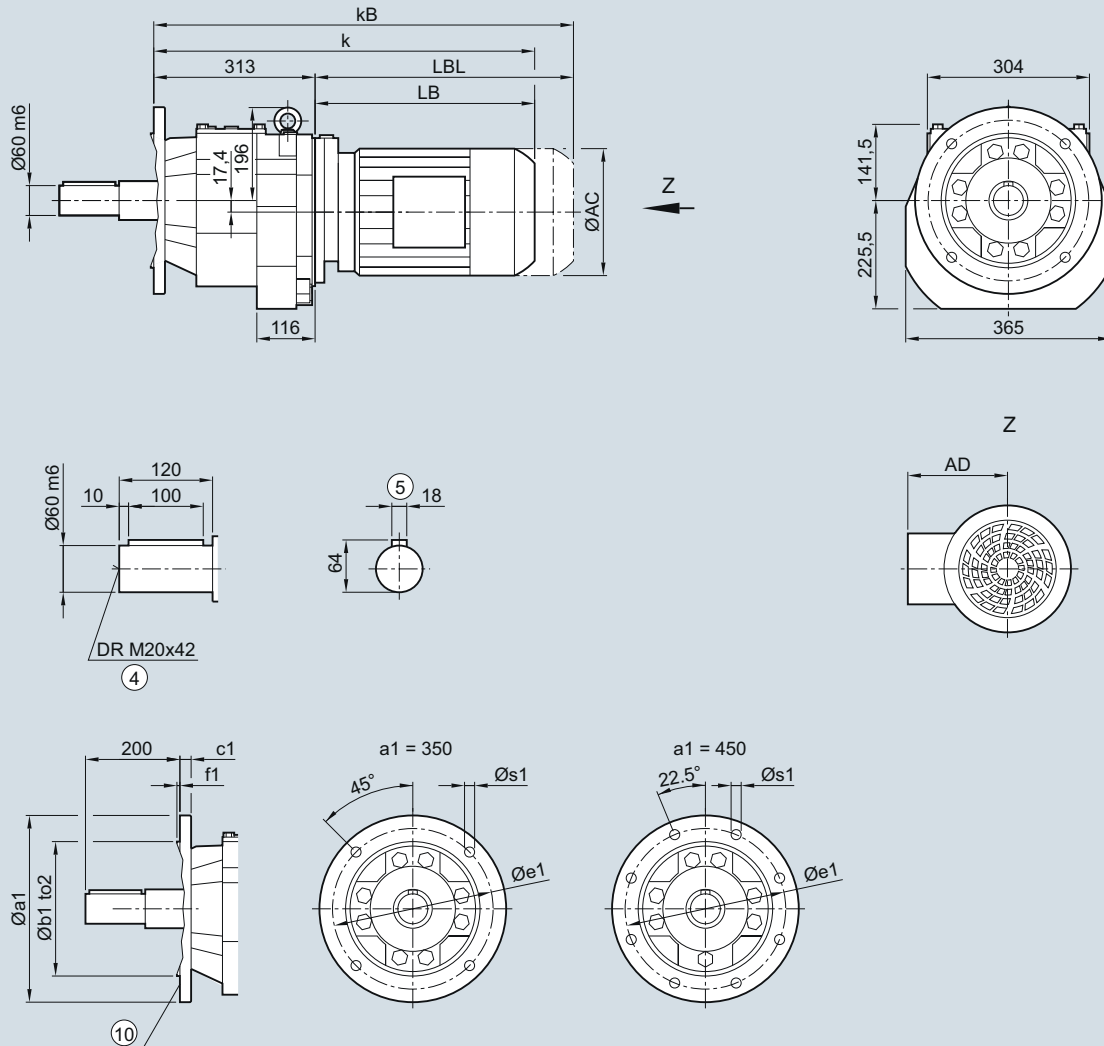
### Cooling tower geared motors

#### Dimensions

#### ZKF109 gearbox in a flange-mounted design

#### ZKF030

#### ZKF109



Flange	a1	b1	to2	c1	e1	f1	s1
	350	250	h6	18	300	5	17.5
	450	350	h6	22	400	5	17.5

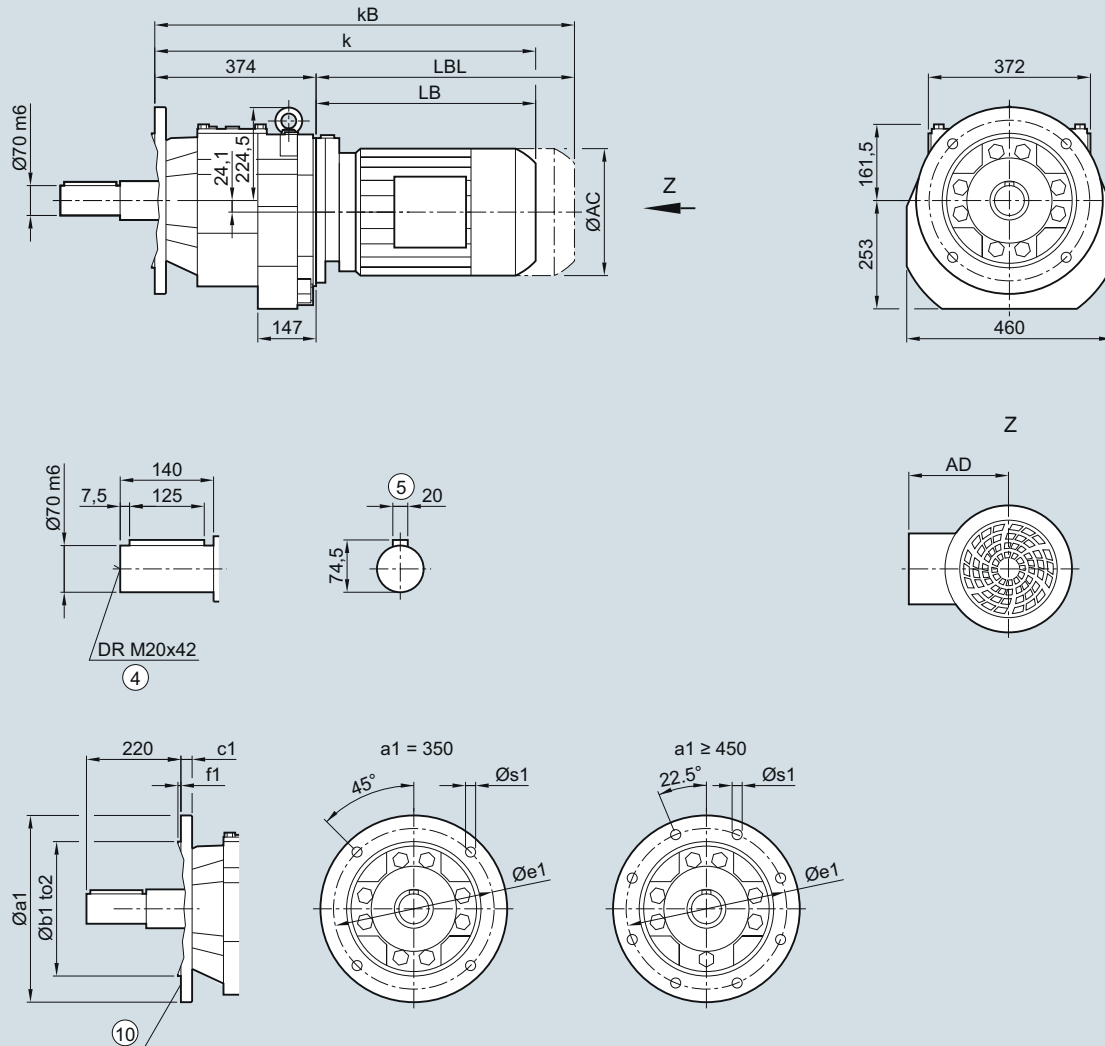
Motor	LE							LES								
	90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0
k	629.0	669.0	679.5	714.5	689.5	714.5	742.5	792.5	824.5	884.5	897.5	927.5	965.5	990.5	1 011.0	1 071.0
kB	699.0	739.0	758.0	793.0	762.5	787.5	847.0	897.0	940.5	1 000.5	1 025.5	1 056.5	1 112.5	1 137.5	1 239.0	1 299.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

**ZKF129 gearbox in a flange-mounted design**
**ZKF030**
**ZKF129**


Flange	a1	b1	to2	c1	e1	f1	s1
	350	250	h6	20	300	5	17.5
	450	350	h6	22	400	5	17.5
	550	450	h6	22	500	5	17.5

Motor	LE								LES								
	90S	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	683.0	723.0	731.5	766.5	741.5	766.5	792.5	842.5	874.5	934.5	947.5	977.5	1 015.5	1 040.5	1 067.0	1 127.0	1 172.5
kB	753.0	793.0	810.0	845.0	814.5	839.5	897.0	947.0	990.5	1 050.5	1 063.5	1 063.5	1 162.5	1 187.5	1 295.0	1 355.0	1 397.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	693.0	753.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	921.0	981.0	1 023.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184



## SIMOGEAR geared motors

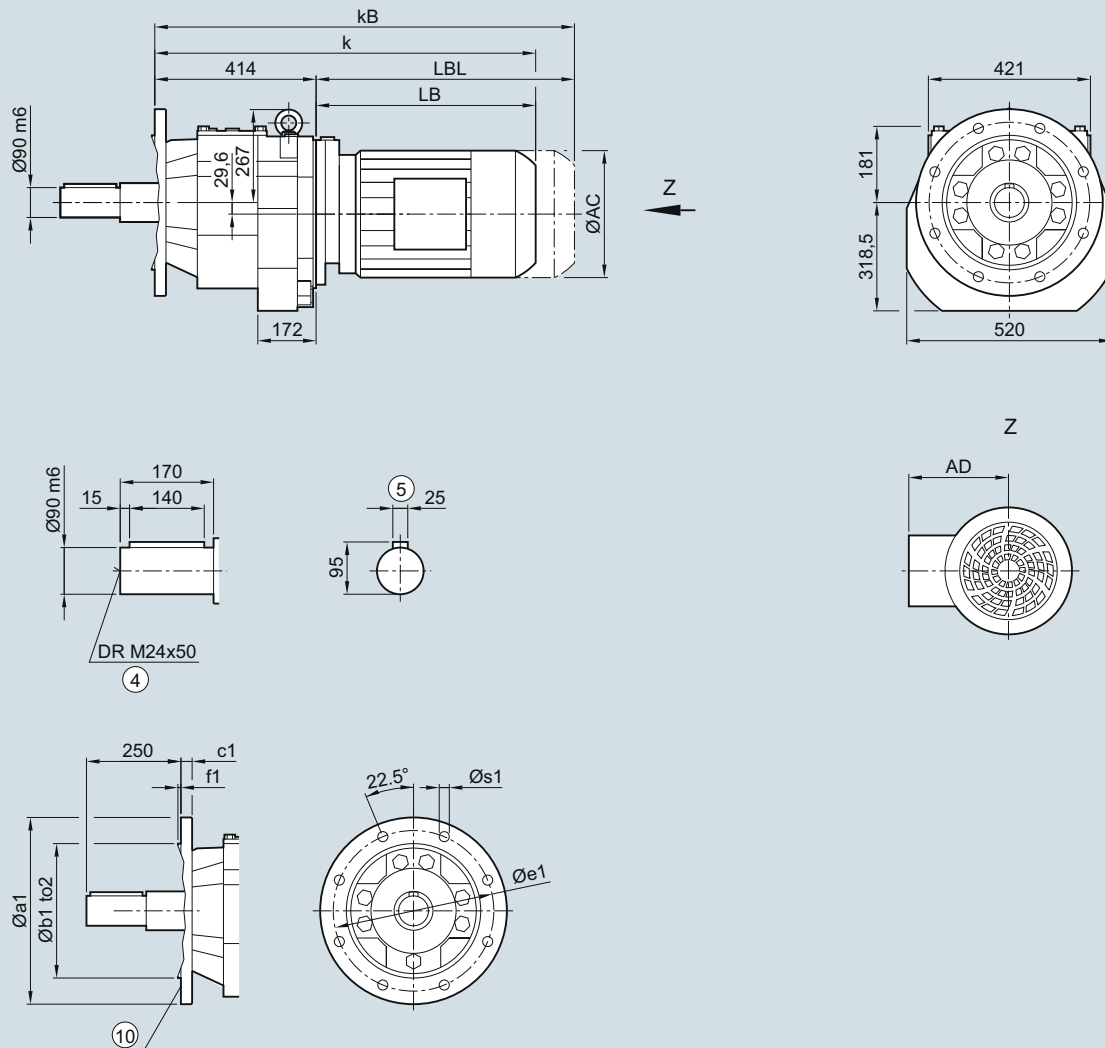
### Cooling tower geared motors

#### Dimensions

#### ZKF149 gearbox in a flange-mounted design

#### ZKF030

#### ZKF149



Flange	a1	b1	to2	c1	e1	f1	s1
	450	350	h6	22	400	5	17.5
	550	450	h6	25	500	5	17.5

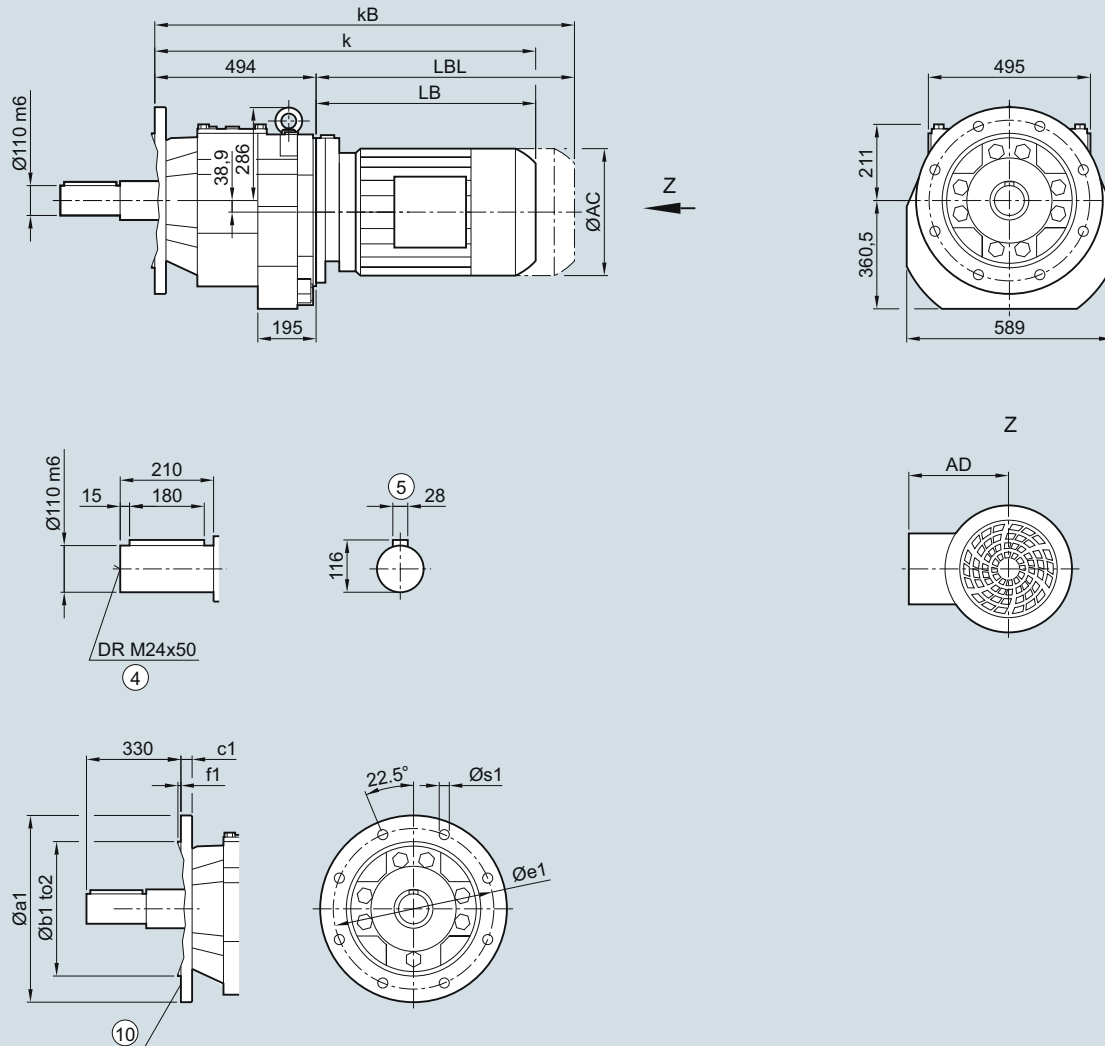
Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	770.0	805.0	780.0	805.0	826.0	876.0	908.0	968.0	981.0	1 011.0	1 049.0	1 074.0	1 094.5	1 154.5	1 206.0
kB	848.5	883.5	853.0	878.0	930.5	980.5	1 024.0	1 084.0	1 100.0	1 140.0	1 196.0	1 221.0	1 322.5	1 382.5	1 431.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

**ZKF169 gearbox in a flange-mounted design**
**ZKF030**
**ZKF169**


Flange	a1	b1	to2	c1	e1	f1	s1
	450	350	h6	22	400	5	17.5
	550	450	h6	25	500	5	17.5
	660	550	h6	25	600	6	17.5

Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	847.5	872.5	893.0	943.0	975.0	1 035.0	1 047.5	1 077.5	1 115.5	1 140.5	1 160.0	1 220.0	1 267.5
kB	920.5	945.5	997.5	1 047.5	1 097.5	1 157.0	1 176.5	1 206.5	1 262.5	1 287.5	1 388.0	1 448.0	1 492.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

## SIMOGEAR geared motors

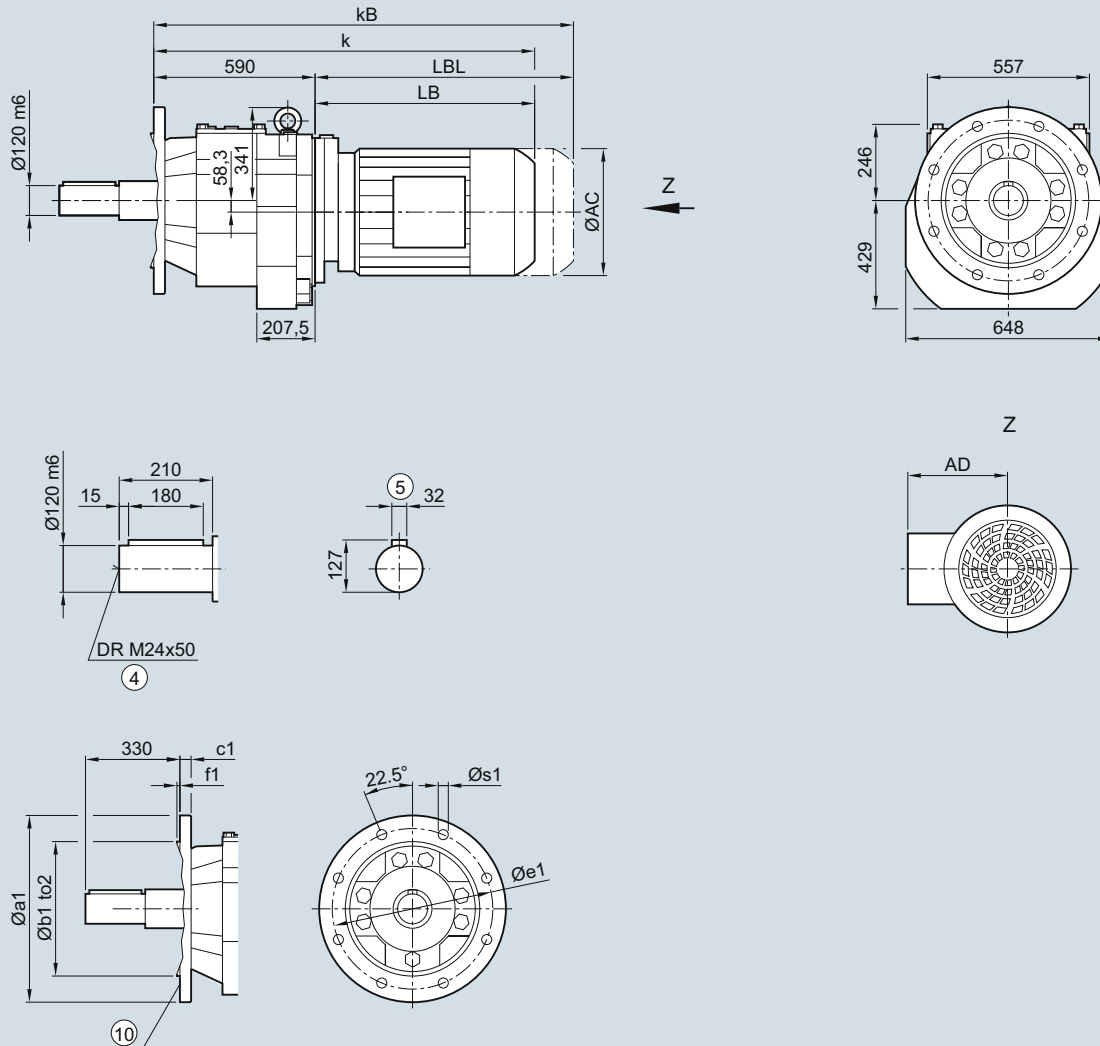
### Cooling tower geared motors

#### Dimensions

#### ZKF189 gearbox in a flange-mounted design

#### ZKF030

#### ZKF189



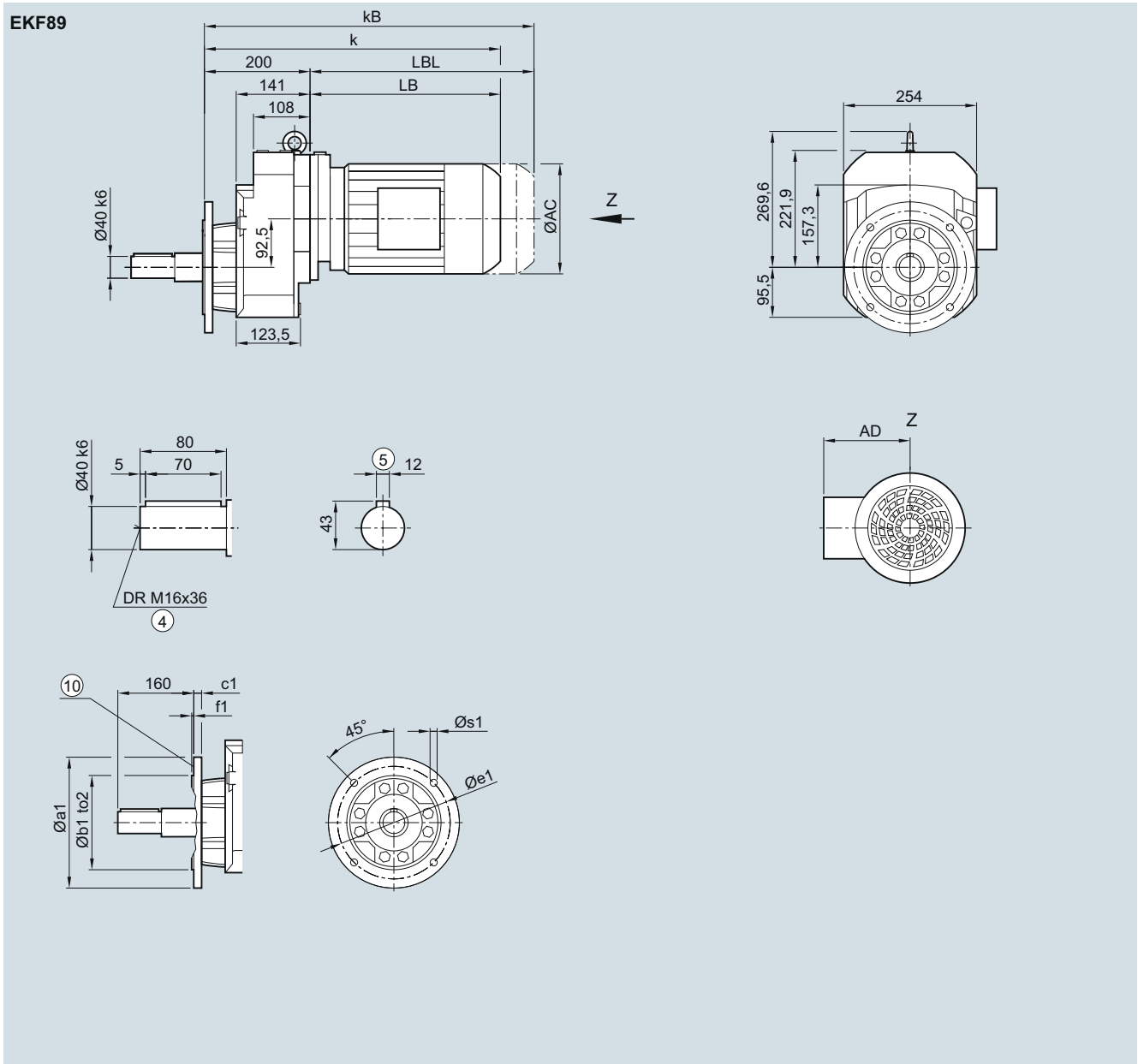
Flange	a1	b1	to2	c1	e1	f1	s1						
	550	450	h6	25	500	5	17.5						
	660	550	h6	28	600	6	22.0						
Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	337.0	337.0	407.5
k	943.5	968.5	989.0	1 039.0	1 071.0	1 131.0	1 143.5	1 173.5	1 211.5	1 236.5	1 256.0	1 316.0	1 363.5
kB	1 016.5	1 041.5	1 093.5	1 143.5	1 177.0	1 247.0	1 272.5	1 302.5	1 353.5	1 383.5	1 484.0	1 544.0	1 588.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

**EKF89 gearbox in a flange-mounted design**
**EKF030**


Flange	a1	b1	to2	c1	e1	f1	s1							
	250	180	j6	15	215	4.0	13.5							
	300	230	j6	16	265	4.0	13.5							
	350	250	j6	16	300	5.0	17.5							
Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	461.5	496.5	523.0	563.0	575.5	610.5	585.5	610.5	638.5	688.5	720.5	780.5	793.5	823.5
kB	521.5	556.5	593.0	633.0	651.0	689.0	653.5	683.5	743.0	793.0	836.5	896.5	922.5	952.5
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

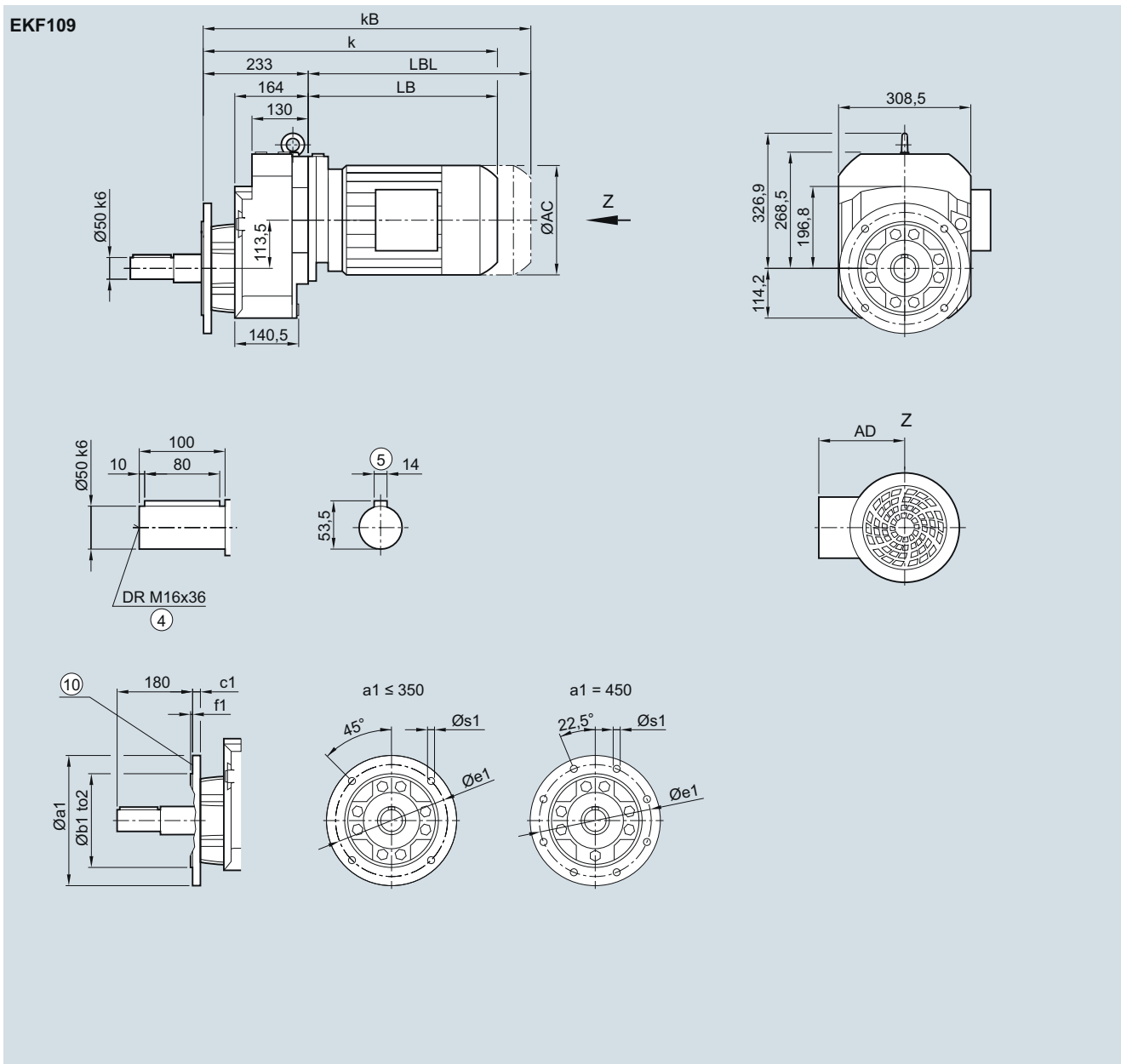
# SIMOGEAR geared motors

## Cooling tower geared motors

### Dimensions

#### EKF109 gearbox in a flange-mounted design

##### EKF030



Flange	a1	b1	to2	c1	e1	f1	s1
	300	230	j6	16	265	4.0	13.5
	350	250	j6	18	300	5.0	17.5
	450	350	h6	18	400	5.0	17.5

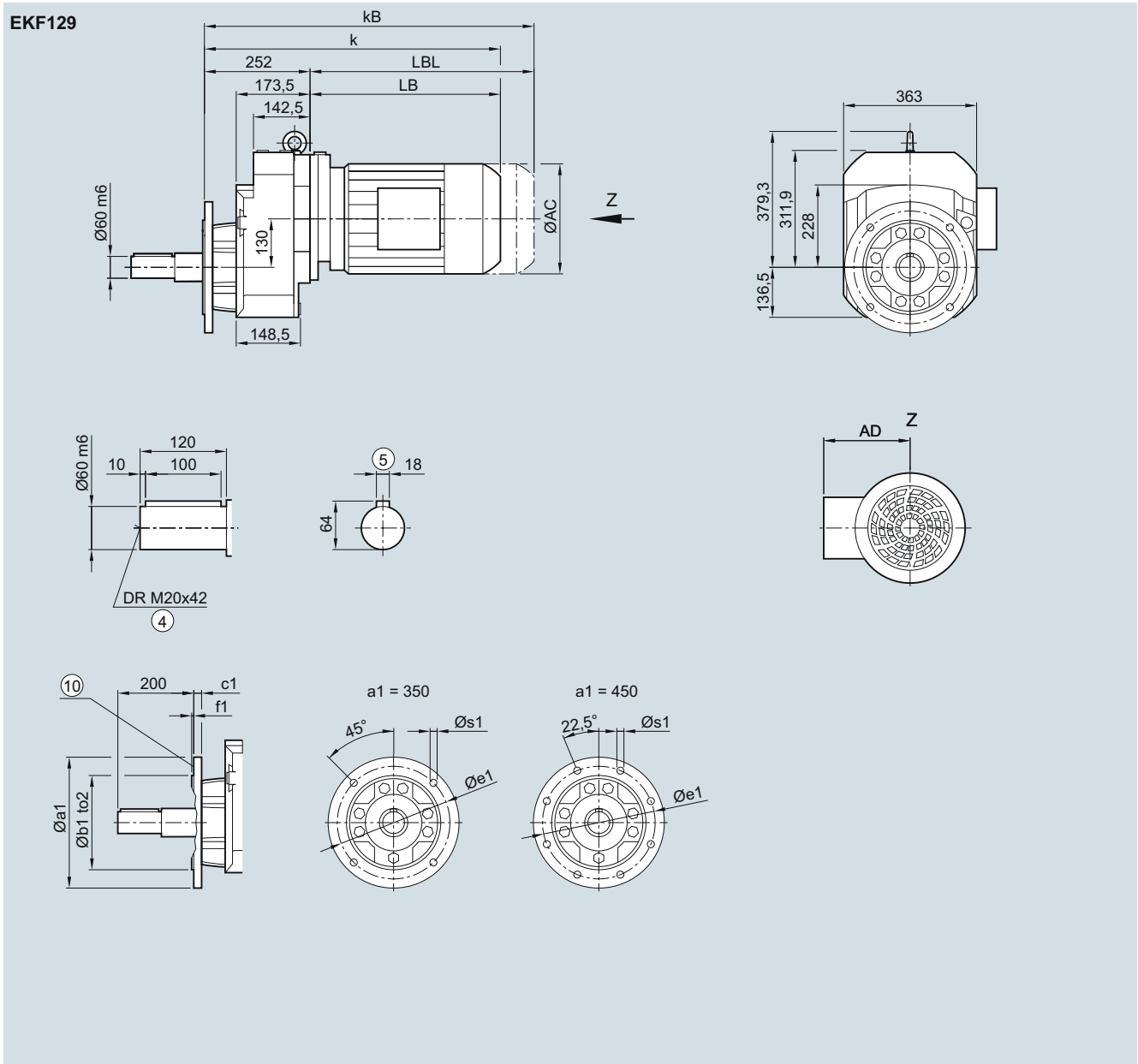
Motor	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	549.0	589.0	599.5	634.5	609.5	634.5	662.5	712.5	744.5	804.5	817.5	847.5	885.5	910.5	931.0	991.0
kB	619.0	659.0	678.0	713.0	682.5	707.5	767.0	817.0	860.5	920.5	946.5	976.5	1032.5	1057.5	1159.0	1219.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

**EKF129 gearbox in a flange-mounted design**
**EKF030**


Flange	a1	b1	to2	c1	e1	f1	s1
	350	250	h6	18	300	5	17.5
	450	350	h6	22	400	5	17.5

Motor	LE								LES								
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0
k	561.0	601.0	609.5	644.5	619.5	644.5	670.5	720.5	752.5	812.5	825.5	855.5	893.5	918.5	945.0	1 005.0	1 050.5
kB	631.0	671.0	688.0	723.0	692.5	717.5	775.0	825.0	866.5	923.5	954.5	984.5	1 040.5	1 065.5	1 173.0	1 233.0	1 275.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	693.0	753.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	921.0	981.0	1 023.5

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

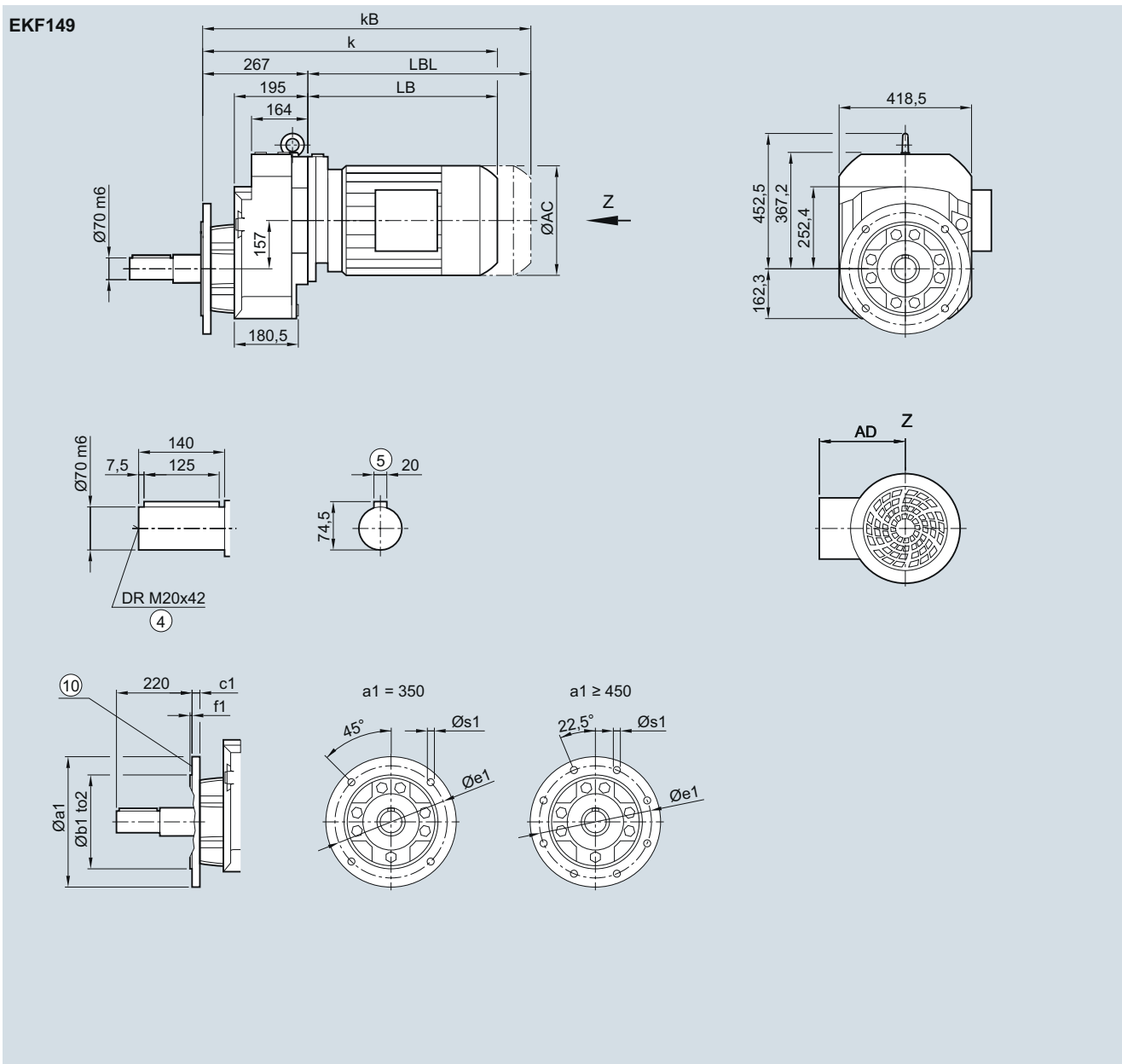
# SIMOGEAR geared motors

## Cooling tower geared motors

### Dimensions

#### EKF149 gearbox in a flange-mounted design

##### EKF030



Flange	a1	b1	to2	c1	e1	f1	s1
	350	250	h6	20	300	5	17.5
	450	350	h6	22	400	5	17.5
	550	450	h6	22	500	5	17.5

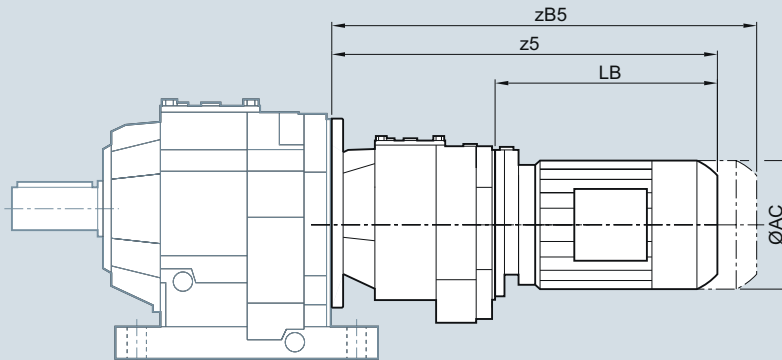
Motor	LE				LES											
	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250	
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0	
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0	
k	623.0	658.0	633.0	658.0	679.0	729.0	761.0	821.0	834.0	864.0	902.0	927.0	947.5	1 007.5	1 059.0	
kB	701.5	736.5	706.0	731.0	783.5	833.5	877.0	937.0	963.0	993.0	1 049.0	1 074.0	1 175.5	1 235.5	1 284.0	
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0	
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0	

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 3/184

**Helical tandem geared motors**


3

Gearbox	Motor	AC	z5	zB5	LB	Gearbox	Motor	AC	z5	zB5	LB
D./Z.29-D/Z19	LA63	117.8	331.0	375.5	160.5	D.129-D/Z49	LE100	198.0	590.5	669.0	398.5
D./Z.39-D/Z19	LA63	117.8	331.0	375.5	160.5		LE100Z	198.0	625.5	704.0	433.5
	LA71	138.8	363.0	418.0	184.5		LE112	222.0	600.5	673.5	408.5
	LA71Z	138.8	382.0	437.0	203.5	LE112Z	222.0	635.0	708.0	443.0	
D./Z.49-D/Z19	LA63	117.8	322.0	366.5	160.5	D.149-D/Z49	LA63	117.8	366.0	410.5	184.5
	LA71	138.8	354.0	409.0	184.5		LA71	138.8	398.0	453.0	216.5
	LA71Z	138.8	373.0	428.0	203.5		LA71Z	138.8	417.0	472.0	235.5
D./Z.59-D/Z19	LA63	117.8	322.0	366.5	160.5	LE80	156.3	462.0	522.0	280.5	
	LA71	138.8	354.0	409.0	184.5	LE80Z	156.3	497.0	557.0	315.5	
	LA71Z	138.8	373.0	428.0	203.5	LE90	173.8	523.5	593.5	342.0	
	LE80	156.3	410.0	470.0	240.0	LE90Z	173.8	563.5	633.5	382.0	
D./Z.69-D/Z19	LE80Z	156.3	445.0	505.0	275.0	LE100	198.0	580.0	658.5	398.5	
	LA63	117.8	322.0	366.5	160.5	LE100Z	198.0	615.0	693.5	433.5	
	LA71	138.8	354.0	409.0	184.5	LE112	222.0	590.0	663.0	408.5	
	LA71Z	138.8	373.0	428.0	203.5	LE112Z	222.0	624.5	697.5	443.0	
	LE80	156.3	410.0	470.0	240.0	LE132	264.0	643.0	747.5	461.5	
D./Z.79-D/Z39	LE80Z	156.3	445.0	505.0	275.0	LE132Z	264.0	693.0	797.5	511.5	
	LA63	117.8	373.5	418.0	194.0	D.169-D/Z69	LA63	117.8	391.5	436.0	184.5
	LA71	138.8	405.5	460.5	226.0		LA71	138.8	423.5	478.5	216.5
	LA71Z	138.8	424.5	479.5	245.0		LA71Z	138.8	442.5	497.5	235.5
	LE80	156.3	469.5	529.5	290.0		LE80	156.3	487.5	547.5	280.5
LE80Z	156.3	504.5	564.5	325.0	LE80Z		156.3	522.5	582.5	315.5	
D./Z.89-D/Z39	LA63	117.8	356.5	401.0	194.0	LE90	173.8	549.0	619.0	342.0	
	LA71	138.8	388.5	443.5	226.0	LE90Z	173.8	589.0	659.0	382.0	
	LA71Z	138.8	407.5	462.5	245.0	LE100	198.0	605.5	684.0	398.5	
	LE80	156.3	452.5	512.5	290.0	LE100Z	198.0	640.5	719.0	433.5	
	LE80Z	156.3	487.5	547.5	325.0	LE112	222.0	615.5	688.5	408.5	
	LE90	173.8	514.0	584.0	351.5	LE112Z	222.0	650.0	723.0	443.0	
D.109-D/Z39	LE90Z	173.8	554.0	624.0	391.5	LE132	264.0	668.5	773.0	461.5	
	LA63	117.8	347.5	392.0	194.0	LE132Z	264.0	718.5	823.0	511.5	
	LA71	138.8	379.5	434.5	226.0	D.189-D/Z69	LA63	117.8	391.5	436.0	184.5
	LA71Z	138.8	398.5	453.5	245.0		LA71	138.8	423.5	478.5	216.5
	LE80	156.3	443.5	503.5	290.0		LA71Z	138.8	442.5	497.5	235.5
	LE80Z	156.3	478.5	538.5	325.0		LE80	156.3	487.5	547.5	280.5
	LE90	173.8	505.0	575.0	351.5		LE80Z	156.3	522.5	582.5	315.5
	LE90Z	173.8	545.0	615.0	391.5		LE90	173.8	549.0	619.0	342.0
LE100	198.0	561.5	640.0	408.0	LE90Z		173.8	589.0	659.0	382.0	
LE100Z	198.0	596.5	675.0	443.0	LE100		198.0	605.5	684.0	398.5	
D.129-D/Z49	LA63	117.8	376.5	421.0	184.5	LE100Z	198.0	640.5	719.0	433.5	
	LA71	138.8	408.5	463.5	216.5	LE112	222.0	615.5	688.5	408.5	
	LA71Z	138.8	427.5	482.5	235.5	LE112Z	222.0	650.0	723.0	443.0	
	LE80	156.3	472.5	532.5	280.5	LE132	264.0	668.5	773.0	461.5	
	LE80Z	156.3	507.5	567.5	315.5	LE132Z	264.0	718.5	823.0	511.5	
	LE90	173.8	534.0	604.0	342.0						
	LE90Z	173.8	574.0	644.0	382.0						



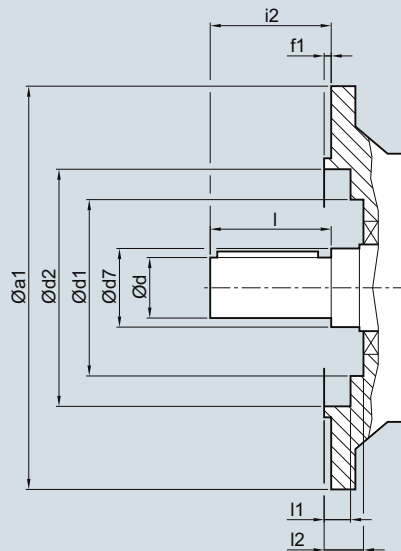
## SIMOGEAR geared motors

### Helical geared motors

#### Dimensions

##### Inner contour of the flange design

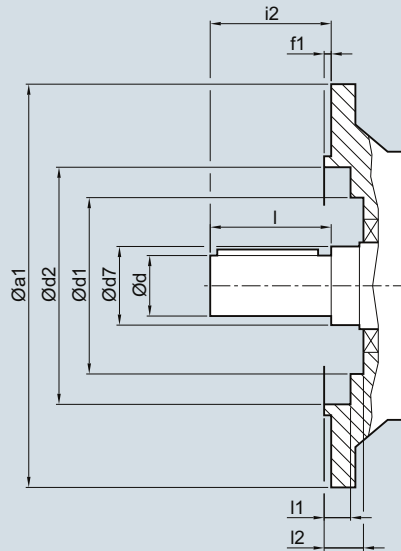
Notes regarding the design of the customer's interface.



Gearbox	a1	d	d7	d1 DF/ZF	d1 DB/ZB	d2	f1	i2	l	l1 DF/ZF	l1 DB/ZB	i2
<b>Helical gearbox DF/ZF or DB/ZB</b>												
DF/ZF19	120	16	25	48.0	48.0	72.0	3.0	40	28	1.0	1.0	6
	120	16	25	48.0	48.0	72.0	3.0	40	40	1.0	1.0	6
	120	20	25	48.0	48.0	72.0	3.0	40	40	1.0	1.0	6
	140	20	25	48.0	-	87.0	3.0	40	40	1.0	-	6
	160	20	25	48.0	-	102.0	3.5	40	40	1.0	-	6.5
DF/ZF29, DB/ZB29	120	25	30	56.0	56.0	72.0	3.0	50	50	2.0	2.0	8
DF/ZF29	140	25	30	56.0	-	87.0	3.5	50	50	2.0	-	7
	160	25	30	56.0	-	102.0	3.5	50	50	2.0	-	7.5
DF/ZF39, DB/ZB39	120	25	35	69.0	66.0	72.0	3.0	50	50	4.0	4.0	9
DF/ZF39	160	25	35	66.5	-	102.0	3.5	50	50	1.5	-	6.5
	200	25	35	66.5	-	120.0	3.5	50	50	1.5	-	6.5
DF/ZF49, DB/ZB49	140	30	35	79.0	79.0	84.5	3.0	60	60	4.0	4.0	9.5
DF/ZF49	160	30	35	79.0	-	94.5	3.5	60	60	5.5	-	11
	200	30	35	79.0	-	121.0	3.5	60	60	4.5	-	10
DF/ZF59, DB/ZB59	160	35	40	88.0	88.0	94.5	3.5	70	70	4.5	4.5	11
DF/ZF59	200	35	40	88.0	-	115.0	3.5	70	70	4.5	-	9
	250	35	40	88.0	-	168.0	4.0	70	70	4.0	-	10.5
DF/ZF69, DB/ZB69	200	35	47	105.0	105.0	115.0	3.5	70	70	4.5	4.5	11
DF/ZF69	250	35	47	105.0	-	168.0	4.0	70	70	4.0	-	10.5
DF/ZF79, DB/ZB79	250	40	52	113.0	114.5	168.0	4.0	80	80	0.5	2.5	7.5
DF/ZF79	300	40	52	113.0	-	217.0	4.0	80	80	0.5	-	7.5
	350	40	52	113.0	-	238.0	5.0	80	80	0.5	-	8.5
DF/ZF89, DB/ZB89	300	50	62	143.0	143.0	218.0	4.0	100	100	1.5	1.5	8
DF/ZF89	350	50	62	143.0	-	238.0	5.0	100	100	2.5	-	9
	450	50	62	143.0	-	334.0	5.0	100	100	0.5	-	9
DF/ZF109	350	60	65	157.0	-	236.0	5.0	120	120	2.0	-	9
	450	60	65	168.0	-	335.0	5.0	120	120	0	-	9
DF/ZF129	350	70	75	180.0	-	236.0	5.0	140	140	7.5	-	9
	450	70	75	180.0	-	330.0	5.0	140	140	7.5	-	9
	550	70	75	180.0	-	428.0	5.0	140	140	5.0	-	9
DF/ZF149	450	90	100	225	-	330.0	5.0	170	170	2.5	-	10
	550	90	100	225	-	430.0	5.0	170	170	2.5	-	10
DF/ZF169	450	110	120	235	-	330.0	5.0	210	210	0.5	-	10
	550	110	120	235	-	430.0	5.0	210	210	0.5	-	10
	660	110	120	235	-	530.0	6.0	210	210	0	-	11
DF/ZF189	550	120	140	274	-	430.0	5.0	210	210	0	-	10
	660	120	140	274	-	530.0	6.0	210	210	1.0	-	11

**Inner contour of the flange design** (continued)

Notes regarding the design of the customer's interface.



Gearbox	a1	d	d7	d1	d2	f1	i2	l	l1	i1
<b>Helical gearbox DF/ZF with VLplus reinforced bearing system (G30)</b>										
DF/ZF89	300	60	70	143	218	4.0	120	120	1.5	8
	350	60	70	143	238	5.0	120	120	2.5	9
	450	60	70	143	334	5.0	120	120	0.5	9
DF/ZF109	350	70	75	157	236	5.0	140	140	2.0	9
	450	70	75	168	335	5.0	140	140	0	9
DF/ZF129	350	90	95	180	236	5.0	170	170	7.5	10
	450	90	95	180	330	5.0	170	170	7.5	10
	550	90	95	180	428	5.0	170	170	5.0	10
DF/ZF149	550	100	120	225	430	5.0	210	210	5.5	11
DF/ZF169	450	120	140	235	330	5.0	210	210	0.5	10
	550	120	140	235	430	5.0	210	210	0.5	10
	660	120	140	235	530	6.0	210	210	0	11
<b>Helical gearbox EF</b>										
EF39	120	20	35	-	72	3.0	40	40	6.0	-
	140	20	35	-	80	3.0	40	40	6.0	-
	160	20	35	87	100	3.5	40	40	5.5	6.5
	200	20	35	87	121	3.5	40	40	5.5	6.5
EF49	160	25	40	88	94.5	3.5	50	50	4.5	11
	200	25	40	88	115.0	3.5	50	50	4.5	9
	250	25	40	88	168.0	4.0	50	50	4.0	10.5
EF69	200	30	40	105	115.0	3.5	60	60	4.5	11
	250	30	40	105	168.0	4.0	60	60	4.0	10.5
EF89	250	40	45	113	168.0	4.0	80	80	0.5	7.5
	300	40	45	113	217.0	4.0	80	80	0.5	7.5
	350	40	45	113	238.0	5.0	80	80	0.5	8.5
EF109	300	50	55	143	218.0	4.0	100	100	1.5	8
	350	50	55	143	238.0	5.0	100	100	2.5	9
	450	50	55	143	334.0	5.0	100	100	0.5	9
EF129	350	60	65	157	236.0	5.0	120	120	2.0	9
	450	60	65	168	335.0	5.0	120	120	0	9
EF149	350	70	75	180	236.0	5.0	140	140	7.5	9
	450	70	75	180	330.0	5.0	140	140	7.5	9
	550	70	75	180	428.0	5.0	140	140	5.0	9

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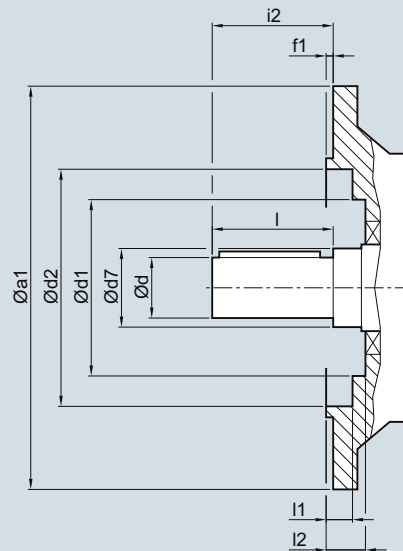
## SIMOGEAR geared motors

### Helical geared motors

#### Dimensions

#### Inner contour of the flange design (continued)

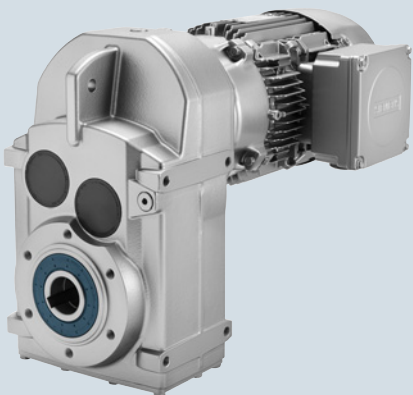
Notes regarding the design of the customer's interface.



Gearbox	a1	d	d7	d1	d2	f1	i2	l	l1	l2
<b>Cooling tower gearboxes ZKF</b>										
ZKF89	300	50	62	143	218.0	4.0	180	100	1.5	8
	350	50	62	143	238.0	5.0	180	100	2.5	9
	450	50	62	143	334.0	5.0	180	100	0.5	9
ZKF109	350	60	65	157	236.0	5.0	200	120	2.0	9
	450	60	65	168	335.0	5.0	200	120	0	9
ZKF129	350	70	75	180	236.0	5.0	220	140	7.5	9
	450	70	75	180	330.0	5.0	220	140	7.5	9
	550	70	75	180	428.0	5.0	220	140	5.0	9
ZKF149	450	90	100	225	330.0	5.0	250	170	2.5	10
	550	90	100	225	430.0	5.0	250	170	2.5	10
ZKF169	450	110	120	235	330.0	5.0	330	210	0.5	10
	550	110	120	235	430.0	5.0	330	210	0.5	10
	660	110	120	235	530.0	6.0	330	210	0	11
ZKF189	550	120	140	274	430.0	5.0	330	210	0	10
	660	120	140	274	530.0	6.0	330	210	1.0	11
<b>Cooling tower gearboxes EKF</b>										
EKF89	250	40	45	113	168	4.0	160	80	0.5	7.5
	300	40	45	113	217	4.0	160	80	0.5	7.5
	350	40	45	113	238	5.0	160	80	0.5	8.5
EKF109	300	50	55	143	218	4.0	180	100	1.5	8
	350	50	55	143	238	5.0	180	100	2.5	9
	450	50	55	143	334	5.0	180	100	0.5	9
EKF129	350	60	65	157	236	5.0	200	120	2.0	9
	450	60	65	168	335	5.0	200	120	0	9
EKF149	350	70	75	180	236	5.0	220	140	7.5	9
	450	70	75	180	330	5.0	220	140	7.5	9
	550	70	75	180	428	5.0	220	140	5.0	9

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## Parallel shaft geared motors



<b>4/3</b>	<b>Orientation</b>
<b>4/3</b>	<b>Geared motors up to 55 kW</b>
4/3	Selection and ordering data
<b>4/50</b>	<b>Transmission ratios and torques</b>
4/50	Selection and ordering data
<b>4/61</b>	<b>Transmission ratios and torques for very low speeds</b>
4/61	Selection and ordering data
<b>4/72</b>	<b>Dimensions</b>
4/72	Dimensional drawing overview
4/74	Parallel shaft geared motors FD./FZ.29
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4/82	Parallel shaft geared motors FD./FZ.49
4/86	Parallel shaft geared motors FD./FZ.69
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4/123	Parallel shaft tandem geared motors
4/125	SIMOLOC assembly system
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4/126	Protection cover for hollow shaft
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4/127	Protection cover for hollow shaft with SIMOLOC assembly system
4/128	Inner contour of the flange design

## SIMOGEAR geared motors

Parallel shaft geared motors

### Orientation

#### SIMOGEAR parallel shaft geared motor F

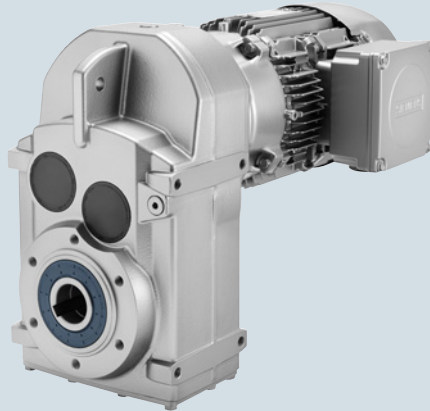


Fig. 4/1 Parallel shaft geared motor F

Gearbox designation	Number of sizes	Maximum output torque	Transmission ratio	Maximum motor power
		$T_{2N}$ Nm	$i$ -	$P_1$ kW
FZ29 ... FZ189 (2-stage)	11	150 ... 19 000	3.5 ... 70	55
FD29 ... FD189 (3-stage)	11	150 ... 19 000	32 ... 413	55
FZ.29-Z19 ... FD.189-D69 (4-stage to 6-stage)	11	150 ... 19 000	274 ... 29 900	7.5

SIMOGEAR parallel shaft geared motors are available in the following versions:

#### Transmission stages

- 2-stage or 3-stage parallel shaft geared motors
- 4-stage to 6-stage parallel shaft geared motors for very low output speeds

#### Versions

- Shaft-mounted design
- Flange-mounted design with or without VLplus reinforced bearing systems
- Design with integrated housing flange
- Foot-mounted design

#### Mounting

- Hollow shaft design with feather key
- Hollow shaft design with splined shaft
- Hollow shaft design with shrink disk
- Hollow shaft design with SIMOLOC assembly system
- Solid shaft design with and without feather key

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**Selection and ordering data**

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.09</b>	<b>FD.69-LA63MF6</b>							
	2.4	350	348.40	11 400	1.7	30	2KJ3404 - ■ BD11 - ■ ■ S1	P01
	2.7	310	309.78	11 500	1.9	30	2KJ3404 - ■ BD11 - ■ ■ R1	P01
	<b>FD.49-LA63MF6</b>							
	2.6	335	330.98	8 460	1.4	25	2KJ3403 - ■ BD11 - ■ ■ S1	P01
	2.9	295	294.29	8 570	1.6	25	2KJ3403 - ■ BD11 - ■ ■ R1	P01
	3.3	260	258.40	8 670	1.8	25	2KJ3403 - ■ BD11 - ■ ■ Q1	P01
	3.6	235	234.91	8 750	2.0	25	2KJ3403 - ■ BD11 - ■ ■ P1	P01
	<b>FD.39-LA63MF6</b>							
	3.1	275	274.26	5 870	1.0	16	2KJ3402 - ■ BD11 - ■ ■ R1	P01
	3.5	245	243.26	5 980	1.2	16	2KJ3402 - ■ BD11 - ■ ■ Q1	P01
	4.0	210	211.06	6 110	1.4	16	2KJ3402 - ■ BD11 - ■ ■ P1	P01
	4.4	194	191.87	6 170	1.5	16	2KJ3402 - ■ BD11 - ■ ■ N1	P01
	<b>FD.39-LA63MD4</b>							
	5.1	168	274.26	6 270	1.7	15	2KJ3402 - ■ BB11 - ■ ■ R1	
	5.8	149	243.26	6 340	1.9	15	2KJ3402 - ■ BB11 - ■ ■ Q1	
	<b>FD.29-LA63MD4</b>							
	4.7	183	298.58	5 220	0.82	9	2KJ3401 - ■ BB11 - ■ ■ Q1	
5.3	162	264.39	5 220	0.92	9	2KJ3401 - ■ BB11 - ■ ■ P1		
6.1	141	229.72	5 220	1.1	9	2KJ3401 - ■ BB11 - ■ ■ N1		
6.7	128	208.83	5 220	1.2	9	2KJ3401 - ■ BB11 - ■ ■ M1		
7.9	109	177.71	5 220	1.4	9	2KJ3401 - ■ BB11 - ■ ■ L1		
8.7	99	161.55	5 220	1.5	9	2KJ3401 - ■ BB11 - ■ ■ K1		
9.9	86	140.86	5 220	1.7	9	2KJ3401 - ■ BB11 - ■ ■ J1		
11	77	126.09	5 220	1.9	9	2KJ3401 - ■ BB11 - ■ ■ H1		
13	69	111.97	5 220	2.2	9	2KJ3401 - ■ BB11 - ■ ■ G1		
<b>FD.29-LA63MD4</b>								
14	64	103.36	5 220	2.4	9	2KJ3401 - ■ BB11 - ■ ■ F1		
16	55	89.78	5 220	2.7	9	2KJ3401 - ■ BB11 - ■ ■ E1		
18	48	78.02	5 220	3.1	9	2KJ3401 - ■ BB11 - ■ ■ D1		
20	43	70.43	5 220	3.5	9	2KJ3401 - ■ BB11 - ■ ■ C1		
21	41	66.29	5 220	3.7	9	2KJ3401 - ■ BB11 - ■ ■ B1		
24	36	57.79	5 220	4.2	9	2KJ3401 - ■ BB11 - ■ ■ A1		
<b>FZ.29-LA63MD4</b>								
25	35	56.73	5 220	4.3	9	2KJ3301 - ■ BB11 - ■ ■ C2		
28	31	50.32	5 220	4.9	9	2KJ3301 - ■ BB11 - ■ ■ B2		
32	27	43.66	5 220	5.6	9	2KJ3301 - ■ BB11 - ■ ■ A2		
35	24	39.69	5 220	6.2	9	2KJ3301 - ■ BB11 - ■ ■ X1		
41	21	34.04	5 220	7.2	9	2KJ3301 - ■ BB11 - ■ ■ W1		
45	19	30.95	5 220	7.9	9	2KJ3301 - ■ BB11 - ■ ■ V1		
52	17	27.13	5 220	9.0	9	2KJ3301 - ■ BB11 - ■ ■ U1		
58	15	24.22	5 220	10	9	2KJ3301 - ■ BB11 - ■ ■ T1		
65	13	21.58	5 220	11	9	2KJ3301 - ■ BB11 - ■ ■ S1		
70	12	19.92	5 120	12	9	2KJ3301 - ■ BB11 - ■ ■ R1		
80	11	17.44	4 900	14	9	2KJ3301 - ■ BB11 - ■ ■ Q1		
92	9.4	15.29	4 700	16	9	2KJ3301 - ■ BB11 - ■ ■ P1		
101	8.5	13.88	4 550	18	9	2KJ3301 - ■ BB11 - ■ ■ N1		
107	8	13.06	4 470	19	9	2KJ3301 - ■ BB11 - ■ ■ M1		

**Article No. supplement**

Shaft design

Frequency and voltage

Gearbox mounting type

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**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.09</b>	<b>FZ.29-LA63MD4</b>							
	122	7.1	11.51	4 290	20	9	2KJ3301 - ■ BB11 - ■ ■ L1	
	140	6.1	9.99	4 090	22	9	2KJ3301 - ■ BB11 - ■ ■ K1	
	144	5.9	9.69	4 050	24	9	2KJ3301 - ■ BB11 - ■ ■ J1	
	162	5.3	8.63	3 900	24	9	2KJ3301 - ■ BB11 - ■ ■ H1	
	176	4.9	7.97	3 800	24	9	2KJ3301 - ■ BB11 - ■ ■ G1	
<b>0.12</b>	<b>FD.69-LA63MG6</b>							
	2.9	395	348.40	11 300	1.5	30	2KJ3404 - ■ BE11 - ■ ■ S1	P01
	3.2	355	309.78	11 400	1.7	30	2KJ3404 - ■ BE11 - ■ ■ R1	P01
	3.7	310	272.00	11 500	1.9	30	2KJ3404 - ■ BE11 - ■ ■ Q1	P01
	<b>FD.69-LA63ME4</b>							
	3.9	295	348.40	11 500	2.0	29	2KJ3404 - ■ BC11 - ■ ■ S1	
	<b>FD.49-LA63MG6</b>							
	3.0	375	330.98	8 340	1.3	25	2KJ3403 - ■ BE11 - ■ ■ S1	P01
	3.4	335	294.29	8 460	1.4	25	2KJ3403 - ■ BE11 - ■ ■ R1	P01
	<b>FD.49-LA63MG6</b>							
	3.9	295	258.40	8 570	1.6	25	2KJ3403 - ■ BE11 - ■ ■ Q1	P01
	<b>FD.49-LA63ME4</b>							
	4.1	280	330.98	8 610	1.7	24	2KJ3403 - ■ BC11 - ■ ■ S1	
	4.6	250	294.29	8 700	1.9	24	2KJ3403 - ■ BC11 - ■ ■ R1	
	<b>FD.39-LA63MG6</b>							
	3.6	310	274.26	5 740	0.92	16	2KJ3402 - ■ BE11 - ■ ■ R1	P01
	4.1	275	243.26	5 870	1.0	16	2KJ3402 - ■ BE11 - ■ ■ Q1	P01
	4.7	240	211.06	6 000	1.2	16	2KJ3402 - ■ BE11 - ■ ■ P1	P01
	<b>FD.39-LA63ME4</b>							
	4.9	230	274.26	6 040	1.2	15	2KJ3402 - ■ BC11 - ■ ■ R1	
	5.5	205	243.26	6 130	1.4	15	2KJ3402 - ■ BC11 - ■ ■ Q1	
	6.4	179	211.06	6 230	1.6	15	2KJ3402 - ■ BC11 - ■ ■ P1	
	7.0	163	191.87	6 290	1.8	15	2KJ3402 - ■ BC11 - ■ ■ N1	
	8.2	140	164.56	6 370	2.1	15	2KJ3402 - ■ BC11 - ■ ■ M1	
	<b>FD.29-LA63MG6</b>							
	6.2	185	161.55	5 220	0.81	9	2KJ3401 - ■ BE11 - ■ ■ K1	P01
	<b>FD.29-LA63ME4</b>							
	6.5	177	208.83	5 220	0.85	9	2KJ3401 - ■ BC11 - ■ ■ M1	
	7.6	151	177.71	5 220	0.99	9	2KJ3401 - ■ BC11 - ■ ■ L1	
8.4	137	161.55	5 220	1.1	9	2KJ3401 - ■ BC11 - ■ ■ K1		
9.6	120	140.86	5 220	1.3	9	2KJ3401 - ■ BC11 - ■ ■ J1		
11	107	126.09	5 220	1.4	9	2KJ3401 - ■ BC11 - ■ ■ H1		
12	95	111.97	5 220	1.6	9	2KJ3401 - ■ BC11 - ■ ■ G1		
13	88	103.36	5 220	1.7	9	2KJ3401 - ■ BC11 - ■ ■ F1		
15	76	89.78	5 220	2.0	9	2KJ3401 - ■ BC11 - ■ ■ E1		
17	66	78.02	5 220	2.3	9	2KJ3401 - ■ BC11 - ■ ■ D1		
19	60	70.43	5 220	2.5	9	2KJ3401 - ■ BC11 - ■ ■ C1		
20	56	66.29	5 220	2.7	9	2KJ3401 - ■ BC11 - ■ ■ B1		
23	49	57.79	5 220	3.1	9	2KJ3401 - ■ BC11 - ■ ■ A1		
<b>FZ.29-LA63ME4</b>								
24	48	56.73	5 220	3.1	9	2KJ3301 - ■ BC11 - ■ ■ C2		
27	43	50.32	5 220	3.5	9	2KJ3301 - ■ BC11 - ■ ■ B2		
31	37	43.66	5 220	4.0	9	2KJ3301 - ■ BC11 - ■ ■ A2		
34	34	39.69	5 220	4.5	9	2KJ3301 - ■ BC11 - ■ ■ X1		

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Shaft design

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Frequency and voltage

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Gearbox mounting type

A, D, F or H

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.12 FZ.29-LA63ME4</b>								
	40	29	34.04	5 220	5.2	9	2KJ3301 - ■ BC11 - ■ ■ W1	
	44	26	30.95	5 220	5.7	9	2KJ3301 - ■ BC11 - ■ ■ V1	
	50	23	27.13	5 220	6.5	9	2KJ3301 - ■ BC11 - ■ ■ U1	
	56	21	24.22	5 220	7.3	9	2KJ3301 - ■ BC11 - ■ ■ T1	
	63	18	21.58	5 220	8.2	9	2KJ3301 - ■ BC11 - ■ ■ S1	
	68	17	19.92	5 140	8.9	9	2KJ3301 - ■ BC11 - ■ ■ R1	
	77	15	17.44	4 930	10	9	2KJ3301 - ■ BC11 - ■ ■ Q1	
	88	13	15.29	4 730	12	9	2KJ3301 - ■ BC11 - ■ ■ P1	
	97	12	13.88	4 580	13	9	2KJ3301 - ■ BC11 - ■ ■ N1	
	103	11	13.06	4 500	14	9	2KJ3301 - ■ BC11 - ■ ■ M1	
	117	9.8	11.51	4 320	15	9	2KJ3301 - ■ BC11 - ■ ■ L1	
	135	8.5	9.99	4 130	16	9	2KJ3301 - ■ BC11 - ■ ■ K1	
	139	8.2	9.69	4 070	17	9	2KJ3301 - ■ BC11 - ■ ■ J1	
	156	7.3	8.63	3 930	18	9	2KJ3301 - ■ BC11 - ■ ■ H1	
	169	6.8	7.97	3 830	18	9	2KJ3301 - ■ BC11 - ■ ■ G1	
	193	5.9	6.98	3 660	21	9	2KJ3301 - ■ BC11 - ■ ■ F1	
	221	5.2	6.12	3 510	22	9	2KJ3301 - ■ BC11 - ■ ■ E1	
	243	4.7	5.55	3 400	23	9	2KJ3301 - ■ BC11 - ■ ■ D1	
	259	4.4	5.22	3 340	24	9	2KJ3301 - ■ BC11 - ■ ■ C1	
	293	3.9	4.60	3 200	25	9	2KJ3301 - ■ BC11 - ■ ■ B1	
<b>0.18 FD.79-LA71MG6</b>								
	2.4	720	357.00	14 100	1.4	38	2KJ3405 - ■ CD11 - ■ ■ S1	P01
	2.6	655	324.62	14 300	1.5	38	2KJ3405 - ■ CD11 - ■ ■ R1	P01
	3.1	555	276.09	14 500	1.8	38	2KJ3405 - ■ CD11 - ■ ■ Q1	P01
	3.4	505	250.99	14 500	2.0	38	2KJ3405 - ■ CD11 - ■ ■ P1	P01
<b>FD.69-LA71MG6</b>								
	2.4	705	348.40	10 600	0.85	31	2KJ3404 - ■ CD11 - ■ ■ S1	P01
	2.7	625	309.78	10 800	0.96	31	2KJ3404 - ■ CD11 - ■ ■ R1	P01
	3.1	550	272.00	10 900	1.1	31	2KJ3404 - ■ CD11 - ■ ■ Q1	P01
	3.4	500	247.27	11 000	1.2	31	2KJ3404 - ■ CD11 - ■ ■ P1	P01
<b>FD.69-LA63MF4</b>								
	3.9	440	348.40	11 200	1.4	30	2KJ3404 - ■ BD11 - ■ ■ S1	
	4.4	390	309.78	11 300	1.5	30	2KJ3404 - ■ BD11 - ■ ■ R1	
	5.0	345	272.00	11 400	1.7	30	2KJ3404 - ■ BD11 - ■ ■ Q1	
	5.5	315	247.27	11 500	1.9	30	2KJ3404 - ■ BD11 - ■ ■ P1	
<b>FD.49-LA71MG6</b>								
	2.9	595	294.29	7 200	0.81	26	2KJ3403 - ■ CD11 - ■ ■ R1	P01
	3.3	520	258.40	7 700	0.92	26	2KJ3403 - ■ CD11 - ■ ■ Q1	P01
	3.6	475	234.91	7 990	1.0	26	2KJ3403 - ■ CD11 - ■ ■ P1	P01
<b>FD.49-LA63MF4</b>								
	4.1	420	330.98	8 210	1.1	25	2KJ3403 - ■ BD11 - ■ ■ S1	
	4.6	375	294.29	8 340	1.3	25	2KJ3403 - ■ BD11 - ■ ■ R1	
	5.2	325	258.40	8 480	1.5	25	2KJ3403 - ■ BD11 - ■ ■ Q1	
	5.7	295	234.91	8 570	1.6	25	2KJ3403 - ■ BD11 - ■ ■ P1	
	6.7	255	200.98	8 690	1.9	25	2KJ3403 - ■ BD11 - ■ ■ N1	
	7.4	230	182.71	8 760	2.1	25	2KJ3403 - ■ BD11 - ■ ■ M1	
<b>FD.39-LA63MF4</b>								
	4.9	345	274.26	5 610	0.83	16	2KJ3402 - ■ BD11 - ■ ■ R1	
	5.5	310	243.26	5 740	0.94	16	2KJ3402 - ■ BD11 - ■ ■ Q1	

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Shaft design

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Frequency and voltage

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Gearbox mounting type

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**SIMOGEAR geared motors**

## Parallel shaft geared motors

## Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.18</b>								
<b>FD.39-LA63MF4</b>								
6.4	265	211.06		5 910	1.1	16	2KJ3402 - ■ BD11 - ■ ■ P1	
7.0	240	191.87		6 000	1.2	16	2KJ3402 - ■ BD11 - ■ ■ N1	
8.2	210	164.56		6 110	1.4	16	2KJ3402 - ■ BD11 - ■ ■ M1	
9.0	190	149.60		6 190	1.5	16	2KJ3402 - ■ BD11 - ■ ■ L1	
10	167	131.17		6 270	1.7	16	2KJ3402 - ■ BD11 - ■ ■ K1	
12	149	117.08		6 340	1.9	16	2KJ3402 - ■ BD11 - ■ ■ J1	
13	133	104.34		6 400	2.2	16	2KJ3402 - ■ BD11 - ■ ■ H1	
<b>FD.29-LA63MF4</b>								
9.6	179	140.86		5 220	0.84	9	2KJ3401 - ■ BD11 - ■ ■ J1	
11	161	126.09		5 220	0.93	9	2KJ3401 - ■ BD11 - ■ ■ H1	
12	143	111.97		5 220	1.1	9	2KJ3401 - ■ BD11 - ■ ■ G1	
13	132	103.36		5 220	1.1	9	2KJ3401 - ■ BD11 - ■ ■ F1	
15	114	89.78		5 220	1.3	9	2KJ3401 - ■ BD11 - ■ ■ E1	
17	99	78.02		5 220	1.5	9	2KJ3401 - ■ BD11 - ■ ■ D1	
19	90	70.43		5 220	1.7	9	2KJ3401 - ■ BD11 - ■ ■ C1	
20	84	66.29		5 220	1.8	9	2KJ3401 - ■ BD11 - ■ ■ B1	
23	74	57.79		5 220	2.0	9	2KJ3401 - ■ BD11 - ■ ■ A1	
<b>FZ.29-LA63MF4</b>								
24	72	56.73		5 220	2.1	9	2KJ3301 - ■ BD11 - ■ ■ C2	
27	64	50.32		5 220	2.3	9	2KJ3301 - ■ BD11 - ■ ■ B2	
31	56	43.66		5 220	2.7	9	2KJ3301 - ■ BD11 - ■ ■ A2	
34	50	39.69		5 220	3.0	9	2KJ3301 - ■ BD11 - ■ ■ X1	
40	43	34.04		5 220	3.5	9	2KJ3301 - ■ BD11 - ■ ■ W1	
44	39	30.95		5 220	3.8	9	2KJ3301 - ■ BD11 - ■ ■ V1	
50	34	27.13		5 220	4.3	9	2KJ3301 - ■ BD11 - ■ ■ U1	
56	31	24.22		5 220	4.9	9	2KJ3301 - ■ BD11 - ■ ■ T1	
63	28	21.58		5 190	5.5	9	2KJ3301 - ■ BD11 - ■ ■ S1	
68	25	19.92		5 070	5.9	9	2KJ3301 - ■ BD11 - ■ ■ R1	
77	22	17.44		4 870	6.8	9	2KJ3301 - ■ BD11 - ■ ■ Q1	
88	20	15.29		4 670	7.7	9	2KJ3301 - ■ BD11 - ■ ■ P1	
97	18	13.88		4 530	8.5	9	2KJ3301 - ■ BD11 - ■ ■ N1	
103	17	13.06		4 450	9.0	9	2KJ3301 - ■ BD11 - ■ ■ M1	
117	15	11.51		4 270	9.8	9	2KJ3301 - ■ BD11 - ■ ■ L1	
135	13	9.99		4 090	11	9	2KJ3301 - ■ BD11 - ■ ■ K1	
139	12	9.69		4 040	12	9	2KJ3301 - ■ BD11 - ■ ■ J1	
156	11	8.63		3 890	12	9	2KJ3301 - ■ BD11 - ■ ■ H1	
169	10	7.97		3 790	12	9	2KJ3301 - ■ BD11 - ■ ■ G1	
193	8.9	6.98		3 640	14	9	2KJ3301 - ■ BD11 - ■ ■ F1	
221	7.8	6.12		3 490	15	9	2KJ3301 - ■ BD11 - ■ ■ E1	
243	7.1	5.55		3 380	15	9	2KJ3301 - ■ BD11 - ■ ■ D1	
259	6.6	5.22		3 320	16	9	2KJ3301 - ■ BD11 - ■ ■ C1	
293	5.9	4.60		3 180	17	9	2KJ3301 - ■ BD11 - ■ ■ B1	
338	5.1	4.00		3 040	18	9	2KJ3301 - ■ BD11 - ■ ■ A1	
<b>FZ.29-LA63ME2</b>								
162	11	17.44		3 860	14	9	2KJ3301 - ■ BC11 - ■ ■ Q1 P00	
184	9.3	15.29		3 710	16	9	2KJ3301 - ■ BC11 - ■ ■ P1 P00	
203	8.5	13.88		3 590	18	9	2KJ3301 - ■ BC11 - ■ ■ N1 P00	
216	8.0	13.06		3 520	19	9	2KJ3301 - ■ BC11 - ■ ■ M1 P00	

**Article No. supplement**

Shaft design

1, 5 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

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Electro Motor.ir

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.18	<b>FZ.29-LA63ME2</b>							
	245	7.0	11.51	3 380	20	9	2KJ3301 - ■ BC11 - ■ ■ L1	P00
	282	6.1	9.99	3 230	22	9	2KJ3301 - ■ BC11 - ■ ■ K1	P00
	291	5.9	9.69	3 190	24	9	2KJ3301 - ■ BC11 - ■ ■ J1	P00
	327	5.3	8.63	3 070	25	9	2KJ3301 - ■ BC11 - ■ ■ H1	P00
	354	4.9	7.97	3 000	25	9	2KJ3301 - ■ BC11 - ■ ■ G1	P00
0.25	<b>FD.79-LA71MH6</b>							
	2.4	990	357.00	13 600	1.0	39	2KJ3405 - ■ CE11 - ■ ■ S1	P01
	2.6	900	324.62	13 800	1.1	39	2KJ3405 - ■ CE11 - ■ ■ R1	P01
	3.1	765	276.09	14 000	1.3	39	2KJ3405 - ■ CE11 - ■ ■ Q1	P01
	3.4	695	250.99	14 200	1.4	39	2KJ3405 - ■ CE11 - ■ ■ P1	P01
	<b>FD.79-LA71MG4</b>							
	3.8	630	357.00	14 300	1.6	38	2KJ3405 - ■ CD11 - ■ ■ S1	
	4.2	570	324.62	14 400	1.7	38	2KJ3405 - ■ CD11 - ■ ■ R1	
	4.9	485	276.09	14 500	2.0	38	2KJ3405 - ■ CD11 - ■ ■ Q1	
	<b>FD.69-LA71MH6</b>							
	3.5	685	247.27	10 600	0.87	32	2KJ3404 - ■ CE11 - ■ ■ P1	P01
	<b>FD.69-LA71MG4</b>							
	3.9	615	348.40	10 800	0.97	31	2KJ3404 - ■ CD11 - ■ ■ S1	
	4.4	545	309.78	10 900	1.1	31	2KJ3404 - ■ CD11 - ■ ■ R1	
	5.0	480	272.00	11 100	1.2	31	2KJ3404 - ■ CD11 - ■ ■ Q1	
	5.5	435	247.27	11 200	1.4	31	2KJ3404 - ■ CD11 - ■ ■ P1	
	6.4	370	211.56	11 400	1.6	31	2KJ3404 - ■ CD11 - ■ ■ N1	
	7.0	340	192.32	11 400	1.8	31	2KJ3404 - ■ CD11 - ■ ■ M1	
	7.9	300	170.00	11 500	2.0	31	2KJ3404 - ■ CD11 - ■ ■ L1	
	<b>FD.49-LA71MG4</b>							
	4.1	585	330.98	7 270	0.82	26	2KJ3403 - ■ CD11 - ■ ■ S1	
	4.6	520	294.29	7 700	0.92	26	2KJ3403 - ■ CD11 - ■ ■ R1	
	5.2	455	258.40	8 110	1.1	26	2KJ3403 - ■ CD11 - ■ ■ Q1	
	5.7	415	234.91	8 220	1.2	26	2KJ3403 - ■ CD11 - ■ ■ P1	
6.7	355	200.98	8 400	1.4	26	2KJ3403 - ■ CD11 - ■ ■ N1		
7.4	320	182.71	8 500	1.5	26	2KJ3403 - ■ CD11 - ■ ■ M1		
8.4	285	161.50	8 600	1.7	26	2KJ3403 - ■ CD11 - ■ ■ L1		
9.2	260	146.82	8 670	1.8	26	2KJ3403 - ■ CD11 - ■ ■ K1		
10	225	128.60	8 770	2.1	26	2KJ3403 - ■ CD11 - ■ ■ J1		
<b>FD.39-LA71MG4</b>								
7.0	335	191.87	5 650	0.85	17	2KJ3402 - ■ CD11 - ■ ■ N1		
8.2	290	164.56	5 820	1.0	17	2KJ3402 - ■ CD11 - ■ ■ M1		
9.0	265	149.60	5 910	1.1	17	2KJ3402 - ■ CD11 - ■ ■ L1		
10	230	131.17	6 040	1.3	17	2KJ3402 - ■ CD11 - ■ ■ K1		
12	205	117.08	6 130	1.4	17	2KJ3402 - ■ CD11 - ■ ■ J1		
13	185	104.34	6 210	1.6	17	2KJ3402 - ■ CD11 - ■ ■ H1		
14	170	96.31	6 260	1.7	17	2KJ3402 - ■ CD11 - ■ ■ G1		
16	149	84.32	6 340	1.9	17	2KJ3402 - ■ CD11 - ■ ■ F1		
18	131	73.93	6 410	2.2	17	2KJ3402 - ■ CD11 - ■ ■ E1		
<b>FZ.39-LA71MG4</b>								
23	103	57.99	6 510	2.2	17	2KJ3302 - ■ CD11 - ■ ■ A2		
<b>FD.29-LA71MG4</b>								
13	183	103.36	5 220	0.82	10	2KJ3401 - ■ CD11 - ■ ■ F1		
15	159	89.78	5 220	0.91	10	2KJ3401 - ■ CD11 - ■ ■ E1		

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Electro\_Motor.ir

## SIMOGEAR geared motors

## Parallel shaft geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.25	<b>FD.29-LA71MG4</b>							
	17	138	78.02	5 220	1.1	10	2KJ3401 - ■ CD11 - ■ ■ D1	
	19	125	70.43	5 220	1.2	10	2KJ3401 - ■ CD11 - ■ ■ C1	
	20	117	66.29	5 220	1.3	10	2KJ3401 - ■ CD11 - ■ ■ B1	
	23	102	57.79	5 220	1.5	10	2KJ3401 - ■ CD11 - ■ ■ A1	
	<b>FZ.29-LA71MG4</b>							
	24	100	56.73	5 220	1.5	10	2KJ3301 - ■ CD11 - ■ ■ C2	
	27	89	50.32	5 220	1.7	10	2KJ3301 - ■ CD11 - ■ ■ B2	
	31	77	43.66	5 220	1.9	10	2KJ3301 - ■ CD11 - ■ ■ A2	
	34	70	39.69	5 220	2.1	10	2KJ3301 - ■ CD11 - ■ ■ X1	
	40	60	34.04	5 220	2.5	10	2KJ3301 - ■ CD11 - ■ ■ W1	
	44	55	30.95	5 220	2.7	10	2KJ3301 - ■ CD11 - ■ ■ V1	
	50	48	27.13	5 220	3.1	10	2KJ3301 - ■ CD11 - ■ ■ U1	
	56	43	24.22	5 220	3.5	10	2KJ3301 - ■ CD11 - ■ ■ T1	
	63	38	21.58	5 110	3.9	10	2KJ3301 - ■ CD11 - ■ ■ S1	
	68	35	19.92	4 990	4.3	10	2KJ3301 - ■ CD11 - ■ ■ R1	
	77	31	17.44	4 800	4.9	10	2KJ3301 - ■ CD11 - ■ ■ Q1	
	88	27	15.29	4 610	5.5	10	2KJ3301 - ■ CD11 - ■ ■ P1	
	97	24	13.88	4 480	6.1	10	2KJ3301 - ■ CD11 - ■ ■ N1	
	103	23	13.06	4 400	6.5	10	2KJ3301 - ■ CD11 - ■ ■ M1	
	117	20	11.51	4 230	7.0	10	2KJ3301 - ■ CD11 - ■ ■ L1	
	135	18	9.99	4 050	7.7	10	2KJ3301 - ■ CD11 - ■ ■ K1	
	139	17	9.69	3 990	8.3	10	2KJ3301 - ■ CD11 - ■ ■ J1	
156	15	8.63	3 850	8.5	10	2KJ3301 - ■ CD11 - ■ ■ H1		
169	14	7.97	3 750	8.5	10	2KJ3301 - ■ CD11 - ■ ■ G1		
193	12	6.98	3 610	10	10	2KJ3301 - ■ CD11 - ■ ■ F1		
221	11	6.12	3 460	10	10	2KJ3301 - ■ CD11 - ■ ■ E1		
243	9.8	5.55	3 350	11	10	2KJ3301 - ■ CD11 - ■ ■ D1		
259	9.2	5.22	3 290	12	10	2KJ3301 - ■ CD11 - ■ ■ C1		
293	8.1	4.60	3 160	12	10	2KJ3301 - ■ CD11 - ■ ■ B1		
338	7.1	4.00	3 020	13	10	2KJ3301 - ■ CD11 - ■ ■ A1		
<b>FZ.29-LA63MF2</b>								
162	15	17.44	3 820	10	9	2KJ3301 - ■ BD11 - ■ ■ Q1	P00	
185	13	15.29	3 670	12	9	2KJ3301 - ■ BD11 - ■ ■ P1	P00	
204	12	13.88	3 560	13	9	2KJ3301 - ■ BD11 - ■ ■ N1	P00	
217	11	13.06	3 490	14	9	2KJ3301 - ■ BD11 - ■ ■ M1	P00	
246	9.7	11.51	3 360	15	9	2KJ3301 - ■ BD11 - ■ ■ L1	P00	
0.37	<b>FD.79-LA71MH4</b>							
	3.8	920	357.00	13 700	1.1	39	2KJ3405 - ■ CE11 - ■ ■ S1	
	4.2	835	324.62	13 900	1.2	39	2KJ3405 - ■ CE11 - ■ ■ R1	
	5.0	710	276.09	14 100	1.4	39	2KJ3405 - ■ CE11 - ■ ■ Q1	
	5.5	645	250.99	14 300	1.5	39	2KJ3405 - ■ CE11 - ■ ■ P1	
	6.1	575	223.94	14 400	1.7	39	2KJ3405 - ■ CE11 - ■ ■ N1	
	6.8	515	200.80	14 500	1.9	39	2KJ3405 - ■ CE11 - ■ ■ M1	
	7.6	465	180.99	14 500	2.1	39	2KJ3405 - ■ CE11 - ■ ■ L1	
	<b>FD.69-LA71MH4</b>							
	5.0	700	272.00	10 600	0.86	32	2KJ3404 - ■ CE11 - ■ ■ Q1	
	5.5	635	247.27	10 700	0.94	32	2KJ3404 - ■ CE11 - ■ ■ P1	
	6.5	545	211.56	10 900	1.1	32	2KJ3404 - ■ CE11 - ■ ■ N1	

## Article No. supplement

Shaft design

1, 5 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

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Electro Motor.ir

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.37</b>	<b>FD.69-LA71MH4</b>							
	7.1	495	192.32	11 100	1.2	32	2KJ3404 - ■ CE11 - ■ ■ M1	
	8.1	435	170.00	11 200	1.4	32	2KJ3404 - ■ CE11 - ■ ■ L1	
	8.9	395	154.55	11 300	1.5	32	2KJ3404 - ■ CE11 - ■ ■ K1	
	10	345	135.37	11 400	1.7	32	2KJ3404 - ■ CE11 - ■ ■ J1	
	11	320	124.96	11 500	1.9	32	2KJ3404 - ■ CE11 - ■ ■ H1	
	12	285	110.63	11 600	2.1	32	2KJ3404 - ■ CE11 - ■ ■ G1	
<b>FD.49-LA71MH4</b>								
6.8	515	200.98	7 720	0.93	27	2KJ3403 - ■ CE11 - ■ ■ N1		
7.5	470	182.71	8 020	1.0	27	2KJ3403 - ■ CE11 - ■ ■ M1		
8.5	415	161.50	8 220	1.2	27	2KJ3403 - ■ CE11 - ■ ■ L1		
9.3	375	146.82	8 340	1.3	27	2KJ3403 - ■ CE11 - ■ ■ K1		
11	330	128.60	8 470	1.4	27	2KJ3403 - ■ CE11 - ■ ■ J1		
12	305	118.71	8 540	1.6	27	2KJ3403 - ■ CE11 - ■ ■ H1		
13	270	105.10	8 640	1.8	27	2KJ3403 - ■ CE11 - ■ ■ G1		
16	225	87.48	8 770	2.1	27	2KJ3403 - ■ CE11 - ■ ■ F1		
17	210	82.33	8 820	2.3	27	2KJ3403 - ■ CE11 - ■ ■ E1		
<b>FD.39-LA71MH4</b>								
10	335	131.17	5 650	0.86	18	2KJ3402 - ■ CE11 - ■ ■ K1		
12	300	117.08	5 780	0.96	18	2KJ3402 - ■ CE11 - ■ ■ J1		
13	265	104.34	5 910	1.1	18	2KJ3402 - ■ CE11 - ■ ■ H1		
14	245	96.31	5 980	1.2	18	2KJ3402 - ■ CE11 - ■ ■ G1		
16	215	84.32	6 100	1.3	18	2KJ3402 - ■ CE11 - ■ ■ F1		
19	191	73.93	6 180	1.5	18	2KJ3402 - ■ CE11 - ■ ■ E1		
20	173	67.07	6 250	1.7	18	2KJ3402 - ■ CE11 - ■ ■ D1		
22	163	63.13	6 290	1.8	18	2KJ3402 - ■ CE11 - ■ ■ C1		
25	144	55.65	6 360	2.0	18	2KJ3402 - ■ CE11 - ■ ■ B1		
28	125	48.29	6 430	2.3	18	2KJ3402 - ■ CE11 - ■ ■ A1		
<b>FZ.39-LA71MH4</b>								
21	168	65.21	6 270	1.7	18	2KJ3302 - ■ CE11 - ■ ■ B2		
24	150	57.99	6 340	1.5	18	2KJ3302 - ■ CE11 - ■ ■ A2		
27	131	50.91	6 410	1.8	18	2KJ3302 - ■ CE11 - ■ ■ X1		
30	119	46.29	6 450	2.1	18	2KJ3302 - ■ CE11 - ■ ■ W1		
<b>FD.29-LA71MH4</b>								
19	182	70.43	5 220	0.83	12	2KJ3401 - ■ CE11 - ■ ■ C1		
21	171	66.29	5 220	0.88	12	2KJ3401 - ■ CE11 - ■ ■ B1		
24	149	57.79	5 220	1.0	12	2KJ3401 - ■ CE11 - ■ ■ A1		
<b>FZ.29-LA71MH4</b>								
24	146	56.73	5 220	1.0	11	2KJ3301 - ■ CE11 - ■ ■ C2		
27	130	50.32	5 220	1.2	11	2KJ3301 - ■ CE11 - ■ ■ B2		
31	113	43.66	5 220	1.3	11	2KJ3301 - ■ CE11 - ■ ■ A2		
35	102	39.69	5 220	1.5	11	2KJ3301 - ■ CE11 - ■ ■ X1		
40	88	34.04	5 220	1.7	11	2KJ3301 - ■ CE11 - ■ ■ W1		
44	80	30.95	5 220	1.9	11	2KJ3301 - ■ CE11 - ■ ■ V1		
50	70	27.13	5 220	2.1	11	2KJ3301 - ■ CE11 - ■ ■ U1		
57	62	24.22	5 100	2.4	11	2KJ3301 - ■ CE11 - ■ ■ T1		
63	56	21.58	4 930	2.7	11	2KJ3301 - ■ CE11 - ■ ■ S1		
69	51	19.92	4 830	2.9	11	2KJ3301 - ■ CE11 - ■ ■ R1		
79	45	17.44	4 650	3.3	11	2KJ3301 - ■ CE11 - ■ ■ Q1		

**Article No. supplement**

Shaft design

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Frequency and voltage

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Gearbox mounting type

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# Electro Motor.ir

**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>0.37</b>	<b>FZ.29-LA71MH4</b>								
	90	39	15.29	4 490	3.8	11	2KJ3301 - ■ CE11 - ■ ■ P1		
	99	36	13.88	4 360	4.2	11	2KJ3301 - ■ CE11 - ■ ■ N1		
	105	34	13.06	4 280	4.5	11	2KJ3301 - ■ CE11 - ■ ■ M1		
	119	30	11.51	4 130	4.8	11	2KJ3301 - ■ CE11 - ■ ■ L1		
	137	26	9.99	3 960	5.3	11	2KJ3301 - ■ CE11 - ■ ■ K1		
	141	25	9.69	3 890	5.7	11	2KJ3301 - ■ CE11 - ■ ■ J1		
	159	22	8.63	3 760	5.8	11	2KJ3301 - ■ CE11 - ■ ■ H1		
	172	21	7.97	3 670	5.8	11	2KJ3301 - ■ CE11 - ■ ■ G1		
	196	18	6.98	3 530	6.8	11	2KJ3301 - ■ CE11 - ■ ■ F1		
	224	16	6.12	3 390	7.2	11	2KJ3301 - ■ CE11 - ■ ■ E1		
	247	14	5.55	3 300	7.5	11	2KJ3301 - ■ CE11 - ■ ■ D1		
	262	14	5.22	3 230	7.9	11	2KJ3301 - ■ CE11 - ■ ■ C1		
	298	12	4.60	3 110	8.2	11	2KJ3301 - ■ CE11 - ■ ■ B1		
	342	10	4.00	2 980	8.8	11	2KJ3301 - ■ CE11 - ■ ■ A1		
	<b>FZ.29-LA71MG2</b>								
	157	22	17.44	3 810	6.7	10	2KJ3301 - ■ CD11 - ■ ■ Q1	P00	
	179	20	15.29	3 650	7.6	10	2KJ3301 - ■ CD11 - ■ ■ P1	P00	
	197	18	13.88	3 550	8.4	10	2KJ3301 - ■ CD11 - ■ ■ N1	P00	
	210	17	13.06	3 480	8.9	10	2KJ3301 - ■ CD11 - ■ ■ M1	P00	
	238	15	11.51	3 350	9.6	10	2KJ3301 - ■ CD11 - ■ ■ L1	P00	
	274	13	9.99	3 200	11	10	2KJ3301 - ■ CD11 - ■ ■ K1	P00	
	283	12	9.69	3 160	11	10	2KJ3301 - ■ CD11 - ■ ■ J1	P00	
	317	11	8.63	3 050	12	10	2KJ3301 - ■ CD11 - ■ ■ H1	P00	
	344	10	7.97	2 980	12	10	2KJ3301 - ■ CD11 - ■ ■ G1	P00	
	393	9	6.98	2 850	14	10	2KJ3301 - ■ CD11 - ■ ■ F1	P00	
	448	7.9	6.12	2 740	14	10	2KJ3301 - ■ CD11 - ■ ■ E1	P00	
	494	7.2	5.55	2 650	15	10	2KJ3301 - ■ CD11 - ■ ■ D1	P00	
	<b>0.55</b>	<b>FD.89-LE80MB4</b>							
		4.3	1 220	335.30	17 400	1.5	73	2KJ3406 - ■ DB21 - ■ ■ S1	
4.7		1 110	304.82	17 400	1.7	73	2KJ3406 - ■ DB21 - ■ ■ R1		
5.3		995	273.41	17 400	1.9	73	2KJ3406 - ■ DB21 - ■ ■ Q1		
5.9		895	245.82	17 400	2.1	73	2KJ3406 - ■ DB21 - ■ ■ P1		
	<b>FD.79-LE80MB4</b>								
	4.4	1 180	324.62	13 200	0.84	42	2KJ3405 - ■ DB21 - ■ ■ R1		
	5.2	1 000	276.09	13 600	0.99	42	2KJ3405 - ■ DB21 - ■ ■ Q1		
	5.7	915	250.99	13 700	1.1	42	2KJ3405 - ■ DB21 - ■ ■ P1		
	6.4	815	223.94	13 900	1.2	42	2KJ3405 - ■ DB21 - ■ ■ N1		
	7.2	730	200.80	14 100	1.4	42	2KJ3405 - ■ DB21 - ■ ■ M1		
	8.0	660	180.99	14 200	1.5	42	2KJ3405 - ■ DB21 - ■ ■ L1		
	8.6	605	167.07	14 400	1.6	42	2KJ3405 - ■ DB21 - ■ ■ K1		
	9.4	555	152.51	14 500	1.8	42	2KJ3405 - ■ DB21 - ■ ■ J1		
	11	460	126.54	14 500	2.2	42	2KJ3405 - ■ DB21 - ■ ■ H1		
	<b>FD.79-LA71ZML4</b>								
	4.2	1 240	324.62	13 100	0.80	39	2KJ3405 - ■ CH11 - ■ ■ R1		
	5.0	1 050	276.09	13 500	0.94	39	2KJ3405 - ■ CH11 - ■ ■ Q1		
	5.5	960	250.99	13 700	1.0	39	2KJ3405 - ■ CH11 - ■ ■ P1		
	6.1	855	223.94	13 900	1.2	39	2KJ3405 - ■ CH11 - ■ ■ N1		
	6.8	770	200.80	14 000	1.3	39	2KJ3405 - ■ CH11 - ■ ■ M1		

**Article No. supplement**

Shaft design

1, 5 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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Electro Motor.ir

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.55</b>	<b>FD.79-LA71ZML4</b>							
	7.6	690	180.99	14 200	1.4	39	2KJ3405 - ■ CH11 - ■ ■ L1	
	8.2	640	167.07	14 300	1.6	39	2KJ3405 - ■ CH11 - ■ ■ K1	
	9.0	585	152.51	14 400	1.7	39	2KJ3405 - ■ CH11 - ■ ■ J1	
	11	485	126.54	14 500	2.1	39	2KJ3405 - ■ CH11 - ■ ■ H1	
	12	455	119.10	14 500	2.2	39	2KJ3405 - ■ CH11 - ■ ■ G1	
	<b>FD.69-LE80MB4</b>							
	7.5	700	192.32	10 600	0.86	35	2KJ3404 - ■ DB21 - ■ ■ M1	
	8.5	620	170.00	10 800	0.97	35	2KJ3404 - ■ DB21 - ■ ■ L1	
	9.3	560	154.55	10 900	1.1	35	2KJ3404 - ■ DB21 - ■ ■ K1	
	11	490	135.37	11 100	1.2	35	2KJ3404 - ■ DB21 - ■ ■ J1	
	12	455	124.96	11 200	1.3	35	2KJ3404 - ■ DB21 - ■ ■ H1	
	13	400	110.63	11 300	1.5	35	2KJ3404 - ■ DB21 - ■ ■ G1	
	16	335	92.08	11 400	1.8	35	2KJ3404 - ■ DB21 - ■ ■ F1	
	17	315	86.67	11 500	1.9	35	2KJ3404 - ■ DB21 - ■ ■ E1	
	19	280	77.65	11 600	2.1	35	2KJ3404 - ■ DB21 - ■ ■ D1	
	<b>FD.69-LA71ZML4</b>							
	7.1	735	192.32	10 500	0.81	32	2KJ3404 - ■ CH11 - ■ ■ M1	
	8.1	650	170.00	10 700	0.92	32	2KJ3404 - ■ CH11 - ■ ■ L1	
	8.9	590	154.55	10 800	1.0	32	2KJ3404 - ■ CH11 - ■ ■ K1	
	10	515	135.37	11 000	1.2	32	2KJ3404 - ■ CH11 - ■ ■ J1	
11	475	124.96	11 100	1.3	32	2KJ3404 - ■ CH11 - ■ ■ H1		
12	420	110.63	11 200	1.4	32	2KJ3404 - ■ CH11 - ■ ■ G1		
15	350	92.08	11 400	1.7	32	2KJ3404 - ■ CH11 - ■ ■ F1		
16	330	86.67	11 400	1.8	32	2KJ3404 - ■ CH11 - ■ ■ E1		
18	295	77.65	11 500	2.0	32	2KJ3404 - ■ CH11 - ■ ■ D1		
21	250	66.11	11 600	2.4	32	2KJ3404 - ■ CH11 - ■ ■ C1		
<b>FZ.69-LA71ZML4</b>								
21	245	64.67	11 600	2.4	32	2KJ3304 - ■ CH11 - ■ ■ X1		
<b>FD.49-LA71ZML4</b>								
9.3	560	146.82	7 430	0.85	27	2KJ3403 - ■ CH11 - ■ ■ K1		
11	490	128.60	7 890	0.97	27	2KJ3403 - ■ CH11 - ■ ■ J1		
12	455	118.71	8 110	1.1	27	2KJ3403 - ■ CH11 - ■ ■ H1		
13	400	105.10	8 270	1.2	27	2KJ3403 - ■ CH11 - ■ ■ G1		
16	335	87.48	8 460	1.4	27	2KJ3403 - ■ CH11 - ■ ■ F1		
17	315	82.33	8 510	1.5	27	2KJ3403 - ■ CH11 - ■ ■ E1		
19	280	73.77	8 610	1.7	27	2KJ3403 - ■ CH11 - ■ ■ D1		
22	240	62.81	8 730	2.0	27	2KJ3403 - ■ CH11 - ■ ■ C1		
<b>FD.49-LE80MB4</b>								
8.9	585	161.50	7 270	0.81	30	2KJ3403 - ■ DB21 - ■ ■ L1		
9.8	535	146.82	7 600	0.90	30	2KJ3403 - ■ DB21 - ■ ■ K1		
11	465	128.60	8 060	1.0	30	2KJ3403 - ■ DB21 - ■ ■ J1		
12	430	118.71	8 180	1.1	30	2KJ3403 - ■ DB21 - ■ ■ H1		
14	380	105.10	8 330	1.3	30	2KJ3403 - ■ DB21 - ■ ■ G1		
16	315	87.48	8 510	1.5	30	2KJ3403 - ■ DB21 - ■ ■ F1		
17	300	82.33	8 560	1.6	30	2KJ3403 - ■ DB21 - ■ ■ E1		
20	265	73.77	8 660	1.8	30	2KJ3403 - ■ DB21 - ■ ■ D1		
23	225	62.81	8 770	2.1	30	2KJ3403 - ■ DB21 - ■ ■ C1		
27	196	53.83	8 450	2.4	30	2KJ3403 - ■ DB21 - ■ ■ B1		

**Article No. supplement**

Shaft design

1, 5 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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Electro Motor.ir

**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.55</b>	<b>FZ.49-LA71ZML4</b>							
	22	235	61.43	8 750	2.0	27	2KJ3303 - ■ CH11 - ■ ■ X1	
	25	210	55.85	8 640	2.2	27	2KJ3303 - ■ CH11 - ■ ■ W1	
	<b>FZ.49-LE80MB4</b>							
	23	220	61.43	8 730	2.1	29	2KJ3303 - ■ DB21 - ■ ■ X1	
	26	200	55.85	8 540	2.4	29	2KJ3303 - ■ DB21 - ■ ■ W1	
	<b>FD.39-LA71ZML4</b>							
	16	320	84.32	5 700	0.9	18	2KJ3402 - ■ CH11 - ■ ■ F1	
	19	280	73.93	5 850	1.0	18	2KJ3402 - ■ CH11 - ■ ■ E1	
	20	255	67.07	5 950	1.1	18	2KJ3402 - ■ CH11 - ■ ■ D1	
	22	240	63.13	6 000	1.2	18	2KJ3402 - ■ CH11 - ■ ■ C1	
	25	210	55.65	6 110	1.4	18	2KJ3402 - ■ CH11 - ■ ■ B1	
	28	185	48.29	6 210	1.6	18	2KJ3402 - ■ CH11 - ■ ■ A1	
	<b>FD.39-LE80MB4</b>							
	15	350	96.31	5 590	0.83	20	2KJ3402 - ■ DB21 - ■ ■ G1	
	17	305	84.32	5 760	0.94	20	2KJ3402 - ■ DB21 - ■ ■ F1	
	19	270	73.93	5 890	1.1	20	2KJ3402 - ■ DB21 - ■ ■ E1	
	21	245	67.07	5 980	1.2	20	2KJ3402 - ■ DB21 - ■ ■ D1	
23	230	63.13	6 040	1.3	20	2KJ3402 - ■ DB21 - ■ ■ C1		
26	200	55.65	6 150	1.4	20	2KJ3402 - ■ DB21 - ■ ■ B1		
30	176	48.29	6 240	1.6	20	2KJ3402 - ■ DB21 - ■ ■ A1		
<b>FZ.39-LA71ZML4</b>								
21	250	65.21	5 970	1.2	18	2KJ3302 - ■ CH11 - ■ ■ B2		
24	220	57.99	6 080	1.0	18	2KJ3302 - ■ CH11 - ■ ■ A2		
27	195	50.91	6 170	1.2	18	2KJ3302 - ■ CH11 - ■ ■ X1		
30	177	46.29	6 240	1.4	18	2KJ3302 - ■ CH11 - ■ ■ W1		
35	152	39.60	6 330	1.9	18	2KJ3302 - ■ CH11 - ■ ■ V1		
38	138	36.00	6 380	1.8	18	2KJ3302 - ■ CH11 - ■ ■ U1		
43	122	31.82	6 440	2.3	18	2KJ3302 - ■ CH11 - ■ ■ T1		
47	111	28.93	6 480	2.5	18	2KJ3302 - ■ CH11 - ■ ■ S1		
54	97	25.34	6 470	2.7	18	2KJ3302 - ■ CH11 - ■ ■ R1		
59	90	23.39	6 340	2.9	18	2KJ3302 - ■ CH11 - ■ ■ Q1		
66	79	20.71	6 140	3.1	18	2KJ3302 - ■ CH11 - ■ ■ P1		
<b>FZ.39-LE80MB4</b>								
25	210	57.99	6 110	1.1	20	2KJ3302 - ■ DB21 - ■ ■ A2		
28	186	50.91	6 200	1.3	20	2KJ3302 - ■ DB21 - ■ ■ X1		
31	169	46.29	6 270	1.5	20	2KJ3302 - ■ DB21 - ■ ■ W1		
36	144	39.60	6 360	2.0	20	2KJ3302 - ■ DB21 - ■ ■ V1		
40	131	36.00	6 410	1.9	20	2KJ3302 - ■ DB21 - ■ ■ U1		
45	116	31.82	6 460	2.5	20	2KJ3302 - ■ DB21 - ■ ■ T1		
50	106	28.93	6 500	2.6	20	2KJ3302 - ■ DB21 - ■ ■ S1		
57	92	25.34	6 390	2.9	20	2KJ3302 - ■ DB21 - ■ ■ R1		
62	85	23.39	6 260	3.0	20	2KJ3302 - ■ DB21 - ■ ■ Q1		
<b>FZ.29-LE80MB4</b>								
29	184	50.32	5 220	0.82	14	2KJ3301 - ■ DB21 - ■ ■ B2		
33	159	43.66	5 220	0.94	14	2KJ3301 - ■ DB21 - ■ ■ A2		
36	145	39.69	5 220	1.0	14	2KJ3301 - ■ DB21 - ■ ■ X1		
42	124	34.04	5 150	1.2	14	2KJ3301 - ■ DB21 - ■ ■ W1		
47	113	30.95	5 050	1.3	14	2KJ3301 - ■ DB21 - ■ ■ V1		
53	99	27.13	4 910	1.5	14	2KJ3301 - ■ DB21 - ■ ■ U1		

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Shaft design

**1, 5 or 9**

Frequency and voltage

**2 or 9**

Gearbox mounting type

**A, D, F or H**

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.55	<b>FZ.29-LE80MB4</b>							
	59	88	24.22	4 790	1.7	14	2KJ3301 - ■ DB21 - ■ ■ T1	
	67	79	21.58	4 650	1.9	14	2KJ3301 - ■ DB21 - ■ ■ S1	
	72	73	19.92	4 560	2.1	14	2KJ3301 - ■ DB21 - ■ ■ R1	
	83	64	17.44	4 410	2.4	14	2KJ3301 - ■ DB21 - ■ ■ Q1	
	94	56	15.29	4 270	2.7	14	2KJ3301 - ■ DB21 - ■ ■ P1	
	104	51	13.88	4 160	3.0	14	2KJ3301 - ■ DB21 - ■ ■ N1	
	110	48	13.06	4 090	3.1	14	2KJ3301 - ■ DB21 - ■ ■ M1	
	125	42	11.51	3 960	3.4	14	2KJ3301 - ■ DB21 - ■ ■ L1	
	144	36	9.99	3 810	3.7	14	2KJ3301 - ■ DB21 - ■ ■ K1	
	149	35	9.69	3 720	4.0	14	2KJ3301 - ■ DB21 - ■ ■ J1	
	167	32	8.63	3 600	4.1	14	2KJ3301 - ■ DB21 - ■ ■ H1	
	181	29	7.97	3 530	4.1	14	2KJ3301 - ■ DB21 - ■ ■ G1	
	0.55	<b>FZ.29-LA71ZML4</b>						
31		167	43.66	5 220	0.90	11	2KJ3301 - ■ CH11 - ■ ■ A2	
35		152	39.69	5 220	0.99	11	2KJ3301 - ■ CH11 - ■ ■ X1	
40		131	34.04	5 200	1.1	11	2KJ3301 - ■ CH11 - ■ ■ W1	
44		119	30.95	5 100	1.3	11	2KJ3301 - ■ CH11 - ■ ■ V1	
50		104	27.13	4 960	1.4	11	2KJ3301 - ■ CH11 - ■ ■ U1	
57		93	24.22	4 840	1.6	11	2KJ3301 - ■ CH11 - ■ ■ T1	
63		83	21.58	4 710	1.8	11	2KJ3301 - ■ CH11 - ■ ■ S1	
69		76	19.92	4 620	2.0	11	2KJ3301 - ■ CH11 - ■ ■ R1	
79		67	17.44	4 470	2.2	11	2KJ3301 - ■ CH11 - ■ ■ Q1	
90		59	15.29	4 320	2.6	11	2KJ3301 - ■ CH11 - ■ ■ P1	
99		53	13.88	4 220	2.8	11	2KJ3301 - ■ CH11 - ■ ■ N1	
105		50	13.06	4 150	3.0	11	2KJ3301 - ■ CH11 - ■ ■ M1	
119		44	11.51	4 010	3.2	11	2KJ3301 - ■ CH11 - ■ ■ L1	
137		38	9.99	3 860	3.6	11	2KJ3301 - ■ CH11 - ■ ■ K1	
141		37	9.69	3 770	3.8	11	2KJ3301 - ■ CH11 - ■ ■ J1	
159		33	8.63	3 660	3.9	11	2KJ3301 - ■ CH11 - ■ ■ H1	
172		31	7.97	3 570	3.9	11	2KJ3301 - ■ CH11 - ■ ■ G1	
0.75	<b>FD.129-LE90SQ6P</b>							
	2.2	3 190	413	37 500	1.5	171	2KJ3408 - ■ EC23 - ■ ■ T1	P01
	2.4	2 950	381	37 500	1.6	171	2KJ3408 - ■ EC23 - ■ ■ S1	P01
2.6	2 710	351	37 500	1.8	171	2KJ3408 - ■ EC23 - ■ ■ R1	P01	
0.75	<b>FD.109-LE90SQ6P</b>							
	2.3	3 170	410.00	25 000	0.98	118	2KJ3407 - ■ EC23 - ■ ■ T1	P01
	2.5	2 860	370.00	25 000	1.1	118	2KJ3407 - ■ EC23 - ■ ■ S1	P01
	2.8	2 590	335.70	25 000	1.2	118	2KJ3407 - ■ EC23 - ■ ■ R1	P01
	3.0	2 390	309.87	25 000	1.3	118	2KJ3407 - ■ EC23 - ■ ■ Q1	P01
	3.3	2 180	281.68	25 000	1.4	118	2KJ3407 - ■ EC23 - ■ ■ P1	P01
0.75	<b>FD.89-LE90SQ6P</b>							
	3.4	2 110	273.41	17 400	0.87	78	2KJ3406 - ■ EC23 - ■ ■ Q1	P01
3.8	1 900	245.82	17 400	0.97	78	2KJ3406 - ■ EC23 - ■ ■ P1	P01	
0.75	<b>FD.89-LE80ZMQ4P</b>							
	4.3	1 650	335.30	17 400	1.1	75	2KJ3406 - ■ DF23 - ■ ■ S1	
	4.8	1 500	304.82	17 400	1.2	75	2KJ3406 - ■ DF23 - ■ ■ R1	
	5.3	1 350	273.41	17 400	1.4	75	2KJ3406 - ■ DF23 - ■ ■ Q1	
	5.9	1 210	245.82	17 400	1.5	75	2KJ3406 - ■ DF23 - ■ ■ P1	
	6.5	1 090	222.33	17 400	1.7	75	2KJ3406 - ■ DF23 - ■ ■ N1	

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Shaft design

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Frequency and voltage

2 or 9

Gearbox mounting type

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**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.75</b>	<b>FD.89-LE80ZMQ4P</b>							
	7.1	1 010	205.23	17 400	1.8	75	2KJ3406 - ■ DF23 - ■ ■ M1	
	7.7	925	188.00	17 400	2.0	75	2KJ3406 - ■ DF23 - ■ ■ L1	
	<b>FD.79-LE80ZMQ4P</b>							
	5.8	1 240	250.99	13 100	0.81	44	2KJ3405 - ■ DF23 - ■ ■ P1	
	6.5	1 100	223.94	13 400	0.90	44	2KJ3405 - ■ DF23 - ■ ■ N1	
	7.2	990	200.80	13 600	1.0	44	2KJ3405 - ■ DF23 - ■ ■ M1	
	8.0	890	180.99	13 800	1.1	44	2KJ3405 - ■ DF23 - ■ ■ L1	
	8.7	825	167.07	13 900	1.2	44	2KJ3405 - ■ DF23 - ■ ■ K1	
	9.5	750	152.51	14 100	1.3	44	2KJ3405 - ■ DF23 - ■ ■ J1	
	11	625	126.54	14 300	1.6	44	2KJ3405 - ■ DF23 - ■ ■ H1	
	12	585	119.10	14 400	1.7	44	2KJ3405 - ■ DF23 - ■ ■ G1	
	13	555	112.48	14 500	1.8	44	2KJ3405 - ■ DF23 - ■ ■ F1	
	15	470	95.71	14 500	2.1	44	2KJ3405 - ■ DF23 - ■ ■ E1	
	<b>FD.69-LE80ZMQ4P</b>							
	11	665	135.37	10 700	0.90	37	2KJ3404 - ■ DF23 - ■ ■ J1	
	12	615	124.96	10 800	0.97	37	2KJ3404 - ■ DF23 - ■ ■ H1	
	13	545	110.63	10 900	1.1	37	2KJ3404 - ■ DF23 - ■ ■ G1	
16	455	92.08	11 200	1.3	37	2KJ3404 - ■ DF23 - ■ ■ F1		
17	425	86.67	11 200	1.4	37	2KJ3404 - ■ DF23 - ■ ■ E1		
19	380	77.65	11 300	1.6	37	2KJ3404 - ■ DF23 - ■ ■ D1		
22	325	66.11	11 400	1.8	37	2KJ3404 - ■ DF23 - ■ ■ C1		
26	280	56.67	11 000	2.1	37	2KJ3404 - ■ DF23 - ■ ■ B1		
30	240	48.80	10 600	2.5	37	2KJ3404 - ■ DF23 - ■ ■ A1		
<b>FZ.69-LE80ZMQ4P</b>								
22	315	64.67	11 400	1.9	36	2KJ3304 - ■ DF23 - ■ ■ X1		
25	290	58.79	11 100	2.1	36	2KJ3304 - ■ DF23 - ■ ■ W1		
29	245	50.00	10 700	2.4	36	2KJ3304 - ■ DF23 - ■ ■ V1		
<b>FD.49-LE80ZMQ4P</b>								
12	585	118.71	7 270	0.82	32	2KJ3403 - ■ DF23 - ■ ■ H1		
14	515	105.10	7 720	0.92	32	2KJ3403 - ■ DF23 - ■ ■ G1		
17	430	87.48	8 180	1.1	32	2KJ3403 - ■ DF23 - ■ ■ F1		
18	405	82.33	8 250	1.2	32	2KJ3403 - ■ DF23 - ■ ■ E1		
20	360	73.77	8 380	1.3	32	2KJ3403 - ■ DF23 - ■ ■ D1		
23	310	62.81	8 190	1.5	32	2KJ3403 - ■ DF23 - ■ ■ C1		
27	265	53.83	7 970	1.8	32	2KJ3403 - ■ DF23 - ■ ■ B1		
31	225	46.36	7 760	2.1	32	2KJ3403 - ■ DF23 - ■ ■ A1		
<b>FZ.49-LE80ZMQ4P</b>								
24	300	61.43	8 180	1.6	31	2KJ3303 - ■ DF23 - ■ ■ X1		
26	275	55.85	8 030	1.7	31	2KJ3303 - ■ DF23 - ■ ■ W1		
31	235	47.50	7 770	2.0	31	2KJ3303 - ■ DF23 - ■ ■ V1		
34	210	43.18	7 640	2.3	31	2KJ3303 - ■ DF23 - ■ ■ U1		
38	190	38.53	7 440	2.5	31	2KJ3303 - ■ DF23 - ■ ■ T1		
<b>FD.39-LE80ZMQ4P</b>								
22	330	67.07	5 670	0.88	22	2KJ3402 - ■ DF23 - ■ ■ D1		
23	310	63.13	5 740	0.93	22	2KJ3402 - ■ DF23 - ■ ■ C1		
26	275	55.65	5 870	1.1	22	2KJ3402 - ■ DF23 - ■ ■ B1		
30	235	48.29	6 020	1.2	22	2KJ3402 - ■ DF23 - ■ ■ A1		
<b>FZ.39-LE80ZMQ4P</b>								
25	285	57.99	5 830	0.80	22	2KJ3302 - ■ DF23 - ■ ■ A2		

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Shaft design

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
0.75	<b>FZ.39-LE80ZMQ4P</b>								
	28	250	50.91	5 970	0.95	22	2KJ3302 - ■ DF23 - ■ ■ X1		
	31	225	46.29	6 060	1.1	22	2KJ3302 - ■ DF23 - ■ ■ W1		
	37	196	39.60	6 170	1.5	22	2KJ3302 - ■ DF23 - ■ ■ V1		
	40	178	36.00	6 230	1.4	22	2KJ3302 - ■ DF23 - ■ ■ U1		
	46	157	31.82	6 310	1.8	22	2KJ3302 - ■ DF23 - ■ ■ T1		
	50	143	28.93	6 310	1.9	22	2KJ3302 - ■ DF23 - ■ ■ S1		
	57	125	25.34	6 130	2.1	22	2KJ3302 - ■ DF23 - ■ ■ R1		
	62	116	23.39	6 010	2.3	22	2KJ3302 - ■ DF23 - ■ ■ Q1		
	70	102	20.71	5 840	2.4	22	2KJ3302 - ■ DF23 - ■ ■ P1		
	84	85	17.24	5 580	2.8	22	2KJ3302 - ■ DF23 - ■ ■ N1		
	89	80	16.22	5 490	2.9	22	2KJ3302 - ■ DF23 - ■ ■ M1		
	100	72	14.54	5 330	3.1	22	2KJ3302 - ■ DF23 - ■ ■ L1		
	117	61	12.38	5 100	3.4	22	2KJ3302 - ■ DF23 - ■ ■ K1		
	137	52	10.61	4 890	3.8	22	2KJ3302 - ■ DF23 - ■ ■ J1		
	179	40	8.10	4 490	4.2	22	2KJ3302 - ■ DF23 - ■ ■ G1		
		<b>FZ.29-LE80ZMQ4P</b>							
		43	168	34.04	4 770	0.89	16	2KJ3301 - ■ DF23 - ■ ■ W1	
		47	153	30.95	4 700	0.98	16	2KJ3301 - ■ DF23 - ■ ■ V1	
53		134	27.13	4 600	1.1	16	2KJ3301 - ■ DF23 - ■ ■ U1		
60		120	24.22	4 510	1.3	16	2KJ3301 - ■ DF23 - ■ ■ T1		
67		107	21.58	4 410	1.4	16	2KJ3301 - ■ DF23 - ■ ■ S1		
73		98	19.92	4 340	1.5	16	2KJ3301 - ■ DF23 - ■ ■ R1		
83		86	17.44	4 220	1.7	16	2KJ3301 - ■ DF23 - ■ ■ Q1		
95		76	15.29	4 090	2.0	16	2KJ3301 - ■ DF23 - ■ ■ P1		
104		69	13.88	4 000	2.2	16	2KJ3301 - ■ DF23 - ■ ■ N1		
111		64	13.06	3 950	2.3	16	2KJ3301 - ■ DF23 - ■ ■ M1		
126		57	11.51	3 820	2.5	16	2KJ3301 - ■ DF23 - ■ ■ L1		
145		49	9.99	3 690	2.8	16	2KJ3301 - ■ DF23 - ■ ■ K1		
150		48	9.69	3 590	3.0	16	2KJ3301 - ■ DF23 - ■ ■ J1		
168		43	8.63	3 490	3.0	16	2KJ3301 - ■ DF23 - ■ ■ H1		
182		39	7.97	3 420	3.0	16	2KJ3301 - ■ DF23 - ■ ■ G1		
208		34	6.98	3 300	3.6	16	2KJ3301 - ■ DF23 - ■ ■ F1		
237		30	6.12	3 190	3.8	16	2KJ3301 - ■ DF23 - ■ ■ E1		
261		27	5.55	3 110	3.9	16	2KJ3301 - ■ DF23 - ■ ■ D1		
278		26	5.22	3 050	4.1	16	2KJ3301 - ■ DF23 - ■ ■ C1		
315	23	4.60	2 940	4.3	16	2KJ3301 - ■ DF23 - ■ ■ B1			
362	20	4.00	2 820	4.6	16	2KJ3301 - ■ DF23 - ■ ■ A1			
	<b>FZ.29-LE80ME2P</b>								
	161	44	17.44	3 590	3.4	15	2KJ3301 - ■ DB23 - ■ ■ Q1	P00	
	183	39	15.29	3 460	3.8	15	2KJ3301 - ■ DB23 - ■ ■ P1	P00	
	202	35	13.88	3 380	4.2	15	2KJ3301 - ■ DB23 - ■ ■ N1	P00	
	215	33	13.06	3 320	4.5	15	2KJ3301 - ■ DB23 - ■ ■ M1	P00	
1.1	<b>FD.129-LE90ZLR6P</b>								
	2.3	4 640	413.00	37 400	1.0	174	2KJ3408 - ■ EM23 - ■ ■ T1	P01	
	2.5	4 280	381.00	37 500	1.1	174	2KJ3408 - ■ EM23 - ■ ■ S1	P01	
	2.7	3 940	351.00	37 500	1.2	174	2KJ3408 - ■ EM23 - ■ ■ R1	P01	
	3.1	3 360	299.31	37 500	1.4	174	2KJ3408 - ■ EM23 - ■ ■ Q1	P01	
	3.3	3 160	281.70	37 500	1.5	174	2KJ3408 - ■ EM23 - ■ ■ P1	P01	

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Electro Motor.ir

**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.1</b>	<b>FD.129-LE90SM4P</b>							
	3.5	3 040	413.00	37 500	1.6	171	2KJ3408 - ■ EK23 - ■ ■ T1	
	3.7	2 800	381.00	37 500	1.7	171	2KJ3408 - ■ EK23 - ■ ■ S1	
	4.1	2 580	351.00	37 500	1.9	171	2KJ3408 - ■ EK23 - ■ ■ R1	
	<b>FD.109-LE90ZLR6P</b>							
	2.8	3 770	335.70	25 000	0.82	121	2KJ3407 - ■ EM23 - ■ ■ R1	P01
	3.0	3 480	309.87	25 000	0.89	121	2KJ3407 - ■ EM23 - ■ ■ Q1	P01
	3.3	3 160	281.68	25 000	0.98	121	2KJ3407 - ■ EM23 - ■ ■ P1	P01
	<b>FD.109-LE90SM4P</b>							
	3.5	3 020	410.00	25 000	1.0	118	2KJ3407 - ■ EK23 - ■ ■ T1	
	3.9	2 720	370.00	25 000	1.1	118	2KJ3407 - ■ EK23 - ■ ■ S1	
	4.2	2 470	335.70	25 000	1.3	118	2KJ3407 - ■ EK23 - ■ ■ R1	
4.6	2 280	309.87	25 000	1.4	118	2KJ3407 - ■ EK23 - ■ ■ Q1		
5.1	2 070	281.68	25 000	1.5	118	2KJ3407 - ■ EK23 - ■ ■ P1		
6.0	1 750	238.52	25 000	1.8	118	2KJ3407 - ■ EK23 - ■ ■ N1		
6.3	1 650	224.49	25 000	1.9	118	2KJ3407 - ■ EK23 - ■ ■ M1		
6.9	1 520	207.31	25 000	2.0	118	2KJ3407 - ■ EK23 - ■ ■ L1		
<b>FD.89-LE90SM4P</b>								
4.7	2 240	304.82	17 400	0.82	78	2KJ3406 - ■ EK23 - ■ ■ R1		
5.2	2 010	273.41	17 400	0.92	78	2KJ3406 - ■ EK23 - ■ ■ Q1		
5.8	1 810	245.82	17 400	1.0	78	2KJ3406 - ■ EK23 - ■ ■ P1		
6.4	1 630	222.33	17 400	1.1	78	2KJ3406 - ■ EK23 - ■ ■ N1		
6.9	1 510	205.23	17 400	1.2	78	2KJ3406 - ■ EK23 - ■ ■ M1		
7.6	1 380	188.00	17 400	1.3	78	2KJ3406 - ■ EK23 - ■ ■ L1		
9.0	1 160	157.74	17 400	1.6	78	2KJ3406 - ■ EK23 - ■ ■ K1		
9.6	1 090	148.46	17 400	1.7	78	2KJ3406 - ■ EK23 - ■ ■ J1		
10	1 000	136.21	17 400	1.8	78	2KJ3406 - ■ EK23 - ■ ■ H1		
12	875	118.98	17 400	2.1	78	2KJ3406 - ■ EK23 - ■ ■ G1		
<b>FD.79-LE90SM4P</b>								
8.5	1 230	167.07	13 100	0.81	46	2KJ3405 - ■ EK23 - ■ ■ K1		
9.3	1 120	152.51	13 300	0.89	46	2KJ3405 - ■ EK23 - ■ ■ J1		
11	930	126.54	13 700	1.1	46	2KJ3405 - ■ EK23 - ■ ■ H1		
12	875	119.10	13 800	1.1	46	2KJ3405 - ■ EK23 - ■ ■ G1		
13	825	112.48	13 900	1.2	46	2KJ3405 - ■ EK23 - ■ ■ F1		
15	705	95.71	14 200	1.4	46	2KJ3405 - ■ EK23 - ■ ■ E1		
17	600	81.99	14 400	1.7	46	2KJ3405 - ■ EK23 - ■ ■ D1		
20	530	72.09	14 500	1.9	46	2KJ3405 - ■ EK23 - ■ ■ C1		
23	445	60.82	14 500	2.2	46	2KJ3405 - ■ EK23 - ■ ■ B1		
<b>FZ.79-LE90SM4P</b>								
27	395	53.55	14 500	2.5	45	2KJ3305 - ■ EK23 - ■ ■ X1		
<b>FD.69-LE90SM4P</b>								
15	675	92.08	10 600	0.88	37	2KJ3404 - ■ EK23 - ■ ■ F1		
16	635	86.67	10 700	0.94	37	2KJ3404 - ■ EK23 - ■ ■ E1		
18	570	77.65	10 700	1.0	37	2KJ3404 - ■ EK23 - ■ ■ D1		
22	485	66.11	10 500	1.2	37	2KJ3404 - ■ EK23 - ■ ■ C1		
25	415	56.67	10 200	1.4	37	2KJ3404 - ■ EK23 - ■ ■ B1		
29	360	48.80	9 990	1.7	37	2KJ3404 - ■ EK23 - ■ ■ A1		
<b>FZ.69-LE90SM4P</b>								
22	475	64.67	10 400	1.3	37	2KJ3304 - ■ EK23 - ■ ■ X1		
24	430	58.79	10 300	1.4	37	2KJ3304 - ■ EK23 - ■ ■ W1		

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Gearbox mounting type

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.1</b>	<b>FZ.69-LE90SM4P</b>							
	28	365	50.00	10 000	1.6	37	2KJ3304 - ■ EK23 - ■ ■ V1	
	31	335	45.45	9 860	1.8	37	2KJ3304 - ■ EK23 - ■ ■ U1	
	35	295	40.56	9 660	2.0	37	2KJ3304 - ■ EK23 - ■ ■ T1	
	39	265	36.36	9 440	2.2	37	2KJ3304 - ■ EK23 - ■ ■ S1	
	43	240	32.78	9 220	2.5	37	2KJ3304 - ■ EK23 - ■ ■ R1	
	47	220	30.26	9 060	2.7	37	2KJ3304 - ■ EK23 - ■ ■ Q1	
	52	200	27.62	8 870	2.9	37	2KJ3304 - ■ EK23 - ■ ■ P1	
	<b>FD.49-LE90SM4P</b>							
	19	540	73.77	7 310	0.88	32	2KJ3403 - ■ EK23 - ■ ■ D1	
	23	460	62.81	7 270	1.0	32	2KJ3403 - ■ EK23 - ■ ■ C1	
	26	395	53.83	7 180	1.2	32	2KJ3403 - ■ EK23 - ■ ■ B1	
	31	340	46.36	7 060	1.4	32	2KJ3403 - ■ EK23 - ■ ■ A1	
	<b>FZ.49-LE90SM4P</b>							
	23	450	61.43	7 260	1.1	32	2KJ3303 - ■ EK23 - ■ ■ X1	
	26	410	55.85	7 200	1.2	32	2KJ3303 - ■ EK23 - ■ ■ W1	
	30	350	47.50	7 070	1.4	32	2KJ3303 - ■ EK23 - ■ ■ V1	
	33	315	43.18	7 010	1.5	32	2KJ3303 - ■ EK23 - ■ ■ U1	
	37	280	38.53	6 900	1.7	32	2KJ3303 - ■ EK23 - ■ ■ T1	
	41	255	34.55	6 750	1.9	32	2KJ3303 - ■ EK23 - ■ ■ S1	
	46	230	31.14	6 630	2.1	32	2KJ3303 - ■ EK23 - ■ ■ R1	
	50	210	28.74	6 550	2.3	32	2KJ3303 - ■ EK23 - ■ ■ Q1	
	54	193	26.24	6 420	2.5	32	2KJ3303 - ■ EK23 - ■ ■ P1	
	65	160	21.77	6 170	3.0	32	2KJ3303 - ■ EK23 - ■ ■ N1	
	<b>FD.39-LE90SM4P</b>							
	30	355	48.29	5 570	0.81	25	2KJ3402 - ■ EK23 - ■ ■ A1	
	<b>FZ.39-LE90SM4P</b>							
36	290	39.60	5 820	0.99	24	2KJ3302 - ■ EK23 - ■ ■ V1		
40	265	36.00	5 910	0.96	24	2KJ3302 - ■ EK23 - ■ ■ U1		
45	235	31.82	5 910	1.2	24	2KJ3302 - ■ EK23 - ■ ■ T1		
49	210	28.93	5 860	1.3	24	2KJ3302 - ■ EK23 - ■ ■ S1		
56	187	25.34	5 710	1.4	24	2KJ3302 - ■ EK23 - ■ ■ R1		
61	172	23.39	5 630	1.5	24	2KJ3302 - ■ EK23 - ■ ■ Q1		
69	153	20.71	5 500	1.6	24	2KJ3302 - ■ EK23 - ■ ■ P1		
83	127	17.24	5 300	1.8	24	2KJ3302 - ■ EK23 - ■ ■ N1		
88	120	16.22	5 230	1.9	24	2KJ3302 - ■ EK23 - ■ ■ M1		
98	107	14.54	5 100	2.1	24	2KJ3302 - ■ EK23 - ■ ■ L1		
115	91	12.38	4 910	2.3	24	2KJ3302 - ■ EK23 - ■ ■ K1		
134	78	10.61	4 730	2.5	24	2KJ3302 - ■ EK23 - ■ ■ J1		
156	67	9.13	4 550	2.8	24	2KJ3302 - ■ EK23 - ■ ■ H1		
176	60	8.10	4 350	2.8	24	2KJ3302 - ■ EK23 - ■ ■ G1		
211	50	6.74	4 150	3.1	24	2KJ3302 - ■ EK23 - ■ ■ F1		
224	47	6.35	4 080	3.2	24	2KJ3302 - ■ EK23 - ■ ■ E1		
250	42	5.69	3 960	3.3	24	2KJ3302 - ■ EK23 - ■ ■ D1		
294	36	4.84	3 790	3.6	24	2KJ3302 - ■ EK23 - ■ ■ C1		
343	31	4.15	3 630	3.9	24	2KJ3302 - ■ EK23 - ■ ■ B1		
399	26	3.57	3 480	4.1	24	2KJ3302 - ■ EK23 - ■ ■ A1		
<b>FZ.39-LE80ZMJ2P</b>								
164	64	17.24	4 490	3.7	22	2KJ3302 - ■ DM23 - ■ ■ N1 P00		
175	60	16.22	4 420	3.8	22	2KJ3302 - ■ DM23 - ■ ■ M1 P00		

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**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.1</b>	<b>FZ.39-LE80ZMJ2P</b>							
	195	54	14.54	4 290	4.1	22	2KJ3302 - ■ DM23 - ■ ■ L1	P00
	229	46	12.38	4 100	4.6	22	2KJ3302 - ■ DM23 - ■ ■ K1	P00
	<b>FZ.29-LE90SM4P</b>							
	59	179	24.22	4 050	0.84	18	2KJ3301 - ■ EK23 - ■ ■ T1	
	66	159	21.58	4 010	0.94	18	2KJ3301 - ■ EK23 - ■ ■ S1	
	72	147	19.92	3 970	1.0	18	2KJ3301 - ■ EK23 - ■ ■ R1	
	82	129	17.44	3 890	1.2	18	2KJ3301 - ■ EK23 - ■ ■ Q1	
	93	113	15.29	3 810	1.3	18	2KJ3301 - ■ EK23 - ■ ■ P1	
	103	102	13.88	3 750	1.5	18	2KJ3301 - ■ EK23 - ■ ■ N1	
	109	96	13.06	3 710	1.6	18	2KJ3301 - ■ EK23 - ■ ■ M1	
	124	85	11.51	3 610	1.7	18	2KJ3301 - ■ EK23 - ■ ■ L1	
	143	74	9.99	3 510	1.8	18	2KJ3301 - ■ EK23 - ■ ■ K1	
	147	71	9.69	3 390	2.0	18	2KJ3301 - ■ EK23 - ■ ■ J1	
	165	64	8.63	3 300	2.0	18	2KJ3301 - ■ EK23 - ■ ■ H1	
	179	59	7.97	3 250	2.0	18	2KJ3301 - ■ EK23 - ■ ■ G1	
	204	52	6.98	3 150	2.4	18	2KJ3301 - ■ EK23 - ■ ■ F1	
	233	45	6.12	3 060	2.5	18	2KJ3301 - ■ EK23 - ■ ■ E1	
	257	41	5.55	2 990	2.6	18	2KJ3301 - ■ EK23 - ■ ■ D1	
	273	38	5.22	2 950	2.8	18	2KJ3301 - ■ EK23 - ■ ■ C1	
310	34	4.60	2 850	2.9	18	2KJ3301 - ■ EK23 - ■ ■ B1		
356	30	4.00	2 740	3.1	18	2KJ3301 - ■ EK23 - ■ ■ A1		
<b>FZ.29-LE80ZMJ2P</b>								
163	65	17.44	3 400	2.3	16	2KJ3301 - ■ DM23 - ■ ■ Q1	P00	
185	57	15.29	3 300	2.6	16	2KJ3301 - ■ DM23 - ■ ■ P1	P00	
204	51	13.88	3 230	2.9	16	2KJ3301 - ■ DM23 - ■ ■ N1	P00	
217	48	13.06	3 180	3.1	16	2KJ3301 - ■ DM23 - ■ ■ M1	P00	
246	43	11.51	3 080	3.4	16	2KJ3301 - ■ DM23 - ■ ■ L1	P00	
284	37	9.99	2 970	3.7	16	2KJ3301 - ■ DM23 - ■ ■ K1	P00	
293	36	9.69	2 890	4.0	16	2KJ3301 - ■ DM23 - ■ ■ J1	P00	
329	32	8.63	2 810	4.1	16	2KJ3301 - ■ DM23 - ■ ■ H1	P00	
356	30	7.97	2 750	4.1	16	2KJ3301 - ■ DM23 - ■ ■ G1	P00	
406	26	6.98	2 650	4.8	16	2KJ3301 - ■ DM23 - ■ ■ F1	P00	
463	23	6.12	2 560	5.0	16	2KJ3301 - ■ DM23 - ■ ■ E1	P00	
511	21	5.55	2 490	5.3	16	2KJ3301 - ■ DM23 - ■ ■ D1	P00	
543	19	5.22	2 450	5.5	16	2KJ3301 - ■ DM23 - ■ ■ C1	P00	
616	17	4.60	2 360	5.7	16	2KJ3301 - ■ DM23 - ■ ■ B1	P00	
709	15	4.00	2 270	6.1	16	2KJ3301 - ■ DM23 - ■ ■ A1	P00	
<b>1.5</b>	<b>FD.149-LE100LLB6P</b>							
	2.6	5 560	377.00	65 000	1.4	275	2KJ3410 - ■ FM23 - ■ ■ W1	P01
	3.0	4 770	323.04	65 000	1.7	275	2KJ3410 - ■ FM23 - ■ ■ V1	P01
	3.2	4 490	304.03	65 000	1.8	275	2KJ3410 - ■ FM23 - ■ ■ U1	P01
	3.4	4 200	285.00	65 000	1.9	275	2KJ3410 - ■ FM23 - ■ ■ T1	P01
	<b>FD.129-LE100LLB6P</b>							
	2.3	6 090	413.00	35 900	0.80	188	2KJ3408 - ■ FM23 - ■ ■ T1	P01
	2.5	5 620	381.00	36 400	0.86	188	2KJ3408 - ■ FM23 - ■ ■ S1	P01
	2.8	5 180	351.00	36 800	0.94	188	2KJ3408 - ■ FM23 - ■ ■ R1	P01
	3.2	4 420	299.31	37 500	1.1	188	2KJ3408 - ■ FM23 - ■ ■ Q1	P01
	<b>FD.129-LE90ZLR4P</b>							
	3.5	4 090	413.00	37 500	1.2	174	2KJ3408 - ■ EM23 - ■ ■ T1	

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.5</b>	<b>FD.129-LE90ZLR4P</b>							
	3.8	3 770	381.00	37 500	1.3	174	2KJ3408 - ■ EM23 - ■ ■ S1	
	4.1	3 480	351.00	37 500	1.4	174	2KJ3408 - ■ EM23 - ■ ■ R1	
	4.8	2 960	299.31	37 500	1.6	174	2KJ3408 - ■ EM23 - ■ ■ Q1	
	5.1	2 790	281.70	37 500	1.7	174	2KJ3408 - ■ EM23 - ■ ■ P1	
	5.5	2 590	261.42	37 500	1.9	174	2KJ3408 - ■ EM23 - ■ ■ N1	
	6.3	2 290	231.12	37 500	2.1	174	2KJ3408 - ■ EM23 - ■ ■ M1	
<b>FD.109-LE90ZLR4P</b>								
3.9	3 660	370.00	25 000	0.85	121	2KJ3407 - ■ EM23 - ■ ■ S1		
4.3	3 320	335.70	25 000	0.93	121	2KJ3407 - ■ EM23 - ■ ■ R1		
4.7	3 070	309.87	25 000	1.0	121	2KJ3407 - ■ EM23 - ■ ■ Q1		
5.1	2 790	281.68	25 000	1.1	121	2KJ3407 - ■ EM23 - ■ ■ P1		
6.1	2 360	238.52	25 000	1.3	121	2KJ3407 - ■ EM23 - ■ ■ N1		
6.4	2 220	224.49	25 000	1.4	121	2KJ3407 - ■ EM23 - ■ ■ M1		
7.0	2 050	207.31	25 000	1.5	121	2KJ3407 - ■ EM23 - ■ ■ L1		
7.8	1 820	184.46	25 000	1.7	121	2KJ3407 - ■ EM23 - ■ ■ K1		
8.8	1 620	163.83	25 000	1.9	121	2KJ3407 - ■ EM23 - ■ ■ J1		
9.9	1 450	146.65	25 000	2.1	121	2KJ3407 - ■ EM23 - ■ ■ H1		
<b>FD.89-LE90ZLR4P</b>								
6.5	2 200	222.33	17 400	0.84	81	2KJ3406 - ■ EM23 - ■ ■ N1		
7.0	2 030	205.23	17 400	0.91	81	2KJ3406 - ■ EM23 - ■ ■ M1		
7.7	1 860	188.00	17 400	0.99	81	2KJ3406 - ■ EM23 - ■ ■ L1		
9.2	1 560	157.74	17 400	1.2	81	2KJ3406 - ■ EM23 - ■ ■ K1		
9.7	1 470	148.46	17 400	1.3	81	2KJ3406 - ■ EM23 - ■ ■ J1		
11	1 350	136.21	17 400	1.4	81	2KJ3406 - ■ EM23 - ■ ■ H1		
12	1 180	118.98	17 400	1.6	81	2KJ3406 - ■ EM23 - ■ ■ G1		
14	1 050	106.52	17 400	1.8	81	2KJ3406 - ■ EM23 - ■ ■ F1		
16	920	93.14	17 400	2.0	81	2KJ3406 - ■ EM23 - ■ ■ E1		
18	790	79.95	17 400	2.3	81	2KJ3406 - ■ EM23 - ■ ■ D1		
<b>FD.79-LE90ZLR4P</b>								
11	1 250	126.54	13 100	0.80	49	2KJ3405 - ■ EM23 - ■ ■ H1		
12	1 180	119.10	13 200	0.85	49	2KJ3405 - ■ EM23 - ■ ■ G1		
13	1 110	112.48	13 400	0.90	49	2KJ3405 - ■ EM23 - ■ ■ F1		
15	945	95.71	13 700	1.1	49	2KJ3405 - ■ EM23 - ■ ■ E1		
18	810	81.99	13 900	1.2	49	2KJ3405 - ■ EM23 - ■ ■ D1		
20	715	72.09	14 100	1.4	49	2KJ3405 - ■ EM23 - ■ ■ C1		
24	600	60.82	14 400	1.7	49	2KJ3405 - ■ EM23 - ■ ■ B1		
27	525	53.01	14 500	1.9	49	2KJ3405 - ■ EM23 - ■ ■ A1		
<b>FZ.79-LE90ZLR4P</b>								
27	530	53.55	14 500	1.9	48	2KJ3305 - ■ EM23 - ■ ■ X1		
30	475	48.03	14 500	2.1	48	2KJ3305 - ■ EM23 - ■ ■ W1		
33	425	43.18	14 500	2.3	48	2KJ3305 - ■ EM23 - ■ ■ V1		
37	385	39.06	14 500	2.6	48	2KJ3305 - ■ EM23 - ■ ■ U1		
<b>FD.69-LE90ZLR4P</b>								
22	655	66.11	9 410	0.92	40	2KJ3404 - ■ EM23 - ■ ■ C1		
25	560	56.67	9 320	1.1	40	2KJ3404 - ■ EM23 - ■ ■ B1		
30	480	48.80	9 200	1.2	40	2KJ3404 - ■ EM23 - ■ ■ A1		
<b>FZ.69-LE90ZLR4P</b>								
22	640	64.67	9 410	0.94	40	2KJ3304 - ■ EM23 - ■ ■ X1		
25	580	58.79	9 360	1.0	40	2KJ3304 - ■ EM23 - ■ ■ W1		

**Article No. supplement**

Shaft design

1, 5 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

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**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.5</b>	<b>FZ.69-LE90ZLR4P</b>							
	29	495	50.00	9 200	1.2	40	2KJ3304 - ■ EM23 - ■ ■ V1	
	32	450	45.45	9 100	1.3	40	2KJ3304 - ■ EM23 - ■ ■ U1	
	36	400	40.56	8 960	1.5	40	2KJ3304 - ■ EM23 - ■ ■ T1	
	40	360	36.36	8 800	1.7	40	2KJ3304 - ■ EM23 - ■ ■ S1	
	44	325	32.78	8 640	1.8	40	2KJ3304 - ■ EM23 - ■ ■ R1	
	48	300	30.26	8 520	2.0	40	2KJ3304 - ■ EM23 - ■ ■ Q1	
	52	270	27.62	8 390	2.2	40	2KJ3304 - ■ EM23 - ■ ■ P1	
	63	225	22.92	8 060	2.6	40	2KJ3304 - ■ EM23 - ■ ■ N1	
	67	210	21.57	7 970	2.8	40	2KJ3304 - ■ EM23 - ■ ■ M1	
	71	200	20.37	7 850	3.0	40	2KJ3304 - ■ EM23 - ■ ■ L1	
	<b>FD.49-LE90ZLR4P</b>							
	27	530	53.83	6 250	0.90	35	2KJ3403 - ■ EM23 - ■ ■ B1	
	31	460	46.36	6 240	1.0	35	2KJ3403 - ■ EM23 - ■ ■ A1	
<b>FZ.49-LE90ZLR4P</b>								
26	550	55.85	6 240	0.87	35	2KJ3303 - ■ EM23 - ■ ■ W1		
30	470	47.50	6 250	1.0	35	2KJ3303 - ■ EM23 - ■ ■ V1		
33	425	43.18	6 250	1.1	35	2KJ3303 - ■ EM23 - ■ ■ U1		
38	380	38.53	6 210	1.3	35	2KJ3303 - ■ EM23 - ■ ■ T1		
42	340	34.55	6 160	1.4	35	2KJ3303 - ■ EM23 - ■ ■ S1		
46	305	31.14	6 100	1.6	35	2KJ3303 - ■ EM23 - ■ ■ R1		
50	285	28.74	6 020	1.7	35	2KJ3303 - ■ EM23 - ■ ■ Q1		
55	260	26.24	5 950	1.8	35	2KJ3303 - ■ EM23 - ■ ■ P1		
66	215	21.77	5 780	2.2	35	2KJ3303 - ■ EM23 - ■ ■ N1		
71	200	20.49	5 730	2.4	35	2KJ3303 - ■ EM23 - ■ ■ M1		
75	192	19.35	5 650	2.5	35	2KJ3303 - ■ EM23 - ■ ■ L1		
88	163	16.47	5 480	2.9	35	2KJ3303 - ■ EM23 - ■ ■ K1		
102	140	14.11	5 300	3.4	35	2KJ3303 - ■ EM23 - ■ ■ J1		
<b>FZ.39-LE90ZLR4P</b>								
45	315	31.82	5 280	0.90	27	2KJ3302 - ■ EM23 - ■ ■ T1		
50	285	28.93	5 260	0.96	27	2KJ3302 - ■ EM23 - ■ ■ S1		
57	250	25.34	5 200	1.1	27	2KJ3302 - ■ EM23 - ■ ■ R1		
62	230	23.39	5 170	1.1	27	2KJ3302 - ■ EM23 - ■ ■ Q1		
70	205	20.71	5 080	1.2	27	2KJ3302 - ■ EM23 - ■ ■ P1		
84	171	17.24	4 940	1.4	27	2KJ3302 - ■ EM23 - ■ ■ N1		
89	161	16.22	4 890	1.4	27	2KJ3302 - ■ EM23 - ■ ■ M1		
99	144	14.54	4 800	1.5	27	2KJ3302 - ■ EM23 - ■ ■ L1		
117	123	12.38	4 650	1.7	27	2KJ3302 - ■ EM23 - ■ ■ K1		
136	105	10.61	4 500	1.9	27	2KJ3302 - ■ EM23 - ■ ■ J1		
158	90	9.13	4 360	2.1	27	2KJ3302 - ■ EM23 - ■ ■ H1		
178	80	8.10	4 160	2.1	27	2KJ3302 - ■ EM23 - ■ ■ G1		
214	67	6.74	3 990	2.3	27	2KJ3302 - ■ EM23 - ■ ■ F1		
228	63	6.35	3 930	2.4	27	2KJ3302 - ■ EM23 - ■ ■ E1		
254	56	5.69	3 830	2.5	27	2KJ3302 - ■ EM23 - ■ ■ D1		
299	48	4.84	3 670	2.7	27	2KJ3302 - ■ EM23 - ■ ■ C1		
348	41	4.15	3 520	2.9	27	2KJ3302 - ■ EM23 - ■ ■ B1		
405	35	3.57	3 390	3.1	27	2KJ3302 - ■ EM23 - ■ ■ A1		
<b>FZ.39-LE90SM2P</b>								
167	86	17.24	4 290	2.7	24	2KJ3302 - ■ EK23 - ■ ■ N1	P00	
178	80	16.22	4 240	2.9	24	2KJ3302 - ■ EK23 - ■ ■ M1	P00	

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Shaft design

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
1.5	<b>FZ.39-LE90SM2P</b>							
	198	72	14.54	4 130	3.0	24	2KJ3302 - ■ EK23 - ■ ■ L1	P00
	233	62	12.38	3 960	3.4	24	2KJ3302 - ■ EK23 - ■ ■ K1	P00
	272	53	10.61	3 800	3.8	24	2KJ3302 - ■ EK23 - ■ ■ J1	P00
	316	45	9.13	3 660	4.2	24	2KJ3302 - ■ EK23 - ■ ■ H1	P00
	356	40	8.10	3 500	4.2	24	2KJ3302 - ■ EK23 - ■ ■ G1	P00
	428	34	6.74	3 330	4.5	24	2KJ3302 - ■ EK23 - ■ ■ F1	P00
	454	32	6.35	3 270	4.7	24	2KJ3302 - ■ EK23 - ■ ■ E1	P00
	507	28	5.69	3 180	5.0	24	2KJ3302 - ■ EK23 - ■ ■ D1	P00
	596	24	4.84	3 030	5.3	24	2KJ3302 - ■ EK23 - ■ ■ C1	P00
	695	21	4.15	2 890	5.7	24	2KJ3302 - ■ EK23 - ■ ■ B1	P00
	808	18	3.57	2 770	6.1	24	2KJ3302 - ■ EK23 - ■ ■ A1	P00
	<b>FZ.29-LE90ZLR4P</b>							
	83	173	17.44	3 500	0.87	21	2KJ3301 - ■ EM23 - ■ ■ Q1	
	95	152	15.29	3 460	0.99	21	2KJ3301 - ■ EM23 - ■ ■ P1	
	104	138	13.88	3 430	1.1	21	2KJ3301 - ■ EM23 - ■ ■ N1	
	111	129	13.06	3 410	1.2	21	2KJ3301 - ■ EM23 - ■ ■ M1	
	126	114	11.51	3 350	1.3	21	2KJ3301 - ■ EM23 - ■ ■ L1	
	145	99	9.99	3 280	1.4	21	2KJ3301 - ■ EM23 - ■ ■ K1	
	149	96	9.69	3 130	1.5	21	2KJ3301 - ■ EM23 - ■ ■ J1	
	167	86	8.63	3 070	1.5	21	2KJ3301 - ■ EM23 - ■ ■ H1	
	181	79	7.97	3 040	1.5	21	2KJ3301 - ■ EM23 - ■ ■ G1	
	207	69	6.98	2 970	1.8	21	2KJ3301 - ■ EM23 - ■ ■ F1	
	236	61	6.12	2 890	1.9	21	2KJ3301 - ■ EM23 - ■ ■ E1	
	260	55	5.55	2 840	2.0	21	2KJ3301 - ■ EM23 - ■ ■ D1	
	277	52	5.22	2 800	2.0	21	2KJ3301 - ■ EM23 - ■ ■ C1	
	314	46	4.60	2 720	2.1	21	2KJ3301 - ■ EM23 - ■ ■ B1	
	361	40	4.00	2 630	2.3	21	2KJ3301 - ■ EM23 - ■ ■ A1	
	<b>FZ.29-LE90SM2P</b>							
	165	87	17.44	3 200	1.7	18	2KJ3301 - ■ EK23 - ■ ■ Q1	P00
	189	76	15.29	3 120	2.0	18	2KJ3301 - ■ EK23 - ■ ■ P1	P00
	208	69	13.88	3 060	2.2	18	2KJ3301 - ■ EK23 - ■ ■ N1	P00
	221	65	13.06	3 020	2.3	18	2KJ3301 - ■ EK23 - ■ ■ M1	P00
	251	57	11.51	2 940	2.5	18	2KJ3301 - ■ EK23 - ■ ■ L1	P00
	289	50	9.99	2 840	2.7	18	2KJ3301 - ■ EK23 - ■ ■ K1	P00
	298	48	9.69	2 760	3.0	18	2KJ3301 - ■ EK23 - ■ ■ J1	P00
	334	43	8.63	2 680	3.0	18	2KJ3301 - ■ EK23 - ■ ■ H1	P00
	362	40	7.97	2 630	3.0	18	2KJ3301 - ■ EK23 - ■ ■ G1	P00
	413	35	6.98	2 550	3.5	18	2KJ3301 - ■ EK23 - ■ ■ F1	P00
	471	30	6.12	2 470	3.8	18	2KJ3301 - ■ EK23 - ■ ■ E1	P00
	520	28	5.55	2 400	3.9	18	2KJ3301 - ■ EK23 - ■ ■ D1	P00
	553	26	5.22	2 370	4.1	18	2KJ3301 - ■ EK23 - ■ ■ C1	P00
	627	23	4.60	2 290	4.2	18	2KJ3301 - ■ EK23 - ■ ■ B1	P00
	721	20	4.00	2 200	4.6	18	2KJ3301 - ■ EK23 - ■ ■ A1	P00
2.2	<b>FD.169-LE112ZMKB6P</b>							
	2.6	7 970	368.00	73 500	1.7	426	2KJ3411 - ■ GJ23 - ■ ■ V1	P01
	2.8	7 430	343.01	73 500	1.8	426	2KJ3411 - ■ GJ23 - ■ ■ U1	P01
	<b>FD.149-LE112ZMKB6P</b>							
	2.6	8 160	377.00	65 000	0.98	280	2KJ3410 - ■ GJ23 - ■ ■ W1	P01

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Gearbox mounting type

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Electro Motor.ir



**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>	<b>FD.149-LE112ZMKB6P</b>							
	3.0	6 990	323.04	65 000	1.1	280	2KJ3410 - ■ GJ23 - ■ ■ V1	P01
	3.2	6 580	304.03	65 000	1.2	280	2KJ3410 - ■ GJ23 - ■ ■ U1	P01
	3.4	6 170	285.00	65 000	1.3	280	2KJ3410 - ■ GJ23 - ■ ■ T1	P01
	<b>FD.149-LE100ZLSA4P</b>							
	3.9	5 400	377.00	65 000	1.5	278	2KJ3410 - ■ FN23 - ■ ■ W1	
	4.5	4 630	323.04	65 000	1.7	278	2KJ3410 - ■ FN23 - ■ ■ V1	
	4.8	4 360	304.03	65 000	1.8	278	2KJ3410 - ■ FN23 - ■ ■ U1	
	5.1	4 080	285.00	65 000	2.0	278	2KJ3410 - ■ FN23 - ■ ■ T1	
	<b>FD.129-LE100ZLSA4P</b>							
	3.5	5 920	413.00	36 100	0.82	191	2KJ3408 - ■ FN23 - ■ ■ T1	
	3.8	5 460	381.00	36 600	0.89	191	2KJ3408 - ■ FN23 - ■ ■ S1	
4.2	5 030	351.00	37 000	0.96	191	2KJ3408 - ■ FN23 - ■ ■ R1		
4.9	4 290	299.31	37 500	1.1	191	2KJ3408 - ■ FN23 - ■ ■ Q1		
5.2	4 040	281.70	37 500	1.2	191	2KJ3408 - ■ FN23 - ■ ■ P1		
5.6	3 740	261.42	37 500	1.3	191	2KJ3408 - ■ FN23 - ■ ■ N1		
6.3	3 310	231.12	37 500	1.5	191	2KJ3408 - ■ FN23 - ■ ■ M1		
7.1	2 950	206.32	37 500	1.6	191	2KJ3408 - ■ FN23 - ■ ■ L1		
7.9	2 660	185.66	37 500	1.8	191	2KJ3408 - ■ FN23 - ■ ■ K1		
9.1	2 310	161.14	37 500	2.1	191	2KJ3408 - ■ FN23 - ■ ■ J1		
<b>FD.109-LE100ZLSA4P</b>								
6.1	3 420	238.52	25 000	0.91	137	2KJ3407 - ■ FN23 - ■ ■ N1		
6.5	3 210	224.49	25 000	0.96	137	2KJ3407 - ■ FN23 - ■ ■ M1		
7.1	2 970	207.31	25 000	1.0	137	2KJ3407 - ■ FN23 - ■ ■ L1		
7.9	2 640	184.46	25 000	1.2	137	2KJ3407 - ■ FN23 - ■ ■ K1		
8.9	2 350	163.83	25 000	1.3	137	2KJ3407 - ■ FN23 - ■ ■ J1		
10	2 100	146.65	25 000	1.5	137	2KJ3407 - ■ FN23 - ■ ■ H1		
12	1 790	125.37	25 000	1.7	137	2KJ3407 - ■ FN23 - ■ ■ G1		
13	1 600	111.95	25 000	1.9	137	2KJ3407 - ■ FN23 - ■ ■ F1		
15	1 410	98.94	25 000	2.2	137	2KJ3407 - ■ FN23 - ■ ■ E1		
<b>FD.89-LE100ZLSA4P</b>								
9.3	2 260	157.74	17 400	0.82	96	2KJ3406 - ■ FN23 - ■ ■ K1		
9.9	2 120	148.46	17 400	0.87	96	2KJ3406 - ■ FN23 - ■ ■ J1		
11	1 950	136.21	17 400	0.95	96	2KJ3406 - ■ FN23 - ■ ■ H1		
12	1 700	118.98	17 400	1.1	96	2KJ3406 - ■ FN23 - ■ ■ G1		
14	1 520	106.52	17 400	1.2	96	2KJ3406 - ■ FN23 - ■ ■ F1		
16	1 330	93.14	17 400	1.4	96	2KJ3406 - ■ FN23 - ■ ■ E1		
18	1 140	79.95	17 400	1.6	96	2KJ3406 - ■ FN23 - ■ ■ D1		
21	1 010	70.67	17 400	1.8	96	2KJ3406 - ■ FN23 - ■ ■ C1		
24	860	60.09	17 400	2.1	96	2KJ3406 - ■ FN23 - ■ ■ B1		
28	735	51.51	17 400	2.5	96	2KJ3406 - ■ FN23 - ■ ■ A1		
<b>FZ.89-LE100ZLSA4P</b>								
24	885	61.72	17 400	2.1	95	2KJ3306 - ■ FN23 - ■ ■ B2		
26	795	55.72	17 400	2.3	95	2KJ3306 - ■ FN23 - ■ ■ A2		
<b>FD.79-LE100ZLSA4P</b>								
18	1 170	81.99	13 200	0.85	65	2KJ3405 - ■ FN23 - ■ ■ D1		
20	1 030	72.09	13 500	0.97	65	2KJ3405 - ■ FN23 - ■ ■ C1		
24	870	60.82	13 800	1.1	65	2KJ3405 - ■ FN23 - ■ ■ B1		
28	760	53.01	14 000	1.3	65	2KJ3405 - ■ FN23 - ■ ■ A1		

**Article No. supplement**

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>								
<b>FZ.79-LE100ZLSA4P</b>								
	31	685	48.03	14 200	1.5	64	2KJ3305 - ■ FN23 - ■ ■ W1	
	34	615	43.18	14 300	1.6	64	2KJ3305 - ■ FN23 - ■ ■ V1	
	38	560	39.06	14 400	1.8	64	2KJ3305 - ■ FN23 - ■ ■ U1	
	41	515	36.05	14 500	1.9	64	2KJ3305 - ■ FN23 - ■ ■ T1	
	44	470	33.02	14 500	2.1	64	2KJ3305 - ■ FN23 - ■ ■ S1	
	53	395	27.71	14 500	2.5	64	2KJ3305 - ■ FN23 - ■ ■ R1	
	56	370	26.08	14 500	2.7	64	2KJ3305 - ■ FN23 - ■ ■ Q1	
	61	340	23.93	14 500	2.9	64	2KJ3305 - ■ FN23 - ■ ■ P1	
<b>FD.69-LE100ZLSA4P</b>								
	30	700	48.80	7 780	0.86	58	2KJ3404 - ■ FN23 - ■ ■ A1	
<b>FZ.69-LE100ZLSA4P</b>								
	36	580	40.56	7 800	1.0	57	2KJ3304 - ■ FN23 - ■ ■ T1	
	40	520	36.36	7 760	1.2	57	2KJ3304 - ■ FN23 - ■ ■ S1	
	45	470	32.78	7 700	1.3	57	2KJ3304 - ■ FN23 - ■ ■ R1	
	48	430	30.26	7 670	1.4	57	2KJ3304 - ■ FN23 - ■ ■ Q1	
	53	395	27.62	7 570	1.5	57	2KJ3304 - ■ FN23 - ■ ■ P1	
	64	325	22.92	7 400	1.8	57	2KJ3304 - ■ FN23 - ■ ■ N1	
	68	305	21.57	7 340	1.9	57	2KJ3304 - ■ FN23 - ■ ■ M1	
	72	290	20.37	7 260	2.1	57	2KJ3304 - ■ FN23 - ■ ■ L1	
	85	245	17.33	7 060	2.4	57	2KJ3304 - ■ FN23 - ■ ■ K1	
	99	210	14.85	6 840	2.8	57	2KJ3304 - ■ FN23 - ■ ■ J1	
	112	187	13.06	6 640	3.2	57	2KJ3304 - ■ FN23 - ■ ■ H1	
	133	158	11.01	6 390	3.8	57	2KJ3304 - ■ FN23 - ■ ■ G1	
	165	128	8.90	6 030	3.7	57	2KJ3304 - ■ FN23 - ■ ■ E1	
	192	109	7.62	5 810	4.3	57	2KJ3304 - ■ FN23 - ■ ■ D1	
<b>FZ.49-LE100ZLSA4P</b>								
	38	550	38.53	5 050	0.87	53	2KJ3303 - ■ FN23 - ■ ■ T1	
	42	495	34.55	5 110	0.97	53	2KJ3303 - ■ FN23 - ■ ■ S1	
	47	445	31.14	5 150	1.1	53	2KJ3303 - ■ FN23 - ■ ■ R1	
	51	410	28.74	5 160	1.2	53	2KJ3303 - ■ FN23 - ■ ■ Q1	
	56	375	26.24	5 160	1.3	53	2KJ3303 - ■ FN23 - ■ ■ P1	
	67	310	21.77	5 120	1.5	53	2KJ3303 - ■ FN23 - ■ ■ N1	
	71	290	20.49	5 110	1.6	53	2KJ3303 - ■ FN23 - ■ ■ M1	
	76	275	19.35	5 080	1.7	53	2KJ3303 - ■ FN23 - ■ ■ L1	
	89	235	16.47	4 980	2.0	53	2KJ3303 - ■ FN23 - ■ ■ K1	
	104	200	14.11	4 880	2.4	53	2KJ3303 - ■ FN23 - ■ ■ J1	
	118	178	12.40	4 760	2.7	53	2KJ3303 - ■ FN23 - ■ ■ H1	
	140	150	10.46	4 620	3.2	53	2KJ3303 - ■ FN23 - ■ ■ G1	
	161	131	9.12	4 490	3.7	53	2KJ3303 - ■ FN23 - ■ ■ F1	
	174	120	8.40	4 330	3.7	53	2KJ3303 - ■ FN23 - ■ ■ E1	
	203	103	7.20	4 190	4.4	53	2KJ3303 - ■ FN23 - ■ ■ D1	
<b>FZ.49-LE90ZLR2P</b>								
	175	120	16.47	4 410	4.0	35	2KJ3303 - ■ EM23 - ■ ■ K1 P00	
<b>FZ.39-LE100ZLSA4P</b>								
	71	295	20.71	4 380	0.84	42	2KJ3302 - ■ FN23 - ■ ■ P1	
	85	245	17.24	4 360	0.95	42	2KJ3302 - ■ FN23 - ■ ■ N1	
	90	230	16.22	4 350	0.99	42	2KJ3302 - ■ FN23 - ■ ■ M1	
	101	205	14.54	4 320	1.1	42	2KJ3302 - ■ FN23 - ■ ■ L1	
	118	178	12.38	4 210	1.2	42	2KJ3302 - ■ FN23 - ■ ■ K1	

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**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>								
<b>FZ.39-LE100ZLSA4P</b>								
	138	152	10.61	4 130	1.3	42	2KJ3302 - ■ FN23 - ■ ■ J1	
	160	131	9.13	4 030	1.4	42	2KJ3302 - ■ FN23 - ■ ■ H1	
	181	116	8.10	3 840	1.4	42	2KJ3302 - ■ FN23 - ■ ■ G1	
	217	97	6.74	3 720	1.6	42	2KJ3302 - ■ FN23 - ■ ■ F1	
	231	91	6.35	3 670	1.6	42	2KJ3302 - ■ FN23 - ■ ■ E1	
	257	82	5.69	3 590	1.7	42	2KJ3302 - ■ FN23 - ■ ■ D1	
	303	69	4.84	3 480	1.8	42	2KJ3302 - ■ FN23 - ■ ■ C1	
	353	60	4.15	3 350	2.0	42	2KJ3302 - ■ FN23 - ■ ■ B1	
	410	51	3.57	3 240	2.1	42	2KJ3302 - ■ FN23 - ■ ■ A1	
<b>FZ.39-LE90ZLR2P</b>								
	168	125	17.24	4 000	1.9	27	2KJ3302 - ■ EM23 - ■ ■ N1 P00	
	178	118	16.22	3 950	2.0	27	2KJ3302 - ■ EM23 - ■ ■ M1 P00	
	199	106	14.54	3 870	2.1	27	2KJ3302 - ■ EM23 - ■ ■ L1 P00	
	233	90	12.38	3 740	2.3	27	2KJ3302 - ■ EM23 - ■ ■ K1 P00	
	272	77	10.61	3 620	2.6	27	2KJ3302 - ■ EM23 - ■ ■ J1 P00	
	317	66	9.13	3 500	2.8	27	2KJ3302 - ■ EM23 - ■ ■ H1 P00	
	357	59	8.10	3 340	2.8	27	2KJ3302 - ■ EM23 - ■ ■ G1 P00	
	429	49	6.74	3 200	3.1	27	2KJ3302 - ■ EM23 - ■ ■ F1 P00	
	455	46	6.35	3 150	3.2	27	2KJ3302 - ■ EM23 - ■ ■ E1 P00	
	508	41	5.69	3 060	3.4	27	2KJ3302 - ■ EM23 - ■ ■ D1 P00	
	597	35	4.84	2 940	3.6	27	2KJ3302 - ■ EM23 - ■ ■ C1 P00	
	696	30	4.15	2 820	3.9	27	2KJ3302 - ■ EM23 - ■ ■ B1 P00	
	810	26	3.57	2 700	4.2	27	2KJ3302 - ■ EM23 - ■ ■ A1 P00	
<b>FZ.29-LE100ZLSA4P</b>								
	112	187	13.06	2 910	0.8	35	2KJ3301 - ■ FN23 - ■ ■ M1	
	127	165	11.51	2 910	0.87	35	2KJ3301 - ■ FN23 - ■ ■ L1	
	147	143	9.99	2 890	0.95	35	2KJ3301 - ■ FN23 - ■ ■ K1	
	151	139	9.69	2 690	1.0	35	2KJ3301 - ■ FN23 - ■ ■ J1	
	170	124	8.63	2 690	1.1	35	2KJ3301 - ■ FN23 - ■ ■ H1	
	184	114	7.97	2 680	1.0	35	2KJ3301 - ■ FN23 - ■ ■ G1	
	210	100	6.98	2 650	1.2	35	2KJ3301 - ■ FN23 - ■ ■ F1	
	239	88	6.12	2 610	1.3	35	2KJ3301 - ■ FN23 - ■ ■ E1	
	264	80	5.55	2 580	1.4	35	2KJ3301 - ■ FN23 - ■ ■ D1	
	281	75	5.22	2 560	1.4	35	2KJ3301 - ■ FN23 - ■ ■ C1	
	318	66	4.60	2 510	1.5	35	2KJ3301 - ■ FN23 - ■ ■ B1	
	366	57	4.00	2 450	1.6	35	2KJ3301 - ■ FN23 - ■ ■ A1	
<b>FZ.29-LE90ZLR2P</b>								
	166	127	17.44	2 860	1.2	21	2KJ3301 - ■ EM23 - ■ ■ Q1 P00	
	189	111	15.29	2 830	1.3	21	2KJ3301 - ■ EM23 - ■ ■ P1 P00	
	208	101	13.88	2 790	1.5	21	2KJ3301 - ■ EM23 - ■ ■ N1 P00	
	221	95	13.06	2 770	1.6	21	2KJ3301 - ■ EM23 - ■ ■ M1 P00	
	251	84	11.51	2 710	1.7	21	2KJ3301 - ■ EM23 - ■ ■ L1 P00	
	289	73	9.99	2 650	1.9	21	2KJ3301 - ■ EM23 - ■ ■ K1 P00	
	298	70	9.69	2 540	2.0	21	2KJ3301 - ■ EM23 - ■ ■ J1 P00	
	335	63	8.63	2 490	2.1	21	2KJ3301 - ■ EM23 - ■ ■ H1 P00	
	363	58	7.97	2 460	2.1	21	2KJ3301 - ■ EM23 - ■ ■ G1 P00	
	414	51	6.98	2 390	2.4	21	2KJ3301 - ■ EM23 - ■ ■ F1 P00	
	472	44	6.12	2 340	2.6	21	2KJ3301 - ■ EM23 - ■ ■ E1 P00	

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Shaft design

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Electro Motor.ir

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>	<b>FZ.29-LE90ZLR2P</b>							
	521	40	5.55	2 290	2.7	21	2KJ3301 - ■ EM23 - ■ ■ D1	P00
	554	38	5.22	2 250	2.8	21	2KJ3301 - ■ EM23 - ■ ■ C1	P00
	628	33	4.60	2 190	2.9	21	2KJ3301 - ■ EM23 - ■ ■ B1	P00
	722	29	4.00	2 110	3.1	21	2KJ3301 - ■ EM23 - ■ ■ A1	P00
<b>3</b>	<b>FD.189-LE132SH6P</b>							
	2.8	10 200	347.35	110 900	1.9	660	2KJ3412 - ■ HF23 - ■ ■ T1	P01
	<b>FD.169-LE132SH6P</b>							
	2.6	10 800	368.00	73 500	1.3	448	2KJ3411 - ■ HF23 - ■ ■ V1	P01
	2.8	10 100	343.01	73 500	1.3	448	2KJ3411 - ■ HF23 - ■ ■ U1	P01
	3.2	9 000	304.94	73 500	1.5	448	2KJ3411 - ■ HF23 - ■ ■ T1	P01
	3.5	8 080	273.80	73 500	1.7	448	2KJ3411 - ■ HF23 - ■ ■ S1	P01
	<b>FD.149-LE132SH6P</b>							
	3.0	9 540	323.04	65 000	0.84	301	2KJ3410 - ■ HF23 - ■ ■ V1	P01
	3.2	8 980	304.03	65 000	0.89	301	2KJ3410 - ■ HF23 - ■ ■ U1	P01
	3.4	8 410	285.00	65 000	0.95	301	2KJ3410 - ■ HF23 - ■ ■ T1	P01
	<b>FD.149-LE100ZLSB4P</b>							
	3.9	7 420	377.00	65 000	1.1	278	2KJ3410 - ■ FP23 - ■ ■ W1	
	4.5	6 360	323.04	65 000	1.3	278	2KJ3410 - ■ FP23 - ■ ■ V1	
	4.8	5 980	304.03	65 000	1.3	278	2KJ3410 - ■ FP23 - ■ ■ U1	
	5.1	5 610	285.00	65 000	1.4	278	2KJ3410 - ■ FP23 - ■ ■ T1	
	5.8	4 970	252.64	65 000	1.6	278	2KJ3410 - ■ FP23 - ■ ■ S1	
	6.5	4 410	224.42	65 000	1.8	278	2KJ3410 - ■ FP23 - ■ ■ R1	
	7.2	3 980	202.50	65 000	2.0	278	2KJ3410 - ■ FP23 - ■ ■ Q1	
	<b>FD.129-LE100ZLSB4P</b>							
	4.9	5 890	299.31	36 100	0.82	191	2KJ3408 - ■ FP23 - ■ ■ Q1	
	5.2	5 540	281.70	36 500	0.87	191	2KJ3408 - ■ FP23 - ■ ■ P1	
	5.6	5 140	261.42	36 900	0.94	191	2KJ3408 - ■ FP23 - ■ ■ N1	
	6.3	4 550	231.12	37 400	1.1	191	2KJ3408 - ■ FP23 - ■ ■ M1	
	7.1	4 060	206.32	37 500	1.2	191	2KJ3408 - ■ FP23 - ■ ■ L1	
	7.8	3 650	185.66	37 500	1.3	191	2KJ3408 - ■ FP23 - ■ ■ K1	
	9	3 170	161.14	37 500	1.5	191	2KJ3408 - ■ FP23 - ■ ■ J1	
	10	2 850	144.92	37 500	1.7	191	2KJ3408 - ■ FP23 - ■ ■ H1	
	11	2 490	126.66	37 500	1.9	191	2KJ3408 - ■ FP23 - ■ ■ G1	
	13	2 220	113.03	37 500	2.2	191	2KJ3408 - ■ FP23 - ■ ■ F1	
	<b>FD.109-LE100ZLSB4P</b>							
	7.9	3 630	184.46	25 000	0.85	137	2KJ3407 - ■ FP23 - ■ ■ K1	
	8.9	3 220	163.83	25 000	0.96	137	2KJ3407 - ■ FP23 - ■ ■ J1	
	9.9	2 880	146.65	25 000	1.1	137	2KJ3407 - ■ FP23 - ■ ■ H1	
	12	2 460	125.37	25 000	1.3	137	2KJ3407 - ■ FP23 - ■ ■ G1	
	13	2 200	111.95	25 000	1.4	137	2KJ3407 - ■ FP23 - ■ ■ F1	
	15	1 940	98.94	25 000	1.6	137	2KJ3407 - ■ FP23 - ■ ■ E1	
	17	1 710	86.83	25 000	1.8	137	2KJ3407 - ■ FP23 - ■ ■ D1	
	19	1 480	75.59	25 000	2.1	137	2KJ3407 - ■ FP23 - ■ ■ C1	
	23	1 270	64.62	25 000	2.4	137	2KJ3407 - ■ FP23 - ■ ■ B1	
	<b>FZ.109-LE100ZLSB4P</b>							
	21	1 390	70.74	25 000	2.2	134	2KJ3307 - ■ FP23 - ■ ■ B2	
	22	1 280	65.30	25 000	2.4	134	2KJ3307 - ■ FP23 - ■ ■ A2	
	<b>FD.89-LE100ZLSB4P</b>							
	14	2 090	106.52	17 400	0.86	96	2KJ3406 - ■ FP23 - ■ ■ F1	

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**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>3</b>	<b>FD.89-LE100ZLSB4P</b>							
	16	1 830	93.14	17 400	1.0	96	2KJ3406 - ■ FP23 - ■ ■ E1	
	18	1 570	79.95	17 400	1.2	96	2KJ3406 - ■ FP23 - ■ ■ D1	
	21	1 390	70.67	17 400	1.3	96	2KJ3406 - ■ FP23 - ■ ■ C1	
	24	1 180	60.09	17 400	1.6	96	2KJ3406 - ■ FP23 - ■ ■ B1	
	28	1 010	51.51	17 400	1.8	96	2KJ3406 - ■ FP23 - ■ ■ A1	
	<b>FZ.89-LE100ZLSB4P</b>							
	24	1 210	61.72	17 400	1.5	95	2KJ3306 - ■ FP23 - ■ ■ B2	
	26	1 090	55.72	17 400	1.7	95	2KJ3306 - ■ FP23 - ■ ■ A2	
	29	995	50.54	17 400	1.9	95	2KJ3306 - ■ FP23 - ■ ■ X1	
	31	915	46.66	17 400	2.0	95	2KJ3306 - ■ FP23 - ■ ■ W1	
	34	835	42.41	17 400	2.2	95	2KJ3306 - ■ FP23 - ■ ■ V1	
	41	705	35.91	17 400	2.6	95	2KJ3306 - ■ FP23 - ■ ■ U1	
	<b>FD.79-LE100ZLSB4P</b>							
	24	1 190	60.82	13 200	0.84	65	2KJ3405 - ■ FP23 - ■ ■ B1	
	27	1 040	53.01	13 500	0.96	65	2KJ3405 - ■ FP23 - ■ ■ A1	
	<b>FZ.79-LE100ZLSB4P</b>							
	30	945	48.03	13 700	1.1	64	2KJ3305 - ■ FP23 - ■ ■ W1	
34	850	43.18	13 900	1.2	64	2KJ3305 - ■ FP23 - ■ ■ V1		
37	765	39.06	14 000	1.3	64	2KJ3305 - ■ FP23 - ■ ■ U1		
40	710	36.05	14 100	1.4	64	2KJ3305 - ■ FP23 - ■ ■ T1		
44	650	33.02	14 300	1.5	64	2KJ3305 - ■ FP23 - ■ ■ S1		
53	545	27.71	14 500	1.8	64	2KJ3305 - ■ FP23 - ■ ■ R1		
56	510	26.08	14 500	1.9	64	2KJ3305 - ■ FP23 - ■ ■ Q1		
61	470	23.93	14 500	2.1	64	2KJ3305 - ■ FP23 - ■ ■ P1		
70	410	20.90	14 500	2.4	64	2KJ3305 - ■ FP23 - ■ ■ N1		
78	365	18.71	14 500	2.7	64	2KJ3305 - ■ FP23 - ■ ■ M1		
89	320	16.36	14 500	3.1	64	2KJ3305 - ■ FP23 - ■ ■ L1		
<b>FZ.69-LE100ZLSB4P</b>								
40	715	36.36	6 580	0.84	57	2KJ3304 - ■ FP23 - ■ ■ S1		
44	645	32.78	6 640	0.93	57	2KJ3304 - ■ FP23 - ■ ■ R1		
48	595	30.26	6 670	1.0	57	2KJ3304 - ■ FP23 - ■ ■ Q1		
53	540	27.62	6 700	1.1	57	2KJ3304 - ■ FP23 - ■ ■ P1		
63	450	22.92	6 650	1.3	57	2KJ3304 - ■ FP23 - ■ ■ N1		
67	425	21.57	6 620	1.4	57	2KJ3304 - ■ FP23 - ■ ■ M1		
71	400	20.37	6 600	1.5	57	2KJ3304 - ■ FP23 - ■ ■ L1		
84	340	17.33	6 490	1.8	57	2KJ3304 - ■ FP23 - ■ ■ K1		
98	290	14.85	6 370	2.1	57	2KJ3304 - ■ FP23 - ■ ■ J1		
111	255	13.06	6 240	2.3	57	2KJ3304 - ■ FP23 - ■ ■ H1		
132	215	11.01	6 060	2.8	57	2KJ3304 - ■ FP23 - ■ ■ G1		
152	189	9.60	5 890	3.2	57	2KJ3304 - ■ FP23 - ■ ■ F1		
163	175	8.90	5 740	2.7	57	2KJ3304 - ■ FP23 - ■ ■ E1		
191	150	7.62	5 560	3.1	57	2KJ3304 - ■ FP23 - ■ ■ D1		
217	132	6.70	5 400	3.3	57	2KJ3304 - ■ FP23 - ■ ■ C1		
257	111	5.66	5 190	3.7	57	2KJ3304 - ■ FP23 - ■ ■ B1		
295	97	4.93	5 020	4.0	57	2KJ3304 - ■ FP23 - ■ ■ A1		
<b>FZ.49-LE100ZLSB4P</b>								
51	565	28.74	4 170	0.85	53	2KJ3303 - ■ FP23 - ■ ■ Q1		
55	515	26.24	4 260	0.93	53	2KJ3303 - ■ FP23 - ■ ■ P1		
67	425	21.77	4 390	1.1	53	2KJ3303 - ■ FP23 - ■ ■ N1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>3</b>	<b>FZ.49-LE100ZLSB4P</b>								
	71	400	20.49	4 410	1.2	53	2KJ3303 - ■ FP23 - ■ ■ M1		
	75	380	19.35	4 410	1.3	53	2KJ3303 - ■ FP23 - ■ ■ L1		
	88	320	16.47	4 440	1.5	53	2KJ3303 - ■ FP23 - ■ ■ K1		
	103	275	14.11	4 400	1.7	53	2KJ3303 - ■ FP23 - ■ ■ J1		
	117	240	12.40	4 370	2.0	53	2KJ3303 - ■ FP23 - ■ ■ H1		
	139	205	10.46	4 270	2.3	53	2KJ3303 - ■ FP23 - ■ ■ G1		
	160	180	9.12	4 190	2.7	53	2KJ3303 - ■ FP23 - ■ ■ F1		
	173	165	8.40	4 020	2.7	53	2KJ3303 - ■ FP23 - ■ ■ E1		
	202	142	7.20	3 920	3.2	53	2KJ3303 - ■ FP23 - ■ ■ D1		
	230	125	6.33	3 840	3.4	53	2KJ3303 - ■ FP23 - ■ ■ C1		
	272	105	5.34	3 720	3.8	53	2KJ3303 - ■ FP23 - ■ ■ B1		
	313	92	4.65	3 610	4.1	53	2KJ3303 - ■ FP23 - ■ ■ A1		
	<b>FZ.39-LE100ZLSB4P</b>								
	118	240	12.38	3 760	0.86	42	2KJ3302 - ■ FP23 - ■ ■ K1		
	137	205	10.61	3 750	0.95	42	2KJ3302 - ■ FP23 - ■ ■ J1		
	159	180	9.13	3 670	1.1	42	2KJ3302 - ■ FP23 - ■ ■ H1		
	180	159	8.10	3 490	1.0	42	2KJ3302 - ■ FP23 - ■ ■ G1		
	216	133	6.74	3 430	1.1	42	2KJ3302 - ■ FP23 - ■ ■ F1		
	229	125	6.35	3 400	1.2	42	2KJ3302 - ■ FP23 - ■ ■ E1		
	256	112	5.69	3 350	1.2	42	2KJ3302 - ■ FP23 - ■ ■ D1		
	301	95	4.84	3 270	1.3	42	2KJ3302 - ■ FP23 - ■ ■ C1		
	351	82	4.15	3 170	1.4	42	2KJ3302 - ■ FP23 - ■ ■ B1		
	408	70	3.57	3 080	1.5	42	2KJ3302 - ■ FP23 - ■ ■ A1		
	<b>FZ.29-LE100ZLSB4P</b>								
	208	137	6.98	2 300	0.89	35	2KJ3301 - ■ FP23 - ■ ■ F1		
	238	121	6.12	2 300	0.95	35	2KJ3301 - ■ FP23 - ■ ■ E1		
	262	109	5.55	2 310	0.99	35	2KJ3301 - ■ FP23 - ■ ■ D1		
	279	103	5.22	2 300	1.0	35	2KJ3301 - ■ FP23 - ■ ■ C1		
	316	91	4.60	2 280	1.1	35	2KJ3301 - ■ FP23 - ■ ■ B1		
	364	79	4.00	2 250	1.2	35	2KJ3301 - ■ FP23 - ■ ■ A1		
	<b>4</b>	<b>FD.189-LE132MJ6P</b>							
		2.8	13 600	347.35	110 900	1.4	665	2KJ3412 - ■ HK23 - ■ ■ T1	P01
		3.1	12 200	310.76	110 900	1.6	665	2KJ3412 - ■ HK23 - ■ ■ S1	P01
		3.5	11 000	280.27	110 900	1.7	665	2KJ3412 - ■ HK23 - ■ ■ R1	P01
		3.9	9 750	247.71	110 900	1.9	665	2KJ3412 - ■ HK23 - ■ ■ Q1	P01
<b>FD.169-LE132MJ6P</b>									
2.6		14 400	368.00	73 500	0.94	453	2KJ3411 - ■ HK23 - ■ ■ V1	P01	
2.8		13 500	343.01	73 500	1.0	453	2KJ3411 - ■ HK23 - ■ ■ U1	P01	
3.2		12 000	304.94	73 500	1.1	453	2KJ3411 - ■ HK23 - ■ ■ T1	P01	
3.5		10 700	273.80	73 500	1.3	453	2KJ3411 - ■ HK23 - ■ ■ S1	P01	
<b>FD.169-LE112ZMKB4P</b>									
4.0		9 620	368.00	73 500	1.4	426	2KJ3411 - ■ GJ23 - ■ ■ V1		
4.3		8 970	343.01	73 500	1.5	426	2KJ3411 - ■ GJ23 - ■ ■ U1		
4.8		7 970	304.94	73 500	1.7	426	2KJ3411 - ■ GJ23 - ■ ■ T1		
5.3		7 160	273.80	73 500	1.9	426	2KJ3411 - ■ GJ23 - ■ ■ S1		
5.9		6 480	247.84	73 500	2.1	426	2KJ3411 - ■ GJ23 - ■ ■ R1		
<b>FD.149-LE112ZMKB4P</b>									
3.9		9 860	377.00	65 000	0.81	280	2KJ3410 - ■ GJ23 - ■ ■ W1		
4.5		8 450	323.04	65 000	0.95	280	2KJ3410 - ■ GJ23 - ■ ■ V1		

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Gearbox mounting type

A, D, F or H

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Electro\_Motor.ir

**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>4</b>	<b>FD.149-LE112ZMKB4P</b>							
	4.8	7 950	304.03	65 000	1.0	280	2KJ3410 - ■ GJ23 - ■ ■ U1	
	5.1	7 450	285.00	65 000	1.1	280	2KJ3410 - ■ GJ23 - ■ ■ T1	
	5.8	6 610	252.64	65 000	1.2	280	2KJ3410 - ■ GJ23 - ■ ■ S1	
	6.5	5 870	224.42	65 000	1.4	280	2KJ3410 - ■ GJ23 - ■ ■ R1	
	7.2	5 290	202.50	65 000	1.5	280	2KJ3410 - ■ GJ23 - ■ ■ Q1	
	8.1	4 690	179.44	65 000	1.7	280	2KJ3410 - ■ GJ23 - ■ ■ P1	
	9.2	4 150	158.91	65 000	1.9	280	2KJ3410 - ■ GJ23 - ■ ■ N1	
	10	3 700	141.43	65 000	2.2	280	2KJ3410 - ■ GJ23 - ■ ■ M1	
	<b>FD.129-LE112ZMKB4P</b>							
6.3	6 040	231.12	36 000	0.8	192	2KJ3408 - ■ GJ23 - ■ ■ M1		
7.1	5 390	206.32	36 600	0.9	192	2KJ3408 - ■ GJ23 - ■ ■ L1		
7.9	4 850	185.66	37 200	1.0	192	2KJ3408 - ■ GJ23 - ■ ■ K1		
9.1	4 210	161.14	37 500	1.2	192	2KJ3408 - ■ GJ23 - ■ ■ J1		
10	3 790	144.92	37 500	1.3	192	2KJ3408 - ■ GJ23 - ■ ■ H1		
12	3 310	126.66	37 500	1.5	192	2KJ3408 - ■ GJ23 - ■ ■ G1		
13	2 950	113.03	37 500	1.6	192	2KJ3408 - ■ GJ23 - ■ ■ F1		
15	2 600	99.58	37 500	1.9	192	2KJ3408 - ■ GJ23 - ■ ■ E1		
17	2 280	87.25	37 500	2.1	192	2KJ3408 - ■ GJ23 - ■ ■ D1		
<b>FD.109-LE112ZMKB4P</b>								
10	3 830	146.65	25 000	0.81	137	2KJ3407 - ■ GJ23 - ■ ■ H1		
12	3 280	125.37	25 000	0.95	137	2KJ3407 - ■ GJ23 - ■ ■ G1		
13	2 920	111.95	25 000	1.1	137	2KJ3407 - ■ GJ23 - ■ ■ F1		
15	2 580	98.94	25 000	1.2	137	2KJ3407 - ■ GJ23 - ■ ■ E1		
17	2 270	86.83	25 000	1.4	137	2KJ3407 - ■ GJ23 - ■ ■ D1		
19	1 970	75.59	25 000	1.6	137	2KJ3407 - ■ GJ23 - ■ ■ C1		
23	1 690	64.62	25 000	1.8	137	2KJ3407 - ■ GJ23 - ■ ■ B1		
26	1 440	55.31	25 000	2.1	137	2KJ3407 - ■ GJ23 - ■ ■ A1		
<b>FZ.109-LE112ZMKB4P</b>								
21	1 850	70.74	25 000	1.7	134	2KJ3307 - ■ GJ23 - ■ ■ B2		
22	1 700	65.30	25 000	1.8	134	2KJ3307 - ■ GJ23 - ■ ■ A2		
24	1 570	60.12	25 000	2.0	134	2KJ3307 - ■ GJ23 - ■ ■ X1		
28	1 340	51.27	25 000	2.3	134	2KJ3307 - ■ GJ23 - ■ ■ W1		
30	1 260	48.25	25 000	2.5	134	2KJ3307 - ■ GJ23 - ■ ■ V1		
33	1 170	44.78	25 000	2.6	134	2KJ3307 - ■ GJ23 - ■ ■ U1		
<b>FD.89-LE112ZMKB4P</b>								
18	2 090	79.95	17 400	0.88	96	2KJ3406 - ■ GJ23 - ■ ■ D1		
21	1 840	70.67	17 400	1.0	96	2KJ3406 - ■ GJ23 - ■ ■ C1		
24	1 570	60.09	17 400	1.2	96	2KJ3406 - ■ GJ23 - ■ ■ B1		
28	1 340	51.51	17 400	1.4	96	2KJ3406 - ■ GJ23 - ■ ■ A1		
<b>FZ.89-LE112ZMKB4P</b>								
24	1 610	61.72	17 400	1.1	95	2KJ3306 - ■ GJ23 - ■ ■ B2		
26	1 450	55.72	17 400	1.3	95	2KJ3306 - ■ GJ23 - ■ ■ A2		
29	1 320	50.54	17 400	1.4	95	2KJ3306 - ■ GJ23 - ■ ■ X1		
31	1 220	46.66	17 400	1.5	95	2KJ3306 - ■ GJ23 - ■ ■ W1		
34	1 110	42.41	17 400	1.7	95	2KJ3306 - ■ GJ23 - ■ ■ V1		
41	940	35.91	17 400	2.0	95	2KJ3306 - ■ GJ23 - ■ ■ U1		
43	880	33.80	17 400	2.1	95	2KJ3306 - ■ GJ23 - ■ ■ T1		
47	815	31.21	17 400	2.3	95	2KJ3306 - ■ GJ23 - ■ ■ S1		
53	725	27.77	17 400	2.5	95	2KJ3306 - ■ GJ23 - ■ ■ R1		

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Shaft design

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Gearbox mounting type

**A, D, F or H**

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>4</b>	<b>FZ.89-LE112ZMKB4P</b>							
	59	645	24.67	17 400	2.9	95	2KJ3306 - ■ GJ23 - ■ ■ Q1	
	<b>FZ.79-LE112ZMKB4P</b>							
	30	1 250	48.03	13 100	0.80	65	2KJ3305 - ■ GJ23 - ■ ■ W1	
	34	1 130	43.18	13 300	0.89	65	2KJ3305 - ■ GJ23 - ■ ■ V1	
	37	1 020	39.06	13 500	0.98	65	2KJ3305 - ■ GJ23 - ■ ■ U1	
	40	940	36.05	13 700	1.1	65	2KJ3305 - ■ GJ23 - ■ ■ T1	
	44	860	33.02	13 800	1.2	65	2KJ3305 - ■ GJ23 - ■ ■ S1	
	53	725	27.71	14 100	1.4	65	2KJ3305 - ■ GJ23 - ■ ■ R1	
	56	680	26.08	14 200	1.5	65	2KJ3305 - ■ GJ23 - ■ ■ Q1	
	61	625	23.93	14 300	1.6	65	2KJ3305 - ■ GJ23 - ■ ■ P1	
	70	545	20.90	14 500	1.8	65	2KJ3305 - ■ GJ23 - ■ ■ N1	
	78	490	18.71	14 500	2.0	65	2KJ3305 - ■ GJ23 - ■ ■ M1	
	89	425	16.36	14 500	2.3	65	2KJ3305 - ■ GJ23 - ■ ■ L1	
	104	365	14.04	14 500	2.7	65	2KJ3305 - ■ GJ23 - ■ ■ K1	
	118	325	12.41	14 400	3.1	65	2KJ3305 - ■ GJ23 - ■ ■ J1	
	138	275	10.56	13 900	3.6	65	2KJ3305 - ■ GJ23 - ■ ■ H1	
	172	220	8.51	13 100	3.2	65	2KJ3305 - ■ GJ23 - ■ ■ F1	
	196	195	7.44	12 700	3.7	65	2KJ3305 - ■ GJ23 - ■ ■ E1	
228	167	6.39	12 200	4.3	65	2KJ3305 - ■ GJ23 - ■ ■ D1		
259	148	5.64	11 800	4.7	65	2KJ3305 - ■ GJ23 - ■ ■ C1		
<b>FZ.69-LE112ZMKB4P</b>								
53	720	27.62	5 580	0.83	58	2KJ3304 - ■ GJ23 - ■ ■ P1		
64	600	22.92	5 710	1.0	58	2KJ3304 - ■ GJ23 - ■ ■ N1		
68	560	21.57	5 770	1.1	58	2KJ3304 - ■ GJ23 - ■ ■ M1		
72	530	20.37	5 780	1.1	58	2KJ3304 - ■ GJ23 - ■ ■ L1		
84	450	17.33	5 800	1.3	58	2KJ3304 - ■ GJ23 - ■ ■ K1		
98	385	14.85	5 770	1.5	58	2KJ3304 - ■ GJ23 - ■ ■ J1		
112	340	13.06	5 710	1.8	58	2KJ3304 - ■ GJ23 - ■ ■ H1		
133	285	11.01	5 620	2.1	58	2KJ3304 - ■ GJ23 - ■ ■ G1		
152	250	9.60	5 500	2.4	58	2KJ3304 - ■ GJ23 - ■ ■ F1		
164	230	8.90	5 380	2.0	58	2KJ3304 - ■ GJ23 - ■ ■ E1		
192	199	7.62	5 230	2.3	58	2KJ3304 - ■ GJ23 - ■ ■ D1		
218	175	6.70	5 110	2.5	58	2KJ3304 - ■ GJ23 - ■ ■ C1		
258	148	5.66	4 950	2.8	58	2KJ3304 - ■ GJ23 - ■ ■ B1		
296	129	4.93	4 800	3.0	58	2KJ3304 - ■ GJ23 - ■ ■ A1		
<b>FZ.49-LE112ZMKB4P</b>								
67	570	21.77	3 430	0.84	53	2KJ3303 - ■ GJ23 - ■ ■ N1		
71	535	20.49	3 520	0.90	53	2KJ3303 - ■ GJ23 - ■ ■ M1		
75	505	19.35	3 580	0.95	53	2KJ3303 - ■ GJ23 - ■ ■ L1		
89	430	16.47	3 710	1.1	53	2KJ3303 - ■ GJ23 - ■ ■ K1		
103	365	14.11	3 810	1.3	53	2KJ3303 - ■ GJ23 - ■ ■ J1		
118	320	12.40	3 840	1.5	53	2KJ3303 - ■ GJ23 - ■ ■ H1		
140	270	10.46	3 840	1.8	53	2KJ3303 - ■ GJ23 - ■ ■ G1		
160	235	9.12	3 820	2.0	53	2KJ3303 - ■ GJ23 - ■ ■ F1		
174	220	8.40	3 610	2.0	53	2KJ3303 - ■ GJ23 - ■ ■ E1		
203	188	7.20	3 580	2.4	53	2KJ3303 - ■ GJ23 - ■ ■ D1		
231	166	6.33	3 530	2.6	53	2KJ3303 - ■ GJ23 - ■ ■ C1		
273	140	5.34	3 460	2.9	53	2KJ3303 - ■ GJ23 - ■ ■ B1		

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Shaft design

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Gearbox mounting type

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Electro Motor.ir



**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>4</b>	<b>FZ.49-LE112ZMKB4P</b>							
	314	122	4.65	3 390	3.1	53	2KJ3303 - ■ GJ23 - ■ ■ A1	
	<b>FZ.39-LE112ZMKB4P</b>							
	217	176	6.74	3 060	0.86	45	2KJ3302 - ■ GJ23 - ■ ■ F1	
	230	166	6.35	3 050	0.90	45	2KJ3302 - ■ GJ23 - ■ ■ E1	
	257	149	5.69	3 040	0.94	45	2KJ3302 - ■ GJ23 - ■ ■ D1	
	302	127	4.84	3 000	1.0	45	2KJ3302 - ■ GJ23 - ■ ■ C1	
	352	109	4.15	2 940	1.1	45	2KJ3302 - ■ GJ23 - ■ ■ B1	
409	93	3.57	2 890	1.2	45	2KJ3302 - ■ GJ23 - ■ ■ A1		
<b>5.5</b>	<b>FD.189-LE132ZMS6P</b>							
	2.8	18 800	347.35	110 900	1.0	667	2KJ3412 - ■ HL23 - ■ ■ T1	P01
	3.1	16 800	310.76	110 900	1.1	667	2KJ3412 - ■ HL23 - ■ ■ S1	P01
	3.5	15 100	280.27	110 900	1.3	667	2KJ3412 - ■ HL23 - ■ ■ R1	P01
	3.9	13 400	247.71	110 900	1.4	667	2KJ3412 - ■ HL23 - ■ ■ Q1	P01
	<b>FD.189-LE132ZST4P</b>							
	4.2	12 400	347.35	110 900	1.5	667	2KJ3412 - ■ HJ23 - ■ ■ T1	
	4.7	11 100	310.76	110 900	1.7	667	2KJ3412 - ■ HJ23 - ■ ■ S1	
	5.2	10 000	280.27	110 900	1.9	667	2KJ3412 - ■ HJ23 - ■ ■ R1	
	5.9	8 880	247.71	110 900	2.1	667	2KJ3412 - ■ HJ23 - ■ ■ Q1	
	<b>FD.169-LE132ZMS6P</b>							
	3.2	16 500	304.94	73 500	0.82	455	2KJ3411 - ■ HL23 - ■ ■ T1	P01
	3.5	14 800	273.80	73 500	0.92	455	2KJ3411 - ■ HL23 - ■ ■ S1	P01
	<b>FD.169-LE132ZST4P</b>							
	4.0	13 100	368.00	73 500	1.0	455	2KJ3411 - ■ HJ23 - ■ ■ V1	
	4.3	12 200	343.01	73 500	1.1	455	2KJ3411 - ■ HJ23 - ■ ■ U1	
	4.8	10 900	304.94	73 500	1.2	455	2KJ3411 - ■ HJ23 - ■ ■ T1	
	5.4	9 810	273.80	73 500	1.4	455	2KJ3411 - ■ HJ23 - ■ ■ S1	
	5.9	8 880	247.84	73 500	1.5	455	2KJ3411 - ■ HJ23 - ■ ■ R1	
	6.7	7 800	217.70	73 500	1.7	455	2KJ3411 - ■ HJ23 - ■ ■ Q1	
	7.4	7 070	197.27	73 500	1.9	455	2KJ3411 - ■ HJ23 - ■ ■ P1	
	<b>FD.149-LE132ZST4P</b>							
	5.8	9 050	252.64	65 000	0.88	308	2KJ3410 - ■ HJ23 - ■ ■ S1	
	6.5	8 040	224.42	65 000	0.99	308	2KJ3410 - ■ HJ23 - ■ ■ R1	
	7.2	7 260	202.50	65 000	1.1	308	2KJ3410 - ■ HJ23 - ■ ■ Q1	
	8.2	6 430	179.44	65 000	1.2	308	2KJ3410 - ■ HJ23 - ■ ■ P1	
	9.2	5 690	158.91	65 000	1.4	308	2KJ3410 - ■ HJ23 - ■ ■ N1	
	10	5 070	141.43	65 000	1.6	308	2KJ3410 - ■ HJ23 - ■ ■ M1	
	12	4 540	126.73	65 000	1.8	308	2KJ3410 - ■ HJ23 - ■ ■ L1	
	13	4 020	112.36	65 000	2.0	308	2KJ3410 - ■ HJ23 - ■ ■ K1	
	15	3 550	99.18	65 000	2.2	308	2KJ3410 - ■ HJ23 - ■ ■ J1	
	<b>FD.129-LE132ZST4P</b>							
9.1	5 770	161.14	36 300	0.84	222	2KJ3408 - ■ HJ23 - ■ ■ J1		
10	5 190	144.92	36 800	0.93	222	2KJ3408 - ■ HJ23 - ■ ■ H1		
12	4 540	126.66	37 500	1.1	222	2KJ3408 - ■ HJ23 - ■ ■ G1		
13	4 050	113.03	37 500	1.2	222	2KJ3408 - ■ HJ23 - ■ ■ F1		
15	3 570	99.58	37 500	1.4	222	2KJ3408 - ■ HJ23 - ■ ■ E1		
17	3 120	87.25	37 500	1.6	222	2KJ3408 - ■ HJ23 - ■ ■ D1		
19	2 720	76.04	37 500	1.8	222	2KJ3408 - ■ HJ23 - ■ ■ C1		
21	2 480	69.40	37 500	1.9	222	2KJ3408 - ■ HJ23 - ■ ■ B1		
25	2 140	59.75	37 500	2.3	222	2KJ3408 - ■ HJ23 - ■ ■ A1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>5.5</b>	<b>FZ.129-LE132ZST4P</b>							
	21	2 480	69.20	37 500	2.0	217	2KJ3308 - ■ HJ23 - ■ ■ ■ A2	
	25	2 120	59.22	37 500	2.3	217	2KJ3308 - ■ HJ23 - ■ ■ ■ X1	
	26	1 990	55.74	37 500	2.4	217	2KJ3308 - ■ HJ23 - ■ ■ ■ W1	
	<b>FD.109-LE132ZST4P</b>							
	15	3 540	98.94	25 000	0.87	168	2KJ3407 - ■ HJ23 - ■ ■ ■ E1	
	17	3 110	86.83	25 000	1.0	168	2KJ3407 - ■ HJ23 - ■ ■ ■ D1	
	19	2 710	75.59	25 000	1.1	168	2KJ3407 - ■ HJ23 - ■ ■ ■ C1	
	23	2 310	64.62	25 000	1.3	168	2KJ3407 - ■ HJ23 - ■ ■ ■ B1	
	26	1 980	55.31	25 000	1.6	168	2KJ3407 - ■ HJ23 - ■ ■ ■ A1	
	<b>FZ.109-LE132ZST4P</b>							
	24	2 150	60.12	25 000	1.4	164	2KJ3307 - ■ HJ23 - ■ ■ ■ X1	
	29	1 830	51.27	25 000	1.7	164	2KJ3307 - ■ HJ23 - ■ ■ ■ W1	
	30	1 730	48.25	25 000	1.8	164	2KJ3307 - ■ HJ23 - ■ ■ ■ V1	
	33	1 600	44.78	25 000	1.9	164	2KJ3307 - ■ HJ23 - ■ ■ ■ U1	
	37	1 410	39.59	25 000	2.2	164	2KJ3307 - ■ HJ23 - ■ ■ ■ T1	
	41	1 260	35.34	25 000	2.4	164	2KJ3307 - ■ HJ23 - ■ ■ ■ S1	
	46	1 140	31.80	25 000	2.7	164	2KJ3307 - ■ HJ23 - ■ ■ ■ R1	
	<b>FD.89-LE132ZST4P</b>							
	24	2 150	60.09	17 400	0.86	127	2KJ3406 - ■ HJ23 - ■ ■ ■ B1	
	28	1 840	51.51	17 400	1.0	127	2KJ3406 - ■ HJ23 - ■ ■ ■ A1	
	<b>FZ.89-LE132ZST4P</b>							
	35	1 520	42.41	17 400	1.2	126	2KJ3306 - ■ HJ23 - ■ ■ ■ V1	
	41	1 280	35.91	17 400	1.4	126	2KJ3306 - ■ HJ23 - ■ ■ ■ U1	
	43	1 210	33.80	17 400	1.5	126	2KJ3306 - ■ HJ23 - ■ ■ ■ T1	
	47	1 110	31.21	17 400	1.7	126	2KJ3306 - ■ HJ23 - ■ ■ ■ S1	
	53	995	27.77	17 400	1.9	126	2KJ3306 - ■ HJ23 - ■ ■ ■ R1	
59	880	24.67	17 400	2.1	126	2KJ3306 - ■ HJ23 - ■ ■ ■ Q1		
66	790	22.08	17 400	2.3	126	2KJ3306 - ■ HJ23 - ■ ■ ■ P1		
78	675	18.88	17 400	2.7	126	2KJ3306 - ■ HJ23 - ■ ■ ■ N1		
87	600	16.86	17 400	3.1	126	2KJ3306 - ■ HJ23 - ■ ■ ■ M1		
98	530	14.90	17 400	3.5	126	2KJ3306 - ■ HJ23 - ■ ■ ■ L1		
193	270	7.60	17 400	4.0	126	2KJ3306 - ■ HJ23 - ■ ■ ■ F1		
<b>FZ.79-LE132ZST4P</b>								
44	1 180	33.02	13 200	0.84	96	2KJ3305 - ■ HJ23 - ■ ■ ■ S1		
53	990	27.71	13 600	1.0	96	2KJ3305 - ■ HJ23 - ■ ■ ■ R1		
56	935	26.08	13 700	1.1	96	2KJ3305 - ■ HJ23 - ■ ■ ■ Q1		
61	855	23.93	13 900	1.2	96	2KJ3305 - ■ HJ23 - ■ ■ ■ P1		
70	745	20.90	14 100	1.3	96	2KJ3305 - ■ HJ23 - ■ ■ ■ N1		
78	670	18.71	14 200	1.5	96	2KJ3305 - ■ HJ23 - ■ ■ ■ M1		
90	585	16.36	14 400	1.7	96	2KJ3305 - ■ HJ23 - ■ ■ ■ L1		
104	500	14.04	14 000	2.0	96	2KJ3305 - ■ HJ23 - ■ ■ ■ K1		
118	445	12.41	13 700	2.2	96	2KJ3305 - ■ HJ23 - ■ ■ ■ J1		
139	375	10.56	13 300	2.6	96	2KJ3305 - ■ HJ23 - ■ ■ ■ H1		
162	320	9.05	12 900	3.1	96	2KJ3305 - ■ HJ23 - ■ ■ ■ G1		
172	305	8.51	12 600	2.4	96	2KJ3305 - ■ HJ23 - ■ ■ ■ F1		
197	265	7.44	12 300	2.7	96	2KJ3305 - ■ HJ23 - ■ ■ ■ E1		
229	225	6.39	11 900	3.1	96	2KJ3305 - ■ HJ23 - ■ ■ ■ D1		
260	200	5.64	11 500	3.5	96	2KJ3305 - ■ HJ23 - ■ ■ ■ C1		
305	172	4.80	11 100	3.8	96	2KJ3305 - ■ HJ23 - ■ ■ ■ B1		

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**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>5.5</b>	<b>FZ.79-LE132ZST4P</b>								
	356	147	4.11	10 700	4.1	96	2KJ3305 - ■ HJ23 - ■ ■ A1		
	<b>FZ.69-LE132ZST4P</b>								
	72	730	20.37	4 540	0.82	88	2KJ3304 - ■ HJ23 - ■ ■ L1		
	85	620	17.33	4 740	0.97	88	2KJ3304 - ■ HJ23 - ■ ■ K1		
	99	530	14.85	4 870	1.1	88	2KJ3304 - ■ HJ23 - ■ ■ J1		
	112	465	13.06	4 930	1.3	88	2KJ3304 - ■ HJ23 - ■ ■ H1		
	133	395	11.01	4 930	1.5	88	2KJ3304 - ■ HJ23 - ■ ■ G1		
	153	340	9.60	4 940	1.7	88	2KJ3304 - ■ HJ23 - ■ ■ F1		
	165	315	8.90	4 820	1.5	88	2KJ3304 - ■ HJ23 - ■ ■ E1		
	192	270	7.62	4 770	1.7	88	2KJ3304 - ■ HJ23 - ■ ■ D1		
	219	240	6.70	4 690	1.8	88	2KJ3304 - ■ HJ23 - ■ ■ C1		
	259	200	5.66	4 600	2.0	88	2KJ3304 - ■ HJ23 - ■ ■ B1		
	297	177	4.93	4 490	2.2	88	2KJ3304 - ■ HJ23 - ■ ■ A1		
	<b>FZ.69-LE132ZST4P</b>								
	89	590	16.47	2 660	0.81	76	2KJ3303 - ■ HJ23 - ■ ■ K1		
	104	505	14.11	2 890	0.95	76	2KJ3303 - ■ HJ23 - ■ ■ J1		
	118	445	12.40	3 020	1.1	76	2KJ3303 - ■ HJ23 - ■ ■ H1		
	140	375	10.46	3 150	1.3	76	2KJ3303 - ■ HJ23 - ■ ■ G1		
	161	325	9.12	3 220	1.5	76	2KJ3303 - ■ HJ23 - ■ ■ F1		
	174	300	8.40	3 020	1.5	76	2KJ3303 - ■ HJ23 - ■ ■ E1		
	203	255	7.20	3 090	1.7	76	2KJ3303 - ■ HJ23 - ■ ■ D1		
	231	225	6.33	3 100	1.9	76	2KJ3303 - ■ HJ23 - ■ ■ C1		
	274	191	5.34	3 090	2.1	76	2KJ3303 - ■ HJ23 - ■ ■ B1		
	315	167	4.65	3 060	2.2	76	2KJ3303 - ■ HJ23 - ■ ■ A1		
	<b>7.5</b>	<b>FD.189-LE132ZMS4P</b>							
		4.2	16 900	347.35	110 900	1.1	667	2KJ3412 - ■ HL23 - ■ ■ T1	
4.7		15 100	310.76	110 900	1.3	667	2KJ3412 - ■ HL23 - ■ ■ S1		
5.2		13 600	280.27	110 900	1.4	667	2KJ3412 - ■ HL23 - ■ ■ R1		
5.9		12 000	247.71	110 900	1.6	667	2KJ3412 - ■ HL23 - ■ ■ Q1		
6.5		11 000	226.42	110 900	1.7	667	2KJ3412 - ■ HL23 - ■ ■ P1		
7.2		9 920	203.69	110 900	1.9	667	2KJ3412 - ■ HL23 - ■ ■ N1		
8.1		8 860	182.03	110 900	2.1	667	2KJ3412 - ■ HL23 - ■ ■ M1		
<b>FD.169-LE132ZMS4P</b>									
4.3		16 700	343.01	73 500	0.81	455	2KJ3411 - ■ HL23 - ■ ■ U1		
4.8		14 800	304.94	73 500	0.92	455	2KJ3411 - ■ HL23 - ■ ■ T1		
5.4		13 300	273.80	73 500	1.0	455	2KJ3411 - ■ HL23 - ■ ■ S1		
5.9		12 000	247.84	73 500	1.1	455	2KJ3411 - ■ HL23 - ■ ■ R1		
6.8		10 600	217.70	73 500	1.3	455	2KJ3411 - ■ HL23 - ■ ■ Q1		
7.5		9 610	197.27	73 500	1.4	455	2KJ3411 - ■ HL23 - ■ ■ P1		
8.4		8 560	175.69	73 500	1.6	455	2KJ3411 - ■ HL23 - ■ ■ N1		
9.3		7 680	157.76	73 500	1.8	455	2KJ3411 - ■ HL23 - ■ ■ M1		
10		6 850	140.77	73 500	2.0	455	2KJ3411 - ■ HL23 - ■ ■ L1		
12		6 110	125.49	73 500	2.2	455	2KJ3411 - ■ HL23 - ■ ■ K1		
<b>FD.149-LE132ZMS4P</b>									
7.3		9 860	202.50	65 000	0.81	308	2KJ3410 - ■ HL23 - ■ ■ Q1		
8.2		8 740	179.44	65 000	0.92	308	2KJ3410 - ■ HL23 - ■ ■ P1		
9.3		7 740	158.91	65 000	1.0	308	2KJ3410 - ■ HL23 - ■ ■ N1		
10		6 890	141.43	65 000	1.2	308	2KJ3410 - ■ HL23 - ■ ■ M1		
12		6 170	126.73	65 000	1.3	308	2KJ3410 - ■ HL23 - ■ ■ L1		

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Shaft design

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Frequency and voltage

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
7.5	<b>FD.149-LE132ZMS4P</b>							
	13	5 470	112.36	65 000	1.5	308	2KJ3410 - ■ HL23 - ■ ■ K1	
	15	4 830	99.18	65 000	1.7	308	2KJ3410 - ■ HL23 - ■ ■ J1	
	17	4 240	87.20	63 900	1.9	308	2KJ3410 - ■ HL23 - ■ ■ H1	
	19	3 840	78.98	62 800	2.1	308	2KJ3410 - ■ HL23 - ■ ■ G1	
	21	3 350	68.76	61 000	2.4	308	2KJ3410 - ■ HL23 - ■ ■ F1	
	<b>FD.129-LE132ZMS4P</b>							
	13	5 500	113.03	36 500	0.88	222	2KJ3408 - ■ HL23 - ■ ■ F1	
	15	4 850	99.58	37 200	1.0	222	2KJ3408 - ■ HL23 - ■ ■ E1	
	17	4 250	87.25	37 500	1.1	222	2KJ3408 - ■ HL23 - ■ ■ D1	
	19	3 700	76.04	37 500	1.3	222	2KJ3408 - ■ HL23 - ■ ■ C1	
	21	3 380	69.40	37 500	1.4	222	2KJ3408 - ■ HL23 - ■ ■ B1	
	25	2 910	59.75	37 500	1.7	222	2KJ3408 - ■ HL23 - ■ ■ A1	
	<b>FZ.129-LE132ZMS4P</b>							
	21	3 370	69.20	37 500	1.4	217	2KJ3308 - ■ HL23 - ■ ■ A2	
25	2 880	59.22	37 500	1.7	217	2KJ3308 - ■ HL23 - ■ ■ X1		
26	2 710	55.74	37 500	1.8	217	2KJ3308 - ■ HL23 - ■ ■ W1		
28	2 540	52.25	37 500	1.9	217	2KJ3308 - ■ HL23 - ■ ■ V1		
32	2 250	46.32	37 500	2.1	217	2KJ3308 - ■ HL23 - ■ ■ U1		
36	2 000	41.14	37 500	2.4	217	2KJ3308 - ■ HL23 - ■ ■ T1		
40	1 800	37.12	37 500	2.7	217	2KJ3308 - ■ HL23 - ■ ■ S1		
<b>FD.109-LE132ZMS4P</b>								
19	3 680	75.59	25 000	0.84	168	2KJ3407 - ■ HL23 - ■ ■ C1		
23	3 140	64.62	25 000	0.98	168	2KJ3407 - ■ HL23 - ■ ■ B1		
27	2 690	55.31	25 000	1.2	168	2KJ3407 - ■ HL23 - ■ ■ A1		
<b>FZ.109-LE132ZMS4P</b>								
24	2 920	60.12	25 000	1.1	164	2KJ3307 - ■ HL23 - ■ ■ X1		
29	2 490	51.27	25 000	1.2	164	2KJ3307 - ■ HL23 - ■ ■ W1		
30	2 350	48.25	25 000	1.3	164	2KJ3307 - ■ HL23 - ■ ■ V1		
33	2 180	44.78	25 000	1.4	164	2KJ3307 - ■ HL23 - ■ ■ U1		
37	1 920	39.59	25 000	1.6	164	2KJ3307 - ■ HL23 - ■ ■ T1		
42	1 720	35.34	25 000	1.8	164	2KJ3307 - ■ HL23 - ■ ■ S1		
46	1 540	31.80	25 000	2.0	164	2KJ3307 - ■ HL23 - ■ ■ R1		
53	1 340	27.60	25 000	2.3	164	2KJ3307 - ■ HL23 - ■ ■ Q1		
59	1 200	24.82	25 000	2.6	164	2KJ3307 - ■ HL23 - ■ ■ P1		
68	1 050	21.70	25 000	2.9	164	2KJ3307 - ■ HL23 - ■ ■ N1		
<b>FZ.89-LE132ZMS4P</b>								
35	2 060	42.41	17 400	0.9	126	2KJ3306 - ■ HL23 - ■ ■ V1		
41	1 750	35.91	17 400	1.1	126	2KJ3306 - ■ HL23 - ■ ■ U1		
43	1 640	33.80	17 400	1.1	126	2KJ3306 - ■ HL23 - ■ ■ T1		
47	1 520	31.21	17 400	1.2	126	2KJ3306 - ■ HL23 - ■ ■ S1		
53	1 350	27.77	17 400	1.4	126	2KJ3306 - ■ HL23 - ■ ■ R1		
60	1 200	24.67	17 400	1.5	126	2KJ3306 - ■ HL23 - ■ ■ Q1		
67	1 070	22.08	17 400	1.7	126	2KJ3306 - ■ HL23 - ■ ■ P1		
78	920	18.88	17 400	2.0	126	2KJ3306 - ■ HL23 - ■ ■ N1		
87	820	16.86	17 400	2.3	126	2KJ3306 - ■ HL23 - ■ ■ M1		
99	725	14.90	17 400	2.5	126	2KJ3306 - ■ HL23 - ■ ■ L1		
112	635	13.07	17 400	2.9	126	2KJ3306 - ■ HL23 - ■ ■ K1		
129	550	11.38	17 400	3.3	126	2KJ3306 - ■ HL23 - ■ ■ J1		
151	470	9.73	17 400	3.9	126	2KJ3306 - ■ HL23 - ■ ■ H1		

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Shaft design

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Frequency and voltage

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Gearbox mounting type

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**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>7.5</b>	<b>FZ.89-LE132ZMS4P</b>							
	193	370	7.60	17 200	3.0	126	2KJ3306 - ■ HL23 - ■ ■ F1	
	219	325	6.72	16 800	3.4	126	2KJ3306 - ■ HL23 - ■ ■ E1	
	249	285	5.90	16 200	3.9	126	2KJ3306 - ■ HL23 - ■ ■ D1	
	287	250	5.13	15 700	4.4	126	2KJ3306 - ■ HL23 - ■ ■ C1	
	335	210	4.39	15 100	5.0	126	2KJ3306 - ■ HL23 - ■ ■ B1	
	391	183	3.76	14 500	5.4	126	2KJ3306 - ■ HL23 - ■ ■ A1	
	<b>FZ.79-LE132ZMS4P</b>							
	61	1 160	23.93	13 300	0.86	96	2KJ3305 - ■ HL23 - ■ ■ P1	
	70	1 010	20.90	13 400	0.98	96	2KJ3305 - ■ HL23 - ■ ■ N1	
	79	910	18.71	13 400	1.1	96	2KJ3305 - ■ HL23 - ■ ■ M1	
	90	795	16.36	13 200	1.3	96	2KJ3305 - ■ HL23 - ■ ■ L1	
	105	680	14.04	13 100	1.5	96	2KJ3305 - ■ HL23 - ■ ■ K1	
	118	605	12.41	12 800	1.7	96	2KJ3305 - ■ HL23 - ■ ■ J1	
	139	515	10.56	12 600	1.9	96	2KJ3305 - ■ HL23 - ■ ■ H1	
	162	440	9.05	12 300	2.3	96	2KJ3305 - ■ HL23 - ■ ■ G1	
	173	415	8.51	12 000	1.7	96	2KJ3305 - ■ HL23 - ■ ■ F1	
	198	360	7.44	11 700	2.0	96	2KJ3305 - ■ HL23 - ■ ■ E1	
	230	310	6.39	11 400	2.3	96	2KJ3305 - ■ HL23 - ■ ■ D1	
	261	275	5.64	11 100	2.5	96	2KJ3305 - ■ HL23 - ■ ■ C1	
	306	230	4.80	10 800	2.8	96	2KJ3305 - ■ HL23 - ■ ■ B1	
358	200	4.11	10 400	3.0	96	2KJ3305 - ■ HL23 - ■ ■ A1		
<b>FZ.69-LE132ZMS4P</b>								
99	720	14.85	3 680	0.83	88	2KJ3304 - ■ HL23 - ■ ■ J1		
113	635	13.06	3 870	0.94	88	2KJ3304 - ■ HL23 - ■ ■ H1		
134	535	11.01	4 060	1.1	88	2KJ3304 - ■ HL23 - ■ ■ G1		
153	465	9.60	4 160	1.3	88	2KJ3304 - ■ HL23 - ■ ■ F1		
165	430	8.90	4 060	1.1	88	2KJ3304 - ■ HL23 - ■ ■ E1		
193	370	7.62	4 110	1.3	88	2KJ3304 - ■ HL23 - ■ ■ D1		
219	325	6.70	4 130	1.3	88	2KJ3304 - ■ HL23 - ■ ■ C1		
260	275	5.66	4 110	1.5	88	2KJ3304 - ■ HL23 - ■ ■ B1		
298	240	4.93	4 070	1.6	88	2KJ3304 - ■ HL23 - ■ ■ A1		
<b>FZ.49-LE132ZMS4P</b>								
141	510	10.46	2 260	0.94	84	2KJ3303 - ■ HL23 - ■ ■ G1		
161	440	9.12	2 470	1.1	84	2KJ3303 - ■ HL23 - ■ ■ F1		
175	405	8.40	2 260	1.1	84	2KJ3303 - ■ HL23 - ■ ■ E1		
204	350	7.20	2 390	1.3	84	2KJ3303 - ■ HL23 - ■ ■ D1		
232	305	6.33	2 510	1.4	84	2KJ3303 - ■ HL23 - ■ ■ C1		
275	260	5.34	2 580	1.5	84	2KJ3303 - ■ HL23 - ■ ■ B1		
316	225	4.65	2 630	1.7	84	2KJ3303 - ■ HL23 - ■ ■ A1		
<b>9.2</b>	<b>FD.189-LE160MPA4P</b>							
	4.2	20 700	347.35	110 900	0.92	684	2KJ3412 - ■ JQ23 - ■ ■ T1	
	4.7	18 500	310.76	110 900	1.0	684	2KJ3412 - ■ JQ23 - ■ ■ S1	
	5.2	16 700	280.27	110 900	1.1	684	2KJ3412 - ■ JQ23 - ■ ■ R1	
	5.9	14 800	247.71	110 900	1.3	684	2KJ3412 - ■ JQ23 - ■ ■ Q1	
	6.5	13 500	226.42	110 900	1.4	684	2KJ3412 - ■ JQ23 - ■ ■ P1	
	7.2	12 100	203.69	110 900	1.6	684	2KJ3412 - ■ JQ23 - ■ ■ N1	
	8.1	10 800	182.03	110 900	1.7	684	2KJ3412 - ■ JQ23 - ■ ■ M1	
	8.9	9 830	164.61	110 900	1.9	684	2KJ3412 - ■ JQ23 - ■ ■ L1	
	10	8 680	145.28	110 900	2.2	684	2KJ3412 - ■ JQ23 - ■ ■ K1	

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>9.2</b>								
<b>FD.169-LE160MPA4P</b>								
	5.4	16 300	273.80	73 500	0.83	472	2KJ3411 - ■ JQ23 - ■ ■ S1	
	5.9	14 800	247.84	73 500	0.92	472	2KJ3411 - ■ JQ23 - ■ ■ R1	
	6.8	13 000	217.70	73 500	1.0	472	2KJ3411 - ■ JQ23 - ■ ■ Q1	
	7.5	11 700	197.27	73 500	1.2	472	2KJ3411 - ■ JQ23 - ■ ■ P1	
	8.4	10 500	175.69	73 500	1.3	472	2KJ3411 - ■ JQ23 - ■ ■ N1	
	9.3	9 420	157.76	73 500	1.4	472	2KJ3411 - ■ JQ23 - ■ ■ M1	
	10	8 410	140.77	73 500	1.6	472	2KJ3411 - ■ JQ23 - ■ ■ L1	
	12	7 500	125.49	73 500	1.8	472	2KJ3411 - ■ JQ23 - ■ ■ K1	
	13	6 650	111.30	73 500	2.0	472	2KJ3411 - ■ JQ23 - ■ ■ J1	
	14	6 100	102.18	73 500	2.2	472	2KJ3411 - ■ JQ23 - ■ ■ H1	
<b>FD.149-LE160MPA4P</b>								
	9.3	9 490	158.91	65 000	0.84	325	2KJ3410 - ■ JQ23 - ■ ■ N1	
	10	8 450	141.43	65 000	0.95	325	2KJ3410 - ■ JQ23 - ■ ■ M1	
	12	7 570	126.73	64 500	1.1	325	2KJ3410 - ■ JQ23 - ■ ■ L1	
	13	6 710	112.36	63 700	1.2	325	2KJ3410 - ■ JQ23 - ■ ■ K1	
	15	5 920	99.18	62 700	1.3	325	2KJ3410 - ■ JQ23 - ■ ■ J1	
	17	5 210	87.20	61 500	1.5	325	2KJ3410 - ■ JQ23 - ■ ■ H1	
	19	4 720	78.98	60 600	1.7	325	2KJ3410 - ■ JQ23 - ■ ■ G1	
	21	4 110	68.76	59 100	1.9	325	2KJ3410 - ■ JQ23 - ■ ■ F1	
	26	3 360	56.37	57 000	2.4	325	2KJ3410 - ■ JQ23 - ■ ■ E1	
<b>FD.129-LE160MPA4P</b>								
	15	5 950	99.58	36 100	0.81	239	2KJ3408 - ■ JQ23 - ■ ■ E1	
	17	5 210	87.25	36 800	0.93	239	2KJ3408 - ■ JQ23 - ■ ■ D1	
	19	4 540	76.04	37 500	1.1	239	2KJ3408 - ■ JQ23 - ■ ■ C1	
	21	4 140	69.40	37 500	1.2	239	2KJ3408 - ■ JQ23 - ■ ■ B1	
	25	3 570	59.75	37 500	1.4	239	2KJ3408 - ■ JQ23 - ■ ■ A1	
<b>FZ.129-LE160MPA4P</b>								
	21	4 130	69.20	37 500	1.2	234	2KJ3308 - ■ JQ23 - ■ ■ A2	
	25	3 540	59.22	37 500	1.4	234	2KJ3308 - ■ JQ23 - ■ ■ X1	
	26	3 330	55.74	37 500	1.5	234	2KJ3308 - ■ JQ23 - ■ ■ W1	
	28	3 120	52.25	37 500	1.6	234	2KJ3308 - ■ JQ23 - ■ ■ V1	
	32	2 760	46.32	37 500	1.8	234	2KJ3308 - ■ JQ23 - ■ ■ U1	
	36	2 450	41.14	37 500	2.0	234	2KJ3308 - ■ JQ23 - ■ ■ T1	
	40	2 210	37.12	37 500	2.2	234	2KJ3308 - ■ JQ23 - ■ ■ S1	
	45	1 960	32.90	37 500	2.5	234	2KJ3308 - ■ JQ23 - ■ ■ R1	
	50	1 740	29.13	37 100	2.8	234	2KJ3308 - ■ JQ23 - ■ ■ Q1	
<b>FD.109-LE160MPA4P</b>								
	23	3 860	64.62	25 000	0.80	185	2KJ3407 - ■ JQ23 - ■ ■ B1	
	27	3 300	55.31	25 000	0.94	185	2KJ3407 - ■ JQ23 - ■ ■ A1	
<b>FZ.109-LE160MPA4P</b>								
	24	3 590	60.12	25 000	0.86	182	2KJ3307 - ■ JQ23 - ■ ■ X1	
	29	3 060	51.27	25 000	1.0	182	2KJ3307 - ■ JQ23 - ■ ■ W1	
	30	2 880	48.25	25 000	1.1	182	2KJ3307 - ■ JQ23 - ■ ■ V1	
	33	2 670	44.78	25 000	1.2	182	2KJ3307 - ■ JQ23 - ■ ■ U1	
	37	2 360	39.59	25 000	1.3	182	2KJ3307 - ■ JQ23 - ■ ■ T1	
	42	2 110	35.34	25 000	1.5	182	2KJ3307 - ■ JQ23 - ■ ■ S1	
	46	1 900	31.80	25 000	1.6	182	2KJ3307 - ■ JQ23 - ■ ■ R1	
	53	1 650	27.60	25 000	1.9	182	2KJ3307 - ■ JQ23 - ■ ■ Q1	
	59	1 480	24.82	25 000	2.1	182	2KJ3307 - ■ JQ23 - ■ ■ P1	

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Shaft design

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Frequency and voltage

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Gearbox mounting type

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# SIMOGEAR geared motors

## Parallel shaft geared motors

### Geared motors up to 55 kW

#### Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>9.2</b>	<b>FZ.109-LE160MPA4P</b>							
	68	1 290	21.70	25 000	2.4	182	2KJ3307 - ■ JQ23 - ■ ■ N1	
	76	1 150	19.36	25 000	2.7	182	2KJ3307 - ■ JQ23 - ■ ■ M1	
	86	1 020	17.06	24 600	3.0	182	2KJ3307 - ■ JQ23 - ■ ■ L1	
	98	890	14.95	23 900	3.5	182	2KJ3307 - ■ JQ23 - ■ ■ K1	
	163	535	9.02	21 200	3.9	182	2KJ3307 - ■ JQ23 - ■ ■ F1	
	185	475	7.94	20 600	4.2	182	2KJ3307 - ■ JQ23 - ■ ■ E1	
	<b>FZ.89-LE160MPA4P</b>							
	41	2 140	35.91	17 400	0.86	145	2KJ3306 - ■ JQ23 - ■ ■ U1	
	43	2 020	33.80	17 400	0.92	145	2KJ3306 - ■ JQ23 - ■ ■ T1	
	47	1 860	31.21	17 400	0.99	145	2KJ3306 - ■ JQ23 - ■ ■ S1	
	53	1 660	27.77	17 400	1.1	145	2KJ3306 - ■ JQ23 - ■ ■ R1	
	60	1 470	24.67	17 400	1.3	145	2KJ3306 - ■ JQ23 - ■ ■ Q1	
	67	1 320	22.08	17 400	1.4	145	2KJ3306 - ■ JQ23 - ■ ■ P1	
	78	1 120	18.88	17 400	1.6	145	2KJ3306 - ■ JQ23 - ■ ■ N1	
	87	1 000	16.86	17 400	1.8	145	2KJ3306 - ■ JQ23 - ■ ■ M1	
	99	890	14.90	17 400	2.1	145	2KJ3306 - ■ JQ23 - ■ ■ L1	
112	780	13.07	17 400	2.4	145	2KJ3306 - ■ JQ23 - ■ ■ K1		
129	680	11.38	17 400	2.7	145	2KJ3306 - ■ JQ23 - ■ ■ J1		
151	580	9.73	17 400	3.2	145	2KJ3306 - ■ JQ23 - ■ ■ H1		
176	495	8.33	17 300	3.5	145	2KJ3306 - ■ JQ23 - ■ ■ G1		
193	450	7.60	16 900	2.4	145	2KJ3306 - ■ JQ23 - ■ ■ F1		
219	400	6.72	16 400	2.8	145	2KJ3306 - ■ JQ23 - ■ ■ E1		
249	350	5.90	15 900	3.1	145	2KJ3306 - ■ JQ23 - ■ ■ D1		
287	305	5.13	15 400	3.6	145	2KJ3306 - ■ JQ23 - ■ ■ C1		
335	260	4.39	14 900	4.0	145	2KJ3306 - ■ JQ23 - ■ ■ B1		
391	225	3.76	14 300	4.4	145	2KJ3306 - ■ JQ23 - ■ ■ A1		
<b>FZ.79-LE160MPA4P</b>								
70	1 240	20.90	12 200	0.80	114	2KJ3305 - ■ JQ23 - ■ ■ N1		
79	1 110	18.71	12 300	0.89	114	2KJ3305 - ■ JQ23 - ■ ■ M1		
90	975	16.36	12 300	1.0	114	2KJ3305 - ■ JQ23 - ■ ■ L1		
105	835	14.04	12 200	1.2	114	2KJ3305 - ■ JQ23 - ■ ■ K1		
118	740	12.41	12 100	1.3	114	2KJ3305 - ■ JQ23 - ■ ■ J1		
139	630	10.56	12 000	1.6	114	2KJ3305 - ■ JQ23 - ■ ■ H1		
162	540	9.05	11 700	1.8	114	2KJ3305 - ■ JQ23 - ■ ■ G1		
173	505	8.51	11 500	1.4	114	2KJ3305 - ■ JQ23 - ■ ■ F1		
198	445	7.44	11 300	1.6	114	2KJ3305 - ■ JQ23 - ■ ■ E1		
230	380	6.39	11 000	1.9	114	2KJ3305 - ■ JQ23 - ■ ■ D1		
261	335	5.64	10 800	2.1	114	2KJ3305 - ■ JQ23 - ■ ■ C1		
306	285	4.80	10 400	2.3	114	2KJ3305 - ■ JQ23 - ■ ■ B1		
358	245	4.11	10 100	2.5	114	2KJ3305 - ■ JQ23 - ■ ■ A1		
<b>11</b>	<b>FD.189-LE160MPB4P</b>							
	4.7	22 100	310.76	110 800	0.86	676	2KJ3412 - ■ JR23 - ■ ■ S1	
	5.3	19 900	280.27	110 900	0.95	676	2KJ3412 - ■ JR23 - ■ ■ R1	
	6.0	17 600	247.71	110 900	1.1	676	2KJ3412 - ■ JR23 - ■ ■ Q1	
	6.5	16 100	226.42	110 900	1.2	676	2KJ3412 - ■ JR23 - ■ ■ P1	
	7.2	14 500	203.69	110 900	1.3	676	2KJ3412 - ■ JR23 - ■ ■ N1	
	8.1	12 900	182.03	110 900	1.5	676	2KJ3412 - ■ JR23 - ■ ■ M1	
	9.0	11 700	164.61	110 900	1.6	676	2KJ3412 - ■ JR23 - ■ ■ L1	

#### Article No. supplement

Shaft design

1, 5 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
11	<b>FD.189-LE160MPB4P</b>							
	10	10 300	145.28	110 900	1.8	676	2KJ3412 - ■ JR23 - ■ ■ K1	
	11	9 210	129.45	110 900	2.1	676	2KJ3412 - ■ JR23 - ■ ■ J1	
	<b>FD.169-LE160MPB4P</b>							
	6.8	15 500	217.70	73 500	0.88	464	2KJ3411 - ■ JR23 - ■ ■ Q1	
	7.5	14 000	197.27	73 500	0.97	464	2KJ3411 - ■ JR23 - ■ ■ P1	
	8.4	12 500	175.69	73 500	1.1	464	2KJ3411 - ■ JR23 - ■ ■ N1	
	9.3	11 200	157.76	73 500	1.2	464	2KJ3411 - ■ JR23 - ■ ■ M1	
	10	10 000	140.77	73 500	1.4	464	2KJ3411 - ■ JR23 - ■ ■ L1	
	12	8 930	125.49	73 500	1.5	464	2KJ3411 - ■ JR23 - ■ ■ K1	
	13	7 920	111.30	73 500	1.7	464	2KJ3411 - ■ JR23 - ■ ■ J1	
14	7 270	102.18	73 500	1.9	464	2KJ3411 - ■ JR23 - ■ ■ H1		
16	6 410	90.03	73 500	2.1	464	2KJ3411 - ■ JR23 - ■ ■ G1		
<b>FD.149-LE160MPB4P</b>								
12	9 020	126.73	60 700	0.89	317	2KJ3410 - ■ JR23 - ■ ■ L1		
13	8 000	112.36	60 300	1.0	317	2KJ3410 - ■ JR23 - ■ ■ K1		
15	7 060	99.18	59 700	1.1	317	2KJ3410 - ■ JR23 - ■ ■ J1		
17	6 210	87.20	58 900	1.3	317	2KJ3410 - ■ JR23 - ■ ■ H1		
19	5 620	78.98	58 200	1.4	317	2KJ3410 - ■ JR23 - ■ ■ G1		
21	4 890	68.76	57 100	1.6	317	2KJ3410 - ■ JR23 - ■ ■ F1		
26	4 010	56.37	55 300	2.0	317	2KJ3410 - ■ JR23 - ■ ■ E1		
29	3 560	50.01	54 100	2.2	317	2KJ3410 - ■ JR23 - ■ ■ D1		
33	3 220	45.30	53 100	2.5	317	2KJ3410 - ■ JR23 - ■ ■ C1		
<b>FZ.149-LE160MPB4P</b>								
30	3 450	48.48	53 800	2.3	311	2KJ3310 - ■ JR23 - ■ ■ T1		
34	3 120	43.89	52 800	2.6	311	2KJ3310 - ■ JR23 - ■ ■ S1		
<b>FD.129-LE160MPB4P</b>								
19	5 410	76.04	36 600	0.9	231	2KJ3408 - ■ JR23 - ■ ■ C1		
21	4 940	69.40	37 100	0.98	231	2KJ3408 - ■ JR23 - ■ ■ B1		
25	4 250	59.75	37 500	1.1	231	2KJ3408 - ■ JR23 - ■ ■ A1		
<b>FZ.129-LE160MPB4P</b>								
21	4 920	69.20	37 100	0.98	226	2KJ3308 - ■ JR23 - ■ ■ A2		
25	4 210	59.22	37 500	1.1	226	2KJ3308 - ■ JR23 - ■ ■ X1		
26	3 970	55.74	37 500	1.2	226	2KJ3308 - ■ JR23 - ■ ■ W1		
28	3 720	52.25	37 500	1.3	226	2KJ3308 - ■ JR23 - ■ ■ V1		
32	3 290	46.32	37 500	1.5	226	2KJ3308 - ■ JR23 - ■ ■ U1		
36	2 930	41.14	37 500	1.7	226	2KJ3308 - ■ JR23 - ■ ■ T1		
40	2 640	37.12	37 500	1.8	226	2KJ3308 - ■ JR23 - ■ ■ S1		
45	2 340	32.90	36 900	2.1	226	2KJ3308 - ■ JR23 - ■ ■ R1		
51	2 070	29.13	36 100	2.3	226	2KJ3308 - ■ JR23 - ■ ■ Q1		
57	1 840	25.93	35 300	2.6	226	2KJ3308 - ■ JR23 - ■ ■ P1		
63	1 650	23.23	34 500	2.9	226	2KJ3308 - ■ JR23 - ■ ■ N1		
<b>FZ.109-LE160MPB4P</b>								
29	3 650	51.27	25 000	0.85	174	2KJ3307 - ■ JR23 - ■ ■ W1		
31	3 430	48.25	25 000	0.90	174	2KJ3307 - ■ JR23 - ■ ■ V1		
33	3 180	44.78	25 000	0.97	174	2KJ3307 - ■ JR23 - ■ ■ U1		
37	2 820	39.59	25 000	1.1	174	2KJ3307 - ■ JR23 - ■ ■ T1		
42	2 510	35.34	25 000	1.2	174	2KJ3307 - ■ JR23 - ■ ■ S1		
46	2 260	31.80	25 000	1.4	174	2KJ3307 - ■ JR23 - ■ ■ R1		
53	1 960	27.60	25 000	1.6	174	2KJ3307 - ■ JR23 - ■ ■ Q1		

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**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>11</b>	<b>FZ.109-LE160MPB4P</b>							
	59	1 760	24.82	25 000	1.8	174	2KJ3307 - ■ JR23 - ■ ■ P1	
	68	1 540	21.70	24 900	2.0	174	2KJ3307 - ■ JR23 - ■ ■ N1	
	76	1 370	19.36	24 500	2.2	174	2KJ3307 - ■ JR23 - ■ ■ M1	
	86	1 210	17.06	23 900	2.6	174	2KJ3307 - ■ JR23 - ■ ■ L1	
	99	1 060	14.95	23 300	2.9	174	2KJ3307 - ■ JR23 - ■ ■ K1	
	113	925	13.03	22 700	3.3	174	2KJ3307 - ■ JR23 - ■ ■ J1	
	124	845	11.89	22 200	3.6	174	2KJ3307 - ■ JR23 - ■ ■ H1	
	164	640	9.02	20 900	3.3	174	2KJ3307 - ■ JR23 - ■ ■ F1	
	186	565	7.94	20 300	3.5	174	2KJ3307 - ■ JR23 - ■ ■ E1	
	212	495	6.96	19 600	3.8	174	2KJ3307 - ■ JR23 - ■ ■ D1	
	243	430	6.07	19 000	4.2	174	2KJ3307 - ■ JR23 - ■ ■ C1	
	266	395	5.54	18 500	4.4	174	2KJ3307 - ■ JR23 - ■ ■ B1	
	309	340	4.77	17 900	4.8	174	2KJ3307 - ■ JR23 - ■ ■ A1	
	<b>FZ.89-LE160MPB4P</b>							
	47	2 220	31.21	17 400	0.83	137	2KJ3306 - ■ JR23 - ■ ■ S1	
	53	1 970	27.77	17 400	0.94	137	2KJ3306 - ■ JR23 - ■ ■ R1	
	60	1 750	24.67	17 400	1.1	137	2KJ3306 - ■ JR23 - ■ ■ Q1	
	67	1 570	22.08	17 400	1.2	137	2KJ3306 - ■ JR23 - ■ ■ P1	
	78	1 340	18.88	17 400	1.4	137	2KJ3306 - ■ JR23 - ■ ■ N1	
	87	1 200	16.86	17 400	1.5	137	2KJ3306 - ■ JR23 - ■ ■ M1	
	99	1 060	14.90	17 400	1.7	137	2KJ3306 - ■ JR23 - ■ ■ L1	
	113	930	13.07	17 400	2.0	137	2KJ3306 - ■ JR23 - ■ ■ K1	
	130	810	11.38	17 400	2.3	137	2KJ3306 - ■ JR23 - ■ ■ J1	
	152	690	9.73	17 400	2.7	137	2KJ3306 - ■ JR23 - ■ ■ H1	
	177	590	8.33	16 900	2.9	137	2KJ3306 - ■ JR23 - ■ ■ G1	
	194	540	7.60	16 500	2.0	137	2KJ3306 - ■ JR23 - ■ ■ F1	
	219	475	6.72	16 100	2.3	137	2KJ3306 - ■ JR23 - ■ ■ E1	
	250	420	5.90	15 600	2.6	137	2KJ3306 - ■ JR23 - ■ ■ D1	
	288	365	5.13	15 100	3.0	137	2KJ3306 - ■ JR23 - ■ ■ C1	
	336	310	4.39	14 600	3.4	137	2KJ3306 - ■ JR23 - ■ ■ B1	
392	265	3.76	14 100	3.7	137	2KJ3306 - ■ JR23 - ■ ■ A1		
	<b>FZ.79-LE160MPB4P</b>							
	90	1 160	16.36	11 300	0.86	106	2KJ3305 - ■ JR23 - ■ ■ L1	
	105	1 000	14.04	11 400	1.0	106	2KJ3305 - ■ JR23 - ■ ■ K1	
	119	880	12.41	11 400	1.1	106	2KJ3305 - ■ JR23 - ■ ■ J1	
	140	750	10.56	11 300	1.3	106	2KJ3305 - ■ JR23 - ■ ■ H1	
	163	645	9.05	11 200	1.6	106	2KJ3305 - ■ JR23 - ■ ■ G1	
	173	605	8.51	10 900	1.2	106	2KJ3305 - ■ JR23 - ■ ■ F1	
	198	530	7.44	10 800	1.4	106	2KJ3305 - ■ JR23 - ■ ■ E1	
	231	455	6.39	10 600	1.6	106	2KJ3305 - ■ JR23 - ■ ■ D1	
	262	400	5.64	10 400	1.7	106	2KJ3305 - ■ JR23 - ■ ■ C1	
	307	340	4.80	10 100	1.9	106	2KJ3305 - ■ JR23 - ■ ■ B1	
359	290	4.11	9 910	2.1	106	2KJ3305 - ■ JR23 - ■ ■ A1		
<b>15</b>	<b>FD.189-LE160ZLL4P</b>							
	6.5	21 900	226.42	110 900	0.86	701	2KJ3412 - ■ JU23 - ■ ■ P1	
	7.2	19 700	203.69	110 900	0.96	701	2KJ3412 - ■ JU23 - ■ ■ N1	
	8.1	17 600	182.03	110 900	1.1	701	2KJ3412 - ■ JU23 - ■ ■ M1	
	9.0	15 900	164.61	110 900	1.2	701	2KJ3412 - ■ JU23 - ■ ■ L1	

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Shaft design

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Frequency and voltage

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Gearbox mounting type

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>15</b>	<b>FD.189-LE160ZLL4P</b>							
	10	14 100	145.28	110 900	1.3	701	2KJ3412 - ■ JU23 - ■ ■ K1	
	11	12 500	129.45	110 900	1.5	701	2KJ3412 - ■ JU23 - ■ ■ J1	
	13	11 300	117.27	110 900	1.7	701	2KJ3412 - ■ JU23 - ■ ■ H1	
	14	10 200	105.48	110 900	1.9	701	2KJ3412 - ■ JU23 - ■ ■ G1	
	17	8 510	87.65	110 900	2.2	701	2KJ3412 - ■ JU23 - ■ ■ F1	
	<b>FD.169-LE160ZLL4P</b>							
	8.4	17 000	175.69	73 500	0.80	489	2KJ3411 - ■ JU23 - ■ ■ N1	
	9.3	15 300	157.76	73 500	0.89	489	2KJ3411 - ■ JU23 - ■ ■ M1	
	10	13 600	140.77	73 500	0.99	489	2KJ3411 - ■ JU23 - ■ ■ L1	
	12	12 100	125.49	73 500	1.1	489	2KJ3411 - ■ JU23 - ■ ■ K1	
	13	10 800	111.30	73 500	1.3	489	2KJ3411 - ■ JU23 - ■ ■ J1	
	14	9 920	102.18	73 500	1.4	489	2KJ3411 - ■ JU23 - ■ ■ H1	
	16	8 740	90.03	73 500	1.6	489	2KJ3411 - ■ JU23 - ■ ■ G1	
	20	7 170	73.85	73 500	1.9	489	2KJ3411 - ■ JU23 - ■ ■ F1	
23	6 280	64.75	73 500	2.2	489	2KJ3411 - ■ JU23 - ■ ■ E1		
<b>FD.149-LE160ZLL4P</b>								
15	9 630	99.18	53 300	0.83	342	2KJ3410 - ■ JU23 - ■ ■ J1		
17	8 460	87.20	53 300	0.94	342	2KJ3410 - ■ JU23 - ■ ■ H1		
19	7 670	78.98	53 100	1.0	342	2KJ3410 - ■ JU23 - ■ ■ G1		
21	6 670	68.76	52 700	1.2	342	2KJ3410 - ■ JU23 - ■ ■ F1		
26	5 470	56.37	51 600	1.5	342	2KJ3410 - ■ JU23 - ■ ■ E1		
29	4 850	50.01	50 900	1.6	342	2KJ3410 - ■ JU23 - ■ ■ D1		
33	4 390	45.30	50 200	1.8	342	2KJ3410 - ■ JU23 - ■ ■ C1		
37	3 820	39.43	49 100	2.1	342	2KJ3410 - ■ JU23 - ■ ■ B1		
46	3 140	32.33	47 400	2.4	342	2KJ3410 - ■ JU23 - ■ ■ A1		
<b>FZ.149-LE160ZLL4P</b>								
30	4 700	48.48	50 700	1.7	336	2KJ3310 - ■ JU23 - ■ ■ T1		
34	4 260	43.89	49 900	1.9	336	2KJ3310 - ■ JU23 - ■ ■ S1		
38	3 740	38.55	48 900	2.1	336	2KJ3310 - ■ JU23 - ■ ■ R1		
42	3 390	34.93	48 100	2.4	336	2KJ3310 - ■ JU23 - ■ ■ Q1		
47	3 020	31.11	47 100	2.6	336	2KJ3310 - ■ JU23 - ■ ■ P1		
53	2 710	27.94	46 100	2.9	336	2KJ3310 - ■ JU23 - ■ ■ N1		
<b>FD.129-LE160ZLL4P</b>								
25	5 800	59.75	35 800	0.84	256	2KJ3408 - ■ JU23 - ■ ■ A1		
<b>FZ.129-LE160ZLL4P</b>								
25	5 750	59.22	35 800	0.84	251	2KJ3308 - ■ JU23 - ■ ■ X1		
26	5 410	55.74	35 800	0.90	251	2KJ3308 - ■ JU23 - ■ ■ W1		
28	5 070	52.25	35 800	0.96	251	2KJ3308 - ■ JU23 - ■ ■ V1		
32	4 490	46.32	35 600	1.1	251	2KJ3308 - ■ JU23 - ■ ■ U1		
36	3 990	41.14	35 300	1.2	251	2KJ3308 - ■ JU23 - ■ ■ T1		
40	3 600	37.12	35 000	1.3	251	2KJ3308 - ■ JU23 - ■ ■ S1		
45	3 190	32.90	34 600	1.5	251	2KJ3308 - ■ JU23 - ■ ■ R1		
51	2 820	29.13	34 000	1.7	251	2KJ3308 - ■ JU23 - ■ ■ Q1		
57	2 510	25.93	33 400	1.9	251	2KJ3308 - ■ JU23 - ■ ■ P1		
63	2 250	23.23	32 900	2.1	251	2KJ3308 - ■ JU23 - ■ ■ N1		
72	2 000	20.60	32 200	2.4	251	2KJ3308 - ■ JU23 - ■ ■ M1		
81	1 760	18.18	31 500	2.7	251	2KJ3308 - ■ JU23 - ■ ■ L1		
92	1 550	15.99	30 700	3.1	251	2KJ3308 - ■ JU23 - ■ ■ K1		

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**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>15</b>	<b>FZ.129-LE160ZLL4P</b>							
	102	1 400	14.48	30 000	3.3	251	2KJ3308 - ■ JU23 - ■ ■ J1	
	117	1 220	12.61	29 200	3.7	251	2KJ3308 - ■ JU23 - ■ ■ H1	
	151	950	9.80	27 300	3.8	251	2KJ3308 - ■ JU23 - ■ ■ F1	
	<b>FZ.109-LE160ZLL4P</b>							
	37	3 840	39.59	23 300	0.81	199	2KJ3307 - ■ JU23 - ■ ■ T1	
	42	3 430	35.34	23 400	0.90	199	2KJ3307 - ■ JU23 - ■ ■ S1	
	46	3 080	31.80	23 500	1.0	199	2KJ3307 - ■ JU23 - ■ ■ R1	
	53	2 680	27.60	23 400	1.2	199	2KJ3307 - ■ JU23 - ■ ■ Q1	
	59	2 410	24.82	23 300	1.3	199	2KJ3307 - ■ JU23 - ■ ■ P1	
	68	2 100	21.70	23 100	1.5	199	2KJ3307 - ■ JU23 - ■ ■ N1	
	76	1 880	19.36	22 800	1.6	199	2KJ3307 - ■ JU23 - ■ ■ M1	
	86	1 650	17.06	22 500	1.9	199	2KJ3307 - ■ JU23 - ■ ■ L1	
	99	1 450	14.95	22 000	2.1	199	2KJ3307 - ■ JU23 - ■ ■ K1	
	113	1 260	13.03	21 600	2.4	199	2KJ3307 - ■ JU23 - ■ ■ J1	
	124	1 150	11.89	21 200	2.6	199	2KJ3307 - ■ JU23 - ■ ■ H1	
	144	990	10.23	20 700	2.9	199	2KJ3307 - ■ JU23 - ■ ■ G1	
	164	875	9.02	20 100	2.4	199	2KJ3307 - ■ JU23 - ■ ■ F1	
	186	770	7.94	19 600	2.6	199	2KJ3307 - ■ JU23 - ■ ■ E1	
	212	675	6.96	19 000	2.8	199	2KJ3307 - ■ JU23 - ■ ■ D1	
	243	590	6.07	18 400	3.1	199	2KJ3307 - ■ JU23 - ■ ■ C1	
	266	535	5.54	18 100	3.2	199	2KJ3307 - ■ JU23 - ■ ■ B1	
	309	460	4.77	17 500	3.5	199	2KJ3307 - ■ JU23 - ■ ■ A1	
	<b>FZ.89-LE160ZLL4P</b>							
	67	2 140	22.08	17 100	0.86	162	2KJ3306 - ■ JU23 - ■ ■ P1	
	78	1 830	18.88	17 200	1.0	162	2KJ3306 - ■ JU23 - ■ ■ N1	
	87	1 630	16.86	17 200	1.1	162	2KJ3306 - ■ JU23 - ■ ■ M1	
	99	1 440	14.90	17 100	1.3	162	2KJ3306 - ■ JU23 - ■ ■ L1	
	113	1 260	13.07	17 000	1.5	162	2KJ3306 - ■ JU23 - ■ ■ K1	
	130	1 100	11.38	16 700	1.7	162	2KJ3306 - ■ JU23 - ■ ■ J1	
	152	945	9.73	16 400	2.0	162	2KJ3306 - ■ JU23 - ■ ■ H1	
	177	805	8.33	16 000	2.2	162	2KJ3306 - ■ JU23 - ■ ■ G1	
	194	735	7.60	15 600	1.5	162	2KJ3306 - ■ JU23 - ■ ■ F1	
	219	650	6.72	15 300	1.7	162	2KJ3306 - ■ JU23 - ■ ■ E1	
	250	570	5.90	15 000	1.9	162	2KJ3306 - ■ JU23 - ■ ■ D1	
	288	495	5.13	14 600	2.2	162	2KJ3306 - ■ JU23 - ■ ■ C1	
	336	425	4.39	14 100	2.5	162	2KJ3306 - ■ JU23 - ■ ■ B1	
	392	365	3.76	13 600	2.7	162	2KJ3306 - ■ JU23 - ■ ■ A1	
	<b>FZ.79-LE160ZLL4P</b>							
	119	1 200	12.41	9 750	0.83	131	2KJ3305 - ■ JU23 - ■ ■ J1	
	140	1 020	10.56	9 930	0.98	131	2KJ3305 - ■ JU23 - ■ ■ H1	
	163	875	9.05	10 000	1.1	131	2KJ3305 - ■ JU23 - ■ ■ G1	
	173	825	8.51	9 720	0.87	131	2KJ3305 - ■ JU23 - ■ ■ F1	
	198	720	7.44	9 740	1.0	131	2KJ3305 - ■ JU23 - ■ ■ E1	
	231	620	6.39	9 680	1.2	131	2KJ3305 - ■ JU23 - ■ ■ D1	
	262	545	5.64	9 630	1.3	131	2KJ3305 - ■ JU23 - ■ ■ C1	
	307	465	4.80	9 470	1.4	131	2KJ3305 - ■ JU23 - ■ ■ B1	
	359	395	4.11	9 320	1.5	131	2KJ3305 - ■ JU23 - ■ ■ A1	

**Article No. supplement**

Shaft design

Frequency and voltage

Gearbox mounting type

Electro\_Motor.ir

1 5 or 9

2 or 9

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>18.5</b>	<b>FD.189-LES180MQ4P</b>							
	8.0	21 900	182.03	110 900	0.87	750	2KJ3412 - ■ KL33 - ■ ■ M1	
	8.9	19 800	164.61	110 900	0.96	750	2KJ3412 - ■ KL33 - ■ ■ L1	
	10	17 500	145.28	110 900	1.1	750	2KJ3412 - ■ KL33 - ■ ■ K1	
	11	15 600	129.45	110 900	1.2	750	2KJ3412 - ■ KL33 - ■ ■ J1	
	12	14 100	117.27	110 900	1.3	750	2KJ3412 - ■ KL33 - ■ ■ H1	
	14	12 700	105.48	110 900	1.5	750	2KJ3412 - ■ KL33 - ■ ■ G1	
	17	10 500	87.65	110 900	1.8	750	2KJ3412 - ■ KL33 - ■ ■ F1	
	19	9 390	77.92	110 900	2.0	750	2KJ3412 - ■ KL33 - ■ ■ E1	
		<b>FD.169-LES180MQ4P</b>						
	10	16 900	140.77	73 500	0.8	538	2KJ3411 - ■ KL33 - ■ ■ L1	
	12	15 100	125.49	73 500	0.9	538	2KJ3411 - ■ KL33 - ■ ■ K1	
	13	13 400	111.30	73 500	1.0	538	2KJ3411 - ■ KL33 - ■ ■ J1	
	14	12 300	102.18	73 500	1.1	538	2KJ3411 - ■ KL33 - ■ ■ H1	
	16	10 800	90.03	73 500	1.3	538	2KJ3411 - ■ KL33 - ■ ■ G1	
	20	8 900	73.85	73 500	1.5	538	2KJ3411 - ■ KL33 - ■ ■ F1	
	23	7 800	64.75	73 500	1.7	538	2KJ3411 - ■ KL33 - ■ ■ E1	
	29	6 100	50.63	73 500	2.2	538	2KJ3411 - ■ KL33 - ■ ■ D1	
	31	5 610	46.55	73 500	2.4	538	2KJ3411 - ■ KL33 - ■ ■ C1	
	<b>FD.149-LES180MQ4P</b>							
	19	9 520	78.98	48 600	0.84	397	2KJ3410 - ■ KL33 - ■ ■ G1	
	21	8 290	68.76	48 700	0.96	397	2KJ3410 - ■ KL33 - ■ ■ F1	
	26	6 790	56.37	48 500	1.2	397	2KJ3410 - ■ KL33 - ■ ■ E1	
	29	6 030	50.01	48 100	1.3	397	2KJ3410 - ■ KL33 - ■ ■ D1	
	32	5 460	45.30	47 600	1.5	397	2KJ3410 - ■ KL33 - ■ ■ C1	
	37	4 750	39.43	46 900	1.7	397	2KJ3410 - ■ KL33 - ■ ■ B1	
	45	3 890	32.33	45 700	1.9	397	2KJ3410 - ■ KL33 - ■ ■ A1	
	<b>FZ.149-LES180MQ4P</b>							
	42	4 210	34.93	46 200	1.9	416	2KJ3310 - ■ KL33 - ■ ■ Q1	
	47	3 750	31.11	45 400	2.1	416	2KJ3310 - ■ KL33 - ■ ■ P1	
	52	3 360	27.94	44 600	2.4	416	2KJ3310 - ■ KL33 - ■ ■ N1	
	59	3 000	24.93	43 700	2.7	416	2KJ3310 - ■ KL33 - ■ ■ M1	
	66	2 680	22.22	42 800	3.0	416	2KJ3310 - ■ KL33 - ■ ■ L1	
	<b>FZ.129-LES180MQ4P</b>							
	50	3 510	29.13	32 200	1.4	328	2KJ3308 - ■ KL33 - ■ ■ Q1	
	56	3 120	25.93	31 800	1.6	328	2KJ3308 - ■ KL33 - ■ ■ P1	
	63	2 800	23.23	31 400	1.7	328	2KJ3308 - ■ KL33 - ■ ■ N1	
	71	2 480	20.60	30 900	2.0	328	2KJ3308 - ■ KL33 - ■ ■ M1	
	81	2 190	18.18	30 300	2.2	328	2KJ3308 - ■ KL33 - ■ ■ L1	
	92	1 920	15.99	29 700	2.5	328	2KJ3308 - ■ KL33 - ■ ■ K1	
	101	1 740	14.48	29 200	2.7	328	2KJ3308 - ■ KL33 - ■ ■ J1	
	116	1 520	12.61	28 400	3.0	328	2KJ3308 - ■ KL33 - ■ ■ H1	
	142	1 240	10.34	27 300	3.5	328	2KJ3308 - ■ KL33 - ■ ■ G1	
	149	1 180	9.80	26 700	3.1	328	2KJ3308 - ■ KL33 - ■ ■ F1	
	169	1 040	8.65	26 000	3.5	328	2KJ3308 - ■ KL33 - ■ ■ E1	
	193	915	7.60	25 300	3.9	328	2KJ3308 - ■ KL33 - ■ ■ D1	
	213	830	6.89	24 700	4.4	328	2KJ3308 - ■ KL33 - ■ ■ C1	
	<b>FZ.109-LES180MQ4P</b>							
	59	2 990	24.82	21 500	1.0	277	2KJ3307 - ■ KL33 - ■ ■ P1	
	68	2 610	21.70	21 500	1.2	277	2KJ3307 - ■ KL33 - ■ ■ N1	

## Article No. supplement

Shaft design

1, 5 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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**SIMOGEAR geared motors**

## Parallel shaft geared motors

## Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>18.5</b>	<b>FZ.109-LES180MQ4P</b>								
	76	2 330	19.36	21 400	1.3	277	2KJ3307 - ■ KL33 - ■ ■ M1		
	86	2 050	17.06	21 200	1.5	277	2KJ3307 - ■ KL33 - ■ ■ L1		
	98	1 800	14.95	20 900	1.7	277	2KJ3307 - ■ KL33 - ■ ■ K1		
	112	1 570	13.03	20 600	2.0	277	2KJ3307 - ■ KL33 - ■ ■ J1		
	123	1 430	11.89	20 400	2.1	277	2KJ3307 - ■ KL33 - ■ ■ H1		
	143	1 230	10.23	19 900	2.3	277	2KJ3307 - ■ KL33 - ■ ■ G1		
	162	1 080	9.02	19 400	1.9	277	2KJ3307 - ■ KL33 - ■ ■ F1		
	185	955	7.94	19 000	2.1	277	2KJ3307 - ■ KL33 - ■ ■ E1		
	210	835	6.96	18 500	2.3	277	2KJ3307 - ■ KL33 - ■ ■ D1		
	241	730	6.07	18 000	2.5	277	2KJ3307 - ■ KL33 - ■ ■ C1		
	264	665	5.54	17 700	2.6	277	2KJ3307 - ■ KL33 - ■ ■ B1		
	307	575	4.77	17 100	2.8	277	2KJ3307 - ■ KL33 - ■ ■ A1		
		<b>FZ.89-LES180MQ4P</b>							
		87	2 030	16.86	15 600	0.91	238	2KJ3306 - ■ KL33 - ■ ■ M1	
98		1 790	14.90	15 700	1.0	238	2KJ3306 - ■ KL33 - ■ ■ L1		
112		1 570	13.07	15 700	1.2	238	2KJ3306 - ■ KL33 - ■ ■ K1		
129		1 370	11.38	15 600	1.3	238	2KJ3306 - ■ KL33 - ■ ■ J1		
151		1 170	9.73	15 500	1.6	238	2KJ3306 - ■ KL33 - ■ ■ H1		
176		1 000	8.33	15 300	1.7	238	2KJ3306 - ■ KL33 - ■ ■ G1		
193		915	7.60	14 900	1.2	238	2KJ3306 - ■ KL33 - ■ ■ F1		
218		810	6.72	14 600	1.4	238	2KJ3306 - ■ KL33 - ■ ■ E1		
248		710	5.90	14 400	1.6	238	2KJ3306 - ■ KL33 - ■ ■ D1		
286		615	5.13	14 100	1.8	238	2KJ3306 - ■ KL33 - ■ ■ C1		
334		525	4.39	13 700	2.0	238	2KJ3306 - ■ KL33 - ■ ■ B1		
390		450	3.76	13 300	2.2	238	2KJ3306 - ■ KL33 - ■ ■ A1		
<b>22</b>		<b>FD.189-LES180ZLN4P</b>							
		8.9	23 500	164.61	110 000	0.81	755	2KJ3412 - ■ KN33 - ■ ■ L1	
	10	20 700	145.28	110 900	0.92	755	2KJ3412 - ■ KN33 - ■ ■ K1		
	11	18 500	129.45	110 900	1.0	755	2KJ3412 - ■ KN33 - ■ ■ J1		
	13	16 700	117.27	110 900	1.1	755	2KJ3412 - ■ KN33 - ■ ■ H1		
	14	15 000	105.48	110 900	1.3	755	2KJ3412 - ■ KN33 - ■ ■ G1		
	17	12 500	87.65	110 900	1.5	755	2KJ3412 - ■ KN33 - ■ ■ F1		
	19	11 100	77.92	110 900	1.7	755	2KJ3412 - ■ KN33 - ■ ■ E1		
	24	8 870	62.11	110 900	2.1	755	2KJ3412 - ■ KN33 - ■ ■ D1		
		<b>FD.169-LES180ZLN4P</b>							
		13	15 900	111.30	73 500	0.85	543	2KJ3411 - ■ KN33 - ■ ■ J1	
		14	14 600	102.18	73 500	0.93	543	2KJ3411 - ■ KN33 - ■ ■ H1	
		16	12 800	90.03	73 500	1.1	543	2KJ3411 - ■ KN33 - ■ ■ G1	
		20	10 500	73.85	73 500	1.3	543	2KJ3411 - ■ KN33 - ■ ■ F1	
		23	9 250	64.75	73 500	1.5	543	2KJ3411 - ■ KN33 - ■ ■ E1	
29		7 230	50.63	73 500	1.9	543	2KJ3411 - ■ KN33 - ■ ■ D1		
32		6 650	46.55	72 600	2.0	543	2KJ3411 - ■ KN33 - ■ ■ C1		
36		5 830	40.82	71 000	2.3	543	2KJ3411 - ■ KN33 - ■ ■ B1		
		<b>FZ.169-LES180ZLN4P</b>							
	36	5 870	41.07	71 100	2.3	555	2KJ3311 - ■ KN33 - ■ ■ R1		
	40	5 280	36.94	69 700	2.6	555	2KJ3311 - ■ KN33 - ■ ■ Q1		
	<b>FD.149-LES180ZLN4P</b>								
	21	9 820	68.76	44 800	0.81	402	2KJ3410 - ■ KN33 - ■ ■ F1		
	26	8 050	56.37	45 300	0.99	402	2KJ3410 - ■ KN33 - ■ ■ E1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>22</b>								
<b>FD.149-LES180ZLN4P</b>								
	29	7 140	50.01	45 200	1.1	402	2KJ3410 - ■ KN33 - ■ ■ D1	
	32	6 470	45.30	45 100	1.2	402	2KJ3410 - ■ KN33 - ■ ■ C1	
	37	5 630	39.43	44 700	1.4	402	2KJ3410 - ■ KN33 - ■ ■ B1	
	45	4 620	32.33	43 800	1.6	402	2KJ3410 - ■ KN33 - ■ ■ A1	
<b>FZ.149-LES180ZLN4P</b>								
	42	4 990	34.93	44 200	1.6	421	2KJ3310 - ■ KN33 - ■ ■ Q1	
	47	4 440	31.11	43 600	1.8	421	2KJ3310 - ■ KN33 - ■ ■ P1	
	53	3 990	27.94	43 000	2.0	421	2KJ3310 - ■ KN33 - ■ ■ N1	
	59	3 560	24.93	42 300	2.2	421	2KJ3310 - ■ KN33 - ■ ■ M1	
	66	3 170	22.22	41 500	2.5	421	2KJ3310 - ■ KN33 - ■ ■ L1	
	75	2 810	19.71	40 700	2.8	421	2KJ3310 - ■ KN33 - ■ ■ K1	
	81	2 580	18.10	40 000	3.1	421	2KJ3310 - ■ KN33 - ■ ■ J1	
<b>FZ.129-LES180ZLN4P</b>								
	50	4 160	29.13	30 300	1.2	333	2KJ3308 - ■ KN33 - ■ ■ Q1	
	57	3 700	25.93	30 200	1.3	333	2KJ3308 - ■ KN33 - ■ ■ P1	
	63	3 320	23.23	29 900	1.5	333	2KJ3308 - ■ KN33 - ■ ■ N1	
	71	2 940	20.60	29 600	1.6	333	2KJ3308 - ■ KN33 - ■ ■ M1	
	81	2 590	18.18	29 200	1.9	333	2KJ3308 - ■ KN33 - ■ ■ L1	
	92	2 280	15.99	28 700	2.1	333	2KJ3308 - ■ KN33 - ■ ■ K1	
	102	2 070	14.48	28 200	2.3	333	2KJ3308 - ■ KN33 - ■ ■ J1	
	117	1 800	12.61	27 600	2.5	333	2KJ3308 - ■ KN33 - ■ ■ H1	
	142	1 470	10.34	26 600	2.9	333	2KJ3308 - ■ KN33 - ■ ■ G1	
	150	1 400	9.80	26 000	2.6	333	2KJ3308 - ■ KN33 - ■ ■ F1	
	170	1 230	8.65	25 400	2.9	333	2KJ3308 - ■ KN33 - ■ ■ E1	
	193	1 080	7.60	24 700	3.3	333	2KJ3308 - ■ KN33 - ■ ■ D1	
	213	985	6.89	24 200	3.7	333	2KJ3308 - ■ KN33 - ■ ■ C1	
	245	855	6.00	23 500	4.2	333	2KJ3308 - ■ KN33 - ■ ■ B1	
	299	700	4.92	22 400	4.3	333	2KJ3308 - ■ KN33 - ■ ■ A1	
<b>FZ.109-LES180ZLN4P</b>								
	59	3 540	24.82	19 600	0.87	282	2KJ3307 - ■ KN33 - ■ ■ P1	
	68	3 100	21.70	19 800	1.0	282	2KJ3307 - ■ KN33 - ■ ■ N1	
	76	2 760	19.36	19 900	1.1	282	2KJ3307 - ■ KN33 - ■ ■ M1	
	86	2 430	17.06	19 900	1.3	282	2KJ3307 - ■ KN33 - ■ ■ L1	
	98	2 130	14.95	19 800	1.5	282	2KJ3307 - ■ KN33 - ■ ■ K1	
	113	1 860	13.03	19 600	1.7	282	2KJ3307 - ■ KN33 - ■ ■ J1	
	124	1 690	11.89	19 500	1.8	282	2KJ3307 - ■ KN33 - ■ ■ H1	
	144	1 460	10.23	19 100	2.0	282	2KJ3307 - ■ KN33 - ■ ■ G1	
	163	1 280	9.02	18 700	1.6	282	2KJ3307 - ■ KN33 - ■ ■ F1	
	185	1 130	7.94	18 400	1.8	282	2KJ3307 - ■ KN33 - ■ ■ E1	
	211	995	6.96	18 000	1.9	282	2KJ3307 - ■ KN33 - ■ ■ D1	
	242	865	6.07	17 500	2.1	282	2KJ3307 - ■ KN33 - ■ ■ C1	
	265	790	5.54	17 200	2.2	282	2KJ3307 - ■ KN33 - ■ ■ B1	
	308	680	4.77	16 700	2.4	282	2KJ3307 - ■ KN33 - ■ ■ A1	
<b>FZ.89-LES180ZLN4P</b>								
	99	2 130	14.90	14 300	0.87	243	2KJ3306 - ■ KN33 - ■ ■ L1	
	112	1 860	13.07	14 500	0.99	243	2KJ3306 - ■ KN33 - ■ ■ K1	
	129	1 620	11.38	14 600	1.1	243	2KJ3306 - ■ KN33 - ■ ■ J1	
	151	1 390	9.73	14 600	1.3	243	2KJ3306 - ■ KN33 - ■ ■ H1	

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Shaft design

1, 5 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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Electro Motor.ir

**SIMOGEAR geared motors**

Parallel shaft geared motors

Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>22</b>	<b>FZ.89-LES180ZLN4P</b>							
	176	1 190	8.33	14 500	1.5	243	2KJ3306 - ■ KN33 - ■ ■ G1	
	193	1 080	7.60	14 100	1.0	243	2KJ3306 - ■ KN33 - ■ ■ F1	
	219	960	6.72	14 000	1.2	243	2KJ3306 - ■ KN33 - ■ ■ E1	
	249	840	5.90	13 800	1.3	243	2KJ3306 - ■ KN33 - ■ ■ D1	
	287	730	5.13	13 600	1.5	243	2KJ3306 - ■ KN33 - ■ ■ C1	
	335	625	4.39	13 200	1.7	243	2KJ3306 - ■ KN33 - ■ ■ B1	
	391	535	3.76	12 900	1.8	243	2KJ3306 - ■ KN33 - ■ ■ A1	
<b>30</b>	<b>FD.189-LES200ZLU4P</b>							
	13	22 800	117.27	110 400	0.83	825	2KJ3412 - ■ LN33 - ■ ■ H1	
	14	20 500	105.48	110 900	0.92	825	2KJ3412 - ■ LN33 - ■ ■ G1	
	17	17 000	87.65	110 900	1.1	825	2KJ3412 - ■ LN33 - ■ ■ F1	
	19	15 100	77.92	110 200	1.3	825	2KJ3412 - ■ LN33 - ■ ■ E1	
	24	12 100	62.11	106 800	1.6	825	2KJ3412 - ■ LN33 - ■ ■ D1	
	30	9 630	49.43	102 900	2.0	825	2KJ3412 - ■ LN33 - ■ ■ C1	
	36	7 910	40.61	99 200	2.4	825	2KJ3412 - ■ LN33 - ■ ■ B1	
	<b>FZ.189-LES200ZLU4P</b>							
	39	7 390	37.93	97 900	2.6	830	2KJ3312 - ■ LN33 - ■ ■ L1	
	<b>FD.169-LES200ZLU4P</b>							
	20	14 300	73.85	69 500	0.94	613	2KJ3411 - ■ LN33 - ■ ■ F1	
	23	12 600	64.75	69 200	1.1	613	2KJ3411 - ■ LN33 - ■ ■ E1	
	29	9 860	50.63	68 100	1.4	613	2KJ3411 - ■ LN33 - ■ ■ D1	
	32	9 070	46.55	67 600	1.5	613	2KJ3411 - ■ LN33 - ■ ■ C1	
	36	7 950	40.82	66 600	1.7	613	2KJ3411 - ■ LN33 - ■ ■ B1	
	46	6 220	31.92	64 300	2.2	613	2KJ3411 - ■ LN33 - ■ ■ A1	
	<b>FZ.169-LES200ZLU4P</b>							
	40	7 200	36.94	65 700	1.9	631	2KJ3311 - ■ LN33 - ■ ■ Q1	
	45	6 430	33.02	64 600	2.1	631	2KJ3311 - ■ LN33 - ■ ■ P1	
	49	5 820	29.86	63 600	2.3	631	2KJ3311 - ■ LN33 - ■ ■ N1	
	56	5 130	26.35	62 200	2.6	631	2KJ3311 - ■ LN33 - ■ ■ M1	
	63	4 570	23.48	60 900	3.0	631	2KJ3311 - ■ LN33 - ■ ■ L1	
	<b>FD.149-LES200ZLU4P</b>							
	29	9 740	50.01	38 700	0.82	472	2KJ3410 - ■ LN33 - ■ ■ D1	
	32	8 820	45.30	39 200	0.91	472	2KJ3410 - ■ LN33 - ■ ■ C1	
	37	7 680	39.43	39 500	1.0	472	2KJ3410 - ■ LN33 - ■ ■ B1	
	45	6 300	32.33	39 600	1.2	472	2KJ3410 - ■ LN33 - ■ ■ A1	
	<b>FZ.149-LES200ZLU4P</b>							
	47	6 060	31.11	39 500	1.3	495	2KJ3310 - ■ LN33 - ■ ■ P1	
	53	5 440	27.94	39 400	1.5	495	2KJ3310 - ■ LN33 - ■ ■ N1	
	59	4 850	24.93	39 000	1.6	495	2KJ3310 - ■ LN33 - ■ ■ M1	
	66	4 330	22.22	38 600	1.8	495	2KJ3310 - ■ LN33 - ■ ■ L1	
	75	3 840	19.71	38 100	2.1	495	2KJ3310 - ■ LN33 - ■ ■ K1	
	81	3 520	18.10	37 700	2.3	495	2KJ3310 - ■ LN33 - ■ ■ J1	
	92	3 100	15.94	37 000	2.6	495	2KJ3310 - ■ LN33 - ■ ■ H1	
	112	2 540	13.08	35 800	3.0	495	2KJ3310 - ■ LN33 - ■ ■ G1	
	128	2 230	11.47	35 000	3.3	495	2KJ3310 - ■ LN33 - ■ ■ F1	
164	1 740	8.97	33 300	3.9	495	2KJ3310 - ■ LN33 - ■ ■ E1		
182	1 570	8.09	32 300	3.6	495	2KJ3310 - ■ LN33 - ■ ■ D1		
221	1 290	6.64	31 000	4.4	495	2KJ3310 - ■ LN33 - ■ ■ C1		

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Shaft design

1, 5 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>30</b>	<b>FZ.129-LES200ZLU4P</b>								
	57	5 050	25.93	26 400	0.96	408	2KJ3308 - ■ LN33 - ■ ■ P1		
	63	4 520	23.23	26 600	1.1	408	2KJ3308 - ■ LN33 - ■ ■ N1		
	71	4 010	20.60	26 600	1.2	408	2KJ3308 - ■ LN33 - ■ ■ M1		
	81	3 540	18.18	26 500	1.4	408	2KJ3308 - ■ LN33 - ■ ■ L1		
	92	3 110	15.99	26 300	1.5	408	2KJ3308 - ■ LN33 - ■ ■ K1		
	102	2 820	14.48	26 100	1.7	408	2KJ3308 - ■ LN33 - ■ ■ J1		
	117	2 450	12.61	25 800	1.8	408	2KJ3308 - ■ LN33 - ■ ■ H1		
	142	2 010	10.34	25 100	2.1	408	2KJ3308 - ■ LN33 - ■ ■ G1		
	150	1 910	9.80	24 400	1.9	408	2KJ3308 - ■ LN33 - ■ ■ F1		
	170	1 680	8.65	24 000	2.2	408	2KJ3308 - ■ LN33 - ■ ■ E1		
	193	1 480	7.60	23 500	2.4	408	2KJ3308 - ■ LN33 - ■ ■ D1		
	213	1 340	6.89	23 100	2.7	408	2KJ3308 - ■ LN33 - ■ ■ C1		
	245	1 160	6.00	22 600	3.1	408	2KJ3308 - ■ LN33 - ■ ■ B1		
	299	955	4.92	21 700	3.2	408	2KJ3308 - ■ LN33 - ■ ■ A1		
	<b>30</b>	<b>FZ.109-LES200ZLU4P</b>							
		76	3 770	19.36	16 600	0.82	357	2KJ3307 - ■ LN33 - ■ ■ M1	
86		3 320	17.06	17 000	0.93	357	2KJ3307 - ■ LN33 - ■ ■ L1		
98		2 910	14.95	17 300	1.1	357	2KJ3307 - ■ LN33 - ■ ■ K1		
113		2 540	13.03	17 400	1.2	357	2KJ3307 - ■ LN33 - ■ ■ J1		
124		2 310	11.89	17 500	1.3	357	2KJ3307 - ■ LN33 - ■ ■ H1		
144		1 990	10.23	17 400	1.4	357	2KJ3307 - ■ LN33 - ■ ■ G1		
163		1 750	9.02	17 200	1.2	357	2KJ3307 - ■ LN33 - ■ ■ F1		
185		1 540	7.94	17 000	1.3	357	2KJ3307 - ■ LN33 - ■ ■ E1		
211		1 350	6.96	16 800	1.4	357	2KJ3307 - ■ LN33 - ■ ■ D1		
242		1 180	6.07	16 500	1.5	357	2KJ3307 - ■ LN33 - ■ ■ C1		
265		1 080	5.54	16 300	1.6	357	2KJ3307 - ■ LN33 - ■ ■ B1		
308		930	4.77	15 900	1.7	357	2KJ3307 - ■ LN33 - ■ ■ A1		
<b>37</b>		<b>FD.189-LES225SD4P</b>							
		17	20 900	87.65	103 900	0.91	901	2KJ3412 - ■ MF33 - ■ ■ F1	
		19	18 600	77.92	103 300	1.0	901	2KJ3412 - ■ MF33 - ■ ■ E1	
		24	14 800	62.11	101 400	1.3	901	2KJ3412 - ■ MF33 - ■ ■ D1	
	30	11 800	49.43	98 600	1.6	901	2KJ3412 - ■ MF33 - ■ ■ C1		
	36	9 700	40.61	95 600	2.0	901	2KJ3412 - ■ MF33 - ■ ■ B1		
	46	7 720	32.32	91 800	2.5	901	2KJ3412 - ■ MF33 - ■ ■ A1		
	<b>37</b>	<b>FZ.189-LES225SD4P</b>							
		39	9 060	37.93	94 500	2.1	873	2KJ3312 - ■ MF33 - ■ ■ L1	
		43	8 130	34.03	92 700	2.3	873	2KJ3312 - ■ MF33 - ■ ■ K1	
		49	7 270	30.41	90 800	2.6	873	2KJ3312 - ■ MF33 - ■ ■ J1	
		54	6 490	27.17	88 800	2.9	873	2KJ3312 - ■ MF33 - ■ ■ H1	
	<b>37</b>	<b>FD.169-LES225SD4P</b>							
		23	15 400	64.75	63 200	0.88	689	2KJ3411 - ■ MF33 - ■ ■ E1	
		29	12 100	50.63	63 300	1.1	689	2KJ3411 - ■ MF33 - ■ ■ D1	
		32	11 100	46.55	63 200	1.2	689	2KJ3411 - ■ MF33 - ■ ■ C1	
		36	9 750	40.82	62 700	1.4	689	2KJ3411 - ■ MF33 - ■ ■ B1	
46		7 630	31.92	61 200	1.8	689	2KJ3411 - ■ MF33 - ■ ■ A1		
<b>37</b>	<b>FZ.169-LES225SD4P</b>								
	45	7 890	33.02	61 400	1.7	674	2KJ3311 - ■ MF33 - ■ ■ P1		
	49	7 130	29.86	60 700	1.9	674	2KJ3311 - ■ MF33 - ■ ■ N1		
	56	6 300	26.35	59 700	2.2	674	2KJ3311 - ■ MF33 - ■ ■ M1		

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Shaft design

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**SIMOGEAR geared motors**

## Parallel shaft geared motors

## Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>37</b>	<b>FZ.169-LES225SD4P</b>							
	63	5 610	23.48	58 600	2.4	674	2KJ3311 - MF33 - L1	L1
	69	5 080	21.27	57 700	2.7	674	2KJ3311 - MF33 - K1	K1
	77	4 570	19.13	56 600	3.0	674	2KJ3311 - MF33 - J1	J1
	183	1 920	8.07	46 200	4.3	674	2KJ3311 - MF33 - D1	D1
	<b>FD.149-LES225SD4P</b>							
	37	9 420	39.43	35 100	0.85	545	2KJ3410 - MF33 - B1	B1
	46	7 720	32.33	35 900	0.97	545	2KJ3410 - MF33 - A1	A1
	<b>FZ.149-LES225SD4P</b>							
	53	6 680	27.94	36 200	1.2	540	2KJ3310 - MF33 - N1	N1
	59	5 960	24.93	36 200	1.3	540	2KJ3310 - MF33 - M1	M1
	67	5 310	22.22	36 100	1.5	540	2KJ3310 - MF33 - L1	L1
	75	4 710	19.71	35 800	1.7	540	2KJ3310 - MF33 - K1	K1
	82	4 320	18.10	35 600	1.8	540	2KJ3310 - MF33 - J1	J1
	93	3 810	15.94	35 100	2.1	540	2KJ3310 - MF33 - H1	H1
	113	3 120	13.08	34 300	2.4	540	2KJ3310 - MF33 - G1	G1
	129	2 740	11.47	33 600	2.7	540	2KJ3310 - MF33 - F1	F1
	165	2 140	8.97	32 200	3.2	540	2KJ3310 - MF33 - E1	E1
	183	1 930	8.09	31 300	2.9	540	2KJ3310 - MF33 - D1	D1
	223	1 580	6.64	30 100	3.6	540	2KJ3310 - MF33 - C1	C1
	254	1 390	5.82	29 300	4.1	540	2KJ3310 - MF33 - B1	B1
	<b>FZ.129-LES225SD4P</b>							
	64	5 550	23.23	23 600	0.87	451	2KJ3308 - MF33 - N1	N1
	72	4 920	20.60	24 000	0.98	451	2KJ3308 - MF33 - M1	M1
	81	4 340	18.18	24 200	1.1	451	2KJ3308 - MF33 - L1	L1
	92	3 820	15.99	24 300	1.3	451	2KJ3308 - MF33 - K1	K1
	102	3 460	14.48	24 300	1.4	451	2KJ3308 - MF33 - J1	J1
	117	3 010	12.61	24 200	1.5	451	2KJ3308 - MF33 - H1	H1
	143	2 470	10.34	23 800	1.7	451	2KJ3308 - MF33 - G1	G1
	151	2 340	9.80	23 100	1.5	451	2KJ3308 - MF33 - F1	F1
	171	2 060	8.65	22 800	1.8	451	2KJ3308 - MF33 - E1	E1
	194	1 810	7.60	22 500	2.0	451	2KJ3308 - MF33 - D1	D1
	215	1 640	6.89	22 200	2.2	451	2KJ3308 - MF33 - C1	C1
	246	1 430	6.00	21 700	2.5	451	2KJ3308 - MF33 - B1	B1
	300	1 170	4.92	21 000	2.6	451	2KJ3308 - MF33 - A1	A1
	<b>FZ.109-LES225SD4P</b>							
	99	3 570	14.95	15 100	0.87	399	2KJ3307 - MF33 - K1	K1
113	3 110	13.03	15 500	1.0	399	2KJ3307 - MF33 - J1	J1	
124	2 840	11.89	15 700	1.1	399	2KJ3307 - MF33 - H1	H1	
144	2 440	10.23	15 900	1.2	399	2KJ3307 - MF33 - G1	G1	
164	2 150	9.02	15 800	0.97	399	2KJ3307 - MF33 - F1	F1	
186	1 890	7.94	15 800	1.1	399	2KJ3307 - MF33 - E1	E1	
212	1 660	6.96	15 700	1.1	399	2KJ3307 - MF33 - D1	D1	
243	1 450	6.07	15 500	1.2	399	2KJ3307 - MF33 - C1	C1	
267	1 320	5.54	15 400	1.3	399	2KJ3307 - MF33 - B1	B1	
310	1 140	4.77	15 200	1.4	399	2KJ3307 - MF33 - A1	A1	
<b>45</b>	<b>FD.189-LES225YMF4P</b>							
	19	22 600	77.92	95 700	0.84	946	2KJ3412 - MT33 - E1	E1
	24	18 000	62.11	95 300	1.1	946	2KJ3412 - MT33 - D1	D1
	30	14 300	49.43	93 800	1.3	946	2KJ3412 - MT33 - C1	C1

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
45	<b>FD.189-LES225YMF4P</b>							
	36	11 800	40.61	91 600	1.6	946	2KJ3412 - ■ MT33 - ■ ■ B1	
	46	9 390	32.32	88 700	2.0	946	2KJ3412 - ■ MT33 - ■ ■ A1	
	<b>FZ.189-LES225YMF4P</b>							
	39	11 000	37.93	90 800	1.7	918	2KJ3312 - ■ MT33 - ■ ■ L1	
	43	9 890	34.03	89 400	1.9	918	2KJ3312 - ■ MT33 - ■ ■ K1	
	49	8 840	30.41	87 800	2.1	918	2KJ3312 - ■ MT33 - ■ ■ J1	
	54	7 900	27.17	86 100	2.4	918	2KJ3312 - ■ MT33 - ■ ■ H1	
	59	7 220	24.85	84 700	2.6	918	2KJ3312 - ■ MT33 - ■ ■ G1	
	67	6 420	22.09	82 800	3.0	918	2KJ3312 - ■ MT33 - ■ ■ F1	
	<b>FD.169-LES225YMF4P</b>							
	29	14 700	50.63	57 800	0.92	734	2KJ3411 - ■ MT33 - ■ ■ D1	
	32	13 500	46.55	58 100	1.0	734	2KJ3411 - ■ MT33 - ■ ■ C1	
	36	11 800	40.82	58 400	1.1	734	2KJ3411 - ■ MT33 - ■ ■ B1	
	46	9 280	31.92	57 700	1.5	734	2KJ3411 - ■ MT33 - ■ ■ A1	
	<b>FZ.169-LES225YMF4P</b>							
	45	9 600	33.02	57 800	1.4	719	2KJ3311 - ■ MT33 - ■ ■ P1	
	49	8 680	29.86	57 500	1.6	719	2KJ3311 - ■ MT33 - ■ ■ N1	
	56	7 660	26.35	56 800	1.8	719	2KJ3311 - ■ MT33 - ■ ■ M1	
63	6 820	23.48	56 100	2.0	719	2KJ3311 - ■ MT33 - ■ ■ L1		
69	6 180	21.27	55 400	2.2	719	2KJ3311 - ■ MT33 - ■ ■ K1		
77	5 560	19.13	54 500	2.4	719	2KJ3311 - ■ MT33 - ■ ■ J1		
93	4 620	15.90	52 900	2.9	719	2KJ3311 - ■ MT33 - ■ ■ H1		
105	4 100	14.13	51 800	3.1	719	2KJ3311 - ■ MT33 - ■ ■ G1		
131	3 270	11.26	49 600	3.6	719	2KJ3311 - ■ MT33 - ■ ■ F1		
165	2 600	8.97	47 300	4.0	719	2KJ3311 - ■ MT33 - ■ ■ E1		
183	2 340	8.07	45 200	3.6	719	2KJ3311 - ■ MT33 - ■ ■ D1		
206	2 080	7.18	44 100	4.0	719	2KJ3311 - ■ MT33 - ■ ■ C1		
<b>FD.149-LES225YMF4P</b>								
46	9 400	32.33	31 700	0.80	590	2KJ3410 - ■ MT33 - ■ ■ A1		
<b>FZ.149-LES225YMF4P</b>								
53	8 120	27.94	32 600	0.98	585	2KJ3310 - ■ MT33 - ■ ■ N1		
59	7 240	24.93	33 000	1.1	585	2KJ3310 - ■ MT33 - ■ ■ M1		
67	6 460	22.22	33 200	1.2	585	2KJ3310 - ■ MT33 - ■ ■ L1		
75	5 730	19.71	33 300	1.4	585	2KJ3310 - ■ MT33 - ■ ■ K1		
82	5 260	18.10	33 300	1.5	585	2KJ3310 - ■ MT33 - ■ ■ J1		
93	4 630	15.94	33 100	1.7	585	2KJ3310 - ■ MT33 - ■ ■ H1		
113	3 800	13.08	32 600	2.0	585	2KJ3310 - ■ MT33 - ■ ■ G1		
129	3 330	11.47	32 100	2.2	585	2KJ3310 - ■ MT33 - ■ ■ F1		
165	2 600	8.97	31 100	2.6	585	2KJ3310 - ■ MT33 - ■ ■ E1		
183	2 350	8.09	30 200	2.4	585	2KJ3310 - ■ MT33 - ■ ■ D1		
223	1 930	6.64	29 200	2.9	585	2KJ3310 - ■ MT33 - ■ ■ C1		
254	1 690	5.82	28 500	3.4	585	2KJ3310 - ■ MT33 - ■ ■ B1		
325	1 320	4.55	27 100	4.3	585	2KJ3310 - ■ MT33 - ■ ■ A1		
<b>FZ.129-LES225YMF4P</b>								
72	5 990	20.60	21 000	0.81	496	2KJ3308 - ■ MT33 - ■ ■ M1		
81	5 280	18.18	21 600	0.92	496	2KJ3308 - ■ MT33 - ■ ■ L1		
92	4 640	15.99	22 000	1.0	496	2KJ3308 - ■ MT33 - ■ ■ K1		
102	4 210	14.48	22 200	1.1	496	2KJ3308 - ■ MT33 - ■ ■ J1		
117	3 660	12.61	22 300	1.2	496	2KJ3308 - ■ MT33 - ■ ■ H1		

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**SIMOGEAR geared motors**

## Parallel shaft geared motors

## Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>45</b>	<b>FZ.129-LES225YMF4P</b>							
	143	3 000	10.34	22 300	1.4	496	2KJ3308 - ■ MT33 - ■ ■ G1	
	151	2 840	9.80	21 600	1.3	496	2KJ3308 - ■ MT33 - ■ ■ F1	
	171	2 510	8.65	21 400	1.4	496	2KJ3308 - ■ MT33 - ■ ■ E1	
	194	2 210	7.60	21 300	1.6	496	2KJ3308 - ■ MT33 - ■ ■ D1	
	215	2 000	6.89	21 100	1.8	496	2KJ3308 - ■ MT33 - ■ ■ C1	
	246	1 740	6.00	20 800	2.1	496	2KJ3308 - ■ MT33 - ■ ■ B1	
	300	1 430	4.92	20 200	2.1	496	2KJ3308 - ■ MT33 - ■ ■ A1	
	<b>FZ.109-LES225YMF4P</b>							
	113	3 780	13.03	13 300	0.82	444	2KJ3307 - ■ MT33 - ■ ■ J1	
	124	3 450	11.89	13 700	0.89	444	2KJ3307 - ■ MT33 - ■ ■ H1	
	144	2 970	10.23	14 200	0.97	444	2KJ3307 - ■ MT33 - ■ ■ G1	
	164	2 620	9.02	14 200	0.80	444	2KJ3307 - ■ MT33 - ■ ■ F1	
	186	2 300	7.94	14 400	0.87	444	2KJ3307 - ■ MT33 - ■ ■ E1	
212	2 020	6.96	14 500	0.94	444	2KJ3307 - ■ MT33 - ■ ■ D1		
243	1 760	6.07	14 500	1.0	444	2KJ3307 - ■ MT33 - ■ ■ C1		
267	1 610	5.54	14 500	1.1	444	2KJ3307 - ■ MT33 - ■ ■ B1		
310	1 380	4.77	14 300	1.2	444	2KJ3307 - ■ MT33 - ■ ■ A1		
<b>55</b>	<b>FD.189-LES250MD4P</b>							
	24	22 100	62.11	87 700	0.86	1 049	2KJ3412 - ■ NM33 - ■ ■ D1	
	30	17 600	49.43	87 700	1.1	1 049	2KJ3412 - ■ NM33 - ■ ■ C1	
	36	14 500	40.61	86 700	1.3	1 049	2KJ3412 - ■ NM33 - ■ ■ B1	
	45	11 500	32.32	84 800	1.6	1 049	2KJ3412 - ■ NM33 - ■ ■ A1	
	<b>FZ.189-LES250MD4P</b>							
	48	10 800	30.41	84 200	1.7	1 021	2KJ3312 - ■ NM33 - ■ ■ J1	
	54	9 700	27.17	82 800	2.0	1 021	2KJ3312 - ■ NM33 - ■ ■ H1	
	59	8 870	24.85	81 700	2.1	1 021	2KJ3312 - ■ NM33 - ■ ■ G1	
	67	7 890	22.09	80 200	2.4	1 021	2KJ3312 - ■ NM33 - ■ ■ F1	
	78	6 700	18.75	77 900	2.8	1 021	2KJ3312 - ■ NM33 - ■ ■ E1	
	91	5 790	16.21	75 700	3.3	1 021	2KJ3312 - ■ NM33 - ■ ■ D1	
	<b>FD.169-LES250MD4P</b>							
	32	16 600	46.55	51 800	0.82	838	2KJ3411 - ■ NM33 - ■ ■ C1	
36	14 500	40.82	52 800	0.93	838	2KJ3411 - ■ NM33 - ■ ■ B1		
46	11 400	31.92	53 400	1.2	838	2KJ3411 - ■ NM33 - ■ ■ A1		
<b>FZ.169-LES250MD4P</b>								
56	9 410	26.35	53 300	1.4	822	2KJ3311 - ■ NM33 - ■ ■ M1		
63	8 390	23.48	52 900	1.6	822	2KJ3311 - ■ NM33 - ■ ■ L1		
69	7 600	21.27	52 500	1.8	822	2KJ3311 - ■ NM33 - ■ ■ K1		
77	6 830	19.13	52 000	2.0	822	2KJ3311 - ■ NM33 - ■ ■ J1		
92	5 680	15.90	50 800	2.4	822	2KJ3311 - ■ NM33 - ■ ■ H1		
104	5 040	14.13	50 000	2.6	822	2KJ3311 - ■ NM33 - ■ ■ G1		
131	4 020	11.26	48 100	2.9	822	2KJ3311 - ■ NM33 - ■ ■ F1		
164	3 200	8.97	46 100	3.2	822	2KJ3311 - ■ NM33 - ■ ■ E1		
182	2 880	8.07	43 900	2.9	822	2KJ3311 - ■ NM33 - ■ ■ D1		
205	2 560	7.18	42 900	3.2	822	2KJ3311 - ■ NM33 - ■ ■ C1		
257	2 040	5.72	41 000	4.0	822	2KJ3311 - ■ NM33 - ■ ■ B1		
323	1 620	4.55	39 000	4.5	822	2KJ3311 - ■ NM33 - ■ ■ A1		
<b>FZ.149-LES250MD4P</b>								
66	7 930	22.22	29 600	1.0	687	2KJ3310 - ■ NM33 - ■ ■ L1		
75	7 040	19.71	30 100	1.1	687	2KJ3310 - ■ NM33 - ■ ■ K1		

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## SIMOGEAR geared motors

### Parallel shaft geared motors

Geared motors up to 55 kW

#### Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
55	<b>FZ.149-LES250MD4P</b>							
	81	6 460	18.10	30 300	1.2	687	2KJ3310 - ■ NM33 - ■ ■ J1	
	92	5 690	15.94	30 500	1.4	687	2KJ3310 - ■ NM33 - ■ ■ H1	
	112	4 670	13.08	30 500	1.6	687	2KJ3310 - ■ NM33 - ■ ■ G1	
	128	4 090	11.47	30 300	1.8	687	2KJ3310 - ■ NM33 - ■ ■ F1	
	164	3 200	8.97	29 600	2.1	687	2KJ3310 - ■ NM33 - ■ ■ E1	
	182	2 890	8.09	28 800	2.0	687	2KJ3310 - ■ NM33 - ■ ■ D1	
	221	2 370	6.64	28 100	2.4	687	2KJ3310 - ■ NM33 - ■ ■ C1	
	253	2 080	5.82	27 500	2.7	687	2KJ3310 - ■ NM33 - ■ ■ B1	
	323	1 620	4.55	26 400	3.5	687	2KJ3310 - ■ NM33 - ■ ■ A1	
	<b>FZ.129-LES250MD4P</b>							
	92	5 710	15.99	19 100	0.84	598	2KJ3308 - ■ NM33 - ■ ■ K1	
	102	5 170	14.48	19 600	0.91	598	2KJ3308 - ■ NM33 - ■ ■ J1	
	117	4 500	12.61	20 100	1.0	598	2KJ3308 - ■ NM33 - ■ ■ H1	
	142	3 690	10.34	20 400	1.2	598	2KJ3308 - ■ NM33 - ■ ■ G1	
	170	3 090	8.65	19 700	1.2	598	2KJ3308 - ■ NM33 - ■ ■ E1	
	193	2 710	7.60	19 800	1.3	598	2KJ3308 - ■ NM33 - ■ ■ D1	
	213	2 460	6.89	19 700	1.5	598	2KJ3308 - ■ NM33 - ■ ■ C1	
	245	2 140	6.00	19 600	1.7	598	2KJ3308 - ■ NM33 - ■ ■ B1	
	299	1 750	4.92	19 300	1.7	598	2KJ3308 - ■ NM33 - ■ ■ A1	

#### Article No. supplement

Shaft design	1, 5 or 9	→ page 10/44
Frequency and voltage	2 or 9	→ page 11/2
Gearbox mounting type	A, D, F or H	→ page 10/37

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## SIMOGEAR geared motors

Parallel shaft geared motors

### Transmission ratios and torques

#### Selection and ordering data

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>FD.29</b>																	
298.58	4.9	150	5 220	7.9	0.02	94054/315	✓	✓									2KJ3401 - ■■■■■■ - ■■ Q1
264.39	5.5	150	5 220	8.0	0.03	92537/350	✓	✓	✓	✓							2KJ3401 - ■■■■■■ - ■■ P1
229.72	6.3	150	5 220	8.0	0.04	80401/350	✓	✓	✓	✓							2KJ3401 - ■■■■■■ - ■■ N1
208.83	6.9	150	5 220	8.0	0.05	80401/385	✓	✓	✓	✓							2KJ3401 - ■■■■■■ - ■■ M1
177.71	8.2	150	5 220	8.0	0.06	62197/350	✓	✓	✓	✓							2KJ3401 - ■■■■■■ - ■■ L1
161.55	9	150	5 220	8.0	0.08	62197/385	✓	✓	✓	✓							2KJ3401 - ■■■■■■ - ■■ K1
140.86	10	150	5 220	8.0	0.09	19721/140	✓	✓	✓	✓	✓						2KJ3401 - ■■■■■■ - ■■ J1
126.09	11	150	5 220	8.0	0.12	48544/385	✓	✓	✓	✓	✓						2KJ3401 - ■■■■■■ - ■■ H1
111.97	13	150	5 220	8.0	0.14	47027/420	✓	✓	✓	✓	✓						2KJ3401 - ■■■■■■ - ■■ G1
103.36	14	150	5 220	8.0	0.17	47027/455	✓	✓	✓	✓	✓						2KJ3401 - ■■■■■■ - ■■ F1
89.78	16	150	5 220	8.1	0.19	43993/490	✓	✓	✓	✓	✓						2KJ3401 - ■■■■■■ - ■■ E1
78.02	19	150	5 220	8.0	0.19	13653/175	✓	✓	✓	✓	✓						2KJ3401 - ■■■■■■ - ■■ D1
70.43	21	150	5 220	8.1	0.25	19721/280	✓	✓	✓	✓	✓						2KJ3401 - ■■■■■■ - ■■ C1
66.29	22	150	5 220	8.1	0.29	39442/595	✓	✓	✓	✓	✓						2KJ3401 - ■■■■■■ - ■■ B1
57.79	25	150	5 220	8.1	0.33	6068/105	✓	✓	✓	✓	✓						2KJ3401 - ■■■■■■ - ■■ A1
<b>FZ.29</b>																	
56.73	26	150	5 220	7.6	0.04	851/15	✓	✓									2KJ3301 - ■■■■■■ - ■■ C2
50.32	29	150	5 220	8.0	0.05	1258/25	✓	✓	✓	✓							2KJ3301 - ■■■■■■ - ■■ B2
43.66	33	150	5 220	8.0	0.06	2183/50	✓	✓	✓	✓							2KJ3301 - ■■■■■■ - ■■ A2
39.69	37	150	5 220	8.0	0.08	2183/55	✓	✓	✓	✓							2KJ3301 - ■■■■■■ - ■■ X1
34.04	43	150	4 910	8.1	0.10	851/25	✓	✓	✓	✓							2KJ3301 - ■■■■■■ - ■■ W1
30.95	47	150	4 720	8.1	0.12	1702/55	✓	✓	✓	✓							2KJ3301 - ■■■■■■ - ■■ V1
27.13	53	150	4 460	8.2	0.14	407/15	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ U1
24.22	60	150	4 250	8.3	0.17	1332/55	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ T1
21.58	67	150	4 040	8.4	0.20	259/12	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ S1
19.92	73	150	3 910	8.4	0.24	259/13	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ R1
17.44	83	150	3 680	8.6	0.28	1221/70	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ Q1
15.29	95	150	3 470	8.8	0.30	1147/75	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ P1
13.88	104	150	3 320	8.9	0.38	111/8	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ N1
13.06	111	150	3 230	8.9	0.44	222/17	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ M1
11.51	126	143	3 100	8.6	0.50	518/45	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ L1
9.99	145	136	2 960	8.8	0.67	999/100	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ K1
9.69	150	143	2 660	13.8	0.26	2664/275	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ J1
8.63	168	130	2 640	14.0	0.32	259/30	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ H1
7.97	182	120	2 630	14.0	0.38	518/65	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ G1
6.98	208	123	2 440	14.5	0.46	1221/175	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ F1
6.12	237	114	2 370	15.0	0.53	2294/375	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ E1
5.55	261	108	2 320	15.3	0.66	111/20	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ D1
5.22	278	106	2 300	15.3	0.76	444/85	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ C1
4.60	315	97	2 280	15.3	0.92	1036/225	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ B1
4.00	362	91	2 250	15.0	1.21	999/250	✓	✓	✓	✓	✓						2KJ3301 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data (continued)**

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	φ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>FD.39</b>																	
<b>274.26</b>	5.3	290	5 820	6.9	0.04	32637/119	✓	✓									2KJ3402 - ■■■■■■ - ■■ R1
<b>243.26</b>	6	290	5 820	7.0	0.05	8514/35	✓	✓	✓	✓							2KJ3402 - ■■■■■■ - ■■ Q1
<b>211.06</b>	6.9	290	5 820	7.0	0.06	251163/1190	✓	✓	✓	✓							2KJ3402 - ■■■■■■ - ■■ P1
<b>191.87</b>	7.6	290	5 820	7.0	0.07	22833/119	✓	✓	✓	✓							2KJ3402 - ■■■■■■ - ■■ N1
<b>164.56</b>	8.8	290	5 820	7.0	0.09	97911/595	✓	✓	✓	✓							2KJ3402 - ■■■■■■ - ■■ M1
<b>149.60</b>	9.7	290	5 820	7.0	0.11	17802/119	✓	✓	✓	✓							2KJ3402 - ■■■■■■ - ■■ L1
<b>131.17</b>	11	290	5 820	7.0	0.12	15609/119	✓	✓	✓	✓	✓	✓					2KJ3402 - ■■■■■■ - ■■ K1
<b>117.08</b>	12	290	5 820	7.0	0.15	13932/119	✓	✓	✓	✓	✓	✓					2KJ3402 - ■■■■■■ - ■■ J1
<b>104.34</b>	14	290	5 820	7.0	0.18	7095/68	✓	✓	✓	✓	✓	✓					2KJ3402 - ■■■■■■ - ■■ H1
<b>96.31</b>	15	290	5 820	7.0	0.21	21285/221	✓	✓	✓	✓	✓	✓					2KJ3402 - ■■■■■■ - ■■ G1
<b>84.32</b>	17	290	5 820	7.1	0.25	140481/1666	✓	✓	✓	✓	✓	✓					2KJ3402 - ■■■■■■ - ■■ F1
<b>73.93</b>	20	290	5 820	7.1	0.24	43989/595	✓	✓	✓	✓	✓	✓					2KJ3402 - ■■■■■■ - ■■ E1
<b>67.07</b>	22	290	5 820	7.2	0.34	63855/952	✓	✓	✓	✓	✓	✓					2KJ3402 - ■■■■■■ - ■■ D1
<b>63.13</b>	23	290	5 820	7.2	0.40	127710/2023	✓	✓	✓	✓	✓	✓					2KJ3402 - ■■■■■■ - ■■ C1
<b>55.65</b>	26	290	5 820	7.2	0.44	946/17	✓	✓	✓	✓	✓	✓					2KJ3402 - ■■■■■■ - ■■ B1
<b>48.29</b>	30	290	5 820	7.2	0.59	114939/2380	✓	✓	✓	✓	✓	✓					2KJ3402 - ■■■■■■ - ■■ A1
<b>FZ.39</b>																	
<b>65.21</b>	22	290	6 040	6.3	0.06	913/14	✓	✓									2KJ3302 - ■■■■■■ - ■■ B2
<b>57.99</b>	25	230	6 000	6.6	0.08	4059/70	✓	✓	✓	✓							2KJ3302 - ■■■■■■ - ■■ A2
<b>50.91</b>	28	240	5 950	6.6	0.09	1782/35	✓	✓	✓	✓							2KJ3302 - ■■■■■■ - ■■ X1
<b>46.29</b>	31	255	5 820	6.6	0.11	324/7	✓	✓	✓	✓							2KJ3302 - ■■■■■■ - ■■ W1
<b>39.60</b>	37	290	5 950	6.7	0.13	198/5	✓	✓	✓	✓							2KJ3302 - ■■■■■■ - ■■ V1
<b>36.00</b>	40	255	5 480	6.7	0.16	36/1	✓	✓	✓	✓							2KJ3302 - ■■■■■■ - ■■ U1
<b>31.82</b>	46	285	5 320	6.8	0.19	891/28	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ T1
<b>28.93</b>	50	275	5 080	6.8	0.26	405/14	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ S1
<b>25.34</b>	57	265	4 930	6.9	0.30	1419/56	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ R1
<b>23.39</b>	62	260	4 730	6.9	0.36	4257/182	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ Q1
<b>20.71</b>	70	250	4 730	7.0	0.42	4059/196	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ P1
<b>17.24</b>	84	235	4 450	7.2	0.57	3861/224	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ N1
<b>16.22</b>	89	230	4 360	7.2	0.66	3861/238	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ M1
<b>14.54</b>	100	220	4 220	7.3	0.74	407/28	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ L1
<b>12.38</b>	117	210	3 990	7.5	0.97	99/8	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ K1
<b>10.61</b>	137	199	3 790	7.7	1.28	297/28			✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ J1
<b>9.13</b>	159	189	3 610	7.9	1.65	1023/112			✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ H1
<b>8.10</b>	179	167	3 430	12.1	0.70	3403/420	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ G1
<b>6.74</b>	215	152	3 270	12.5	0.96	1079/160	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ F1
<b>6.35</b>	228	149	3 200	12.5	1.11	1079/170	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ E1
<b>5.69</b>	255	140	3 120	12.9	1.29	3071/540	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ D1
<b>4.84</b>	300	128	3 000	13.4	1.73	581/120	✓	✓	✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ C1
<b>4.15</b>	349	118	2 950	13.9	2.30	83/20			✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ B1
<b>3.57</b>	406	108	2 890	14.5	3.00	2573/720			✓	✓	✓	✓					2KJ3302 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

## SIMOGEAR geared motors

Parallel shaft geared motors

## Transmission ratios and torques

## Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>FD.49</b>																	
330.98	4.4	480	7 960	6.2	0.06	26809/81	✓	✓									2KJ3403 - ■■■■■■ - ■■ S1
294.29	4.9	480	7 960	6.3	0.07	13243/45	✓	✓	✓	✓							2KJ3403 - ■■■■■■ - ■■ R1
258.40	5.6	480	7 960	6.3	0.08	1292/5	✓	✓	✓	✓							2KJ3403 - ■■■■■■ - ■■ Q1
234.91	6.2	480	7 960	6.3	0.10	2584/11	✓	✓	✓	✓							2KJ3403 - ■■■■■■ - ■■ P1
200.98	7.2	480	7 960	6.3	0.12	9044/45	✓	✓	✓	✓							2KJ3403 - ■■■■■■ - ■■ N1
182.71	7.9	480	7 960	6.3	0.14	18088/99	✓	✓	✓	✓							2KJ3403 - ■■■■■■ - ■■ M1
161.50	9	480	7 960	6.3	0.17	323/2	✓	✓	✓	✓	✓	✓					2KJ3403 - ■■■■■■ - ■■ L1
146.82	9.9	480	7 960	6.3	0.22	1615/11	✓	✓	✓	✓	✓	✓					2KJ3403 - ■■■■■■ - ■■ K1
128.60	11	480	7 960	6.3	0.26	13889/108	✓	✓	✓	✓	✓	✓					2KJ3403 - ■■■■■■ - ■■ J1
118.71	12	480	7 960	6.3	0.31	13889/117	✓	✓	✓	✓	✓	✓					2KJ3403 - ■■■■■■ - ■■ H1
105.10	14	480	7 960	6.4	0.37	13243/126	✓	✓	✓	✓	✓	✓	✓				2KJ3403 - ■■■■■■ - ■■ G1
87.48	17	480	7 960	6.4	0.50	4199/48	✓	✓	✓	✓	✓	✓	✓				2KJ3403 - ■■■■■■ - ■■ F1
82.33	18	480	7 960	6.4	0.59	247/3	✓	✓	✓	✓	✓	✓	✓				2KJ3403 - ■■■■■■ - ■■ E1
73.77	20	480	7 630	6.4	0.66	11951/162	✓	✓	✓	✓	✓	✓	✓				2KJ3403 - ■■■■■■ - ■■ D1
62.81	23	480	7 070	6.4	0.86	2261/36	✓	✓	✓	✓	✓	✓	✓				2KJ3403 - ■■■■■■ - ■■ C1
53.83	27	480	6 560	6.5	1.13	323/6			✓	✓	✓	✓	✓				2KJ3403 - ■■■■■■ - ■■ B1
46.36	31	480	6 080	6.5	1.46	10013/216			✓	✓	✓	✓	✓				2KJ3403 - ■■■■■■ - ■■ A1
<b>FZ.49</b>																	
61.43	24	480	6 990	6.0	0.18	1843/30	✓	✓	✓	✓							2KJ3303 - ■■■■■■ - ■■ X1
55.85	26	480	6 680	6.0	0.22	1843/33	✓	✓	✓	✓							2KJ3303 - ■■■■■■ - ■■ W1
47.50	31	480	6 160	6.0	0.27	95/2	✓	✓	✓	✓							2KJ3303 - ■■■■■■ - ■■ V1
43.18	34	480	5 870	6.0	0.33	475/11	✓	✓	✓	✓							2KJ3303 - ■■■■■■ - ■■ U1
38.53	38	480	5 530	6.1	0.39	1387/36	✓	✓	✓	✓	✓	✓					2KJ3303 - ■■■■■■ - ■■ T1
34.55	42	480	5 220	6.1	0.47	380/11	✓	✓	✓	✓	✓	✓					2KJ3303 - ■■■■■■ - ■■ S1
31.14	47	480	4 940	6.2	0.55	1121/36	✓	✓	✓	✓	✓	✓					2KJ3303 - ■■■■■■ - ■■ R1
28.74	50	480	4 730	6.1	0.65	1121/39	✓	✓	✓	✓	✓	✓					2KJ3303 - ■■■■■■ - ■■ Q1
26.24	55	480	4 490	6.2	0.77	551/21	✓	✓	✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ P1
21.77	67	480	4 030	6.3	0.99	1045/48	✓	✓	✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ N1
20.49	71	480	3 890	6.3	1.15	1045/51	✓	✓	✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ M1
19.35	75	480	3 750	6.3	1.30	1045/54	✓	✓	✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ L1
16.47	88	480	3 390	6.4	1.61	247/15	✓	✓	✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ K1
14.11	103	480	3 060	6.6	1.99	931/66			✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ J1
12.40	117	480	3 010	6.7	2.50	893/72			✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ H1
10.46	139	480	3 140	6.8	3.10	722/69			✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ G1
9.12	159	480	3 210	7.4	4.20	228/25			✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ F1
8.40	173	450	3 010	9.3	2.20	42/5	✓	✓	✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ E1
7.20	201	450	3 070	9.6	2.80	1029/143			✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ D1
6.33	229	430	3 090	9.9	3.50	329/52			✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ C1
5.34	272	400	3 080	10.2	4.60	1596/299			✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ B1
4.65	312	375	3 060	11.3	6.10	1512/325			✓	✓	✓	✓	✓				2KJ3303 - ■■■■■■ - ■■ A1

1) Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>FD.69</b>																	
348.40	4.2	600	10 800	6.0	0.06	28220/81	✓	✓									2KJ3404 - ■■■■■■ - ■■ S1
309.78	4.7	600	10 800	6.0	0.07	2788/9	✓	✓	✓	✓							2KJ3404 - ■■■■■■ - ■■ R1
272.00	5.3	600	10 800	6.0	0.08	272/1	✓	✓	✓	✓							2KJ3404 - ■■■■■■ - ■■ Q1
247.27	5.9	600	10 800	6.0	0.10	2720/11	✓	✓	✓	✓							2KJ3404 - ■■■■■■ - ■■ P1
211.56	6.9	600	10 800	6.0	0.12	1904/9	✓	✓	✓	✓							2KJ3404 - ■■■■■■ - ■■ N1
192.32	7.5	600	10 800	6.0	0.14	19040/99	✓	✓	✓	✓							2KJ3404 - ■■■■■■ - ■■ M1
170.00	8.5	600	10 800	6.1	0.17	170/1	✓	✓	✓	✓	✓	✓					2KJ3404 - ■■■■■■ - ■■ L1
154.55	9.4	600	10 800	6.1	0.22	1700/11	✓	✓	✓	✓	✓	✓					2KJ3404 - ■■■■■■ - ■■ K1
135.37	11	600	10 800	6.1	0.26	3655/27	✓	✓	✓	✓	✓	✓					2KJ3404 - ■■■■■■ - ■■ J1
124.96	12	600	10 800	6.1	0.31	14620/117	✓	✓	✓	✓	✓	✓					2KJ3404 - ■■■■■■ - ■■ H1
110.63	13	600	10 800	6.1	0.38	6970/63	✓	✓	✓	✓	✓	✓	✓				2KJ3404 - ■■■■■■ - ■■ G1
92.08	16	600	10 800	6.1	0.51	1105/12	✓	✓	✓	✓	✓	✓	✓				2KJ3404 - ■■■■■■ - ■■ F1
86.67	17	600	10 800	6.1	0.60	260/3	✓	✓	✓	✓	✓	✓	✓				2KJ3404 - ■■■■■■ - ■■ E1
77.65	19	600	10 400	6.2	0.66	6290/81	✓	✓	✓	✓	✓	✓	✓				2KJ3404 - ■■■■■■ - ■■ D1
66.11	22	600	9 720	6.2	0.87	595/9	✓	✓	✓	✓	✓	✓	✓				2KJ3404 - ■■■■■■ - ■■ C1
56.67	26	600	9 050	6.2	1.15	170/3			✓	✓	✓	✓	✓				2KJ3404 - ■■■■■■ - ■■ B1
48.80	30	600	8 430	6.2	1.47	2635/54			✓	✓	✓	✓	✓				2KJ3404 - ■■■■■■ - ■■ A1
<b>FZ.69</b>																	
64.67	22	600	9 620	5.7	0.19	194/3	✓	✓	✓	✓							2KJ3304 - ■■■■■■ - ■■ X1
58.79	25	600	9 210	5.7	0.23	1940/33	✓	✓	✓	✓							2KJ3304 - ■■■■■■ - ■■ W1
50.00	29	600	8 530	5.8	0.29	50/1	✓	✓	✓	✓							2KJ3304 - ■■■■■■ - ■■ V1
45.45	32	600	8 140	5.8	0.35	500/11	✓	✓	✓	✓							2KJ3304 - ■■■■■■ - ■■ U1
40.56	36	600	7 700	5.8	0.41	365/9	✓	✓	✓	✓	✓	✓					2KJ3304 - ■■■■■■ - ■■ T1
36.36	40	600	7 290	5.9	0.49	400/11	✓	✓	✓	✓	✓	✓					2KJ3304 - ■■■■■■ - ■■ S1
32.78	44	600	6 920	5.9	0.58	295/9	✓	✓	✓	✓	✓	✓					2KJ3304 - ■■■■■■ - ■■ R1
30.26	48	600	6 640	5.9	0.69	1180/39	✓	✓	✓	✓	✓	✓					2KJ3304 - ■■■■■■ - ■■ Q1
27.62	52	600	6 330	5.9	0.83	580/21	✓	✓	✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ P1
22.92	63	600	5 720	6.0	1.07	275/12	✓	✓	✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ N1
21.57	67	600	5 540	6.0	1.23	1100/51	✓	✓	✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ M1
20.37	71	600	5 360	6.0	1.39	550/27	✓	✓	✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ L1
17.33	84	600	4 890	6.2	1.74	52/3	✓	✓	✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ K1
14.85	98	600	4 450	6.2	2.20	490/33			✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ J1
13.06	111	600	4 110	6.2	2.70	235/18			✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ H1
11.01	132	600	4 040	6.2	3.50	760/69			✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ G1
9.60	151	600	4 140	6.2	4.60	48/5			✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ F1
8.90	163	475	4 040	8.9	2.40	89/10	✓	✓	✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ E1
7.62	190	465	4 100	8.9	3.10	4361/572			✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ D1
6.70	216	440	4 120	8.9	3.90	4183/624			✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ C1
5.66	256	410	4 110	8.9	5.10	1691/299			✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ B1
4.93	294	385	4 070	8.9	6.80	1602/325			✓	✓	✓	✓	✓				2KJ3304 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version



## SIMOGEAR geared motors

Parallel shaft geared motors

### Transmission ratios and torques

#### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>FD.79</b>																	
357.00	4.1	1 000	13 600	5.6	0.17	57133/160	✓	✓	✓								2KJ3405 - ■■■■■■ - ■■ S1
324.62	4.5	1 000	13 600	5.6	0.20	57133/176	✓	✓	✓								2KJ3405 - ■■■■■■ - ■■ R1
276.09	5.3	1 000	13 600	5.6	0.25	8835/32	✓	✓	✓								2KJ3405 - ■■■■■■ - ■■ Q1
250.99	5.8	1 000	13 600	5.6	0.30	44175/176	✓	✓	✓								2KJ3405 - ■■■■■■ - ■■ P1
223.94	6.5	1 000	13 600	5.6	0.35	42997/192	✓	✓	✓	✓	✓						2KJ3405 - ■■■■■■ - ■■ N1
200.80	7.2	1 000	13 600	5.6	0.42	8835/44	✓	✓	✓	✓	✓						2KJ3405 - ■■■■■■ - ■■ M1
180.99	8	1 000	13 600	5.6	0.49	34751/192	✓	✓	✓	✓	✓						2KJ3405 - ■■■■■■ - ■■ L1
167.07	8.7	1 000	13 600	5.6	0.58	34751/208	✓	✓	✓	✓	✓						2KJ3405 - ■■■■■■ - ■■ K1
152.51	9.5	1 000	13 600	5.6	0.69	17081/112	✓	✓	✓	✓	✓	✓					2KJ3405 - ■■■■■■ - ■■ J1
126.54	11	1 000	13 600	5.7	0.87	32395/256	✓	✓	✓	✓	✓	✓					2KJ3405 - ■■■■■■ - ■■ H1
119.10	12	1 000	13 600	5.7	1.01	32395/272	✓	✓	✓	✓	✓	✓					2KJ3405 - ■■■■■■ - ■■ G1
112.48	13	1 000	13 600	5.7	1.15	32395/288	✓	✓	✓	✓	✓	✓					2KJ3405 - ■■■■■■ - ■■ F1
95.71	15	1 000	13 600	5.7	1.39	7657/80	✓	✓	✓	✓	✓	✓					2KJ3405 - ■■■■■■ - ■■ E1
81.99	18	1 000	13 600	5.7	1.70	28861/352		✓	✓	✓	✓	✓	✓				2KJ3405 - ■■■■■■ - ■■ D1
72.09	20	1 000	13 600	5.7	2.10	27683/384		✓	✓	✓	✓	✓	✓				2KJ3405 - ■■■■■■ - ■■ C1
60.82	24	1 000	13 600	5.7	2.60	11191/184		✓	✓	✓	✓	✓	✓				2KJ3405 - ■■■■■■ - ■■ B1
53.01	27	1 000	13 600	5.8	3.50	5301/100		✓	✓	✓	✓	✓	✓				2KJ3405 - ■■■■■■ - ■■ A1
<b>FZ.79</b>																	
53.55	27	1 000	13 600	5.6	0.56	589/11	✓	✓	✓								2KJ3305 - ■■■■■■ - ■■ X1
48.03	30	1 000	13 600	5.6	0.77	1729/36	✓	✓	✓	✓	✓						2KJ3305 - ■■■■■■ - ■■ W1
43.18	34	1 000	13 600	5.7	0.87	475/11	✓	✓	✓	✓	✓						2KJ3305 - ■■■■■■ - ■■ V1
39.06	37	1 000	13 600	5.7	0.97	703/18	✓	✓	✓	✓	✓						2KJ3305 - ■■■■■■ - ■■ U1
36.05	40	1 000	13 600	5.7	1.15	1406/39	✓	✓	✓	✓	✓						2KJ3305 - ■■■■■■ - ■■ T1
33.02	44	1 000	13 600	5.7	1.49	1387/42	✓	✓	✓	✓	✓	✓					2KJ3305 - ■■■■■■ - ■■ S1
27.71	52	1 000	13 600	5.7	1.62	665/24	✓	✓	✓	✓	✓	✓					2KJ3305 - ■■■■■■ - ■■ R1
26.08	56	1 000	13 600	5.7	1.85	1330/51	✓	✓	✓	✓	✓	✓					2KJ3305 - ■■■■■■ - ■■ Q1
23.93	61	1 000	13 600	5.7	2.0	646/27	✓	✓	✓	✓	✓	✓					2KJ3305 - ■■■■■■ - ■■ P1
20.90	69	1 000	13 600	5.7	2.9	209/10	✓	✓	✓	✓	✓	✓					2KJ3305 - ■■■■■■ - ■■ N1
18.71	77	1 000	12 900	5.7	3.6	1235/66		✓	✓	✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ M1
16.36	89	1 000	12 200	5.7	4.2	589/36		✓	✓	✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ L1
14.04	103	1 000	11 400	5.8	4.7	323/23		✓	✓	✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ K1
12.41	117	1 000	10 800	6.2	6.0	931/75		✓	✓	✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ J1
10.56	137	1 000	10 100	6.3	7.8	95/9				✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ H1
9.05	160	1 000	9 980	6.5	10	190/21				✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ G1
8.51	170	720	10 300	8.9	4.6	468/55		✓	✓	✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ F1
7.44	195	725	9 770	9.2	5.5	186/25		✓	✓	✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ E1
6.39	227	720	9 690	9.3	6.5	3672/575		✓	✓	✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ D1
5.64	257	700	9 620	10.2	8.3	3528/625		✓	✓	✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ C1
4.80	302	650	9 480	10.6	11	24/5				✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ B1
4.11	353	605	9 310	11.0	15	144/35				✓	✓	✓	✓				2KJ3305 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>FD.89</b>																	
335.30	4.3	1 850	17 400	5.1	0.42	370512/1105		✓	✓	✓	✓						2KJ3406 - ■■■■■■ - ■■ S1
304.82	4.8	1 850	17 400	5.1	0.51	741024/2431		✓	✓	✓	✓						2KJ3406 - ■■■■■■ - ■■ R1
273.41	5.3	1 850	17 400	5.1	0.71	4648/17		✓	✓	✓	✓						2KJ3406 - ■■■■■■ - ■■ Q1
245.82	5.9	1 850	17 400	5.1	0.79	597600/2431		✓	✓	✓	✓						2KJ3406 - ■■■■■■ - ■■ P1
222.33	6.5	1 850	17 400	5.1	0.88	49136/221		✓	✓	✓	✓						2KJ3406 - ■■■■■■ - ■■ N1
205.23	7.1	1 850	17 400	5.1	1.03	589632/2873		✓	✓	✓	✓						2KJ3406 - ■■■■■■ - ■■ M1
188.00	7.7	1 850	17 400	5.1	1.35	290832/1547		✓	✓	✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ L1
157.74	9.2	1 850	17 400	5.1	1.43	34860/221		✓	✓	✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ K1
148.46	9.8	1 850	17 400	5.1	1.64	557760/3757		✓	✓	✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ J1
136.21	11	1 850	17 400	5.1	1.79	5312/39		✓	✓	✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ H1
118.98	12	1 850	17 400	5.1	2.6	131472/1105		✓	✓	✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ G1
106.52	14	1 850	17 400	5.1	3.1	19920/187		✓	✓	✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ F1
93.14	16	1 850	17 400	5.1	3.7	20584/221		✓	✓	✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ E1
79.95	18	1 850	17 400	5.2	4.0	23904/299		✓	✓	✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ D1
70.67	21	1 850	17 400	5.2	5.1	390432/5525		✓	✓	✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ C1
60.09	24	1 850	17 400	5.3	6.5	13280/221				✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ B1
51.51	28	1 850	17 400	5.3	8.5	79680/1547				✓	✓	✓	✓				2KJ3406 - ■■■■■■ - ■■ A1
<b>FZ.89</b>																	
61.72	23	1 850	17 400	4.8	1.38	2407/39		✓	✓	✓	✓						2KJ3306 - ■■■■■■ - ■■ B2
55.72	26	1 850	17 400	4.8	1.51	7968/143		✓	✓	✓	✓						2KJ3306 - ■■■■■■ - ■■ A2
50.54	29	1 850	17 400	4.8	1.77	7885/156		✓	✓	✓	✓						2KJ3306 - ■■■■■■ - ■■ X1
46.66	31	1 850	17 400	4.8	2.1	7885/169		✓	✓	✓	✓						2KJ3306 - ■■■■■■ - ■■ W1
42.41	34	1 850	17 400	4.9	2.4	7719/182		✓	✓	✓	✓	✓	✓				2KJ3306 - ■■■■■■ - ■■ V1
35.91	40	1 850	17 400	4.9	2.9	3735/104		✓	✓	✓	✓	✓	✓				2KJ3306 - ■■■■■■ - ■■ U1
33.80	43	1 850	17 400	4.9	3.0	7470/221		✓	✓	✓	✓	✓	✓				2KJ3306 - ■■■■■■ - ■■ T1
31.21	46	1 850	17 400	5.0	4.5	3652/117		✓	✓	✓	✓	✓	✓				2KJ3306 - ■■■■■■ - ■■ S1
27.77	52	1 850	17 400	5.0	5.5	7221/260		✓	✓	✓	✓	✓	✓				2KJ3306 - ■■■■■■ - ■■ R1
24.67	59	1 850	17 400	5.0	6.7	7055/286		✓	✓	✓	✓	✓	✓				2KJ3306 - ■■■■■■ - ■■ Q1
22.08	66	1 850	17 400	5.1	6.7	6889/312		✓	✓	✓	✓	✓	✓				2KJ3306 - ■■■■■■ - ■■ P1
18.88	77	1 850	17 200	5.1	7.9	5644/299		✓	✓	✓	✓	✓	✓				2KJ3306 - ■■■■■■ - ■■ N1
16.86	86	1 850	16 400	5.4	10	5478/325		✓	✓	✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ M1
14.90	97	1 850	15 500	5.5	12	581/39				✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ L1
13.07	111	1 850	14 600	5.3	16	3569/273				✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ K1
11.38	127	1 850	14 600	5.3	20	3403/299				✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ J1
9.73	149	1 850	14 600	5.5	26	2656/273				✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ H1
8.33	174	1 740	14 500	5.6	33	2490/299				✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ G1
7.60	191	1 100	14 100	9.0	14	4752/625		✓	✓	✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ F1
6.72	216	1 110	14 000	9.2	17	168/25				✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ E1
5.90	246	1 110	13 800	9.2	23	1032/175				✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ D1
5.13	283	1 110	13 600	9.2	28	2952/575				✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ C1
4.39	330	1 060	13 300	9.2	39	768/175				✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ B1
3.76	386	985	12 900	9.5	50	432/115				✓	✓	✓	✓	✓			2KJ3306 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

## SIMOGEAR geared motors

Parallel shaft geared motors

### Transmission ratios and torques

#### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.	
							63	71	80	90	100	112	132	160	180	200		225
<b>FD.109</b>																		
410.00	3.5	3 100	25 000	6.5	1.27	332021/810				✓	✓	✓						2KJ3407 - ■■■■■■ - ■■ T1
370.00	3.9	3 100	25 000	6.5	1.37	183184/495				✓	✓	✓						2KJ3407 - ■■■■■■ - ■■ S1
335.70	4.3	3 100	25 000	6.5	1.61	217531/648				✓	✓	✓						2KJ3407 - ■■■■■■ - ■■ R1
309.87	4.7	3 100	25 000	6.5	1.89	217531/702				✓	✓	✓						2KJ3407 - ■■■■■■ - ■■ Q1
281.68	5.1	3 100	25 000	6.5	2.2	354919/1260				✓	✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ P1
238.52	6.1	3 100	25 000	6.5	2.6	11449/48				✓	✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ N1
224.49	6.5	3 100	25 000	6.5	2.6	11449/51				✓	✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ M1
207.31	7	3 100	25 000	6.5	4.0	251878/1215				✓	✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ L1
184.46	7.9	3 100	25 000	6.5	5.0	332021/1800				✓	✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ K1
163.83	8.9	3 100	25 000	6.5	5.9	194633/1188				✓	✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ J1
146.65	9.9	3 100	25 000	6.5	5.9	950267/6480				✓	✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ H1
125.37	12	3 100	25 000	6.5	6.7	389266/3105				✓	✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ G1
111.95	13	3 100	25 000	6.5	8.6	125939/1125				✓	✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ F1
98.94	15	3 100	25 000	6.5	9.6	80143/810					✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ E1
86.83	17	3 100	25 000	6.5	14	492307/5670					✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ D1
75.59	19	3 100	25 000	6.5	16	469409/6210					✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ C1
64.62	22	3 100	25 000	6.5	21	183184/2835					✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ B1
55.31	26	3 100	25 000	6.5	25	11449/207					✓	✓	✓	✓				2KJ3407 - ■■■■■■ - ■■ A1
<b>FZ.109</b>																		
70.74	20	3 100	25 000	4.6	3.6	12733/180					✓	✓	✓					2KJ3307 - ■■■■■■ - ■■ B2
65.30	22	3 100	25 000	4.6	4.3	12733/195					✓	✓	✓					2KJ3307 - ■■■■■■ - ■■ A2
60.12	24	3 100	25 000	4.6	4.9	6313/105					✓	✓	✓	✓	✓			2KJ3307 - ■■■■■■ - ■■ X1
51.27	28	3 100	25 000	4.6	6.3	2461/48					✓	✓	✓	✓	✓			2KJ3307 - ■■■■■■ - ■■ W1
48.25	30	3 100	25 000	4.6	7.1	2461/51					✓	✓	✓	✓	✓			2KJ3307 - ■■■■■■ - ■■ V1
44.78	32	3 100	25 000	4.6	7.8	12091/270					✓	✓	✓	✓	✓			2KJ3307 - ■■■■■■ - ■■ U1
39.59	37	3 100	25 000	4.6	9.5	3959/100					✓	✓	✓	✓	✓			2KJ3307 - ■■■■■■ - ■■ T1
35.34	41	3 100	24 700	4.7	11	11663/330					✓	✓	✓	✓	✓			2KJ3307 - ■■■■■■ - ■■ S1
31.80	46	3 100	23 600	4.7	13	11449/360					✓	✓	✓	✓	✓			2KJ3307 - ■■■■■■ - ■■ R1
27.60	53	3 100	22 200	4.7	16	9523/345					✓	✓	✓	✓	✓			2KJ3307 - ■■■■■■ - ■■ Q1
24.82	58	3 100	21 200	4.9	19	3103/125					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ P1
21.70	67	3 100	19 900	5.0	23	7811/360					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ N1
19.36	75	3 100	18 900	5.0	27	2033/105					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ M1
17.06	85	3 100	17 800	5.0	33	1177/69					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ L1
14.95	97	3 100	16 700	5.1	40	4708/315					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ K1
13.03	111	3 100	15 600	5.2	48	1498/115					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ J1
11.89	122	3 060	15 600	5.2	56	107/9					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ H1
10.23	142	2 880	15 900	5.3	70	1177/115						✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ G1
9.02	161	2 090	16 100	7.6	36	1767/196					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ F1
7.94	183	2 000	15 800	7.8	44	5115/644					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ E1
6.96	208	1 900	15 700	7.9	54	341/49					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ D1
6.07	239	1 800	15 600	8.1	68	279/46					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ C1
5.54	262	1 730	15 400	8.2	79	155/28					✓	✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ B1
4.77	304	1 620	15 200	8.4	102	3069/644						✓	✓	✓	✓	✓		2KJ3307 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

<i>i</i>	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi$ <sup>1)</sup>	$J_G$ 10 <sup>-4</sup> kgm <sup>2</sup>	$R_{ex}$ -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>FD.129</b>																	
413.00	3.5	4 850	37 200	5.5	3.3	9911/24				✓	✓	✓					2KJ3408 - ■■■■■■ - ■■ T1
381.00	3.8	4 850	37 200	5.5	3.9	9911/26				✓	✓	✓					2KJ3408 - ■■■■■■ - ■■ S1
351.00	4.1	4 850	37 200	5.5	4.5	34397/98				✓	✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ R1
299.31	4.8	4 850	37 200	5.5	5.6	67045/224				✓	✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ Q1
281.70	5.1	4 850	37 200	5.5	6.4	67045/238				✓	✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ P1
261.42	5.5	4 850	37 200	5.5	6.9	65879/252				✓	✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ N1
231.12	6.3	4 850	37 200	5.5	8.4	64713/280				✓	✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ M1
206.32	7	4 850	37 200	5.5	10	5777/28				✓	✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ L1
185.66	7.8	4 850	37 200	5.5	12	62381/336				✓	✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ K1
161.14	9	4 850	37 200	5.5	14	51887/322				✓	✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ J1
144.92	10	4 850	37 200	5.5	16	50721/350				✓	✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ H1
126.66	11	4 850	37 200	5.5	19	42559/336					✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ G1
113.03	13	4 850	37 200	5.5	23	11077/98					✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ F1
99.58	15	4 850	37 200	5.5	27	32065/322					✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ E1
87.25	17	4 850	37 200	5.5	32	12826/147					✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ D1
76.04	19	4 850	37 200	5.5	37	1749/23					✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ C1
69.40	21	4 850	37 200	5.5	44	2915/42					✓	✓	✓	✓			2KJ3408 - ■■■■■■ - ■■ B1
59.75	24	4 850	37 200	5.5	53	19239/322							✓	✓			2KJ3408 - ■■■■■■ - ■■ A1
<b>FZ.129</b>																	
69.20	21	4 850	37 200	5.1	7.7	13563/196					✓	✓	✓	✓	✓		2KJ3308 - ■■■■■■ - ■■ A2
59.22	24	4 850	37 200	5.1	9.7	6633/112					✓	✓	✓	✓	✓		2KJ3308 - ■■■■■■ - ■■ X1
55.74	26	4 850	37 200	5.1	11	6633/119					✓	✓	✓	✓	✓		2KJ3308 - ■■■■■■ - ■■ W1
52.25	28	4 850	36 600	5.1	12	209/4					✓	✓	✓	✓	✓		2KJ3308 - ■■■■■■ - ■■ V1
46.32	31	4 850	34 800	5.1	15	12969/280					✓	✓	✓	✓	✓		2KJ3308 - ■■■■■■ - ■■ U1
41.14	35	4 850	33 100	5.1	18	288/7					✓	✓	✓	✓	✓		2KJ3308 - ■■■■■■ - ■■ T1
37.12	39	4 850	31 700	5.1	21	297/8					✓	✓	✓	✓	✓		2KJ3308 - ■■■■■■ - ■■ S1
32.90	44	4 850	30 100	5.2	26	10593/322					✓	✓	✓	✓	✓		2KJ3308 - ■■■■■■ - ■■ R1
29.13	50	4 850	28 500	5.3	29	10197/350					✓	✓	✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ Q1
25.93	56	4 850	27 100	5.3	35	363/14						✓	✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ P1
23.23	62	4 850	25 800	5.3	41	2277/98						✓	✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ N1
20.60	70	4 850	24 400	5.3	49	6633/322						✓	✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ M1
18.18	80	4 850	23 000	5.4	60	891/49						✓	✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ L1
15.99	91	4 800	21 700	5.4	73	2574/161						✓	✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ K1
14.48	100	4 690	21 000	5.5	83	1419/98						✓	✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ J1
12.61	115	4 530	20 100	5.5	101	4059/322							✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ H1
10.34	140	4 320	20 400	5.5	135	1881/182							✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ G1
9.80	148	3 630	19 600	8.1	64	2479/253							✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ F1
8.65	168	3 640	19 700	8.1	79	666/77							✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ E1
7.60	191	3 620	19 800	8.1	97	1924/253							✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ D1
6.89	210	3 630	19 700	8.2	112	1591/231							✓	✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ C1
6.00	242	3 640	19 600	8.3	140	1517/253								✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ B1
4.92	295	3 030	19 300	8.5	192	703/143								✓	✓	✓	2KJ3308 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

**SIMOGEAR geared motors**

Parallel shaft geared motors

**Transmission ratios and torques****Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>FD.149</b>																	
<b>377.00</b>	3.8	8 000	65 000	4.8	7.1	18495/49					✓	✓	✓	✓			2KJ3410 - ■■■■■■ - ■■ W1
<b>323.04</b>	4.5	8 000	65 000	4.8	9	9045/28					✓	✓	✓	✓			2KJ3410 - ■■■■■■ - ■■ V1
<b>304.03</b>	4.8	8 000	65 000	4.8	10	36180/119					✓	✓	✓	✓			2KJ3410 - ■■■■■■ - ■■ U1
<b>285.00</b>	5.1	8 000	65 000	4.8	11	285/1					✓	✓	✓	✓			2KJ3410 - ■■■■■■ - ■■ T1
<b>252.64</b>	5.7	8 000	65 000	4.8	14	3537/14					✓	✓	✓	✓			2KJ3410 - ■■■■■■ - ■■ S1
<b>224.42</b>	6.5	8 000	65 000	4.8	16	17280/77					✓	✓	✓	✓			2KJ3410 - ■■■■■■ - ■■ R1
<b>202.50</b>	7.2	8 000	65 000	4.8	19	405/2					✓	✓	✓	✓			2KJ3410 - ■■■■■■ - ■■ Q1
<b>179.44</b>	8.1	8 000	65 000	4.8	23	28890/161					✓	✓	✓	✓			2KJ3410 - ■■■■■■ - ■■ P1
<b>158.91</b>	9.1	8 000	65 000	4.8	26	5562/35					✓	✓	✓	✓	✓		2KJ3410 - ■■■■■■ - ■■ N1
<b>141.43</b>	10	8 000	65 000	4.8	31	990/7					✓	✓	✓	✓	✓		2KJ3410 - ■■■■■■ - ■■ M1
<b>126.73</b>	11	8 000	65 000	4.8	37	6210/49					✓	✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ L1
<b>112.36</b>	13	8 000	63 600	4.8	43	18090/161					✓	✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ K1
<b>99.18</b>	15	8 000	60 700	4.8	53	4860/49					✓	✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ J1
<b>87.20</b>	17	8 000	57 700	4.8	63	14040/161					✓	✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ H1
<b>78.98</b>	18	8 000	54 800	4.8	71	3870/49					✓	✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ G1
<b>68.76</b>	21	8 000	52 600	4.9	85	11070/161						✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ F1
<b>56.37</b>	26	8 000	49 600	4.9	111	5130/91						✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ E1
<b>50.01</b>	29	8 000	45 600	5.2	73	37960/759					✓	✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ D1
<b>45.30</b>	32	8 000	43 300	5.2	83	31390/693					✓	✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ C1
<b>39.43</b>	37	7 970	41 400	5.2	102	29930/759						✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ B1
<b>32.33</b>	45	7 510	39 000	5.2	135	13870/429						✓	✓	✓	✓	✓	2KJ3410 - ■■■■■■ - ■■ A1
<b>FZ.149</b>																	
<b>48.48</b>	30	8 000	42 700	4.6	31	1600/33					✓	✓	✓	✓			2KJ3310 - ■■■■■■ - ■■ T1
<b>43.89</b>	33	8 000	40 800	4.6	36	395/9					✓	✓	✓	✓			2KJ3310 - ■■■■■■ - ■■ S1
<b>38.55</b>	38	8 000	38 500	4.6	44	2660/69					✓	✓	✓	✓			2KJ3310 - ■■■■■■ - ■■ R1
<b>34.93</b>	42	8 000	36 800	4.6	51	524/15					✓	✓	✓	✓	✓		2KJ3310 - ■■■■■■ - ■■ Q1
<b>31.11</b>	47	8 000	34 900	4.7	60	280/9					✓	✓	✓	✓	✓		2KJ3310 - ■■■■■■ - ■■ P1
<b>27.94</b>	52	8 000	33 100	4.7	72	1760/63					✓	✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ N1
<b>24.93</b>	58	8 000	31 300	4.7	84	1720/69					✓	✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ M1
<b>22.22</b>	65	8 000	29 600	4.7	98	200/9					✓	✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ L1
<b>19.71</b>	74	8 000	27 800	4.7	117	1360/69					✓	✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ K1
<b>18.10</b>	80	8 000	26 600	4.8	132	380/21					✓	✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ J1
<b>15.94</b>	91	8 000	24 900	4.8	156	1100/69						✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ H1
<b>13.08</b>	111	7 620	23 200	4.9	212	170/13						✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ G1
<b>11.47</b>	126	7 320	23 700	4.9	241	172/15						✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ F1
<b>8.97</b>	162	6 770	24 500	6.2	379	260/29						✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ E1
<b>8.09</b>	179	5 690	23 900	6.2	200	2420/299						✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ D1
<b>6.64</b>	218	5 690	24 000	6.3	277	1122/169						✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ C1
<b>5.82</b>	249	5 680	24 000	6.6	325	1892/325						✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ B1
<b>4.55</b>	319	5 650	23 600	7.3	517	132/29						✓	✓	✓	✓	✓	2KJ3310 - ■■■■■■ - ■■ A1

1) Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.		
							63	71	80	90	100	112	132	160		180	200
<b>FD.169</b>																	
368.00	3.9	13 600	73 500	4.4	18	106240/289					✓	✓	✓				2KJ3411 - ■■■■■■ - ■■ V1
343.01	4.2	13 600	73 500	4.4	19	52480/153					✓	✓	✓				2KJ3411 - ■■■■■■ - ■■ U1
304.94	4.8	13 600	73 500	4.4	24	5184/17					✓	✓	✓				2KJ3411 - ■■■■■■ - ■■ T1
273.80	5.3	13 600	73 500	4.4	28	51200/187					✓	✓	✓				2KJ3411 - ■■■■■■ - ■■ S1
247.84	5.9	13 600	73 500	4.4	33	12640/51					✓	✓	✓				2KJ3411 - ■■■■■■ - ■■ R1
217.70	6.7	13 600	73 500	4.4	40	85120/391					✓	✓	✓				2KJ3411 - ■■■■■■ - ■■ Q1
197.27	7.4	13 600	73 500	4.4	46	16768/85					✓	✓	✓	✓			2KJ3411 - ■■■■■■ - ■■ P1
175.69	8.3	13 600	73 500	4.4	54	8960/51					✓	✓	✓	✓	✓		2KJ3411 - ■■■■■■ - ■■ N1
157.76	9.2	13 600	73 500	4.4	64	56320/357					✓	✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ M1
140.77	10	13 600	73 500	4.4	74	55040/391					✓	✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ L1
125.49	12	13 600	73 500	4.4	86	6400/51					✓	✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ K1
111.30	13	13 600	73 500	4.4	101	2560/23					✓	✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ J1
102.18	14	13 600	73 500	4.4	113	12160/119					✓	✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ H1
90.03	16	13 600	73 500	4.4	132	35200/391						✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ G1
73.85	20	13 600	71 200	4.5	176	960/13						✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ F1
64.75	22	13 600	67 400	4.5	194	5504/85						✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ E1
50.63	29	13 600	60 600	4.5	302	24960/493						✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ D1
46.55	31	13 600	58 300	4.7	201	3026/65						✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ C1
40.82	36	13 600	55 000	4.7	226	15308/375						✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ B1
31.92	45	13 600	53 400	4.8	355	4628/145						✓	✓	✓	✓	✓	2KJ3411 - ■■■■■■ - ■■ A1
<b>FZ.169</b>																	
44.93	32	12 400	59 900	4.2	68	3100/69					✓	✓	✓				2KJ3311 - ■■■■■■ - ■■ S1
41.07	35	13 600	55 100	4.3	80	616/15					✓	✓	✓	✓			2KJ3311 - ■■■■■■ - ■■ R1
36.94	39	13 600	52 500	4.3	95	665/18					✓	✓	✓	✓	✓		2KJ3311 - ■■■■■■ - ■■ Q1
33.02	44	13 600	49 800	4.4	111	2080/63					✓	✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ P1
29.86	49	13 600	47 500	4.4	133	2060/69					✓	✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ N1
26.35	55	13 600	44 700	4.4	157	1660/63					✓	✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ M1
23.48	62	13 600	42 200	4.4	186	540/23					✓	✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ L1
21.27	68	13 600	42 300	4.3	206	1340/63					✓	✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ K1
19.13	76	13 600	42 800	4.3	249	440/23						✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ J1
15.90	91	13 500	43 200	4.4	314	620/39						✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ H1
14.13	103	12 900	43 200	4.4	386	212/15						✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ G1
11.26	129	11 700	42 800	4.6	534	980/87						✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ F1
8.97	162	10 400	41 900	4.8	710	260/29							✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ E1
8.07	180	8 350	39 300	5.9	396	1364/169						✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ D1
7.18	202	8 310	38 900	5.9	489	2332/325						✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ C1
5.72	253	8 210	37 800	6.4	697	2156/377						✓	✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ B1
4.55	319	7 300	36 400	6.8	967	132/29							✓	✓	✓	✓	2KJ3311 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

**SIMOGEAR geared motors**

Parallel shaft geared motors

**Transmission ratios and torques****Selection and ordering data** (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>FD.189</b>																	
<b>347.35</b>	4.2	19 000	110 900	4.1	36	590499/1700					✓	✓	✓				2KJ3412 - ■■■■■■ - ■■ T1
<b>310.76</b>	4.7	19 000	110 900	4.1	43	290563/935					✓	✓	✓				2KJ3412 - ■■■■■■ - ■■ S1
<b>280.27</b>	5.2	19 000	110 900	4.1	49	571753/2040					✓	✓	✓				2KJ3412 - ■■■■■■ - ■■ R1
<b>247.71</b>	5.9	19 000	110 900	4.1	61	290563/1173					✓	✓	✓				2KJ3412 - ■■■■■■ - ■■ Q1
<b>226.42</b>	6.4	19 000	110 900	4.1	71	1443442/6375					✓	✓	✓	✓			2KJ3412 - ■■■■■■ - ■■ P1
<b>203.69</b>	7.1	19 000	110 900	4.1	84	1246609/6120					✓	✓	✓	✓	✓		2KJ3412 - ■■■■■■ - ■■ N1
<b>182.03</b>	8	19 000	110 900	4.1	98	139256/765					✓	✓	✓	✓	✓		2KJ3412 - ■■■■■■ - ■■ M1
<b>164.61</b>	8.8	19 000	110 900	4.1	117	965419/5865					✓	✓	✓	✓	✓		2KJ3412 - ■■■■■■ - ■■ L1
<b>145.28</b>	10	19 000	110 900	4.1	136	111137/765					✓	✓	✓	✓	✓	✓	2KJ3412 - ■■■■■■ - ■■ K1
<b>129.45</b>	11	19 000	110 900	4.1	160	253071/1955					✓	✓	✓	✓	✓	✓	2KJ3412 - ■■■■■■ - ■■ J1
<b>117.27</b>	12	19 000	110 900	4.1	175	89713/765					✓	✓	✓	✓	✓	✓	2KJ3412 - ■■■■■■ - ■■ H1
<b>105.48</b>	14	19 000	110 900	4.1	210	206206/1955						✓	✓	✓	✓	✓	2KJ3412 - ■■■■■■ - ■■ G1
<b>87.65</b>	17	19 000	108 200	4.1	258	22351/255						✓	✓	✓	✓	✓	2KJ3412 - ■■■■■■ - ■■ F1
<b>77.92</b>	19	19 000	103 200	4.1	314	496769/6375						✓	✓	✓	✓	✓	2KJ3412 - ■■■■■■ - ■■ E1
<b>62.11</b>	23	19 000	94 000	4.2	422	459277/7395						✓	✓	✓	✓	✓	2KJ3412 - ■■■■■■ - ■■ D1
<b>49.43</b>	29	19 000	85 400	4.2	533	121849/2465							✓	✓	✓	✓	2KJ3412 - ■■■■■■ - ■■ C1
<b>40.61</b>	36	19 000	78 400	4.4	478	35329/870						✓	✓	✓	✓	✓	2KJ3412 - ■■■■■■ - ■■ B1
<b>32.32</b>	45	19 000	70 800	4.4	621	9373/290							✓	✓	✓	✓	2KJ3412 - ■■■■■■ - ■■ A1
<b>FZ.189</b>																	
<b>37.93</b>	38	19 000	76 100	4.0	143	11948/315						✓	✓	✓	✓	✓	2KJ3312 - ■■■■■■ - ■■ L1
<b>34.03</b>	43	19 000	72 500	4.1	169	3914/115						✓	✓	✓	✓	✓	2KJ3312 - ■■■■■■ - ■■ K1
<b>30.41</b>	48	19 000	68 900	4.1	202	3193/105						✓	✓	✓	✓	✓	2KJ3312 - ■■■■■■ - ■■ J1
<b>27.17</b>	53	19 000	65 400	4.1	241	9373/345						✓	✓	✓	✓	✓	2KJ3312 - ■■■■■■ - ■■ H1
<b>24.85</b>	58	19 000	62 700	4.1	269	7828/315						✓	✓	✓	✓	✓	2KJ3312 - ■■■■■■ - ■■ G1
<b>22.09</b>	66	19 000	59 300	4.1	321	7622/345						✓	✓	✓	✓	✓	2KJ3312 - ■■■■■■ - ■■ F1
<b>18.75</b>	77	19 000	54 700	4.2	410	7313/390						✓	✓	✓	✓	✓	2KJ3312 - ■■■■■■ - ■■ E1
<b>16.21</b>	89	19 000	50 800	4.2	495	6077/375						✓	✓	✓	✓	✓	2KJ3312 - ■■■■■■ - ■■ D1
<b>13.26</b>	109	17 600	48 700	4.3	687	5768/435						✓	✓	✓	✓	✓	2KJ3312 - ■■■■■■ - ■■ C1
<b>10.89</b>	133	16 300	50 000	4.4	906	4738/435							✓	✓	✓	✓	2KJ3312 - ■■■■■■ - ■■ B1
<b>8.47</b>	171	14 700	50 400	4.8	1 333	3811/450										✓	2KJ3312 - ■■■■■■ - ■■ A1

1) Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

### Parallel shaft geared motors

#### Transmission ratios and torques for very low speeds

#### Selection and ordering data

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FZ.29-D19</b>															
8 237	0.18	150	5 220	-	0.03	93697098/11375	✓	✓						2KJ3321 - ■■■■■■ - ■■ P1	
7 157	0.20	150	5 220	-	0.04	81408954/11375	✓	✓						2KJ3321 - ■■■■■■ - ■■ N1	
6 506	0.22	150	5 220	-	0.04	14801628/2275	✓	✓						2KJ3321 - ■■■■■■ - ■■ M1	
5 536	0.26	150	5 220	-	0.06	62976738/11375	✓	✓						2KJ3321 - ■■■■■■ - ■■ L1	
5 033	0.29	150	5 220	-	0.07	11450316/2275	✓	✓						2KJ3321 - ■■■■■■ - ■■ K1	
4 389	0.33	150	5 220	-	0.08	768009/175	✓	✓						2KJ3321 - ■■■■■■ - ■■ J1	
3 928	0.37	150	5 220	-	0.11	8936832/2275	✓	✓						2KJ3321 - ■■■■■■ - ■■ H1	
3 488	0.42	150	5 220	-	0.13	7936093/2275	✓	✓						2KJ3321 - ■■■■■■ - ■■ G1	
3 220	0.45	150	5 220	-	0.16	95233116/29575	✓	✓						2KJ3321 - ■■■■■■ - ■■ F1	
2 797	0.52	150	5 220	-	0.17	44544522/15925	✓	✓						2KJ3321 - ■■■■■■ - ■■ E1	
2 431	0.60	150	5 220	-	0.18	27648324/11375	✓	✓						2KJ3321 - ■■■■■■ - ■■ D1	
2 194	0.66	150	5 220	-	0.22	768009/350	✓	✓						2KJ3321 - ■■■■■■ - ■■ C1	
2 065	0.70	150	5 220	-	0.26	361416/175	✓	✓						2KJ3321 - ■■■■■■ - ■■ B1	
1 800	0.81	150	5 220	-	0.29	4096048/2275	✓	✓						2KJ3321 - ■■■■■■ - ■■ A1	
<b>FZ.29-Z19</b>															
1 760	0.82	150	5 220	-	0.02	1715912/975	✓	✓						2KJ3320 - ■■■■■■ - ■■ R1	
1 558	0.93	150	5 220	-	0.03	2532354/1625	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ Q1	
1 354	1.1	150	5 220	-	0.04	2200242/1625	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ P1	
1 231	1.2	150	5 220	-	0.05	400044/325	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ N1	
1 047	1.4	150	5 220	-	0.07	1702074/1625	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ M1	
952	1.5	150	5 220	-	0.08	309468/325	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ L1	
830	1.7	150	5 220	-	0.09	20757/25	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ K1	
743	2	150	5 220	-	0.12	241536/325	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ J1	
660	2.2	150	5 220	-	0.15	214489/325	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ H1	
609	2.4	150	5 220	-	0.18	2573868/4225	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ G1	
529	2.7	150	5 220	-	0.2	1203906/2275	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ F1	
460	3.2	150	5 220	-	0.21	747252/1625	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ E1	
415	3.5	150	5 220	-	0.27	20757/50	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ D1	
391	3.7	150	5 220	-	0.32	9768/25	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ C1	
340.63	4.3	150	5 220	-	0.36	110704/325	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ B1	
314.27	4.6	150	5 220	-	0.19	428978/1365	✓	✓	✓					2KJ3320 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**SIMOGEAR geared motors**

Parallel shaft geared motors

**Transmission ratios and torques for very low speeds****Selection and ordering data (continued)**

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FZ.39-D19</b>															
<b>8 247</b>	0.18	230	6 040	-	0.04	262670067/31850	✓	✓						2KJ3323 - ■■■■■■ - ■■ N1	
<b>7 497</b>	0.19	230	6 040	-	0.04	23879097/3185	✓	✓						2KJ3323 - ■■■■■■ - ■■ M1	
<b>6 380</b>	0.23	230	6 040	-	0.06	203197599/31850	✓	✓						2KJ3323 - ■■■■■■ - ■■ L1	
<b>5 800</b>	0.25	230	6 040	-	0.07	18472509/3185	✓	✓						2KJ3323 - ■■■■■■ - ■■ K1	
<b>5 057</b>	0.29	230	6 040	-	0.08	4956039/980	✓	✓						2KJ3323 - ■■■■■■ - ■■ J1	
<b>4 527</b>	0.32	230	6 040	-	0.11	14417568/3185	✓	✓						2KJ3323 - ■■■■■■ - ■■ H1	
<b>4 020</b>	0.36	230	6 040	-	0.13	51212403/12740	✓	✓						2KJ3323 - ■■■■■■ - ■■ G1	
<b>3 711</b>	0.39	230	6 040	-	0.16	153637209/41405	✓	✓						2KJ3323 - ■■■■■■ - ■■ F1	
<b>3 223</b>	0.45	230	6 040	-	0.17	143725131/44590	✓	✓						2KJ3323 - ■■■■■■ - ■■ E1	
<b>2 801</b>	0.52	230	6 040	-	0.18	44604351/15925	✓	✓						2KJ3323 - ■■■■■■ - ■■ D1	
<b>2 529</b>	0.57	230	6 040	-	0.22	4956039/1960	✓	✓						2KJ3323 - ■■■■■■ - ■■ C1	
<b>2 380</b>	0.61	230	6 040	-	0.26	9912078/4165	✓	✓						2KJ3323 - ■■■■■■ - ■■ B1	
<b>2 075</b>	0.7	230	6 040	-	0.29	6608052/3185	✓	✓						2KJ3323 - ■■■■■■ - ■■ A1	
<b>FZ.39-Z19</b>															
<b>2 028</b>	0.71	230	6 040	-	0.02	922746/455	✓	✓						2KJ3322 - ■■■■■■ - ■■ T1	
<b>1 796</b>	0.81	230	6 040	-	0.03	8170767/4550	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ S1	
<b>1 560</b>	0.93	230	6 040	-	0.04	7099191/4550	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ R1	
<b>1 418</b>	1.0	230	6 040	-	0.05	645381/455	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ Q1	
<b>1 207</b>	1.2	230	6 040	-	0.07	5491827/4550	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ P1	
<b>1 097</b>	1.3	230	6 040	-	0.08	499257/455	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ N1	
<b>957</b>	1.5	230	6 040	-	0.09	133947/140	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ M1	
<b>856</b>	1.7	230	6 040	-	0.12	389664/455	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ L1	
<b>761</b>	1.9	230	6 040	-	0.15	1384119/1820	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ K1	
<b>702</b>	2.1	230	6 040	-	0.18	4152357/5915	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ J1	
<b>610</b>	2.4	230	6 040	-	0.2	3884463/6370	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ H1	
<b>530</b>	2.7	230	6 040	-	0.21	1205523/2275	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ G1	
<b>478</b>	3.0	230	6 040	-	0.27	133947/280	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ F1	
<b>450</b>	3.2	230	6 040	-	0.32	267894/595	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ E1	
<b>393</b>	3.7	230	6 040	-	0.36	178596/455	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ D1	
<b>362</b>	4.0	230	6 040	-	0.19	461373/1274	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ C1	
<b>314.58</b>	4.6	230	6 040	-	0.22	431607/1372	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ B1	
<b>273.36</b>	5.3	230	6 040	-	0.23	133947/490	✓	✓	✓					2KJ3322 - ■■■■■■ - ■■ A1	

1) Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

### Parallel shaft geared motors

#### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FD.49-D19</b>															
14 685	0.10	480	7 960	-	0.07	14699730/1001	✓	✓						2KJ3425 - ■■■■■■ - ■■ C1	
12 805	0.11	480	7 960	-	0.08	179265/14	✓	✓						2KJ3425 - ■■■■■■ - ■■ B1	
11 461	0.13	480	7 960	-	0.11	11472960/1001	✓	✓						2KJ3425 - ■■■■■■ - ■■ A1	
<b>FD.49-Z19</b>															
752	1.9	480	7 960	-	0.21	3762/5	✓	✓	✓					2KJ3424 - ■■■■■■ - ■■ J1	
679	2.1	480	7 960	-	0.28	2717/4	✓	✓	✓					2KJ3424 - ■■■■■■ - ■■ H1	
639	2.3	480	7 960	-	0.32	10868/17	✓	✓	✓					2KJ3424 - ■■■■■■ - ■■ G1	
557	2.6	480	7 960	-	0.37	1672/3	✓	✓	✓					2KJ3424 - ■■■■■■ - ■■ F1	
514	2.8	480	7 960	-	0.20	32395/63	✓	✓	✓					2KJ3424 - ■■■■■■ - ■■ E1	
447	3.2	480	7 960	-	0.23	393965/882	✓	✓	✓					2KJ3424 - ■■■■■■ - ■■ D1	
388	3.7	480	7 960	-	0.25	2717/7	✓	✓	✓					2KJ3424 - ■■■■■■ - ■■ C1	
350	4.1	480	7 960	-	0.32	176605/504	✓	✓	✓					2KJ3424 - ■■■■■■ - ■■ B1	
329.79	4.4	480	7 960	-	0.37	353210/1071	✓	✓	✓					2KJ3424 - ■■■■■■ - ■■ A1	
<b>FZ.49-D19</b>															
11 357	0.13	480	7 960	-	0.02	46506262/4095	✓	✓						2KJ3325 - ■■■■■■ - ■■ Q1	
10 056	0.14	480	7 960	-	0.03	45756161/4550	✓	✓						2KJ3325 - ■■■■■■ - ■■ P1	
8 737	0.17	480	7 960	-	0.04	39755353/4550	✓	✓						2KJ3325 - ■■■■■■ - ■■ N1	
7 943	0.18	480	7 960	-	0.04	3614123/455	✓	✓						2KJ3325 - ■■■■■■ - ■■ M1	
6 759	0.21	480	7 960	-	0.06	30754141/4550	✓	✓						2KJ3325 - ■■■■■■ - ■■ L1	
6 145	0.24	480	7 960	-	0.07	2795831/455	✓	✓						2KJ3325 - ■■■■■■ - ■■ K1	
5 358	0.27	480	7 960	-	0.08	750101/140	✓	✓						2KJ3325 - ■■■■■■ - ■■ J1	
4 796	0.3	480	7 960	-	0.11	2182112/455	✓	✓						2KJ3325 - ■■■■■■ - ■■ H1	
4 259	0.34	480	7 960	-	0.13	23253131/5460	✓	✓						2KJ3325 - ■■■■■■ - ■■ G1	
3 931	0.37	480	7 960	-	0.16	23253131/5915	✓	✓						2KJ3325 - ■■■■■■ - ■■ F1	
3 415	0.42	480	7 960	-	0.17	21752929/6370	✓	✓						2KJ3325 - ■■■■■■ - ■■ E1	
2 967	0.49	480	7 960	-	0.18	6750909/2275	✓	✓						2KJ3325 - ■■■■■■ - ■■ D1	
2 679	0.54	480	7 960	-	0.22	750101/280	✓	✓						2KJ3325 - ■■■■■■ - ■■ C1	
2 521	0.58	480	7 960	-	0.26	1500202/595	✓	✓						2KJ3325 - ■■■■■■ - ■■ B1	
2 198	0.66	480	7 960	-	0.29	3000404/1365	✓	✓						2KJ3325 - ■■■■■■ - ■■ A1	
<b>FZ.49-Z19</b>															
2 149	0.67	480	7 960	-	0.02	1256926/585	✓	✓	✓					2KJ3324 - ■■■■■■ - ■■ J1	
1 903	0.76	480	7 960	-	0.03	1236653/650	✓	✓	✓					2KJ3324 - ■■■■■■ - ■■ H1	
1 653	0.88	480	7 960	-	0.04	1074469/650	✓	✓	✓					2KJ3324 - ■■■■■■ - ■■ G1	
1 503	0.96	480	7 960	-	0.05	97679/65	✓	✓	✓					2KJ3324 - ■■■■■■ - ■■ F1	
1 279	1.1	480	7 960	-	0.07	831193/650	✓	✓	✓					2KJ3324 - ■■■■■■ - ■■ E1	
1 163	1.2	480	7 960	-	0.08	75563/65	✓	✓	✓					2KJ3324 - ■■■■■■ - ■■ D1	
1 014	1.4	480	7 960	-	0.09	20273/20	✓	✓	✓					2KJ3324 - ■■■■■■ - ■■ C1	
907	1.6	480	7 960	-	0.13	58976/65	✓	✓	✓					2KJ3324 - ■■■■■■ - ■■ B1	
806	1.8	480	7 960	-	0.15	628463/780	✓	✓	✓					2KJ3324 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**SIMOGEAR geared motors**

Parallel shaft geared motors

**Transmission ratios and torques for very low speeds****Selection and ordering data (continued)**

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FD.69-D19</b>															
<b>13 479</b>	0.11	600	10 800	-	0.08	94350/7	✓	✓						2KJ3427 - ■■■■■■ - ■■ B1	
<b>12 065</b>	0.12	600	10 800	-	0.11	12076800/1001	✓	✓						2KJ3427 - ■■■■■■ - ■■ A1	
<b>FD.69-Z19</b>															
<b>1 200</b>	1.2	600	10 800	-	0.32	1200/1	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ M1	
<b>1 046</b>	1.4	600	10 800	-	0.37	13600/13	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ L1	
<b>965</b>	1.5	600	10 800	-	0.19	263500/273	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ K1	
<b>838</b>	1.7	600	10 800	-	0.22	123250/147	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ J1	
<b>729</b>	2.0	600	10 800	-	0.23	5100/7	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ H1	
<b>658</b>	2.2	600	10 800	-	0.30	27625/42	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ G1	
<b>619</b>	2.3	600	10 800	-	0.35	13000/21	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ F1	
<b>587</b>	2.5	600	10 800	-	0.37	1760/3	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ E1	
<b>541</b>	2.7	600	10 800	-	0.20	34100/63	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ D1	
<b>470</b>	3.1	600	10 800	-	0.23	207350/441	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ C1	
<b>409</b>	3.5	600	10 800	-	0.25	2860/7	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ B1	
<b>369</b>	3.9	600	10 800	-	0.32	46475/126	✓	✓	✓					2KJ3426 - ■■■■■■ - ■■ A1	
<b>FZ.69-D19</b>															
<b>11 955</b>	0.12	600	10 800	-	0.02	9790792/819	✓	✓						2KJ3327 - ■■■■■■ - ■■ Q1	
<b>10 586</b>	0.14	600	10 800	-	0.03	4816438/455	✓	✓						2KJ3327 - ■■■■■■ - ■■ P1	
<b>9 197</b>	0.16	600	10 800	-	0.04	4184774/455	✓	✓						2KJ3327 - ■■■■■■ - ■■ N1	
<b>8 361</b>	0.17	600	10 800	-	0.04	760868/91	✓	✓						2KJ3327 - ■■■■■■ - ■■ M1	
<b>7 115</b>	0.20	600	10 800	-	0.06	3237278/455	✓	✓						2KJ3327 - ■■■■■■ - ■■ L1	
<b>6 468</b>	0.22	600	10 800	-	0.07	588596/91	✓	✓						2KJ3327 - ■■■■■■ - ■■ K1	
<b>5 640</b>	0.26	600	10 800	-	0.08	39479/7	✓	✓						2KJ3327 - ■■■■■■ - ■■ J1	
<b>5 048</b>	0.29	600	10 800	-	0.11	459392/91	✓	✓						2KJ3327 - ■■■■■■ - ■■ H1	
<b>4 483</b>	0.32	600	10 800	-	0.13	1223849/273	✓	✓						2KJ3327 - ■■■■■■ - ■■ G1	
<b>4 138</b>	0.35	600	10 800	-	0.16	4895396/1183	✓	✓						2KJ3327 - ■■■■■■ - ■■ F1	
<b>3 595</b>	0.4	600	10 800	-	0.17	2289782/637	✓	✓						2KJ3327 - ■■■■■■ - ■■ E1	
<b>3 124</b>	0.46	600	10 800	-	0.18	1421244/455	✓	✓						2KJ3327 - ■■■■■■ - ■■ D1	
<b>2 820</b>	0.51	600	10 800	-	0.22	39479/14	✓	✓						2KJ3327 - ■■■■■■ - ■■ C1	
<b>2 654</b>	0.55	600	10 800	-	0.26	315832/119	✓	✓						2KJ3327 - ■■■■■■ - ■■ B1	
<b>2 314</b>	0.63	600	10 800	-	0.29	631664/273	✓	✓						2KJ3327 - ■■■■■■ - ■■ A1	
<b>FZ.69-Z19</b>															
<b>2 262</b>	0.64	600	10 800	-	0.02	264616/117	✓	✓						2KJ3326 - ■■■■■■ - ■■ F1	
<b>2 003</b>	0.72	600	10 800	-	0.03	130174/65	✓	✓	✓					2KJ3326 - ■■■■■■ - ■■ E1	
<b>1 740</b>	0.83	600	10 800	-	0.04	113102/65	✓	✓	✓					2KJ3326 - ■■■■■■ - ■■ D1	
<b>1 582</b>	0.92	600	10 800	-	0.05	20564/13	✓	✓	✓					2KJ3326 - ■■■■■■ - ■■ C1	
<b>1 346</b>	1.1	600	10 800	-	0.07	87494/65	✓	✓	✓					2KJ3326 - ■■■■■■ - ■■ B1	
<b>1 224</b>	1.2	600	10 800	-	0.08	15908/13	✓	✓	✓					2KJ3326 - ■■■■■■ - ■■ A1	

1) Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

### Parallel shaft geared motors

#### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FD.79-D39</b>															
17 865	0.08	1 000	13 600	-	0.08	583103521/32640	✓	✓	✓	✓					2KJ3430 - ■■■■■■ - ■■ E1
16 241	0.09	1 000	13 600	-	0.10	53009411/3264	✓	✓	✓	✓					2KJ3430 - ■■■■■■ - ■■ D1
14 240	0.10	1 000	13 600	-	0.12	278875597/19584	✓	✓	✓	✓	✓	✓			2KJ3430 - ■■■■■■ - ■■ C1
12 710	0.11	1 000	13 600	-	0.15	6914271/544	✓	✓	✓	✓	✓	✓			2KJ3430 - ■■■■■■ - ■■ B1
11 327	0.13	1 000	13 600	-	0.17	887331445/78336	✓	✓	✓	✓	✓	✓			2KJ3430 - ■■■■■■ - ■■ A1
<b>FZ.79-D39</b>															
11 301	0.13	1 000	13600	-	0.03	155608271/13770	✓	✓							2KJ3330 - ■■■■■■ - ■■ N1
10 023	0.14	1 000	13 600	-	0.05	6765577/675	✓	✓							2KJ3330 - ■■■■■■ - ■■ M1
8 696	0.17	1 000	13 600	-	0.05	399169043/45900	✓	✓							2KJ3330 - ■■■■■■ - ■■ L1
7 906	0.18	1 000	13 600	-	0.07	399169043/50490	✓	✓	✓	✓					2KJ3330 - ■■■■■■ - ■■ K1
6 780	0.21	1 000	13 600	-	0.08	155608271/22950	✓	✓	✓	✓					2KJ3330 - ■■■■■■ - ■■ J1
6 164	0.24	1 000	13 600	-	0.10	155608271/25245	✓	✓	✓	✓					2KJ3330 - ■■■■■■ - ■■ H1
5 405	0.27	1 000	13 600	-	0.12	74421347/13770	✓	✓	✓	✓	✓	✓			2KJ3330 - ■■■■■■ - ■■ G1
4 824	0.30	1 000	13 600	-	0.15	13531154/2805	✓	✓	✓	✓	✓	✓			2KJ3330 - ■■■■■■ - ■■ F1
4 299	0.34	1 000	13 600	-	0.17	47359039/11016	✓	✓	✓	✓	✓	✓			2KJ3330 - ■■■■■■ - ■■ E1
3 968	0.37	1 000	13 600	-	0.21	3643003/918	✓	✓	✓	✓	✓	✓			2KJ3330 - ■■■■■■ - ■■ D1
3 474	0.42	1 000	13 600	-	0.25	10631621/3060	✓	✓	✓	✓	✓	✓			2KJ3330 - ■■■■■■ - ■■ C1
3 046	0.48	1 000	13 600	-	0.23	209732887/68850	✓	✓	✓	✓	✓	✓			2KJ3330 - ■■■■■■ - ■■ B1
2 764	0.52	1 000	13 600	-	0.33	6765577/2448	✓	✓	✓	✓	✓	✓			2KJ3330 - ■■■■■■ - ■■ A1
<b>FZ.79-Z39</b>															
2 687	0.54	1 000	13 600	-	0.06	13059137/4860	✓	✓							2KJ3328 - ■■■■■■ - ■■ S2
2 389	0.61	1 000	13 600	-	0.07	6450899/2700	✓	✓	✓	✓					2KJ3328 - ■■■■■■ - ■■ R1
2 098	0.69	1 000	13 600	-	0.08	157339/75	✓	✓	✓	✓					2KJ3328 - ■■■■■■ - ■■ Q1
1 907	0.76	1 000	13 600	-	0.10	314678/165	✓	✓	✓	✓					2KJ3328 - ■■■■■■ - ■■ P1
1 632	0.89	1 000	13 600	-	0.12	1101373/675	✓	✓	✓	✓					2KJ3328 - ■■■■■■ - ■■ N1
1 483	0.98	1 000	13 600	-	0.14	2202746/1485	✓	✓	✓	✓					2KJ3328 - ■■■■■■ - ■■ M1
1 311	1.1	1 000	13 600	-	0.17	157339/120	✓	✓	✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ L1
1 192	1.2	1 000	13 600	-	0.22	157339/132	✓	✓	✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ K1
1 044	1.4	1 000	13 600	-	0.26	6765577/6480	✓	✓	✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ J1
964	1.5	1 000	13 600	-	0.31	520429/540	✓	✓	✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ H1
853	1.7	1 000	13 600	-	0.36	921557/1080	✓	✓	✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ G1
710	2.0	1 000	13 600	-	0.48	2045407/2880	✓	✓	✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ F1
668	2.2	1 000	13 600	-	0.56	2045407/3060	✓	✓	✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ E1
599	2.4	1 000	13 600	-	0.61	5821543/9720	✓	✓	✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ D1
510	2.8	1 000	13 600	-	0.79	1101373/2160	✓	✓	✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ C1
437	3.3	1 000	13 600	-	1.03	157339/360			✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ B1
376	3.9	1 000	13 600	-	1.31	4877509/12960			✓	✓	✓	✓			2KJ3328 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

Parallel shaft geared motors

### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup> °	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FD.89-D39</b>															
17 750	0.08	1 850	17 400	-	0.12	15389528/867	✓	✓	✓	✓	✓	✓		2KJ3432 - ■■■■■■ - ■■ B1	
15 843	0.09	1 850	17 400	-	0.15	50365728/3179	✓	✓	✓	✓	✓	✓		2KJ3432 - ■■■■■■ - ■■ A1	
<b>FD.89-Z39</b>															
648	2.2	1 850	17 400	-	0.75	47389680/73117	✓	✓	✓	✓	✓	✓		2KJ3431 - ■■■■■■ - ■■ E1	
581	2.5	1 850	17 400	-	0.85	7493240/12903	✓	✓	✓	✓	✓	✓		2KJ3431 - ■■■■■■ - ■■ D1	
494	2.9	1 850	17 400	-	1.12	2126460/4301	✓	✓	✓	✓	✓	✓		2KJ3431 - ■■■■■■ - ■■ C1	
424	3.4	1 850	17 400	-	1.48	1822680/4301			✓	✓	✓	✓		2KJ3431 - ■■■■■■ - ■■ B1	
365	4	1 850	17 400	-	1.91	1569530/4301			✓	✓	✓	✓		2KJ3431 - ■■■■■■ - ■■ A1	
<b>FZ.89-D39</b>															
14 522	0.1	1 850	17 400	-	0.03	33327322/2295	✓	✓						2KJ3332 - ■■■■■■ - ■■ N1	
12 880	0.11	1 850	17 400	-	0.05	2898028/225	✓	✓						2KJ3332 - ■■■■■■ - ■■ M1	
11 175	0.13	1 850	17 400	-	0.05	42745913/3825	✓	✓						2KJ3332 - ■■■■■■ - ■■ L1	
10 159	0.14	1 850	17 400	-	0.07	85491826/8415	✓	✓	✓	✓				2KJ3332 - ■■■■■■ - ■■ K1	
8 713	0.17	1 850	17 400	-	0.08	33327322/3825	✓	✓	✓	✓				2KJ3332 - ■■■■■■ - ■■ J1	
7 921	0.18	1 850	17 400	-	0.10	66654644/8415	✓	✓	✓	✓				2KJ3332 - ■■■■■■ - ■■ H1	
6 945	0.21	1 850	17 400	-	0.12	15939154/2295	✓	✓	✓	✓	✓	✓		2KJ3332 - ■■■■■■ - ■■ G1	
6 299	0.23	1 850	17 400	-	0.15	5796056/935	✓	✓	✓	✓	✓	✓		2KJ3332 - ■■■■■■ - ■■ F1	
5 525	0.26	1 850	17 400	-	0.17	5071549/918	✓	✓	✓	✓	✓	✓		2KJ3332 - ■■■■■■ - ■■ E1	
5 100	0.28	1 850	17 400	-	0.21	10143098/1989	✓	✓	✓	✓	✓	✓		2KJ3332 - ■■■■■■ - ■■ D1	
4 465	0.32	1 850	17 400	-	0.25	1138511/255	✓	✓	✓	✓	✓	✓		2KJ3332 - ■■■■■■ - ■■ C1	
3 915	0.37	1 850	17 400	-	0.23	44919434/11475	✓	✓	✓	✓	✓	✓		2KJ3332 - ■■■■■■ - ■■ B1	
3 552	0.41	1 850	17 400	-	0.33	724507/204	✓	✓	✓	✓	✓	✓		2KJ3332 - ■■■■■■ - ■■ A1	
<b>FZ.89-Z39</b>															
3 453	0.42	1 850	17 400	-	0.06	1398467/405	✓	✓						2KJ3331 - ■■■■■■ - ■■ P1	
3 070	0.47	1 850	17 400	-	0.07	690809/225	✓	✓	✓	✓				2KJ3331 - ■■■■■■ - ■■ N1	
2 696	0.54	1 850	17 400	-	0.08	67396/25	✓	✓	✓	✓				2KJ3331 - ■■■■■■ - ■■ M1	
2 451	0.59	1 850	17 400	-	0.10	134792/55	✓	✓	✓	✓				2KJ3331 - ■■■■■■ - ■■ L1	
2 097	0.69	1 850	17 400	-	0.12	471772/225	✓	✓	✓	✓				2KJ3331 - ■■■■■■ - ■■ K1	
1 906	0.76	1 850	17 400	-	0.14	943544/495	✓	✓	✓	✓				2KJ3331 - ■■■■■■ - ■■ J1	
1 685	0.86	1 850	17 400	-	0.17	16849/10	✓	✓	✓	✓	✓	✓		2KJ3331 - ■■■■■■ - ■■ H1	
1 532	0.95	1 850	17 400	-	0.22	16849/11	✓	✓	✓	✓	✓	✓		2KJ3331 - ■■■■■■ - ■■ G1	
1 342	1.1	1 850	17 400	-	0.26	724507/540	✓	✓	✓	✓	✓	✓		2KJ3331 - ■■■■■■ - ■■ F1	
1 238	1.2	1 850	17 400	-	0.31	724507/585	✓	✓	✓	✓	✓	✓		2KJ3331 - ■■■■■■ - ■■ E1	
1 097	1.3	1 850	17 400	-	0.36	98687/90	✓	✓	✓	✓	✓	✓		2KJ3331 - ■■■■■■ - ■■ D1	
913	1.6	1 850	17 400	-	0.48	219037/240	✓	✓	✓	✓	✓	✓		2KJ3331 - ■■■■■■ - ■■ C1	
859	1.7	1 850	17 400	-	0.56	219037/255	✓	✓	✓	✓	✓	✓		2KJ3331 - ■■■■■■ - ■■ B1	
770	1.9	1 850	17 400	-	0.61	623413/810	✓	✓	✓	✓	✓	✓		2KJ3331 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FD.109-D39</b>															
22 701	0.06	3 100	25 000	-	0.05	5286392566/232875	✓	✓						2KJ3434 - ■■■■■■ - ■■ L1	
20 637	0.07	3 100	25 000	-	0.07	10572785132/512325	✓	✓	✓	✓				2KJ3434 - ■■■■■■ - ■■ K1	
17 699	0.08	3 100	25 000	-	0.08	179199748/10125	✓	✓	✓	✓				2KJ3434 - ■■■■■■ - ■■ J1	
16 090	0.09	3 100	25 000	-	0.10	358399496/22275	✓	✓	✓	✓				2KJ3434 - ■■■■■■ - ■■ H1	
14 108	0.10	3 100	25 000	-	0.12	1971197228/139725	✓	✓	✓	✓	✓	✓		2KJ3434 - ■■■■■■ - ■■ G1	
12 592	0.12	3 100	25 000	-	0.15	716798992/56925	✓	✓	✓	✓	✓	✓		2KJ3434 - ■■■■■■ - ■■ F1	
11 222	0.13	3 100	25 000	-	0.18	313599559/27945	✓	✓	✓	✓	✓	✓		2KJ3434 - ■■■■■■ - ■■ E1	
10 359	0.14	3 100	25 000	-	0.21	96492172/9315	✓	✓	✓	✓	✓	✓		2KJ3434 - ■■■■■■ - ■■ D1	
9 069	0.16	3 100	25 000	-	0.25	140799802/15525	✓	✓	✓	✓	✓	✓		2KJ3434 - ■■■■■■ - ■■ C1	
7 952	0.18	3 100	25 000	-	0.23	5555192188/698625	✓	✓	✓	✓	✓	✓		2KJ3434 - ■■■■■■ - ■■ B1	
7 214	0.2	3 100	25 000	-	0.33	44799937/6210	✓	✓	✓	✓	✓	✓		2KJ3434 - ■■■■■■ - ■■ A1	
<b>FD.109-Z39</b>															
7 014	0.21	3 100	25 000	-	0.06	2940126098/419175	✓	✓						2KJ3433 - ■■■■■■ - ■■ A2	
6 237	0.23	3 100	25 000	-	0.07	1452351446/232875	✓	✓	✓	✓				2KJ3433 - ■■■■■■ - ■■ X1	
5 476	0.26	3 100	25 000	-	0.09	141692824/25875	✓	✓	✓	✓				2KJ3433 - ■■■■■■ - ■■ W1	
4 978	0.29	3 100	25 000	-	0.10	283385648/56925	✓	✓	✓	✓				2KJ3433 - ■■■■■■ - ■■ V1	
4 259	0.34	3 100	25 000	-	0.12	991849768/232875	✓	✓	✓	✓				2KJ3433 - ■■■■■■ - ■■ U1	
3 872	0.37	3 100	25 000	-	0.15	1983699536/512325	✓	✓	✓	✓				2KJ3433 - ■■■■■■ - ■■ T1	
3 423	0.42	3 100	25 000	-	0.17	17711603/5175	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ S1	
3 111	0.47	3 100	25 000	-	0.23	35423206/11385	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ R1	
2 725	0.53	3 100	25 000	-	0.27	761598929/279450	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ Q1	
2 516	0.58	3 100	25 000	-	0.32	117169066/46575	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ P1	
2 227	0.65	3 100	25 000	-	0.38	103739389/46575	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ N1	
1 854	0.78	3 100	25 000	-	0.50	230250839/124200	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ M1	
1 745	0.83	3 100	25 000	-	0.59	27088334/15525	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ L1	
1 563	0.93	3 100	25 000	-	0.64	655329311/419175	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ K1	
1 331	1.1	3 100	25 000	-	0.84	123981221/93150	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ J1	
1 141	1.3	3 100	25 000	-	1.10	17711603/15525			✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ H1	
982	1.5	3 100	25 000	-	1.40	549059693/558900			✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ G1	
810	1.8	3 100	25 000	-	0.73	154343969/190440	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ F1	
763	1.9	3 100	25 000	-	0.84	18158114/23805	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ E1	
683	2.1	3 100	25 000	-	0.96	439286681/642735	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ D1	
582	2.5	3 100	25 000	-	1.28	83108291/142830	✓	✓	✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ C1	
499	2.9	3 100	25 000	-	1.70	11872613/23805			✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ B1	
429	3.4	3 100	25 000	-	2.20	368051003/856980			✓	✓	✓	✓		2KJ3433 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

Parallel shaft geared motors

### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup> °	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FD.129-D49</b>															
27 777	0.05	4 850	37 200	-	0.08	31110629/1120	✓	✓						2KJ3436 - ■■■■■■ - ■■ N1	
25 252	0.06	4 850	37 200	-	0.10	2828239/112	✓	✓	✓	✓				2KJ3436 - ■■■■■■ - ■■ M1	
21 605	0.07	4 850	37 200	-	0.12	31110629/1440	✓	✓	✓	✓				2KJ3436 - ■■■■■■ - ■■ L1	
19 641	0.07	4 850	37 200	-	0.14	2828239/144	✓	✓	✓	✓				2KJ3436 - ■■■■■■ - ■■ K1	
17 361	0.08	4 850	37 200	-	0.17	31110629/1792	✓	✓	✓	✓	✓	✓		2KJ3436 - ■■■■■■ - ■■ J1	
15 783	0.09	4 850	37 200	-	0.22	14141195/896	✓	✓	✓	✓	✓	✓		2KJ3436 - ■■■■■■ - ■■ H1	
13 824	0.10	4 850	37 200	-	0.26	1337757047/96768	✓	✓	✓	✓	✓	✓		2KJ3436 - ■■■■■■ - ■■ G1	
12 761	0.11	4 850	37 200	-	0.31	1337757047/104832	✓	✓	✓	✓	✓	✓		2KJ3436 - ■■■■■■ - ■■ F1	
11 298	0.13	4 850	37 200	-	0.37	1275535789/112896	✓	✓	✓	✓	✓	✓	✓	2KJ3436 - ■■■■■■ - ■■ E1	
9 404	0.15	4 850	37 200	-	0.50	404438177/43008	✓	✓	✓	✓	✓	✓	✓	2KJ3436 - ■■■■■■ - ■■ D1	
8 851	0.16	4 850	37 200	-	0.59	23790481/2688	✓	✓	✓	✓	✓	✓	✓	2KJ3436 - ■■■■■■ - ■■ C1	
7 930	0.18	4 850	37 200	-	0.65	1151093273/145152	✓	✓	✓	✓	✓	✓	✓	2KJ3436 - ■■■■■■ - ■■ B1	
6 751	0.21	4 850	37 200	-	0.85	31110629/4608	✓	✓	✓	✓	✓	✓	✓	2KJ3436 - ■■■■■■ - ■■ A1	
<b>FD.129-Z49</b>															
6 604	0.22	4 850	37 200	-	0.18	177513589/26880	✓	✓	✓	✓				2KJ3435 - ■■■■■■ - ■■ B2	
6 004	0.24	4 850	37 200	-	0.21	16137599/2688	✓	✓	✓	✓				2KJ3435 - ■■■■■■ - ■■ A2	
5 106	0.28	4 850	37 200	-	0.27	9150185/1792	✓	✓	✓	✓				2KJ3435 - ■■■■■■ - ■■ X1	
4 642	0.31	4 850	37 200	-	0.32	4159175/896	✓	✓	✓	✓				2KJ3435 - ■■■■■■ - ■■ W1	
4 142	0.35	4 850	37 200	-	0.38	133592701/32256	✓	✓	✓	✓	✓	✓		2KJ3435 - ■■■■■■ - ■■ V1	
3 714	0.39	4 850	37 200	-	0.45	831835/224	✓	✓	✓	✓	✓	✓		2KJ3435 - ■■■■■■ - ■■ U1	
3 347	0.43	4 850	37 200	-	0.53	107972183/32256	✓	✓	✓	✓	✓	✓		2KJ3435 - ■■■■■■ - ■■ T1	
3 090	0.47	4 850	37 200	-	0.63	107972183/34944	✓	✓	✓	✓	✓	✓		2KJ3435 - ■■■■■■ - ■■ S1	
2 821	0.51	4 850	37 200	-	0.75	53071073/18816	✓	✓	✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ R1	
2 340	0.62	4 850	37 200	-	0.95	100652035/43008	✓	✓	✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ Q1	
2 203	0.66	4 850	37 200	-	1.10	100652035/45696	✓	✓	✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ P1	
2 080	0.70	4 850	37 200	-	1.25	100652035/48384	✓	✓	✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ N1	
1 770	0.82	4 850	37 200	-	1.53	23790481/13440	✓	✓	✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ M1	
1 516	0.96	4 850	37 200	-	1.89	1164569/768			✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ L1	
1 333	1.1	4 850	37 200	-	2.3	86011739/64512			✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ K1	
1 125	1.3	4 850	37 200	-	2.9	34770703/30912			✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ J1	
980	1.5	4 850	37 200	-	3.9	5490111/5600			✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ H1	
967	1.5	4 850	37 200	-	1.51	27620791/28560	✓	✓	✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ G1	
913	1.6	4 850	37 200	-	1.71	27620791/30240	✓	✓	✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ F1	
777	1.9	4 850	37 200	-	2.2	32642753/42000	✓	✓	✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ E1	
666	2.2	4 850	37 200	-	2.8	1597897/2400			✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ D1	
585	2.5	4 850	37 200	-	3.5	118016107/201600			✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ C1	
494	2.9	4 850	37 200	-	4.5	47708639/96600			✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ B1	
430	3.4	4 850	37 200	-	6.0	7532943/17500			✓	✓	✓	✓	✓	2KJ3435 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

### Parallel shaft geared motors

#### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FD.149-D49</b>															
27 793	0.05	8 000	65 000	-	0.08	1361853/49	✓	✓						2KJ3438 - ■■■■■■ - ■■ N1	
25 266	0.06	8 000	65 000	-	0.10	13618530/539	✓	✓	✓	✓				2KJ3438 - ■■■■■■ - ■■ M1	
21 617	0.07	8 000	65 000	-	0.12	151317/7	✓	✓	✓	✓				2KJ3438 - ■■■■■■ - ■■ L1	
19 652	0.07	8 000	65 000	-	0.14	1513170/77	✓	✓	✓	✓				2KJ3438 - ■■■■■■ - ■■ K1	
17 371	0.08	8 000	65 000	-	0.17	6809265/392	✓	✓	✓	✓	✓	✓		2KJ3438 - ■■■■■■ - ■■ J1	
15 791	0.09	8 000	65 000	-	0.22	34046325/2156	✓	✓	✓	✓	✓	✓		2KJ3438 - ■■■■■■ - ■■ H1	
13 832	0.10	8 000	65 000	-	0.26	10844385/784	✓	✓	✓	✓	✓	✓		2KJ3438 - ■■■■■■ - ■■ G1	
12 768	0.11	8 000	65 000	-	0.31	32533155/2548	✓	✓	✓	✓	✓	✓		2KJ3438 - ■■■■■■ - ■■ F1	
11 305	0.13	8 000	65 000	-	0.37	31019985/2744	✓	✓	✓	✓	✓	✓	✓	2KJ3438 - ■■■■■■ - ■■ E1	
9 409	0.15	8 000	65 000	-	0.50	29506815/3136	✓	✓	✓	✓	✓	✓	✓	2KJ3438 - ■■■■■■ - ■■ D1	
8 856	0.16	8 000	65 000	-	0.59	1735695/196	✓	✓	✓	✓	✓	✓	✓	2KJ3438 - ■■■■■■ - ■■ C1	
7 935	0.18	8 000	65 000	-	0.66	3110405/392	✓	✓	✓	✓	✓	✓	✓	2KJ3438 - ■■■■■■ - ■■ B1	
6 755	0.21	8 000	65 000	-	0.86	756585/112	✓	✓	✓	✓	✓	✓	✓	2KJ3438 - ■■■■■■ - ■■ A1	
<b>FD.149-Z49</b>															
6 608	0.22	8 000	65 000	-	0.18	2590191/392	✓	✓	✓	✓				2KJ3437 - ■■■■■■ - ■■ B2	
6 007	0.24	8 000	65 000	-	0.22	12950955/2156	✓	✓	✓	✓				2KJ3437 - ■■■■■■ - ■■ A2	
5 109	0.28	8 000	65 000	-	0.28	2002725/392	✓	✓	✓	✓				2KJ3437 - ■■■■■■ - ■■ X1	
4 545	0.32	8 000	65 000	-	0.34	10013625/2156	✓	✓	✓	✓				2KJ3437 - ■■■■■■ - ■■ W1	
4 144	0.35	8 000	65 000	-	0.39	3248865/784	✓	✓	✓	✓	✓	✓		2KJ3437 - ■■■■■■ - ■■ V1	
3 716	0.39	8 000	65 000	-	0.47	2002725/539	✓	✓	✓	✓	✓	✓		2KJ3437 - ■■■■■■ - ■■ U1	
3 349	0.43	8 000	65 000	-	0.55	2625795/784	✓	✓	✓	✓	✓	✓		2KJ3437 - ■■■■■■ - ■■ T1	
3 092	0.47	8 000	65 000	-	0.66	7877385/2548	✓	✓	✓	✓	✓	✓		2KJ3437 - ■■■■■■ - ■■ S1	
2 822	0.51	8 000	65 000	-	0.78	3871935/1372	✓	✓	✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ R1	
2 342	0.62	8 000	65 000	-	1.0	7343325/3136	✓	✓	✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ Q1	
2 204	0.66	8 000	65 000	-	1.16	7343325/3332	✓	✓	✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ P1	
2 081	0.70	8 000	65 000	-	1.31	815925/392	✓	✓	✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ N1	
1 771	0.82	8 000	65 000	-	1.62	347139/196	✓	✓	✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ M1	
1 517	0.96	8 000	65 000	-	2.0	133515/88			✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ L1	
1 334	1.1	8 000	65 000	-	2.5	2091735/1568			✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ K1	
1 125	1.3	8 000	65 000	-	3.2	110295/98			✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ J1	
981	1.5	8 000	65 000	-	4.2	240327/245			✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ H1	
968	1.5	8 000	65 000	-	1.81	806058/833	✓	✓	✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ G1	
914	1.6	8 000	65 000	-	2.0	44781/49	✓	✓	✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ F1	
778	1.9	8 000	65 000	-	2.6	952614/1225	✓	✓	✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ E1	
666	2.2	8 000	65 000	-	3.4	36639/55			✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ D1	
586	2.5	8 000	65 000	-	4.3	574011/980			✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ C1	
494	2.9	8 000	65 000	-	5.7	121068/245			✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ B1	
431	3.4	8 000	65 000	-	7.5	2638008/6125			✓	✓	✓	✓	✓	2KJ3437 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

# Electro\_Motor.ir



**SIMOGEAR geared motors**

Parallel shaft geared motors

**Transmission ratios and torques for very low speeds****Selection and ordering data (continued)**

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FD.169-D69</b>															
29 846	0.05	13 600	73 500	-	0.07	4387328/147	✓	✓	✓	✓					2KJ3441 - ■■■■■■ - ■■ P1
26 206	0.06	13 600	73 500	-	0.08	1284096/49	✓	✓	✓	✓					2KJ3441 - ■■■■■■ - ■■ N1
23 824	0.06	13 600	73 500	-	0.10	1167360/49	✓	✓	✓	✓					2KJ3441 - ■■■■■■ - ■■ M1
20 382	0.07	13 600	73 500	-	0.12	428032/21	✓	✓	✓	✓					2KJ3441 - ■■■■■■ - ■■ L1
18 530	0.08	13 600	73 500	-	0.15	389120/21	✓	✓	✓	✓					2KJ3441 - ■■■■■■ - ■■ K1
16 379	0.09	13 600	73 500	-	0.17	802560/49	✓	✓	✓	✓	✓	✓			2KJ3441 - ■■■■■■ - ■■ J1
14 890	0.10	13 600	73 500	-	0.23	729600/49	✓	✓	✓	✓	✓	✓			2KJ3441 - ■■■■■■ - ■■ H1
13 042	0.11	13 600	73 500	-	0.26	5751680/441	✓	✓	✓	✓	✓	✓			2KJ3441 - ■■■■■■ - ■■ G1
12 039	0.12	13 600	73 500	-	0.32	23006720/1911	✓	✓	✓	✓	✓	✓			2KJ3441 - ■■■■■■ - ■■ F1
10 659	0.14	13 600	73 500	-	0.39	10968320/1029	✓	✓	✓	✓	✓	✓	✓		2KJ3441 - ■■■■■■ - ■■ E1
8 872	0.16	13 600	73 500	-	0.52	434720/49	✓	✓	✓	✓	✓	✓	✓		2KJ3441 - ■■■■■■ - ■■ D1
8 350	0.17	13 600	73 500	-	0.61	6955520/833	✓	✓	✓	✓	✓	✓	✓		2KJ3441 - ■■■■■■ - ■■ C1
7 482	0.19	13 600	73 500	-	0.68	9898240/1323	✓	✓	✓	✓	✓	✓	✓		2KJ3441 - ■■■■■■ - ■■ B1
6 370	0.23	13 600	73 500	-	0.89	133760/21	✓	✓	✓	✓	✓	✓	✓		2KJ3441 - ■■■■■■ - ■■ A1
<b>FD.169-Z69</b>															
6 230	0.23	13 600	73 500	-	0.21	5189888/833	✓	✓	✓	✓					2KJ3440 - ■■■■■■ - ■■ A2
5 664	0.26	13 600	73 500	-	0.26	4718080/833	✓	✓	✓	✓					2KJ3440 - ■■■■■■ - ■■ X1
4 817	0.30	13 600	73 500	-	0.33	4012800/833	✓	✓	✓	✓					2KJ3440 - ■■■■■■ - ■■ W1
4 379	0.33	13 600	73 500	-	0.40	3648000/833	✓	✓	✓	✓					2KJ3440 - ■■■■■■ - ■■ V1
3 907	0.37	13 600	73 500	-	0.47	9764480/2499	✓	✓	✓	✓	✓	✓			2KJ3440 - ■■■■■■ - ■■ U1
3 503	0.41	13 600	73 500	-	0.57	2918400/833	✓	✓	✓	✓	✓	✓			2KJ3440 - ■■■■■■ - ■■ T1
3 158	0.46	13 600	73 500	-	0.67	7891840/2499	✓	✓	✓	✓	✓	✓			2KJ3440 - ■■■■■■ - ■■ S1
2 915	0.50	13 600	73 500	-	0.80	31567360/10829	✓	✓	✓	✓	✓	✓			2KJ3440 - ■■■■■■ - ■■ R1
2 661	0.54	13 600	73 500	-	0.95	15516160/5831	✓	✓	✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ Q1
2 208	0.66	13 600	73 500	-	1.25	1839200/833	✓	✓	✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ P1
2 078	0.70	13 600	73 500	-	1.44	29427200/14161	✓	✓	✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ N1
1 963	0.74	13 600	73 500	-	1.63	14713600/7497	✓	✓	✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ M1
1 670	0.87	13 600	73 500	-	2.1	1391104/833	✓	✓	✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ L1
1 431	1.0	13 600	73 500	-	2.6	24320/17			✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ K1
1 258	1.2	13 600	73 500	-	3.2	3143360/2499			✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ J1
1 061	1.4	13 600	73 500	-	4.2	20331520/19159			✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ H1
925	1.6	13 600	73 500	-	5.7	3852288/4165			✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ G1
869	1.7	13 600	73 500	-	3.2	21401600/24633			✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ F1
739	2.0	13 600	73 500	-	4.3	2023424/2737	✓	✓	✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ E1
633	2.3	13 600	73 500	-	5.6	2723840/4301			✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ D1
557	2.6	13 600	73 500	-	7.1	4572160/8211			✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ C1
470	3.1	13 600	73 500	-	9.7	29573120/62951			✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ B1
409	3.5	13 600	73 500	-	13	5603328/13685			✓	✓	✓	✓	✓		2KJ3440 - ■■■■■■ - ■■ A1

1) Only in conjunction with reduced-backlash version

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## Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	$\varphi$ <sup>1)</sup>	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>FD.189-D69</b>															
27 341	0.05	19 000	110 900	-	0.10	2870816/105	✓	✓	✓	✓				2KJ3443 - ■■■■■■ - ■■ M1	
23 392	0.06	19 000	110 900	-	0.12	15789488/675	✓	✓	✓	✓				2KJ3443 - ■■■■■■ - ■■ L1	
21 265	0.07	19 000	110 900	-	0.15	2870816/135	✓	✓	✓	✓				2KJ3443 - ■■■■■■ - ■■ K1	
18 797	0.08	19 000	110 900	-	0.17	1973686/105	✓	✓	✓	✓	✓			2KJ3443 - ■■■■■■ - ■■ J1	
17 088	0.08	19 000	110 900	-	0.23	358852/21	✓	✓	✓	✓	✓			2KJ3443 - ■■■■■■ - ■■ H1	
14 968	0.10	19 000	110 900	-	0.27	42434249/2835	✓	✓	✓	✓	✓			2KJ3443 - ■■■■■■ - ■■ G1	
13 817	0.10	19 000	110 900	-	0.32	13056692/945	✓	✓	✓	✓	✓			2KJ3443 - ■■■■■■ - ■■ F1	
12 233	0.12	19 000	110 900	-	0.39	80921126/6615	✓	✓	✓	✓	✓	✓		2KJ3443 - ■■■■■■ - ■■ E1	
10 182	0.14	19 000	110 900	-	0.53	12828959/1260	✓	✓	✓	✓	✓	✓		2KJ3443 - ■■■■■■ - ■■ D1	
9 583	0.15	19 000	110 900	-	0.62	51315836/5355	✓	✓	✓	✓	✓	✓		2KJ3443 - ■■■■■■ - ■■ C1	
8 586	0.17	19 000	110 900	-	0.69	73026382/8505	✓	✓	✓	✓	✓	✓		2KJ3443 - ■■■■■■ - ■■ B1	
7 310	0.20	19 000	110 900	-	0.90	986843/135	✓	✓	✓	✓	✓	✓		2KJ3443 - ■■■■■■ - ■■ A1	
<b>FD.189-Z69</b>															
7 150	0.20	19 000	110 900	-	0.23	191447542/26775	✓	✓	✓	✓				2KJ3442 - ■■■■■■ - ■■ C2	
6 500	0.22	19 000	110 900	-	0.28	34808644/5355	✓	✓	✓	✓				2KJ3442 - ■■■■■■ - ■■ B2	
5 529	0.26	19 000	110 900	-	0.35	1973686/357	✓	✓	✓	✓				2KJ3442 - ■■■■■■ - ■■ A2	
5 026	0.29	19 000	110 900	-	0.43	1794260/357	✓	✓	✓	✓				2KJ3442 - ■■■■■■ - ■■ X1	
4 484	0.32	19 000	110 900	-	0.51	72039539/16065	✓	✓	✓	✓	✓			2KJ3442 - ■■■■■■ - ■■ W1	
4 021	0.36	19 000	110 900	-	0.62	1435408/357	✓	✓	✓	✓	✓			2KJ3442 - ■■■■■■ - ■■ V1	
3 624	0.40	19 000	110 900	-	0.73	58223737/16065	✓	✓	✓	✓	✓			2KJ3442 - ■■■■■■ - ■■ U1	
3 345	0.43	19 000	110 900	-	0.87	17914996/5355	✓	✓	✓	✓	✓			2KJ3442 - ■■■■■■ - ■■ T1	
3 054	0.47	19 000	110 900	-	1.04	114473788/37485	✓	✓	✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ S1	
2 534	0.57	19 000	110 900	-	1.38	10855273/4284	✓	✓	✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ R1	
2 385	0.61	19 000	110 900	-	1.57	43421092/18207	✓	✓	✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ Q1	
2 252	0.64	19 000	110 900	-	1.78	21710546/9639	✓	✓	✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ P1	
1 917	0.76	19 000	110 900	-	2.3	51315836/26775	✓	✓	✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ N1	
1 642	0.88	19 000	110 900	-	2.9	1255982/765	✓	✓	✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ M1	
1 444	1.0	19 000	110 900	-	3.6	46381621/32130			✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ L1	
1 218	1.2	19 000	110 900	-	4.8	150000136/123165			✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ K1	
1 061	1.4	19 000	110 900	-	6.4	15789488/14875			✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ J1	
997	1.5	19 000	110 900	-	4.0	31578976/31671			✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ H1	
848	1.7	19 000	110 900	-	5.4	74641216/87975	✓	✓	✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ G1	
727	2.0	19 000	110 900	-	7.1	140669984/193545	✓	✓	✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ F1	
639	2.3	19 000	110 900	-	9.1	33732088/52785			✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ E1	
539	2.7	19 000	110 900	-	12	218182016/404685			✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ D1	
478	3.0	19 000	110 900	-	12	8403976/17595			✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ C1	
403	3.6	19 000	110 900	-	16	54357632/134895			✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ B1	
351	4.1	19 000	110 900	-	21	17165568/48875			✓	✓	✓	✓		2KJ3442 - ■■■■■■ - ■■ A1	

1) Only in conjunction with reduced-backlash version

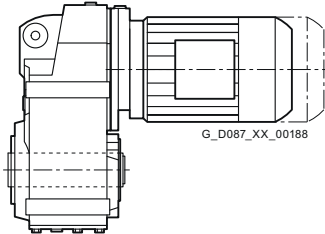
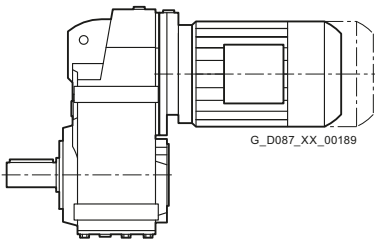
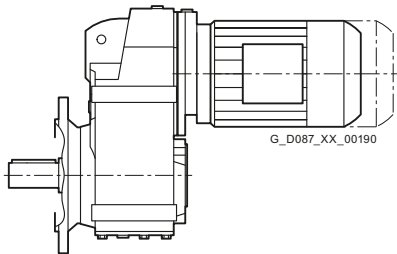
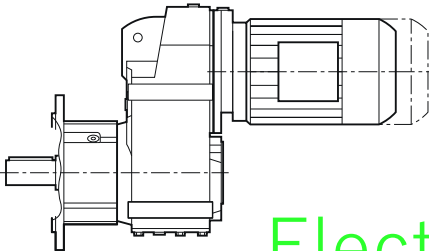
## SIMOGEAR geared motors

### Parallel shaft geared motors

#### Dimensions

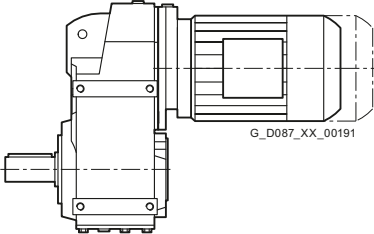
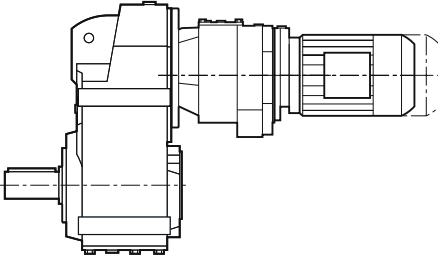
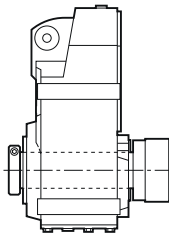
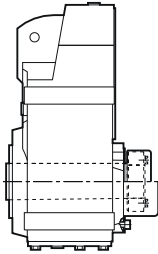
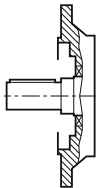
#### Dimensional drawing overview

Information about dimensional drawings can be found in chapter "Introduction" on page 1/21.

Design	Size	Dimensional drawing on page
<b>Parallel shaft geared motor FZ and FD</b>		
<i>Shaft-mounted design</i>		
	FDAD./FZAD.29	4/74
	FDAD./FZAD.39	4/78
	FDAD./FZAD.49	4/82
	FDAD./FZAD.69	4/86
	FDAD./FZAD.79	4/90
	FDAD./FZAD.89	4/94
	FDAD./FZAD.109	4/99
	FDAD./FZAD.129	4/104
	FDAD./FZAD.149	4/109
	FDAD./FZAD.169	4/114
	FDAD./FZAD.189	4/119
	<i>Housing flange design</i>	
	FD.Z./FZ.Z.29	4/75
	FD.Z./FZ.Z.39	4/79
	FD.Z./FZ.Z.49	4/83
	FD.Z./FZ.Z.69	4/87
	FD.Z./FZ.Z.79	4/91
	FD.Z./FZ.Z.89	4/95
	FD.Z./FZ.Z.109	4/100
	FD.Z./FZ.Z.129	4/105
	FD.Z./FZ.Z.149	4/110
	FD.Z./FZ.Z.169	4/115
	FD.Z./FZ.Z.189	4/120
	<i>Flange-mounted design</i>	
	FD.F./FZ.F.29	4/76
	FD.F./FZ.F.39	4/80
	FD.F./FZ.F.49	4/84
	FD.F./FZ.F.69	4/88
	FD.F./FZ.F.79	4/92
	FD.F./FZ.F.89	4/96
	FD.F./FZ.F.109	4/101
	FD.F./FZ.F.129	4/106
	FD.F./FZ.F.149	4/111
	FD.F./FZ.F.169	4/116
	FD.F./FZ.F.189	4/121
	<i>Flange-mounted design with VLplus reinforced bearing system</i>	
	FD.F./FZ.F.89	4/97
	FD.F./FZ.F.109	4/102
	FD.F./FZ.F.129	4/107
	FD.F./FZ.F.149	4/112
	FD.F./FZ.F.169	4/117

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**Dimensional drawing overview** (continued)

Design	Frame size	Dimensional drawing on page
<b>Parallel shaft geared motor FZ and FD</b>		
<i>Foot-mounted design</i>		
 <p style="text-align: center; font-size: small;">G_D087_XX_00191</p>	FD../FZ..29	4/77
	FD../FZ..39	4/81
	FD../FZ..49	4/85
	FD../FZ..69	4/89
	FD../FZ..79	4/93
	FD../FZ..89	4/98
	FD../FZ..109	4/103
	FD../FZ..129	4/108
	FD../FZ..149	4/113
	FD../FZ..169	4/118
	FD../FZ..189	4/122
<b>Parallel shaft tandem geared motor</b>		
	FD../FZ..29-D/Z19 ...	4/123 ... 4/124
	FD..189-D/Z69	
<b>Additional versions and options</b>		
<i>SIMOLOC assembly system</i>		
	FDAFR/FZADR29 ...	4/125
	FDAFR/FZADR89	
<b>Protection covers</b>		
	FD../FZ..29 ... FD../FZ..189	4/126 ... 4/127
<b>Inner contour of the flange design</b>		
	FDG/FZF.29 ...	4/128
	FDG/FZF.189	
	FDAF/FZAF.29 ...	
	FDAF/FZAF.189	

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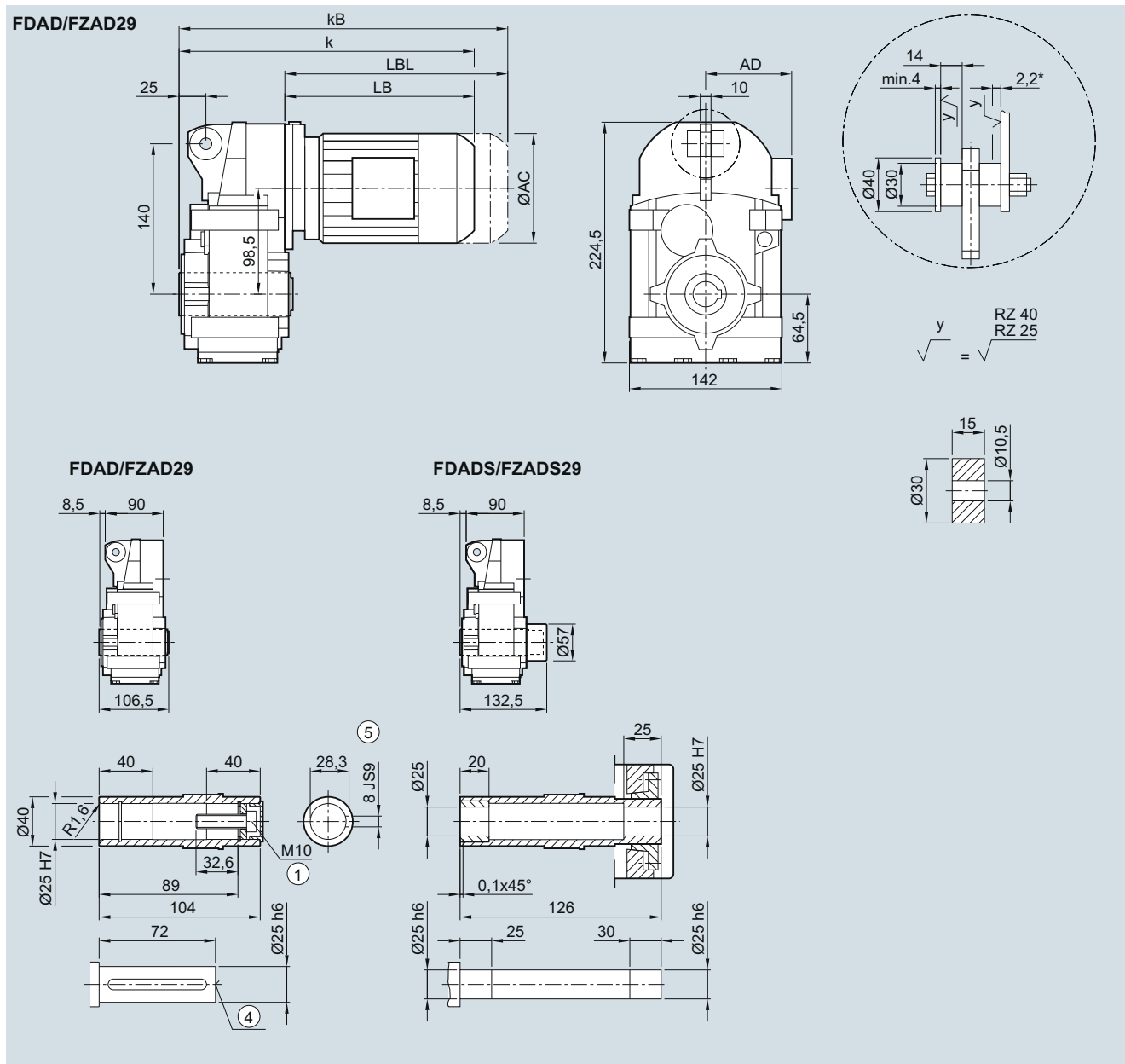
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FDAD./FZAD.29 gearbox in a shaft-mounted design

FAD030, FADS030



Motor	LA 63	71	71Z	LE 80	80Z	90 <sup>2)</sup>	90Z <sup>2)</sup>	100 <sup>2)</sup>	100Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	292.5	324.5	343.5	388.5	423.5	450.0	490.0	506.5	541.5
kB	337.0	379.5	398.5	443.5	483.5	520.0	560.0	585.0	620.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

① ISO 4017

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

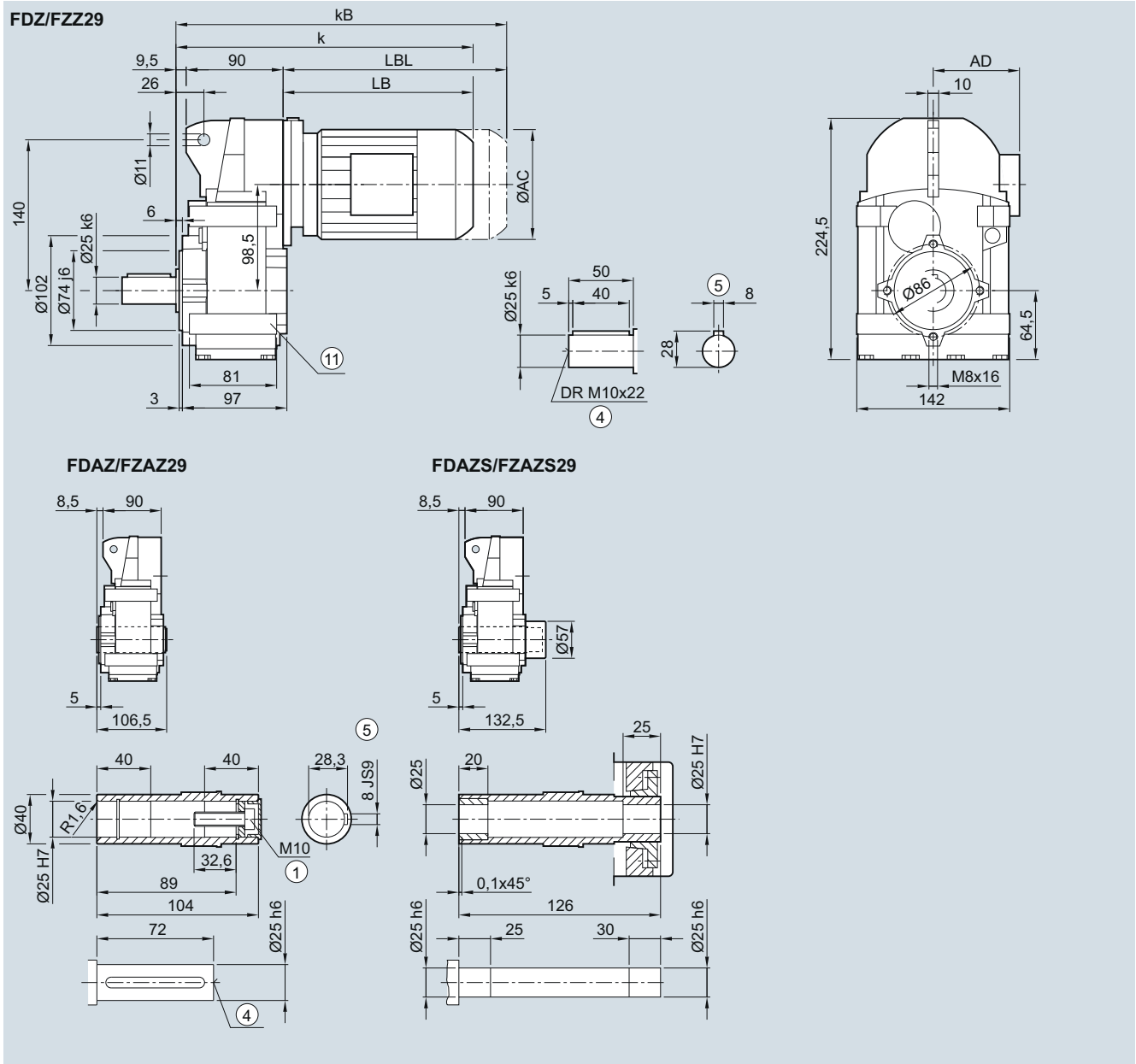
\* Spring compression at max. torque

1) AD depends on the motor options, for other dimensions see page 8/42.

2) FDADS/FZADS not possible

**FD.Z./FZ.Z.29 gearbox in a housing flange design**

**FZ030, FAZ030, FAZS030**



Motor	LA 63	71	71Z	LE 80	80Z	90 <sup>2)</sup>	90Z <sup>2)</sup>	100 <sup>2)</sup>	100Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	293.5	325.5	344.5	389.5	424.5	451.0	491.0	507.5	542.5
kB	338.0	380.5	399.5	449.5	484.5	521.0	561.0	586.0	621.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

① ISO 4017      ④ DIN 332      ⑤ Feather key/keyway DIN 6885-1      ⑩ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.      2) FDADS/FZADS not possible

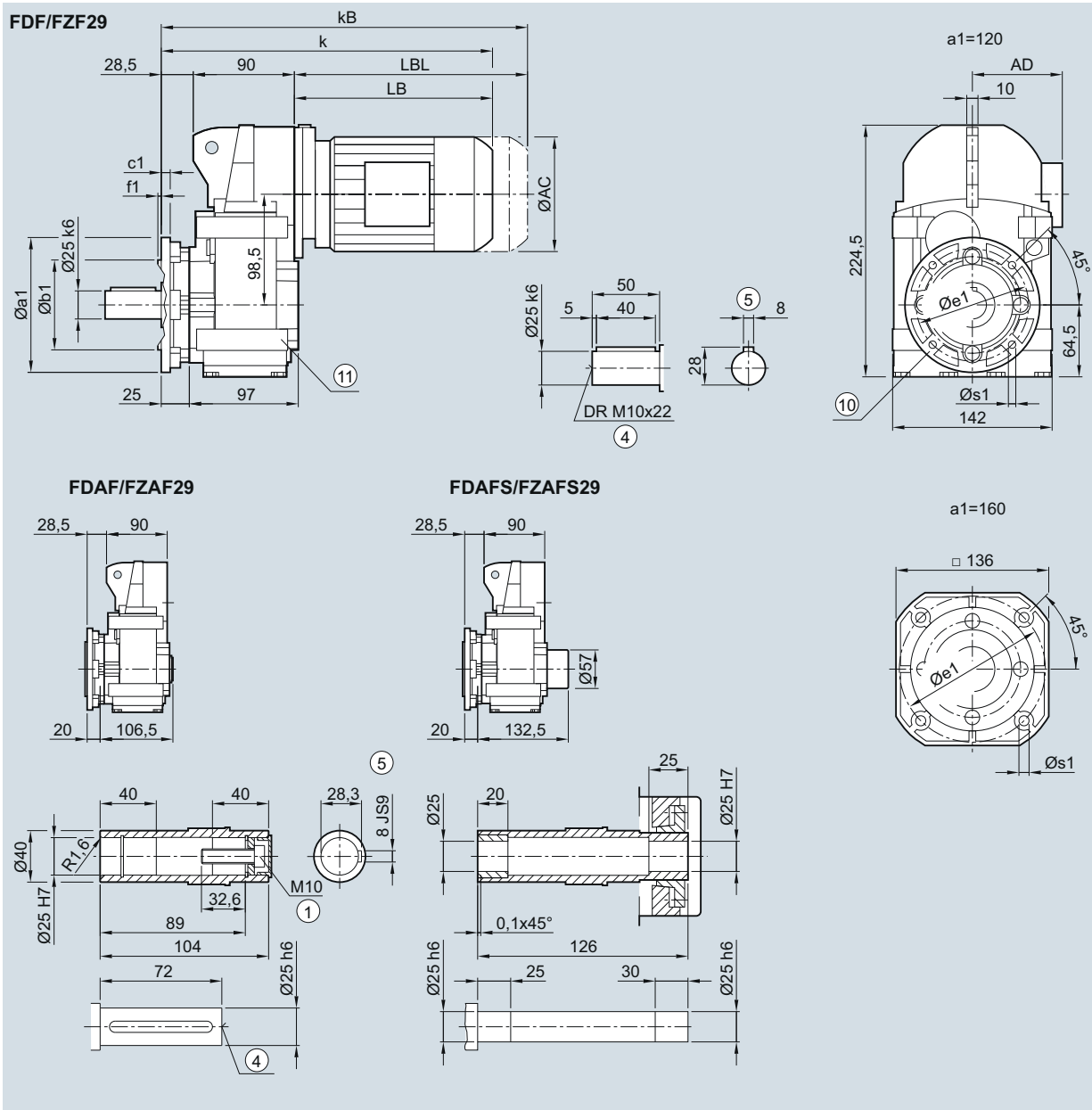
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.F/FZ.F.29 gearbox in a flange-mounted design

FF030, FAF030, FAFS030



Flange	a1	b1	c1	f1	e1	s1			
	120	80	8	3.0	100	6.6			
	160	110	9	3.5	130	9.0			
Motor	LA 63	71	71Z	LE 80	80Z	90 <sup>2)</sup>	90Z <sup>2)</sup>	100 <sup>2)</sup>	100Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	312.5	344.5	363.5	408.5	443.5	470.0	510.0	526.5	561.5
kB	357.0	399.5	418.5	468.5	503.5	540.0	580.0	605.0	640.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

① ISO 4017

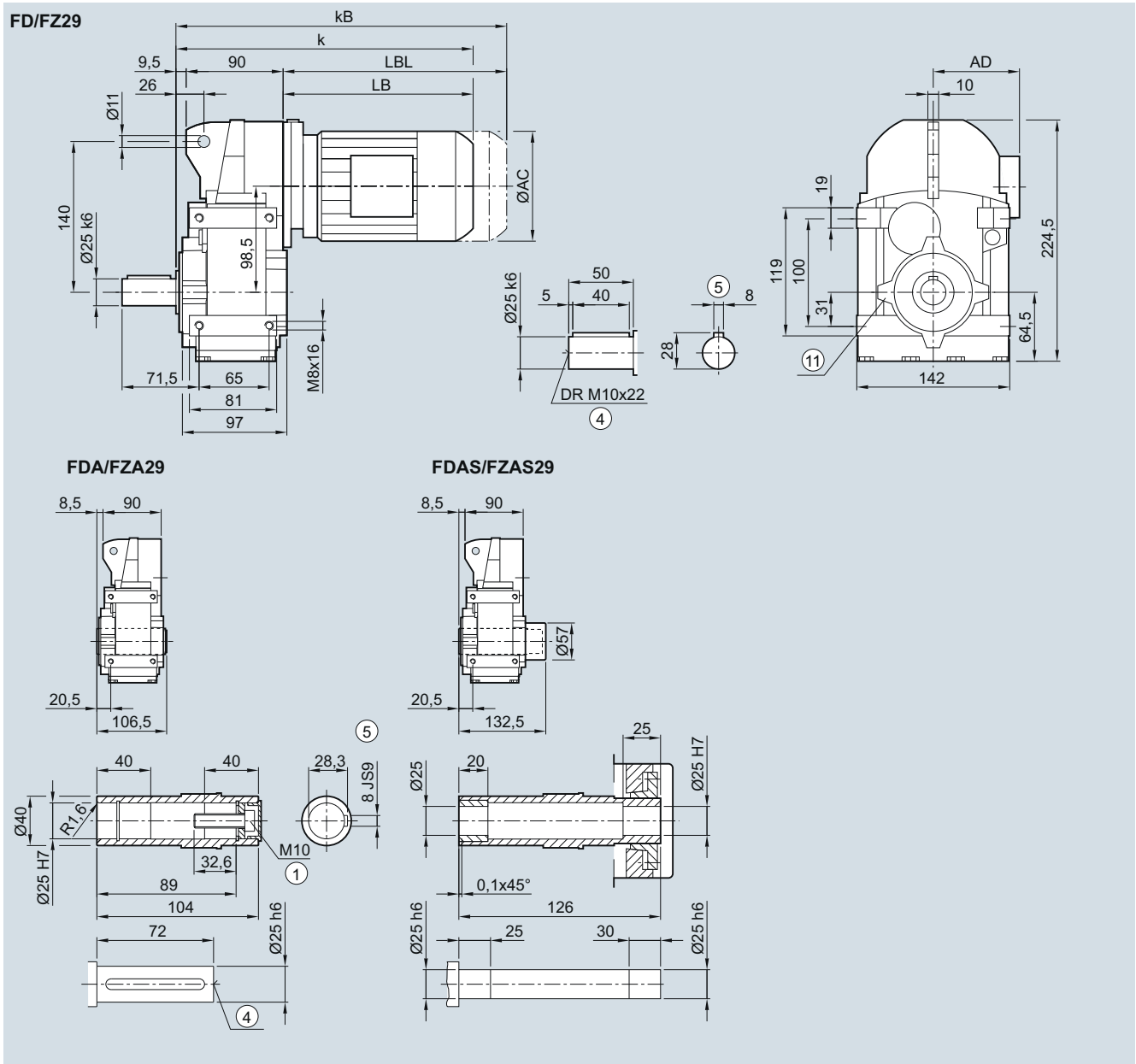
④ DIN 332

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 4/128

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42. <sup>2)</sup> FDADS/FZADS not possible

⑪ Use bores only for foot-mounted design

**FD./FZ..29 gearbox in a foot-mounted design**
**F030, FA030, FAS030**


Motor	LA 63	71	71Z	LE 80	80Z	90 <sup>2)</sup>	90Z <sup>2)</sup>	100 <sup>2)</sup>	100Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	293.5	325.5	344.5	389.5	424.5	451.0	491.0	507.5	542.5
kB	338.0	380.5	399.5	449.5	484.5	521.0	561.0	586.0	621.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

① ISO 4017

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

⑩ Use bores only for housing flange design

1) AD depends on the motor options, for other dimensions see page 8/42.

2) FDADS/FZADS not possible



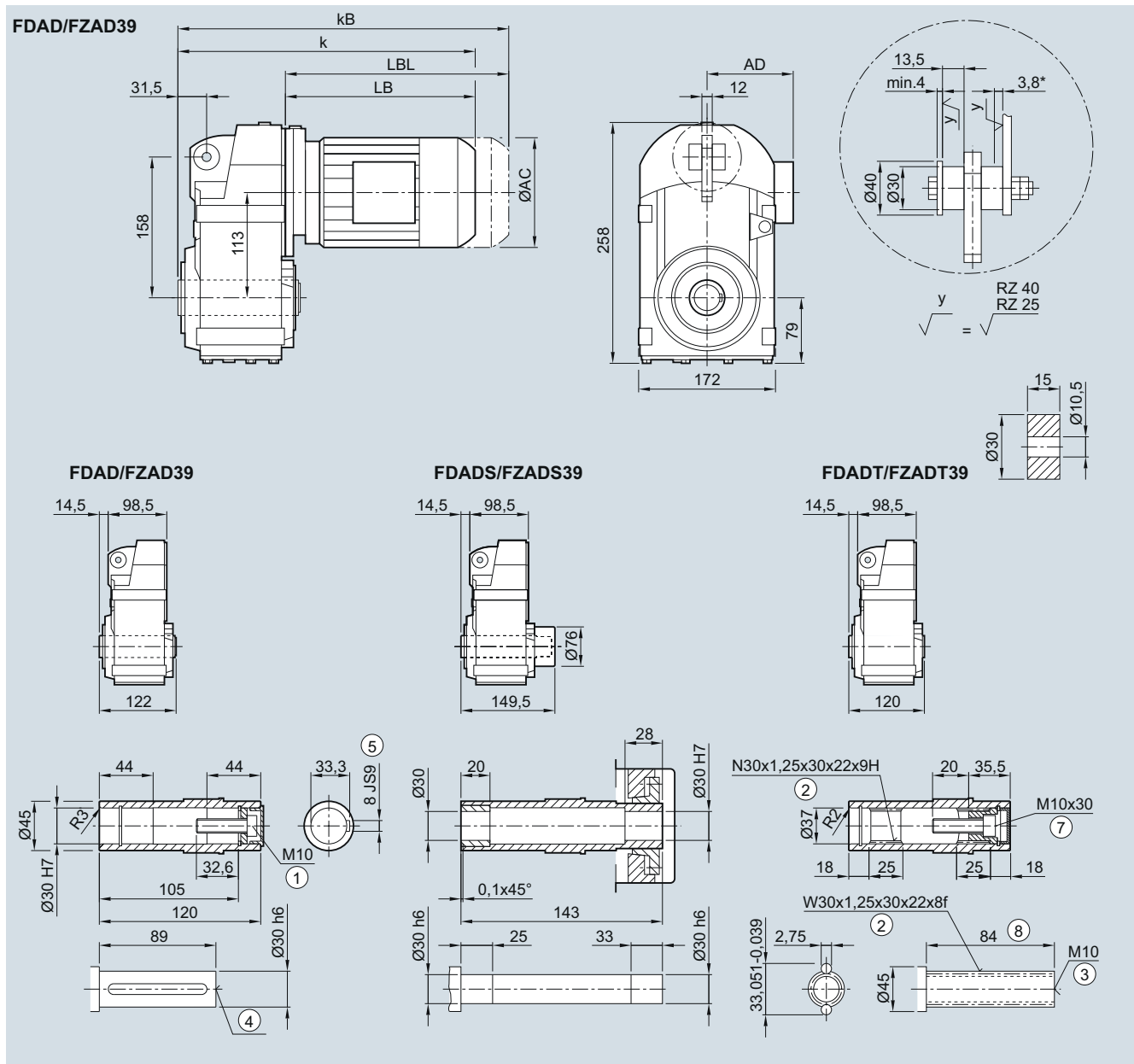
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FDAD./FZAD.39 gearbox in a shaft-mounted design

FAD030, FADS030, FADT030

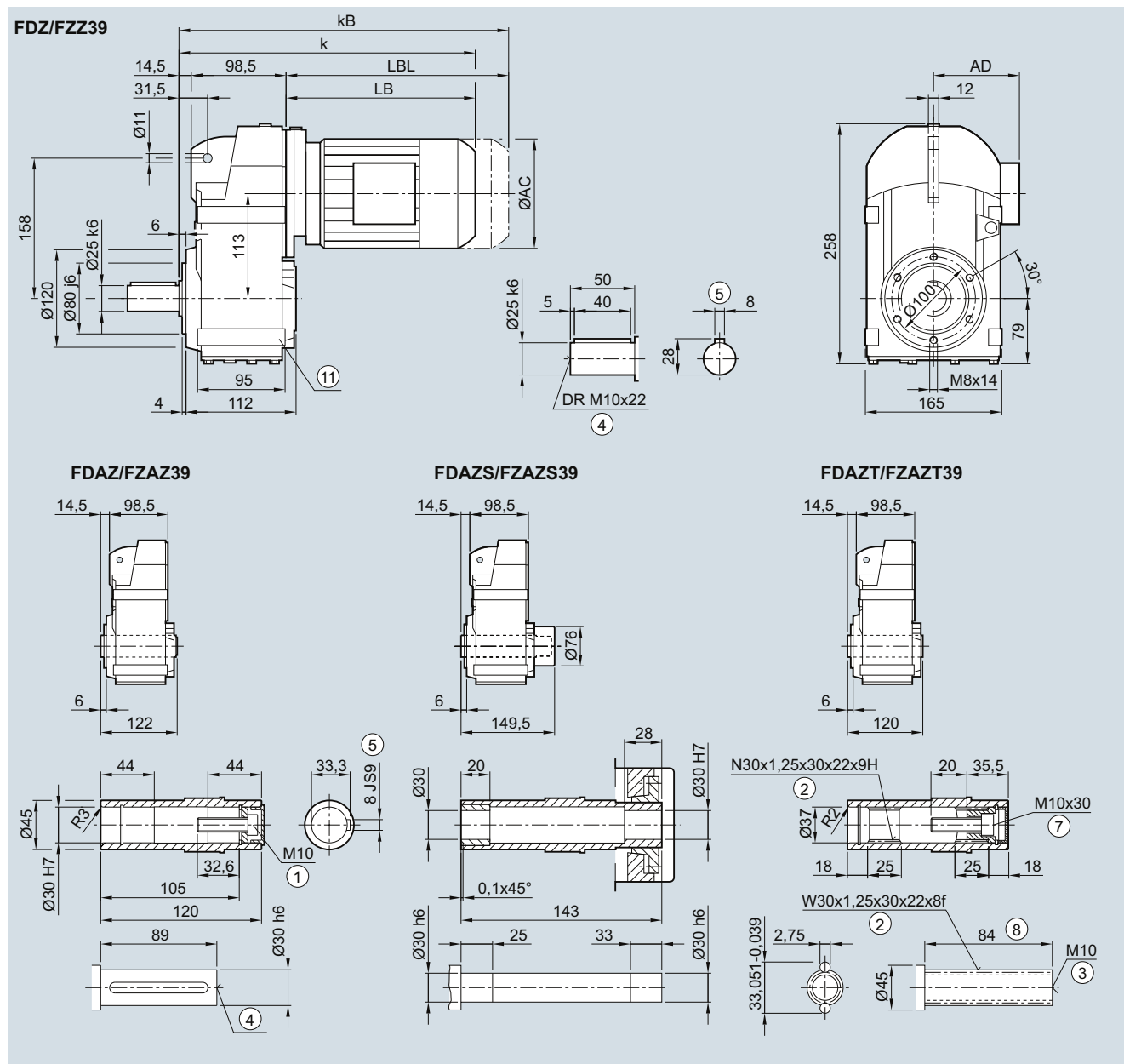


Motor	LA 63	71	71Z	LE 80	80Z	90S	90Z	100 <sup>2)</sup>	100Z <sup>2)</sup>	112 <sup>2)</sup>	112Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	307.0	339.0	358.0	403.0	438.0	464.5	504.5	521.0	556.0	531.0	556.0
k <sub>B</sub>	351.5	394.0	413.0	463.0	498.0	534.5	574.5	599.5	634.5	604.0	629.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑥ ISO 4762    ⑦ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.    <sup>2)</sup> FDADS/FZADS not possible    \* Spring compression at max. torque

**FD.Z./FZ.Z.39 gearbox in a housing flange design**

**FZ030, FAZ030, FAZS030, FAZT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100 <sup>2)</sup>	100Z <sup>2)</sup>	112 <sup>2)</sup>	112Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	307.0	339.0	358.0	403.0	438.0	464.5	504.5	521.0	556.0	531.0	556.0
kB	351.5	394.0	413.0	463.0	498.0	534.5	574.5	599.5	634.5	604.0	629.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.    2) FDADS/FZADS not possible

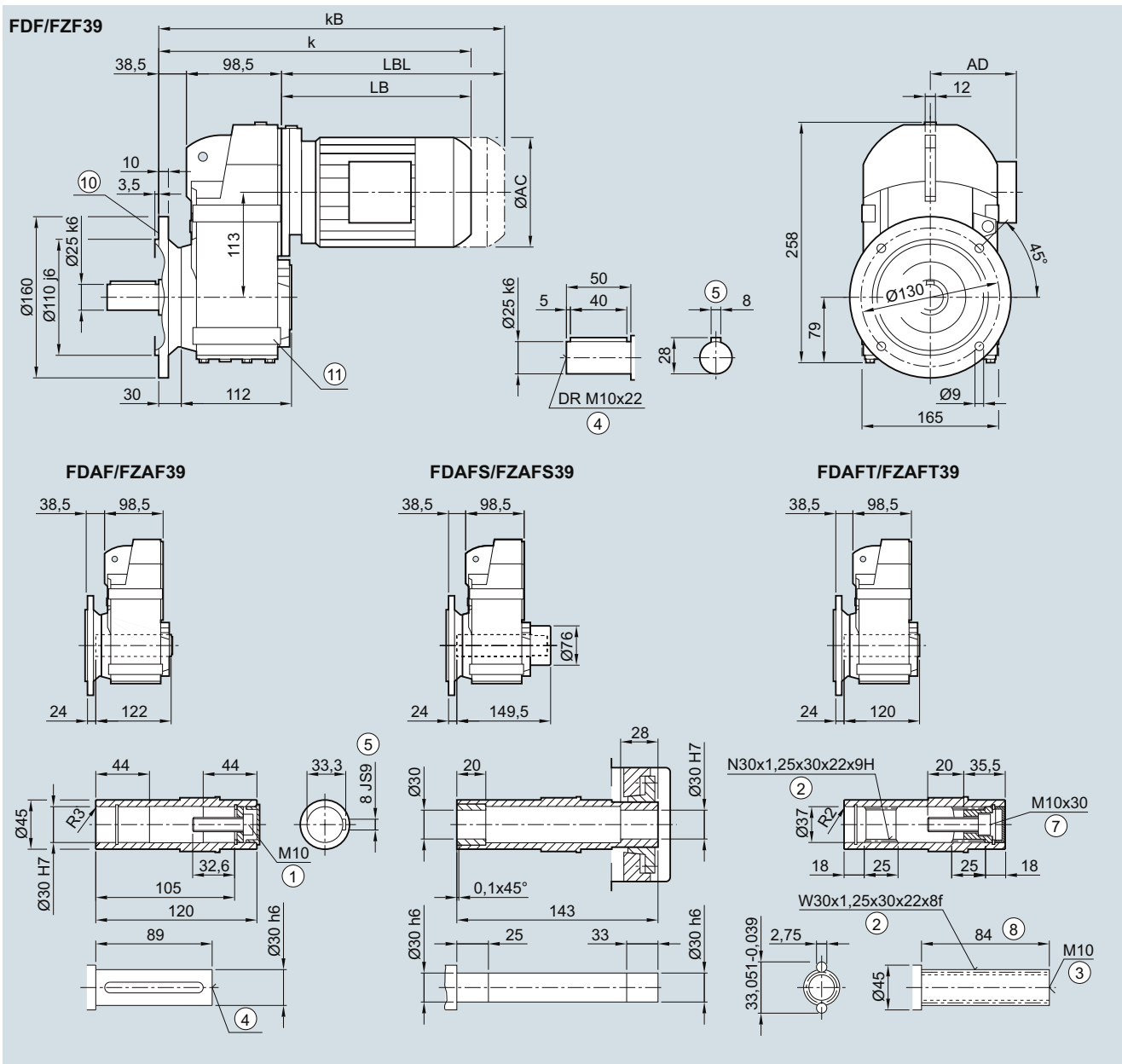
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.F./FZ.F.39 in a flange-mounted design

FF030, FAF030, FAFS030, FAFT030



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100 <sup>(2)</sup>	100Z <sup>(2)</sup>	112 <sup>(2)</sup>	112Z <sup>(2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	331.0	363.0	382.0	427.0	462.0	488.5	528.5	545.0	580.0	555.0	580.0
kB	375.5	418.0	437.0	467.0	522.0	558.5	598.5	623.5	658.5	628.0	653.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

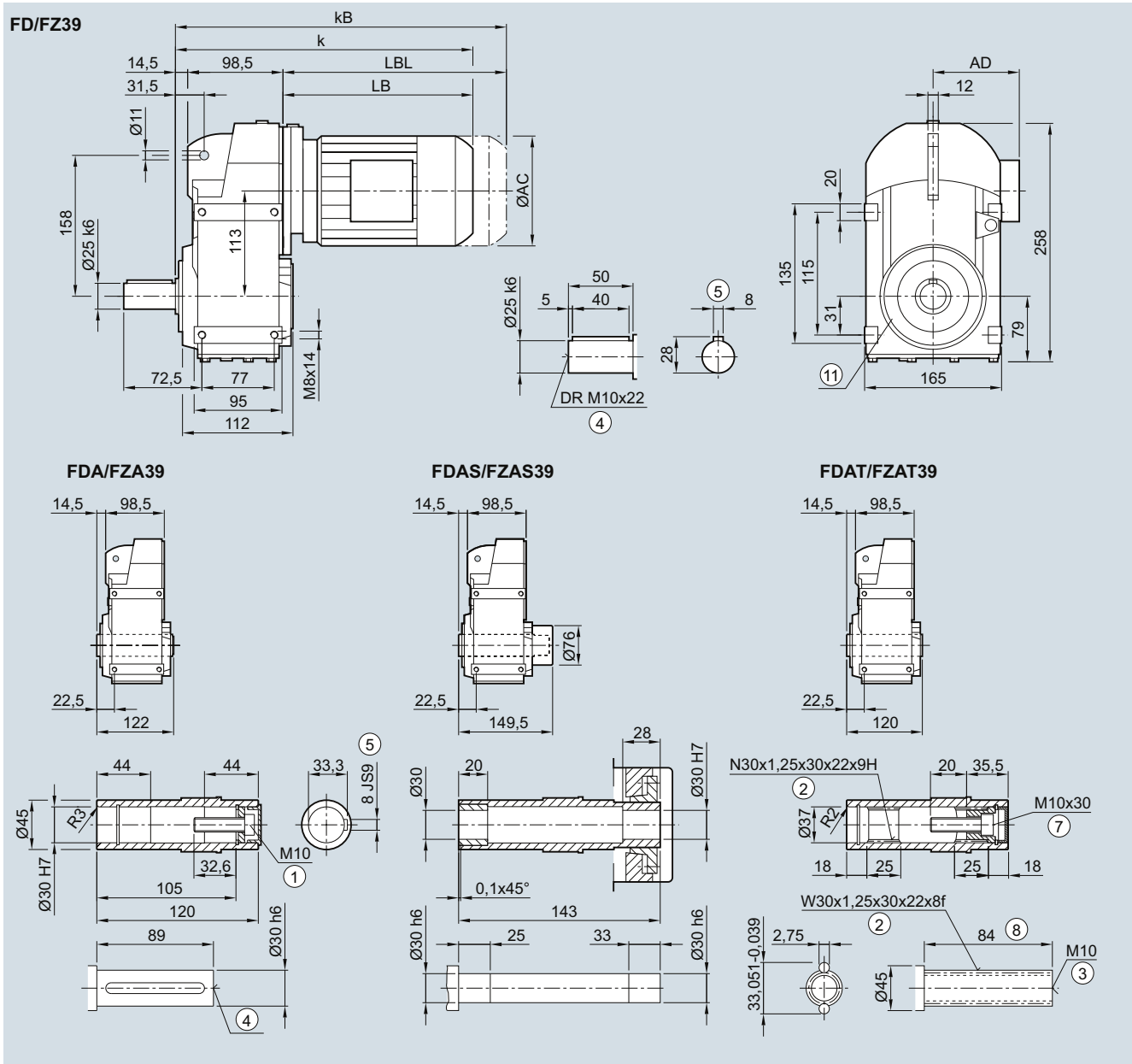
① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

⑩ For inner contour see page 4/128 ⑪ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42. 2) FDAFS/FZAFS not possible

**FD../FZ..39 gearbox in a foot-mounted design**

**F030, FA030, FAS030, FAT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100 <sup>2)</sup>	100Z <sup>2)</sup>	112 <sup>2)</sup>	112Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	307.0	339.0	358.0	403.0	438.0	464.5	504.5	521.0	556.0	531.0	556.0
kB	351.5	394.0	413.0	463.0	498.0	534.5	574.5	599.5	634.5	604.0	629.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder + 1 mm

⑨ Use bores only for housing flange design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>2)</sup> FDAS/FZAS not possible

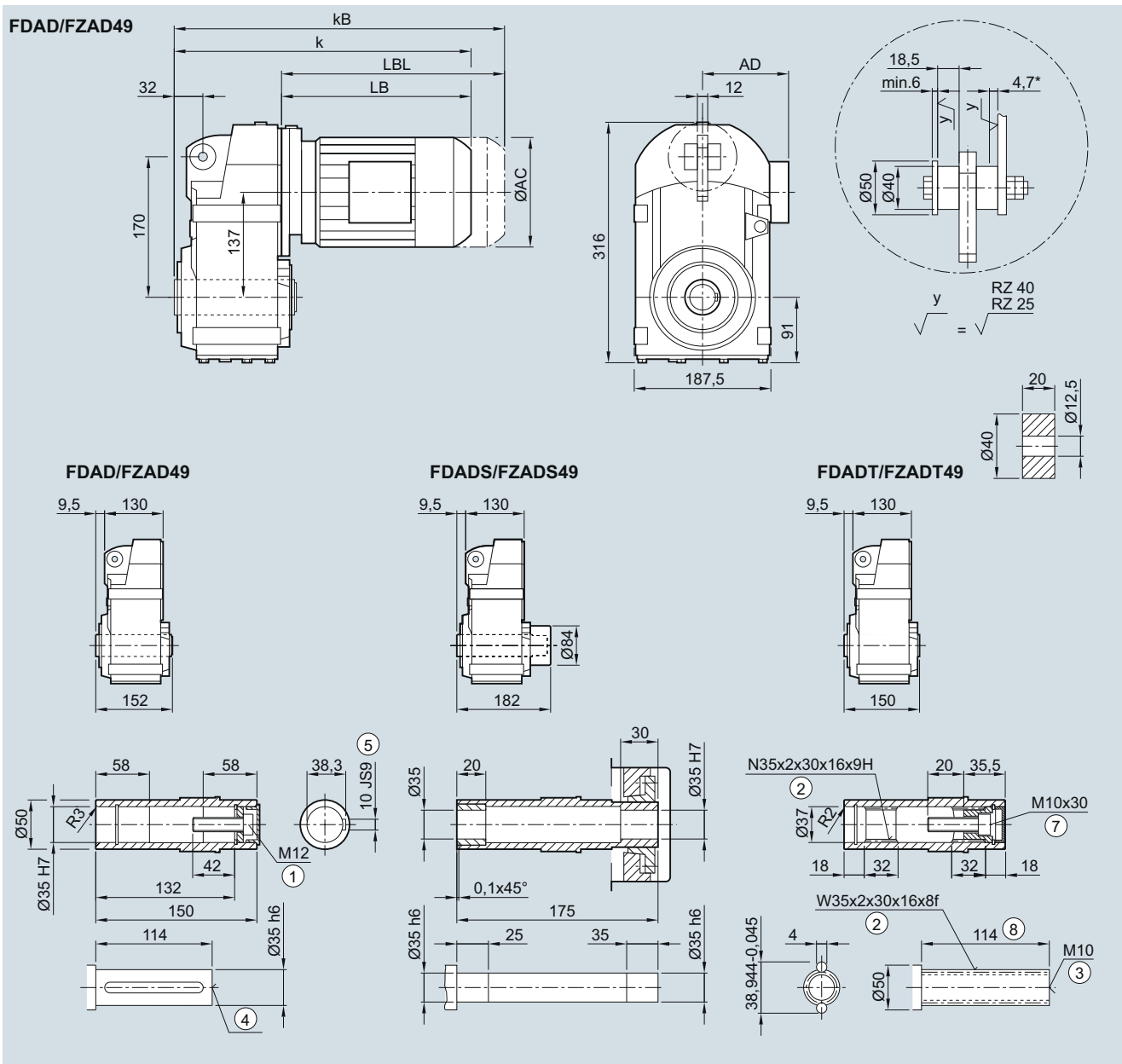
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FDAD./FZAD.49 gearbox in a shaft-mounted design

FAD030, FADS030, FADT030

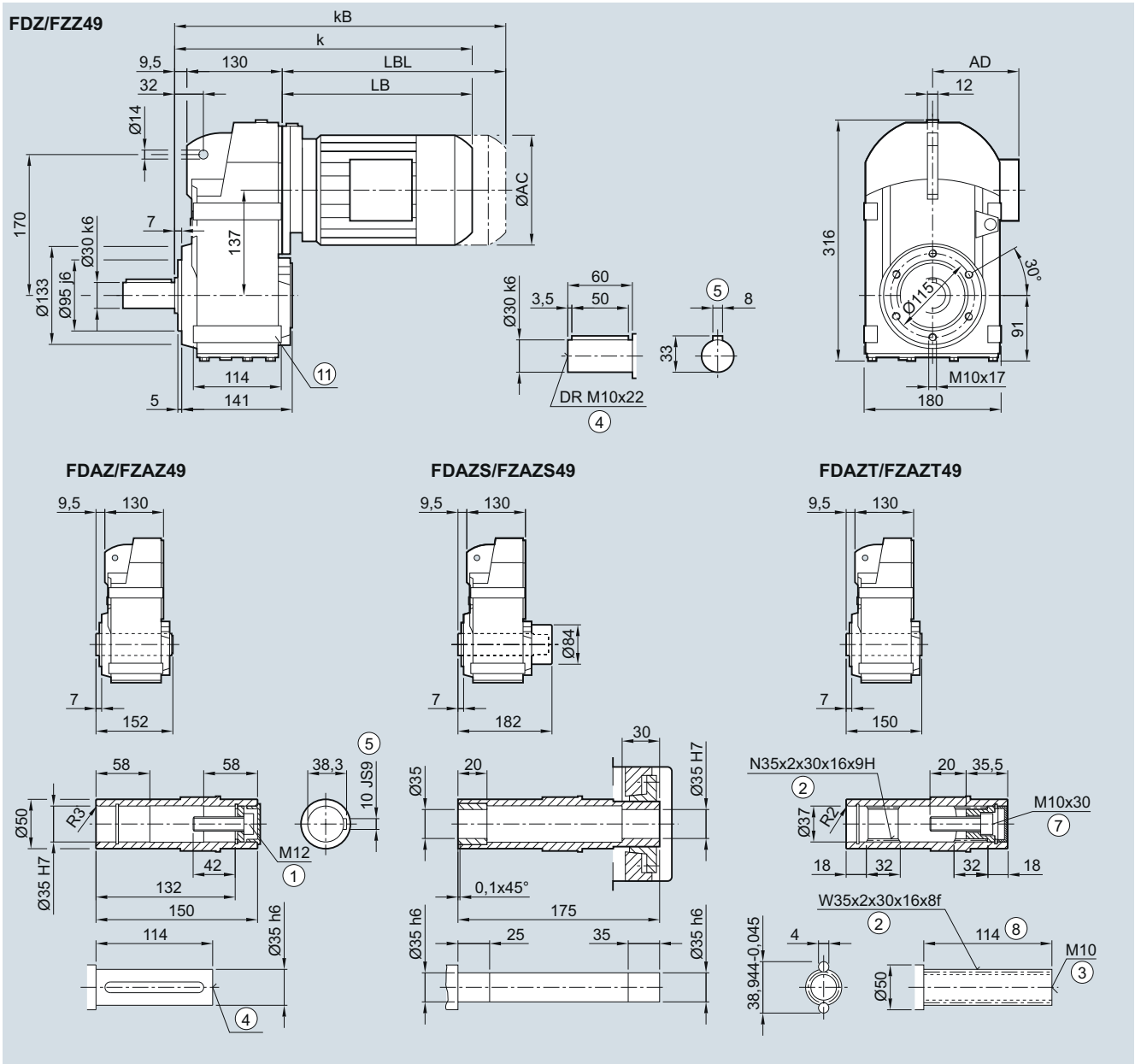


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112 <sup>2)</sup>	112Z <sup>2)</sup>	132 <sup>2)</sup>	132Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	324.0	356.0	375.0	420.0	455.0	481.5	521.5	538.0	573.0	548.0	582.5	601.0	651.0
kB	368.5	411.0	430.0	480.0	515.0	541.5	591.5	616.5	651.5	621.0	655.5	705.5	755.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.    <sup>2)</sup> FDADS/FZADS not possible    \* Spring compression at max. torque

**FD.Z./FZ.Z.49 gearbox in a housing flange design**

**FZ030, FAZ030, FAZS030, FAZT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112 <sup>2)</sup>	112Z <sup>2)</sup>	132 <sup>2)</sup>	132Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	324.0	356.0	375.0	420.0	455.0	481.5	521.5	538.0	573.0	548.0	582.5	601.0	651.0
kB	368.5	411.0	430.0	480.0	515.0	551.5	591.5	616.5	651.5	621.0	655.5	705.5	755.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder + 1 mm

⑩ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42.

2) FDAZS/FZAZS not possible

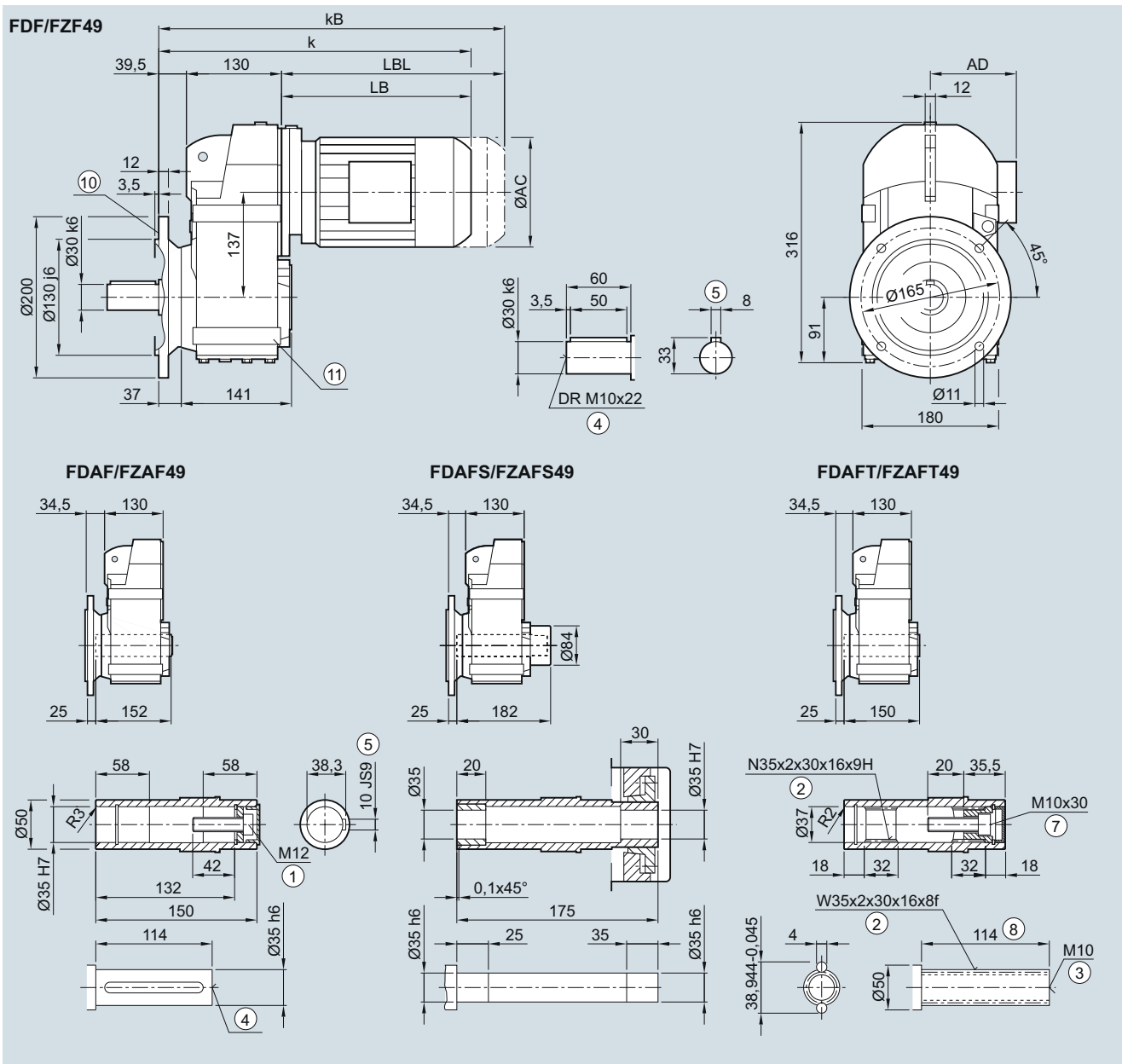
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.F/FZ.F49 gearbox in a flange-mounted design

FF030, FAF030, FAFS030, FAFT030



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112 <sup>2)</sup>	112Z <sup>2)</sup>	132 <sup>2)</sup>	132Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	354.0	386.0	394.0	450.0	485.0	511.5	551.5	568.0	603.0	578.0	612.5	631.0	681.0
kB	398.5	441.0	460.0	510.0	545.0	581.5	621.5	646.5	681.5	651.0	685.5	735.5	785.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

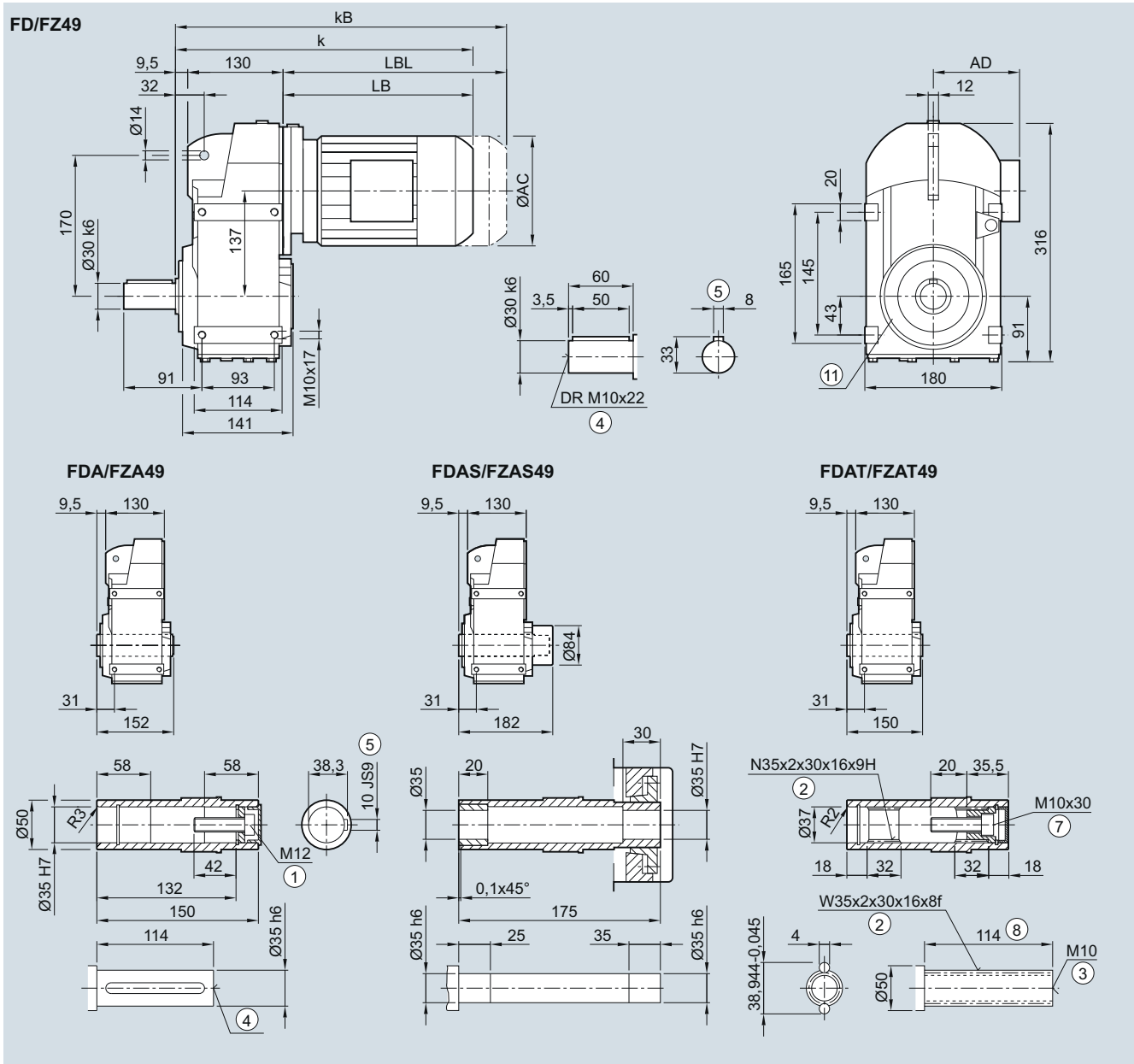
① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder + 1 mm

⑩ For inner contour see page 4/128 ⑪ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42. 2) FDAFS/FZAFS not possible

**FD../FZ..49 gearbox in a foot-mounted design**

**F030, FA030, FAS030, FAT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112 <sup>2)</sup>	112Z <sup>2)</sup>	132 <sup>2)</sup>	132Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	324.0	356.0	375.0	420.0	455.0	481.5	521.5	538.0	573.0	548.0	582.5	601.0	651.0
kB	368.5	411.0	430.0	480.0	515.0	551.5	591.5	616.5	651.5	621.0	655.5	705.5	755.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder + 1 mm

⑩ Use bores only for housing flange design

1) AD depends on the motor options, for other dimensions see page 8/42.

2) FDAS/FZAS not possible



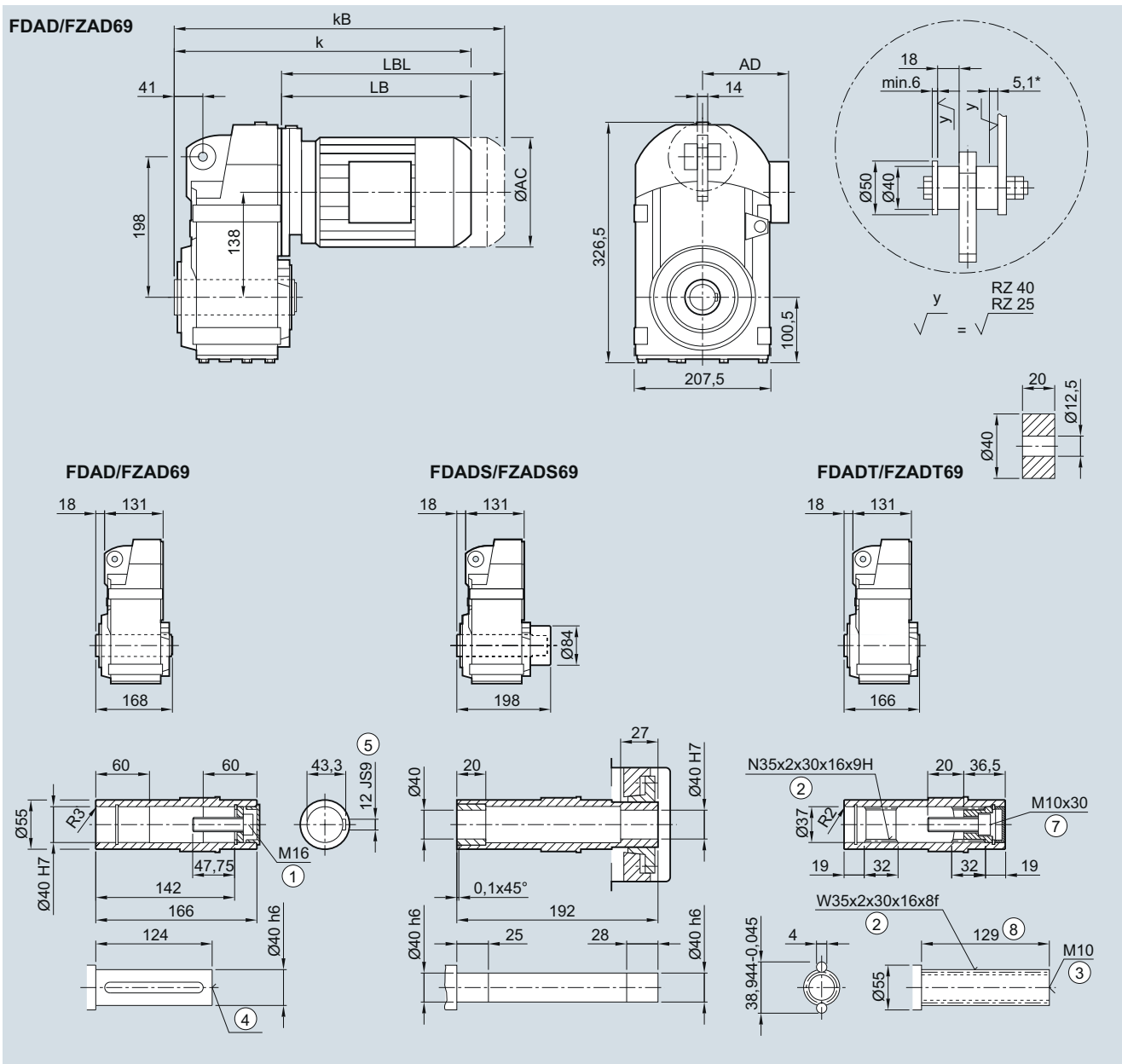
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FDAD./FZAD.69 gearbox in a shaft-mounted design

FAD030, FADS030, FADT030

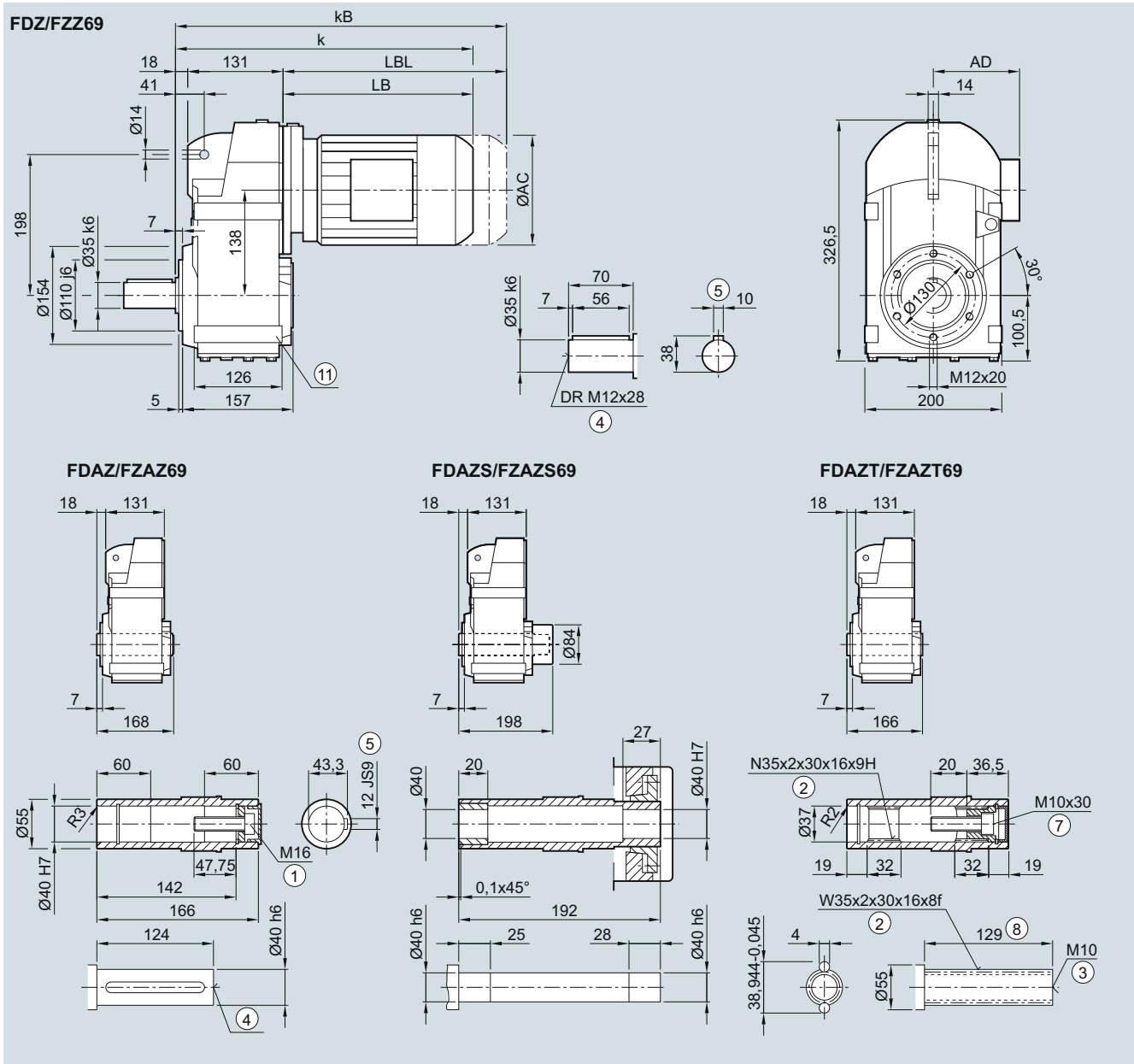


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112 <sup>(2)</sup>	112Z <sup>(2)</sup>	132 <sup>(2)</sup>	132Z <sup>(2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	333.5	365.5	384.5	429.5	464.5	491.0	531.0	547.5	582.5	557.5	592.0	610.5	660.5
kB	378.0	420.5	439.5	489.5	524.5	561.0	601.0	626.0	661.0	630.5	665.0	715.0	765.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.    <sup>2)</sup> FDADS/FZADS not possible    \* Spring compression at max. torque

**FD.Z./FZ.Z.69 gearbox in a housing flange design**

**FZ030, FAZ030, FAZS030, FAZT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112 <sup>2)</sup>	112Z <sup>2)</sup>	132 <sup>2)</sup>	132Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	333.5	365.5	384.5	429.5	464.5	491.0	531.0	547.5	582.5	557.5	592.0	610.5	660.5
kB	378.0	420.5	439.5	489.5	524.5	561.0	601.0	626.0	661.0	630.5	665.0	715.0	765.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder + 1 mm

⑩ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>2)</sup> FDAZS/FZAS not possible

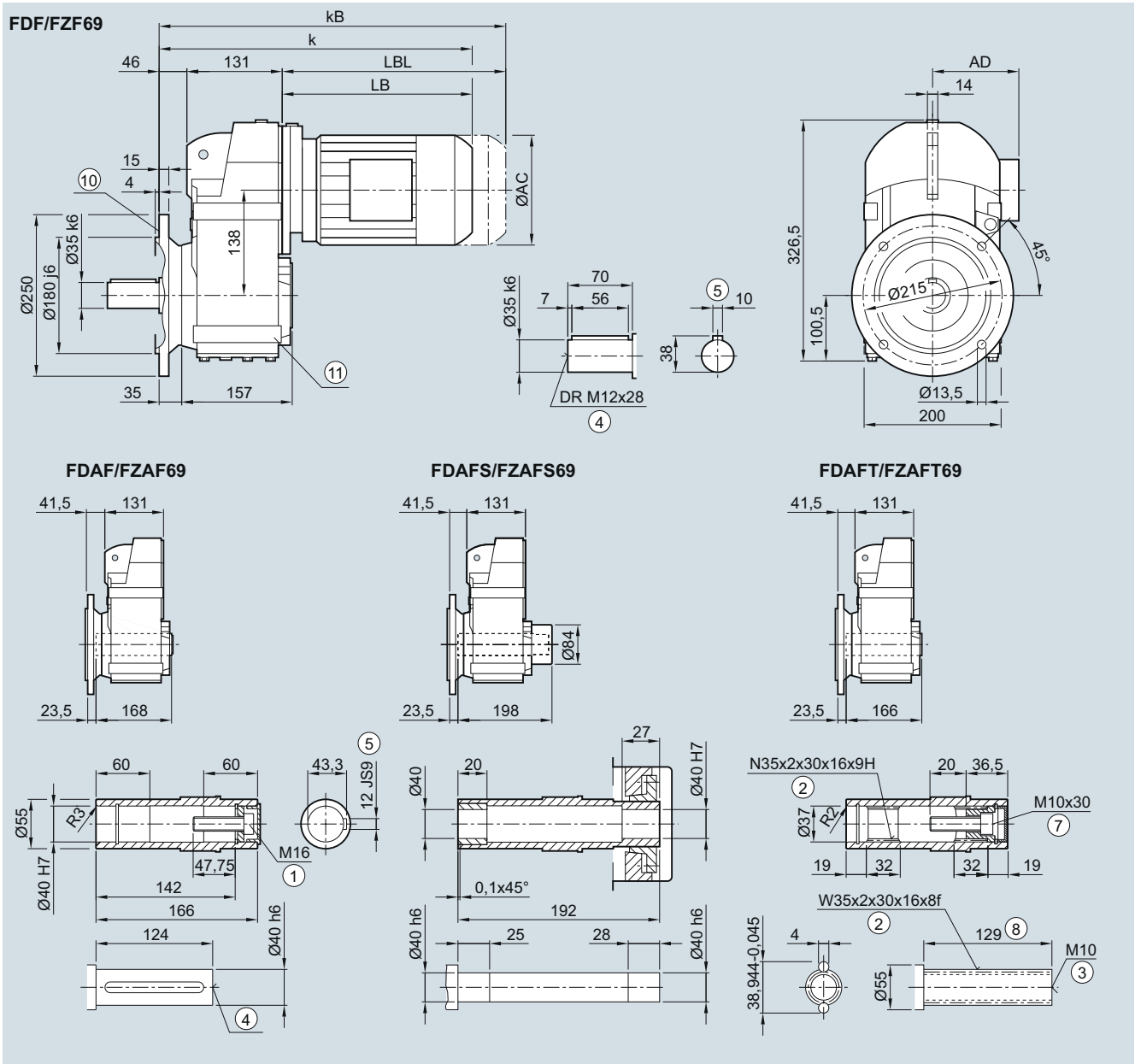
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.F/FZ.F.69 gearbox in a flange-mounted design

FF030, FAF030, FAFS030, FAFT030

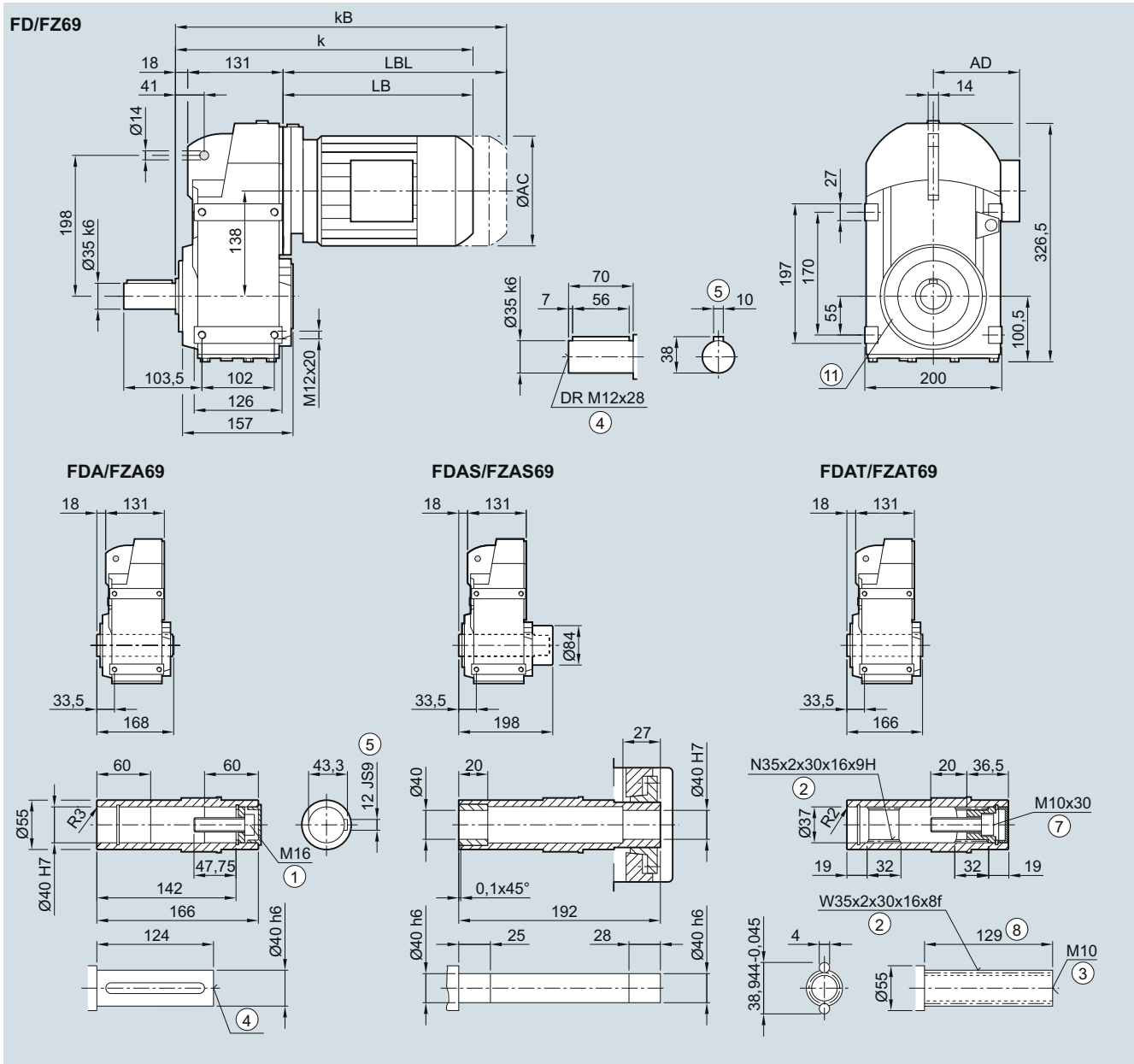


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112 <sup>(2)</sup>	112Z <sup>(2)</sup>	132 <sup>(2)</sup>	132Z <sup>(2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	361.5	393.5	412.5	457.5	492.5	519.0	559.0	575.5	610.5	585.5	620.0	638.5	688.5
kB	406.0	448.5	467.5	517.5	552.5	589.0	629.0	654.0	689.0	658.5	693.0	743.0	793.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder + 1 mm

⑩ For inner contour see page 4/128 ⑪ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42. 2) FDAFS/FZAFS not possible

**FD./FZ..69 gearbox in a foot-mounted design**
**F030, FA030, FAS030, FAT030**


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112 <sup>2)</sup>	112Z <sup>2)</sup>	132 <sup>2)</sup>	132Z <sup>2)</sup>
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	333.5	365.5	384.5	429.5	464.5	491.0	531.0	547.5	582.5	557.5	592.0	610.5	660.5
kB	378.0	420.5	439.5	489.5	524.5	561.0	601.0	626.0	661.0	630.5	665.0	715.0	765.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder + 1 mm

⑩ Use bores only for housing flange design

1) AD depends on the motor options, for other dimensions see page 8/42.

2) FDAS/FZAS not possible

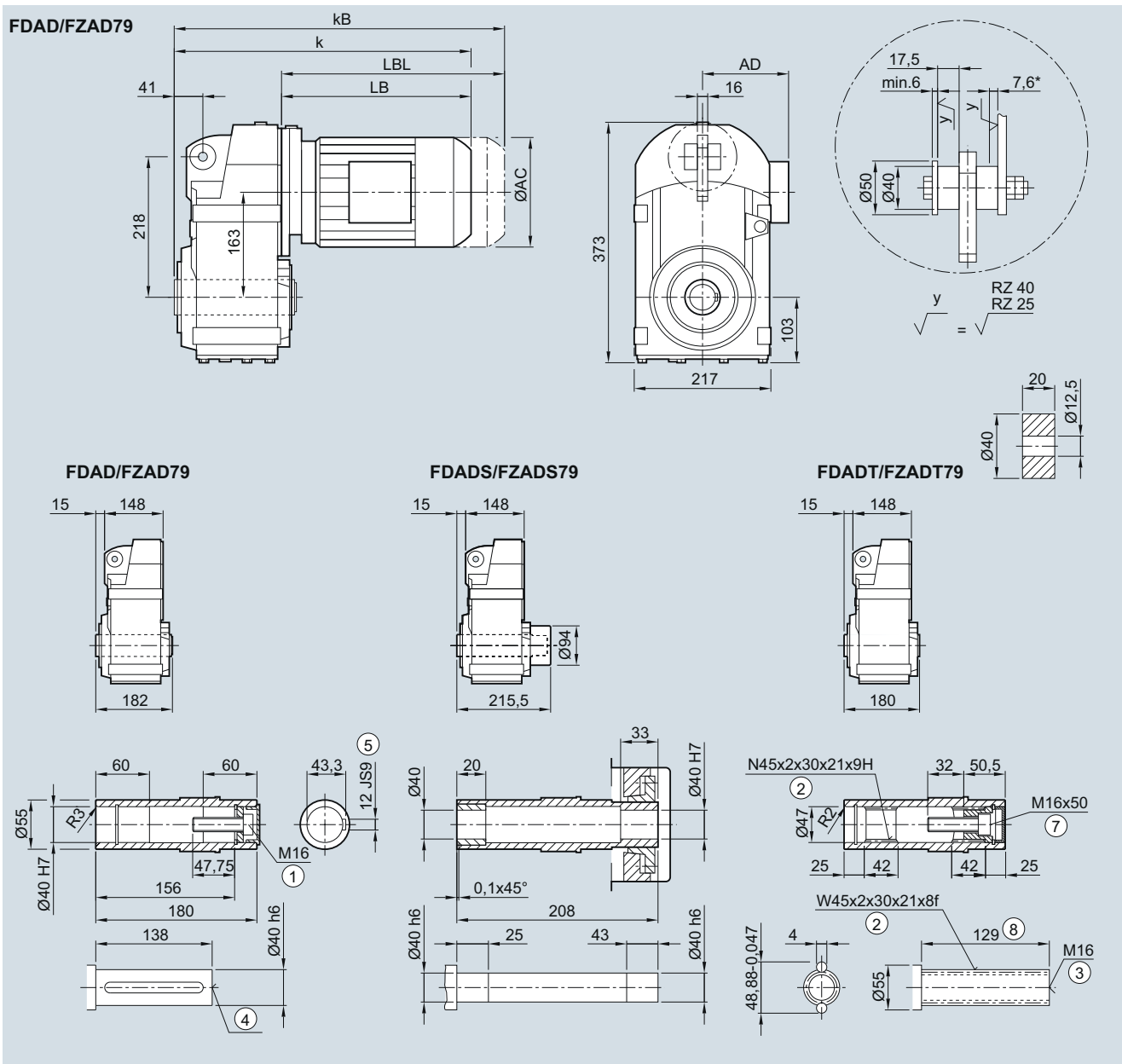
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FDAD./FZAD.79 gearbox in a shaft-mounted design

FAD030, FADS030, FADT030

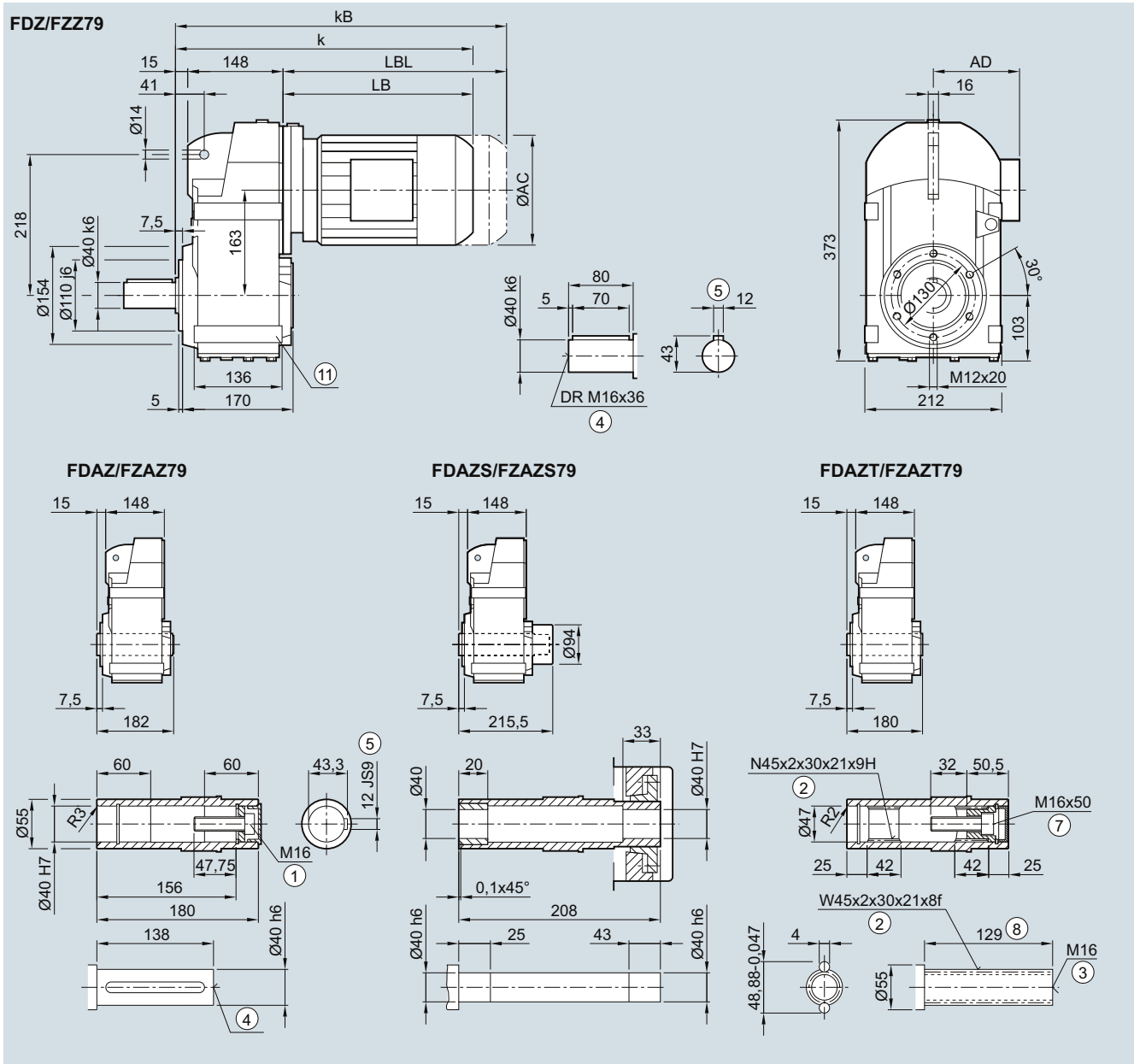


Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160 <sup>(2)</sup>	160Z <sup>(2)</sup>
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	377.5	396.5	437.5	472.5	499.0	539.0	555.5	590.5	565.5	590.5	618.5	668.5	700.5	760.5
kB	432.5	451.5	497.5	532.5	569.0	609.0	634.0	669.0	638.5	663.5	723.0	773.0	816.5	876.5
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑥ ISO 4762    ⑦ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.    <sup>2)</sup> FDADS/FZADS not possible    \* Spring compression at max. torque

**FD.Z./FZ.Z.79 gearbox in a housing flange design**

**FZ030, FAZ030, FAZS030, FAZT030**



Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160 <sup>2)</sup>	160Z <sup>2)</sup>
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	377.5	396.5	437.5	472.5	499.0	539.0	555.5	590.5	565.5	590.5	618.5	668.5	700.5	760.5
kB	432.5	451.5	497.5	532.5	569.0	609.0	634.0	669.0	638.5	663.5	723.0	773.0	816.5	876.5
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder + 1 mm

⑩ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>2)</sup> FAZS/FZAS not possible

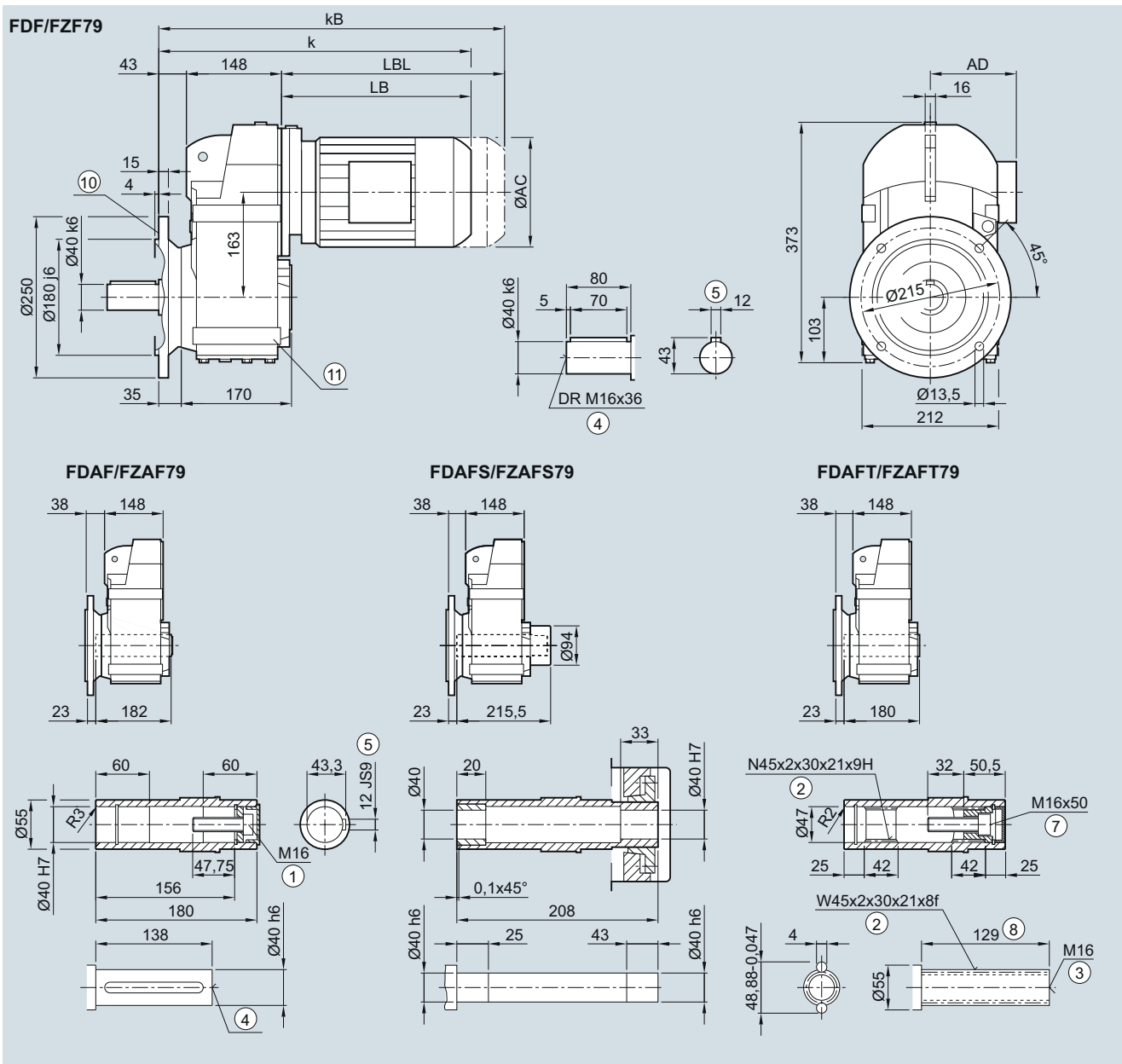
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.F/FZ.F79 gearbox in a flange-mounted design

FF030, FAF030, FAFS030, FAFT030



Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160 <sup>2)</sup>	160Z <sup>2)</sup>
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	405.5	424.5	465.5	500.5	527.0	567.0	583.5	618.5	593.5	618.5	646.5	696.5	728.5	788.5
kB	460.5	479.5	525.5	560.5	597.0	637.0	662.0	697.0	666.5	691.5	751.0	801.0	844.5	904.5
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

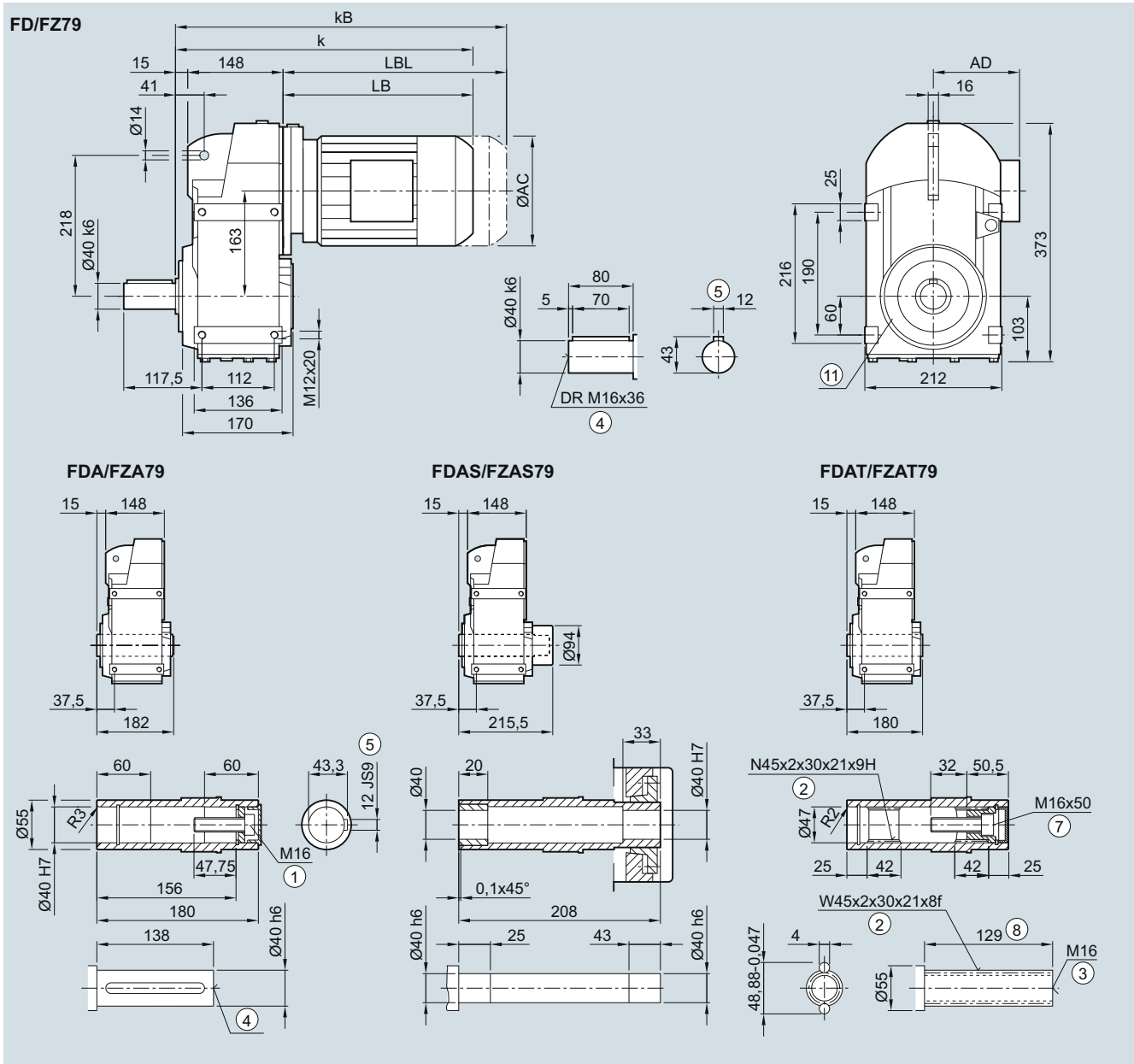
① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder + 1 mm

⑩ For inner contour see page 4/128 ⑪ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42. 2) FADAFS/FZAFS not possible

**FD../FZ..79 gearbox in a foot-mounted design**

**F030, FA030, FAS030, FAT030**



Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160 <sup>2)</sup>	160Z <sup>2)</sup>
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	377.5	396.5	437.5	472.5	499.0	539.0	555.5	590.5	565.5	590.5	618.5	668.5	700.5	760.5
kB	432.5	451.5	497.5	532.5	569.0	609.0	634.0	669.0	638.5	663.5	723.0	773.0	816.5	876.5
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder + 1 mm  
 ⑩ Use bores only for housing flange design

1) AD depends on the motor options, for other dimensions see page 8/42.

2) FDAS/FZAS not possible



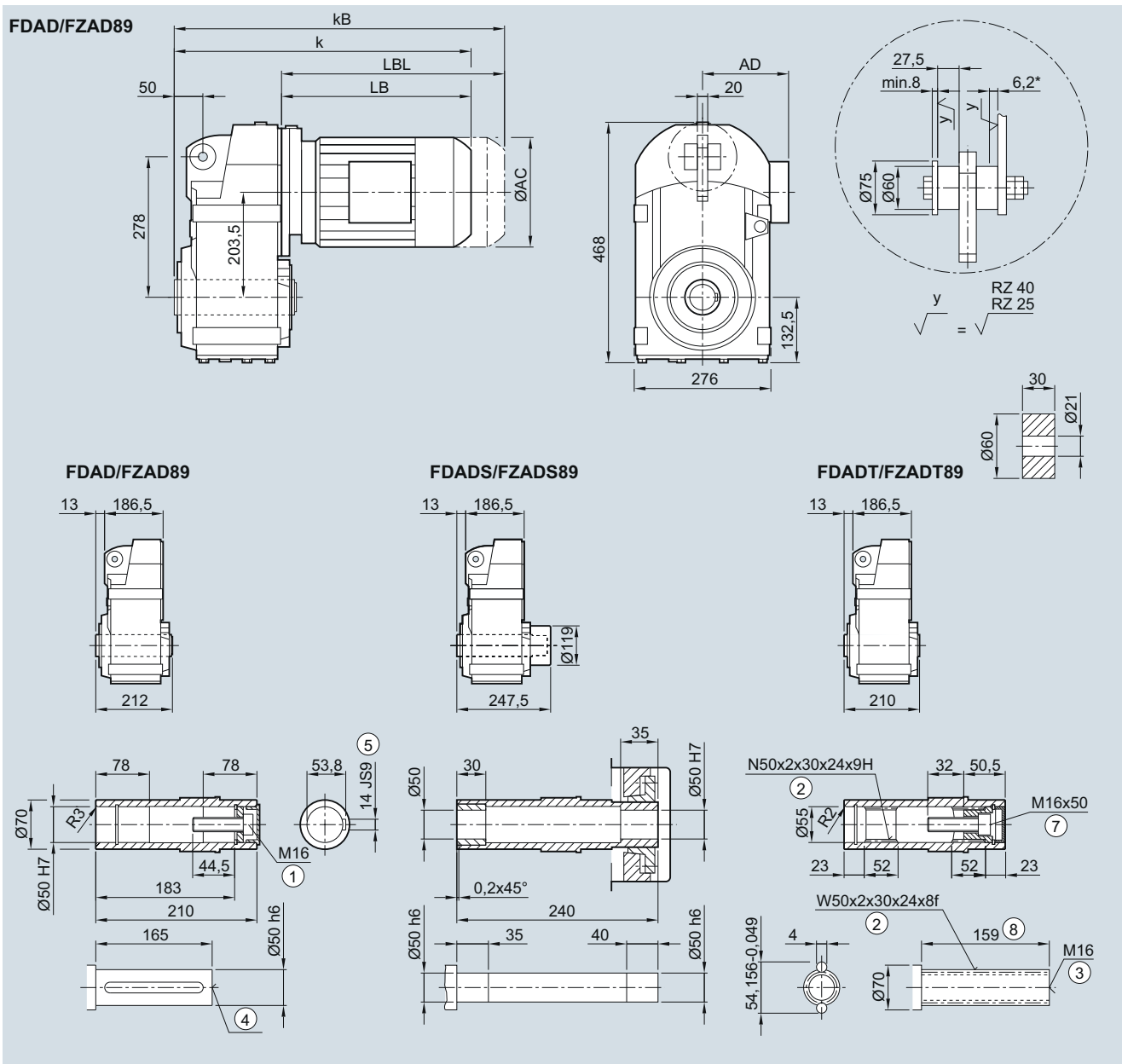
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FDAD./FZAD.89 gearbox in a shaft-mounted design

FAD030, FADS030, FADT030

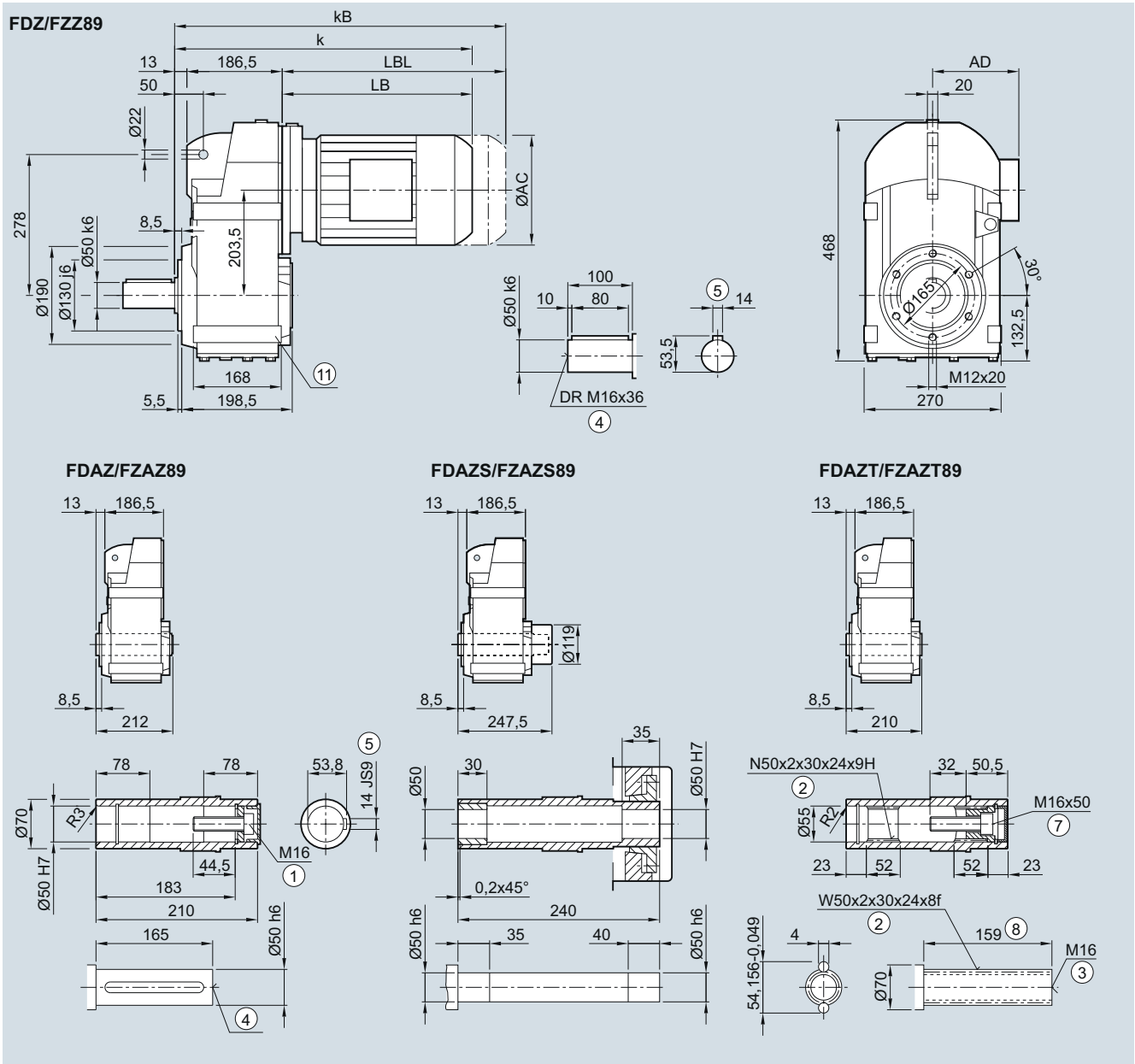


Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180 <sup>(2)</sup>	180Z <sup>(2)</sup>
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	461.0	496.0	522.5	562.5	575.0	610.0	585.0	610.0	638.0	688.0	720.0	780.0	793.0	823.0
kB	521.0	556.0	592.5	632.5	653.5	688.5	658.0	683.0	742.5	792.5	836.0	896.0	922.0	952.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑥ ISO 4762    ⑦ Without locating shoulder +1 mm  
 1) AD depends on the motor options, for other dimensions see page 8/42.    2) FDADS/FZADS not possible    \* Spring compression at max. torque

**FD.Z./FZ.Z.89 gearbox in a housing flange design**

**FZ030, FAZ030, FAZS030, FAZT030**



Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180 <sup>2)</sup>	180Z <sup>2)</sup>
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	461.0	496.0	522.5	562.5	575.0	610.0	585.0	610.0	638.0	688.0	720.0	780.0	793.0	823.0
kB	521.0	556.0	592.5	632.5	653.5	688.5	658.0	683.0	742.5	792.5	836.0	896.0	922.0	952.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder + 1 mm

⑩ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42.

2) FDAS/FZAS not possible

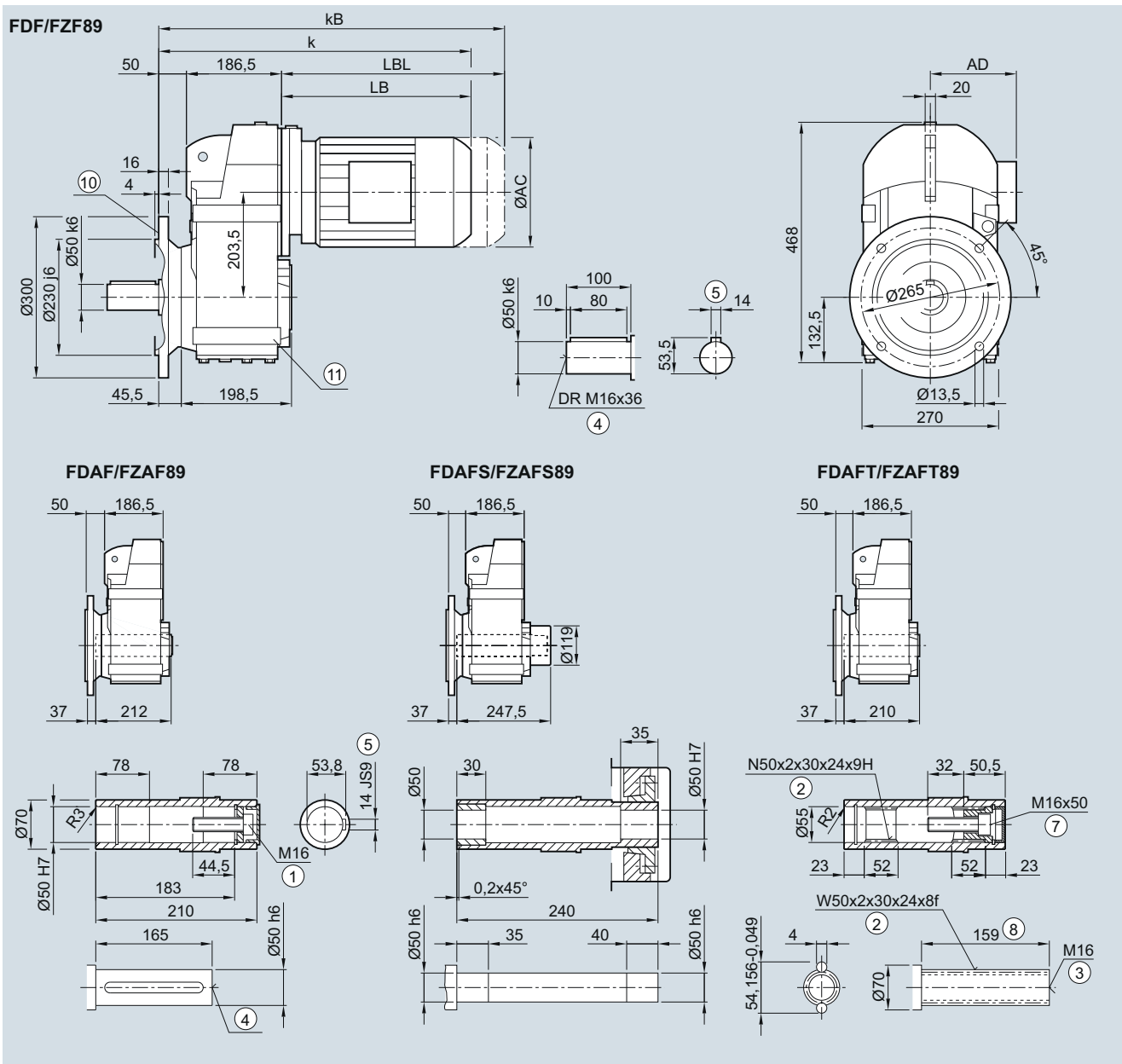
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.F/FZ.F.89 gearbox in a flange-mounted design

FF030, FAF030, FAFS030, FAFT030

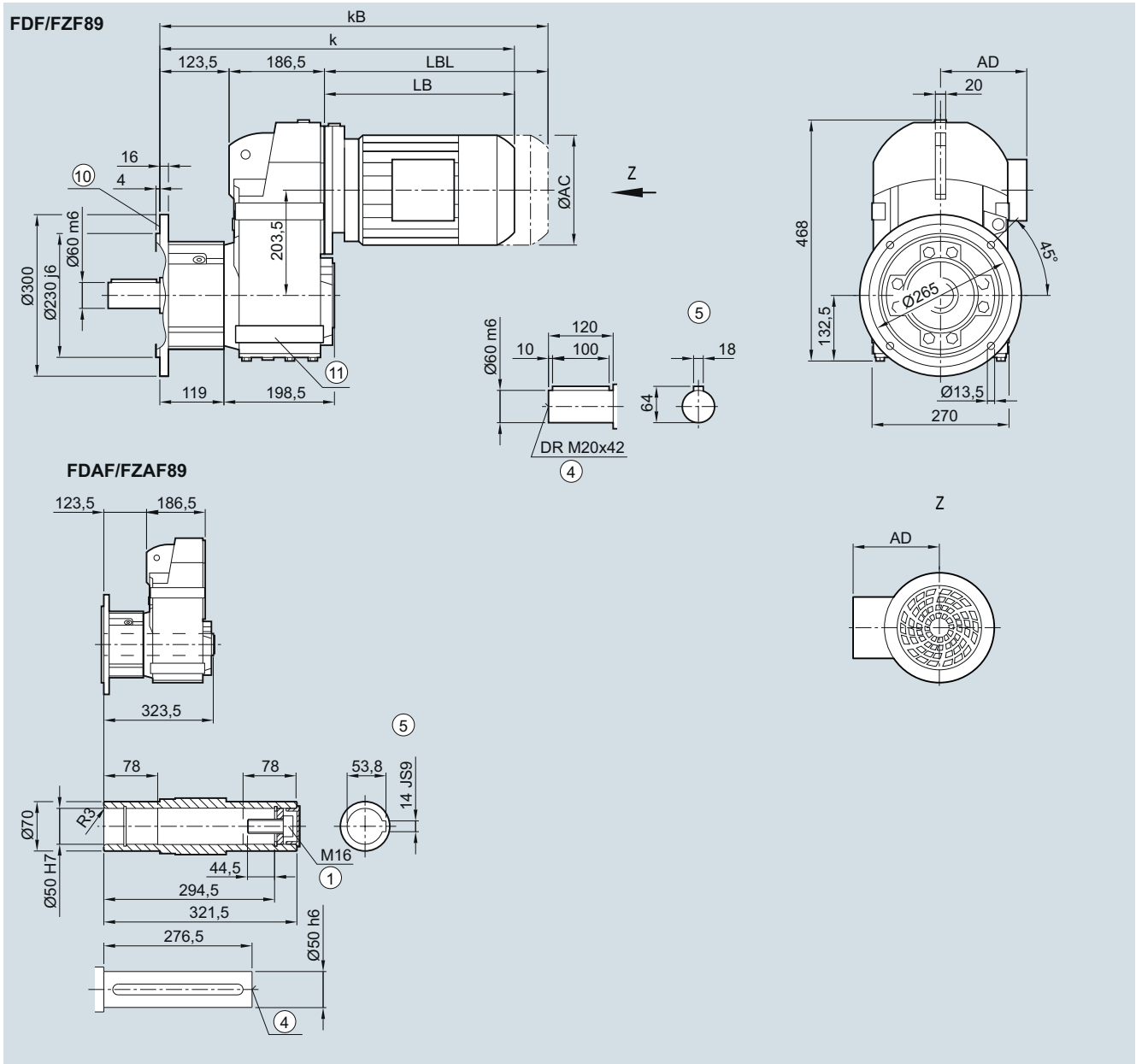


Motor	LE	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES	180 <sup>(2)</sup>	180Z <sup>(2)</sup>
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	
k	498.0	533.0	559.5	599.5	612.0	647.0	622.0	647.0	675.0	725.0	757.0	817.0	830.0	860.0	
kB	558.0	593.0	629.5	669.5	690.5	725.5	695.0	720.0	779.5	829.5	873.0	933.0	959.0	989.0	
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5	
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5	

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder + 1 mm

⑩ For inner contour see page 4/128 ⑪ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42. 2) FADAFS/FZAFS not possible

**FD.F./FZ.F.89 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)**
**FF040, FAF040**


Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	571.5	606.5	633.0	673.0	685.5	720.5	695.5	720.5	748.5	798.5	830.5	890.5	903.5	933.5
kB	631.5	666.5	703.0	743.0	764.0	799.0	768.5	793.5	853.0	903.0	946.5	1 006.5	1 033.0	1 062.5
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

⑩ ISO 4014    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1

⑪ Use bores only for foot-mounted design

⑫ For inner contour see page 4/128

1) AD depends on the motor options, for other dimensions see page 8/42.

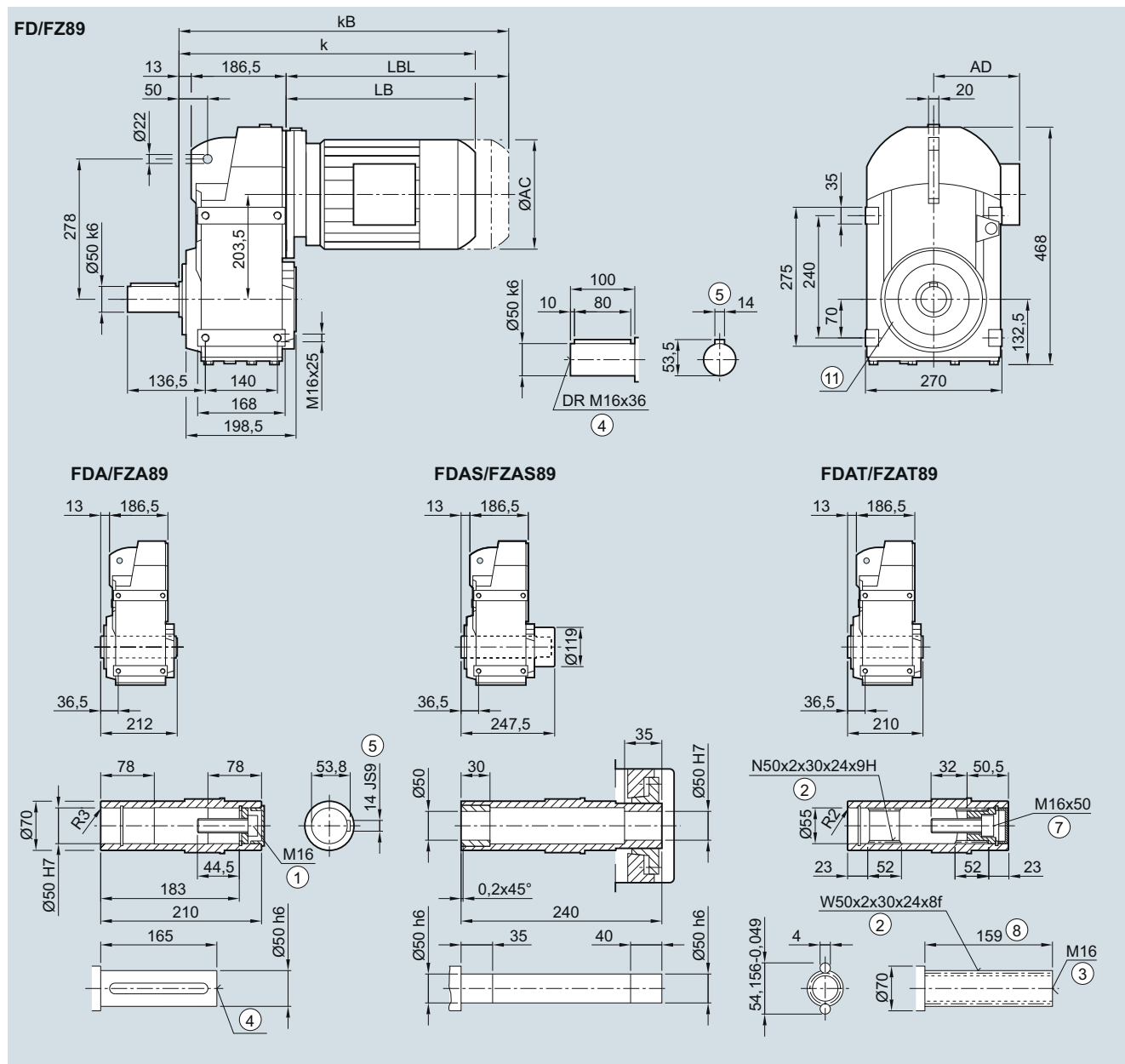
# SIMOGEAR geared motors

## Parallel shaft geared motors

### Dimensions

#### FD./FZ..89 gearbox in a foot-mounted design

##### F030, FA030, FAS030, FAT030



Motor	LE											LES		
	80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180 <sup>2)</sup>	180Z <sup>2)</sup>
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	461.0	496.0	522.5	562.5	575.0	610.0	585.0	610.0	638.0	688.0	720.0	780.0	793.0	823.0
kB	521.0	556.0	592.5	632.5	653.5	688.5	658.0	683.0	742.5	792.5	836.0	896.0	922.0	952.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm

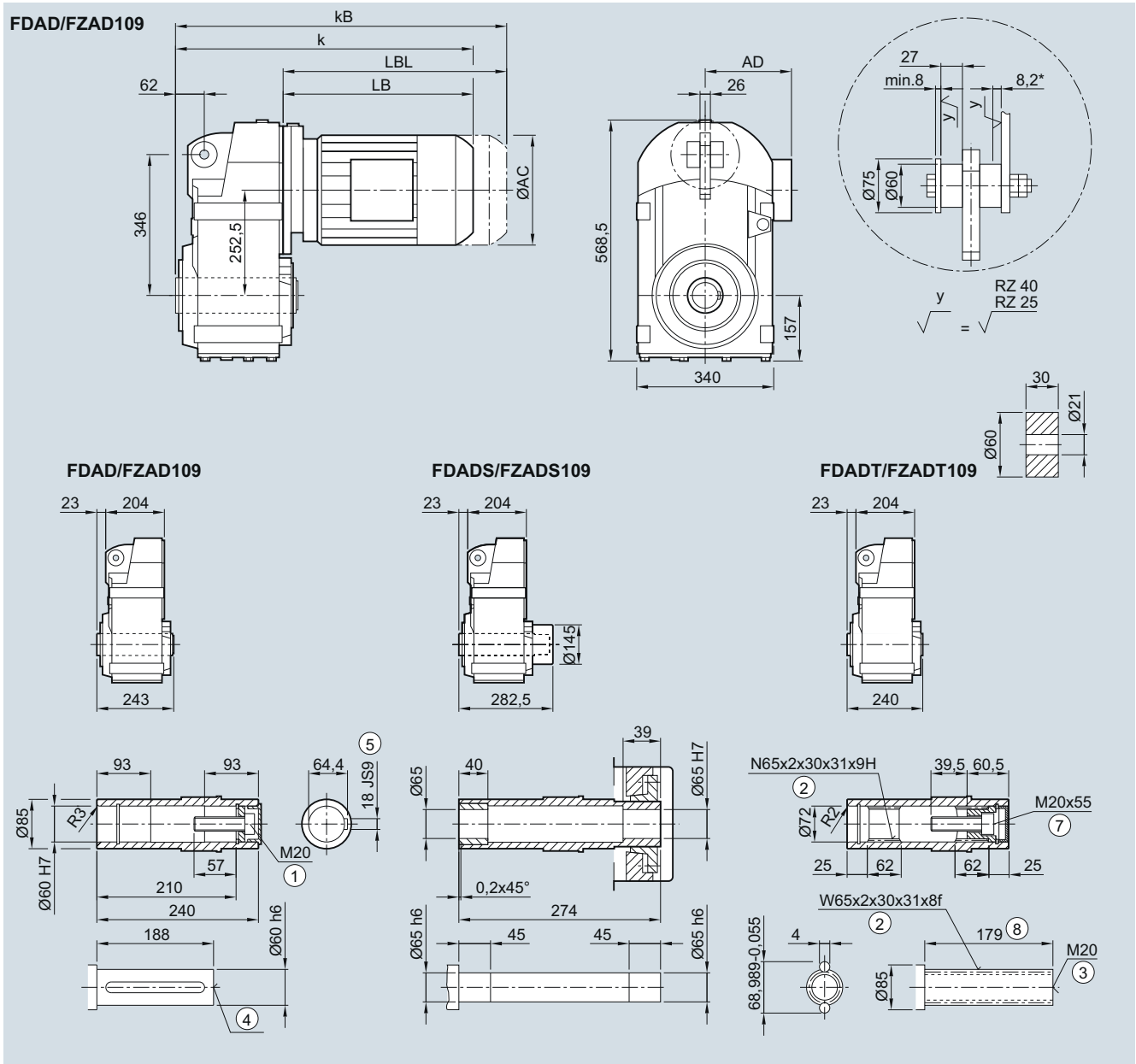
⑩ Use bores only for housing flange design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>2)</sup> FDAS/FZAS not possible

**FDAD./FZAD.109 gearbox in a shaft-mounted design**

**FAD030, FADS030, FADT030**



Motor	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225 <sup>2)</sup>	225Y <sup>2)</sup>
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	543.0	583.0	593.5	628.5	603.5	628.5	656.5	706.5	738.5	798.5	811.5	841.5	879.5	904.5	925.0	985.0
kB	613.0	653.0	672.0	707.0	676.5	701.5	761.0	811.0	854.5	914.5	940.5	970.5	1 026.5	1 051.5	1 153.0	1 213.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑥ ISO 4762 ⑦ Without locating shoulder +1 mm

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

\* Spring compression at max. torque

<sup>2)</sup> FDAS/FZAS not possible

# SIMOGEAR geared motors

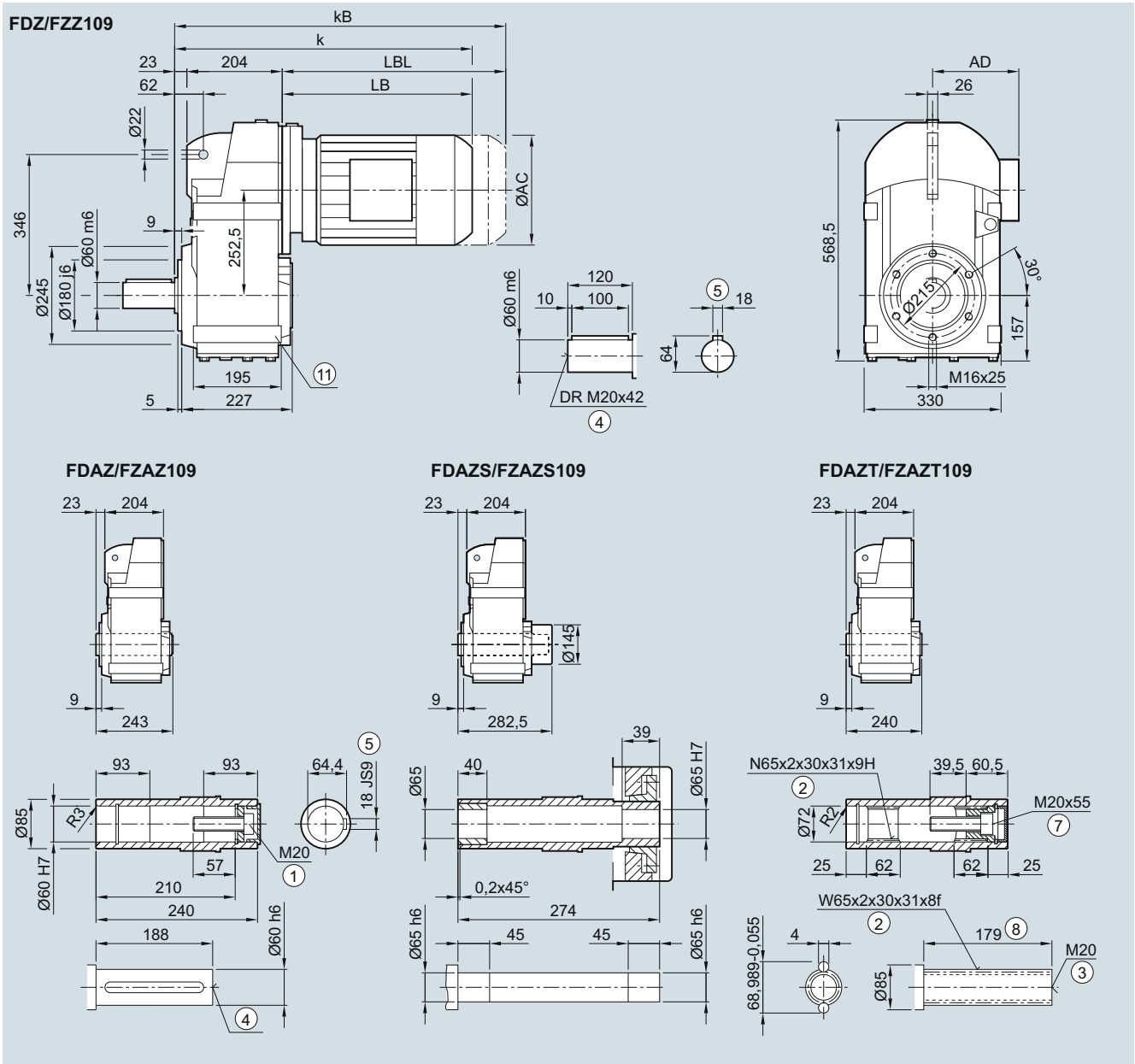
Parallel shaft geared motors

## Dimensions

### FD.Z./FZ.Z.109 gearbox in a housing flange design

FZ030, FAZ030, FAZS030, FAZT030

4



Motor	LE										LES					
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225 <sup>2)</sup>	225Y <sup>2)</sup>
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	543.0	583.0	593.5	628.5	603.5	628.5	656.5	706.5	738.5	798.5	811.5	841.5	879.5	904.5	925.0	985.0
kB	613.0	653.0	672.0	707.0	676.5	701.5	761.0	811.0	854.5	914.5	940.5	970.5	1 026.5	1 051.5	1 153.0	1 213.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder + 1 mm

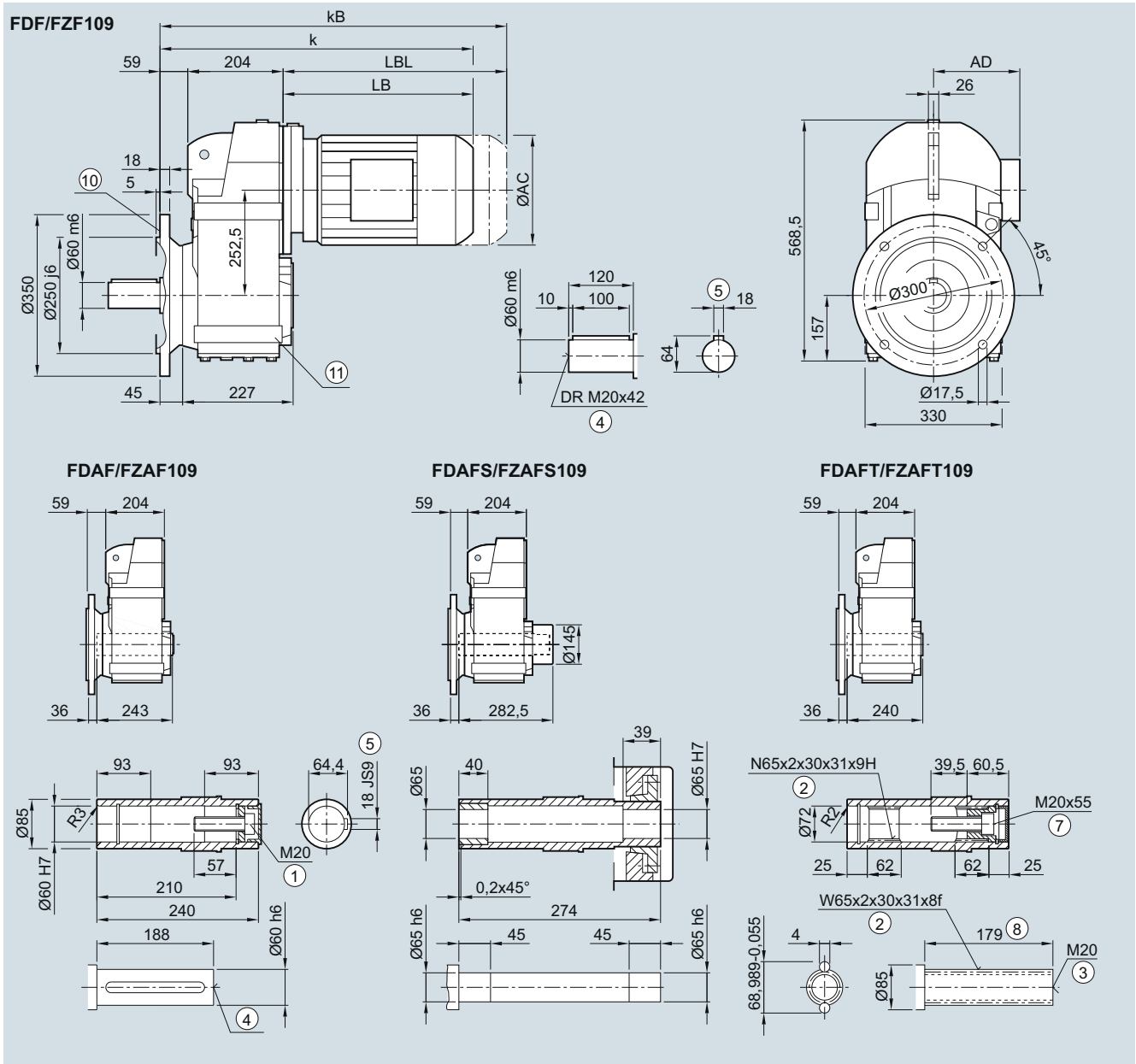
⑩ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42.

2) FDAS/FZAS not possible

**FD.F/FZ.F.109 gearbox in a flange-mounted design**

**FF030, FAF030, FAFS030, FAFT030**



Motor	LE										LES					
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225 <sup>2)</sup>	225Y <sup>2)</sup>
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	579.0	619.0	629.5	664.5	639.5	664.5	692.5	742.5	774.5	834.5	847.5	877.5	915.5	940.5	961.0	1 021.0
kB	649.0	689.0	708.0	743.0	712.5	737.5	797.0	847.0	890.5	950.5	976.5	1 006.5	1 062.5	1 087.5	1 189.0	1 249.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm

⑩ For inner contour see page 4/128    ⑪ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>2)</sup> FDAS/FZAS not possible



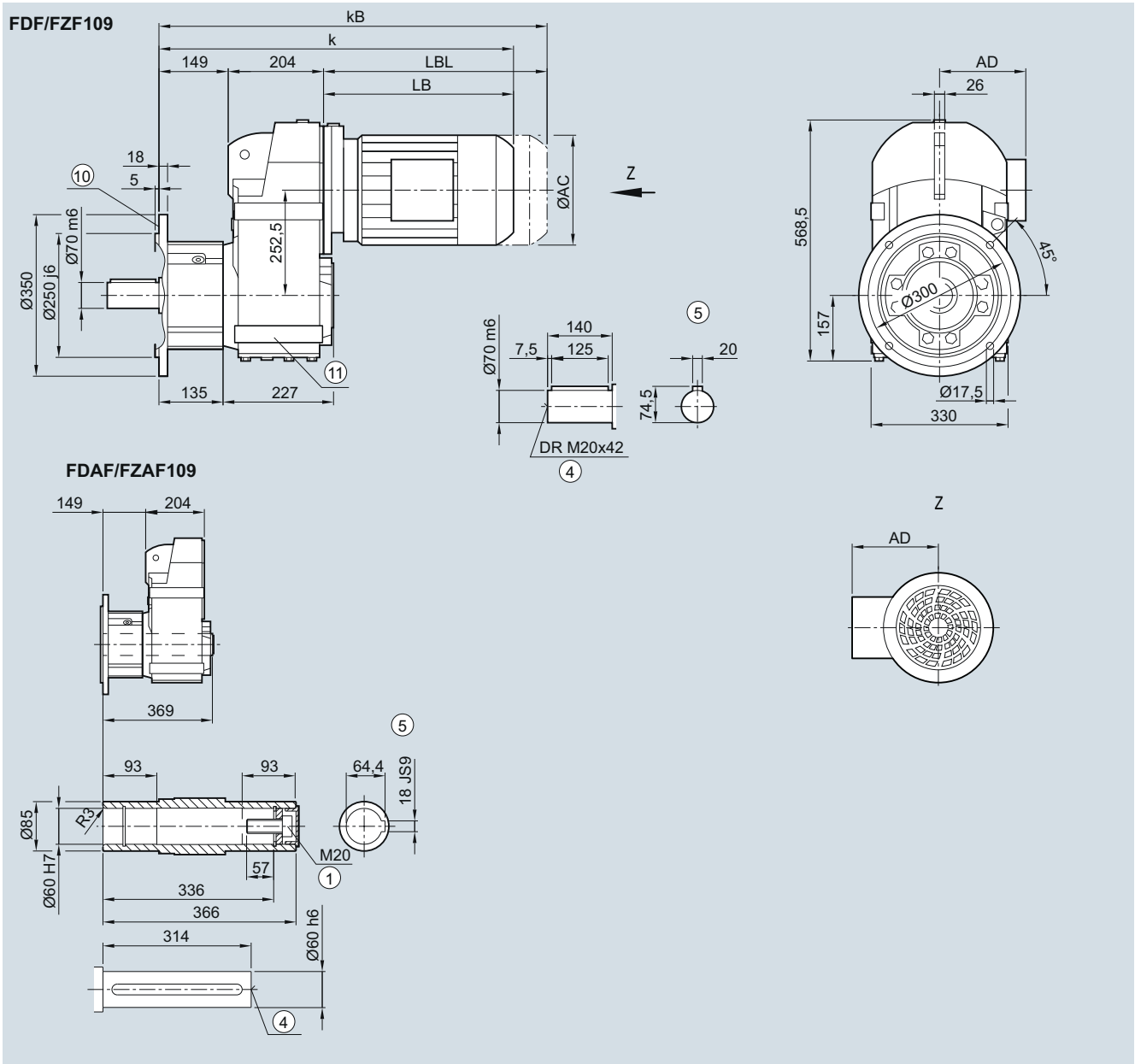
## SIMOGEAR geared motors

Parallel shaft geared motors

### Dimensions

#### FD.F/FZ.F.109 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)

FF040, FAF040



Motor	LE								LES							
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	669.0	709.0	719.5	754.5	729.5	754.5	782.5	832.5	864.5	924.5	937.5	967.5	1 005.5	1 030.5	1 051.0	1 111.0
kB	739.0	779.0	798.0	833.0	802.5	827.5	887.0	937.0	980.5	1 040.5	1 066.5	1 096.5	1 152.5	1 177.5	1 279.0	1 339.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

⑩ ISO 4014    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1

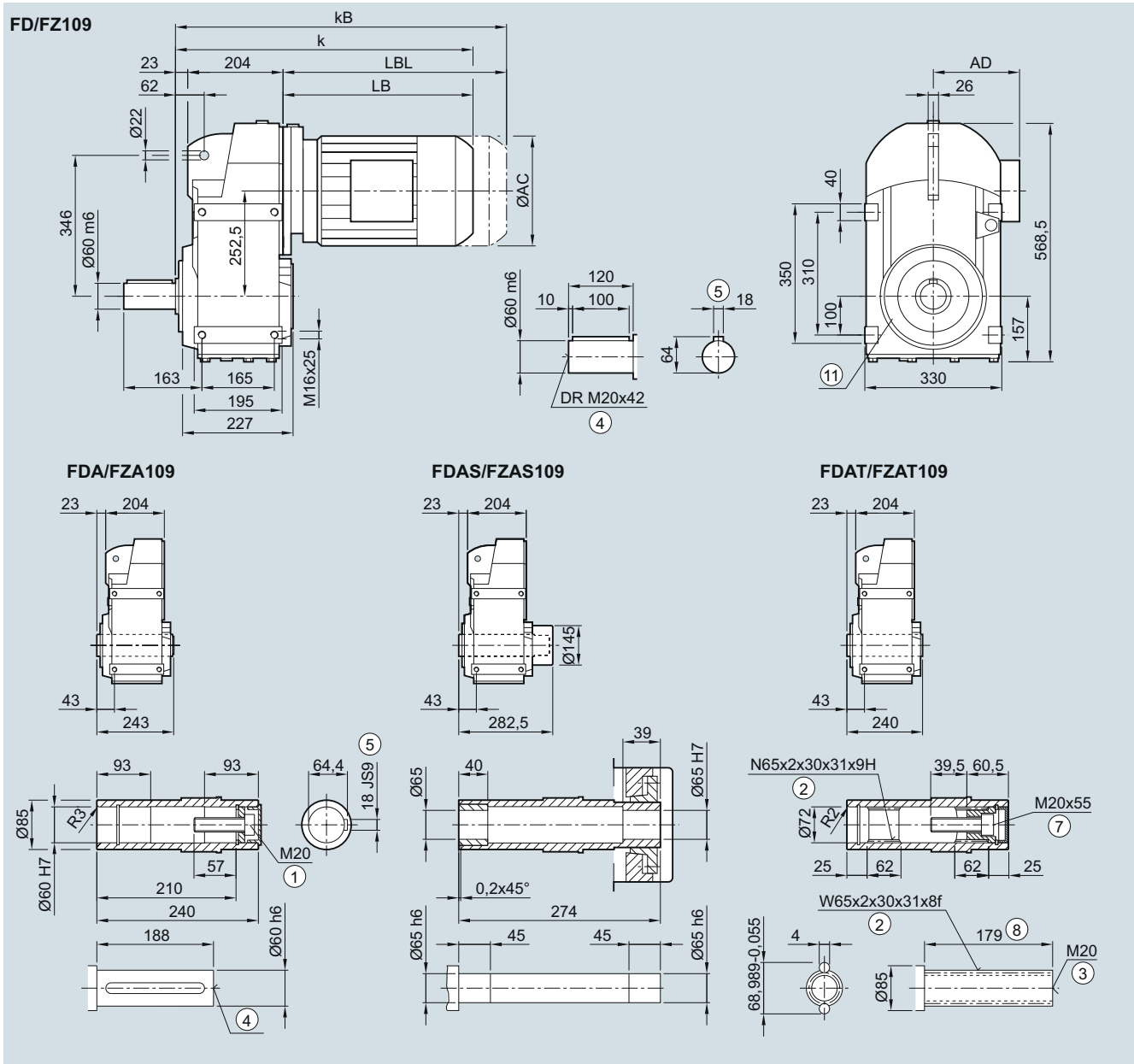
⑪ Use bores only for foot-mounted design

⑨ For inner contour see page 4/128

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**FD./FZ.109 gearbox in a foot-mounted design**

**F030, FA030, FAS030, FAT030**



Motor	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225 <sup>2)</sup>	225Y <sup>2)</sup>
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	543.0	583.0	593.5	628.5	603.5	628.5	656.5	706.5	738.5	798.5	811.5	841.5	879.5	904.5	925.0	985.0
kB	613.0	653.0	672.0	707.0	676.5	701.5	761.0	811.0	854.5	914.5	940.5	970.5	1 026.5	1 051.5	1 153.0	1 213.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder + 1 mm

⑩ Use bores only for housing flange design

1) AD depends on the motor options, for other dimensions see page 8/42.

2) FDAS/FZAS not possible

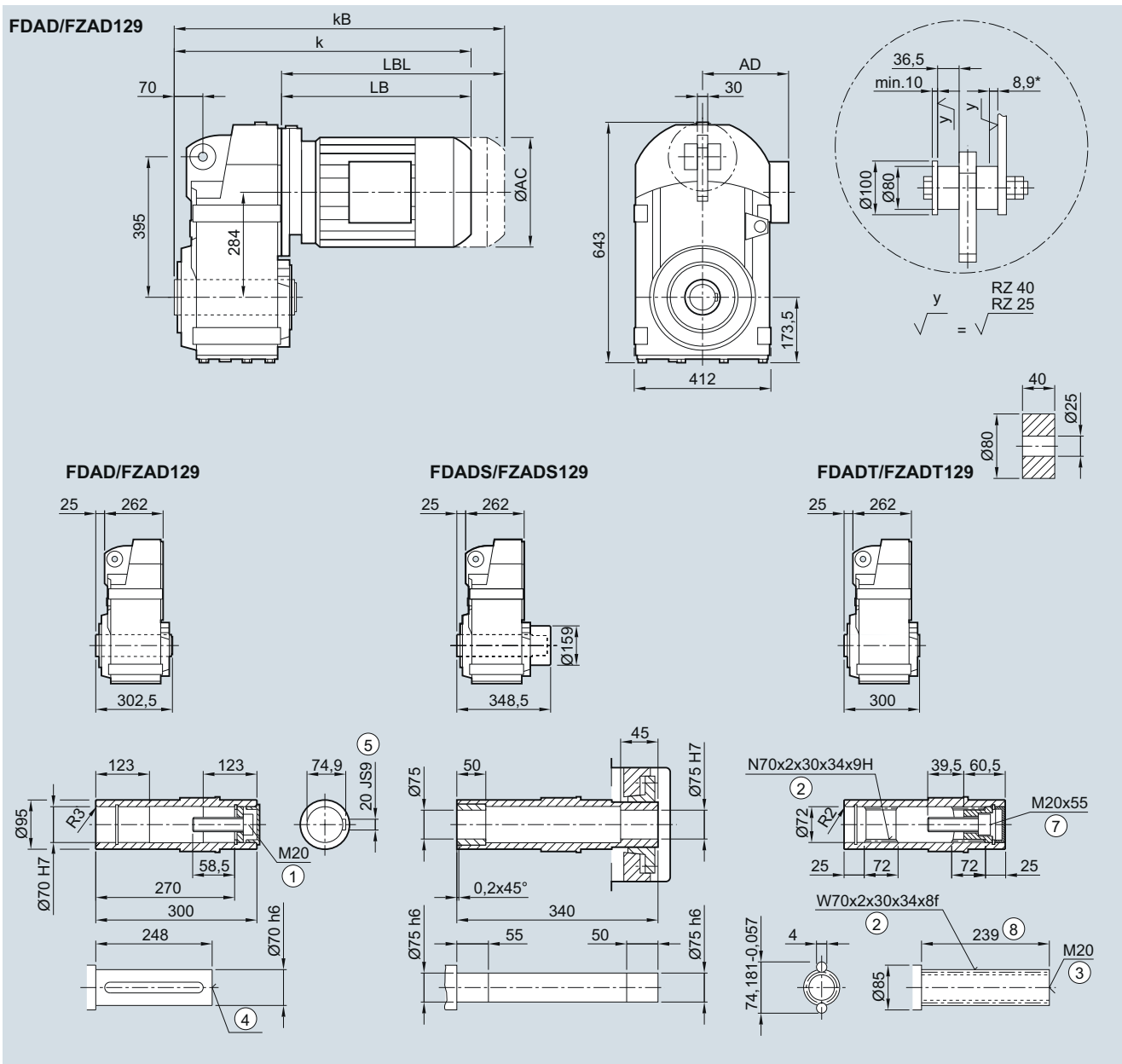
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FDAD./FZAD.129 gearbox in a shaft-mounted design

FAD030, FADS030, FADT030



Motor	LE										LES						
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250 <sup>2)</sup>
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	596.0	636.0	644.5	679.5	654.5	679.5	705.5	755.5	787.5	847.5	860.5	890.5	928.5	953.5	974.0	1 034.0	1 085.5
k <sub>B</sub>	666.0	706.0	723.0	758.0	727.5	752.5	810.0	860.0	903.5	963.5	989.5	1 019.5	1 075.5	1 100.5	1 202.0	1 262.0	1 310.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	540.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1 023.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

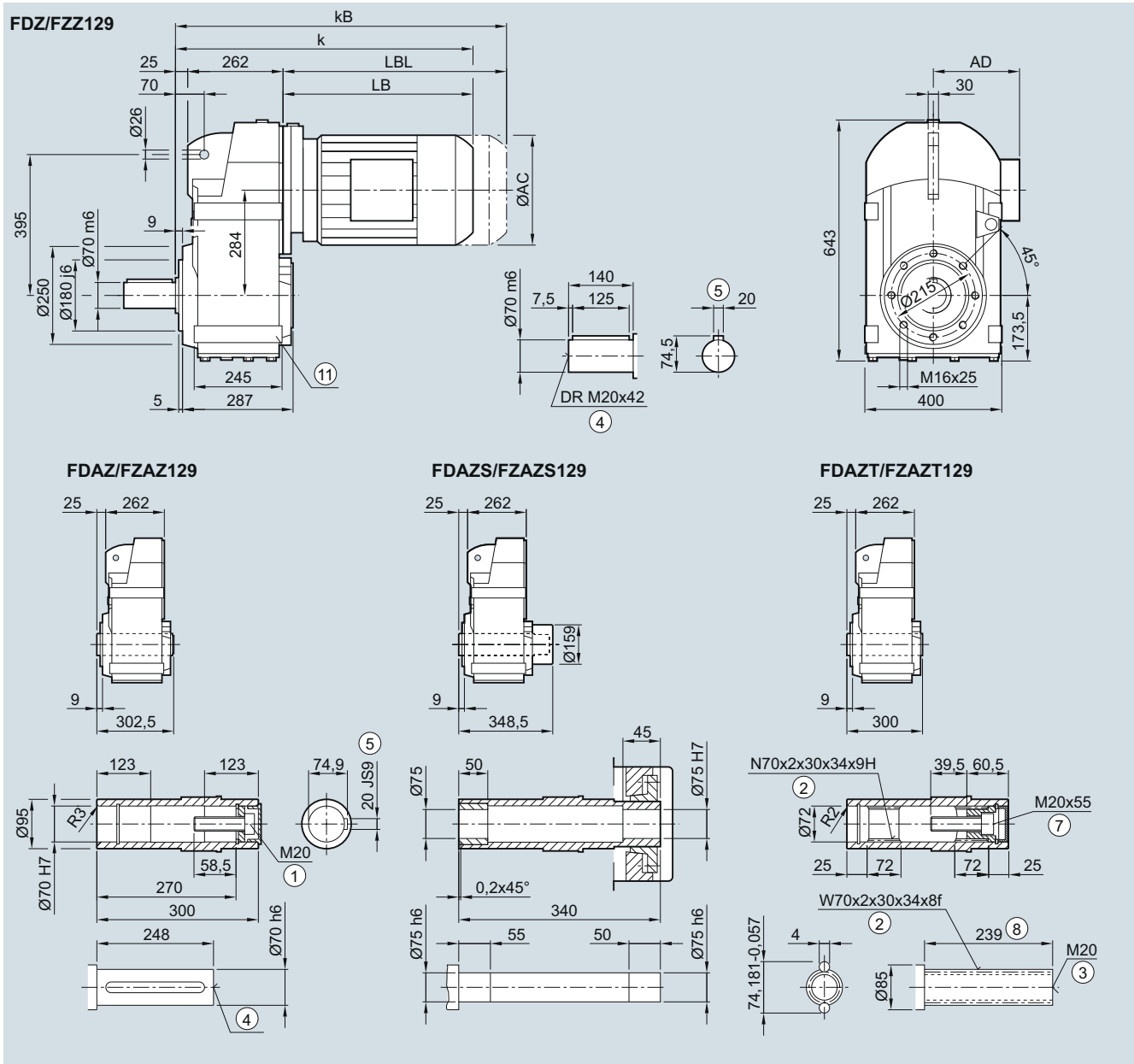
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

\* Spring compression at max. torque

<sup>2)</sup> FDAS/FZAS not possible

**FD.Z./FZ.Z.129 gearbox in a housing flange design**

**FZ030, FAZ030, FAZS030, FAZT030**



Motor	LE										LES						
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250 <sup>2)</sup>
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	596.0	636.0	644.5	679.5	654.5	679.5	705.5	755.5	787.5	847.5	860.5	890.5	928.5	953.5	974.0	1 034.0	1 085.5
kB	666.0	706.0	723.0	758.0	727.5	752.5	810.0	860.0	903.5	963.5	989.5	1 019.5	1 075.5	1 100.5	1 202.0	1 262.0	1 310.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1 023.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑥ ISO 4762    ⑦ Without locating shoulder +1 mm  
 ⑧ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>2)</sup> FDAS/FZAS not possible

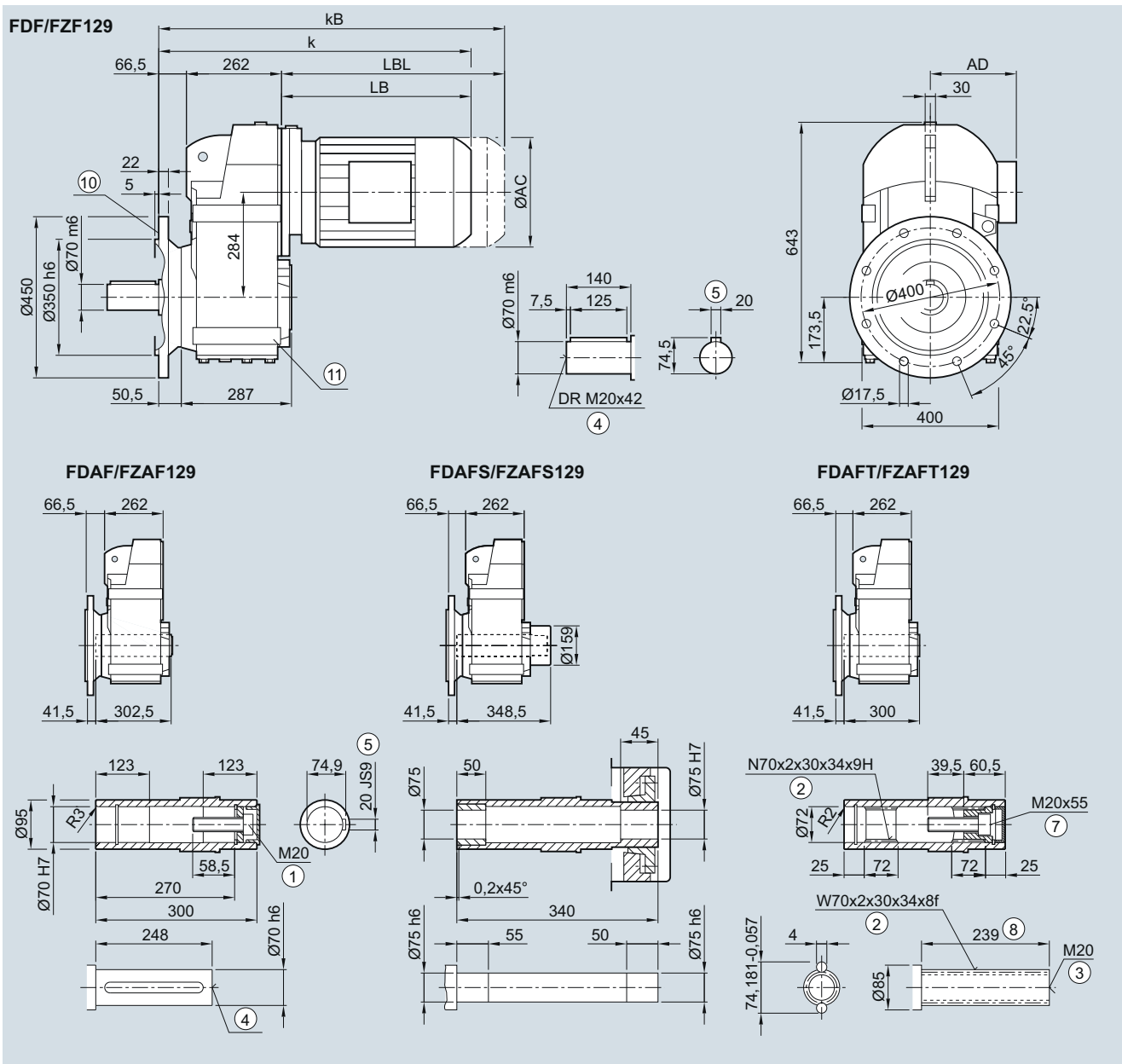
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.F/FZ.F.129 gearbox in a flange-mounted design

FF030, FAF030, FAFS030, FAFT030



Motor	LE										LES						
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250 <sup>2)</sup>
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	637.5	677.5	686.0	721.0	696.0	721.0	747.0	797.0	829.0	889.0	902.0	932.0	970.0	995.0	1 015.0	1 075.0	1 127.0
kB	707.5	747.5	764.5	799.5	769.0	794.0	851.5	901.5	945.0	1 005.0	1 031.0	1 061.0	1 117.0	1 142.0	1 243.5	1 303.5	1 352.0
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1 023.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm

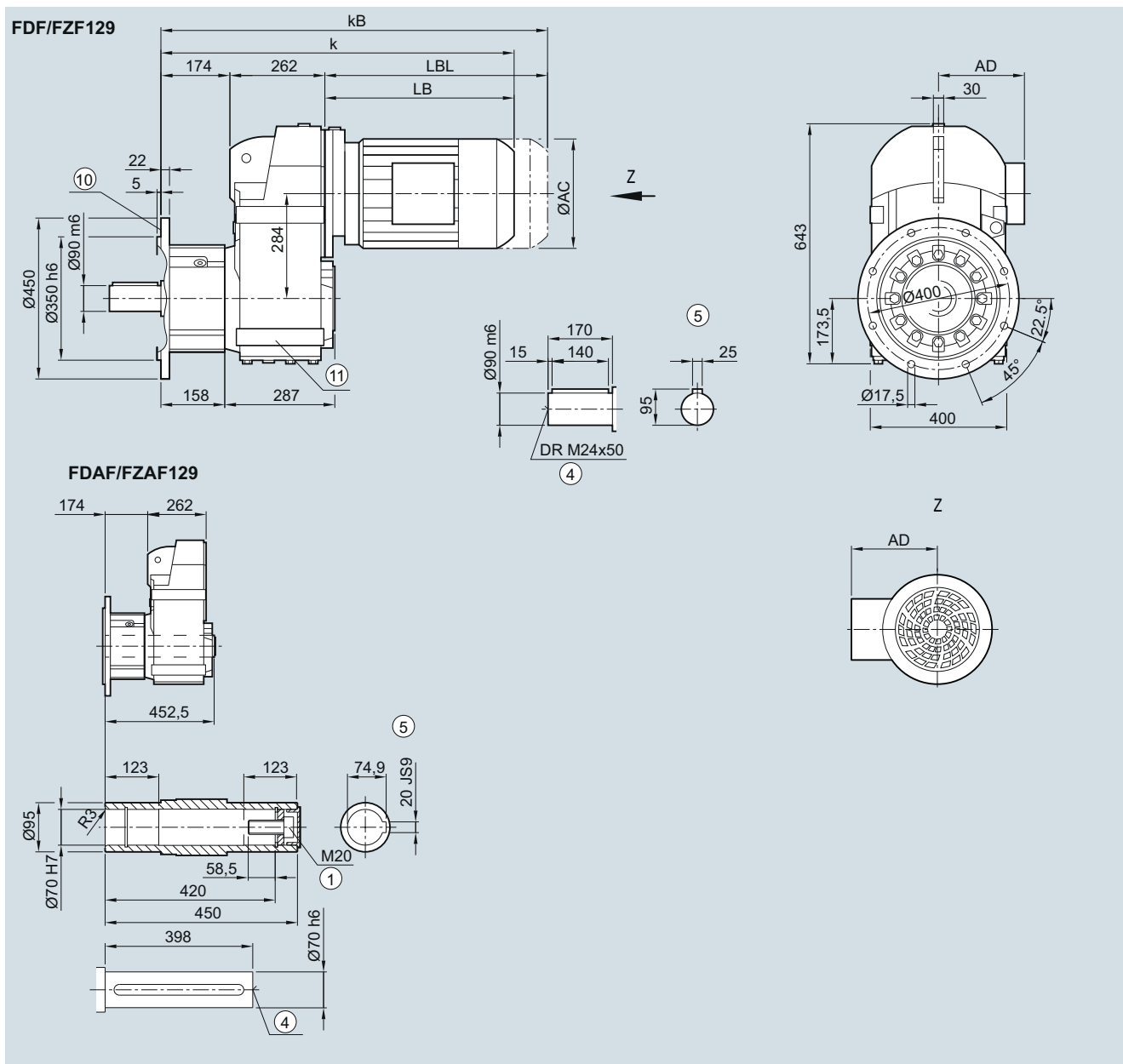
⑩ For inner contour see page 4/128    ⑪ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>2)</sup> FDAS/FZAS not possible

**FD.F/FZ.F.129 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)**

FF040, FAF040



4

Motor	LES																
	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	745.0	751.0	793.5	828.5	803.5	828.5	854.5	904.5	936.5	996.5	1009.5	1039.5	1077.5	1102.5	1123.0	1183.0	1234.5
kB	815.0	855.0	872.0	907.0	876.5	901.5	959.0	1009.0	1052.5	1112.5	1188.5	1168.5	1224.5	1249.5	1351.0	1411.0	1459.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1023.5

① ISO 4014    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑩ Use bores only for foot-mounted design  
 ⑧ For inner contour see page 4/128    1) AD depends on the motor options, for other dimensions see page 8/42.

# SIMOGEAR geared motors

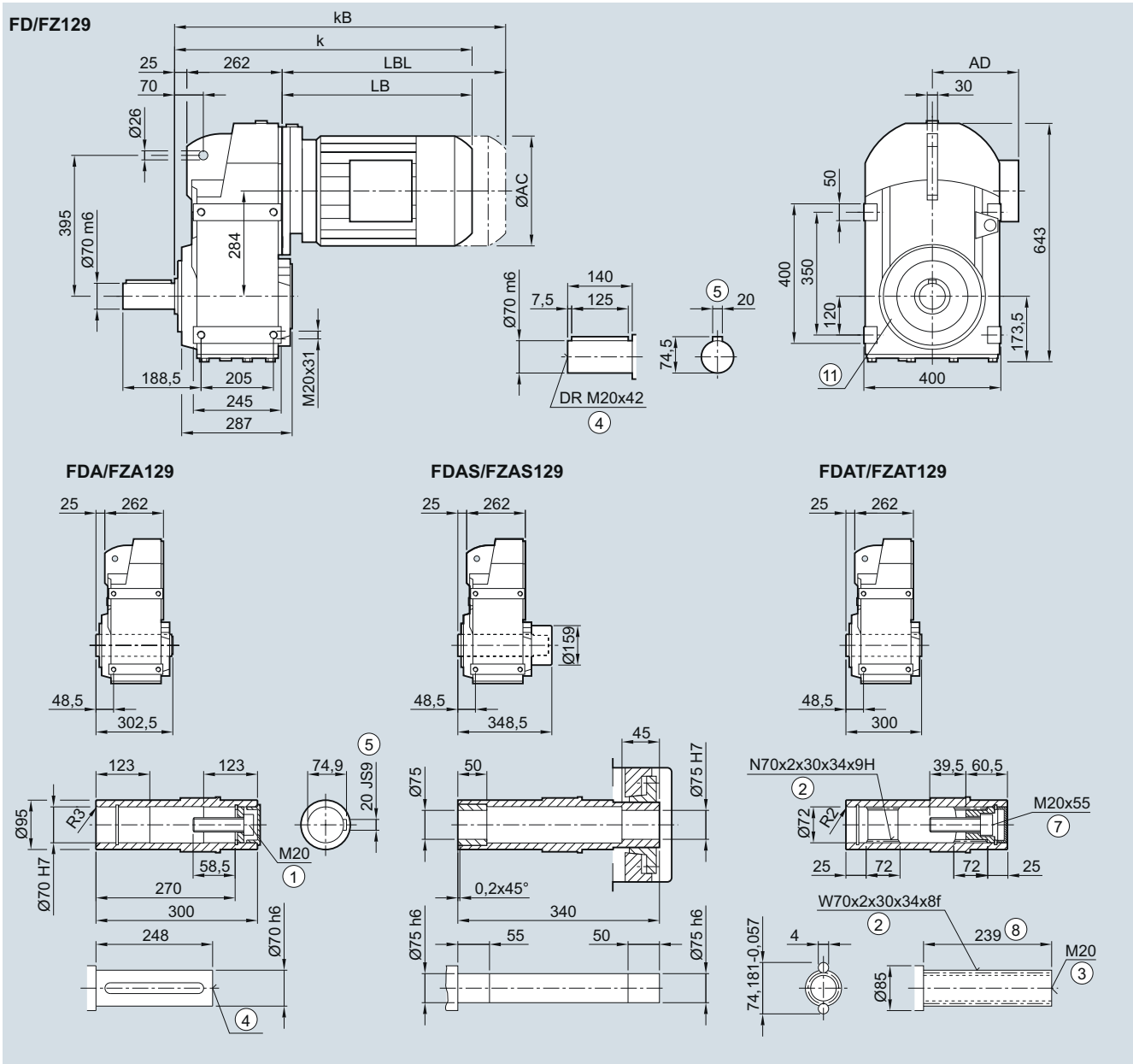
Parallel shaft geared motors

## Dimensions

### FD../FZ..129 gearbox in a foot-mounted design

F030, FA030, FAS030, FAT030

4



Motor	LE										LES						
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250 <sup>2)</sup>
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	596.0	636.0	644.5	679.5	654.5	679.5	705.5	755.5	787.5	847.5	860.5	890.5	928.5	953.5	974.0	1 034.0	1 085.5
kB	666.0	706.0	723.0	758.0	727.5	752.5	810.0	860.0	903.5	963.5	989.5	1 019.5	1 075.5	1 100.5	1 202.0	1 262.0	1 310.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	540.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1 023.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder + 1 mm

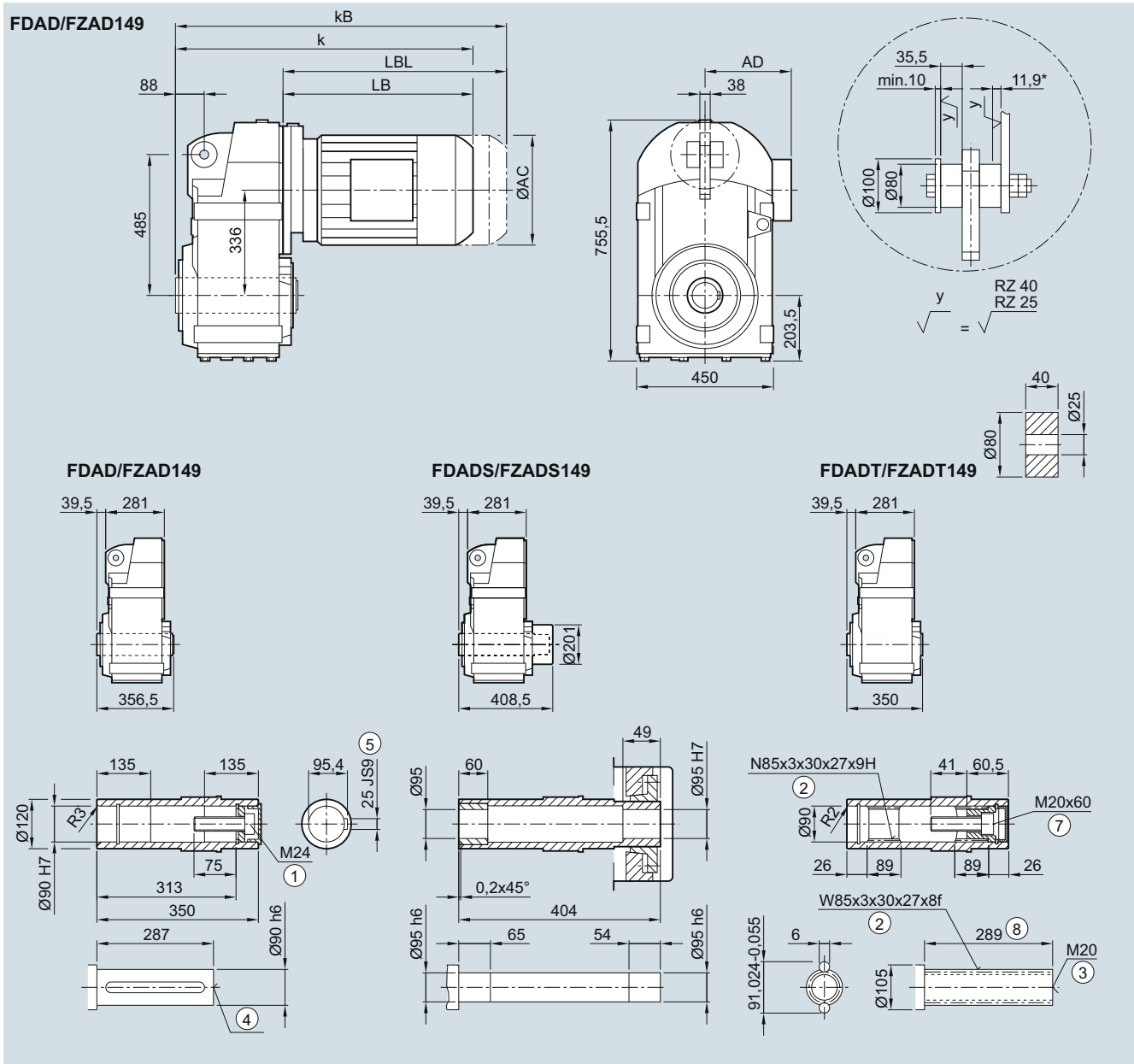
⑩ Use bores only for housing flange design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

<sup>2)</sup> FDAS/FZAS not possible

**FDAD./FZAD.149 gearbox in a shaft-mounted design**

*FAD030, FADS030, FADT030*



Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	676.5	711.5	686.5	711.5	732.5	782.5	814.5	874.5	887.5	917.5	955.5	980.5	1 000.5	1 060.5	1 112.0
kB	755.0	790.0	759.5	784.5	837.0	887.0	930.5	990.5	1 016.5	1 046.5	1 110.5	1 127.5	1 229.0	1 289.0	1 337.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 1) AD depends on the motor options, for other dimensions see page 8/42.    \* Spring compression at max. torque



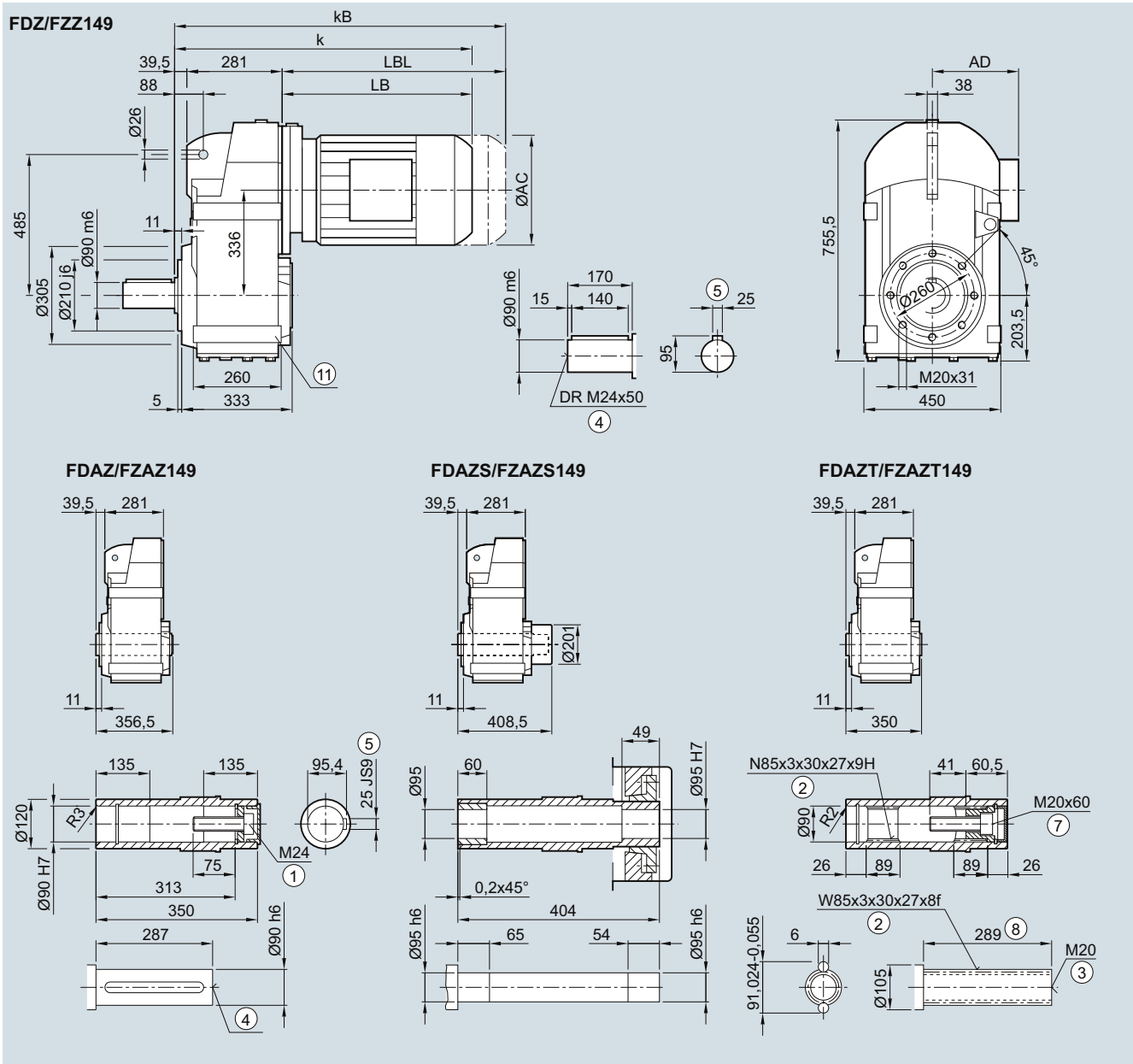
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.Z./FZ.Z.149 gearbox in a housing flange design

FZ030, FAZ030, FAZS030, FAZT030

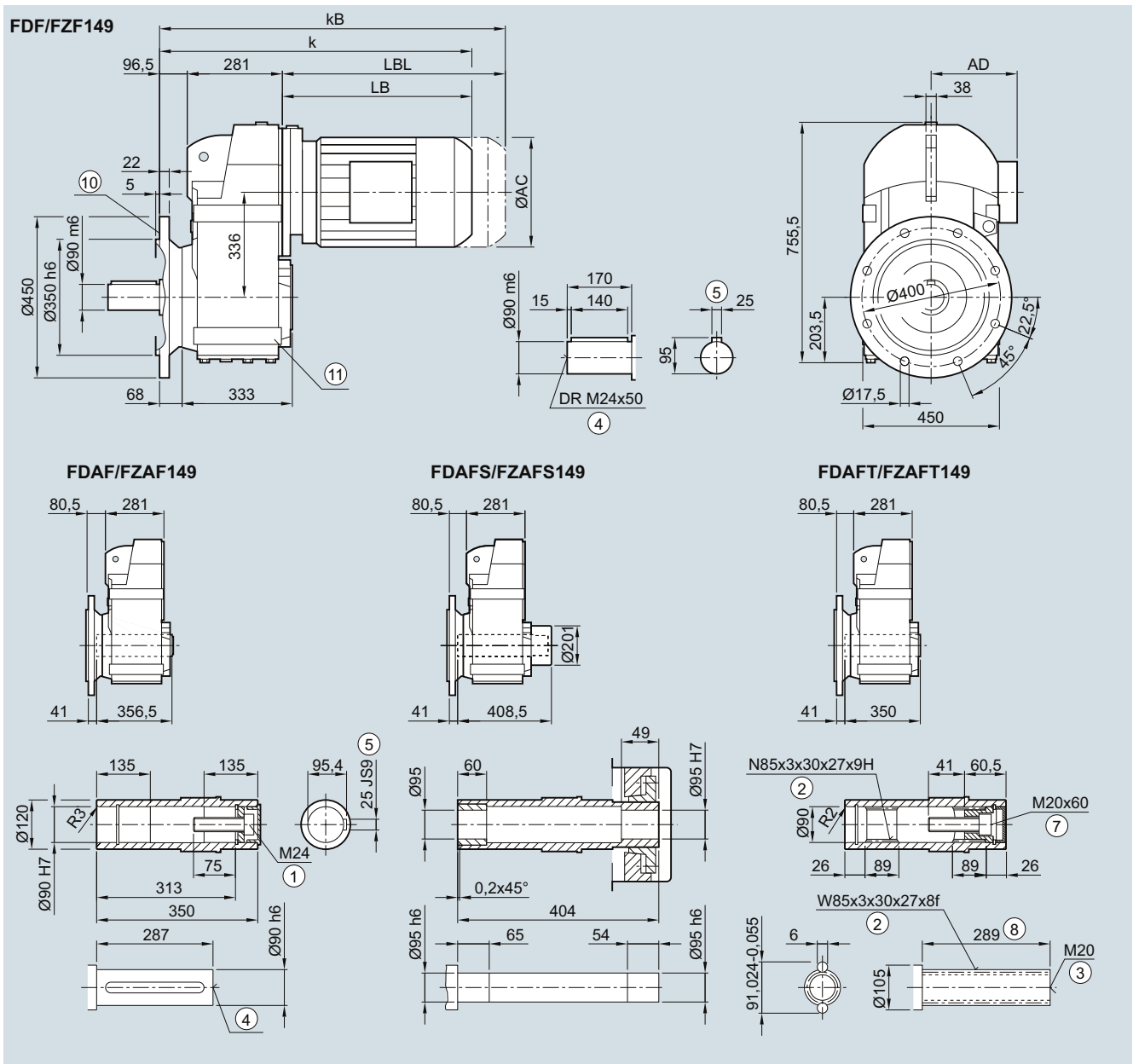


Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	676.5	711.5	686.5	711.5	732.5	782.5	814.5	874.5	887.5	917.5	955.5	980.5	1 000.5	1 060.5	1 112.0
kB	755.0	790.0	759.5	784.5	837.0	887.0	930.5	990.5	1 016.5	1 046.5	1 102.5	1 127.5	1 229.0	1 289.0	1 337.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑥ ISO 4762 ⑦ Without locating shoulder +1 mm  
 ⑧ Use bores only for foot-mounted design ⑨ AD depends on the motor options, for other dimensions see page 8/42.

**FD.F/FZ.F.149 gearbox in a flange-mounted design**

**FF030, FAF030, FAFS030, FAFT030**



Motor	LE					LES					250				
	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	734.0	769.0	744.0	769.0	790.0	840.0	872.0	932.0	945.0	975.0	1 013.0	1 038.0	1 058.5	1 118.5	1 170.0
kB	812.5	847.5	817.0	842.0	894.5	944.5	988.0	1 048.0	1 074.0	1 104.0	1 160.0	1 185.0	1 286.5	1 346.5	1 395.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder + 1 mm  
 ⑩ For inner contour see page 4/128    ⑪ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.

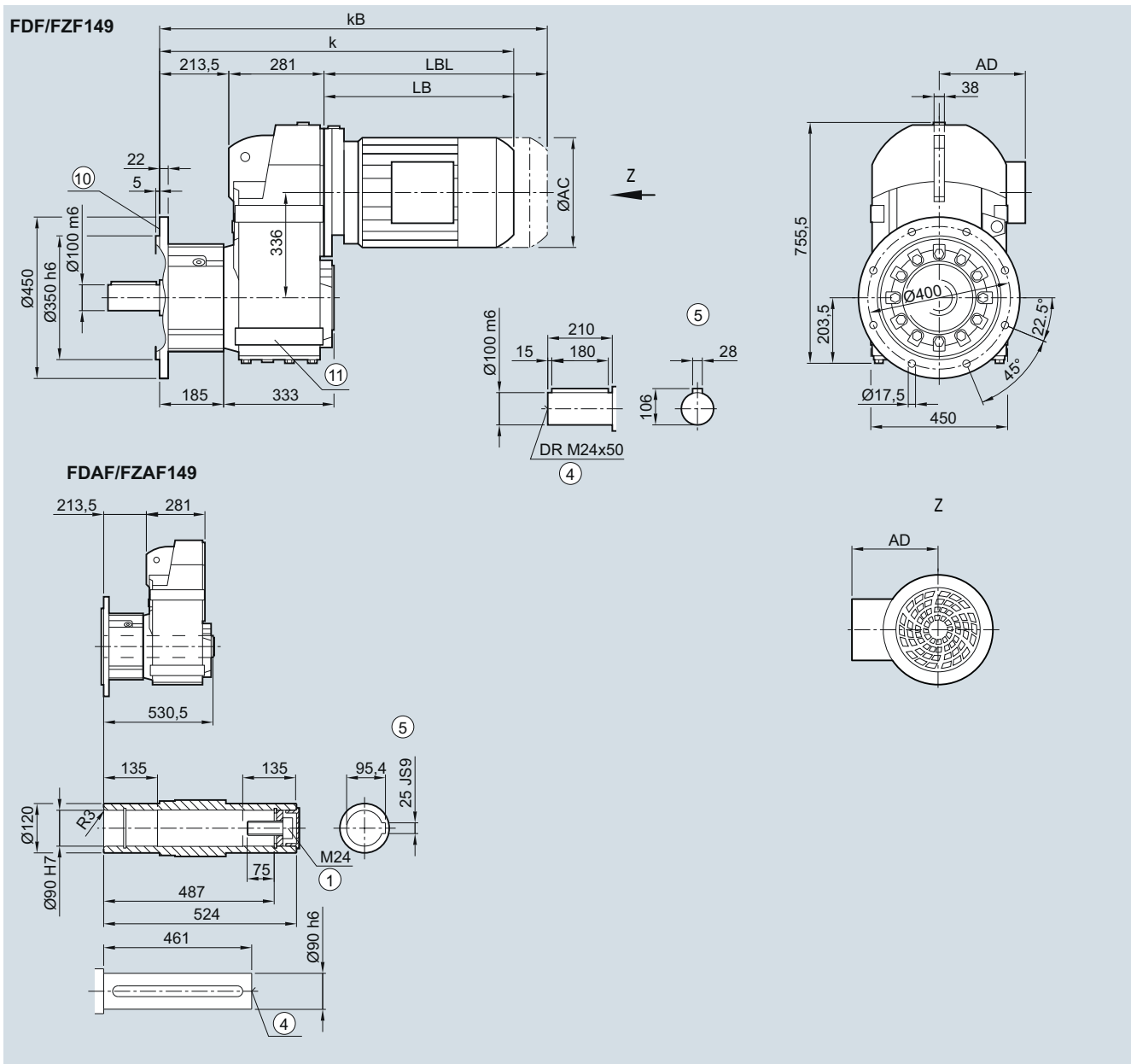
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.F/FZ.F.149 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)

FF040, FAF040



Motor	LE								LES							
	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250	
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0	
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5	
k	851.0	886.0	861.0	886.0	907.0	957.0	989.0	1049.0	1062.0	1092.0	1130.0	1155.0	1175.5	1235.5	1287.0	
k <sub>B</sub>	929.5	964.5	934.0	959.0	1011.5	1061.5	1105.0	1165.0	1191.0	1221.0	1277.0	1302.0	1403.5	1463.5	1512.0	
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0	
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1017.0	

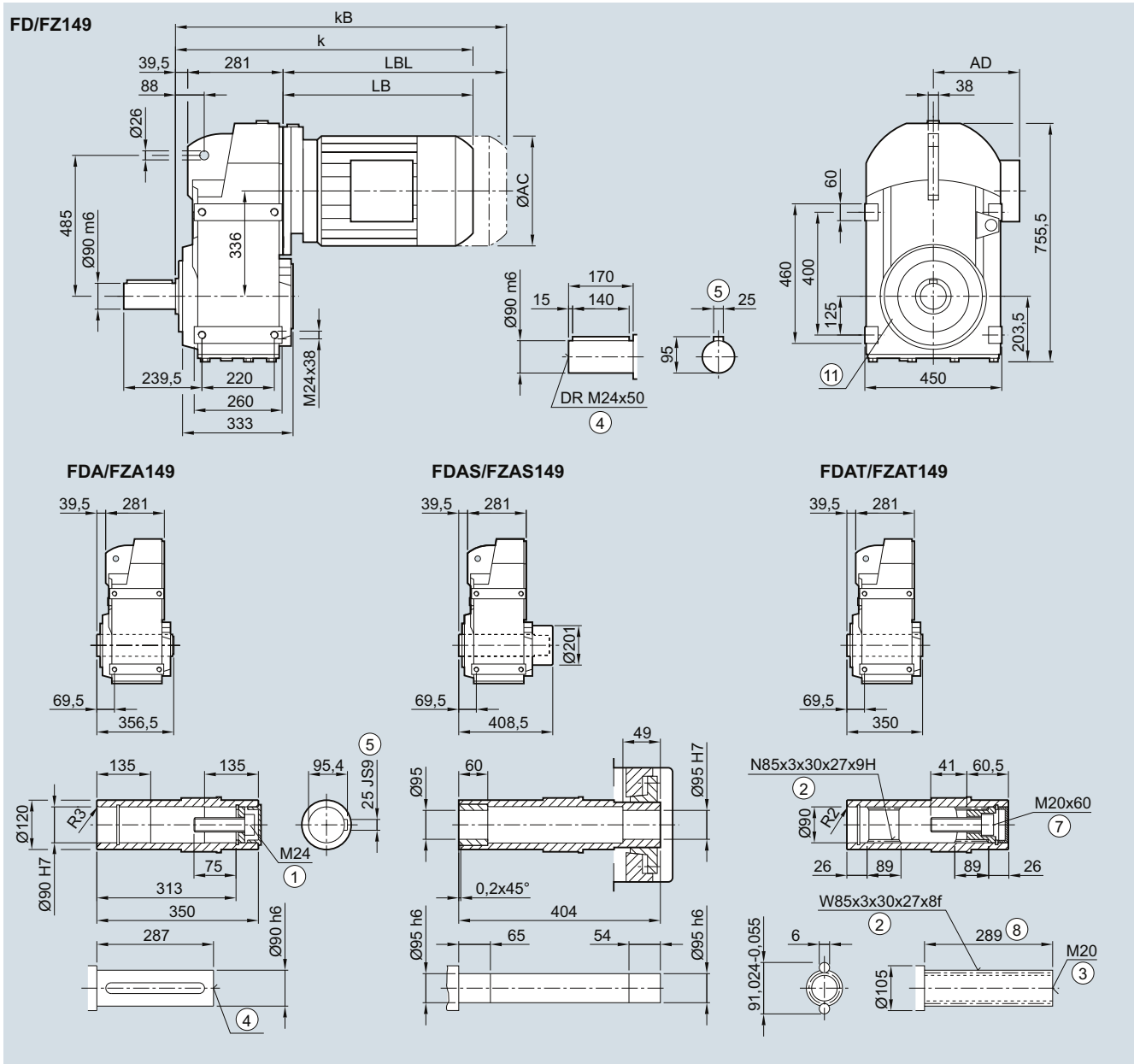
⑩ ISO 4014    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑪ Use bores only for foot-mounted design

⑨ For inner contour see page 4/128

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**FD./FZ..149 gearbox in a foot-mounted design**

**F030, FA030, FAS030, FAT030**



Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	676.5	711.5	686.5	711.5	732.5	782.5	814.5	874.5	887.5	917.5	955.5	980.5	1 000.5	1 060.5	1 112.0
kB	755.0	790.0	759.5	784.5	837.0	887.0	930.5	990.5	1 016.5	1 046.5	1 102.5	1 127.5	1 229.0	1 289.0	1 337.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for housing flange design    1) AD depends on the motor options, for other dimensions see page 8/42.

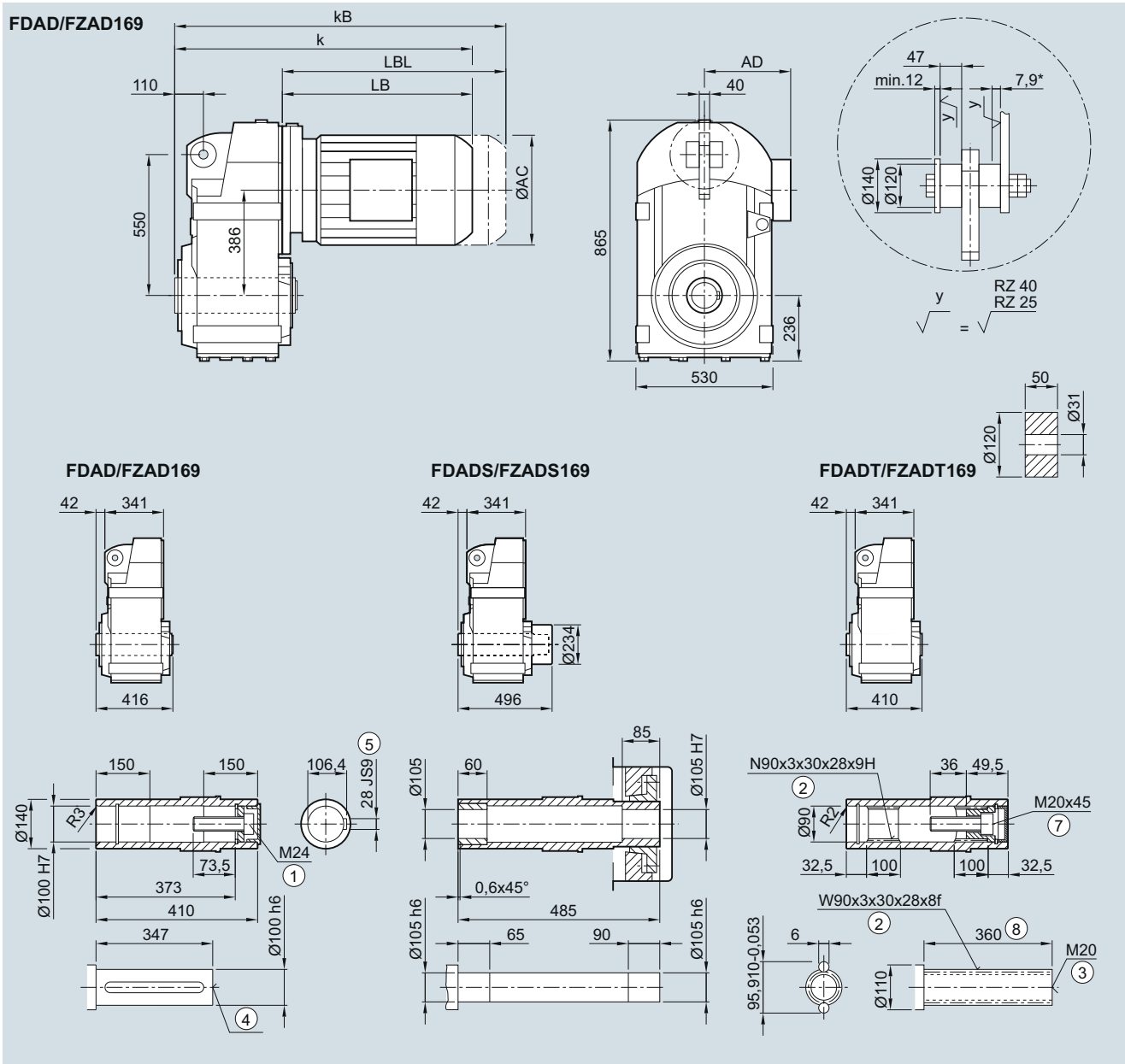
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FDAD./FZAD.169 gearbox in a shaft-mounted design

FAD030, FADS030, FADT030

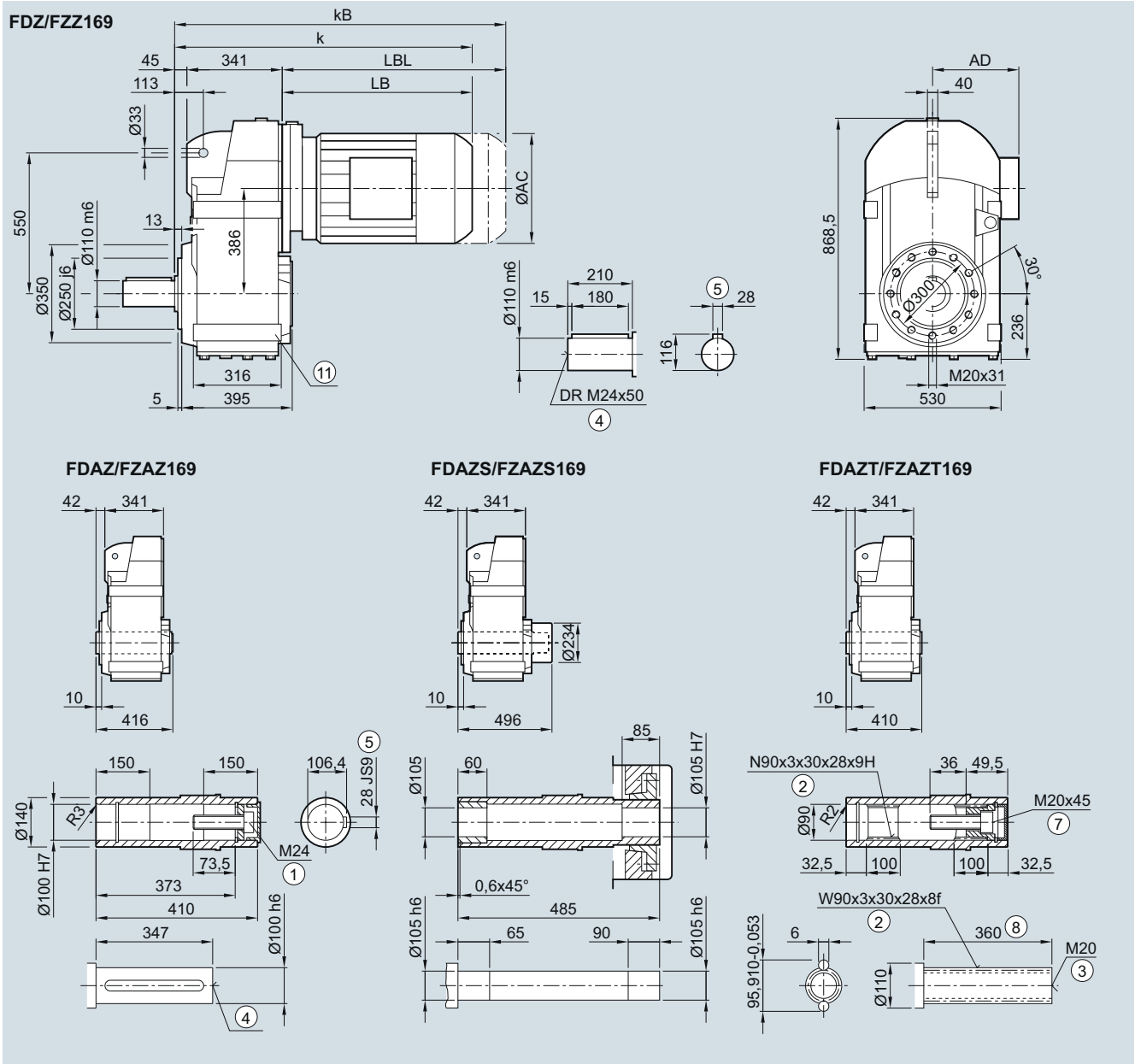


Motor	LE				LES								
	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0
k	739.5	764.5	785.0	835.0	867.0	927.0	939.5	969.5	1 007.5	1 032.5	1 052.5	1 112.0	1 159.5
kB	812.5	837.5	889.5	939.5	933.0	1 043.0	1 068.5	1 093.5	1 154.5	1 179.5	1 280.0	1 340.0	1 384.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.0	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 1) AD depends on the motor options, for other dimensions see page 8/42.    \* Spring compression at max. torque

**FD.Z./FZ.Z.169 gearbox in a housing flange design**

**FZ030, FAZ030, FAZS030, FAZT030**



Motor	LE				LES									
	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250	
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0	
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0	
k	739.5	764.5	785.0	835.0	867.0	927.0	939.5	969.5	1 007.5	1 032.5	1 052.5	1 112.0	1 159.5	
kB	812.5	837.5	889.5	939.5	933.0	1 043.0	1 068.5	1 093.5	1 154.5	1 179.5	1 280.0	1 340.0	1 384.5	
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.0	621.5	646.5	666.0	726.0	773.5	
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5	

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design    1) AD depends on the motor options, for other dimensions see page 8/42.

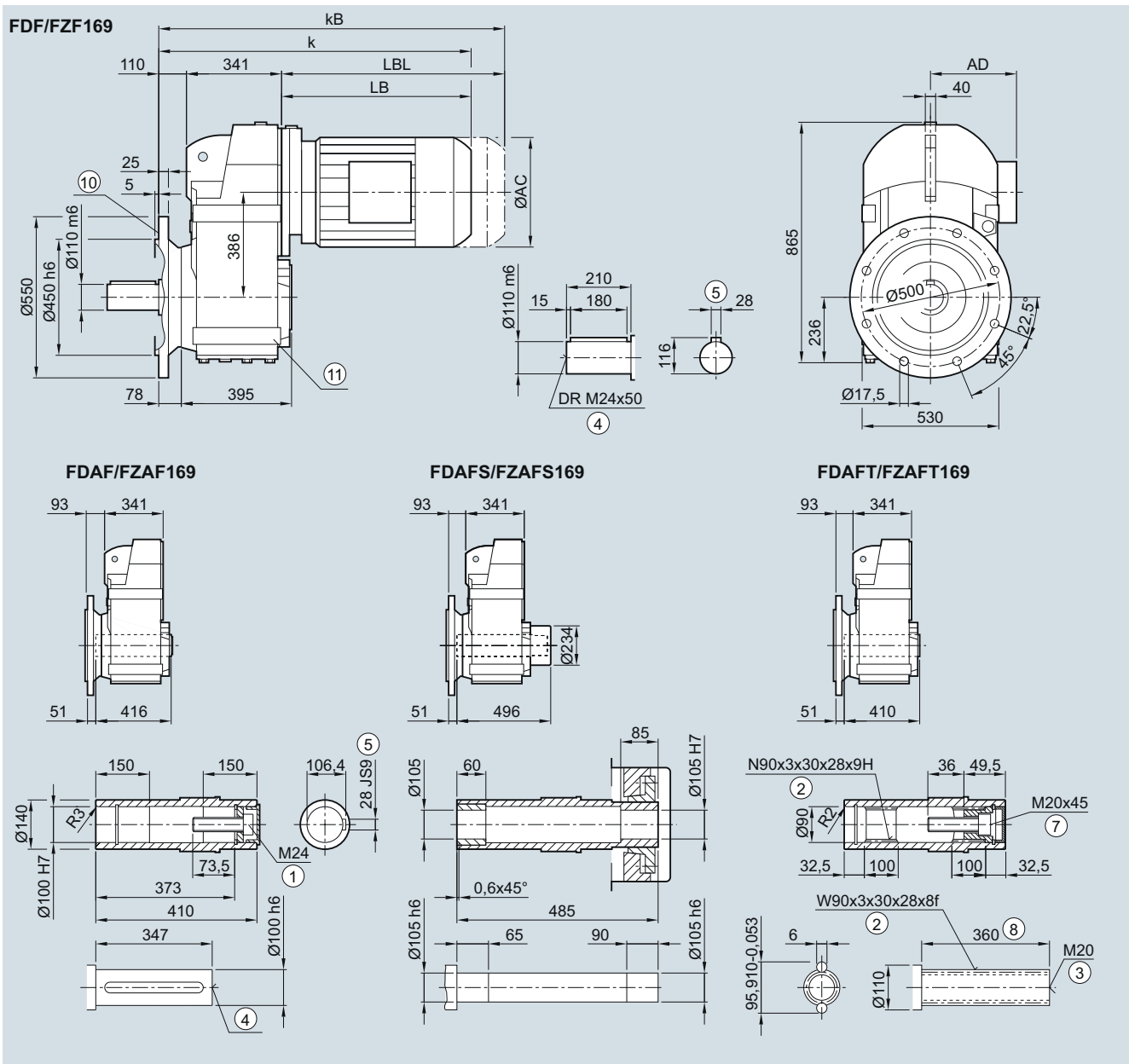
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.F/FZ.F.169 gearbox in a flange-mounted design

FF030, FAF030, FAFS030, FAFT030



Motor	LE				LES								
	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	804.5	829.5	850.0	900.0	932.0	992.0	1 004.5	1 034.5	1 072.5	1 097.5	1 117.0	1 177.0	1 224.5
kB	877.5	902.5	954.5	1 004.5	1 048.0	1 108.0	1 133.5	1 163.5	1 219.5	1 244.5	1 345.0	1 405.0	1 449.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	692.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder + 1 mm

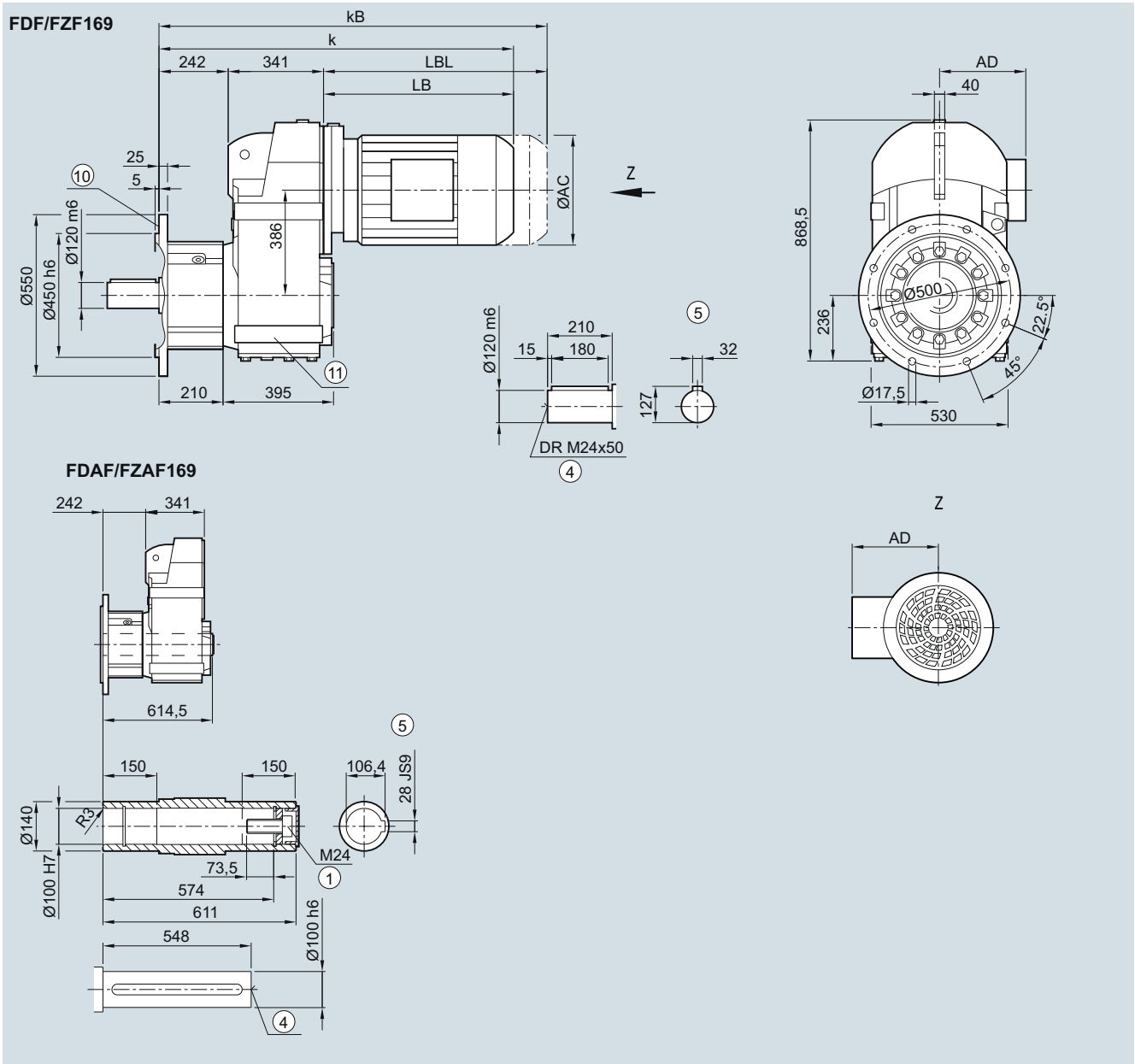
⑩ For inner contour see page 4/128

⑪ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**FD.F/FZ.F.169 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)**

**FF040, FAF040**



Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	936.5	961.5	982.0	1 032.0	1 064.0	1 124.0	1 136.5	1 166.5	1 204.5	1 129.5	1 249.0	1 309.0	1 356.5
kB	1 009.5	1 034.5	1 086.5	1 136.5	1 180.0	1 240.0	1 265.5	1 293.5	1 351.5	1 376.5	1 477.0	1 537.0	1 581.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

⑩ ISO 4014    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑪ Use bores only for foot-mounted design  
 ⑧ For inner contour see page 4/128    1) AD depends on the motor options, for other dimensions see page 8/42.



# SIMOGEAR geared motors

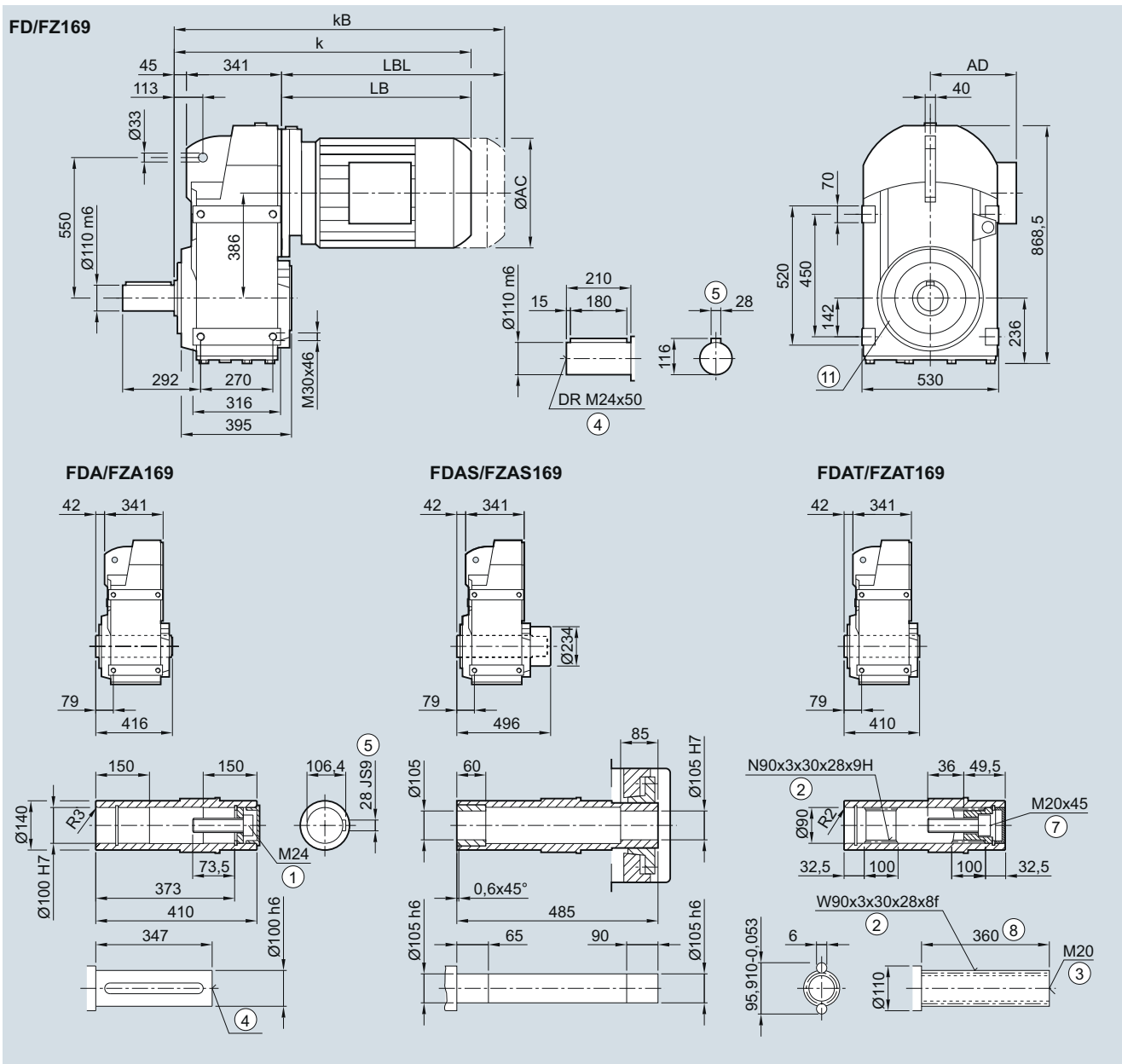
Parallel shaft geared motors

## Dimensions

### FD../FZ..169 gearbox in a foot-mounted design

F030, FA030, FAS030, FAT030

4

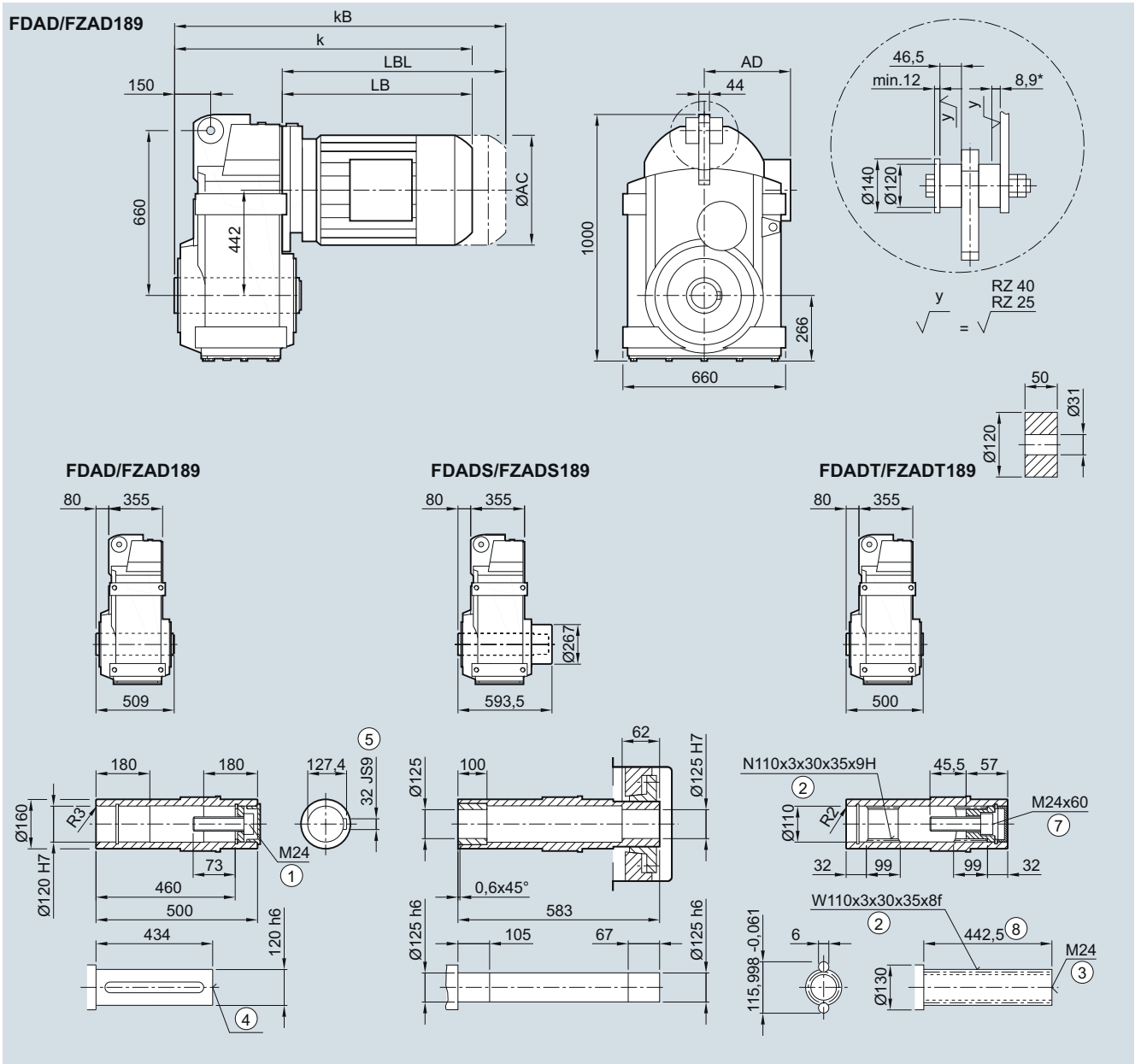


Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.0
k	739.5	764.5	785.0	835.0	867.0	927.0	939.5	969.5	1 007.5	1 032.5	1 052.5	1 112.0	1 159.5
kB	812.5	837.5	889.5	939.5	933.0	1 043.0	1 068.5	1 093.5	1 154.5	1 179.5	1 280.0	1 340.0	1 384.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.0	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for housing flange design    1) AD depends on the motor options, for other dimensions see page 8/42.

**FDAD./FZAD.189 gearbox in a shaft-mounted design**

*FAD030, FADS030, FADT030*



Motor	LE				LES								
	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	788.5	813.5	834.0	884.0	916.0	976.0	988.5	1 018.5	1 056.5	1 081.5	1 101.0	1 161.0	1 208.5
kB	861.5	886.5	938.5	988.5	1 032.0	1 092.0	1 117.5	1 147.5	1 203.5	1 228.5	1 329.0	1 389.0	1 433.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

⑩ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42.

\* Spring compression at max. torque

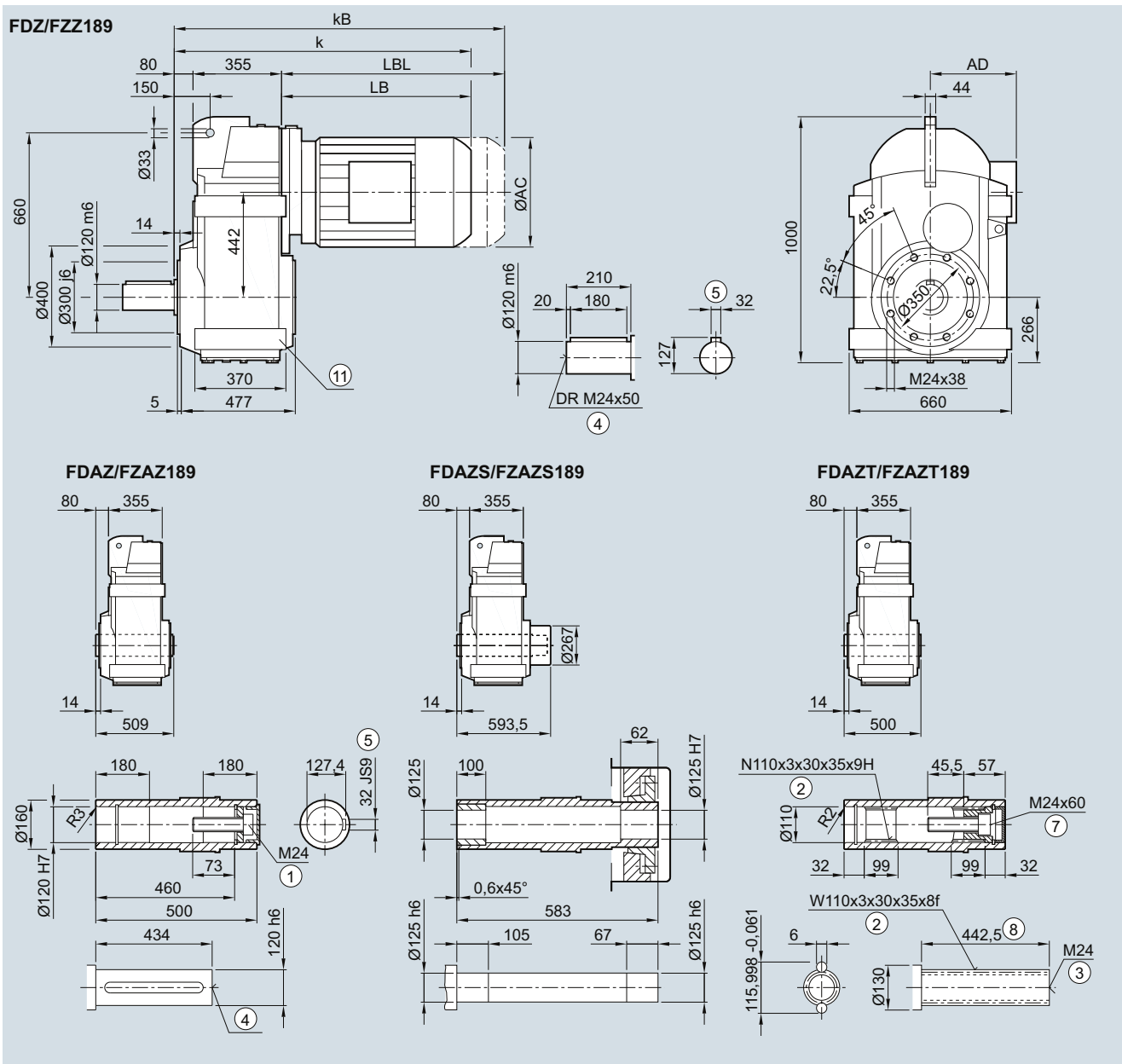
# SIMOGEAR geared motors

Parallel shaft geared motors

## Dimensions

### FD.Z./FZ.Z.189 gearbox in a housing flange design

FZ030, FAZ030, FAZS030, FAZT030

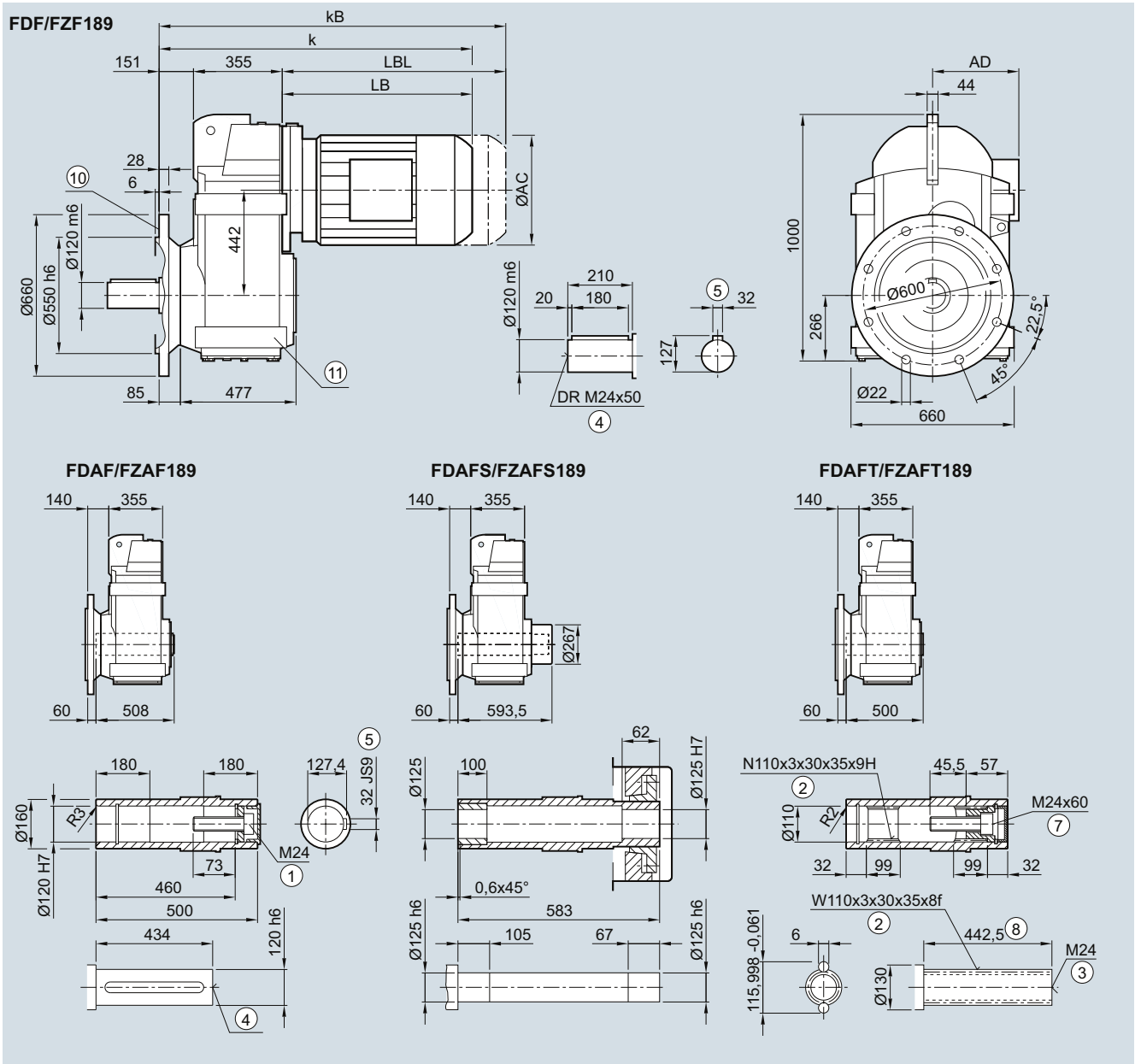


Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	788.5	813.5	834.0	884.0	916.0	976.0	988.5	1 018.5	1 056.5	1 081.5	1 101.0	1 161.0	1 208.5
kB	861.5	886.5	938.5	988.5	1 032.0	1 117.5	1 147.5	1 203.5	1 228.5	1 329.0	1 389.0	1 433.5	
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑥ ISO 4762 ⑦ Without locating shoulder +1 mm  
 ⑧ Use bores only for foot-mounted design ⑨ AD depends on the motor options, for other dimensions see page 8/42.

**FD.F/FZ.F.189 gearbox in a flange-mounted design**

**FF030, FAF030, FAFS030, FAFT030**



Motor	LE				LES								
	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	859.5	884.5	905.0	955.0	987.0	1 047.0	1 059.5	1 089.5	1 127.5	1 152.5	1 172.0	1 232.0	1 279.5
kB	932.5	957.5	1 009.5	1 059.5	1 030.0	1 163.0	1 188.5	1 218.5	1 274.5	1 299.5	1 400.0	1 460.0	1 504.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	692.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder + 1 mm

⑩ For inner contour see page 4/128    ⑪ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42.

# SIMOGEAR geared motors

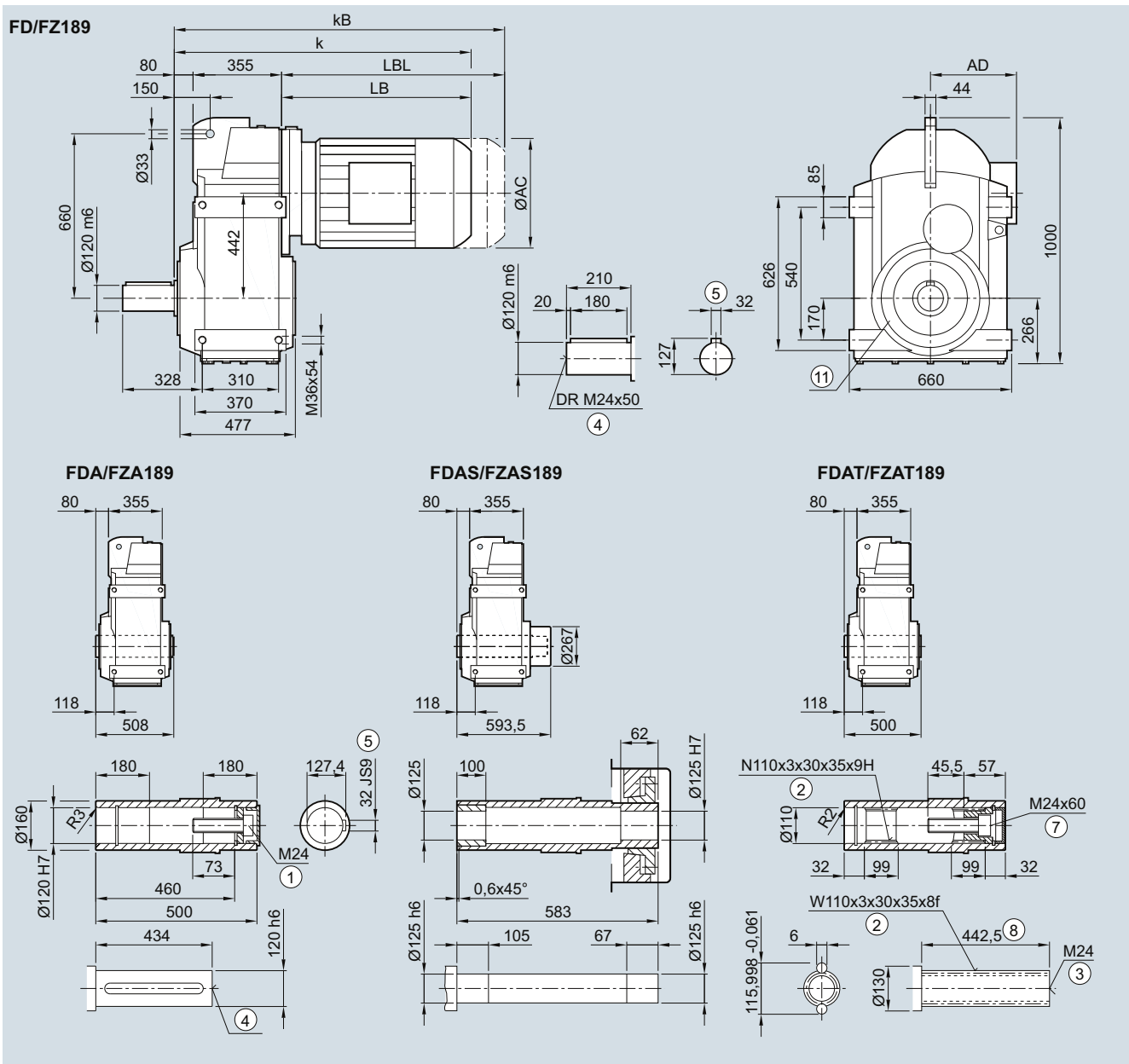
Parallel shaft geared motors

## Dimensions

### FD../FZ..189 gearbox in a foot-mounted design

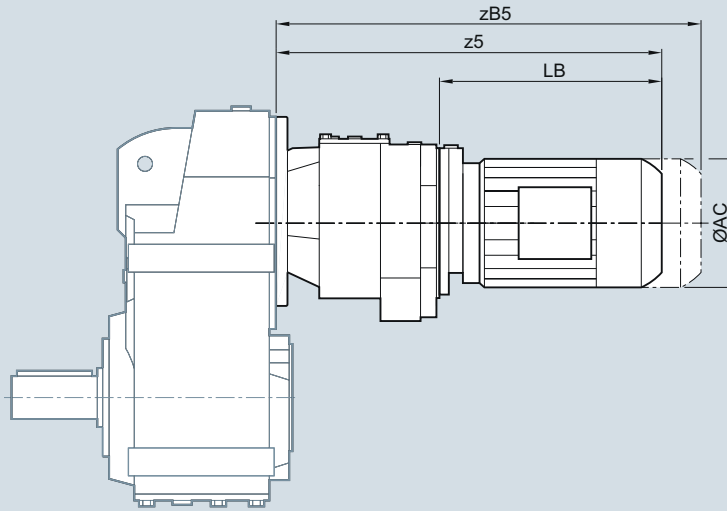
F030, FA030, FAS030, FAT030

4



Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	788.5	813.5	834.0	884.0	916.0	976.0	988.5	1 018.5	1 056.5	1 081.5	1 101.0	1 161.0	1 208.5
kB	861.5	886.5	938.5	988.5	1 032.0	1 117.5	1 147.5	1 203.5	1 228.5	1 329.0	1 389.0	1 433.5	
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for housing flange design    ⑩ AD depends on the motor options, for other dimensions see page 8/42.

**Parallel shaft tandem geared motors**


4

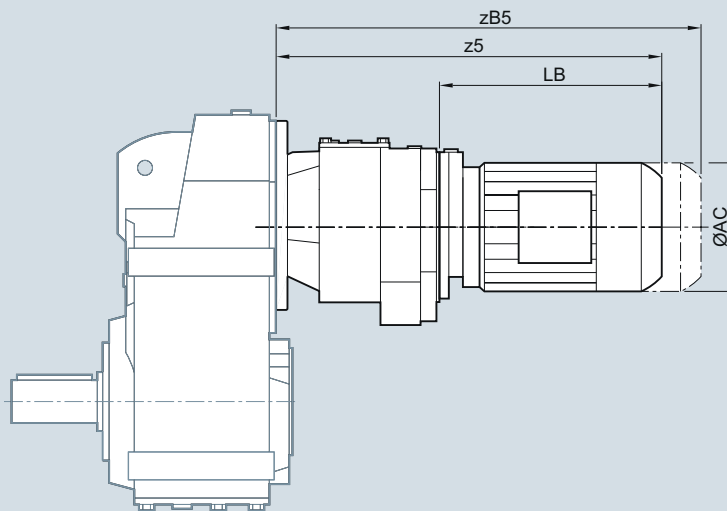
Gearbox	Motor	AC	z5	zB5	LB	
FD../FZ..29-D/Z19	LA63	117.8	331.0	375.5	160.5	
FD../FZ..39-D/Z19	LA63	117.8	331.0	375.5	160.5	
	LA71	138.8	363.0	418.0	184.5	
	LA71Z	138.8	382.0	437.0	203.5	
FD../FZ..49-D/Z19	LA63	117.8	322.0	366.5	160.5	
	LA71	138.8	354.0	409.0	184.5	
	LA71Z	138.8	373.0	428.0	203.5	
	LE80	156.3	410.0	470.0	240.0	
	LE80Z	156.3	445.0	505.0	275.0	
FD../FZ..69-D/Z19	LA63	117.8	322.0	366.5	160.5	
	LA71	138.8	354.0	409.0	184.5	
	LA71Z	138.8	373.0	428.0	203.5	
	LE80	156.3	410.0	470.0	240.0	
	LE80Z	156.3	445.0	505.0	275.0	
FD../FZ..79-D/Z39	LA63	117.8	373.5	418.0	194.0	
	LA71	138.8	405.5	460.5	226.0	
	LA71Z	138.8	424.5	479.5	245.0	
	LE80	156.3	469.5	529.5	290.0	
	LE80Z	156.3	504.5	564.5	325.0	
FD../FZ..89-D/Z39	LA63	117.8	356.5	401.0	194.0	
	LA71	138.8	388.5	443.5	226.0	
	LA71Z	138.8	407.5	462.5	245.0	
	LE80	156.3	452.5	512.5	290.0	
	LE80Z	156.3	487.5	547.5	325.0	
	LE90	173.8	514.0	584.0	351.5	
	LE90Z	173.8	554.0	624.0	391.5	
	FD..109-D/Z39	LA63	117.8	347.5	392.0	194.0
		LA71	138.8	379.5	434.5	226.0
LA71Z		138.8	398.5	453.5	245.0	
LE80		156.3	443.5	503.5	290.0	
LE80Z		156.3	478.5	538.5	325.0	
LE90		173.8	505.0	575.0	351.5	
LE90Z		173.8	545.0	615.0	391.5	
LE100		198.0	561.5	640.0	408.0	
LE100Z		198.0	596.5	675.0	443.0	

Gearbox	Motor	AC	z5	zB5	LB
FD..129-D/Z49	LA63	117.8	376.5	421.0	184.5
	LA71	138.8	408.5	463.5	216.5
	LA71Z	138.8	427.5	482.5	235.5
	LE80	156.3	472.5	532.5	280.5
	LE80Z	156.3	507.5	567.5	315.5
	LE90	173.8	534.0	604.0	342.0
	LE90Z	173.8	574.0	644.0	382.0
	LE100	198.0	590.5	669.0	398.5
	LE100Z	198.0	625.5	704.0	433.5
	LE112	222.0	600.5	673.5	408.5
FD..149-D/Z49	LE112Z	222.0	635.0	708.0	443.0
	LA63	117.8	366.0	410.5	184.5
	LA71	138.8	398.0	453.0	216.5
	LA71Z	138.8	417.0	472.0	235.5
	LE80	156.3	462.0	522.0	280.5
	LE80Z	156.3	497.0	557.0	315.5
	LE90	173.8	523.5	593.5	342.0
	LE90Z	173.8	563.5	633.5	382.0
	LE100	198.0	580.0	658.5	398.5
	LE100Z	198.0	615.0	693.5	433.5
FD..149-D/Z49	LE112	222.0	590.0	663.0	408.5
	LE112Z	222.0	624.5	697.5	443.0
	LE132	264.0	643.0	747.5	461.5
	LE132Z	264.0	693.0	797.5	511.5

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**SIMOGEAR geared motors**

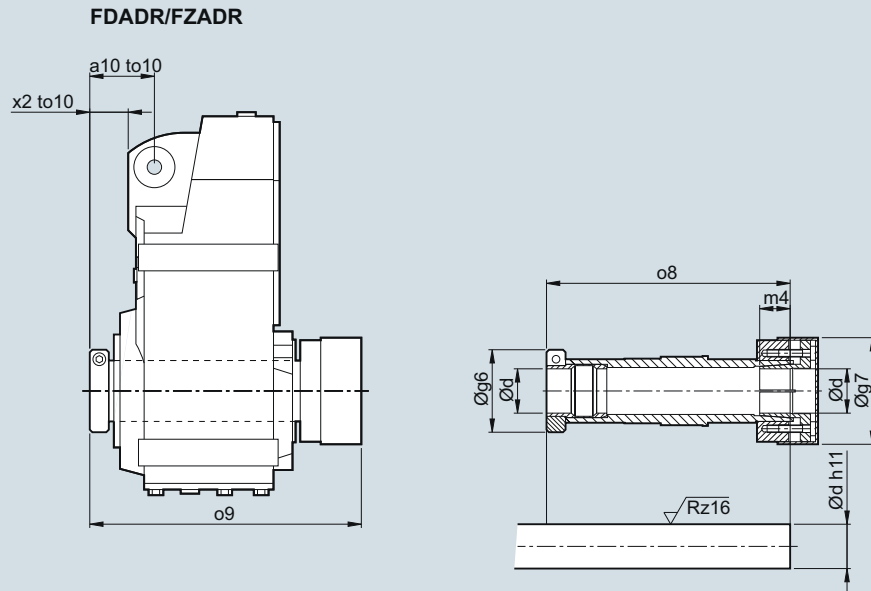
Parallel shaft geared motors

**Dimensions****Parallel shaft tandem geared motors**

Gearbox	Motor	AC	z5	zB5	LB
FD..169-D/Z69	LA63	117.8	391.5	436.0	184.5
	LA71	138.8	423.5	478.5	216.5
	LA71Z	138.8	442.5	497.5	235.5
	LE80	156.3	487.5	547.5	280.5
	LE80Z	156.3	522.5	582.5	315.5
	LE90	173.8	549.0	619.0	342.0
	LE90Z	173.8	589.0	659.0	382.0
	LE100	198.0	605.5	684.0	398.5
	LE100Z	198.0	640.5	719.0	433.5
	LE112	222.0	615.5	688.5	408.5
	LE112Z	222.0	650.0	723.0	443.0
	LE132	264.0	668.5	773.0	461.5
	LE132Z	264.0	718.5	823.0	511.5
	FD..189-D/Z69	LA63	117.8	391.5	436.0
LA71		138.8	423.5	478.5	216.5
LA71Z		138.8	442.5	497.5	235.5
LE80		156.3	487.5	547.5	280.5
LE80Z		156.3	522.5	582.5	315.5
LE90		173.8	549.0	619.0	342.0
LE90Z		173.8	589.0	659.0	382.0
LE100		198.0	605.5	684.0	398.5
LE100Z		198.0	640.5	719.0	433.5
LE112		222.0	615.5	688.5	408.5
LE112Z		222.0	650.0	723.0	443.0
LE132		264.0	668.5	773.0	461.5
LE132Z		264.0	718.5	823.0	511.5

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## SIMOLOC assembly system



Note mounting tolerance to10 when positioning the torque arm.

d	g6	g7	m4	o8	o9	a10	to10	x2
<b>FDADR/FZADR29</b>								
25	58.5	56	18.5	140.5	161	40.0	+2.1	23.5
20							+0.6	
1"								
0.75"								
<b>FDADR/FZADR39</b>								
30	62.0	76	22	160.5	181	46.5	+2.2	29.5
25							+0.7	
1.25"								
1.1875"								
1"								
<b>FDADR/FZADR49</b>								
35	65.0	84	24	192.0	214	47.0	+2.6	24.5
30							+0.8	
1.375"								
1.4375"								
1.25"								
1.1875"								
<b>FDADR/FZADR.69</b>								
40	79.5	94	30	217.5	240	59.5	+2.5	37.0
35							+0.7	
1.5"								
1.625"								
1.4375"								
1.375"								
<b>FDADR/FZADR79</b>								
40	79.5	94	30	232.0	259	60.0	+3.2	34.0
35							+1.4	
1.5"								
1.625"								
1.4375"								
1.375"								
<b>FDADR/FZADR89</b>								
50	89.0	114	32	264.0	295	69.0	+3.4	32.0
40							+1.5	
2"								
1.9375"								
1.75"								
1.625"								

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## SIMOGEAR geared motors

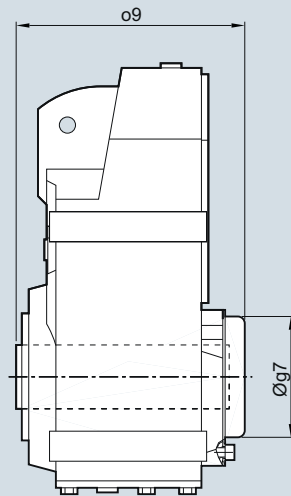
### Parallel shaft geared motors

#### Dimensions

##### Protection covers

##### Protection cover for hollow shaft

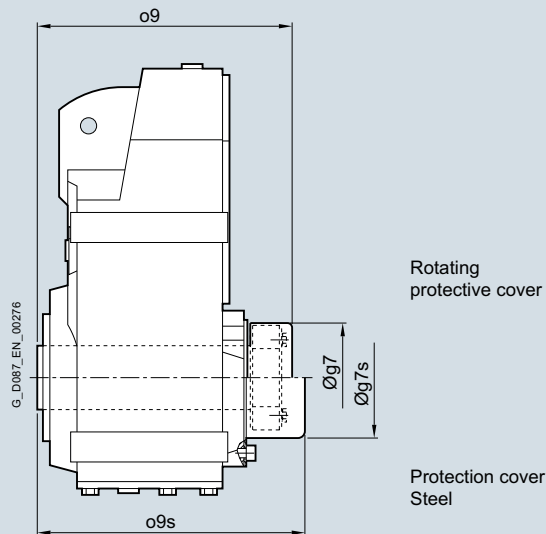
F.A, F.AF, F.AZ, F.AD



Gearbox type	F.A..29	F.A..39	F.A..49	F.A..69	F.A..79	F.A..89	F.A..109	F.A..129	F.A..149	F.A..169	F.A..189
<b>Protection cover</b>											
g7	67.0	82.5	80.0	99.0	99.0	137.0	187.0	187.0	218.0	257.5	309.5
o9	120.5	134.0	177.0	179.0	192.5	232.5	281.5	348.0	425.0	520.0	623.5

##### Protection cover for hollow shaft with shrink disk

F.AS, F.AFS, F.AZS, F.ADS

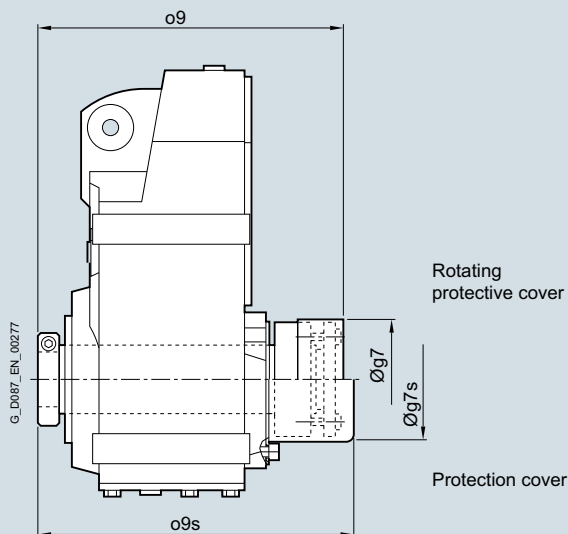


Gearbox type	F.A..29	F.A..39	F.A..49	F.A..69	F.A..79	F.A..89	F.A..109	F.A..129	F.A..149	F.A..169	F.A..189
<b>Rotating protective cover with shrink disk version</b>											
max. motor frame size that can be mounted	80	90	100	100	132	160	200	225	250	250	250
g7	57.0	76.0	84.0	84.0	94.0	119.0	145.0	159.0	201.0	234.0	267.0
o9	132.5	149.5	182.0	198.0	215.5	247.5	282.5	348.5	408.5	496.0	593.5
<b>Protection cover</b>											
max. motor frame size that can be mounted	71	80	100	100	112	132	200	225	250	250	250
g7s	58.0	82.5	86.0	99.0	99.0	137.0	187.0	187.0	218.0	257.5	309.5
o9s	135.5	170.0	198.0	210.0	223.5	284.5	308.5	375.0	425.0	520.0	623.5

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**Protection covers**
**Protection cover for hollow shaft with SIMOLOC assembly system**

F.ADR



Gearbox type	F.ADR29	F.ADR39	F.ADR49	F.ADR69	F.ADR79	F.ADR89
<b>Rotating protective cover</b>						
max. motor frame size that can be mounted	80	90	100	100	132	160
g7	56.0	76.0	84.0	94.0	94.0	114.0
o9	161.0	181.0	214.0	240.0	259.0	295.0
<b>Protection cover</b>						
max. motor frame size that can be mounted	71	80	100	100	112	132
g7s	58.0	82.5	86.0	99.0	99.0	137.0
o9s	164.0	184.0	219.0	249.5	263.5	303.5

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## SIMOGEAR geared motors

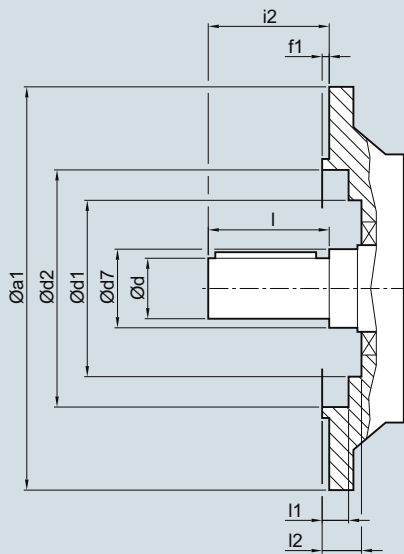
### Parallel shaft geared motors

#### Dimensions

#### Inner contour of the flange design

Notes regarding the design of the customer's interface for the solid shaft design

##### FDF/FZF



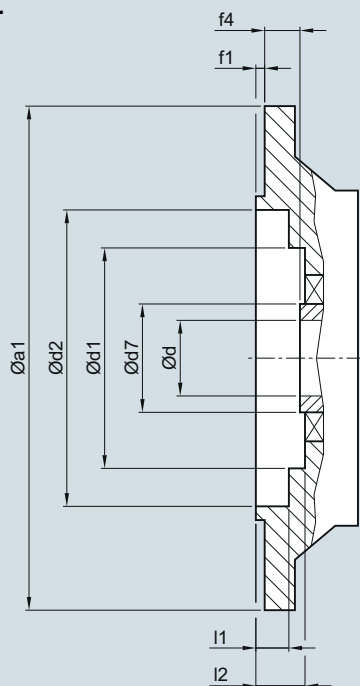
Gearbox type	a1	d	d7	d1	d2	f1	i2	l	l1	l2
FDF/FZF29	120	25	40	-	70	3.0	40	40	24.0	-
	160	25	40	70	101	3.5	40	40	8.5	24.5
FDF/FZF39	160	25	30	-	100	3.5	50	50	5.0	-
FDF/FZF49	200	30	35	-	118	3.5	60	60	5.5	-
FDF/FZF69	250	35	45	-	165	4.0	70	70	6.5	-
FDF/FZF79	250	40	55	-	165	4.0	80	80	6.5	-
FDF/FZF89	300	50	55	-	165	4.0	100	100	8.0	-
FDF/FZF109	350	60	65	-	235	5.0	120	120	9.0	-
FDF/FZF129	450	70	75	-	336	5.0	140	140	9.0	-
FDF/FZF149	450	90	100	-	336	5.0	170	170	10.0	-
FDF/FZF169	550	110	120	-	427	5.0	210	210	10.0	-
FDF/FZF189	660	120	160	-	517	6.0	210	210	11.0	-

##### With VLplus reinforced bearing system (G30)

FDF/FZF89	300	60	70	143	218	4.0	120	120	1.5	8
FDF/FZF109	350	70	85	190	234	5.0	140	140	2.0	4
FDF/FZF129	450	90	95	-	336	5.0	170	170	16.5	-
FDF/FZF149	450	100	120	225	336	5.0	210	210	10.5	11
FDF/FZF169	550	120	140	-	426	5.0	210	210	19.5	-

Notes regarding the design of the customer's interface for the hollow shaft design

##### FDAF/FZAF



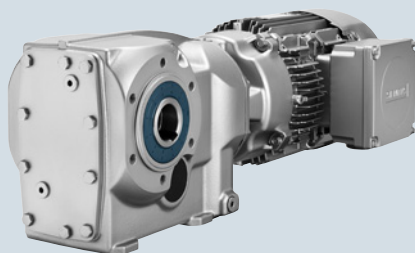
Gearbox type	a1	d	d7	d1	d2	f1	f4	l1	l2
FDAF/FZAF.29	120	25	40	-	70	3.0	20.0	24.0	-
	160	25	40	70	101	3.5	20.0	8.5	24.5
FDAF/FZAF.39	160	30	45	80	102	3.5	24.0	2.0	29.5
FDAF/FZAF.49	200	35	50	90	120	3.5	25.0	4.0	30.5
FDAF/FZAF.69	250	40	55	104	165	4.0	23.5	2.0	29.5
FDAF/FZAF.79	250	40	55	104	165	4.0	23.0	2.0	29.5
FDAF/FZAF.89	300	50	70	135	215	4.0	37.0	2.0	44.5
FDAF/FZAF.109	350	60	85	184	210	5.0	36.0	13.0	45.0
FDAF/FZAF.129	450	70	95	184	336	5.0	41.5	16.5	48.5
FDAF/FZAF.149	450	90	120	214	330	5.0	41.0	10.5	50.0
FDAF/FZAF.169	550	100	140	254	426	5.0	56.0	14.5	56.0
FDAF/FZAF.189	660	120	160	306	518	6.0	66.0	6.0	62.0

##### With VLplus reinforced bearing system (G30)

FDAF/FZAF.89	300	50	70	143	218	4.0	0	1.5	8
FDAF/FZAF.109	350	60	85	190	234	5.0	0	2.0	4
FDAF/FZAF.129	450	70	95	-	336	5.0	0	16.5	-
FDAF/FZAF.149	450	90	120	225	330	5.0	0	10.5	11
FDAF/FZAF.169	550	100	140	-	426	5.0	0	14.5	-

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## Bevel geared motors



<b>5/2</b>	<b>Orientation</b>
<b>5/3</b> 5/3	<b>Geared motors up to 55 kW</b> Selection and ordering data
<b>5/49</b> 5/49	<b>Transmission ratios and torques</b> Selection and ordering data
<b>5/63</b> 5/63	<b>Transmission ratios and torques for very low speeds</b> Selection and ordering data
<b>5/73</b>	<b>Dimensions</b>
5/73	Dimensional drawing overview
5/75	Bevel geared motors B..19
5/79	Bevel geared motors B..29
5/83	Bevel geared motors B..39
5/87	Bevel geared motors B..49
5/91	Bevel geared motors K..39
5/95	Bevel geared motors K..49
5/99	Bevel geared motors K..69
5/103	Bevel geared motors K..79
5/107	Bevel geared motors K..89
5/112	Bevel geared motors K..109
5/117	Bevel geared motors K..129
5/122	Bevel geared motors K..149
5/127	Bevel geared motors K..169
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5/137	SIMOLOC assembly system
	<u>Protection covers</u>
5/139	Protection cover for hollow shaft
5/139	Protection cover for hollow shaft with shrink disk
5/140	Protection covers for hollow shaft with SIMOLOC assembly system
5/141	Inner contour of the flange design

## SIMOGEAR geared motors

### Bevel geared motors

#### Orientation

##### SIMOGEAR bevel geared motor B

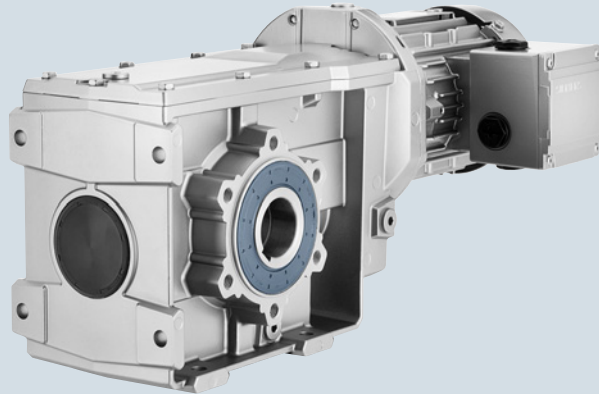


Fig. 5/1 Bevel geared motor B

Gearbox designation	Number of frame sizes	Maximum output torque	Transmission ratio	Maximum motor power
		$T_{2N}$ Nm	$i$	$P_1$ kW
B19 ... B49 (2-stage)	4	50... 450	3.5 ... 59	7.5

##### SIMOGEAR bevel geared motor K

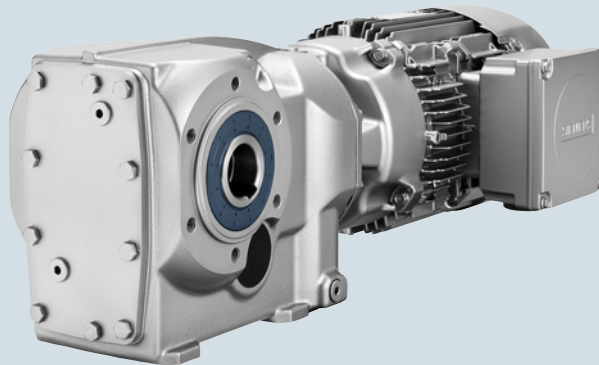


Fig. 5/2 Bevel geared motor K

Gearbox designation	Number of frame sizes	Maximum output torque	Transmission ratio	Maximum motor power
		$T_{2N}$ Nm	$i$	$P_1$ kW
K39 ... K189 (3-stage)	10	150 ... 19 500	5.7 ... 237	55
K.39-D/Z19 ... K189-DZ69 (5-stage and 6-stage)	10	220 ... 19 500	170 ... 14 900	7.5

SIMOGEAR bevel geared motors are available in the following versions:

#### Transmission stages

- 2-stage or 3-stage bevel geared motors
- 5-stage or 6-stage bevel geared motors for very low output speeds

#### Versions

- Shaft-mounted design
- Flange-mounted design with or without V plus reinforced bearing systems
- Design with integrated housing flange
- Foot-mounted design

#### Mounting

- Hollow shaft design with feather key
- Hollow shaft design with splined shaft
- Hollow shaft design with shrink disk
- Hollow shaft design with SIMOLOC assembly system
- Solid shaft design with and without feather key

For 2-stage bevel gearboxes B, the torque arm is supplied loose to enable it to be mounted as required on site. The position of the torque arm can be freely selected.

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**Selection and ordering data**

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.09</b>	<b>K.39-LA63MF6</b>							
	5.4	159	157.32	6 300	1.4	15	2KJ3504 - ■ BD11 - ■ ■ J2	P01
	6.1	141	139.54	6 370	1.6	15	2KJ3504 - ■ BD11 - ■ ■ H2	P01
	7.0	122	121.07	6 440	1.8	15	2KJ3504 - ■ BD11 - ■ ■ G2	P01
	7.7	111	110.06	6 480	2.0	15	2KJ3504 - ■ BD11 - ■ ■ F2	P01
	<b>B.29-LA63MF6</b>							
	18	47	46.85	4 200	2.3	9	2KJ3501 - ■ BD11 - ■ ■ B2	P01
	20	42	41.56	4 200	2.6	9	2KJ3501 - ■ BD11 - ■ ■ A2	P01
	24	36	36.06	4 200	3.0	9	2KJ3501 - ■ BD11 - ■ ■ X1	P01
	26	33	32.78	4 200	3.3	9	2KJ3501 - ■ BD11 - ■ ■ W1	P01
	<b>B.29-LA63MD4</b>							
	30	29	46.85	4 200	3.8	9	2KJ3501 - ■ BB11 - ■ ■ B2	
	34	26	41.56	4 200	4.3	9	2KJ3501 - ■ BB11 - ■ ■ A2	
	39	22	36.06	4 200	5.0	9	2KJ3501 - ■ BB11 - ■ ■ X1	
	43	20	32.78	4 200	5.5	9	2KJ3501 - ■ BB11 - ■ ■ W1	
	50	17	28.11	4 200	6.4	9	2KJ3501 - ■ BB11 - ■ ■ V1	
	55	16	25.56	4 200	7.0	9	2KJ3501 - ■ BB11 - ■ ■ U1	
	62	14	22.41	4 200	8.0	9	2KJ3501 - ■ BB11 - ■ ■ T1	
	70	12	20.00	4 200	9.0	9	2KJ3501 - ■ BB11 - ■ ■ S1	
	79	11	17.82	4 200	10	9	2KJ3501 - ■ BB11 - ■ ■ R1	
	85	10	16.45	4 200	11	9	2KJ3501 - ■ BB11 - ■ ■ Q1	
	97	8.8	14.40	4 200	12	9	2KJ3501 - ■ BB11 - ■ ■ P1	
	111	7.8	12.63	4 200	14	9	2KJ3501 - ■ BB11 - ■ ■ N1	
	<b>B.19-LA63MF6</b>							
	20	43	42.10	1 910	1.2	8	2KJ3500 - ■ BD11 - ■ ■ A2	P01
	23	38	37.28	1 910	1.3	8	2KJ3500 - ■ BD11 - ■ ■ X1	P01
	26	33	32.39	1 910	1.5	8	2KJ3500 - ■ BD11 - ■ ■ W1	P01
	29	30	29.44	1 910	1.7	8	2KJ3500 - ■ BD11 - ■ ■ V1	P01
	<b>B.19-LA63MD4</b>							
	33	26	42.10	1 910	1.9	8	2KJ3500 - ■ BB11 - ■ ■ A2	
	38	23	37.28	1 910	2.2	8	2KJ3500 - ■ BB11 - ■ ■ X1	
	43	20	32.39	1 910	2.5	8	2KJ3500 - ■ BB11 - ■ ■ W1	
	48	18	29.44	1 910	2.8	8	2KJ3500 - ■ BB11 - ■ ■ V1	
	56	15	25.06	1 910	3.2	8	2KJ3500 - ■ BB11 - ■ ■ U1	
	61	14	22.78	1 910	3.6	8	2KJ3500 - ■ BB11 - ■ ■ T1	
	70	12	19.86	1 910	4.1	8	2KJ3500 - ■ BB11 - ■ ■ S1	
	79	11	17.78	1 910	4.6	8	2KJ3500 - ■ BB11 - ■ ■ R1	
	89	9.7	15.79	1 910	5.2	8	2KJ3500 - ■ BB11 - ■ ■ Q1	
	96	8.9	14.57	1 910	5.6	8	2KJ3500 - ■ BB11 - ■ ■ P1	
	111	7.8	12.66	1 910	6.4	8	2KJ3500 - ■ BB11 - ■ ■ N1	
	127	6.8	11.00	1 910	7.4	8	2KJ3500 - ■ BB11 - ■ ■ M1	
	141	6.1	9.93	1 910	8.2	8	2KJ3500 - ■ BB11 - ■ ■ L1	
	150	5.7	9.35	1 910	8.7	8	2KJ3500 - ■ BB11 - ■ ■ K1	
	172	5	8.15	1 910	9.4	8	2KJ3500 - ■ BB11 - ■ ■ J1	
	178	4.8	7.87	1 910	7.9	8	2KJ3500 - ■ BB11 - ■ ■ H1	
	200	4.3	6.99	1 910	8.9	8	2KJ3500 - ■ BB11 - ■ ■ G1	
	217	4	6.45	1 910	9.8	8	2KJ3500 - ■ BB11 - ■ ■ F1	

**Article No. supplement**

Shaft design

Frequency and voltage

Gearbox mounting type

Electro\_Motor.ir

1, 5, 6, 7 or 9

2 or 9

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.09	<b>B.19-LA63MD4</b>							
	250	3.4	5.61	1 910	11	8	2KJ3500 - ■ BB11 - ■ ■ E1	
	287	3	4.87	1 910	12	8	2KJ3500 - ■ BB11 - ■ ■ D1	
	318	2.7	4.40	1 910	13	8	2KJ3500 - ■ BB11 - ■ ■ C1	
	338	2.5	4.14	1 910	13	8	2KJ3500 - ■ BB11 - ■ ■ B1	
388	2.2	3.61	1 910	14	8	2KJ3500 - ■ BB11 - ■ ■ A1		
0.12	<b>K.49-LA63MG6</b>							
	5.0	225	200.25	8 770	1.8	22	2KJ3505 - ■ BE11 - ■ ■ J2	P01
	5.6	200	178.06	8 850	2.1	22	2KJ3505 - ■ BE11 - ■ ■ H2	P01
	<b>K.39-LA63MG6</b>							
	6.4	180	157.32	6 230	1.2	15	2KJ3504 - ■ BE11 - ■ ■ J2	P01
	7.2	160	139.54	6 300	1.4	15	2KJ3504 - ■ BE11 - ■ ■ H2	P01
	8.3	139	121.07	6 380	1.6	15	2KJ3504 - ■ BE11 - ■ ■ G2	P01
	<b>K.39-LA63ME4</b>							
	8.6	134	157.32	6 400	1.6	15	2KJ3504 - ■ BC11 - ■ ■ J2	
	9.7	118	139.54	6 460	1.9	15	2KJ3504 - ■ BC11 - ■ ■ H2	
	11	103	121.07	6 510	2.1	15	2KJ3504 - ■ BC11 - ■ ■ G2	
	<b>B.29-LA63MG6</b>							
	21	54	46.85	4 200	2.0	9	2KJ3501 - ■ BE11 - ■ ■ B2	P01
	24	48	41.56	4 200	2.3	9	2KJ3501 - ■ BE11 - ■ ■ A2	P01
	28	41	36.06	4 200	2.7	9	2KJ3501 - ■ BE11 - ■ ■ X1	P01
	<b>B.29-LA63ME4</b>							
	29	40	46.85	4 200	2.8	9	2KJ3501 - ■ BC11 - ■ ■ B2	
	32	35	41.56	4 200	3.1	9	2KJ3501 - ■ BC11 - ■ ■ A2	
	37	31	36.06	4 200	3.6	9	2KJ3501 - ■ BC11 - ■ ■ X1	
	41	28	32.78	4 200	4.0	9	2KJ3501 - ■ BC11 - ■ ■ W1	
	48	24	28.11	4 200	4.6	9	2KJ3501 - ■ BC11 - ■ ■ V1	
	53	22	25.56	4 200	5.1	9	2KJ3501 - ■ BC11 - ■ ■ U1	
	60	19	22.41	4 200	5.8	9	2KJ3501 - ■ BC11 - ■ ■ T1	
	68	17	20.00	4 200	6.5	9	2KJ3501 - ■ BC11 - ■ ■ S1	
	76	15	17.82	4 200	7.3	9	2KJ3501 - ■ BC11 - ■ ■ R1	
	82	14	16.45	4 200	7.9	9	2KJ3501 - ■ BC11 - ■ ■ Q1	
	94	12	14.40	4 200	9.0	9	2KJ3501 - ■ BC11 - ■ ■ P1	
	107	11	12.63	4 200	10	9	2KJ3501 - ■ BC11 - ■ ■ N1	
	118	9.7	11.46	4 200	11	9	2KJ3501 - ■ BC11 - ■ ■ M1	
	125	9.2	10.78	4 200	12	9	2KJ3501 - ■ BC11 - ■ ■ L1	
	142	8.1	9.51	4 200	14	9	2KJ3501 - ■ BC11 - ■ ■ K1	
	172	6.7	7.84	4 150	11	9	2KJ3501 - ■ BC11 - ■ ■ H1	
	183	6.3	7.38	4 070	12	9	2KJ3501 - ■ BC11 - ■ ■ G1	
	207	5.5	6.51	3 900	14	9	2KJ3501 - ■ BC11 - ■ ■ F1	
	<b>B.19-LA63MG6</b>							
	24	48	42.10	1 910	1.0	8	2KJ3500 - ■ BE11 - ■ ■ A2	P01
	27	43	37.28	1 910	1.2	8	2KJ3500 - ■ BE11 - ■ ■ X1	P01
	31	37	32.39	1 910	1.3	8	2KJ3500 - ■ BE11 - ■ ■ W1	P01
	<b>B.19-LA63ME4</b>							
	32	36	42.10	1 910	1.4	8	2KJ3500 - ■ BC11 - ■ ■ A2	
	36	32	37.28	1 910	1.6	8	2KJ3500 - ■ BC11 - ■ ■ X1	
	42	28	32.39	1 910	1.8	8	2KJ3500 - ■ BC11 - ■ ■ W1	

## Article No. supplement

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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Electro Motor.ir

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.09</b>	<b>B.19-LA63ME4</b>							
	46	25	29.44	1 910	2.0	8	2KJ3500 - ■ BC11 - ■ ■ V1	
	54	21	25.06	1 910	2.4	8	2KJ3500 - ■ BC11 - ■ ■ U1	
	59	19	22.78	1 910	2.6	8	2KJ3500 - ■ BC11 - ■ ■ T1	
	68	17	19.86	1 910	3.0	8	2KJ3500 - ■ BC11 - ■ ■ S1	
	76	15	17.78	1 910	3.3	8	2KJ3500 - ■ BC11 - ■ ■ R1	
	85	13	15.79	1 910	3.7	8	2KJ3500 - ■ BC11 - ■ ■ Q1	
	93	12	14.57	1 910	4.0	8	2KJ3500 - ■ BC11 - ■ ■ P1	
	107	11	12.66	1 910	4.7	8	2KJ3500 - ■ BC11 - ■ ■ N1	
	123	9.3	11.00	1 910	5.4	8	2KJ3500 - ■ BC11 - ■ ■ M1	
	136	8.4	9.93	1 910	5.9	8	2KJ3500 - ■ BC11 - ■ ■ L1	
	144	7.9	9.35	1 910	6.3	8	2KJ3500 - ■ BC11 - ■ ■ K1	
	166	6.9	8.15	1 910	6.8	8	2KJ3500 - ■ BC11 - ■ ■ J1	
	172	6.7	7.87	1 910	5.7	8	2KJ3500 - ■ BC11 - ■ ■ H1	
	193	5.9	6.99	1 910	6.4	8	2KJ3500 - ■ BC11 - ■ ■ G1	
	209	5.5	6.45	1 910	7.1	8	2KJ3500 - ■ BC11 - ■ ■ F1	
	241	4.8	5.61	1 910	7.8	8	2KJ3500 - ■ BC11 - ■ ■ E1	
	277	4.1	4.87	1 910	8.5	8	2KJ3500 - ■ BC11 - ■ ■ D1	
307	3.7	4.40	1 910	9.1	8	2KJ3500 - ■ BC11 - ■ ■ C1		
326	3.5	4.14	1 910	9.4	8	2KJ3500 - ■ BC11 - ■ ■ B1		
374	3.1	3.61	1 910	10	8	2KJ3500 - ■ BC11 - ■ ■ A1		
<b>0.18</b>	<b>K.79-LA71MG6</b>							
	3.5	490	244.25	14 400	1.7	35	2KJ3508 - ■ CD11 - ■ ■ J2	P01
	3.8	445	222.05	14 400	1.8	35	2KJ3508 - ■ CD11 - ■ ■ H2	P01
	<b>K.69-LA71MG6</b>							
	4.3	395	196.59	11 300	1.5	30	2KJ3507 - ■ CD11 - ■ ■ H2	P01
	4.8	360	178.72	11 400	1.7	30	2KJ3507 - ■ CD11 - ■ ■ G2	P01
	5.6	305	152.00	11 500	2.0	30	2KJ3507 - ■ CD11 - ■ ■ F2	P01
	6.2	275	138.18	11 600	2.1	30	2KJ3507 - ■ CD11 - ■ ■ E2	P01
	<b>K.49-LA71MG6</b>							
	4.2	405	200.25	7 940	1.0	23	2KJ3505 - ■ CD11 - ■ ■ J2	P01
	4.8	360	178.06	8 290	1.2	23	2KJ3505 - ■ CD11 - ■ ■ H2	P01
	5.4	315	156.34	8 510	1.3	23	2KJ3505 - ■ CD11 - ■ ■ G2	P01
	6.0	285	142.13	8 600	1.5	23	2KJ3505 - ■ CD11 - ■ ■ F2	P01
	<b>K.49-LA63MF4</b>							
	6.7	255	200.25	8 690	1.6	22	2KJ3505 - ■ BD11 - ■ ■ J2	
	7.6	225	178.06	8 770	1.9	22	2KJ3505 - ■ BD11 - ■ ■ H2	
	8.6	199	156.34	8 850	2.1	22	2KJ3505 - ■ BD11 - ■ ■ G2	
	<b>K.39-LA71MG6</b>							
	7.0	245	121.07	5 980	0.90	16	2KJ3504 - ■ CD11 - ■ ■ G2	P01
	7.7	220	110.06	6 080	0.99	16	2KJ3504 - ■ CD11 - ■ ■ F2	P01
	<b>K.39-LA63MF4</b>							
	8.6	200	157.32	6 150	1.1	15	2KJ3504 - ■ BD11 - ■ ■ J2	
	9.7	178	139.54	6 230	1.2	15	2KJ3504 - ■ BD11 - ■ ■ H2	
	11	154	121.07	6 320	1.4	15	2KJ3504 - ■ BD11 - ■ ■ G2	
	12	140	110.06	6 370	1.6	15	2KJ3504 - ■ BD11 - ■ ■ F2	
	14	120	94.39	6 450	1.8	15	2KJ3504 - ■ BD11 - ■ ■ E2	
	16	109	85.81	6 490	2.0	15	2KJ3504 - ■ BD11 - ■ ■ D2	
18	96	75.24	6 530	2.3	15	2KJ3504 - ■ BD11 - ■ ■ C2		

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Shaft design

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Frequency and voltage

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Gearbox mounting type

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Electro\_Motor.ir



## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.18	<b>B.39-LA71MG6</b>							
	15	114	56.36	6 980	2.2	15	2KJ3502 - ■ CD11 - ■ ■ A2	P01
	17	101	50.11	6 980	2.1	15	2KJ3502 - ■ CD11 - ■ ■ X1	P01
<b>B.29-LA71MG6</b>								
	18	95	46.85	4 200	1.2	10	2KJ3501 - ■ CD11 - ■ ■ B2	P01
	20	84	41.56	4 200	1.3	10	2KJ3501 - ■ CD11 - ■ ■ A2	P01
	24	73	36.06	4 200	1.5	10	2KJ3501 - ■ CD11 - ■ ■ X1	P01
	26	66	32.78	4 200	1.7	10	2KJ3501 - ■ CD11 - ■ ■ W1	P01
<b>B.29-LA63MF4</b>								
	29	60	46.85	4 200	1.8	9	2KJ3501 - ■ BD11 - ■ ■ B2	
	32	53	41.56	4 200	2.1	9	2KJ3501 - ■ BD11 - ■ ■ A2	
	37	46	36.06	4 200	2.4	9	2KJ3501 - ■ BD11 - ■ ■ X1	
	41	42	32.78	4 200	2.6	9	2KJ3501 - ■ BD11 - ■ ■ W1	
	48	36	28.11	4 200	3.1	9	2KJ3501 - ■ BD11 - ■ ■ V1	
	53	32	25.56	4 200	3.4	9	2KJ3501 - ■ BD11 - ■ ■ U1	
	60	28	22.41	4 200	3.9	9	2KJ3501 - ■ BD11 - ■ ■ T1	
	68	26	20.00	4 200	4.3	9	2KJ3501 - ■ BD11 - ■ ■ S1	
	76	23	17.82	4 200	4.8	9	2KJ3501 - ■ BD11 - ■ ■ R1	
	82	21	16.45	4 200	5.3	9	2KJ3501 - ■ BD11 - ■ ■ Q1	
	94	18	14.40	4 200	6.0	9	2KJ3501 - ■ BD11 - ■ ■ P1	
	107	16	12.63	4 200	6.8	9	2KJ3501 - ■ BD11 - ■ ■ N1	
	118	15	11.46	4 200	7.5	9	2KJ3501 - ■ BD11 - ■ ■ M1	
	125	14	10.78	4 200	8.0	9	2KJ3501 - ■ BD11 - ■ ■ L1	
	142	12	9.51	4 200	9.1	9	2KJ3501 - ■ BD11 - ■ ■ K1	
	164	10	8.25	4 200	10	9	2KJ3501 - ■ BD11 - ■ ■ J1	
	172	10	7.84	4 110	7.5	9	2KJ3501 - ■ BD11 - ■ ■ H1	
	183	9.4	7.38	4 040	8.0	9	2KJ3501 - ■ BD11 - ■ ■ G1	
	207	8.3	6.51	3 880	9.0	9	2KJ3501 - ■ BD11 - ■ ■ F1	
	239	7.2	5.65	3 700	10	9	2KJ3501 - ■ BD11 - ■ ■ E1	
	266	6.5	5.07	3 590	12	9	2KJ3501 - ■ BD11 - ■ ■ D1	
	282	6.1	4.78	3 520	12	9	2KJ3501 - ■ BD11 - ■ ■ C1	
	321	5.4	4.21	3 380	14	9	2KJ3501 - ■ BD11 - ■ ■ B1	
<b>B.19-LA71MG6</b>								
	29	60	29.44	1 910	0.84	9	2KJ3500 - ■ CD11 - ■ ■ V1	P01
<b>B.19-LA63MF4</b>								
	32	54	42.10	1 910	0.93	8	2KJ3500 - ■ BD11 - ■ ■ A2	
	36	48	37.28	1 910	1.1	8	2KJ3500 - ■ BD11 - ■ ■ X1	
	42	41	32.39	1 910	1.2	8	2KJ3500 - ■ BD11 - ■ ■ W1	
	46	38	29.44	1 910	1.3	8	2KJ3500 - ■ BD11 - ■ ■ V1	
	54	32	25.06	1 910	1.6	8	2KJ3500 - ■ BD11 - ■ ■ U1	
	59	29	22.78	1 910	1.7	8	2KJ3500 - ■ BD11 - ■ ■ T1	
	68	25	19.86	1 910	2.0	8	2KJ3500 - ■ BD11 - ■ ■ S1	
	76	23	17.78	1 910	2.2	8	2KJ3500 - ■ BD11 - ■ ■ R1	
	85	20	15.79	1 910	2.5	8	2KJ3500 - ■ BD11 - ■ ■ Q1	
	93	19	14.57	1 910	2.7	8	2KJ3500 - ■ BD11 - ■ ■ P1	
	107	16	12.66	1 910	3.1	8	2KJ3500 - ■ BD11 - ■ ■ N1	
	123	14	11.00	1 910	3.6	8	2KJ3500 - ■ BD11 - ■ ■ M1	
	136	13	9.93	1 910	4.0	8	2KJ3500 - ■ BD11 - ■ ■ L1	

## Article No. supplement

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

Electro Motor.ir

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.18</b>	<b>B.19-LA63MF4</b>							
	144	12	9.35	1 910	4.2	8	2KJ3500 - ■ BD11 - ■ ■ K1	
	166	10	8.15	1 910	4.5	8	2KJ3500 - ■ BD11 - ■ ■ J1	
	172	10	7.87	1 910	3.8	8	2KJ3500 - ■ BD11 - ■ ■ H1	
	193	8.9	6.99	1 910	4.3	8	2KJ3500 - ■ BD11 - ■ ■ G1	
	209	8.2	6.45	1 910	4.7	8	2KJ3500 - ■ BD11 - ■ ■ F1	
	241	7.1	5.61	1 910	5.2	8	2KJ3500 - ■ BD11 - ■ ■ E1	
	277	6.2	4.87	1 910	5.6	8	2KJ3500 - ■ BD11 - ■ ■ D1	
	307	5.6	4.40	1 910	6.1	8	2KJ3500 - ■ BD11 - ■ ■ C1	
	326	5.3	4.14	1 910	6.3	8	2KJ3500 - ■ BD11 - ■ ■ B1	
	374	4.6	3.61	1 910	6.7	8	2KJ3500 - ■ BD11 - ■ ■ A1	
<b>0.25</b>	<b>K.79-LA71MH6</b>							
	3.5	675	244.25	14 200	1.2	37	2KJ3508 - ■ CE11 - ■ ■ J2	P01
	3.9	615	222.05	14 300	1.3	37	2KJ3508 - ■ CE11 - ■ ■ H2	P01
	4.6	520	188.85	14 400	1.6	37	2KJ3508 - ■ CE11 - ■ ■ G2	P01
	5.0	475	171.69	14 400	1.7	37	2KJ3508 - ■ CE11 - ■ ■ F2	P01
	<b>K.79-LA71MG4</b>							
	5.5	430	244.25	14 400	1.9	35	2KJ3508 - ■ CD11 - ■ ■ J2	
	6.1	390	222.05	14 400	2.1	35	2KJ3508 - ■ CD11 - ■ ■ H2	
	<b>K.69-LA71MH6</b>							
	4.4	545	196.59	10 900	1.1	32	2KJ3507 - ■ CE11 - ■ ■ H2	P01
	4.8	495	178.72	11 100	1.2	32	2KJ3507 - ■ CE11 - ■ ■ G2	P01
	5.7	420	152.00	11 200	1.4	32	2KJ3507 - ■ CE11 - ■ ■ F2	P01
	6.2	380	138.18	11 300	1.6	32	2KJ3507 - ■ CE11 - ■ ■ E2	P01
	<b>K.69-LA71MG4</b>							
	6.9	345	196.59	11 400	1.7	30	2KJ3507 - ■ CD11 - ■ ■ H2	
	7.6	315	178.72	11 500	1.9	30	2KJ3507 - ■ CD11 - ■ ■ G2	
	<b>K.49-LA71MH6</b>							
	4.8	490	178.06	7 270	0.85	25	2KJ3505 - ■ CE11 - ■ ■ H2	P01
	5.5	430	156.34	7 740	0.97	25	2KJ3505 - ■ CE11 - ■ ■ G2	P01
	6.1	395	142.13	8 020	1.1	25	2KJ3505 - ■ CE11 - ■ ■ F2	P01
	<b>K.49-LA71MG4</b>							
	6.7	350	200.25	8 370	1.2	23	2KJ3505 - ■ CD11 - ■ ■ J2	
	7.6	315	178.06	8 510	1.3	23	2KJ3505 - ■ CD11 - ■ ■ H2	
	8.6	275	156.34	8 630	1.5	23	2KJ3505 - ■ CD11 - ■ ■ G2	
	9.5	250	142.13	8 700	1.7	23	2KJ3505 - ■ CD11 - ■ ■ F2	
	11	215	121.60	8 800	2.0	23	2KJ3505 - ■ CD11 - ■ ■ E2	
	12	196	110.55	8 860	2.1	23	2KJ3505 - ■ CD11 - ■ ■ D2	
	<b>K.39-LA71MG4</b>							
	9.7	245	139.54	5 980	0.89	16	2KJ3504 - ■ CD11 - ■ ■ H2	
	11	210	121.07	6 110	1.0	16	2KJ3504 - ■ CD11 - ■ ■ G2	
	12	195	110.06	6 170	1.1	16	2KJ3504 - ■ CD11 - ■ ■ F2	
	14	167	94.39	6 270	1.3	16	2KJ3504 - ■ CD11 - ■ ■ E2	
	16	152	85.81	6 330	1.4	16	2KJ3504 - ■ CD11 - ■ ■ D2	
18	133	75.24	6 400	1.7	16	2KJ3504 - ■ CD11 - ■ ■ C2		
20	119	67.16	6 450	1.9	16	2KJ3504 - ■ CD11 - ■ ■ B2		
23	106	59.85	6 500	2.1	16	2KJ3504 - ■ CD11 - ■ ■ A2		
24	98	55.25	6 530	2.3	16	2KJ3504 - ■ CD11 - ■ ■ X1		

**Article No. supplement**

Shaft design

Frequency and voltage

Gearbox mounting type

Electro\_Motor.ir

1, 5, 6, 7 or 9

2 or 9

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## SIMOGEAR geared motors

Bevel geared motors

Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.25	<b>B.39-LA71MH6</b>							
	15	156	56.36	6 980	1.6	17	2KJ3502 - ■ CE11 - ■ ■ A2	P01
	17	139	50.11	6 980	1.5	17	2KJ3502 - ■ CE11 - ■ ■ X1	P01
	20	122	44.00	6 980	2.0	17	2KJ3502 - ■ CE11 - ■ ■ W1	P01
	22	111	40.00	6 980	2.1	17	2KJ3502 - ■ CE11 - ■ ■ V1	P01
	<b>B.39-LA71MG4</b>							
	27	89	50.11	6 980	2.4	15	2KJ3502 - ■ CD11 - ■ ■ X1	
	<b>B.29-LA71MH6</b>							
	18	130	46.85	4 030	0.85	12	2KJ3501 - ■ CE11 - ■ ■ B2	P01
	21	115	41.56	4 110	0.95	12	2KJ3501 - ■ CE11 - ■ ■ A2	P01
	24	100	36.06	4 190	1.1	12	2KJ3501 - ■ CE11 - ■ ■ X1	P01
	26	91	32.78	4 200	1.2	12	2KJ3501 - ■ CE11 - ■ ■ W1	P01
	<b>B.29-LA71MG4</b>							
	29	83	46.85	4 200	1.3	10	2KJ3501 - ■ CD11 - ■ ■ B2	
	32	74	41.56	4 200	1.5	10	2KJ3501 - ■ CD11 - ■ ■ A2	
	37	64	36.06	4 200	1.7	10	2KJ3501 - ■ CD11 - ■ ■ X1	
	41	58	32.78	4 200	1.9	10	2KJ3501 - ■ CD11 - ■ ■ W1	
	48	50	28.11	4 200	2.2	10	2KJ3501 - ■ CD11 - ■ ■ V1	
	53	45	25.56	4 200	2.4	10	2KJ3501 - ■ CD11 - ■ ■ U1	
	60	40	22.41	4 200	2.8	10	2KJ3501 - ■ CD11 - ■ ■ T1	
	68	35	20.00	4 200	3.1	10	2KJ3501 - ■ CD11 - ■ ■ S1	
	76	32	17.82	4 200	3.5	10	2KJ3501 - ■ CD11 - ■ ■ R1	
82	29	16.45	4 200	3.8	10	2KJ3501 - ■ CD11 - ■ ■ Q1		
94	26	14.40	4 200	4.3	10	2KJ3501 - ■ CD11 - ■ ■ P1		
107	22	12.63	4 200	4.9	10	2KJ3501 - ■ CD11 - ■ ■ N1		
118	20	11.46	4 200	5.4	10	2KJ3501 - ■ CD11 - ■ ■ M1		
125	19	10.78	4 200	5.8	10	2KJ3501 - ■ CD11 - ■ ■ L1		
142	17	9.51	4 200	6.5	10	2KJ3501 - ■ CD11 - ■ ■ K1		
164	15	8.25	4 150	7.5	10	2KJ3501 - ■ CD11 - ■ ■ J1		
172	14	7.84	4 070	5.4	10	2KJ3501 - ■ CD11 - ■ ■ H1		
183	13	7.38	4 000	5.7	10	2KJ3501 - ■ CD11 - ■ ■ G1		
207	12	6.51	3 840	6.5	10	2KJ3501 - ■ CD11 - ■ ■ F1		
239	10	5.65	3 680	7.5	10	2KJ3501 - ■ CD11 - ■ ■ E1		
266	9	5.07	3 570	8.3	10	2KJ3501 - ■ CD11 - ■ ■ D1		
282	8.5	4.78	3 500	8.8	10	2KJ3501 - ■ CD11 - ■ ■ C1		
321	7.4	4.21	3 360	9.9	10	2KJ3501 - ■ CD11 - ■ ■ B1		
370	6.5	3.65	3 210	11	10	2KJ3501 - ■ CD11 - ■ ■ A1		
<b>B.19-LA71MG4</b>								
42	57	32.39	1 910	0.87	9	2KJ3500 - ■ CD11 - ■ ■ W1		
46	52	29.44	1 910	0.96	9	2KJ3500 - ■ CD11 - ■ ■ V1		
54	44	25.06	1 910	1.1	9	2KJ3500 - ■ CD11 - ■ ■ U1		
59	40	22.78	1 910	1.2	9	2KJ3500 - ■ CD11 - ■ ■ T1		
68	35	19.86	1 910	1.4	9	2KJ3500 - ■ CD11 - ■ ■ S1		
76	31	17.78	1 910	1.6	9	2KJ3500 - ■ CD11 - ■ ■ R1		
85	28	15.79	1 910	1.8	9	2KJ3500 - ■ CD11 - ■ ■ Q1		
93	26	14.57	1 910	1.9	9	2KJ3500 - ■ CD11 - ■ ■ P1		
107	22	12.66	1 910	2.2	9	2KJ3500 - ■ CD11 - ■ ■ N1		
123	20	11.00	1 910	2.6	9	2KJ3500 - ■ CD11 - ■ ■ M1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.25</b>	<b>B.19-LA71MG4</b>							
	136	18	9.93	1 910	2.8	9	2KJ3500 - ■ CD11 - ■ ■ L1	
	144	16	9.35	1 910	3.0	9	2KJ3500 - ■ CD11 - ■ ■ K1	
	166	14	8.15	1 910	3.3	9	2KJ3500 - ■ CD11 - ■ ■ J1	
	172	14	7.87	1 910	2.7	9	2KJ3500 - ■ CD11 - ■ ■ H1	
	193	12	6.99	1 910	3.1	9	2KJ3500 - ■ CD11 - ■ ■ G1	
	209	11	6.45	1 910	3.4	9	2KJ3500 - ■ CD11 - ■ ■ F1	
	241	9.9	5.61	1 910	3.7	9	2KJ3500 - ■ CD11 - ■ ■ E1	
	277	8.6	4.87	1 910	4.1	9	2KJ3500 - ■ CD11 - ■ ■ D1	
	307	7.8	4.40	1 910	4.4	9	2KJ3500 - ■ CD11 - ■ ■ C1	
	326	7.3	4.14	1 910	4.5	9	2KJ3500 - ■ CD11 - ■ ■ B1	
374	6.4	3.61	1 910	4.9	9	2KJ3500 - ■ CD11 - ■ ■ A1		
<b>0.37</b>	<b>K.79-LA71MH4</b>							
	5.6	630	244.25	14 300	1.3	37	2KJ3508 - ■ CE11 - ■ ■ J2	
	6.2	570	222.05	14 400	1.4	37	2KJ3508 - ■ CE11 - ■ ■ H2	
	7.3	485	188.85	14 400	1.7	37	2KJ3508 - ■ CE11 - ■ ■ G2	
	8.0	440	171.69	14 400	1.9	37	2KJ3508 - ■ CE11 - ■ ■ F2	
	8.9	395	153.18	14 400	2.1	37	2KJ3508 - ■ CE11 - ■ ■ E2	
	<b>K.69-LA71MH4</b>							
	7.0	505	196.59	11 000	1.2	32	2KJ3507 - ■ CE11 - ■ ■ H2	
	7.7	460	178.72	11 100	1.3	32	2KJ3507 - ■ CE11 - ■ ■ G2	
	9.0	390	152.00	11 300	1.5	32	2KJ3507 - ■ CE11 - ■ ■ F2	
	9.9	355	138.18	11 400	1.7	32	2KJ3507 - ■ CE11 - ■ ■ E2	
	11	315	123.29	11 500	1.9	32	2KJ3507 - ■ CE11 - ■ ■ D2	
	12	285	110.55	11 600	2.1	32	2KJ3507 - ■ CE11 - ■ ■ C2	
	6.1	515	225.26	7 080	0.82	27	2KJ3522 - ■ CE11 - ■ ■ B1	
	6.5	485	212.01	7 310	0.87	27	2KJ3522 - ■ CE11 - ■ ■ A1	
	<b>K.49-LA71MH4</b>							
	6.8	515	200.25	7 080	0.81	25	2KJ3505 - ■ CE11 - ■ ■ J2	
	7.7	455	178.06	7 550	0.91	25	2KJ3505 - ■ CE11 - ■ ■ H2	
	8.8	400	156.34	7 980	1.0	25	2KJ3505 - ■ CE11 - ■ ■ G2	
	9.6	365	142.13	8 250	1.1	25	2KJ3505 - ■ CE11 - ■ ■ F2	
	11	310	121.60	8 530	1.3	25	2KJ3505 - ■ CE11 - ■ ■ E2	
	12	285	110.55	8 600	1.5	25	2KJ3505 - ■ CE11 - ■ ■ D2	
	14	250	97.71	8 700	1.7	25	2KJ3505 - ■ CE11 - ■ ■ C2	
	15	225	88.83	8 770	1.8	25	2KJ3505 - ■ CE11 - ■ ■ B2	
	18	200	77.81	8 820	2.1	25	2KJ3505 - ■ CE11 - ■ ■ A2	
19	185	71.82	8 670	2.3	25	2KJ3505 - ■ CE11 - ■ ■ X1		
<b>K.39-LA71MH4</b>								
15	240	94.39	6 000	0.90	17	2KJ3504 - ■ CE11 - ■ ■ E2		
16	220	85.81	6 080	0.99	17	2KJ3504 - ■ CE11 - ■ ■ D2		
18	194	75.24	6 170	1.1	17	2KJ3504 - ■ CE11 - ■ ■ C2		
20	173	67.16	6 250	1.3	17	2KJ3504 - ■ CE11 - ■ ■ B2		
23	154	59.85	6 320	1.4	17	2KJ3504 - ■ CE11 - ■ ■ A2		
25	143	55.25	6 360	1.5	17	2KJ3504 - ■ CE11 - ■ ■ X1		
28	125	48.37	6 430	1.8	17	2KJ3504 - ■ CE11 - ■ ■ W1		
32	109	42.41	6 490	2.0	17	2KJ3504 - ■ CE11 - ■ ■ V1		
36	99	38.48	6 530	2.2	17	2KJ3504 - ■ CE11 - ■ ■ U1		

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Electro Motor.ir

## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.37</b>	<b>K.39-LA71MH4</b>							
	38	93	36.21	6 530	2.4	17	2KJ3504 - ■ CE11 - ■ ■ T1	
	43	82	31.92	6 470	2.7	17	2KJ3504 - ■ CE11 - ■ ■ S1	
	<b>B.39-LA71MH4</b>							
	24	145	56.36	6 980	1.7	17	2KJ3502 - ■ CE11 - ■ ■ A2	
	27	129	50.11	6 980	1.6	17	2KJ3502 - ■ CE11 - ■ ■ X1	
	31	113	44.00	6 980	2.2	17	2KJ3502 - ■ CE11 - ■ ■ W1	
	34	103	40.00	6 980	2.2	17	2KJ3502 - ■ CE11 - ■ ■ V1	
	<b>B.29-LA71MH4</b>							
	29	121	46.85	4 080	0.91	12	2KJ3501 - ■ CE11 - ■ ■ B2	
	33	107	41.56	4 150	1.0	12	2KJ3501 - ■ CE11 - ■ ■ A2	
	38	93	36.06	4 200	1.2	12	2KJ3501 - ■ CE11 - ■ ■ X1	
	42	84	32.78	4 200	1.3	12	2KJ3501 - ■ CE11 - ■ ■ W1	
	49	72	28.11	4 200	1.5	12	2KJ3501 - ■ CE11 - ■ ■ V1	
	54	66	25.56	4 200	1.7	12	2KJ3501 - ■ CE11 - ■ ■ U1	
	61	58	22.41	4 200	1.9	12	2KJ3501 - ■ CE11 - ■ ■ T1	
	68	52	20.00	4 200	2.1	12	2KJ3501 - ■ CE11 - ■ ■ S1	
	77	46	17.82	4 200	2.4	12	2KJ3501 - ■ CE11 - ■ ■ R1	
	83	42	16.45	4 200	2.6	12	2KJ3501 - ■ CE11 - ■ ■ Q1	
	95	37	14.40	4 200	3.0	12	2KJ3501 - ■ CE11 - ■ ■ P1	
108	33	12.63	4 200	3.4	12	2KJ3501 - ■ CE11 - ■ ■ N1		
120	30	11.46	4 200	3.7	12	2KJ3501 - ■ CE11 - ■ ■ M1		
127	28	10.78	4 200	4.0	12	2KJ3501 - ■ CE11 - ■ ■ L1		
144	24	9.51	4 200	4.5	12	2KJ3501 - ■ CE11 - ■ ■ K1		
166	21	8.25	4 070	5.2	12	2KJ3501 - ■ CE11 - ■ ■ J1		
175	20	7.84	3 990	5.7	12	2KJ3501 - ■ CE11 - ■ ■ H1		
186	19	7.38	3 920	6.0	12	2KJ3501 - ■ CE11 - ■ ■ G1		
210	17	6.51	3 770	6.8	12	2KJ3501 - ■ CE11 - ■ ■ F1		
242	15	5.65	3 610	7.8	12	2KJ3501 - ■ CE11 - ■ ■ E1		
270	13	5.07	3 510	8.8	12	2KJ3501 - ■ CE11 - ■ ■ D1		
287	12	4.78	3 450	9.8	12	2KJ3501 - ■ CE11 - ■ ■ C1		
325	11	4.21	3 310	10.8	12	2KJ3501 - ■ CE11 - ■ ■ B1		
375	9.4	3.65	3 170	11.8	12	2KJ3501 - ■ CE11 - ■ ■ A1		
<b>B.19-LA71MH4</b>								
60	59	22.78	1 910	0.85	10	2KJ3500 - ■ CE11 - ■ ■ T1		
69	51	19.86	1 910	0.98	10	2KJ3500 - ■ CE11 - ■ ■ S1		
77	46	17.78	1 910	1.1	10	2KJ3500 - ■ CE11 - ■ ■ R1		
87	41	15.79	1 910	1.2	10	2KJ3500 - ■ CE11 - ■ ■ Q1		
94	38	14.57	1 910	1.3	10	2KJ3500 - ■ CE11 - ■ ■ P1		
108	33	12.66	1 910	1.5	10	2KJ3500 - ■ CE11 - ■ ■ N1		
125	28	11.00	1 910	1.8	10	2KJ3500 - ■ CE11 - ■ ■ M1		
138	26	9.93	1 910	2.0	10	2KJ3500 - ■ CE11 - ■ ■ L1		
147	24	9.35	1 910	2.1	10	2KJ3500 - ■ CE11 - ■ ■ K1		
168	21	8.15	1 910	2.2	10	2KJ3500 - ■ CE11 - ■ ■ J1		
174	20	7.87	1 910	1.9	10	2KJ3500 - ■ CE11 - ■ ■ H1		
196	18	6.99	1 910	2.1	10	2KJ3500 - ■ CE11 - ■ ■ G1		
212	17	6.45	1 910	2.3	10	2KJ3500 - ■ CE11 - ■ ■ F1		
244	14	5.61	1 910	2.6	10	2KJ3500 - ■ CE11 - ■ ■ E1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.37</b>	<b>B.19-LA71MH4</b>							
	281	13	4.87	1 910	2.8	10	2KJ3500 - ■ CE11 - ■ ■ D1	
	311	11	4.40	1 910	3.0	10	2KJ3500 - ■ CE11 - ■ ■ C1	
	331	11	4.14	1 910	3.1	10	2KJ3500 - ■ CE11 - ■ ■ B1	
	380	9.3	3.61	1 910	3.3	10	2KJ3500 - ■ CE11 - ■ ■ A1	
<b>0.55</b>	<b>K.89-LA71ZML4</b>							
	5.9	885	231.80	18 100	1.8	58	2KJ3510 - ■ CH11 - ■ ■ K2	
	6.5	805	210.72	18 100	2.0	58	2KJ3510 - ■ CH11 - ■ ■ J2	
	<b>K.89-LE80MB4</b>							
	6.2	845	231.80	18 100	1.9	60	2KJ3510 - ■ DB21 - ■ ■ K2	
	6.8	765	210.72	18 100	2.1	60	2KJ3510 - ■ DB21 - ■ ■ J2	
	<b>K.79-LA71ZML4</b>							
	5.6	935	244.25	13 700	0.88	37	2KJ3508 - ■ CH11 - ■ ■ J2	
	6.2	850	222.05	13 900	0.96	37	2KJ3508 - ■ CH11 - ■ ■ H2	
	7.3	720	188.85	14 100	1.1	37	2KJ3508 - ■ CH11 - ■ ■ G2	
	8.0	655	171.69	14 300	1.2	37	2KJ3508 - ■ CH11 - ■ ■ F2	
	8.9	585	153.18	14 400	1.4	37	2KJ3508 - ■ CH11 - ■ ■ E2	
	10	525	137.35	14 400	1.6	37	2KJ3508 - ■ CH11 - ■ ■ D2	
	11	475	123.80	14 400	1.7	37	2KJ3508 - ■ CH11 - ■ ■ C2	
	12	435	114.28	14 400	1.9	37	2KJ3508 - ■ CH11 - ■ ■ B2	
	13	400	104.32	14 400	2.1	37	2KJ3508 - ■ CH11 - ■ ■ A2	
	<b>K.79-LE80MB4</b>							
	5.9	890	244.25	13 800	0.92	39	2KJ3508 - ■ DB21 - ■ ■ J2	
	6.5	810	222.05	13 900	1.0	39	2KJ3508 - ■ DB21 - ■ ■ H2	
	7.6	685	188.85	14 200	1.2	39	2KJ3508 - ■ DB21 - ■ ■ G2	
	8.4	625	171.69	14 300	1.3	39	2KJ3508 - ■ DB21 - ■ ■ F2	
	9.4	555	153.18	14 400	1.5	39	2KJ3508 - ■ DB21 - ■ ■ E2	
	10	500	137.35	14 400	1.6	39	2KJ3508 - ■ DB21 - ■ ■ D2	
	12	450	123.80	14 400	1.8	39	2KJ3508 - ■ DB21 - ■ ■ C2	
	13	415	114.28	14 400	2.0	39	2KJ3508 - ■ DB21 - ■ ■ B2	
	14	380	104.32	14 400	2.2	39	2KJ3508 - ■ DB21 - ■ ■ A2	
	<b>K.69-LA71ZML4</b>							
7.0	750	196.59	9 880	0.80	32	2KJ3507 - ■ CH11 - ■ ■ H2		
7.7	685	178.72	10 300	0.88	32	2KJ3507 - ■ CH11 - ■ ■ G2		
9.0	580	152.00	10 900	1.0	32	2KJ3507 - ■ CH11 - ■ ■ F2		
9.9	530	138.18	11 000	1.1	32	2KJ3507 - ■ CH11 - ■ ■ E2		
11	470	123.29	11 100	1.3	32	2KJ3507 - ■ CH11 - ■ ■ D2		
12	420	110.55	11 200	1.4	32	2KJ3507 - ■ CH11 - ■ ■ C2		
14	380	99.64	11 300	1.6	32	2KJ3507 - ■ CH11 - ■ ■ B2		
15	350	91.98	11 400	1.7	32	2KJ3507 - ■ CH11 - ■ ■ A2		
16	320	83.96	11 500	1.9	32	2KJ3507 - ■ CH11 - ■ ■ X1		
20	265	69.67	11 600	2.2	32	2KJ3507 - ■ CH11 - ■ ■ W1		
21	250	65.57	11 600	2.4	32	2KJ3507 - ■ CH11 - ■ ■ V1		
<b>K.69-LE80MB4</b>								
7.3	715	196.59	10 100	0.84	34	2KJ3507 - ■ DB21 - ■ ■ H2		
8.1	650	178.72	10 500	0.92	34	2KJ3507 - ■ DB21 - ■ ■ G2		
9.5	550	152.00	10 900	1.1	34	2KJ3507 - ■ DB21 - ■ ■ F2		
10	500	138.18	11 000	1.2	34	2KJ3507 - ■ DB21 - ■ ■ E2		

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.55	<b>K.69-LE80MB4</b>							
	12	450	123.29	11 200	1.3	34	2KJ3507 - ■ DB21 - ■ ■ D2	
	13	400	110.55	11 300	1.5	34	2KJ3507 - ■ DB21 - ■ ■ C2	
	14	360	99.64	11 400	1.7	34	2KJ3507 - ■ DB21 - ■ ■ B2	
	16	335	91.98	11 400	1.8	34	2KJ3507 - ■ DB21 - ■ ■ A2	
	17	305	83.96	11 500	2	34	2KJ3507 - ■ DB21 - ■ ■ X1	
	21	250	69.67	11 600	2.4	34	2KJ3507 - ■ DB21 - ■ ■ W1	
	<b>K.49-LA71ZML4</b>							
	11	465	121.60	7 470	0.90	25	2KJ3505 - ■ CH11 - ■ ■ E2	
	12	420	110.55	7 820	0.99	25	2KJ3505 - ■ CH11 - ■ ■ D2	
	14	375	97.71	8 170	1.1	25	2KJ3505 - ■ CH11 - ■ ■ C2	
	15	340	88.83	8 200	1.2	25	2KJ3505 - ■ CH11 - ■ ■ B2	
	18	295	77.81	8 080	1.4	25	2KJ3505 - ■ CH11 - ■ ■ A2	
	19	275	71.82	7 960	1.5	25	2KJ3505 - ■ CH11 - ■ ■ X1	
	22	240	63.59	7 840	1.7	25	2KJ3505 - ■ CH11 - ■ ■ W1	
	26	200	52.93	7 570	2.1	25	2KJ3505 - ■ CH11 - ■ ■ V1	
	27	191	49.82	7 460	2.2	25	2KJ3505 - ■ CH11 - ■ ■ U1	
	31	171	44.63	7 290	2.5	25	2KJ3505 - ■ CH11 - ■ ■ T1	
	<b>K.49-LE80MB4</b>							
	10	515	142.13	7 080	0.81	27	2KJ3505 - ■ DB21 - ■ ■ F2	
	12	440	121.60	7 670	0.95	27	2KJ3505 - ■ DB21 - ■ ■ E2	
13	400	110.55	7 980	1.0	27	2KJ3505 - ■ DB21 - ■ ■ D2		
15	355	97.71	8 250	1.2	27	2KJ3505 - ■ DB21 - ■ ■ C2		
16	320	88.83	8 180	1.3	27	2KJ3505 - ■ DB21 - ■ ■ B2		
19	280	77.81	8 030	1.5	27	2KJ3505 - ■ DB21 - ■ ■ A2		
20	260	71.82	7 910	1.6	27	2KJ3505 - ■ DB21 - ■ ■ X1		
23	230	63.59	7 750	1.8	27	2KJ3505 - ■ DB21 - ■ ■ W1		
27	193	52.93	7 470	2.2	27	2KJ3505 - ■ DB21 - ■ ■ V1		
29	182	49.82	7 380	2.3	27	2KJ3505 - ■ DB21 - ■ ■ U1		
<b>B.49-LE80MB4</b>								
24	215	59.28	11 100	2.1	25	2KJ3503 - ■ DB21 - ■ ■ C2		
27	197	53.89	10 800	2.3	25	2KJ3503 - ■ DB21 - ■ ■ B2		
<b>B.49-LA71ZML4</b>								
23	225	59.28	11 200	2.0	23	2KJ3503 - ■ CH11 - ■ ■ C2		
25	205	53.89	10 900	2.2	23	2KJ3503 - ■ CH11 - ■ ■ B2		
<b>K.39-LE80MB4</b>								
19	270	75.24	5 890	0.80	20	2KJ3504 - ■ DB21 - ■ ■ C2		
21	245	67.16	5 980	0.90	20	2KJ3504 - ■ DB21 - ■ ■ B2		
24	215	59.85	6 100	1.0	20	2KJ3504 - ■ DB21 - ■ ■ A2		
26	200	55.25	6 150	1.1	20	2KJ3504 - ■ DB21 - ■ ■ X1		
30	176	48.37	6 240	1.2	20	2KJ3504 - ■ DB21 - ■ ■ W1		
34	155	42.41	6 320	1.4	20	2KJ3504 - ■ DB21 - ■ ■ V1		
37	140	38.48	6 280	1.6	20	2KJ3504 - ■ DB21 - ■ ■ U1		
40	132	36.21	6 210	1.7	20	2KJ3504 - ■ DB21 - ■ ■ T1		
45	116	31.92	6 050	1.9	20	2KJ3504 - ■ DB21 - ■ ■ S1		
52	101	27.70	5 850	2.2	20	2KJ3504 - ■ DB21 - ■ ■ R1		
54	98	26.89	5 810	2.2	20	2KJ3504 - ■ DB21 - ■ ■ Q1		
60	87	23.97	5 660	2.5	20	2KJ3504 - ■ DB21 - ■ ■ P1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.55	<b>K.39-LE80MB4</b>							
	65	81	22.12	5 550	2.7	20	2KJ3504 - ■ DB21 - ■ ■ N1	
	74	71	19.37	5 360	3.1	20	2KJ3504 - ■ DB21 - ■ ■ M1	
	<b>K.39-LA71ZML4</b>							
	20	255	67.16	5 950	0.85	17	2KJ3504 - ■ CH11 - ■ ■ B2	
	23	225	59.85	6 060	0.96	17	2KJ3504 - ■ CH11 - ■ ■ A2	
	25	210	55.25	6 110	1.0	17	2KJ3504 - ■ CH11 - ■ ■ X1	
	28	185	48.37	6 210	1.2	17	2KJ3504 - ■ CH11 - ■ ■ W1	
	32	163	42.41	6 290	1.4	17	2KJ3504 - ■ CH11 - ■ ■ V1	
	36	148	38.48	6 340	1.5	17	2KJ3504 - ■ CH11 - ■ ■ U1	
	38	139	36.21	6 270	1.6	17	2KJ3504 - ■ CH11 - ■ ■ T1	
	43	122	31.92	6 110	1.8	17	2KJ3504 - ■ CH11 - ■ ■ S1	
	49	106	27.70	5 920	2.1	17	2KJ3504 - ■ CH11 - ■ ■ R1	
	51	103	26.89	5 880	2.1	17	2KJ3504 - ■ CH11 - ■ ■ Q1	
	57	92	23.97	5 720	2.4	17	2KJ3504 - ■ CH11 - ■ ■ P1	
	62	85	22.12	5 610	2.6	17	2KJ3504 - ■ CH11 - ■ ■ N1	
	71	74	19.37	5 440	3.0	17	2KJ3504 - ■ CH11 - ■ ■ M1	
	<b>B.39-LE80MB4</b>							
	29	183	50.11	6 980	1.1	19	2KJ3502 - ■ DB21 - ■ ■ X1	
	33	160	44.00	6 980	1.6	19	2KJ3502 - ■ DB21 - ■ ■ W1	
	36	146	40.00	6 980	1.6	19	2KJ3502 - ■ DB21 - ■ ■ V1	
42	125	34.22	6 980	2.0	19	2KJ3502 - ■ DB21 - ■ ■ U1		
46	113	31.11	6 980	2.2	19	2KJ3502 - ■ DB21 - ■ ■ T1		
52	100	27.50	6 980	2.5	19	2KJ3502 - ■ DB21 - ■ ■ S1		
58	91	25.00	6 980	2.7	19	2KJ3502 - ■ DB21 - ■ ■ R1		
66	80	21.90	6 980	3.1	19	2KJ3502 - ■ DB21 - ■ ■ Q1		
<b>B.39-LA71ZML4</b>								
24	215	56.36	6 980	1.2	17	2KJ3502 - ■ CH11 - ■ ■ A2		
27	192	50.11	6 980	1.1	17	2KJ3502 - ■ CH11 - ■ ■ X1		
31	169	44.00	6 980	1.5	17	2KJ3502 - ■ CH11 - ■ ■ W1		
34	153	40.00	6 980	1.5	17	2KJ3502 - ■ CH11 - ■ ■ V1		
40	131	34.22	6 980	1.9	17	2KJ3502 - ■ CH11 - ■ ■ U1		
44	119	31.11	6 980	2.1	17	2KJ3502 - ■ CH11 - ■ ■ T1		
50	105	27.50	6 980	2.4	17	2KJ3502 - ■ CH11 - ■ ■ S1		
55	96	25.00	6 980	2.6	17	2KJ3502 - ■ CH11 - ■ ■ R1		
63	84	21.90	6 980	3.0	17	2KJ3502 - ■ CH11 - ■ ■ Q1		
<b>B.29-LE80MB4</b>								
40	132	36.06	4 020	0.84	14	2KJ3501 - ■ DB21 - ■ ■ X1		
44	120	32.78	4 080	0.92	14	2KJ3501 - ■ DB21 - ■ ■ W1		
51	103	28.11	4 170	1.1	14	2KJ3501 - ■ DB21 - ■ ■ V1		
56	93	25.56	4 200	1.2	14	2KJ3501 - ■ DB21 - ■ ■ U1		
64	82	22.41	4 200	1.3	14	2KJ3501 - ■ DB21 - ■ ■ T1		
72	73	20.00	4 200	1.5	14	2KJ3501 - ■ DB21 - ■ ■ S1		
81	65	17.82	4 200	1.7	14	2KJ3501 - ■ DB21 - ■ ■ R1		
88	60	16.45	4 200	1.8	14	2KJ3501 - ■ DB21 - ■ ■ Q1		
100	52	14.40	4 200	2.1	14	2KJ3501 - ■ DB21 - ■ ■ P1		
114	46	12.63	4 200	2.4	14	2KJ3501 - ■ DB21 - ■ ■ N1		
126	42	11.46	4 200	2.6	14	2KJ3501 - ■ DB21 - ■ ■ M1		

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.55	<b>B.29-LE80MB4</b>							
	134	39	10.78	4 200	2.8	14	2KJ3501 - ■ DB21 - ■ ■ L1	
	151	35	9.51	4 070	3.2	14	2KJ3501 - ■ DB21 - ■ ■ K1	
	175	30	8.25	3 920	3.7	14	2KJ3501 - ■ DB21 - ■ ■ J1	
	184	29	7.84	3 830	2.6	14	2KJ3501 - ■ DB21 - ■ ■ H1	
	195	27	7.38	3 770	2.8	14	2KJ3501 - ■ DB21 - ■ ■ G1	
	221	24	6.51	3 630	3.2	14	2KJ3501 - ■ DB21 - ■ ■ F1	
	255	21	5.65	3 480	3.6	14	2KJ3501 - ■ DB21 - ■ ■ E1	
	284	18	5.07	3 410	4.0	14	2KJ3501 - ■ DB21 - ■ ■ D1	
	301	17	4.78	3 340	4.2	14	2KJ3501 - ■ DB21 - ■ ■ C1	
	342	15	4.21	3 220	4.8	14	2KJ3501 - ■ DB21 - ■ ■ B1	
	<b>B.29-LA71ZML4</b>							
	38	138	36.06	3 990	0.80	12	2KJ3501 - ■ CH11 - ■ ■ X1	
42	126	32.78	4 050	0.88	12	2KJ3501 - ■ CH11 - ■ ■ W1		
49	108	28.11	4 150	1.0	12	2KJ3501 - ■ CH11 - ■ ■ V1		
54	98	25.56	4 200	1.1	12	2KJ3501 - ■ CH11 - ■ ■ U1		
61	86	22.41	4 200	1.3	12	2KJ3501 - ■ CH11 - ■ ■ T1		
68	77	20.00	4 200	1.4	12	2KJ3501 - ■ CH11 - ■ ■ S1		
77	68	17.82	4 200	1.6	12	2KJ3501 - ■ CH11 - ■ ■ R1		
83	63	16.45	4 200	1.7	12	2KJ3501 - ■ CH11 - ■ ■ Q1		
95	55	14.40	4 200	2	12	2KJ3501 - ■ CH11 - ■ ■ P1		
108	48	12.63	4 200	2.3	12	2KJ3501 - ■ CH11 - ■ ■ N1		
120	44	11.46	4 200	2.5	12	2KJ3501 - ■ CH11 - ■ ■ M1		
127	41	10.78	4 200	2.7	12	2KJ3501 - ■ CH11 - ■ ■ L1		
144	36	9.51	4 140	3.0	12	2KJ3501 - ■ CH11 - ■ ■ K1		
166	32	8.25	3 970	3.5	12	2KJ3501 - ■ CH11 - ■ ■ J1		
175	30	7.84	3 890	2.5	12	2KJ3501 - ■ CH11 - ■ ■ H1		
186	28	7.38	3 820	2.7	12	2KJ3501 - ■ CH11 - ■ ■ G1		
210	25	6.51	3 690	3.0	12	2KJ3501 - ■ CH11 - ■ ■ F1		
242	22	5.65	3 530	3.5	12	2KJ3501 - ■ CH11 - ■ ■ E1		
270	19	5.07	3 460	3.8	12	2KJ3501 - ■ CH11 - ■ ■ D1		
287	18	4.78	3 400	4.0	12	2KJ3501 - ■ CH11 - ■ ■ C1		
325	16	4.21	3 270	4.6	12	2KJ3501 - ■ CH11 - ■ ■ B1		
375	14	3.65	3 130	5.2	12	2KJ3501 - ■ CH11 - ■ ■ A1		
<b>B.19-LA71ZML4</b>								
87	60	15.79	1 910	0.83	10	2KJ3500 - ■ CH11 - ■ ■ Q1		
94	56	14.57	1 910	0.90	10	2KJ3500 - ■ CH11 - ■ ■ P1		
108	48	12.66	1 910	1.0	10	2KJ3500 - ■ CH11 - ■ ■ N1		
125	42	11.00	1 910	1.2	10	2KJ3500 - ■ CH11 - ■ ■ M1		
138	38	9.93	1 910	1.3	10	2KJ3500 - ■ CH11 - ■ ■ L1		
147	36	9.35	1 910	1.4	10	2KJ3500 - ■ CH11 - ■ ■ K1		
168	31	8.15	1 910	1.5	10	2KJ3500 - ■ CH11 - ■ ■ J1		
174	30	7.87	1 910	1.3	10	2KJ3500 - ■ CH11 - ■ ■ H1		
196	27	6.99	1 910	1.4	10	2KJ3500 - ■ CH11 - ■ ■ G1		
212	25	6.45	1 910	1.6	10	2KJ3500 - ■ CH11 - ■ ■ F1		
244	22	5.61	1 910	1.7	10	2KJ3500 - ■ CH11 - ■ ■ E1		
281	19	4.87	1 910	1.9	10	2KJ3500 - ■ CH11 - ■ ■ D1		
311	17	4.40	1 910	2.0	10	2KJ3500 - ■ CH11 - ■ ■ C1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.55	<b>B.19-LA71ZML4</b>							
	331	16	4.14	1 910	2.1	10	2KJ3500 - ■ CH11 - ■ ■ B1	
	380	14	3.61	1 910	2.2	10	2KJ3500 - ■ CH11 - ■ ■ A1	
	<b>B.19-LE80MB4</b>							
	91	58	15.79	1 910	0.87	12	2KJ3500 - ■ DB21 - ■ ■ Q1	
	99	53	14.57	1 910	0.94	12	2KJ3500 - ■ DB21 - ■ ■ P1	
	114	46	12.66	1 910	1.1	12	2KJ3500 - ■ DB21 - ■ ■ N1	
	131	40	11.00	1 910	1.2	12	2KJ3500 - ■ DB21 - ■ ■ M1	
	145	36	9.93	1 910	1.4	12	2KJ3500 - ■ DB21 - ■ ■ L1	
	154	34	9.35	1 910	1.5	12	2KJ3500 - ■ DB21 - ■ ■ K1	
	177	30	8.15	1 910	1.6	12	2KJ3500 - ■ DB21 - ■ ■ J1	
	183	29	7.87	1 910	1.3	12	2KJ3500 - ■ DB21 - ■ ■ H1	
	206	26	6.99	1 910	1.5	12	2KJ3500 - ■ DB21 - ■ ■ G1	
	223	24	6.45	1 910	1.7	12	2KJ3500 - ■ DB21 - ■ ■ F1	
	257	20	5.61	1 910	1.8	12	2KJ3500 - ■ DB21 - ■ ■ E1	
	296	18	4.87	1 910	2.0	12	2KJ3500 - ■ DB21 - ■ ■ D1	
	327	16	4.40	1 910	2.1	12	2KJ3500 - ■ DB21 - ■ ■ C1	
	348	15	4.14	1 910	2.2	12	2KJ3500 - ■ DB21 - ■ ■ B1	
	399	13	3.61	1 910	2.4	12	2KJ3500 - ■ DB21 - ■ ■ A1	
	0.75	<b>K.109-LE90SQ6P</b>						
4.3		1 670	216.65	24 500	1.7	101	2KJ3511 - ■ EC23 - ■ ■ H2 P01	
4.7		1 510	195.60	24 500	1.9	101	2KJ3511 - ■ EC23 - ■ ■ G2 P01	
5.2		1 370	177.43	24 500	2.1	101	2KJ3511 - ■ EC23 - ■ ■ F2 P01	
<b>K.89-LE90SQ6P</b>								
4.0		1 790	231.80	18 100	0.89	64	2KJ3510 - ■ EC23 - ■ ■ K2 P01	
4.4		1 630	210.72	18 100	0.98	64	2KJ3510 - ■ EC23 - ■ ■ J2 P01	
4.9		1 460	189.01	18 100	1.1	64	2KJ3510 - ■ EC23 - ■ ■ H2 P01	
5.4		1 310	169.94	18 100	1.2	64	2KJ3510 - ■ EC23 - ■ ■ G2 P01	
<b>K.89-LE80ZMQ4P</b>								
6.3		1 140	231.80	18 100	1.4	62	2KJ3510 - ■ DF23 - ■ ■ K2	
6.9		1 040	210.72	18 100	1.5	62	2KJ3510 - ■ DF23 - ■ ■ J2	
7.7		930	189.01	18 100	1.7	62	2KJ3510 - ■ DF23 - ■ ■ H2	
8.5		835	169.94	18 100	1.9	62	2KJ3510 - ■ DF23 - ■ ■ G2	
9.4		755	153.70	18 100	2.1	62	2KJ3510 - ■ DF23 - ■ ■ F2	
<b>K.79-LE80ZMQ4P</b>								
7.7		930	188.85	13 700	0.88	41	2KJ3508 - ■ DF23 - ■ ■ G2	
8.4		845	171.69	13 900	0.97	41	2KJ3508 - ■ DF23 - ■ ■ F2	
9.5		755	153.18	14 100	1.1	41	2KJ3508 - ■ DF23 - ■ ■ E2	
11		675	137.35	14 200	1.2	41	2KJ3508 - ■ DF23 - ■ ■ D2	
12		610	123.80	14 300	1.3	41	2KJ3508 - ■ DF23 - ■ ■ C2	
13		565	114.28	14 400	1.5	41	2KJ3508 - ■ DF23 - ■ ■ B2	
14		515	104.32	14 400	1.6	41	2KJ3508 - ■ DF23 - ■ ■ A2	
17		425	86.56	14 400	1.9	41	2KJ3508 - ■ DF23 - ■ ■ X1	
18		400	81.47	14 400	2.0	41	2KJ3508 - ■ DF23 - ■ ■ W1	
19		380	76.94	14 400	2.2	41	2KJ3508 - ■ DF23 - ■ ■ V1	
<b>K.69-LE80ZMQ4P</b>								
9.5		750	152.00	9 880	0.80	36	2KJ3507 - ■ DF23 - ■ ■ F2	
10		680	138.18	10 300	0.88	36	2KJ3507 - ■ DF23 - ■ ■ E2	

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.75	<b>K.69-LE80ZMQ4P</b>							
	12	605	123.29	10 800	0.99	36	2KJ3507 - ■ DF23 - ■ ■ D2	
	13	545	110.55	10 900	1.1	36	2KJ3507 - ■ DF23 - ■ ■ C2	
	15	490	99.64	11 100	1.2	36	2KJ3507 - ■ DF23 - ■ ■ B2	
	16	450	91.98	11 200	1.3	36	2KJ3507 - ■ DF23 - ■ ■ A2	
	17	415	83.96	11 200	1.4	36	2KJ3507 - ■ DF23 - ■ ■ X1	
	21	340	69.67	11 100	1.7	36	2KJ3507 - ■ DF23 - ■ ■ W1	
	<b>K.69-LE80ZMQ4P</b>							
	22	320	65.57	11 000	1.9	36	2KJ3507 - ■ DF23 - ■ ■ V1	
	23	305	61.93	10 800	2.0	36	2KJ3507 - ■ DF23 - ■ ■ U1	
	28	260	52.69	10 500	2.3	36	2KJ3507 - ■ DF23 - ■ ■ T1	
	<b>K.49-LE80ZMQ4P</b>							
	15	480	97.71	7 250	0.87	29	2KJ3505 - ■ DF23 - ■ ■ C2	
	16	435	88.83	7 260	0.96	29	2KJ3505 - ■ DF23 - ■ ■ B2	
	19	380	77.81	7 230	1.1	29	2KJ3505 - ■ DF23 - ■ ■ A2	
	20	355	71.82	7 150	1.2	29	2KJ3505 - ■ DF23 - ■ ■ X1	
	23	310	63.59	7 110	1.3	29	2KJ3505 - ■ DF23 - ■ ■ W1	
	27	260	52.93	6 930	1.6	29	2KJ3505 - ■ DF23 - ■ ■ V1	
	29	245	49.82	6 870	1.7	29	2KJ3505 - ■ DF23 - ■ ■ U1	
	32	220	44.63	6 750	1.9	29	2KJ3505 - ■ DF23 - ■ ■ T1	
	38	188	38.00	6 560	2.2	29	2KJ3505 - ■ DF23 - ■ ■ S1	
45	161	32.57	6 360	2.6	29	2KJ3505 - ■ DF23 - ■ ■ R1		
<b>B.49-LE90SQ6P</b>								
16	455	59.28	11 200	0.98	28	2KJ3503 - ■ EC23 - ■ ■ C2	P01	
17	415	53.89	11 200	1.1	28	2KJ3503 - ■ EC23 - ■ ■ B2	P01	
20	355	45.83	10 900	1.3	28	2KJ3503 - ■ EC23 - ■ ■ A2	P01	
22	320	41.67	10 700	1.4	28	2KJ3503 - ■ EC23 - ■ ■ X1	P01	
<b>B.49-LE80ZMQ4P</b>								
24	290	59.28	10 500	1.5	27	2KJ3503 - ■ DF23 - ■ ■ C2		
27	265	53.89	10 300	1.7	27	2KJ3503 - ■ DF23 - ■ ■ B2		
32	225	45.83	9 980	2.0	27	2KJ3503 - ■ DF23 - ■ ■ A2		
35	205	41.67	9 760	2.2	27	2KJ3503 - ■ DF23 - ■ ■ X1		
39	184	37.18	9 480	2.5	27	2KJ3503 - ■ DF23 - ■ ■ W1		
44	165	33.33	9 220	2.7	27	2KJ3503 - ■ DF23 - ■ ■ V1		
<b>K.39-LE80ZMQ4P</b>								
26	270	55.25	5 890	0.81	22	2KJ3504 - ■ DF23 - ■ ■ X1		
30	235	48.37	6 000	0.92	22	2KJ3504 - ■ DF23 - ■ ■ W1		
34	205	42.41	5 930	1.1	22	2KJ3504 - ■ DF23 - ■ ■ V1		
38	190	38.48	5 810	1.2	22	2KJ3504 - ■ DF23 - ■ ■ U1		
40	179	36.21	5 760	1.2	22	2KJ3504 - ■ DF23 - ■ ■ T1		
45	158	31.92	5 650	1.4	22	2KJ3504 - ■ DF23 - ■ ■ S1		
52	137	27.70	5 510	1.6	22	2KJ3504 - ■ DF23 - ■ ■ R1		
54	133	26.89	5 480	1.7	22	2KJ3504 - ■ DF23 - ■ ■ Q1		
60	118	23.97	5 370	1.9	22	2KJ3504 - ■ DF23 - ■ ■ P1		
66	109	22.12	5 280	2.0	22	2KJ3504 - ■ DF23 - ■ ■ N1		
75	96	19.37	5 120	2.3	22	2KJ3504 - ■ DF23 - ■ ■ M1		
85	84	16.98	4 970	2.6	22	2KJ3504 - ■ DF23 - ■ ■ L1		
94	76	15.41	4 860	2.9	22	2KJ3504 - ■ DF23 - ■ ■ K1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.75</b>	<b>K.39-LE80ZMQ4P</b>							
	100	72	14.50	4 790	3.1	22	2KJ3504 - ■ DF23 - ■ ■ J1	
	113	63	12.78	4 650	3.5	22	2KJ3504 - ■ DF23 - ■ ■ H1	
	144	50	10.04	4 290	3.7	22	2KJ3504 - ■ DF23 - ■ ■ F1	
	<b>B.39-LE80ZMQ4P</b>							
	29	245	50.11	6 980	0.85	21	2KJ3502 - ■ DF23 - ■ ■ X1	
	33	215	44.00	6 980	1.2	21	2KJ3502 - ■ DF23 - ■ ■ W1	
	36	198	40.00	6 980	1.2	21	2KJ3502 - ■ DF23 - ■ ■ V1	
	42	169	34.22	6 980	1.5	21	2KJ3502 - ■ DF23 - ■ ■ U1	
	47	154	31.11	6 980	1.6	21	2KJ3502 - ■ DF23 - ■ ■ T1	
	53	136	27.50	6 980	1.8	21	2KJ3502 - ■ DF23 - ■ ■ S1	
	58	123	25.00	6 980	2.0	21	2KJ3502 - ■ DF23 - ■ ■ R1	
	66	108	21.90	6 980	2.3	21	2KJ3502 - ■ DF23 - ■ ■ Q1	
	72	100	20.21	6 980	2.5	21	2KJ3502 - ■ DF23 - ■ ■ P1	
	81	88	17.90	6 980	2.8	21	2KJ3502 - ■ DF23 - ■ ■ N1	
	97	74	14.90	6 980	3.4	21	2KJ3502 - ■ DF23 - ■ ■ M1	
	<b>B.29-LE80ZMQ4P</b>							
	57	126	25.56	4 050	0.87	16	2KJ3501 - ■ DF23 - ■ ■ U1	
	65	111	22.41	4 130	0.99	16	2KJ3501 - ■ DF23 - ■ ■ T1	
	72	99	20.00	4 190	1.1	16	2KJ3501 - ■ DF23 - ■ ■ S1	
	81	88	17.82	4 200	1.2	16	2KJ3501 - ■ DF23 - ■ ■ R1	
	88	81	16.45	4 200	1.4	16	2KJ3501 - ■ DF23 - ■ ■ Q1	
	101	71	14.40	4 200	1.5	16	2KJ3501 - ■ DF23 - ■ ■ P1	
	115	62	12.63	4 200	1.8	16	2KJ3501 - ■ DF23 - ■ ■ N1	
	127	57	11.46	4 140	1.9	16	2KJ3501 - ■ DF23 - ■ ■ M1	
	135	53	10.78	4 090	2.1	16	2KJ3501 - ■ DF23 - ■ ■ L1	
	152	47	9.51	3 950	2.3	16	2KJ3501 - ■ DF23 - ■ ■ K1	
	176	41	8.25	3 810	2.7	16	2KJ3501 - ■ DF23 - ■ ■ J1	
	185	39	7.84	3 720	1.9	16	2KJ3501 - ■ DF23 - ■ ■ H1	
	196	36	7.38	3 660	2.1	16	2KJ3501 - ■ DF23 - ■ ■ G1	
	223	32	6.51	3 540	2.3	16	2KJ3501 - ■ DF23 - ■ ■ F1	
	257	28	5.65	3 400	2.7	16	2KJ3501 - ■ DF23 - ■ ■ E1	
	286	25	5.07	3 340	3.0	16	2KJ3501 - ■ DF23 - ■ ■ D1	
	303	24	4.78	3 270	3.1	16	2KJ3501 - ■ DF23 - ■ ■ C1	
	344	21	4.21	3 160	3.6	16	2KJ3501 - ■ DF23 - ■ ■ B1	
	397	18	3.65	3 030	4.0	16	2KJ3501 - ■ DF23 - ■ ■ A1	
	<b>B.19-LE80ZMQ4P</b>							
	115	62	12.66	1 910	0.80	14	2KJ3500 - ■ DF23 - ■ ■ N1	
	132	54	11.00	1 910	0.92	14	2KJ3500 - ■ DF23 - ■ ■ M1	
	146	49	9.93	1 910	1.0	14	2KJ3500 - ■ DF23 - ■ ■ L1	
	155	46	9.35	1 910	1.1	14	2KJ3500 - ■ DF23 - ■ ■ K1	
	178	40	8.15	1 910	1.2	14	2KJ3500 - ■ DF23 - ■ ■ J1	
	184	39	7.87	1 910	0.98	14	2KJ3500 - ■ DF23 - ■ ■ H1	
	207	34	6.99	1 910	1.1	14	2KJ3500 - ■ DF23 - ■ ■ G1	
	225	32	6.45	1 910	1.2	14	2KJ3500 - ■ DF23 - ■ ■ F1	
	258	28	5.61	1 910	1.3	14	2KJ3500 - ■ DF23 - ■ ■ E1	
	298	24	4.87	1 910	1.5	14	2KJ3500 - ■ DF23 - ■ ■ D1	
	330	22	4.40	1 910	1.6	14	2KJ3500 - ■ DF23 - ■ ■ C1	

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Electro Motor.ir

## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.75	<b>B.19-LE80ZMQ4P</b>							
	350	20	4.14	1 910	1.6	14	2KJ3500 - ■ DF23 - ■ ■ B1	
	402	18	3.61	1 910	1.7	14	2KJ3500 - ■ DF23 - ■ ■ A1	
1.1	<b>K.129-LE90ZLR6P</b>							
	4.1	2 560	228.30	39 400	1.7	154	2KJ3512 - ■ EM23 - ■ ■ J2	P01
	4.4	2 360	210.74	39 600	1.9	154	2KJ3512 - ■ EM23 - ■ ■ H2	P01
	4.8	2 180	194.04	39 800	2.0	154	2KJ3512 - ■ EM23 - ■ ■ G2	P01
	<b>K.109-LE90ZLR6P</b>							
	4.3	2 430	216.65	24 500	1.2	104	2KJ3511 - ■ EM23 - ■ ■ H2	P01
	4.8	2 190	195.60	24 500	1.3	104	2KJ3511 - ■ EM23 - ■ ■ G2	P01
	5.3	1 990	177.43	24 500	1.5	104	2KJ3511 - ■ EM23 - ■ ■ F2	P01
	5.7	1 840	163.78	24 500	1.6	104	2KJ3511 - ■ EM23 - ■ ■ E2	P01
	6.3	1 670	148.88	24 500	1.7	104	2KJ3511 - ■ EM23 - ■ ■ D2	P01
	<b>K.109-LE90SM4P</b>							
	6.6	1 590	216.65	24 500	1.8	101	2KJ3511 - ■ EK23 - ■ ■ H2	
	7.3	1 440	195.60	24 500	2.0	101	2KJ3511 - ■ EK23 - ■ ■ G2	
	<b>K.89-LE90ZLR6P</b>							
	5.5	1 900	169.94	18 100	0.84	67	2KJ3510 - ■ EM23 - ■ ■ G2	P01
	<b>K.89-LE90SM4P</b>							
	6.1	1 700	231.80	18 100	0.94	64	2KJ3510 - ■ EK23 - ■ ■ K2	
	6.8	1 550	210.72	18 100	1.0	64	2KJ3510 - ■ EK23 - ■ ■ J2	
	7.5	1 390	189.01	18 100	1.1	64	2KJ3510 - ■ EK23 - ■ ■ H2	
	8.4	1 250	169.94	18 100	1.3	64	2KJ3510 - ■ EK23 - ■ ■ G2	
	9.3	1 130	153.70	18 100	1.4	64	2KJ3510 - ■ EK23 - ■ ■ F2	
10	1 040	141.88	18 100	1.5	64	2KJ3510 - ■ EK23 - ■ ■ E2		
11	955	129.96	18 100	1.7	64	2KJ3510 - ■ EK23 - ■ ■ D2		
13	800	109.04	18 100	2.0	64	2KJ3510 - ■ EK23 - ■ ■ C2		
14	755	102.63	18 100	2.1	64	2KJ3510 - ■ EK23 - ■ ■ B2		
<b>K.79-LE90SM4P</b>								
10	1 010	137.35	13 600	0.81	42	2KJ3508 - ■ EK23 - ■ ■ D2		
12	840	114.28	13 900	0.97	42	2KJ3508 - ■ EK23 - ■ ■ B2		
12	910	123.80	13 700	0.90	42	2KJ3508 - ■ EK23 - ■ ■ C2		
14	765	104.32	14 000	1.1	42	2KJ3508 - ■ EK23 - ■ ■ A2		
16	635	86.56	14 300	1.3	42	2KJ3508 - ■ EK23 - ■ ■ X1		
17	600	81.47	14 400	1.4	42	2KJ3508 - ■ EK23 - ■ ■ W1		
19	565	76.94	14 400	1.4	42	2KJ3508 - ■ EK23 - ■ ■ V1		
22	480	65.47	14 400	1.7	42	2KJ3508 - ■ EK23 - ■ ■ U1		
25	410	56.08	14 400	2.0	42	2KJ3508 - ■ EK23 - ■ ■ T1		
29	360	49.31	14 400	2.3	42	2KJ3508 - ■ EK23 - ■ ■ S1		
34	305	41.60	14 400	2.6	42	2KJ3508 - ■ EK23 - ■ ■ R1		
<b>K.69-LE90SM4P</b>								
14	735	99.64	9 990	0.82	37	2KJ3507 - ■ EK23 - ■ ■ B2		
15	675	91.98	10 100	0.88	37	2KJ3507 - ■ EK23 - ■ ■ A2		
17	615	83.96	10 100	0.97	37	2KJ3507 - ■ EK23 - ■ ■ X1		
20	510	69.67	10 000	1.2	37	2KJ3507 - ■ EK23 - ■ ■ W1		
22	480	65.57	9 960	1.2	37	2KJ3507 - ■ EK23 - ■ ■ V1		
23	455	61.93	9 890	1.3	37	2KJ3507 - ■ EK23 - ■ ■ U1		
27	385	52.69	9 700	1.5	37	2KJ3507 - ■ EK23 - ■ ■ T1		
32	330	45.14	9 470	1.8	37	2KJ3507 - ■ EK23 - ■ ■ S1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.1</b>								
<b>K.69-LE90SM4P</b>								
	36	290	39.69	9 260	2.1	37	2KJ3507 - ■ EK23 - ■ ■ R1	
	43	245	33.48	8 950	2.3	37	2KJ3507 - ■ EK23 - ■ ■ Q1	
	49	215	29.18	8 690	2.6	37	2KJ3507 - ■ EK23 - ■ ■ P1	
<b>K.49-LE90SM4P</b>								
	22	465	63.59	5 960	0.90	30	2KJ3505 - ■ EK23 - ■ ■ W1	
	27	390	52.93	5 970	1.1	30	2KJ3505 - ■ EK23 - ■ ■ V1	
	29	365	49.82	5 980	1.1	30	2KJ3505 - ■ EK23 - ■ ■ U1	
	32	325	44.63	5 980	1.3	30	2KJ3505 - ■ EK23 - ■ ■ T1	
	38	280	38.00	5 890	1.5	30	2KJ3505 - ■ EK23 - ■ ■ S1	
	44	240	32.57	5 790	1.7	30	2KJ3505 - ■ EK23 - ■ ■ R1	
	51	205	28.05	5 690	2.0	30	2KJ3505 - ■ EK23 - ■ ■ Q1	
	54	194	26.30	5 620	2.2	30	2KJ3505 - ■ EK23 - ■ ■ P1	
	61	172	23.28	5 510	2.4	30	2KJ3505 - ■ EK23 - ■ ■ N1	
	74	143	19.38	5 330	2.9	30	2KJ3505 - ■ EK23 - ■ ■ M1	
	78	134	18.24	5 270	3.1	30	2KJ3505 - ■ EK23 - ■ ■ L1	
	146	72	9.75	4 530	3.8	30	2KJ3505 - ■ EK23 - ■ ■ F1	
	155	68	9.18	4 460	4.0	30	2KJ3505 - ■ EK23 - ■ ■ E1	
	173	61	8.22	4 330	4.2	30	2KJ3505 - ■ EK23 - ■ ■ D1	
<b>B.49-LE90ZLR6P</b>								
	20	515	45.83	9 860	0.87	31	2KJ3503 - ■ EM23 - ■ ■ A2 P01	
	22	465	41.67	9 780	0.96	31	2KJ3503 - ■ EM23 - ■ ■ X1 P01	
<b>B.49-LE90SM4P</b>								
	24	435	59.28	9 680	1.0	28	2KJ3503 - ■ EK23 - ■ ■ C2	
	26	395	53.89	9 560	1.1	28	2KJ3503 - ■ EK23 - ■ ■ B2	
	31	335	45.83	9 320	1.3	28	2KJ3503 - ■ EK23 - ■ ■ A2	
	34	305	41.67	9 150	1.5	28	2KJ3503 - ■ EK23 - ■ ■ X1	
	38	270	37.18	8 970	1.6	28	2KJ3503 - ■ EK23 - ■ ■ W1	
	43	245	33.33	8 750	1.8	28	2KJ3503 - ■ EK23 - ■ ■ V1	
	47	220	30.05	8 560	2.0	28	2KJ3503 - ■ EK23 - ■ ■ U1	
	51	200	27.74	8 430	2.2	28	2KJ3503 - ■ EK23 - ■ ■ T1	
	56	187	25.32	8 230	2.4	28	2KJ3503 - ■ EK23 - ■ ■ S1	
	68	155	21.01	7 870	2.9	28	2KJ3503 - ■ EK23 - ■ ■ R1	
	72	146	19.77	7 750	3.1	28	2KJ3503 - ■ EK23 - ■ ■ Q1	
<b>K.39-LE90SM4P</b>								
	39	265	36.21	5 030	0.82	24	2KJ3504 - ■ EK23 - ■ ■ T1	
	45	235	31.92	4 990	0.93	24	2KJ3504 - ■ EK23 - ■ ■ S1	
	51	200	27.70	4 980	1.1	24	2KJ3504 - ■ EK23 - ■ ■ R1	
	53	198	26.89	4 930	1.1	24	2KJ3504 - ■ EK23 - ■ ■ Q1	
	59	177	23.97	4 870	1.2	24	2KJ3504 - ■ EK23 - ■ ■ P1	
	64	163	22.12	4 820	1.3	24	2KJ3504 - ■ EK23 - ■ ■ N1	
	74	143	19.37	4 730	1.5	24	2KJ3504 - ■ EK23 - ■ ■ M1	
	84	125	16.98	4 640	1.8	24	2KJ3504 - ■ EK23 - ■ ■ L1	
	92	114	15.41	4 550	1.9	24	2KJ3504 - ■ EK23 - ■ ■ K1	
	98	107	14.50	4 500	2.1	24	2KJ3504 - ■ EK23 - ■ ■ J1	
	112	94	12.78	4 400	2.3	24	2KJ3504 - ■ EK23 - ■ ■ H1	
	128	82	11.09	4 260	2.7	24	2KJ3504 - ■ EK23 - ■ ■ G1	
	142	74	10.04	4 070	2.5	24	2KJ3504 - ■ EK23 - ■ ■ F1	

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Electro Motor.ir

**SIMOGEAR geared motors**

## Bevel geared motors

## Geared motors up to 55 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.1</b>	<b>K.39-LE90SM4P</b>							
	162	65	8.81	3 950	2.8	24	2KJ3504 - ■ EK23 - ■ ■ E1	
	178	59	7.99	3 870	3.0	24	2KJ3504 - ■ EK23 - ■ ■ D1	
	189	55	7.52	3 820	3.1	24	2KJ3504 - ■ EK23 - ■ ■ C1	
	215	49	6.63	3 700	3.3	24	2KJ3504 - ■ EK23 - ■ ■ B1	
	248	42	5.75	3 580	3.5	24	2KJ3504 - ■ EK23 - ■ ■ A1	
	<b>B.39-LE90SM4P</b>							
	42	250	34.22	6 980	0.99	23	2KJ3502 - ■ EK23 - ■ ■ U1	
	46	225	31.11	6 980	1.1	23	2KJ3502 - ■ EK23 - ■ ■ T1	
	52	200	27.50	6 980	1.2	23	2KJ3502 - ■ EK23 - ■ ■ S1	
	57	184	25.00	6 980	1.4	23	2KJ3502 - ■ EK23 - ■ ■ R1	
	65	161	21.90	6 980	1.5	23	2KJ3502 - ■ EK23 - ■ ■ Q1	
	71	149	20.21	6 980	1.7	23	2KJ3502 - ■ EK23 - ■ ■ P1	
	80	132	17.90	6 980	1.9	23	2KJ3502 - ■ EK23 - ■ ■ N1	
	96	110	14.90	6 800	2.3	23	2KJ3502 - ■ EK23 - ■ ■ M1	
	102	103	14.02	6 710	2.4	23	2KJ3502 - ■ EK23 - ■ ■ L1	
	113	93	12.56	6 510	2.7	23	2KJ3502 - ■ EK23 - ■ ■ K1	
	133	79	10.69	6 240	3.0	23	2KJ3502 - ■ EK23 - ■ ■ J1	
	155	68	9.17	5 980	3.4	23	2KJ3502 - ■ EK23 - ■ ■ H1	
	181	58	7.89	5 740	3.8	23	2KJ3502 - ■ EK23 - ■ ■ G1	
	216	49	6.60	5 490	4.1	23	2KJ3502 - ■ EK23 - ■ ■ F1	
	229	46	6.21	5 400	4.4	23	2KJ3502 - ■ EK23 - ■ ■ E1	
	<b>B.29-LE90SM4P</b>							
	80	131	17.82	4 030	0.84	18	2KJ3501 - ■ EK23 - ■ ■ R1	
	87	121	16.45	4 080	0.91	18	2KJ3501 - ■ EK23 - ■ ■ Q1	
99	106	14.40	4 090	1.0	18	2KJ3501 - ■ EK23 - ■ ■ P1		
113	93	12.63	3 990	1.2	18	2KJ3501 - ■ EK23 - ■ ■ N1		
124	84	11.46	3 920	1.3	18	2KJ3501 - ■ EK23 - ■ ■ M1		
132	80	10.78	3 860	1.4	18	2KJ3501 - ■ EK23 - ■ ■ L1		
150	70	9.51	3 760	1.6	18	2KJ3501 - ■ EK23 - ■ ■ K1		
173	61	8.25	3 640	1.8	18	2KJ3501 - ■ EK23 - ■ ■ J1		
182	58	7.84	3 550	1.3	18	2KJ3501 - ■ EK23 - ■ ■ H1		
193	54	7.38	3 500	1.4	18	2KJ3501 - ■ EK23 - ■ ■ G1		
219	48	6.51	3 400	1.6	18	2KJ3501 - ■ EK23 - ■ ■ F1		
252	42	5.65	3 280	1.8	18	2KJ3501 - ■ EK23 - ■ ■ E1		
281	37	5.07	3 250	2.0	18	2KJ3501 - ■ EK23 - ■ ■ D1		
298	35	4.78	3 200	2.1	18	2KJ3501 - ■ EK23 - ■ ■ C1		
338	31	4.21	3 090	2.4	18	2KJ3501 - ■ EK23 - ■ ■ B1		
390	27	3.65	2 970	2.7	18	2KJ3501 - ■ EK23 - ■ ■ A1		
<b>1.5</b>	<b>K.129-LE100LLB6P</b>							
	4.2	3 370	228.30	38 600	1.3	167	2KJ3512 - ■ FM23 - ■ ■ J2 P01	
	4.6	3 110	210.74	38 900	1.4	167	2KJ3512 - ■ FM23 - ■ ■ H2 P01	
	5.0	2 860	194.04	39 100	1.5	167	2KJ3512 - ■ FM23 - ■ ■ G2 P01	
	5.9	2 440	165.47	39 500	1.8	167	2KJ3512 - ■ FM23 - ■ ■ F2 P01	
	<b>K.129-LE90ZLR4P</b>							
	6.3	2 260	228.30	39 700	1.9	154	2KJ3512 - ■ EM23 - ■ ■ J2	
	6.9	2 080	210.74	39 900	2.1	154	2KJ3512 - ■ EM23 - ■ ■ H2	

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
1.5	<b>K.109-LE100LLB6P</b>							
	4.5	3 190	216.65	24 500	0.91	116	2KJ3511 - ■ FM23 - ■■ H2	P01
	5.0	2 880	195.60	24 500	1.0	116	2KJ3511 - ■ FM23 - ■■ G2	P01
	5.5	2 620	177.43	24 500	1.1	116	2KJ3511 - ■ FM23 - ■■ F2	P01
	5.9	2 410	163.78	24 500	1.2	116	2KJ3511 - ■ FM23 - ■■ E2	P01
	<b>K.109-LE90ZLR4P</b>							
	6.7	2 140	216.65	24 500	1.4	104	2KJ3511 - ■ EM23 - ■■ H2	
	7.4	1 930	195.60	24 500	1.5	104	2KJ3511 - ■ EM23 - ■■ G2	
	8.1	1 750	177.43	24 500	1.6	104	2KJ3511 - ■ EM23 - ■■ F2	
	8.8	1 620	163.78	24 500	1.8	104	2KJ3511 - ■ EM23 - ■■ E2	
	9.7	1 470	148.88	24 500	2.0	104	2KJ3511 - ■ EM23 - ■■ D2	
	<b>K.89-LE90ZLR4P</b>							
	7.6	1 870	189.01	18 100	0.85	67	2KJ3510 - ■ EM23 - ■■ H2	
	8.5	1 680	169.94	18 100	0.95	67	2KJ3510 - ■ EM23 - ■■ G2	
	9.4	1 520	153.70	18 100	1.1	67	2KJ3510 - ■ EM23 - ■■ F2	
	10	1 400	141.88	18 100	1.1	67	2KJ3510 - ■ EM23 - ■■ E2	
11	1 280	129.96	18 100	1.2	67	2KJ3510 - ■ EM23 - ■■ D2		
13	1 080	109.04	18 100	1.5	67	2KJ3510 - ■ EM23 - ■■ C2		
14	1 010	102.63	18 100	1.6	67	2KJ3510 - ■ EM23 - ■■ B2		
15	930	94.16	18 100	1.7	67	2KJ3510 - ■ EM23 - ■■ A2		
18	815	82.25	18 100	2.0	67	2KJ3510 - ■ EM23 - ■■ X1		
20	730	73.64	18 100	2.2	67	2KJ3510 - ■ EM23 - ■■ W1		
<b>K.79-LE90ZLR4P</b>								
17	855	86.56	13 900	0.96	45	2KJ3508 - ■ EM23 - ■■ X1		
18	805	81.47	14 000	1.0	45	2KJ3508 - ■ EM23 - ■■ W1		
19	760	76.94	14 000	1.1	45	2KJ3508 - ■ EM23 - ■■ V1		
22	645	65.47	14 300	1.3	45	2KJ3508 - ■ EM23 - ■■ U1		
26	555	56.08	14 400	1.5	45	2KJ3508 - ■ EM23 - ■■ T1		
29	485	49.31	14 400	1.7	45	2KJ3508 - ■ EM23 - ■■ S1		
35	410	41.60	14 400	1.9	45	2KJ3508 - ■ EM23 - ■■ R1		
40	355	36.26	14 400	2.1	45	2KJ3508 - ■ EM23 - ■■ Q1		
44	325	32.78	14 400	2.5	45	2KJ3508 - ■ EM23 - ■■ P1		
<b>K.69-LE90ZLR4P</b>								
21	690	69.67	8 680	0.87	40	2KJ3507 - ■ EM23 - ■■ W1		
22	650	65.57	8 690	0.92	40	2KJ3507 - ■ EM23 - ■■ V1		
23	610	61.93	8 720	0.98	40	2KJ3507 - ■ EM23 - ■■ U1		
27	520	52.69	8 680	1.1	40	2KJ3507 - ■ EM23 - ■■ T1		
32	445	45.14	8 590	1.3	40	2KJ3507 - ■ EM23 - ■■ S1		
36	390	39.69	8 490	1.5	40	2KJ3507 - ■ EM23 - ■■ R1		
43	330	33.48	8 300	1.7	40	2KJ3507 - ■ EM23 - ■■ Q1		
50	285	29.18	8 140	1.9	40	2KJ3507 - ■ EM23 - ■■ P1		
55	255	26.05	7 980	2.3	40	2KJ3507 - ■ EM23 - ■■ N1		
59	240	24.52	7 890	2.4	40	2KJ3507 - ■ EM23 - ■■ M1		
62	225	23.15	7 810	2.5	40	2KJ3507 - ■ EM23 - ■■ L1		
73	195	19.70	7 530	2.8	40	2KJ3507 - ■ EM23 - ■■ K1		
86	167	16.88	7 280	3.2	40	2KJ3507 - ■ EM23 - ■■ J1		
97	147	14.84	7 070	3.5	40	2KJ3507 - ■ EM23 - ■■ H1		
155	93	9.34	6 130	4.0	40	2KJ3507 - ■ EM23 - ■■ E1		

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Electro Motor.ir



## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
1.5	<b>K.49-LE90ZLR4P</b>							
	27	525	52.93	4 880	0.80	33	2KJ3505 - ■ EM23 - ■ ■ V1	
	29	490	49.82	4 970	0.85	33	2KJ3505 - ■ EM23 - ■ ■ U1	
	32	440	44.63	5 040	0.95	33	2KJ3505 - ■ EM23 - ■ ■ T1	
	38	375	38.00	5 110	1.1	33	2KJ3505 - ■ EM23 - ■ ■ S1	
	44	320	32.57	5 130	1.3	33	2KJ3505 - ■ EM23 - ■ ■ R1	
	52	275	28.05	5 110	1.5	33	2KJ3505 - ■ EM23 - ■ ■ Q1	
	55	260	26.30	5 080	1.6	33	2KJ3505 - ■ EM23 - ■ ■ P1	
	62	230	23.28	5 030	1.8	33	2KJ3505 - ■ EM23 - ■ ■ N1	
	75	192	19.38	4 920	2.2	33	2KJ3505 - ■ EM23 - ■ ■ M1	
	79	181	18.24	4 880	2.3	33	2KJ3505 - ■ EM23 - ■ ■ L1	
	88	162	16.34	4 800	2.6	33	2KJ3505 - ■ EM23 - ■ ■ K1	
	104	138	13.91	4 670	3.0	33	2KJ3505 - ■ EM23 - ■ ■ J1	
	121	118	11.93	4 540	3.6	33	2KJ3505 - ■ EM23 - ■ ■ H1	
	148	97	9.75	4 290	2.8	33	2KJ3505 - ■ EM23 - ■ ■ F1	
	157	91	9.18	4 240	3.0	33	2KJ3505 - ■ EM23 - ■ ■ E1	
	176	82	8.22	4 140	3.1	33	2KJ3505 - ■ EM23 - ■ ■ D1	
	206	69	7.00	3 990	3.5	33	2KJ3505 - ■ EM23 - ■ ■ C1	
	241	60	6.00	3 840	3.8	33	2KJ3505 - ■ EM23 - ■ ■ B1	
	279	51	5.17	3 700	4.1	33	2KJ3505 - ■ EM23 - ■ ■ A1	
	<b>B.49-LE90ZLR4P</b>							
	27	530	53.89	8 600	0.84	31	2KJ3503 - ■ EM23 - ■ ■ B2	
	32	450	45.83	8 500	0.99	31	2KJ3503 - ■ EM23 - ■ ■ A2	
	35	410	41.67	8 400	1.1	31	2KJ3503 - ■ EM23 - ■ ■ X1	
	39	365	37.18	8 290	1.2	31	2KJ3503 - ■ EM23 - ■ ■ W1	
	43	330	33.33	8 140	1.4	31	2KJ3503 - ■ EM23 - ■ ■ V1	
	48	295	30.05	8 020	1.5	31	2KJ3503 - ■ EM23 - ■ ■ U1	
	52	275	27.74	7 890	1.6	31	2KJ3503 - ■ EM23 - ■ ■ T1	
	57	250	25.32	7 760	1.8	31	2KJ3503 - ■ EM23 - ■ ■ S1	
	69	205	21.01	7 490	2.2	31	2KJ3503 - ■ EM23 - ■ ■ R1	
	73	196	19.77	7 380	2.3	31	2KJ3503 - ■ EM23 - ■ ■ Q1	
	77	185	18.67	7 290	2.4	31	2KJ3503 - ■ EM23 - ■ ■ P1	
	91	158	15.89	7 020	2.9	31	2KJ3503 - ■ EM23 - ■ ■ N1	
	106	135	13.61	6 770	3.3	31	2KJ3503 - ■ EM23 - ■ ■ M1	
	174	82	8.29	6 010	4.0	31	2KJ3503 - ■ EM23 - ■ ■ H1	
	185	77	7.80	5 910	4.3	31	2KJ3503 - ■ EM23 - ■ ■ G1	
	<b>K.39-LE90ZLR4P</b>							
	52	275	27.70	4 270	0.8	27	2KJ3504 - ■ EM23 - ■ ■ R1	
	54	265	26.89	4 290	0.83	27	2KJ3504 - ■ EM23 - ■ ■ Q1	
	60	235	23.97	4 310	0.93	27	2KJ3504 - ■ EM23 - ■ ■ P1	
	65	215	22.12	4 320	1.0	27	2KJ3504 - ■ EM23 - ■ ■ N1	
	75	192	19.37	4 260	1.1	27	2KJ3504 - ■ EM23 - ■ ■ M1	
	85	168	16.98	4 220	1.3	27	2KJ3504 - ■ EM23 - ■ ■ L1	
	94	153	15.41	4 170	1.4	27	2KJ3504 - ■ EM23 - ■ ■ K1	
	100	144	14.50	4 140	1.5	27	2KJ3504 - ■ EM23 - ■ ■ J1	
	113	127	12.78	4 070	1.7	27	2KJ3504 - ■ EM23 - ■ ■ H1	
	130	110	11.09	3 980	2.0	27	2KJ3504 - ■ EM23 - ■ ■ G1	
	144	100	10.04	3 770	1.8	27	2KJ3504 - ■ EM23 - ■ ■ F1	

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.5</b>	<b>K.39-LE90ZLR4P</b>							
	164	87	8.81	3 700	2.1	27	2KJ3504 - ■ EM23 - ■ ■ E1	
	181	79	7.99	3 640	2.2	27	2KJ3504 - ■ EM23 - ■ ■ D1	
	192	74	7.52	3 600	2.3	27	2KJ3504 - ■ EM23 - ■ ■ C1	
	218	66	6.63	3 500	2.4	27	2KJ3504 - ■ EM23 - ■ ■ B1	
	251	57	5.75	3 400	2.6	27	2KJ3504 - ■ EM23 - ■ ■ A1	
	<b>B.39-LE90ZLR4P</b>							
	46	305	31.11	6 980	0.81	26	2KJ3502 - ■ EM23 - ■ ■ T1	
	53	270	27.50	6 980	0.92	26	2KJ3502 - ■ EM23 - ■ ■ S1	
	58	245	25.00	6 980	1.0	26	2KJ3502 - ■ EM23 - ■ ■ R1	
	66	215	21.90	6 980	1.2	26	2KJ3502 - ■ EM23 - ■ ■ Q1	
	71	200	20.21	6 890	1.2	26	2KJ3502 - ■ EM23 - ■ ■ P1	
	81	177	17.90	6 730	1.4	26	2KJ3502 - ■ EM23 - ■ ■ N1	
	97	148	14.90	6 480	1.7	26	2KJ3502 - ■ EM23 - ■ ■ M1	
	103	139	14.02	6 390	1.8	26	2KJ3502 - ■ EM23 - ■ ■ L1	
	115	125	12.56	6 230	2.0	26	2KJ3502 - ■ EM23 - ■ ■ K1	
	135	106	10.69	6 000	2.3	26	2KJ3502 - ■ EM23 - ■ ■ J1	
	158	91	9.17	5 780	2.5	26	2KJ3502 - ■ EM23 - ■ ■ H1	
	183	78	7.89	5 560	2.8	26	2KJ3502 - ■ EM23 - ■ ■ G1	
	219	65	6.60	5 350	3.1	26	2KJ3502 - ■ EM23 - ■ ■ F1	
233	62	6.21	5 260	3.2	26	2KJ3502 - ■ EM23 - ■ ■ E1		
260	55	5.56	5 100	3.6	26	2KJ3502 - ■ EM23 - ■ ■ D1		
305	47	4.74	4 870	4.3	26	2KJ3502 - ■ EM23 - ■ ■ C1		
356	40	4.06	4 660	5.0	26	2KJ3502 - ■ EM23 - ■ ■ B1		
<b>B.29-LE90ZLR4P</b>								
413	35	3.50	4 450	5.5	26	2KJ3502 - ■ EM23 - ■ ■ A1		
114	125	12.63	3 670	0.88	21	2KJ3501 - ■ EM23 - ■ ■ N1		
126	114	11.46	3 620	0.97	21	2KJ3501 - ■ EM23 - ■ ■ M1		
134	107	10.78	3 590	1.0	21	2KJ3501 - ■ EM23 - ■ ■ L1		
152	94	9.51	3 520	1.2	21	2KJ3501 - ■ EM23 - ■ ■ K1		
175	82	8.25	3 430	1.3	21	2KJ3501 - ■ EM23 - ■ ■ J1		
184	78	7.84	3 320	0.96	21	2KJ3501 - ■ EM23 - ■ ■ H1		
196	73	7.38	3 290	1.0	21	2KJ3501 - ■ EM23 - ■ ■ G1		
222	64	6.51	3 220	1.2	21	2KJ3501 - ■ EM23 - ■ ■ F1		
256	56	5.65	3 120	1.3	21	2KJ3501 - ■ EM23 - ■ ■ E1		
285	50	5.07	3 120	1.5	21	2KJ3501 - ■ EM23 - ■ ■ D1		
302	47	4.78	3 070	1.6	21	2KJ3501 - ■ EM23 - ■ ■ C1		
343	42	4.21	2 970	1.8	21	2KJ3501 - ■ EM23 - ■ ■ B1		
396	36	3.65	2 870	2.0	21	2KJ3501 - ■ EM23 - ■ ■ A1		
<b>2.2</b>	<b>K.149-LE112ZMKB6P</b>							
	4.1	5 130	237.03	65 000	1.6	254	2KJ3513 - ■ GJ23 - ■ ■ J2 P01	
	4.8	4 390	202.86	65 000	1.8	254	2KJ3513 - ■ GJ23 - ■ ■ H2 P01	
	5.1	4 130	190.92	65 000	1.9	254	2KJ3513 - ■ GJ23 - ■ ■ G2 P01	
	5.4	3 870	178.97	65 000	2.1	254	2KJ3513 - ■ GJ23 - ■ ■ F2 P01	
	<b>K.129-LE112ZMKB6P</b>							
	4.2	4 940	228.30	37 100	0.89	170	2KJ3512 - ■ GJ23 - ■ ■ J2 P01	
	4.6	4 560	210.74	37 400	0.96	170	2KJ3512 - ■ GJ23 - ■ ■ H2 P01	
	5.0	4 200	194.04	37 800	1.0	170	2KJ3512 - ■ GJ23 - ■ ■ G2 P01	

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Electro Motor.ir

## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
2.2	<b>K.129-LE112ZMKB6P</b>							
	5.9	3 580	165.47	38 400	1.2	170	2KJ3512 - ■ GJ23 - ■ ■ F2	P01
	<b>K.129-LE100ZLSA4P</b>							
	6.4	3 270	228.30	38 700	1.3	170	2KJ3512 - ■ FN23 - ■ ■ J2	
	7.0	3 020	210.74	38 900	1.5	170	2KJ3512 - ■ FN23 - ■ ■ H2	
	7.5	2 780	194.04	39 200	1.6	170	2KJ3512 - ■ FN23 - ■ ■ G2	
	8.9	2 370	165.47	39 600	1.9	170	2KJ3512 - ■ FN23 - ■ ■ F2	
	9.4	2 230	155.74	39 700	2.0	170	2KJ3512 - ■ FN23 - ■ ■ E2	
	10	2 070	144.53	39 900	2.1	170	2KJ3512 - ■ FN23 - ■ ■ D2	
	<b>K.109-LE112ZMKB6P</b>							
	5.9	3 540	163.78	24 500	0.82	120	2KJ3511 - ■ GJ23 - ■ ■ E2	P01
	<b>K.109-LE100ZLSA4P</b>							
	6.8	3 100	216.65	24 500	0.93	119	2KJ3511 - ■ FN23 - ■ ■ H2	
	7.5	2 800	195.60	24 500	1.0	119	2KJ3511 - ■ FN23 - ■ ■ G2	
	8.3	2 540	177.43	24 500	1.1	119	2KJ3511 - ■ FN23 - ■ ■ F2	
	8.9	2 340	163.78	24 500	1.2	119	2KJ3511 - ■ FN23 - ■ ■ E2	
	9.8	2 130	148.88	24 500	1.4	119	2KJ3511 - ■ FN23 - ■ ■ D2	
	12	1 700	118.65	24 500	1.7	119	2KJ3511 - ■ FN23 - ■ ■ B2	
12	1 800	126.07	24 500	1.6	119	2KJ3511 - ■ FN23 - ■ ■ C2		
13	1 570	109.57	24 500	1.8	119	2KJ3511 - ■ FN23 - ■ ■ A2		
15	1 390	97.49	24 500	2.1	119	2KJ3511 - ■ FN23 - ■ ■ X1		
17	1 240	86.59	24 500	2.3	119	2KJ3511 - ■ FN23 - ■ ■ W1		
<b>K.89-LE100ZLSA4P</b>								
11	1 860	129.96	18 100	0.86	84	2KJ3510 - ■ FN23 - ■ ■ D2		
13	1 560	109.04	18 100	1.0	84	2KJ3510 - ■ FN23 - ■ ■ C2		
14	1 470	102.63	18 100	1.1	84	2KJ3510 - ■ FN23 - ■ ■ B2		
16	1 350	94.16	18 100	1.2	84	2KJ3510 - ■ FN23 - ■ ■ A2		
18	1 180	82.25	18 100	1.4	84	2KJ3510 - ■ FN23 - ■ ■ X1		
20	1 050	73.64	18 100	1.5	84	2KJ3510 - ■ FN23 - ■ ■ W1		
23	920	64.39	18 100	1.7	84	2KJ3510 - ■ FN23 - ■ ■ V1		
27	790	55.27	18 100	2.0	84	2KJ3510 - ■ FN23 - ■ ■ U1		
30	700	48.85	18 100	2.3	84	2KJ3510 - ■ FN23 - ■ ■ T1		
35	595	41.54	18 100	2.6	84	2KJ3510 - ■ FN23 - ■ ■ S1		
<b>K.79-LE100ZLSA4P</b>								
22	935	65.47	13 700	0.87	63	2KJ3508 - ■ FN23 - ■ ■ U1		
26	800	56.08	14 000	1.0	63	2KJ3508 - ■ FN23 - ■ ■ T1		
30	705	49.31	14 200	1.2	63	2KJ3508 - ■ FN23 - ■ ■ S1		
35	595	41.60	14 400	1.3	63	2KJ3508 - ■ FN23 - ■ ■ R1		
40	520	36.26	14 400	1.5	63	2KJ3508 - ■ FN23 - ■ ■ Q1		
45	470	32.78	14 400	1.7	63	2KJ3508 - ■ FN23 - ■ ■ P1		
54	390	27.20	14 400	2.1	63	2KJ3508 - ■ FN23 - ■ ■ N1		
57	365	25.60	14 400	2.1	63	2KJ3508 - ■ FN23 - ■ ■ M1		
61	345	24.17	14 400	2.2	63	2KJ3508 - ■ FN23 - ■ ■ L1		
71	295	20.57	14 400	2.5	63	2KJ3508 - ■ FN23 - ■ ■ K1		
83	250	17.62	14 400	2.8	63	2KJ3508 - ■ FN23 - ■ ■ J1		
95	220	15.49	14 400	3.1	63	2KJ3508 - ■ FN23 - ■ ■ H1		
112	187	13.07	14 400	3.5	63	2KJ3508 - ■ FN23 - ■ ■ G1		
139	151	10.51	14 400	3.0	63	2KJ3508 - ■ FN23 - ■ ■ E1		
163	129	9.01	13 800	3.5	63	2KJ3508 - ■ FN23 - ■ ■ D1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>	<b>K.79-LE100ZLSA4P</b>							
	185	114	7.92	13 300	4.0	63	2KJ3508 - ■ FN23 - ■ ■ C1	
	<b>K.69-LE100ZLSA4P</b>							
	32	645	45.14	7 110	0.93	57	2KJ3507 - ■ FN23 - ■ ■ S1	
	37	565	39.69	7 190	1.1	57	2KJ3507 - ■ FN23 - ■ ■ R1	
	44	480	33.48	7 180	1.2	57	2KJ3507 - ■ FN23 - ■ ■ Q1	
	50	415	29.18	7 170	1.3	57	2KJ3507 - ■ FN23 - ■ ■ P1	
	56	370	26.05	7 110	1.6	57	2KJ3507 - ■ FN23 - ■ ■ N1	
	60	350	24.52	7 060	1.7	57	2KJ3507 - ■ FN23 - ■ ■ M1	
	63	330	23.15	7 020	1.8	57	2KJ3507 - ■ FN23 - ■ ■ L1	
	74	280	19.70	6 890	2.0	57	2KJ3507 - ■ FN23 - ■ ■ K1	
	87	240	16.88	6 720	2.2	57	2KJ3507 - ■ FN23 - ■ ■ J1	
	99	210	14.84	6 580	2.4	57	2KJ3507 - ■ FN23 - ■ ■ H1	
	117	180	12.52	6 350	2.7	57	2KJ3507 - ■ FN23 - ■ ■ G1	
	134	156	10.91	6 180	3.0	57	2KJ3507 - ■ FN23 - ■ ■ F1	
	157	134	9.34	5 730	2.8	57	2KJ3507 - ■ FN23 - ■ ■ E1	
	183	115	8.01	5 550	3.2	57	2KJ3507 - ■ FN23 - ■ ■ D1	
	208	101	7.04	5 400	3.6	57	2KJ3507 - ■ FN23 - ■ ■ C1	
	247	85	5.94	5 190	4.0	57	2KJ3507 - ■ FN23 - ■ ■ B1	
	283	74	5.18	5 020	4.4	57	2KJ3507 - ■ FN23 - ■ ■ A1	
<b>K.49-LE100ZLSA4P</b>								
45	465	32.57	3 970	0.9	51	2KJ3505 - ■ FN23 - ■ ■ R1		
52	400	28.05	4 110	1.0	51	2KJ3505 - ■ FN23 - ■ ■ Q1		
56	375	26.30	4 150	1.1	51	2KJ3505 - ■ FN23 - ■ ■ P1		
63	330	23.28	4 220	1.3	51	2KJ3505 - ■ FN23 - ■ ■ N1		
76	275	19.38	4 240	1.5	51	2KJ3505 - ■ FN23 - ■ ■ M1		
80	260	18.24	4 230	1.6	51	2KJ3505 - ■ FN23 - ■ ■ L1		
90	230	16.34	4 240	1.8	51	2KJ3505 - ■ FN23 - ■ ■ K1		
105	199	13.91	4 170	2.1	51	2KJ3505 - ■ FN23 - ■ ■ J1		
123	171	11.93	4 100	2.5	51	2KJ3505 - ■ FN23 - ■ ■ H1		
143	147	10.27	4 020	2.8	51	2KJ3505 - ■ FN23 - ■ ■ G1		
150	140	9.75	3 910	2.0	51	2KJ3505 - ■ FN23 - ■ ■ F1		
160	132	9.18	3 880	2.1	51	2KJ3505 - ■ FN23 - ■ ■ E1		
178	118	8.22	3 810	2.2	51	2KJ3505 - ■ FN23 - ■ ■ D1		
209	100	7.00	3 710	2.4	51	2KJ3505 - ■ FN23 - ■ ■ C1		
244	86	6.00	3 600	2.6	51	2KJ3505 - ■ FN23 - ■ ■ B1		
283	74	5.17	3 490	2.8	51	2KJ3505 - ■ FN23 - ■ ■ A1		
<b>B.49-LE100ZLSA4P</b>								
39	530	37.18	7 140	0.84	48	2KJ3503 - ■ FN23 - ■ ■ W1		
44	475	33.33	7 130	0.94	48	2KJ3503 - ■ FN23 - ■ ■ V1		
49	430	30.05	7 080	1.0	48	2KJ3503 - ■ FN23 - ■ ■ U1		
53	395	27.74	7 050	1.1	48	2KJ3503 - ■ FN23 - ■ ■ T1		
58	360	25.32	6 990	1.2	48	2KJ3503 - ■ FN23 - ■ ■ S1		
70	300	21.01	6 820	1.5	48	2KJ3503 - ■ FN23 - ■ ■ R1		
74	280	19.77	6 780	1.6	48	2KJ3503 - ■ FN23 - ■ ■ Q1		
78	265	18.67	6 720	1.7	48	2KJ3503 - ■ FN23 - ■ ■ P1		
92	225	15.89	6 540	2.0	48	2KJ3503 - ■ FN23 - ■ ■ N1		
108	195	13.61	6 330	2.3	48	2KJ3503 - ■ FN23 - ■ ■ M1		

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>								
<b>B.49-LE100ZLSA4P</b>								
122	172	11.97	6 170	2.6	48	2KJ3503 - ■ FN23 - ■ ■ L1		
145	145	10.10	5 940	3.1	48	2KJ3503 - ■ FN23 - ■ ■ K1		
166	126	8.80	5 760	3.6	48	2KJ3503 - ■ FN23 - ■ ■ J1		
177	119	8.29	5 770	2.8	48	2KJ3503 - ■ FN23 - ■ ■ H1		
188	112	7.80	5 680	3.0	48	2KJ3503 - ■ FN23 - ■ ■ G1		
199	106	7.37	5 590	3.1	48	2KJ3503 - ■ FN23 - ■ ■ F1		
234	90	6.27	5 360	3.7	48	2KJ3503 - ■ FN23 - ■ ■ E1		
273	77	5.37	5 140	4.3	48	2KJ3503 - ■ FN23 - ■ ■ D1		
310	68	4.72	4 960	4.9	48	2KJ3503 - ■ FN23 - ■ ■ C1		
<b>K.39-LE100ZLSA4P</b>								
86	240	16.98	3 540	0.9	41	2KJ3504 - ■ FN23 - ■ ■ L1		
95	220	15.41	3 540	1.0	41	2KJ3504 - ■ FN23 - ■ ■ K1		
101	205	14.50	3 570	1.1	41	2KJ3504 - ■ FN23 - ■ ■ J1		
115	183	12.78	3 540	1.2	41	2KJ3504 - ■ FN23 - ■ ■ H1		
132	159	11.09	3 520	1.4	41	2KJ3504 - ■ FN23 - ■ ■ G1		
146	144	10.04	3 290	1.3	41	2KJ3504 - ■ FN23 - ■ ■ F1		
166	126	8.81	3 270	1.4	41	2KJ3504 - ■ FN23 - ■ ■ E1		
183	115	7.99	3 240	1.5	41	2KJ3504 - ■ FN23 - ■ ■ D1		
195	108	7.52	3 220	1.6	41	2KJ3504 - ■ FN23 - ■ ■ C1		
221	95	6.63	3 180	1.7	41	2KJ3504 - ■ FN23 - ■ ■ B1		
255	82	5.75	3 120	1.8	41	2KJ3504 - ■ FN23 - ■ ■ A1		
<b>B.39-LE100ZLSA4P</b>								
67	310	21.90	6 230	0.80	41	2KJ3502 - ■ FN23 - ■ ■ Q1		
72	290	20.21	6 160	0.86	41	2KJ3502 - ■ FN23 - ■ ■ P1		
82	255	17.90	6 090	0.97	41	2KJ3502 - ■ FN23 - ■ ■ N1		
98	210	14.90	5 960	1.2	41	2KJ3502 - ■ FN23 - ■ ■ M1		
104	200	14.02	5 890	1.2	41	2KJ3502 - ■ FN23 - ■ ■ L1		
117	180	12.56	5 780	1.4	41	2KJ3502 - ■ FN23 - ■ ■ K1		
137	153	10.69	5 610	1.6	41	2KJ3502 - ■ FN23 - ■ ■ J1		
160	132	9.17	5 430	1.7	41	2KJ3502 - ■ FN23 - ■ ■ H1		
186	113	7.89	5 260	1.9	41	2KJ3502 - ■ FN23 - ■ ■ G1		
222	95	6.60	5 120	2.1	41	2KJ3502 - ■ FN23 - ■ ■ F1		
236	89	6.21	5 050	2.2	41	2KJ3502 - ■ FN23 - ■ ■ E1		
263	80	5.56	4 900	2.5	41	2KJ3502 - ■ FN23 - ■ ■ D1		
309	68	4.74	4 700	2.9	41	2KJ3502 - ■ FN23 - ■ ■ C1		
361	58	4.06	4 510	3.4	41	2KJ3502 - ■ FN23 - ■ ■ B1		
419	50	3.50	4 330	3.8	41	2KJ3502 - ■ FN23 - ■ ■ A1		
<b>B.29-LE100ZLSA4P</b>								
154	136	9.51	3 110	0.81	36	2KJ3501 - ■ FN23 - ■ ■ K1		
178	118	8.25	3 080	0.93	36	2KJ3501 - ■ FN23 - ■ ■ J1		
225	93	6.51	2 900	0.80	36	2KJ3501 - ■ FN23 - ■ ■ F1		
259	81	5.65	2 850	0.93	36	2KJ3501 - ■ FN23 - ■ ■ E1		
289	73	5.07	2 900	1.0	36	2KJ3501 - ■ FN23 - ■ ■ D1		
306	69	4.78	2 860	1.1	36	2KJ3501 - ■ FN23 - ■ ■ C1		
348	60	4.21	2 800	1.2	36	2KJ3501 - ■ FN23 - ■ ■ B1		
401	52	3.65	2 720	1.4	36	2KJ3501 - ■ FN23 - ■ ■ A1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>3</b>	<b>K.169-LE132SH6P</b>							
	4.3	6 590	223.30	70 000	2.0	446	2KJ3514 - ■ HF23 - ■ ■ F2	P01
	<b>K.149-LE132SH6P</b>							
	4.1	7 000	237.03	65 000	1.1	276	2KJ3513 - ■ HF23 - ■ ■ J2	P01
	4.8	5 990	202.86	65 000	1.3	276	2KJ3513 - ■ HF23 - ■ ■ H2	P01
	5.1	5 630	190.92	65 000	1.4	276	2KJ3513 - ■ HF23 - ■ ■ G2	P01
	5.4	5 280	178.97	65 000	1.5	276	2KJ3513 - ■ HF23 - ■ ■ F2	P01
	<b>K.149-LE100ZLSB4P</b>							
	6.1	4 660	237.03	65 000	1.7	253	2KJ3513 - ■ FP23 - ■ ■ J2	
	7.2	3 990	202.86	65 000	2.0	253	2KJ3513 - ■ FP23 - ■ ■ H2	
	7.6	3 750	190.92	65 000	2.1	253	2KJ3513 - ■ FP23 - ■ ■ G2	
	<b>K.129-LE132SH6P</b>							
	5.9	4 880	165.47	37 100	0.90	193	2KJ3512 - ■ HF23 - ■ ■ F2	P01
	<b>K.129-LE100ZLSB4P</b>							
	6.4	4 490	228.30	37 500	0.98	170	2KJ3512 - ■ FP23 - ■ ■ J2	
	6.9	4 150	210.74	37 800	1.1	170	2KJ3512 - ■ FP23 - ■ ■ H2	
	7.5	3 820	194.04	38 200	1.2	170	2KJ3512 - ■ FP23 - ■ ■ G2	
	8.8	3 250	165.47	38 700	1.4	170	2KJ3512 - ■ FP23 - ■ ■ F2	
	<b>K.129-LE100ZLSB4P</b>							
	9.3	3 060	155.74	38 900	1.4	170	2KJ3512 - ■ FP23 - ■ ■ E2	
	10	2 840	144.53	39 100	1.5	170	2KJ3512 - ■ FP23 - ■ ■ D2	
	11	2 510	127.77	39 400	1.7	170	2KJ3512 - ■ FP23 - ■ ■ C2	
	13	2 240	114.06	39 700	2.0	170	2KJ3512 - ■ FP23 - ■ ■ B2	
	14	2 020	102.64	39 900	2.2	170	2KJ3512 - ■ FP23 - ■ ■ A2	
	<b>K.109-LE100ZLSB4P</b>							
	8.2	3 490	177.43	24 500	0.83	119	2KJ3511 - ■ FP23 - ■ ■ F2	
	8.9	3 220	163.78	24 500	0.90	119	2KJ3511 - ■ FP23 - ■ ■ E2	
9.8	2 930	148.88	24 500	0.99	119	2KJ3511 - ■ FP23 - ■ ■ D2		
12	2 330	118.65	24 500	1.2	119	2KJ3511 - ■ FP23 - ■ ■ B2		
12	2 480	126.07	24 500	1.2	119	2KJ3511 - ■ FP23 - ■ ■ C2		
13	2 150	109.57	24 500	1.3	119	2KJ3511 - ■ FP23 - ■ ■ A2		
15	1 920	97.49	24 500	1.5	119	2KJ3511 - ■ FP23 - ■ ■ X1		
17	1 700	86.59	24 500	1.7	119	2KJ3511 - ■ FP23 - ■ ■ W1		
19	1 520	77.51	24 500	1.9	119	2KJ3511 - ■ FP23 - ■ ■ V1		
22	1 300	66.26	24 500	2.2	119	2KJ3511 - ■ FP23 - ■ ■ U1		
<b>K.89-LE100ZLSB4P</b>								
15	1 850	94.16	18 100	0.86	84	2KJ3510 - ■ FP23 - ■ ■ A2		
18	1 620	82.25	18 100	0.99	84	2KJ3510 - ■ FP23 - ■ ■ X1		
20	1 450	73.64	18 100	1.1	84	2KJ3510 - ■ FP23 - ■ ■ W1		
23	1 260	64.39	18 100	1.3	84	2KJ3510 - ■ FP23 - ■ ■ V1		
26	1 080	55.27	18 100	1.5	84	2KJ3510 - ■ FP23 - ■ ■ U1		
30	960	48.85	18 100	1.7	84	2KJ3510 - ■ FP23 - ■ ■ T1		
35	815	41.54	18 100	1.9	84	2KJ3510 - ■ FP23 - ■ ■ S1		
37	770	39.29	18 100	2.1	84	2KJ3510 - ■ FP23 - ■ ■ R1		
44	645	32.96	18 100	2.5	84	2KJ3510 - ■ FP23 - ■ ■ Q1		
47	610	31.03	18 100	2.6	84	2KJ3510 - ■ FP23 - ■ ■ P1		
<b>K.79-LE100ZLSB4P</b>								
30	970	49.31	13 600	0.84	63	2KJ3508 - ■ FP23 - ■ ■ S1		
35	815	41.60	13 900	0.98	63	2KJ3508 - ■ FP23 - ■ ■ R1		

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>3</b>	<b>K.79-LE100ZLSB4P</b>								
	40	710	36.26	14 100	1.1	63	2KJ3508 - ■ FP23 - ■ ■ Q1		
	44	645	32.78	14 300	1.3	63	2KJ3508 - ■ FP23 - ■ ■ P1		
	53	535	27.20	14 400	1.5	63	2KJ3508 - ■ FP23 - ■ ■ N1		
	57	500	25.60	14 400	1.6	63	2KJ3508 - ■ FP23 - ■ ■ M1		
	60	475	24.17	14 400	1.6	63	2KJ3508 - ■ FP23 - ■ ■ L1		
	71	405	20.57	14 400	1.8	63	2KJ3508 - ■ FP23 - ■ ■ K1		
	83	345	17.62	14 400	2.1	63	2KJ3508 - ■ FP23 - ■ ■ J1		
	94	305	15.49	14 400	2.3	63	2KJ3508 - ■ FP23 - ■ ■ H1		
	111	255	13.07	14 400	2.6	63	2KJ3508 - ■ FP23 - ■ ■ G1		
	128	220	11.39	14 400	2.9	63	2KJ3508 - ■ FP23 - ■ ■ F1		
	138	205	10.51	14 100	2.2	63	2KJ3508 - ■ FP23 - ■ ■ E1		
	161	177	9.01	13 500	2.5	63	2KJ3508 - ■ FP23 - ■ ■ D1		
	184	156	7.92	13 100	2.9	63	2KJ3508 - ■ FP23 - ■ ■ C1		
	218	132	6.68	12 600	3.5	63	2KJ3508 - ■ FP23 - ■ ■ B1		
	250	115	5.82	12 100	3.8	63	2KJ3508 - ■ FP23 - ■ ■ A1		
		<b>K.69-LE100ZLSB4P</b>							
		43	655	33.48	5 960	0.88	57	2KJ3507 - ■ FP23 - ■ ■ Q1	
		50	575	29.18	6 050	0.97	57	2KJ3507 - ■ FP23 - ■ ■ P1	
		56	510	26.05	6 140	1.2	57	2KJ3507 - ■ FP23 - ■ ■ N1	
59		480	24.52	6 150	1.2	57	2KJ3507 - ■ FP23 - ■ ■ M1		
63		455	23.15	6 150	1.3	57	2KJ3507 - ■ FP23 - ■ ■ L1		
74		385	19.70	6 160	1.4	57	2KJ3507 - ■ FP23 - ■ ■ K1		
86		330	16.88	6 100	1.6	57	2KJ3507 - ■ FP23 - ■ ■ J1		
98		290	14.84	6 030	1.8	57	2KJ3507 - ■ FP23 - ■ ■ H1		
116		245	12.52	5 910	2.0	57	2KJ3507 - ■ FP23 - ■ ■ G1		
133		215	10.91	5 780	2.2	57	2KJ3507 - ■ FP23 - ■ ■ F1		
156		184	9.34	5 300	2.0	57	2KJ3507 - ■ FP23 - ■ ■ E1		
182		158	8.01	5 180	2.3	57	2KJ3507 - ■ FP23 - ■ ■ D1		
207		139	7.04	5 070	2.6	57	2KJ3507 - ■ FP23 - ■ ■ C1		
245		117	5.94	4 920	2.9	57	2KJ3507 - ■ FP23 - ■ ■ B1		
281		102	5.18	4 790	3.2	57	2KJ3507 - ■ FP23 - ■ ■ A1		
		<b>K.49-LE100ZLSB4P</b>							
		55	515	26.30	3 070	0.81	51	2KJ3505 - ■ FP23 - ■ ■ P1	
		62	455	23.28	3 260	0.92	51	2KJ3505 - ■ FP23 - ■ ■ N1	
		75	380	19.38	3 440	1.1	51	2KJ3505 - ■ FP23 - ■ ■ M1	
	80	355	18.24	3 510	1.2	51	2KJ3505 - ■ FP23 - ■ ■ L1		
	89	320	16.34	3 550	1.3	51	2KJ3505 - ■ FP23 - ■ ■ K1		
	105	270	13.91	3 630	1.5	51	2KJ3505 - ■ FP23 - ■ ■ J1		
	122	235	11.93	3 610	1.8	51	2KJ3505 - ■ FP23 - ■ ■ H1		
	142	200	10.27	3 620	2.1	51	2KJ3505 - ■ FP23 - ■ ■ G1		
	149	192	9.75	3 490	1.4	51	2KJ3505 - ■ FP23 - ■ ■ F1		
	158	181	9.18	3 480	1.5	51	2KJ3505 - ■ FP23 - ■ ■ E1		
	177	162	8.22	3 460	1.6	51	2KJ3505 - ■ FP23 - ■ ■ D1		
	208	138	7.00	3 410	1.7	51	2KJ3505 - ■ FP23 - ■ ■ C1		
	242	118	6.00	3 350	1.9	51	2KJ3505 - ■ FP23 - ■ ■ B1		
	281	102	5.17	3 270	2.1	51	2KJ3505 - ■ FP23 - ■ ■ A1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles		
3	<b>B.49-LE100ZLSB4P</b>									
	52	545	27.74	6 070	0.82	48	2KJ3503 - ■ FP23 - ■ ■ T1			
	57	495	25.32	6 110	0.90	48	2KJ3503 - ■ FP23 - ■ ■ S1			
	69	410	21.01	6 110	1.1	48	2KJ3503 - ■ FP23 - ■ ■ R1			
	74	385	19.77	6 100	1.2	48	2KJ3503 - ■ FP23 - ■ ■ Q1			
	78	365	18.67	6 070	1.2	48	2KJ3503 - ■ FP23 - ■ ■ P1			
	92	310	15.89	5 990	1.4	48	2KJ3503 - ■ FP23 - ■ ■ N1			
	107	265	13.61	5 880	1.7	48	2KJ3503 - ■ FP23 - ■ ■ M1			
	122	235	11.97	5 760	1.9	48	2KJ3503 - ■ FP23 - ■ ■ L1			
	144	199	10.10	5 600	2.3	48	2KJ3503 - ■ FP23 - ■ ■ K1			
	165	173	8.80	5 460	2.6	48	2KJ3503 - ■ FP23 - ■ ■ J1			
	176	163	8.29	5 520	2.0	48	2KJ3503 - ■ FP23 - ■ ■ H1			
	187	154	7.80	5 450	2.1	48	2KJ3503 - ■ FP23 - ■ ■ G1			
	197	145	7.37	5 380	2.3	48	2KJ3503 - ■ FP23 - ■ ■ F1			
	232	123	6.27	5 180	2.7	48	2KJ3503 - ■ FP23 - ■ ■ E1			
	271	106	5.37	4 980	3.1	48	2KJ3503 - ■ FP23 - ■ ■ D1			
	308	93	4.72	4 820	3.6	48	2KJ3503 - ■ FP23 - ■ ■ C1			
	366	78	3.98	4 620	4.2	48	2KJ3503 - ■ FP23 - ■ ■ B1			
	419	68	3.47	4 450	4.8	48	2KJ3503 - ■ FP23 - ■ ■ A1			
		<b>K.39-LE100ZLSB4P</b>								
		114	250	12.78	2 950	0.87	41	2KJ3504 - ■ FP23 - ■ ■ H1		
		131	215	11.09	3 020	1.0	41	2KJ3504 - ■ FP23 - ■ ■ G1		
		145	198	10.04	2 730	0.93	41	2KJ3504 - ■ FP23 - ■ ■ F1		
		165	173	8.81	2 790	1.1	41	2KJ3504 - ■ FP23 - ■ ■ E1		
		182	157	7.99	2 810	1.1	41	2KJ3504 - ■ FP23 - ■ ■ D1		
		193	148	7.52	2 820	1.2	41	2KJ3504 - ■ FP23 - ■ ■ C1		
		219	131	6.63	2 810	1.2	41	2KJ3504 - ■ FP23 - ■ ■ B1		
		253	113	5.75	2 810	1.3	41	2KJ3504 - ■ FP23 - ■ ■ A1		
			<b>B.39-LE100ZLSB4P</b>							
			98	290	14.90	5 360	0.85	41	2KJ3502 - ■ FP23 - ■ ■ M1	
			104	275	14.02	5 330	0.91	41	2KJ3502 - ■ FP23 - ■ ■ L1	
			116	245	12.56	5 290	1.0	41	2KJ3502 - ■ FP23 - ■ ■ K1	
	136		210	10.69	5 180	1.1	41	2KJ3502 - ■ FP23 - ■ ■ J1		
	159		181	9.17	5 070	1.3	41	2KJ3502 - ■ FP23 - ■ ■ H1		
	184		155	7.89	4 950	1.4	41	2KJ3502 - ■ FP23 - ■ ■ G1		
	220		130	6.60	4 890	1.5	41	2KJ3502 - ■ FP23 - ■ ■ F1		
	234		122	6.21	4 830	1.6	41	2KJ3502 - ■ FP23 - ■ ■ E1		
	262		109	5.56	4 720	1.8	41	2KJ3502 - ■ FP23 - ■ ■ D1		
	307		93	4.74	4 540	2.1	41	2KJ3502 - ■ FP23 - ■ ■ C1		
	358		80	4.06	4 370	2.5	41	2KJ3502 - ■ FP23 - ■ ■ B1		
	416		69	3.50	4 210	2.8	41	2KJ3502 - ■ FP23 - ■ ■ A1		
	<b>B.29-LE100ZLSB4P</b>									
	346	83	4.21	2 600	0.89	36	2KJ3501 - ■ FP23 - ■ ■ B1			
	399	72	3.65	2 550	1.0	36	2KJ3501 - ■ FP23 - ■ ■ A1			
4	<b>K.169-LE132MJ6P</b>									
	4.3	8 790	223.30	70 000	1.5	451	2KJ3514 - ■ HK23 - ■ ■ F2	P01		
	4.7	8 200	208.35	70 000	1.6	451	2KJ3514 - ■ HK23 - ■ ■ E2	P01		
	5.2	7 290	185.23	70 000	1.8	451	2KJ3514 - ■ HK23 - ■ ■ D2	P01		
	5.8	6 550	166.31	70 000	2.0	451	2KJ3514 - ■ HK23 - ■ ■ C2	P01		

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>4</b>	<b>K.149-LE132MJ6P</b>							
	4.1	9 330	237.03	65 000	0.86	281	2KJ3513 - ■ HK23 - ■ ■ J2	P01
	4.8	7 980	202.86	65 000	1.0	281	2KJ3513 - ■ HK23 - ■ ■ H2	P01
	5.1	7 510	190.92	65 000	1.1	281	2KJ3513 - ■ HK23 - ■ ■ G2	P01
	5.4	7 040	178.97	65 000	1.1	281	2KJ3513 - ■ HK23 - ■ ■ F2	P01
	<b>K.149-LE112ZMKB4P</b>							
	6.2	6 200	237.03	65 000	1.3	254	2KJ3513 - ■ GJ23 - ■ ■ J2	
	7.2	5 300	202.86	65 000	1.5	254	2KJ3513 - ■ GJ23 - ■ ■ H2	
	7.6	4 990	190.92	65 000	1.6	254	2KJ3513 - ■ GJ23 - ■ ■ G2	
	8.2	4 680	178.97	65 000	1.7	254	2KJ3513 - ■ GJ23 - ■ ■ F2	
	9.2	4 150	158.65	65 000	1.9	254	2KJ3513 - ■ GJ23 - ■ ■ E2	
	10	3 680	140.93	65 000	2.2	254	2KJ3513 - ■ GJ23 - ■ ■ D2	
	<b>K.129-LE112ZMKB4P</b>							
	6.9	5 510	210.74	36 500	0.80	170	2KJ3512 - ■ GJ23 - ■ ■ H2	
	7.5	5 070	194.04	36 900	0.87	170	2KJ3512 - ■ GJ23 - ■ ■ G2	
	8.8	4 320	165.47	37 700	1.0	170	2KJ3512 - ■ GJ23 - ■ ■ F2	
	9.4	4 070	155.74	37 900	1.1	170	2KJ3512 - ■ GJ23 - ■ ■ E2	
	10	3 780	144.53	38 200	1.2	170	2KJ3512 - ■ GJ23 - ■ ■ D2	
	11	3 340	127.77	38 600	1.3	170	2KJ3512 - ■ GJ23 - ■ ■ C2	
	13	2 980	114.06	39 000	1.5	170	2KJ3512 - ■ GJ23 - ■ ■ B2	
	14	2 680	102.64	39 300	1.6	170	2KJ3512 - ■ GJ23 - ■ ■ A2	
	16	2 330	89.09	39 600	1.9	170	2KJ3512 - ■ GJ23 - ■ ■ X1	
	18	2 090	80.12	39 900	2.1	170	2KJ3512 - ■ GJ23 - ■ ■ W1	
	21	1 830	70.03	40 000	2.4	170	2KJ3512 - ■ GJ23 - ■ ■ V1	
	<b>K.109-LE112ZMKB4P</b>							
	12	3 100	118.65	24 500	0.93	120	2KJ3511 - ■ GJ23 - ■ ■ B2	
	12	3 290	126.07	24 500	0.88	120	2KJ3511 - ■ GJ23 - ■ ■ C2	
	13	2 860	109.57	24 500	1.0	120	2KJ3511 - ■ GJ23 - ■ ■ A2	
	15	2 550	97.49	24 500	1.1	120	2KJ3511 - ■ GJ23 - ■ ■ X1	
	17	2 260	86.59	24 500	1.3	120	2KJ3511 - ■ GJ23 - ■ ■ W1	
	19	2 020	77.51	24 500	1.4	120	2KJ3511 - ■ GJ23 - ■ ■ V1	
	22	1 730	66.26	24 500	1.7	120	2KJ3511 - ■ GJ23 - ■ ■ U1	
	25	1 540	59.17	24 500	1.9	120	2KJ3511 - ■ GJ23 - ■ ■ T1	
	28	1 360	52.29	24 500	2.1	120	2KJ3511 - ■ GJ23 - ■ ■ S1	
	32	1 200	45.89	24 500	2.4	120	2KJ3511 - ■ GJ23 - ■ ■ R1	
	<b>K.89-LE112ZMKB4P</b>							
	20	1 920	73.64	18 100	0.83	84	2KJ3510 - ■ GJ23 - ■ ■ W1	
	23	1 680	64.39	18 100	0.95	84	2KJ3510 - ■ GJ23 - ■ ■ V1	
	26	1 440	55.27	18 100	1.1	84	2KJ3510 - ■ GJ23 - ■ ■ U1	
	30	1 270	48.85	18 100	1.3	84	2KJ3510 - ■ GJ23 - ■ ■ T1	
	35	1 080	41.54	18 100	1.4	84	2KJ3510 - ■ GJ23 - ■ ■ S1	
	37	1 020	39.29	18 100	1.6	84	2KJ3510 - ■ GJ23 - ■ ■ R1	
	44	860	32.96	18 100	1.9	84	2KJ3510 - ■ GJ23 - ■ ■ Q1	
	47	810	31.03	18 100	2.0	84	2KJ3510 - ■ GJ23 - ■ ■ P1	
	51	745	28.46	18 100	2.1	84	2KJ3510 - ■ GJ23 - ■ ■ N1	
	59	650	24.86	18 100	2.5	84	2KJ3510 - ■ GJ23 - ■ ■ M1	
	66	580	22.26	18 100	2.7	84	2KJ3510 - ■ GJ23 - ■ ■ L1	
	75	505	19.46	18 100	3.1	84	2KJ3510 - ■ GJ23 - ■ ■ K1	

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>4</b>								
<b>K.89-LE112ZMKB4P</b>								
	139	275	10.51	18 100	3.1	84	2KJ3510 - ■ GJ23 - ■ ■ E1	
	162	235	9.02	18 100	3.4	84	2KJ3510 - ■ GJ23 - ■ ■ D1	
	183	205	7.97	18 000	3.7	84	2KJ3510 - ■ GJ23 - ■ ■ C1	
	215	177	6.78	17 300	4.1	84	2KJ3510 - ■ GJ23 - ■ ■ B1	
	251	152	5.81	16 600	4.4	84	2KJ3510 - ■ GJ23 - ■ ■ A1	
<b>K.79-LE112ZMKB4P</b>								
	40	945	36.26	13 700	0.81	64	2KJ3508 - ■ GJ23 - ■ ■ Q1	
	45	855	32.78	13 900	0.96	64	2KJ3508 - ■ GJ23 - ■ ■ P1	
	54	710	27.20	14 100	1.1	64	2KJ3508 - ■ GJ23 - ■ ■ N1	
	57	670	25.60	14 200	1.2	64	2KJ3508 - ■ GJ23 - ■ ■ M1	
	60	630	24.17	14 300	1.2	64	2KJ3508 - ■ GJ23 - ■ ■ L1	
	71	535	20.57	14 400	1.4	64	2KJ3508 - ■ GJ23 - ■ ■ K1	
	83	460	17.62	14 400	1.6	64	2KJ3508 - ■ GJ23 - ■ ■ J1	
	94	405	15.49	14 400	1.7	64	2KJ3508 - ■ GJ23 - ■ ■ H1	
	112	340	13.07	14 400	1.9	64	2KJ3508 - ■ GJ23 - ■ ■ G1	
	128	295	11.39	14 000	2.2	64	2KJ3508 - ■ GJ23 - ■ ■ F1	
	139	275	10.51	13 600	1.6	64	2KJ3508 - ■ GJ23 - ■ ■ E1	
	162	235	9.01	13 200	1.9	64	2KJ3508 - ■ GJ23 - ■ ■ D1	
	184	205	7.92	12 800	2.2	64	2KJ3508 - ■ GJ23 - ■ ■ C1	
	219	175	6.68	12 300	2.6	64	2KJ3508 - ■ GJ23 - ■ ■ B1	
	251	152	5.82	11 900	2.8	64	2KJ3508 - ■ GJ23 - ■ ■ A1	
<b>K.69-LE112ZMKB4P</b>								
	56	680	26.05	4 910	0.88	58	2KJ3507 - ■ GJ23 - ■ ■ N1	
	60	640	24.52	5 000	0.93	58	2KJ3507 - ■ GJ23 - ■ ■ M1	
	63	605	23.15	5 070	0.97	58	2KJ3507 - ■ GJ23 - ■ ■ L1	
	74	515	19.70	5 220	1.1	58	2KJ3507 - ■ GJ23 - ■ ■ K1	
	86	440	16.88	5 310	1.2	58	2KJ3507 - ■ GJ23 - ■ ■ J1	
	98	385	14.84	5 350	1.3	58	2KJ3507 - ■ GJ23 - ■ ■ H1	
	117	325	12.52	5 330	1.5	58	2KJ3507 - ■ GJ23 - ■ ■ G1	
	134	285	10.91	5 270	1.6	58	2KJ3507 - ■ GJ23 - ■ ■ F1	
	156	240	9.34	4 790	1.5	58	2KJ3507 - ■ GJ23 - ■ ■ E1	
	182	210	8.01	4 710	1.7	58	2KJ3507 - ■ GJ23 - ■ ■ D1	
	207	184	7.04	4 660	2.0	58	2KJ3507 - ■ GJ23 - ■ ■ C1	
	246	155	5.94	4 570	2.2	58	2KJ3507 - ■ GJ23 - ■ ■ B1	
	282	136	5.18	4 480	2.4	58	2KJ3507 - ■ GJ23 - ■ ■ A1	
<b>K.49-LE112ZMKB4P</b>								
	75	505	19.38	2 460	0.83	52	2KJ3505 - ■ GJ23 - ■ ■ M1	
	80	475	18.24	2 560	0.88	52	2KJ3505 - ■ GJ23 - ■ ■ L1	
	89	425	16.34	2 730	0.98	52	2KJ3505 - ■ GJ23 - ■ ■ K1	
	105	360	13.91	2 920	1.2	52	2KJ3505 - ■ GJ23 - ■ ■ J1	
	122	310	11.93	3 020	1.3	52	2KJ3505 - ■ GJ23 - ■ ■ H1	
	142	265	10.27	3 110	1.5	52	2KJ3505 - ■ GJ23 - ■ ■ G1	
	150	255	9.75	2 960	1.1	52	2KJ3505 - ■ GJ23 - ■ ■ F1	
	159	240	9.18	2 980	1.1	52	2KJ3505 - ■ GJ23 - ■ ■ E1	
	178	215	8.22	3 010	1.2	52	2KJ3505 - ■ GJ23 - ■ ■ D1	
	209	183	7.00	3 030	1.3	52	2KJ3505 - ■ GJ23 - ■ ■ C1	
	243	157	6.00	3 020	1.4	52	2KJ3505 - ■ GJ23 - ■ ■ B1	
	282	135	5.17	2 890	1.6	52	2KJ3505 - ■ GJ23 - ■ ■ A1	

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
4	<b>B.49-LE112ZMKB4P</b>								
	69	550	21.01	5 170	0.82	49	2KJ3503 - ■ GJ23 - ■ ■ R1		
	74	515	19.77	5 230	0.87	49	2KJ3503 - ■ GJ23 - ■ ■ Q1		
	78	485	18.67	5 260	0.92	49	2KJ3503 - ■ GJ23 - ■ ■ P1		
	92	415	15.89	5 280	1.1	49	2KJ3503 - ■ GJ23 - ■ ■ N1		
	107	355	13.61	5 280	1.3	49	2KJ3503 - ■ GJ23 - ■ ■ M1		
	122	310	11.97	5 250	1.4	49	2KJ3503 - ■ GJ23 - ■ ■ L1		
	145	260	10.10	5 180	1.7	49	2KJ3503 - ■ GJ23 - ■ ■ K1		
	166	230	8.80	5 070	2.0	49	2KJ3503 - ■ GJ23 - ■ ■ J1		
	176	215	8.29	5 210	1.5	49	2KJ3503 - ■ GJ23 - ■ ■ H1		
	187	200	7.80	5 170	1.6	49	2KJ3503 - ■ GJ23 - ■ ■ G1		
	198	193	7.37	5 090	1.7	49	2KJ3503 - ■ GJ23 - ■ ■ F1		
	233	164	6.27	4 930	2.0	49	2KJ3503 - ■ GJ23 - ■ ■ E1		
	272	141	5.37	4 770	2.3	49	2KJ3503 - ■ GJ23 - ■ ■ D1		
	309	123	4.72	4 640	2.7	49	2KJ3503 - ■ GJ23 - ■ ■ C1		
	367	104	3.98	4 460	3.2	49	2KJ3503 - ■ GJ23 - ■ ■ B1		
	421	91	3.47	4 310	3.6	49	2KJ3503 - ■ GJ23 - ■ ■ A1		
	4	<b>K.39-LE112ZMKB4P</b>							
		183	205	7.99	2 300	0.84	45	2KJ3504 - ■ GJ23 - ■ ■ D1	
		194	197	7.52	2 300	0.87	45	2KJ3504 - ■ GJ23 - ■ ■ C1	
		220	173	6.63	2 370	0.93	45	2KJ3504 - ■ GJ23 - ■ ■ B1	
254		150	5.75	2 420	1.0	45	2KJ3504 - ■ GJ23 - ■ ■ A1		
4	<b>B.39-LE112ZMKB4P</b>								
	137	280	10.69	4 640	0.86	44	2KJ3502 - ■ GJ23 - ■ ■ J1		
	159	240	9.17	4 600	0.96	44	2KJ3502 - ■ GJ23 - ■ ■ H1		
	185	205	7.89	4 560	1.1	44	2KJ3502 - ■ GJ23 - ■ ■ G1		
	221	173	6.60	4 580	1.2	44	2KJ3502 - ■ GJ23 - ■ ■ F1		
	235	162	6.21	4 550	1.2	44	2KJ3502 - ■ GJ23 - ■ ■ E1		
	263	145	5.56	4 460	1.4	44	2KJ3502 - ■ GJ23 - ■ ■ D1		
	308	124	4.74	4 320	1.6	44	2KJ3502 - ■ GJ23 - ■ ■ C1		
	360	106	4.06	4 180	1.9	44	2KJ3502 - ■ GJ23 - ■ ■ B1		
	417	92	3.50	4 040	2.1	44	2KJ3502 - ■ GJ23 - ■ ■ A1		
5.5	<b>K.189-LE132ZMS6P</b>								
	4.9	10 800	199.51	104 000	1.8	683	2KJ3515 - ■ HL23 - ■ ■ W1	P01	
5.4	9 660	178.49	104 000	2.0	683	2KJ3515 - ■ HL23 - ■ ■ V1	P01		
5.5	<b>K.169-LE132ZMS6P</b>								
	4.3	12 000	223.30	70 000	1.1	453	2KJ3514 - ■ HL23 - ■ ■ F2	P01	
	4.7	11 200	208.35	70 000	1.2	453	2KJ3514 - ■ HL23 - ■ ■ E2	P01	
	5.2	10 000	185.23	70 000	1.3	453	2KJ3514 - ■ HL23 - ■ ■ D2	P01	
	5.8	9 000	166.31	70 000	1.4	453	2KJ3514 - ■ HL23 - ■ ■ C2	P01	
	6.4	8 150	150.55	70 000	1.6	453	2KJ3514 - ■ HL23 - ■ ■ B2	P01	
	6.6	8 000	223.30	70 000	1.6	453	2KJ3514 - ■ HJ23 - ■ ■ F2	P01	
	7.0	7 470	208.35	70 000	1.7	453	2KJ3514 - ■ HJ23 - ■ ■ E2	P01	
	7.9	6 640	185.23	70 000	2.0	453	2KJ3514 - ■ HJ23 - ■ ■ D2	P01	
5.5	<b>K.149-LE132ZMS6P</b>								
	5.4	9 690	178.97	65 000	0.83	283	2KJ3513 - ■ HL23 - ■ ■ F2	P01	
5.5	<b>K.149-LE132ZST4P</b>								
	6.2	8 490	237.03	65 000	0.94	283	2KJ3513 - ■ HJ23 - ■ ■ J2		
	7.2	7 270	202.66	65 000	1.1	283	2KJ3513 - ■ HJ23 - ■ ■ H2		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
5.5	<b>K.149-LE132ZST4P</b>							
	7.7	6 840	190.92	65 000	1.2	283	2KJ3513 - ■ HJ23 - ■ ■ G2	
	8.2	6 410	178.97	65 000	1.2	283	2KJ3513 - ■ HJ23 - ■ ■ F2	
	9.2	5 680	158.65	65 000	1.4	283	2KJ3513 - ■ HJ23 - ■ ■ E2	
	10	5 050	140.93	65 000	1.6	283	2KJ3513 - ■ HJ23 - ■ ■ D2	
	12	4 550	127.16	65 000	1.8	283	2KJ3513 - ■ HJ23 - ■ ■ C2	
	13	4 040	112.68	65 000	2.0	283	2KJ3513 - ■ HJ23 - ■ ■ B2	
	15	3 570	99.79	65 000	2.2	283	2KJ3513 - ■ HJ23 - ■ ■ A2	
	<b>K.129-LE132ZST4P</b>							
	10	5 180	144.53	36 800	0.85	200	2KJ3512 - ■ HJ23 - ■ ■ D2	
	11	4 580	127.77	37 400	0.96	200	2KJ3512 - ■ HJ23 - ■ ■ C2	
	13	4 080	114.06	37 900	1.1	200	2KJ3512 - ■ HJ23 - ■ ■ B2	
	14	3 680	102.64	38 300	1.2	200	2KJ3512 - ■ HJ23 - ■ ■ A2	
	16	3 190	89.09	38 800	1.4	200	2KJ3512 - ■ HJ23 - ■ ■ X1	
	18	2 870	80.12	39 100	1.5	200	2KJ3512 - ■ HJ23 - ■ ■ W1	
	21	2 510	70.03	39 400	1.8	200	2KJ3512 - ■ HJ23 - ■ ■ V1	
	23	2 240	62.49	39 700	2.0	200	2KJ3512 - ■ HJ23 - ■ ■ U1	
27	1 970	55.05	40 000	2.2	200	2KJ3512 - ■ HJ23 - ■ ■ T1		
30	1 730	48.24	40 000	2.5	200	2KJ3512 - ■ HJ23 - ■ ■ S1		
<b>K.109-LE132ZST4P</b>								
15	3 490	97.49	24 500	0.83	151	2KJ3511 - ■ HJ23 - ■ ■ X1		
17	3 100	86.59	24 500	0.93	151	2KJ3511 - ■ HJ23 - ■ ■ W1		
19	2 770	77.51	24 500	1.0	151	2KJ3511 - ■ HJ23 - ■ ■ V1		
22	2 370	66.26	24 500	1.2	151	2KJ3511 - ■ HJ23 - ■ ■ U1		
25	2 120	59.17	24 500	1.4	151	2KJ3511 - ■ HJ23 - ■ ■ T1		
28	1 870	52.29	24 500	1.5	151	2KJ3511 - ■ HJ23 - ■ ■ S1		
32	1 640	45.89	24 500	1.8	151	2KJ3511 - ■ HJ23 - ■ ■ R1		
37	1 430	39.95	24 500	2.0	151	2KJ3511 - ■ HJ23 - ■ ■ Q1		
43	1 220	34.15	24 500	2.2	151	2KJ3511 - ■ HJ23 - ■ ■ P1		
50	1 040	29.23	24 500	2.5	151	2KJ3511 - ■ HJ23 - ■ ■ N1		
59	895	24.98	24 500	2.7	151	2KJ3511 - ■ HJ23 - ■ ■ M1		
66	800	22.31	24 500	3.0	151	2KJ3511 - ■ HJ23 - ■ ■ L1		
140	375	10.45	21 400	3.4	151	2KJ3511 - ■ HJ23 - ■ ■ E1		
160	325	9.17	20 700	3.9	151	2KJ3511 - ■ HJ23 - ■ ■ D1		
<b>K.89-LE132ZST4P</b>								
27	1 980	55.27	18 100	0.81	115	2KJ3510 - ■ HJ23 - ■ ■ U1		
30	1 750	48.85	18 100	0.91	115	2KJ3510 - ■ HJ23 - ■ ■ T1		
35	1 480	41.54	18 100	1.1	115	2KJ3510 - ■ HJ23 - ■ ■ S1		
37	1 400	39.29	18 100	1.1	115	2KJ3510 - ■ HJ23 - ■ ■ R1		
44	1 180	32.96	18 100	1.4	115	2KJ3510 - ■ HJ23 - ■ ■ Q1		
47	1 110	31.03	18 100	1.4	115	2KJ3510 - ■ HJ23 - ■ ■ P1		
51	1 020	28.46	18 100	1.6	115	2KJ3510 - ■ HJ23 - ■ ■ N1		
59	890	24.86	18 100	1.8	115	2KJ3510 - ■ HJ23 - ■ ■ M1		
66	795	22.26	18 100	2.0	115	2KJ3510 - ■ HJ23 - ■ ■ L1		
75	695	19.46	18 100	2.2	115	2KJ3510 - ■ HJ23 - ■ ■ K1		
88	595	16.71	18 100	2.5	115	2KJ3510 - ■ HJ23 - ■ ■ J1		
99	530	14.77	18 100	2.7	115	2KJ3510 - ■ HJ23 - ■ ■ H1		
117	450	12.56	18 100	3.0	115	2KJ3510 - ■ HJ23 - ■ ■ G1		

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Electro Motor.ir

## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
5.5	<b>K.89-LE132ZST4P</b>							
	136	385	10.76	18 100	3.2	115	2KJ3510 - ■ HJ23 - ■ ■ F1	
	139	375	10.51	18 100	2.2	115	2KJ3510 - ■ HJ23 - ■ ■ E1	
	162	320	9.02	18 100	2.5	115	2KJ3510 - ■ HJ23 - ■ ■ D1	
	184	285	7.97	17 500	2.7	115	2KJ3510 - ■ HJ23 - ■ ■ C1	
	216	240	6.78	16 900	3.0	115	2KJ3510 - ■ HJ23 - ■ ■ B1	
	252	205	5.81	16 300	3.2	115	2KJ3510 - ■ HJ23 - ■ ■ A1	
	<b>K.79-LE132ZST4P</b>							
	54	975	27.20	13 600	0.82	94	2KJ3508 - ■ HJ23 - ■ ■ N1	
	57	915	25.60	13 700	0.86	94	2KJ3508 - ■ HJ23 - ■ ■ M1	
	61	865	24.17	13 800	0.89	94	2KJ3508 - ■ HJ23 - ■ ■ L1	
	71	735	20.57	14 100	1.0	94	2KJ3508 - ■ HJ23 - ■ ■ K1	
	83	630	17.62	14 300	1.1	94	2KJ3508 - ■ HJ23 - ■ ■ J1	
	95	555	15.49	14 000	1.3	94	2KJ3508 - ■ HJ23 - ■ ■ H1	
	112	465	13.07	13 700	1.4	94	2KJ3508 - ■ HJ23 - ■ ■ G1	
	129	405	11.39	13 300	1.6	94	2KJ3508 - ■ HJ23 - ■ ■ F1	
	139	375	10.51	13 000	1.2	94	2KJ3508 - ■ HJ23 - ■ ■ E1	
	163	320	9.01	12 600	1.4	94	2KJ3508 - ■ HJ23 - ■ ■ D1	
	185	280	7.92	12 300	1.6	94	2KJ3508 - ■ HJ23 - ■ ■ C1	
	219	235	6.68	11 900	1.9	94	2KJ3508 - ■ HJ23 - ■ ■ B1	
	252	205	5.82	11 500	2.1	94	2KJ3508 - ■ HJ23 - ■ ■ A1	
<b>K.69-LE132ZST4P</b>								
87	605	16.88	4 120	0.88	88	2KJ3507 - ■ HJ23 - ■ ■ J1		
99	530	14.84	4 300	0.97	88	2KJ3507 - ■ HJ23 - ■ ■ H1		
117	445	12.52	4 460	1.1	88	2KJ3507 - ■ HJ23 - ■ ■ G1		
134	390	10.91	4 510	1.2	88	2KJ3507 - ■ HJ23 - ■ ■ F1		
157	335	9.34	3 930	1.1	88	2KJ3507 - ■ HJ23 - ■ ■ E1		
183	285	8.01	4 030	1.3	88	2KJ3507 - ■ HJ23 - ■ ■ D1		
208	250	7.04	4 060	1.4	88	2KJ3507 - ■ HJ23 - ■ ■ C1		
247	210	5.94	4 080	1.6	88	2KJ3507 - ■ HJ23 - ■ ■ B1		
283	186	5.18	4 020	1.8	88	2KJ3507 - ■ HJ23 - ■ ■ A1		
<b>K.49-LE132ZST4P</b>								
105	495	13.91	1 860	0.84	82	2KJ3505 - ■ HJ23 - ■ ■ J1		
123	425	11.93	2 120	0.98	82	2KJ3505 - ■ HJ23 - ■ ■ H1		
143	365	10.27	2 320	1.1	82	2KJ3505 - ■ HJ23 - ■ ■ G1		
160	325	9.18	2 270	0.82	82	2KJ3505 - ■ HJ23 - ■ ■ E1		
178	295	8.22	2 340	0.87	82	2KJ3505 - ■ HJ23 - ■ ■ D1		
209	250	7.00	2 460	0.96	82	2KJ3505 - ■ HJ23 - ■ ■ C1		
244	215	6.00	2 530	1.0	82	2KJ3505 - ■ HJ23 - ■ ■ B1		
283	185	5.17	2 570	1.1	82	2KJ3505 - ■ HJ23 - ■ ■ A1		
<b>B.49-LE132ZST4P</b>								
108	485	13.61	4 400	0.92	79	2KJ3503 - ■ HJ23 - ■ ■ M1		
122	425	11.97	4 480	1.0	79	2KJ3503 - ■ HJ23 - ■ ■ L1		
145	360	10.10	4 510	1.2	79	2KJ3503 - ■ HJ23 - ■ ■ K1		
166	315	8.80	4 500	1.4	79	2KJ3503 - ■ HJ23 - ■ ■ J1		
177	295	8.29	4 730	1.1	79	2KJ3503 - ■ HJ23 - ■ ■ H1		
188	280	7.80	4 690	1.2	79	2KJ3503 - ■ HJ23 - ■ ■ G1		
199	260	7.37	4 690	1.2	79	2KJ3503 - ■ HJ23 - ■ ■ F1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
5.5	<b>B.49-LE132ZST4P</b>							
	234	225	6.27	4 570	1.5	79	2KJ3503 - ■ HJ23 - ■ ■ E1	
	273	193	5.37	4 460	1.7	79	2KJ3503 - ■ HJ23 - ■ ■ D1	
	310	169	4.72	4 360	2.0	79	2KJ3503 - ■ HJ23 - ■ ■ C1	
	368	143	3.98	4 220	2.3	79	2KJ3503 - ■ HJ23 - ■ ■ B1	
	422	124	3.47	4 110	2.6	79	2KJ3503 - ■ HJ23 - ■ ■ A1	
7.5	<b>K.189-LE132ZMS4P</b>							
	7.4	9 720	199.51	104 000	2.0	683	2KJ3515 - ■ HL23 - ■ ■ W1	
	<b>K.169-LE132ZMS4P</b>							
	6.6	10 800	223.30	70 000	1.2	453	2KJ3514 - ■ HL23 - ■ ■ F2	
	7.1	10 100	208.35	70 000	1.3	453	2KJ3514 - ■ HL23 - ■ ■ E2	
	7.9	9 020	185.23	70 000	1.4	453	2KJ3514 - ■ HL23 - ■ ■ D2	
	8.8	8 100	166.31	70 000	1.6	453	2KJ3514 - ■ HL23 - ■ ■ C2	
	9.8	7 330	150.55	70 000	1.8	453	2KJ3514 - ■ HL23 - ■ ■ B2	
	11	6 440	132.24	70 000	2.0	453	2KJ3514 - ■ HL23 - ■ ■ A2	
	12	5 830	119.83	70 000	2.2	453	2KJ3514 - ■ HL23 - ■ ■ X1	
	<b>K.149-LE132ZMS4P</b>							
	7.2	9 880	202.86	65 000	0.81	283	2KJ3513 - ■ HL23 - ■ ■ H2	
	7.7	9 300	190.92	65 000	0.86	283	2KJ3513 - ■ HL23 - ■ ■ G2	
	8.2	8 720	178.97	65 000	0.92	283	2KJ3513 - ■ HL23 - ■ ■ F2	
	9.3	7 730	158.65	65 000	1.0	283	2KJ3513 - ■ HL23 - ■ ■ E2	
	10	6 860	140.93	65 000	1.2	283	2KJ3513 - ■ HL23 - ■ ■ D2	
	12	6 190	127.16	65 000	1.3	283	2KJ3513 - ■ HL23 - ■ ■ C2	
	13	5 490	112.68	65 000	1.5	283	2KJ3513 - ■ HL23 - ■ ■ B2	
	15	4 860	99.79	64 000	1.6	283	2KJ3513 - ■ HL23 - ■ ■ A2	
	17	4 320	88.81	62 900	1.8	283	2KJ3513 - ■ HL23 - ■ ■ X1	
	18	3 870	79.59	61 700	2.1	283	2KJ3513 - ■ HL23 - ■ ■ W1	
	21	3 430	70.56	60 400	2.3	283	2KJ3513 - ■ HL23 - ■ ■ V1	
	<b>K.129-LE132ZMS4P</b>							
	14	5 000	102.64	37 000	0.88	200	2KJ3512 - ■ HL23 - ■ ■ A2	
	17	4 340	89.09	37 700	1.0	200	2KJ3512 - ■ HL23 - ■ ■ X1	
	18	3 900	80.12	38 100	1.1	200	2KJ3512 - ■ HL23 - ■ ■ W1	
	21	3 410	70.03	38 600	1.3	200	2KJ3512 - ■ HL23 - ■ ■ V1	
24	3 040	62.49	38 900	1.4	200	2KJ3512 - ■ HL23 - ■ ■ U1		
27	2 680	55.05	39 300	1.6	200	2KJ3512 - ■ HL23 - ■ ■ T1		
30	2 350	48.24	39 200	1.9	200	2KJ3512 - ■ HL23 - ■ ■ S1		
35	2 040	42.04	38 300	2.1	200	2KJ3512 - ■ HL23 - ■ ■ R1		
38	1 870	38.37	37 700	2.4	200	2KJ3512 - ■ HL23 - ■ ■ Q1		
45	1 600	33.03	36 700	2.7	200	2KJ3512 - ■ HL23 - ■ ■ P1		
<b>K.109-LE132ZMS4P</b>								
22	3 220	66.26	24 500	0.9	151	2KJ3511 - ■ HL23 - ■ ■ U1		
25	2 880	59.17	24 500	1.0	151	2KJ3511 - ■ HL23 - ■ ■ T1		
28	2 540	52.29	24 500	1.1	151	2KJ3511 - ■ HL23 - ■ ■ S1		
32	2 230	45.89	24 500	1.3	151	2KJ3511 - ■ HL23 - ■ ■ R1		
37	1 940	39.95	24 500	1.4	151	2KJ3511 - ■ HL23 - ■ ■ Q1		
43	1 660	34.15	24 500	1.6	151	2KJ3511 - ■ HL23 - ■ ■ P1		
50	1 420	29.23	24 500	1.8	151	2KJ3511 - ■ HL23 - ■ ■ N1		
59	1 210	24.98	24 500	2	151	2KJ3511 - ■ HL23 - ■ ■ M1		
66	1 080	22.31	24 500	2.2	151	2KJ3511 - ■ HL23 - ■ ■ L1		

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
7.5	<b>K.109-LE132ZMS4P</b>							
	75	960	19.71	24 200	2.5	151	2KJ3511 - ■ HL23 - ■ ■ K1	
	85	840	17.30	23 600	2.8	151	2KJ3511 - ■ HL23 - ■ ■ J1	
	98	730	15.06	22 900	3.1	151	2KJ3511 - ■ HL23 - ■ ■ H1	
	114	625	12.87	22 100	3.5	151	2KJ3511 - ■ HL23 - ■ ■ G1	
	141	505	10.45	20 800	2.5	151	2KJ3511 - ■ HL23 - ■ ■ E1	
	160	445	9.17	20 200	2.8	151	2KJ3511 - ■ HL23 - ■ ■ D1	
	184	385	7.99	19 500	3.3	151	2KJ3511 - ■ HL23 - ■ ■ C1	
	215	330	6.83	18 800	3.9	151	2KJ3511 - ■ HL23 - ■ ■ B1	
	252	285	5.84	18 100	4.6	151	2KJ3511 - ■ HL23 - ■ ■ A1	
	<b>K.89-LE132ZMS4P</b>							
	37	1 910	39.29	18 100	0.84	115	2KJ3510 - ■ HL23 - ■ ■ R1	
	45	1 600	32.96	18 100	1.0	115	2KJ3510 - ■ HL23 - ■ ■ Q1	
	47	1 510	31.03	18 100	1.1	115	2KJ3510 - ■ HL23 - ■ ■ P1	
	52	1 380	28.46	18 100	1.2	115	2KJ3510 - ■ HL23 - ■ ■ N1	
	59	1 210	24.86	18 100	1.3	115	2KJ3510 - ■ HL23 - ■ ■ M1	
	66	1 080	22.26	18 100	1.5	115	2KJ3510 - ■ HL23 - ■ ■ L1	
	76	945	19.46	18 100	1.6	115	2KJ3510 - ■ HL23 - ■ ■ K1	
	88	810	16.71	18 100	1.8	115	2KJ3510 - ■ HL23 - ■ ■ J1	
	100	720	14.77	18 100	2.0	115	2KJ3510 - ■ HL23 - ■ ■ H1	
	117	610	12.56	18 100	2.2	115	2KJ3510 - ■ HL23 - ■ ■ G1	
	137	520	10.76	18 100	2.4	115	2KJ3510 - ■ HL23 - ■ ■ F1	
	140	510	10.51	17 900	1.7	115	2KJ3510 - ■ HL23 - ■ ■ E1	
	163	435	9.02	17 400	1.8	115	2KJ3510 - ■ HL23 - ■ ■ D1	
	184	385	7.97	16 900	2.0	115	2KJ3510 - ■ HL23 - ■ ■ C1	
	217	330	6.78	16 400	2.2	115	2KJ3510 - ■ HL23 - ■ ■ B1	
	253	280	5.81	15 800	2.4	115	2KJ3510 - ■ HL23 - ■ ■ A1	
	<b>K.79-LE132ZMS4P</b>							
	83	855	17.62	12 900	0.83	94	2KJ3508 - ■ HL23 - ■ ■ J1	
	95	755	15.49	12 800	0.92	94	2KJ3508 - ■ HL23 - ■ ■ H1	
	112	635	13.07	12 700	1.0	94	2KJ3508 - ■ HL23 - ■ ■ G1	
	129	555	11.39	12 500	1.2	94	2KJ3508 - ■ HL23 - ■ ■ F1	
	140	510	10.51	12 100	0.87	94	2KJ3508 - ■ HL23 - ■ ■ E1	
	163	435	9.01	11 900	1.0	94	2KJ3508 - ■ HL23 - ■ ■ D1	
	186	385	7.92	11 600	1.2	94	2KJ3508 - ■ HL23 - ■ ■ C1	
	220	325	6.68	11 300	1.4	94	2KJ3508 - ■ HL23 - ■ ■ B1	
	253	280	5.82	11 100	1.5	94	2KJ3508 - ■ HL23 - ■ ■ A1	
	<b>K.69-LE132ZMS4P</b>							
	117	610	12.52	3 280	0.80	88	2KJ3507 - ■ HL23 - ■ ■ G1	
	135	530	10.91	3 510	0.88	88	2KJ3507 - ■ HL23 - ■ ■ F1	
	157	455	9.34	2 850	0.81	88	2KJ3507 - ■ HL23 - ■ ■ E1	
	184	390	8.01	3 080	0.94	88	2KJ3507 - ■ HL23 - ■ ■ D1	
	209	340	7.04	3 250	1.1	88	2KJ3507 - ■ HL23 - ■ ■ C1	
	247	285	5.94	3 400	1.2	88	2KJ3507 - ■ HL23 - ■ ■ B1	
284	250	5.18	3 440	1.3	88	2KJ3507 - ■ HL23 - ■ ■ A1		
	<b>K.49-LE132ZMS4P</b>							
	143	500	10.27	1 260	0.83	82	2KJ3505 - ■ HL23 - ■ ■ G1	
284	250	5.17	2 020	0.83	82	2KJ3505 - ■ HL23 - ■ ■ A1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>7.5</b>	<b>B.49-LE132ZMS4P</b>							
	146	490	10.10	3 640	0.91	79	2KJ3503 - ■ HL23 - ■ ■ K1	
	167	425	8.80	3 760	1.0	79	2KJ3503 - ■ HL23 - ■ ■ J1	
	177	400	8.29	4 100	0.82	79	2KJ3503 - ■ HL23 - ■ ■ H1	
	188	380	7.80	4 090	0.87	79	2KJ3503 - ■ HL23 - ■ ■ G1	
	199	355	7.37	4 120	0.92	79	2KJ3503 - ■ HL23 - ■ ■ F1	
	234	305	6.27	4 090	1.1	79	2KJ3503 - ■ HL23 - ■ ■ E1	
	274	260	5.37	4 060	1.3	79	2KJ3503 - ■ HL23 - ■ ■ D1	
	311	230	4.72	4 000	1.4	79	2KJ3503 - ■ HL23 - ■ ■ C1	
	369	194	3.98	3 920	1.7	79	2KJ3503 - ■ HL23 - ■ ■ B1	
	424	169	3.47	3 840	1.9	79	2KJ3503 - ■ HL23 - ■ ■ A1	
<b>9.2</b>	<b>K.189-LE160MPA4P</b>							
	7.4	11 900	199.51	104 000	1.6	700	2KJ3515 - ■ JQ23 - ■ ■ W1	
	8.2	10 600	178.49	104 000	1.8	700	2KJ3515 - ■ JQ23 - ■ ■ V1	
	9.1	9 620	160.98	104 000	2.0	700	2KJ3515 - ■ JQ23 - ■ ■ U1	
	<b>K.169-LE160MPA4P</b>							
	6.6	13 300	223.30	70 000	0.97	469	2KJ3514 - ■ JQ23 - ■ ■ F2	
	7.1	12 400	208.35	70 000	1.0	469	2KJ3514 - ■ JQ23 - ■ ■ E2	
	7.9	11 000	185.23	70 000	1.2	469	2KJ3514 - ■ JQ23 - ■ ■ D2	
	8.8	9 940	166.31	70 000	1.3	469	2KJ3514 - ■ JQ23 - ■ ■ C2	
	9.8	8 990	150.55	70 000	1.4	469	2KJ3514 - ■ JQ23 - ■ ■ B2	
	11	7 900	132.24	70 000	1.6	469	2KJ3514 - ■ JQ23 - ■ ■ A2	
12	7 160	119.83	70 000	1.8	469	2KJ3514 - ■ JQ23 - ■ ■ X1		
14	6 370	106.72	70 000	2.0	469	2KJ3514 - ■ JQ23 - ■ ■ W1		
<b>K.149-LE160MPA4P</b>								
9.3	9 480	158.65	62 700	0.84	301	2KJ3513 - ■ JQ23 - ■ ■ E2		
10	8 420	140.93	62 600	0.95	301	2KJ3513 - ■ JQ23 - ■ ■ D2		
12	7 600	127.16	62 200	1.1	301	2KJ3513 - ■ JQ23 - ■ ■ C2		
13	6 730	112.68	61 700	1.2	301	2KJ3513 - ■ JQ23 - ■ ■ B2		
15	5 960	99.79	61 000	1.3	301	2KJ3513 - ■ JQ23 - ■ ■ A2		
17	5 300	88.81	60 100	1.5	301	2KJ3513 - ■ JQ23 - ■ ■ X1		
18	4 750	79.59	59 200	1.7	301	2KJ3513 - ■ JQ23 - ■ ■ W1		
21	4 210	70.56	58 200	1.9	301	2KJ3513 - ■ JQ23 - ■ ■ V1		
24	3 720	62.28	57 000	2.1	301	2KJ3513 - ■ JQ23 - ■ ■ U1		
27	3 270	54.76	55 700	2.4	301	2KJ3513 - ■ JQ23 - ■ ■ T1		
<b>K.129-LE160MPA4P</b>								
17	5 320	89.09	36 700	0.83	218	2KJ3512 - ■ JQ23 - ■ ■ X1		
18	4 780	80.12	37 200	0.92	218	2KJ3512 - ■ JQ23 - ■ ■ W1		
21	4 180	70.03	37 800	1.1	218	2KJ3512 - ■ JQ23 - ■ ■ V1		
24	3 730	62.49	38 200	1.2	218	2KJ3512 - ■ JQ23 - ■ ■ U1		
27	3 290	55.05	37 900	1.3	218	2KJ3512 - ■ JQ23 - ■ ■ T1		
30	2 880	48.24	37 400	1.5	218	2KJ3512 - ■ JQ23 - ■ ■ S1		
35	2 510	42.04	36 700	1.8	218	2KJ3512 - ■ JQ23 - ■ ■ R1		
38	2 290	38.37	36 300	1.9	218	2KJ3512 - ■ JQ23 - ■ ■ Q1		
45	1 970	33.03	35 400	2.2	218	2KJ3512 - ■ JQ23 - ■ ■ P1		
47	1 880	31.55	35 200	2.3	218	2KJ3512 - ■ JQ23 - ■ ■ N1		
53	1 640	27.58	34 300	2.7	218	2KJ3512 - ■ JQ23 - ■ ■ M1		
60	1 470	24.61	33 600	3.0	218	2KJ3512 - ■ JQ23 - ■ ■ L1		

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
9.2	<b>K.109-LE160MPA4P</b>								
	25	3 530	59.17	24 500	0.82	170	2KJ3511 - ■ JQ23 - ■ ■ T1		
	28	3 120	52.29	24 500	0.93	170	2KJ3511 - ■ JQ23 - ■ ■ S1		
	32	2 740	45.89	24 500	1.1	170	2KJ3511 - ■ JQ23 - ■ ■ R1		
	37	2 380	39.95	24 500	1.2	170	2KJ3511 - ■ JQ23 - ■ ■ Q1		
	43	2 040	34.15	24 500	1.3	170	2KJ3511 - ■ JQ23 - ■ ■ P1		
	50	1 740	29.23	24 500	1.5	170	2KJ3511 - ■ JQ23 - ■ ■ N1		
	59	1 490	24.98	24 200	1.6	170	2KJ3511 - ■ JQ23 - ■ ■ M1		
	66	1 330	22.31	23 900	1.8	170	2KJ3511 - ■ JQ23 - ■ ■ L1		
	75	1 170	19.71	23 400	2.0	170	2KJ3511 - ■ JQ23 - ■ ■ K1		
	85	1 030	17.30	22 900	2.3	170	2KJ3511 - ■ JQ23 - ■ ■ J1		
	98	900	15.06	22 300	2.6	170	2KJ3511 - ■ JQ23 - ■ ■ H1		
	114	765	12.87	21 600	2.9	170	2KJ3511 - ■ JQ23 - ■ ■ G1		
	133	655	11.02	20 900	3.2	170	2KJ3511 - ■ JQ23 - ■ ■ F1		
	141	625	10.45	20 300	2.0	170	2KJ3511 - ■ JQ23 - ■ ■ E1		
	160	545	9.17	19 800	2.3	170	2KJ3511 - ■ JQ23 - ■ ■ D1		
	184	475	7.99	19 200	2.7	170	2KJ3511 - ■ JQ23 - ■ ■ C1		
	215	405	6.83	18 500	3.2	170	2KJ3511 - ■ JQ23 - ■ ■ B1		
	252	345	5.84	17 800	3.7	170	2KJ3511 - ■ JQ23 - ■ ■ A1		
		<b>K.89-LE160MPA4P</b>							
		45	1 970	32.96	18 100	0.81	133	2KJ3510 - ■ JQ23 - ■ ■ Q1	
		47	1 850	31.03	18 100	0.86	133	2KJ3510 - ■ JQ23 - ■ ■ P1	
52		1 700	28.46	18 100	0.94	133	2KJ3510 - ■ JQ23 - ■ ■ N1		
59		1 480	24.86	18 100	1.1	133	2KJ3510 - ■ JQ23 - ■ ■ M1		
66		1 330	22.26	18 100	1.2	133	2KJ3510 - ■ JQ23 - ■ ■ L1		
76		1 160	19.46	18 100	1.3	133	2KJ3510 - ■ JQ23 - ■ ■ K1		
88		995	16.71	18 100	1.5	133	2KJ3510 - ■ JQ23 - ■ ■ J1		
100		880	14.77	18 100	1.6	133	2KJ3510 - ■ JQ23 - ■ ■ H1		
117		750	12.56	18 100	1.8	133	2KJ3510 - ■ JQ23 - ■ ■ G1		
137		640	10.76	18 000	1.9	133	2KJ3510 - ■ JQ23 - ■ ■ F1		
140		625	10.51	17 200	1.3	133	2KJ3510 - ■ JQ23 - ■ ■ E1		
163		535	9.02	16 800	1.5	133	2KJ3510 - ■ JQ23 - ■ ■ D1		
184		475	7.97	16 400	1.6	133	2KJ3510 - ■ JQ23 - ■ ■ C1		
217		405	6.78	15 900	1.8	133	2KJ3510 - ■ JQ23 - ■ ■ B1		
253		345	5.81	15 400	1.9	133	2KJ3510 - ■ JQ23 - ■ ■ A1		
11		<b>K.189-LE160MPB4P</b>							
		7.4	14 200	199.51	104 000	1.3	692	2KJ3515 - ■ JR23 - ■ ■ W1	
		8.3	12 700	178.49	104 000	1.5	692	2KJ3515 - ■ JR23 - ■ ■ V1	
		9.2	11 400	160.98	104 000	1.7	692	2KJ3515 - ■ JR23 - ■ ■ U1	
	10	10 100	142.28	104 000	1.9	692	2KJ3515 - ■ JR23 - ■ ■ T1		
	11	9 260	130.05	104 000	2.1	692	2KJ3515 - ■ JR23 - ■ ■ S1		
	<b>K.169-LE160MPB4P</b>								
	6.6	15 900	223.30	70 000	0.82	461	2KJ3514 - ■ JR23 - ■ ■ F2		
	7.1	14 800	208.35	70 000	0.88	461	2KJ3514 - ■ JR23 - ■ ■ E2		
	8	13 100	185.23	70 000	0.99	461	2KJ3514 - ■ JR23 - ■ ■ D2		
	8.9	11 800	166.31	70 000	1.1	461	2KJ3514 - ■ JR23 - ■ ■ C2		
9.8	10 700	150.55	70 000	1.2	461	2KJ3514 - ■ JR23 - ■ ■ B2			
11	9 410	132.24	70 000	1.4	461	2KJ3514 - ■ JR23 - ■ ■ A2			

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
11	<b>K.169-LE160MPB4P</b>							
	12	8 530	119.83	70 000	1.5	461	2KJ3514 - ■ JR23 - ■ ■ X1	
	14	7 600	106.72	70 000	1.7	461	2KJ3514 - ■ JR23 - ■ ■ W1	
	15	6 820	95.83	70 000	1.9	461	2KJ3514 - ■ JR23 - ■ ■ V1	
	17	6 090	85.51	70 000	2.1	461	2KJ3514 - ■ JR23 - ■ ■ U1	
	<b>K.149-LE160MPB4P</b>							
	10	10 000	140.93	58 100	0.80	293	2KJ3513 - ■ JR23 - ■ ■ D2	
	12	9 050	127.16	58 100	0.88	293	2KJ3513 - ■ JR23 - ■ ■ C2	
	13	8 020	112.68	58 000	1.0	293	2KJ3513 - ■ JR23 - ■ ■ B2	
	15	7 100	99.79	57 700	1.1	293	2KJ3513 - ■ JR23 - ■ ■ A2	
	17	6 320	88.81	57 200	1.3	293	2KJ3513 - ■ JR23 - ■ ■ X1	
19	5 660	79.59	56 600	1.4	293	2KJ3513 - ■ JR23 - ■ ■ W1		
21	5 020	70.56	55 900	1.6	293	2KJ3513 - ■ JR23 - ■ ■ V1		
24	4 430	62.28	54 900	1.8	293	2KJ3513 - ■ JR23 - ■ ■ U1		
27	3 900	54.76	53 900	2.1	293	2KJ3513 - ■ JR23 - ■ ■ T1		
30	3 530	49.60	53 000	2.3	293	2KJ3513 - ■ JR23 - ■ ■ S1		
34	3 070	43.18	51 700	2.6	293	2KJ3513 - ■ JR23 - ■ ■ R1		
<b>K.129-LE160MPB4P</b>								
21	4 980	70.03	35 800	0.88	210	2KJ3512 - ■ JR23 - ■ ■ V1		
24	4 450	62.49	35 800	0.99	210	2KJ3512 - ■ JR23 - ■ ■ U1		
27	3 920	55.05	35 700	1.1	210	2KJ3512 - ■ JR23 - ■ ■ T1		
31	3 430	48.24	35 500	1.3	210	2KJ3512 - ■ JR23 - ■ ■ S1		
35	2 990	42.04	35 100	1.5	210	2KJ3512 - ■ JR23 - ■ ■ R1		
38	2 730	38.37	34 700	1.6	210	2KJ3512 - ■ JR23 - ■ ■ Q1		
45	2 350	33.03	34 100	1.9	210	2KJ3512 - ■ JR23 - ■ ■ P1		
47	2 240	31.55	33 900	2.0	210	2KJ3512 - ■ JR23 - ■ ■ N1		
53	1 960	27.58	33 200	2.2	210	2KJ3512 - ■ JR23 - ■ ■ M1		
60	1 750	24.61	32 600	2.5	210	2KJ3512 - ■ JR23 - ■ ■ L1		
68	1 540	21.68	31 800	2.8	210	2KJ3512 - ■ JR23 - ■ ■ K1		
78	1 350	19.00	31 100	3.1	210	2KJ3512 - ■ JR23 - ■ ■ J1		
89	1 170	16.56	30 200	3.4	210	2KJ3512 - ■ JR23 - ■ ■ H1		
125	840	11.80	28 000	3.4	210	2KJ3512 - ■ JR23 - ■ ■ E1		
143	735	10.34	27 200	3.9	210	2KJ3512 - ■ JR23 - ■ ■ D1		
<b>K.109-LE160MPB4P</b>								
32	3 260	45.89	23 500	0.89	162	2KJ3511 - ■ JR23 - ■ ■ R1		
37	2 840	39.95	23 600	0.99	162	2KJ3511 - ■ JR23 - ■ ■ Q1		
43	2 430	34.15	23 600	1.1	162	2KJ3511 - ■ JR23 - ■ ■ P1		
50	2 080	29.23	23 400	1.3	162	2KJ3511 - ■ JR23 - ■ ■ N1		
59	1 770	24.98	23 200	1.3	162	2KJ3511 - ■ JR23 - ■ ■ M1		
66	1 580	22.31	22 900	1.5	162	2KJ3511 - ■ JR23 - ■ ■ L1		
75	1 400	19.71	22 500	1.7	162	2KJ3511 - ■ JR23 - ■ ■ K1		
85	1 230	17.30	22 100	1.9	162	2KJ3511 - ■ JR23 - ■ ■ J1		
98	1 070	15.06	21 600	2.2	162	2KJ3511 - ■ JR23 - ■ ■ H1		
115	915	12.87	21 000	2.4	162	2KJ3511 - ■ JR23 - ■ ■ G1		
134	785	11.02	20 400	2.7	162	2KJ3511 - ■ JR23 - ■ ■ F1		
141	740	10.45	19 800	1.7	162	2KJ3511 - ■ JR23 - ■ ■ E1		
161	650	9.17	19 300	1.9	162	2KJ3511 - ■ JR23 - ■ ■ D1		
185	565	7.99	18 800	2.2	162	2KJ3511 - ■ JR23 - ■ ■ C1		

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Electro Motor.ir

## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
11	<b>K.109-LE160MPB4P</b>							
	216	485	6.83	18 100	2.7	162	2KJ3511 - ■ JR23 - ■ ■ B1	
	253	415	5.84	17 500	3.1	162	2KJ3511 - ■ JR23 - ■ ■ A1	
	<b>K.89-LE160MPB4P</b>							
	59	1 770	24.86	18 100	0.9	125	2KJ3510 - ■ JR23 - ■ ■ M1	
	66	1 580	22.26	18 100	1.0	125	2KJ3510 - ■ JR23 - ■ ■ L1	
	76	1 380	19.46	18 100	1.1	125	2KJ3510 - ■ JR23 - ■ ■ K1	
	88	1 190	16.71	18 100	1.2	125	2KJ3510 - ■ JR23 - ■ ■ J1	
	100	1 050	14.77	18 100	1.3	125	2KJ3510 - ■ JR23 - ■ ■ H1	
	117	895	12.56	17 800	1.5	125	2KJ3510 - ■ JR23 - ■ ■ G1	
	137	765	10.76	17 400	1.6	125	2KJ3510 - ■ JR23 - ■ ■ F1	
	140	745	10.51	16 500	1.1	125	2KJ3510 - ■ JR23 - ■ ■ E1	
	164	640	9.02	16 200	1.2	125	2KJ3510 - ■ JR23 - ■ ■ D1	
	185	565	7.97	15 900	1.4	125	2KJ3510 - ■ JR23 - ■ ■ C1	
	218	480	6.78	15 500	1.5	125	2KJ3510 - ■ JR23 - ■ ■ B1	
	254	410	5.81	15 100	1.6	125	2KJ3510 - ■ JR23 - ■ ■ A1	
15	<b>K.189-LE160ZLL4P</b>							
	7.4	19 300	199.51	104 000	0.99	717	2KJ3515 - ■ JU23 - ■ ■ W1	
	8.3	17 300	178.49	104 000	1.1	717	2KJ3515 - ■ JU23 - ■ ■ V1	
	9.2	15 600	160.98	104 000	1.2	717	2KJ3515 - ■ JU23 - ■ ■ U1	
	10	13 800	142.28	104 000	1.4	717	2KJ3515 - ■ JU23 - ■ ■ T1	
	11	12 600	130.05	104 000	1.5	717	2KJ3515 - ■ JU23 - ■ ■ S1	
	13	11 300	117.00	104 000	1.7	717	2KJ3515 - ■ JU23 - ■ ■ R1	
	14	10 100	104.56	104 000	1.9	717	2KJ3515 - ■ JU23 - ■ ■ Q1	
	16	9 180	94.55	104 000	2.1	717	2KJ3515 - ■ JU23 - ■ ■ P1	
	<b>K.169-LE160ZLL4P</b>							
	8.9	16 100	166.31	70 000	0.80	486	2KJ3514 - ■ JU23 - ■ ■ C2	
	9.8	14 600	150.55	70 000	0.89	486	2KJ3514 - ■ JU23 - ■ ■ B2	
	11	12 800	132.24	70 000	1.0	486	2KJ3514 - ■ JU23 - ■ ■ A2	
	12	11 600	119.83	70 000	1.1	486	2KJ3514 - ■ JU23 - ■ ■ X1	
	14	10 300	106.72	70 000	1.3	486	2KJ3514 - ■ JU23 - ■ ■ W1	
	15	9 300	95.83	70 000	1.4	486	2KJ3514 - ■ JU23 - ■ ■ V1	
17	8 300	85.51	70 000	1.6	486	2KJ3514 - ■ JU23 - ■ ■ U1		
19	7 400	76.23	70 000	1.8	486	2KJ3514 - ■ JU23 - ■ ■ T1		
22	6 560	67.61	70 000	2.0	486	2KJ3514 - ■ JU23 - ■ ■ S1		
24	6 020	62.07	70 000	2.2	486	2KJ3514 - ■ JU23 - ■ ■ R1		
27	5 310	54.68	70 000	2.4	486	2KJ3514 - ■ JU23 - ■ ■ Q1		
<b>K.149-LE160ZLL4P</b>								
15	9 690	99.79	50 500	0.83	318	2KJ3513 - ■ JU23 - ■ ■ A2		
17	8 620	88.81	50 800	0.93	318	2KJ3513 - ■ JU23 - ■ ■ X1		
19	7 730	79.59	50 800	1.0	318	2KJ3513 - ■ JU23 - ■ ■ W1		
21	6 850	70.56	50 700	1.2	318	2KJ3513 - ■ JU23 - ■ ■ V1		
24	6 040	62.28	50 400	1.3	318	2KJ3513 - ■ JU23 - ■ ■ U1		
27	5 310	54.76	49 900	1.5	318	2KJ3513 - ■ JU23 - ■ ■ T1		
30	4 810	49.60	49 400	1.7	318	2KJ3513 - ■ JU23 - ■ ■ S1		
34	4 190	43.18	48 600	1.9	318	2KJ3513 - ■ JU23 - ■ ■ R1		
42	3 430	35.40	47 200	2.3	318	2KJ3513 - ■ JU23 - ■ ■ Q1		
46	3 140	32.33	46 500	2.5	318	2KJ3513 - ■ JU23 - ■ ■ P1		

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## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>15</b>	<b>K.149-LE160ZLL4P</b>							
	51	2 780	28.66	45 500	2.7	318	2KJ3513 - ■ JU23 - ■ ■ N1	
	58	2 450	25.30	44 500	3.0	318	2KJ3513 - ■ JU23 - ■ ■ M1	
	104	1 370	14.15	39 100	3.0	318	2KJ3513 - ■ JU23 - ■ ■ G1	
	119	1 200	12.44	38 000	3.3	318	2KJ3513 - ■ JU23 - ■ ■ F1	
	131	1 090	11.26	37 100	3.6	318	2KJ3513 - ■ JU23 - ■ ■ E1	
	150	950	9.81	35 800	4.0	318	2KJ3513 - ■ JU23 - ■ ■ D1	
	<b>K.129-LE160ZLL4P</b>							
	27	5 340	55.05	30 800	0.82	235	2KJ3512 - ■ JU23 - ■ ■ T1	
	31	4 680	48.24	31 200	0.94	235	2KJ3512 - ■ JU23 - ■ ■ S1	
	35	4 080	42.04	31 300	1.1	235	2KJ3512 - ■ JU23 - ■ ■ R1	
	38	3 720	38.37	31 300	1.2	235	2KJ3512 - ■ JU23 - ■ ■ Q1	
	45	3 200	33.03	31 200	1.4	235	2KJ3512 - ■ JU23 - ■ ■ P1	
	47	3 060	31.55	31 100	1.4	235	2KJ3512 - ■ JU23 - ■ ■ N1	
	53	2 670	27.58	30 800	1.6	235	2KJ3512 - ■ JU23 - ■ ■ M1	
	60	2 390	24.61	30 400	1.8	235	2KJ3512 - ■ JU23 - ■ ■ L1	
	68	2 100	21.68	29 900	2.0	235	2KJ3512 - ■ JU23 - ■ ■ K1	
	78	1 840	19.00	29 400	2.2	235	2KJ3512 - ■ JU23 - ■ ■ J1	
	89	1 600	16.56	28 800	2.5	235	2KJ3512 - ■ JU23 - ■ ■ H1	
98	1 460	15.11	28 300	2.7	235	2KJ3512 - ■ JU23 - ■ ■ G1		
113	1 260	13.01	27 500	3.0	235	2KJ3512 - ■ JU23 - ■ ■ F1		
125	1 140	11.80	27 000	2.5	235	2KJ3512 - ■ JU23 - ■ ■ E1		
143	1 000	10.34	26 300	2.8	235	2KJ3512 - ■ JU23 - ■ ■ D1		
164	875	9.01	25 500	3.2	235	2KJ3512 - ■ JU23 - ■ ■ C1		
179	795	8.22	25 000	3.4	235	2KJ3512 - ■ JU23 - ■ ■ B1		
208	685	7.08	24 200	3.7	235	2KJ3512 - ■ JU23 - ■ ■ A1		
<b>K.109-LE160ZLL4P</b>								
43	3 310	34.15	20 300	0.82	187	2KJ3511 - ■ JU23 - ■ ■ P1		
50	2 830	29.23	20 600	0.92	187	2KJ3511 - ■ JU23 - ■ ■ N1		
59	2 420	24.98	20 700	0.98	187	2KJ3511 - ■ JU23 - ■ ■ M1		
66	2 160	22.31	20 700	1.1	187	2KJ3511 - ■ JU23 - ■ ■ L1		
75	1 910	19.71	20 600	1.2	187	2KJ3511 - ■ JU23 - ■ ■ K1		
85	1 680	17.30	20 400	1.4	187	2KJ3511 - ■ JU23 - ■ ■ J1		
98	1 460	15.06	20 100	1.6	187	2KJ3511 - ■ JU23 - ■ ■ H1		
115	1 250	12.87	19 700	1.8	187	2KJ3511 - ■ JU23 - ■ ■ G1		
134	1 070	11.02	19 300	2.0	187	2KJ3511 - ■ JU23 - ■ ■ F1		
141	1 010	10.45	18 600	1.2	187	2KJ3511 - ■ JU23 - ■ ■ E1		
161	890	9.17	18 300	1.4	187	2KJ3511 - ■ JU23 - ■ ■ D1		
185	775	7.99	17 800	1.6	187	2KJ3511 - ■ JU23 - ■ ■ C1		
216	660	6.83	17 400	2.0	187	2KJ3511 - ■ JU23 - ■ ■ B1		
253	565	5.84	16 900	2.3	187	2KJ3511 - ■ JU23 - ■ ■ A1		
<b>K.89-LE160ZLL4P</b>								
76	1 890	19.46	16 300	0.83	150	2KJ3510 - ■ JU23 - ■ ■ K1		
88	1 620	16.71	16 400	0.91	150	2KJ3510 - ■ JU23 - ■ ■ J1		
100	1 430	14.77	16 400	0.99	150	2KJ3510 - ■ JU23 - ■ ■ H1		
117	1 220	12.56	16 300	1.1	150	2KJ3510 - ■ JU23 - ■ ■ G1		
137	1 040	10.76	16 100	1.2	150	2KJ3510 - ■ JU23 - ■ ■ F1		
140	1 020	10.51	15 000	0.83	150	2KJ3510 - ■ JU23 - ■ ■ E1		

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Electro Motor.ir

## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
15	<b>K.89-LE160ZLL4P</b>							
	164	875	9.02	14 900	0.91	150	2KJ3510 - ■ JU23 - ■ ■ D1	
	185	770	7.97	14 700	0.99	150	2KJ3510 - ■ JU23 - ■ ■ C1	
	218	655	6.78	14 500	1.1	150	2KJ3510 - ■ JU23 - ■ ■ B1	
	254	560	5.81	14 200	1.2	150	2KJ3510 - ■ JU23 - ■ ■ A1	
18.5	<b>K.189-LES180MQ4P</b>							
	11	15 600	130.05	104 000	1.2	794	2KJ3515 - ■ KL33 - ■ ■ S1	
	13	14 000	117.00	104 000	1.4	794	2KJ3515 - ■ KL33 - ■ ■ R1	
	14	12 500	104.56	104 000	1.6	794	2KJ3515 - ■ KL33 - ■ ■ Q1	
	16	11 300	94.55	104 000	1.7	794	2KJ3515 - ■ KL33 - ■ ■ P1	
	18	10 000	83.44	104 000	1.9	794	2KJ3515 - ■ KL33 - ■ ■ N1	
	20	8 930	74.35	104 000	2.2	794	2KJ3515 - ■ KL33 - ■ ■ M1	
	22	8 090	67.36	104 000	2.4	794	2KJ3515 - ■ KL33 - ■ ■ L1	
	<b>K.169-LES180MQ4P</b>							
	12	14 400	119.83	70 000	0.9	565	2KJ3514 - ■ KL33 - ■ ■ X1	
	14	12 800	106.72	70 000	1.0	565	2KJ3514 - ■ KL33 - ■ ■ W1	
	15	11 500	95.83	70 000	1.1	565	2KJ3514 - ■ KL33 - ■ ■ V1	
	17	10 200	85.51	70 000	1.3	565	2KJ3514 - ■ KL33 - ■ ■ U1	
	19	9 160	76.23	70 000	1.4	565	2KJ3514 - ■ KL33 - ■ ■ T1	
	22	8 120	67.61	70 000	1.6	565	2KJ3514 - ■ KL33 - ■ ■ S1	
24	7 460	62.07	70 000	1.7	565	2KJ3514 - ■ KL33 - ■ ■ R1		
27	6 570	54.68	70 000	2.0	565	2KJ3514 - ■ KL33 - ■ ■ Q1		
33	5 390	44.86	70 000	2.4	565	2KJ3514 - ■ KL33 - ■ ■ P1		
<b>K.149-LES180MQ4P</b>								
18	9 560	79.59	45 800	0.84	394	2KJ3513 - ■ KL33 - ■ ■ W1		
21	8 480	70.56	46 300	0.94	394	2KJ3513 - ■ KL33 - ■ ■ V1		
24	7 480	62.28	46 500	1.1	394	2KJ3513 - ■ KL33 - ■ ■ U1		
27	6 580	54.76	46 400	1.2	394	2KJ3513 - ■ KL33 - ■ ■ T1		
30	5 960	49.60	46 300	1.3	394	2KJ3513 - ■ KL33 - ■ ■ S1		
34	5 190	43.18	45 900	1.5	394	2KJ3513 - ■ KL33 - ■ ■ R1		
42	4 250	35.40	45 000	1.8	394	2KJ3513 - ■ KL33 - ■ ■ Q1		
45	3 880	32.33	44 500	2.0	394	2KJ3513 - ■ KL33 - ■ ■ P1		
51	3 440	28.66	43 800	2.2	394	2KJ3513 - ■ KL33 - ■ ■ N1		
58	3 040	25.30	42 900	2.4	394	2KJ3513 - ■ KL33 - ■ ■ M1		
66	2 670	22.25	42 000	2.7	394	2KJ3513 - ■ KL33 - ■ ■ L1		
73	2 420	20.15	41 200	2.9	394	2KJ3513 - ■ KL33 - ■ ■ K1		
84	2 100	17.54	40 200	3.3	394	2KJ3513 - ■ KL33 - ■ ■ J1		
104	1 700	14.15	38 200	2.4	394	2KJ3513 - ■ KL33 - ■ ■ G1		
118	1 490	12.44	37 200	2.7	394	2KJ3513 - ■ KL33 - ■ ■ F1		
131	1 350	11.26	36 300	2.9	394	2KJ3513 - ■ KL33 - ■ ■ E1		
150	1 170	9.81	35 200	3.3	394	2KJ3513 - ■ KL33 - ■ ■ D1		
183	965	8.04	33 600	3.8	394	2KJ3513 - ■ KL33 - ■ ■ C1		
216	820	6.82	32 300	4.4	394	2KJ3513 - ■ KL33 - ■ ■ B1		
<b>K.129-LES180MQ4P</b>								
35	5 050	42.04	28 100	0.87	312	2KJ3512 - ■ KL33 - ■ ■ R1		
38	4 610	38.37	28 300	0.95	312	2KJ3512 - ■ KL33 - ■ ■ Q1		
45	3 970	33.03	28 600	1.1	312	2KJ3512 - ■ KL33 - ■ ■ P1		
47	3 790	31.55	28 600	1.2	312	2KJ3512 - ■ KL33 - ■ ■ N1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>18.5</b>	<b>K.129-LES180MQ4P</b>							
	53	3 310	27.58	28 600	1.3	312	2KJ3512 - ■ KL33 - ■ ■ M1	
	60	2 950	24.61	28 500	1.5	312	2KJ3512 - ■ KL33 - ■ ■ L1	
	68	2 600	21.68	28 300	1.6	312	2KJ3512 - ■ KL33 - ■ ■ K1	
	77	2 280	19.00	27 900	1.8	312	2KJ3512 - ■ KL33 - ■ ■ J1	
	89	1 990	16.56	27 500	2.0	312	2KJ3512 - ■ KL33 - ■ ■ H1	
	97	1 810	15.11	27 100	2.2	312	2KJ3512 - ■ KL33 - ■ ■ G1	
	113	1 560	13.01	26 500	2.4	312	2KJ3512 - ■ KL33 - ■ ■ F1	
	125	1 410	11.80	26 100	2.0	312	2KJ3512 - ■ KL33 - ■ ■ E1	
	142	1 240	10.34	25 500	2.3	312	2KJ3512 - ■ KL33 - ■ ■ D1	
	163	1 080	9.01	24 800	2.5	312	2KJ3512 - ■ KL33 - ■ ■ C1	
	179	985	8.22	24 400	2.7	312	2KJ3512 - ■ KL33 - ■ ■ B1	
	208	850	7.08	23 600	3.0	312	2KJ3512 - ■ KL33 - ■ ■ A1	
	<b>K.109-LES180MQ4P</b>							
	66	2 680	22.31	18 800	0.89	263	2KJ3511 - ■ KL33 - ■ ■ L1	
	75	2 360	19.71	18 900	1.0	263	2KJ3511 - ■ KL33 - ■ ■ K1	
	85	2 070	17.30	18 900	1.2	263	2KJ3511 - ■ KL33 - ■ ■ J1	
	98	1 810	15.06	18 800	1.3	263	2KJ3511 - ■ KL33 - ■ ■ H1	
	114	1 540	12.87	18 700	1.4	263	2KJ3511 - ■ KL33 - ■ ■ G1	
	133	1 320	11.02	18 400	1.6	263	2KJ3511 - ■ KL33 - ■ ■ F1	
141	1 250	10.45	17 600	1.0	263	2KJ3511 - ■ KL33 - ■ ■ E1		
160	1 100	9.17	17 400	1.2	263	2KJ3511 - ■ KL33 - ■ ■ D1		
184	960	7.99	17 100	1.3	263	2KJ3511 - ■ KL33 - ■ ■ C1		
215	820	6.83	16 700	1.6	263	2KJ3511 - ■ KL33 - ■ ■ B1		
252	700	5.84	16 300	1.9	263	2KJ3511 - ■ KL33 - ■ ■ A1		
<b>22</b>	<b>K.189-LES180ZLN4P</b>							
	11	18 500	130.05	104 000	1.0	799	2KJ3515 - ■ KN33 - ■ ■ S1	
	13	16 700	117.00	104 000	1.2	799	2KJ3515 - ■ KN33 - ■ ■ R1	
	14	14 900	104.56	104 000	1.3	799	2KJ3515 - ■ KN33 - ■ ■ Q1	
	16	13 500	94.55	104 000	1.4	799	2KJ3515 - ■ KN33 - ■ ■ P1	
	18	11 900	83.44	104 000	1.6	799	2KJ3515 - ■ KN33 - ■ ■ N1	
	20	10 600	74.35	104 000	1.8	799	2KJ3515 - ■ KN33 - ■ ■ M1	
	22	9 620	67.36	104 000	2.0	799	2KJ3515 - ■ KN33 - ■ ■ L1	
	24	8 650	60.58	104 000	2.3	799	2KJ3515 - ■ KN33 - ■ ■ K1	
	<b>K.169-LES180ZLN4P</b>							
	14	15 200	106.72	70 000	0.85	570	2KJ3514 - ■ KN33 - ■ ■ W1	
	15	13 600	95.83	70 000	0.95	570	2KJ3514 - ■ KN33 - ■ ■ V1	
	17	12 200	85.51	70 000	1.1	570	2KJ3514 - ■ KN33 - ■ ■ U1	
	19	10 800	76.23	70 000	1.2	570	2KJ3514 - ■ KN33 - ■ ■ T1	
	22	9 660	67.61	70 000	1.3	570	2KJ3514 - ■ KN33 - ■ ■ S1	
	24	8 870	62.07	70 000	1.5	570	2KJ3514 - ■ KN33 - ■ ■ R1	
	27	7 810	54.68	70 000	1.7	570	2KJ3514 - ■ KN33 - ■ ■ Q1	
33	6 410	44.86	70 000	2.0	570	2KJ3514 - ■ KN33 - ■ ■ P1		
37	5 620	39.33	69 200	2.3	570	2KJ3514 - ■ KN33 - ■ ■ N1		
<b>K.149-LES180ZLN4P</b>								
24	8 900	62.28	42 500	0.90	399	2KJ3513 - ■ KN33 - ■ ■ U1		
27	7 820	54.76	43 000	1.0	399	2KJ3513 - ■ KN33 - ■ ■ T1		
30	7 080	49.60	43 100	1.1	399	2KJ3513 - ■ KN33 - ■ ■ S1		
34	6 170	43.18	43 100	1.3	399	2KJ3513 - ■ KN33 - ■ ■ R1		

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
22	<b>K.149-LES180ZLN4P</b>								
	42	5 060	35.40	42 700	1.6	399	2KJ3513 - ■ KN33 - ■ ■ Q1		
	45	4 620	32.33	42 400	1.7	399	2KJ3513 - ■ KN33 - ■ ■ P1		
	51	4 090	28.66	41 900	1.9	399	2KJ3513 - ■ KN33 - ■ ■ N1		
	58	3 610	25.30	41 300	2.1	399	2KJ3513 - ■ KN33 - ■ ■ M1		
	66	3 180	22.25	40 600	2.3	399	2KJ3513 - ■ KN33 - ■ ■ L1		
	73	2 880	20.15	40 000	2.5	399	2KJ3513 - ■ KN33 - ■ ■ K1		
	84	2 500	17.54	39 100	2.7	399	2KJ3513 - ■ KN33 - ■ ■ J1		
	102	2 050	14.38	37 700	3.2	399	2KJ3513 - ■ KN33 - ■ ■ H1		
	104	2 020	14.15	37 200	2.0	399	2KJ3513 - ■ KN33 - ■ ■ G1		
	118	1 770	12.44	36 300	2.3	399	2KJ3513 - ■ KN33 - ■ ■ F1		
	131	1 600	11.26	35 600	2.5	399	2KJ3513 - ■ KN33 - ■ ■ E1		
	150	1 400	9.81	34 600	2.7	399	2KJ3513 - ■ KN33 - ■ ■ D1		
	183	1 140	8.04	33 100	3.2	399	2KJ3513 - ■ KN33 - ■ ■ C1		
	216	975	6.82	31 800	3.7	399	2KJ3513 - ■ KN33 - ■ ■ B1		
	22	<b>K.129-LES180ZLN4P</b>							
		38	5 480	38.37	25 400	0.80	317	2KJ3512 - ■ KN33 - ■ ■ Q1	
		45	4 720	33.03	26 000	0.93	317	2KJ3512 - ■ KN33 - ■ ■ P1	
		47	4 500	31.55	26 200	0.98	317	2KJ3512 - ■ KN33 - ■ ■ N1	
		53	3 940	27.58	26 500	1.1	317	2KJ3512 - ■ KN33 - ■ ■ M1	
		60	3 510	24.61	26 600	1.3	317	2KJ3512 - ■ KN33 - ■ ■ L1	
68		3 090	21.68	26 600	1.4	317	2KJ3512 - ■ KN33 - ■ ■ K1		
77		2 710	19.00	26 400	1.5	317	2KJ3512 - ■ KN33 - ■ ■ J1		
89		2 360	16.56	26 200	1.7	317	2KJ3512 - ■ KN33 - ■ ■ H1		
97		2 160	15.11	25 900	1.8	317	2KJ3512 - ■ KN33 - ■ ■ G1		
113		1 850	13.01	25 500	2.0	317	2KJ3512 - ■ KN33 - ■ ■ F1		
125		1 680	11.80	25 200	1.7	317	2KJ3512 - ■ KN33 - ■ ■ E1		
142		1 470	10.34	24 700	1.9	317	2KJ3512 - ■ KN33 - ■ ■ D1		
163		1 280	9.01	24 100	2.1	317	2KJ3512 - ■ KN33 - ■ ■ C1		
179		1 170	8.22	23 800	2.3	317	2KJ3512 - ■ KN33 - ■ ■ B1		
208		1 010	7.08	23 100	2.5	317	2KJ3512 - ■ KN33 - ■ ■ A1		
22		<b>K.109-LES180ZLN4P</b>							
		75	2 810	19.71	17 200	0.84	268	2KJ3511 - ■ KN33 - ■ ■ K1	
	85	2 470	17.30	17 400	0.97	268	2KJ3511 - ■ KN33 - ■ ■ J1		
	98	2 150	15.06	17 500	1.1	268	2KJ3511 - ■ KN33 - ■ ■ H1		
	114	1 830	12.87	17 600	1.2	268	2KJ3511 - ■ KN33 - ■ ■ G1		
	133	1 570	11.02	17 400	1.3	268	2KJ3511 - ■ KN33 - ■ ■ F1		
	141	1 490	10.45	16 600	0.84	268	2KJ3511 - ■ KN33 - ■ ■ E1		
	160	1 310	9.17	16 500	0.97	268	2KJ3511 - ■ KN33 - ■ ■ D1		
	184	1 140	7.99	16 300	1.1	268	2KJ3511 - ■ KN33 - ■ ■ C1		
	215	975	6.83	16 000	1.3	268	2KJ3511 - ■ KN33 - ■ ■ B1		
	252	835	5.84	15 700	1.6	268	2KJ3511 - ■ KN33 - ■ ■ A1		
	30	<b>K.189-LES200ZLU4P</b>							
13		22 800	117.00	104 000	0.86	875	2KJ3515 - ■ LN33 - ■ ■ R1		
14		20 300	104.56	104 000	0.96	875	2KJ3515 - ■ LN33 - ■ ■ Q1		
16		18 400	94.55	104 000	1.1	875	2KJ3515 - ■ LN33 - ■ ■ P1		
18		16 200	83.44	104 000	1.2	875	2KJ3515 - ■ LN33 - ■ ■ N1		
20		14 400	74.35	104 000	1.3	875	2KJ3515 - ■ LN33 - ■ ■ M1		

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>30</b>	<b>K.189-LES200ZLU4P</b>							
	22	13 100	67.36	104 000	1.5	875	2KJ3515 - ■ LN33 - ■ ■ L1	
	24	11 800	60.58	104 000	1.7	875	2KJ3515 - ■ LN33 - ■ ■ K1	
	29	9 810	50.34	104 000	2.0	875	2KJ3515 - ■ LN33 - ■ ■ J1	
	33	8 720	44.76	104 000	2.2	875	2KJ3515 - ■ LN33 - ■ ■ H1	
	<b>K.169-LES200ZLU4P</b>							
	19	14 800	76.23	65 900	0.88	645	2KJ3514 - ■ LN33 - ■ ■ T1	
	22	13 100	67.61	66 300	0.99	645	2KJ3514 - ■ LN33 - ■ ■ S1	
	24	12 000	62.07	66 400	1.1	645	2KJ3514 - ■ LN33 - ■ ■ R1	
	27	10 600	54.68	66 200	1.2	645	2KJ3514 - ■ LN33 - ■ ■ Q1	
	33	8 740	44.86	65 300	1.5	645	2KJ3514 - ■ LN33 - ■ ■ P1	
	37	7 660	39.33	64 500	1.7	645	2KJ3514 - ■ LN33 - ■ ■ N1	
	48	5 990	30.75	62 500	2.2	645	2KJ3514 - ■ LN33 - ■ ■ M1	
	50	5 730	29.43	62 100	2.3	645	2KJ3514 - ■ LN33 - ■ ■ L1	
	54	5 260	27.02	61 300	2.5	645	2KJ3514 - ■ LN33 - ■ ■ K1	
	62	4 630	23.80	60 000	2.8	645	2KJ3514 - ■ LN33 - ■ ■ J1	
	120	2 370	12.20	51 100	2.8	645	2KJ3514 - ■ LN33 - ■ ■ E1	
	147	1 950	10.01	49 000	3.3	645	2KJ3514 - ■ LN33 - ■ ■ D1	
	167	1 710	8.78	47 600	3.7	645	2KJ3514 - ■ LN33 - ■ ■ C1	
	<b>K.149-LES200ZLU4P</b>							
	30	9 660	49.60	35 900	0.83	474	2KJ3513 - ■ LN33 - ■ ■ S1	
	34	8 410	43.18	36 900	0.95	474	2KJ3513 - ■ LN33 - ■ ■ R1	
	42	6 890	35.40	37 600	1.1	474	2KJ3513 - ■ LN33 - ■ ■ Q1	
	45	6 300	32.33	37 700	1.2	474	2KJ3513 - ■ LN33 - ■ ■ P1	
	51	5 580	28.66	37 800	1.4	474	2KJ3513 - ■ LN33 - ■ ■ N1	
	58	4 930	25.30	37 600	1.5	474	2KJ3513 - ■ LN33 - ■ ■ M1	
	66	4 330	22.25	37 400	1.7	474	2KJ3513 - ■ LN33 - ■ ■ L1	
	73	3 920	20.15	37 100	1.8	474	2KJ3513 - ■ LN33 - ■ ■ K1	
	84	3 410	17.54	36 500	2.0	474	2KJ3513 - ■ LN33 - ■ ■ J1	
	102	2 800	14.38	35 600	2.4	474	2KJ3513 - ■ LN33 - ■ ■ H1	
	104	2 750	14.15	35 100	1.5	474	2KJ3513 - ■ LN33 - ■ ■ G1	
	118	2 420	12.44	34 400	1.7	474	2KJ3513 - ■ LN33 - ■ ■ F1	
	131	2 190	11.26	33 900	1.8	474	2KJ3513 - ■ LN33 - ■ ■ E1	
150	1 910	9.81	33 100	2.0	474	2KJ3513 - ■ LN33 - ■ ■ D1		
183	1 560	8.04	31 800	2.4	474	2KJ3513 - ■ LN33 - ■ ■ C1		
216	1 320	6.82	30 800	2.7	474	2KJ3513 - ■ LN33 - ■ ■ B1		
<b>K.129-LES200ZLU4P</b>								
53	5 370	27.58	21 600	0.82	393	2KJ3512 - ■ LN33 - ■ ■ M1		
60	4 790	24.61	22 200	0.92	393	2KJ3512 - ■ LN33 - ■ ■ L1		
68	4 220	21.68	22 700	1.0	393	2KJ3512 - ■ LN33 - ■ ■ K1		
77	3 700	19.00	23 100	1.1	393	2KJ3512 - ■ LN33 - ■ ■ J1		
89	3 220	16.56	23 300	1.2	393	2KJ3512 - ■ LN33 - ■ ■ H1		
97	2 940	15.11	23 300	1.3	393	2KJ3512 - ■ LN33 - ■ ■ G1		
113	2 530	13.01	23 200	1.5	393	2KJ3512 - ■ LN33 - ■ ■ F1		
125	2 300	11.80	23 100	1.2	393	2KJ3512 - ■ LN33 - ■ ■ E1		
142	2 010	10.34	22 800	1.4	393	2KJ3512 - ■ LN33 - ■ ■ D1		
163	1 750	9.01	22 500	1.6	393	2KJ3512 - ■ LN33 - ■ ■ C1		
179	1 600	8.22	22 300	1.7	393	2KJ3512 - ■ LN33 - ■ ■ B1		
208	1 380	7.08	21 800	1.8	393	2KJ3512 - ■ LN33 - ■ ■ A1		

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## SIMOGEAR geared motors

## Bevel geared motors

## Geared motors up to 55 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>37</b>								
<b>K.189-LES225SD4P</b>								
	16	22 600	94.55	104 000	0.86	917	2KJ3515 - MF33 - P1	
	18	19 900	83.44	104 000	0.98	917	2KJ3515 - MF33 - N1	
	20	17 700	74.35	104 000	1.1	917	2KJ3515 - MF33 - M1	
	22	16 100	67.36	104 000	1.2	917	2KJ3515 - MF33 - L1	
	24	14 400	60.58	104 000	1.3	917	2KJ3515 - MF33 - K1	
	29	12 000	50.34	104 000	1.6	917	2KJ3515 - MF33 - J1	
	33	10 700	44.76	104 000	1.8	917	2KJ3515 - MF33 - H1	
	41	8 520	35.67	104 000	2.3	917	2KJ3515 - MF33 - G1	
	52	6 780	28.39	104 000	2.9	917	2KJ3515 - MF33 - F1	
<b>K.169-LES225SD4P</b>								
	22	16 100	67.61	59 200	0.80	690	2KJ3514 - MF33 - S1	
	24	14 800	62.07	59 800	0.88	690	2KJ3514 - MF33 - R1	
	27	13 000	54.68	60 400	0.99	690	2KJ3514 - MF33 - Q1	
	33	10 700	44.86	60 600	1.2	690	2KJ3514 - MF33 - P1	
	38	9 400	39.33	60 300	1.4	690	2KJ3514 - MF33 - N1	
	48	7 350	30.75	59 200	1.8	690	2KJ3514 - MF33 - M1	
	50	7 030	29.43	58 900	1.8	690	2KJ3514 - MF33 - L1	
	55	6 460	27.02	58 400	2.0	690	2KJ3514 - MF33 - K1	
	62	5 690	23.80	57 400	2.3	690	2KJ3514 - MF33 - J1	
	76	4 660	19.53	55 700	2.7	690	2KJ3514 - MF33 - H1	
	86	4 090	17.12	54 500	3.0	690	2KJ3514 - MF33 - G1	
	121	2 910	12.20	49 500	2.3	690	2KJ3514 - MF33 - E1	
	148	2 390	10.01	47 600	2.7	690	2KJ3514 - MF33 - D1	
	168	2 090	8.78	46 400	3.0	690	2KJ3514 - MF33 - C1	
	215	1 640	6.86	43 900	3.7	690	2KJ3514 - MF33 - B1	
<b>K.149-LES225SD4P</b>								
	42	8 460	35.40	33 100	0.93	518	2KJ3513 - MF33 - Q1	
	46	7 720	32.33	33 700	1.0	518	2KJ3513 - MF33 - P1	
	52	6 850	28.66	34 100	1.1	518	2KJ3513 - MF33 - N1	
	58	6 040	25.30	34 400	1.2	518	2KJ3513 - MF33 - M1	
	66	5 310	22.25	34 500	1.4	518	2KJ3513 - MF33 - L1	
	73	4 810	20.15	34 500	1.5	518	2KJ3513 - MF33 - K1	
	84	4 190	17.54	34 300	1.6	518	2KJ3513 - MF33 - J1	
	103	3 430	14.38	33 700	1.9	518	2KJ3513 - MF33 - H1	
	104	3 380	14.15	33 200	1.2	518	2KJ3513 - MF33 - G1	
	119	2 970	12.44	32 700	1.4	518	2KJ3513 - MF33 - F1	
	131	2 690	11.26	32 300	1.5	518	2KJ3513 - MF33 - E1	
	151	2 340	9.81	31 700	1.6	518	2KJ3513 - MF33 - D1	
	184	1 920	8.04	30 700	1.9	518	2KJ3513 - MF33 - C1	
	217	1 630	6.82	29 800	2.2	518	2KJ3513 - MF33 - B1	
<b>K.129-LES225SD4P</b>								
	68	5 180	21.68	19 400	0.82	435	2KJ3512 - MF33 - K1	
	78	4 540	19.00	20 100	0.91	435	2KJ3512 - MF33 - J1	
	89	3 950	16.56	20 700	1.0	435	2KJ3512 - MF33 - H1	
	98	3 610	15.11	20 900	1.1	435	2KJ3512 - MF33 - G1	
	114	3 110	13.01	21 200	1.2	435	2KJ3512 - MF33 - F1	
	125	2 820	11.80	21 200	1.0	435	2KJ3512 - MF33 - E1	

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>37</b>	<b>K.129-LES225SD4P</b>							
	143	2 470	10.34	21 200	1.2	435	2KJ3512 - ■ MF33 - ■ ■ D1	
	164	2 150	9.01	21 100	1.3	435	2KJ3512 - ■ MF33 - ■ ■ C1	
	180	1 960	8.22	21 000	1.4	435	2KJ3512 - ■ MF33 - ■ ■ B1	
	209	1 690	7.08	20 700	1.5	435	2KJ3512 - ■ MF33 - ■ ■ A1	
<b>45</b>	<b>K.189-LES225YMF4P</b>							
	18	24 200	83.44	104 000	0.8	962	2KJ3515 - ■ MT33 - ■ ■ N1	
	20	21 600	74.35	104 000	0.9	962	2KJ3515 - ■ MT33 - ■ ■ M1	
	22	19 500	67.36	104 000	1.0	962	2KJ3515 - ■ MT33 - ■ ■ L1	
	24	17 600	60.58	104 000	1.1	962	2KJ3515 - ■ MT33 - ■ ■ K1	
	29	14 600	50.34	104 000	1.3	962	2KJ3515 - ■ MT33 - ■ ■ J1	
	33	13 000	44.76	104 000	1.5	962	2KJ3515 - ■ MT33 - ■ ■ H1	
	41	10 300	35.67	104 000	1.9	962	2KJ3515 - ■ MT33 - ■ ■ G1	
	52	8 250	28.39	103 900	2.4	962	2KJ3515 - ■ MT33 - ■ ■ F1	
	58	7 370	25.37	101 700	2.6	962	2KJ3515 - ■ MT33 - ■ ■ E1	
	<b>K.169-LES225YMF4P</b>							
	27	15 800	54.68	53 900	0.82	735	2KJ3514 - ■ MT33 - ■ ■ Q1	
	33	13 000	44.86	55 200	1.0	735	2KJ3514 - ■ MT33 - ■ ■ P1	
	38	11 400	39.33	55 600	1.1	735	2KJ3514 - ■ MT33 - ■ ■ N1	
	48	8 940	30.75	55 500	1.5	735	2KJ3514 - ■ MT33 - ■ ■ M1	
	50	8 550	29.43	55 400	1.5	735	2KJ3514 - ■ MT33 - ■ ■ L1	
	55	7 850	27.02	55 100	1.7	735	2KJ3514 - ■ MT33 - ■ ■ K1	
	62	6 920	23.80	54 600	1.9	735	2KJ3514 - ■ MT33 - ■ ■ J1	
	76	5 670	19.53	53 400	2.2	735	2KJ3514 - ■ MT33 - ■ ■ H1	
	86	4 970	17.12	52 400	2.5	735	2KJ3514 - ■ MT33 - ■ ■ G1	
	110	3 890	13.39	50 400	3.1	735	2KJ3514 - ■ MT33 - ■ ■ F1	
	121	3 540	12.20	47 700	1.9	735	2KJ3514 - ■ MT33 - ■ ■ E1	
	148	2 910	10.01	46 100	2.2	735	2KJ3514 - ■ MT33 - ■ ■ D1	
	168	2 550	8.78	45 100	2.5	735	2KJ3514 - ■ MT33 - ■ ■ C1	
	215	1 990	6.86	42 900	3.1	735	2KJ3514 - ■ MT33 - ■ ■ B1	
<b>K.149-LES225YMF4P</b>								
46	9 400	32.33	29 000	0.83	563	2KJ3513 - ■ MT33 - ■ ■ P1		
52	8 330	28.66	30 000	0.92	563	2KJ3513 - ■ MT33 - ■ ■ N1		
58	7 350	25.30	30 800	1.0	563	2KJ3513 - ■ MT33 - ■ ■ M1		
66	6 470	22.25	31 300	1.1	563	2KJ3513 - ■ MT33 - ■ ■ L1		
73	5 850	20.15	31 600	1.2	563	2KJ3513 - ■ MT33 - ■ ■ K1		
84	5 100	17.54	31 700	1.4	563	2KJ3513 - ■ MT33 - ■ ■ J1		
103	4 180	14.38	31 600	1.6	563	2KJ3513 - ■ MT33 - ■ ■ H1		
104	4 110	14.15	31 000	1.0	563	2KJ3513 - ■ MT33 - ■ ■ G1		
119	3 610	12.44	30 800	1.1	563	2KJ3513 - ■ MT33 - ■ ■ F1		
131	3 270	11.26	30 600	1.2	563	2KJ3513 - ■ MT33 - ■ ■ E1		
151	2 850	9.81	30 200	1.3	563	2KJ3513 - ■ MT33 - ■ ■ D1		
184	2 330	8.04	29 500	1.6	563	2KJ3513 - ■ MT33 - ■ ■ C1		
217	1 980	6.82	28 800	1.8	563	2KJ3513 - ■ MT33 - ■ ■ B1		
<b>K.129-LES225YMF4P</b>								
89	4 810	16.56	17 800	0.83	480	2KJ3512 - ■ MT33 - ■ ■ H1		
98	4 390	15.11	18 300	0.90	480	2KJ3512 - ■ MT33 - ■ ■ G1		
114	3 780	13.01	18 900	1.0	480	2KJ3512 - ■ MT33 - ■ ■ F1		
125	3 430	11.80	19 100	0.82	480	2KJ3512 - ■ MT33 - ■ ■ E1		

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## SIMOGEAR geared motors

### Bevel geared motors

#### Geared motors up to 55 kW

#### Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
45	<b>K.129-LES225YMF4P</b>							
	143	3 000	10.34	19 400	0.95	480	2KJ3512 - ■ MT33 - ■ ■ D1	
	164	2 620	9.01	19 500	1.1	480	2KJ3512 - ■ MT33 - ■ ■ C1	
	180	2 390	8.22	19 500	1.1	480	2KJ3512 - ■ MT33 - ■ ■ B1	
	209	2 050	7.08	19 500	1.2	480	2KJ3512 - ■ MT33 - ■ ■ A1	
55	<b>K.189-LES250MD4P</b>							
	22	24 000	67.36	104 000	0.81	1 066	2KJ3515 - ■ NM33 - ■ ■ L1	
	24	21 600	60.58	104 000	0.90	1 066	2KJ3515 - ■ NM33 - ■ ■ K1	
	29	17 900	50.34	104 000	1.1	1 066	2KJ3515 - ■ NM33 - ■ ■ J1	
	33	15 900	44.76	104 000	1.2	1 066	2KJ3515 - ■ NM33 - ■ ■ H1	
	41	12 700	35.67	103 500	1.5	1 066	2KJ3515 - ■ NM33 - ■ ■ G1	
	52	10 100	28.39	100 300	1.9	1 066	2KJ3515 - ■ NM33 - ■ ■ F1	
	58	9 060	25.37	98 400	2.2	1 066	2KJ3515 - ■ NM33 - ■ ■ E1	
	70	7 530	21.09	95 300	2.6	1 066	2KJ3515 - ■ NM33 - ■ ■ D1	
	78	6 700	18.75	93 100	2.9	1 066	2KJ3515 - ■ NM33 - ■ ■ C1	
	<b>K.169-LES250MD4P</b>							
	33	16 000	44.86	48 400	0.81	837	2KJ3514 - ■ NM33 - ■ ■ P1	
	37	14 000	39.33	49 700	0.93	837	2KJ3514 - ■ NM33 - ■ ■ N1	
	48	10 900	30.75	51 100	1.2	837	2KJ3514 - ■ NM33 - ■ ■ M1	
	50	10 500	29.43	51 000	1.2	837	2KJ3514 - ■ NM33 - ■ ■ L1	
	54	9 650	27.02	51 100	1.3	837	2KJ3514 - ■ NM33 - ■ ■ K1	
	62	8 500	23.80	51 000	1.5	837	2KJ3514 - ■ NM33 - ■ ■ J1	
	75	6 970	19.53	50 500	1.8	837	2KJ3514 - ■ NM33 - ■ ■ H1	
	86	6 110	17.12	49 900	2.0	837	2KJ3514 - ■ NM33 - ■ ■ G1	
	110	4 780	13.39	48 400	2.5	837	2KJ3514 - ■ NM33 - ■ ■ F1	
120	4 350	12.20	45 400	1.6	837	2KJ3514 - ■ NM33 - ■ ■ E1		
147	3 570	10.01	44 300	1.8	837	2KJ3514 - ■ NM33 - ■ ■ D1		
167	3 130	8.78	43 500	2.0	837	2KJ3514 - ■ NM33 - ■ ■ C1		
214	2 450	6.86	41 700	2.5	837	2KJ3514 - ■ NM33 - ■ ■ B1		
<b>K.149-LES250MD4P</b>								
58	9 040	25.30	26 100	0.82	664	2KJ3513 - ■ NM33 - ■ ■ M1		
66	7 950	22.25	27 200	0.91	664	2KJ3513 - ■ NM33 - ■ ■ L1		
73	7 200	20.15	27 900	0.98	664	2KJ3513 - ■ NM33 - ■ ■ K1		
84	6 260	17.54	28 600	1.1	664	2KJ3513 - ■ NM33 - ■ ■ J1		
102	5 130	14.38	29 100	1.3	664	2KJ3513 - ■ NM33 - ■ ■ H1		
104	5 050	14.15	28 300	0.82	664	2KJ3513 - ■ NM33 - ■ ■ G1		
118	4 440	12.44	28 500	0.91	664	2KJ3513 - ■ NM33 - ■ ■ F1		
131	4 020	11.26	28 500	0.98	664	2KJ3513 - ■ NM33 - ■ ■ E1		
150	3 500	9.81	28 400	1.1	664	2KJ3513 - ■ NM33 - ■ ■ D1		
183	2 870	8.04	28 000	1.3	664	2KJ3513 - ■ NM33 - ■ ■ C1		
216	2 430	6.82	27 500	1.5	664	2KJ3513 - ■ NM33 - ■ ■ B1		

#### Article No. supplement

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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# SIMOGEAR geared motors

## Bevel geared motors

### Transmission ratios and torques

#### Selection and ordering data

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\phi^{1)}$	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$ -	Motor frame size								Article No.		
							63	71	80	90	100	112	132	160		180	200
<b>B.19</b>																	
<b>42.10</b>	34	50	3 880	13.0	0.02	3410/81	✓	✓									2KJ3500 - ■■■■■■ - ■■ A2
<b>37.28</b>	39	50	3 700	13.5	0.03	671/18	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ X1
<b>32.39</b>	45	50	3 510	13.6	0.04	583/18	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ W1
<b>29.44</b>	49	50	3 380	13.6	0.04	265/9	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ V1
<b>25.06</b>	58	50	3 170	13.7	0.06	451/18	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ U1
<b>22.78</b>	64	50	3 050	13.7	0.08	205/9	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ T1
<b>19.86</b>	73	50	2 890	13.9	0.09	715/36	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ S1
<b>17.78</b>	82	50	2 770	14.0	0.12	160/9	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ R1
<b>15.79</b>	92	50	2 640	14.1	0.14	1705/108	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ Q1
<b>14.57</b>	100	50	2 550	14.1	0.17	1705/117	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ P1
<b>12.66</b>	115	50	2 410	14.4	0.19	1595/126	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ N1
<b>11.00</b>	132	50	2 270	14.1	0.19	11/1	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ M1
<b>9.93</b>	146	50	2 190	14.2	0.25	715/72	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ L1
<b>9.35</b>	155	50	2 160	14.2	0.29	1430/153	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ K1
<b>8.15</b>	178	47	2 110	14.6	0.33	220/27	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ J1
<b>7.87</b>	184	38	2 160	21.4	0.14	1472/187	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ H1
<b>6.99</b>	207	38	2 100	21.7	0.17	713/102	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ G1
<b>6.45</b>	225	39	2 060	21.6	0.20	1426/221	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ F1
<b>5.61</b>	258	37	1 990	22.3	0.22	667/119	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ E1
<b>4.87</b>	298	35	1 930	21.6	0.24	414/85	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ D1
<b>4.40</b>	330	34	1 880	22.0	0.32	299/68	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ C1
<b>4.14</b>	350	33	1 850	22.0	0.37	1196/289	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ B1
<b>3.61</b>	402	31	1 780	22.8	0.43	184/51	✓	✓	✓								2KJ3500 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

## SIMOGEAR geared motors

Bevel geared motors

### Transmission ratios and torques

#### Selection and ordering data (continued)

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\phi^{1)}$	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$ -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>B.29</b>																	
46.85	31	110	4 130	10.6	0.04	1265/27	✓	✓									2KJ3501 - ■■■■■■ - ■■ B2
41.56	35	110	4 130	11.0	0.05	374/9	✓	✓	✓	✓							2KJ3501 - ■■■■■■ - ■■ A2
36.06	40	110	4 130	11.1	0.06	649/18	✓	✓	✓	✓							2KJ3501 - ■■■■■■ - ■■ X1
32.78	44	110	4 130	11.1	0.07	295/9	✓	✓	✓	✓							2KJ3501 - ■■■■■■ - ■■ W1
28.11	52	110	4 130	11.2	0.09	253/9	✓	✓	✓	✓							2KJ3501 - ■■■■■■ - ■■ V1
25.56	57	110	4 130	11.2	0.11	230/9	✓	✓	✓	✓							2KJ3501 - ■■■■■■ - ■■ U1
22.41	65	110	4 130	11.4	0.13	605/27	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ T1
20.00	72	110	4 130	11.4	0.16	20/1	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ S1
17.82	81	110	4 130	11.5	0.19	1925/108	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ R1
16.45	88	110	4 130	11.5	0.23	1925/117	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ Q1
14.40	101	110	4 020	11.7	0.28	605/42	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ P1
12.63	115	110	3 800	12.0	0.27	341/27	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ N1
11.46	127	110	3 650	12.1	0.38	275/24	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ M1
10.78	135	110	3 560	12.1	0.44	550/51	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ L1
9.51	152	110	3 370	11.8	0.50	770/81	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ K1
8.25	176	110	3 160	12.0	0.67	33/4	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ J1
7.84	185	75	3 350	16.5	0.41	345/44	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ H1
7.38	196	75	3 260	16.5	0.48	1380/187	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ G1
6.51	223	75	3 100	16.1	0.54	644/99	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ F1
5.65	257	75	2 920	16.3	0.73	621/110	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ E1
5.07	286	74	2 900	18.9	0.60	345/68	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ D1
4.78	303	74	2 830	18.9	0.70	1380/289	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ C1
4.21	344	74	2 680	18.2	0.82	644/153	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ B1
3.65	397	73	2 550	18.6	1.10	621/170	✓	✓	✓	✓	✓						2KJ3501 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.		
							63	71	80	90	100	112	132	160		180	200
<b>B.39</b>																	
56.36	26	250	6 980	8.5	0.06	4565/81	✓	✓									2KJ3502 - ■■■■■■ - ■■ A2
50.11	29	210	6 980	8.8	0.08	451/9	✓	✓	✓	✓							2KJ3502 - ■■■■■■ - ■■ X1
44.00	33	250	6 980	8.9	0.09	44/1	✓	✓	✓	✓							2KJ3502 - ■■■■■■ - ■■ W1
40.00	36	230	6 980	8.9	0.11	40/1	✓	✓	✓	✓							2KJ3502 - ■■■■■■ - ■■ V1
34.22	42	250	6 980	8.9	0.13	308/9	✓	✓	✓	✓							2KJ3502 - ■■■■■■ - ■■ U1
31.11	47	250	6 980	8.9	0.16	280/9	✓	✓	✓	✓							2KJ3502 - ■■■■■■ - ■■ T1
27.50	53	250	6 980	9.0	0.20	55/2	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ S1
25.00	58	250	6 980	9.0	0.26	25/1	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ R1
21.90	66	250	6 720	9.2	0.30	2365/108	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ Q1
20.21	72	250	6 490	9.2	0.36	2365/117	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ P1
17.90	81	250	6 160	9.3	0.43	2255/126	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ N1
14.90	97	250	5 680	9.5	0.58	715/48	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ M1
14.02	103	250	5 520	9.5	0.67	715/51	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ L1
12.56	115	250	5 260	9.6	0.75	2035/162	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ K1
10.69	136	240	4 960	9.8	0.98	385/36	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ J1
9.17	158	230	4 690	10.1	1.29	55/6			✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ H1
7.89	184	220	4 550	10.3	1.66	1705/216			✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ G1
6.60	220	200	4 590	15.1	0.94	897/136	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ F1
6.21	233	200	4 550	15.1	1.08	1794/289	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ E1
5.56	261	200	4 460	15.5	1.26	851/153	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ D1
4.74	306	200	4 330	16.0	1.69	161/34	✓	✓	✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ C1
4.06	357	200	4 190	16.5	2.30	69/17			✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ B1
3.50	414	192	4 050	17.1	3.00	713/204			✓	✓	✓	✓					2KJ3502 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

## SIMOGEAR geared motors

### Bevel geared motors

#### Transmission ratios and torques

##### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.		
							63	71	80	90	100	112	132	160		180	200
<b>B.49</b>																	
59.28	24	450	9 510	8.3	0.19	1067/18	✓	✓	✓	✓							2KJ3503 - ■■■■■■ - ■■ C2
53.89	27	450	9 120	8.3	0.23	485/9	✓	✓	✓	✓							2KJ3503 - ■■■■■■ - ■■ B2
45.83	32	450	8 480	8.3	0.28	275/6	✓	✓	✓	✓							2KJ3503 - ■■■■■■ - ■■ A2
41.67	35	450	8 120	8.3	0.34	125/3	✓	✓	✓	✓							2KJ3503 - ■■■■■■ - ■■ X1
37.18	39	450	7 710	8.4	0.40	4015/108	✓	✓	✓	✓	✓	✓					2KJ3503 - ■■■■■■ - ■■ W1
33.33	44	450	7 320	8.4	0.48	100/3	✓	✓	✓	✓	✓	✓					2KJ3503 - ■■■■■■ - ■■ V1
30.05	48	450	6 970	8.4	0.56	3245/108	✓	✓	✓	✓	✓	✓					2KJ3503 - ■■■■■■ - ■■ U1
27.74	52	450	6 710	8.4	0.67	3245/117	✓	✓	✓	✓	✓	✓					2KJ3503 - ■■■■■■ - ■■ T1
25.32	57	450	6 420	8.5	0.80	1595/63	✓	✓	✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ S1
21.01	69	450	5 850	8.6	1.03	3025/144	✓	✓	✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ R1
19.77	73	450	5 670	8.6	1.18	3025/153	✓	✓	✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ Q1
18.67	78	450	5 510	8.6	1.34	3025/162	✓	✓	✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ P1
15.89	91	450	5 060	8.7	1.66	143/9	✓	✓	✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ N1
13.61	107	450	4 660	8.9	2.10	245/18			✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ M1
11.97	121	450	4 340	9.0	2.50	2585/216			✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ L1
10.10	144	450	3 930	9.2	3.30	2090/207			✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ K1
8.80	165	450	3 620	9.7	4.40	44/5			✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ J1
8.29	175	330	4 540	14.1	1.52	2255/272	✓	✓	✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ H1
7.80	186	330	4 410	14.1	1.74	2255/289	✓	✓	✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ G1
7.37	197	330	4 290	14.1	1.97	2255/306	✓	✓	✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ F1
6.27	231	330	3 970	14.4	2.50	533/85	✓	✓	✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ E1
5.37	270	330	3 700	14.8	3.30	2009/374			✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ D1
4.72	307	330	3 690	15.1	4.10	1927/408			✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ C1
3.98	364	330	3 660	15.6	5.40	1558/391			✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ B1
3.47	418	325	3 610	17.0	7.20	1476/425			✓	✓	✓	✓	✓				2KJ3503 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub>	Motor frame size								Article No.	
							63	71	80	90	100	112	132	160		180
<b>K.39</b>																
157.32	9.2	220	6 080	7.3	0.04	3933/25	✓	✓								2KJ3504 - ■■■■■■ - ■■ J2
139.54	10	220	6 080	7.4	0.05	17442/125	✓	✓	✓	✓						2KJ3504 - ■■■■■■ - ■■ H2
121.07	12	220	6 080	7.4	0.06	30267/250	✓	✓	✓	✓						2KJ3504 - ■■■■■■ - ■■ G2
110.06	13	220	6 080	7.4	0.07	30267/275	✓	✓	✓	✓						2KJ3504 - ■■■■■■ - ■■ F2
94.39	15	220	6 080	7.4	0.09	11799/125	✓	✓	✓	✓						2KJ3504 - ■■■■■■ - ■■ E2
85.81	17	220	6 080	7.4	0.11	23598/275	✓	✓	✓	✓						2KJ3504 - ■■■■■■ - ■■ D2
75.24	19	220	6 080	7.5	0.12	1881/25	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ C2
67.16	22	220	6 080	7.5	0.15	18468/275	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ B2
59.85	24	220	6 080	7.5	0.18	1197/20	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ A2
55.25	26	220	6 080	7.5	0.22	3591/65	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ X1
48.37	30	220	6 080	7.6	0.26	16929/350	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ W1
42.41	34	220	5 790	7.7	0.24	5301/125	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ V1
38.47	38	220	5 540	7.7	0.34	1539/40	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ U1
36.21	40	220	5 390	7.7	0.40	3078/85	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ T1
31.92	45	220	5 080	7.6	0.44	798/25	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ S1
27.70	52	220	4 760	7.7	0.60	13851/500	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ R1
26.89	54	220	4 690	9.2	0.26	6804/253	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ Q1
23.97	60	220	4 440	9.3	0.32	2205/92	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ P1
22.12	66	220	4 270	9.3	0.38	6615/299	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ N1
19.37	75	220	4 000	9.4	0.47	891/46	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ M1
16.98	85	220	3 740	9.6	0.51	1953/115	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ L1
15.41	94	220	3 560	9.7	0.67	2835/184	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ K1
14.50	100	220	3 450	9.7	0.78	5670/391	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ J1
12.78	113	220	3 220	9.7	0.92	294/23	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ H1
11.09	131	220	2 990	9.8	1.24	5103/460	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ G1
10.04	144	184	2 880	14.7	0.55	231/23	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ F1
8.81	165	183	2 790	15.1	0.62	3038/345	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ E1
7.99	181	175	2 810	15.3	0.80	735/92	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ D1
7.52	193	171	2 810	15.3	0.92	2940/391	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ C1
6.63	219	161	2 820	15.3	1.11	1372/207	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ B1
5.75	252	150	2 810	15.4	1.49	1323/230	✓	✓	✓	✓	✓	✓				2KJ3504 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

# Electro\_Motor.ir



## SIMOGEAR geared motors

### Bevel geared motors

#### Transmission ratios and torques

##### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.		
							63	71	80	90	100	112	132	160		180	200
<b>K.49</b>																	
<b>200.25</b>	7.2	420	7 820	6.7	0.06	12616/63	✓	✓									2KJ3505 - ■■■■■■ - ■■ J2
<b>178.06</b>	8.1	420	7 820	6.8	0.07	6232/35	✓	✓	✓	✓							2KJ3505 - ■■■■■■ - ■■ H2
<b>156.34</b>	9.3	420	7 820	6.8	0.08	5472/35	✓	✓	✓	✓							2KJ3505 - ■■■■■■ - ■■ G2
<b>142.13</b>	10	420	7 820	6.8	0.10	10944/77	✓	✓	✓	✓							2KJ3505 - ■■■■■■ - ■■ F2
<b>121.60</b>	12	420	7 820	6.8	0.12	608/5	✓	✓	✓	✓							2KJ3505 - ■■■■■■ - ■■ E2
<b>110.55</b>	13	420	7 820	6.8	0.14	1216/11	✓	✓	✓	✓							2KJ3505 - ■■■■■■ - ■■ D2
<b>97.71</b>	15	420	7 710	6.8	0.17	684/7	✓	✓	✓	✓	✓	✓					2KJ3505 - ■■■■■■ - ■■ C2
<b>88.83</b>	16	420	7 370	6.8	0.22	6840/77	✓	✓	✓	✓	✓	✓					2KJ3505 - ■■■■■■ - ■■ B2
<b>77.81</b>	19	420	6 910	6.9	0.25	1634/21	✓	✓	✓	✓	✓	✓					2KJ3505 - ■■■■■■ - ■■ A2
<b>71.82</b>	20	420	6 640	6.9	0.30	6536/91	✓	✓	✓	✓	✓	✓					2KJ3505 - ■■■■■■ - ■■ X1
<b>63.59</b>	23	420	6 250	6.9	0.37	3116/49	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ W1
<b>52.93</b>	27	420	5 680	7.0	0.50	741/14	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ V1
<b>49.82</b>	29	420	5 500	7.0	0.58	5928/119	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ U1
<b>44.63</b>	32	420	5 190	7.0	0.65	2812/63	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ T1
<b>38.00</b>	38	420	4 740	7.1	0.84	38/1	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ S1
<b>32.57</b>	45	420	4 340	7.1	1.11	228/7			✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ R1
<b>28.05</b>	52	420	3 970	7.2	1.43	589/21			✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ Q1
<b>26.30</b>	55	420	3 820	8.6	0.52	55040/2093	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ P1
<b>23.28</b>	62	420	3 540	8.7	0.65	26240/1127	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ N1
<b>19.38</b>	75	420	3 130	8.8	0.90	3120/161	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ M1
<b>18.24</b>	79	420	3 000	8.8	1.03	49920/2737	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ L1
<b>16.34</b>	89	420	2 780	9.0	1.21	23680/1449	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ K1
<b>13.91</b>	104	420	2 880	9.1	1.62	320/23	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ J1
<b>11.93</b>	122	420	3 000	9.3	2.20	1920/161			✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ H1
<b>10.27</b>	141	415	3 080	9.5	2.90	4960/483			✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ G1
<b>9.75</b>	149	275	2 960	14.2	1.03	39/4	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ F1
<b>9.18</b>	158	270	2 980	14.2	1.19	156/17	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ E1
<b>8.22</b>	176	255	3 010	14.5	1.40	74/9	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ D1
<b>7.00</b>	207	240	3 030	14.8	1.88	7/1	✓	✓	✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ C1
<b>6.00</b>	242	225	3 020	15.2	2.50	6/1			✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ B1
<b>5.17</b>	280	210	2 990	15.4	3.30	31/6			✓	✓	✓	✓	✓				2KJ3505 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.		
							63	71	80	90	100	112	132	160		180	200
<b>K.69</b>																	
196.59	7.4	600	10 800	6.4	0.17	14744/75	✓	✓	✓	✓							2KJ3507 - ■■■■■■ - ■■ H2
178.72	8.1	600	10 800	6.4	0.20	29488/165	✓	✓	✓	✓							2KJ3507 - ■■■■■■ - ■■ G2
152.00	9.5	600	10 800	6.4	0.25	152/1	✓	✓	✓	✓							2KJ3507 - ■■■■■■ - ■■ F2
138.18	10	600	10 800	6.4	0.30	1520/11	✓	✓	✓	✓							2KJ3507 - ■■■■■■ - ■■ E2
123.29	12	600	10 800	6.4	0.35	5548/45	✓	✓	✓	✓	✓						2KJ3507 - ■■■■■■ - ■■ D2
110.55	13	600	10 800	6.4	0.42	1216/11	✓	✓	✓	✓	✓						2KJ3507 - ■■■■■■ - ■■ C2
99.64	15	600	10 800	6.4	0.49	4484/45	✓	✓	✓	✓	✓						2KJ3507 - ■■■■■■ - ■■ B2
91.98	16	600	10 600	6.4	0.58	17936/195	✓	✓	✓	✓	✓						2KJ3507 - ■■■■■■ - ■■ A2
83.96	17	600	10 100	6.4	0.69	8816/105	✓	✓	✓	✓	✓	✓					2KJ3507 - ■■■■■■ - ■■ X1
69.67	21	600	9 300	6.5	0.87	209/3	✓	✓	✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ W1
65.57	22	600	9 030	6.5	1.01	3344/51	✓	✓	✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ V1
61.93	23	600	8 770	6.5	1.15	1672/27	✓	✓	✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ U1
52.69	28	600	8 090	6.5	1.40	3952/75	✓	✓	✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ T1
45.14	32	600	7 470	6.5	1.70	7448/165			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ S1
39.69	37	600	6 980	6.5	2.10	1786/45			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ R1
33.48	43	580	6 500	6.5	2.60	11552/345			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ Q1
29.18	50	555	6 200	6.5	3.50	3648/125			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ P1
26.05	56	600	5 500	7.8	1.25	3751/144	✓	✓	✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ N1
24.52	59	595	5 340	7.8	1.44	3751/153	✓	✓	✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ M1
23.15	63	585	5 230	7.8	1.63	3751/162	✓	✓	✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ L1
19.70	74	555	4 950	8.0	2.10	4433/225	✓	✓	✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ K1
16.88	86	530	4 680	8.0	2.60	1519/90			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ J1
14.84	98	515	4 430	8.0	3.30	16027/1080			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ H1
12.52	116	490	4 170	8.0	4.30	12958/1035			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ G1
10.91	133	470	3 960	8.0	5.70	1364/125			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ F1
9.34	155	370	3 640	13.0	2.40	3224/345	✓	✓	✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ E1
8.01	181	365	3 330	13.0	3.10	6076/759			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ D1
7.04	206	365	3 210	13.0	3.90	1457/207			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ C1
5.94	244	345	3 350	13.0	5.10	9424/1587			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ B1
5.18	280	330	3 420	13.0	6.80	2976/575			✓	✓	✓	✓	✓				2KJ3507 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

Bevel geared motors

## Transmission ratios and torques

## Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>K.79</b>																	
<b>244.25</b>	5.9	820	13 900	5.7	0.17	175861/720	✓	✓	✓	✓							2KJ3508 - ■■■■■■ - ■■ J2
<b>222.05</b>	6.5	820	13 900	5.7	0.20	175861/792	✓	✓	✓	✓							2KJ3508 - ■■■■■■ - ■■ H2
<b>188.85</b>	7.7	820	13 900	5.7	0.25	9065/48	✓	✓	✓	✓							2KJ3508 - ■■■■■■ - ■■ G2
<b>171.69</b>	8.4	820	13 900	5.7	0.31	45325/264	✓	✓	✓	✓							2KJ3508 - ■■■■■■ - ■■ F2
<b>153.18</b>	9.5	820	13 900	5.8	0.35	132349/864	✓	✓	✓	✓	✓	✓					2KJ3508 - ■■■■■■ - ■■ E2
<b>137.35</b>	11	820	13 900	5.8	0.42	9065/66	✓	✓	✓	✓	✓	✓					2KJ3508 - ■■■■■■ - ■■ D2
<b>123.80</b>	12	820	13 900	5.8	0.50	106967/864	✓	✓	✓	✓	✓	✓					2KJ3508 - ■■■■■■ - ■■ C2
<b>114.28</b>	13	820	13 900	5.8	0.59	106967/936	✓	✓	✓	✓	✓	✓					2KJ3508 - ■■■■■■ - ■■ B2
<b>104.32</b>	14	820	13 900	5.8	0.70	7511/72	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ A2
<b>86.56</b>	17	820	13 900	5.8	0.89	99715/1152	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ X1
<b>81.47</b>	18	820	13 900	5.8	1.02	99715/1224	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ W1
<b>76.94</b>	19	820	13 900	5.8	1.16	99715/1296	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ V1
<b>65.47</b>	22	820	13 900	5.9	1.42	23569/360	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ U1
<b>56.08</b>	26	820	13 900	5.9	1.73	88837/1584			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ T1
<b>49.31</b>	29	820	13 900	5.9	2.10	85211/1728			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ S1
<b>41.60</b>	35	800	14 000	6.0	2.70	34447/828			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ R1
<b>36.26</b>	40	770	14 000	6.1	3.60	1813/50			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ Q1
<b>32.78</b>	44	820	13 900	7.2	0.94	6293/192	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ P1
<b>27.20</b>	53	800	14 000	7.3	1.23	83545/3072	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ N1
<b>25.60</b>	57	785	14 000	7.3	1.41	83545/3264	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ M1
<b>24.17</b>	60	770	14 000	7.3	1.60	83545/3456	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ L1
<b>20.57</b>	70	740	14 100	7.4	2.00	19747/960	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ K1
<b>17.62</b>	82	715	13 800	7.5	2.60	74431/4224			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ J1
<b>15.49</b>	94	695	13 300	7.6	3.20	71393/4608			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ H1
<b>13.07</b>	111	665	12 600	7.8	4.20	28861/2208			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ G1
<b>11.39</b>	127	645	12 000	8.3	5.50	4557/400			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ F1
<b>10.51</b>	138	445	12 600	10.4	2.30	1209/115	✓	✓	✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ E1
<b>9.01</b>	161	450	11 900	10.6	3.00	4557/506			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ D1
<b>7.92</b>	183	450	11 300	10.8	3.70	1457/184			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ C1
<b>6.68</b>	217	455	10 900	11.1	4.90	3534/529			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ B1
<b>5.82</b>	249	430	10 700	12.1	6.60	3348/575			✓	✓	✓	✓	✓				2KJ3508 - ■■■■■■ - ■■ A1

1) Only in conjunction with reduced-backlash version

Electro\_Motor.ir

**Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size								Article No.	
							63	71	80	90	100	112	132	160		180
<b>K.89</b>																
<b>231.80</b>	6.3	1 600	18 100	5.6	0.42	10199/44	✓	✓	✓							2KJ3510 - ■■■■■■ - ■■ K2
<b>210.72</b>	6.9	1 600	18 100	5.6	0.51	50995/242	✓	✓	✓							2KJ3510 - ■■■■■■ - ■■ J2
<b>189.01</b>	7.7	1 600	18 100	5.6	0.71	149695/792	✓	✓	✓	✓	✓					2KJ3510 - ■■■■■■ - ■■ H2
<b>169.94</b>	8.5	1 600	18 100	5.6	0.80	41125/242	✓	✓	✓	✓	✓					2KJ3510 - ■■■■■■ - ■■ G2
<b>153.70</b>	9.4	1 600	18 100	5.6	0.88	60865/396	✓	✓	✓	✓	✓					2KJ3510 - ■■■■■■ - ■■ F2
<b>141.88</b>	10	1 600	18 100	5.6	1.05	60865/429	✓	✓	✓	✓	✓					2KJ3510 - ■■■■■■ - ■■ E2
<b>129.96</b>	11	1 600	18 100	5.6	1.37	17155/132	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ D2
<b>109.04</b>	13	1 600	18 100	5.6	1.45	57575/528	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ C2
<b>102.63</b>	14	1 600	18 100	5.6	1.66	57575/561	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ B2
<b>94.16</b>	15	1 600	18 100	5.6	1.81	27965/297	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ A2
<b>82.25</b>	18	1 600	18 100	5.6	2.60	329/4	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ X1
<b>73.64</b>	20	1 600	18 100	5.6	3.20	106925/1452		✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ W1
<b>64.39</b>	23	1 600	18 100	5.6	3.70	50995/792		✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ V1
<b>55.27</b>	26	1 600	18 100	5.6	4.10	27965/506		✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ U1
<b>48.85</b>	30	1 600	18 100	5.6	5.20	16121/330		✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ T1
<b>41.54</b>	35	1 570	18 100	5.6	6.60	8225/198				✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ S1
<b>39.29</b>	37	1 600	18 100	7.0	1.86	11315/288	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ R1
<b>32.96</b>	44	1 600	18 100	7.0	2.10	37975/1152	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ Q1
<b>31.03</b>	47	1 600	18 100	7.0	2.40	37975/1224	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ P1
<b>28.46</b>	51	1 600	18 100	7.0	2.70	18445/648	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ N1
<b>24.86</b>	58	1 600	18 100	7.1	3.80	2387/96	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ M1
<b>22.26</b>	65	1 600	18 100	7.1	4.70	70525/3168		✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ L1
<b>19.46</b>	75	1 560	17 900	7.1	5.70	33635/1728	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ K1
<b>16.71</b>	87	1 480	17 200	7.1	6.80	18445/1104	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ J1
<b>14.77</b>	98	1 420	16 600	7.1	8.60	10633/720	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ H1
<b>12.56</b>	115	1 330	16 300	7.1	11.00	5425/432				✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ G1
<b>10.76</b>	135	1 250	16 100	7.1	15.00	775/72				✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ F1
<b>10.51</b>	138	845	16 100	10.8	6.40	6727/640	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ E1
<b>9.02</b>	161	800	15 400	10.8	7.70	33201/3680	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ D1
<b>7.97</b>	182	770	14 800	10.8	9.80	31899/4000	✓	✓	✓	✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ C1
<b>6.78</b>	214	720	14 500	10.8	13.00	217/32				✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ B1
<b>5.81</b>	250	675	14 200	10.8	17.00	93/16				✓	✓	✓	✓			2KJ3510 - ■■■■■■ - ■■ A1

1) Only in conjunction with reduced-backlash version

## SIMOGEAR geared motors

### Bevel geared motors

#### Transmission ratios and torques

##### Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>K.109</b>																	
<b>216.65</b>	6.7	2 900	24 500	5.6	1.27	107242/495		✓	✓	✓	✓						2KJ3511 - ■■■■■■ - ■■ H2
<b>195.60</b>	7.4	2 900	24 500	5.6	1.37	118336/605		✓	✓	✓	✓						2KJ3511 - ■■■■■■ - ■■ G2
<b>177.43</b>	8.2	2 900	24 500	5.6	1.61	35131/198		✓	✓	✓	✓						2KJ3511 - ■■■■■■ - ■■ F2
<b>163.78</b>	8.9	2 900	24 500	5.6	1.9	70262/429		✓	✓	✓	✓						2KJ3511 - ■■■■■■ - ■■ E2
<b>148.88</b>	9.7	2 900	24 500	5.6	2.2	57319/385		✓	✓	✓	✓	✓	✓				2KJ3511 - ■■■■■■ - ■■ D2
<b>126.07</b>	12	2 900	24 500	5.6	2.6	5547/44		✓	✓	✓	✓	✓	✓				2KJ3511 - ■■■■■■ - ■■ C2
<b>118.65</b>	12	2 900	24 500	5.6	2.6	22188/187		✓	✓	✓	✓	✓	✓				2KJ3511 - ■■■■■■ - ■■ B2
<b>109.57</b>	13	2 900	24 500	5.6	4.1	14792/135		✓	✓	✓	✓	✓	✓				2KJ3511 - ■■■■■■ - ■■ A2
<b>97.49</b>	15	2 900	24 500	5.6	5.0	53621/550		✓	✓	✓	✓	✓	✓				2KJ3511 - ■■■■■■ - ■■ X1
<b>86.59</b>	17	2 900	24 500	5.7	6.0	31433/363		✓	✓	✓	✓	✓	✓				2KJ3511 - ■■■■■■ - ■■ W1
<b>77.51</b>	19	2 900	24 500	5.7	5.9	153467/1980		✓	✓	✓	✓	✓	✓				2KJ3511 - ■■■■■■ - ■■ V1
<b>66.26</b>	22	2 900	24 500	5.7	6.8	251464/3795		✓	✓	✓	✓	✓	✓				2KJ3511 - ■■■■■■ - ■■ U1
<b>59.17</b>	25	2 900	24 500	5.8	8.6	7396/125		✓	✓	✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ T1
<b>52.29</b>	28	2 900	24 500	5.8	9.7	25886/495				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ S1
<b>45.89</b>	32	2 900	24 500	5.8	14	159014/3465				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ R1
<b>39.95</b>	36	2 820	23 900	5.8	17	151618/3795				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ Q1
<b>34.15</b>	42	2 710	22 700	5.8	21	118336/3465				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ P1
<b>29.23</b>	50	2 620	21 500	5.8	27	7396/253				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ N1
<b>24.98</b>	58	2 380	21 000	6.9	9.9	163744/6555		✓	✓	✓	✓	✓	✓				2KJ3511 - ■■■■■■ - ■■ M1
<b>22.31</b>	65	2 380	20 000	7.1	13	52976/2375		✓	✓	✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ L1
<b>19.71</b>	74	2 380	18 900	7.1	15	16856/855				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ K1
<b>17.30</b>	84	2 400	17 800	7.1	20	14792/855				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ J1
<b>15.06</b>	96	2 310	17 500	7.1	25	98728/6555				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ H1
<b>12.87</b>	113	2 200	17 500	7.1	33	11008/855				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ G1
<b>11.02</b>	132	2 100	17 400	7.2	43	4816/437				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ F1
<b>10.45</b>	139	1 260	17 600	10.8	17	784/75				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ E1
<b>9.17</b>	158	1 270	16 700	10.8	23	688/75				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ D1
<b>7.99</b>	181	1 280	16 300	10.8	29	4592/575				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ C1
<b>6.83</b>	212	1 300	16 000	10.8	38	512/75				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ B1
<b>5.84</b>	248	1 300	15 700	11.0	49	672/115				✓	✓	✓	✓	✓			2KJ3511 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>K.129</b>																	
<b>228.30</b>	6.4	4 400	37 600	6.3	3.3	30821/135				✓	✓	✓					2KJ3512 - ■■■■■■ - ■■ J2
<b>210.74</b>	6.9	4 400	37 600	6.3	3.9	123284/585				✓	✓	✓					2KJ3512 - ■■■■■■ - ■■ H2
<b>194.04</b>	7.5	4 400	37 600	6.3	4.5	8732/45				✓	✓	✓	✓	✓			2KJ3512 - ■■■■■■ - ■■ G2
<b>165.47</b>	8.8	4 400	37 600	6.3	5.6	5957/36				✓	✓	✓	✓	✓			2KJ3512 - ■■■■■■ - ■■ F2
<b>155.74</b>	9.3	4 400	37 600	6.3	6.4	23828/153				✓	✓	✓	✓	✓			2KJ3512 - ■■■■■■ - ■■ E2
<b>144.53</b>	10	4 400	37 600	6.3	7.0	58534/405				✓	✓	✓	✓	✓			2KJ3512 - ■■■■■■ - ■■ D2
<b>127.77</b>	11	4 400	37 600	6.3	8.4	9583/75				✓	✓	✓	✓	✓			2KJ3512 - ■■■■■■ - ■■ C2
<b>114.06</b>	13	4 400	37 600	6.3	10	56462/495				✓	✓	✓	✓	✓			2KJ3512 - ■■■■■■ - ■■ B2
<b>102.64</b>	14	4 400	37 600	6.3	12	27713/270				✓	✓	✓	✓	✓			2KJ3512 - ■■■■■■ - ■■ A2
<b>89.09</b>	16	4 400	37 600	6.3	14	92204/1035				✓	✓	✓	✓	✓			2KJ3512 - ■■■■■■ - ■■ X1
<b>80.12</b>	18	4 400	37 600	6.3	17	30044/375				✓	✓	✓	✓	✓	✓		2KJ3512 - ■■■■■■ - ■■ W1
<b>70.03</b>	21	4 400	37 600	6.3	19	18907/270				✓	✓	✓	✓	✓	✓		2KJ3512 - ■■■■■■ - ■■ V1
<b>62.49</b>	23	4 400	36 200	6.4	23	2812/45				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ U1
<b>55.05</b>	26	4 400	34 300	6.4	27	11396/207				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ T1
<b>48.24</b>	30	4 400	32 400	6.4	33	6512/135				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ S1
<b>42.04</b>	34	4 400	30 500	6.4	39	14504/345				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ R1
<b>38.37</b>	38	4 400	29 200	6.9	45	1036/27				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ Q1
<b>33.03</b>	44	4 400	27 300	7.0	55	11396/345					✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ P1
<b>31.55</b>	46	4 400	26 700	7.0	23	3944/125				✓	✓	✓	✓	✓	✓		2KJ3512 - ■■■■■■ - ■■ N1
<b>27.58</b>	53	4 400	25 000	7.0	27	1241/45				✓	✓	✓	✓	✓	✓		2KJ3512 - ■■■■■■ - ■■ M1
<b>24.61</b>	59	4 400	23 700	7.1	33	2584/105				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ L1
<b>21.68</b>	67	4 270	22 700	7.1	40	1496/69				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ K1
<b>19.00</b>	76	4 140	21 700	7.1	50	5984/315				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ J1
<b>16.56</b>	88	4 020	20 600	7.2	62	1904/115				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ H1
<b>15.11</b>	96	3 940	20 000	7.2	72	136/9				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ G1
<b>13.01</b>	111	3 810	19 000	7.2	91	1496/115					✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ F1
<b>11.80</b>	123	2 830	21 400	9.5	46	119680/10143				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ E1
<b>10.34</b>	140	2 850	20 100	9.6	57	95744/9261				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ D1
<b>9.01</b>	161	2 760	19 500	9.7	71	4352/483				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ C1
<b>8.22</b>	176	2 680	19 500	9.8	83	10880/1323				✓	✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ B1
<b>7.08</b>	205	2 530	19 500	9.9	107	23936/3381					✓	✓	✓	✓	✓	✓	2KJ3512 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

# Electro\_Motor.ir

**SIMOGEAR geared motors**

Bevel geared motors

**Transmission ratios and torques****Selection and ordering data (continued)**

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>K.149</b>																	
<b>237.03</b>	6.1	8 000	65 000	5.3	7.1	83433/352			✓	✓	✓	✓	✓			2KJ3513 - ■■■■■■ - ■■ J2	
<b>202.86</b>	7.1	8 000	65 000	5.3	9.0	285621/1408			✓	✓	✓	✓	✓			2KJ3513 - ■■■■■■ - ■■ H2	
<b>190.92</b>	7.6	8 000	65 000	5.3	10	285621/1496			✓	✓	✓	✓	✓			2KJ3513 - ■■■■■■ - ■■ G2	
<b>178.97</b>	8.1	8 000	65 000	5.3	11	188993/1056			✓	✓	✓	✓	✓			2KJ3513 - ■■■■■■ - ■■ F2	
<b>158.65</b>	9.1	8 000	65 000	5.3	14	558453/3520			✓	✓	✓	✓	✓			2KJ3513 - ■■■■■■ - ■■ E2	
<b>140.93</b>	10	8 000	64 100	5.3	16	17052/121			✓	✓	✓	✓	✓			2KJ3513 - ■■■■■■ - ■■ D2	
<b>127.16</b>	11	8 000	61 400	5.3	19	89523/704			✓	✓	✓	✓	✓			2KJ3513 - ■■■■■■ - ■■ C2	
<b>112.68</b>	13	8 000	58 400	5.3	23	456141/4048			✓	✓	✓	✓	✓			2KJ3513 - ■■■■■■ - ■■ B2	
<b>99.79</b>	15	8 000	55 600	5.4	26	439089/4400			✓	✓	✓	✓	✓	✓		2KJ3513 - ■■■■■■ - ■■ A2	
<b>88.81</b>	16	8 000	52 900	5.4	31	1421/16				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ X1	
<b>79.59</b>	18	8 000	50 400	5.4	37	14007/176				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ W1	
<b>70.56</b>	21	8 000	47 900	5.4	43	285621/4048				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ V1	
<b>62.28</b>	23	8 000	45 300	5.4	52	5481/88				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ U1	
<b>54.76</b>	26	8 000	42 700	5.4	63	55419/1012				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ T1	
<b>49.60</b>	29	8 000	40 800	5.4	70	8729/176				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ S1	
<b>43.18</b>	34	8 000	38 200	5.4	85	174783/4048					✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ R1	
<b>35.40</b>	41	7 850	35 100	5.5	110	80997/2288					✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ Q1	
<b>32.33</b>	45	7 760	33 900	6.1	49	12673/392				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ P1	
<b>28.66</b>	51	7 630	32 200	6.1	59	36917/1288				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ N1	
<b>25.30</b>	57	7 420	30 900	6.1	73	4959/196				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ M1	
<b>22.25</b>	65	7 210	29 500	6.2	89	7163/322				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ L1	
<b>20.15</b>	72	7 070	28 400	6.2	103	23693/1176				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ K1	
<b>17.54</b>	83	6 890	28 500	6.3	128	22591/1288					✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ J1	
<b>14.38</b>	101	6 660	29 000	6.3	174	10469/728					✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ H1	
<b>14.15</b>	102	4 140	31 100	8.0	79	17328/1225				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ G1	
<b>12.44</b>	117	4 030	29 800	8.0	97	150176/12075				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ F1	
<b>11.26</b>	129	3 950	28 800	8.1	113	124184/11025				✓	✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ E1	
<b>9.81</b>	148	3 850	28 400	8.2	141	118408/12075					✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ D1	
<b>8.04</b>	180	3 720	28 000	8.3	194	54872/6825					✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ C1	
<b>6.82</b>	213	3 630	27 500	8.4	266	89528/13125					✓	✓	✓	✓	✓	2KJ3513 - ■■■■■■ - ■■ B1	

1) Only in conjunction with reduced-backlash version

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**Selection and ordering data** (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup>	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub> -	Motor frame size										Article No.
							63	71	80	90	100	112	132	160	180	200	
<b>K.169</b>																	
<b>223.30</b>	6.5	13 000	70 000	5.2	18	273319/1224				✓	✓	✓	✓			2KJ3514 - ■■■■■■ - ■■ F2	
<b>208.35</b>	7.0	13 000	70 000	5.2	20	135013/648				✓	✓	✓	✓			2KJ3514 - ■■■■■■ - ■■ E2	
<b>185.23</b>	7.8	13 000	70 000	5.2	24	29637/160				✓	✓	✓	✓			2KJ3514 - ■■■■■■ - ■■ D2	
<b>166.31</b>	8.7	13 000	70 000	5.2	28	16465/99				✓	✓	✓	✓			2KJ3514 - ■■■■■■ - ■■ C2	
<b>150.55</b>	9.6	13 000	70 000	5.2	33	260147/1728				✓	✓	✓	✓			2KJ3514 - ■■■■■■ - ■■ B2	
<b>132.24</b>	11	13 000	70 000	5.2	40	437969/3312				✓	✓	✓	✓			2KJ3514 - ■■■■■■ - ■■ A2	
<b>119.83</b>	12	13 000	70 000	5.2	47	431383/3600				✓	✓	✓	✓	✓		2KJ3514 - ■■■■■■ - ■■ X1	
<b>106.72</b>	14	13 000	70 000	5.2	54	23051/216				✓	✓	✓	✓	✓		2KJ3514 - ■■■■■■ - ■■ W1	
<b>95.83</b>	15	13 000	70 000	5.2	65	36223/378				✓	✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ V1	
<b>85.51</b>	17	13 000	70 000	5.2	75	141599/1656				✓	✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ U1	
<b>76.23</b>	19	13 000	70 000	5.2	88	16465/216				✓	✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ T1	
<b>67.61</b>	21	13 000	66 900	5.3	103	55981/828				✓	✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ S1	
<b>62.07</b>	23	13 000	64 500	5.3	114	62567/1008				✓	✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ R1	
<b>54.68</b>	27	13 000	60 900	5.3	134	181115/3312					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ Q1	
<b>44.86</b>	32	13 000	55 700	5.3	180	55981/1248					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ P1	
<b>39.33</b>	37	13 000	52 300	5.3	198	141599/3600					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ N1	
<b>30.75</b>	47	13 000	46 500	5.4	309	42809/1392					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ M1	
<b>29.43</b>	49	13 000	45 500	5.8	133	25721/874				✓	✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ L1	
<b>27.02</b>	54	13 000	43 500	5.9	151	1513/56				✓	✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ K1	
<b>23.80</b>	61	13 000	40 800	5.9	181	83215/3496					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ J1	
<b>19.53</b>	74	12 700	40 000	6.0	249	77163/3952					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ H1	
<b>17.12</b>	85	12 400	40 800	6.0	288	65059/3800					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ G1	
<b>13.39</b>	108	11 900	41 300	6.2	457	59007/4408					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ F1	
<b>12.20</b>	119	6 760	38 700	8.1	202	143990/11799					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ E1	
<b>10.01</b>	145	6 530	37 800	8.3	280	22253/2223					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ D1	
<b>8.78</b>	165	6 360	37 800	8.3	328	112574/12825					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ C1	
<b>6.86</b>	211	6 130	37 300	8.8	523	34034/4959					✓	✓	✓	✓	✓	2KJ3514 - ■■■■■■ - ■■ B1	

<sup>1)</sup> Only in conjunction with reduced-backlash version



## SIMOGEAR geared motors

Bevel geared motors

### Transmission ratios and torques

#### Selection and ordering data (continued)

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi^{1)}$	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$ -	Motor frame size								Article No.	
							63	71	80	90	100	112	132	160		180
<b>K.189</b>																
<b>199.51</b>	7.3	19 100	104 000	4.8	37	186543/935					✓	✓	✓			2KJ3515 - ■■■■■■ - ■■ W1
<b>178.49</b>	8.1	19 500	104 000	4.8	43	367164/2057					✓	✓	✓			2KJ3515 - ■■■■■■ - ■■ V1
<b>160.98</b>	9	19 500	104 000	4.8	50	60207/374					✓	✓	✓			2KJ3515 - ■■■■■■ - ■■ U1
<b>142.28</b>	10	19 500	104 000	4.8	62	611940/4301					✓	✓	✓			2KJ3515 - ■■■■■■ - ■■ T1
<b>130.05</b>	11	19 500	104 000	4.8	73	55272/425					✓	✓	✓	✓		2KJ3515 - ■■■■■■ - ■■ S1
<b>117.00</b>	12	19 500	104 000	4.8	86	43757/374					✓	✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ R1
<b>104.56</b>	14	19 500	104 000	4.8	100	19552/187					✓	✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ Q1
<b>94.55</b>	15	19 500	104 000	4.8	119	406644/4301					✓	✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ P1
<b>83.44</b>	17	19 500	104 000	4.8	140	15604/187					✓	✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ N1
<b>74.35</b>	20	19 500	104 000	4.8	164	319788/4301					✓	✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ M1
<b>67.36</b>	22	19 500	104 000	4.8	182	12596/187					✓	✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ L1
<b>60.58</b>	24	19 500	104 000	4.8	220	23688/391						✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ K1
<b>50.34</b>	29	19 500	104 000	4.8	273	122388/2431						✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ J1
<b>44.76</b>	32	19 500	99 100	4.8	334	209244/4675						✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ H1
<b>35.67</b>	41	19 500	89 900	4.9	455	193452/5423						✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ G1
<b>28.39</b>	51	19 500	81 300	5.0	586	153972/5423							✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ F1
<b>25.37</b>	57	19 500	77 300	5.3	335	11088/437						✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ E1
<b>21.09</b>	69	19 500	70 900	5.4	439	5208/247						✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ D1
<b>18.75</b>	77	19 500	67 000	5.4	545	8904/475						✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ C1
<b>14.94</b>	97	19 500	60 000	5.6	786	8232/551						✓	✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ B1
<b>11.89</b>	122	19 500	61 300	5.7	1 109	6552/551							✓	✓	✓	2KJ3515 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data**

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi$ <sup>1)</sup>	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>K.39-D19</b>															
6 699	0.22	220	6 080	-	0.11	167640192/25025	✓	✓						2KJ3521 - ■■■■■■ - ■■ H1	
5 949	0.24	220	6 080	-	0.13	13533453/2275	✓	✓						2KJ3521 - ■■■■■■ - ■■ G1	
5 491	0.26	220	6 080	-	0.16	162401436/29575	✓	✓						2KJ3521 - ■■■■■■ - ■■ F1	
4 770	0.30	220	6 080	-	0.17	75961962/15925	✓	✓						2KJ3521 - ■■■■■■ - ■■ E1	
4 145	0.35	220	6 080	-	0.18	47148804/11375	✓	✓						2KJ3521 - ■■■■■■ - ■■ D1	
3 742	0.39	220	6 080	-	0.22	1309689/350	✓	✓						2KJ3521 - ■■■■■■ - ■■ C1	
3 522	0.41	220	6 080	-	0.26	10477512/2975	✓	✓						2KJ3521 - ■■■■■■ - ■■ B1	
3 070	0.47	220	6 080	-	0.29	6985008/2275	✓	✓						2KJ3521 - ■■■■■■ - ■■ A1	
<b>K.39-Z19</b>															
3 001	0.48	220	6 080	-	0.02	975384/325	✓	✓						2KJ3520 - ■■■■■■ - ■■ E2	
2 657	0.55	220	6 080	-	0.03	4318434/1625	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ D2	
2 309	0.63	220	6 080	-	0.04	3752082/1625	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ C2	
2 099	0.69	220	6 080	-	0.05	7504164/3575	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ B2	
1 786	0.81	220	6 080	-	0.07	2902554/162	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ A2	
1 624	0.89	220	6 080	-	0.08	5805108/3575	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ X1	
1 416	1.0	220	6 080	-	0.09	35397/25	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ W1	
1 267	1.1	220	6 080	-	0.12	4530816/3575	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ V1	
1 125	1.3	220	6 080	-	0.15	365769/325	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ U1	
1 039	1.4	220	6 080	-	0.18	4389228/4225	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ T1	
902	1.6	220	6 080	-	0.20	2053026/2275	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ S1	
784	1.8	220	6 080	-	0.21	1274292/1625	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ R1	
708	2.0	220	6 080	-	0.27	35397/50	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ Q1	
666	2.2	220	6 080	-	0.32	283176/425	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ P1	
581	2.5	220	6 080	-	0.36	188784/325	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ N1	
536	2.7	220	6 080	-	0.19	243846/455	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ M1	
466	3.1	220	6 080	-	0.22	114057/245	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ L1	
405	3.6	220	6 080	-	0.23	70794/175	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ K1	
365	4.0	220	6 080	-	0.29	51129/140	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ J1	
343.72	4.2	220	6 080	-	0.35	204516/595	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ H1	
329.29	4.4	220	6 080	-	0.32	699732/2125	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ G1	
287.07	5.1	220	6 080	-	0.37	466488/1625	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ F1	
264.86	5.5	220	6 080	-	0.19	602547/2275	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ E1	
230.07	6.3	220	6 080	-	0.22	563673/2450	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ D1	
199.92	7.3	220	6 080	-	0.23	174933/875	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ C1	
180.49	8.0	220	6 080	-	0.30	252681/1400	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ B1	
169.87	8.5	220	6 080	-	0.35	505362/2975	✓	✓	✓					2KJ3520 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

Bevel geared motors

### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi$ <sup>1)</sup>	$J_G$ 10 <sup>-4</sup> kgm <sup>2</sup>	$R_{ex}$	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>K.49-D19</b>															
9 641	0.15	420	7 820	-	0.08	67488/7	✓	✓							2KJ3523 - ■■■■■■ - ■■ J1
8 630	0.17	420	7 820	-	0.11	8638464/1001	✓	✓							2KJ3523 - ■■■■■■ - ■■ H1
7 663	0.19	420	7 820	-	0.13	697376/91	✓	✓							2KJ3523 - ■■■■■■ - ■■ G1
7 074	0.20	420	7 820	-	0.16	8368512/1183	✓	✓							2KJ3523 - ■■■■■■ - ■■ F1
6 145	0.24	420	7 820	-	0.17	3914304/637	✓	✓							2KJ3523 - ■■■■■■ - ■■ E1
5 340	0.27	420	7 820	-	0.18	2429568/455	✓	✓							2KJ3523 - ■■■■■■ - ■■ D1
4 821	0.30	420	7 820	-	0.22	33744/7	✓	✓							2KJ3523 - ■■■■■■ - ■■ C1
4 537	0.32	420	7 820	-	0.26	539904/119	✓	✓							2KJ3523 - ■■■■■■ - ■■ B1
3 955	0.37	420	7 820	-	0.29	359936/91	✓	✓							2KJ3523 - ■■■■■■ - ■■ A1
<b>K.49-Z19</b>															
3 866	0.38	420	7 820	-	0.02	150784/39	✓	✓							2KJ3522 - ■■■■■■ - ■■ G2
3 424	0.42	420	7 820	-	0.03	222528/65	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ F2
2 975	0.49	420	7 820	-	0.04	193344/65	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ E2
2 704	0.54	420	7 820	-	0.05	386688/143	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ D2
2 301	0.63	420	7 820	-	0.07	149568/65	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ C2
2 092	0.69	420	7 820	-	0.08	299136/143	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ B2
1 824	0.79	420	7 820	-	0.09	1824/1	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ A2
1 633	0.89	420	7 820	-	0.12	233472/143	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ W1
1 450	1.0	420	7 820	-	0.15	18848/13	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ V1
1 338	1.1	420	7 820	-	0.18	226176/169	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ U1
1 163	1.2	420	7 820	-	0.20	105792/91	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ T1
1 010	1.4	420	7 820	-	0.21	65664/65	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ S1
912	1.6	420	7 820	-	0.27	912/1	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ R1
858	1.7	420	7 820	-	0.32	14592/17	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ Q1
748	1.9	420	7 820	-	0.36	9728/13	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ P1
690	2.1	420	7 820	-	0.19	188480/273	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ N1
600	2.4	420	7 820	-	0.22	88160/147	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ M1
521	2.8	420	7 820	-	0.23	3648/7	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ L1
470	3.1	420	7 820	-	0.30	9880/21	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ K1
443	3.3	420	7 820	-	0.35	158080/357	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ J1
437	3.3	420	7 820	-	0.27	24453/56	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ H1
411	3.5	420	7 820	-	0.32	48906/119	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ G1
358	4.1	420	7 820	-	0.37	2508/7	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ F1
330.56	4.4	420	7 820	-	0.20	32395/98	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ E1
287.15	5.0	420	7 820	-	0.23	393965/1372	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ D1
249.52	5.8	420	7 820	-	0.24	24453/98	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ C1
225.26	6.4	420	7 820	-	0.31	176605/784	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ B1
212.01	6.8	420	7 820	-	0.37	176605/833	✓	✓	✓						2KJ3522 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## Selection and ordering data (continued)

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi$ <sup>1)</sup>	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>K.69-D19</b>															
9 641	0.15	600	10 800	-	0.08	67488/7	✓	✓							2KJ3525 - ■■■■■■ - ■■ J1
8 630	0.17	600	10 800	-	0.11	8638464/1001	✓	✓							2KJ3525 - ■■■■■■ - ■■ H1
7 663	0.19	600	10 800	-	0.13	697376/91	✓	✓							2KJ3525 - ■■■■■■ - ■■ G1
7 074	0.20	600	10 800	-	0.16	8368512/1183	✓	✓							2KJ3525 - ■■■■■■ - ■■ F1
6 145	0.24	600	10 800	-	0.17	3914304/637	✓	✓							2KJ3525 - ■■■■■■ - ■■ E1
5 340	0.27	600	10 800	-	0.18	2429568/455	✓	✓							2KJ3525 - ■■■■■■ - ■■ D1
4 821	0.30	600	10 800	-	0.22	33744/7	✓	✓							2KJ3525 - ■■■■■■ - ■■ C1
4 537	0.32	600	10 800	-	0.26	539904/119	✓	✓							2KJ3525 - ■■■■■■ - ■■ B1
3 955	0.37	600	10 800	-	0.29	359936/91	✓	✓							2KJ3525 - ■■■■■■ - ■■ A1
<b>K.69-Z19</b>															
3 866	0.38	600	10 800	-	0.02	150784/39	✓	✓							2KJ3524 - ■■■■■■ - ■■ F2
3 424	0.42	600	10 800	-	0.03	222528/65	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ E2
2 975	0.49	600	10 800	-	0.04	193344/65	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ D2
2 704	0.54	600	10 800	-	0.05	386688/143	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ C2
2 301	0.63	600	10 800	-	0.07	149568/65	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ B2
2 092	0.69	600	10 800	-	0.08	299136/143	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ A2
1 824	0.79	600	10 800	-	0.10	1824/1	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ W1
1 633	0.89	600	10 800	-	0.13	233472/143	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ V1
1 450	1.0	600	10 800	-	0.15	18848/13	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ U1
1 338	1.1	600	10 800	-	0.18	226176/169	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ T1
1 163	1.2	600	10 800	-	0.21	105792/91	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ S1
1 010	1.4	600	10 800	-	0.21	65664/65	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ R1
912	1.6	600	10 800	-	0.27	912/1	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ Q1
858	1.7	600	10 800	-	0.32	14592/17	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ P1
748	1.9	600	10 800	-	0.37	9728/13	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ N1
690	2.1	600	10 800	-	0.20	188480/273	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ M1
600	2.4	600	10 800	-	0.23	88160/147	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ L1
521	2.8	600	10 800	-	0.24	3648/7	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ K1
470	3.1	600	10 800	-	0.31	9880/21	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ J1
443	3.3	600	10 800	-	0.37	158080/357	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ H1
419	3.5	600	10 800	-	0.38	147136/351	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ G1
387	3.7	600	10 800	-	0.22	2850760/7371	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ F1
335.96	4.3	600	10 800	-	0.25	1333420/3969	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ E1
291.94	5.0	600	10 800	-	0.27	18392/63	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ D1
263.55	5.5	600	10 800	-	0.35	149435/567	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ C1
248.05	5.8	600	10 800	-	0.41	2390960/9639	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ B1
216.25	6.7	600	10 800	-	0.48	367840/1701	✓	✓	✓						2KJ3524 - ■■■■■■ - ■■ A1

1) Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

Bevel geared motors

### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi$ <sup>1)</sup>	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>K.79-D19</b>															
9 522	0.15	820	13 900	-	0.13	1485365/156	✓	✓							2KJ3527 - ■■■■■■ - ■■ G1
8 789	0.16	820	13 900	-	0.16	1485365/169	✓	✓							2KJ3527 - ■■■■■■ - ■■ F1
7 635	0.19	820	13 900	-	0.17	198505/26	✓	✓							2KJ3527 - ■■■■■■ - ■■ E1
6 634	0.22	820	13 900	-	0.18	86247/13	✓	✓							2KJ3527 - ■■■■■■ - ■■ D1
5 989	0.24	820	13 900	-	0.22	47915/8	✓	✓							2KJ3527 - ■■■■■■ - ■■ C1
5 637	0.26	820	13 900	-	0.26	95830/17	✓	✓							2KJ3527 - ■■■■■■ - ■■ B1
4 914	0.30	820	13 900	-	0.29	191660/39	✓	✓							2KJ3527 - ■■■■■■ - ■■ A1
<b>K.79-Z19</b>															
4 804	0.30	820	13 900	-	0.02	562030/117	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ F2
4 254	0.34	820	13 900	-	0.03	110593/26	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ E2
3 696	0.39	820	13 900	-	0.04	96089/26	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ D2
3 360	0.43	820	13 900	-	0.05	480445/143	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ C2
2 859	0.51	820	13 900	-	0.07	74333/26	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ B2
2 599	0.56	820	13 900	-	0.08	371665/143	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ A2
2 266	0.64	820	13 900	-	0.10	9065/4	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ W1
2 029	0.71	820	13 900	-	0.13	290080/143	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ V1
1 801	0.81	820	13 900	-	0.15	281015/156	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ U1
1 663	0.87	820	13 900	-	0.18	281015/169	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ T1
1 444	1.0	820	13 900	-	0.21	37555/26	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ S1
1 255	1.2	820	13 900	-	0.21	16317/13	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ R1
1 133	1.3	820	13 900	-	0.27	9065/8	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ Q1
1 066	1.4	820	13 900	-	0.32	18130/17	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ P1
930	1.6	820	13 900	-	0.37	36260/39	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ N1
858	1.7	820	13 900	-	0.20	200725/234	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ M1
745	1.9	820	13 900	-	0.23	26825/36	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ L1
648	2.2	820	13 900	-	0.24	1295/2	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ K1
585	2.5	820	13 900	-	0.31	84175/144	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ J1
550	2.6	820	13 900	-	0.37	84175/153	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ H1
521	2.8	820	13 900	-	0.38	1096865/2106	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ G1
481	3.0	820	13 900	-	0.22	24287725/50544	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ F1
417	3.5	820	13 900	-	0.25	3245825/7776	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ E1
363	4.0	820	13 900	-	0.27	156695/432	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ D1
327.46	4.4	820	13 900	-	0.35	10185175/31104	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ C1
308.19	4.7	820	13 900	-	0.41	10185175/33048	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ B1
268.68	5.4	820	13 900	-	0.48	783475/2916	✓	✓	✓						2KJ3526 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## Selection and ordering data (continued)

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi$ <sup>1)</sup>	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>K.89-D39</b>															
9 761	0.15	1 600	18 100	-	0.17	1577036825/161568	✓	✓	✓	✓	✓	✓		2KJ3530 - ■■■■■■ - ■■ E1	
9 010	0.16	1 600	18 100	-	0.21	121310525/13464	✓	✓	✓	✓	✓	✓		2KJ3530 - ■■■■■■ - ■■ D1	
7 888	0.18	1 600	18 100	-	0.25	6436885/816	✓	✓	✓	✓	✓	✓		2KJ3530 - ■■■■■■ - ■■ C1	
6 916	0.21	1 600	18 100	-	0.23	279360809/40392	✓	✓	✓	✓	✓	✓		2KJ3530 - ■■■■■■ - ■■ B1	
6 275	0.23	1 600	18 100	-	0.33	225290975/35904	✓	✓	✓	✓	✓	✓		2KJ3530 - ■■■■■■ - ■■ A1	
<b>K.89-Z39</b>															
6 101	0.24	1 600	18 100	-	0.06	86972795/14256	✓	✓						2KJ3528 - ■■■■■■ - ■■ F2	
5 425	0.27	1 600	18 100	-	0.07	8592493/1584	✓	✓	✓	✓				2KJ3528 - ■■■■■■ - ■■ E2	
4 763	0.30	1 600	18 100	-	0.08	209573/44	✓	✓	✓	✓				2KJ3528 - ■■■■■■ - ■■ D2	
4 330	0.33	1 600	18 100	-	0.10	1047865/242	✓	✓	✓	✓				2KJ3528 - ■■■■■■ - ■■ C2	
3 705	0.39	1 600	18 100	-	0.12	1467011/396	✓	✓	✓	✓				2KJ3528 - ■■■■■■ - ■■ B2	
3 368	0.43	1 600	18 100	-	0.14	7335055/2178	✓	✓	✓	✓				2KJ3528 - ■■■■■■ - ■■ A2	
2 977	0.49	1 600	18 100	-	0.17	1047865/352	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ W1	
2 706	0.54	1 600	18 100	-	0.22	5239325/1936	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ V1	
2 370	0.61	1 600	18 100	-	0.26	45058195/19008	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ U1	
2 188	0.66	1 600	18 100	-	0.31	3466015/1584	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ T1	
1 937	0.75	1 600	18 100	-	0.36	6137495/3168	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ S1	
1 612	0.90	1 600	18 100	-	0.48	13622245/8448	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ R1	
1 518	0.96	1 600	18 100	-	0.56	13622245/8976	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ Q1	
1 360	1.1	1 600	18 100	-	0.61	38771005/28512	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ P1	
1 158	1.3	1 600	18 100	-	0.79	7335055/6336	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ N1	
992	1.5	1 600	18 100	-	1.04	1047865/1056			✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ M1	
854	1.7	1 600	18 100	-	1.32	32483815/38016			✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ L1	
705	2.1	1 600	18 100	-	0.61	45656975/64768	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ K1	
663	2.2	1 600	18 100	-	0.70	45656975/68816	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ J1	
594	2.4	1 600	18 100	-	0.79	129946775/218592	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ H1	
506	2.9	1 600	18 100	-	1.04	24584525/48576	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ G1	
476	3.0	1 600	18 100	-	0.65	84791525/178112	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ F1	
448	3.2	1 600	18 100	-	0.75	84791525/189244	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ E1	
401	3.6	1 600	18 100	-	0.85	241329725/601128	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ D1	
341.78	4.2	1 600	18 100	-	1.12	45656975/133584	✓	✓	✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ C1	
292.96	4.9	1 600	18 100	-	1.48	6522425/22264			✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ B1	
252.27	5.7	1 600	18 100	-	1.92	202195175/801504			✓	✓	✓	✓		2KJ3528 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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## SIMOGEAR geared motors

Bevel geared motors

### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi$ <sup>1)</sup>	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>K.109-D39</b>															
13 352	0.11	2 900	24 500	-	0.12	57881096/4335	✓	✓	✓	✓	✓	✓		2KJ3532 - ■■■■■■ - ■■ G1	
11 918	0.12	2 900	24 500	-	0.15	2083719456/174845	✓	✓	✓	✓	✓	✓		2KJ3532 - ■■■■■■ - ■■ F1	
10 621	0.14	2 900	24 500	-	0.17	101291918/9537	✓	✓	✓	✓	✓	✓		2KJ3532 - ■■■■■■ - ■■ E1	
9 804	0.15	2 900	24 500	-	0.21	31166744/3179	✓	✓	✓	✓	✓	✓		2KJ3532 - ■■■■■■ - ■■ D1	
8 583	0.17	2 900	24 500	-	0.25	12403092/1445	✓	✓	✓	✓	✓	✓		2KJ3532 - ■■■■■■ - ■■ C1	
7 526	0.19	2 900	24 500	-	0.23	1794313976/238425	✓	✓	✓	✓	✓	✓		2KJ3532 - ■■■■■■ - ■■ B1	
6 828	0.21	2 900	24 500	-	0.33	21705411/3179	✓	✓	✓	✓	✓	✓		2KJ3532 - ■■■■■■ - ■■ A1	
<b>K.109-Z39</b>															
6 638	0.22	2 900	24 500	-	0.06	55861988/8415	✓	✓						2KJ3531 - ■■■■■■ - ■■ F2	
5 903	0.25	2 900	24 500	-	0.07	27594476/4675	✓	✓	✓	✓				2KJ3531 - ■■■■■■ - ■■ F2	
5 183	0.28	2 900	24 500	-	0.08	24229296/4675	✓	✓	✓	✓				2KJ3531 - ■■■■■■ - ■■ E2	
4 712	0.31	2 900	24 500	-	0.10	48458592/10285	✓	✓	✓	✓				2KJ3531 - ■■■■■■ - ■■ D2	
4 031	0.36	2 900	24 500	-	0.12	18845008/4675	✓	✓	✓	✓				2KJ3531 - ■■■■■■ - ■■ C2	
3 665	0.40	2 900	24 500	-	0.14	37690016/10285	✓	✓	✓	✓				2KJ3531 - ■■■■■■ - ■■ B2	
3 239	0.45	2 900	24 500	-	0.17	3028662/935	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ A2	
2 945	0.49	2 900	24 500	-	0.23	6057324/2057	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ W1	
2 579	0.56	2 900	24 500	-	0.26	7235137/2805	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ V1	
2 381	0.61	2 900	24 500	-	0.31	2226196/935	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ U1	
2 108	0.69	2 900	24 500	-	0.36	1971034/935	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ T1	
1 755	0.83	2 900	24 500	-	0.48	6562101/3740	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ S1	
1 651	0.88	2 900	24 500	-	0.57	26248404/15895	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ R1	
1 480	0.98	2 900	24 500	-	0.62	12451166/8415	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ Q1	
1 260	1.2	2 900	24 500	-	0.80	1177813/935	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ P1	
1 080	1.3	2 900	24 500	-	1.05	1009554/935			✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ N1	
930	1.6	2 900	24 500	-	1.34	5216029/5610			✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ M1	
767	1.9	2 900	24 500	-	0.63	13196313/17204	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ L1	
722	2.0	2 900	24 500	-	0.73	52785252/73117	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ K1	
647	2.2	2 900	24 500	-	0.83	8346386/12903	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ J1	
551	2.6	2 900	24 500	-	1.09	2368569/4301	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ H1	
519	2.8	2 900	24 500	-	1.40	88672493/170775			✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ G1	
428	3.4	2 900	24 500	-	0.73	24926369/58190	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ F1	
403	3.6	2 900	24 500	-	0.84	11730056/29095	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ E1	
361	4.0	2 900	24 500	-	0.97	283777124/785565	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ D1	
307.54	4.7	2 900	24 500	-	1.28	26843782/87285	✓	✓	✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ C1	
263.61	5.5	2 900	24 500	-	1.70	7669652/29095			✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ B1	
227	6.4	2 900	24 500	-	2.20	59439803/261855			✓	✓	✓	✓		2KJ3531 - ■■■■■■ - ■■ A1	

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Selection and ordering data (continued)**

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi$ <sup>1)</sup>	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>K.129-D39</b>															
14 490	0.10	4 400	40 000	-	0.09	2494142287/172125	✓	✓	✓	✓					2KJ3534 - ■■■■■■ - ■■ H1
13 173	0.11	4 400	40 000	-	0.10	4988284574/378675	✓	✓	✓	✓					2KJ3534 - ■■■■■■ - ■■ G1
11 550	0.13	4 400	40 000	-	0.12	1192850659/103275	✓	✓	✓	✓	✓	✓			2KJ3534 - ■■■■■■ - ■■ F1
10 309	0.14	4 400	40 000	-	0.15	433763876/42075	✓	✓	✓	✓	✓	✓			2KJ3534 - ■■■■■■ - ■■ E1
9 188	0.16	4 400	40 000	-	0.18	759086783/82620	✓	✓	✓	✓	✓	✓			2KJ3534 - ■■■■■■ - ■■ D1
8 481	0.17	4 400	40 000	-	0.21	58391291/6885	✓	✓	✓	✓	✓	✓			2KJ3534 - ■■■■■■ - ■■ C1
7 425	0.20	4 400	40 000	-	0.25	170407237/22950	✓	✓	✓	✓	✓	✓			2KJ3534 - ■■■■■■ - ■■ B1
6 510	0.22	4 400	40 000	-	0.23	3361670039/516375	✓	✓	✓	✓	✓	✓			2KJ3534 - ■■■■■■ - ■■ A1
<b>K.129-Z39</b>															
5 743	0.25	4 400	37 600	-	0.06	209316289/36450	✓	✓							2KJ3533 - ■■■■■■ - ■■ A2
5 106	0.28	4 400	37 600	-	0.07	103397203/20250	✓	✓	✓	✓					2KJ3533 - ■■■■■■ - ■■ X1
4 483	0.32	4 400	37 600	-	0.09	5043766/1125	✓	✓	✓	✓					2KJ3533 - ■■■■■■ - ■■ W1
4 076	0.36	4 400	37 600	-	0.11	10087532/2475	✓	✓	✓	✓					2KJ3533 - ■■■■■■ - ■■ V1
3 487	0.42	4 400	37 600	-	0.13	35306362/10125	✓	✓	✓	✓					2KJ3533 - ■■■■■■ - ■■ U1
3 170	0.46	4 400	37 600	-	0.15	70612724/22275	✓	✓	✓	✓					2KJ3533 - ■■■■■■ - ■■ T1
2 802	0.52	4 400	37 600	-	0.18	2521883/900	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ S1
2 547	0.57	4 400	37 600	-	0.24	2521883/990	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ R1
2 231	0.65	4 400	37 600	-	0.28	108440969/48600	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ Q1
2 060	0.70	4 400	37 600	-	0.33	8341613/4050	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ P1
1 824	0.79	4 400	37 600	-	0.39	14771029/8100	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ N1
1 518	0.96	4 400	37 600	-	0.53	32784479/21600	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ M1
1 429	1.0	4 400	37 600	-	0.61	32784479/22950	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ L1
1 280	1.1	4 400	37 600	-	0.68	93309671/72900	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ K1
1 090	1.3	4 400	37 600	-	0.88	17653181/16200	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ J1
934	1.6	4 400	37 600	-	1.16	2521883/2700			✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ H1
804	1.8	4 400	37 600	-	1.48	78178373/97200			✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ G1
664	2.2	4 400	37 600	-	0.85	21976409/33120	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ F1
625	2.3	4 400	37 600	-	0.98	21976409/35190	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ E1
560	2.6	4 400	37 600	-	1.13	62548241/111780	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ D1
476	3.0	4 400	37 600	-	1.51	11833451/24840	✓	✓	✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ C1
408	3.6	4 400	37 600	-	2.00	1690493/4140			✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ B1
352	4.1	4 400	37 600	-	2.60	52405283/149040			✓	✓	✓	✓			2KJ3533 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version



## SIMOGEAR geared motors

Bevel geared motors

## Transmission ratios and torques for very low speeds

## Selection and ordering data (continued)

i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi$ <sup>1)</sup>	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>K.149-D49</b>															
13 575	0.11	8 000	65 000	-	0.12	23891273/1760	✓	✓	✓	✓					2KJ3536 - ■■■■■■ - ■■ L1
12 341	0.12	8 000	65 000	-	0.14	23891273/1936	✓	✓	✓	✓					2KJ3536 - ■■■■■■ - ■■ K1
10 908	0.13	8 000	65 000	-	0.17	30717351/2816	✓	✓	✓	✓	✓	✓			2KJ3536 - ■■■■■■ - ■■ J1
9 917	0.15	8 000	65 000	-	0.22	153586755/15488	✓	✓	✓	✓	✓	✓			2KJ3536 - ■■■■■■ - ■■ H1
8 686	0.17	8 000	65 000	-	0.26	146760677/16896	✓	✓	✓	✓	✓	✓			2KJ3536 - ■■■■■■ - ■■ G1
8 018	0.18	8 000	65 000	-	0.31	146760677/18304	✓	✓	✓	✓	✓	✓			2KJ3536 - ■■■■■■ - ■■ F1
7 099	0.20	8 000	65 000	-	0.37	19990657/2816	✓	✓	✓	✓	✓	✓	✓		2KJ3536 - ■■■■■■ - ■■ E1
5 909	0.25	8 000	65 000	-	0.50	133108521/22528	✓	✓	✓	✓	✓	✓	✓		2KJ3536 - ■■■■■■ - ■■ D1
5 561	0.26	8 000	65 000	-	0.59	7829913/1408	✓	✓	✓	✓	✓	✓	✓		2KJ3536 - ■■■■■■ - ■■ C1
4 983	0.29	8 000	65 000	-	0.66	126282443/25344	✓	✓	✓	✓	✓	✓	✓		2KJ3536 - ■■■■■■ - ■■ B1
4 242	0.34	8 000	65 000	-	0.86	23891273/5632	✓	✓	✓	✓	✓	✓	✓		2KJ3536 - ■■■■■■ - ■■ A1
<b>K.149-Z49</b>															
4 149	0.35	8 000	65 000	-	0.18	58423197/14080	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ B2
3 772	0.38	8 000	65 000	-	0.22	58423197/15488	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ A2
3 208	0.45	8 000	65 000	-	0.28	9034515/2816	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ X1
2 917	0.5	8 000	65 000	-	0.34	45172575/15488	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ W1
2 602	0.56	8 000	65 000	-	0.39	14655991/5632	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ V1
2 333	0.62	8 000	65 000	-	0.47	9034515/3872	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ U1
2 103	0.69	8 000	65 000	-	0.55	11845253/5632	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ T1
1 941	0.75	8 000	65 000	-	0.66	35535759/18304	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ S1
1 772	0.82	8 000	65 000	-	0.78	2495247/1408	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ R1
1 470	0.99	8 000	65 000	-	1.00	3011505/2048	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ Q1
1 384	1.0	8 000	65 000	-	1.16	3011505/2176	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ P1
1 307	1.1	8 000	65 000	-	1.31	1003835/768	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ N1
1 112	1.3	8 000	65 000	-	1.62	7829913/7040	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ M1
953	1.5	8 000	65 000	-	2.00	29512749/30976	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ L1
838	1.7	8 000	65 000	-	2.50	9436049/11264	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ K1
707	2.1	8 000	65 000	-	3.20	497553/704	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ J1
616	2.4	8 000	65 000	-	4.20	5420709/8800	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ H1
608	2.4	8 000	65 000	-	1.81	826413/1360	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ G1
574	2.5	8 000	65 000	-	2.00	275471/480	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ F1
488	3.0	8 000	65 000	-	2.60	10743369/22000	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ E1
418	3.5	8 000	65 000	-	3.40	40494237/96800	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ D1
368	3.9	8 000	65 000	-	4.30	12947137/35200	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ C1
310.31	4.7	8 000	65 000	-	5.70	682689/2200	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ B1
270.46	5.4	8 000	65 000	-	7.50	7437717/27500	✓	✓	✓	✓	✓	✓	✓		2KJ3535 - ■■■■■■ - ■■ A1

1) Only in conjunction with reduced-backlash version

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## Selection and ordering data (continued)

i	n <sub>2</sub> rpm	T <sub>2N</sub> Nm	F <sub>R2</sub> N	φ <sup>1)</sup> °	J <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	R <sub>ex</sub>	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>K.169-D49</b>															
14 931	0.10	13 000	70 000	-	0.22	315340973/21120	✓	✓	✓	✓	✓	✓		2KJ3538 - ■■■■■■ - ■■ H1	
13 078	0.11	13 000	70 000	-	0.26	13559661839/1036800	✓	✓	✓	✓	✓	✓		2KJ3538 - ■■■■■■ - ■■ G1	
12 072	0.12	13 000	70 000	-	0.31	13559661839/1123200	✓	✓	✓	✓	✓	✓		2KJ3538 - ■■■■■■ - ■■ F1	
10 689	0.14	13 000	70 000	-	0.38	12928979893/1209600	✓	✓	✓	✓	✓	✓	✓	2KJ3538 - ■■■■■■ - ■■ E1	
8 896	0.16	13 000	70 000	-	0.51	4099432649/460800	✓	✓	✓	✓	✓	✓	✓	2KJ3538 - ■■■■■■ - ■■ D1	
8 373	0.17	13 000	70 000	-	0.59	241143097/28800	✓	✓	✓	✓	✓	✓	✓	2KJ3538 - ■■■■■■ - ■■ C1	
7 502	0.19	13 000	70 000	-	0.66	11667616001/1555200	✓	✓	✓	✓	✓	✓	✓	2KJ3538 - ■■■■■■ - ■■ B1	
6 387	0.23	13 000	70 000	-	0.86	2207386811/345600	✓	✓	✓	✓	✓	✓	✓	2KJ3538 - ■■■■■■ - ■■ A1	
<b>K.169-Z49</b>															
6 248	0.23	13 000	70 000	-	0.19	1799298493/288000	✓	✓	✓	✓				2KJ3537 - ■■■■■■ - ■■ C2	
5 680	0.26	13 000	70 000	-	0.23	1799298493/316800	✓	✓	✓	✓				2KJ3537 - ■■■■■■ - ■■ B2	
4 831	0.30	13 000	70 000	-	0.28	18549469/3840	✓	✓	✓	✓				2KJ3537 - ■■■■■■ - ■■ A2	
4 391	0.33	13 000	70 000	-	0.34	18549469/4224	✓	✓	✓	✓				2KJ3537 - ■■■■■■ - ■■ X1	
3 918	0.37	13 000	70 000	-	0.40	1354111237/345600	✓	✓	✓	✓	✓	✓		2KJ3537 - ■■■■■■ - ■■ W1	
3 513	0.41	13 000	70 000	-	0.48	18549469/5280	✓	✓	✓	✓	✓	✓		2KJ3537 - ■■■■■■ - ■■ V1	
3 167	0.46	13 000	70 000	-	0.57	1094418671/345600	✓	✓	✓	✓	✓	✓		2KJ3537 - ■■■■■■ - ■■ U1	
2 923	0.50	13 000	70 000	-	0.67	1094418671/374400	✓	✓	✓	✓	✓	✓		2KJ3537 - ■■■■■■ - ■■ T1	
2 668	0.54	13 000	70 000	-	0.80	537934601/201600	✓	✓	✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ S1	
2 214	0.65	13 000	70 000	-	1.03	204044159/92160	✓	✓	✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ R1	
2 084	0.70	13 000	70 000	-	1.19	204044159/97920	✓	✓	✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ Q1	
1 968	0.74	13 000	70 000	-	1.35	204044159/103680	✓	✓	✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ P1	
1 675	0.87	13 000	70 000	-	1.67	241143097/144000	✓	✓	✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ N1	
1 435	1.0	13 000	70 000	-	2.10	908923981/633600			✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ M1	
1 261	1.1	13 000	70 000	-	2.60	871825043/691200			✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ L1	
1 064	1.4	13 000	70 000	-	3.30	352439911/331200			✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ K1	
927	1.6	13 000	70 000	-	4.40	18549469/20000			✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ J1	
915	1.6	13 000	70 000	-	1.98	279967567/306000	✓	✓	✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ H1	
864	1.7	13 000	70 000	-	2.20	279967567/324000	✓	✓	✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ G1	
735	2.0	13 000	70 000	-	2.90	330870761/450000	✓	✓	✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ F1	
630	2.3	13 000	70 000	-	3.80	1247128253/1980000			✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ E1	
554	2.6	13 000	70 000	-	4.70	1196225059/2160000			✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ D1	
467	3.1	13 000	70 000	-	6.30	483580343/1035000			✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ C1	
416	3.5	13 000	70 000	-	6.90	25840171/62100			✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ B1	
363	4.0	13 000	70 000	-	9.10	1360009/3750			✓	✓	✓	✓	✓	2KJ3537 - ■■■■■■ - ■■ A1	

1) Only in conjunction with reduced-backlash version

## SIMOGEAR geared motors

## Bevel geared motors

## Transmission ratios and torques for very low speeds

## Selection and ordering data (continued)

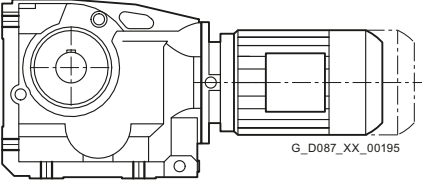
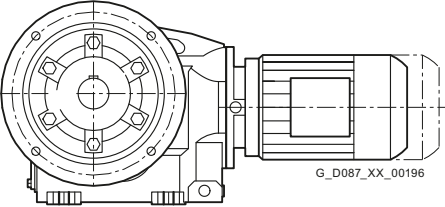
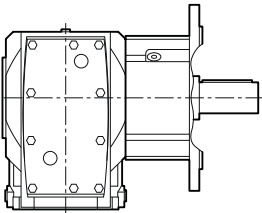
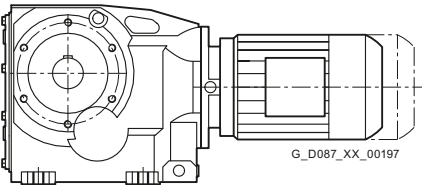
i	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$\varphi$ <sup>1)</sup>	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$	Motor frame size								Article No.
							63	71	80	90	100	112	132	160	
<b>K.189-D69</b>															
13 345	0.11	19 500	104 000	-	0.26	840736/63	✓	✓	✓	✓	✓	✓			2KJ3541 - ■■■■■■ - ■■ G1
12 318	0.12	19 500	104 000	-	0.32	258688/21	✓	✓	✓	✓	✓	✓			2KJ3541 - ■■■■■■ - ■■ F1
10 907	0.13	19 500	104 000	-	0.38	1603264/147	✓	✓	✓	✓	✓	✓	✓		2KJ3541 - ■■■■■■ - ■■ E1
9 078	0.16	19 500	104 000	-	0.52	63544/7	✓	✓	✓	✓	✓	✓	✓		2KJ3541 - ■■■■■■ - ■■ D1
8 544	0.17	19 500	104 000	-	0.61	1016704/119	✓	✓	✓	✓	✓	✓	✓		2KJ3541 - ■■■■■■ - ■■ C1
7 655	0.19	19 500	104 000	-	0.67	1446848/189	✓	✓	✓	✓	✓	✓	✓		2KJ3541 - ■■■■■■ - ■■ B1
6 517	0.22	19 500	104 000	-	0.89	19552/3	✓	✓	✓	✓	✓	✓	✓		2KJ3541 - ■■■■■■ - ■■ A1
<b>K.189-Z69</b>															
6 375	0.23	19 500	104 000	-	0.21	3793088/595	✓	✓	✓	✓					2KJ3540 - ■■■■■■ - ■■ C2
5 795	0.25	19 500	104 000	-	0.26	7586176/1309	✓	✓	✓	✓					2KJ3540 - ■■■■■■ - ■■ B2
4 929	0.29	19 500	104 000	-	0.32	586560/119	✓	✓	✓	✓					2KJ3540 - ■■■■■■ - ■■ A2
4 481	0.32	19 500	104 000	-	0.39	5865600/1309	✓	✓	✓	✓					2KJ3540 - ■■■■■■ - ■■ X1
3 998	0.36	19 500	104 000	-	0.46	1427296/357	✓	✓	✓	✓	✓	✓			2KJ3540 - ■■■■■■ - ■■ W1
3 585	0.40	19 500	104 000	-	0.56	4692480/1309	✓	✓	✓	✓	✓	✓			2KJ3540 - ■■■■■■ - ■■ V1
3 231	0.45	19 500	104 000	-	0.66	1153568/357	✓	✓	✓	✓	✓	✓			2KJ3540 - ■■■■■■ - ■■ U1
2 983	0.49	19 500	104 000	-	0.78	354944/119	✓	✓	✓	✓	✓	✓			2KJ3540 - ■■■■■■ - ■■ T1
2 723	0.53	19 500	104 000	-	0.93	2268032/833	✓	✓	✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ S1
2 259	0.64	19 500	104 000	-	1.23	268840/119	✓	✓	✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ R1
2 126	0.68	19 500	104 000	-	1.41	4301440/2023	✓	✓	✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ Q1
2 008	0.72	19 500	104 000	-	1.59	2150720/1071	✓	✓	✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ P1
1 709	0.85	19 500	104 000	-	2.0	1016704/595	✓	✓	✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ N1
1 464	0.99	19 500	104 000	-	2.5	273728/187			✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ M1
1 287	1.1	19 500	104 000	-	3.2	459472/357			✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ L1
1 086	1.3	19 500	104 000	-	4.1	2971904/2737			✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ K1
946	1.5	19 500	104 000	-	5.5	2815488/2975			✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ J1
889	1.6	19 500	104 000	-	3.1	3128320/3519	✓	✓	✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ H1
756	1.9	19 500	104 000	-	4.0	16267264/21505	✓	✓	✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ G1
648	2.2	19 500	104 000	-	5.3	30657536/47311			✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ F1
570	2.5	19 500	104 000	-	6.7	7351552/12903			✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ E1
481	3.0	19 500	104 000	-	9.1	47550464/98923			✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ D1
419	3.5	19 500	104 000	-	12	45047808/107525			✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ C1
384	3.8	19 500	104 000	-	11	37948928/98923			✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ B1
334.36	4.3	19 500	104 000	-	14	35951616/107525			✓	✓	✓	✓	✓		2KJ3540 - ■■■■■■ - ■■ A1

<sup>1)</sup> Only in conjunction with reduced-backlash version

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**Dimensional drawing overview**

Information about dimensional drawings can be found in chapter "Introduction" on page 1/21.

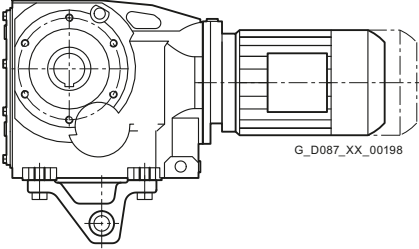
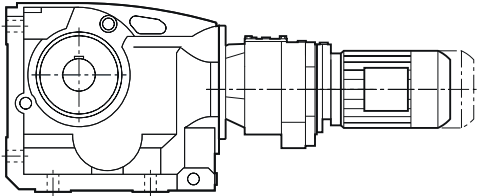
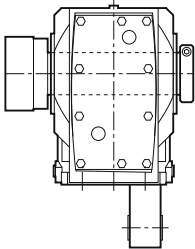
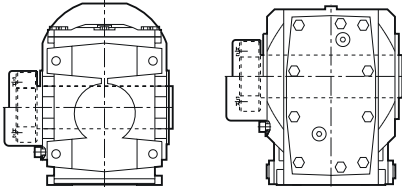
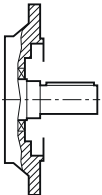
Design	Size	Dimensional drawing on page
<b>Bevel geared motors B and K</b>		
<i>Foot-mounted design</i>		
	B..19	5/75
	B..29	5/79
	B..39	5/83
	B..49	5/87
	K..39	5/91
	K..49	5/95
	K..69	5/99
	K..79	5/103
	K..89	5/107
	K..109	5/112
	K..129	5/117
	K..149	5/122
	K..169	5/127
	K..189	5/132
<i>Flange-mounted design</i>		
	B.F.19	5/76
	B.F.29	5/80
	B.F.39	5/84
	B.F.49	5/88
	K.F.39	5/92
	K.F.49	5/96
	K.F.69	5/100
	K.F.79	5/104
	K.F.89	5/108
	K.F.109	5/113
	K.F.129	5/118
	K.F.149	5/123
	K.F.169	5/128
	K.F.189	5/133
<i>Flange-mounted design with VLplus reinforced bearing system</i>		
	K.F.89	5/109
	K.F.109	5/114
	K.F.129	5/119
	K.F.149	5/124
	K.F.169	5/129
<i>Housing flange design</i>		
	B.Z.19	5/77
	B.Z.29	5/81
	B.Z.39	5/85
	B.Z.49	5/89
	K.Z.39	5/93
	K.Z.49	5/97
	K.Z.69	5/101
	K.Z.79	5/105
	K.Z.89	5/110
	K.Z.109	5/115
	K.Z.129	5/120
	K.Z.149	5/125
	K.Z.169	5/130
	K.Z.189	5/134

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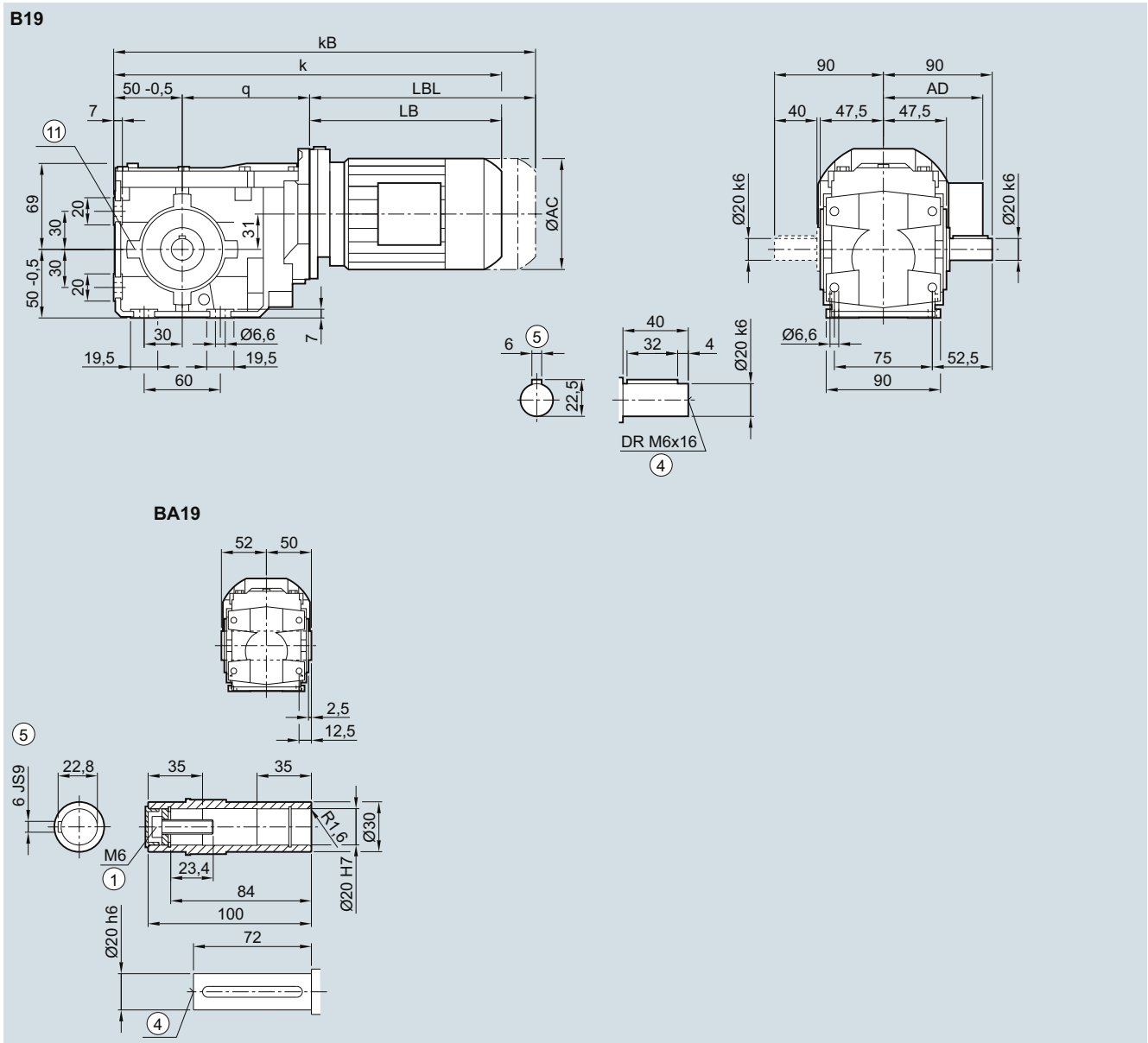
**SIMOGEAR geared motors**

Bevel geared motors

**Dimensions****Dimensional drawing overview** (continued)

Design	Size	Dimensional drawing on page
<b>Bevel geared motors B and K</b>		
<i>Shaft-mounted design</i>		
 <p>G_D087_XX_00198</p>	BAD.19	5/78
	BAD.29	5/82
	BAD.39	5/86
	BAD.49	5/90
	KAD.39	5/94
	KAD.49	5/98
	KAD.69	5/102
	KAD.79	5/106
	KAD.89	5/111
	KAD.109	5/116
	KAD.129	5/121
	KAD.149	5/126
	KAD.169	5/131
KAD.189	5/135	
<b>Bevel tandem geared motors</b>		
	K.39-D/Z19 ... K.189-D/Z69	5/136
<b>Additional versions and options</b>		
<i>SIMOLOC assembly system</i>		
	BADR29 ... BADR49 KADR39 ... BADR89	5/137 ... 5/138
<b>Protection covers</b>		
	BA.19 ... KA.189	5/139 ... 5/140
<b>Inner contour of the flange design</b>		
	BF19 ... KF189 BAF19 ... KAF189	5/141

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**B..19 gearbox in a foot-mounted design**
**B030, BA030**


Motor	LA 63	71	71Z	LE 80	80Z
q	133.0	141.0	141.0	149.5	149.5
AC	117.8	138.8	138.8	156.3	156.3
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2
k	343.5	375.5	394.5	439.5	474.5
kB	388.0	430.5	449.5	499.5	534.5
LB	160.5	184.5	203.5	240.0	275.0
LBL	205.0	239.5	258.5	300.0	335.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑥ Use bores only for housing flange design

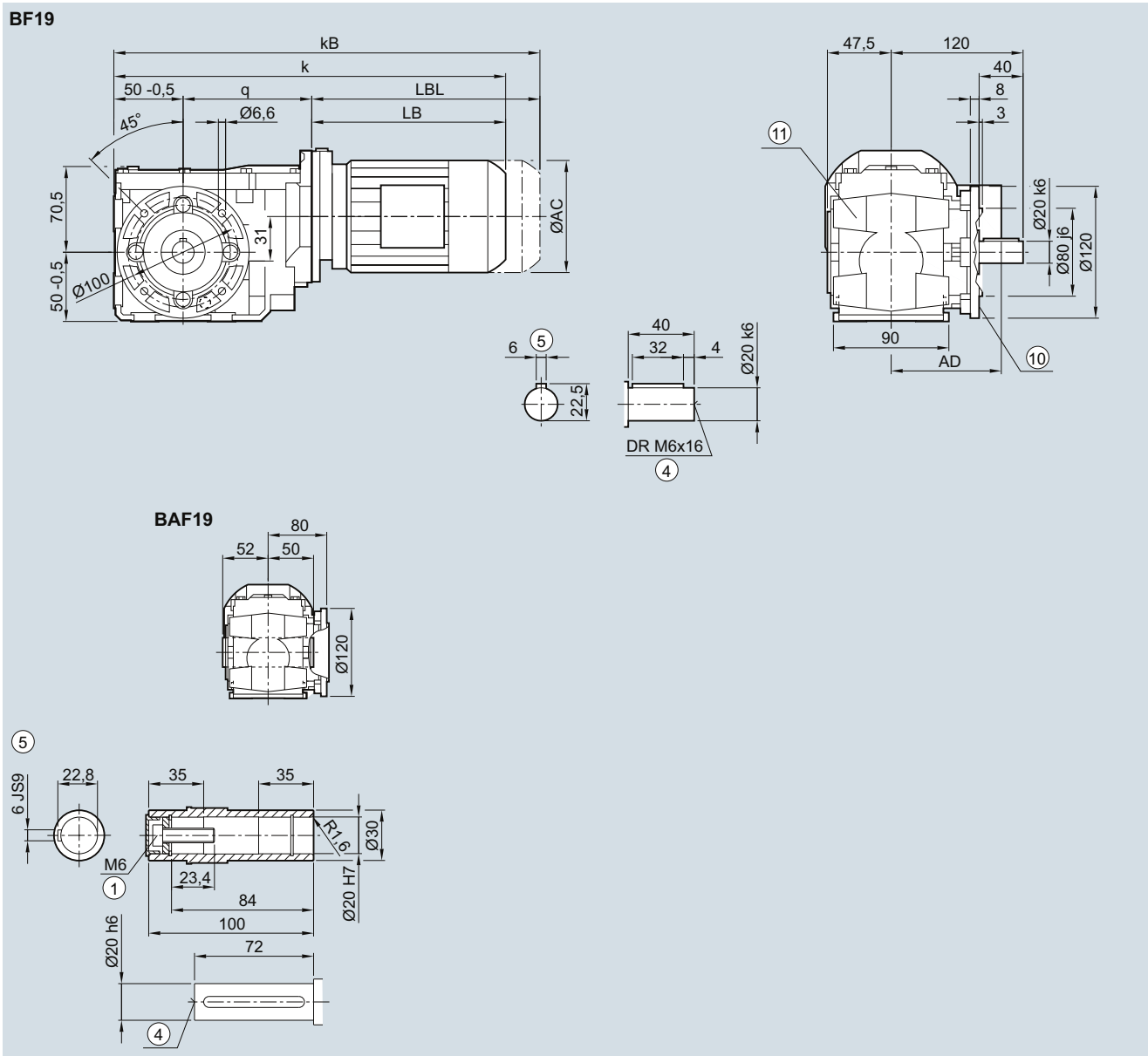
# SIMOGEAR geared motors

Bevel geared motors

## Dimensions

### B.F.19 gearbox in a flange-mounted design

BF030, BAF030



Motor	LA 63	71	71Z	LE 80	80Z
q	133.0	141.0	141.0	149.5	149.5
AC	117.8	138.8	138.8	156.3	156.3
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2
k	343.5	375.5	394.5	439.5	474.5
kB	388.0	430.5	449.5	499.5	534.5
LB	160.5	184.5	203.5	240.0	275.0
LBL	205.0	239.5	258.5	300.0	335.0

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① ISO 4014

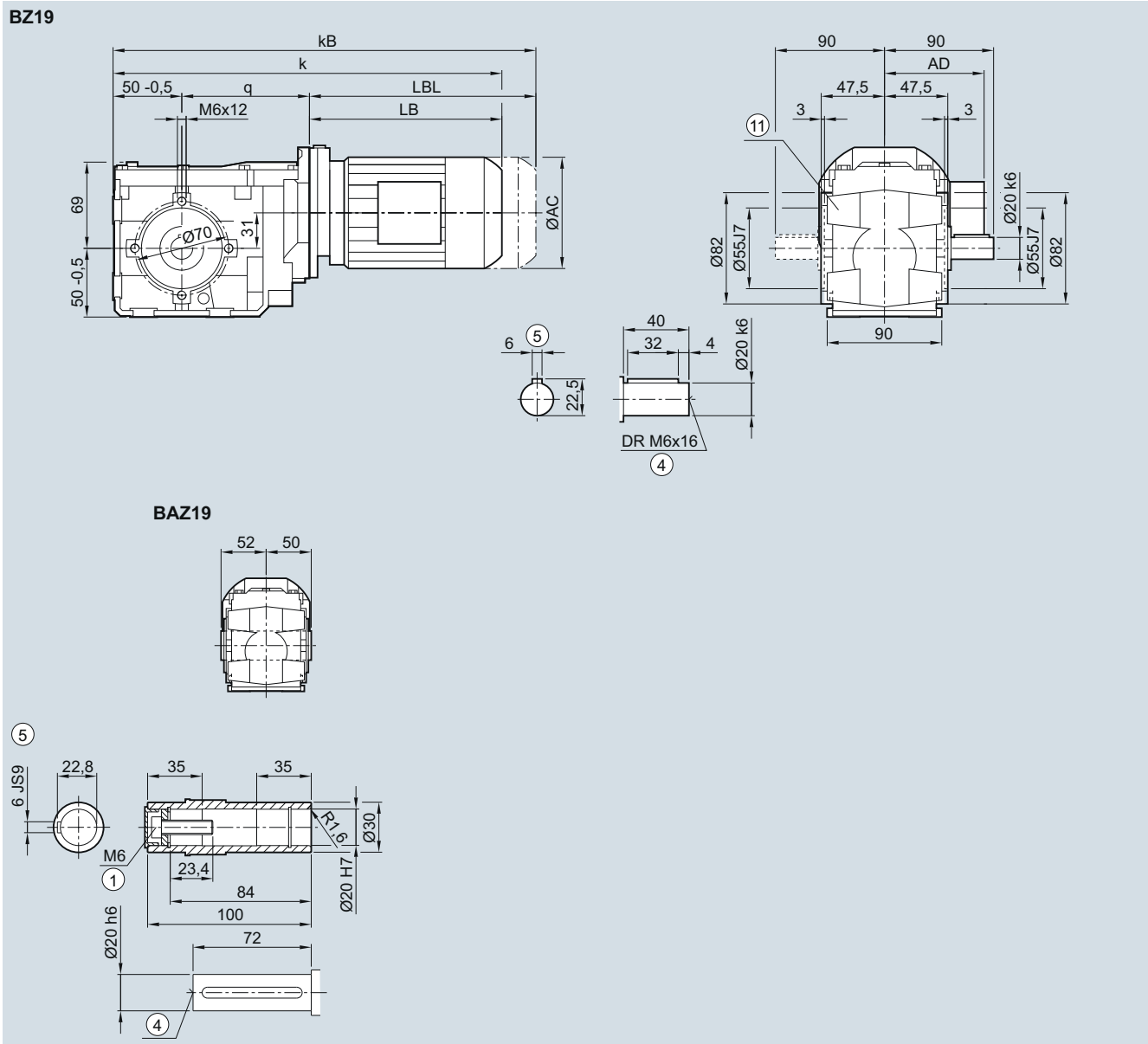
④ DIN 332

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 5/141

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑪ Use bores only for foot-mounted design

**B.Z.19 gearbox in a housing flange design**
**BZ030, BAZ030**


Motor	LA 63	71	71Z	LE 80	80Z
q	133.0	141.0	141.0	149.5	149.5
AC	117.8	138.8	138.8	156.3	156.3
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2
k	343.5	375.5	394.5	439.5	474.5
kB	388.0	430.5	449.5	499.5	534.5
LB	160.5	184.5	203.5	240.0	275.0
LBL	205.0	239.5	258.5	300.0	335.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ Use bores only for foot-mounted design



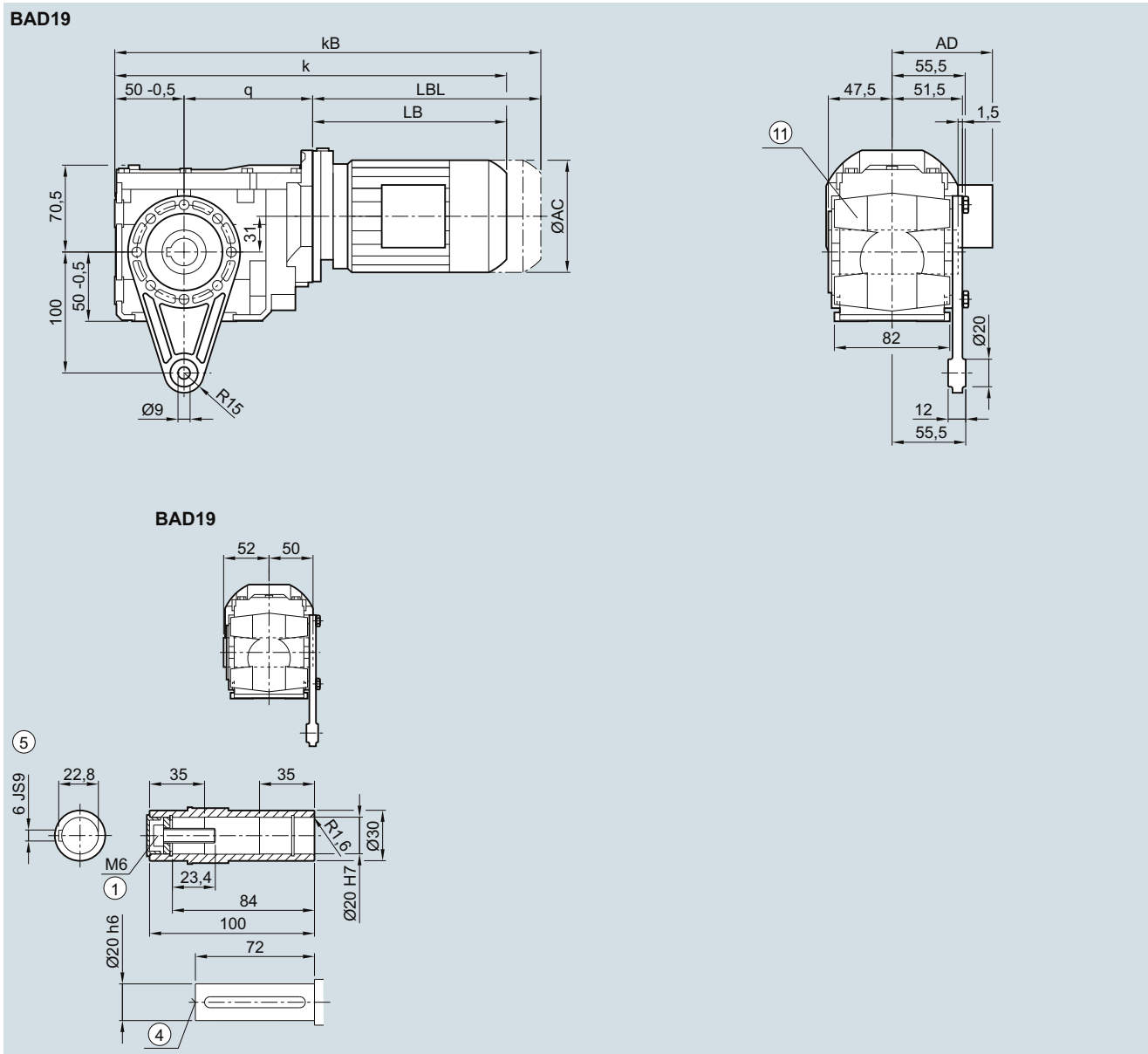
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### BAD.19 gearbox in a shaft-mounted design

##### BAD030



Motor	LA 63	71	71Z	LE 80	80Z
q	133.0	141.0	141.0	149.5	149.5
AC	117.8	138.8	138.8	156.3	156.3
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2
k	343.5	375.5	394.5	439.5	474.5
kB	388.0	430.5	449.5	499.5	534.5
LB	160.5	184.5	203.5	240.0	275.0
LBL	205.0	239.5	258.5	300.0	335.0

① ISO 4014

④ DIN 332

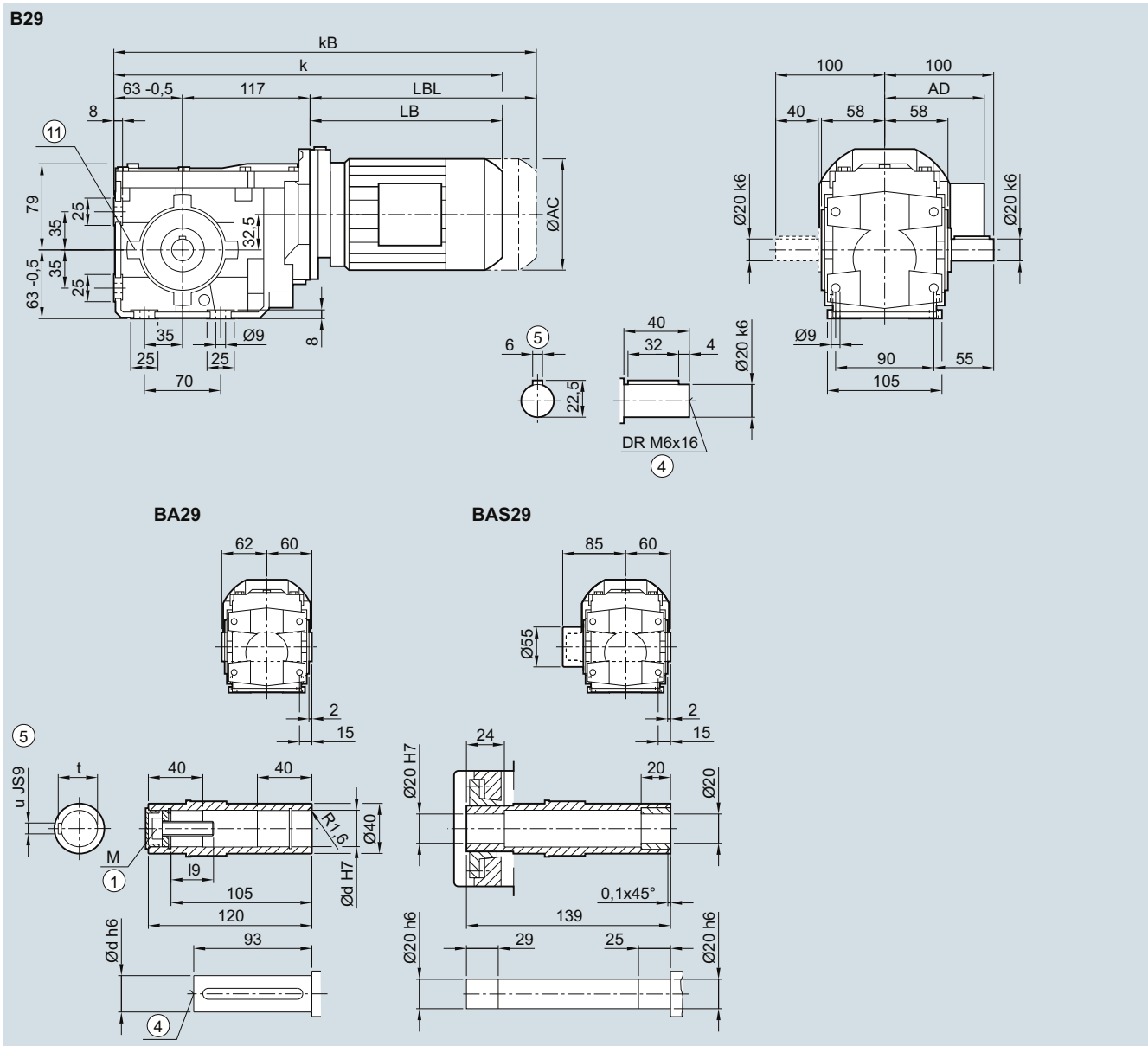
⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑪ Use bores only for foot-mounted design

**B..29 gearbox in a foot-mounted design**

**B030, BA030, BAS030**



5

Shaft	d	I9	M	t	u
	20	23.4	M6	22.8	6
	25	27.6	M10	28.3	8

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	374.0	406.0	425.0	470.0	505.0	531.5	571.5	588.0	623.0
kB	418.5	461.0	480.0	530.0	565.0	601.5	641.5	666.5	701.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

① ISO 4014      ④ DIN 332      ⑤ Feather key/keyway DIN 6885-1  
 1) AD depends on the motor options, for other dimensions see page 8/42.      ⑥ Use bores only for housing flange design

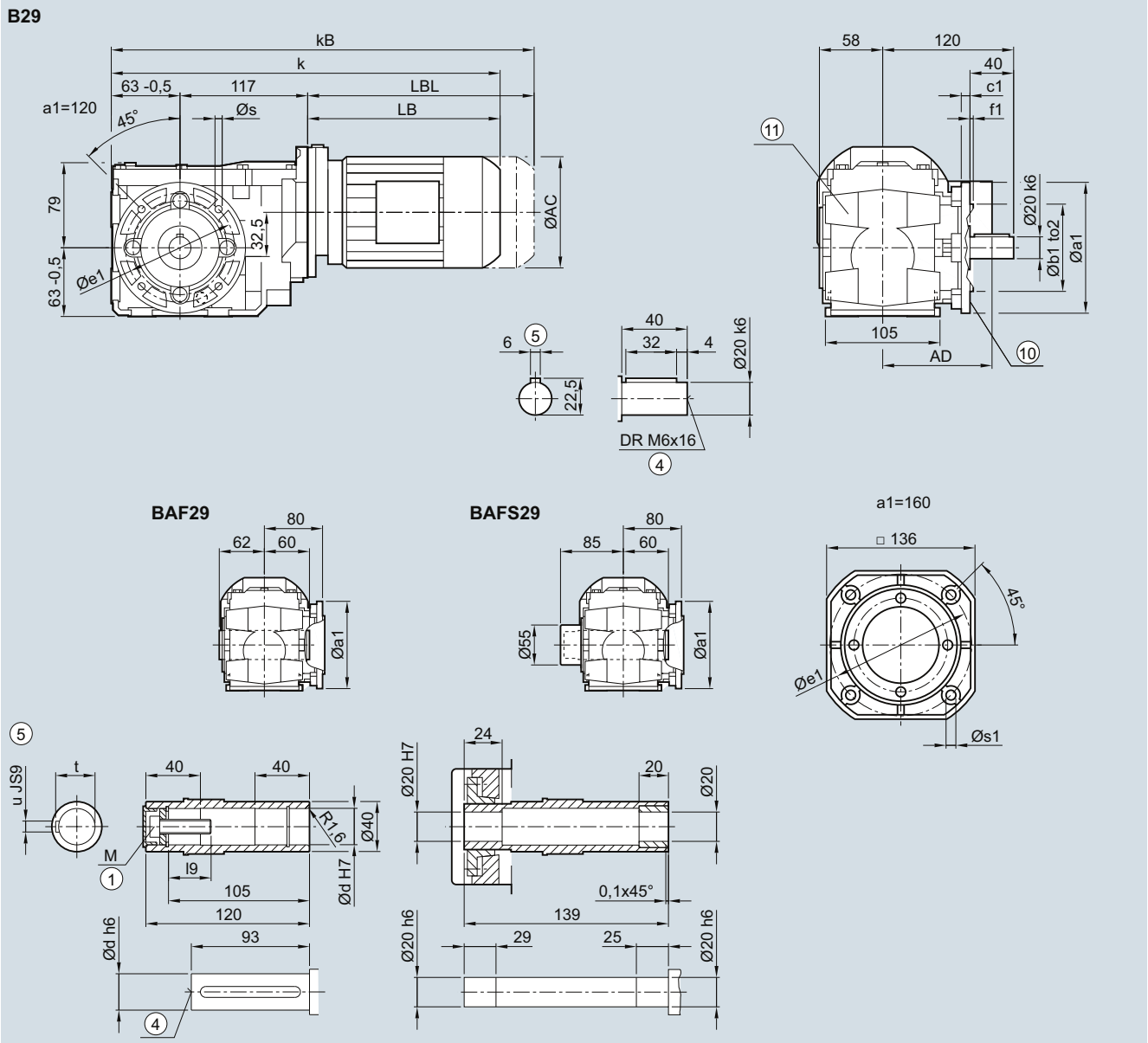
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### B.F.29 gearbox in a flange-mounted design

BF030, BAF030, BAFS030



Flange	a1	b1	c1	f1	e1	s	to2		
	120	80	8	3.0	100	6.6	j6		
	160	110	9	3.5	130	9.0	j6		
Shaft	d	I9	M	t	u				
	20	23.4	M6	22.8	6				
	25	27.6	M10	28.3	8				
Motor	LA	71	71Z	LE	80Z	90	90Z	100	100Z
	63			80					
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	374.0	406.0	425.0	470.0	505.0	531.5	571.5	588.0	623.0
kB	418.5	461.0	480.0	530.0	565.0	601.5	641.5	666.5	701.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

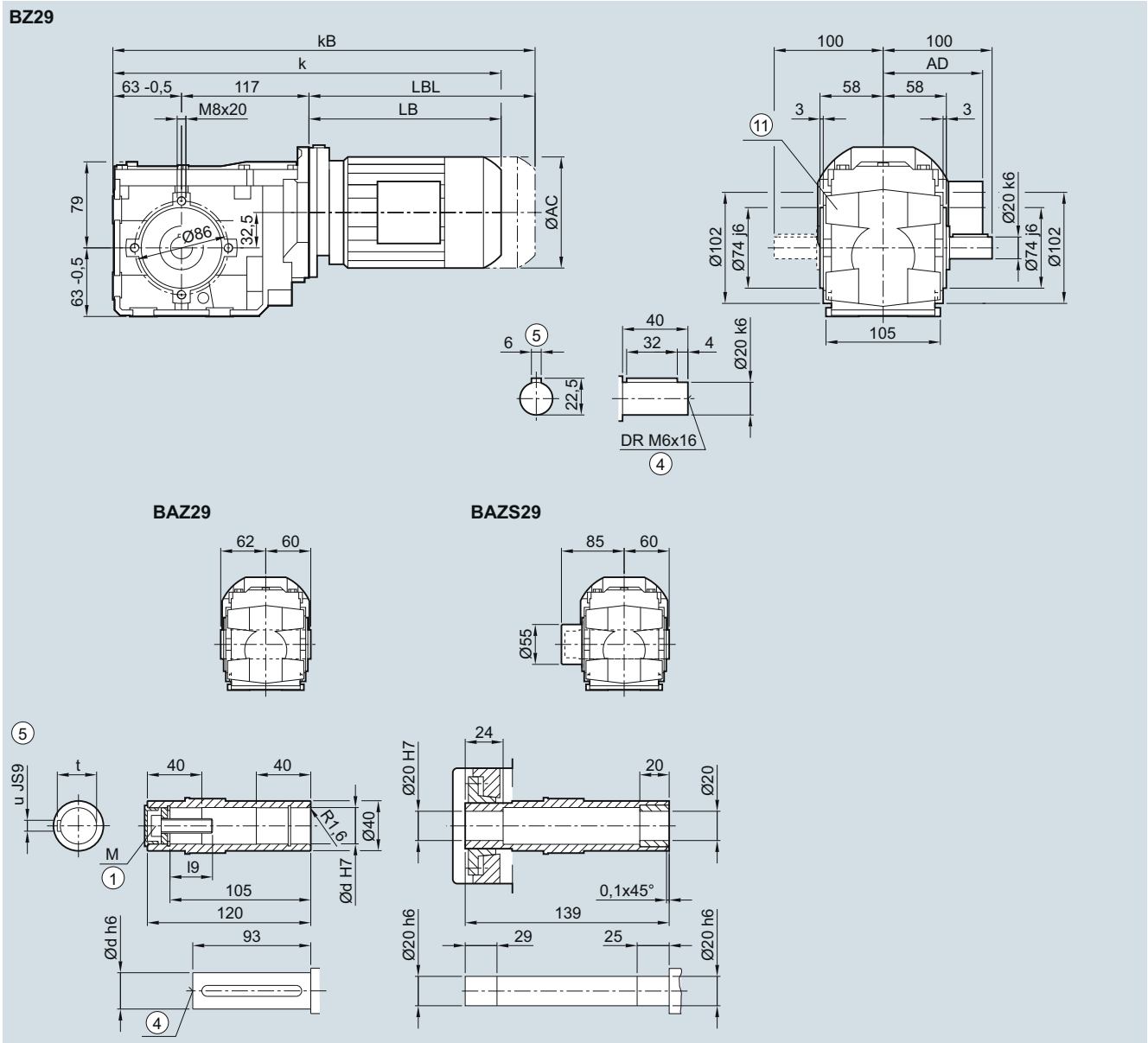
⑩ For inner contour see page 5/141

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑪ Use bores only for foot-mounted design

**B.Z.29 gearbox in a housing flange design**

**BZ030, BAZ030, BAZS030**



5

Shaft	d	l9	M	t	u
	20	23.4	M6	22.8	6
	25	27.6	M10	28.3	8

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	374.0	406.0	425.0	470.0	505.0	531.5	571.5	588.0	623.0
kB	418.5	461.0	480.0	530.0	565.0	601.5	641.5	666.5	701.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

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① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ Use bores only for foot-mounted design

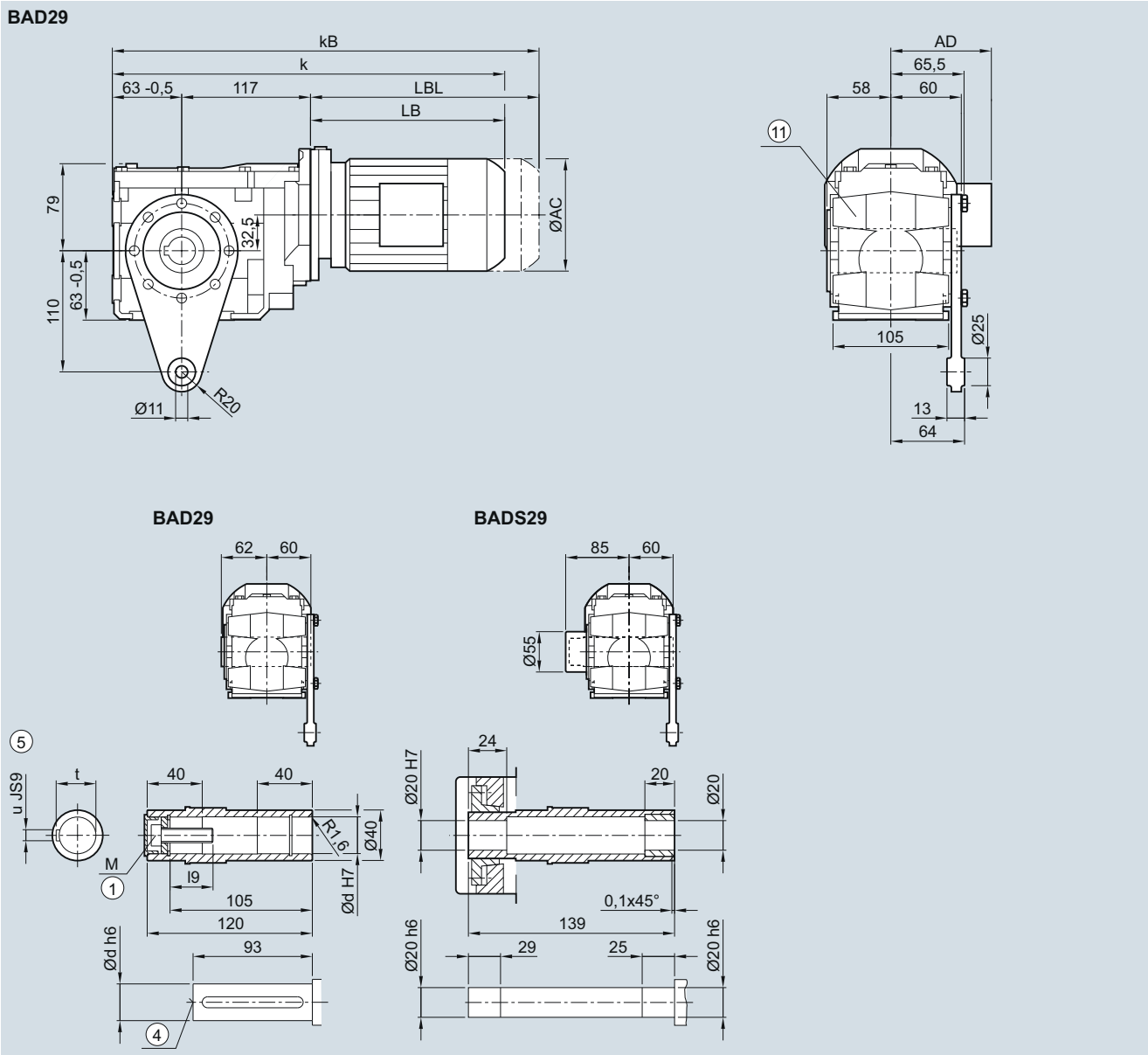
# SIMOGEAR geared motors

Bevel geared motors

## Dimensions

### BAD.29 gearbox in a shaft-mounted design

**BAD030, BADS030**



Shaft	d	I9	M	t	u
	20	23.4	M6	22.8	6
	25	27.6	M10	28.3	8

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	374.0	406.0	425.0	470.0	505.0	531.5	571.5	588.0	623.0
kB	418.5	461.0	480.0	530.0	565.0	601.5	641.5	666.5	701.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

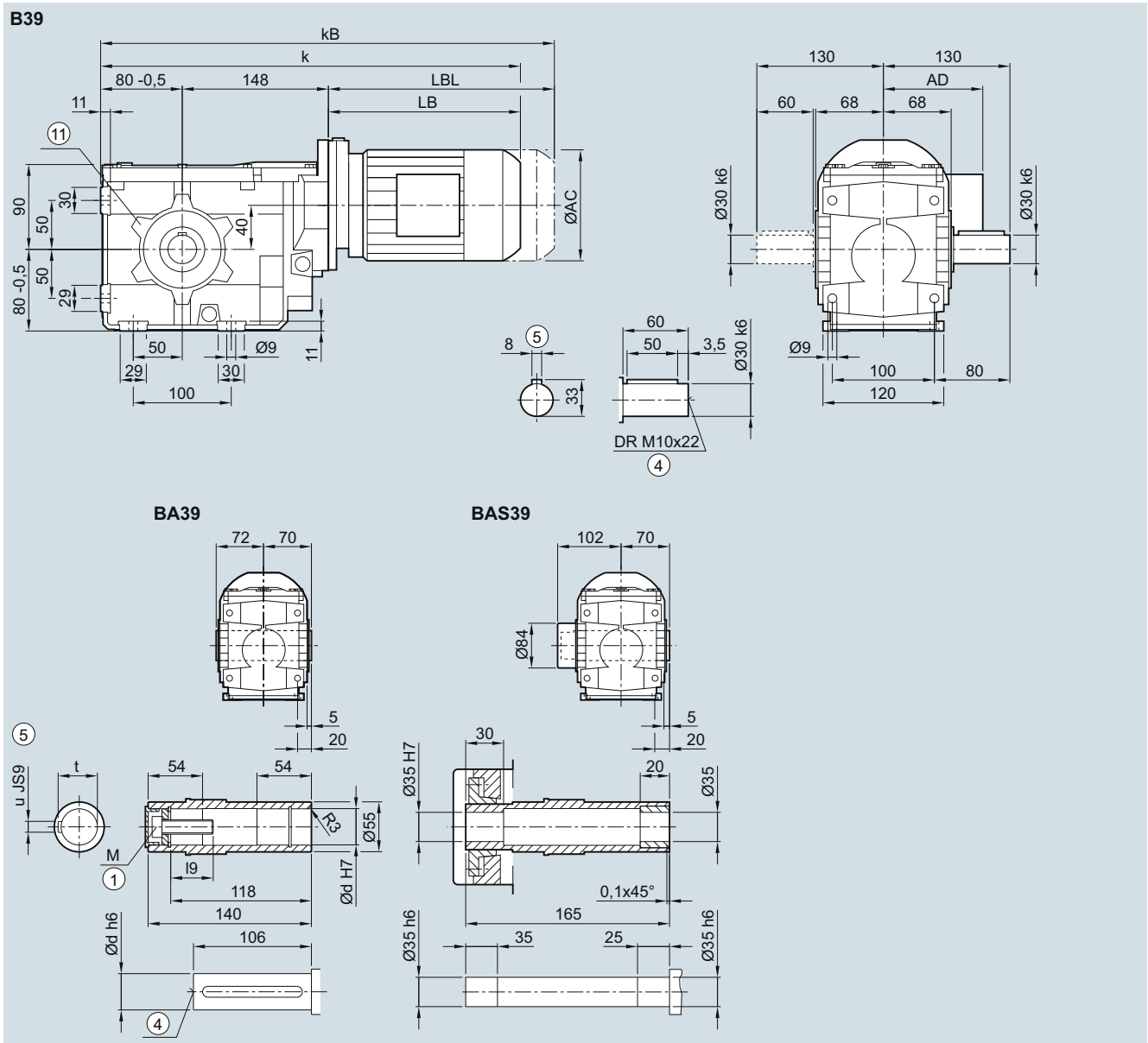
① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ Use bores only for foot-mounted design

**B..39 gearbox in a foot-mounted design**
**B030, BA030, BAS030**


Shaft	d	I9	M	t	u
	30	32.6	M10	33.3	8
	35	37	M12	38.3	10
	40	47.75	M16	43.3	12

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	422.0	454.0	473.0	518.0	553.0	579.5	619.5	636.0	671.0	646.0	671.0
kB	466.5	509.0	528.0	578.0	613.0	649.5	689.5	714.5	749.5	719.0	744.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑥ Use bores only for housing flange design

# SIMOGEAR geared motors

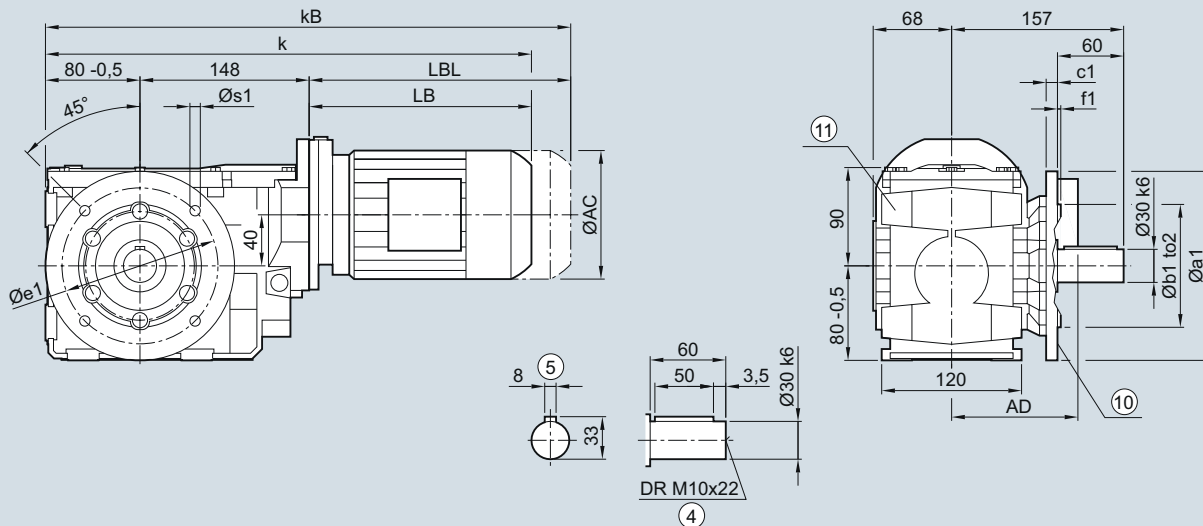
## Bevel geared motors

### Dimensions

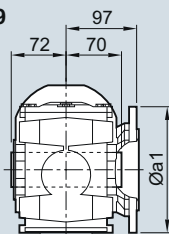
#### B.F.39 gearbox in a flange-mounted design

BF030, BAF030, BAFS030

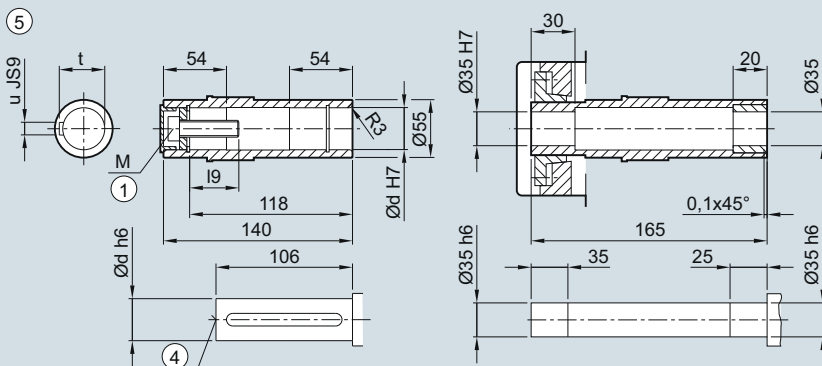
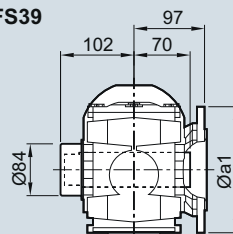
BF39



BAF39



BAFS39



Flange	a1	b1	c1	f1	e1	s	to2
	160	110	10	3.5	130	9	j6
	200	130	12	3.5	165	11	j6

Shaft	d	I9	M	t	u
	30	32.6	M10	33.3	8
	35	37	M12	38.3	10
	40	47.75	M16	43.3	12

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	422.0	454.0	473.0	518.0	553.0	579.5	619.5	636.0	671.0	646.0	671.0
kB	466.5	509.0	528.0	578.0	613.0	649.5	689.5	714.5	749.5	719.0	744.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

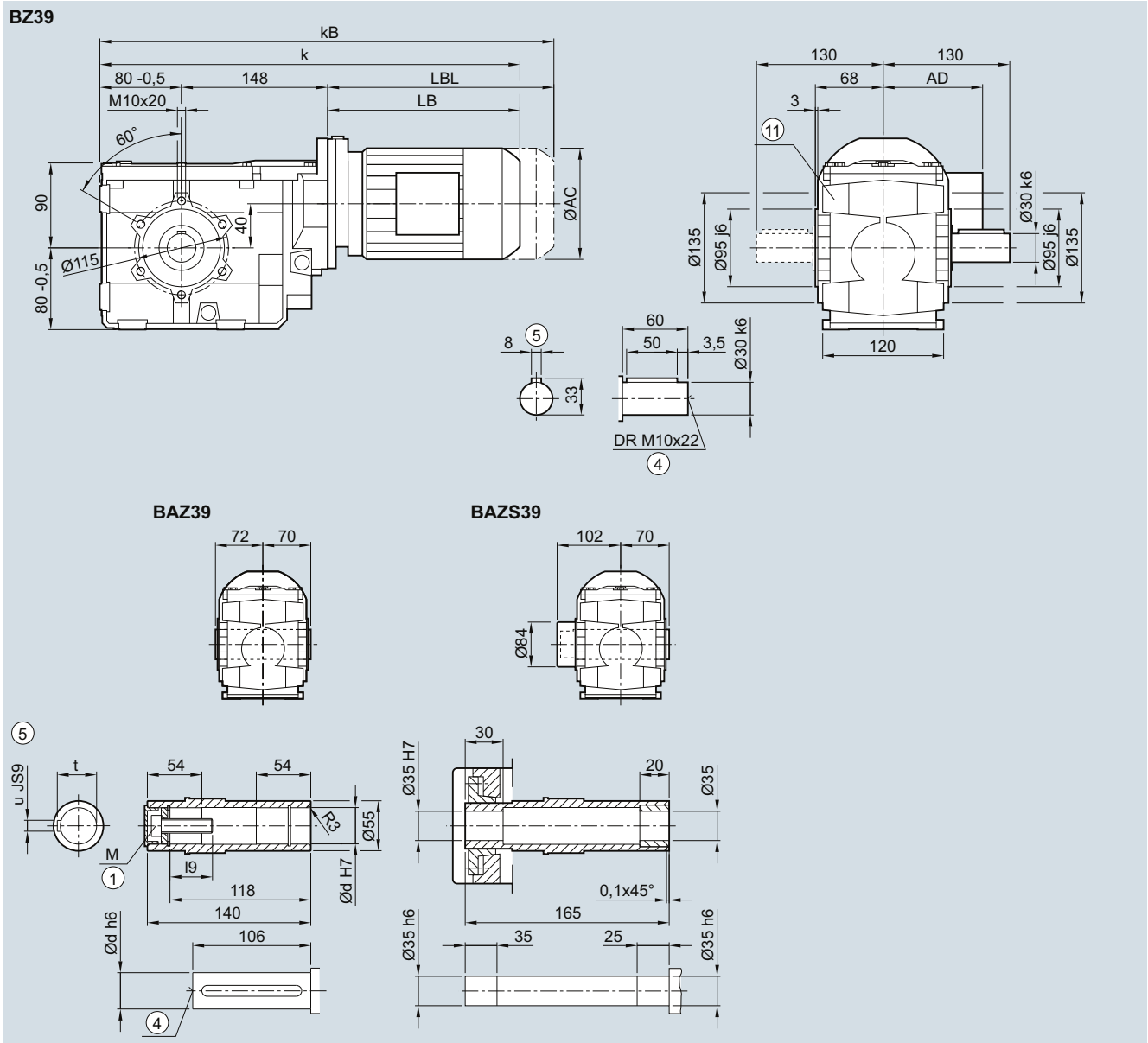
⑩ For inner contour see page 5/141

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑪ Use bores only for foot-mounted design

**B.Z.39 gearbox in a housing flange design**

**BZ030, BAZ030, BAZS030**



Shaft	d	I9	M	t	u
	30	32.6	M10	33.3	8
	35	37	M12	38.3	10
	40	47.75	M16	43.3	12

Motor	LA 63	LA71	71Z	LE LE80	LE80Z	LE90	LE90Z	LE100	LE100Z	LE112	LE112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	422.0	454.0	473.0	518.0	553.0	579.5	619.5	636.0	671.0	646.0	671.0
kB	466.5	509.0	528.0	578.0	613.0	649.5	689.5	714.5	749.5	719.0	744.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ Use bores only for foot-mounted design



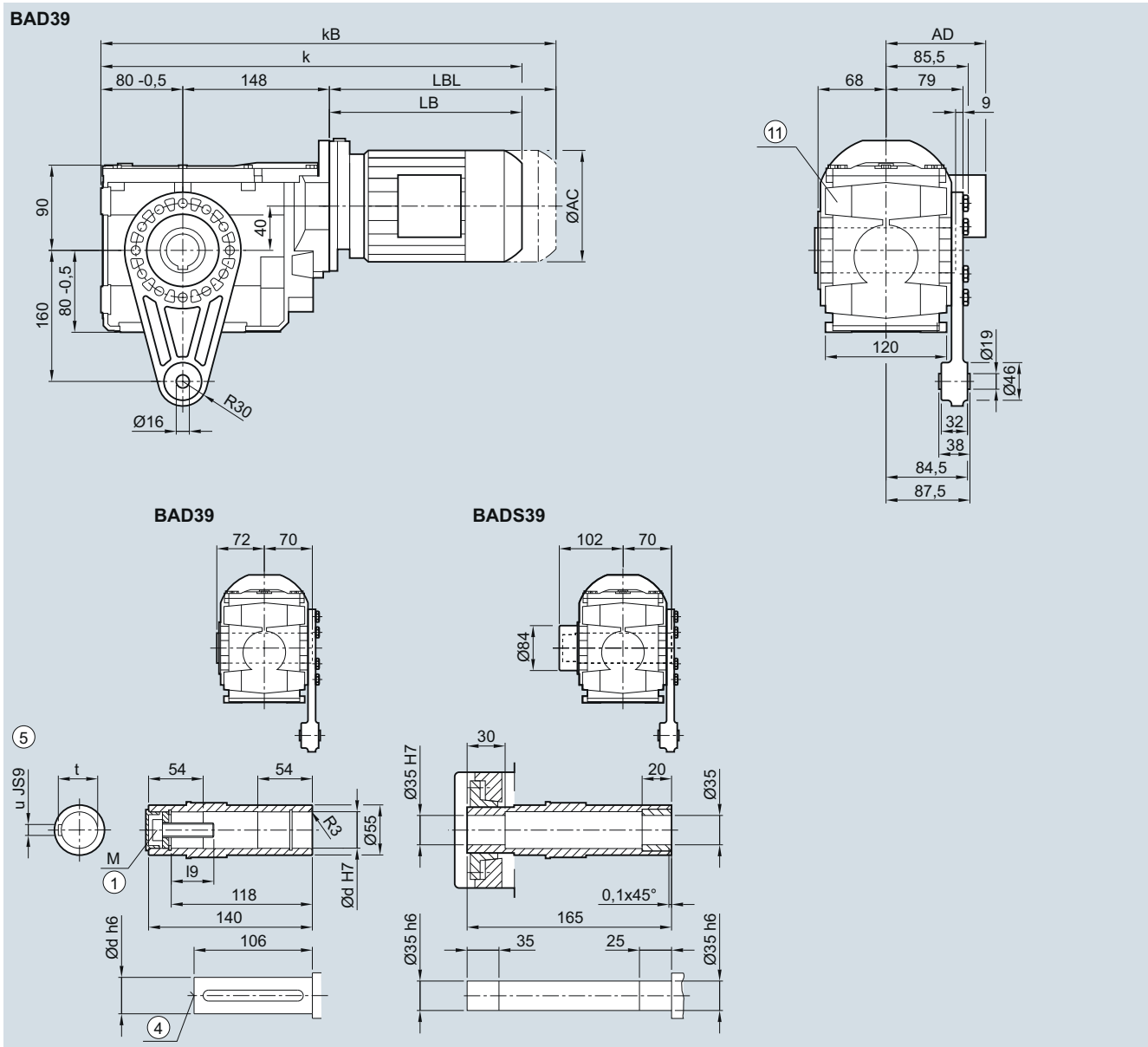
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### BAD.39 gearbox in a shaft-mounted design

##### BAD030, BADS030



Shaft	d	I9	M	t	u
	30	32.6	M10	33.3	8
	35	37	M12	38.3	10
	40	47.75	M16	43.3	12

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	422.0	454.0	473.0	518.0	553.0	579.5	619.5	636.0	671.0	646.0	671.0
kB	466.5	509.0	528.0	578.0	613.0	649.5	689.5	714.5	749.5	719.0	744.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014

④ DIN 332

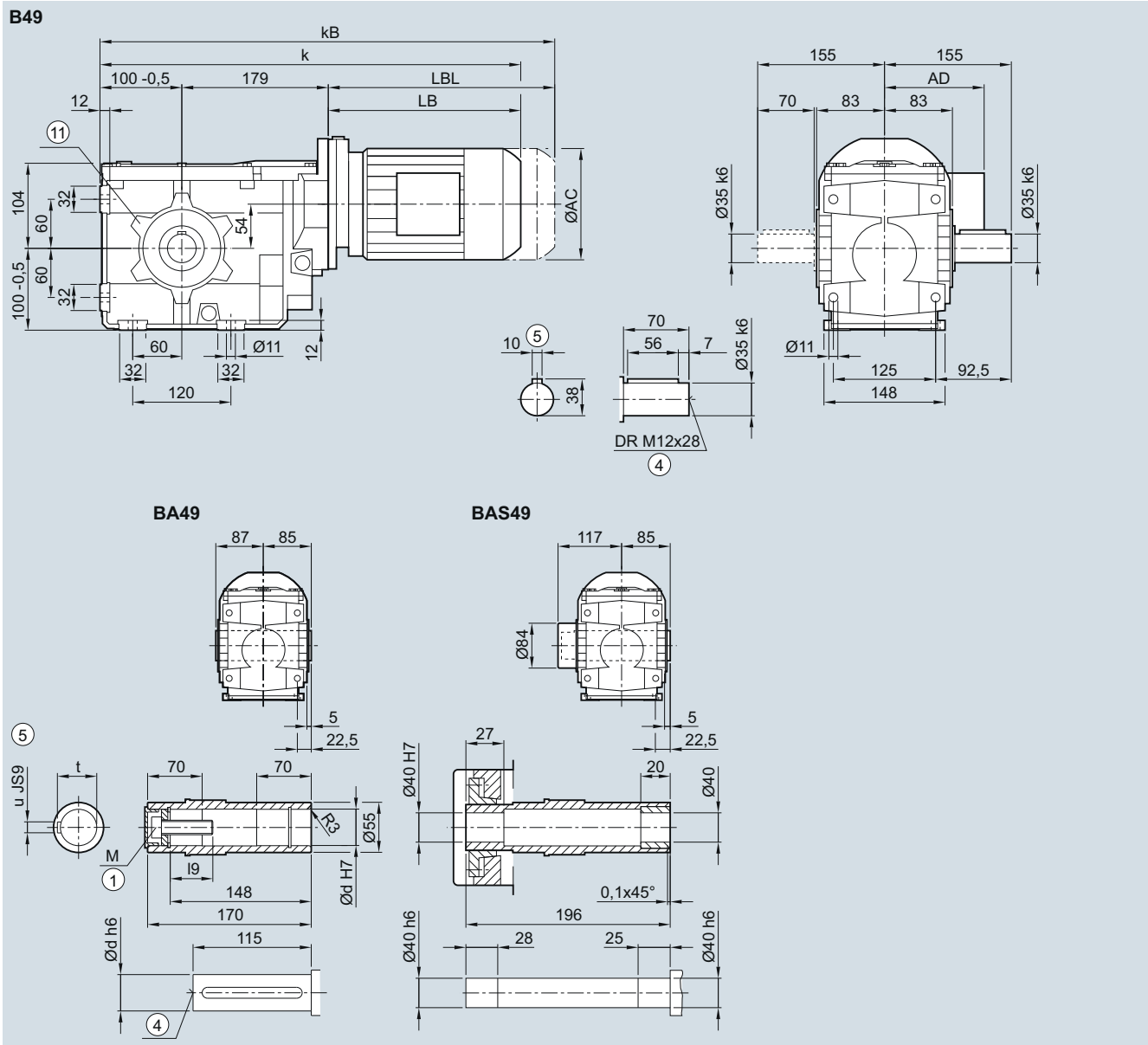
⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ Use bores only for foot-mounted design

**B..49 gearbox in a foot-mounted design**

**B030, BA030, BAS030**



Shaft	d	I9	M	t	u								
	35	57	M12	38.3	10								
	40	67.75	M16	43.3	12								
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	463.5	495.5	514.5	559.5	594.5	621.0	661.0	677.5	712.5	687.5	722.0	740.5	790.5
kB	508.0	550.5	569.5	619.5	654.5	691.0	731.0	566.0	791.0	760.5	795.0	845.0	895.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014

④ DIN 332

⑥ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑦ Use bores only for housing flange design

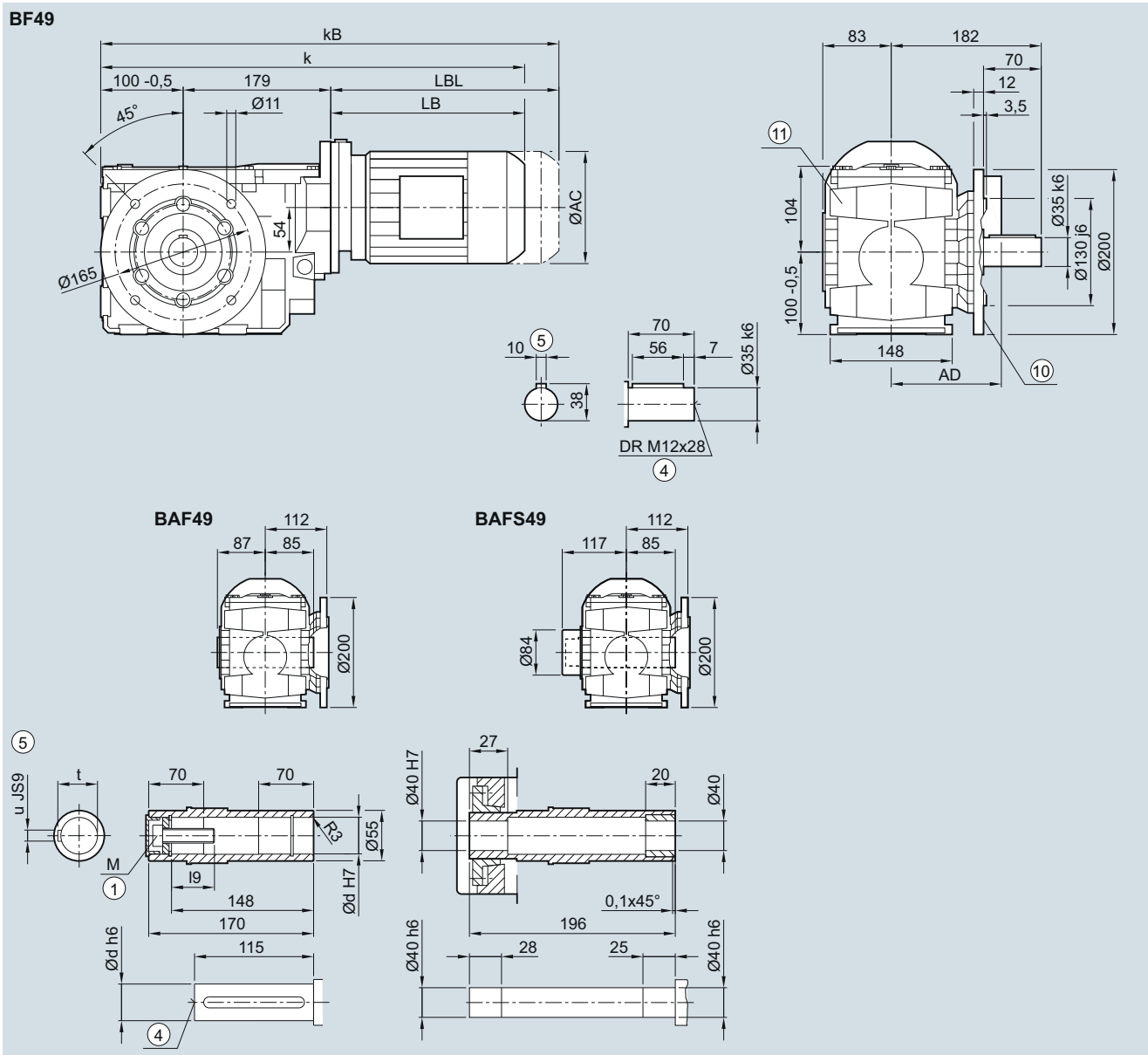
# SIMOGEAR geared motors

Bevel geared motors

## Dimensions

### B.F.49 gearbox in a flange-mounted design

BF030, BAF030, BAFS030



Shaft	d	l9	M	t	u
	35	57	M12	38.3	10
	40	67.75	M16	43.3	12

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	463.5	495.5	514.5	559.5	594.5	621.0	661.0	677.5	712.5	687.5	722.0	740.5	790.5
kB	508.0	550.5	569.5	619.5	654.5	691.0	731.0	756.0	791.0	750.5	795.0	845.0	895.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

⑩ For inner contour see page 5/141

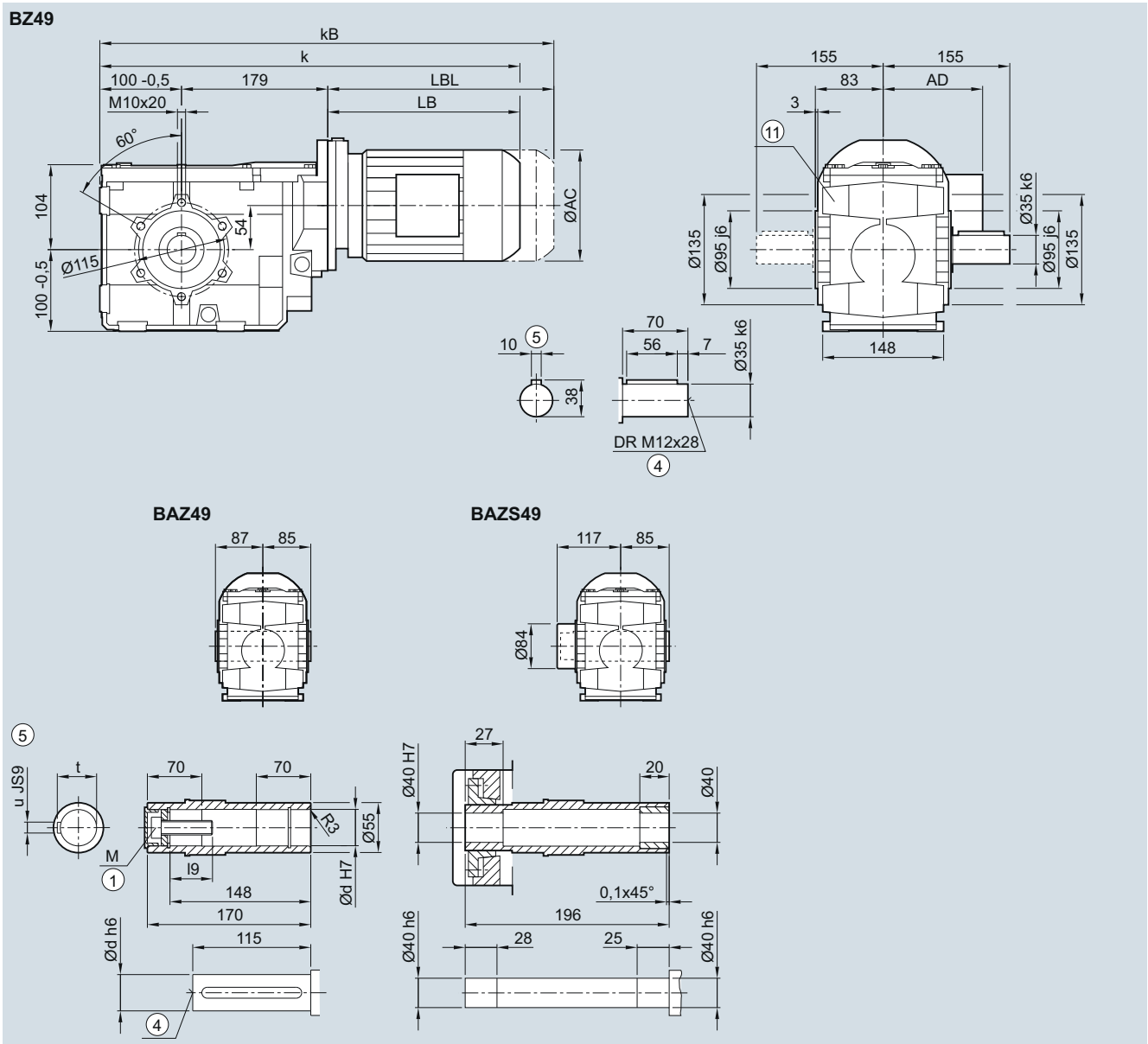
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑪ Use bores only for foot-mounted design

5

**B.Z.49 gearbox in a housing flange design**

**BZ030, BAZ030, BAZS030**



Shaft	d	l9	M	t	u
	35	57	M12	38.3	10
	40	67.75	M16	43.3	12

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	463.5	495.5	514.5	559.5	594.5	621.0	661.0	677.5	712.5	687.5	722.0	740.5	790.5
kB	508.0	550.5	569.5	619.5	654.5	691.0	731.0	756.0	791.0	750.5	795.0	845.0	895.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ Use bores only for foot-mounted design

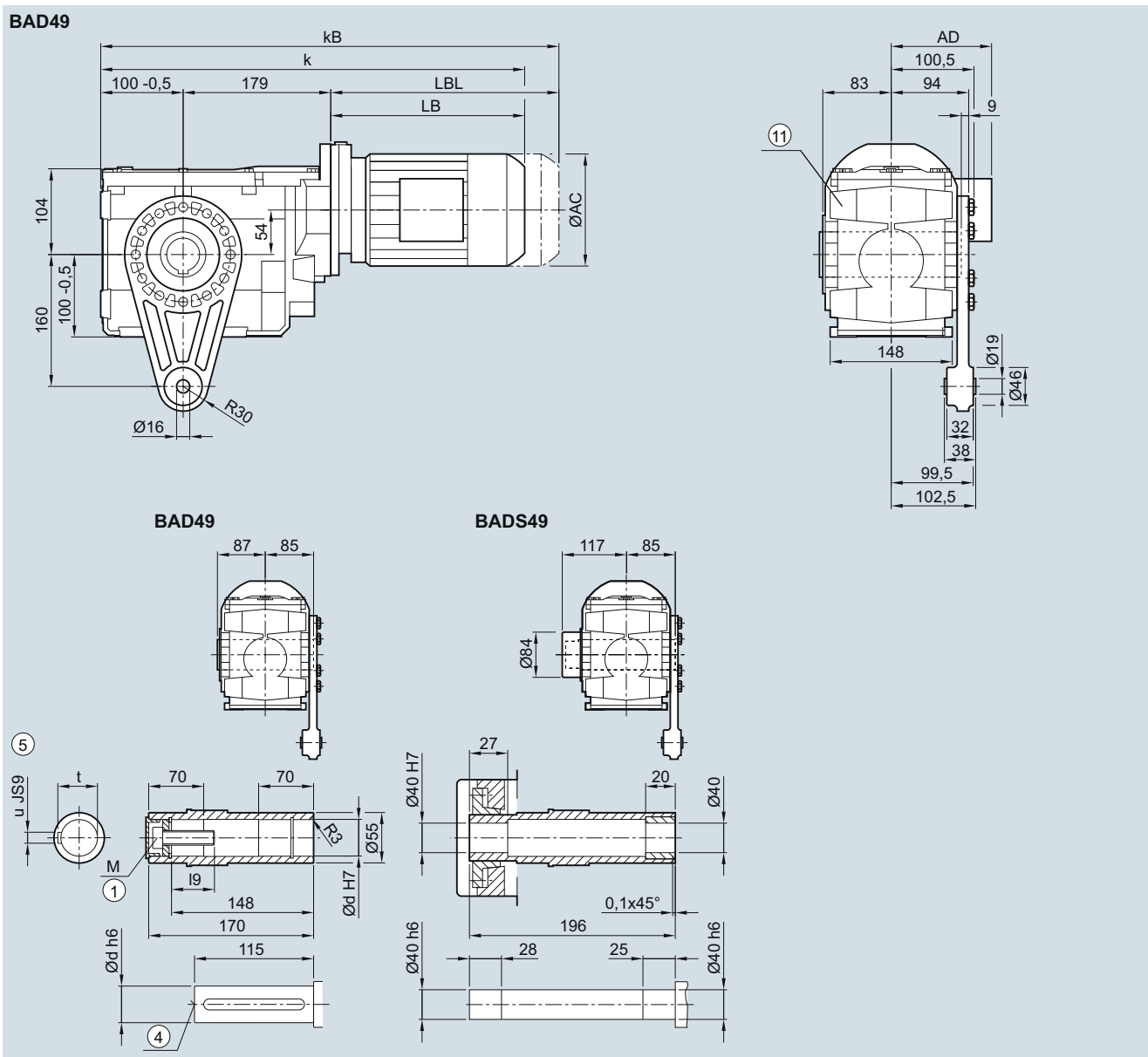
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### BAD.49 gearbox in a shaft-mounted design

BAD030, BADS030



Shaft	d	I9	M	t	u
	35	57	M12	38.3	10
	40	67.75	M16	43.3	12

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	463.5	495.5	514.5	559.5	594.5	621.0	661.0	677.5	712.5	687.5	722.0	740.5	790.5
kB	508.0	550.5	569.5	619.5	654.5	691.0	731.0	756.0	791.0	750.5	795.0	845.0	895.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014

④ DIN 332

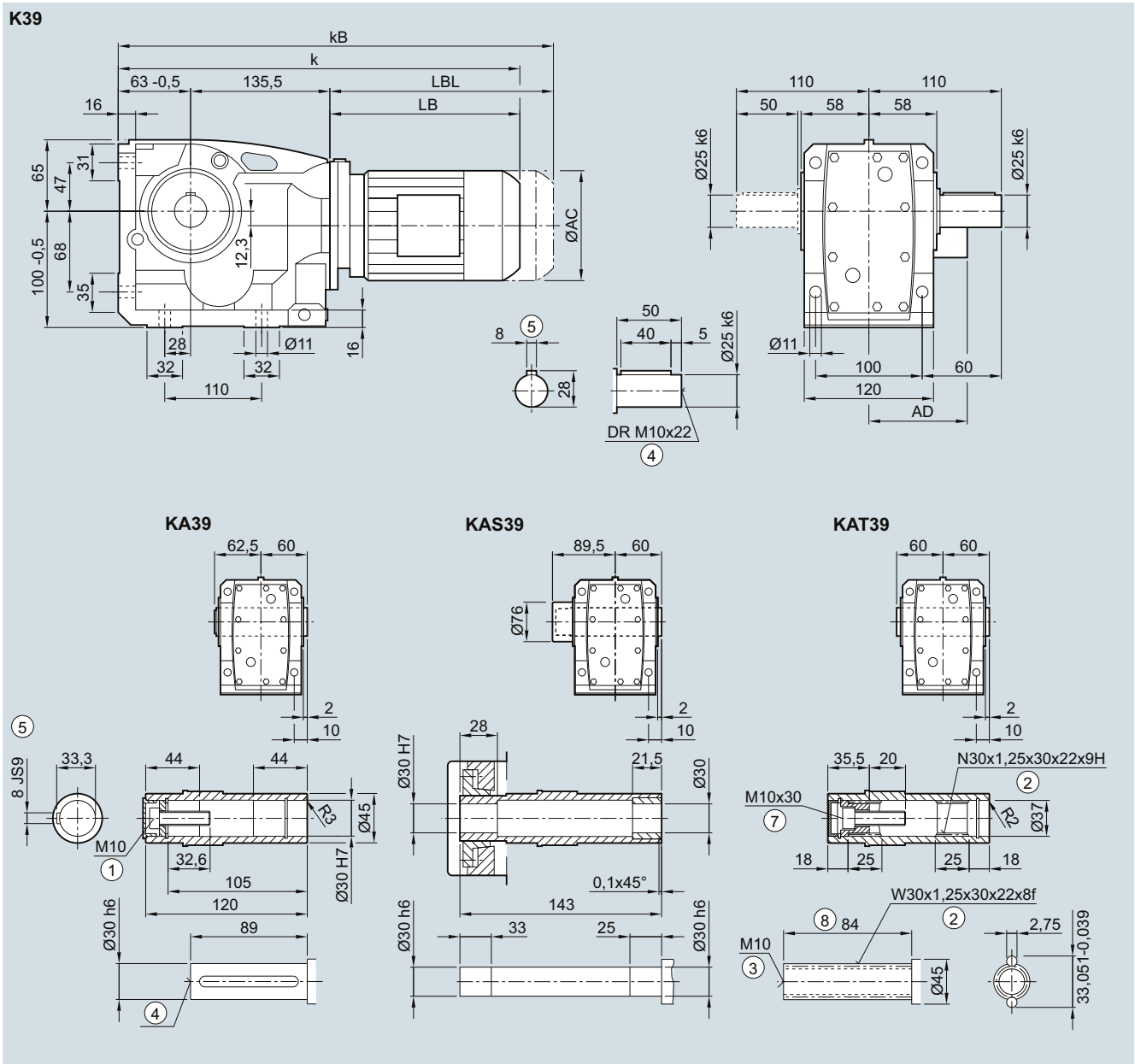
⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

⑩ Use bores only for foot-mounted design

**K..39 gearbox in a foot-mounted design**

**K030, KA030, KAS030, KAT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	392.0	424.0	443.0	488.0	523.0	549.5	589.5	606.0	641.0	616.0	641.0
kB	436.5	479.0	498.0	548.0	583.0	619.5	659.5	654.5	719.5	689.0	714.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

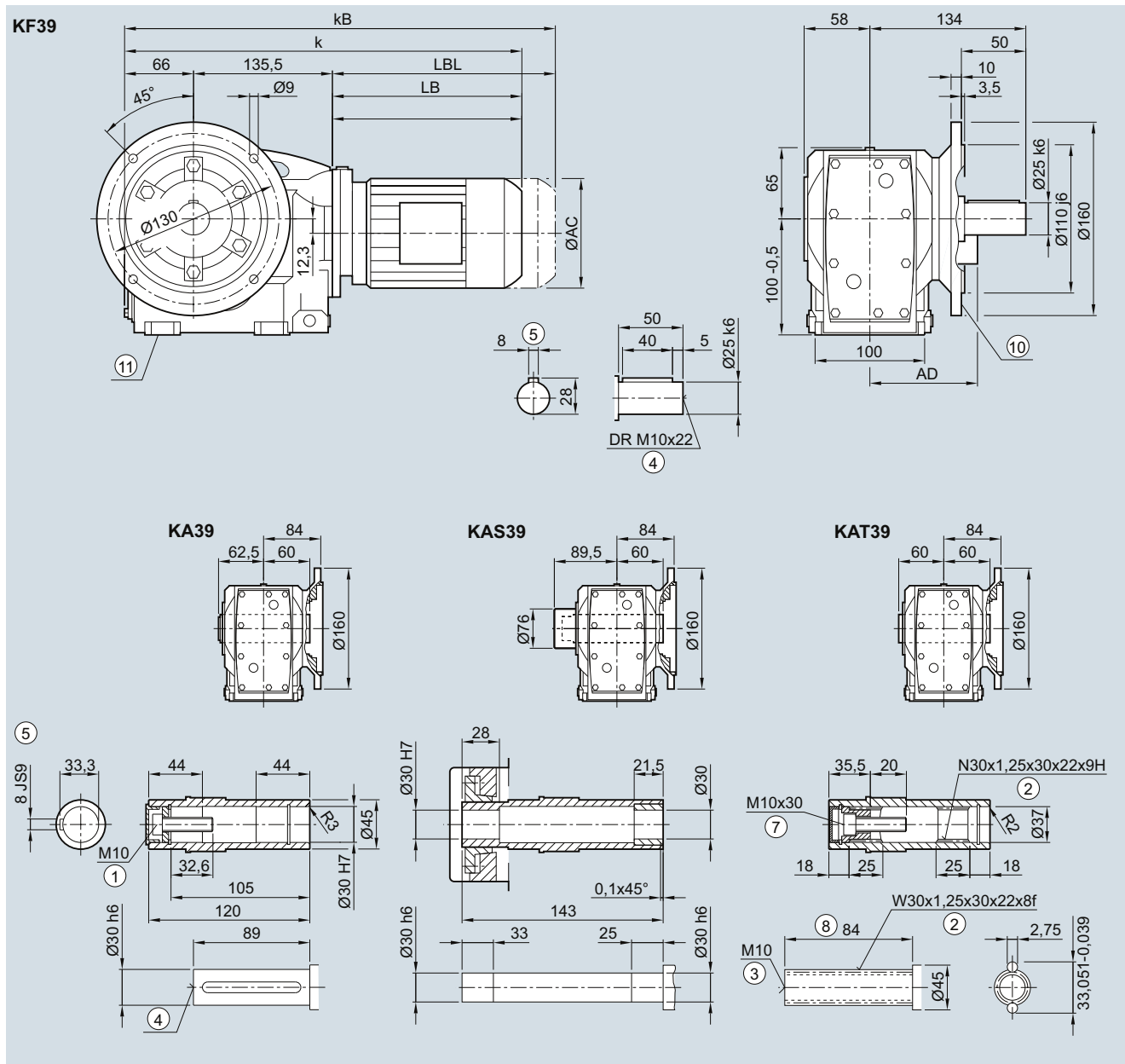
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.F.39 gearbox in a flange-mounted design

KF030, KAF030, KAFS030, KAFT030



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	395.0	427.0	446.0	491.0	526.0	552.5	592.5	609.0	644.0	619.0	644.0
kB	439.5	482.0	501.0	551.0	586.0	622.5	662.5	687.5	722.5	692.0	717.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

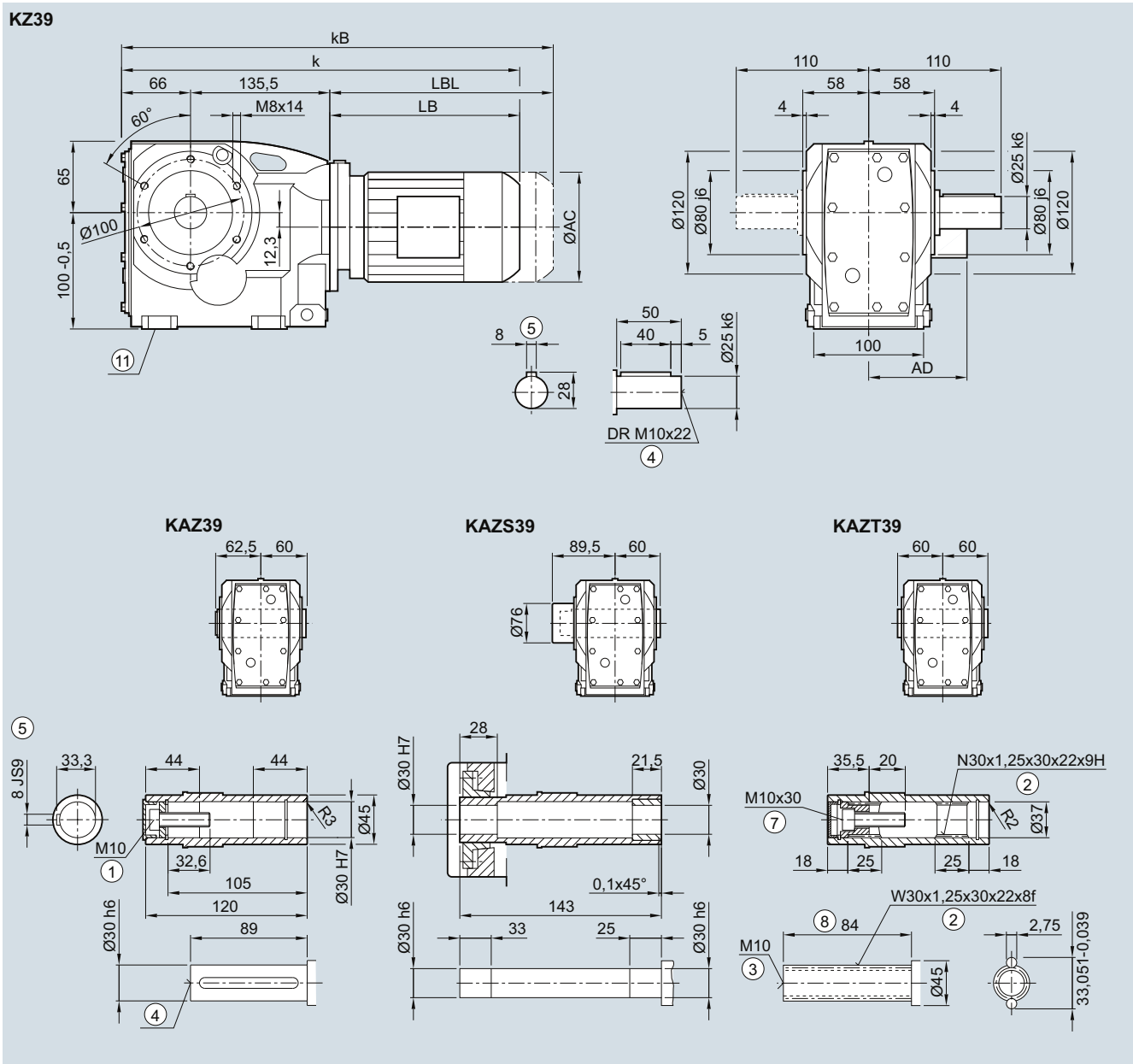
⑨ For inner contour see page 5/141

⑩ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**K.Z.39 gearbox in a housing flange design**

**KZ030, KAZ030, KAZS030, KAZT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	395.0	427.0	446.0	491.0	526.0	552.5	592.5	609.0	644.0	619.0	644.0
kB	439.5	482.0	501.0	551.0	586.0	622.5	662.5	677.5	722.5	692.0	717.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.



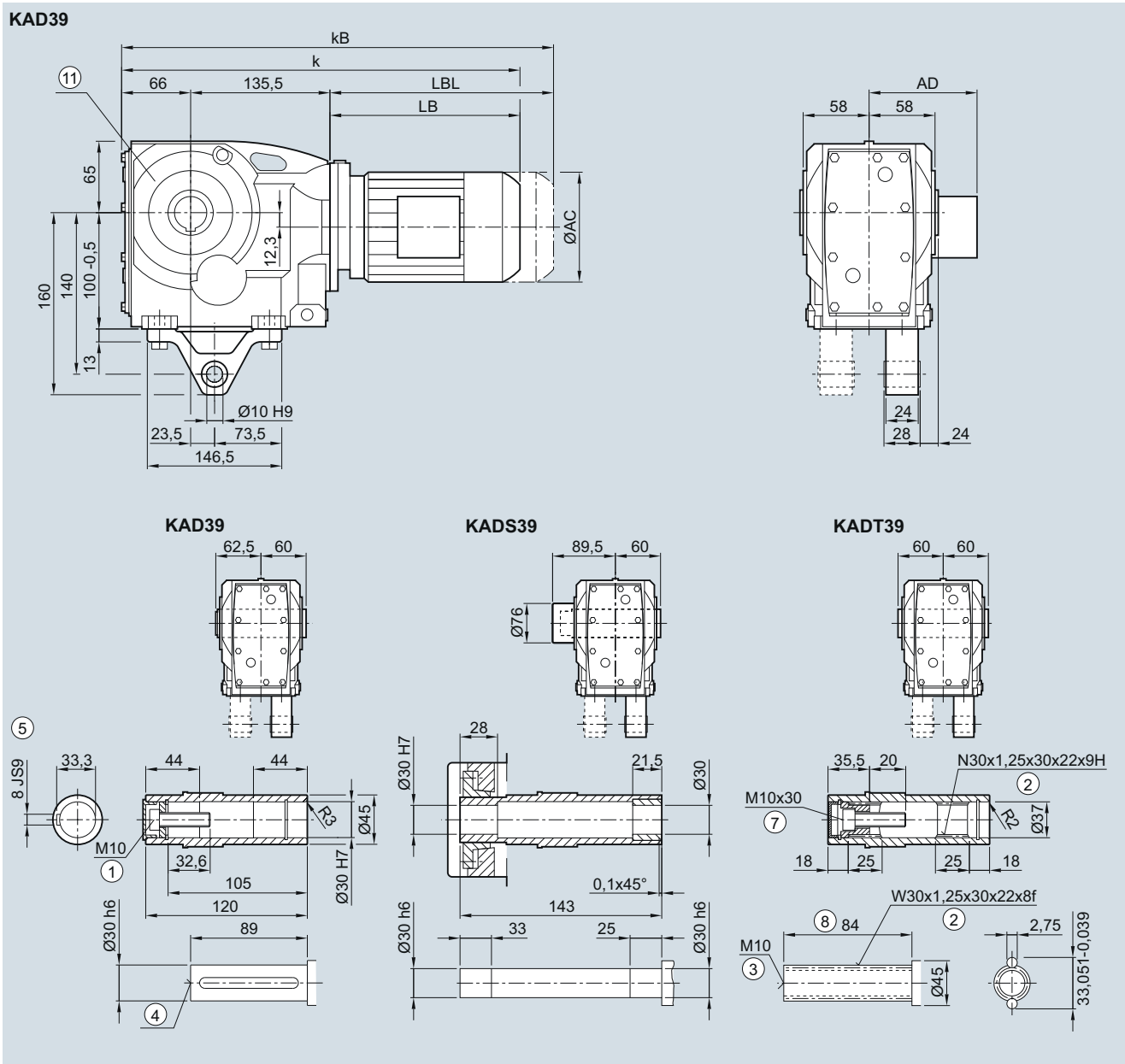
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### KAD.39 gearbox in a shaft-mounted design

KAD031, KADS031, KADT031

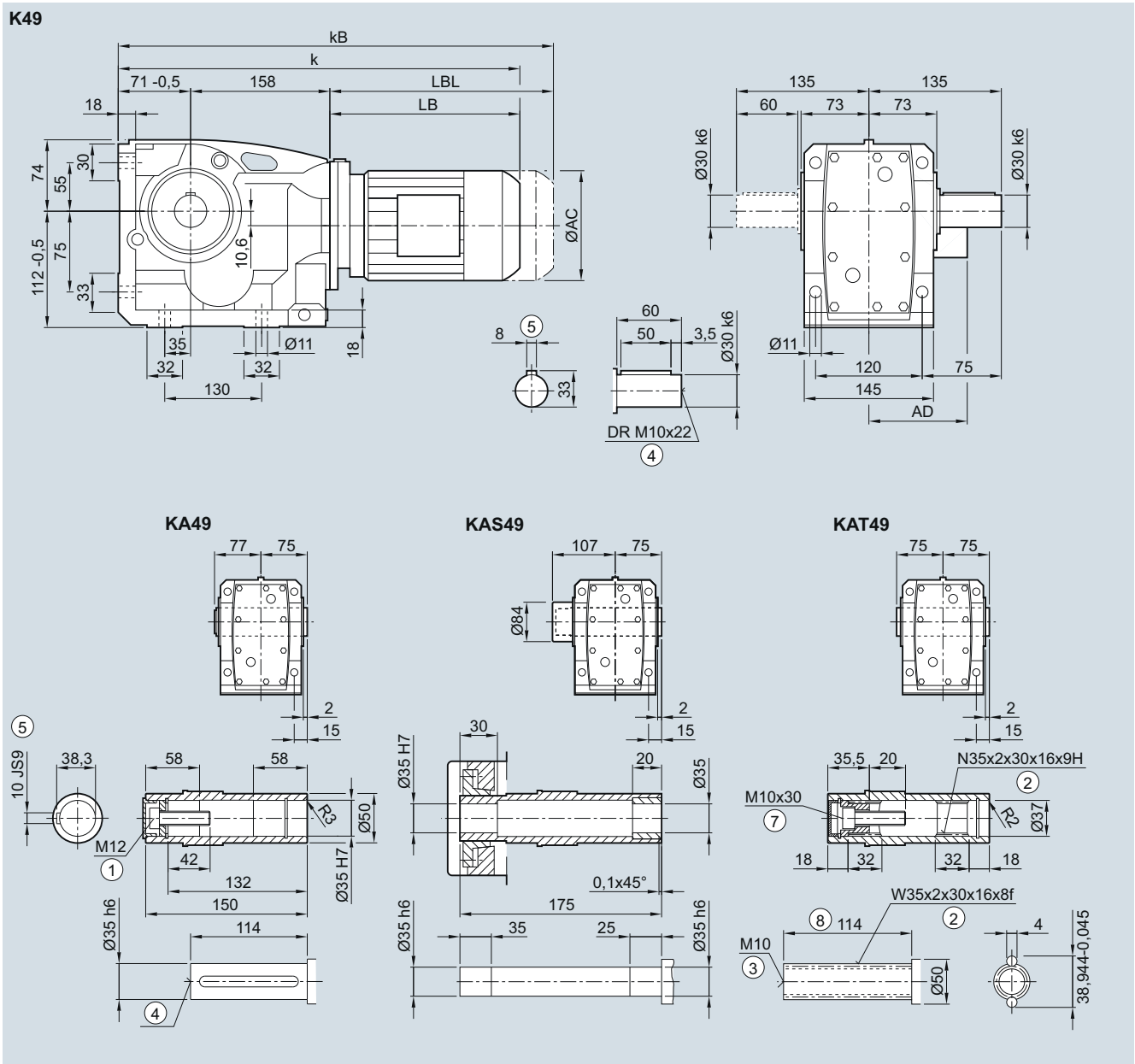


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	395.0	427.0	446.0	491.0	526.0	552.5	592.5	609.0	644.0	619.0	644.0
kB	439.5	482.0	501.0	551.0	586.0	622.5	662.5	677.5	722.5	692.0	717.0
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0	418.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5	491.0	516.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for housing flange design 1) AD depends on the motor options, for other dimensions see page 8/42.

**K..49 gearbox in a foot-mounted design**

**K030, KA030, KAS030, KAT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	413.5	445.5	464.5	509.5	544.5	571.0	611.0	627.5	662.5	637.5	672.0	690.5	740.5
kB	458.0	500.5	519.5	569.5	604.5	641.0	681.0	706.0	741.0	710.5	745.0	795.0	845.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

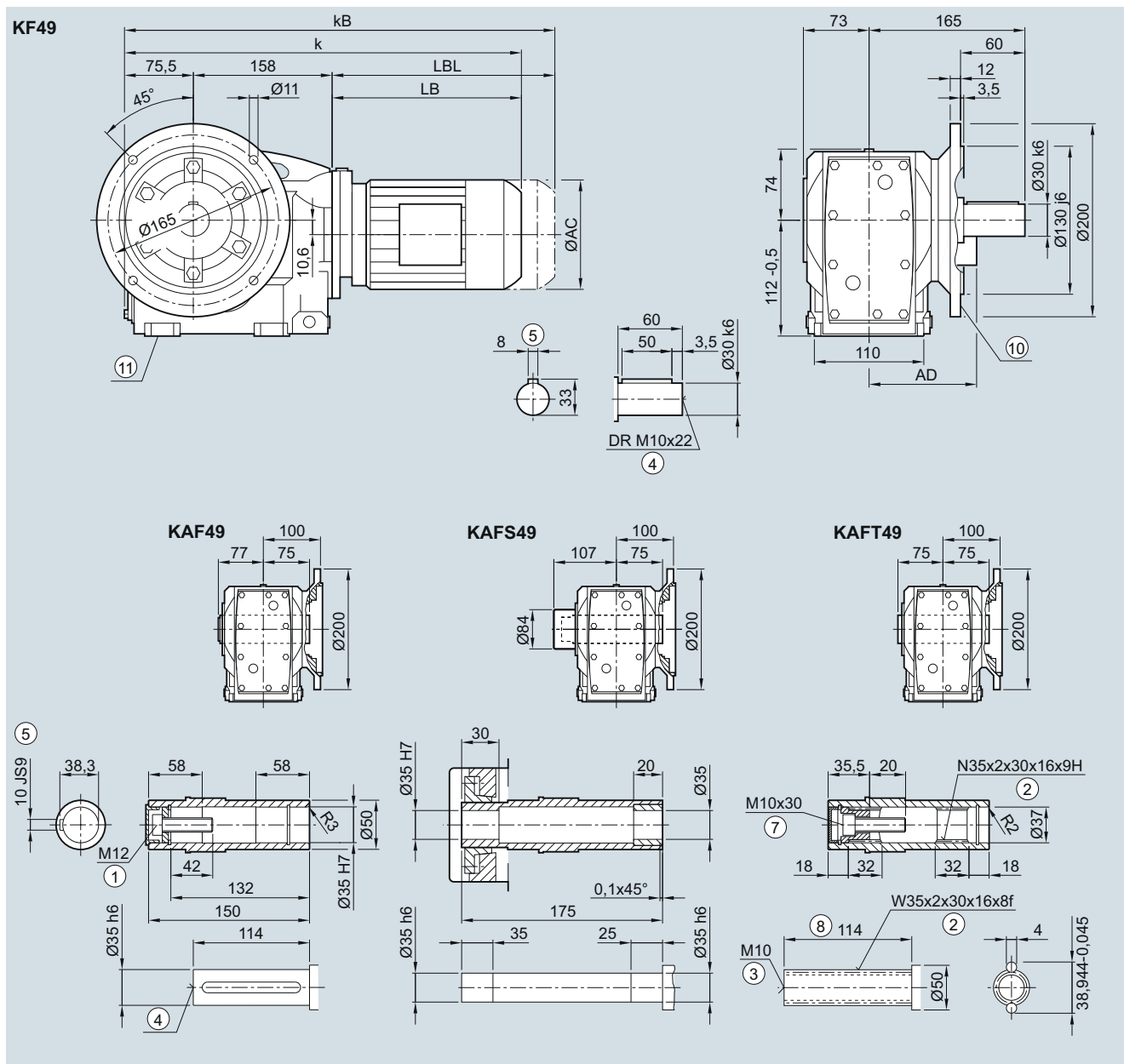
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.F.49 gearbox in a flange-mounted design

KF030, KAF030, KAFS030, KAFT030



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	418.0	450.0	469.0	514.0	549.0	575.5	615.5	632.0	667.0	642.0	676.5	695.0	745.0
kB	462.5	505.0	524.0	574.0	609.0	645.5	685.5	710.5	745.5	715.0	749.5	799.5	849.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

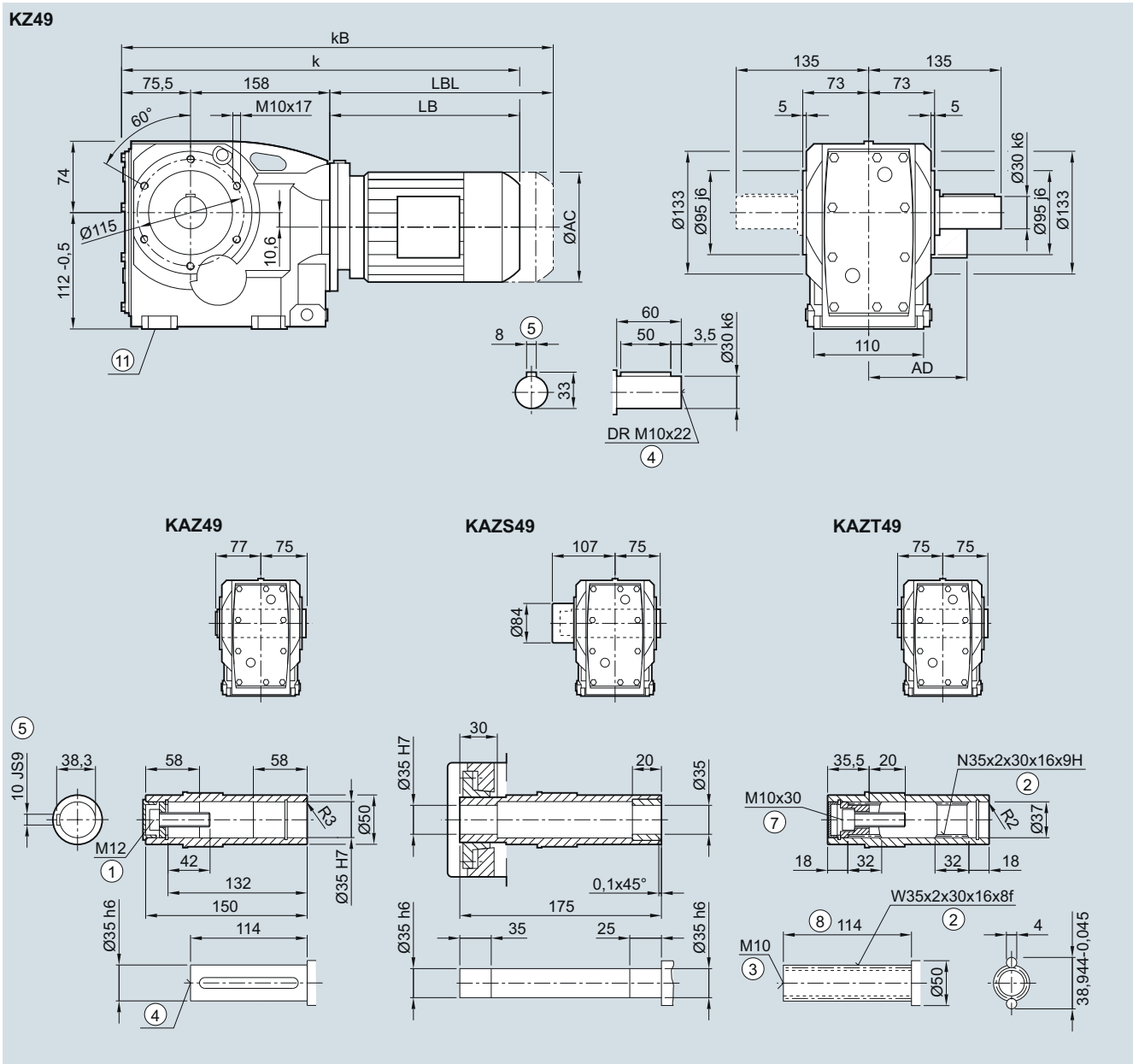
⑨ For inner contour see page 5/141

⑩ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**K.Z.49 gearbox in a housing flange design**

**KZ030, KAZ030, KAZS030, KAZT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	418.0	450.0	469.0	514.0	549.0	575.5	615.5	632.0	667.0	642.0	676.5	695.0	745.0
kB	462.5	505.0	524.0	574.0	609.0	645.5	685.5	710.5	745.5	715.0	749.5	799.5	849.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.

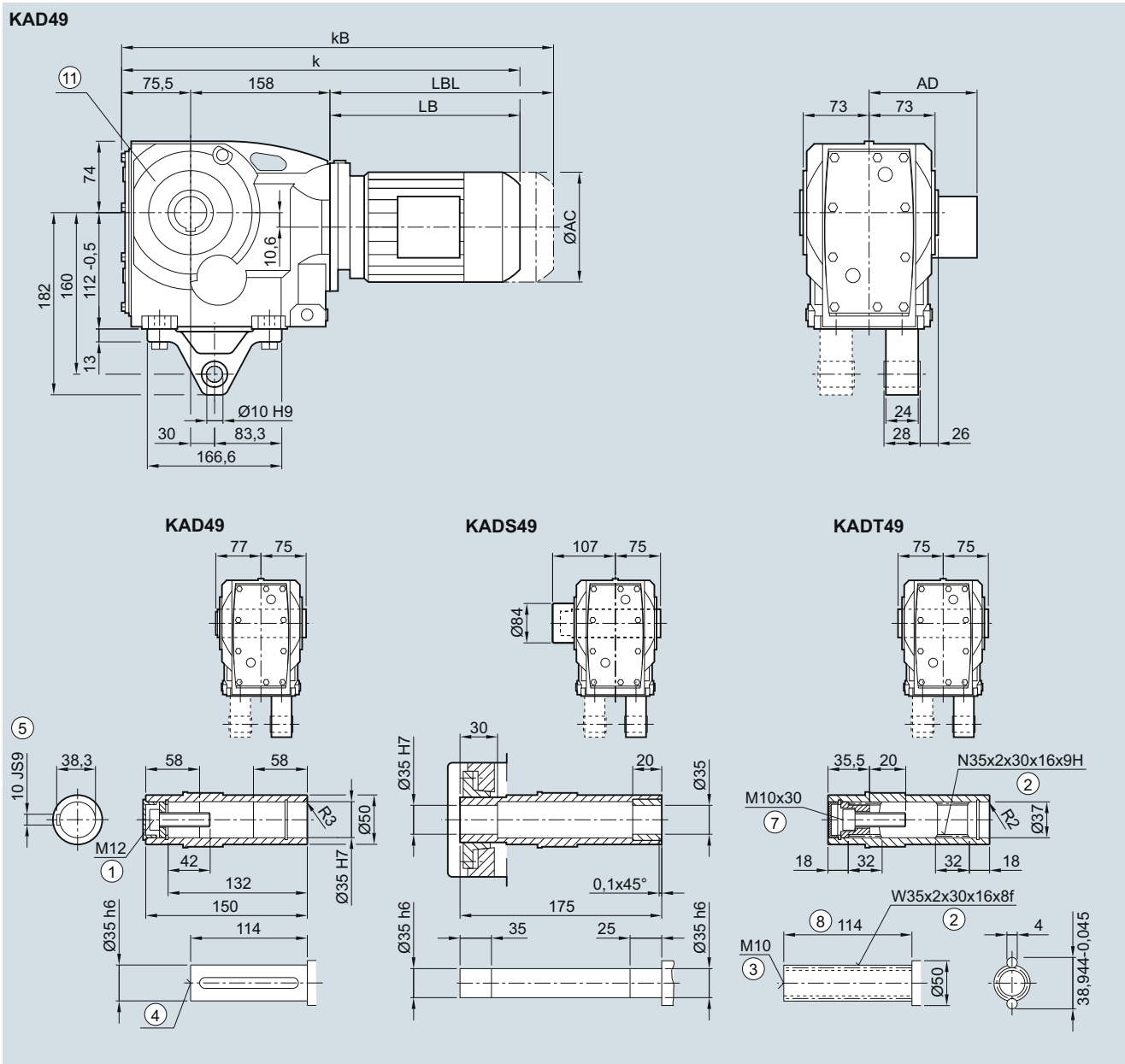
# SIMOGEAR geared motors

Bevel geared motors

## Dimensions

### KAD.49 gearbox in a shaft-mounted design

KAD031, KADS031, KADT031

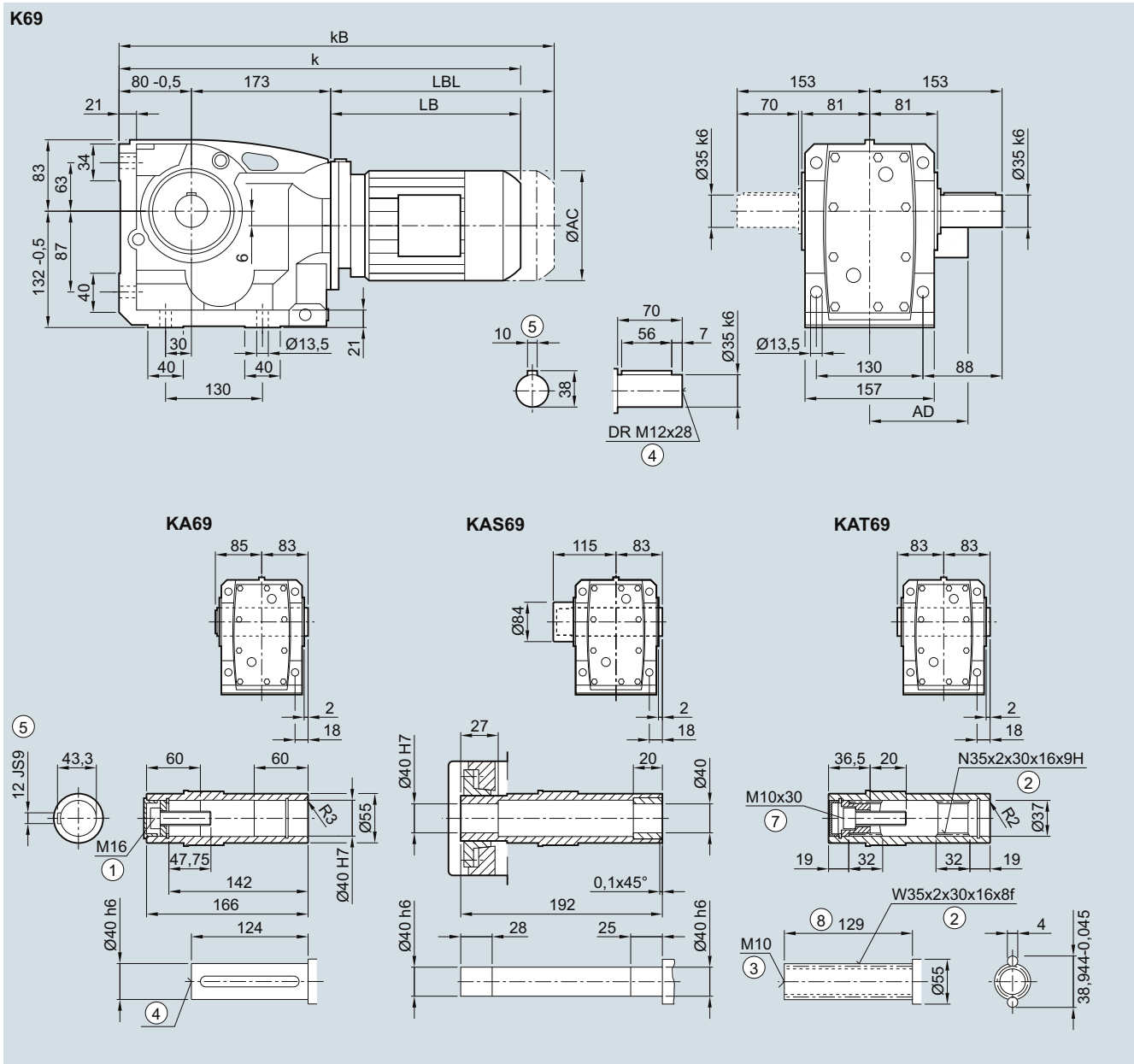


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	418.0	450.0	469.0	514.0	549.0	575.5	615.5	632.0	667.0	642.0	676.5	695.0	745.0
kB	462.5	505.0	524.0	574.0	609.0	645.5	685.5	710.5	745.5	715.0	749.5	799.5	849.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑥ ISO 4762 ⑦ Without locating shoulder +1 mm  
 ⑧ Use bores only for housing flange design ⑨ AD depends on the motor options, for other dimensions see page 8/42.

**K..69 gearbox in a foot-mounted design**

**K030, KA030, KAS030, KAT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	437.5	469.5	488.5	533.5	568.5	595.0	635.0	651.5	686.5	661.5	696.0	714.5	764.5
kB	482.0	524.5	543.5	593.5	628.5	665.0	705.0	730.0	765.0	734.5	769.0	819.0	869.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm  
 1) AD depends on the motor options, for other dimensions see page 8/42.

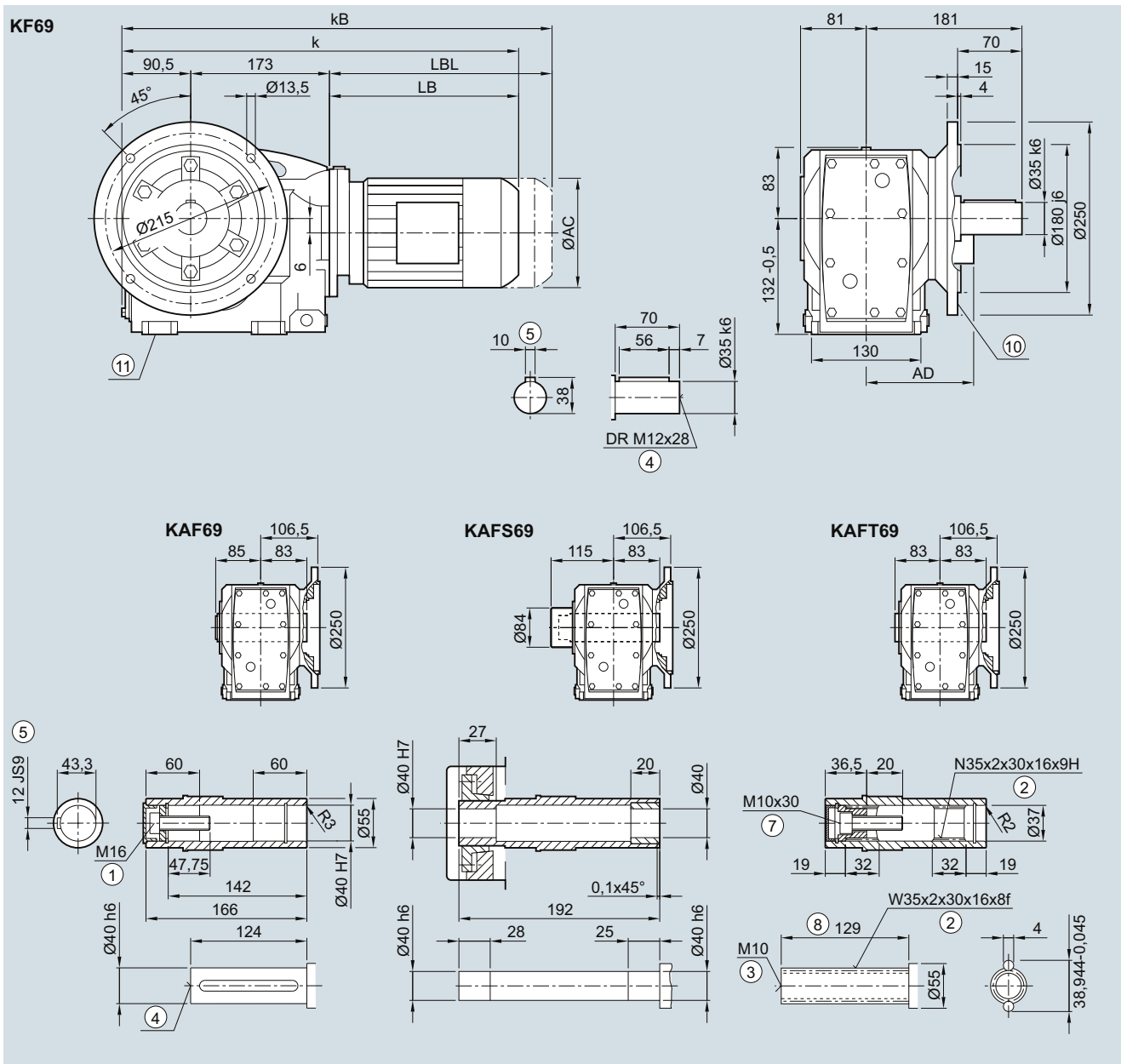
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.F.69 gearbox in a flange-mounted design

KF030, KAF030, KAFS030, KAFT030



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	448.0	480.0	499.0	544.0	579.0	605.5	645.5	662.0	697.0	672.0	706.5	725.0	775.0
kB	492.5	535.0	554.0	604.0	639.0	675.5	715.5	740.5	775.5	745.0	779.5	829.5	879.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

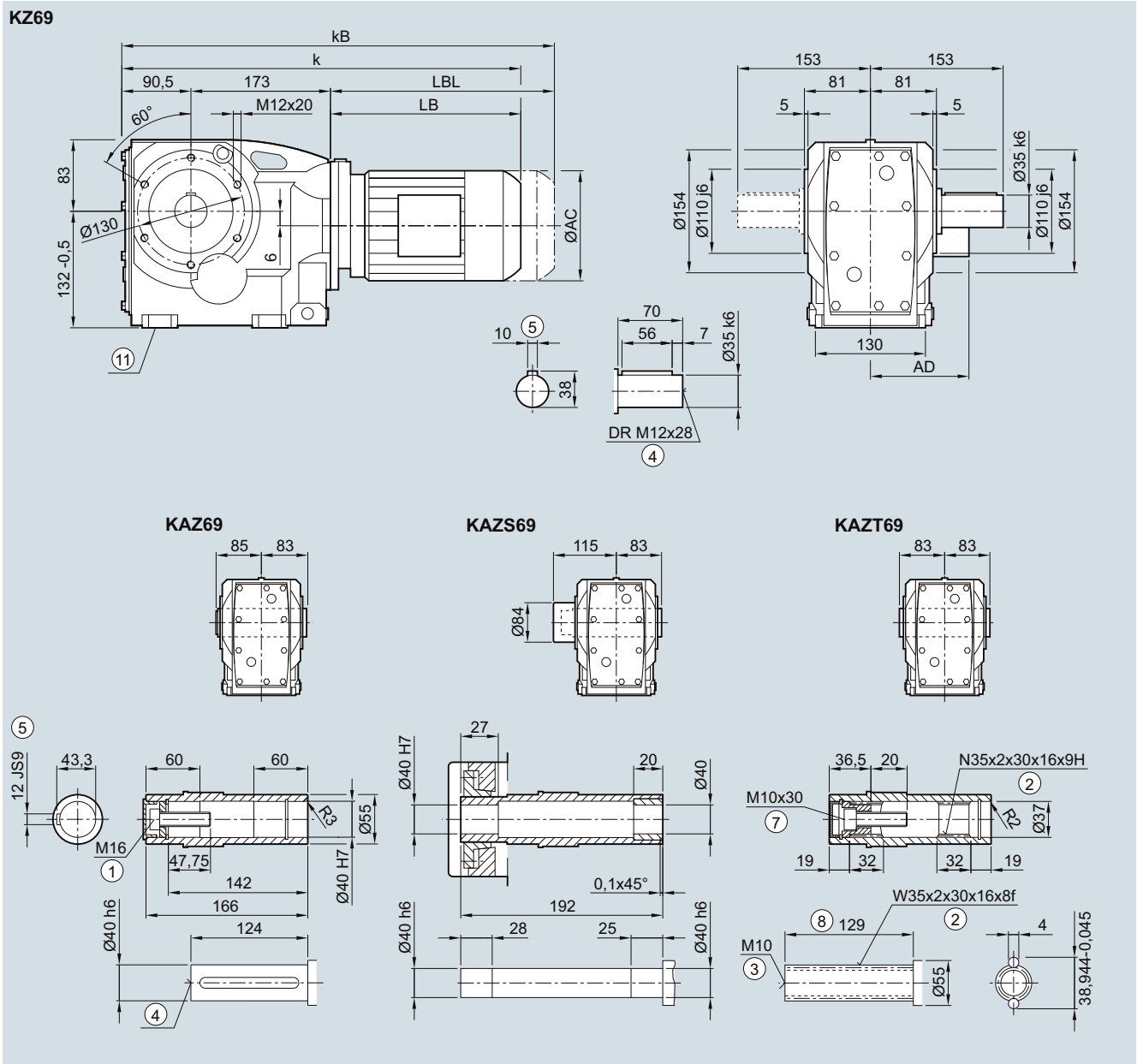
⑩ For inner contour see page 5/141

⑪ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**K.Z.69 gearbox in a housing flange design**

**KZ030, KAZ030, KAZS030, KAZT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	448.0	480.0	499.0	544.0	579.0	605.5	645.5	662.0	697.0	672.0	706.5	725.0	775.0
kB	492.5	535.0	554.0	604.0	639.0	675.5	715.5	740.5	775.5	745.0	779.5	829.5	879.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.



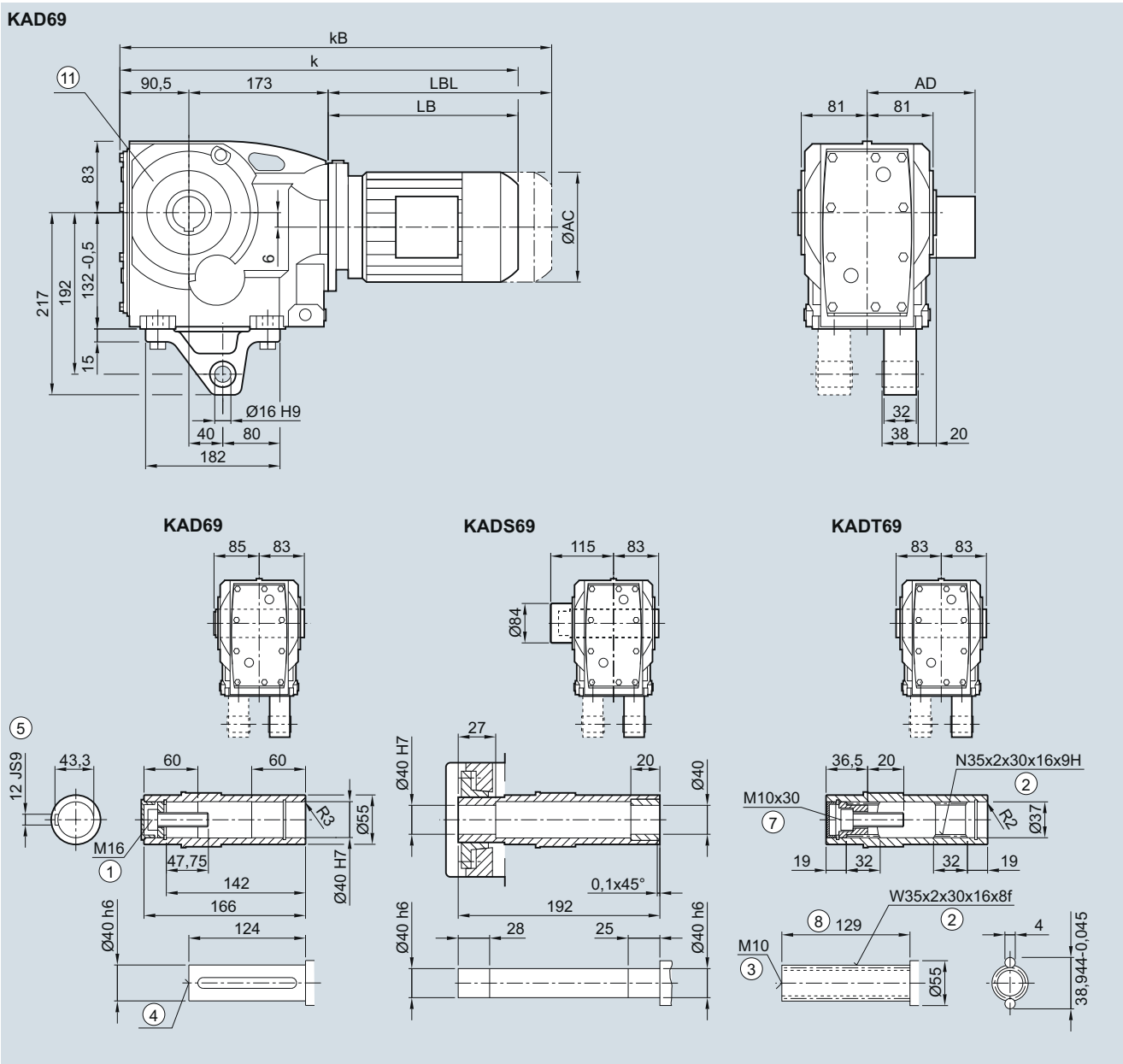
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### KAD.69 gearbox in a shaft-mounted design

KAD030, KADS030, KADT030



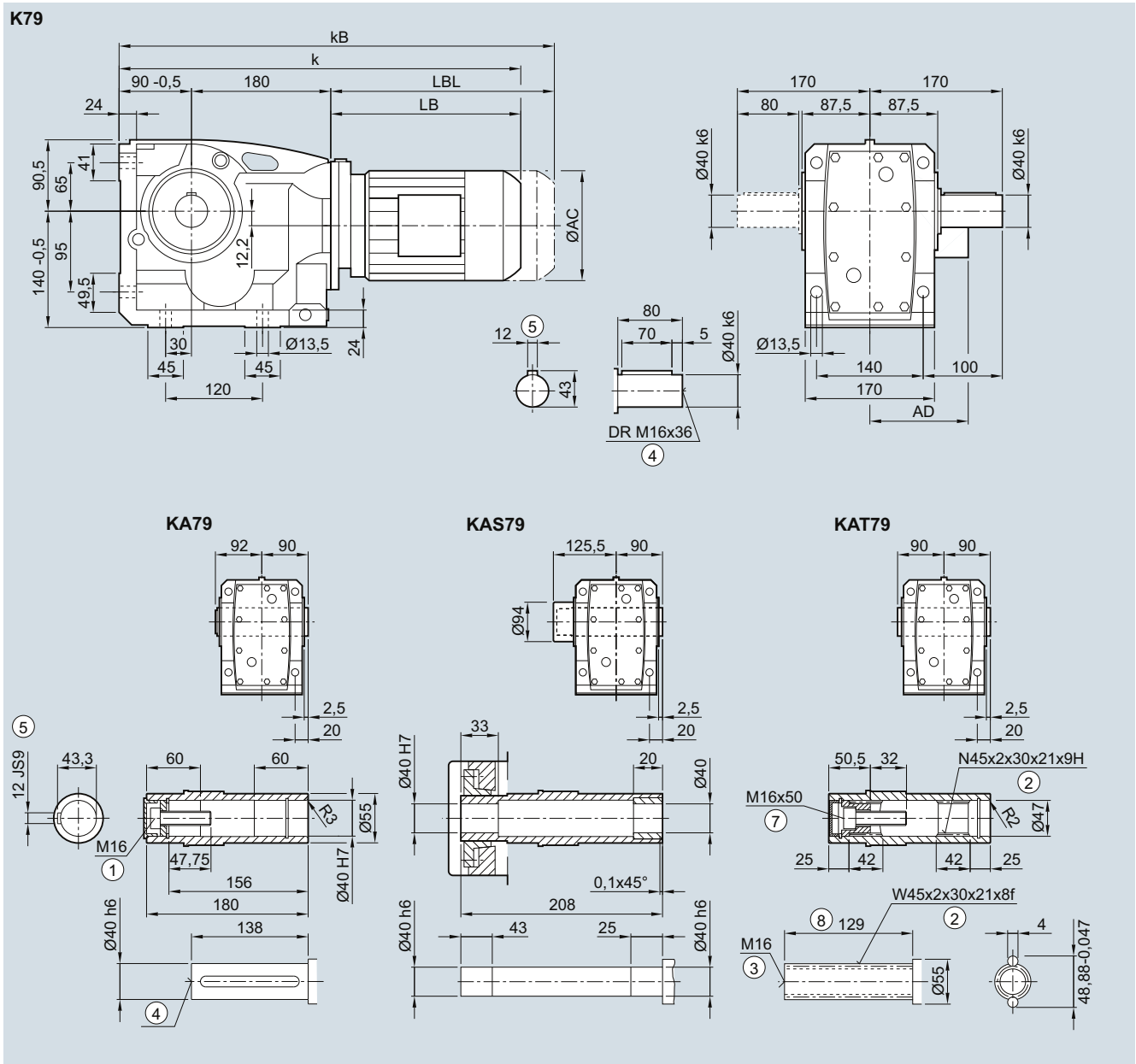
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	448.0	480.0	499.0	544.0	579.0	605.5	645.5	662.0	697.0	672.0	706.5	725.0	775.0
kB	492.5	535.0	554.0	604.0	639.0	675.5	715.5	740.5	775.5	745.0	779.5	829.5	879.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑥ ISO 4762 ⑦ Without locating shoulder +1 mm  
 ⑧ Use bores only for housing flange design ⑨ AD depends on the motor options, for other dimensions see page 8/42.

5

**K..79 gearbox in a foot-mounted design**

**K030, KA030, KAS030, KAT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	454.5	486.5	505.5	550.5	585.5	612.0	652.0	668.5	703.5	678.5	713.0	731.5	781.5
kB	499.0	541.5	560.5	610.5	645.5	682.0	722.0	747.0	782.0	751.5	786.0	836.0	886.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

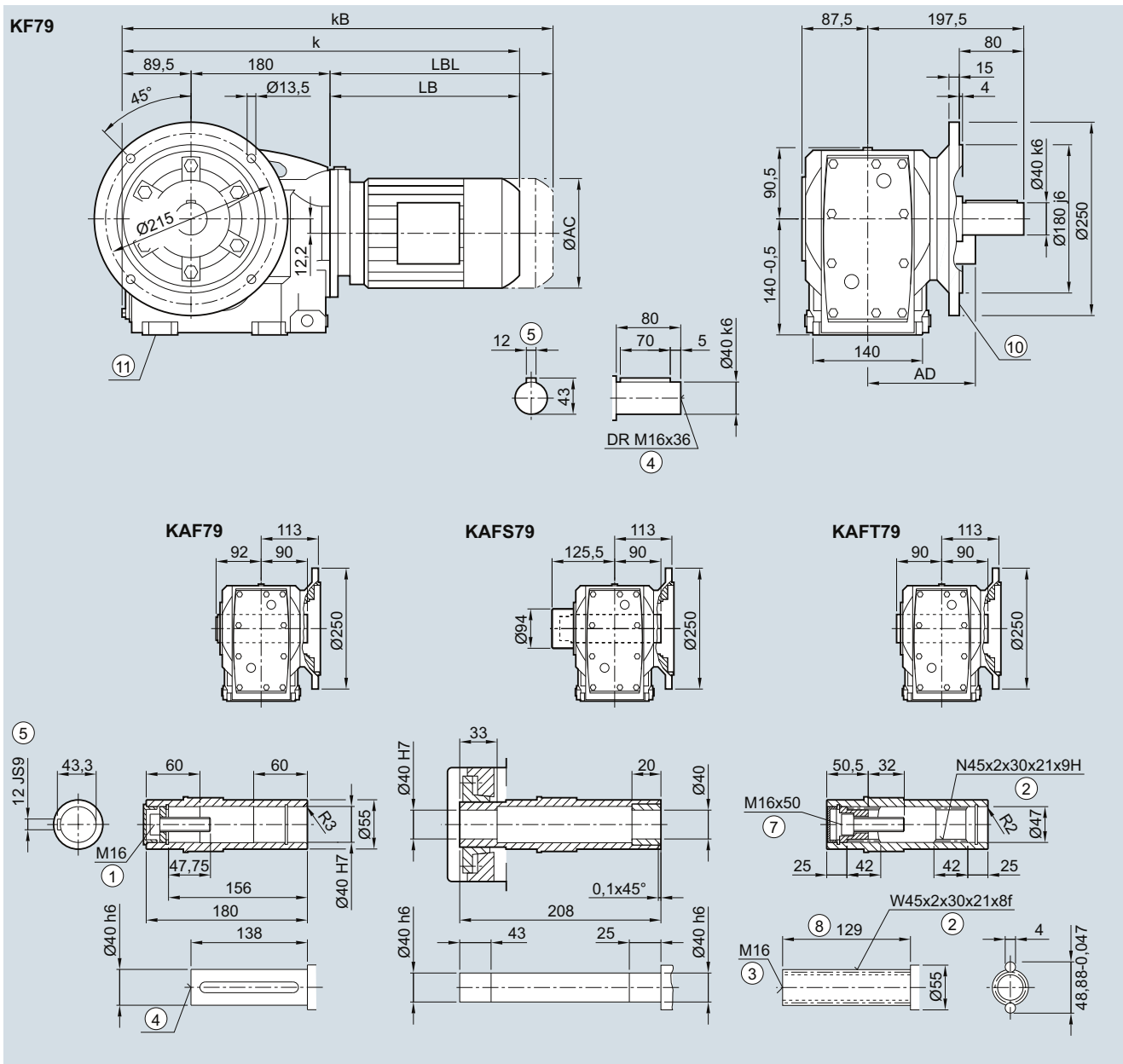
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.F.79 gearbox in a flange-mounted design

KF030, KAF030, KAFS030, KAFT030



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	454.0	486.0	505.0	550.0	585.0	611.5	651.5	668.0	703.0	678.5	712.5	731.0	781.0
kB	498.5	541.0	560.0	610.0	645.0	681.5	721.5	746.5	781.5	751.0	785.5	835.5	885.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm

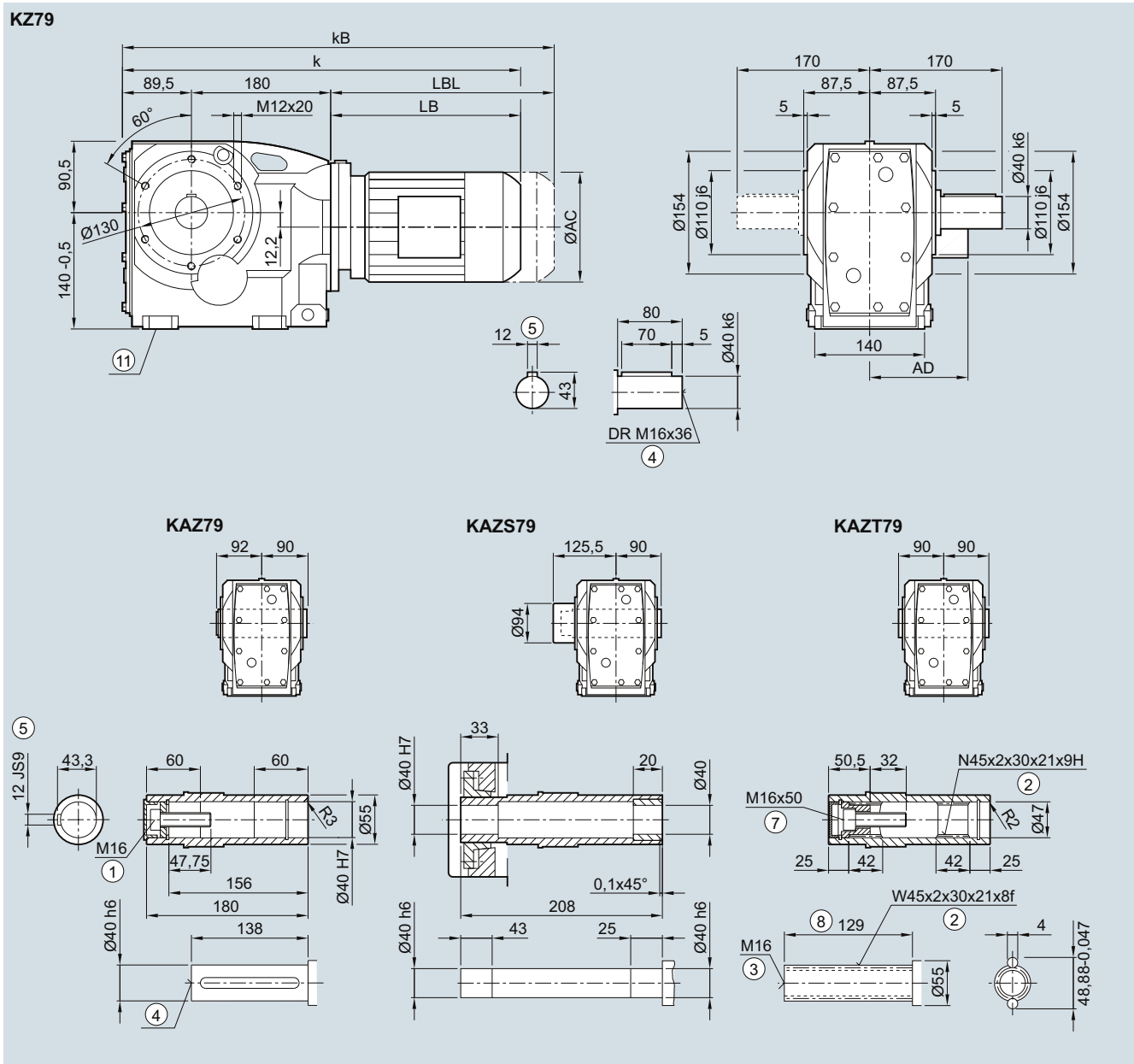
⑩ For inner contour see page 5/141

⑪ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**K.Z.79 gearbox in a housing flange design**

**KZ030, KAZ030, KAZS030, KAZT030**



Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	454.0	486.0	505.0	550.0	585.0	611.5	651.5	668.0	703.0	678.5	712.5	731.0	781.0
kB	498.5	541.0	560.0	610.0	645.0	681.5	721.5	746.5	781.5	751.0	785.5	835.5	885.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.

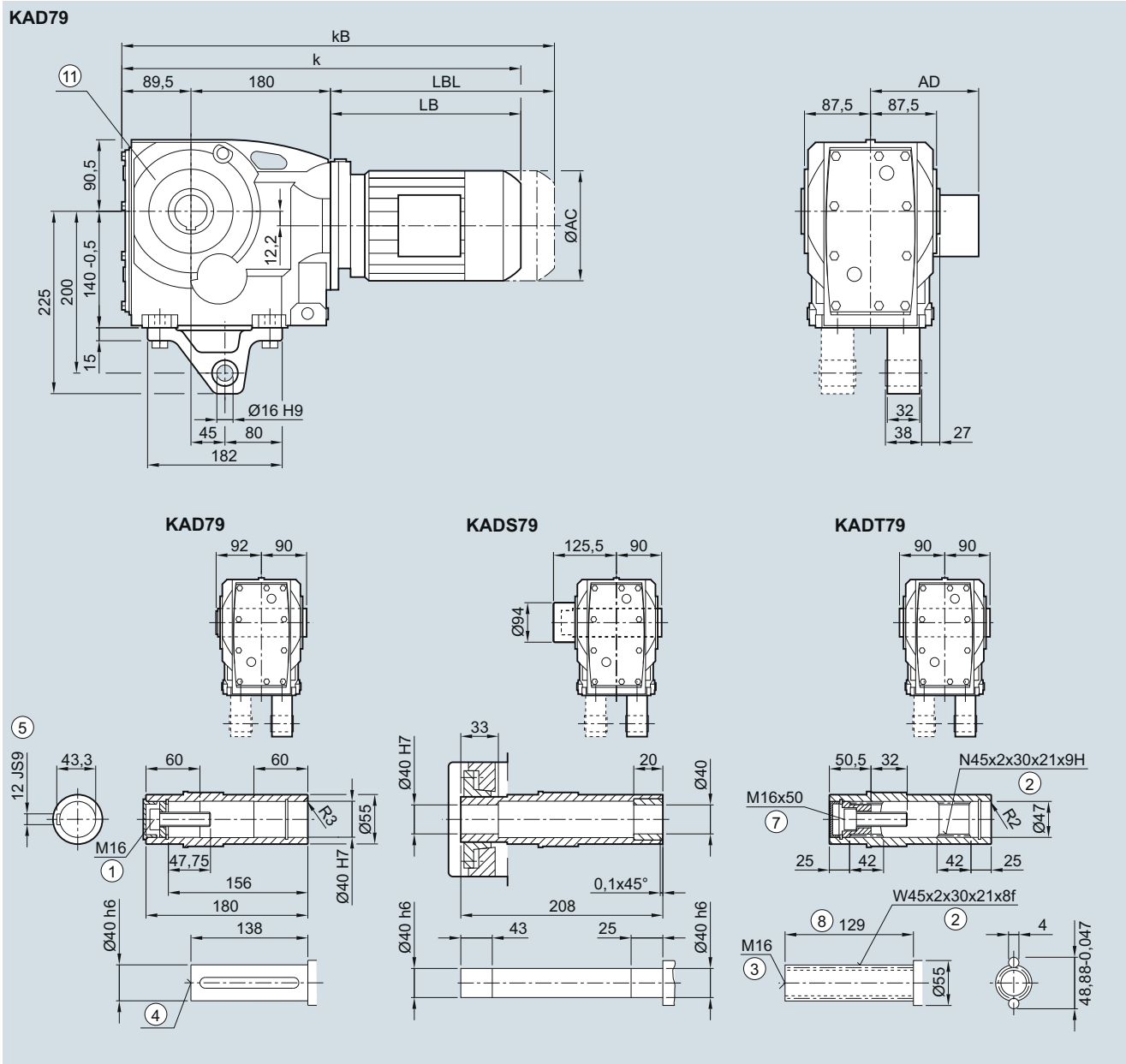
**SIMOGEAR geared motors**

## Bevel geared motors

## Dimensions

**KAD.79 gearbox in a shaft-mounted design**

KAD030, KADS030, KADT030

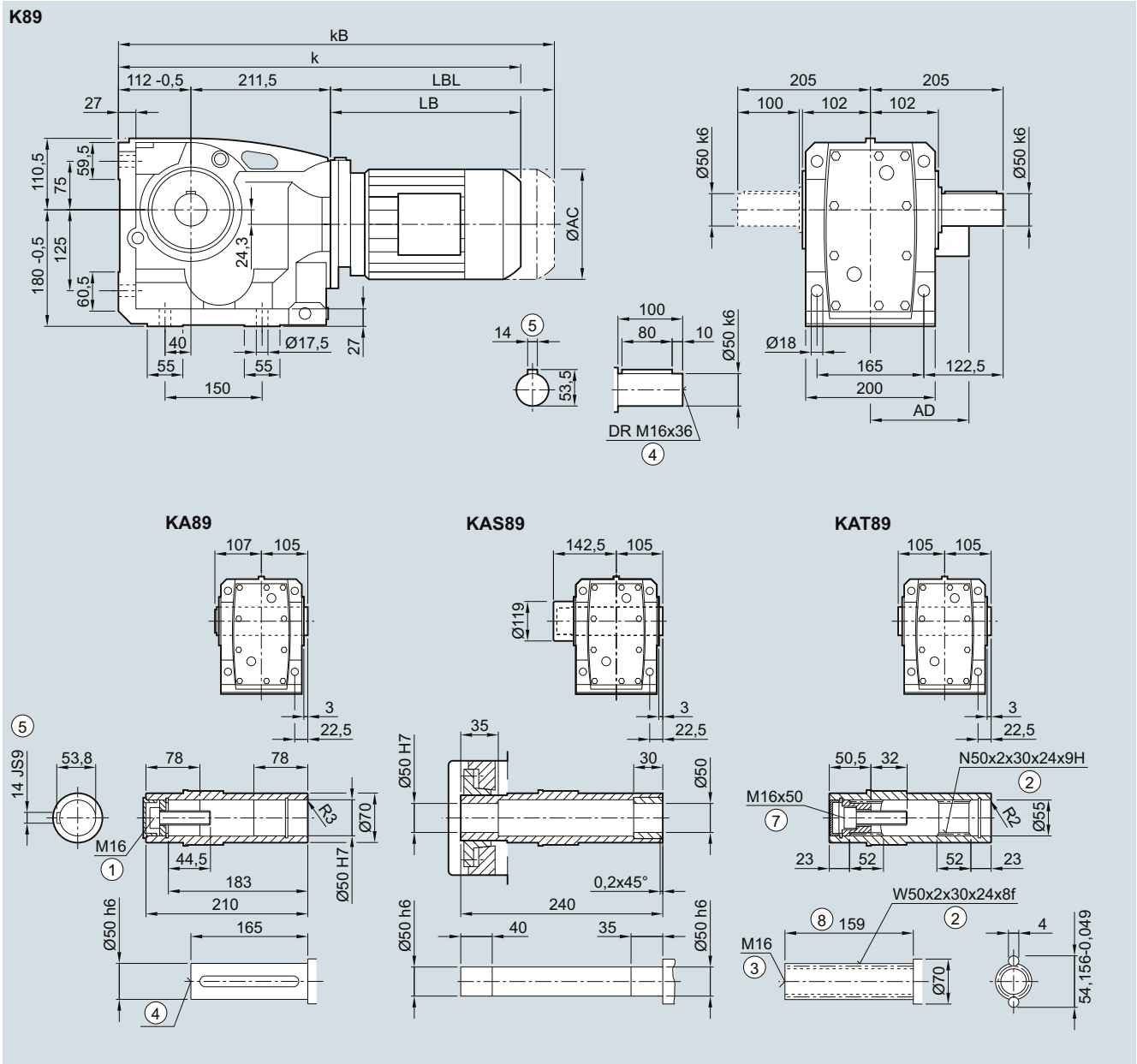


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	454.0	486.0	505.0	550.0	585.0	611.5	651.5	668.0	703.0	678.5	712.5	731.0	781.0
kB	498.5	541.0	560.0	610.0	645.0	681.5	721.5	746.5	781.5	751.0	785.5	835.5	885.5
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for housing flange design    1) AD depends on the motor options, for other dimensions see page 8/42.

**K..89 gearbox in a foot-mounted design**

**K030, KA030, KAS030, KAT030**



Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	538.0	557.0	598.0	633.0	669.5	699.5	716.0	751.0	726.0	751.0	779.0	829.0	861.0	921.0
kB	593.0	612.0	658.0	693.0	729.5	769.5	794.5	829.5	824.0	824.0	883.5	933.5	977.0	1 037.0
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

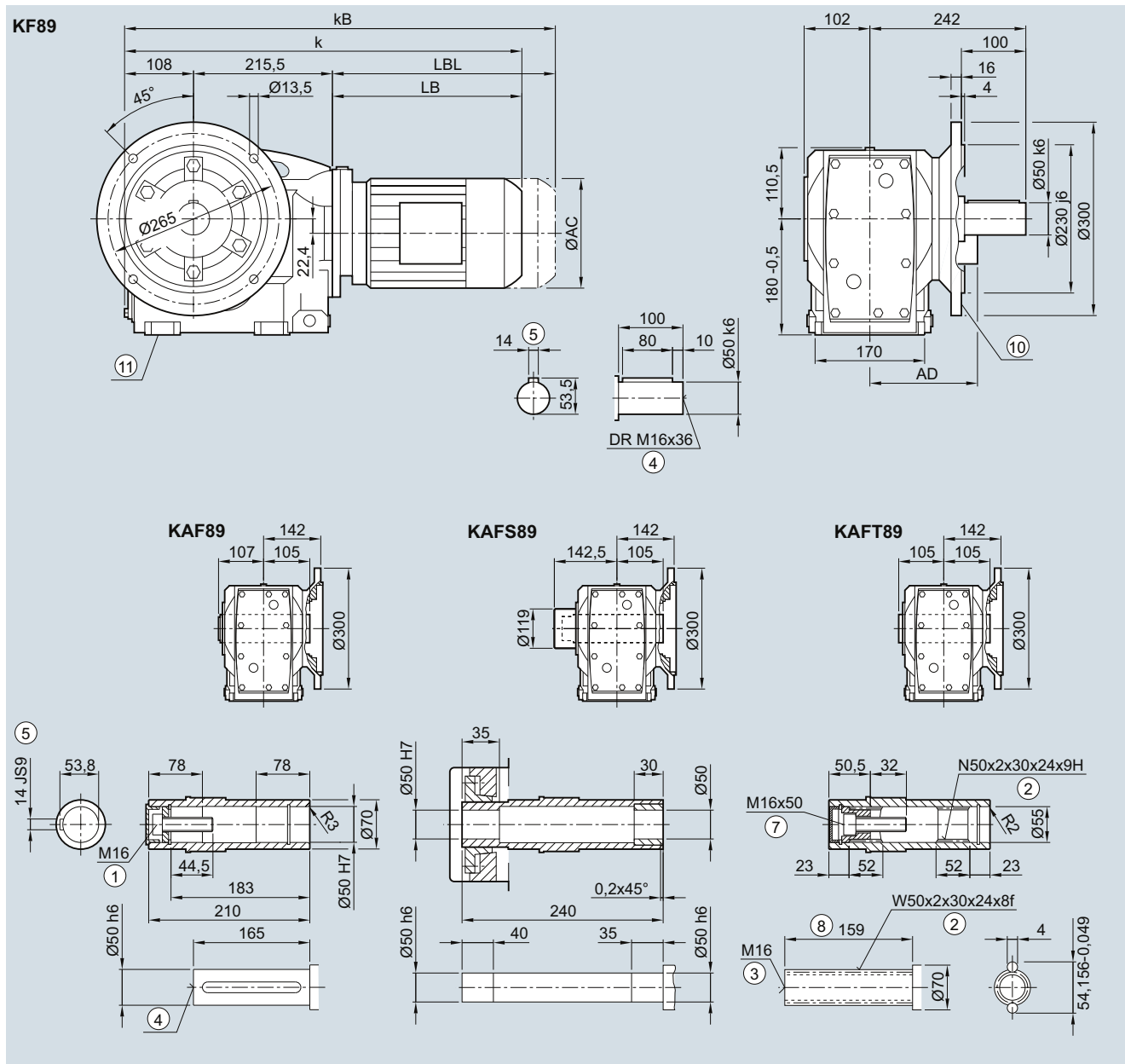
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.F.89 gearbox in a flange-mounted design

KF030, KAF030, KAFS030, KAFT030



Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	538.0	557.0	598.0	633.0	659.5	699.5	716.0	751.0	726.0	751.0	779.0	829.0	861.0	921.0
kB	593.0	612.0	658.0	693.0	729.5	769.5	794.5	829.5	799.0	824.0	883.5	933.5	977.0	1 037.0
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

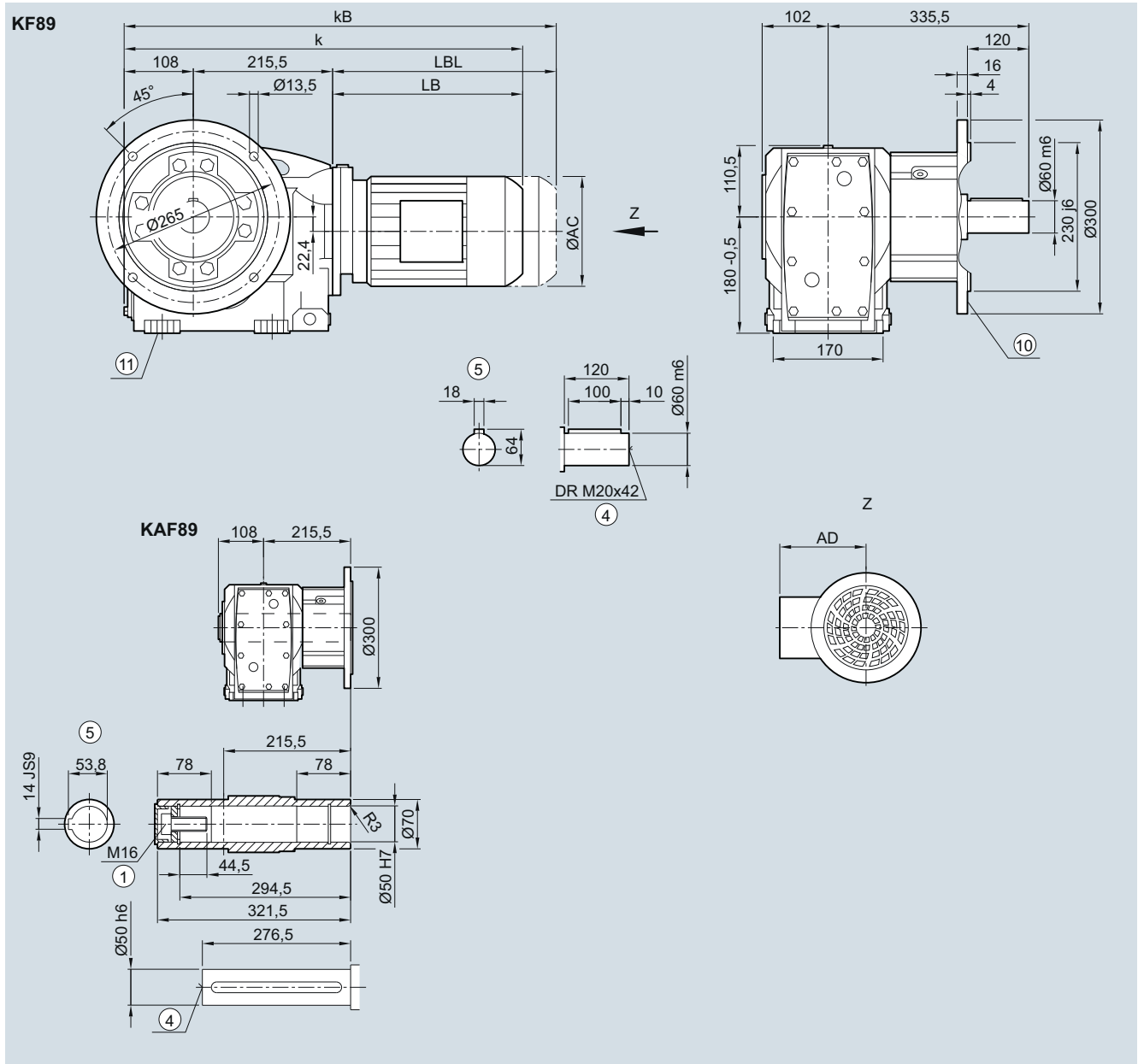
⑩ For inner contour see page 5/141

⑪ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**K.F.89 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)**

**KF040, KAF040**



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Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	538.0	557.0	598.0	633.0	659.5	699.5	716.0	751.0	726.0	751.0	779.0	829.0	861.0	921.0
kB	593.0	612.0	658.0	693.0	729.5	769.5	794.5	829.5	795.0	824.0	883.5	933.5	977.0	1 037.0
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

① ISO 4014    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1

⑥ Use bores only for foot-mounted design

⑦ For inner contour see page 5/141

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.



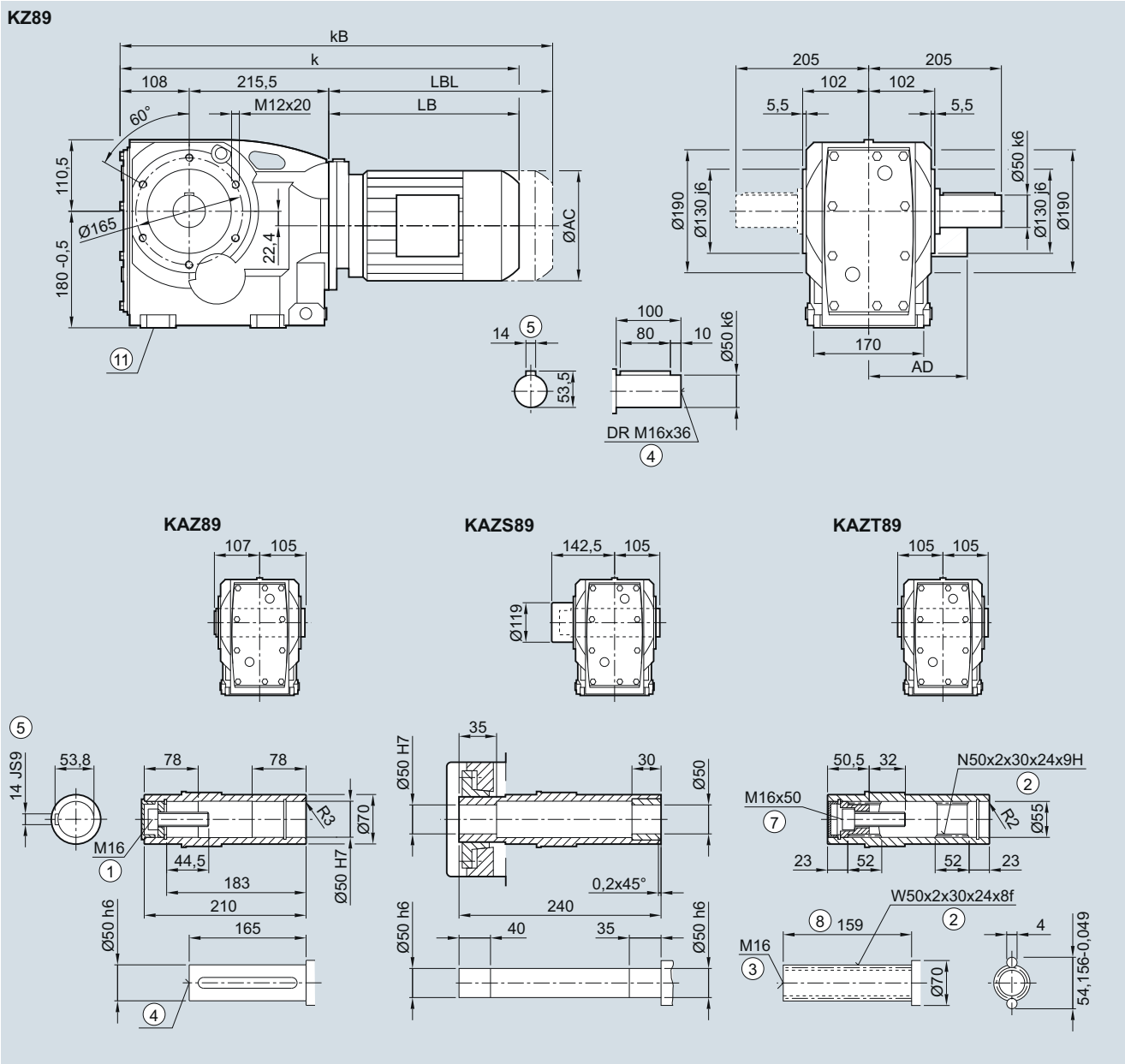
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.Z.89 gearbox in a housing flange design

KZ030, KAZ030, KAZS030, KAZT030

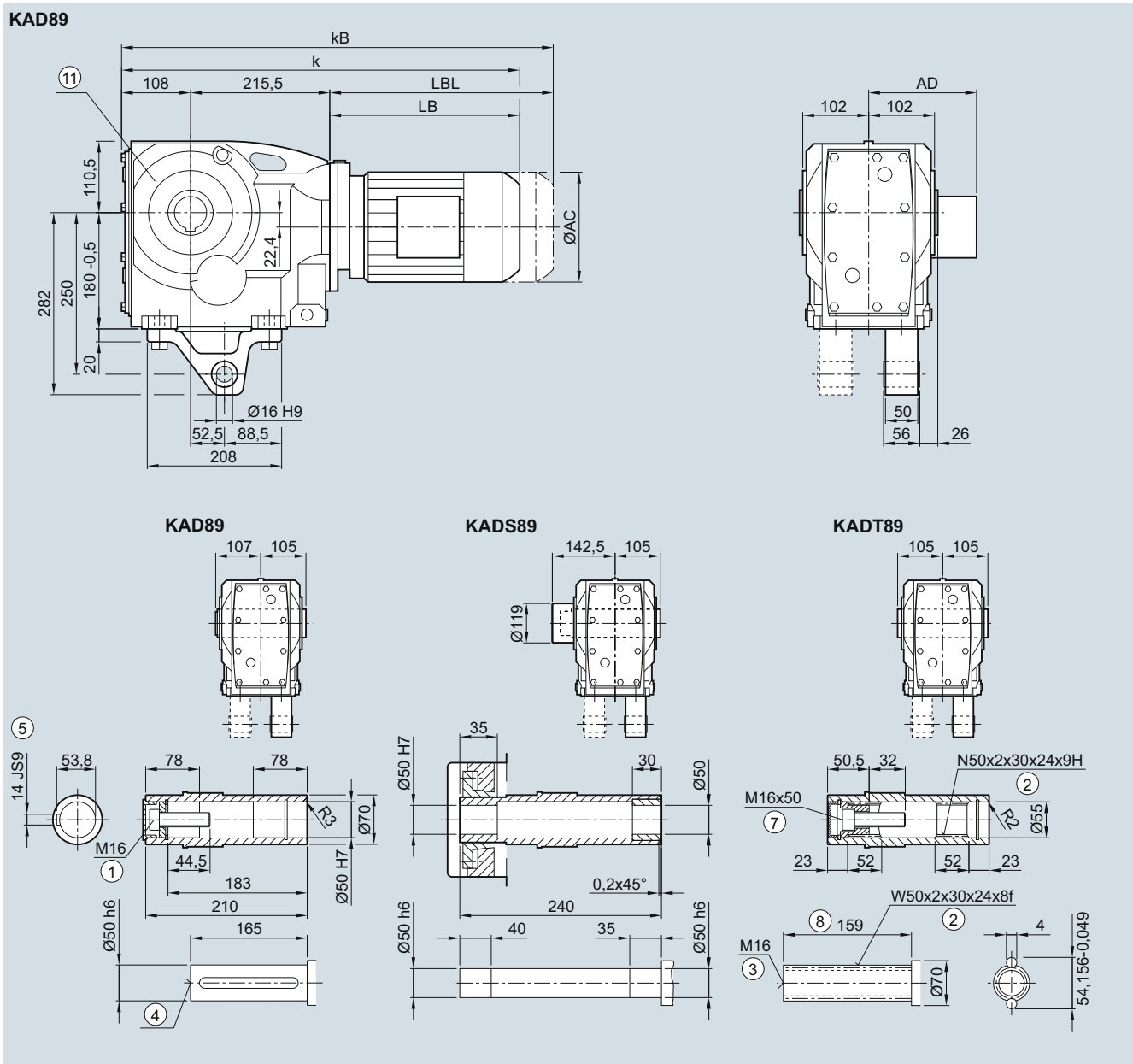


Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	538.0	557.0	598.0	633.0	669.5	699.5	716.0	751.0	726.0	751.0	779.0	829.0	861.0	921.0
kB	593.0	612.0	658.0	693.0	729.5	769.5	794.5	829.5	799.0	824.0	883.5	933.5	977.0	1 037.0
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design    1) AD depends on the motor options, for other dimensions see page 8/42.

**KAD.89 gearbox in a shaft-mounted design**

**KAD031, KADS031, KADT031**



Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0
k	538.0	557.0	598.0	633.0	669.5	699.5	716.0	751.0	726.0	751.0	779.0	829.0	861.0	921.0
kB	593.0	612.0	658.0	693.0	729.5	769.5	794.5	829.5	824.0	824.0	883.5	933.5	977.0	1 037.0
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5	537.5	597.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0	653.5	713.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for housing flange design    1) AD depends on the motor options, for other dimensions see page 8/42.

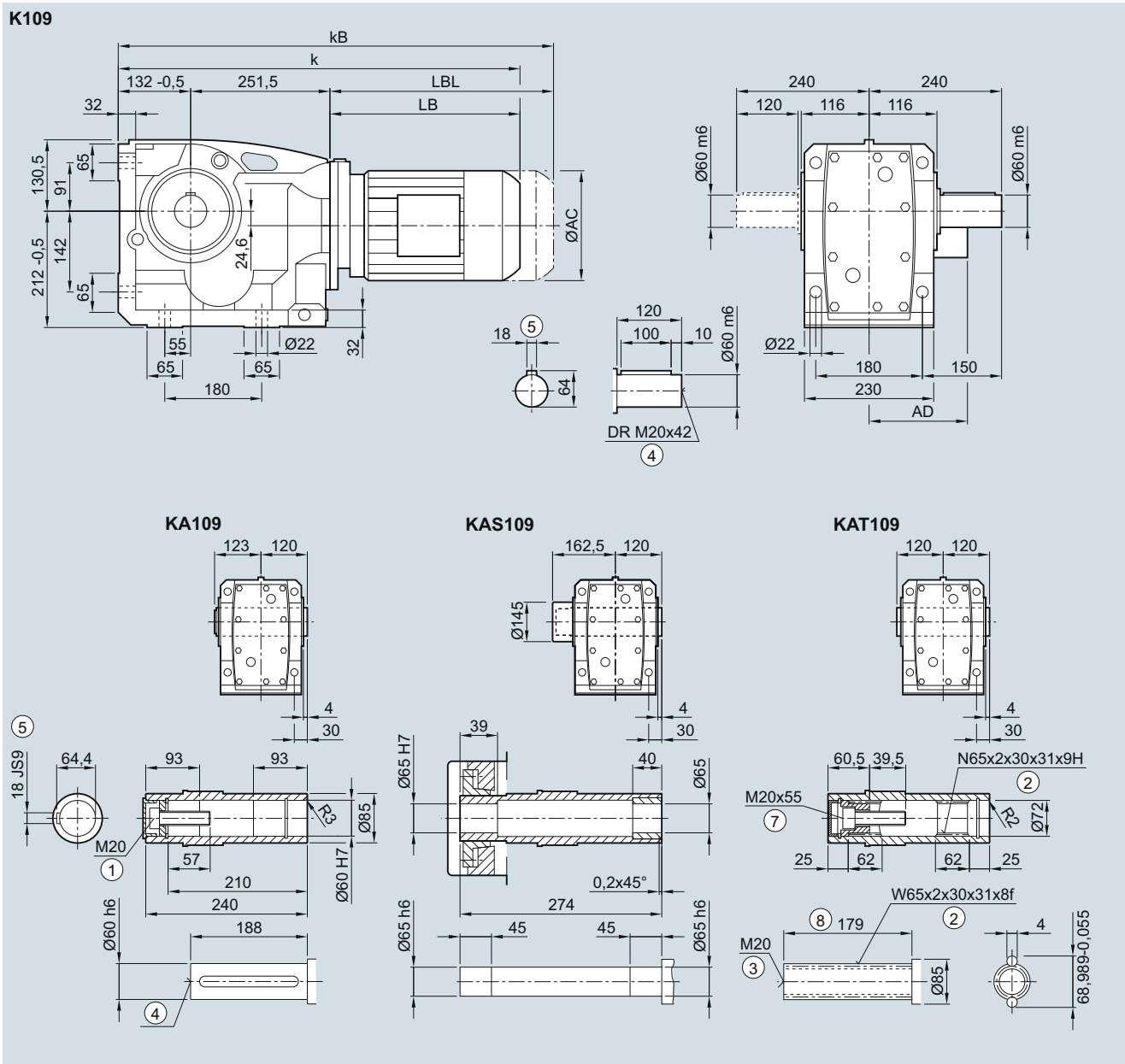
# SIMOGEAR geared motors

Bevel geared motors

## Dimensions

### K..109 gearbox in a foot-mounted design

K030, KA030, KAS030, KAT030



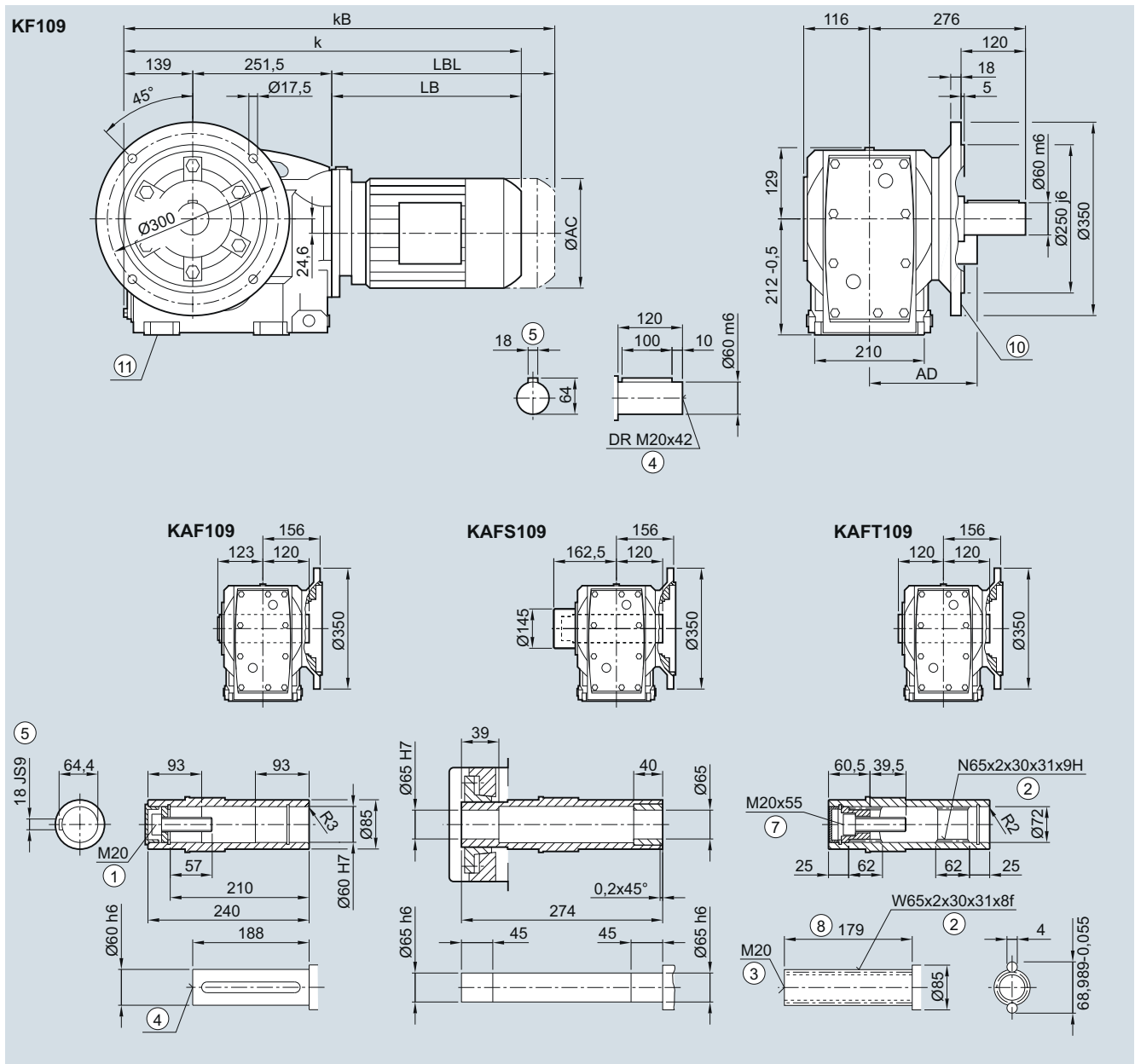
Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	645.0	680.0	706.5	746.5	769.0	794.0	769.0	794.0	822.0	872.0	904.0	964.0	977.0	1 007.0
kB	705.0	740.0	776.5	816.5	837.5	872.5	842.0	887.0	926.5	976.5	1 020.0	1 080.0	1 106.0	1 136.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

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**K.F.109 gearbox in a flange-mounted design**

**KF030, KAF030, KAFS030, KAFT030**



Motor	LE										LES			
	80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	652.0	687.0	713.5	753.5	766.0	801.0	776.0	801.0	829.0	879.0	911.0	971.0	984.0	1 014.0
kB	712.0	747.0	783.5	823.5	844.5	879.5	849.0	874.0	933.5	983.5	1 027.0	1 087.0	1 113.0	1 143.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ For inner contour see page 5/141    ⑩ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.

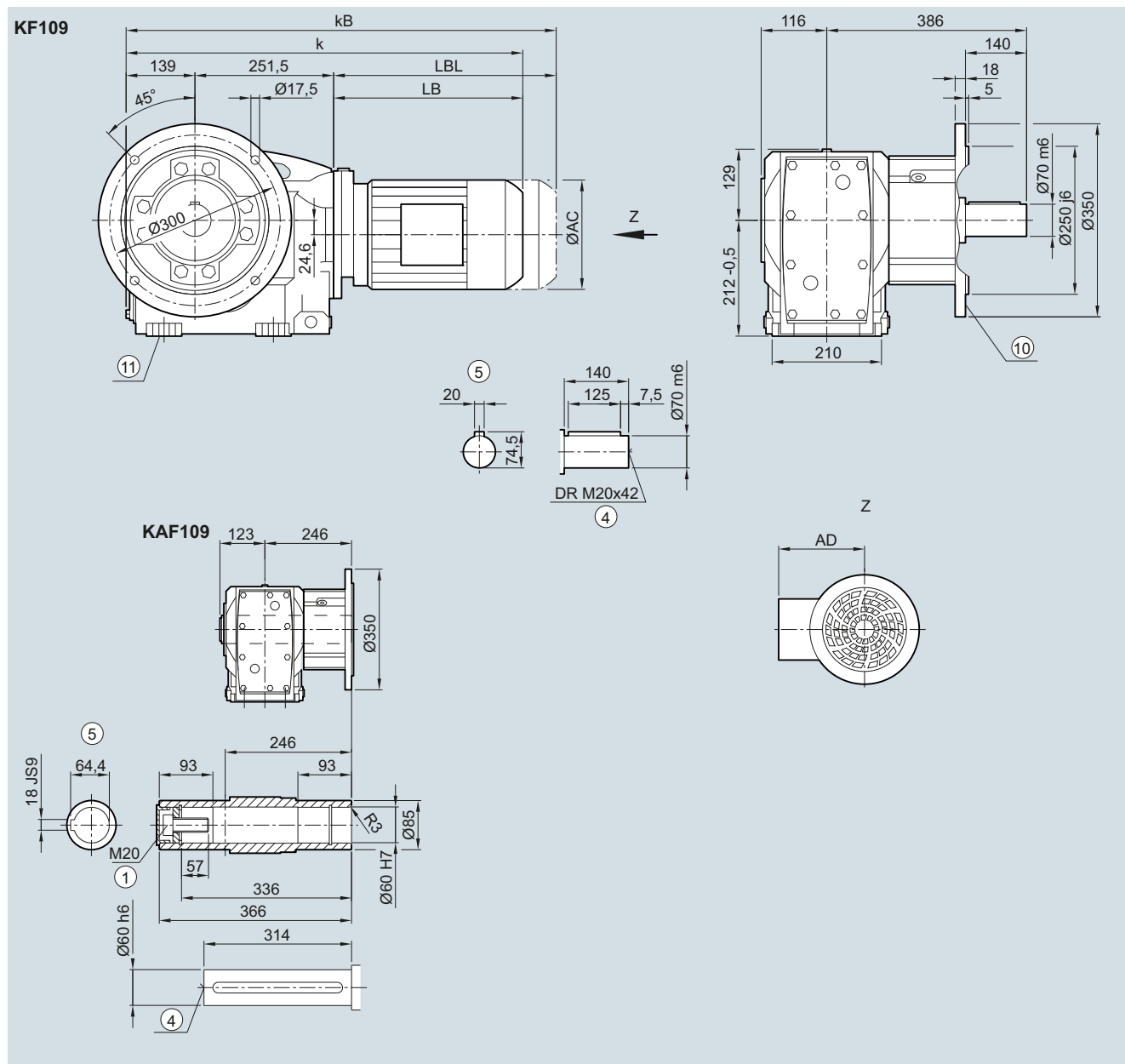
# SIMOGEAR geared motors

Bevel geared motors

## Dimensions

### K.F.109 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)

KF040, KAF040



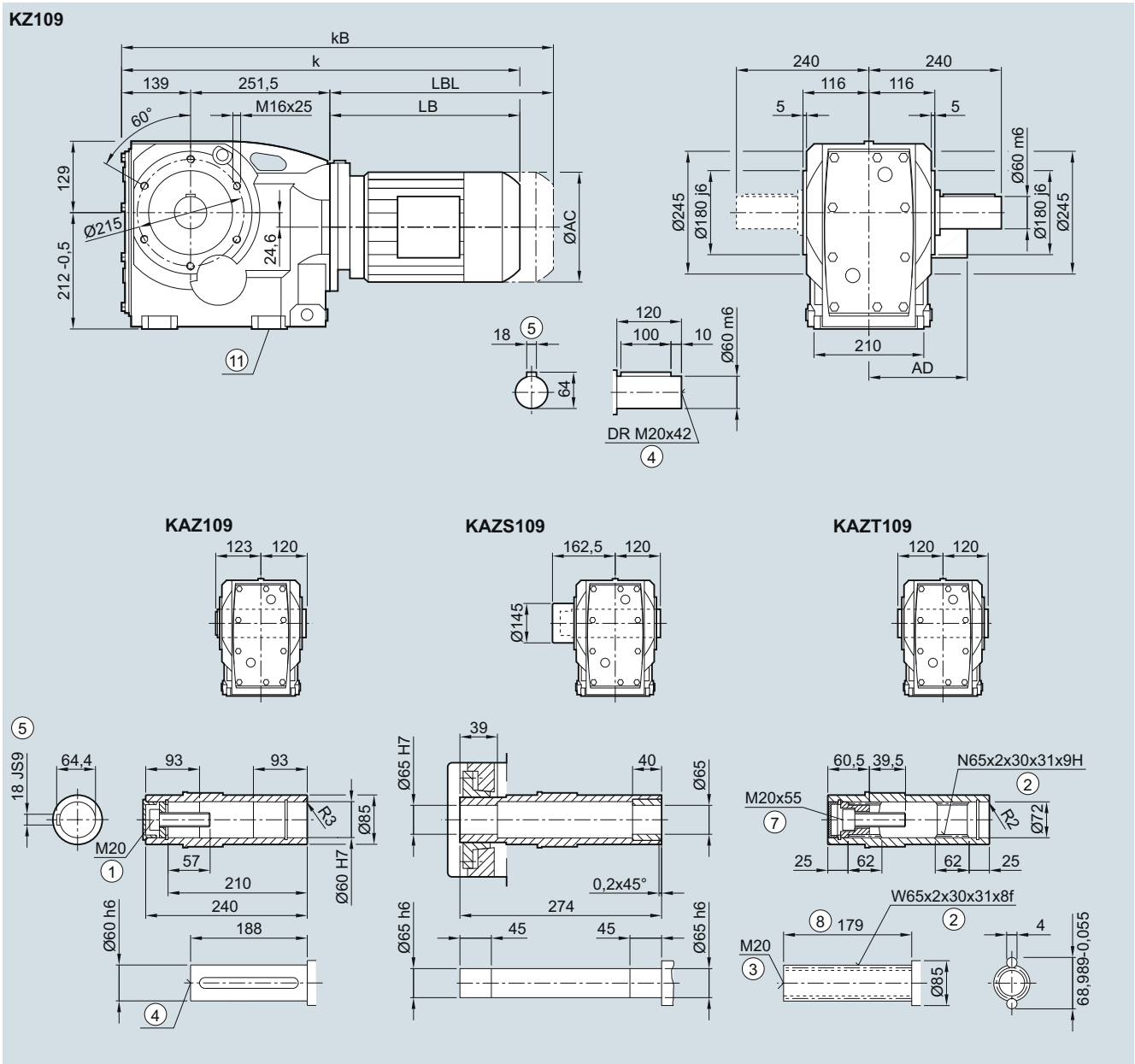
Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	652.0	687.0	713.5	753.5	766.0	801.0	776.0	801.0	829.0	879.0	911.0	971.0	984.0	1 014.0
k <sub>B</sub>	712.0	747.0	783.5	823.5	844.5	879.5	849.0	874.0	933.5	983.5	1 027.0	1 087.0	1 113.0	1 143.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

① ISO 4014    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑩ Use bores only for foot-mounted design  
 ⑪ For inner contour see page 5/141    1) AD depends on the motor options, for other dimensions see page 8/42.

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**K.Z.109 gearbox in a housing flange design**

**KZ030, KAZ030, KAZS030, KAZT030**



Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	652.0	687.0	713.5	753.5	766.0	801.0	776.0	801.0	829.0	879.0	911.0	971.0	984.0	1 014.0
kB	712.0	747.0	783.5	823.5	844.5	879.5	849.0	874.0	933.5	983.5	1 027.0	1 087.0	1 113.0	1 143.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.

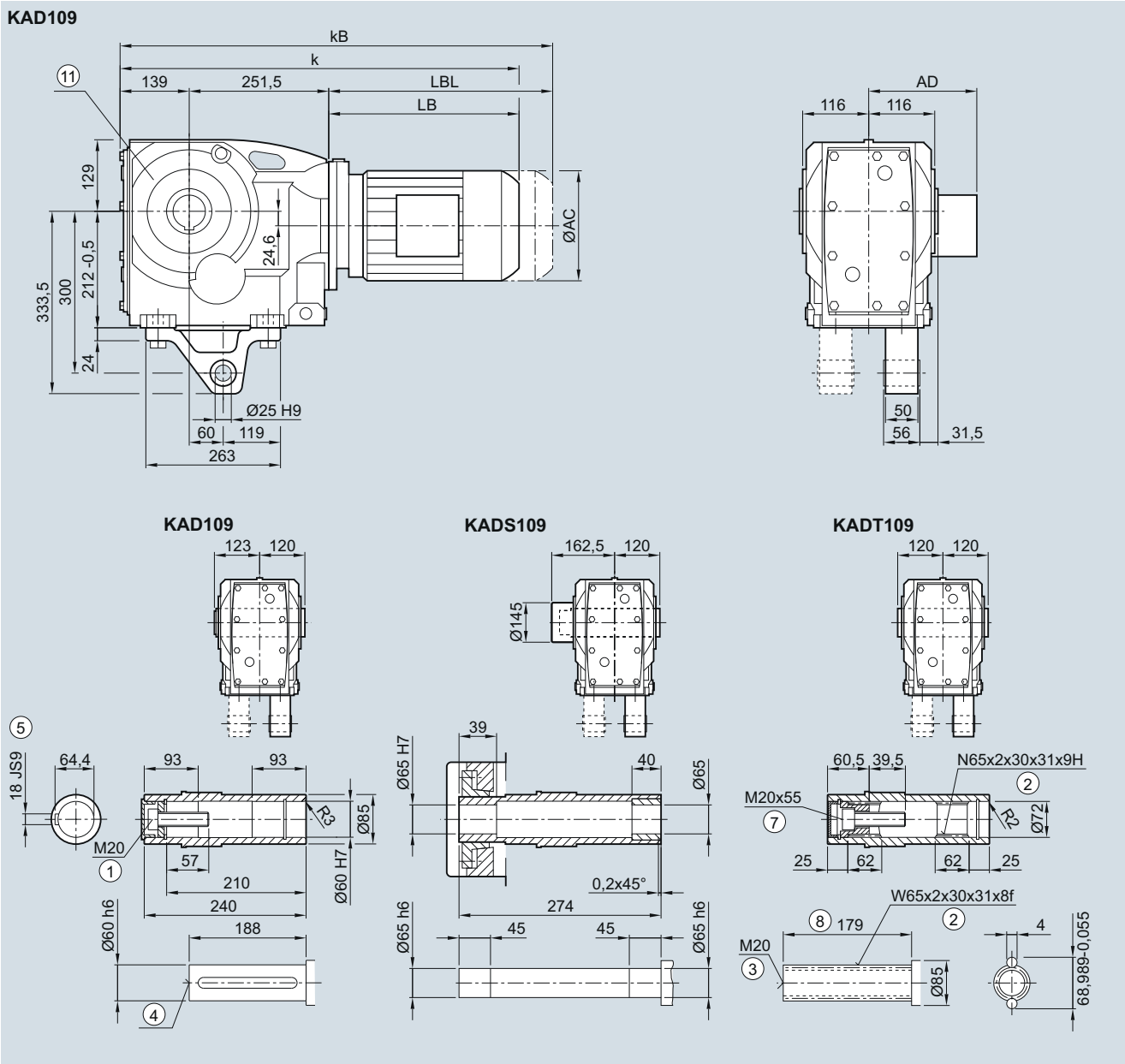
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### KAD.109 gearbox in a shaft-mounted design

KAD030, KADS030, KADT030



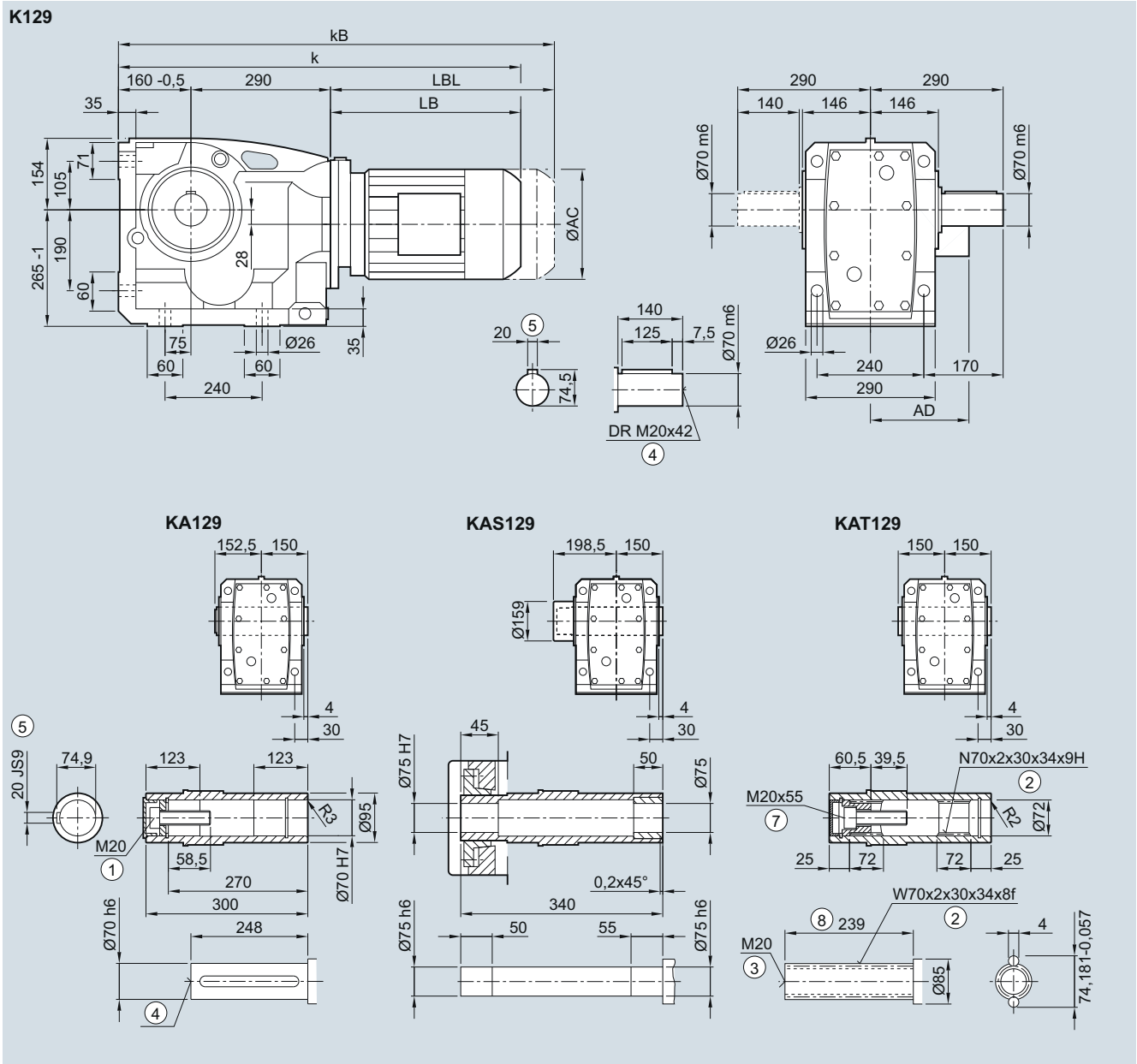
Motor	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z
AC	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5
AD <sup>1)</sup>	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0
k	652.0	687.0	713.5	753.5	766.0	801.0	776.0	801.0	829.0	879.0	911.0	971.0	984.0	1 014.0
kB	712.0	747.0	783.5	823.5	844.5	879.5	849.0	874.0	933.5	983.5	1 027.0	1 087.0	1 113.0	1 143.0
LB	261.5	296.5	323.0	363.0	375.5	410.5	385.5	410.5	438.5	488.5	520.5	580.5	593.5	623.5
LBL	321.5	356.5	393.0	433.0	454.0	489.0	458.5	483.5	543.0	593.0	636.5	696.5	722.5	752.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for housing flange design    ⑩ AD depends on the motor options, for other dimensions see page 8/42.

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**K..129 gearbox in a foot-mounted design**

**K030, KA030, KAS030, KAT030**



Motor	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	766.0	806.0	816.5	851.5	826.5	851.5	879.5	929.5	961.5	1 021.5	1 034.5	1 064.5	1 102.5	1 127.5	1 148.0	1 208.0
kB	836.0	876.0	895.0	930.0	899.5	924.5	984.0	1 034.0	1 077.5	1 137.5	1 163.5	1 193.5	1 249.5	1 274.5	1 376.0	1 436.0
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926	986

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.



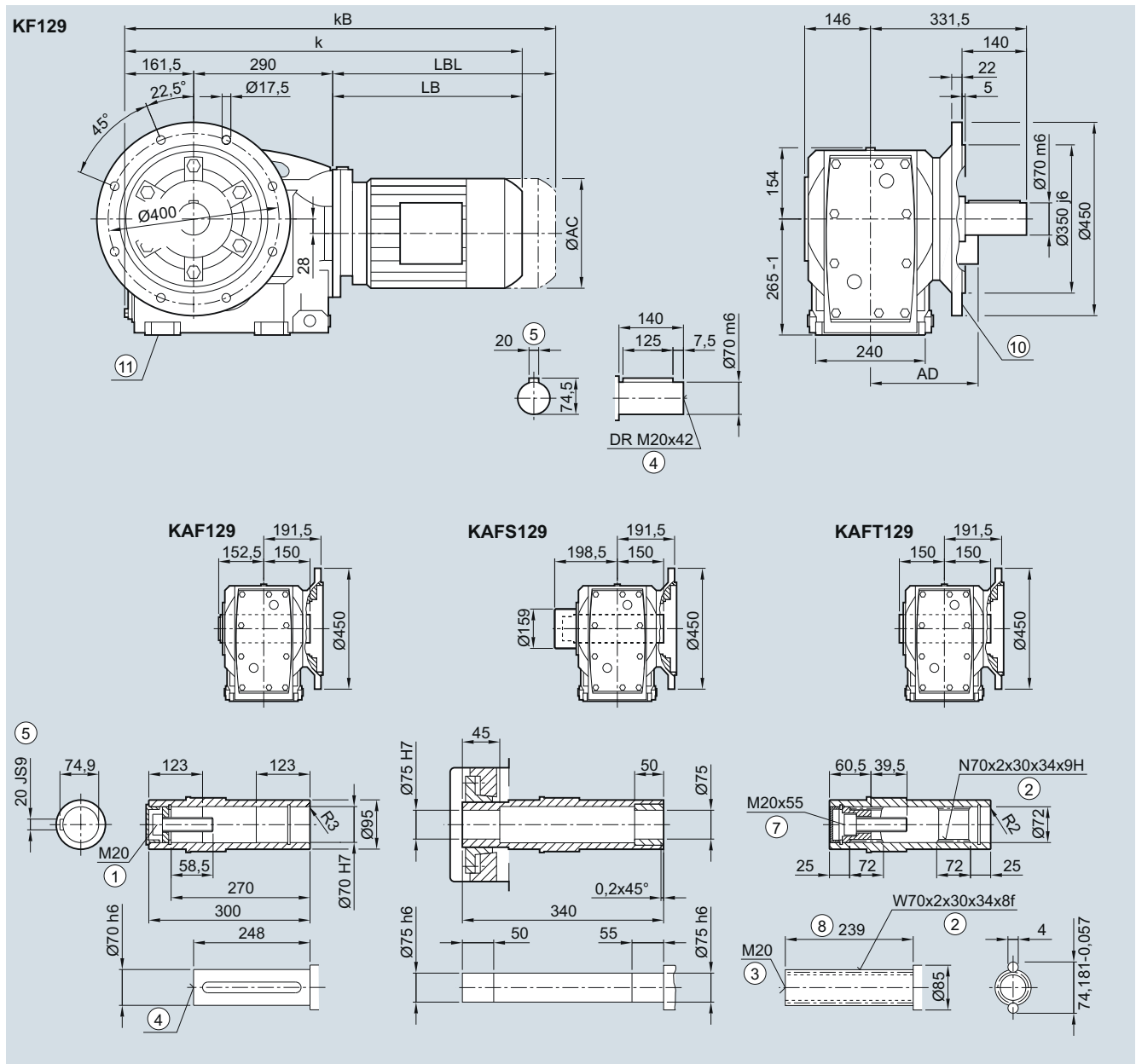
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.F.129 gearbox in a flange-mounted design

KF030, KAF030, KAFS030, KAFT030



Motor	LE										LES					
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	767.5	807.5	818.0	853.0	828.0	853.0	881.0	931.0	963.0	1 023.0	1 036.0	1 066.0	1 104.0	1 129.0	1 149.5	1 209.5
k <sub>B</sub>	837.5	877.5	896.5	931.5	901.5	926.0	985.5	1 035.5	1 079.0	1 139.0	1 165.0	1 195.0	1 251.0	1 276.0	1 377.5	1 437.5
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

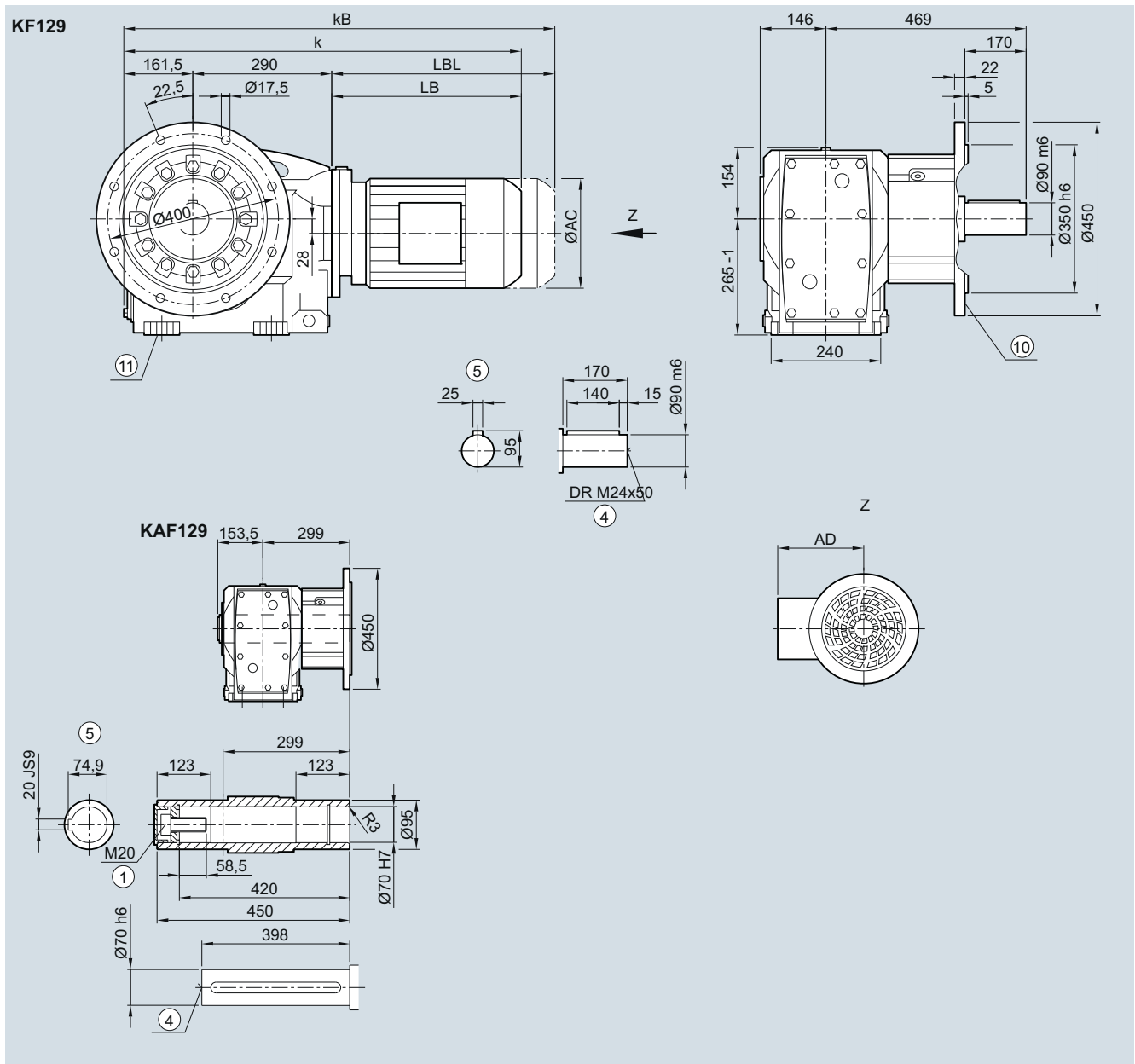
⑩ For inner contour see page 5/141

⑪ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**K.F.129 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)**

**KF040, KAF040**



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Motor	LE										LES					
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	767.5	807.5	818.0	853.0	828.0	853.0	881.0	931.0	963.0	1 023.0	1 036.0	1 066.0	1 104.0	1 129.0	1 149.5	1 209.5
kB	837.5	877.5	896.5	931.5	901.5	926.0	985.5	1 035.5	1 079.0	1 139.0	1 165.0	1 195.0	1 251.0	1 276.0	1 377.5	1 437.5
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

① ISO 4014    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑩ Use bores only for foot-mounted design  
 ⑧ For inner contour see page 5/141    1) AD depends on the motor options, for other dimensions see page 8/42.

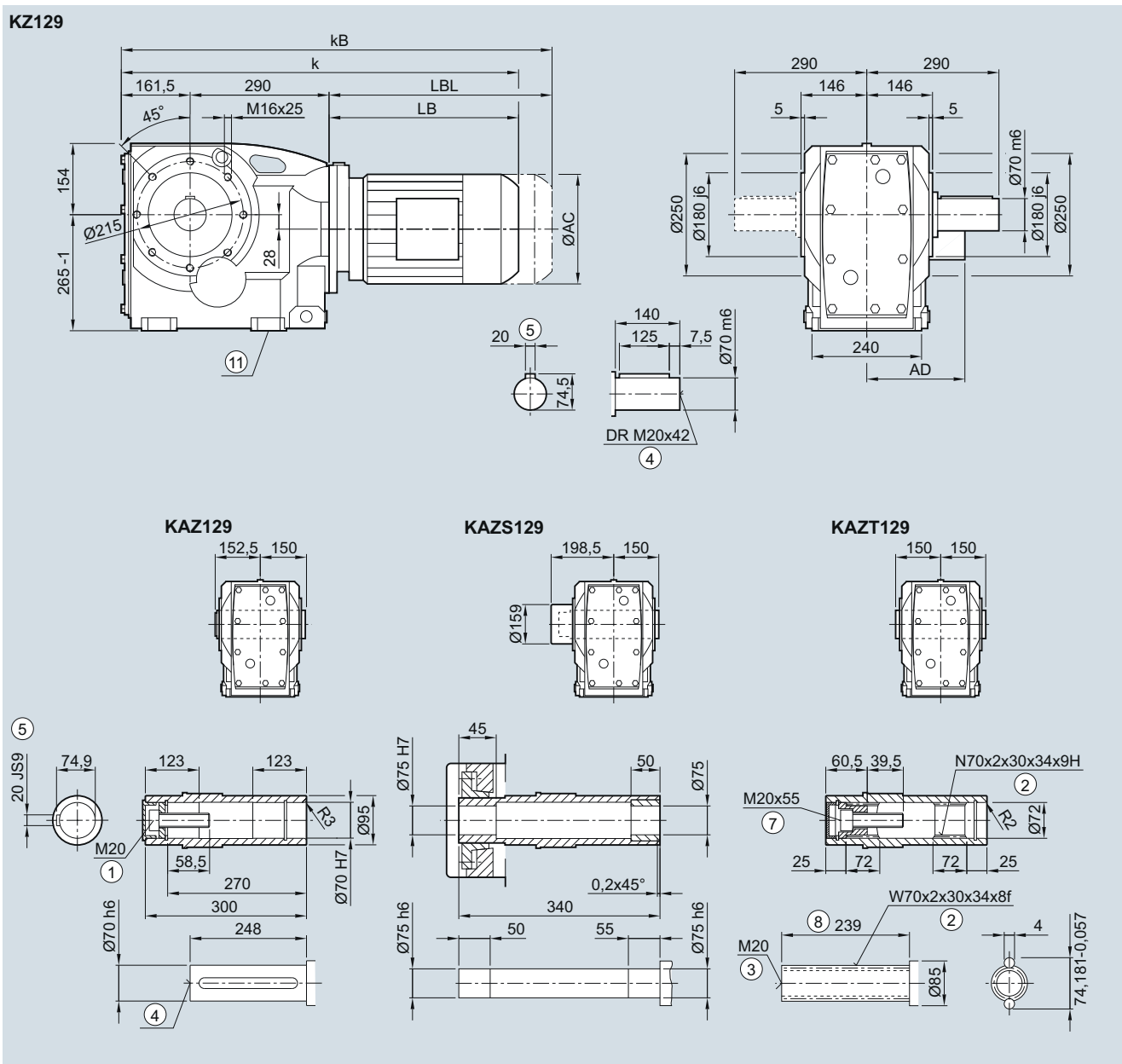
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.Z.129 gearbox in a housing flange design

KZ030, KAZ030, KAZS030, KAZT030



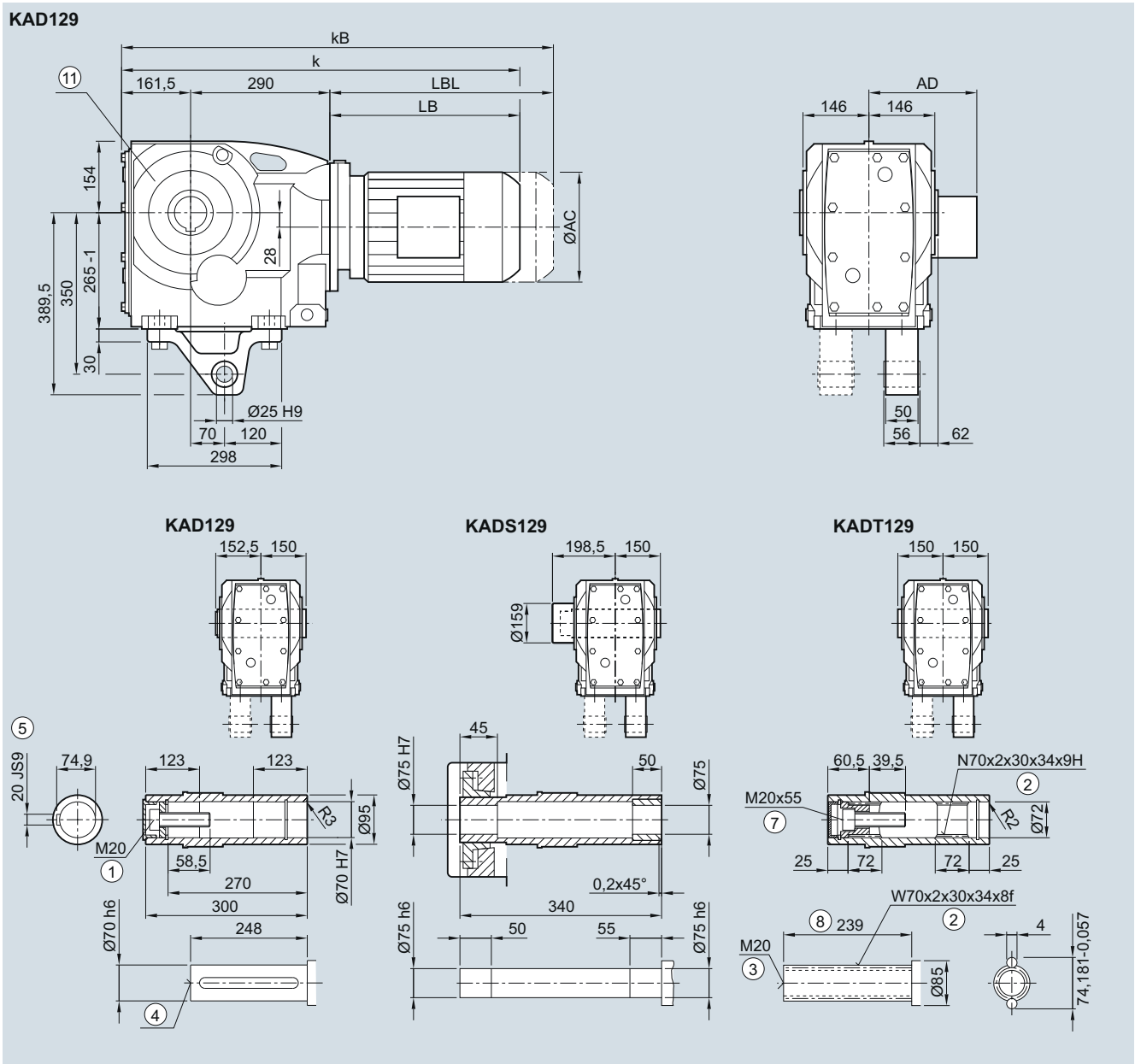
Motor	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	767.5	807.5	818.0	853.0	828.0	853.0	881.0	931.0	963.0	1 023.0	1 036.0	1 066.0	1 104.0	1 129.0	1 149.5	1 209.5
kB	837.5	877.5	896.5	931.5	901.5	926.0	988.5	1 035.5	1 079.0	1 139.0	1 165.0	1 195.0	1 251.0	1 276.0	1 377.5	1 437.5
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.

5

**KAD.129 gearbox in a shaft-mounted design**

**KAD030, KADS030, KADT030**



Motor	LE 90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0
k	767.5	807.5	818.0	853.0	828.0	853.0	881.0	931.0	963.0	1 023.0	1 036.0	1 066.0	1 104.0	1 129.0	1 149.5	1 209.5
kB	837.5	877.5	896.5	931.5	901.5	926.0	988.5	1 035.5	1 079.0	1 139.0	1 165.0	1 195.0	1 251.0	1 276.0	1 377.5	1 437.5
LB	316.0	356.0	366.5	401.5	376.5	401.5	429.5	479.5	511.5	571.5	584.5	614.5	652.5	677.5	698.0	758.0
LBL	386.0	426.0	445.0	480.0	449.5	474.5	534.0	584.0	627.5	687.5	713.5	743.5	799.5	824.5	926.0	986.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑥ ISO 4762    ⑦ Without locating shoulder +1 mm  
 ⑧ Use bores only for housing flange design    ⑨ AD depends on the motor options, for other dimensions see page 8/42.

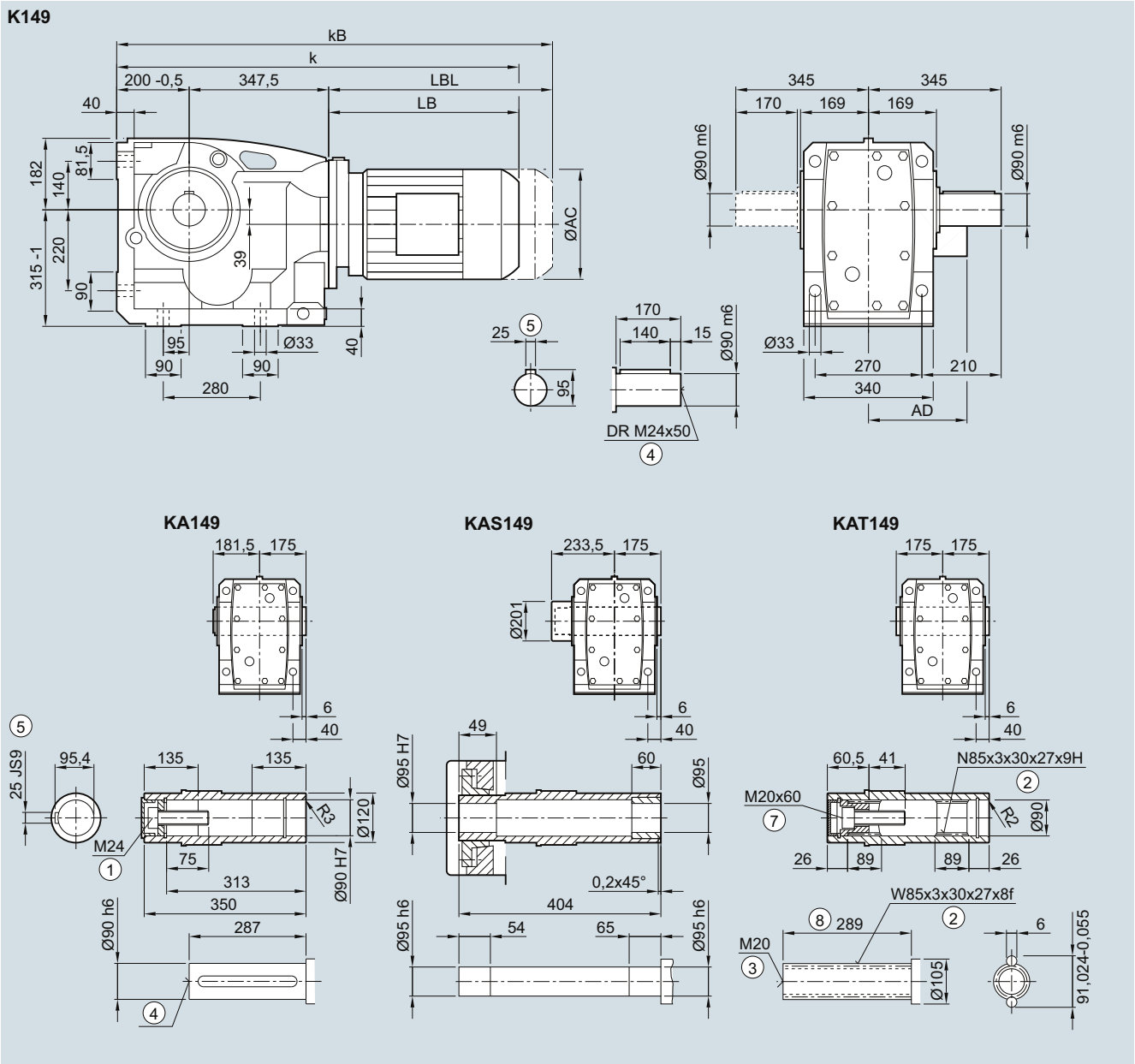
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K..149 gearbox in a foot-mounted design

K030, KA030, KAS030, KAT030



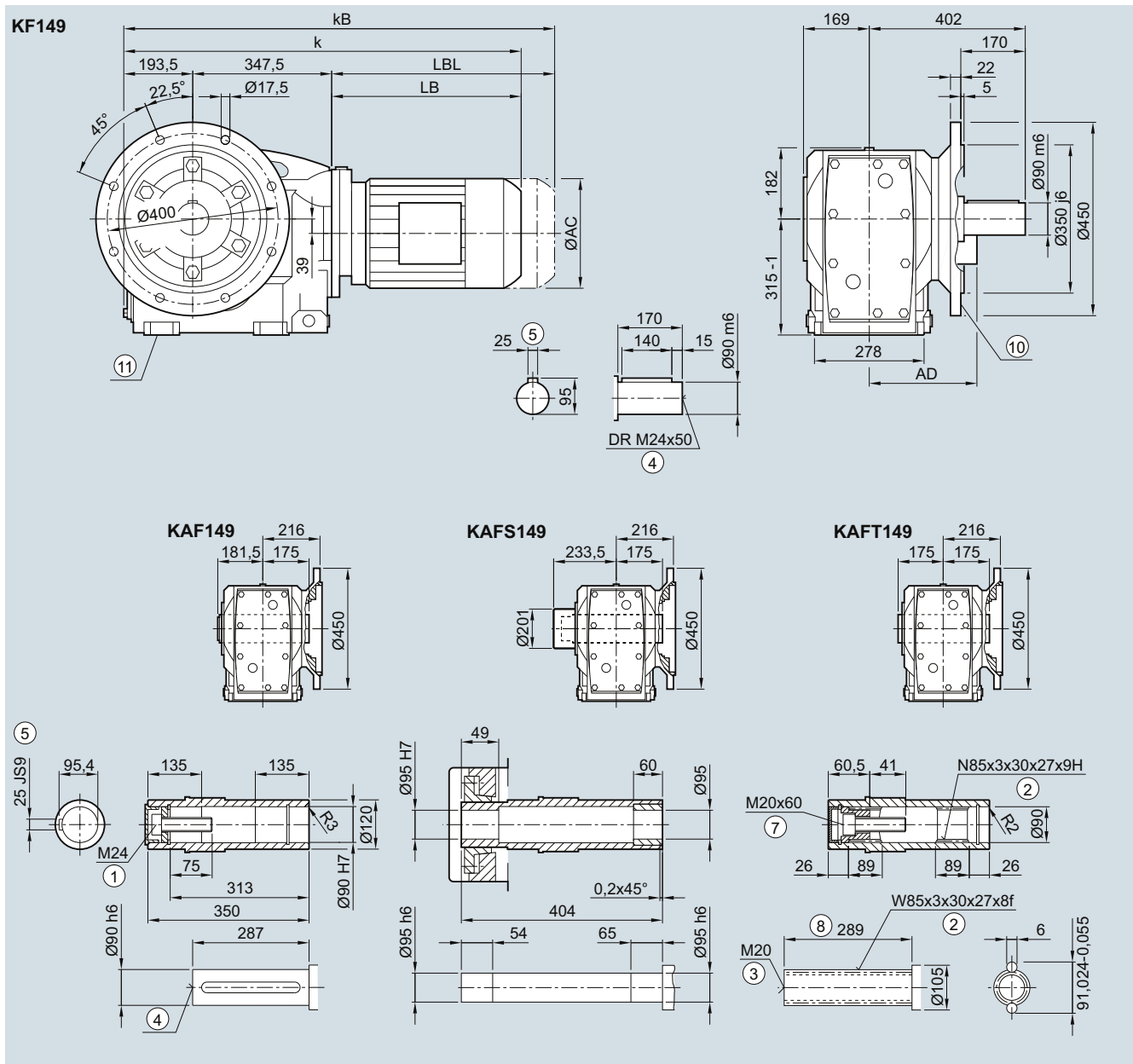
Motor	LE										LES						
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	856.5	896.5	905.0	940.0	915.0	940.0	966.0	1016.0	1048.0	1108.0	1121.0	1151.0	1189.0	1214.0	1234.5	1294.5	1346.0
kB	926.5	966.5	983.5	1018.5	988.5	1013.0	1070.5	120.5	1164.0	1274.0	250.0	280.0	1336.0	1361.0	1462.5	1522.5	1571.0
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1023.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

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**K.F.149 gearbox in a flange-mounted design**

**KF030, KAF030, KAFS030, KAFT030**



Motor	LE								LES								
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	850.0	890.0	898.5	933.5	908.5	933.5	959.5	1 009.5	1 041.5	1 101.5	1 114.5	1 144.5	1 182.5	1 207.5	1 228.0	1 288.0	1 339.5
kB	920.0	960.0	977.0	1 012.0	981.5	1 006.5	1 064.0	1 114.0	1 157.5	1 217.5	1 243.5	1 273.5	1 329.5	1 354.5	1 456.0	1 516.0	1 564.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1 023.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm

⑩ For inner contour see page 5/141

⑪ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

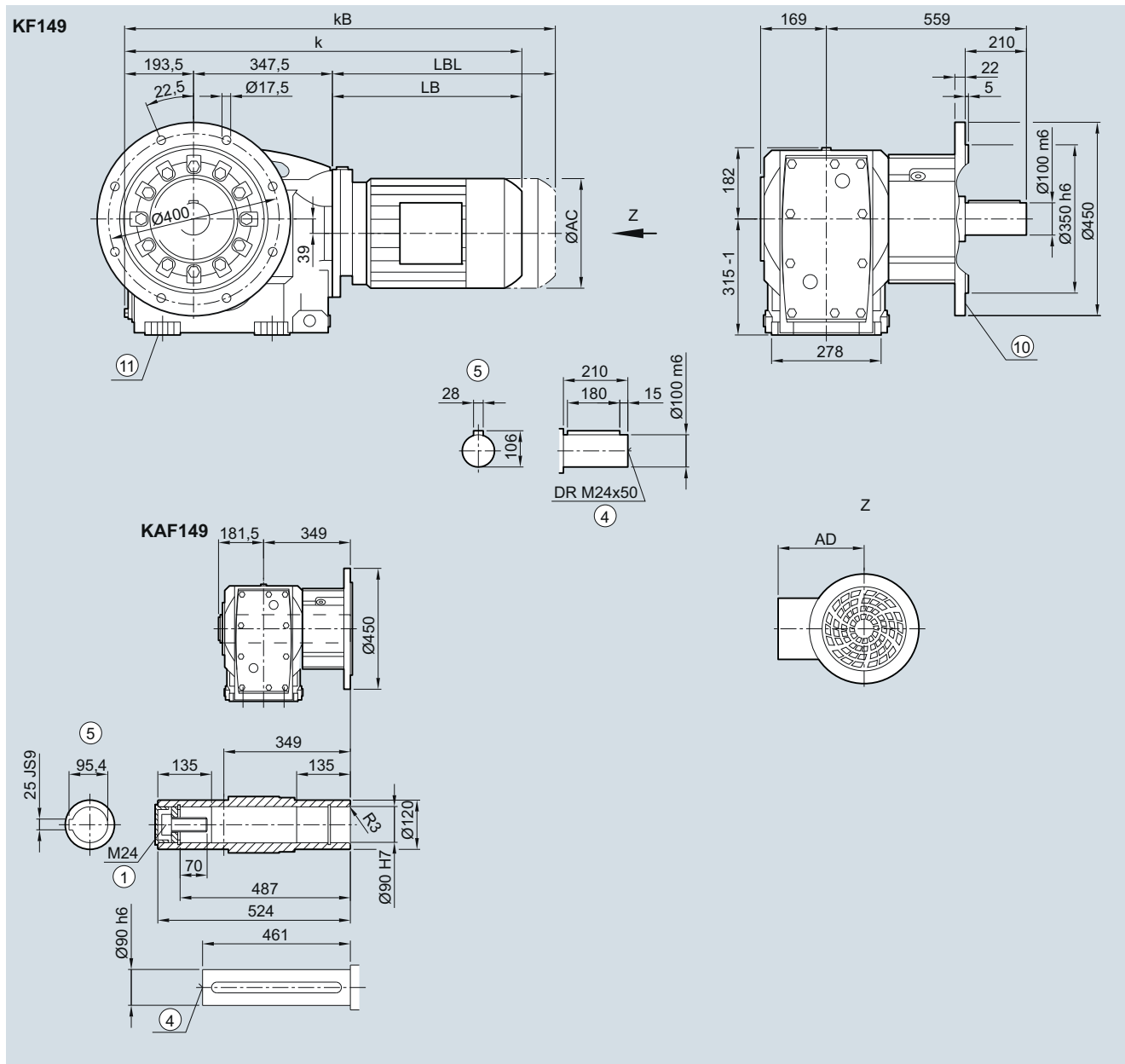
# SIMOGEAR geared motors

Bevel geared motors

## Dimensions

### K.F.149 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)

KF040, KAF040



Motor	LE										LES						
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	850.0	890.0	898.5	933.5	908.5	933.5	959.5	1009.5	1041.5	1010.5	1114.5	1144.5	1182.5	1207.5	1228.0	1288.0	1339.5
kB	920.0	960.0	977.0	1012.0	981.5	1006.5	1064.0	1140.0	1157.5	1217.5	1243.5	1273.5	1329.5	1354.5	1456.0	1516.0	1564.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1023.5

① ISO 4014    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1

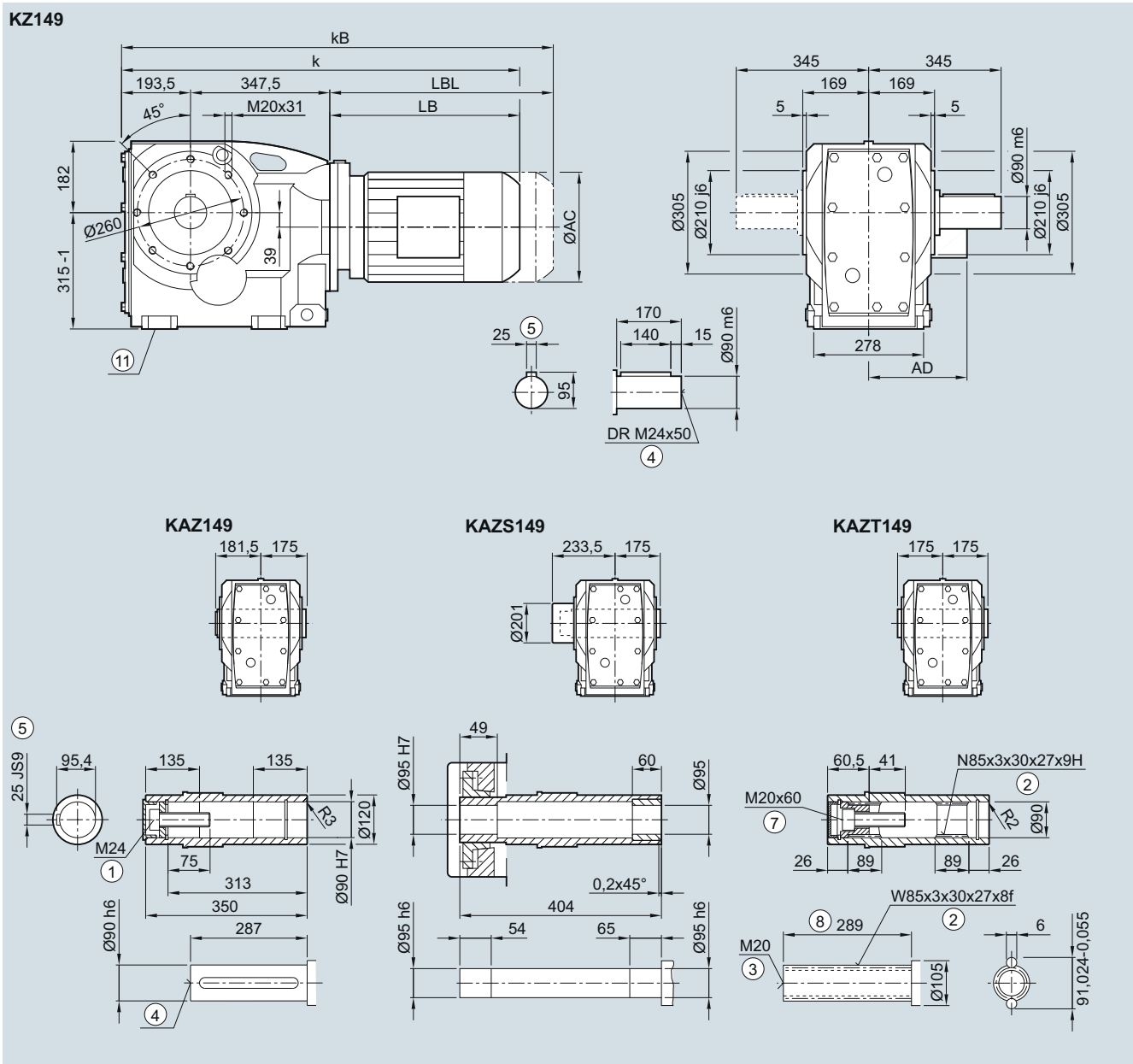
⑩ Use bores only for foot-mounted design

⑪ For inner contour see page 5/141

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**K.Z.149 gearbox in a housing flange design**

**KZ030, KAZ030, KAZS030, KAZT030**



Motor	LE										LES							
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250	
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0	
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5	
k	850.0	890.0	898.5	933.5	908.5	933.5	959.5	1009.5	1041.5	1101.5	1114.5	1144.5	1182.5	1207.5	1228.0	1288.0	1339.5	
kB	920.0	960.0	977.0	1012.0	981.5	1006.5	1064.0	1140.0	1157.5	1227.5	1243.5	1273.5	1329.5	1354.5	1456.0	1516.0	1564.5	
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5	
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1023.5	

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.



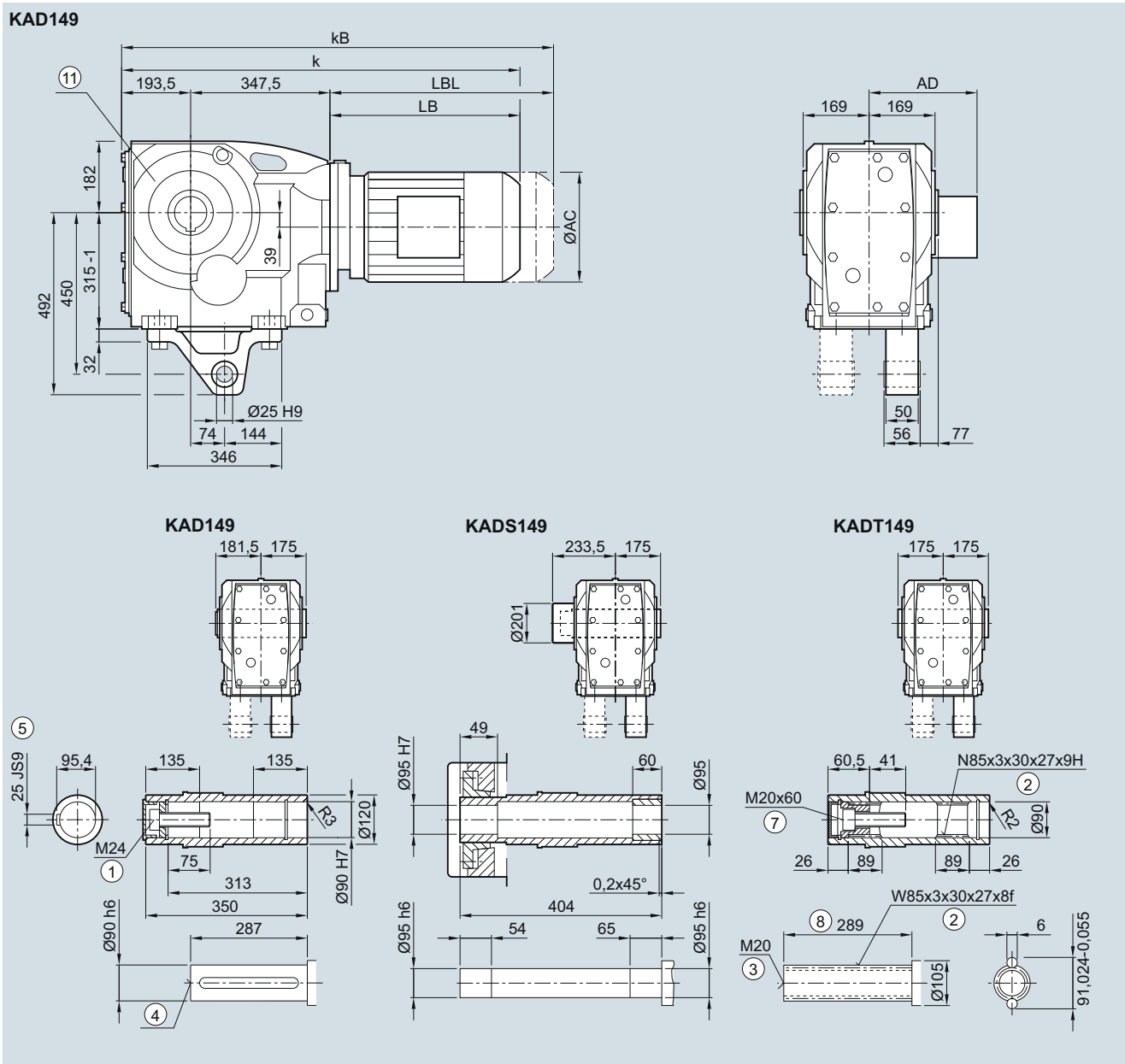
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### KAD.149 gearbox in a shaft-mounted design

KAD031, KADS031, KADT031



Motor	LE									LES							
	90	90Z	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	850.0	890.0	898.5	933.5	908.5	933.5	959.5	1 009.5	1 041.5	1 101.5	1 114.5	1 144.5	1 182.5	1 207.5	1 228.0	1 288.0	1 339.5
kB	920.0	960.0	977.0	1 012.0	981.5	1 006.5	1 064.0	1 114.0	1 157.5	1 217.5	1 243.5	1 273.5	1 329.5	1 354.5	1 456.0	1 516.0	1 564.5
LB	309.0	349.0	357.5	392.5	367.5	392.5	418.5	468.5	500.5	560.5	573.5	603.5	641.5	666.5	687.0	747.0	798.5
LBL	379.0	419.0	436.0	471.0	440.5	465.5	523.0	573.0	616.5	676.5	702.5	732.5	788.5	813.5	915.0	975.0	1 023.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

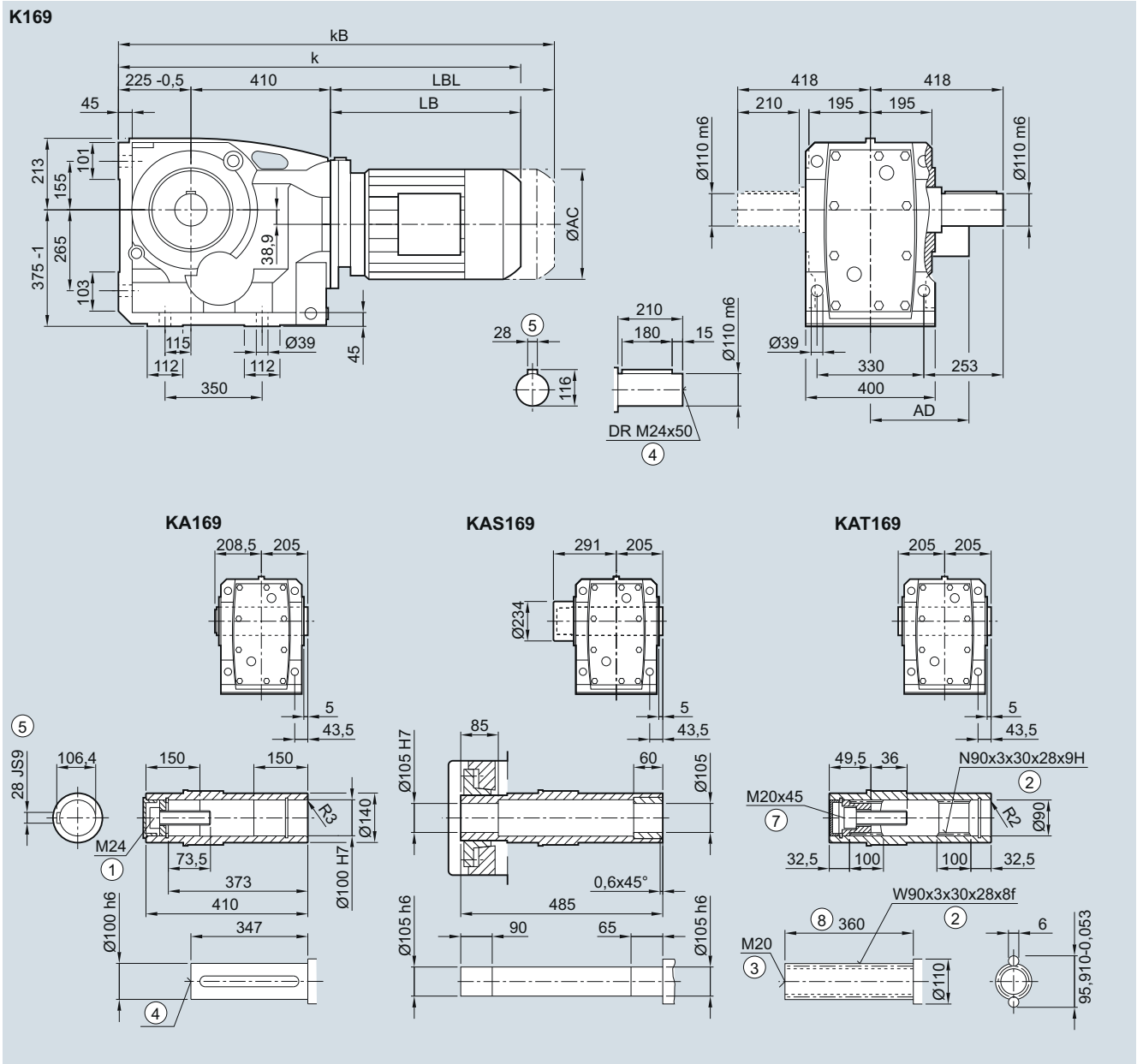
⑩ Use bores only for housing flange design

1) AD depends on the motor options, for other dimensions see page 8/42.

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**K..169 gearbox in a foot-mounted design**

**K030, KA030, KAS030, KAT030**



Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	991.0	1 026.0	1 001.0	1 026.0	1 047.0	1 097.0	1 129.0	1 189.0	1 202.0	1 232.0	1 270.0	1 295.0	1 315.5	1 375.5	1 427.0
kB	1 069.5	1 104.5	1 074.0	1 099.0	1 151.5	1 201.5	1 245.0	1 305.0	1 311.0	1 361.0	1 411.0	1 442.0	1 543.5	1 603.5	1 652.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑥ ISO 4762 ⑦ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

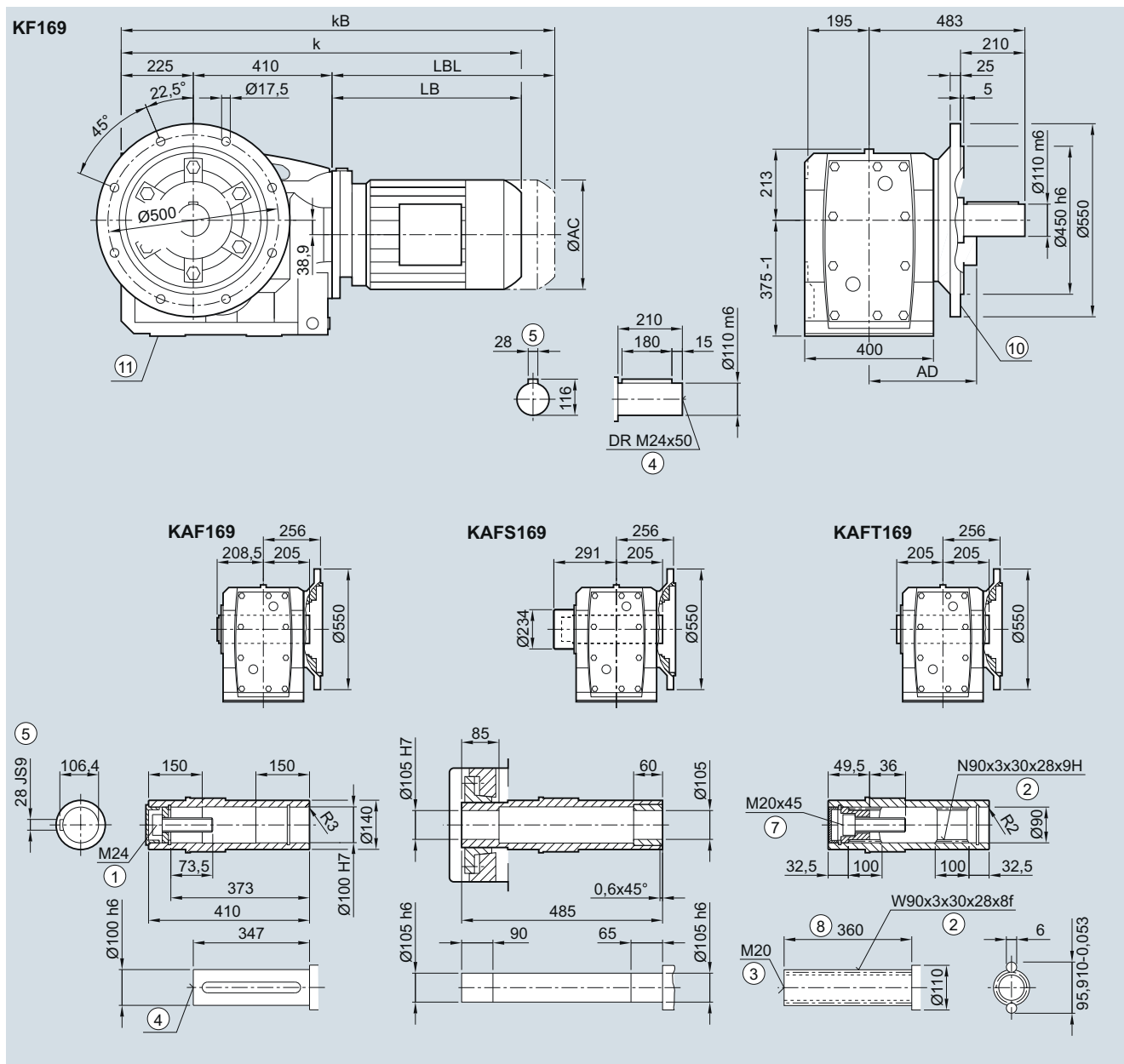
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.F.169 gearbox in a flange-mounted design

KF030, KAF030, KAFS030, KAFT030



Motor	LE					LES									
	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	991.0	1026.0	1001.0	1026.0	1047.0	1097.0	1129.0	1189.0	1202.0	1232.0	1 270.0	1 295.0	1 315.5	1 375.5	1 427.0
k <sub>B</sub>	1069.5	1104.5	1074.0	1099.0	1151.5	1201.5	1245.0	1305.0	1331.0	1361.0	1 417.0	1 442.0	1 543.5	1 603.5	1 652.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	557.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

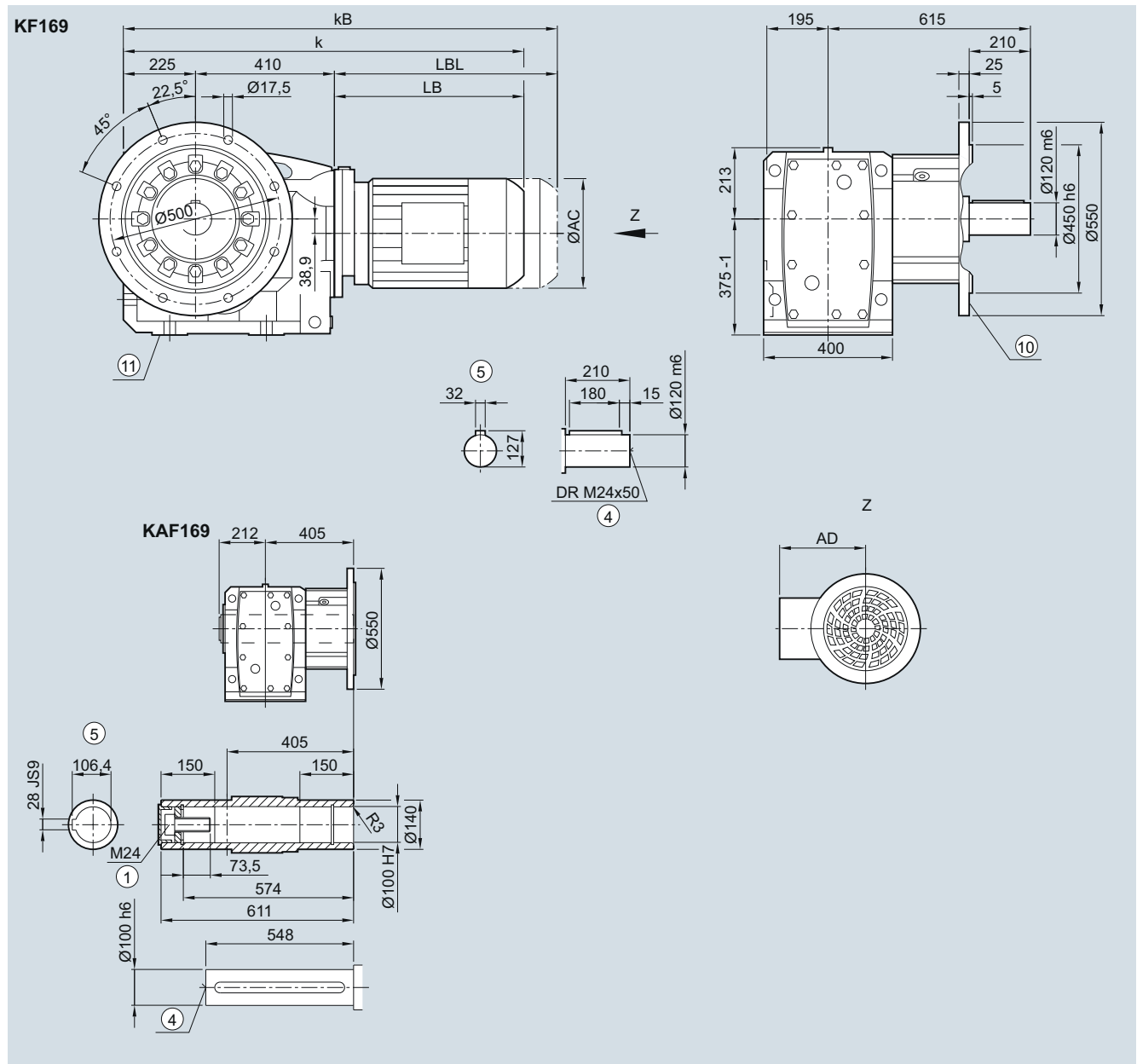
⑩ For inner contour see page 5/141

⑪ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**K.F.169 gearbox in a flange-mounted design with VLplus reinforced bearing system (G30)**

**KF040, KAF040**



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Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	991.0	1 026.0	1 001.0	1 026.0	1 047.0	1 097.0	1 129.0	1 189.0	1 202.0	1 232.0	1 270.0	1 295.0	1 315.5	1 375.5	1 427.0
kB	1 069.5	1 104.5	1 074.0	1 099.0	1 151.5	1 201.5	1 245.0	1 305.0	1 311.0	1 361.0	1 411.0	1 442.0	1 543.5	1 603.5	1 652.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

① ISO 4014    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑩ Use bores only for foot-mounted design  
 ⑧ For inner contour see page 5/141    ①) AD depends on the motor options, for other dimensions see page 8/42.

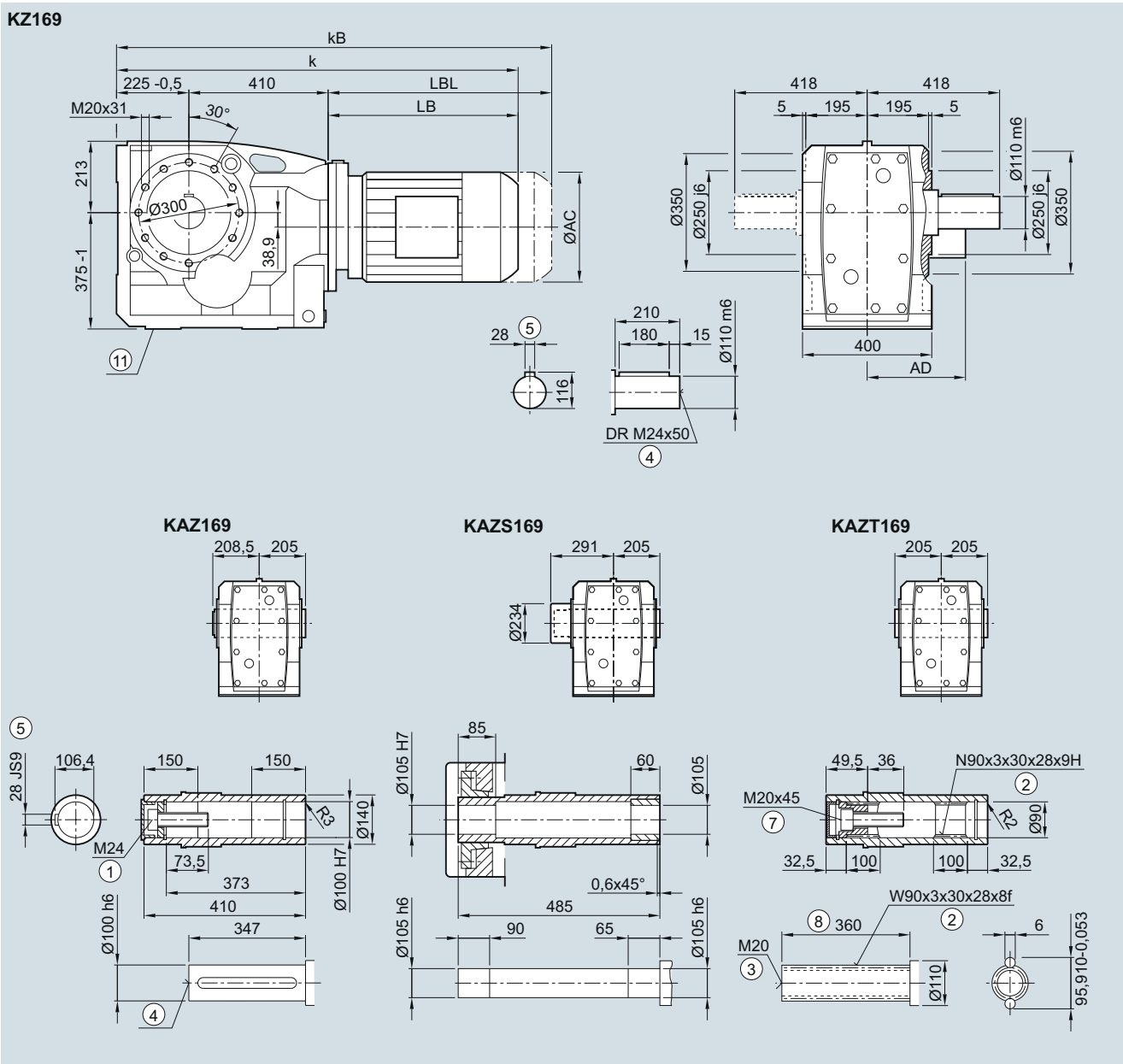
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.Z.169 gearbox in a housing flange design

KZ030, KAZ030, KAZS030, KAZT030



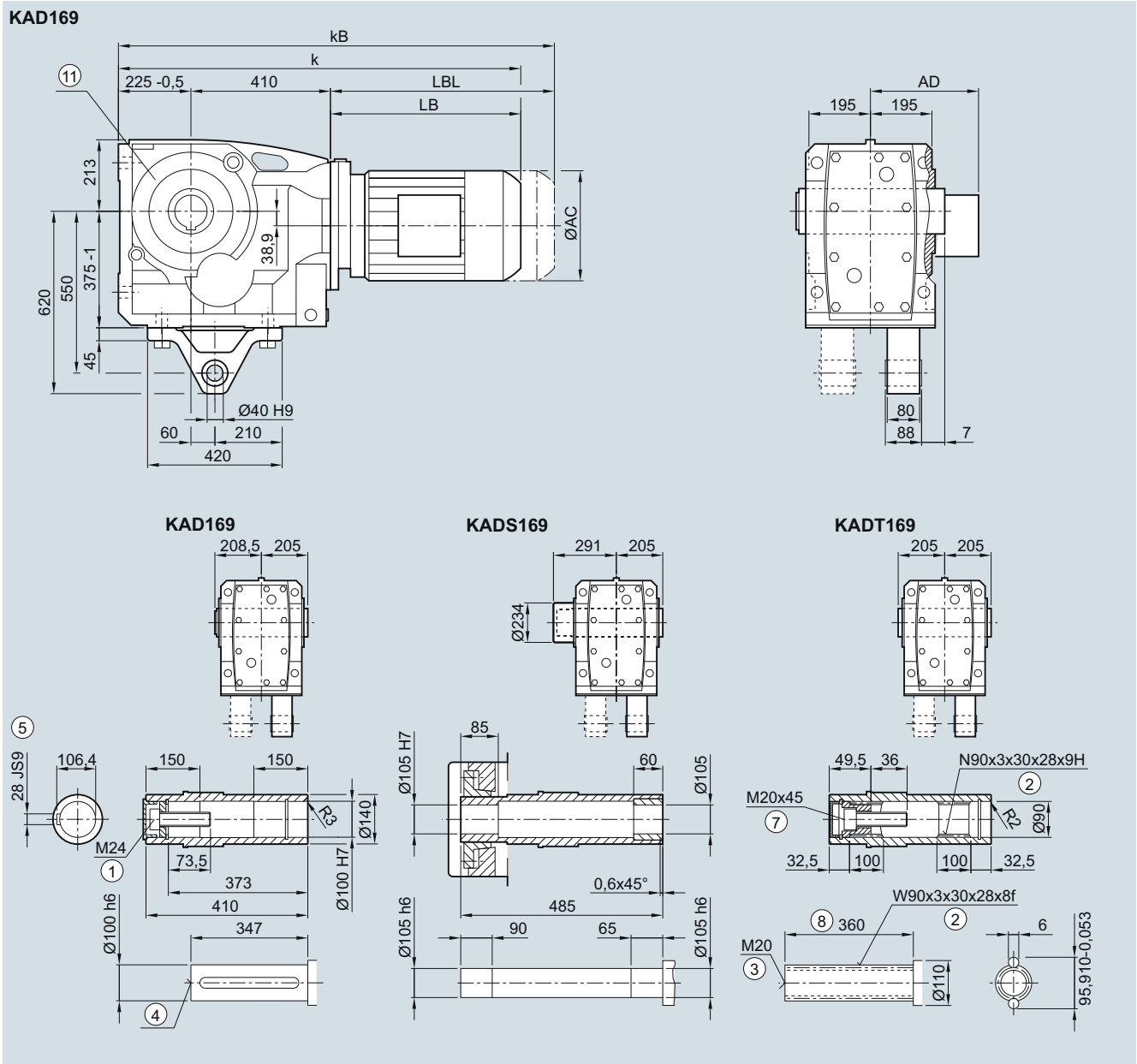
Motor	LE 100	100Z	112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	991.0	1026.0	1001.0	1026.0	1047.0	1097.0	1129.0	1189.0	1202.0	1232.0	1270.0	1295.0	1315.5	1375.5	1427.0
kB	1069.5	1104.5	1074.0	1099.0	1151.5	1201.5	1245.0	1305.0	1331.0	1361.0	1411.0	1442.0	1543.5	1603.5	1652.0
LB	356.0	391.0	366.0	391.0	472.0	462.0	494.0	554.0	567.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1017.0

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design    1) AD depends on the motor options, for other dimensions see page 8/42.

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**KAD.169 gearbox in a shaft-mounted design**

**KAD031, KADS031, KADT031**



Motor	LE					LES									
	100	100Z	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	198.0	198.0	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	170.5	170.5	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	991.0	1026.0	1001.0	1026.0	1047.0	1097.0	1129.0	1189.0	1202.0	1232.0	1 270.0	1 295.0	1 315.5	1 375.5	1 427.0
kB	1069.5	1104.5	1074.0	1099.0	1151.5	1201.5	1245.0	1305.0	1331.0	1361.0	1 417.0	1 442.0	1 543.5	1 603.5	1 652.0
LB	356.0	391.0	366.0	391.0	412.0	462.0	494.0	554.0	557.0	597.0	635.0	660.0	680.5	740.5	792.0
LBL	434.5	469.5	439.0	464.0	516.5	566.5	610.0	670.0	696.0	726.0	782.0	807.0	908.5	968.5	1 017.0

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm  
 ⑩ Use bores only for housing flange design  
 1) AD depends on the motor options, for other dimensions see page 8/42.

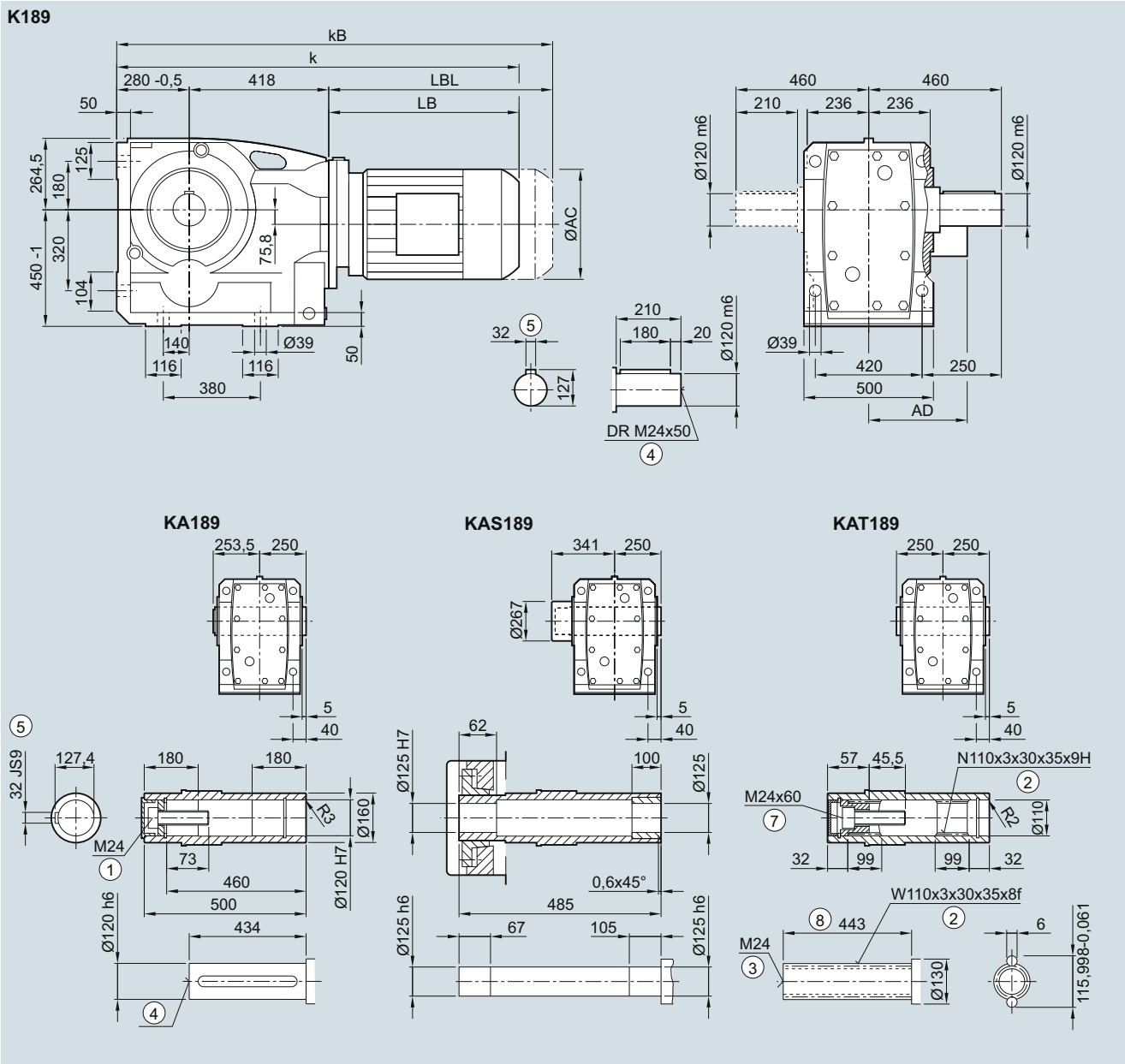
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K..189 gearbox in a foot-mounted design

K030, KA030, KAS030, KAT030



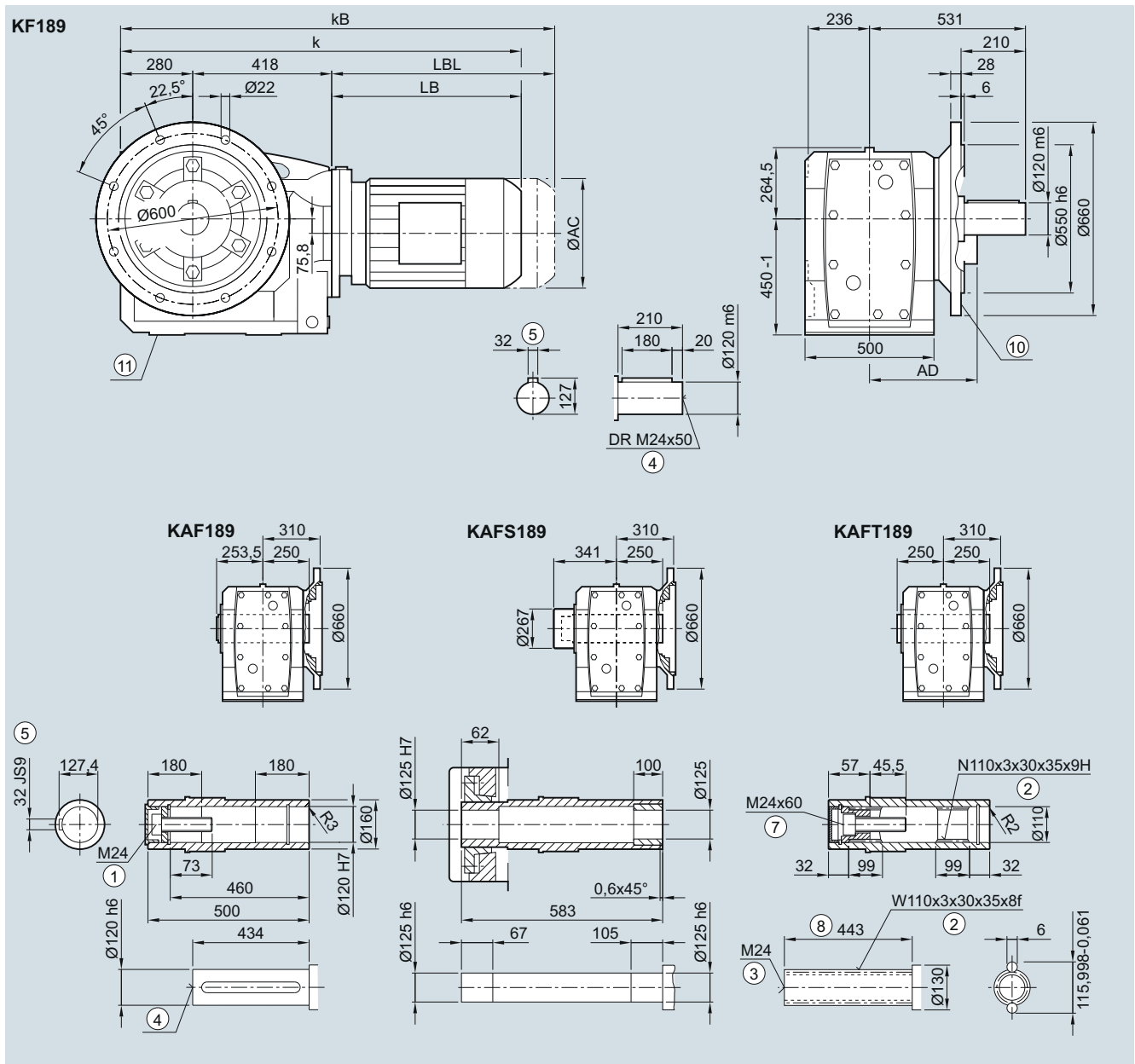
Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	1 051.5	1 076.5	1 097.0	1 147.0	1 179.0	1 239.0	1 251.5	1 281.5	1 319.5	1 344.5	1 364.0	1 424.0	1 471.5
kB	1 124.5	1 149.5	1 201.5	1 251.5	1 295.0	1 355.0	1 380.5	1 410.5	1 465.5	1 491.5	1 592.0	1 652.0	1 696.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm  
<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

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**K.F.189 gearbox in a flange-mounted design**

**KF030, KAF030, KAFS030, KAFT030**



Motor	LE				LES								
	112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	1 051.5	1 076.5	1 097.0	1 147.0	1 179.0	1 239.0	1 251.5	1 281.5	1 319.5	1 344.5	1 364.0	1 424.0	1 471.5
kB	1 124.5	1 149.5	1 201.5	1 251.5	1 295.0	1 355.0	1 380.5	1 410.5	1 466.5	1 491.5	1 592.0	1 652.0	1 696.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ For inner contour see page 5/141    ⑩ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.



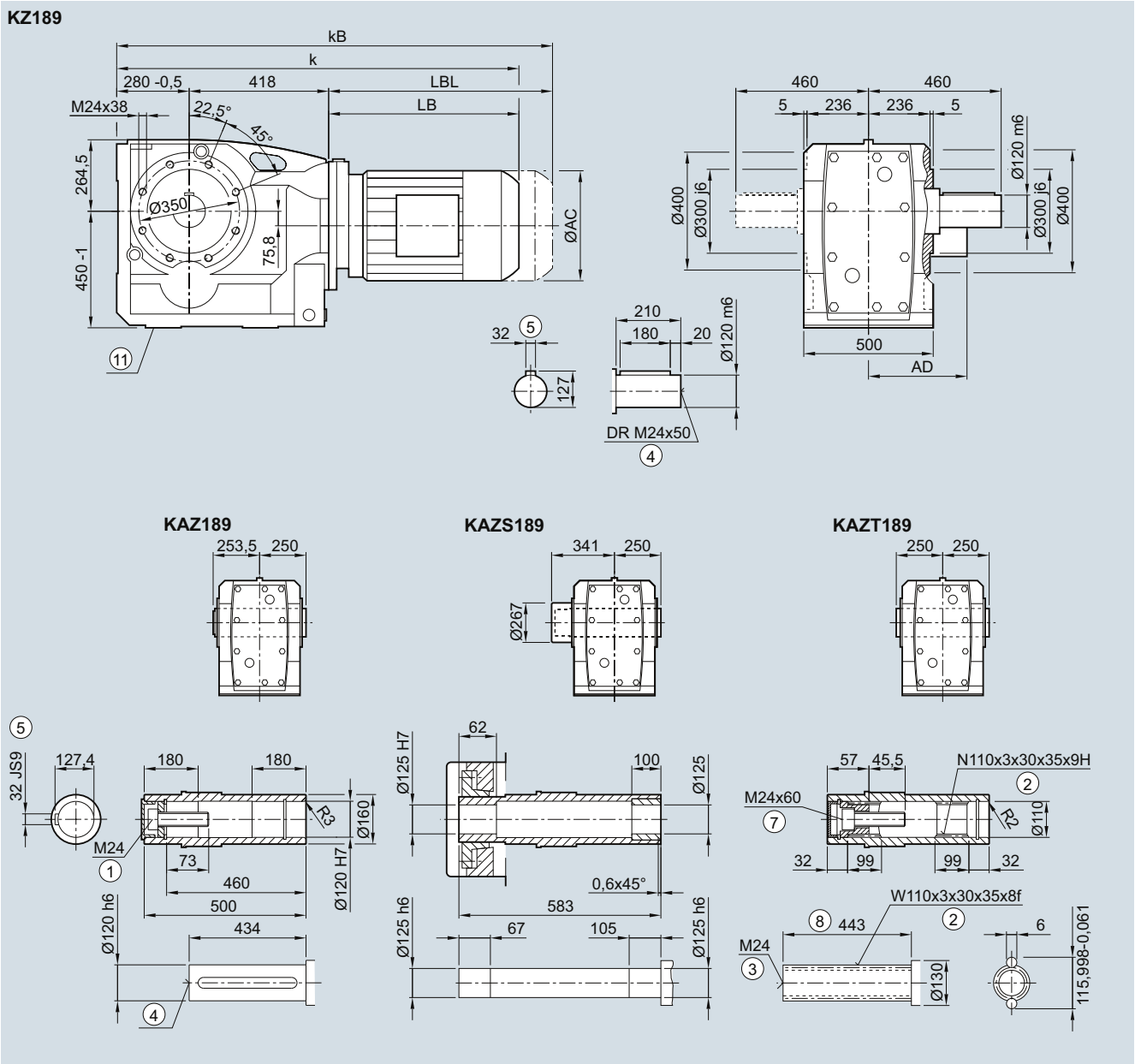
# SIMOGEAR geared motors

## Bevel geared motors

### Dimensions

#### K.Z.189 gearbox in a housing flange design

KZ030, KAZ030, KAZS030, KAZT030



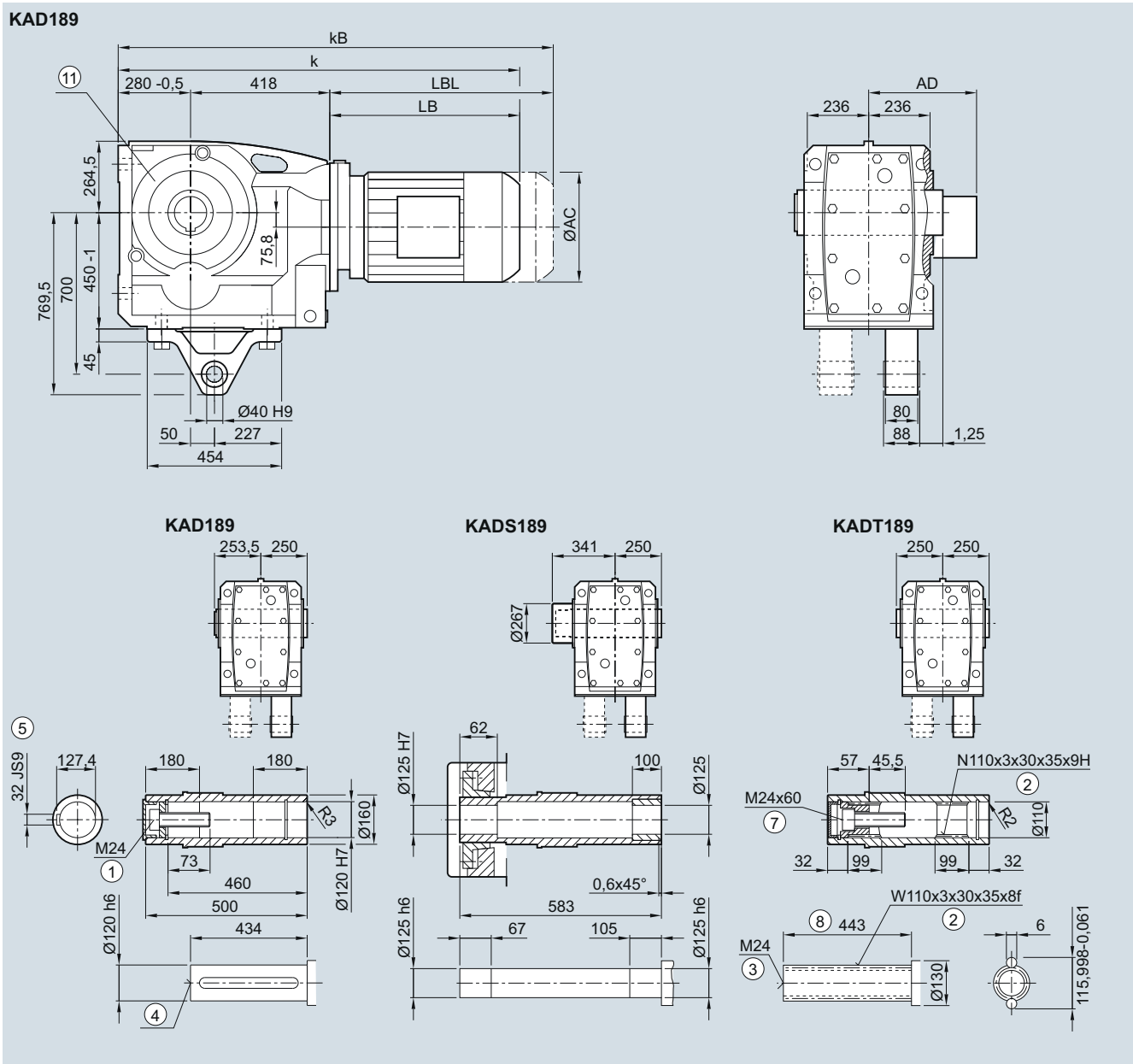
Motor	LE 112	112Z	132	132Z	160	160Z	LES 180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	1 051.5	1 076.5	1 097.0	1 147.0	1 179.0	1 239.0	1 251.5	1 281.5	1 319.5	1 344.5	1 364.0	1 424.0	1 471.5
kB	1 124.5	1 149.5	1 201.5	1 251.5	1 295.0	1 355.0	1 380.5	1 410.5	1 465.5	1 491.5	1 592.0	1 652.0	1 696.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	682.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014    ② DIN 5480    ③ DIN 332-D    ④ DIN 332    ⑤ Feather key/keyway DIN 6885-1    ⑦ ISO 4762    ⑧ Without locating shoulder +1 mm  
 ⑨ Use bores only for foot-mounted design    1) AD depends on the motor options, for other dimensions see page 8/42.

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**KAD.189 gearbox in a shaft-mounted design**

**KAD031, KADS031, KADT031**



Motor	LES												
	LE 112	112Z	132	132Z	160	160Z	180	180Z	200	200Z	225	225Y	250
AC	222.0	222.0	264.0	264.0	318.0	318.0	352.5	352.5	392.5	392.5	439.0	439.0	487.0
AD <sup>1)</sup>	181.5	181.5	207.0	207.0	241.0	241.0	292.0	292.0	315.0	315.0	382.0	382.0	457.5
k	1 051.5	1 076.5	1 097.0	1 147.0	1 179.0	1 239.0	1 251.5	1 281.5	1 319.5	1 344.5	1 364.0	1 424.0	1 471.5
kB	1 124.5	1 149.5	1 201.5	1 251.5	1 295.0	1 355.0	1 380.5	1 410.5	1 466.5	1 491.5	1 592.0	1 652.0	1 696.5
LB	353.5	378.5	399.0	449.0	481.0	541.0	553.5	583.5	621.5	646.5	666.0	726.0	773.5
LBL	426.5	451.5	503.5	553.5	597.0	657.0	692.5	712.5	768.5	793.5	894.0	954.0	998.5

① ISO 4014 ② DIN 5480 ③ DIN 332-D ④ DIN 332 ⑤ Feather key/keyway DIN 6885-1 ⑦ ISO 4762 ⑧ Without locating shoulder +1 mm

⑩ Use bores only for housing flange design

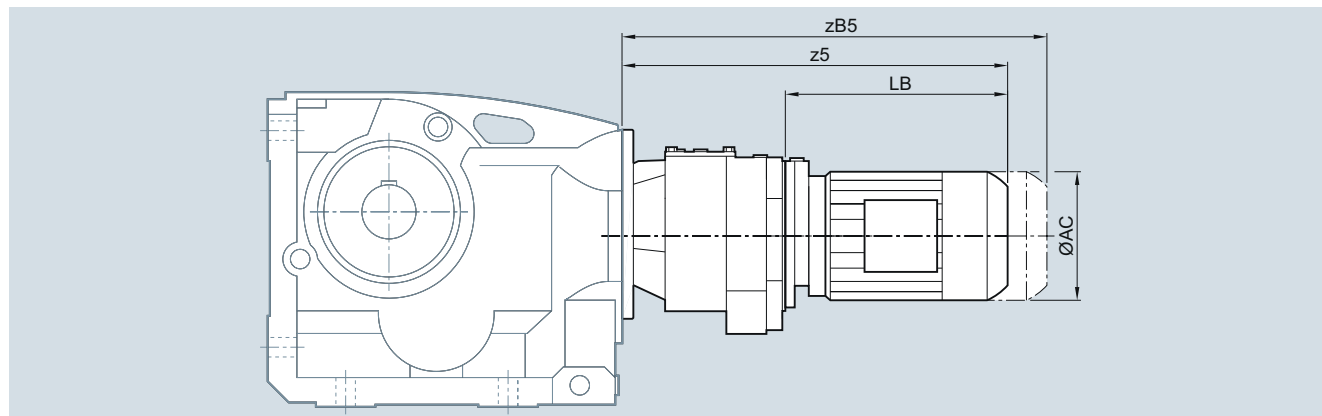
1) AD depends on the motor options, for other dimensions see page 8/42.

## SIMOGEAR geared motors

### Bevel geared motors

#### Dimensions

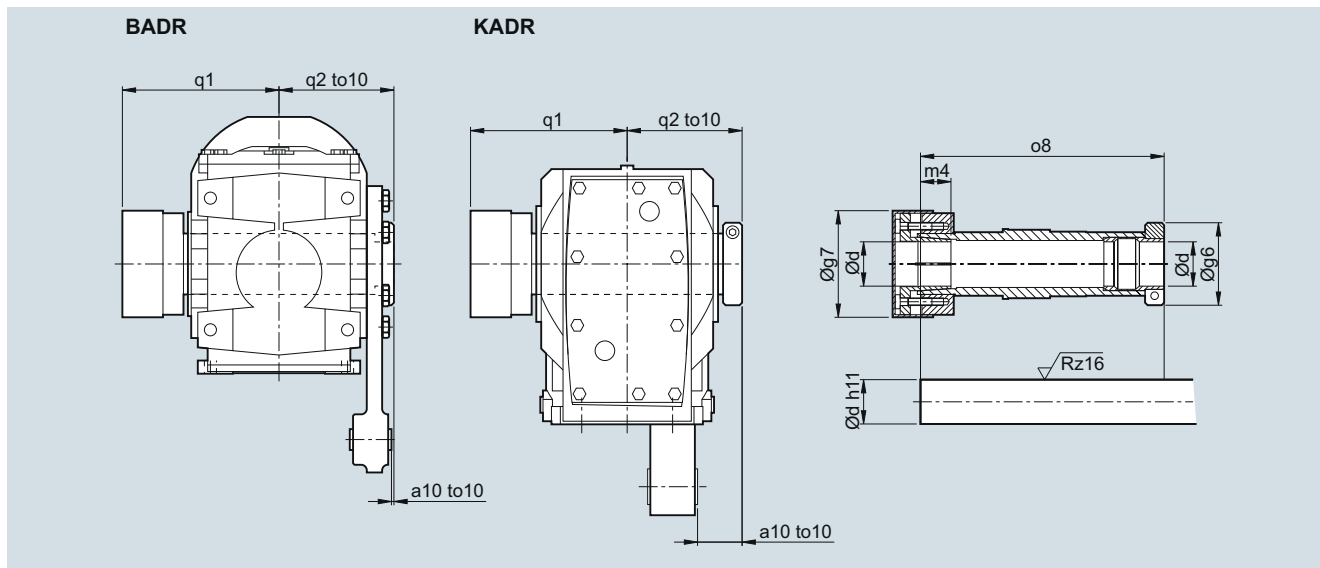
#### Bevel tandem geared motors



Gearbox	Motor	AC	z5	zB5	LB
K.39-D/Z19	LA63	117.8	331.0	375.5	160.5
	LA71	138.8	363.0	418.0	184.5
	LA71Z	138.8	382.0	437.0	203.5
K.49-D/Z19	LA63	117.8	322.0	366.5	160.5
	LA71	138.8	354.0	409.0	184.5
	LA71Z	138.8	373.0	428.0	203.5
	LE80	156.3	410.0	470.0	240.0
K.69-D/Z19	LA63	117.8	322.0	366.5	160.5
	LA71	138.8	354.0	409.0	184.5
	LA71Z	138.8	373.0	428.0	203.5
	LE80	156.3	410.0	470.0	240.0
K.79-D/Z19	LA63	117.8	322.0	366.5	160.5
	LA71	138.8	354.0	409.0	184.5
	LA71Z	138.8	373.0	428.0	203.5
	LE80	156.3	410.0	470.0	240.0
K.89-D/Z39	LA63	117.8	373.5	418.0	194.0
	LA71	138.8	405.5	460.5	226.0
	LA71Z	138.8	424.5	479.5	245.0
	LE80	156.3	469.5	529.5	290.0
K.109-D/Z39	LA63	117.8	356.5	401.0	194.0
	LA71	138.8	388.5	443.5	226.0
	LA71Z	138.8	407.5	462.5	245.0
	LE80	156.3	452.5	512.5	290.0
	LE80Z	156.3	487.5	547.5	325.0
	LE90	173.8	514.0	584.0	351.5
	LE90Z	173.8	554.0	624.0	391.5
	LE100	198.0	570.5	649.0	408.0
	LE100Z	198.0	605.5	684.0	443.0
	LE112	222.0	580.5	653.5	418.0
K.129-D/Z39	LA63	117.8	347.5	392.0	194.0
	LA71	138.8	379.5	431.5	226.0
	LA71Z	138.8	398.5	453.5	245.0
	LE80	156.3	443.5	503.5	290.0
	LE80Z	156.3	478.5	538.5	325.0
	LE90	173.8	505.0	575.0	351.5

Gearbox	Motor	AC	z5	zB5	LB
K.129-D/Z39	LE90Z	173.8	545.0	615.0	391.5
	LE100	198.0	561.5	640.0	408.0
	LE100Z	198.0	596.5	675.0	443.0
	LE112	222.0	571.5	644.5	418.0
K.149-D/Z49	LE112Z	222.0	596.5	669.5	443.0
	LA63	117.8	376.5	421.0	184.5
	LA71	138.8	408.5	463.5	216.5
	LA71Z	138.8	427.5	482.5	235.5
K.169-D/Z49	LE80	156.3	472.5	532.5	280.5
	LE80Z	156.3	507.5	567.5	315.5
	LE90	173.8	534.0	604.0	342.0
	LE90Z	173.8	574.0	644.0	382.0
	LE100	198.0	590.5	669.0	398.5
	LE100Z	198.0	625.5	704.0	433.5
	LE112	222.0	600.5	673.5	408.5
	LE112Z	222.0	635.0	708.0	443.0
	LE132	264.0	653.5	758.0	461.5
	LE132Z	264.0	703.5	808.0	511.5
K.189-D/Z69	LA63	117.8	366.0	410.5	184.5
	LA71	138.8	398.0	453.0	216.5
	LA71Z	138.8	417.5	472.5	235.5
	LE80	156.3	462.0	522.0	280.5
	LE80Z	156.3	497.0	557.0	315.5
	LE90	173.8	523.5	593.5	342.0
	LE90Z	173.8	563.5	633.5	382.0
	LE100	198.0	580.0	658.5	398.5
	LE100Z	198.0	615.0	693.5	433.5
	LE112	222.0	590.0	663.0	408.5
K.189-D/Z69	LE112Z	222.0	624.5	697.5	443.0
	LE132	264.0	643.0	747.5	461.5
	LE132Z	264.0	693.0	797.5	511.5
	LA63	117.8	391.5	436.0	184.5
	LA71	138.8	423.5	478.5	216.5
	LA71Z	138.8	442.5	497.5	235.5
	LE80	156.3	487.5	547.5	280.5
	LE80Z	156.3	522.5	582.5	315.5
	LE90	173.8	549.0	619.0	342.0
	LE90Z	173.8	589.0	659.0	382.0
K.189-D/Z69	LE100	198.0	605.5	684.0	398.5
	LE100Z	198.0	640.5	719.0	433.5
	LE112	222.0	615.5	688.5	408.5
	LE112Z	222.0	650.0	723.0	443.0
	LE132	264.0	668.5	773.0	461.5
	LE132Z	264.0	718.5	823.0	511.5

## SIMOLOC assembly system



Note mounting tolerance to10 when positioning the torque arm.

d	g6	g7	m4	o8	q1	q2	a10	to10
<b>BADR29</b>								
20	58.5	56	18.5	151	102	75	11	+2.1
1"								+0.6
0.75"								
<b>BADR39</b>								
30	62.0	76	22	180.5	116	85	2.5	+2.2
25								+0.7
1.25"								
1.1875"								
1"								
<b>BADR49</b>								
35	65.0	84	24	210.0	134	100	-2.5	+2.6
30								+0.8
1.375"								
1.4375"								
1.25"								
1.1875"								
40	79.5	94	30	220	140	104	1.5	
1.625"								
<b>KADR39</b>								
30	62.0	76	22	160.5	106	75	39	+2.2
25								+0.7
1.25"								
1.1875"								
1"								
<b>KADR49</b>								
35	65.0	84	24	192.0	124	90	41	+2.6
30								+0.8
1.375"								
1.4375"								
1.25"								
1.1875"								

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**SIMOGEAR geared motors**

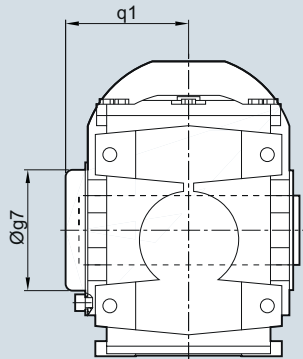
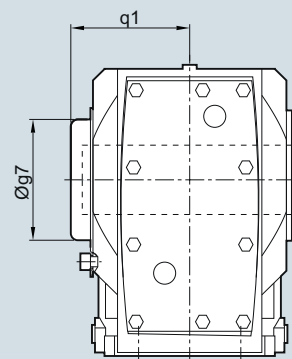
Bevel geared motors

**Dimensions****SIMOLOC assembly system** (continued)

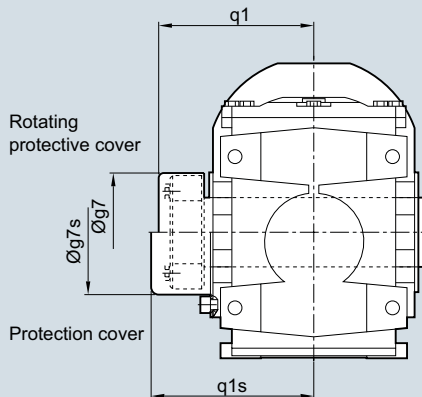
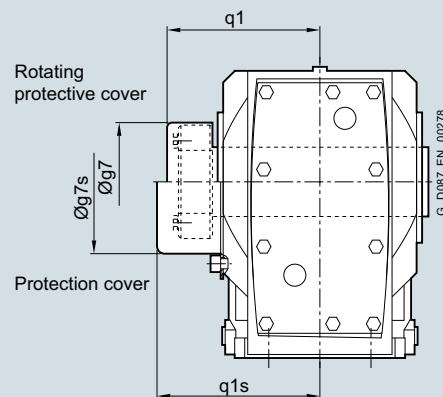
d	g6	g7	m4	o8	q1	q2	a10	to10
<b>KADR69</b>								
40	79.5	94	30	217.5	138	102	39	+2.5
35								+0.7
1.5"								
1.625"								
1.4375"								
1.375"								
<b>KADR79</b>								
40	79.5	94	30	232.0	150	109	46	+3.2
35								+1.4
1.5"								
1.625"								
1.4375"								
1.375"								
<b>KADR89</b>								
50	89.0	114	32	264.0	171	124	45	+3.4
40								+1.5
2"								
1.9375"								
1.75"								
1.625"								

5

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**Protection covers**
**Protection cover for hollow shaft**
**BA, BAF, BAZ, BAD**

**KA<sup>1)</sup>, KAF, KAZ, KAD**


Gearbox type	BA.19	BA.29	BA.39	BA.49	KA.39	KA.49	KA.69	KA.79	KA.89	KA.109	KA.129	KA.149	KA.169	KA.189	
<b>Protection cover</b>															
g7	82.0	67.0	80.0	80.0	82.5	80.0	99.0	99.0	137.0	187.0	187.0	218.0	257.5	309.5	
q1	57.5	76.0	96.0	111.0	73.0	105.0	95.0	101.5	124.5	168.0	198.0	250.0	313.0	373.5	

**Protection cover for hollow shaft with shrink disk**
**BAS, BAFS, BAZS, BADS**

**KAFS, KAZS, KADS**


Gearbox type	BA..29	BA..39	BA..49	KA..39	KA..49	KA..69	KA..79	KA..89	KA..109	KA..129	KA..149	KA..169	KA..189
<b>Rotating protective cover with shrink disk version</b>													
g7	55	84	84	76.0	84	84	94.0	119.0	142.0	159.0	201.0	234.0	267.0
q1	85	102	117	89.5	107	115	125.5	142.5	162.5	198.5	233.5	291.0	343.5
<b>Protection cover</b>													
g7s	58	86	86	82.5	86	99	99.0	137.0	187.0	187.0	218.0	257.5	309.5
q1s	91	119	134	109.0	122	126	132.5	176.5	195.0	225.0	250.0	313.0	373.5

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<sup>1)</sup> KA/KAS version valid only for gearbox sizes 169 and 189

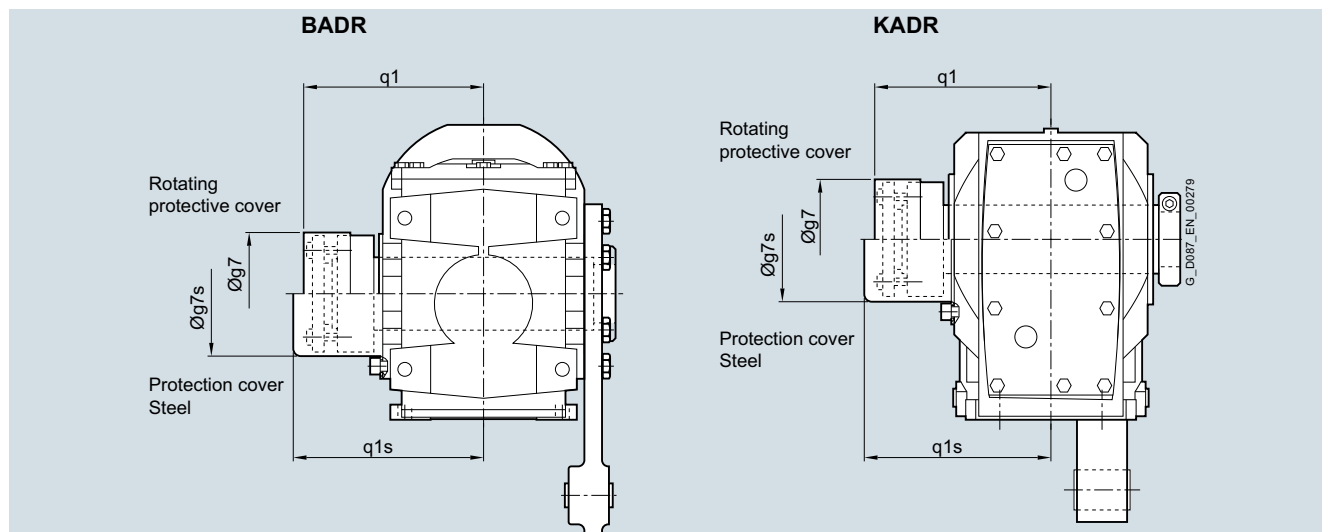
## SIMOGEAR geared motors

Bevel geared motors

### Dimensions

#### Protection covers

##### Protection cover for hollow shaft with SIMOLOC assembly system



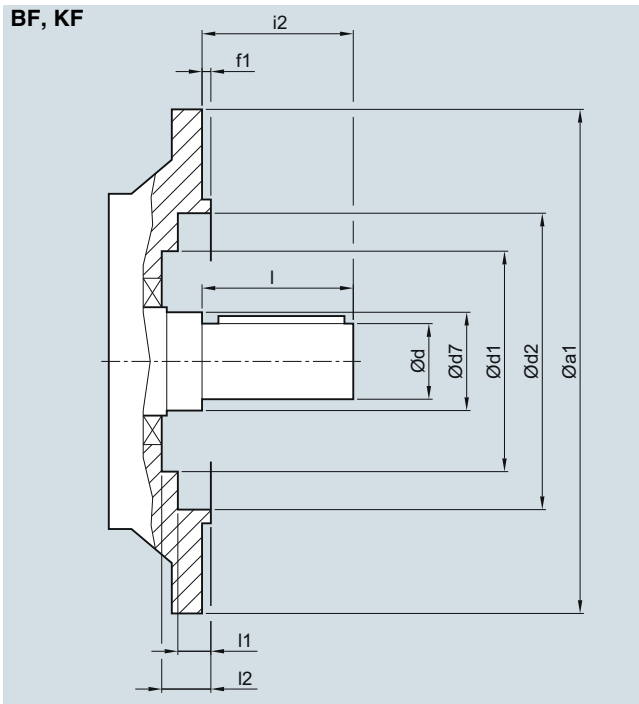
Gearbox type	BADR29	BADR39	BADR49	KADR39	KADR49	KADR69	KADR79	KADR89
<b>Rotating protective cover</b>								
g7	56	76	84 (94)	76	84	94	94	114
q1	102	116	134 (140)	106	124	138	150	171
<b>Protection cover</b>								
g7s	58	86.0	86 (99)	82.5	86	99	99	137
q1s	102	119.0	138 (143)	109	126	145	151.5	176.5

( ) Dimension in brackets for hollow shaft  $d=40$  and  $d=1.625$ "

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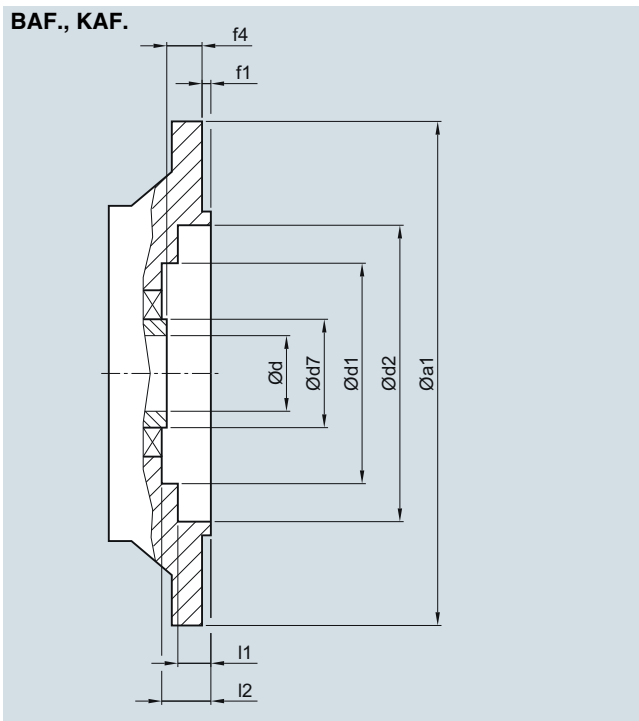
**Inner contour of the flange design**

Notes regarding the design of the customer's interface for the solid shaft design



Gearbox type	a1	d	d7	d1	d2	f1	i2	l	l1	l2	
BF19	120	20	30	60	68	3.0	40	40	23.5	29.5	
BF29	120	20	40	-	70	3.0	40	40	24.0	-	
	160	20	40	70	101	3.5	40	40	8.5	24.5	
BF39	160	30	55	93	100	3.5	60	60	11.0	31.5	
	200	30	55	93	119	3.5	60	60	16.0	31.5	
BF49	200	35	55	93	119	3.5	70	70	16.0	31.5	
KF39	160	25	30	-	100	3.5	50	50	5.0	-	
KF49	200	30	35	-	118	3.5	60	60	5.5	-	
KF69	250	35	45	-	165	4.0	70	70	6.5	-	
KF79	250	40	55	-	165	4.0	80	80	6.5	-	
KF89	300	50	55	-	165	4.0	100	100	8.0	-	
KF109	350	60	65	-	235	5.0	120	120	9.0	-	
KF129	450	70	75	-	336	5.0	140	140	9.0	-	
KF149	450	90	100	-	336	5.0	170	170	10.0	-	
KF169	550	110	120	-	427	5.0	210	210	10.0	-	
KF189	660	120	160	-	517	6.0	210	210	11.0	-	
<b>With VLplus reinforced bearing system (G30)</b>											
KF89	300	60	70	143	218	4.0	120	120	1.5	8	
KF109	350	70	85	190	234	5.0	140	140	2.0	4	
KF129	450	90	95	-	336	5.0	170	170	16.5	-	
KF149	450	100	120	225	336	5.0	210	210	10.5	11	
KF169	550	120	140	-	426	5.0	210	210	19.5	-	

Notes regarding the design of the customer's interface for the hollow shaft design



Gearbox type	a1	d	d7	d1	d2	f1	f4	l1	l2	
BAF.19	120	20	30	60	68	3.0	30.0	23.5	29.5	
BAF.29	120	20/ 25	40	-	70	3.0	20.0	24.0	-	
	160	20/ 25	40	70	101	3.5	20.0	8.5	24.5	
BAF.39	160	30	55	93	100	3.5	27.0	11.0	31.5	
		35								
		40								
BAF.39	200	30	55	93	119	3.5	27.0	16.0	31.5	
		35								
		40								
BAF.49	200	35	55	93	119	3.5	27.0	16.0	31.5	
		40								
KAF.39	160	30	45	80	102	3.5	24.0	2.0	29.5	
KAF.49	200	35	50	90	120	3.5	25.0	4.0	30.5	
KAF.69	250	40	55	104	165	4.0	23.5	2.0	29.5	
KAF.79	250	40	55	104	165	4.0	23.0	2.0	29.5	
KAF.89	300	50	70	135	215	4.0	37.0	2.0	44.5	
KAF.109	350	60	85	184	210	5.0	36.0	13.0	45.0	
KAF.129	450	70	95	184	336	5.0	41.5	16.5	48.5	
KAF.149	450	90	120	214	219	5.0	41.0	40.0	50.0	
KAF.169	550	100	140	254	426	5.0	56.0	14.5	56.0	
KAF.189	660	120	160	306	518	6.0	66.0	6.0	62.0	
<b>With VLplus reinforced bearing system (G30)</b>										
KAF.89	300	50	70	143	218	4.0	0	1.5	8	
KAF.109	350	60	85	190	234	5.0	0	2.0	4	
KAF.129	450	70	95	-	336	5.0	0	16.5	-	
KAF.149	450	90	120	225	330	5.0	0	10.5	11	
KAF.169	550	100	140	-	426	5.0	0	14.5	-	

Electro Motor.ir



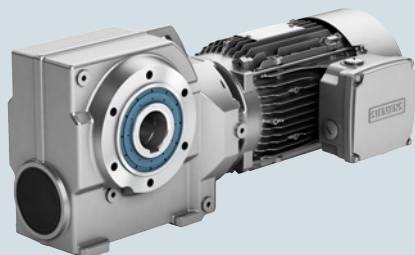
## SIMOGEAR geared motors

### Notes

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Electro\_Motor.ir

## Helical worm geared motors



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<b>6/3</b> 6/3	<b>Geared motors up to 7.5 kW</b> Selection and ordering data
<b>6/20</b> 6/20	<b>Transmission ratios and torques</b> Selection and ordering data
<b>6/25</b> 6/25	<b>Transmission ratios and torques for very low speeds</b> Selection and ordering data
<b>6/30</b> 6/30	<b>Efficiencies</b> Selection and ordering data
<b>6/40</b>	<b>Dimensions</b>
6/40	Dimensional drawing overview
6/42	Helical worm geared motors C..29
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6/62	Helical worm tandem geared motors
6/63	SIMOLOC assembly system
	<u>Protection covers</u>
6/64	Protection covers for hollow shaft
6/64	Protection covers for hollow shaft with shrink disk
6/64	Protection covers for hollow shaft with SIMOLOC assembly system
6/65	Inner contour of the flange design

## SIMOGEAR geared motors

Helical worm geared motors

### Orientation

#### SIMOGEAR helical worm geared motors C

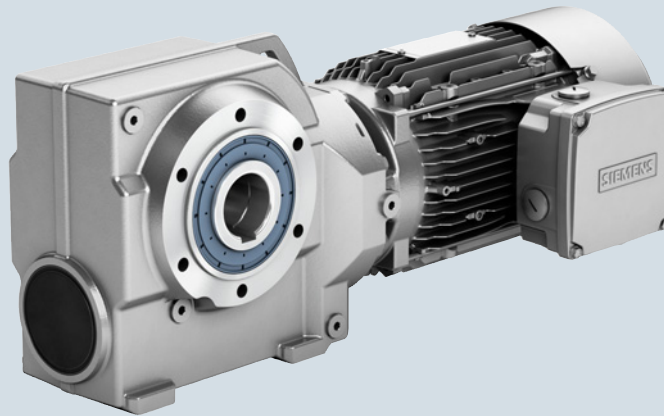


Fig. 6/1 Helical worm gearbox C

Gearbox designation	Number of sizes	Maximum output torque	Transmission ratio	Maximum motor power
		$T_{2N}$ Nm	$i$ -	$P_1$ kW
C29 ... C89 (2-stage)	5	82 ... 1 450	6.48 ... 363	7.5
C.29-D/Z19 ... C.89-D/Z39 (4-stage or 5-stage)	5	80 ... 1 310	270 ... 19 000	7.5

SIMOGEAR helical worm geared motors are available in the following versions:

#### Transmission stages

- 2-stage helical worm geared motors
- 4-stage or 5-stage helical worm geared motors for very low output speeds

#### Designs

- Shaft-mounted design
- Flange-mounted design
- Design with integrated housing flange
- Foot-mounted design

#### Mounting

- Hollow shaft design with feather key
- Hollow shaft design with shrink disk
- Hollow shaft design with SIMOLOC assembly system
- Solid shaft design with and without feather key (at one end or both ends)

For helical worm gearboxes, the torque arm is supplied loose to enable it to be mounted as required on site. The position of the torque arm can be freely selected.

Electro\_Motor.ir

**Selection and ordering data**

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>0.09</b>	<b>C.49-LA63MF6</b>								
	2.8	183	299.0	8 730	1.9	20	2KJ3603 - ■ BD11 - ■ ■ N2	P01	
	<b>C.39-LA63MF6</b>								
	2.8	174	299.0	6 250	1.1	14	2KJ3602 - ■ BD11 - ■ ■ N2	P01	
	3.2	158	265.2	6 310	1.2	14	2KJ3602 - ■ BD11 - ■ ■ M2	P01	
	3.7	142	230.1	6 370	1.3	14	2KJ3602 - ■ BD11 - ■ ■ L2	P01	
	4.1	131	209.18	6 410	1.5	14	2KJ3602 - ■ BD11 - ■ ■ K2	P01	
	<b>C.39-LA63MD4</b>								
	4.7	118	299.0	6 460	1.6	14	2KJ3602 - ■ BB11 - ■ ■ N2		
	5.3	107	265.2	6 500	1.8	14	2KJ3602 - ■ BB11 - ■ ■ M2		
	6.1	95	230.1	6 540	2.0	14	2KJ3602 - ■ BB11 - ■ ■ L2		
	<b>C.29-LA63MF6</b>								
	4.1	130	209.18	4 030	0.82	9	2KJ3601 - ■ BD11 - ■ ■ K2	P01	
	4.7	115	179.4	4 100	0.93	9	2KJ3601 - ■ BD11 - ■ ■ J2	P01	
	<b>C.29-LA63MD4</b>								
	5.3	106	265.2	4 150	1.0	8	2KJ3601 - ■ BB11 - ■ ■ M2		
	6.1	94	230.1	4 210	1.1	8	2KJ3601 - ■ BB11 - ■ ■ L2		
	6.7	87	209.18	4 240	1.2	8	2KJ3601 - ■ BB11 - ■ ■ K2		
	7.8	77	179.4	4 290	1.4	8	2KJ3601 - ■ BB11 - ■ ■ J2		
	8.6	71	163.09	4 330	1.5	8	2KJ3601 - ■ BB11 - ■ ■ H2		
	9.8	63	143.0	4 370	1.7	8	2KJ3601 - ■ BB11 - ■ ■ G2		
	11	57	127.64	4 400	1.9	8	2KJ3601 - ■ BB11 - ■ ■ F2		
	12	52	113.75	4 420	2.1	8	2KJ3601 - ■ BB11 - ■ ■ E2		
	13	48	105.0	4 440	2.3	8	2KJ3601 - ■ BB11 - ■ ■ D2		
	15	42	91.93	4 470	2.6	8	2KJ3601 - ■ BB11 - ■ ■ C2		
	17	37	80.6	4 500	3.0	8	2KJ3601 - ■ BB11 - ■ ■ B2		
	19	34	73.12	4 500	3.2	8	2KJ3601 - ■ BB11 - ■ ■ A2		
	20	32	68.82	4 500	3.4	8	2KJ3601 - ■ BB11 - ■ ■ X1		
	23	28	60.67	4 500	3.9	8	2KJ3601 - ■ BB11 - ■ ■ W1		
	27	24	52.65	4 500	4.5	8	2KJ3601 - ■ BB11 - ■ ■ V1		
	28	27	49.87	4 500	3.8	8	2KJ3601 - ■ BB11 - ■ ■ U1		
	32	23	43.27	4 500	4.4	8	2KJ3601 - ■ BB11 - ■ ■ T1		
	36	21	39.33	4 500	4.8	8	2KJ3601 - ■ BB11 - ■ ■ S1		
	43	18	32.64	4 500	5.0	8	2KJ3601 - ■ BB11 - ■ ■ Q1		
	<b>0.12</b>	<b>C.49-LA63MG6</b>							
		3.3	215	299.00	8 730	1.6	20	2KJ3603 - ■ BE11 - ■ ■ N2	P01
3.8		196	265.20	8 730	1.8	20	2KJ3603 - ■ BE11 - ■ ■ M2	P01	
4.3		175	230.10	8 730	2.0	20	2KJ3603 - ■ BE11 - ■ ■ L2	P01	
<b>C.39-LA63MG6</b>									
3.3		205	299.00	6 130	0.93	14	2KJ3602 - ■ BE11 - ■ ■ N2	P01	
3.8		186	265.20	6 200	1.0	14	2KJ3602 - ■ BE11 - ■ ■ M2	P01	
4.3		167	230.10	6 270	1.1	14	2KJ3602 - ■ BE11 - ■ ■ L2	P01	
<b>C.39-LA63ME4</b>									
4.5		162	299.00	6 290	1.2	14	2KJ3602 - ■ BC11 - ■ ■ N2		
5.1		147	265.20	6 350	1.3	14	2KJ3602 - ■ BC11 - ■ ■ M2		
5.9		131	230.10	6 410	1.5	14	2KJ3602 - ■ BC11 - ■ ■ L2		
6.5		121	209.18	6 450	1.6	14	2KJ3602 - ■ BC11 - ■ ■ K2		
7.5		106	179.40	6 500	1.8	14	2KJ3602 - ■ BC11 - ■ ■ J2		
8.3		97	163.09	6 530	2.0	14	2KJ3602 - ■ BC11 - ■ ■ H2		

**Article No. supplement**

Shaft design

Frequency and voltage

Gearbox mounting type

# Electro\_Motor.ir

1, 5, 6, 7 or 9

2 or 9

A, D, F or H

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**SIMOGEAR geared motors**

Helical worm geared motors

Geared motors up to 7.5 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.12</b>	<b>C.29-LA63MG6</b>							
	5.6	135	179.40	4 000	0.80	9	2KJ3601 - ■ BE11 - ■ ■ J2	P01
	<b>C.29-LA63ME4</b>							
	5.9	129	230.10	4 030	0.83	8	2KJ3601 - ■ BC11 - ■ ■ L2	
	6.5	120	209.18	4 080	0.91	8	2KJ3601 - ■ BC11 - ■ ■ K2	
	7.5	106	179.40	4 150	1.0	8	2KJ3601 - ■ BC11 - ■ ■ J2	
	8.3	98	163.09	4 190	1.1	8	2KJ3601 - ■ BC11 - ■ ■ H2	
	9.4	87	143.00	4 240	1.3	8	2KJ3601 - ■ BC11 - ■ ■ G2	
	11	79	127.64	4 280	1.4	8	2KJ3601 - ■ BC11 - ■ ■ F2	
	12	71	113.75	4 330	1.5	8	2KJ3601 - ■ BC11 - ■ ■ E2	
	13	66	105.00	4 350	1.7	8	2KJ3601 - ■ BC11 - ■ ■ D2	
	15	58	91.93	4 390	1.9	8	2KJ3601 - ■ BC11 - ■ ■ C2	
	17	51	80.60	4 430	2.1	8	2KJ3601 - ■ BC11 - ■ ■ B2	
	18	47	73.12	4 450	2.4	8	2KJ3601 - ■ BC11 - ■ ■ A2	
	20	44	68.82	4 460	2.5	8	2KJ3601 - ■ BC11 - ■ ■ X1	
	22	39	60.67	4 490	2.8	8	2KJ3601 - ■ BC11 - ■ ■ W1	
	26	34	52.65	4 500	3.3	8	2KJ3601 - ■ BC11 - ■ ■ V1	
	27	37	49.87	4 500	2.8	8	2KJ3601 - ■ BC11 - ■ ■ U1	
	31	32	43.27	4 500	3.2	8	2KJ3601 - ■ BC11 - ■ ■ T1	
	34	30	39.33	4 500	3.5	8	2KJ3601 - ■ BC11 - ■ ■ S1	
	40	26	33.73	4 500	4.0	8	2KJ3601 - ■ BC11 - ■ ■ R1	
41	25	32.64	4 500	3.6	8	2KJ3601 - ■ BC11 - ■ ■ Q1		
48	22	28.32	4 500	4.2	8	2KJ3601 - ■ BC11 - ■ ■ P1		
52	20	25.75	4 500	4.6	8	2KJ3601 - ■ BC11 - ■ ■ N1		
<b>0.18</b>	<b>C.69-LA71MG6</b>							
	2.4	450	360.00	11 100	1.5	30	2KJ3604 - ■ CD11 - ■ ■ M2	P01
	2.7	410	319.80	11 200	1.6	30	2KJ3604 - ■ CD11 - ■ ■ L2	P01
	3.0	370	280.80	11 300	1.8	30	2KJ3604 - ■ CD11 - ■ ■ K2	P01
	3.3	345	255.27	11 400	2.0	30	2KJ3604 - ■ CD11 - ■ ■ J2	P01
	<b>C.49-LA71MG6</b>							
	2.8	365	299.00	8 370	0.94	21	2KJ3603 - ■ CD11 - ■ ■ N2	P01
	3.2	330	265.20	8 470	1.0	21	2KJ3603 - ■ CD11 - ■ ■ M2	P01
	3.7	295	230.10	8 570	1.2	21	2KJ3603 - ■ CD11 - ■ ■ L2	P01
	4.1	275	209.18	8 630	1.3	21	2KJ3603 - ■ CD11 - ■ ■ K2	P01
	<b>C.49-LA63MF4</b>							
	4.5	255	299.00	8 690	1.4	20	2KJ3603 - ■ BD11 - ■ ■ N2	
	5.1	230	265.20	8 730	1.5	20	2KJ3603 - ■ BD11 - ■ ■ M2	
	5.9	200	230.10	8 730	1.7	20	2KJ3603 - ■ BD11 - ■ ■ L2	
	6.5	188	209.18	8 730	1.9	20	2KJ3603 - ■ BD11 - ■ ■ K2	
	<b>C.39-LA63MF4</b>							
	5.1	220	265.20	6 080	0.87	14	2KJ3602 - ■ BD11 - ■ ■ M2	
	5.9	197	230.10	6 160	0.98	14	2KJ3602 - ■ BD11 - ■ ■ L2	
	6.5	181	209.18	6 220	1.1	14	2KJ3602 - ■ BD11 - ■ ■ K2	
	7.5	159	179.40	6 300	1.2	14	2KJ3602 - ■ BD11 - ■ ■ J2	
	8.3	146	163.09	6 350	1.3	14	2KJ3602 - ■ BD11 - ■ ■ H2	
9.4	129	143.00	6 420	1.5	14	2KJ3602 - ■ BD11 - ■ ■ G2		
11	117	127.64	6 460	1.7	14	2KJ3602 - ■ BD11 - ■ ■ F2		
12	104	113.75	6 510	1.9	14	2KJ3602 - ■ BD11 - ■ ■ E2		
13	97	105.00	6 530	2.0	14	2KJ3602 - ■ BD11 - ■ ■ D2		

**Article No. supplement**

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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Electro\_Motor.ir

# SIMOGEAR geared motors

## Helical worm geared motors

Geared motors up to 7.5 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.18</b>	<b>C.29-LA63MF4</b>							
	9.4	131	143.00	4 020	0.84	9	2KJ3601 - ■ BD11 - ■ ■ G2	
	11	118	127.64	4 090	0.93	9	2KJ3601 - ■ BD11 - ■ ■ F2	
	12	107	113.75	4 140	1.0	9	2KJ3601 - ■ BD11 - ■ ■ E2	
	13	99	105.00	4 180	1.1	9	2KJ3601 - ■ BD11 - ■ ■ D2	
	15	88	91.93	4 240	1.3	9	2KJ3601 - ■ BD11 - ■ ■ C2	
	17	77	80.60	4 290	1.4	9	2KJ3601 - ■ BD11 - ■ ■ B2	
	18	70	73.12	4 330	1.6	9	2KJ3601 - ■ BD11 - ■ ■ A2	
	20	66	68.82	4 350	1.7	9	2KJ3601 - ■ BD11 - ■ ■ X1	
	22	58	60.67	4 390	1.9	9	2KJ3601 - ■ BD11 - ■ ■ W1	
	26	51	52.65	4 430	2.2	9	2KJ3601 - ■ BD11 - ■ ■ V1	
	27	55	49.87	4 410	1.8	9	2KJ3601 - ■ BD11 - ■ ■ U1	
	31	48	43.27	4 440	2.1	9	2KJ3601 - ■ BD11 - ■ ■ T1	
	34	44	39.33	4 460	2.3	9	2KJ3601 - ■ BD11 - ■ ■ S1	
	40	38	33.73	4 490	2.7	9	2KJ3601 - ■ BD11 - ■ ■ R1	
	41	37	32.64	4 500	2.4	9	2KJ3601 - ■ BD11 - ■ ■ Q1	
	48	32	28.32	4 500	2.8	9	2KJ3601 - ■ BD11 - ■ ■ P1	
	52	30	25.75	4 500	3.0	9	2KJ3601 - ■ BD11 - ■ ■ N1	
	61	26	22.08	4 500	3.6	9	2KJ3601 - ■ BD11 - ■ ■ M1	
67	23	20.07	4 500	3.9	9	2KJ3601 - ■ BD11 - ■ ■ L1		
77	20	17.60	4 500	4.5	9	2KJ3601 - ■ BD11 - ■ ■ K1		
86	18	15.71	4 500	5.0	9	2KJ3601 - ■ BD11 - ■ ■ J1		
<b>0.25</b>	<b>C.69-LA71MH6</b>							
	2.4	625	360.00	10 700	1.1	31	2KJ3604 - ■ CE11 - ■ ■ M2	P01
	2.7	565	319.80	10 900	1.2	31	2KJ3604 - ■ CE11 - ■ ■ L2	P01
	3.1	510	280.80	11 000	1.3	31	2KJ3604 - ■ CE11 - ■ ■ K2	P01
	3.4	470	255.27	11 100	1.4	31	2KJ3604 - ■ CE11 - ■ ■ J2	P01
	<b>C.69-LA71MG4</b>							
	3.8	435	360.00	11 200	1.5	30	2KJ3604 - ■ CD11 - ■ ■ M2	
	4.2	390	319.80	11 300	1.7	30	2KJ3604 - ■ CD11 - ■ ■ L2	
	4.8	350	280.80	11 400	1.9	30	2KJ3604 - ■ CD11 - ■ ■ K2	
	5.3	320	255.27	11 400	2.1	30	2KJ3604 - ■ CD11 - ■ ■ J2	
	4.2	330	322.85	8 470	1.1	23	2KJ3624 - ■ CD11 - ■ ■ A1	
	<b>C.49-LA71MH6</b>							
	3.7	410	230.10	8 240	0.85	22	2KJ3603 - ■ CE11 - ■ ■ L2	P01
	4.1	380	209.18	8 330	0.92	22	2KJ3603 - ■ CE11 - ■ ■ K2	P01
	<b>C.49-LA71MG4</b>							
	4.5	350	299.00	8 410	0.99	21	2KJ3603 - ■ CD11 - ■ ■ N2	
	5.1	320	265.20	8 500	1.1	21	2KJ3603 - ■ CD11 - ■ ■ M2	
	5.9	280	230.10	8 610	1.2	21	2KJ3603 - ■ CD11 - ■ ■ L2	
	6.5	260	209.18	8 670	1.4	21	2KJ3603 - ■ CD11 - ■ ■ K2	
	7.5	225	179.40	8 730	1.6	21	2KJ3603 - ■ CD11 - ■ ■ J2	
8.3	205	163.09	8 730	1.7	21	2KJ3603 - ■ CD11 - ■ ■ H2		
9.4	185	143.00	8 730	1.9	21	2KJ3603 - ■ CD11 - ■ ■ G2		
11	165	127.64	8 650	2.1	21	2KJ3603 - ■ CD11 - ■ ■ F2		
<b>C.39-LA71MG4</b>								
7.5	220	179.40	6 080	0.88	15	2KJ3602 - ■ CD11 - ■ ■ J2		
8.3	200	163.09	6 150	0.95	15	2KJ3602 - ■ CD11 - ■ ■ H2		
9.4	180	143.00	6 230	1.1	15	2KJ3602 - ■ CD11 - ■ ■ G2		

## Article No. supplement

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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Electro\_Motor.ir

**SIMOGEAR geared motors**

Helical worm geared motors

Geared motors up to 7.5 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.25</b>	<b>C.39-LA71MG4</b>							
	11	162	127.64	6 290	1.2	15	2KJ3602 - ■ CD11 - ■ ■ F2	
	12	145	113.75	6 360	1.3	15	2KJ3602 - ■ CD11 - ■ ■ E2	
	13	134	105.00	6 400	1.4	15	2KJ3602 - ■ CD11 - ■ ■ D2	
	15	118	91.93	6 460	1.6	15	2KJ3602 - ■ CD11 - ■ ■ C2	
	17	103	80.60	6 510	1.9	15	2KJ3602 - ■ CD11 - ■ ■ B2	
	18	94	73.12	6 550	2.1	15	2KJ3602 - ■ CD11 - ■ ■ A2	
	20	89	68.82	6 560	2.2	15	2KJ3602 - ■ CD11 - ■ ■ X1	
	22	78	60.67	6 610	2.4	15	2KJ3602 - ■ CD11 - ■ ■ W1	
	27	78	49.87	6 610	2.5	15	2KJ3602 - ■ CD11 - ■ ■ U1	
	<b>C.29-LA71MG4</b>							
	13	138	105.00	3 990	0.8	10	2KJ3601 - ■ CD11 - ■ ■ D2	
	15	122	91.93	4 070	0.9	10	2KJ3601 - ■ CD11 - ■ ■ C2	
	17	107	80.60	4 140	1.0	10	2KJ3601 - ■ CD11 - ■ ■ B2	
	18	98	73.12	4 190	1.1	10	2KJ3601 - ■ CD11 - ■ ■ A2	
20	92	68.82	4 220	1.2	10	2KJ3601 - ■ CD11 - ■ ■ X1		
22	81	60.67	4 270	1.4	10	2KJ3601 - ■ CD11 - ■ ■ W1		
26	70	52.65	4 330	1.6	10	2KJ3601 - ■ CD11 - ■ ■ V1		
27	77	49.87	4 290	1.3	10	2KJ3601 - ■ CD11 - ■ ■ U1		
31	67	43.27	4 350	1.5	10	2KJ3601 - ■ CD11 - ■ ■ T1		
34	62	39.33	4 370	1.7	10	2KJ3601 - ■ CD11 - ■ ■ S1		
40	53	33.73	4 420	1.9	10	2KJ3601 - ■ CD11 - ■ ■ R1		
41	52	32.64	4 420	1.7	10	2KJ3601 - ■ CD11 - ■ ■ Q1		
48	45	28.32	4 460	2.0	10	2KJ3601 - ■ CD11 - ■ ■ P1		
52	41	25.75	4 480	2.2	10	2KJ3601 - ■ CD11 - ■ ■ N1		
61	36	22.08	4 500	2.6	10	2KJ3601 - ■ CD11 - ■ ■ M1		
67	32	20.07	4 500	2.8	10	2KJ3601 - ■ CD11 - ■ ■ L1		
77	28	17.60	4 500	3.2	10	2KJ3601 - ■ CD11 - ■ ■ K1		
86	25	15.71	4 500	3.6	10	2KJ3601 - ■ CD11 - ■ ■ J1		
96	23	14.00	4 500	4.1	10	2KJ3601 - ■ CD11 - ■ ■ H1		
104	21	12.92	4 500	4.4	10	2KJ3601 - ■ CD11 - ■ ■ G1		
<b>0.37</b>	<b>C.69-LA71MH4</b>							
	3.8	635	360.00	10 700	1.1	31	2KJ3604 - ■ CE11 - ■ ■ M2	
	4.3	575	319.80	10 800	1.2	31	2KJ3604 - ■ CE11 - ■ ■ L2	
	4.9	510	280.80	11 000	1.3	31	2KJ3604 - ■ CE11 - ■ ■ K2	
	5.4	470	255.27	11 100	1.4	31	2KJ3604 - ■ CE11 - ■ ■ J2	
	6.3	410	218.40	11 200	1.6	31	2KJ3604 - ■ CE11 - ■ ■ H2	
	6.9	375	198.55	11 300	1.8	31	2KJ3604 - ■ CE11 - ■ ■ G2	
	7.8	330	175.50	11 400	2.0	31	2KJ3604 - ■ CE11 - ■ ■ F2	
	8.6	300	159.55	11 500	2.1	31	2KJ3604 - ■ CE11 - ■ ■ E2	
	<b>C.49-LA71MH4</b>							
	6.0	415	230.10	8 220	0.84	22	2KJ3603 - ■ CE11 - ■ ■ L2	
	6.5	380	209.18	8 330	0.93	22	2KJ3603 - ■ CE11 - ■ ■ K2	
	7.6	330	179.40	8 470	1.1	22	2KJ3603 - ■ CE11 - ■ ■ J2	
	8.4	305	163.09	8 480	1.2	22	2KJ3603 - ■ CE11 - ■ ■ H2	
	9.6	265	143.00	8 300	1.3	22	2KJ3603 - ■ CE11 - ■ ■ G2	
11	240	127.64	8 090	1.5	22	2KJ3603 - ■ CE11 - ■ ■ F2		
12	215	113.75	7 900	1.6	22	2KJ3603 - ■ CE11 - ■ ■ E2		
13	199	105.00	7 760	1.8	22	2KJ3603 - ■ CE11 - ■ ■ D2		

**Article No. supplement**

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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Electro\_Motor.ir

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>0.37</b>	<b>C.49-LA71MH4</b>								
	15	175	91.93	7 530	2.0	22	2KJ3603 - ■ CE11 - ■ ■ C2		
	17	154	80.60	7 290	2.2	22	2KJ3603 - ■ CE11 - ■ ■ B2		
		19	139	73.12	7 130	2.3	22	2KJ3603 - ■ CE11 - ■ ■ A2	
	<b>C.39-LA71MH4</b>								
		11	235	127.64	6 020	0.82	16	2KJ3602 - ■ CE11 - ■ ■ F2	
		12	210	113.75	6 110	0.92	16	2KJ3602 - ■ CE11 - ■ ■ E2	
		13	196	105.00	6 170	0.99	16	2KJ3602 - ■ CE11 - ■ ■ D2	
		15	172	91.93	6 260	1.1	16	2KJ3602 - ■ CE11 - ■ ■ C2	
		17	151	80.60	6 330	1.3	16	2KJ3602 - ■ CE11 - ■ ■ B2	
		19	137	73.12	6 390	1.4	16	2KJ3602 - ■ CE11 - ■ ■ A2	
		20	129	68.82	6 420	1.5	16	2KJ3602 - ■ CE11 - ■ ■ X1	
		23	114	60.67	6 470	1.6	16	2KJ3602 - ■ CE11 - ■ ■ W1	
		26	99	52.65	6 530	1.8	16	2KJ3602 - ■ CE11 - ■ ■ V1	
		27	114	49.87	6 470	1.7	16	2KJ3602 - ■ CE11 - ■ ■ U1	
		32	99	43.27	6 530	2.0	16	2KJ3602 - ■ CE11 - ■ ■ T1	
		35	90	39.33	6 560	2.2	16	2KJ3602 - ■ CE11 - ■ ■ S1	
		41	77	33.73	6 610	2.6	16	2KJ3602 - ■ CE11 - ■ ■ R1	
	<b>C.29-LA71MH4</b>								
		20	134	68.82	4 010	0.82	11	2KJ3601 - ■ CE11 - ■ ■ X1	
		23	118	60.67	4 090	0.93	11	2KJ3601 - ■ CE11 - ■ ■ W1	
		26	103	52.65	4 160	1.1	11	2KJ3601 - ■ CE11 - ■ ■ V1	
		27	112	49.87	4 120	0.91	11	2KJ3601 - ■ CE11 - ■ ■ U1	
		32	98	43.27	4 190	1.0	11	2KJ3601 - ■ CE11 - ■ ■ T1	
		35	90	39.33	4 230	1.1	11	2KJ3601 - ■ CE11 - ■ ■ S1	
		41	78	33.73	4 290	1.3	11	2KJ3601 - ■ CE11 - ■ ■ R1	
		42	76	32.64	4 300	1.2	11	2KJ3601 - ■ CE11 - ■ ■ Q1	
		48	66	28.32	4 350	1.4	11	2KJ3601 - ■ CE11 - ■ ■ P1	
		53	60	25.75	4 380	1.5	11	2KJ3601 - ■ CE11 - ■ ■ N1	
		62	52	22.08	4 420	1.8	11	2KJ3601 - ■ CE11 - ■ ■ M1	
		68	47	20.07	4 450	1.9	11	2KJ3601 - ■ CE11 - ■ ■ L1	
		78	42	17.60	4 470	2.2	11	2KJ3601 - ■ CE11 - ■ ■ K1	
		87	37	15.71	4 500	2.5	11	2KJ3601 - ■ CE11 - ■ ■ J1	
	98	33	14.00	4 500	2.8	11	2KJ3601 - ■ CE11 - ■ ■ H1		
	106	30	12.92	4 450	3.0	11	2KJ3601 - ■ CE11 - ■ ■ G1		
	121	27	11.31	4 280	3.5	11	2KJ3601 - ■ CE11 - ■ ■ F1		
	138	23	9.92	4 140	4.0	11	2KJ3601 - ■ CE11 - ■ ■ E1		
	152	21	9.00	4 020	4.4	11	2KJ3601 - ■ CE11 - ■ ■ D1		
	162	20	8.47	3 950	4.6	11	2KJ3601 - ■ CE11 - ■ ■ C1		
	183	18	7.47	3 800	4.9	11	2KJ3601 - ■ CE11 - ■ ■ B1		
<b>0.55</b>	<b>C.89-Z39-LE80MB4</b>								
		2.4	1 540	590	16 100	0.80	58	2KJ3628 - ■ DB21 - ■ ■ D1	
		2.8	1 340	506	16 300	0.93	58	2KJ3628 - ■ DB21 - ■ ■ C1	
		3.3	1 170	436	16 300	1.1	58	2KJ3628 - ■ DB21 - ■ ■ B1	
		4.0	990	360	16 300	1.3	58	2KJ3628 - ■ DB21 - ■ ■ A1	
	<b>C.89-Z39-LA71ZML4</b>								
		3.8	1 030	360	16 300	1.3	56	2KJ3628 - ■ CH11 - ■ ■ A1	
	<b>C.89-LE80MB4</b>								
		4.0	950	363.00	16 300	1.5	53	2KJ3605 - ■ DB21 - ■ ■ N2	
		4.4	870	329.73	16 300	1.7	53	2KJ3605 - ■ DB21 - ■ ■ M2	

**Article No. supplement**

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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**SIMOGEAR geared motors**

Helical worm geared motors

Geared motors up to 7.5 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.55</b>	<b>C.89-LE80MB4</b>							
	4.9	780	295.75	16 300	1.8	53	2KJ3605 - ■ DB21 - ■ ■ L2	
	5.4	705	265.91	16 300	2.0	53	2KJ3605 - ■ DB21 - ■ ■ K2	
	<b>C.89-LA71ZML4</b>							
	3.8	995	363.00	16 300	1.5	51	2KJ3605 - ■ CH11 - ■ ■ N2	
	4.2	910	329.73	16 300	1.6	51	2KJ3605 - ■ CH11 - ■ ■ M2	
	4.6	820	295.75	16 300	1.8	51	2KJ3605 - ■ CH11 - ■ ■ L2	
	5.2	740	265.91	16 300	2.0	51	2KJ3605 - ■ CH11 - ■ ■ K2	
	5.7	675	240.50	16 300	2.1	51	2KJ3605 - ■ CH11 - ■ ■ J2	
	<b>C.69-LA71ZML4</b>							
	4.9	760	280.80	10 400	0.89	31	2KJ3604 - ■ CH11 - ■ ■ K2	
	5.4	700	255.27	10 600	0.96	31	2KJ3604 - ■ CH11 - ■ ■ J2	
	6.3	610	218.40	10 800	1.1	31	2KJ3604 - ■ CH11 - ■ ■ H2	
	6.9	555	198.55	10 900	1.2	31	2KJ3604 - ■ CH11 - ■ ■ G2	
	7.8	495	175.50	11 000	1.4	31	2KJ3604 - ■ CH11 - ■ ■ F2	
	8.6	450	159.55	11 100	1.4	31	2KJ3604 - ■ CH11 - ■ ■ E2	
	9.8	395	139.75	11 300	1.5	31	2KJ3604 - ■ CH11 - ■ ■ D2	
	11	365	129.00	11 300	1.6	31	2KJ3604 - ■ CH11 - ■ ■ C2	
	12	325	114.21	11 300	1.7	31	2KJ3604 - ■ CH11 - ■ ■ B2	
	13	335	102.50	10 600	2.0	31	2KJ3604 - ■ CH11 - ■ ■ A2	
	<b>C.69-LE80MB4</b>							
	4.5	815	319.80	10 300	0.82	34	2KJ3604 - ■ DB21 - ■ ■ L2	
	5.1	725	280.80	10 500	0.93	34	2KJ3604 - ■ DB21 - ■ ■ K2	
	5.6	665	255.27	10 600	1.0	34	2KJ3604 - ■ DB21 - ■ ■ J2	
	6.6	580	218.40	10 800	1.2	34	2KJ3604 - ■ DB21 - ■ ■ H2	
	7.3	530	198.55	11 000	1.3	34	2KJ3604 - ■ DB21 - ■ ■ G2	
	8.2	470	175.50	11 100	1.4	34	2KJ3604 - ■ DB21 - ■ ■ F2	
	9	430	159.55	11 200	1.5	34	2KJ3604 - ■ DB21 - ■ ■ E2	
	10	375	139.75	11 300	1.6	34	2KJ3604 - ■ DB21 - ■ ■ D2	
	11	345	129.00	11 400	1.6	34	2KJ3604 - ■ DB21 - ■ ■ C2	
	13	305	114.21	11 200	1.7	34	2KJ3604 - ■ DB21 - ■ ■ B2	
	14	320	102.50	10 500	2.1	34	2KJ3604 - ■ DB21 - ■ ■ A2	
	<b>C.49-LE80MB4</b>							
	8.8	430	163.09	7 460	0.82	25	2KJ3603 - ■ DB21 - ■ ■ H2	
	10	380	143.00	7 360	0.93	25	2KJ3603 - ■ DB21 - ■ ■ G2	
	11	340	127.64	7 260	1.0	25	2KJ3603 - ■ DB21 - ■ ■ F2	
	13	305	113.75	7 130	1.2	25	2KJ3603 - ■ DB21 - ■ ■ E2	
	14	280	105.00	7 060	1.3	25	2KJ3603 - ■ DB21 - ■ ■ D2	
	16	245	91.93	6 910	1.4	25	2KJ3603 - ■ DB21 - ■ ■ C2	
	18	215	80.60	6 740	1.5	25	2KJ3603 - ■ DB21 - ■ ■ B2	
	20	197	73.12	6 600	1.6	25	2KJ3603 - ■ DB21 - ■ ■ A2	
	21	185	68.82	6 530	1.6	25	2KJ3603 - ■ DB21 - ■ ■ X1	
	24	163	60.67	6 350	1.7	25	2KJ3603 - ■ DB21 - ■ ■ W1	
	27	142	52.65	6 150	1.9	25	2KJ3603 - ■ DB21 - ■ ■ V1	
	29	162	49.87	5 620	2.0	25	2KJ3603 - ■ DB21 - ■ ■ U1	
	33	141	43.27	5 470	2.5	25	2KJ3603 - ■ DB21 - ■ ■ T1	
	<b>C.49-LA71ZML4</b>							
	9.6	400	143.00	7 390	0.89	22	2KJ3603 - ■ CH11 - ■ ■ G2	
	11	355	127.64	7 320	0.99	22	2KJ3603 - ■ CH11 - ■ ■ F2	
	12	320	113.75	7 190	1.1	22	2KJ3603 - ■ CH11 - ■ ■ E2	

**Article No. supplement**

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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# SIMOGEAR geared motors

## Helical worm geared motors

Geared motors up to 7.5 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.55</b>	<b>C.49-LA71ZML4</b>							
	13	295	105.00	7 110	1.2	22	2KJ3603 - ■ CH11 - ■ ■ D2	
	15	260	91.93	6 950	1.4	22	2KJ3603 - ■ CH11 - ■ ■ C2	
	17	225	80.60	6 810	1.5	22	2KJ3603 - ■ CH11 - ■ ■ B2	
	19	205	73.12	6 680	1.5	22	2KJ3603 - ■ CH11 - ■ ■ A2	
	20	195	68.82	6 590	1.6	22	2KJ3603 - ■ CH11 - ■ ■ X1	
	23	172	60.67	6 420	1.7	22	2KJ3603 - ■ CH11 - ■ ■ W1	
	26	149	52.65	6 220	1.8	22	2KJ3603 - ■ CH11 - ■ ■ V1	
	27	170	49.87	5 670	1.9	22	2KJ3603 - ■ CH11 - ■ ■ U1	
	32	148	43.27	5 530	2.4	22	2KJ3603 - ■ CH11 - ■ ■ T1	
	<b>C.39-LE80MB4</b>							
	16	240	91.93	6 000	0.80	19	2KJ3602 - ■ DB21 - ■ ■ C2	
	18	210	80.60	6 110	0.91	19	2KJ3602 - ■ DB21 - ■ ■ B2	
	20	194	73.12	6 170	1.0	19	2KJ3602 - ■ DB21 - ■ ■ A2	
	21	183	68.82	6 210	1.1	19	2KJ3602 - ■ DB21 - ■ ■ X1	
	24	161	60.67	6 300	1.1	19	2KJ3602 - ■ DB21 - ■ ■ W1	
	27	140	52.65	6 370	1.2	19	2KJ3602 - ■ DB21 - ■ ■ V1	
	29	162	49.87	6 290	1.2	19	2KJ3602 - ■ DB21 - ■ ■ U1	
	33	140	43.27	6 370	1.4	19	2KJ3602 - ■ DB21 - ■ ■ T1	
	37	127	39.33	6 420	1.6	19	2KJ3602 - ■ DB21 - ■ ■ S1	
	43	109	33.73	6 490	1.8	19	2KJ3602 - ■ DB21 - ■ ■ R1	
	44	108	32.64	6 490	2.0	19	2KJ3602 - ■ DB21 - ■ ■ Q1	
	51	94	28.32	6 290	2.5	19	2KJ3602 - ■ DB21 - ■ ■ P1	
	56	86	25.75	6 150	2.7	19	2KJ3602 - ■ DB21 - ■ ■ N1	
	<b>C.39-LA71ZML4</b>							
	17	220	80.60	6 080	0.87	16	2KJ3602 - ■ CH11 - ■ ■ B2	
	19	200	73.12	6 150	0.95	16	2KJ3602 - ■ CH11 - ■ ■ A2	
	20	192	68.82	6 180	1.0	16	2KJ3602 - ■ CH11 - ■ ■ X1	
	23	169	60.67	6 270	1.1	16	2KJ3602 - ■ CH11 - ■ ■ W1	
	26	147	52.65	6 350	1.2	16	2KJ3602 - ■ CH11 - ■ ■ V1	
	27	170	49.87	6 260	1.2	16	2KJ3602 - ■ CH11 - ■ ■ U1	
	32	147	43.27	6 350	1.4	16	2KJ3602 - ■ CH11 - ■ ■ T1	
	35	134	39.33	6 400	1.5	16	2KJ3602 - ■ CH11 - ■ ■ S1	
	41	115	33.73	6 470	1.7	16	2KJ3602 - ■ CH11 - ■ ■ R1	
	42	114	32.64	6 470	1.9	16	2KJ3602 - ■ CH11 - ■ ■ Q1	
	48	99	28.32	6 360	2.4	16	2KJ3602 - ■ CH11 - ■ ■ P1	
	53	90	25.75	6 230	2.6	16	2KJ3602 - ■ CH11 - ■ ■ N1	
	62	77	22.08	6 010	3.0	16	2KJ3602 - ■ CH11 - ■ ■ M1	
	<b>C.29-LE80MB4</b>							
	37	127	39.33	4 040	0.81	13	2KJ3601 - ■ DB21 - ■ ■ S1	
	43	110	33.73	4 130	0.95	13	2KJ3601 - ■ DB21 - ■ ■ R1	
	44	107	32.64	4 140	0.84	13	2KJ3601 - ■ DB21 - ■ ■ Q1	
	51	93	28.32	4 210	0.96	13	2KJ3601 - ■ DB21 - ■ ■ P1	
	56	85	25.75	4 250	1.1	13	2KJ3601 - ■ DB21 - ■ ■ N1	
	65	73	22.08	4 310	1.2	13	2KJ3601 - ■ DB21 - ■ ■ M1	
	72	67	20.07	4 350	1.4	13	2KJ3601 - ■ DB21 - ■ ■ L1	
	82	59	17.60	4 390	1.6	13	2KJ3601 - ■ DB21 - ■ ■ K1	
	92	52	15.71	4 370	1.8	13	2KJ3601 - ■ DB21 - ■ ■ J1	
	103	47	14.00	4 250	2.0	13	2KJ3601 - ■ DB21 - ■ ■ H1	

## Article No. supplement

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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Electro\_Motor.ir

**SIMOGEAR geared motors**

Helical worm geared motors

Geared motors up to 7.5 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.55</b>	<b>C.29-LE80MB4</b>							
	111	43	12.92	4 180	2.2	13	2KJ3601 - ■ DB21 - ■ ■ G1	
	127	38	11.31	4 040	2.5	13	2KJ3601 - ■ DB21 - ■ ■ F1	
	145	33	9.92	3 920	2.8	13	2KJ3601 - ■ DB21 - ■ ■ E1	
	160	30	9.00	3 820	3.0	13	2KJ3601 - ■ DB21 - ■ ■ D1	
	170	28	8.47	3 770	3.2	13	2KJ3601 - ■ DB21 - ■ ■ C1	
	193	25	7.47	3 640	3.4	13	2KJ3601 - ■ DB21 - ■ ■ B1	
	222	22	6.48	3 490	3.8	13	2KJ3601 - ■ DB21 - ■ ■ A1	
	<b>C.29-LA71ZML4</b>							
	41	115	33.73	4 100	0.90	11	2KJ3601 - ■ CH11 - ■ ■ R1	
	42	112	32.64	4 120	0.80	11	2KJ3601 - ■ CH11 - ■ ■ Q1	
	48	98	28.32	4 190	0.92	11	2KJ3601 - ■ CH11 - ■ ■ P1	
	53	89	25.75	4 230	1.0	11	2KJ3601 - ■ CH11 - ■ ■ N1	
	62	77	22.08	4 290	1.2	11	2KJ3601 - ■ CH11 - ■ ■ M1	
68	70	20.07	4 330	1.3	11	2KJ3601 - ■ CH11 - ■ ■ L1		
78	62	17.60	4 370	1.5	11	2KJ3601 - ■ CH11 - ■ ■ K1		
87	55	15.71	4 410	1.7	11	2KJ3601 - ■ CH11 - ■ ■ J1		
98	49	14.00	4 300	1.9	11	2KJ3601 - ■ CH11 - ■ ■ H1		
106	45	12.92	4 230	2.1	11	2KJ3601 - ■ CH11 - ■ ■ G1		
121	40	11.31	4 090	2.3	11	2KJ3601 - ■ CH11 - ■ ■ F1		
138	35	9.92	3 960	2.7	11	2KJ3601 - ■ CH11 - ■ ■ E1		
152	32	9.00	3 860	2.9	11	2KJ3601 - ■ CH11 - ■ ■ D1		
162	30	8.47	3 810	3.1	11	2KJ3601 - ■ CH11 - ■ ■ C1		
183	26	7.47	3 690	3.3	11	2KJ3601 - ■ CH11 - ■ ■ B1		
211	23	6.48	3 540	3.7	11	2KJ3601 - ■ CH11 - ■ ■ A1		
<b>0.75</b>	<b>C.89-LE90SQ6P</b>							
	2.8	1 760	329.73	15 700	0.82	58	2KJ3605 - ■ EC23 - ■ ■ M2	
	3.1	1 600	295.75	16 000	0.90	58	2KJ3605 - ■ EC23 - ■ ■ L2	
	3.5	1 460	265.91	16 200	0.99	58	2KJ3605 - ■ EC23 - ■ ■ K2	
	<b>C.89-LE80ZMQ4P</b>							
	4.0	1 290	363.00	16 300	1.1	55	2KJ3605 - ■ DF23 - ■ ■ N2	
	4.4	1 170	329.73	16 300	1.2	55	2KJ3605 - ■ DF23 - ■ ■ M2	
	4.9	1 060	295.75	16 300	1.4	55	2KJ3605 - ■ DF23 - ■ ■ L2	
	5.5	960	265.91	16 300	1.5	55	2KJ3605 - ■ DF23 - ■ ■ K2	
	6.0	870	240.50	16 300	1.7	55	2KJ3605 - ■ DF23 - ■ ■ J2	
	6.5	805	222.00	16 300	1.8	55	2KJ3605 - ■ DF23 - ■ ■ H2	
	7.1	735	203.36	16 300	2.0	55	2KJ3605 - ■ DF23 - ■ ■ G2	
	<b>C.69-LE80ZMQ4P</b>							
	6.6	785	218.40	10 400	0.86	36	2KJ3604 - ■ DF23 - ■ ■ H2	
7.3	720	198.55	10 500	0.94	36	2KJ3604 - ■ DF23 - ■ ■ G2		
8.3	640	175.50	10 700	1.0	36	2KJ3604 - ■ DF23 - ■ ■ F2		
9.1	580	159.55	10 800	1.1	36	2KJ3604 - ■ DF23 - ■ ■ E2		
10	510	139.75	11 000	1.2	36	2KJ3604 - ■ DF23 - ■ ■ D2		
11	470	129.00	10 800	1.2	36	2KJ3604 - ■ DF23 - ■ ■ C2		
13	415	114.21	10 600	1.3	36	2KJ3604 - ■ DF23 - ■ ■ B2		
14	435	102.50	9 790	1.5	36	2KJ3604 - ■ DF23 - ■ ■ A2		
16	385	90.00	9 560	1.8	36	2KJ3604 - ■ DF23 - ■ ■ X1		
18	350	81.82	9 400	1.9	36	2KJ3604 - ■ DF23 - ■ ■ W1		
21	300	70.00	9 120	2.2	36	2KJ3604 - ■ DF23 - ■ ■ V1		
23	270	63.64	8 960	2.3	36	2KJ3604 - ■ DF23 - ■ ■ U1		

**Article No. supplement**

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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# SIMOGEAR geared motors

## Helical worm geared motors

Geared motors up to 7.5 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
0.75	<b>C.49-LE80ZMQ4P</b>							
	13	410	113.75	6 400	0.86	27	2KJ3603 - ■ DF23 - ■ ■ E2	
	14	380	105.00	6 360	0.93	27	2KJ3603 - ■ DF23 - ■ ■ D2	
	16	335	91.93	6 280	1.0	27	2KJ3603 - ■ DF23 - ■ ■ C2	
	18	290	80.60	6 220	1.1	27	2KJ3603 - ■ DF23 - ■ ■ B2	
	20	265	73.12	6 130	1.2	27	2KJ3603 - ■ DF23 - ■ ■ A2	
	21	250	68.82	6 070	1.2	27	2KJ3603 - ■ DF23 - ■ ■ X1	
	24	220	60.67	5 950	1.3	27	2KJ3603 - ■ DF23 - ■ ■ W1	
	28	192	52.65	5 800	1.4	27	2KJ3603 - ■ DF23 - ■ ■ V1	
	29	220	49.87	5 110	1.5	27	2KJ3603 - ■ DF23 - ■ ■ U1	
	34	191	43.27	5 040	1.8	27	2KJ3603 - ■ DF23 - ■ ■ T1	
	37	174	39.33	4 970	2.3	27	2KJ3603 - ■ DF23 - ■ ■ S1	
	43	149	33.73	4 860	2.5	27	2KJ3603 - ■ DF23 - ■ ■ R1	
	47	136	30.67	4 780	2.8	27	2KJ3603 - ■ DF23 - ■ ■ Q1	
0.75	<b>C.39-LE80ZMQ4P</b>							
	24	215	60.67	6 100	0.84	21	2KJ3602 - ■ DF23 - ■ ■ W1	
	28	189	52.65	6 190	0.90	21	2KJ3602 - ■ DF23 - ■ ■ V1	
	29	215	49.87	6 100	0.91	21	2KJ3602 - ■ DF23 - ■ ■ U1	
	34	190	43.27	6 190	1.0	21	2KJ3602 - ■ DF23 - ■ ■ T1	
	37	172	39.33	6 260	1.2	21	2KJ3602 - ■ DF23 - ■ ■ S1	
	43	148	33.73	6 270	1.4	21	2KJ3602 - ■ DF23 - ■ ■ R1	
	44	147	32.64	6 040	1.5	21	2KJ3602 - ■ DF23 - ■ ■ Q1	
	51	128	28.32	5 900	1.8	21	2KJ3602 - ■ DF23 - ■ ■ P1	
	56	116	25.75	5 800	2.0	21	2KJ3602 - ■ DF23 - ■ ■ N1	
	66	100	22.08	5 630	2.4	21	2KJ3602 - ■ DF23 - ■ ■ M1	
	72	91	20.07	5 520	2.6	21	2KJ3602 - ■ DF23 - ■ ■ L1	
	82	80	17.60	5 360	2.8	21	2KJ3602 - ■ DF23 - ■ ■ K1	
	92	71	15.71	5 230	3.0	21	2KJ3602 - ■ DF23 - ■ ■ J1	
	104	63	14.00	5 090	3.2	21	2KJ3602 - ■ DF23 - ■ ■ H1	
	112	58	12.92	4 990	3.4	21	2KJ3602 - ■ DF23 - ■ ■ G1	
128	51	11.31	4 830	3.7	21	2KJ3602 - ■ DF23 - ■ ■ F1		
146	45	9.92	4 660	4.0	21	2KJ3602 - ■ DF23 - ■ ■ E1		
0.75	<b>C.29-LE80ZMQ4P</b>							
	66	99	22.08	4 180	0.92	15	2KJ3601 - ■ DF23 - ■ ■ M1	
	72	91	20.07	4 220	1.0	15	2KJ3601 - ■ DF23 - ■ ■ L1	
	82	80	17.60	4 150	1.2	15	2KJ3601 - ■ DF23 - ■ ■ K1	
	92	71	15.71	4 080	1.3	15	2KJ3601 - ■ DF23 - ■ ■ J1	
	104	63	14.00	4 010	1.5	15	2KJ3601 - ■ DF23 - ■ ■ H1	
	112	58	12.92	3 950	1.6	15	2KJ3601 - ■ DF23 - ■ ■ G1	
	128	51	11.31	3 840	1.8	15	2KJ3601 - ■ DF23 - ■ ■ F1	
	146	45	9.92	3 730	2.1	15	2KJ3601 - ■ DF23 - ■ ■ E1	
	161	41	9.00	3 650	2.2	15	2KJ3601 - ■ DF23 - ■ ■ D1	
	171	38	8.47	3 610	2.3	15	2KJ3601 - ■ DF23 - ■ ■ C1	
	194	34	7.47	3 500	2.5	15	2KJ3601 - ■ DF23 - ■ ■ B1	
224	29	6.48	3 380	2.8	15	2KJ3601 - ■ DF23 - ■ ■ A1		
1.1	<b>C.89-LE90SM4P</b>							
	4.3	1 750	329.73	15 700	0.82	58	2KJ3605 - ■ EK23 - ■ ■ M2	
	4.8	1 580	295.75	16 000	0.92	58	2KJ3605 - ■ EK23 - ■ ■ L2	
	5.4	1 430	265.91	16 300	1.0	58	2KJ3605 - ■ EK23 - ■ ■ K2	

## Article No. supplement

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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**SIMOGEAR geared motors**

Helical worm geared motors

Geared motors up to 7.5 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.1</b>								
<b>C.89-LE90SM4P</b>								
	5.9	1 300	240.50	16 300	1.1	58	2KJ3605 - ■ EK23 - ■ ■ J2	
	6.4	1 200	222.00	16 300	1.2	58	2KJ3605 - ■ EK23 - ■ ■ H2	
	7.0	1 100	203.36	16 300	1.3	58	2KJ3605 - ■ EK23 - ■ ■ G2	
	8.4	925	170.62	16 300	1.5	58	2KJ3605 - ■ EK23 - ■ ■ F2	
	8.9	870	160.59	16 300	1.5	58	2KJ3605 - ■ EK23 - ■ ■ E2	
	9.7	800	147.33	16 300	1.6	58	2KJ3605 - ■ EK23 - ■ ■ D2	
	11	695	128.70	16 300	1.7	58	2KJ3605 - ■ EK23 - ■ ■ C2	
	12	625	115.23	16 300	1.8	58	2KJ3605 - ■ EK23 - ■ ■ B2	
	14	545	100.75	16 300	1.9	58	2KJ3605 - ■ EK23 - ■ ■ A2	
	16	465	86.48	16 300	2.1	58	2KJ3605 - ■ EK23 - ■ ■ X1	
	19	410	76.44	16 300	2.3	58	2KJ3605 - ■ EK23 - ■ ■ W1	
<b>C.69-LE90SM4P</b>								
	11	705	129.00	9 720	0.81	36	2KJ3604 - ■ EK23 - ■ ■ C2	
	12	620	114.21	9 630	0.86	36	2KJ3604 - ■ EK23 - ■ ■ B2	
	14	650	102.50	8 560	1.0	36	2KJ3604 - ■ EK23 - ■ ■ A2	
	16	570	90.00	8 510	1.2	36	2KJ3604 - ■ EK23 - ■ ■ X1	
	17	520	81.82	8 440	1.3	36	2KJ3604 - ■ EK23 - ■ ■ W1	
	20	445	70.00	8 310	1.5	36	2KJ3604 - ■ EK23 - ■ ■ V1	
	22	405	63.64	8 210	1.6	36	2KJ3604 - ■ EK23 - ■ ■ U1	
	25	360	56.25	8 050	1.7	36	2KJ3604 - ■ EK23 - ■ ■ T1	
	28	325	51.14	7 940	1.8	36	2KJ3604 - ■ EK23 - ■ ■ S1	
	32	285	44.79	7 750	1.9	36	2KJ3604 - ■ EK23 - ■ ■ R1	
	34	265	41.35	7 630	2.0	36	2KJ3604 - ■ EK23 - ■ ■ Q1	
	39	235	36.61	7 440	2.1	36	2KJ3604 - ■ EK23 - ■ ■ P1	
	48	200	30.00	6 950	2.7	36	2KJ3604 - ■ EK23 - ■ ■ N1	
	90	107	15.88	5 900	3.4	36	2KJ3604 - ■ EK23 - ■ ■ H1	
<b>C.49-LE90SM4P</b>								
	21	370	68.82	5 300	0.81	27	2KJ3603 - ■ EK23 - ■ ■ X1	
	23	330	60.67	5 250	0.86	27	2KJ3603 - ■ EK23 - ■ ■ W1	
	27	285	52.65	5 210	0.94	27	2KJ3603 - ■ EK23 - ■ ■ V1	
	29	325	49.87	4 270	0.98	27	2KJ3603 - ■ EK23 - ■ ■ U1	
	33	285	43.27	4 280	1.2	27	2KJ3603 - ■ EK23 - ■ ■ T1	
	36	255	39.33	4 320	1.5	27	2KJ3603 - ■ EK23 - ■ ■ S1	
	42	220	33.73	4 300	1.7	27	2KJ3603 - ■ EK23 - ■ ■ R1	
	46	200	30.67	4 270	1.9	27	2KJ3603 - ■ EK23 - ■ ■ Q1	
	53	178	26.89	4 200	2.1	27	2KJ3603 - ■ EK23 - ■ ■ P1	
	59	158	24.00	4 160	2.2	27	2KJ3603 - ■ EK23 - ■ ■ N1	
	67	141	21.39	4 100	2.3	27	2KJ3603 - ■ EK23 - ■ ■ M1	
	72	130	19.74	4 050	2.5	27	2KJ3603 - ■ EK23 - ■ ■ L1	
	82	114	17.29	3 960	2.7	27	2KJ3603 - ■ EK23 - ■ ■ K1	
	94	100	15.16	3 870	2.9	27	2KJ3603 - ■ EK23 - ■ ■ J1	
	104	91	13.75	3 790	3.0	27	2KJ3603 - ■ EK23 - ■ ■ H1	
	110	85	12.94	3 750	3.2	27	2KJ3603 - ■ EK23 - ■ ■ G1	
	125	75	11.41	3 650	3.5	27	2KJ3603 - ■ EK23 - ■ ■ F1	
	144	65	9.90	3 540	3.8	27	2KJ3603 - ■ EK23 - ■ ■ E1	
<b>C.39-LE90SM4P</b>								
	42	220	33.73	5 590	0.91	23	2KJ3602 - ■ EK23 - ■ ■ R1	
	44	215	32.64	5 320	0.98	23	2KJ3602 - ■ EK23 - ■ ■ Q1	

**Article No. supplement**

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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Electro\_Motor.ir

# SIMOGEAR geared motors

## Helical worm geared motors

Geared motors up to 7.5 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
1.1	<b>C.39-LE90SM4P</b>							
	50	191	28.32	5 230	1.2	23	2KJ3602 - ■ EK23 - ■ ■ P1	
	55	173	25.75	5 200	1.4	23	2KJ3602 - ■ EK23 - ■ ■ N1	
	65	149	22.08	5 120	1.6	23	2KJ3602 - ■ EK23 - ■ ■ M1	
	71	135	20.07	5 060	1.7	23	2KJ3602 - ■ EK23 - ■ ■ L1	
	81	119	17.60	4 960	1.9	23	2KJ3602 - ■ EK23 - ■ ■ K1	
	91	106	15.71	4 870	2.0	23	2KJ3602 - ■ EK23 - ■ ■ J1	
	102	94	14.00	4 770	2.2	23	2KJ3602 - ■ EK23 - ■ ■ H1	
	110	87	12.92	4 700	2.3	23	2KJ3602 - ■ EK23 - ■ ■ G1	
	126	76	11.31	4 580	2.5	23	2KJ3602 - ■ EK23 - ■ ■ F1	
	144	67	9.92	4 440	2.7	23	2KJ3602 - ■ EK23 - ■ ■ E1	
	158	61	9.00	4 350	2.9	23	2KJ3602 - ■ EK23 - ■ ■ D1	
	168	57	8.47	4 290	3.0	23	2KJ3602 - ■ EK23 - ■ ■ C1	
	191	50	7.47	4 170	3.3	23	2KJ3602 - ■ EK23 - ■ ■ B1	
220	44	6.48	4 010	3.5	23	2KJ3602 - ■ EK23 - ■ ■ A1		
	<b>C.29-LE90SM4P</b>							
	91	106	15.71	3 610	0.87	17	2KJ3601 - ■ EK23 - ■ ■ J1	
	102	95	14.00	3 570	0.98	17	2KJ3601 - ■ EK23 - ■ ■ H1	
	110	87	12.92	3 560	1.1	17	2KJ3601 - ■ EK23 - ■ ■ G1	
	126	76	11.31	3 510	1.2	17	2KJ3601 - ■ EK23 - ■ ■ F1	
	144	67	9.92	3 440	1.4	17	2KJ3601 - ■ EK23 - ■ ■ E1	
	158	61	9.00	3 390	1.5	17	2KJ3601 - ■ EK23 - ■ ■ D1	
	168	57	8.47	3 360	1.6	17	2KJ3601 - ■ EK23 - ■ ■ C1	
	191	50	7.47	3 290	1.7	17	2KJ3601 - ■ EK23 - ■ ■ B1	
	220	44	6.48	3 190	1.9	17	2KJ3601 - ■ EK23 - ■ ■ A1	
1.5	<b>C.89-LE90ZLR4P</b>							
	6.0	1 740	240.50	15 800	0.83	61	2KJ3605 - ■ EM23 - ■ ■ J2	
	6.5	1 610	222.00	16 000	0.90	61	2KJ3605 - ■ EM23 - ■ ■ H2	
	7.1	1 480	203.36	16 200	0.98	61	2KJ3605 - ■ EM23 - ■ ■ G2	
	8.5	1 240	170.62	16 300	1.1	61	2KJ3605 - ■ EM23 - ■ ■ F2	
	9.0	1 170	160.59	16 300	1.1	61	2KJ3605 - ■ EM23 - ■ ■ E2	
	9.8	1 070	147.33	16 300	1.2	61	2KJ3605 - ■ EM23 - ■ ■ D2	
	11	935	128.70	16 300	1.3	61	2KJ3605 - ■ EM23 - ■ ■ C2	
	13	840	115.23	16 300	1.3	61	2KJ3605 - ■ EM23 - ■ ■ B2	
	14	735	100.75	16 300	1.4	61	2KJ3605 - ■ EM23 - ■ ■ A2	
17	630	86.48	16 200	1.6	61	2KJ3605 - ■ EM23 - ■ ■ X1		
19	555	76.44	15 800	1.7	61	2KJ3605 - ■ EM23 - ■ ■ W1		
	<b>C.69-LE90ZLR4P</b>							
	16	770	90.00	7 250	0.87	39	2KJ3604 - ■ EM23 - ■ ■ X1	
	18	700	81.82	7 300	0.96	39	2KJ3604 - ■ EM23 - ■ ■ W1	
	21	600	70.00	7 320	1.1	39	2KJ3604 - ■ EM23 - ■ ■ V1	
	23	550	63.64	7 280	1.2	39	2KJ3604 - ■ EM23 - ■ ■ U1	
	26	485	56.25	7 250	1.3	39	2KJ3604 - ■ EM23 - ■ ■ T1	
	28	440	51.14	7 200	1.3	39	2KJ3604 - ■ EM23 - ■ ■ S1	
	32	385	44.79	7 110	1.4	39	2KJ3604 - ■ EM23 - ■ ■ R1	
	35	355	41.35	7 040	1.5	39	2KJ3604 - ■ EM23 - ■ ■ Q1	
	39	315	36.61	6 920	1.6	39	2KJ3604 - ■ EM23 - ■ ■ P1	
	48	265	30.00	6 470	2.0	39	2KJ3604 - ■ EM23 - ■ ■ N1	
	55	235	26.28	6 320	2.2	39	2KJ3604 - ■ EM23 - ■ ■ M1	

## Article No. supplement

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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Electro\_Motor.ir

**SIMOGEAR geared motors**

Helical worm geared motors

Geared motors up to 7.5 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>1.5</b>	<b>C.69-LE90ZLR4P</b>							
	60	215	24.26	6 240	2.3	39	2KJ3604 - ■ EM23 - ■ ■ L1	
	67	193	21.48	6 080	2.5	39	2KJ3604 - ■ EM23 - ■ ■ K1	
	81	160	17.88	5 870	2.7	39	2KJ3604 - ■ EM23 - ■ ■ J1	
	91	144	15.88	5 600	2.5	39	2KJ3604 - ■ EM23 - ■ ■ H1	
	103	128	14.06	5 450	2.8	39	2KJ3604 - ■ EM23 - ■ ■ G1	
	124	106	11.70	5 230	3.4	39	2KJ3604 - ■ EM23 - ■ ■ F1	
	131	100	11.01	5 160	3.6	39	2KJ3604 - ■ EM23 - ■ ■ E1	
	146	90	9.87	5 020	4.0	39	2KJ3604 - ■ EM23 - ■ ■ D1	
	<b>C.49-LE90ZLR4P</b>							
	33	380	43.27	3 450	0.91	30	2KJ3603 - ■ EM23 - ■ ■ T1	
	37	345	39.33	3 530	1.1	30	2KJ3603 - ■ EM23 - ■ ■ S1	
	43	295	33.73	3 640	1.3	30	2KJ3603 - ■ EM23 - ■ ■ R1	
	47	270	30.67	3 650	1.4	30	2KJ3603 - ■ EM23 - ■ ■ Q1	
	54	235	26.89	3 700	1.5	30	2KJ3603 - ■ EM23 - ■ ■ P1	
	60	210	24.00	3 690	1.6	30	2KJ3603 - ■ EM23 - ■ ■ N1	
	68	190	21.39	3 660	1.7	30	2KJ3603 - ■ EM23 - ■ ■ M1	
	73	175	19.74	3 650	1.8	30	2KJ3603 - ■ EM23 - ■ ■ L1	
	84	153	17.29	3 610	2.0	30	2KJ3603 - ■ EM23 - ■ ■ K1	
	95	135	15.16	3 550	2.1	30	2KJ3603 - ■ EM23 - ■ ■ J1	
	105	122	13.75	3 510	2.3	30	2KJ3603 - ■ EM23 - ■ ■ H1	
	112	115	12.94	3 480	2.4	30	2KJ3603 - ■ EM23 - ■ ■ G1	
	127	101	11.41	3 410	2.5	30	2KJ3603 - ■ EM23 - ■ ■ F1	
	146	88	9.90	3 330	2.8	30	2KJ3603 - ■ EM23 - ■ ■ E1	
	161	82	9.00	3 180	3.1	30	2KJ3603 - ■ EM23 - ■ ■ D1	
	171	77	8.47	3 150	3.3	30	2KJ3603 - ■ EM23 - ■ ■ C1	
	193	68	7.47	3 070	3.6	30	2KJ3603 - ■ EM23 - ■ ■ B1	
	223	59	6.48	2 980	3.9	30	2KJ3603 - ■ EM23 - ■ ■ A1	
<b>C.39-LE90ZLR4P</b>								
51	255	28.32	4 480	0.92	26	2KJ3602 - ■ EM23 - ■ ■ P1		
56	230	25.75	4 530	1.0	26	2KJ3602 - ■ EM23 - ■ ■ N1		
65	200	22.08	4 510	1.2	26	2KJ3602 - ■ EM23 - ■ ■ M1		
72	182	20.07	4 500	1.3	26	2KJ3602 - ■ EM23 - ■ ■ L1		
82	160	17.60	4 470	1.4	26	2KJ3602 - ■ EM23 - ■ ■ K1		
92	142	15.71	4 440	1.5	26	2KJ3602 - ■ EM23 - ■ ■ J1		
103	127	14.00	4 380	1.6	26	2KJ3602 - ■ EM23 - ■ ■ H1		
112	117	12.92	4 340	1.7	26	2KJ3602 - ■ EM23 - ■ ■ G1		
128	103	11.31	4 250	1.9	26	2KJ3602 - ■ EM23 - ■ ■ F1		
146	90	9.92	4 160	2.0	26	2KJ3602 - ■ EM23 - ■ ■ E1		
161	82	9.00	4 090	2.1	26	2KJ3602 - ■ EM23 - ■ ■ D1		
171	77	8.47	4 040	2.2	26	2KJ3602 - ■ EM23 - ■ ■ C1		
193	68	7.47	3 940	2.4	26	2KJ3602 - ■ EM23 - ■ ■ B1		
223	59	6.48	3 820	2.6	26	2KJ3602 - ■ EM23 - ■ ■ A1		
<b>C.29-LE90ZLR4P</b>								
128	103	11.31	3 100	0.91	20	2KJ3601 - ■ EM23 - ■ ■ F1		
146	90	9.92	3 090	1.0	20	2KJ3601 - ■ EM23 - ■ ■ E1		
161	82	9.00	3 060	1.1	20	2KJ3601 - ■ EM23 - ■ ■ D1		
171	77	8.47	3 050	1.2	20	2KJ3601 - ■ EM23 - ■ ■ C1		
193	68	7.47	3 010	1.3	20	2KJ3601 - ■ EM23 - ■ ■ B1		
223	59	6.48	2 850	1.4	20	2KJ3601 - ■ EM23 - ■ ■ A1		

**Article No. supplement**

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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# SIMOGEAR geared motors

## Helical worm geared motors

Geared motors up to 7.5 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>								
<b>C.89-LE100ZLSA4P</b>								
9.9	1 550	147.33	15 800	0.82	77	2KJ3605 - ■ FN23 - ■ ■ D2		
11	1 350	128.70	15 700	0.87	77	2KJ3605 - ■ FN23 - ■ ■ C2		
13	1 210	115.23	15 500	0.92	77	2KJ3605 - ■ FN23 - ■ ■ B2		
15	1 060	100.75	15 200	0.99	77	2KJ3605 - ■ FN23 - ■ ■ A2		
17	910	86.48	14 900	1.1	77	2KJ3605 - ■ FN23 - ■ ■ X1		
19	805	76.44	14 600	1.1	77	2KJ3605 - ■ FN23 - ■ ■ W1		
23	680	65.00	14 200	1.3	77	2KJ3605 - ■ FN23 - ■ ■ V1		
26	720	55.61	12 500	2.0	77	2KJ3605 - ■ FN23 - ■ ■ U1		
29	645	50.00	12 300	2.2	77	2KJ3605 - ■ FN23 - ■ ■ T1		
32	585	45.22	12 100	2.4	77	2KJ3605 - ■ FN23 - ■ ■ S1		
35	540	41.74	11 900	2.5	77	2KJ3605 - ■ FN23 - ■ ■ R1		
38	495	38.24	11 700	2.6	77	2KJ3605 - ■ FN23 - ■ ■ Q1		
<b>C.69-LE100ZLSA4P</b>								
26	700	56.25	5 900	0.87	57	2KJ3604 - ■ FN23 - ■ ■ T1		
29	640	51.14	5 940	0.90	57	2KJ3604 - ■ FN23 - ■ ■ S1		
33	560	44.79	6 000	0.97	57	2KJ3604 - ■ FN23 - ■ ■ R1		
35	515	41.35	6 030	1.0	57	2KJ3604 - ■ FN23 - ■ ■ Q1		
40	455	36.61	6 030	1.1	57	2KJ3604 - ■ FN23 - ■ ■ P1		
49	385	30.00	5 630	1.4	57	2KJ3604 - ■ FN23 - ■ ■ N1		
56	340	26.28	5 570	1.5	57	2KJ3604 - ■ FN23 - ■ ■ M1		
60	315	24.26	5 540	1.6	57	2KJ3604 - ■ FN23 - ■ ■ L1		
68	275	21.48	5 500	1.7	57	2KJ3604 - ■ FN23 - ■ ■ K1		
82	230	17.88	5 370	1.9	57	2KJ3604 - ■ FN23 - ■ ■ J1		
92	205	15.88	5 110	1.7	57	2KJ3604 - ■ FN23 - ■ ■ H1		
104	185	14.06	4 990	1.9	57	2KJ3604 - ■ FN23 - ■ ■ G1		
125	154	11.70	4 850	2.3	57	2KJ3604 - ■ FN23 - ■ ■ F1		
133	145	11.01	4 790	2.5	57	2KJ3604 - ■ FN23 - ■ ■ E1		
148	130	9.87	4 700	2.8	57	2KJ3604 - ■ FN23 - ■ ■ D1		
174	110	8.40	4 550	3.3	57	2KJ3604 - ■ FN23 - ■ ■ C1		
203	95	7.20	4 390	3.8	57	2KJ3604 - ■ FN23 - ■ ■ B1		
236	82	6.20	4 240	4.3	57	2KJ3604 - ■ FN23 - ■ ■ A1		
<b>C.49-LE100ZLSA4P</b>								
54	345	26.89	2 740	1.0	48	2KJ3603 - ■ FN23 - ■ ■ P1		
61	305	24.00	2 870	1.1	48	2KJ3603 - ■ FN23 - ■ ■ N1		
68	275	21.39	2 920	1.2	48	2KJ3603 - ■ FN23 - ■ ■ M1		
74	250	19.74	2 990	1.2	48	2KJ3603 - ■ FN23 - ■ ■ L1		
85	220	17.29	3 020	1.4	48	2KJ3603 - ■ FN23 - ■ ■ K1		
97	195	15.16	3 020	1.5	48	2KJ3603 - ■ FN23 - ■ ■ J1		
107	177	13.75	3 030	1.6	48	2KJ3603 - ■ FN23 - ■ ■ H1		
113	166	12.94	3 030	1.6	48	2KJ3603 - ■ FN23 - ■ ■ G1		
128	146	11.41	3 010	1.7	48	2KJ3603 - ■ FN23 - ■ ■ F1		
148	127	9.90	2 980	1.9	48	2KJ3603 - ■ FN23 - ■ ■ E1		
163	118	9.00	2 830	2.2	48	2KJ3603 - ■ FN23 - ■ ■ D1		
173	111	8.47	2 810	2.3	48	2KJ3603 - ■ FN23 - ■ ■ C1		
196	98	7.47	2 770	2.4	48	2KJ3603 - ■ FN23 - ■ ■ B1		
226	85	6.48	2 730	2.7	48	2KJ3603 - ■ FN23 - ■ ■ A1		
<b>C.39-LE100ZLSA4P</b>								
83	230	17.60	3 660	0.97	40	2KJ3602 - ■ FN23 - ■ ■ K1		

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**SIMOGEAR geared motors**

Helical worm geared motors

Geared motors up to 7.5 kW

**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>2.2</b>	<b>C.39-LE100ZLSA4P</b>							
	93	205	15.71	3 700	1.0	40	2KJ3602 - ■ FN23 - ■ ■ J1	
	105	184	14.00	3 710	1.1	40	2KJ3602 - ■ FN23 - ■ ■ H1	
	113	170	12.92	3 720	1.2	40	2KJ3602 - ■ FN23 - ■ ■ G1	
	130	148	11.31	3 720	1.3	40	2KJ3602 - ■ FN23 - ■ ■ F1	
	148	130	9.92	3 690	1.4	40	2KJ3602 - ■ FN23 - ■ ■ E1	
	163	118	9.00	3 660	1.5	40	2KJ3602 - ■ FN23 - ■ ■ D1	
	173	111	8.47	3 640	1.5	40	2KJ3602 - ■ FN23 - ■ ■ C1	
	196	98	7.47	3 580	1.7	40	2KJ3602 - ■ FN23 - ■ ■ B1	
	226	85	6.48	3 510	1.8	40	2KJ3602 - ■ FN23 - ■ ■ A1	
<b>3</b>	<b>C.89-LE100ZLSB4P</b>							
	19	1 100	76.44	13 300	0.84	77	2KJ3605 - ■ FP23 - ■ ■ W1	
	22	935	65.00	13 100	0.92	77	2KJ3605 - ■ FP23 - ■ ■ V1	
	26	990	55.61	11 100	1.5	77	2KJ3605 - ■ FP23 - ■ ■ U1	
	29	890	50.00	11 000	1.6	77	2KJ3605 - ■ FP23 - ■ ■ T1	
	32	805	45.22	10 900	1.7	77	2KJ3605 - ■ FP23 - ■ ■ S1	
	35	745	41.74	10 900	1.8	77	2KJ3605 - ■ FP23 - ■ ■ R1	
	38	680	38.24	10 800	1.9	77	2KJ3605 - ■ FP23 - ■ ■ Q1	
	45	570	32.08	10 500	2.1	77	2KJ3605 - ■ FP23 - ■ ■ P1	
	48	535	30.20	10 500	2.2	77	2KJ3605 - ■ FP23 - ■ ■ N1	
	53	490	27.70	10 300	2.3	77	2KJ3605 - ■ FP23 - ■ ■ M1	
	58	455	25.03	9 850	2.4	77	2KJ3605 - ■ FP23 - ■ ■ L1	
	69	380	21.00	9 580	2.8	77	2KJ3605 - ■ FP23 - ■ ■ K1	
	74	360	19.76	9 460	3.1	77	2KJ3605 - ■ FP23 - ■ ■ J1	
	<b>C.69-LE100ZLSB4P</b>							
	48	530	30.00	4 670	1.0	57	2KJ3604 - ■ FP23 - ■ ■ N1	
	55	465	26.28	4 750	1.1	57	2KJ3604 - ■ FP23 - ■ ■ M1	
	60	430	24.26	4 780	1.1	57	2KJ3604 - ■ FP23 - ■ ■ L1	
	68	380	21.48	4 810	1.2	57	2KJ3604 - ■ FP23 - ■ ■ K1	
	81	315	17.88	4 810	1.4	57	2KJ3604 - ■ FP23 - ■ ■ J1	
	92	285	15.88	4 520	1.3	57	2KJ3604 - ■ FP23 - ■ ■ H1	
	103	250	14.06	4 520	1.4	57	2KJ3604 - ■ FP23 - ■ ■ G1	
	124	210	11.70	4 440	1.7	57	2KJ3604 - ■ FP23 - ■ ■ F1	
	132	199	11.01	4 400	1.8	57	2KJ3604 - ■ FP23 - ■ ■ E1	
	147	178	9.87	4 350	2.0	57	2KJ3604 - ■ FP23 - ■ ■ D1	
	173	152	8.40	4 250	2.4	57	2KJ3604 - ■ FP23 - ■ ■ C1	
	202	130	7.20	4 140	2.8	57	2KJ3604 - ■ FP23 - ■ ■ B1	
	235	112	6.20	4 030	3.2	57	2KJ3604 - ■ FP23 - ■ ■ A1	
	<b>C.49-LE100ZLSB4P</b>							
	61	420	24.00	1 930	0.82	48	2KJ3603 - ■ FP23 - ■ ■ N1	
	68	375	21.39	2 080	0.88	48	2KJ3603 - ■ FP23 - ■ ■ M1	
	74	345	19.74	2 200	0.91	48	2KJ3603 - ■ FP23 - ■ ■ L1	
	84	305	17.29	2 310	0.98	48	2KJ3603 - ■ FP23 - ■ ■ K1	
	96	265	15.16	2 440	1.1	48	2KJ3603 - ■ FP23 - ■ ■ J1	
	106	240	13.75	2 500	1.1	48	2KJ3603 - ■ FP23 - ■ ■ H1	
	112	225	12.94	2 540	1.2	48	2KJ3603 - ■ FP23 - ■ ■ G1	
	128	200	11.41	2 570	1.3	48	2KJ3603 - ■ FP23 - ■ ■ F1	
	147	174	9.90	2 590	1.4	48	2KJ3603 - ■ FP23 - ■ ■ E1	
	162	162	9.00	2 430	1.6	48	2KJ3603 - ■ FP23 - ■ ■ D1	

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Shaft design

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Frequency and voltage

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Gearbox mounting type

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**Selection and ordering data** (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
<b>3</b>	<b>C.49-LE100ZLSB4P</b>								
	172	153	8.47	2 430	1.7	48	2KJ3603 - ■ FP23 - ■ ■ C1		
	195	135	7.47	2 440	1.8	48	2KJ3603 - ■ FP23 - ■ ■ B1		
	225	117	6.48	2 440	2.0	48	2KJ3603 - ■ FP23 - ■ ■ A1		
	<b>C.39-LE100ZLSB4P</b>								
	104	250	14.00	2 990	0.81	40	2KJ3602 - ■ FP23 - ■ ■ H1		
	113	230	12.92	3 060	0.85	40	2KJ3602 - ■ FP23 - ■ ■ G1		
	129	200	11.31	3 150	0.93	40	2KJ3602 - ■ FP23 - ■ ■ F1		
	147	179	9.92	3 150	1.0	40	2KJ3602 - ■ FP23 - ■ ■ E1		
	162	162	9.00	3 180	1.1	40	2KJ3602 - ■ FP23 - ■ ■ D1		
	172	153	8.47	3 180	1.1	40	2KJ3602 - ■ FP23 - ■ ■ C1		
	195	134	7.47	3 190	1.2	40	2KJ3602 - ■ FP23 - ■ ■ B1		
	225	117	6.48	3 170	1.3	40	2KJ3602 - ■ FP23 - ■ ■ A1		
	<b>4</b>	<b>C.89-LE112ZMKB4P</b>							
		26	1310	55.61	9 370	1.1	77	2KJ3605 - ■ GJ23 - ■ ■ U1	
29		1180	50.00	9 500	1.2	77	2KJ3605 - ■ GJ23 - ■ ■ T1		
32		1070	45.22	9 560	1.3	77	2KJ3605 - ■ GJ23 - ■ ■ S1		
35		990	41.74	9 590	1.4	77	2KJ3605 - ■ GJ23 - ■ ■ R1		
38		905	38.24	9 610	1.4	77	2KJ3605 - ■ GJ23 - ■ ■ Q1		
46		760	32.08	9 560	1.6	77	2KJ3605 - ■ GJ23 - ■ ■ P1		
48		715	30.20	9 530	1.7	77	2KJ3605 - ■ GJ23 - ■ ■ N1		
53		655	27.70	9 470	1.7	77	2KJ3605 - ■ GJ23 - ■ ■ M1		
58		605	25.03	8 940	1.8	77	2KJ3605 - ■ GJ23 - ■ ■ L1		
70		510	21.00	8 790	2.1	77	2KJ3605 - ■ GJ23 - ■ ■ K1		
74		480	19.76	8 730	2.3	77	2KJ3605 - ■ GJ23 - ■ ■ J1		
81		440	18.13	8 640	2.5	77	2KJ3605 - ■ GJ23 - ■ ■ H1		
92		385	15.84	8 470	2.9	77	2KJ3605 - ■ GJ23 - ■ ■ G1		
103		340	14.18	8 350	3.1	77	2KJ3605 - ■ GJ23 - ■ ■ F1		
118		300	12.40	8 130	3.4	77	2KJ3605 - ■ GJ23 - ■ ■ E1		
137		255	10.64	7 910	3.7	77	2KJ3605 - ■ GJ23 - ■ ■ D1		
155		225	9.41	7 710	4.0	77	2KJ3605 - ■ GJ23 - ■ ■ C1		
182		194	8.00	7 420	4.3	77	2KJ3605 - ■ GJ23 - ■ ■ B1		
213		167	6.86	7 150	4.3	77	2KJ3605 - ■ GJ23 - ■ ■ A1		
<b>C.69-LE112ZMKB4P</b>									
56		620	26.28	3 700	0.83	58	2KJ3604 - ■ GJ23 - ■ ■ M1		
60		570	24.26	3 830	0.86	58	2KJ3604 - ■ GJ23 - ■ ■ L1		
68		505	21.48	3 960	0.93	58	2KJ3604 - ■ GJ23 - ■ ■ K1		
82		420	17.88	4 100	1.0	58	2KJ3604 - ■ GJ23 - ■ ■ J1		
92		380	15.88	3 800	0.94	58	2KJ3604 - ■ GJ23 - ■ ■ H1		
104		335	14.06	3 880	1.1	58	2KJ3604 - ■ GJ23 - ■ ■ G1		
125		280	11.70	3 910	1.3	58	2KJ3604 - ■ GJ23 - ■ ■ F1		
133		260	11.01	3 940	1.4	58	2KJ3604 - ■ GJ23 - ■ ■ E1		
148		235	9.87	3 910	1.5	58	2KJ3604 - ■ GJ23 - ■ ■ D1		
174		200	8.40	3 880	1.8	58	2KJ3604 - ■ GJ23 - ■ ■ C1		
203		173	7.20	3 810	2.1	58	2KJ3604 - ■ GJ23 - ■ ■ B1		
235		149	6.20	3 740	2.3	58	2KJ3604 - ■ GJ23 - ■ ■ A1		
<b>C.49-LE112ZMKB4P</b>									
96	355	15.16	1 600	0.80	49	2KJ3603 - ■ GJ23 - ■ ■ J1			
106	320	13.75	1 820	0.85	49	2KJ3603 - ■ GJ23 - ■ ■ H1			
113	300	12.84	1 900	0.89	49	2KJ3603 - ■ GJ23 - ■ ■ G1			

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Frequency and voltage

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Gearbox mounting type

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## SIMOGEAR geared motors

### Helical worm geared motors

Geared motors up to 7.5 kW

## Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
4	<b>C.49-LE112ZMKB4P</b>								
	128	265	11.41	2 010	0.95	49	2KJ3603 - ■ GJ23 - ■ ■ F1		
	147	230	9.90	2 110	1.0	49	2KJ3603 - ■ GJ23 - ■ ■ E1		
	162	215	9.00	1 580	1.2	49	2KJ3603 - ■ GJ23 - ■ ■ D1		
	172	200	8.47	1 760	1.3	49	2KJ3603 - ■ GJ23 - ■ ■ C1		
	195	179	7.47	1 940	1.3	49	2KJ3603 - ■ GJ23 - ■ ■ B1		
	225	155	6.48	2 080	1.5	49	2KJ3603 - ■ GJ23 - ■ ■ A1		
	<b>C.39-LE112ZMKB4P</b>								
	162	215	9.00	2 580	0.81	44	2KJ3602 - ■ GJ23 - ■ ■ D1		
	172	200	8.47	2 650	0.83	44	2KJ3602 - ■ GJ23 - ■ ■ C1		
	195	179	7.47	2 680	0.91	44	2KJ3602 - ■ GJ23 - ■ ■ B1		
	225	155	6.48	2 740	0.99	44	2KJ3602 - ■ GJ23 - ■ ■ A1		
	5.5	<b>C.89-LE132ZST4P</b>							
		38	1 240	38.24	7 810	1.0	108	2KJ3605 - ■ HJ23 - ■ ■ Q1	
46		1 040	32.08	8 050	1.2	108	2KJ3605 - ■ HJ23 - ■ ■ P1		
49		980	30.20	8 100	1.2	108	2KJ3605 - ■ HJ23 - ■ ■ N1		
53		895	27.70	8 180	1.3	108	2KJ3605 - ■ HJ23 - ■ ■ M1		
59		830	25.03	7 590	1.3	108	2KJ3605 - ■ HJ23 - ■ ■ L1		
70		695	21.00	7 680	1.5	108	2KJ3605 - ■ HJ23 - ■ ■ K1		
74		655	19.76	7 680	1.7	108	2KJ3605 - ■ HJ23 - ■ ■ J1		
81		600	18.13	7 680	1.8	108	2KJ3605 - ■ HJ23 - ■ ■ H1		
92		525	15.84	7 630	2.1	108	2KJ3605 - ■ HJ23 - ■ ■ G1		
103		470	14.18	7 570	2.2	108	2KJ3605 - ■ HJ23 - ■ ■ F1		
118		410	12.40	7 470	2.4	108	2KJ3605 - ■ HJ23 - ■ ■ E1		
138		350	10.64	7 330	2.7	108	2KJ3605 - ■ HJ23 - ■ ■ D1		
156		310	9.41	7 190	2.9	108	2KJ3605 - ■ HJ23 - ■ ■ C1		
183		265	8.00	6 980	3.1	108	2KJ3605 - ■ HJ23 - ■ ■ B1		
214		225	6.86	6 790	3.1	108	2KJ3605 - ■ HJ23 - ■ ■ A1		
<b>C.69-LE132ZST4P</b>									
125		385	11.70	2 950	0.94	88	2KJ3604 - ■ HJ23 - ■ ■ F1		
133	360	11.01	3 170	0.99	88	2KJ3604 - ■ HJ23 - ■ ■ E1			
148	325	9.87	3 230	1.1	88	2KJ3604 - ■ HJ23 - ■ ■ D1			
174	275	8.40	3 310	1.3	88	2KJ3604 - ■ HJ23 - ■ ■ C1			
203	235	7.20	3 340	1.5	88	2KJ3604 - ■ HJ23 - ■ ■ B1			
236	200	6.20	3 360	1.7	88	2KJ3604 - ■ HJ23 - ■ ■ A1			
7.5	<b>C.89-LE132ZMS4P</b>								
	46	1 410	32.08	6 070	0.86	108	2KJ3605 - ■ HL23 - ■ ■ P1		
	49	1 330	30.20	6 220	0.89	108	2KJ3605 - ■ HL23 - ■ ■ N1		
	53	1 220	27.70	6 430	0.92	108	2KJ3605 - ■ HL23 - ■ ■ M1		
	59	1 130	25.03	4 900	0.96	108	2KJ3605 - ■ HL23 - ■ ■ L1		
	70	950	21.00	6 040	1.1	108	2KJ3605 - ■ HL23 - ■ ■ K1		
	74	890	19.76	6 270	1.3	108	2KJ3605 - ■ HL23 - ■ ■ J1		
	81	820	18.13	6 360	1.4	108	2KJ3605 - ■ HL23 - ■ ■ H1		
	93	715	15.84	6 490	1.5	108	2KJ3605 - ■ HL23 - ■ ■ G1		
	104	640	14.18	6 540	1.7	108	2KJ3605 - ■ HL23 - ■ ■ F1		
	119	560	12.40	6 570	1.8	108	2KJ3605 - ■ HL23 - ■ ■ E1		
	138	480	10.64	6 550	2.0	108	2KJ3605 - ■ HL23 - ■ ■ D1		
	156	425	9.41	6 500	2.2	108	2KJ3605 - ■ HL23 - ■ ■ C1		
	184	360	8.00	6 410	2.3	108	2KJ3605 - ■ HL23 - ■ ■ B1		
214	310	6.86	6 280	2.3	108	2KJ3605 - ■ HL23 - ■ ■ A1			

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Frequency and voltage

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Gearbox mounting type

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## SIMOGEAR geared motors

### Helical worm geared motors

Geared motors up to 7.5 kW

#### Selection and ordering data (continued)

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$F_{R2}$ N	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
7.5	<b>C.69-LE132ZMS4P</b>							
	149	440	9.87	1 400	0.82	88	<b>2KJ3604 - ■ HL23 - ■ ■ D1</b>	
	175	375	8.40	1 990	0.96	88	<b>2KJ3604 - ■ HL23 - ■ ■ C1</b>	
	204	320	7.20	2 470	1.1	88	<b>2KJ3604 - ■ HL23 - ■ ■ B1</b>	
	237	275	6.20	2 790	1.3	88	<b>2KJ3604 - ■ HL23 - ■ ■ A1</b>	

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**SIMOGEAR geared motors**

Helical worm geared motors

**Transmission ratios and torques****Selection and ordering data**

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub> -	Motor frame size							Article No.
						63	71	80	90	100	112	132	
<b>C.29</b>													
<b>265.20</b>	5.5	108	4 140	0.05	1326/5	✓	✓	✓					2KJ3601 - ■■■■■■ - ■■ M2
<b>230.10</b>	6.3	108	4 140	0.05	2301/10	✓	✓	✓					2KJ3601 - ■■■■■■ - ■■ L2
<b>209.18</b>	6.9	109	4 130	0.07	2301/11	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ K2
<b>179.40</b>	8.1	110	4 130	0.08	897/5	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ J2
<b>163.09</b>	8.9	110	4 130	0.10	1794/11	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ H2
<b>143.00</b>	10	110	4 130	0.11	143/1	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ G2
<b>127.64</b>	11	110	4 130	0.14	1404/11	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ F2
<b>113.75</b>	13	110	4 130	0.16	455/4	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ E2
<b>105.00</b>	14	110	4 130	0.20	105/1	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ D2
<b>91.93</b>	16	110	4 130	0.22	1287/14	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ C2
<b>80.60</b>	18	110	4 130	0.22	403/5	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ B2
<b>73.12</b>	20	110	4 130	0.28	585/8	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ A2
<b>68.82</b>	21	110	4 130	0.33	1170/17	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ X1
<b>60.67</b>	24	110	4 130	0.36	182/3	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ W1
<b>52.65</b>	28	110	4 130	0.48	1053/20	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ V1
<b>49.87</b>	29	102	4 170	0.05	748/15	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ U1
<b>43.27</b>	34	103	4 160	0.06	649/15	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ T1
<b>39.33</b>	37	103	4 160	0.07	118/3	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ S1
<b>33.73</b>	43	104	4 160	0.09	506/15	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ R1
<b>32.64</b>	44	90	4 230	0.05	816/25	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ Q1
<b>28.32</b>	51	90	4 230	0.06	708/25	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ P1
<b>25.75</b>	56	91	4 220	0.07	1416/55	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ N1
<b>22.08</b>	66	91	4 220	0.09	552/25	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ M1
<b>20.07</b>	72	92	4 200	0.11	1104/55	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ L1
<b>17.60</b>	82	92	3 970	0.13	88/5	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ K1
<b>15.71</b>	92	92	3 770	0.15	864/55	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ J1
<b>14.00</b>	104	93	3 560	0.18	14/1	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ H1
<b>12.92</b>	112	93	3 430	0.22	168/13	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ G1
<b>11.31</b>	128	94	3 210	0.25	396/35	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ F1
<b>9.92</b>	146	94	3 020	0.26	248/25	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ E1
<b>9.00</b>	161	91	2 960	0.33	9/1	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ D1
<b>8.47</b>	171	90	2 950	0.38	144/17	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ C1
<b>7.47</b>	194	86	2 920	0.43	112/15	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ B1
<b>6.48</b>	224	82	2 880	0.57	162/25	✓	✓	✓	✓				2KJ3601 - ■■■■■■ - ■■ A1

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## SIMOGEAR geared motors

### Helical worm geared motors

#### Transmission ratios and torques

#### Selection and ordering data (continued)

<i>i</i>	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$ -	Motor frame size						Article No.
						63	71	80	90	100	112	
<b>C.39</b>												
299.00	4.8	192	6 180	0.04	299/1	✓	✓					2KJ3602 - ■■■■■■ - ■■ N2
265.20	5.5	192	6 180	0.05	1326/5	✓	✓	✓				2KJ3602 - ■■■■■■ - ■■ M2
230.10	6.3	193	6 180	0.06	2301/10	✓	✓	✓				2KJ3602 - ■■■■■■ - ■■ L2
209.18	6.9	193	6 180	0.07	2301/11	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ K2
179.40	8.1	193	6 180	0.09	897/5	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ J2
163.09	8.9	193	6 180	0.11	1794/11	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ H2
143.00	10	194	6 170	0.13	143/1	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ G2
127.64	11	194	6 170	0.16	1404/11	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ F2
113.75	13	194	6 170	0.19	455/4	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ E2
105.00	14	194	6 170	0.23	105/1	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ D2
91.93	16	194	6 170	0.27	1287/14	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ C2
80.60	18	194	6 170	0.26	403/5	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ B2
73.12	20	194	6 170	0.36	585/8	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ A2
68.82	21	194	6 170	0.43	1170/17	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ X1
60.67	24	183	6 210	0.47	182/3	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ W1
52.65	28	170	6 260	0.64	1053/20	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ V1
49.87	29	198	6 160	0.06	748/15	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ U1
43.27	34	199	6 150	0.07	649/15	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ T1
39.33	37	200	6 140	0.08	118/3	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ S1
33.73	43	200	5 730	0.11	506/15	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ R1
32.64	44	215	5 260	0.07	816/25	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ Q1
28.32	51	235	4 680	0.08	708/25	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ P1
25.75	56	235	4 450	0.10	1416/55	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ N1
22.08	66	235	4 100	0.13	552/25	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ M1
20.07	72	235	3 890	0.16	1104/55	✓	✓	✓	✓			2KJ3602 - ■■■■■■ - ■■ L1
17.60	82	225	3 720	0.19	88/5	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ K1
15.71	92	215	3 600	0.23	864/55	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ J1
14.00	104	205	3 490	0.28	14/1	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ H1
12.92	112	199	3 400	0.34	168/13	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ G1
11.31	128	189	3 270	0.41	396/35	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ F1
9.92	146	181	3 130	0.44	248/25	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ E1
9.00	161	174	3 040	0.59	9/1	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ D1
8.47	171	170	3 030	0.68	144/17	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ C1
7.47	194	163	3 050	0.81	112/15	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ B1
6.48	224	154	3 050	1.08	162/25	✓	✓	✓	✓	✓		2KJ3602 - ■■■■■■ - ■■ A1

**SIMOGEAR geared motors**

Helical worm geared motors

**Transmission ratios and torques****Selection and ordering data** (continued)

<i>i</i>	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$ -	Motor frame size							Article No.
						63	71	80	90	100	112	132	
<b>C.49</b>													
<b>299.00</b>	4.8	350	8 410	0.04	299/1	✓	✓						2KJ3603 - ■■■■■■ - ■■ N2
<b>265.20</b>	5.5	350	8 410	0.05	1326/5	✓	✓	✓					2KJ3603 - ■■■■■■ - ■■ M2
<b>230.10</b>	6.3	355	8 400	0.07	2301/10	✓	✓	✓					2KJ3603 - ■■■■■■ - ■■ L2
<b>209.18</b>	6.9	355	8 400	0.08	2301/11	✓	✓	✓	✓				2KJ3603 - ■■■■■■ - ■■ K2
<b>179.40</b>	8.1	355	8 260	0.10	897/5	✓	✓	✓	✓				2KJ3603 - ■■■■■■ - ■■ J2
<b>163.09</b>	8.9	355	7 920	0.13	1794/11	✓	✓	✓	✓				2KJ3603 - ■■■■■■ - ■■ H2
<b>143.00</b>	10	355	7 480	0.15	143/1	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ G2
<b>127.64</b>	11	355	7 110	0.18	1404/11	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ F2
<b>113.75</b>	13	355	6 760	0.22	455/4	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ E2
<b>105.00</b>	14	355	6 510	0.26	105/1	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ D2
<b>91.93</b>	16	350	6 160	0.32	1287/14	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ C2
<b>80.60</b>	18	330	5 930	0.32	403/5	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ B2
<b>73.12</b>	20	315	5 770	0.44	585/8	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ A2
<b>68.82</b>	21	305	5 680	0.51	1170/17	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ X1
<b>60.67</b>	24	285	5 500	0.58	182/3	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ W1
<b>52.65</b>	28	265	5 290	0.78	1053/20	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ V1
<b>49.87</b>	29	320	4 250	0.08	748/15	✓	✓	✓	✓				2KJ3603 - ■■■■■■ - ■■ U1
<b>43.27</b>	34	350	3 680	0.10	649/15	✓	✓	✓	✓				2KJ3603 - ■■■■■■ - ■■ T1
<b>39.33</b>	37	400	3 050	0.12	118/3	✓	✓	✓	✓				2KJ3603 - ■■■■■■ - ■■ S1
<b>33.73</b>	43	375	2 940	0.15	506/15	✓	✓	✓	✓				2KJ3603 - ■■■■■■ - ■■ R1
<b>30.67</b>	47	385	2 660	0.19	92/3	✓	✓	✓	✓				2KJ3603 - ■■■■■■ - ■■ Q1
<b>26.89</b>	54	360	2 620	0.23	242/9	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ P1
<b>24.00</b>	60	345	2 540	0.28	24/1	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ N1
<b>21.39</b>	68	330	2 460	0.34	385/18	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ M1
<b>19.74</b>	73	315	2 450	0.41	770/39	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ L1
<b>17.29</b>	84	300	2 350	0.51	121/7	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ K1
<b>15.16</b>	96	285	2 270	0.56	682/45	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ J1
<b>13.75</b>	105	275	2 200	0.73	55/4	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ H1
<b>12.94</b>	112	270	2 160	0.85	220/17	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ G1
<b>11.41</b>	127	255	2 100	1.02	308/27	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ F1
<b>9.90</b>	146	245	1 990	1.36	99/10	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ E1
<b>9.00</b>	161	255	1 140	1.03	9/1	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ D1
<b>8.47</b>	171	255	1 290	1.18	144/17	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ C1
<b>7.47</b>	194	240	1 580	1.45	112/15	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ B1
<b>6.48</b>	224	230	1 850	1.93	162/25	✓	✓	✓	✓	✓	✓		2KJ3603 - ■■■■■■ - ■■ A1

Electro\_Motor.ir

## SIMOGEAR geared motors

### Helical worm geared motors

#### Transmission ratios and torques

#### Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub> -	Motor frame size							Article No.
						63	71	80	90	100	112	132	
<b>C.69</b>													
360.00	4.0	675	10 600	0.07	1079/3	✓	✓						2KJ3604 - ■■■■■■ - ■■ M2
319.80	4.5	675	10 600	0.09	1599/5	✓	✓	✓					2KJ3604 - ■■■■■■ - ■■ L2
280.80	5.2	675	10 600	0.11	1404/5	✓	✓	✓					2KJ3604 - ■■■■■■ - ■■ K2
255.27	5.7	675	10 600	0.13	2808/11	✓	✓	✓	✓				2KJ3604 - ■■■■■■ - ■■ J2
218.40	6.6	675	10 600	0.16	1092/5	✓	✓	✓	✓				2KJ3604 - ■■■■■■ - ■■ H2
198.55	7.3	675	10 600	0.19	2184/11	✓	✓	✓	✓				2KJ3604 - ■■■■■■ - ■■ G2
175.50	8.3	665	10 600	0.23	351/2	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ F2
159.55	9.1	640	10 700	0.30	1755/11	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ E2
139.75	10	590	10 500	0.35	559/4	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ D2
129.00	11	565	10 300	0.42	129/1	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ C2
114.21	13	535	9 990	0.52	1599/14	✓	✓	✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ B2
102.50	14	675	8 310	0.10	205/2	✓	✓	✓	✓				2KJ3604 - ■■■■■■ - ■■ A2
90.00	16	675	7 790	0.12	90/1	✓	✓	✓	✓				2KJ3604 - ■■■■■■ - ■■ X1
81.82	18	675	7 410	0.15	900/11	✓	✓	✓	✓				2KJ3604 - ■■■■■■ - ■■ W1
70.00	21	660	6 920	0.18	70/1	✓	✓	✓	✓				2KJ3604 - ■■■■■■ - ■■ V1
63.64	23	640	6 700	0.22	700/11	✓	✓	✓	✓				2KJ3604 - ■■■■■■ - ■■ U1
56.25	26	610	6 460	0.27	225/4	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ T1
51.14	28	580	6 320	0.34	1125/22	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ S1
44.79	32	545	6 110	0.41	1075/24	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ R1
41.35	35	525	5 980	0.49	1075/26	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ Q1
36.61	40	500	5 770	0.61	1025/28	✓	✓	✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ P1
30.00	48	545	4 560	0.46	30/1	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ N1
26.28	55	515	4 410	0.56	473/18	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ M1
24.26	60	500	4 300	0.67	946/39	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ L1
21.48	68	475	4 160	0.83	451/21	✓	✓	✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ K1
17.88	81	440	3 960	1.17	143/8	✓	✓	✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ J1
15.88	91	360	3 950	0.88	1032/65	✓	✓	✓	✓	✓	✓		2KJ3604 - ■■■■■■ - ■■ H1
14.06	103	355	3 730	1.11	492/35	✓	✓	✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ G1
11.70	124	360	3 310	1.56	117/10	✓	✓	✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ F1
11.01	132	360	3 180	1.79	936/85	✓	✓	✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ E1
9.87	147	360	2 890	2.10	148/15	✓	✓	✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ D1
8.40	173	360	3 110	2.90	42/5	✓	✓	✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ C1
7.20	201	360	3 170	3.90	36/5			✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ B1
6.20	234	355	3 190	5.20	31/5			✓	✓	✓	✓	✓	2KJ3604 - ■■■■■■ - ■■ A1

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**SIMOGEAR geared motors**

Helical worm geared motors

**Transmission ratios and torques****Selection and ordering data** (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub> -	Motor frame size							Article No.
						63	71	80	90	100	112	132	
<b>C.89</b>													
<b>363.00</b>	4	1 450	16 200	0.47	3627/10	✓	✓	✓					2KJ3605 - ■■■■■■ - ■■ N2
<b>329.73</b>	4.4	1 450	16 200	0.57	3627/11	✓	✓	✓					2KJ3605 - ■■■■■■ - ■■ M2
<b>295.75</b>	4.9	1 450	16 200	0.78	1183/4	✓	✓	✓	✓	✓			2KJ3605 - ■■■■■■ - ■■ L2
<b>265.91</b>	5.5	1 450	16 200	0.89	2925/11	✓	✓	✓	✓	✓			2KJ3605 - ■■■■■■ - ■■ K2
<b>240.50</b>	6	1 450	16 200	1.00	481/2	✓	✓	✓	✓	✓			2KJ3605 - ■■■■■■ - ■■ J2
<b>222.00</b>	6.5	1 450	16 200	1.18	222/1	✓	✓	✓	✓	✓			2KJ3605 - ■■■■■■ - ■■ H2
<b>203.36</b>	7.1	1 450	16 200	1.52	2847/14	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ G2
<b>170.62</b>	8.5	1 360	16 300	1.67	1365/8	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ F2
<b>160.59</b>	9	1 330	16 300	1.91	2730/17	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ E2
<b>147.33</b>	9.8	1 280	16 300	2.10	442/3	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ D2
<b>128.70</b>	11	1 190	16 300	3.00	1287/10	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ C2
<b>115.23</b>	13	1 120	15 900	3.70	2535/22		✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ B2
<b>100.75</b>	14	1 050	15 300	4.40	403/4		✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ A2
<b>86.48</b>	17	985	14 600	4.90	1989/23		✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ X1
<b>76.44</b>	19	930	14 100	6.30	1911/25		✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ W1
<b>65.00</b>	22	865	13 400	8.10	65/1				✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ V1
<b>55.61</b>	26	1 450	8 630	0.89	1001/18	✓	✓	✓	✓	✓			2KJ3605 - ■■■■■■ - ■■ U1
<b>50.00</b>	29	1 430	8 160	1.02	50/1	✓	✓	✓	✓	✓			2KJ3605 - ■■■■■■ - ■■ T1
<b>45.22</b>	32	1 380	7 910	1.15	407/9	✓	✓	✓	✓	✓			2KJ3605 - ■■■■■■ - ■■ S1
<b>41.74</b>	35	1 340	7 720	1.35	1628/39	✓	✓	✓	✓	✓			2KJ3605 - ■■■■■■ - ■■ R1
<b>38.24</b>	38	1 300	7 510	1.73	803/21	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ Q1
<b>32.08</b>	45	1 220	7 110	1.97	385/12	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ P1
<b>30.20</b>	48	1 200	6 950	2.20	1540/51	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ N1
<b>27.70</b>	52	1 140	6 890	2.50	748/27	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ M1
<b>25.03</b>	58	1 090	5 490	2.10	876/35	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ L1
<b>21.00</b>	69	1 070	4 480	2.50	21/1	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ K1
<b>19.76</b>	73	1 120	3 400	2.80	336/17	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ J1
<b>18.13</b>	80	1 110	3 180	3.20	272/15	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ H1
<b>15.84</b>	92	1 110	4 150	4.40	396/25	✓	✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ G1
<b>14.18</b>	102	1 070	4 810	5.40	156/11		✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ F1
<b>12.40</b>	117	1 010	5 490	6.60	62/5		✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ E1
<b>10.64</b>	136	960	5 620	8.00	1224/115		✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ D1
<b>9.41</b>	154	915	5 680	10.00	1176/125		✓	✓	✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ C1
<b>8.00</b>	181	840	5 710	14.00	8/1				✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ B1
<b>6.86</b>	211	720	5 690	18.00	48/7				✓	✓	✓		2KJ3605 - ■■■■■■ - ■■ A1

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## SIMOGEAR geared motors

### Helical worm geared motors

#### Transmission ratios and torques for very low speeds

#### Selection and ordering data

<i>i</i>	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$J_G$ $10^{-4}$ kgm <sup>2</sup>	$R_{ex}$	Motor frame size							Article No.
						63	71	80	90	100	112	132	
<b>C.29-D19</b>													
9 219	0.16	80	4 280	0.02	37750064/4095	✓	✓						2KJ3621 - ■■■■■■ - ■■ Q1
8 163	0.18	80	4 280	0.03	18570596/2275	✓	✓						2KJ3621 - ■■■■■■ - ■■ P1
7 092	0.20	81	4 270	0.04	16135108/2275	✓	✓						2KJ3621 - ■■■■■■ - ■■ N1
6 448	0.22	81	4 270	0.04	2933656/455	✓	✓						2KJ3621 - ■■■■■■ - ■■ M1
5 487	0.26	82	4 270	0.06	12481876/2275	✓	✓						2KJ3621 - ■■■■■■ - ■■ L1
4 988	0.29	82	4 270	0.07	2269432/455	✓	✓						2KJ3621 - ■■■■■■ - ■■ K1
4 349	0.33	83	4 260	0.08	152218/35	✓	✓						2KJ3621 - ■■■■■■ - ■■ J1
3 893	0.37	84	4 260	0.11	1771264/455	✓	✓						2KJ3621 - ■■■■■■ - ■■ H1
3 457	0.42	84	4 260	0.13	4718758/1365	✓	✓						2KJ3621 - ■■■■■■ - ■■ G1
3 191	0.45	84	4 260	0.16	18875032/5915	✓	✓						2KJ3621 - ■■■■■■ - ■■ F1
2 772	0.52	85	4 250	0.17	8828644/3185	✓	✓						2KJ3621 - ■■■■■■ - ■■ E1
2 409	0.60	86	4 250	0.18	5479848/2275	✓	✓						2KJ3621 - ■■■■■■ - ■■ D1
2 175	0.67	86	4 250	0.22	76109/35	✓	✓						2KJ3621 - ■■■■■■ - ■■ C1
2 047	0.71	86	4 250	0.26	71632/35	✓	✓						2KJ3621 - ■■■■■■ - ■■ B1
1 784	0.81	87	4 240	0.29	2435488/1365	✓	✓						2KJ3621 - ■■■■■■ - ■■ A1
<b>C.29-Z19</b>													
1 744	0.83	87	4 240	0.02	1020272/585	✓	✓						2KJ3620 - ■■■■■■ - ■■ S1
1 544	0.94	87	4 240	0.03	501908/325	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ R1
1 342	1.1	88	4 240	0.04	436084/325	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ Q1
1 220	1.2	88	4 240	0.05	79288/65	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ P1
1 038	1.4	89	4 230	0.07	337348/325	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ N1
944	1.5	90	4 230	0.08	61336/65	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ M1
823	1.8	90	4 230	0.09	4114/5	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ L1
736	2.0	91	4 220	0.12	47872/65	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ K1
654	2.2	91	4 220	0.15	127534/195	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ J1
604	2.4	91	4 220	0.18	510136/845	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ H1
524	2.8	92	4 220	0.20	238612/455	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ G1
456	3.2	93	4 210	0.21	148104/325	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ F1
411	3.5	93	4 210	0.27	2057/5	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ E1
387	3.7	93	4 210	0.32	1936/5	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ D1
337.56	4.3	94	4 210	0.36	65824/195	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ C1
311.44	4.7	94	4 210	0.19	255068/819	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ B1
270.54	5.4	95	4 200	0.22	119306/441	✓	✓	✓					2KJ3620 - ■■■■■■ - ■■ A1

**SIMOGEAR geared motors**

Helical worm geared motors

**Transmission ratios and torques for very low speeds****Selection and ordering data** (continued)

<i>i</i>	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$J_G$ $10^{-4} \text{ kgm}^2$	$R_{ex}$	Motor frame size							Article No.
						63	71	80	90	100	112	132	
<b>C.39-D19</b>													
<b>11 553</b>	0.13	160	6 300	0.06	150183/13	✓	✓						2KJ3623 - ■■■■■■ - ■■ S1
<b>10 502</b>	0.14	160	6 300	0.07	136530/13	✓	✓						2KJ3623 - ■■■■■■ - ■■ R1
<b>9 219</b>	0.16	156	6 320	0.02	37750064/4095	✓	✓						2KJ3623 - ■■■■■■ - ■■ Q1
<b>8 163</b>	0.18	157	6 310	0.03	18570596/2275	✓	✓						2KJ3623 - ■■■■■■ - ■■ P1
<b>7 092</b>	0.20	157	6 310	0.04	16135108/2275	✓	✓						2KJ3623 - ■■■■■■ - ■■ N1
<b>6 448</b>	0.22	158	6 310	0.04	2933656/455	✓	✓						2KJ3623 - ■■■■■■ - ■■ M1
<b>5 487</b>	0.26	159	6 300	0.06	12481876/2275	✓	✓						2KJ3623 - ■■■■■■ - ■■ L1
<b>4 988</b>	0.29	159	6 300	0.07	2269432/455	✓	✓						2KJ3623 - ■■■■■■ - ■■ K1
<b>4 349</b>	0.33	160	6 300	0.08	152218/35	✓	✓						2KJ3623 - ■■■■■■ - ■■ J1
<b>3 893</b>	0.37	161	6 300	0.11	1771264/455	✓	✓						2KJ3623 - ■■■■■■ - ■■ H1
<b>3 457</b>	0.42	161	6 300	0.13	4718758/1365	✓	✓						2KJ3623 - ■■■■■■ - ■■ G1
<b>3 191</b>	0.45	162	6 290	0.16	18875032/5915	✓	✓						2KJ3623 - ■■■■■■ - ■■ F1
<b>2 772</b>	0.52	163	6 290	0.17	8828644/3185	✓	✓						2KJ3623 - ■■■■■■ - ■■ E1
<b>2 409</b>	0.60	165	6 280	0.18	5479848/2275	✓	✓						2KJ3623 - ■■■■■■ - ■■ D1
<b>2 175</b>	0.67	166	6 280	0.22	76109/35	✓	✓						2KJ3623 - ■■■■■■ - ■■ C1
<b>2 047</b>	0.71	167	6 270	0.26	71632/35	✓	✓						2KJ3623 - ■■■■■■ - ■■ B1
<b>1 784</b>	0.81	169	6 270	0.29	2435488/1365	✓	✓						2KJ3623 - ■■■■■■ - ■■ A1
<b>C.39-Z19</b>													
<b>1 744</b>	0.83	169	6 270	0.02	1020272/585	✓	✓						2KJ3622 - ■■■■■■ - ■■ S1
<b>1 544</b>	0.94	171	6 260	0.03	501908/325	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ R1
<b>1 342</b>	1.1	173	6 250	0.04	436084/325	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ Q1
<b>1 220</b>	1.2	173	6 250	0.05	79288/65	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ P1
<b>1 038</b>	1.4	175	6 240	0.07	337348/325	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ N1
<b>944</b>	1.5	175	6 240	0.08	61336/65	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ M1
<b>823</b>	1.8	176	6 240	0.09	4114/5	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ L1
<b>736</b>	2.0	177	6 240	0.12	47872/65	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ K1
<b>654</b>	2.2	178	6 230	0.15	127534/195	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ J1
<b>604</b>	2.4	179	6 230	0.18	510136/845	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ H1
<b>524</b>	2.8	180	6 230	0.20	238612/455	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ G1
<b>456</b>	3.2	181	6 220	0.21	148104/325	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ F1
<b>411</b>	3.5	182	6 220	0.27	2057/5	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ E1
<b>387</b>	3.7	182	6 220	0.32	1936/5	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ D1
<b>337.56</b>	4.3	183	6 210	0.36	65824/195	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ C1
<b>311.44</b>	4.7	184	6 210	0.19	255068/819	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ B1
<b>270.54</b>	5.4	185	6 210	0.22	119306/441	✓	✓	✓					2KJ3622 - ■■■■■■ - ■■ A1

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## SIMOGEAR geared motors

### Helical worm geared motors

#### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size							Article No.
						63	71	80	90	100	112	132	
<b>C.49-D19</b>													
<b>11 463</b>	0.13	270	8 640	0.04	2006103/175	✓	✓						2KJ3625 - ■■■■■■ - ■■ N1
<b>10 421</b>	0.14	270	8 640	0.04	364746/35	✓	✓						2KJ3625 - ■■■■■■ - ■■ M1
<b>8 868</b>	0.16	270	8 640	0.06	1551891/175	✓	✓						2KJ3625 - ■■■■■■ - ■■ L1
<b>8 062</b>	0.18	270	8 640	0.07	282162/35	✓	✓						2KJ3625 - ■■■■■■ - ■■ K1
<b>7 029</b>	0.21	275	8 630	0.08	492063/70	✓	✓						2KJ3625 - ■■■■■■ - ■■ J1
<b>6 292</b>	0.23	275	8 630	0.11	220224/35	✓	✓						2KJ3625 - ■■■■■■ - ■■ H1
<b>5 588</b>	0.26	275	8 630	0.13	391127/70	✓	✓						2KJ3625 - ■■■■■■ - ■■ G1
<b>5 158</b>	0.28	275	8 630	0.16	2346762/455	✓	✓						2KJ3625 - ■■■■■■ - ■■ F1
<b>4 480</b>	0.32	280	8 610	0.17	1097679/245	✓	✓						2KJ3625 - ■■■■■■ - ■■ E1
<b>3 893</b>	0.37	280	8 730	0.18	681318/175	✓	✓						2KJ3625 - ■■■■■■ - ■■ D1
<b>3 515</b>	0.41	280	8 610	0.22	492063/140	✓	✓						2KJ3625 - ■■■■■■ - ■■ C1
<b>3 308</b>	0.44	285	8 600	0.26	1968252/595	✓	✓						2KJ3625 - ■■■■■■ - ■■ B1
<b>2 884</b>	0.50	285	8 600	0.29	100936/35	✓	✓						2KJ3625 - ■■■■■■ - ■■ A1
<b>C.49-Z19</b>													
<b>2 819</b>	0.51	285	8 600	0.02	42284/15	✓	✓						2KJ3624 - ■■■■■■ - ■■ V1
<b>2 496</b>	0.58	290	8 590	0.03	62403/25	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ U1
<b>2 169</b>	0.67	295	8 570	0.04	54219/25	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ T1
<b>1 972</b>	0.74	295	8 570	0.05	9858/5	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ S1
<b>1678</b>	0.86	305	8 540	0.07	41943/25	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ R1
<b>1 525</b>	0.95	305	8 540	0.08	7626/5	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ Q1
<b>1 330</b>	1.1	315	8 510	0.10	13299/10	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ P1
<b>1 190</b>	1.2	320	8 500	0.13	5952/5	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ N1
<b>1 057</b>	1.4	325	8 480	0.15	10571/10	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ M1
<b>976</b>	1.5	330	8 470	0.18	63426/65	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ L1
<b>848</b>	1.7	340	8 440	0.21	29667/35	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ K1
<b>737</b>	2.0	340	8 440	0.21	18414/25	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ J1
<b>665</b>	2.2	340	8 440	0.27	13299/20	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ H1
<b>626</b>	2.3	345	8 430	0.32	53196/85	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ G1
<b>546</b>	2.7	345	8 430	0.37	2728/5	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ F1
<b>503</b>	2.9	345	8 430	0.20	10571/21	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ E1
<b>437</b>	3.3	345	8 430	0.23	128557/294	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ D1
<b>380</b>	3.8	350	8 410	0.24	13299/35	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ C1
<b>343.03</b>	4.2	350	8 410	0.31	57629/168	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ B1
<b>322.85</b>	4.5	350	8 410	0.36	115258/357	✓	✓	✓					2KJ3624 - ■■■■■■ - ■■ A1

## SIMOGEAR geared motors

Helical worm geared motors

### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

<i>i</i>	<i>n</i> <sub>2</sub> rpm	<i>T</i> <sub>2N</sub> Nm	<i>F</i> <sub>R2</sub> N	<i>J</i> <sub>G</sub> 10 <sup>-4</sup> kgm <sup>2</sup>	<i>R</i> <sub>ex</sub>	Motor frame size							Article No.
						63	71	80	90	100	112	132	
<b>C.69-D19</b>													
18 949	0.08	495	11 000	0.02	5172970/273	✓	✓						2KJ3627 - ■■■■■■ - ■■ Q1
16 779	0.09	495	11 000	0.03	3053721/182	✓	✓						2KJ3627 - ■■■■■■ - ■■ P1
14 578	0.10	495	11 000	0.04	2653233/182	✓	✓						2KJ3627 - ■■■■■■ - ■■ N1
13 253	0.11	495	11 000	0.04	1206015/91	✓	✓						2KJ3627 - ■■■■■■ - ■■ M1
11 277	0.13	500	11 000	0.06	2052501/182	✓	✓						2KJ3627 - ■■■■■■ - ■■ L1
10 252	0.14	500	11 000	0.07	932955/91	✓	✓						2KJ3627 - ■■■■■■ - ■■ K1
8 939	0.16	500	11 000	0.08	250305/28	✓	✓						2KJ3627 - ■■■■■■ - ■■ J1
8 002	0.18	500	12 200	0.11	728160/91	✓	✓						2KJ3627 - ■■■■■■ - ■■ H1
7 106	0.20	500	11 000	0.13	2586485/364	✓	✓						2KJ3627 - ■■■■■■ - ■■ G1
6 559	0.22	500	11 000	0.16	7759455/1183	✓	✓						2KJ3627 - ■■■■■■ - ■■ F1
5 698	0.25	500	11 000	0.17	7258845/1274	✓	✓						2KJ3627 - ■■■■■■ - ■■ E1
4 951	0.29	505	11 000	0.18	450549/91	✓	✓						2KJ3627 - ■■■■■■ - ■■ D1
4 470	0.32	505	11 000	0.22	250305/56	✓	✓						2KJ3627 - ■■■■■■ - ■■ C1
4 207	0.34	505	11 000	0.26	500610/119	✓	✓						2KJ3627 - ■■■■■■ - ■■ B1
3 667	0.40	505	11 000	0.29	333740/91	✓	✓						2KJ3627 - ■■■■■■ - ■■ A1
<b>C.69-D19</b>													
3 585	0.40	505	11 000	0.02	139810/39	✓	✓						2KJ3626 - ■■■■■■ - ■■ V1
3 174	0.46	510	11 000	0.03	82533/26	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ U1
2 758	0.53	510	11 000	0.04	71709/26	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ T1
2 507	0.58	515	11 000	0.05	32595/13	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ S1
2 134	0.68	515	11 000	0.07	55473/26	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ R1
1 940	0.75	520	11 000	0.08	25215/13	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ Q1
1 691	0.86	520	11 000	0.09	6765/4	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ P1
1 514	0.96	525	11 000	0.12	19680/13	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ N1
1 344	1.1	530	11 000	0.15	69905/52	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ M1
1 241	1.2	530	11 000	0.18	209715/169	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ L1
1 078	1.3	535	10 900	0.20	196185/182	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ K1
937	1.5	540	10 900	0.21	12177/13	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ J1
846	1.7	545	10 900	0.27	6765/8	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ H1
796	1.8	550	10 900	0.32	13530/17	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ G1
694	2.1	555	10 900	0.36	9020/13	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ F1
640	2.3	560	10 900	0.19	349525/546	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ E1
556	2.6	570	10 900	0.22	326975/588	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ D1
483	3.0	580	10 800	0.23	6765/14	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ C1
436	3.3	585	10 800	0.29	146575/336	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ B1
411	3.5	590	10 800	0.35	146575/357	✓	✓	✓					2KJ3626 - ■■■■■■ - ■■ A1

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## SIMOGEAR geared motors

### Helical worm geared motors

#### Transmission ratios and torques for very low speeds

#### Selection and ordering data (continued)

<i>i</i>	$n_2$ rpm	$T_{2N}$ Nm	$F_{R2}$ N	$J_G$ $10^{-4}$ kgm <sup>2</sup> -	$R_{ex}$	Motor frame size							Article No.
						63	71	80	90	100	112	132	
<b>C.89-D39</b>													
18 243	0.08	850	16 300	0.05	93039401/5100	✓	✓						2KJ3630 - ■■■■■■ - ■■ R1
16 585	0.09	855	16 300	0.07	93039401/5610	✓	✓	✓	✓				2KJ3630 - ■■■■■■ - ■■ Q1
14 223	0.10	860	16 300	0.08	36269597/2550	✓	✓	✓	✓				2KJ3630 - ■■■■■■ - ■■ P1
13 085	0.11	1 100	16 300	0.03	90088999/6885	✓	✓						2KJ3630 - ■■■■■■ - ■■ N1
11 606	0.12	1 100	16 300	0.05	7833826/675	✓	✓						2KJ3630 - ■■■■■■ - ■■ M1
10 070	0.14	1 100	16 300	0.05	231097867/22950	✓	✓						2KJ3630 - ■■■■■■ - ■■ L1
9 154	0.16	1 100	16 300	0.07	21008897/2295	✓	✓	✓	✓				2KJ3630 - ■■■■■■ - ■■ K1
7 851	0.18	1 100	16 300	0.08	90088999/11475	✓	✓	✓	✓				2KJ3630 - ■■■■■■ - ■■ J1
7 137	0.20	1 100	16 300	0.10	16379818/2295	✓	✓	✓	✓				2KJ3630 - ■■■■■■ - ■■ H1
6 258	0.23	1 110	16 300	0.12	43086043/6885	✓	✓	✓	✓	✓	✓		2KJ3630 - ■■■■■■ - ■■ G1
5 586	0.26	1 110	16 300	0.15	1424332/255	✓	✓	✓	✓	✓	✓		2KJ3630 - ■■■■■■ - ■■ F1
4 978	0.29	1 110	16 300	0.17	27418391/5508	✓	✓	✓	✓	✓	✓		2KJ3630 - ■■■■■■ - ■■ E1
4 595	0.32	1 110	16 300	0.21	2109107/459	✓	✓	✓	✓	✓	✓		2KJ3630 - ■■■■■■ - ■■ D1
4 023	0.36	1 110	16 300	0.25	6155149/1530	✓	✓	✓	✓	✓	✓		2KJ3630 - ■■■■■■ - ■■ C1
3 527	0.41	1 120	16 300	0.23	121424303/34425	✓	✓	✓	✓	✓	✓		2KJ3630 - ■■■■■■ - ■■ B1
3 200	0.45	1 120	16 300	0.33	3916913/1224	✓	✓	✓	✓	✓	✓		2KJ3630 - ■■■■■■ - ■■ A1
<b>C.89-Z39</b>													
3 111	0.47	1 120	16 300	0.06	7560553/2430	✓	✓						2KJ3628 - ■■■■■■ - ■■ T1
2 766	0.52	1 120	16 300	0.07	3734731/1350	✓	✓	✓	✓				2KJ3628 - ■■■■■■ - ■■ S1
2 429	0.60	1 130	16 300	0.08	182182/75	✓	✓	✓	✓				2KJ3628 - ■■■■■■ - ■■ R1
2 208	0.66	1 130	16 300	0.10	33124/15	✓	✓	✓	✓				2KJ3628 - ■■■■■■ - ■■ Q1
1 889	0.77	1 140	16 300	0.12	1275274/675	✓	✓	✓	✓				2KJ3628 - ■■■■■■ - ■■ P1
1 718	0.84	1 150	16 300	0.14	231868/135	✓	✓	✓	✓				2KJ3628 - ■■■■■■ - ■■ N1
1 518	0.96	1 150	16 300	0.17	91091/60	✓	✓	✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ M1
1 380	1.1	1 160	16 300	0.22	8281/6	✓	✓	✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ L1
1 209	1.2	1 170	16 300	0.26	3916913/3240	✓	✓	✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ K1
1 116	1.3	1 170	16 300	0.31	303301/270	✓	✓	✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ J1
988	1.5	1 180	16 300	0.36	533533/540	✓	✓	✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ H1
822	1.8	1 200	16 300	0.48	1184183/1440	✓	✓	✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ G1
774	1.9	1 210	16 300	0.56	1184183/1530	✓	✓	✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ F1
693	2.1	1 220	16 300	0.61	3370367/4860	✓	✓	✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ E1
590	2.5	1 230	16 300	0.79	637637/1080	✓	✓	✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ D1
506	2.9	1 260	16 300	1.03	91091/180			✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ C1
436	3.3	1 280	16 300	1.31	2823821/6480			✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ B1
360	4.0	1 310	16 300	0.59	793793/2208	✓	✓	✓	✓	✓	✓		2KJ3628 - ■■■■■■ - ■■ A1

## SIMOGEAR geared motors

Helical worm geared motors

### Efficiencies

#### Selection and ordering data

i	$n_{\text{mot}} = 2\,800 \text{ rpm}$				$n_{\text{mot}} = 1\,400 \text{ rpm}$				$n_{\text{mot}} = 900 \text{ rpm}$				Article No.
	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	
<b>C.29</b>													
265.20	10.6	110	0.17	73	5.3	108	0.09	65	3.4	106	0.06	59	2KJ3601 - ■■■■■■ - ■■ M2
230.10	12.2	110	0.19	74	6.1	108	0.10	67	3.9	106	0.07	61	2KJ3601 - ■■■■■■ - ■■ L2
209.18	13.4	110	0.21	75	6.7	109	0.11	68	4.3	107	0.08	62	2KJ3601 - ■■■■■■ - ■■ K2
179.40	15.6	110	0.24	76	7.8	109	0.13	70	5.0	107	0.09	64	2KJ3601 - ■■■■■■ - ■■ J2
163.09	17.2	110	0.26	76	8.6	110	0.14	71	5.5	108	0.10	65	2KJ3601 - ■■■■■■ - ■■ H2
143.00	19.6	110	0.30	76	9.8	110	0.16	72	6.3	108	0.11	67	2KJ3601 - ■■■■■■ - ■■ G2
127.64	22	110	0.33	76	11.0	110	0.17	73	7.1	109	0.12	68	2KJ3601 - ■■■■■■ - ■■ F2
113.75	25	110	0.38	76	12.3	110	0.19	74	7.9	109	0.13	70	2KJ3601 - ■■■■■■ - ■■ E2
105.00	27	110	0.41	76	13.3	110	0.21	74	8.6	110	0.14	70	2KJ3601 - ■■■■■■ - ■■ D2
91.93	30	110	0.46	76	15.2	110	0.23	75	9.8	110	0.16	72	2KJ3601 - ■■■■■■ - ■■ C2
80.60	35	105	0.51	76	17.4	110	0.27	75	11.2	110	0.18	73	2KJ3601 - ■■■■■■ - ■■ B2
73.12	38	101	0.53	76	19.1	110	0.29	75	12.3	110	0.19	74	2KJ3601 - ■■■■■■ - ■■ A2
68.82	41	99	0.56	76	20	110	0.31	75	13.1	110	0.21	74	2KJ3601 - ■■■■■■ - ■■ X1
60.67	46	95	0.61	75	23	110	0.35	76	14.8	110	0.23	74	2KJ3601 - ■■■■■■ - ■■ W1
52.65	53	90	0.67	75	27	110	0.41	76	17.1	110	0.26	75	2KJ3601 - ■■■■■■ - ■■ V1
49.87	56	105	0.69	90	28	102	0.34	87	18	100	0.22	84	2KJ3601 - ■■■■■■ - ■■ U1
43.27	65	106	0.80	90	32	103	0.39	88	21	101	0.26	86	2KJ3601 - ■■■■■■ - ■■ T1
39.33	71	106	0.88	90	36	103	0.44	89	23	101	0.28	86	2KJ3601 - ■■■■■■ - ■■ S1
33.73	83	107	1.00	90	42	104	0.51	89	27	102	0.33	87	2KJ3601 - ■■■■■■ - ■■ R1
32.64	86	92	0.91	92	43	90	0.45	90	28	88	0.30	87	2KJ3601 - ■■■■■■ - ■■ Q1
28.32	99	93	1.10	92	49	90	0.51	90	32	89	0.34	88	2KJ3601 - ■■■■■■ - ■■ P1
25.75	109	93	1.20	92	54	90	0.57	91	35	89	0.37	89	2KJ3601 - ■■■■■■ - ■■ N1
22.08	127	94	1.40	92	63	91	0.66	91	41	89	0.43	89	2KJ3601 - ■■■■■■ - ■■ M1
20.07	140	94	1.50	92	70	91	0.74	91	45	90	0.47	90	2KJ3601 - ■■■■■■ - ■■ L1
17.60	159	93	1.7*	92	80	92	0.85	92	51	90	0.54	90	2KJ3601 - ■■■■■■ - ■■ K1
15.71	178	89	1.8*	92	89	92	0.95	92	57	91	0.60	91	2KJ3601 - ■■■■■■ - ■■ J1
14.00	200	86	2.0*	92	100	93	1.10	92	64	91	0.67	91	2KJ3601 - ■■■■■■ - ■■ H1
12.92	217	83	2.1*	92	108	93	1.20	92	70	91	0.74	91	2KJ3601 - ■■■■■■ - ■■ G1
11.31	248	79	2.3*	92	124	94	1.30	92	80	92	0.85	91	2KJ3601 - ■■■■■■ - ■■ F1
9.92	282	74	2.4*	91	141	94	1.50	92	91	92	0.97	91	2KJ3601 - ■■■■■■ - ■■ E1
9.00	311	71	2.6*	92	156	90	1.6*	92	100	93	1.10	92	2KJ3601 - ■■■■■■ - ■■ D1
8.47	331	70	2.7*	91	165	88	1.7*	92	106	93	1.10	92	2KJ3601 - ■■■■■■ - ■■ C1
7.47	375	66	2.8*	91	187	83	1.8*	92	120	93	1.30	92	2KJ3601 - ■■■■■■ - ■■ B1
6.48	432	62	3.1*	91	216	78	1.9*	92	139	91	1.40	92	2KJ3601 - ■■■■■■ - ■■ A1

\*  $P_{\text{mot max}} = 1.5 \text{ kW}$

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**Selection and ordering data** (continued)

<i>i</i>	$n_{\text{mot}} = 700 \text{ rpm}$				$n_{\text{mot}} = 500 \text{ rpm}$				$n_{\text{mot}} = 100 \text{ rpm}$				Article No.
	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	
<b>C.29</b>													
<b>265.20</b>	2.6	104	<0.06	57	1.9	103	<0.06	54	0.38	95	<0.06	47	2KJ3601 - ■■■■■■ - ■■ M2
<b>230.10</b>	3	105	0.06	58	2.2	104	<0.06	55	0.43	96	<0.06	48	2KJ3601 - ■■■■■■ - ■■ L2
<b>209.18</b>	3.3	105	0.06	59	2.4	104	<0.06	56	0.48	97	<0.06	48	2KJ3601 - ■■■■■■ - ■■ K2
<b>179.40</b>	3.9	106	0.07	61	2.8	105	<0.06	57	0.56	97	<0.06	48	2KJ3601 - ■■■■■■ - ■■ J2
<b>163.09</b>	4.3	107	0.08	62	3.1	105	0.06	58	0.61	98	<0.06	48	2KJ3601 - ■■■■■■ - ■■ H2
<b>143.00</b>	4.9	107	0.09	64	3.5	106	0.07	59	0.70	98	<0.06	48	2KJ3601 - ■■■■■■ - ■■ G2
<b>127.64</b>	5.5	108	0.10	65	3.9	106	0.07	61	0.78	99	<0.06	49	2KJ3601 - ■■■■■■ - ■■ F2
<b>113.75</b>	6.2	108	0.11	66	4.4	107	0.08	62	0.88	99	<0.06	49	2KJ3601 - ■■■■■■ - ■■ E2
<b>105.00</b>	6.7	109	0.11	67	4.8	107	0.09	63	0.95	100	<0.06	49	2KJ3601 - ■■■■■■ - ■■ D2
<b>91.93</b>	7.6	109	0.13	69	5.4	108	0.09	65	1.1	100	<0.06	50	2KJ3601 - ■■■■■■ - ■■ C2
<b>80.60</b>	8.7	110	0.14	70	6.2	108	0.11	66	1.2	101	<0.06	50	2KJ3601 - ■■■■■■ - ■■ B2
<b>73.12</b>	9.6	110	0.16	71	6.8	109	0.12	67	1.4	101	<0.06	51	2KJ3601 - ■■■■■■ - ■■ A2
<b>68.82</b>	10.2	110	0.16	72	7.3	109	0.12	68	1.5	102	<0.06	51	2KJ3601 - ■■■■■■ - ■■ X1
<b>60.67</b>	11.5	110	0.18	73	8.2	110	0.14	70	1.6	102	<0.06	52	2KJ3601 - ■■■■■■ - ■■ W1
<b>52.65</b>	13.3	110	0.21	74	9.5	110	0.15	71	1.9	103	<0.06	53	2KJ3601 - ■■■■■■ - ■■ V1
<b>49.87</b>	14.0	99	0.18	83	10.0	98	0.13	80	2.0	91	<0.06	73	2KJ3601 - ■■■■■■ - ■■ U1
<b>43.27</b>	16.2	100	0.20	84	11.6	98	0.15	81	2.3	91	<0.06	74	2KJ3601 - ■■■■■■ - ■■ T1
<b>39.33</b>	17.8	100	0.22	84	12.7	99	0.16	82	2.5	92	<0.06	74	2KJ3601 - ■■■■■■ - ■■ S1
<b>33.73</b>	21	101	0.26	85	14.8	99	0.19	83	3.0	92	<0.06	74	2KJ3601 - ■■■■■■ - ■■ R1
<b>32.64</b>	21	87	0.22	86	15.3	86	0.17	84	3.1	80	<0.06	77	2KJ3601 - ■■■■■■ - ■■ Q1
<b>28.32</b>	25	88	0.27	87	17.7	86	0.19	84	3.5	80	<0.06	78	2KJ3601 - ■■■■■■ - ■■ P1
<b>25.75</b>	27	88	0.29	87	19.4	87	0.21	85	3.9	81	<0.06	78	2KJ3601 - ■■■■■■ - ■■ N1
<b>22.08</b>	32	89	0.34	88	23	87	0.25	86	4.5	81	<0.06	78	2KJ3601 - ■■■■■■ - ■■ M1
<b>20.07</b>	35	89	0.37	89	25	88	0.27	87	5.0	82	<0.06	79	2KJ3601 - ■■■■■■ - ■■ L1
<b>17.60</b>	40	89	0.42	89	28	88	0.30	87	5.7	82	0.06	79	2KJ3601 - ■■■■■■ - ■■ K1
<b>15.71</b>	45	90	0.47	90	32	89	0.34	88	6.4	83	0.07	79	2KJ3601 - ■■■■■■ - ■■ J1
<b>14.00</b>	50	90	0.53	90	36	89	0.38	89	7.1	83	0.08	80	2KJ3601 - ■■■■■■ - ■■ H1
<b>12.92</b>	54	90	0.57	90	39	89	0.41	89	7.7	83	0.08	80	2KJ3601 - ■■■■■■ - ■■ G1
<b>11.31</b>	62	91	0.65	91	44	90	0.46	90	8.8	84	0.10	81	2KJ3601 - ■■■■■■ - ■■ F1
<b>9.92</b>	71	91	0.75	91	50	90	0.53	90	10.1	84	0.11	81	2KJ3601 - ■■■■■■ - ■■ E1
<b>9.00</b>	78	92	0.82	91	56	91	0.59	91	11.1	85	0.12	82	2KJ3601 - ■■■■■■ - ■■ D1
<b>8.47</b>	83	92	0.88	91	59	91	0.62	91	11.8	85	0.13	82	2KJ3601 - ■■■■■■ - ■■ C1
<b>7.47</b>	94	93	1.00	92	67	91	0.71	91	13.4	85	0.15	83	2KJ3601 - ■■■■■■ - ■■ B1
<b>6.48</b>	108	93	1.20	92	77	92	0.81	91	15.4	86	0.17	84	2KJ3601 - ■■■■■■ - ■■ A1



## SIMOGEAR geared motors

Helical worm geared motors

### Efficiencies

#### Selection and ordering data (continued)

i	$n_{\text{mot}} = 2\,800 \text{ rpm}$				$n_{\text{mot}} = 1\,400 \text{ rpm}$				$n_{\text{mot}} = 900 \text{ rpm}$				Article No.
	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	
<b>C.39</b>													
<b>299.00</b>	9.4	194	0.27	71	4.7	192	0.15	64	3.0	189	0.10	58	2KJ3602 - ■■■■■■ - ■■ N2
<b>265.20</b>	10.6	194	0.30	72	5.3	192	0.16	66	3.4	190	0.11	60	2KJ3602 - ■■■■■■ - ■■ M2
<b>230.10</b>	12.2	194	0.34	73	6.1	193	0.18	68	3.9	191	0.13	62	2KJ3602 - ■■■■■■ - ■■ L2
<b>209.18</b>	13.4	194	0.38	73	6.7	193	0.20	68	4.3	191	0.14	63	2KJ3602 - ■■■■■■ - ■■ K2
<b>179.40</b>	15.6	194	0.44	73	7.8	193	0.23	70	5.0	192	0.16	65	2KJ3602 - ■■■■■■ - ■■ J2
<b>163.09</b>	17.2	194	0.48	73	8.6	193	0.25	71	5.5	192	0.17	66	2KJ3602 - ■■■■■■ - ■■ H2
<b>143.00</b>	19.6	194	0.55	73	9.8	194	0.28	71	6.3	193	0.19	68	2KJ3602 - ■■■■■■ - ■■ G2
<b>127.64</b>	22	194	0.61	73	11	194	0.31	72	7.1	193	0.21	69	2KJ3602 - ■■■■■■ - ■■ F2
<b>113.75</b>	25	181	0.66	73	12.3	194	0.35	72	7.9	193	0.23	70	2KJ3602 - ■■■■■■ - ■■ E2
<b>105.00</b>	27	175	0.68	73	13.3	194	0.37	72	8.6	193	0.25	70	2KJ3602 - ■■■■■■ - ■■ D2
<b>91.93</b>	30	165	0.72	72	15.2	194	0.43	72	9.8	194	0.28	71	2KJ3602 - ■■■■■■ - ■■ C2
<b>80.60</b>	35	157	0.80	72	17.4	194	0.49	73	11.2	194	0.32	72	2KJ3602 - ■■■■■■ - ■■ B2
<b>73.12</b>	38	150	0.84	72	19.1	189	0.52	73	12.3	194	0.35	72	2KJ3602 - ■■■■■■ - ■■ A2
<b>68.82</b>	41	147	0.88	72	20	185	0.53	73	13.1	194	0.37	72	2KJ3602 - ■■■■■■ - ■■ X1
<b>60.67</b>	46	139	0.94	72	23	175	0.58	73	14.8	194	0.41	73	2KJ3602 - ■■■■■■ - ■■ W1
<b>52.65</b>	53	131	1.00	72	27	166	0.65	73	17.1	192	0.47	73	2KJ3602 - ■■■■■■ - ■■ V1
<b>49.87</b>	56	195	1.30	89	28	198	0.66	89	18	194	0.41	89	2KJ3602 - ■■■■■■ - ■■ U1
<b>43.27</b>	65	196	1.50	89	32	199	0.75	89	21	196	0.49	89	2KJ3602 - ■■■■■■ - ■■ T1
<b>39.33</b>	71	196	1.60	89	36	200	0.85	89	23	196	0.53	89	2KJ3602 - ■■■■■■ - ■■ S1
<b>33.73</b>	83	196	1.90	89	42	200	1.00	89	27	197	0.63	89	2KJ3602 - ■■■■■■ - ■■ R1
<b>32.64</b>	86	200	2.00	91	43	210	1.00	91	28	205	0.68	90	2KJ3602 - ■■■■■■ - ■■ Q1
<b>28.32</b>	99	200	2.30	91	49	225	1.30	91	32	225	0.84	90	2KJ3602 - ■■■■■■ - ■■ P1
<b>25.75</b>	109	200	2.50	91	54	235	1.50	91	35	230	0.95	90	2KJ3602 - ■■■■■■ - ■■ N1
<b>22.08</b>	127	198	2.90	91	63	235	1.70	91	41	230	1.10	91	2KJ3602 - ■■■■■■ - ■■ M1
<b>20.07</b>	140	188	3.00	91	70	235	1.90	91	45	235	1.20	91	2KJ3602 - ■■■■■■ - ■■ L1
<b>17.60</b>	159	180	3.3*	91	80	225	2.10	92	51	235	1.40	91	2KJ3602 - ■■■■■■ - ■■ K1
<b>15.71</b>	178	172	3.5*	91	89	215	2.20	91	57	235	1.60	91	2KJ3602 - ■■■■■■ - ■■ J1
<b>14.00</b>	200	164	3.8*	91	100	205	2.40	91	64	235	1.70	92	2KJ3602 - ■■■■■■ - ■■ H1
<b>12.92</b>	217	159	4.0*	91	108	200	2.50	92	70	230	1.90	92	2KJ3602 - ■■■■■■ - ■■ G1
<b>11.31</b>	248	152	4.3*	91	124	192	2.70	91	80	220	2.00	92	2KJ3602 - ■■■■■■ - ■■ F1
<b>9.92</b>	282	145	4.7*	91	141	183	3.00	91	91	210	2.20	92	2KJ3602 - ■■■■■■ - ■■ E1
<b>9.00</b>	311	137	4.9*	91	156	177	3.2*	91	100	205	2.30	92	2KJ3602 - ■■■■■■ - ■■ D1
<b>8.47</b>	331	129	4.9*	91	165	173	3.3*	91	106	200	2.40	92	2KJ3602 - ■■■■■■ - ■■ C1
<b>7.47</b>	375	114	4.9*	91	187	166	3.6*	91	120	192	2.60	92	2KJ3602 - ■■■■■■ - ■■ B1
<b>6.48</b>	432	99	4.9*	91	216	157	3.9*	91	139	182	2.90	92	2KJ3602 - ■■■■■■ - ■■ A1

\*  $P_{\text{mot max}} = 3 \text{ kW}$

Electro\_Motor.ir

## Selection and ordering data (continued)

i	$n_{\text{mot}} = 700 \text{ rpm}$				$n_{\text{mot}} = 500 \text{ rpm}$				$n_{\text{mot}} = 100 \text{ rpm}$				Article No.
	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	
<b>C.39</b>													
<b>299.00</b>	2.3	187	0.08	55	1.7	184	0.06	52	0.33	170	<0.06	44	2KJ3602 - ■■■■■■ - ■■ N2
<b>265.20</b>	2.6	188	0.09	57	1.9	185	0.07	53	0.38	167	<0.06	44	2KJ3602 - ■■■■■■ - ■■ M2
<b>230.10</b>	3.0	189	0.10	58	2.2	186	0.08	54	0.43	164	<0.06	44	2KJ3602 - ■■■■■■ - ■■ L2
<b>209.18</b>	3.3	190	0.11	59	2.4	187	0.09	55	0.48	162	<0.06	44	2KJ3602 - ■■■■■■ - ■■ K2
<b>179.40</b>	3.9	191	0.13	62	2.8	188	0.10	57	0.56	160	<0.06	45	2KJ3602 - ■■■■■■ - ■■ J2
<b>163.09</b>	4.3	191	0.14	63	3.1	189	0.11	58	0.61	160	<0.06	45	2KJ3602 - ■■■■■■ - ■■ H2
<b>143.00</b>	4.9	192	0.15	64	3.5	190	0.12	60	0.70	160	<0.06	46	2KJ3602 - ■■■■■■ - ■■ G2
<b>127.64</b>	5.5	192	0.17	66	3.9	191	0.13	61	0.78	161	<0.06	46	2KJ3602 - ■■■■■■ - ■■ F2
<b>113.75</b>	6.2	193	0.19	67	4.4	191	0.14	63	0.88	162	<0.06	47	2KJ3602 - ■■■■■■ - ■■ E2
<b>105.00</b>	6.7	193	0.20	68	4.8	192	0.15	64	0.95	163	<0.06	47	2KJ3602 - ■■■■■■ - ■■ D2
<b>91.93</b>	7.6	193	0.22	69	5.4	192	0.17	66	1.1	166	<0.06	48	2KJ3602 - ■■■■■■ - ■■ C2
<b>80.60</b>	8.7	193	0.25	70	6.2	193	0.19	67	1.2	168	<0.06	49	2KJ3602 - ■■■■■■ - ■■ B2
<b>73.12</b>	9.6	194	0.28	71	6.8	193	0.20	68	1.4	170	<0.06	49	2KJ3602 - ■■■■■■ - ■■ A2
<b>68.82</b>	10.2	194	0.29	71	7.3	193	0.21	69	1.5	172	<0.06	50	2KJ3602 - ■■■■■■ - ■■ X1
<b>60.67</b>	11.5	194	0.32	72	8.2	193	0.24	70	1.6	176	0.06	51	2KJ3602 - ■■■■■■ - ■■ W1
<b>52.65</b>	13.3	194	0.37	73	9.5	194	0.27	71	1.9	180	0.07	53	2KJ3602 - ■■■■■■ - ■■ V1
<b>49.87</b>	14.0	192	0.32	88	10.0	190	0.23	86	2.0	177	0.06	66	2KJ3602 - ■■■■■■ - ■■ U1
<b>43.27</b>	16.2	194	0.37	88	11.6	191	0.27	87	2.3	178	0.06	67	2KJ3602 - ■■■■■■ - ■■ T1
<b>39.33</b>	17.8	194	0.41	88	12.7	192	0.29	88	2.5	179	0.07	68	2KJ3602 - ■■■■■■ - ■■ S1
<b>33.73</b>	21	196	0.49	89	14.8	193	0.34	88	3.0	180	0.08	71	2KJ3602 - ■■■■■■ - ■■ R1
<b>32.64</b>	21	200	0.51	88	15.3	197	0.37	86	3.1	174	0.08	76	2KJ3602 - ■■■■■■ - ■■ Q1
<b>28.32</b>	25	220	0.66	89	17.7	215	0.47	87	3.5	192	0.09	76	2KJ3602 - ■■■■■■ - ■■ P1
<b>25.75</b>	27	230	0.73	89	19.4	225	0.53	87	3.9	210	0.11	77	2KJ3602 - ■■■■■■ - ■■ N1
<b>22.08</b>	32	230	0.86	90	23	225	0.62	88	4.5	210	0.13	77	2KJ3602 - ■■■■■■ - ■■ M1
<b>20.07</b>	35	230	0.94	90	25	230	0.68	89	5.0	215	0.15	78	2KJ3602 - ■■■■■■ - ■■ L1
<b>17.60</b>	40	230	1.10	91	28	230	0.76	90	5.7	215	0.16	79	2KJ3602 - ■■■■■■ - ■■ K1
<b>15.71</b>	45	235	1.20	91	32	230	0.86	90	6.4	215	0.18	79	2KJ3602 - ■■■■■■ - ■■ J1
<b>14.00</b>	50	235	1.40	91	36	230	0.97	91	7.1	215	0.20	80	2KJ3602 - ■■■■■■ - ■■ H1
<b>12.92</b>	54	235	1.50	92	39	230	1.10	91	7.7	215	0.22	81	2KJ3602 - ■■■■■■ - ■■ G1
<b>11.31</b>	62	235	1.70	92	44	235	1.20	91	8.8	220	0.25	82	2KJ3602 - ■■■■■■ - ■■ F1
<b>9.92</b>	71	230	1.90	92	50	235	1.40	91	10.1	220	0.28	83	2KJ3602 - ■■■■■■ - ■■ E1
<b>9.00</b>	78	220	2.00	92	56	235	1.50	92	11.1	220	0.31	83	2KJ3602 - ■■■■■■ - ■■ D1
<b>8.47</b>	83	215	2.10	92	59	235	1.60	92	11.8	220	0.33	84	2KJ3602 - ■■■■■■ - ■■ C1
<b>7.47</b>	94	205	2.30	92	67	230	1.80	92	13.4	220	0.37	85	2KJ3602 - ■■■■■■ - ■■ B1
<b>6.48</b>	108	198	2.50	92	77	220	2.00	92	15.4	225	0.42	86	2KJ3602 - ■■■■■■ - ■■ A1

## SIMOGEAR geared motors

Helical worm geared motors

### Efficiencies

#### Selection and ordering data (continued)

i	$n_{\text{mot}} = 2\,800 \text{ rpm}$				$n_{\text{mot}} = 1\,400 \text{ rpm}$				$n_{\text{mot}} = 900 \text{ rpm}$				Article No.
	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	
<b>C.49</b>													
<b>299.00</b>	9.4	355	0.48	73	4.7	350	0.26	67	3.0	345	0.18	61	2KJ3603 - ■■■■■■ - ■■ N2
<b>265.20</b>	10.6	355	0.54	74	5.3	350	0.29	69	3.4	350	0.20	63	2KJ3603 - ■■■■■■ - ■■ M2
<b>230.10</b>	12.2	355	0.62	74	6.1	350	0.32	70	3.9	350	0.22	65	2KJ3603 - ■■■■■■ - ■■ L2
<b>209.18</b>	13.4	355	0.68	74	6.7	355	0.35	71	4.3	350	0.24	66	2KJ3603 - ■■■■■■ - ■■ K2
<b>179.40</b>	15.6	355	0.79	74	7.8	355	0.40	72	5.0	350	0.27	68	2KJ3603 - ■■■■■■ - ■■ J2
<b>163.09</b>	17.2	340	0.84	74	8.6	355	0.44	73	5.5	350	0.30	69	2KJ3603 - ■■■■■■ - ■■ H2
<b>143.00</b>	19.6	315	0.89	74	9.8	355	0.50	73	6.3	355	0.33	70	2KJ3603 - ■■■■■■ - ■■ G2
<b>127.64</b>	22	300	0.95	73	11.0	355	0.56	73	7.1	355	0.37	71	2KJ3603 - ■■■■■■ - ■■ F2
<b>113.75</b>	25	285	1.00	73	12.3	355	0.62	74	7.9	355	0.41	72	2KJ3603 - ■■■■■■ - ■■ E2
<b>105.00</b>	27	275	1.10	73	13.3	350	0.66	74	8.6	355	0.44	72	2KJ3603 - ■■■■■■ - ■■ D2
<b>91.93</b>	30	260	1.10	73	15.2	330	0.72	74	9.8	355	0.50	73	2KJ3603 - ■■■■■■ - ■■ C2
<b>80.60</b>	35	250	1.30	73	17.4	315	0.78	74	11.2	355	0.57	74	2KJ3603 - ■■■■■■ - ■■ B2
<b>73.12</b>	38	240	1.30	73	19.1	300	0.82	74	12.3	345	0.61	74	2KJ3603 - ■■■■■■ - ■■ A2
<b>68.82</b>	41	230	1.40	73	20	295	0.84	74	13.1	340	0.63	74	2KJ3603 - ■■■■■■ - ■■ X1
<b>60.67</b>	46	220	1.50	73	23	280	0.92	74	14.8	320	0.68	74	2KJ3603 - ■■■■■■ - ■■ W1
<b>52.65</b>	53	210	1.60	73	27	265	1.00	74	17.1	305	0.74	74	2KJ3603 - ■■■■■■ - ■■ V1
<b>49.87</b>	56	310	2.10	90	28	310	1.00	89	18	305	0.66	87	2KJ3603 - ■■■■■■ - ■■ U1
<b>43.27</b>	65	340	2.60	90	32	340	1.30	89	21	335	0.85	88	2KJ3603 - ■■■■■■ - ■■ T1
<b>39.33</b>	71	335	2.80	89	36	395	1.70	89	23	395	1.10	88	2KJ3603 - ■■■■■■ - ■■ S1
<b>33.73</b>	83	315	3.10	89	42	365	1.80	90	27	365	1.20	89	2KJ3603 - ■■■■■■ - ■■ R1
<b>30.67</b>	91	300	3.20	89	46	380	2.10	89	29	400	1.40	89	2KJ3603 - ■■■■■■ - ■■ Q1
<b>26.89</b>	104	285	3.50	89	52	360	2.20	90	33	400	1.50	89	2KJ3603 - ■■■■■■ - ■■ P1
<b>24.00</b>	117	275	3.80	89	58	345	2.40	90	38	400	1.80	90	2KJ3603 - ■■■■■■ - ■■ N1
<b>21.39</b>	131	260	4.1*	89	65	330	2.50	90	42	385	1.90	90	2KJ3603 - ■■■■■■ - ■■ M1
<b>19.74</b>	142	255	4.3*	89	71	320	2.70	90	46	370	2.00	90	2KJ3603 - ■■■■■■ - ■■ L1
<b>17.29</b>	162	240	4.6*	89	81	305	2.90	90	52	355	2.20	90	2KJ3603 - ■■■■■■ - ■■ K1
<b>15.16</b>	185	230	5.1*	89	92	290	3.20	90	59	335	2.30	90	2KJ3603 - ■■■■■■ - ■■ J1
<b>13.75</b>	204	220	5.4*	89	102	280	3.40	90	65	325	2.50	90	2KJ3603 - ■■■■■■ - ■■ H1
<b>12.94</b>	216	210	5.3*	89	108	275	3.50	90	70	315	2.60	90	2KJ3603 - ■■■■■■ - ■■ G1
<b>11.41</b>	245	185	5.4*	89	123	260	3.80	90	79	305	2.80	90	2KJ3603 - ■■■■■■ - ■■ F1
<b>9.90</b>	283	161	5.4*	89	141	250	4.1*	89	91	290	3.10	90	2KJ3603 - ■■■■■■ - ■■ E1
<b>9.00</b>	311	185	6.6*	91	156	260	4.6*	92	100	260	3.00	92	2KJ3603 - ■■■■■■ - ■■ D1
<b>8.47</b>	331	174	6.6*	91	165	260	4.9*	92	106	260	3.20	92	2KJ3603 - ■■■■■■ - ■■ C1
<b>7.47</b>	375	153	6.6*	91	187	250	5.3*	92	120	260	3.60	92	2KJ3603 - ■■■■■■ - ■■ B1
<b>6.48</b>	432	133	6.6*	91	216	235	5.8*	92	139	260	4.1*	92	2KJ3603 - ■■■■■■ - ■■ A1

\*  $P_{\text{mot max}} = 4 \text{ kW}$

Electro\_Motor.ir

## Selection and ordering data (continued)

i	$n_{\text{mot}} = 700 \text{ rpm}$				$n_{\text{mot}} = 500 \text{ rpm}$				$n_{\text{mot}} = 100 \text{ rpm}$				Article No.
	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	
<b>C.49</b>													
<b>299.00</b>	2.3	340	0.14	58	1.7	315	0.10	54	0.33	260	<0.06	45	<b>2KJ3603 - ■■■■■■ - ■■ N2</b>
<b>265.20</b>	2.6	340	0.16	60	1.9	315	0.11	55	0.38	255	<0.06	45	<b>2KJ3603 - ■■■■■■ - ■■ M2</b>
<b>230.10</b>	3.0	345	0.18	61	2.2	320	0.13	57	0.43	255	<0.06	45	<b>2KJ3603 - ■■■■■■ - ■■ L2</b>
<b>209.18</b>	3.3	345	0.19	63	2.4	320	0.14	58	0.48	255	<0.06	45	<b>2KJ3603 - ■■■■■■ - ■■ K2</b>
<b>179.40</b>	3.9	350	0.22	65	2.8	330	0.16	60	0.56	255	<0.06	46	<b>2KJ3603 - ■■■■■■ - ■■ J2</b>
<b>163.09</b>	4.3	350	0.24	66	3.1	330	0.18	61	0.61	255	<0.06	46	<b>2KJ3603 - ■■■■■■ - ■■ H2</b>
<b>143.00</b>	4.9	350	0.27	68	3.5	340	0.20	63	0.70	255	<0.06	47	<b>2KJ3603 - ■■■■■■ - ■■ G2</b>
<b>127.64</b>	5.5	350	0.30	69	3.9	350	0.22	65	0.78	260	<0.06	47	<b>2KJ3603 - ■■■■■■ - ■■ F2</b>
<b>113.75</b>	6.2	355	0.33	70	4.4	350	0.25	66	0.88	260	<0.06	48	<b>2KJ3603 - ■■■■■■ - ■■ E2</b>
<b>105.00</b>	6.7	355	0.35	71	4.8	350	0.26	67	0.95	265	<0.06	49	<b>2KJ3603 - ■■■■■■ - ■■ D2</b>
<b>91.93</b>	7.6	355	0.39	72	5.4	350	0.29	69	1.1	270	0.06	50	<b>2KJ3603 - ■■■■■■ - ■■ C2</b>
<b>80.60</b>	8.7	355	0.45	73	6.2	355	0.33	70	1.2	275	0.07	51	<b>2KJ3603 - ■■■■■■ - ■■ B2</b>
<b>73.12</b>	9.6	355	0.49	73	6.8	355	0.36	71	1.4	280	0.08	52	<b>2KJ3603 - ■■■■■■ - ■■ A2</b>
<b>68.82</b>	10.2	355	0.52	73	7.3	355	0.38	72	1.5	280	0.08	52	<b>2KJ3603 - ■■■■■■ - ■■ X1</b>
<b>60.67</b>	11.5	350	0.57	74	8.2	355	0.42	73	1.6	285	0.09	54	<b>2KJ3603 - ■■■■■■ - ■■ W1</b>
<b>52.65</b>	13.3	330	0.63	74	9.5	355	0.48	73	1.9	295	0.11	55	<b>2KJ3603 - ■■■■■■ - ■■ V1</b>
<b>49.87</b>	14.0	295	0.51	86	10.0	285	0.37	83	2.0	245	0.07	71	<b>2KJ3603 - ■■■■■■ - ■■ U1</b>
<b>43.27</b>	16.2	330	0.65	87	11.6	320	0.47	84	2.3	275	0.09	71	<b>2KJ3603 - ■■■■■■ - ■■ T1</b>
<b>39.33</b>	17.8	390	0.83	87	12.7	375	0.60	85	2.5	320	0.12	72	<b>2KJ3603 - ■■■■■■ - ■■ S1</b>
<b>33.73</b>	21	360	0.91	88	14.8	355	0.64	86	3.0	300	0.13	73	<b>2KJ3603 - ■■■■■■ - ■■ R1</b>
<b>30.67</b>	23	395	1.10	88	16.3	385	0.77	87	3.3	330	0.16	73	<b>2KJ3603 - ■■■■■■ - ■■ Q1</b>
<b>26.89</b>	26	395	1.20	89	18.6	390	0.87	88	3.7	330	0.17	74	<b>2KJ3603 - ■■■■■■ - ■■ P1</b>
<b>24.00</b>	29	395	1.40	89	21	390	0.99	88	4.2	335	0.20	75	<b>2KJ3603 - ■■■■■■ - ■■ N1</b>
<b>21.39</b>	33	395	1.50	89	23	395	1.10	89	4.7	340	0.22	76	<b>2KJ3603 - ■■■■■■ - ■■ M1</b>
<b>19.74</b>	35	400	1.60	90	25	395	1.20	89	5.1	340	0.24	77	<b>2KJ3603 - ■■■■■■ - ■■ L1</b>
<b>17.29</b>	40	385	1.80	90	29	395	1.30	89	5.8	345	0.27	78	<b>2KJ3603 - ■■■■■■ - ■■ K1</b>
<b>15.16</b>	46	365	2.00	90	33	390	1.50	90	6.6	345	0.30	79	<b>2KJ3603 - ■■■■■■ - ■■ J1</b>
<b>13.75</b>	51	355	2.10	90	36	390	1.60	90	7.3	345	0.33	80	<b>2KJ3603 - ■■■■■■ - ■■ H1</b>
<b>12.94</b>	54	345	2.20	90	39	385	1.80	90	7.7	350	0.35	80	<b>2KJ3603 - ■■■■■■ - ■■ G1</b>
<b>11.41</b>	61	330	2.40	90	44	370	1.90	90	8.8	355	0.40	82	<b>2KJ3603 - ■■■■■■ - ■■ F1</b>
<b>9.90</b>	71	315	2.60	90	51	350	2.10	90	10.1	360	0.46	83	<b>2KJ3603 - ■■■■■■ - ■■ E1</b>
<b>9.00</b>	78	260	2.30	92	56	255	1.70	91	11.1	235	0.33	84	<b>2KJ3603 - ■■■■■■ - ■■ D1</b>
<b>8.47</b>	83	260	2.50	92	59	260	1.80	91	11.8	240	0.35	84	<b>2KJ3603 - ■■■■■■ - ■■ C1</b>
<b>7.47</b>	94	260	2.80	92	67	260	2.00	92	13.4	240	0.40	85	<b>2KJ3603 - ■■■■■■ - ■■ B1</b>
<b>6.48</b>	108	260	3.20	92	77	260	2.30	92	15.4	245	0.46	87	<b>2KJ3603 - ■■■■■■ - ■■ A1</b>

## SIMOGEAR geared motors

Helical worm geared motors

### Efficiencies

#### Selection and ordering data (continued)

i	$n_{\text{mot}} = 2\,800 \text{ rpm}$				$n_{\text{mot}} = 1\,400 \text{ rpm}$				$n_{\text{mot}} = 900 \text{ rpm}$				Article No.
	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	
<b>C.69</b>													
<b>360.00</b>	7.8	575	0.65	73	3.9	680	0.40	69	2.5	645	0.27	63	2KJ3604 - ■■■■■■ - ■■ M2
<b>319.80</b>	8.8	570	0.72	73	4.4	680	0.45	70	2.8	655	0.30	65	2KJ3604 - ■■■■■■ - ■■ L2
<b>280.80</b>	10.0	560	0.81	73	5.0	680	0.50	71	3.2	660	0.33	66	2KJ3604 - ■■■■■■ - ■■ K2
<b>255.27</b>	11.0	555	0.88	73	5.5	680	0.55	72	3.5	665	0.36	67	2KJ3604 - ■■■■■■ - ■■ J2
<b>218.40</b>	12.8	530	0.97	74	6.4	655	0.60	73	4.1	675	0.42	70	2KJ3604 - ■■■■■■ - ■■ H2
<b>198.55</b>	14.1	510	1.00	73	7.1	635	0.65	73	4.5	680	0.46	70	2KJ3604 - ■■■■■■ - ■■ G2
<b>175.50</b>	16.0	485	1.10	73	8.0	610	0.70	74	5.1	685	0.51	72	2KJ3604 - ■■■■■■ - ■■ F2
<b>159.55</b>	17.5	470	1.20	73	8.8	590	0.74	74	5.6	670	0.54	72	2KJ3604 - ■■■■■■ - ■■ E2
<b>139.75</b>	20	440	1.30	73	10.0	550	0.79	74	6.4	630	0.58	73	2KJ3604 - ■■■■■■ - ■■ D2
<b>129.00</b>	22	425	1.30	74	10.9	535	0.83	74	7.0	610	0.61	73	2KJ3604 - ■■■■■■ - ■■ C2
<b>114.21</b>	25	405	1.40	73	12.3	510	0.89	74	7.9	585	0.66	74	2KJ3604 - ■■■■■■ - ■■ B2
<b>102.50</b>	27	555	1.80	87	13.7	645	1.10	86	8.8	625	0.69	84	2KJ3604 - ■■■■■■ - ■■ A2
<b>90.00</b>	31	555	2.10	87	15.6	665	1.30	86	10.0	650	0.81	84	2KJ3604 - ■■■■■■ - ■■ X1
<b>81.82</b>	34	545	2.20	87	17.1	680	1.40	87	11.0	775	1.10	85	2KJ3604 - ■■■■■■ - ■■ W1
<b>70.00</b>	40	515	2.50	87	20	650	1.60	87	12.9	680	1.10	86	2KJ3604 - ■■■■■■ - ■■ V1
<b>63.64</b>	44	500	2.70	87	22	630	1.70	87	14.1	720	1.20	86	2KJ3604 - ■■■■■■ - ■■ U1
<b>56.25</b>	50	480	2.90	87	25	605	1.80	87	16.0	695	1.30	87	2KJ3604 - ■■■■■■ - ■■ T1
<b>51.14</b>	55	455	3.00	87	27	575	1.90	87	17.6	660	1.40	87	2KJ3604 - ■■■■■■ - ■■ S1
<b>44.79</b>	63	430	3.30	87	31	545	2.00	87	20	630	1.50	87	2KJ3604 - ■■■■■■ - ■■ R1
<b>41.35</b>	68	420	3.40	87	34	525	2.20	87	22	610	1.60	87	2KJ3604 - ■■■■■■ - ■■ Q1
<b>36.61</b>	76	400	3.70	87	38	505	2.30	87	25	580	1.80	87	2KJ3604 - ■■■■■■ - ■■ P1
<b>30.00</b>	93	435	4.70	90	47	545	3.00	90	30	560	2.00	90	2KJ3604 - ■■■■■■ - ■■ N1
<b>26.28</b>	107	410	5.10	90	53	520	3.20	90	34	550	2.20	90	2KJ3604 - ■■■■■■ - ■■ M1
<b>24.26</b>	115	400	5.30	90	58	500	3.40	90	37	545	2.30	91	2KJ3604 - ■■■■■■ - ■■ L1
<b>21.48</b>	130	380	5.8*	90	65	480	3.60	90	42	540	2.60	91	2KJ3604 - ■■■■■■ - ■■ K1
<b>17.88</b>	157	355	6.5*	90	78	450	4.10	90	50	520	3.00	91	2KJ3604 - ■■■■■■ - ■■ J1
<b>15.88</b>	176	365	7.3*	92	88	365	3.70	92	57	365	2.40	92	2KJ3604 - ■■■■■■ - ■■ H1
<b>14.06</b>	199	360	8.2*	92	100	360	4.10	92	64	360	2.60	92	2KJ3604 - ■■■■■■ - ■■ G1
<b>11.70</b>	239	345	9.5*	92	120	365	5.00	92	77	365	3.20	92	2KJ3604 - ■■■■■■ - ■■ F1
<b>11.01</b>	254	325	9.5*	92	127	365	5.40	92	82	365	3.50	92	2KJ3604 - ■■■■■■ - ■■ E1
<b>9.87</b>	284	290	9.5*	92	142	365	6.0*	92	91	365	3.80	92	2KJ3604 - ■■■■■■ - ■■ D1
<b>8.40</b>	333	250	9.6*	91	167	370	7.1*	92	107	370	4.50	92	2KJ3604 - ■■■■■■ - ■■ C1
<b>7.20</b>	389	210	9.6*	91	194	365	8.2*	92	125	365	5.30	92	2KJ3604 - ■■■■■■ - ■■ B1
<b>6.20</b>	452	184	9.6*	91	226	365	9.4*	92	145	365	6.1*	92	2KJ3604 - ■■■■■■ - ■■ A1

\*  $P_{\text{mot max}} = 5.5 \text{ kW}$

Electro\_Motor.ir

**Selection and ordering data** (continued)

<i>i</i>	$n_{\text{mot}} = 700 \text{ rpm}$				$n_{\text{mot}} = 500 \text{ rpm}$				$n_{\text{mot}} = 100 \text{ rpm}$				Article No.
	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	
<b>C.69</b>													
<b>360.00</b>	1.9	610	0.20	60	1.4	570	0.15	55	0.28	460	<0.06	45	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>M2</b>
<b>319.80</b>	2.2	620	0.23	61	1.6	575	0.17	57	0.31	460	<0.06	45	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>L2</b>
<b>280.80</b>	2.5	625	0.26	63	1.8	580	0.19	58	0.36	455	<0.06	45	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>K2</b>
<b>255.27</b>	2.7	635	0.28	64	2.0	590	0.21	59	0.39	455	<0.06	45	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>J2</b>
<b>218.40</b>	3.2	645	0.33	66	2.3	605	0.24	62	0.46	460	<0.06	46	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>H2</b>
<b>198.55</b>	3.5	650	0.35	68	2.5	610	0.25	63	0.50	455	<0.06	47	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>G2</b>
<b>175.50</b>	4.0	665	0.40	69	2.8	625	0.28	65	0.57	460	0.06	48	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>F2</b>
<b>159.55</b>	4.4	670	0.44	70	3.1	635	0.31	66	0.63	465	0.06	48	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>E2</b>
<b>139.75</b>	5.0	670	0.49	72	3.6	650	0.36	68	0.72	475	0.07	49	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>D2</b>
<b>129.00</b>	5.4	655	0.51	72	3.9	660	0.39	69	0.78	480	0.08	50	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>C2</b>
<b>114.21</b>	6.1	630	0.55	73	4.4	670	0.44	71	0.88	490	0.09	51	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>B2</b>
<b>102.50</b>	6.8	610	0.54	81	4.9	585	0.39	78	0.98	500	0.08	67	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>A2</b>
<b>90.00</b>	7.8	635	0.63	82	5.6	610	0.45	79	1.1	515	0.09	67	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>X1</b>
<b>81.82</b>	8.6	800	0.87	84	6.1	775	0.62	80	1.2	650	0.12	68	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>W1</b>
<b>70.00</b>	10.0	665	0.83	84	7.1	645	0.59	82	1.4	540	0.12	68	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>V1</b>
<b>63.64</b>	11.0	775	1.00	85	7.9	830	0.83	83	1.6	695	0.17	69	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>U1</b>
<b>56.25</b>	12.4	750	1.10	86	8.9	810	0.90	84	1.8	675	0.18	70	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>T1</b>
<b>51.14</b>	13.7	715	1.20	86	9.8	785	0.95	85	2.0	750	0.22	71	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>S1</b>
<b>44.79</b>	15.6	680	1.30	87	11.2	750	1.00	86	2.2	760	0.24	72	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>R1</b>
<b>41.35</b>	16.9	660	1.30	87	12.1	730	1.10	86	2.4	765	0.27	72	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>Q1</b>
<b>36.61</b>	19.1	630	1.50	87	13.7	700	1.20	87	2.7	770	0.30	73	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>P1</b>
<b>30.00</b>	23	560	1.50	90	16.7	555	1.10	89	3.3	480	0.22	77	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>N1</b>
<b>26.28</b>	27	550	1.70	90	19	545	1.20	90	3.8	480	0.24	78	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>M1</b>
<b>24.26</b>	29	545	1.80	90	21	540	1.30	90	4.1	475	0.26	79	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>L1</b>
<b>21.48</b>	33	540	2.10	91	23	540	1.40	90	4.7	475	0.30	80	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>K1</b>
<b>17.88</b>	39	545	2.50	91	28	545	1.80	91	5.6	490	0.35	82	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>J1</b>
<b>15.88</b>	44	365	1.80	92	31	360	1.30	91	6.3	330	0.26	83	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>H1</b>
<b>14.06</b>	50	360	2.10	92	36	355	1.50	92	7.1	330	0.29	84	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>G1</b>
<b>11.70</b>	60	365	2.50	92	43	365	1.80	92	8.5	340	0.36	85	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>F1</b>
<b>11.01</b>	64	365	2.70	92	45	365	1.90	92	9.1	340	0.38	86	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>E1</b>
<b>9.87</b>	71	365	3.00	92	51	365	2.10	92	10.1	345	0.43	86	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>D1</b>
<b>8.40</b>	83	370	3.50	92	60	370	2.50	92	11.9	350	0.50	87	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>C1</b>
<b>7.20</b>	97	365	4.10	92	69	365	2.90	92	13.9	350	0.59	88	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>B1</b>
<b>6.20</b>	113	365	4.70	92	81	365	3.40	92	16.1	355	0.67	89	<b>2KJ3604</b> - ■■■■■■ - ■■ <b>A1</b>

## SIMOGEAR geared motors

Helical worm geared motors

### Efficiencies

#### Selection and ordering data (continued)

i	$n_{\text{mot}} = 2\,800 \text{ rpm}$				$n_{\text{mot}} = 1\,400 \text{ rpm}$				$n_{\text{mot}} = 900 \text{ rpm}$				Article No.
	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	
<b>C.89</b>													
<b>363.00</b>	7.7	1 180	1.30	73	3.9	1 460	0.83	72	2.5	1 430	0.55	68	2KJ3605 - ■■■■■■ - ■■ N2
<b>329.73</b>	8.5	1 180	1.40	73	4.2	1 460	0.89	72	2.7	1 440	0.59	69	2KJ3605 - ■■■■■■ - ■■ M2
<b>295.75</b>	9.5	1 170	1.60	73	4.7	1 460	0.99	73	3.0	1 460	0.66	70	2KJ3605 - ■■■■■■ - ■■ L2
<b>265.91</b>	10.5	1 170	1.80	73	5.3	1 460	1.10	73	3.4	1 470	0.74	71	2KJ3605 - ■■■■■■ - ■■ K2
<b>240.50</b>	11.6	1 160	1.90	73	5.8	1 450	1.20	73	3.7	1 480	0.80	72	2KJ3605 - ■■■■■■ - ■■ J2
<b>222.00</b>	12.6	1 120	2.00	73	6.3	1 410	1.30	73	4.1	1 490	0.89	72	2KJ3605 - ■■■■■■ - ■■ H2
<b>203.36</b>	13.8	1 090	2.20	73	6.9	1 370	1.40	73	4.4	1 500	0.95	73	2KJ3605 - ■■■■■■ - ■■ G2
<b>170.62</b>	16.4	1 030	2.40	73	8.2	1 300	1.50	73	5.3	1 490	1.10	73	2KJ3605 - ■■■■■■ - ■■ F2
<b>160.59</b>	17.4	1 010	2.50	73	8.7	1 270	1.60	73	5.6	1 460	1.20	74	2KJ3605 - ■■■■■■ - ■■ E2
<b>147.33</b>	19	980	2.70	73	9.5	1 230	1.70	74	6.1	1 430	1.20	74	2KJ3605 - ■■■■■■ - ■■ D2
<b>128.70</b>	22	915	2.90	73	10.9	1 150	1.80	73	7.0	1 340	1.30	74	2KJ3605 - ■■■■■■ - ■■ C2
<b>115.23</b>	24	875	3.00	73	12.1	1 100	1.90	74	7.8	1 280	1.40	74	2KJ3605 - ■■■■■■ - ■■ B2
<b>100.75</b>	28	830	3.30	73	13.9	1 040	2.10	74	8.9	1 210	1.50	74	2KJ3605 - ■■■■■■ - ■■ A2
<b>86.48</b>	32	780	3.60	73	16.2	980	2.30	73	10.4	1 140	1.70	74	2KJ3605 - ■■■■■■ - ■■ X1
<b>76.44</b>	37	740	4.00	73	18.3	935	2.40	73	11.8	1 080	1.80	74	2KJ3605 - ■■■■■■ - ■■ W1
<b>65.00</b>	43	695	4.30	73	22	875	2.80	73	13.8	1 010	2.00	74	2KJ3605 - ■■■■■■ - ■■ V1
<b>55.61</b>	50	1 150	6.70	90	25	1 450	4.20	91	16.2	1 550	2.90	90	2KJ3605 - ■■■■■■ - ■■ U1
<b>50.00</b>	56	1 130	7.40	90	28	1 430	4.60	90	18.0	1 560	3.30	90	2KJ3605 - ■■■■■■ - ■■ T1
<b>45.22</b>	62	1 100	7.90	90	31	1 380	5.00	91	19.9	1 560	3.60	90	2KJ3605 - ■■■■■■ - ■■ S1
<b>41.74</b>	67	1 070	8.30	90	34	1 350	5.30	91	22	1 560	4.00	91	2KJ3605 - ■■■■■■ - ■■ R1
<b>38.24</b>	73	1 040	8.80	90	37	1 310	5.60	91	24	1 520	4.20	91	2KJ3605 - ■■■■■■ - ■■ Q1
<b>32.08</b>	87	985	10*	90	44	1 240	6.30	91	28	1 440	4.70	91	2KJ3605 - ■■■■■■ - ■■ P1
<b>30.20</b>	93	950	10.3*	90	46	1 200	6.40	91	30	1 390	4.80	91	2KJ3605 - ■■■■■■ - ■■ N1
<b>27.70</b>	101	920	10.8*	90	51	1 160	6.90	91	32	1 340	5.00	91	2KJ3605 - ■■■■■■ - ■■ M1
<b>25.03</b>	112	1 080	13.7*	93	56	1 090	6.90	93	36	1 090	4.50	93	2KJ3605 - ■■■■■■ - ■■ L1
<b>21.00</b>	133	1 000	15.1*	93	67	1 080	8.20	93	43	1 070	5.20	93	2KJ3605 - ■■■■■■ - ■■ K1
<b>19.76</b>	142	980	15.8*	93	71	1 120	9.00	93	46	1 120	5.80	93	2KJ3605 - ■■■■■■ - ■■ J1
<b>18.13</b>	154	950	16.6*	93	77	1 120	9.7*	93	50	1 120	6.30	93	2KJ3605 - ■■■■■■ - ■■ H1
<b>15.84</b>	177	865	17.3*	93	88	1 140	11.3*	93	57	1 140	7.30	93	2KJ3605 - ■■■■■■ - ■■ G1
<b>14.18</b>	197	770	17.3*	92	99	1 090	12.2*	93	63	1 150	8.20	93	2KJ3605 - ■■■■■■ - ■■ F1
<b>12.40</b>	226	675	17.3*	93	113	1 040	13.3*	93	73	1 140	9.5*	93	2KJ3605 - ■■■■■■ - ■■ E1
<b>10.64</b>	263	580	17.3*	92	132	985	14.7*	93	85	1 140	10.9*	93	2KJ3605 - ■■■■■■ - ■■ D1
<b>9.41</b>	298	510	17.4*	92	149	940	15.9*	93	96	1 090	11.8*	93	2KJ3605 - ■■■■■■ - ■■ C1
<b>8.00</b>	350	435	17.4*	92	175	870	17.3*	93	112	1 030	13.1*	93	2KJ3605 - ■■■■■■ - ■■ B1
<b>6.86</b>	408	370	17.4*	92	204	745	17.3*	93	131	980	14.5*	93	2KJ3605 - ■■■■■■ - ■■ A1

\*  $P_{\text{mot max}} = 9.2 \text{ kW}$

Electro\_Motor.ir



## Selection and ordering data (continued)

i	$n_{\text{mot}} = 700 \text{ rpm}$				$n_{\text{mot}} = 500 \text{ rpm}$				$n_{\text{mot}} = 100 \text{ rpm}$				Article No.
	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	$n_2$ rpm	$T_{2N}$ Nm	$P_{\text{mot}}$ kW	$\eta$ %	
<b>C.89</b>													
<b>363.00</b>	1.9	1 360	0.42	64	1.4	1 260	0.31	60	0.28	955	0.06	45	2KJ3605 - ■■■■■■ - ■■ N2
<b>329.73</b>	2.1	1 380	0.46	66	1.5	1 280	0.33	61	0.30	960	0.07	45	2KJ3605 - ■■■■■■ - ■■ M2
<b>295.75</b>	2.4	1 400	0.53	67	1.7	1 310	0.37	62	0.34	965	0.08	45	2KJ3605 - ■■■■■■ - ■■ L2
<b>265.91</b>	2.6	1 420	0.57	68	1.9	1 330	0.42	64	0.38	975	0.08	46	2KJ3605 - ■■■■■■ - ■■ K2
<b>240.50</b>	2.9	1 440	0.63	70	2.1	1 360	0.46	66	0.42	985	0.09	47	2KJ3605 - ■■■■■■ - ■■ J2
<b>222.00</b>	3.2	1 450	0.69	70	2.3	1 380	0.50	67	0.45	995	0.10	47	2KJ3605 - ■■■■■■ - ■■ H2
<b>203.36</b>	3.4	1 470	0.74	71	2.5	1 400	0.54	68	0.49	1 000	0.11	48	2KJ3605 - ■■■■■■ - ■■ G2
<b>170.62</b>	4.1	1 490	0.89	72	2.9	1 440	0.63	70	0.59	1 030	0.13	50	2KJ3605 - ■■■■■■ - ■■ F2
<b>160.59</b>	4.4	1 490	0.95	73	3.1	1 450	0.67	71	0.62	1 040	0.14	50	2KJ3605 - ■■■■■■ - ■■ E2
<b>147.33</b>	4.8	1 500	1.00	73	3.4	1 460	0.73	71	0.68	1 060	0.15	51	2KJ3605 - ■■■■■■ - ■■ D2
<b>128.70</b>	5.4	1 450	1.10	74	3.9	1 480	0.84	72	0.78	1 090	0.17	53	2KJ3605 - ■■■■■■ - ■■ C2
<b>115.23</b>	6.1	1 390	1.20	74	4.3	1 490	0.92	73	0.87	1 110	0.19	54	2KJ3605 - ■■■■■■ - ■■ B2
<b>100.75</b>	6.9	1 310	1.30	74	5.0	1 460	1.00	74	0.99	1 150	0.21	56	2KJ3605 - ■■■■■■ - ■■ A2
<b>86.48</b>	8.1	1 230	1.40	74	5.8	1 380	1.10	74	1.2	1 190	0.26	58	2KJ3605 - ■■■■■■ - ■■ X1
<b>76.44</b>	9.2	1 170	1.50	74	6.5	1 310	1.20	74	1.3	1 220	0.28	60	2KJ3605 - ■■■■■■ - ■■ W1
<b>65.00</b>	10.8	1 100	1.70	74	7.7	1 230	1.30	74	1.5	1 270	0.32	62	2KJ3605 - ■■■■■■ - ■■ V1
<b>55.61</b>	12.6	1 540	2.30	90	9.0	1 510	1.60	88	1.8	1 290	0.33	75	2KJ3605 - ■■■■■■ - ■■ U1
<b>50.00</b>	14.0	1 540	2.50	90	10.0	1 530	1.80	88	2.0	1 430	0.40	75	2KJ3605 - ■■■■■■ - ■■ T1
<b>45.22</b>	15.5	1 550	2.80	90	11.1	1 530	2.00	89	2.2	1 430	0.43	76	2KJ3605 - ■■■■■■ - ■■ S1
<b>41.74</b>	16.8	1 550	3.00	90	12.0	1 540	2.20	89	2.4	1 450	0.48	77	2KJ3605 - ■■■■■■ - ■■ R1
<b>38.24</b>	18.3	1 560	3.30	90	13.1	1 540	2.40	90	2.6	1 450	0.51	77	2KJ3605 - ■■■■■■ - ■■ Q1
<b>32.08</b>	22	1 560	4.00	91	15.6	1 550	2.80	90	3.1	1 390	0.57	79	2KJ3605 - ■■■■■■ - ■■ P1
<b>30.20</b>	23	1 510	4.00	91	16.6	1 550	3.00	90	3.3	1 460	0.64	79	2KJ3605 - ■■■■■■ - ■■ N1
<b>27.70</b>	25	1 460	4.20	91	18.1	1 560	3.30	91	3.6	1 470	0.69	80	2KJ3605 - ■■■■■■ - ■■ M1
<b>25.03</b>	28	1 090	3.50	93	20	1 080	2.50	92	4.0	990	0.50	84	2KJ3605 - ■■■■■■ - ■■ L1
<b>21.00</b>	33	1 070	4.00	93	24	1 070	2.90	92	4.8	985	0.59	85	2KJ3605 - ■■■■■■ - ■■ K1
<b>19.76</b>	35	1 120	4.50	93	25	1 120	3.20	92	5.1	1 030	0.65	85	2KJ3605 - ■■■■■■ - ■■ J1
<b>18.13</b>	39	1 110	4.90	93	28	1 110	3.50	92	5.5	1 030	0.70	85	2KJ3605 - ■■■■■■ - ■■ H1
<b>15.84</b>	44	1 140	5.70	93	32	1 130	4.10	93	6.3	1 050	0.81	86	2KJ3605 - ■■■■■■ - ■■ G1
<b>14.18</b>	49	1 150	6.40	93	35	1 140	4.50	93	7.1	1 070	0.92	87	2KJ3605 - ■■■■■■ - ■■ F1
<b>12.40</b>	56	1 140	7.30	93	40	1 140	5.20	93	8.1	1 080	1.00	88	2KJ3605 - ■■■■■■ - ■■ E1
<b>10.64</b>	66	1 150	8.50	93	47	1 140	6.10	93	9.4	1 090	1.20	88	2KJ3605 - ■■■■■■ - ■■ D1
<b>9.41</b>	74	1 120	9.4*	93	53	1 120	6.70	93	10.6	1 070	1.30	89	2KJ3605 - ■■■■■■ - ■■ C1
<b>8.00</b>	88	1 120	11.2*	93	62	1 130	7.90	93	12.5	1 090	1.60	90	2KJ3605 - ■■■■■■ - ■■ B1
<b>6.86</b>	102	1 060	12.3*	93	73	1 110	9.20	93	14.6	1 090	1.80	91	2KJ3605 - ■■■■■■ - ■■ A1

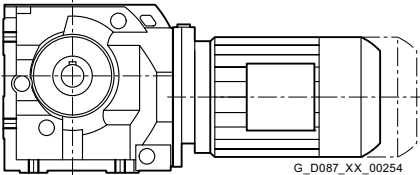
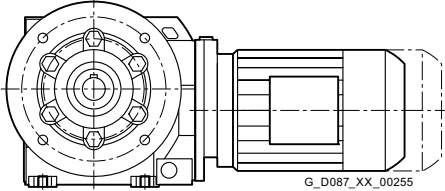
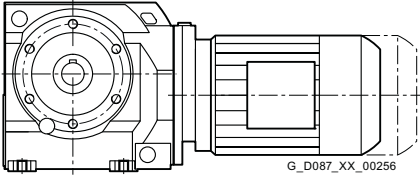
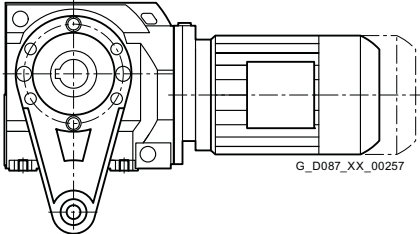
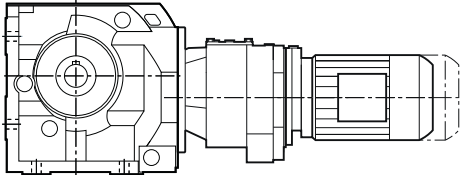
\*  $P_{\text{mot max}} = 9.2 \text{ kW}$



**SIMOGEAR geared motors**

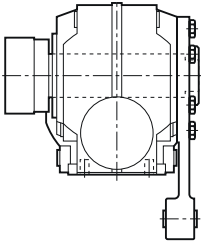
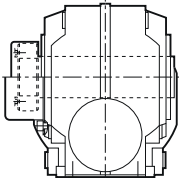
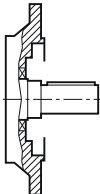
Helical worm geared motors

**Dimensions****Dimensional drawing overview**Information about dimensional drawings can be found in chapter [Introduction on page 1/21](#).

Design	Size	Dimensional drawing on page
<b>Foot-mounted design</b>		
	C..29	6/42
	C..39	6/46
	C..49	6/50
	C..69	6/54
	C..89	6/58
<b>Flange-mounted design</b>		
	C.F.29	6/43
	C.F.39	6/47
	C.F.49	6/51
	C.F.69	6/55
	C.F.89	6/59
<b>Housing flange design</b>		
	C.Z.29	6/44
	C.Z.39	6/48
	C.Z.49	6/52
	C.Z.69	6/56
	C.Z.89	6/60
<b>Shaft-mounted design</b>		
	CAD.29	6/45
	CAD.39	6/49
	CAD.49	6/53
	CAD.69	6/57
	CAD.89	6/61
<b>Helical worm tandem geared motors</b>		
	C.29-D/Z19 ... C.89-D/Z39	6/62

Electro\_Motor.ir

**Dimensional drawing overview** (continued)

Design	Size	Dimensional drawing on page
<b>Additional versions and options</b>		
<i>SIMOLOC assembly system</i>		
	CADR.29 ... CADR.89	6/63
<b>Protection covers</b>		
	CA.29 ... CA.89 CA.S29 ... CA.S89 CADR29 ... CADR89	6/64
<b>Inner contour of the flange design</b>		
	CF29 ... CF89 CAF.29 ... CAF.89	6/65

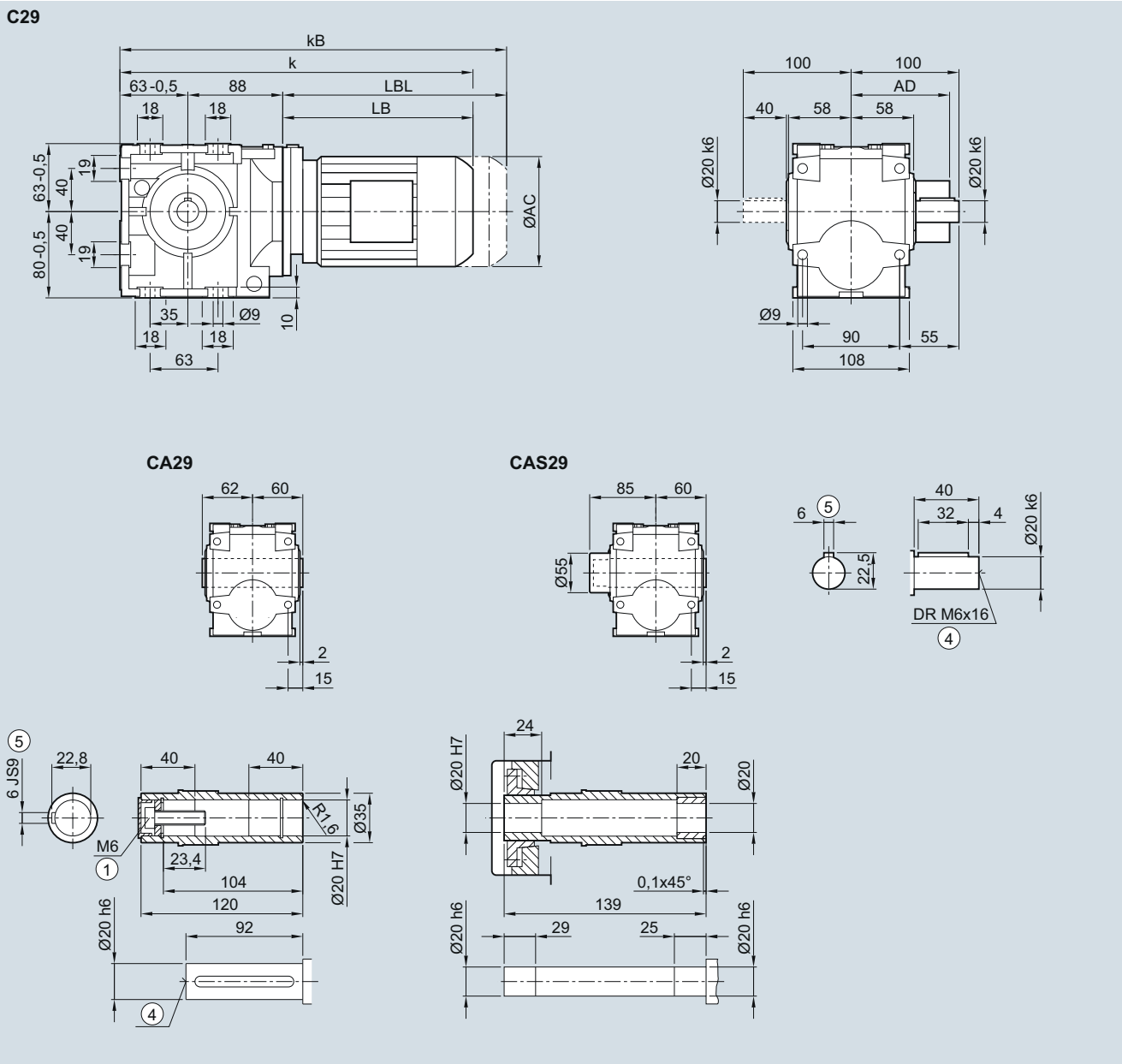
# SIMOGEAR geared motors

Helical worm geared motors

## Dimensions

### C..29 gearbox in a foot-mounted design

C030, CA030, CAS030



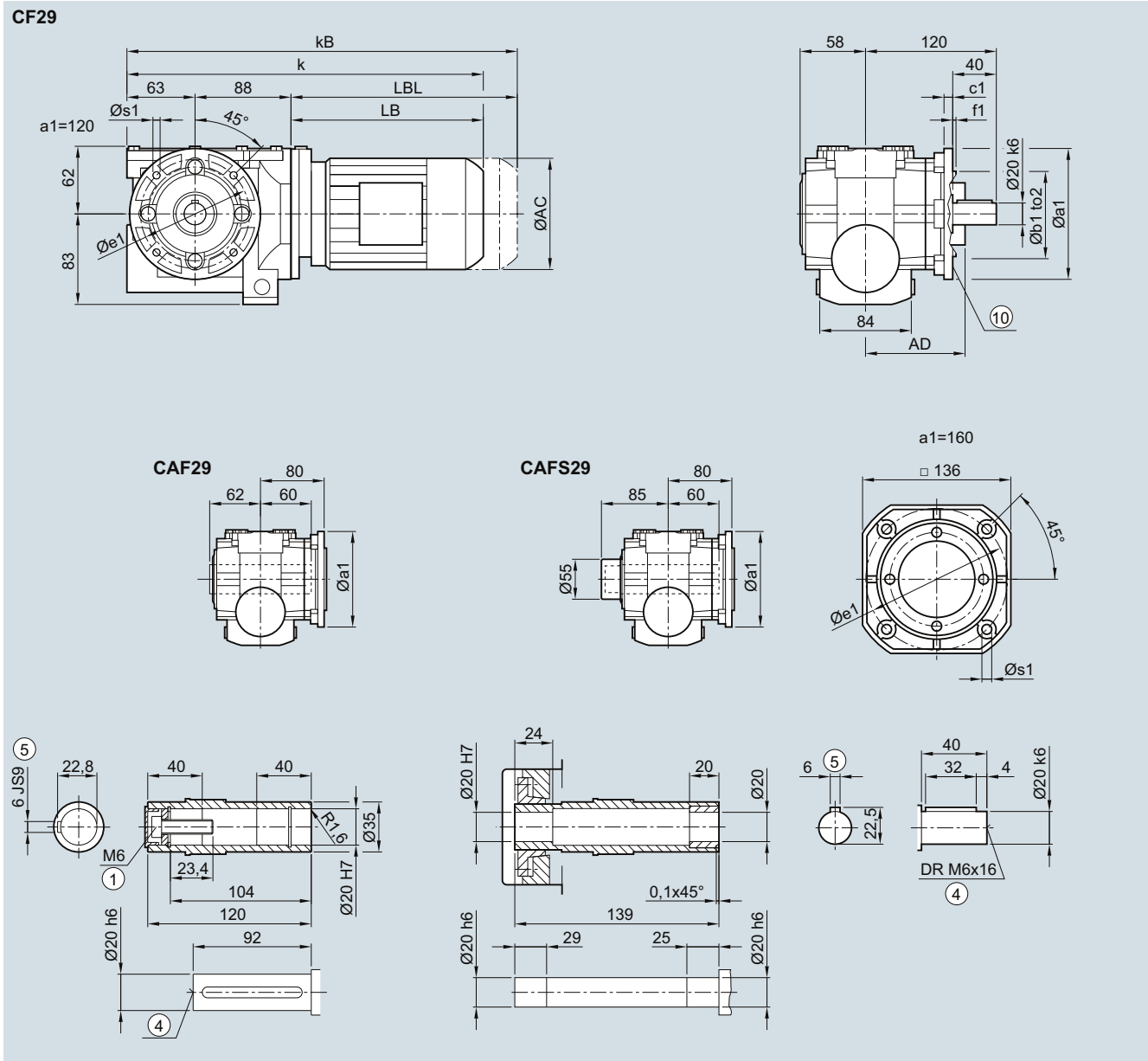
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2
k	345.0	377.0	396.0	441.0	476.0	502.5	542.5
kB	389.5	432.0	451.0	501.0	536.0	572.5	612.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**C.F.29 gearbox in a flange-mounted design**
**CF030, CAF030, CAFS030**


Flange	a1	b1	c1	f1	e1	s1	to2
	120	80	8	3.0	100	6.6	j6
	160	110	9	3.5	130	9.0	j6
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2
k	345.0	377.0	396.0	441.0	476.0	502.5	542.5
kB	389.5	432.0	451.0	501.0	536.0	572.5	612.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

⑩ For inner contour see page 6/65.

# SIMOGEAR geared motors

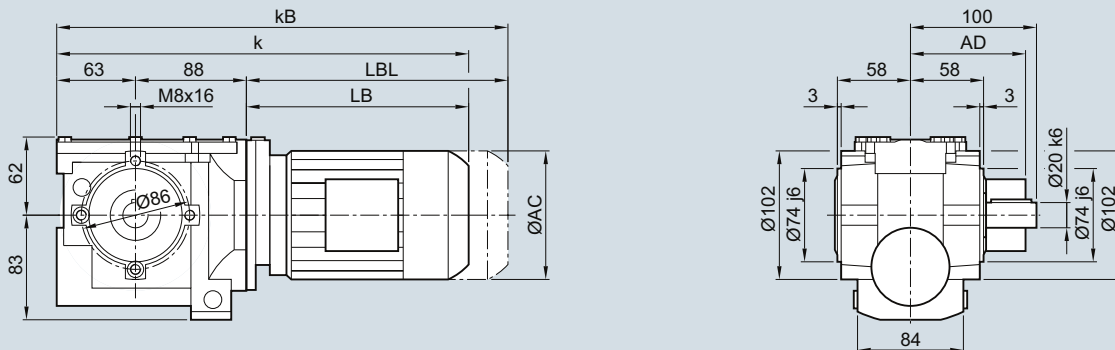
Helical worm geared motors

## Dimensions

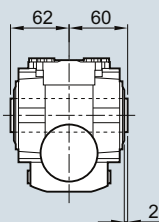
### C.Z.29 gearbox in a housing flange design

CZ030, CAZ030, CAZS030

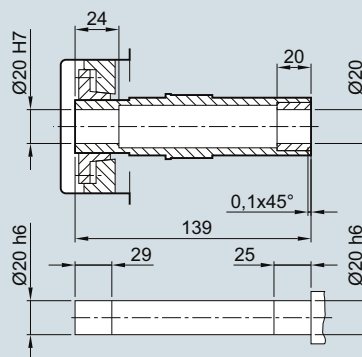
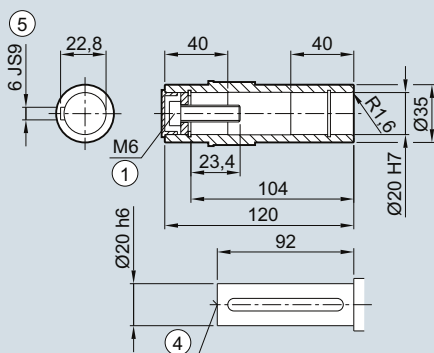
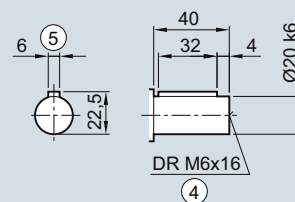
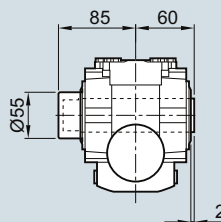
CZ29



CAZ29



CAZS29



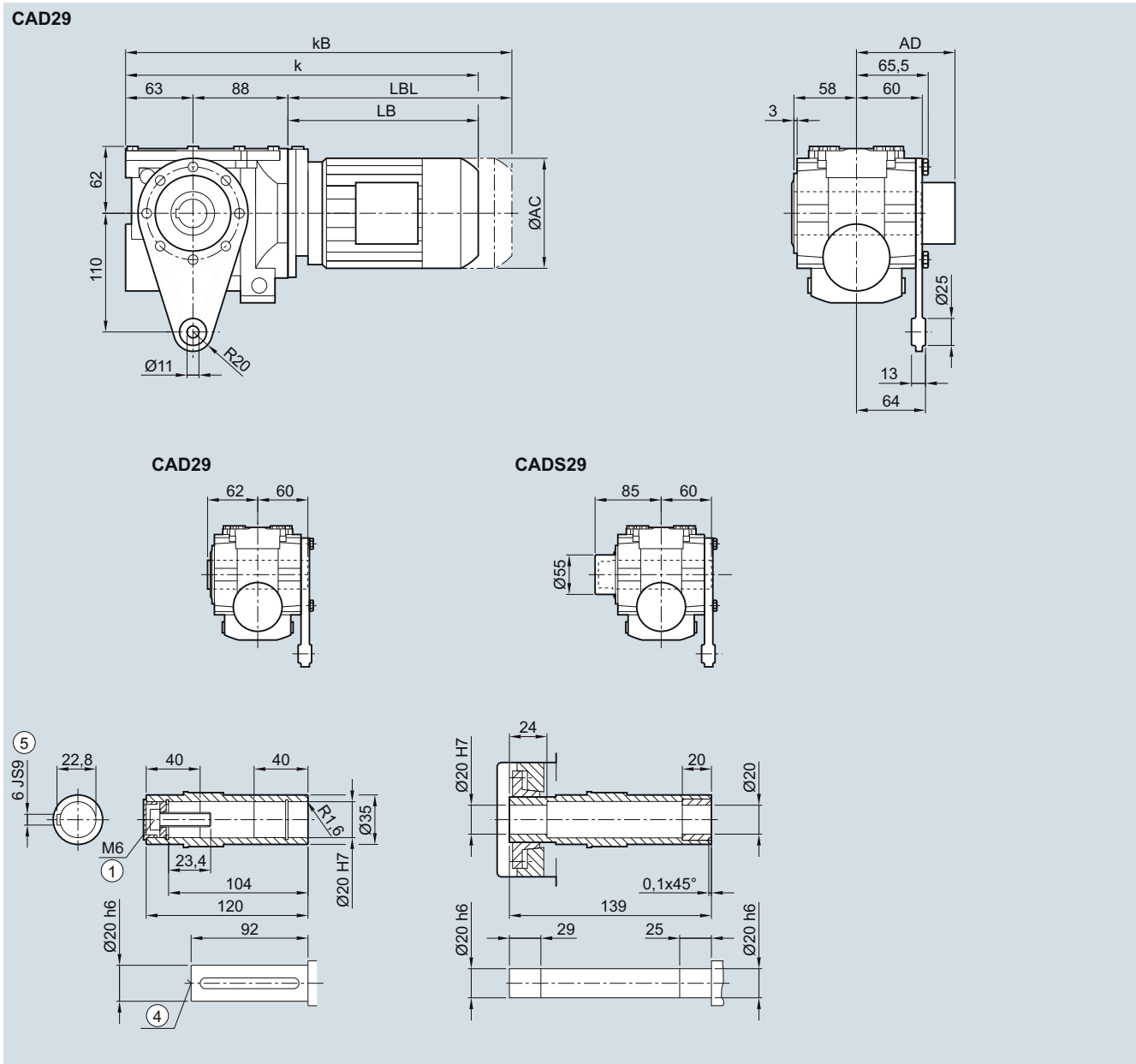
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2
k	345.0	377.0	396.0	441.0	476.0	502.5	542.5
kB	389.5	432.0	451.0	501.0	536.0	572.5	612.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**CAD.29 gearbox in a shaft-mounted design**
**CAD030, CADS030**


Motor	LA 63	71	71Z	LE 80	80Z	90	90Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2
k	345.0	377.0	396.0	441.0	476.0	502.5	542.5
kB	389.5	432.0	451.0	501.0	536.0	572.5	612.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions see page 8/42.

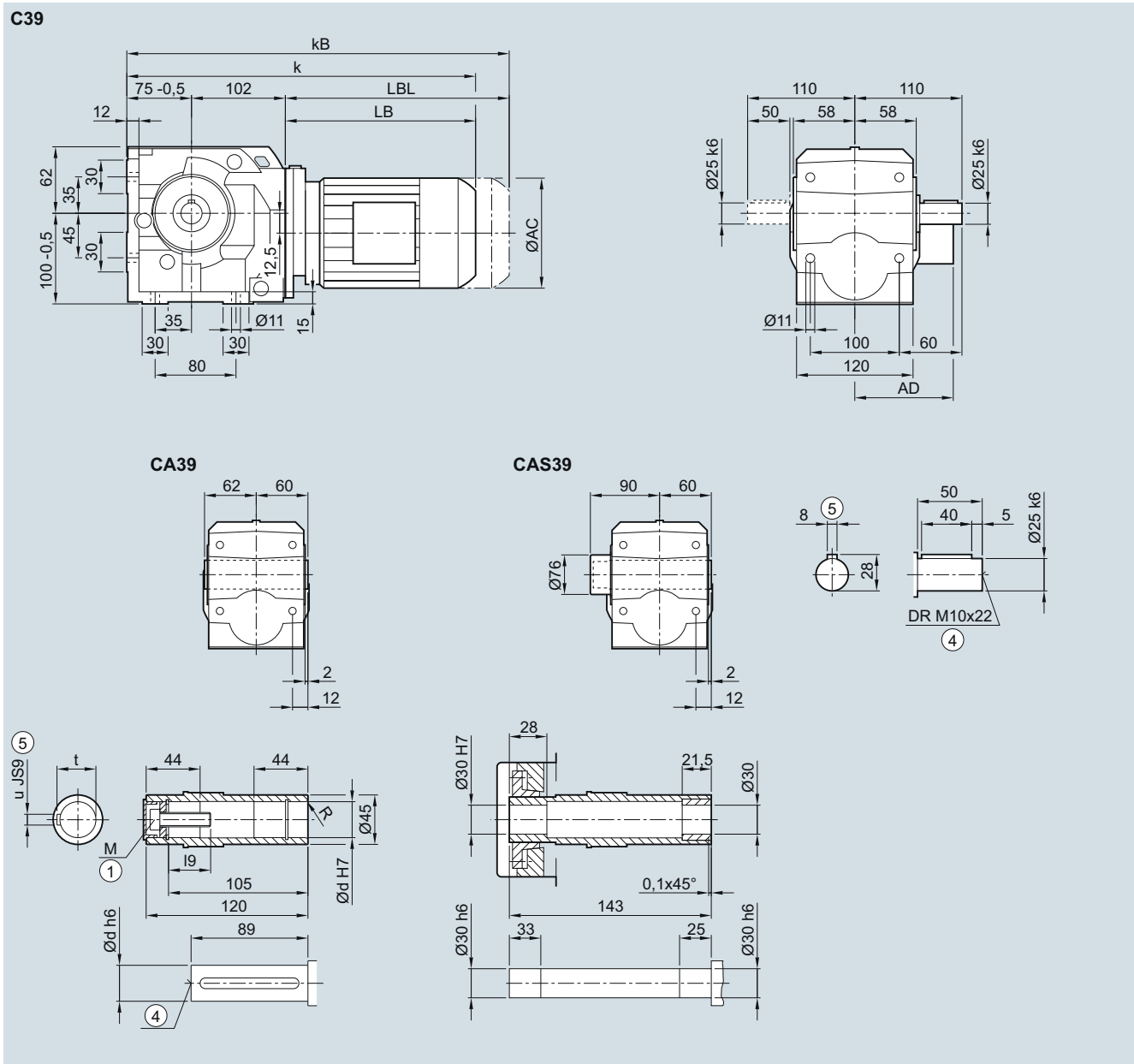
# SIMOGEAR geared motors

## Helical worm geared motors

### Dimensions

#### C..39 gearbox in a foot-mounted design

C030, CA030, CAS030



Shaft	d	I9	M	R	t	u
	25	32.6	M10	1.6	28.3	8
	30	32.6	M10	3.0	33.3	8

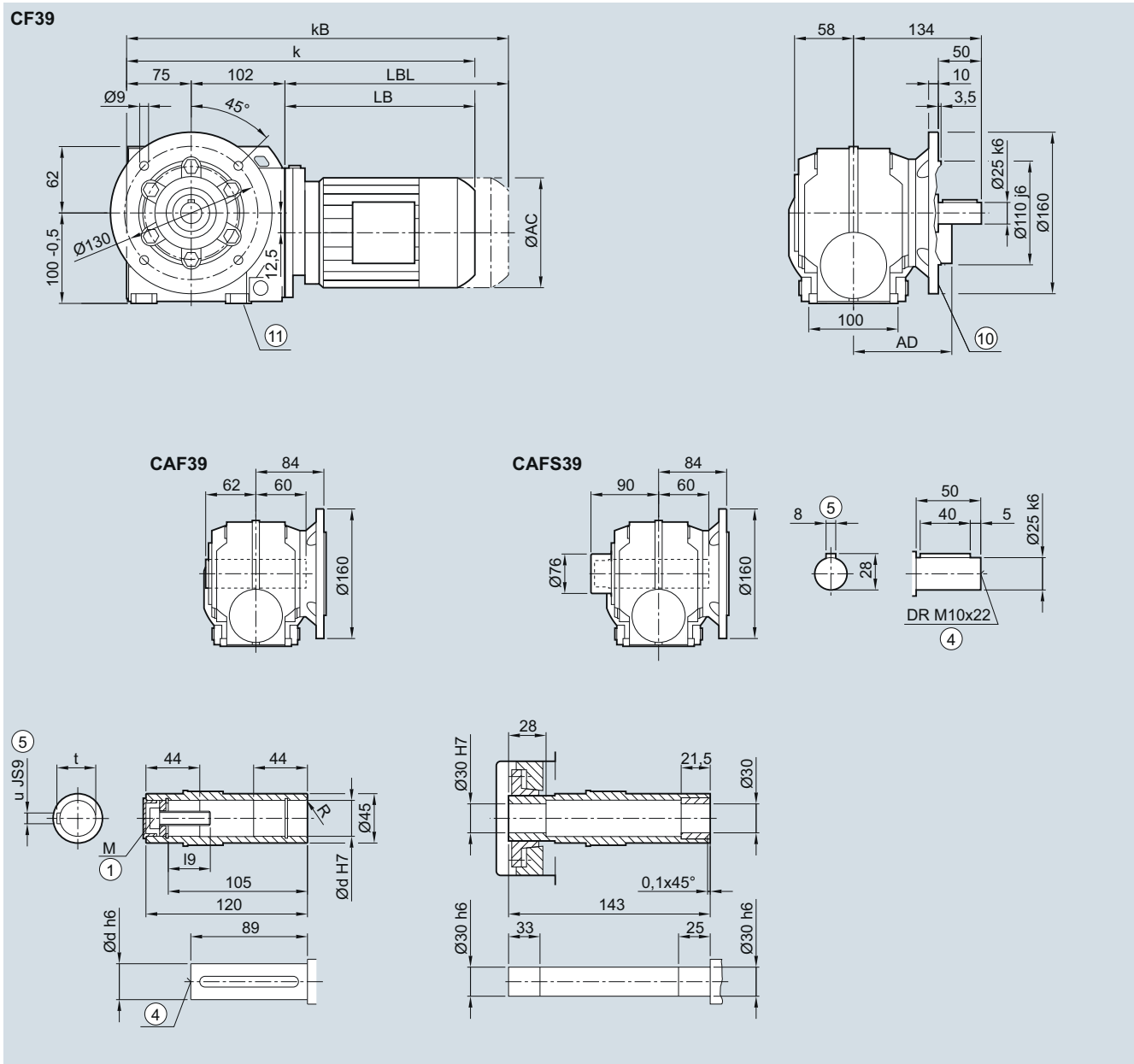
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	371.0	403.0	422.0	467.0	502.0	528.5	568.5	585.0	620.0
kB	415.5	458.0	477.0	527.0	562.0	598.5	638.5	663.5	698.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**C.F.39 gearbox in a flange-mounted design**
**CF030, CAF030, CAFS030**


Shaft	d	I9	M	R	t	u
	25	32.6	M10	1.6	28.3	8
	30	32.6	M10	3.0	33.3	8

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	371.0	403.0	422.0	467.0	502.0	528.5	568.5	585.0	620.0
kB	415.5	458.0	477.0	527.0	562.0	598.5	638.5	663.5	698.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

① ISO 4014

④ DIN 332

Ⓜ Use bores only for foot-mounted design

⑤ Feather key/keyway DIN 6885-1

Ⓜ For inner contour see page 6/65

1) AD depends on the motor options, for other dimensions see page 8/42.



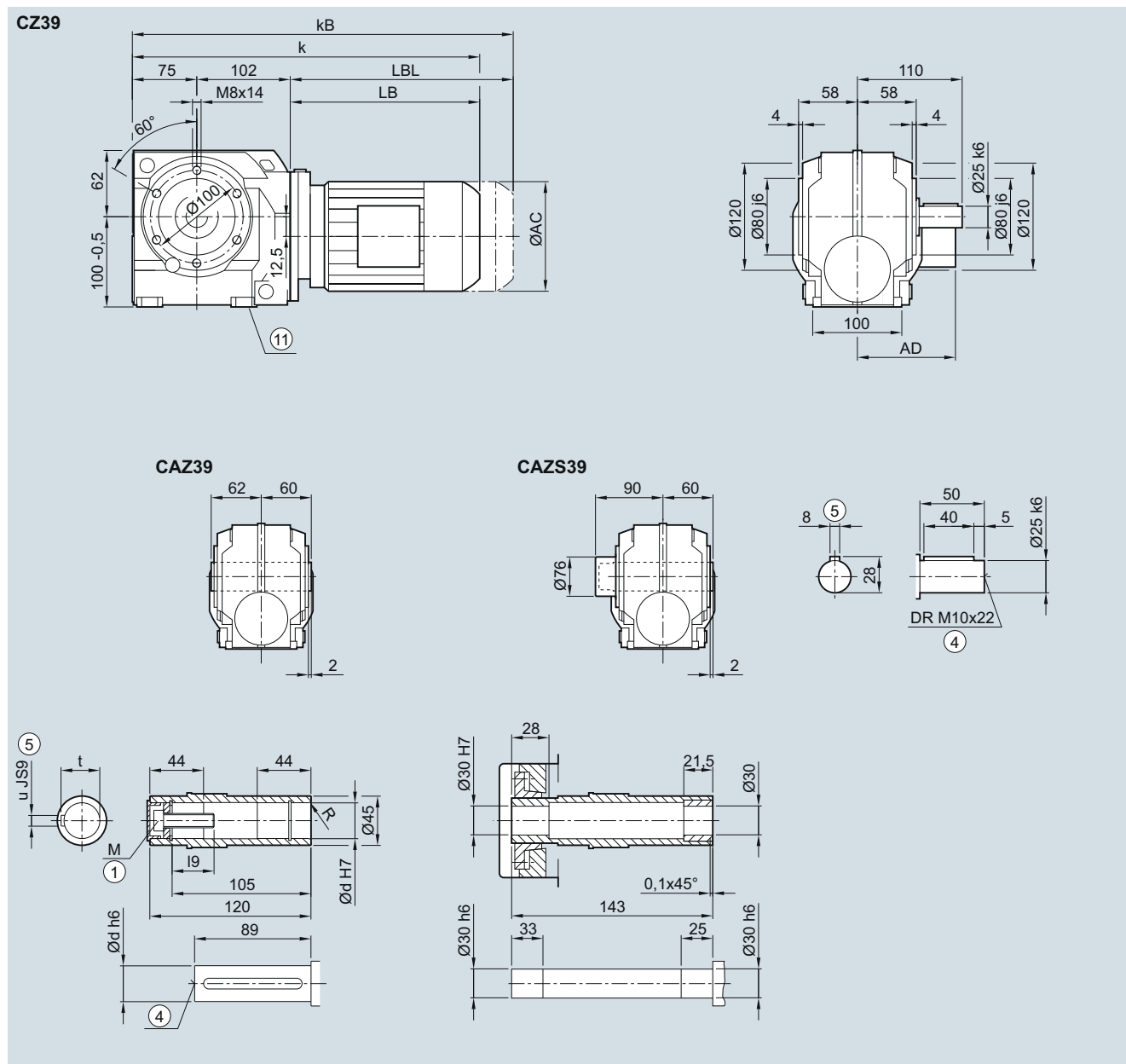
# SIMOGEAR geared motors

## Helical worm geared motors

### Dimensions

#### C.Z.39 gearbox in a housing flange design

CZ030, CAZ030, CAZS030



Shaft	d	I9	M	R	t	u
	25	32.6	M10	1.6	28.3	8
	30	32.6	M10	3.0	33.3	8

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	371.0	403.0	422.0	467.0	502.0	528.5	568.5	585.0	620.0
kB	415.5	458.0	477.0	527.0	562.0	598.5	638.5	663.5	698.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

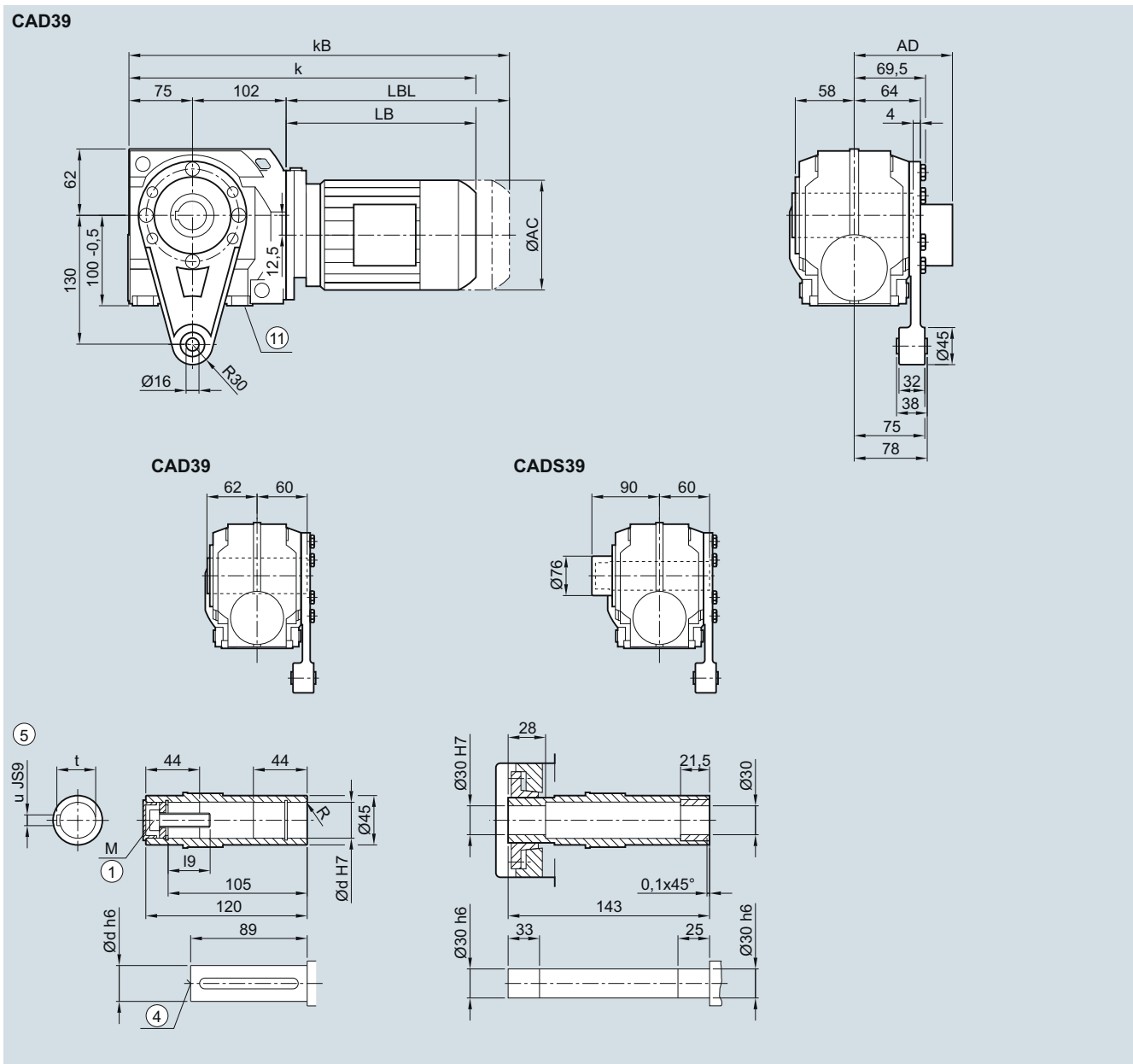
① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

⑥ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**CAD.39 gearbox in a shaft-mounted design**
**CAD030, CADS030**


Shaft	d	I9	M	R	t	u
	25	32.6	M10	1.6	28.3	8
	30	32.6	M10	3.0	33.3	8

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5
k	371.0	403.0	422.0	467.0	502.0	528.5	568.5	585.0	620.0
kB	415.5	458.0	477.0	527.0	562.0	598.5	638.5	663.5	698.5
LB	194.0	226.0	245.0	290.0	325.0	351.5	391.5	408.0	443.0
LBL	238.5	281.0	300.0	350.0	385.0	421.5	461.5	486.5	521.5

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

⑥ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42.

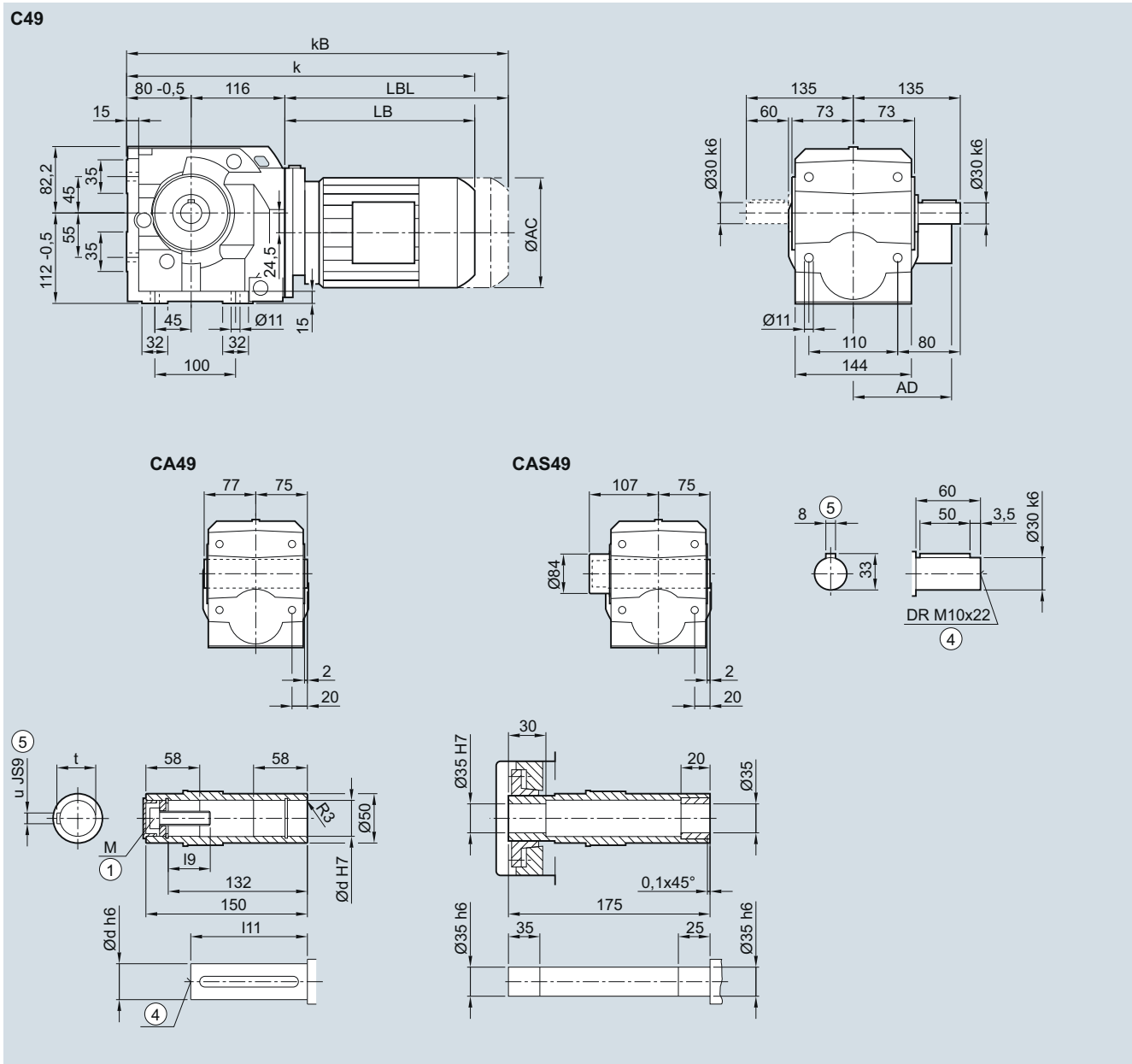
# SIMOGEAR geared motors

Helical worm geared motors

## Dimensions

### C..49 gearbox in a foot-mounted design

C030, CA030, CAS030



Shaft	d	l9	l11	M	t	u
	30	32.6	114	M10	33.3	8
	35	42	116	M12	38.3	10

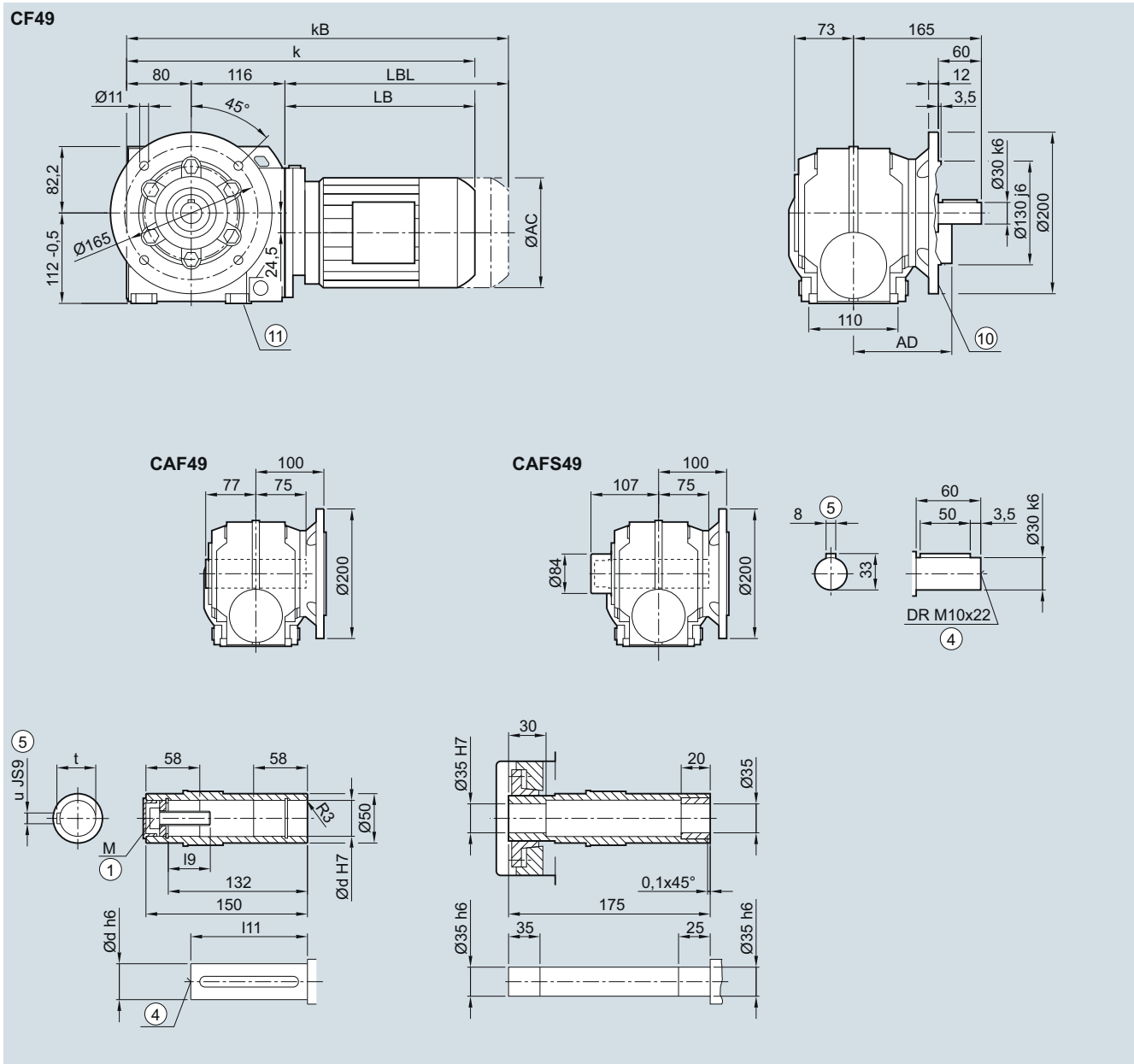
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	380.5	412.5	431.5	476.5	511.5	538.0	578.0	594.5	629.5	604.5	639.0
kB	425.0	467.5	486.5	536.5	571.5	608.0	648.0	673.0	708.0	677.5	712.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**C.F.49 gearbox in a flange-mounted design**
**CF030, CAF030, CAFS030**


Shaft	d	l9	l11	M	t	u
	30	32.6	114	M10	33.3	8
	35	42	116	M12	38.3	10

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	380.5	412.5	431.5	476.5	511.5	538.0	578.0	594.5	629.5	604.5	639.0
k <sub>B</sub>	425.0	467.5	486.5	536.5	571.5	608.0	648.0	673.0	708.0	677.5	712.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0

① ISO 4014

④ DIN 332

⑩ Use bores only for foot-mounted design

⑤ Feather key/keyway DIN 6885-1

⑥ For inner contour see page 6/65

1) AD depends on the motor options, for other dimensions see page 8/42.

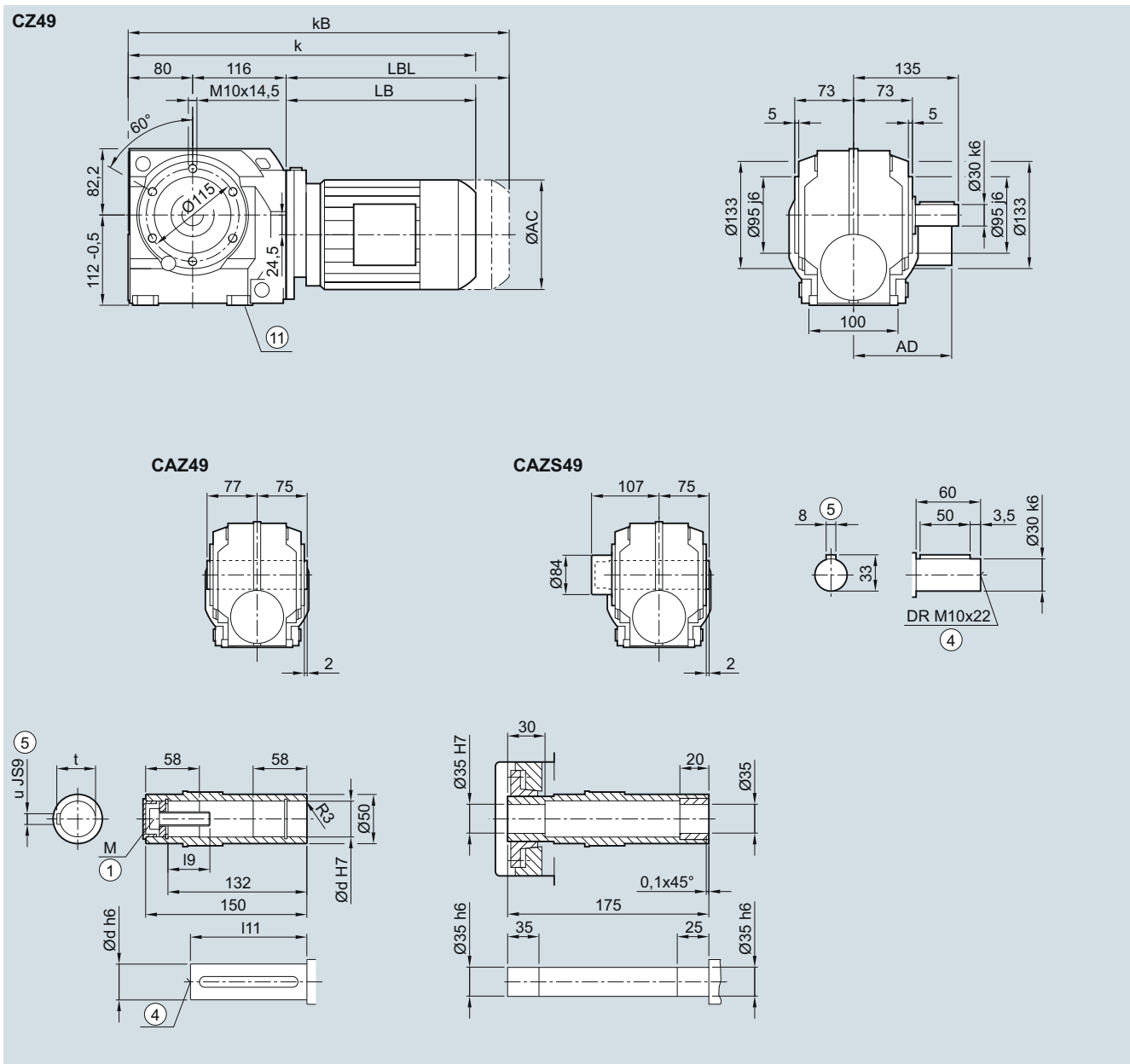
# SIMOGEAR geared motors

## Helical worm geared motors

### Dimensions

#### C.Z.49 gearbox in a housing flange design

CZ030, CAZ030, CAZS030



Shaft	d	l9	l11	M	t	u
	30	32.6	114	M10	33.3	8
	35	42	116	M12	38.3	10

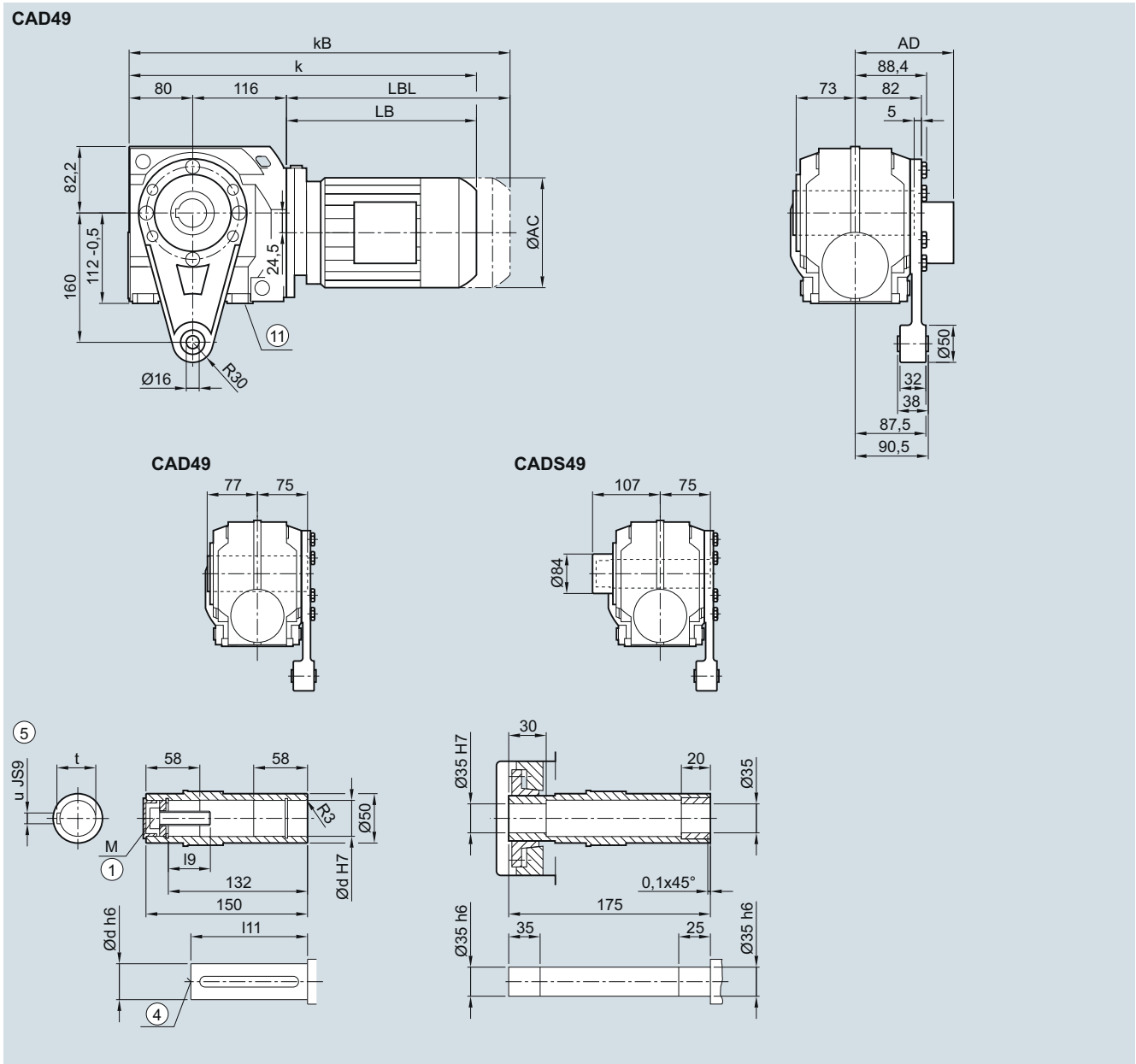
Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	380.5	412.5	431.5	476.5	511.5	538.0	578.0	594.5	629.5	604.5	639.0
kB	425.0	467.5	486.5	536.5	571.5	608.0	648.0	673.0	708.0	677.5	712.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1 ⑥ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**CAD.49 gearbox in a shaft-mounted design**
**CAD030, CADS030**


Shaft	d	l9	l11	M	t	u
	30	32.6	114	M10	33.3	8
	35	42	116	M12	38.3	10

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5
k	380.5	412.5	431.5	476.5	511.5	538.0	578.0	594.5	629.5	604.5	639.0
kB	425.0	467.5	486.5	536.5	571.5	608.0	648.0	673.0	708.0	677.5	712.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1 ⑥ Use bores only for foot-mounted design

1) AD depends on the motor options, for other dimensions see page 8/42.

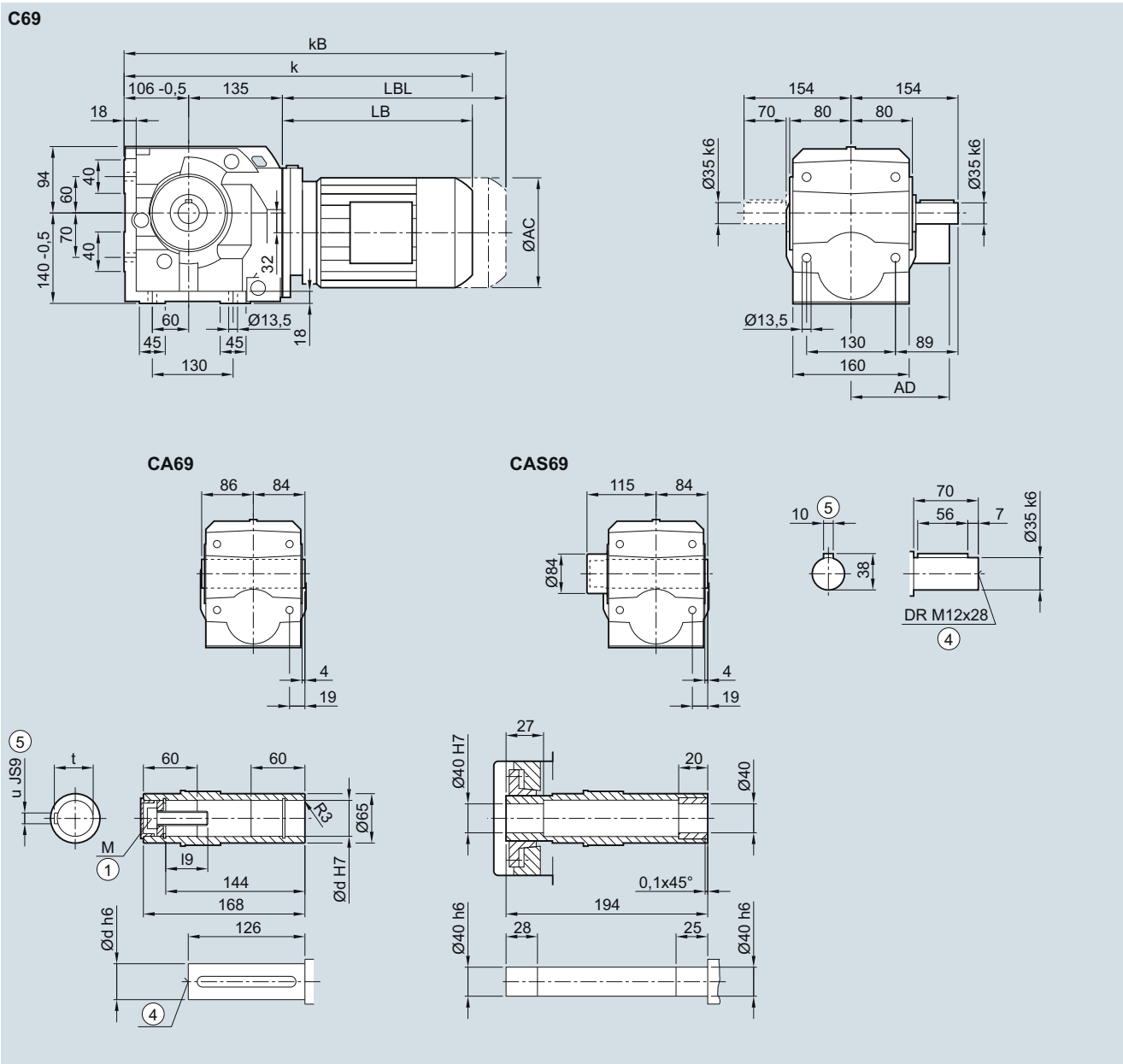
# SIMOGEAR geared motors

Helical worm geared motors

## Dimensions

### C..69 gearbox in a foot-mounted design

C030, CA030, CAS030



Shaft	d	I9	M	t	u
	40	47.75	M16	43.3	12
	45	48.75	M16	48.8	14

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	425.5	457.5	476.5	521.5	556.5	583.0	623.0	639.5	674.5	649.5	684.0	702.5	752.5
kB	470.0	512.5	531.5	581.5	616.5	633.0	693.0	718.0	753.0	722.5	757.0	807.0	857.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014

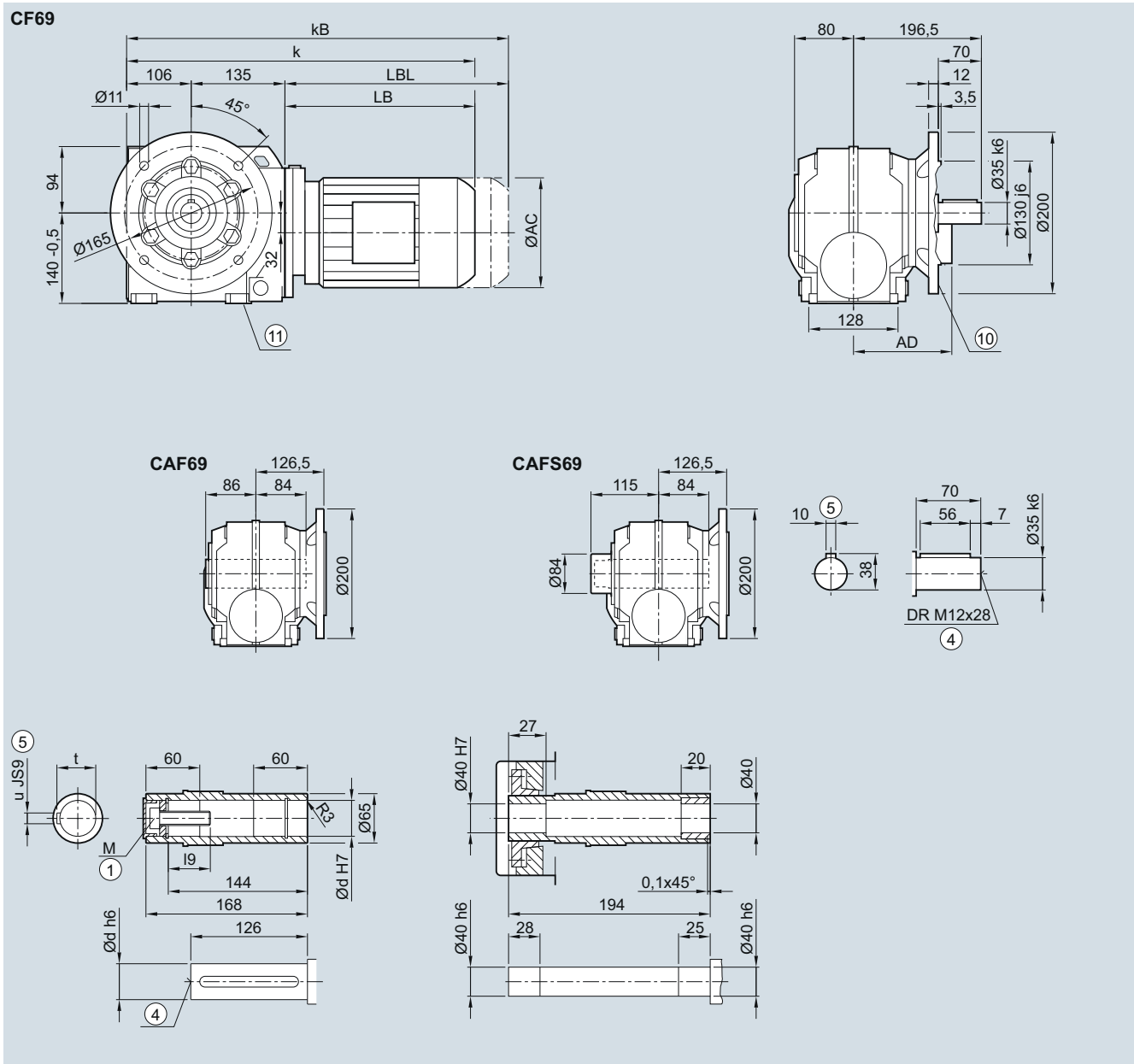
④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**C.F.69 gearbox in a flange-mounted design**

**CF030, CAF030, CAFS030**



6

Shaft	d	I9	M	t	u
	40	47.75	M16	43.3	12
	45	48.75	M16	48.8	14

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	425.5	457.5	476.5	521.5	556.5	583.0	623.0	639.5	674.5	649.5	684.0	702.5	752.5
kB	470.0	512.5	531.5	581.5	616.5	653.0	693.0	710.0	753.0	722.5	757.0	807.0	857.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014      ④ DIN 332      ⑤ Feather key/keyway DIN 6885-1      ⑩ For inner contour see page 6/65  
 ⑧ Use bores only for foot-mounted design      ①) AD depends on the motor options, for other dimensions see page 8/42.



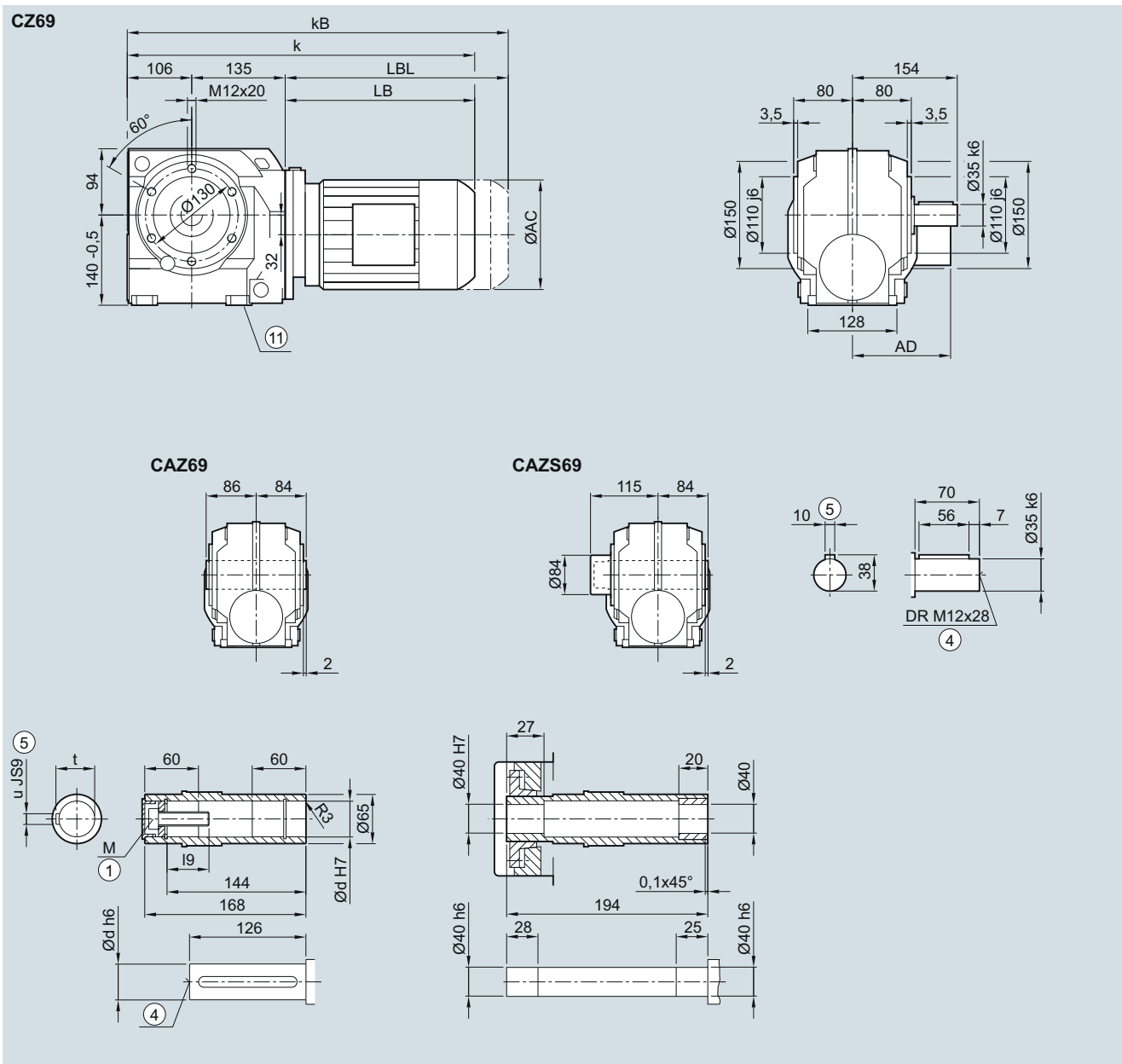
# SIMOGEAR geared motors

Helical worm geared motors

## Dimensions

### C.Z.69 gearbox in a housing flange design

CZ030, CAZ030, CAZS030



Shaft	d	i9	M	t	u
	40	47.75	M16	43.3	12
	45	48.75	M16	48.8	14

Motor	LA 63	71	71Z	80	LE 80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	425.5	457.5	476.5	521.5	556.5	583.0	623.0	639.5	674.5	649.5	684.0	702.5	752.5
kB	470.0	512.5	531.5	581.5	616.5	633.0	693.0	718.0	753.0	722.5	757.0	807.0	857.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443.0	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516.0	566.0	616.0

① ISO 4014

④ DIN 332

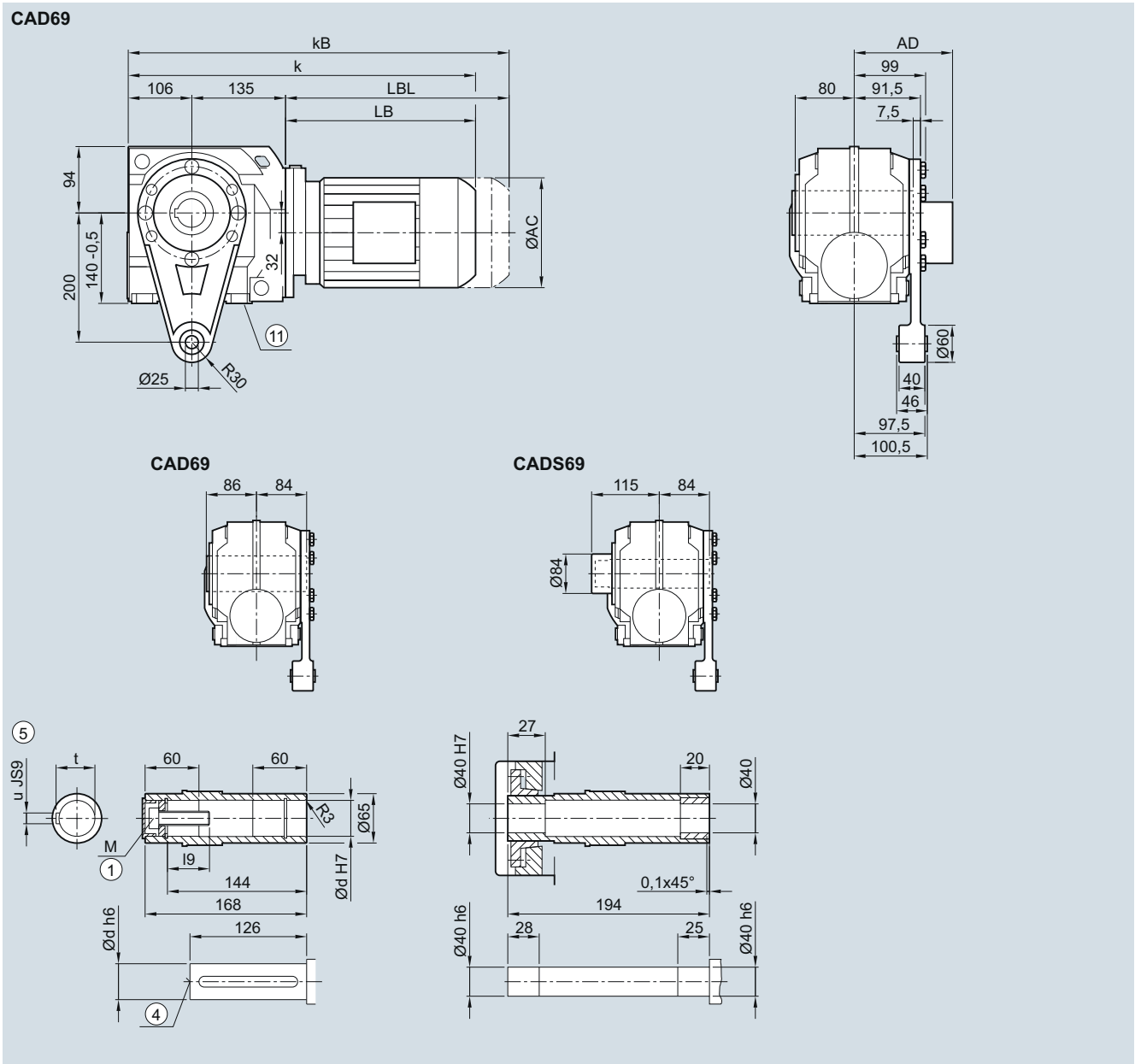
⑤ Feather key/keyway DIN 6885-1

⑥ Use bores only for foot-mounted design

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**CAD.69 gearbox in a shaft-mounted design**

**CAD030, CADS030**



6

Shaft	d	i9	M	t	u
	40	47.75	M16	43.3	12
	45	48.75	M16	48.8	14

Motor	LA 63	71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	117.8	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	124.0	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	425.5	457.5	476.5	521.5	556.5	583.0	623.0	639.5	674.5	649.5	684	702.5	752.5
kB	470.0	512.5	531.5	581.5	616.5	633.0	693.0	718.0	753.0	722.5	757	807.0	857.0
LB	184.5	216.5	235.5	280.5	315.5	342.0	382.0	398.5	433.5	408.5	443	461.5	511.5
LBL	229.0	271.5	290.5	340.5	375.5	412.0	452.0	477.0	512.0	481.5	516	566.0	616.0

① ISO 4014      ④ DIN 332      ⑤ Feather key/keyway DIN 6885-1      ⑥ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.

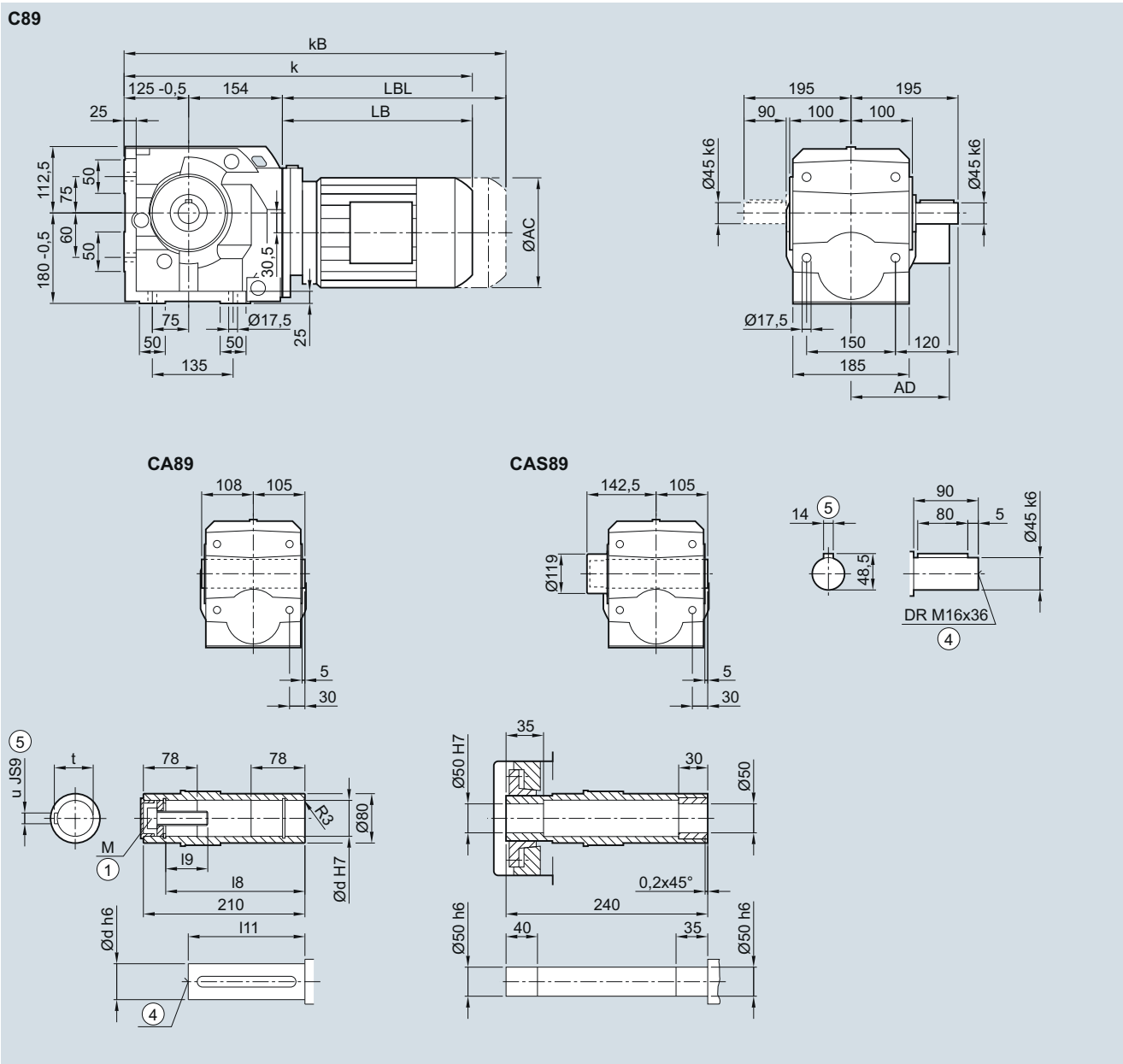
# SIMOGEAR geared motors

Helical worm geared motors

## Dimensions

### C..89 gearbox in a foot-mounted design

C030, CA030, CAS030



Shaft	d	l8	l9	l11	M	t	u
	50	183	44.5	165	M16	53.8	14
	60	180	57	158	M20	64.4	18

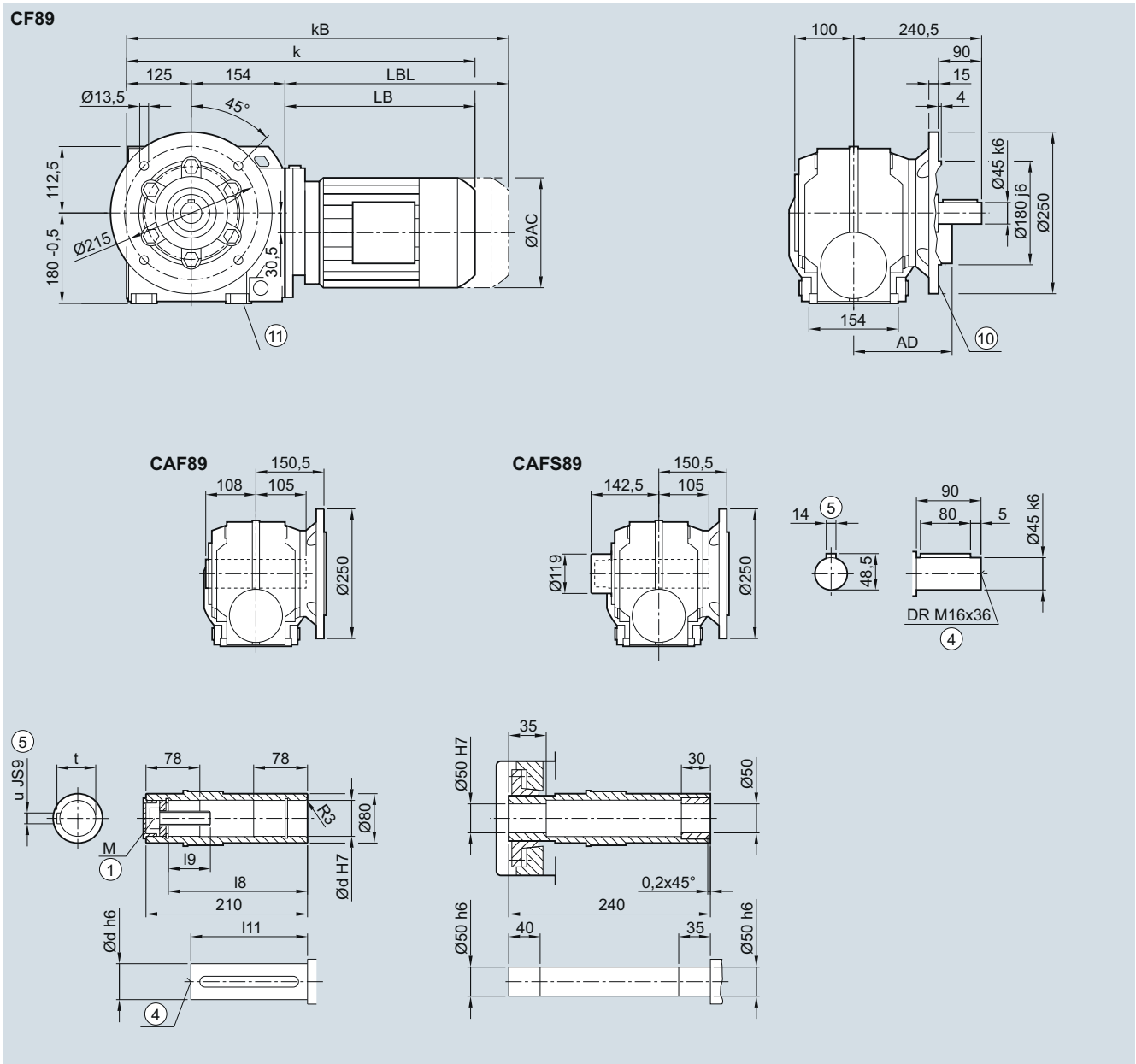
Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	493.5	512.5	553.5	588.5	615.0	655.0	671.5	706.5	681.5	706.5	734.5	784.5
kB	548.5	567.5	613.5	648.5	685.0	725.0	730.0	785.0	751.5	779.5	839.0	889.0
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions see page 8/42.

**C.F.89 gearbox in a flange-mounted design**
**CF030, CAF030, CAFS030**


Shaft	d	l8	l9	l11	M	t	u
	50	183	44.5	165	M16	53.8	14
	60	180	57	158	M20	64.4	18

Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	493.5	512.5	553.5	588.5	615.0	655.0	671.5	706.5	681.5	706.5	734.5	784.5
kB	548.5	567.5	613.5	648.5	685.0	725.0	730.0	785.0	751.5	779.5	839.0	889.0
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0

① ISO 4014

④ DIN 332

⑩ Use bores only for foot-mounted design

⑤ Feather key/keyway DIN 6885-1

⑥ For inner contour see page 6/65

1) AD depends on the motor options, for other dimensions see page 8/42.

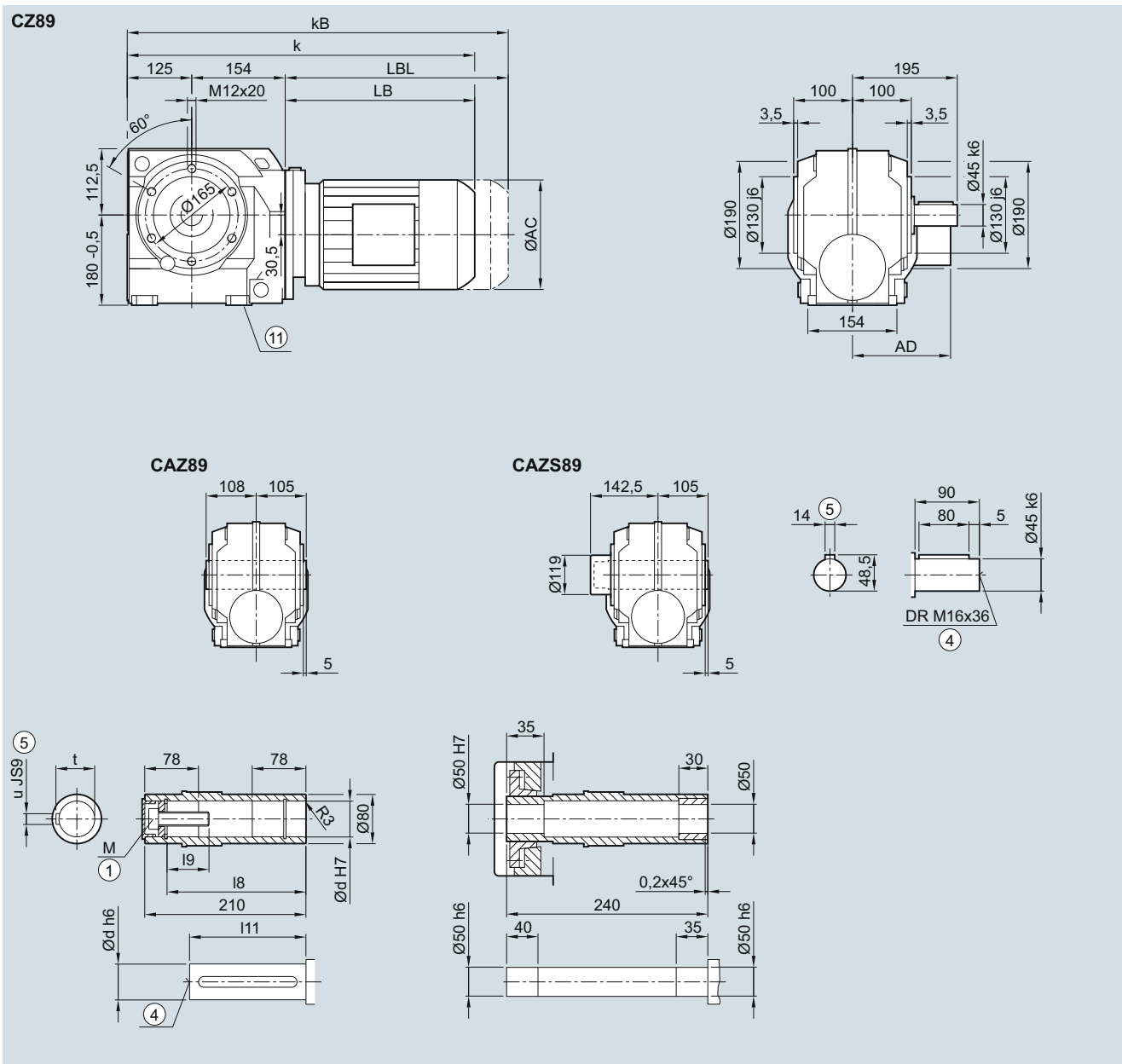
# SIMOGEAR geared motors

Helical worm geared motors

## Dimensions

### C.Z.89 gearbox in a housing flange design

CZ030, CAZ030, CAZS030

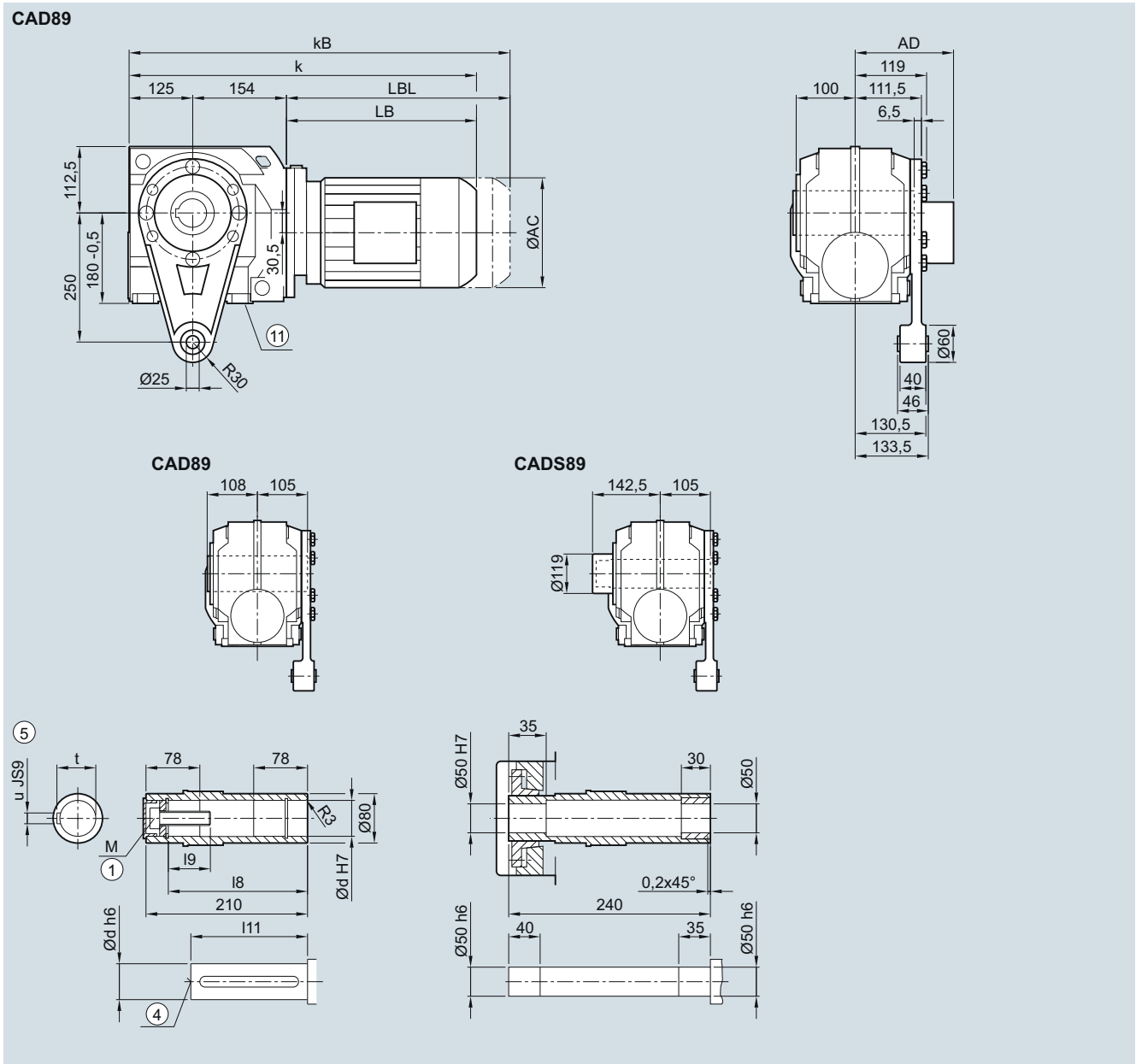


Shaft	d	l8	l9	l11	M	t	u
	50	183	44.5	165	M16	53.8	14
	60	180	57	158	M20	64.4	18

Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	493.5	512.5	553.5	588.5	615.0	655.0	671.5	706.5	681.5	706.5	734.5	784.5
kB	548.5	567.5	613.5	648.5	685.0	725.0	730.0	785.0	751.5	779.5	839.0	889.0
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0

① ISO 4014      ④ DIN 332      ⑤ Feather key/keyway DIN 6885-1      ⑥ Use bores only for foot-mounted design  
 1) AD depends on the motor options, for other dimensions see page 8/42.

**CAD.89 gearbox in a shaft-mounted design**
**CAD030, CADS030**


Shaft	d	l8	l9	l11	M	t	u
	50	183	44.5	165	M16	53.8	14
	60	180	57	158	M20	64.4	18

Motor	LA 71	71Z	LE 80	80Z	90	90Z	100	100Z	112	112Z	132	132Z
AC	138.8	138.8	156.3	156.3	173.8	173.8	198.0	198.0	222.0	222.0	264.0	264.0
AD <sup>1)</sup>	134.0	134.0	149.2	149.2	154.2	154.2	170.5	170.5	181.5	181.5	207.0	207.0
k	493.5	512.5	553.5	588.5	615.0	655.0	671.5	706.5	681.5	706.5	734.5	784.5
kB	548.5	567.5	613.5	648.5	685.0	725.0	730.0	785.0	751.5	779.5	839.0	889.0
LB	214.5	233.5	274.5	309.5	336.0	376.0	392.5	427.5	402.5	427.5	455.5	505.5
LBL	269.5	288.5	334.5	369.5	406.0	446.0	471.0	506.0	475.5	500.5	560.0	610.0

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

⑥ Use bores only for foot-mounted design

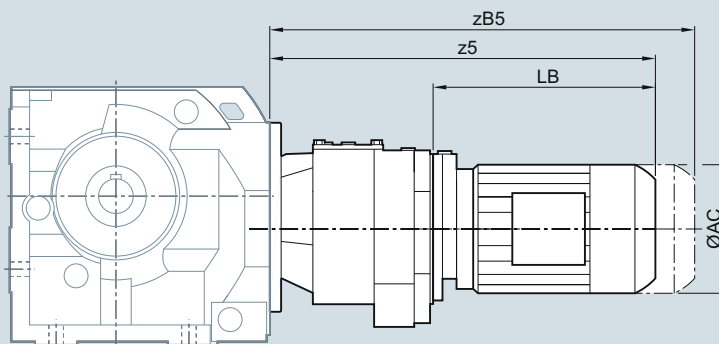
1) AD depends on the motor options, for other dimensions see page 8/42.

## SIMOGEAR geared motors

Helical worm geared motors

### Dimensions

#### Helical worm tandem geared motors

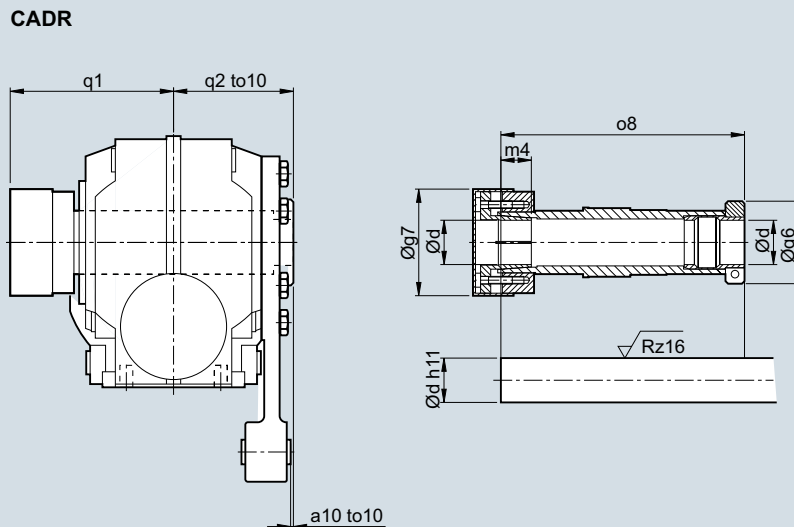


6

Gearbox	Motor	AC	z5	zB5	LB
C.29-D/Z19	LA63	117.8	331.0	375.5	160.5
C.39-D/Z19	LA63	117.8	331.0	375.5	160.5
	LA71	138.8	363.0	418.0	184.5
	LE71Z	138.8	382.0	437.0	203.5
C.49-D/Z19	LA63	117.8	322.0	366.5	160.5
	LA71	138.8	354.0	409.0	184.5
	LA71Z	138.8	373.0	428.0	203.5
	LE80	156.3	410.0	470.0	240.0
	LE80Z	156.3	445.0	505.0	275.0
C.69-D/Z19	LA63	117.8	322.0	366.5	160.5
	LA71	138.8	354.0	409.0	184.5
	LA71Z	138.8	373.0	428.0	203.5
	LE80	156.3	410.0	470.0	240.0
	LE80Z	156.3	445.0	505.0	275.0
C.89-D/Z39	LA63	117.8	373.5	418.0	194.0
	LA71	138.8	405.5	460.5	226.0
	LA71Z	138.8	424.5	479.5	245.0
	LE80	156.3	469.5	529.5	290.0
	LE80Z	156.3	504.5	564.5	325.0
	LE90	173.8	531.0	601.0	351.5
	LE90Z	173.8	571.0	641.0	391.5

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## SIMOLOC assembly system



Note mounting tolerance to10 when positioning the torque arm.

d	g6	g7	m4	o8	q1	q2	a10	to10
<b>CADR.29</b>								
20	58.5	56	18.5	151.0	102	75	11	+2.1
1"								+0.6
0.75"								
<b>CADR39</b>								
30	62.0	76	22	160.5	106	75	39	+2.2
25								+0.7
1.25"								
1.1875"								
1"								
<b>CADR49</b>								
35	65.0	84	24	192.0	124	90	35	+2.6
30								+0.8
1.4375"								
1.375"								
1.25"								
1.1875"								
<b>CADR69</b>								
40	79.5	94	30	217.5	138	102	39	+2.5
35								+0.7
1.5"								
1.4375"								
1.375"								
1.625"								
<b>CADR89</b>								
50	89.0	114	32	264.0	171	124	45	+3.4
40								+1.5
2"								
1.9375"								
1.75"								
1.625"								

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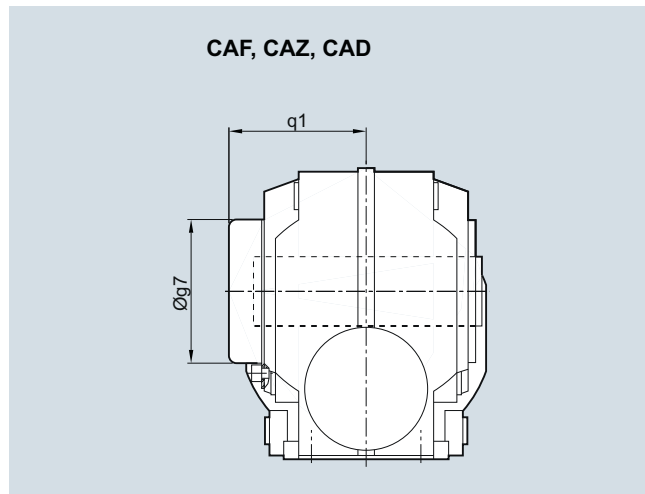
## SIMOGEAR geared motors

Helical worm geared motors

### Dimensions

#### Protection covers

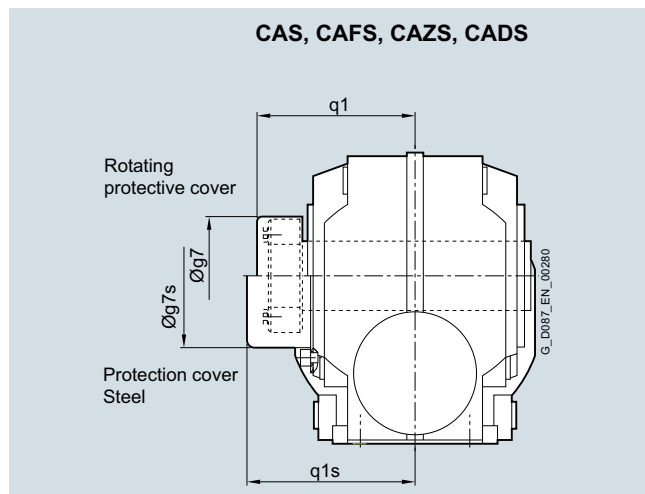
##### Protection cover for hollow shaft



Gearbox type	CA.29	CA.39	CA.49	CA.69	CA.89
<b>Protection cover</b>					
g7	67.0	82.5	80.0	99.0	137.0
q1	76.0	73.0	99.0	95.5	124.5

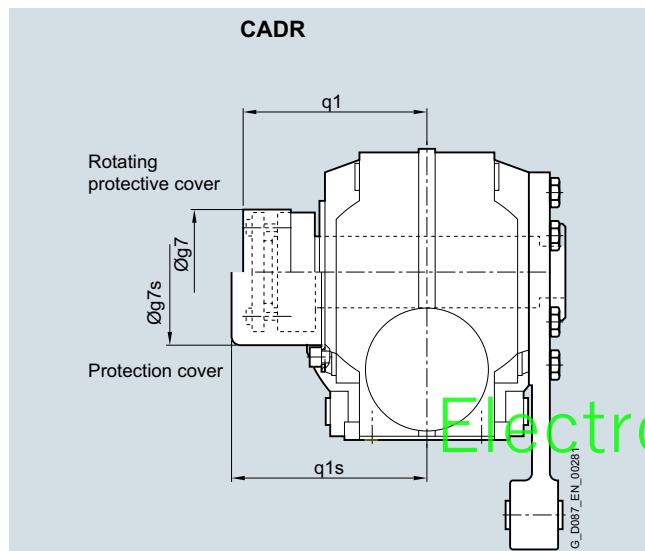
6

##### Protection covers for hollow shaft with shrink disk



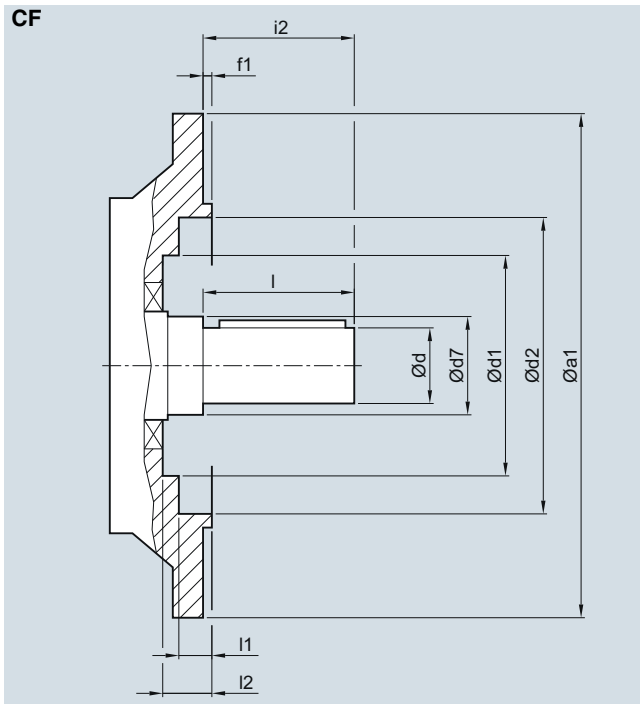
Gearbox type	CA.S29	CA.S39	CA.S49	CA.S69	CA.S89
<b>Rotating protective cover with shrink disk version</b>					
g7	55.0	76.0	84.0	84.0	94.0
q1	85.0	89.5	107.0	115.0	125.5
<b>Protection cover</b>					
g7s	58.0	82.5	86.0	99.0	137.0
q1s	91.0	109.0	122.0	126.5	176.5

##### Protection covers for hollow shaft with SIMOLOC assembly system

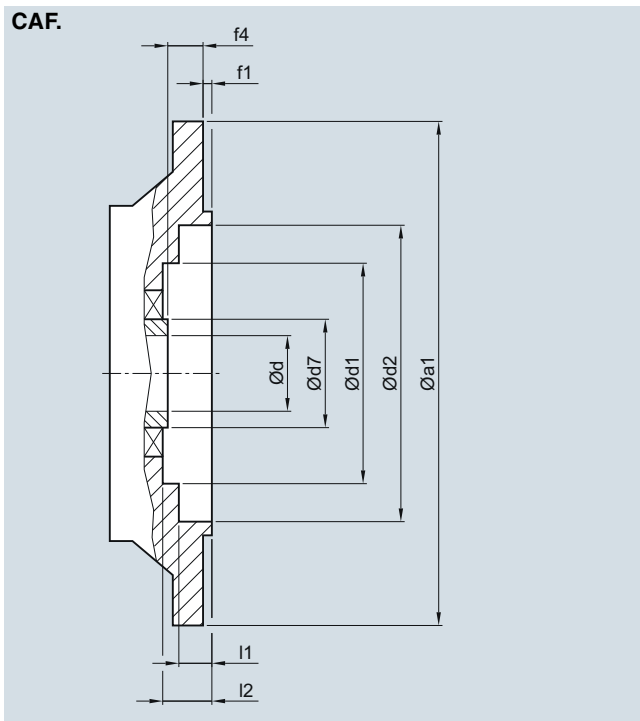


Gearbox type	CADR29	CADR39	CADR49	CADR69	CADR89
<b>Rotating protective cover</b>					
g7	56.0	76.0	84.0	94.0	114.0
q1	101.5	106.0	124.0	144.0	171.0
<b>Protection cover</b>					
g7s	58.0	82.5	86.0	99	137.0
q1s	102.0	109.0	126.0	145.5	176.5

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**Inner contour of the flange design**
*Notes regarding the design of the customer's interface for the solid shaft design*


Gearbox type	a1	d	d7	d1	d2	f1	i2	l	l1	l2
CF29	120	20	40	-	70	3.0	40	40	24.0	-
	160			70	101	3.5			8.5	24.5
CF39	160	25	30	-	100	3.5	50	50	5.0	-
CF49	200	30	35	-	118	3.5	60	60	5.5	-
CF69	200	35	45	105	120	4.0	70	70	4.5	48.0
CF89	250	45	70	134	165	4.0	90	90	6.5	53.0

*Notes regarding the design of the customer's interface for the hollow shaft design*


Gearbox type	a1	d	d7	d1	d2	f1	f4	l1	l2
CAF.29	120	20	35	-	70	3.0	23.0	24.0	-
	160			70	101	3.5		8.5	24.5
CAF.39	160	25/30	45	80	102	3.5	24.0	2.0	29.5
CAF.49	200	30/35	50	90	120	3.5	25.0	4.0	30.5
CAF.69	200	40/45	65	105	120	4.0	42.0	4.5	48.0
CAF.89	250	50/60	80	134	147	4	45.5	14.0	53.0

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## SIMOGEAR geared motors

### Notes

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## Worm geared motors



<b>7/2</b>	<b>Orientation</b>
<b>7/3</b>	<b>Geared motors up to 0.55 kW</b>
7/3	Selection and ordering data
<b>7/7</b>	<b>Transmission ratios and torques</b>
7/7	Selection and ordering data
<b>7/9</b>	<b>General technical specifications</b>
7/9	Permissible radial force
<b>7/9</b>	<b>Dimensions</b>
7/9	Dimensional drawing overview
7/10	Worm geared motors S..09
7/14	Worm geared motors S..19
7/18	Worm geared motors S..29
7/22	Protection cover for hollow shaft

## SIMOGEAR geared motors

### Worm geared motors

#### Orientation

#### SIMOGEAR worm geared motors S

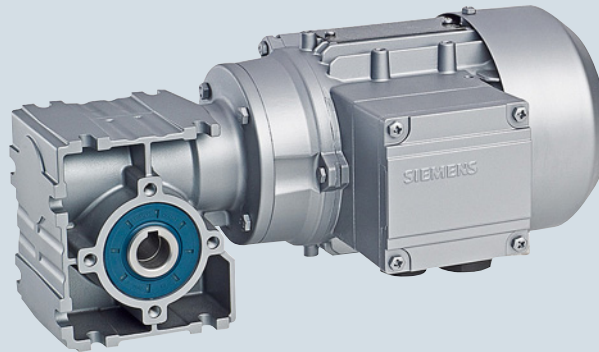


Fig. 7/1 Worm gearbox S

Gearbox designation	Number of frame sizes	Maximum output torque	Transmission ratio	Maximum motor power
		$T_{2N}$ Nm	$i$ -	$P_1$ kW
S09 ... S29 (1-stage)	3	33 ... 116	5.0 ... 100	0.55

SIMOGEAR worm geared motors are available in the following versions for mounting in any position:

- 1 stage
- Shaft-mounted design with torque arm SAD
- Flange-mounted design SF
- Design with integrated housing flange SZ
- Foot-mounted design S
- Solid shaft design with feather key (at one end or both ends) S
- Hollow shaft design with feather key SA
- Hollow shaft design with plug-in shaft SE

For worm gearboxes, the torque arm is supplied loose to enable it to be mounted as required on site. The position of the torque arm can be freely selected.

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# SIMOGEAR geared motors

## Worm geared motors

Geared motors up to 0.55 kW

### Selection and ordering data

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles	
0.09	<b>S.29-LAI63MF6</b>							
	8.5	46.2	100	1.6	8	2KJ3732 - ■ BD11 - ■ ■ A1	P01	
	10.6	41.0	80	2.1	8	2KJ3732 - ■ BD11 - ■ ■ B1	P01	
	14.2	34.5	60	2.8	8	2KJ3732 - ■ BD11 - ■ ■ C1	P01	
	<b>S.19-LAI63MF6</b>							
	10.6	39.6	80	0.9	6	2KJ3731 - ■ BD11 - ■ ■ B1	P01	
	14.2	33.8	60	1.4	6	2KJ3731 - ■ BD11 - ■ ■ C1	P01	
	17	30.0	50	1.7	6	2KJ3731 - ■ BD11 - ■ ■ D1	P01	
	<b>S.09-LAI63MF6</b>							
	14.2	29.9	60	0.8	5	2KJ3730 - ■ BD11 - ■ ■ C1	P01	
	17.0	26.8	50	1	5	2KJ3730 - ■ BD11 - ■ ■ D1	P01	
	21.2	23.5	40	1.3	5	2KJ3730 - ■ BD11 - ■ ■ E1	P01	
	0.12	<b>S.29-LAI63ME4</b>						
		13.5	40.3	100	1.7	8	2KJ3732 - ■ BC11 - ■ ■ A1	
		16.9	35.7	80	2.3	8	2KJ3732 - ■ BC11 - ■ ■ B1	
22.5		29.9	60	2.7	8	2KJ3732 - ■ BC11 - ■ ■ C1		
27		26.5	50	3	8	2KJ3732 - ■ BC11 - ■ ■ D1		
33.8		22.9	40	3.4	8	2KJ3732 - ■ BC11 - ■ ■ E1		
45		18.5	30	4.1	8	2KJ3732 - ■ BC11 - ■ ■ F1		
<b>S.19-LAI63ME4</b>								
16.9		34.8	80	1	6	2KJ3731 - ■ BC11 - ■ ■ B1		
22.5		29.5	60	1.5	6	2KJ3731 - ■ BC11 - ■ ■ C1		
27		26.2	50	1.7	6	2KJ3731 - ■ BC11 - ■ ■ D1		
33.8		22.6	40	2	6	2KJ3731 - ■ BC11 - ■ ■ E1		
45		18.2	30	2.4	6	2KJ3731 - ■ BC11 - ■ ■ F1		
54		15.9	25	2.5	6	2KJ3731 - ■ BC11 - ■ ■ G1		
67.5		13.5	20	3.2	6	2KJ3731 - ■ BC11 - ■ ■ H1		
90		10.6	15	4.1	6	2KJ3731 - ■ BC11 - ■ ■ J1		
135		7.4	10	5.7	6	2KJ3731 - ■ BC11 - ■ ■ K1		
193		5.4	7	7.6	6	2KJ3731 - ■ BC11 - ■ ■ L1		
270		3.9	5	10	6	2KJ3731 - ■ BC11 - ■ ■ M1		
<b>S.09-LAI63ME4</b>								
22.5		26.4	60	0.88	5	2KJ3730 - ■ BC11 - ■ ■ C1		
27.0		23.5	50	1.1	5	2KJ3730 - ■ BC11 - ■ ■ D1		
33.8		20.5	40	1.4	5	2KJ3730 - ■ BC11 - ■ ■ E1		
45.0		16.9	30	1.7	5	2KJ3730 - ■ BC11 - ■ ■ F1		
54.0		14.8	25	1.9	5	2KJ3730 - ■ BC11 - ■ ■ G1		
67.5		12.7	20	2.2	5	2KJ3730 - ■ BC11 - ■ ■ H1		
90		10.1	15	2.7	5	2KJ3730 - ■ BC11 - ■ ■ J1		
135		7.2	10	3.9	5	2KJ3730 - ■ BC11 - ■ ■ K1		
193		5.2	7	5.3	5	2KJ3730 - ■ BC11 - ■ ■ L1		
270		3.8	5	6.7	5	2KJ3730 - ■ BC11 - ■ ■ M1		
0.18	<b>S.29-LAI71MG6</b>							
	10.6	82	80	1.1	10	2KJ3732 - ■ CD11 - ■ ■ B1	P01	
	14.2	69.1	60	1.4	10	2KJ3732 - ■ CD11 - ■ ■ C1	P01	
	17	61.5	50	1.5	10	2KJ3732 - ■ CD11 - ■ ■ D1	P01	
	21.2	53.2	40	1.8	10	2KJ3732 - ■ CD11 - ■ ■ E1	P01	
	28.3	43.3	30	2.1	10	2KJ3732 - ■ CD11 - ■ ■ F1	P01	

#### Article No. supplement

Shaft design

Frequency and voltage

Gearbox mounting type

# Electro\_Motor.ir

. 5, 6, 7 or 9

2 or 9

A, D, F or H

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→ page 11/2

→ page 10/37

**SIMOGEAR geared motors**

Worm geared motors

Geared motors up to 0.55 kW

**Selection and ordering data**

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.18</b>	<b>S.29-LAI63MF4</b>						
	13.5	60.4	100	1.2	8	2KJ3732 - ■ BD11 - ■ ■ A1	
	16.9	53.5	80	1.5	8	2KJ3732 - ■ BD11 - ■ ■ B1	
	22.5	44.8	60	1.8	8	2KJ3732 - ■ BD11 - ■ ■ C1	
	27	39.8	50	2.0	8	2KJ3732 - ■ BD11 - ■ ■ D1	
	33.8	34.3	40	2.3	8	2KJ3732 - ■ BD11 - ■ ■ E1	
	45	27.7	30	2.8	8	2KJ3732 - ■ BD11 - ■ ■ F1	
	54	24.0	25	3.1	8	2KJ3732 - ■ BD11 - ■ ■ G1	
	67.5	20.4	20	3.7	8	2KJ3732 - ■ BD11 - ■ ■ H1	
	<b>S.29-LAI63ME2</b>						
	282	5.4	10	9.9	8	2KJ3732 - ■ BC11 - ■ ■ K1	P00
	403	3.9	7	13.4	8	2KJ3732 - ■ BC11 - ■ ■ L1	P00
	564	2.8	5	18.1	8	2KJ3732 - ■ BC11 - ■ ■ M1	P00
	<b>S.19-LAI71MG6</b>						
	17.0	60.1	50	0.86	8	2KJ3731 - ■ CD11 - ■ ■ D1	P01
	21.2	52.4	40	1.0	8	2KJ3731 - ■ CD11 - ■ ■ E1	P01
	<b>S.19-LAI63MF4</b>						
	22.5	44.3	60	1.0	6	2KJ3731 - ■ BD11 - ■ ■ C1	
	27.0	39.2	50	1.1	6	2KJ3731 - ■ BD11 - ■ ■ D1	
	33.8	34.0	40	1.3	6	2KJ3731 - ■ BD11 - ■ ■ E1	
	45	27.4	30	1.6	6	2KJ3731 - ■ BD11 - ■ ■ F1	
	54	23.8	25	1.6	6	2KJ3731 - ■ BD11 - ■ ■ G1	
	67.5	20.3	20	2.2	6	2KJ3731 - ■ BD11 - ■ ■ H1	
	90	15.9	15	2.7	6	2KJ3731 - ■ BD11 - ■ ■ J1	
	135	11.1	10	3.8	6	2KJ3731 - ■ BD11 - ■ ■ K1	
	193	8.0	7	5.1	6	2KJ3731 - ■ BD11 - ■ ■ L1	
	270	5.8	5	6.7	6	2KJ3731 - ■ BD11 - ■ ■ M1	
	<b>S.19-LAI63ME2</b>						
282	5.4	10	5.6	6	2KJ3731 - ■ BC11 - ■ ■ K1	P00	
403	3.9	7	7.5	6	2KJ3731 - ■ BC11 - ■ ■ L1	P00	
564	2.8	5	9.9	6	2KJ3731 - ■ BC11 - ■ ■ M1	P00	
<b>S.09-LAI63MF4</b>							
33.8	30.7	40	0.91	5	2KJ3730 - ■ BD11 - ■ ■ E1		
45.0	25.3	30	1.1	5	2KJ3730 - ■ BD11 - ■ ■ F1		
54.0	22.2	25	1.3	5	2KJ3730 - ■ BD11 - ■ ■ G1		
67.5	19.1	20	1.4	5	2KJ3730 - ■ BD11 - ■ ■ H1		
90	15.2	15	1.8	5	2KJ3730 - ■ BD11 - ■ ■ J1		
135	10.8	10	2.6	5	2KJ3730 - ■ BD11 - ■ ■ K1		
193	7.8	7	3.5	5	2KJ3730 - ■ BD11 - ■ ■ L1		
270	5.8	5	4.5	5	2KJ3730 - ■ BD11 - ■ ■ M1		
<b>S.09-LAI63ME2</b>							
282	5.2	10	3.9	5	2KJ3730 - ■ BC11 - ■ ■ K1	P00	
403	3.8	7	5.3	5	2KJ3730 - ■ BC11 - ■ ■ L1	P00	
564	2.8	5	7	5	2KJ3730 - ■ BC11 - ■ ■ M1	P00	
<b>0.25</b>	<b>S.29-LAI71MH6</b>						
	14.3	94.9	60	1	10	2KJ3732 - ■ CE11 - ■ ■ C1	P01
	17.2	84.5	50	1.1	10	2KJ3732 - ■ CE11 - ■ ■ D1	P01
<b>S.29-LAI71MG4</b>							
16.9	74.3	80	1.1	10	2KJ3732 - ■ CD11 - ■ ■ B1		

**Article No. supplement**

Shaft design

1, 5, 6, 7 or 9

Frequency and voltage

2 or 9

Gearbox mounting type

A, D, F or H

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**Selection and ordering data**

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.25</b>	<b>S.29-LAI71MG4</b>						
	22.5	62.3	60	1.3	10	2KJ3732 - ■ CD11 - ■ ■ C1	
	27	55.3	50	1.4	10	2KJ3732 - ■ CD11 - ■ ■ D1	
	33.8	47.6	40	1.7	10	2KJ3732 - ■ CD11 - ■ ■ E1	
	45	38.5	30	2	10	2KJ3732 - ■ CD11 - ■ ■ F1	
	54	33.4	25	2.3	10	2KJ3732 - ■ CD11 - ■ ■ G1	
	<b>S.29-LAI63MF2</b>						
	283	7.4	10	7.1	8	2KJ3732 - ■ BD11 - ■ ■ K1	P00
	404	5.4	7	9.7	8	2KJ3732 - ■ BD11 - ■ ■ L1	P00
	566	3.9	5	13.1	8	2KJ3732 - ■ BD11 - ■ ■ M1	P00
	<b>S.19-LAI71MG4</b>						
	27	54.5	50	0.82	8	2KJ3731 - ■ CD11 - ■ ■ D1	
	33.8	47.2	40	0.95	8	2KJ3731 - ■ CD11 - ■ ■ E1	
	45	38	30	1.2	8	2KJ3731 - ■ CD11 - ■ ■ F1	
	54	33.1	25	1.2	8	2KJ3731 - ■ CD11 - ■ ■ G1	
	67.5	28.1	20	1.5	8	2KJ3731 - ■ CD11 - ■ ■ H1	
	90	22.1	15	2	8	2KJ3731 - ■ CD11 - ■ ■ J1	
	135	15.5	10	2.8	8	2KJ3731 - ■ CD11 - ■ ■ K1	
	193	11.2	7	3.7	8	2KJ3731 - ■ CD11 - ■ ■ L1	
	270	8.1	5	4.8	8	2KJ3731 - ■ CD11 - ■ ■ M1	
	<b>S.19-LAI63MF2</b>						
	283	7.4	10	4	6	2KJ3731 - ■ BD11 - ■ ■ K1	P00
	404	5.4	7	5.4	6	2KJ3731 - ■ BD11 - ■ ■ L1	P00
	566	3.9	5	7.1	6	2KJ3731 - ■ BD11 - ■ ■ M1	P00
	<b>S.09-LAI63MF2</b>						
	70.8	21.3	40	1	5	2KJ3730 - ■ BD11 - ■ ■ E1	P00
	94.3	17.2	30	1.2	5	2KJ3730 - ■ BD11 - ■ ■ F1	P00
113	15.2	25	1.4	5	2KJ3730 - ■ BD11 - ■ ■ G1	P00	
142	13	20	1.6	5	2KJ3730 - ■ BD11 - ■ ■ H1	P00	
189	10.3	15	2	5	2KJ3730 - ■ BD11 - ■ ■ J1	P00	
283	7.3	10	2.8	5	2KJ3730 - ■ BD11 - ■ ■ K1	P00	
404	5.3	7	3.8	5	2KJ3730 - ■ BD11 - ■ ■ L1	P00	
566	3.8	5	5	5	2KJ3730 - ■ BD11 - ■ ■ M1	P00	
<b>0.37</b>	<b>S.29-LAI71MH4</b>						
	22.8	90.9	60	0.89	10	2KJ3732 - ■ CE11 - ■ ■ C1	
	27.4	80.7	50	0.98	10	2KJ3732 - ■ CE11 - ■ ■ D1	
	34.2	69.5	40	1.1	10	2KJ3732 - ■ CE11 - ■ ■ E1	
	45.7	56.2	30	1.4	10	2KJ3732 - ■ CE11 - ■ ■ F1	
	54.8	48.7	25	1.5	10	2KJ3732 - ■ CE11 - ■ ■ G1	
	68.5	41.3	20	1.8	10	2KJ3732 - ■ CE11 - ■ ■ H1	
	<b>S.29-LAI71MG2</b>						
	274	11.4	10	4.8	10	2KJ3732 - ■ CD11 - ■ ■ K1	P00
	391	8.2	7	6.5	10	2KJ3732 - ■ CD11 - ■ ■ L1	P00
	548	6	5	8.7	10	2KJ3732 - ■ CD11 - ■ ■ M1	P00
	<b>S.19-LAI71MH4</b>						
	54.8	48.3	25	0.81	8	2KJ3731 - ■ CE11 - ■ ■ G1	
	68.5	41.1	20	1.1	8	2KJ3731 - ■ CE11 - ■ ■ H1	
	91.3	32.2	15	1.3	8	2KJ3731 - ■ CE11 - ■ ■ J1	

**Article No. supplement**

Shaft design

Frequency and voltage

Gearbox mounting type

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 5, 6, 7 or 9  
 2 or 9

A, D, F or H

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**SIMOGEAR geared motors**

Worm geared motors

Geared motors up to 0.55 kW

**Selection and ordering data**

$P_{\text{rated}}$ kW	$n_2$ rpm	$T_2$ Nm	$i$ -	$f_B$ -	$m$ kg	Article No. (Article No. supplement → below)	Order code No. of poles
<b>0.37</b>	<b>S.19-LAI71MH4</b>						
	137	22.6	10	1.9	8	2KJ3731 - ■ CE11 - ■ ■ K1	
	196	16.3	7	2.5	8	2KJ3731 - ■ CE11 - ■ ■ L1	
	274	11.8	5	3.3	8	2KJ3731 - ■ CE11 - ■ ■ M1	
	<b>S.19-LAI71MG2</b>						
	274	11.4	10	2.7	8	2KJ3731 - ■ CD11 - ■ ■ K1	P00
	391	8.2	7	3.6	8	2KJ3731 - ■ CD11 - ■ ■ L1	P00
	548	5.9	5	4.7	8	2KJ3731 - ■ CD11 - ■ ■ M1	P00
	<b>0.55</b>	<b>S.29-LAI71MH2</b>					
280		16.5	10	3.2	10	2KJ3732 - ■ CE11 - ■ ■ K1	P00
400		11.9	7	4.4	10	2KJ3732 - ■ CE11 - ■ ■ L1	P00
560		8.7	5	5.9	10	2KJ3732 - ■ CE11 - ■ ■ M1	P00
<b>S.19-LAI71MH2</b>							
112		35.8	25	0.83	8	2KJ3731 - ■ CE11 - ■ ■ G1	P00
140		30.4	20	1	8	2KJ3731 - ■ CE11 - ■ ■ H1	P00
<b>S.19-LAI71MH2</b>							
187		23.7	15	1.3	8	2KJ3731 - ■ CE11 - ■ ■ J1	P00
280		16.5	10	1.8	8	2KJ3731 - ■ CE11 - ■ ■ K1	P00
400		11.9	7	2.4	8	2KJ3731 - ■ CE11 - ■ ■ L1	P00
560		8.6	5	3.2	8	2KJ3731 - ■ CE11 - ■ ■ M1	P00

**Article No. supplement**

Shaft design	1, 5, 6, 7 or 9
Frequency and voltage	2 or 9
Gearbox mounting type	A, D, F or H

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# SIMOGEAR geared motors

## Worm geared motors

### Transmission ratios and torques

#### Selection and ordering data

i	Lead angle of the worm $\gamma_m$	$n_{mot} = 2\ 800\ rpm$				$n_{mot} = 1\ 400\ rpm$				Motor frame size		Article No.
		$n_2$	$T_{2N}$	$P_{mot}$	$\eta$	$n_2$	$T_{2N}$	$P_{mot}$	$\eta$	63	71	
		rpm	Nm	kW	%	rpm	Nm	kW	%			
<b>S.09</b>												
80	2.1	35.0	18	0.14	48	17.5	19	0.07	47	✓		2KJ3730 - ■■■■■■ - ■■ B1
60	2.7	46.7	22	0.20	55	23.3	24	0.11	52	✓		2KJ3730 - ■■■■■■ - ■■ C1
50	3.2	56.0	21	0.21	58	28.0	27	0.14	56	✓		2KJ3730 - ■■■■■■ - ■■ D1
40	3.8	70.0	21	0.24	63	35.0	28	0.17	61	✓		2KJ3730 - ■■■■■■ - ■■ E1
30	4.6	93.3	20	0.29	68	46.7	28	0.20	67	✓		2KJ3730 - ■■■■■■ - ■■ F1
25	5.2	112.0	20	0.33	72	56.0	27	0.23	70	✓		2KJ3730 - ■■■■■■ - ■■ G1
20	7.4	140.0	21	0.40	77	70.0	27	0.26	75	✓		2KJ3730 - ■■■■■■ - ■■ H1
15	9.2	186.7	20	0.48	81	93.3	27	0.33	80	✓		2KJ3730 - ■■■■■■ - ■■ J1
10	14.0	280.0	20	0.68	86	140.0	27	0.47	85	✓		2KJ3730 - ■■■■■■ - ■■ K1
7	19.0	400.0	19	0.89	89	200.0	26	0.62	88	✓		2KJ3730 - ■■■■■■ - ■■ L1
5	25.0	560.0	19	1.22	91	280.0	25	0.81	91	✓		2KJ3730 - ■■■■■■ - ■■ M1
<b>S.19</b>												
80	3.5	35.0	33	0.22	55	17.5	35	0.12	54	✓		2KJ3731 - ■■■■■■ - ■■ B1
60	3.5	46.7	33	0.26	61	23.3	44	0.18	59	✓		2KJ3731 - ■■■■■■ - ■■ C1
50	4.0	56.0	33	0.30	64	28.0	44	0.20	63	✓	✓	2KJ3731 - ■■■■■■ - ■■ D1
40	4.5	70.0	31	0.33	68	35.0	43	0.24	67	✓	✓	2KJ3731 - ■■■■■■ - ■■ E1
30	5.5	93.3	31	0.42	73	46.7	41	0.28	72	✓	✓	2KJ3731 - ■■■■■■ - ■■ F1
25	6.5	112.0	31	0.48	76	56.0	41	0.32	75	✓	✓	2KJ3731 - ■■■■■■ - ■■ G1
20	9.5	140.0	31	0.56	81	70.0	41	0.38	80	✓	✓	2KJ3731 - ■■■■■■ - ■■ H1
15	11.0	186.7	30	0.70	84	93.3	41	0.48	84	✓	✓	2KJ3731 - ■■■■■■ - ■■ J1
10	17.0	280.0	30	1.00	88	140.0	40	0.67	88	✓	✓	2KJ3731 - ■■■■■■ - ■■ K1
7	17.0	400.0	29	1.33	91	200.0	39	0.91	90	✓	✓	2KJ3731 - ■■■■■■ - ■■ L1
5	23.0	560.0	28	1.78	92	280.0	37	1.18	92	✓	✓	2KJ3731 - ■■■■■■ - ■■ M1
<b>S.29</b>												
100	2.0	28.0	57	0.33	50	14.0	72	0.22	49	✓		2KJ3732 - ■■■■■■ - ■■ A1
80	2.5	35.0	57	0.39	54	17.5	80	0.27	54	✓	✓	2KJ3732 - ■■■■■■ - ■■ B1
60	3.0	46.7	57	0.46	60	23.3	78	0.32	59	✓	✓	2KJ3732 - ■■■■■■ - ■■ C1
50	3.5	56.0	55	0.50	64	28.0	75	0.35	63	✓	✓	2KJ3732 - ■■■■■■ - ■■ D1
40	4.5	70.0	55	0.59	68	35.0	74	0.40	68	✓	✓	2KJ3732 - ■■■■■■ - ■■ E1
30	5.0	93.3	53	0.71	73	46.7	73	0.49	73	✓	✓	2KJ3732 - ■■■■■■ - ■■ F1
25	6.0	112.0	53	0.82	76	56.0	73	0.56	76	✓	✓	2KJ3732 - ■■■■■■ - ■■ G1
20	8.5	140.0	53	0.96	81	70.0	73	0.67	80	✓	✓	2KJ3732 - ■■■■■■ - ■■ H1
15	10.0	186.7	53	1.23	84	93.3	72	0.84	84	✓	✓	2KJ3732 - ■■■■■■ - ■■ J1
10	15.0	280.0	53	1.77	88	140.0	72	1.20	88	✓	✓	2KJ3732 - ■■■■■■ - ■■ K1
7	15.0	400.0	53	2.44	91	200.0	71	1.63	91	✓	✓	2KJ3732 - ■■■■■■ - ■■ L1
5	21.0	560.0	51	3.22	93	280.0	69	2.18	93	✓	✓	2KJ3732 - ■■■■■■ - ■■ M1

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## SIMOGEAR geared motors

Worm geared motors

## Transmission ratios and torques

## Selection and ordering data

i	Lead angle of the worm $\gamma_m$	$n_{mot} = 900 \text{ rpm}$				$n_{mot} = 500 \text{ rpm}$				Motor frame size		Article No.
		$n_2$	$T_{2N}$	$P_{mot}$	$\eta$	$n_2$	$T_{2N}$	$P_{mot}$	$\eta$	63	71	
		rpm	Nm	kW	%	rpm	Nm	kW	%			
<b>S.09</b>												
80	2.1	11.3	19	0.05	44	6.3	20	0.03	40	✓		2KJ3730 - ■■■■■■ - ■■ B1
60	2.7	15.0	24	0.08	50	8.3	24	0.05	45	✓		2KJ3730 - ■■■■■■ - ■■ C1
50	3.2	18.0	27	0.10	53	10.0	28	0.06	49	✓		2KJ3730 - ■■■■■■ - ■■ D1
40	3.8	22.5	31	0.13	58	12.5	31	0.08	54	✓		2KJ3730 - ■■■■■■ - ■■ E1
30	4.6	30.0	32	0.16	64	16.7	33	0.10	60	✓		2KJ3730 - ■■■■■■ - ■■ F1
25	5.2	36.0	32	0.18	68	20.0	32	0.10	64	✓		2KJ3730 - ■■■■■■ - ■■ G1
20	7.4	45.0	31	0.20	73	25.0	31	0.12	70	✓		2KJ3730 - ■■■■■■ - ■■ H1
15	9.2	60.0	33	0.27	78	33.3	33	0.15	75	✓		2KJ3730 - ■■■■■■ - ■■ J1
10	14.0	90.0	32	0.36	84	50.0	33	0.21	81	✓		2KJ3730 - ■■■■■■ - ■■ K1
7	19.0	128.6	31	0.48	87	71.4	33	0.29	85	✓		2KJ3730 - ■■■■■■ - ■■ L1
5	25.0	180.0	30	0.63	90	100.0	33	0.39	88	✓		2KJ3730 - ■■■■■■ - ■■ M1
<b>S.19</b>												
80	3.5	11.3	35	0.08	51	6.3	36	0.05	47	✓		2KJ3731 - ■■■■■■ - ■■ B1
60	3.5	15.0	49	0.14	57	8.3	51	0.09	52	✓		2KJ3731 - ■■■■■■ - ■■ C1
50	4.0	18.0	51	0.16	61	10.0	59	0.11	56	✓	✓	2KJ3731 - ■■■■■■ - ■■ D1
40	4.5	22.5	51	0.18	65	12.5	64	0.14	61	✓	✓	2KJ3731 - ■■■■■■ - ■■ E1
30	5.5	30.0	50	0.22	70	16.7	63	0.17	66	✓	✓	2KJ3731 - ■■■■■■ - ■■ F1
25	6.5	36.0	49	0.25	74	20.0	62	0.19	70	✓	✓	2KJ3731 - ■■■■■■ - ■■ G1
20	9.5	45.0	50	0.30	78	25.0	62	0.22	75	✓	✓	2KJ3731 - ■■■■■■ - ■■ H1
15	11.0	60.0	50	0.38	82	33.3	62	0.27	79	✓	✓	2KJ3731 - ■■■■■■ - ■■ J1
10	17.0	90.0	49	0.53	87	50.0	61	0.38	85	✓	✓	2KJ3731 - ■■■■■■ - ■■ K1
7	17.0	128.6	47	0.70	90	71.4	58	0.49	88	✓	✓	2KJ3731 - ■■■■■■ - ■■ L1
5	23.0	180.0	44	0.91	91	100.0	56	0.65	90	✓	✓	2KJ3731 - ■■■■■■ - ■■ M1
<b>S.29</b>												
100	2.0	9.0	72	0.14	47	5.0	72	0.09	43	✓		2KJ3732 - ■■■■■■ - ■■ A1
80	2.5	11.3	92	0.21	52	6.3	93	0.13	48	✓	✓	2KJ3732 - ■■■■■■ - ■■ B1
60	3.0	15.0	93	0.26	57	8.3	116	0.19	53	✓	✓	2KJ3732 - ■■■■■■ - ■■ C1
50	3.5	18.0	90	0.28	61	10.0	115	0.21	57	✓	✓	2KJ3732 - ■■■■■■ - ■■ D1
40	4.5	22.5	90	0.32	66	12.5	113	0.24	62	✓	✓	2KJ3732 - ■■■■■■ - ■■ E1
30	5.0	30.0	86	0.38	72	16.7	110	0.28	68	✓	✓	2KJ3732 - ■■■■■■ - ■■ F1
25	6.0	36.0	85	0.43	75	20.0	109	0.32	71	✓	✓	2KJ3732 - ■■■■■■ - ■■ G1
20	8.5	45.0	85	0.51	79	25.0	109	0.38	76	✓	✓	2KJ3732 - ■■■■■■ - ■■ H1
15	10.0	60.0	85	0.64	83	33.3	109	0.47	81	✓	✓	2KJ3732 - ■■■■■■ - ■■ J1
10	15.0	90.0	85	0.92	87	50.0	109	0.66	86	✓	✓	2KJ3732 - ■■■■■■ - ■■ K1
7	15.0	128.6	84	1.26	90	71.4	107	0.90	89	✓	✓	2KJ3732 - ■■■■■■ - ■■ L1
5	21.0	180.0	82	1.68	92	100.0	105	1.21	91	✓	✓	2KJ3732 - ■■■■■■ - ■■ M1

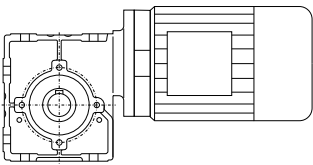
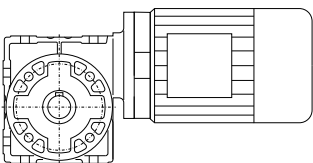
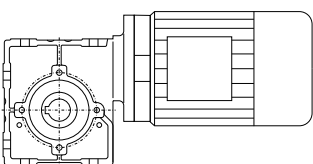
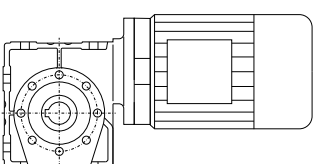
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**Permissible radial force  $F_{Rperm}$** 

Gearbox type	d mm	l mm	y mm	z mm	a kNmm	$F_{Rperm}$ in N with $x = l/2$ for output speeds $n_2$ in rpm							
						≤ 16	≤ 25	≤ 40	≤ 63	≤ 100	≤ 160	≤ 250	≤ 400
S09	16	40	83.5	63.5	36 000	1 800	1 800	1 800	1 800	1 800	1 690	1 400	1 120
SF09			106.0	86.0		1 800	1 800	1 800	1 800	1 620	1 330	1 100	880
S19	20	40	98.0	78.0	76 000	3 800	3 800	3 800	3 200	2 650	2 180	1 780	1 420
SF19			128.0	108.0		3 200	3 120	2 920	2 450	2 030	1 670	1 360	1 090
S29	20	40	120.5	100.5	72 000	3 600	3 600	3 600	3 600	3 600	3 290	2 680	2 120
SF29			153.5	133.5		3 600	3 600	3 600	3 600	3 150	2 580	2 110	1 660

**Dimensions**
**Dimensional drawing overview**

 Information about dimensional drawings can be found in chapter [Introduction on page 1/21](#).

Design	Frame size	Dimensional drawing on page
<b>Foot-mounted design</b>		
	S.09	7/10
	S.19	7/14
	S.29	7/18
<b>Flange-mounted design</b>		
	S.F09	7/11
	S.F19	7/15
	S.F29	7/19
<b>Housing flange design</b>		
	S.Z09	7/12
	S.Z19	7/16
	S.Z29	7/20
<b>Shaft-mounted design</b>		
	SAD09	7/13
	SAD19	7/17
	SAD29	7/21

**Additional versions and options**

 Electro\_Motor.ir  
 Protection cover for hollow shafts 7/22

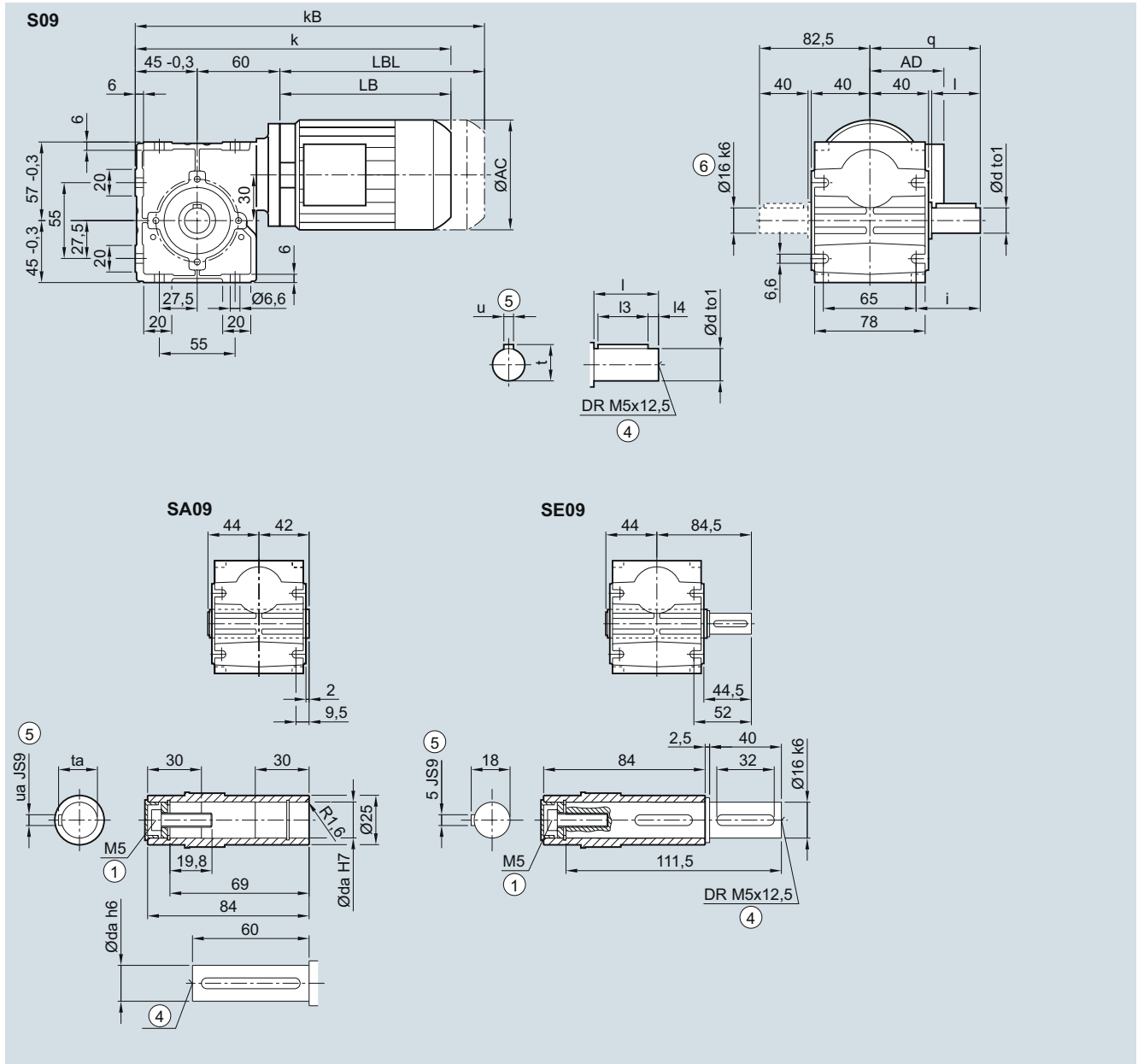
## SIMOGEAR geared motors

### Worm geared motors

#### Dimensions

#### S.09 gearbox in a foot-mounted design

S030, SA030, SE030



Solid shaft	d	to1	l	l3	l4	u	t	q	i	Hollow shaft	da	ua	ta
	14	k6	30	22	4	5	16	72.5	40		14	5	16.3
	16	k6	40	32	4	5	18	82.5	50		16	5	18.3

Motor	AC	AD <sup>1)</sup>	k	kB	LB	LBL
LAI 63	118	101	284.5	335.5	179.5	230.5

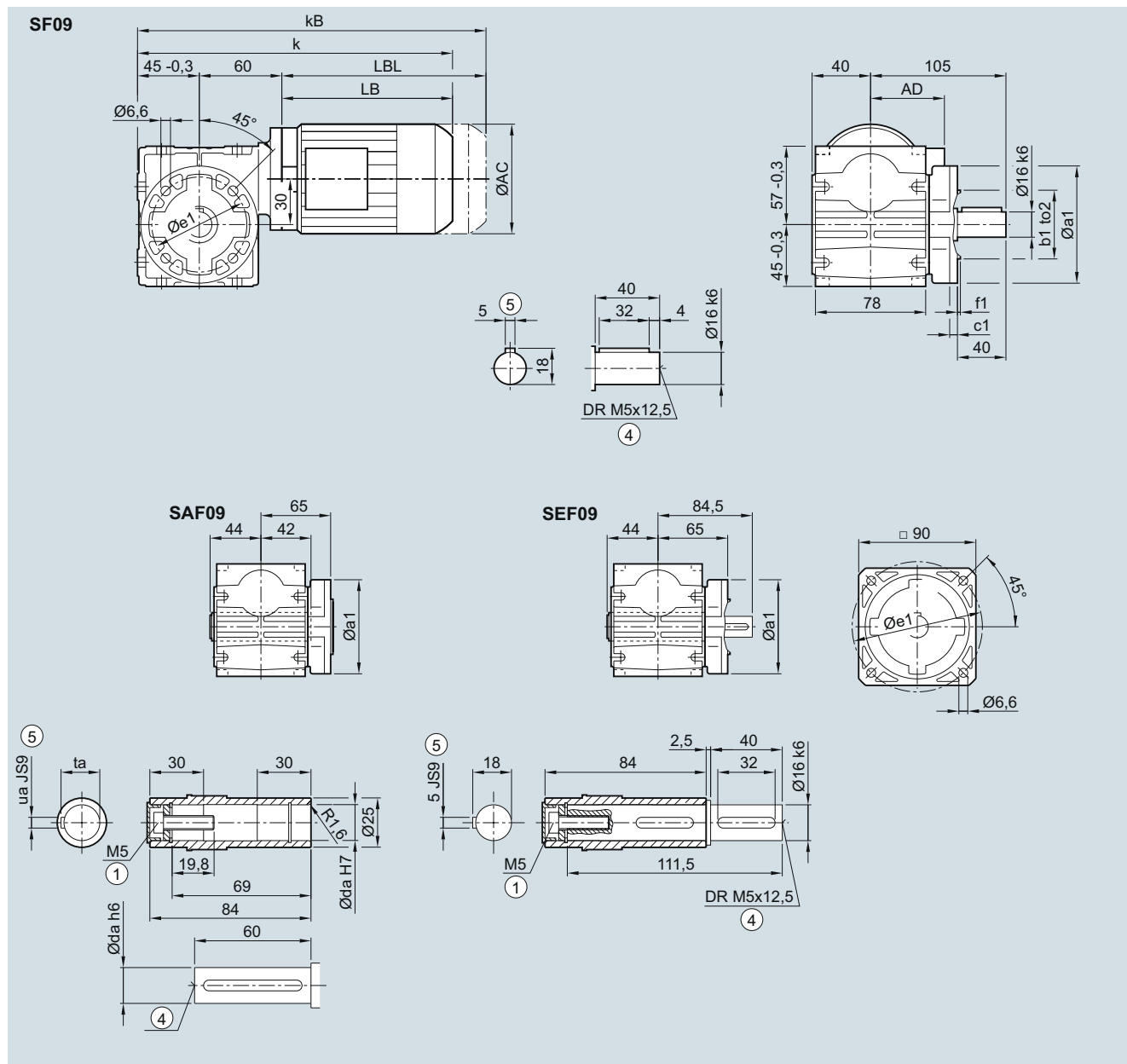
① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions, see page 8/48.

⑥ Solid shaft with 2nd shaft extension only d16

**S.F09 gearbox in a flange-mounted design**
**SF030, SAF030, SEF030**


Hollow shaft	da	ua	ta
	14	5	16.3
	16	5	18.3

Flange	a1	e1	b1	to2	c1	f1
	80	65	50	j6	7	2.5
	120	100	80	j6	7	3.0

Motor	AC	AD <sup>1)</sup>	k	kB	LB	LBL
LAI 63	118	101	284.5	335.5	179.5	230.5

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions, see page 8/48.

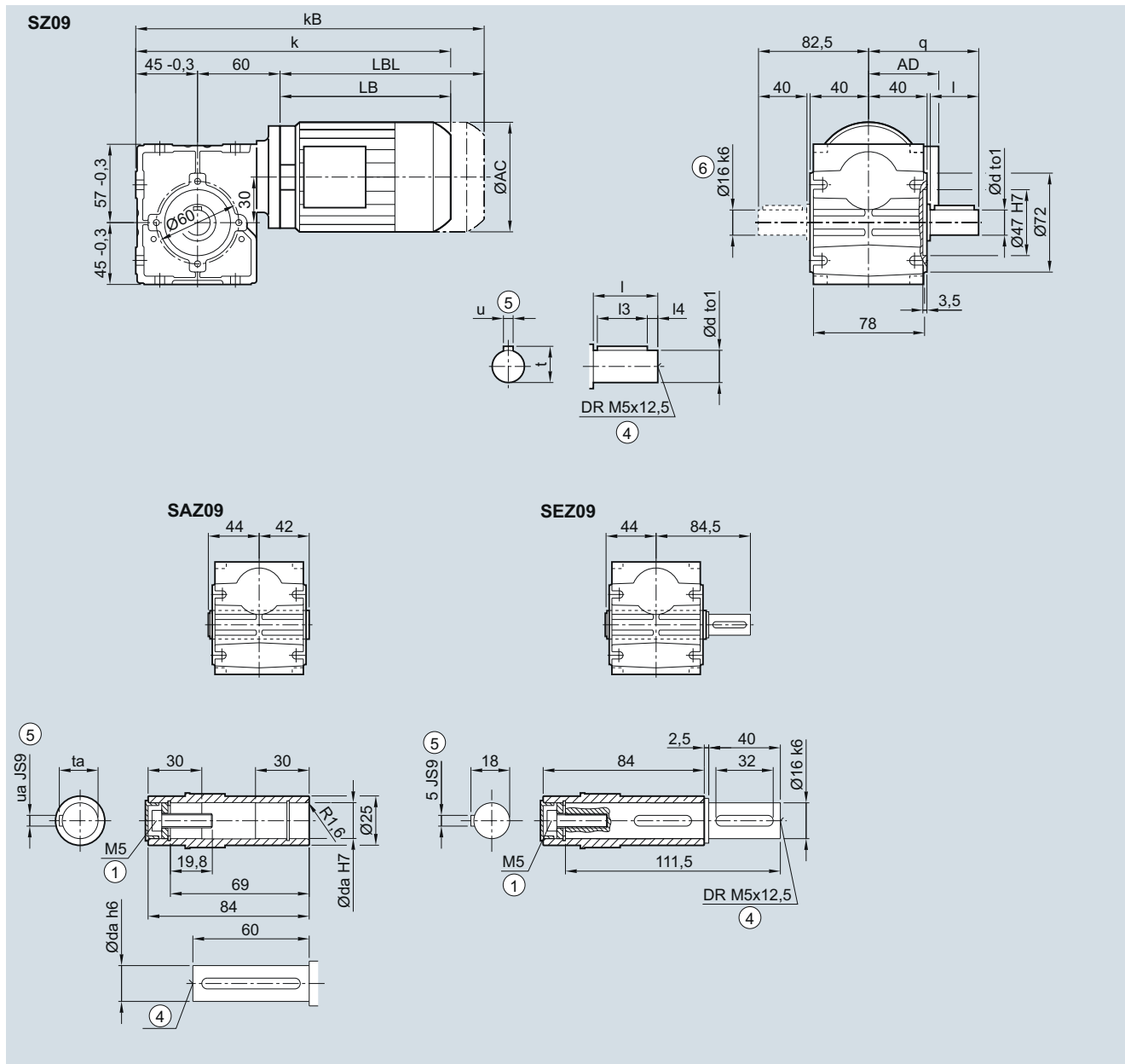
# SIMOGEAR geared motors

Worm geared motors

## Dimensions

### S.Z09 gearbox in a housing flange design

SZ030, SAZ030, SEZ030



Solid shaft	d	to1	l	l3	l4	u	t	q	Hollow shaft	da	ua	ta
	14	k6	30	22	4	5	16	72.5		14	5	16.3
	16	k6	40	32	4	5	18	82.5		16	5	18.3
Motor	AC	AD <sup>1)</sup>	k		kB	LB	LBL					
LAI 63	118	101	284.5		335.5	179.5	230.5					

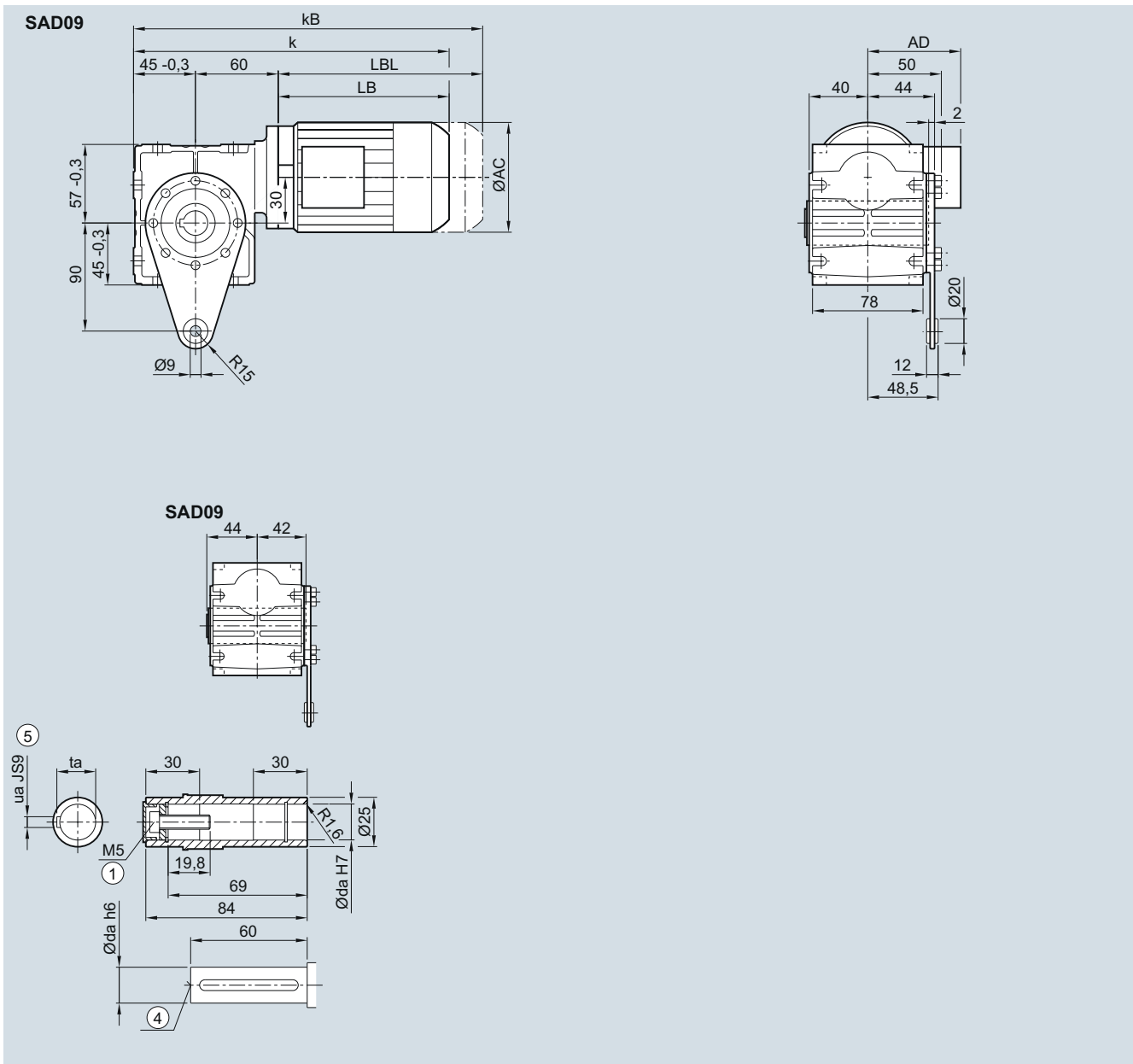
① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions, see page 8/48.

⑥ Solid shaft with 2nd shaft extension only d16

**SAD09 gearbox in a shaft-mounted design**
**SAD030**


Hollow shaft	da	ua	ta			
	14	5	16.3			
	16	5	18.8			
Motor	AC	AD <sup>1)</sup>	k	KB	LB	LBL
LAI 63	118	101	284.5	335.5	179.5	230.5

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions, see page 8/48.



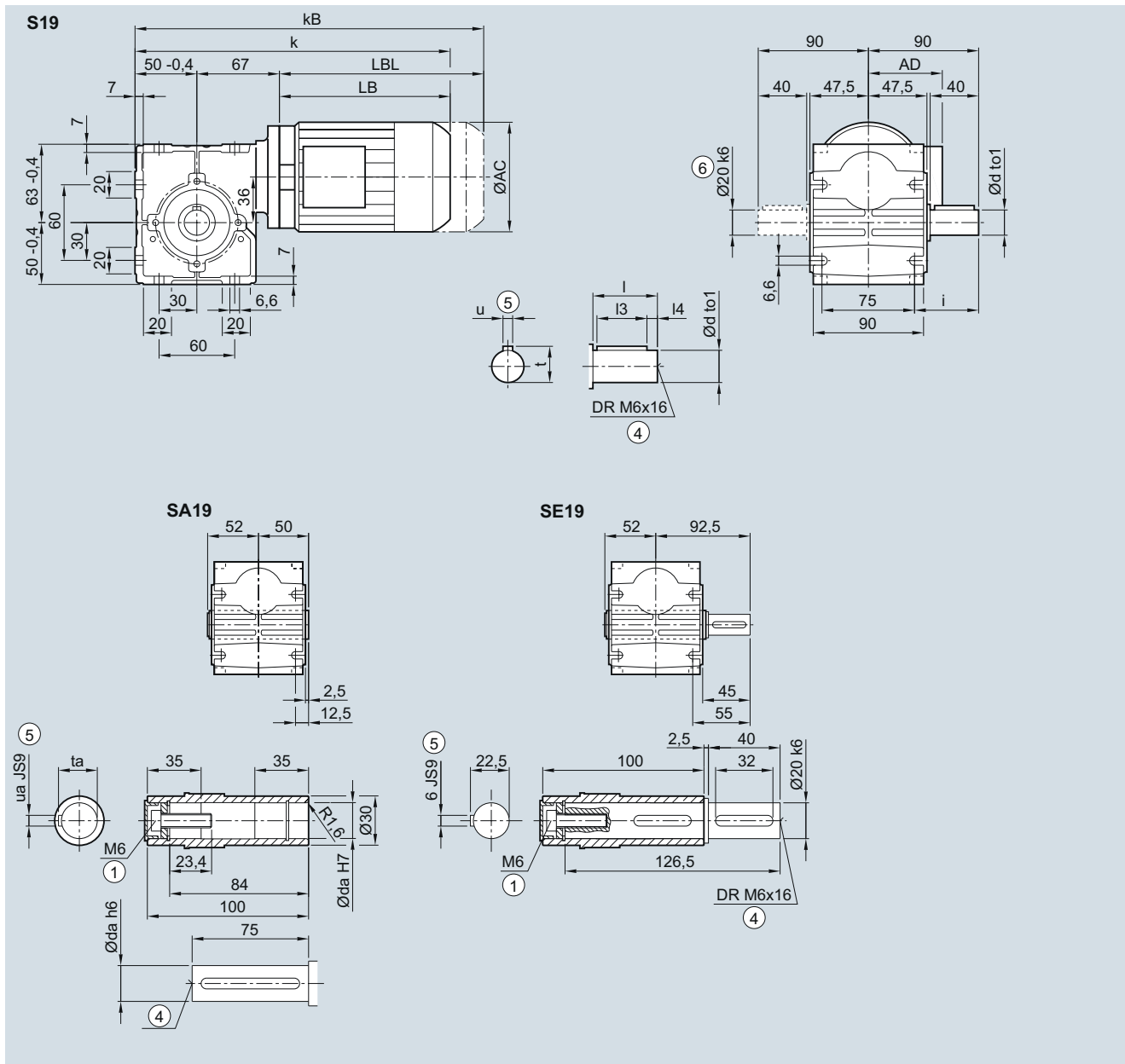
# SIMOGEAR geared motors

Worm geared motors

## Dimensions

### S.19 gearbox in a foot-mounted design

S030, SA030, SE030



Solid shaft	d	to1	l	l3	l4	i	u	t	Hollow shaft	da	ua	ta
	18	k6	40	32	4	52.5	6	20.5		18	6	20.8
20	k6	40	32	4	52.5	6	22.5	20	6	22.8		
Motor	AC	AD <sup>1)</sup>	k				LB	L3		LBL		
LAI 63	118	101	296.5				347.5	179.5		230.5		
LAI 71	139	111	327.0				378.5	210		261.5		

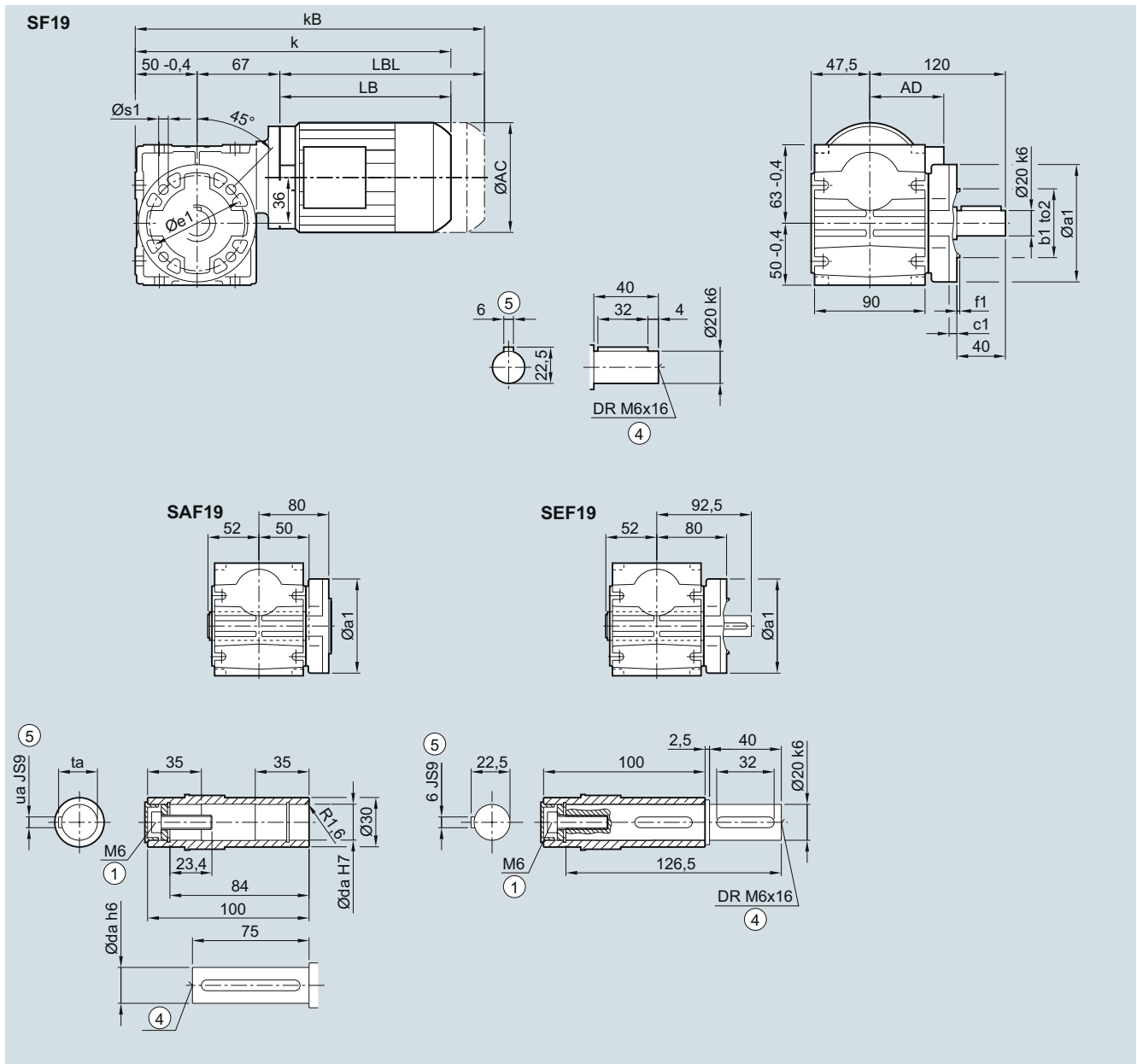
① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions, see page 8/48.

⑥ Solid shaft with 2nd shaft extension only d20

**S.F19 gearbox in a flange-mounted design**
**SF030, SAF030, SEF030**


Hollow shaft	da	ua	ta				
	18	6	20.8				
	20	6	22.8				
Flange	a1	e1	b1	to2	c1	f1	s1
	110	87	60	H8	8	4.0	9
	120	100	80	j6	8	3.0	6.6
Motor	AC	AD <sup>1)</sup>	kB	LB	LBL		
LAI 63	118	101	296.5	347.5	179.5	230.5	
LAI 71	139	111	327.0	378.5	210	261.5	

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions, see page 8/48.

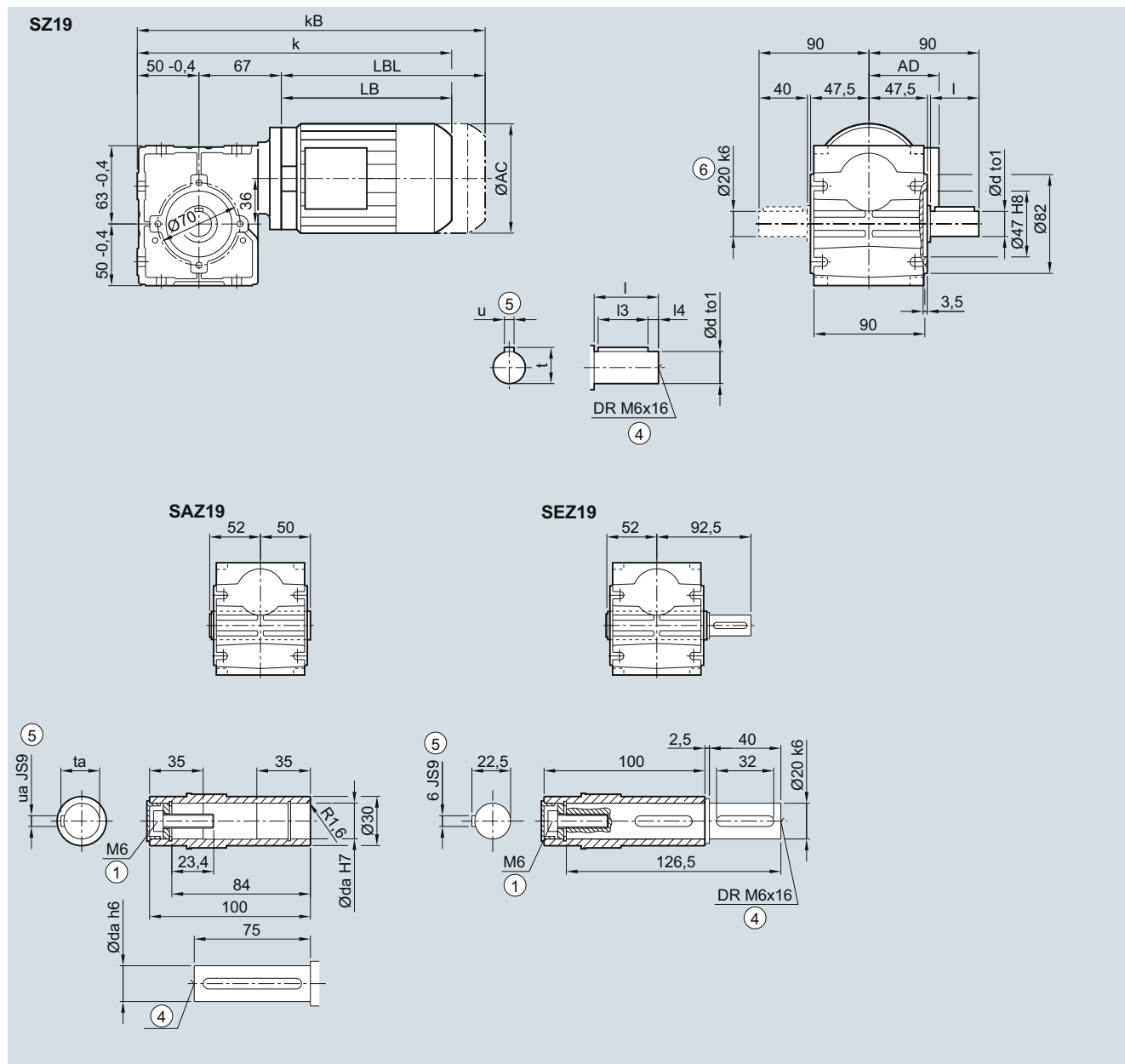
# SIMOGEAR geared motors

Worm geared motors

## Dimensions

### S.Z19 gearbox in a housing flange design

SZ030, SAZ030, SEZ030



Solid shaft	d	to1	l	l3	l4	u	t	Hollow shaft	da	ua	ta
	18	k6	40	31	4	6	20.5		18	6	20.8
	20	k6	40	32	4	6	22.5		20	6	22.8
Motor	AC	AD <sup>1)</sup>	k	LB	LBL						
LAI 63	118	101	296.5	347.5	179.5						230.5
LAI 71	139	111	327.0	378.5	210						261.5

① ISO 4014

④ DIN 332

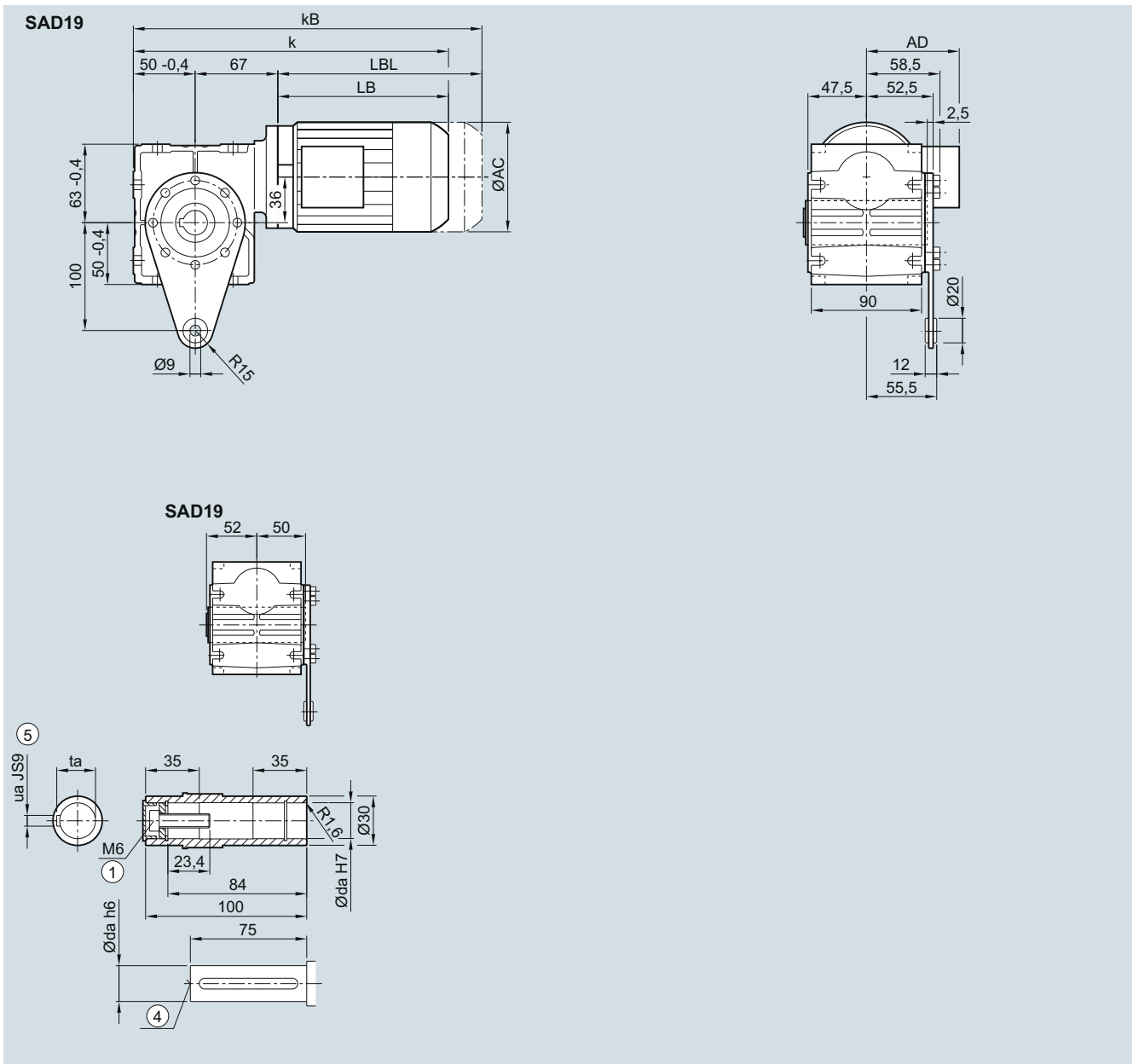
⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions, see page 8/48.

⑥ Solid shaft with 2nd shaft extension only d20

**SAD19 gearbox in a shaft-mounted design**

**SAD030**



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Hollow shaft	da	ua	ta	
	18	6	20.8	
	20	6	22.8	
Motor	AC	AD <sup>1)</sup>	LB	LBL
LAI 63	118	101	296.5	230.5
LAI 71	139	111	327.0	261.5

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① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions, see page 8/48.

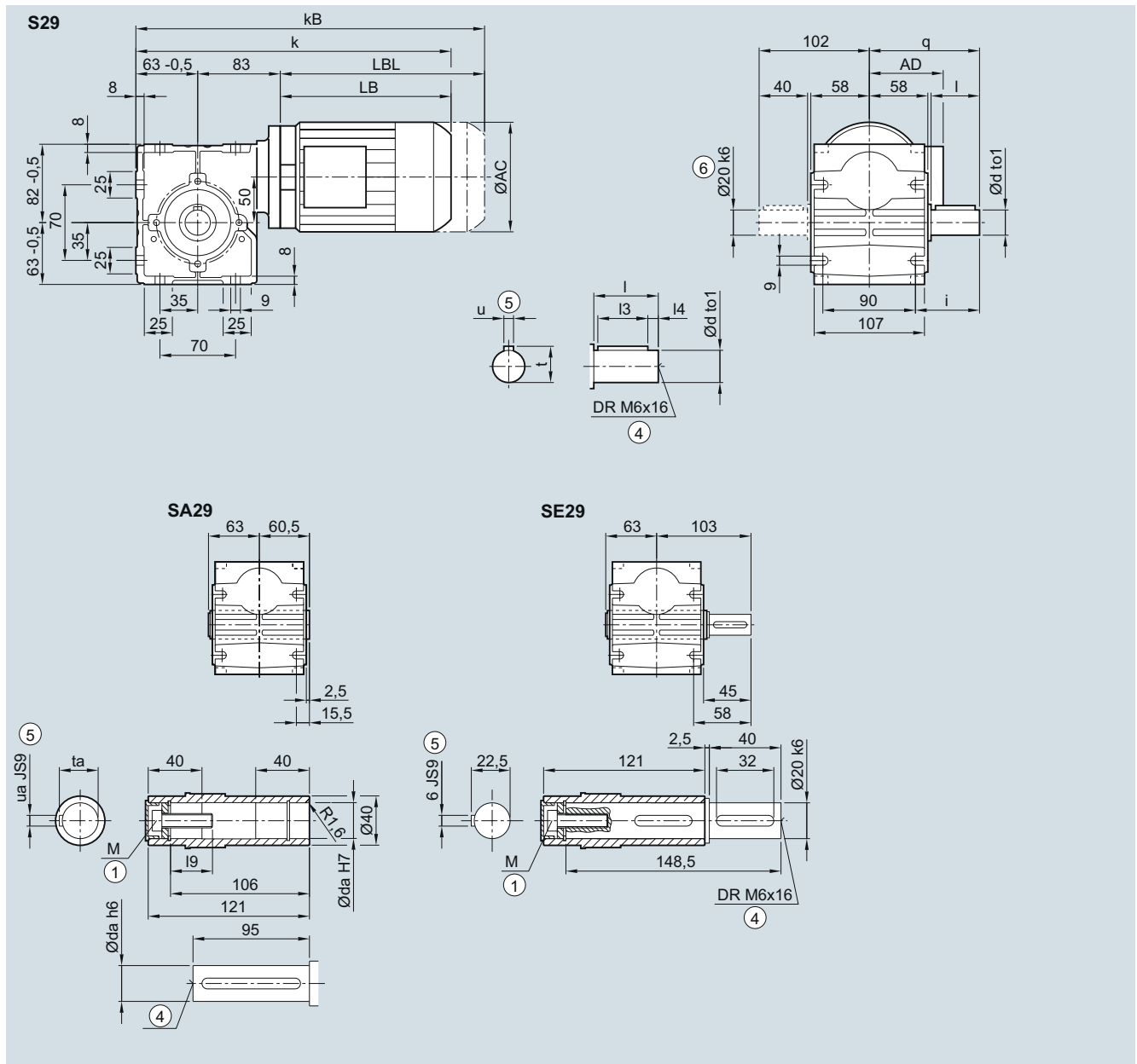
# SIMOGEAR geared motors

Worm geared motors

## Dimensions

### S.29 gearbox in a foot-mounted design

S030, SA030, SE030



Solid shaft	d	to1	l	l3	l4	u	t	q	i	Hollow shaft				
										da	ua	ta	l9	M
	20	k6	40	32	4	6	22.5	102	57	20	6	22.8	23.4	M6
	25	k6	50	40	5	8	28.0	112	67	25	8	28.3	32.6	M10
Motor	AC	AD <sup>1)</sup>		kB	LB	LBL								
LAI 63	118	101		325.5	179.5	230.5								
LAI 71	139	111		356.5	210.5	261.5								

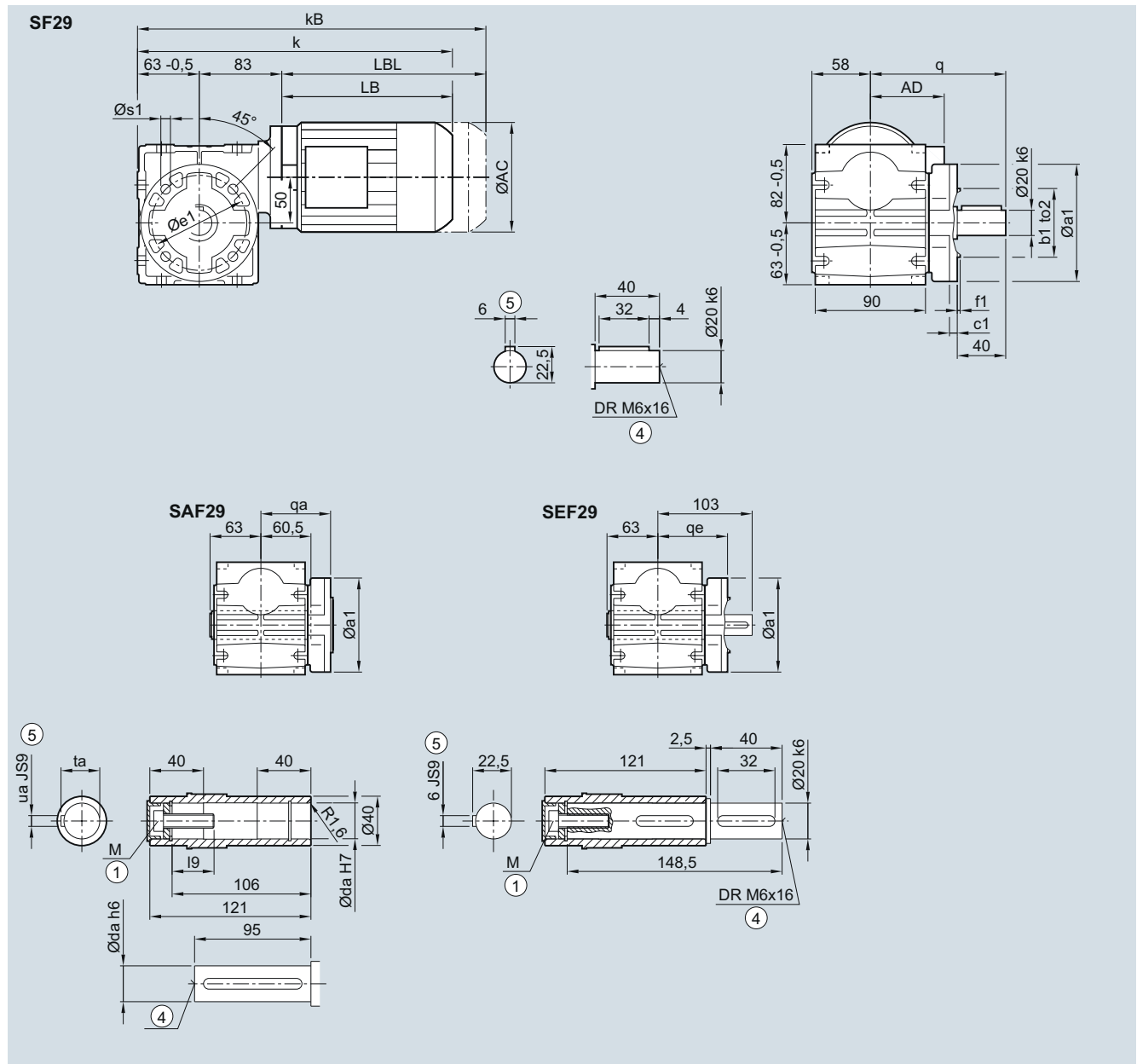
① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions, see page 8/48.

⑥ Solid shaft with 2nd shaft extension only d20

**S.F29 gearbox in a flange-mounted design**
**SF030, SAF030, SEF030**


Hollow shaft	da	ua	ta	I9	M				
	20	6	22.8	23.4	M6				
	25	8	28.3	32.6	M10				
Flange	a1	e1	b1	to2	c1	f1	s1	q	qa / qe
	120	100	80	j6	8	3.0	6.6	120	80
	160	130	110	j6	8	3.5	9.0	135	85
Motor	AC	AD <sup>1)</sup>	k	kB	LB	LBL			
LAI 63	118	101	325.5	376.5	179.5	230.5			
LAI 71	139	111	356.5	407.5	210.5	261.5			

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions, see page 8/48.

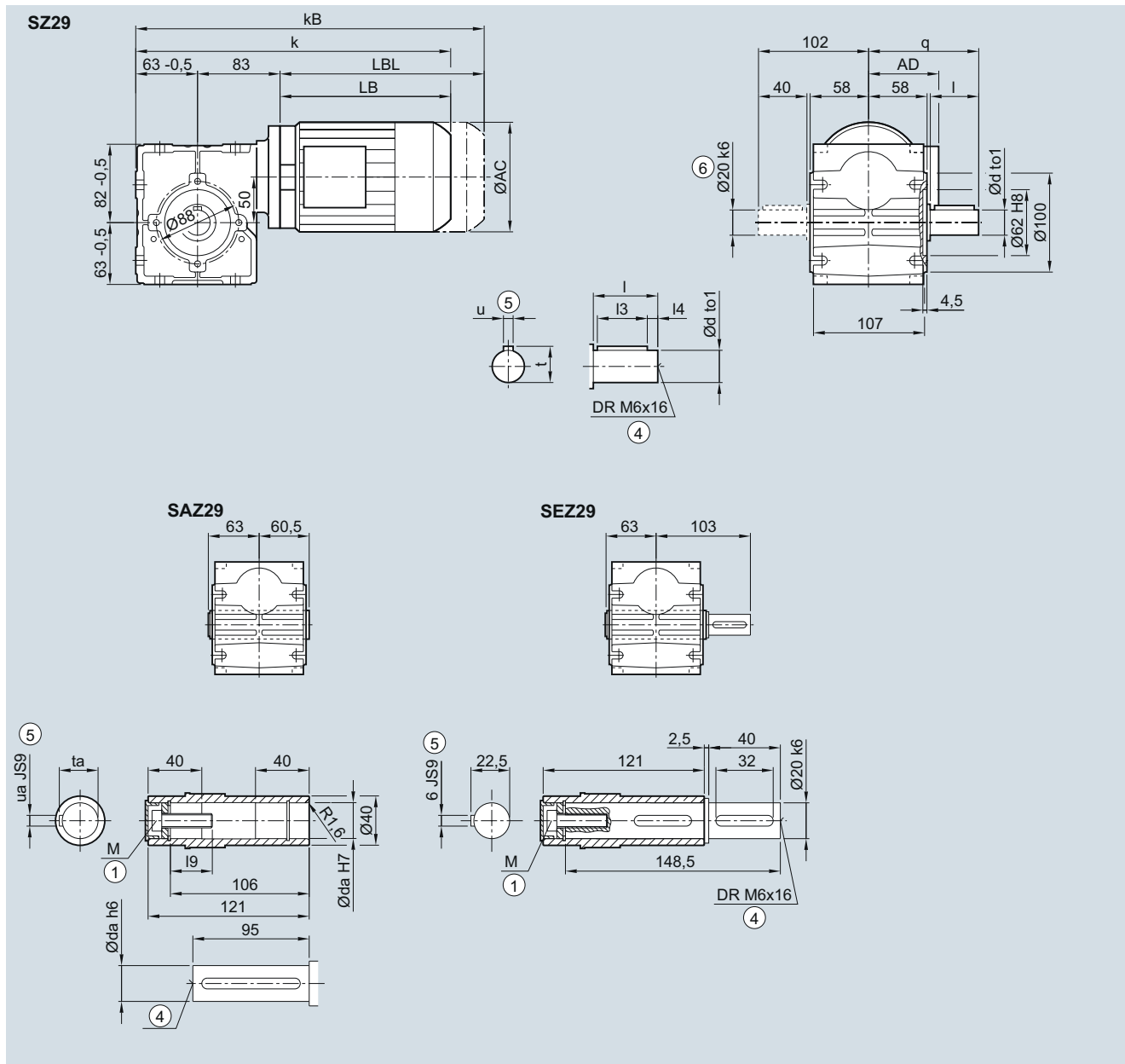
# SIMOGEAR geared motors

Worm geared motors

## Dimensions

### S.Z29 gearbox in a housing flange design

SZ030, SAZ030, SEZ030



Solid shaft	d	to1	l	l3	l4	u	t	q	Hollow shaft	da	ua	ta	l9	M
	20	k6	40	32	4	6	22.5	102		20	6	22.8	23.4	M6
	25	k6	50	40	5	8	28.0	112		25	8	28.3	32.6	M10
Motor	AC	AD <sup>1)</sup>		k	k <sub>B</sub>	LB	LBL							
LAI 63	118	101		325.5	376.5	179.5	230.5							
LAI 71	139	111		356.5	407.5	210.5	261.5							

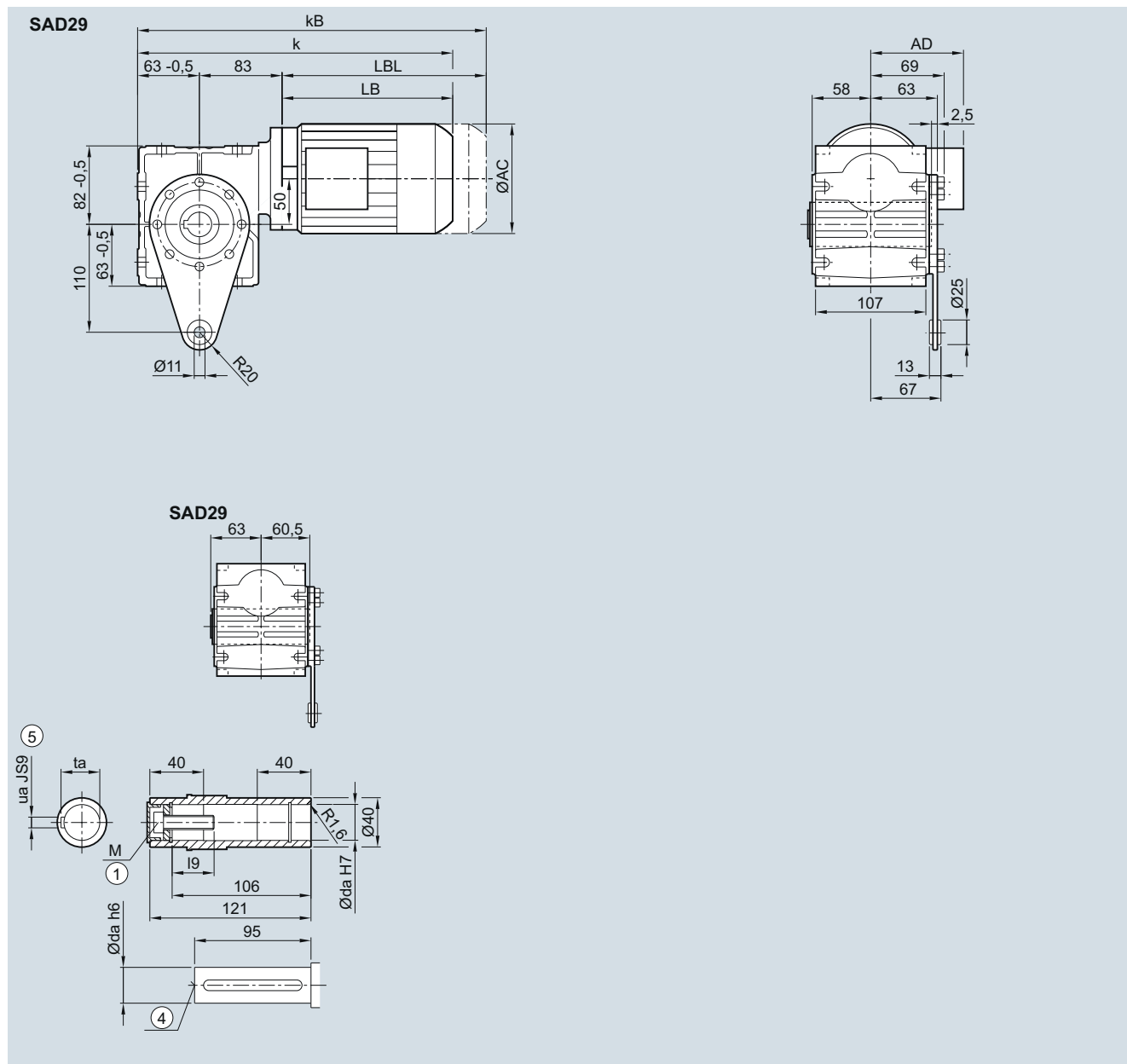
① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

<sup>1)</sup> AD depends on the motor options, for other dimensions, see page 8/48.

⑥ Solid shaft with 2nd shaft extension only d20

**SAD29 gearbox in a shaft-mounted design**
**SAD030**


Hollow shaft	da	ua	ta	I9	M	
	20	6	22.8	23.4	M6	
	25	8	28.3	32.6	M10	
Motor	AC	AD <sup>1)</sup>	k	kB	LB	LBL
LAI 63	118	101	325.5	376.5	179.5	230.5
LAI 71	139	111	356.5	407.5	210.5	261.5

① ISO 4014

④ DIN 332

⑤ Feather key/keyway DIN 6885-1

1) AD depends on the motor options, for other dimensions, see page 8/48.

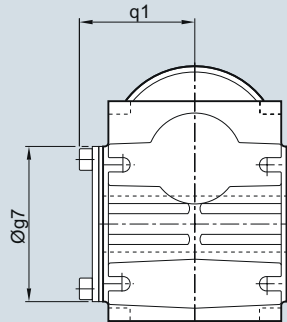


**SIMOGEAR geared motors**

Worm geared motors

**Dimensions****Protection cover for hollow shaft**

SA, SAZ, SAF, SE, SEZ



Gearbox type	S.09	S.19	S.29
<b>Protection cover</b>			
g7	72	82	100
q1	51	59.5	70

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## Motors



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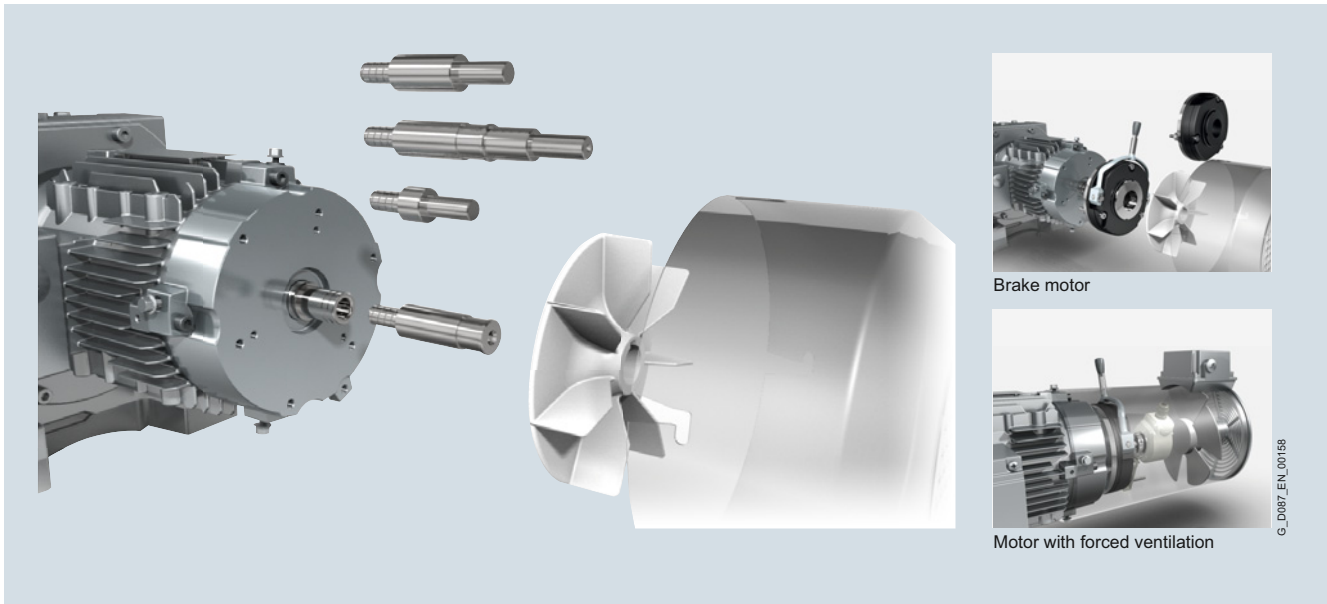
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## Motors

### Orientation

#### MODULOG modular system

#### Overview



The MODULOG modular system has a range of benefits for machine and plant designers.

The name MODULOG stands for a clear and transparent **modular** motor system with an optimum **logistical** structure. It enables users to assemble powerful, durable, and extremely easy-to-service motors from just a few standard components to create a customized motor system for most applications.

At the heart of the system is a basic motor dimensioned for international line supply conditions with an individually configurable MODULOG modular system at the non-drive end (NDE) of the motor.

Functional expansions, such as brakes, backstops, rotary encoders, separately driven fan, canopy, etc., can be combined almost arbitrarily as "additional functional components".

**Overview**

The motors comply with all applicable international (IEC), European (EN, CENELEC), and national (DIN/VDE) standards:

Motor type	Three-phase induction motors with squirrel cage rotor
Connection types	You can establish the connection type that can be used from the product number suffixes in the selection and ordering data for the required motor.
Number of poles	2, 4, 6, 8
Rated speed (synchronous speed)	750 ... 3 600 rpm
Rated power (50 Hz)	0.09 ... 55 kW (4-pole)
Rated torque	0.85 ... 355 Nm (4-pole)
Stator winding insulation	Temperature class 155 (F) Utilization according to temperature class 130 (B) Optionally, temperature class 180 (H)
Degree of protection acc. to IEC 60034-5 (EN 60034-5)	IP55 Optional IP65, IP56
Cooling acc. to IEC 60034-6 (EN 60034-6)	Self-cooled (IC 411) Optionally, force ventilated (IC 416)
Coolant temperature	-20 ... +40 °C
Installation altitude	Up to 1 000 m above sea level
Rated voltage	200 ... 690 V You can establish the voltage that can be used from the selection and ordering data for the required motor.
Rated frequency	50 Hz, 60 Hz, 87 Hz
Vibration severity acc. to IEC 60034-14 (EN 60034-14)	Vibration severity A
Balancing type	Half-key balancing
Sound pressure level, sound power level acc. to IEC 60034-9 (EN 60034-9)	You can establish the corresponding sound pressure level and sound power level from the selection and ordering data for the required motor.
Weight	You can establish the corresponding weight from the selection and ordering data for the required motor.
Rating plates	See "Rating plate" in chapter "General options"
Connection and terminal boxes	See "Connection, circuit, and terminal boxes" in chapter "Motor options"

## Motors

### Orientation

#### Technical specifications

#### Overview

The geared motors comply with all of the applicable IEC/EN standards.

IEC	EN	DIN/VDE	Title
IEC 60027-4	EN 60027-4	EN 60027-4	Formula symbols for electrical engineering Part 4: Rotating electrical machines
IEC 60034-1	EN 60034-1	EN 60034-1 (VDE 0530-1)	Rotating electrical machines: - Rating and performance
IEC 60034-2-1	EN 60034-2-1	EN 60034-2-1 (VDE 0530-2-1)	- Standard technique to determine the losses and efficiency based on testing (with the exception of machines for track and road vehicles) (IEC 60034-2-1:2007); German Edition EN 60034-2-1:2007
IEC 60034-5	EN 60034-5	EN 60034-5 (VDE 0530-5)	- Degrees of protection provided by integral design of rotating electrical machines (IP code) - Classification
IEC 60034-6	EN 60034-6	EN 60034-6 (VDE 0530-6)	- Classification of cooling methods (IC Code)
IEC 60034-7	EN 60034-7	EN 60034-7 (VDE 0530-7)	- Classification of types of construction, mounting arrangements and terminal box position (IM code)
IEC 60034-8	EN 60034-8	EN 60034-8 (VDE 0530-8)	- Terminal markings and direction of rotation
IEC 60034-9	EN 60034-9	EN 60034-9 (VDE 0530-9)	- Noise limits
IEC 60034-11	EN 60034-11	EN 60034-11 (VDE 0530-11)	- Built-in thermal protection
IEC 60034-12	EN 60034-12	EN 60034-12 (VDE 0530-12)	- Starting behavior of three-phase squirrel cage induction motors, with the exception of pole-changing motors
IEC 60034-14	EN 60034-14	EN 60034-14 (VDE 0530-14)	- Mechanical vibration of certain machines with shaft heights 56 mm and higher
IEC 60034-30-1	EN 60034-30-1	EN 60034-30-1 (VDE 0530-30)	- International efficiency classes for rotating electrical machines (IE code)
-	-	DIN VDE 0530-17 (VDE 0530-17)	- Inverter-fed squirrel-cage induction motors – Application guide
IEC 60038	EN 60038	EN 60038 (VDE 0175-1)	IEC standard voltages
-	EN 50347	EN 50347	Three-phase induction motors for general applications with standardized dimensions and power ratings – frame sizes 56 up to 315 and flange sizes 65 up to 740
IEC 60085	EN 60085	EN 60085 (VDE 0301-1)	Electrical insulation, thermal evaluation + designation
IEC 60445	EN 60445	EN 60445 (VDE 0197)	Identification of equipment terminals, conductor terminations and conductors
IEC 60529	EN 60529	EN 60529 (VDE 0470-1)	Degrees of protection provided by the enclosure (IP code)
IEC 62444	EN 62444	EN 62444 (VDE 0619)	Cable glands for electrical installation
-	-	DIN 42925	Terminal box cable entries for three-phase squirrel-cage induction motors at rated voltages from 400 V to 690 V

#### Tolerances

According to EN 60034, the following tolerances are permitted:  
Motors which comply with EN 60034-1 must have a voltage tolerance of  $\pm 5\%$ /frequency tolerance of  $\pm 2\%$  (Zone A).  
If utilized, the admissible limit temperature of the temperature class may be exceeded by 10 K.

Description	Tolerance
Efficiency	$P_{\text{rated}} \leq 150 \text{ kW}$ : - 0.15 (1 - $\eta$ ) $P_{\text{rated}} > 150 \text{ kW}$ : - 0.1 (1 - $\eta$ )
Power factor	$\frac{-(1 - \cos \varphi)}{6}$ (minimum 0.02/maximum 0.07)

Description	Tolerance
Slip at full load and operating temperature	$\pm 20\%$ of the setpoint slip for $P_{\text{rated}} \geq 1 \text{ kW}$ $\pm 30\%$ of the setpoint slip for $P_{\text{rated}} < 1 \text{ kW}$
Starting torque	-15 % and +25 %
Breakdown torque	-10 % without upper limit
Starting current	+20 % without lower limit
Moment of inertia	$\pm 10\%$

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**Efficiency and power factor**

The efficiency  $\eta$  and power factor  $\cos \varphi$  for each rated power are listed in the selection tables in the individual sections of this catalog.

Partial-load power factor  $\cos \varphi$ 

4/4 of full load	1/4	1/2	3/4	5/4
0.92	0.70	0.86	0.90	0.92
0.91	0.65	0.85	0.89	0.91
0.90	0.63	0.83	0.88	0.90
0.89	0.61	0.80	0.86	0.89
0.88	0.57	0.78	0.85	0.88
0.87	0.53	0.76	0.84	0.87
0.86	0.51	0.75	0.83	0.86
0.85	0.49	0.73	0.81	0.86
0.84	0.47	0.71	0.80	0.85
0.83	0.45	0.69	0.79	0.84
0.82	0.43	0.67	0.77	0.83
0.81	0.41	0.66	0.76	0.82
0.80	0.40	0.65	0.75	0.81
0.79	0.38	0.63	0.74	0.80
0.78	0.36	0.61	0.72	0.80
0.77	0.34	0.59	0.71	0.79
0.76	0.32	0.58	0.70	0.78
0.75	0.30	0.56	0.69	0.78
0.74	0.29	0.55	0.68	0.77
0.73	0.28	0.54	0.67	0.77
0.72	0.27	0.52	0.63	0.76
0.71	0.26	0.50	0.62	0.76

For motors with Standard Efficiency (IE1), High Efficiency (IE2) and Premium Efficiency (IE3), the 3/4 load efficiency is also listed in the selection tables. The part-load values stated in the tables below are averages; precise values can be provided on request.

Partial-load efficiency  $\eta$  in %

4/4 of full load	1/4	1/2	3/4	5/4
97	93	96.0	97.0	96.5
96	92	95.0	96.0	95.5
95	90	93.5	95.0	94.5
94	89	92.5	94.0	93.5
93	88	91.5	93.0	92.5
92	87	91.0	92.0	91.5
91	86	90.0	91.0	90.0
90	85	89.0	90.0	89.0
89	84	88.0	89.0	88.0
88	80	87.0	88.0	87.0
87	79	86.0	87.0	86.0
86	78	85.0	86.0	85.0
85	76	84.0	85.0	83.5
84	74	83.0	84.0	82.5
83	72	82.0	83.0	81.5
82	70	81.0	82.0	80.5
81	68	80.0	81.0	79.5
80	66	79.0	80.0	78.5
79	64	77.0	79.5	77.5
78	62	75.5	78.5	76.5
77	60	74.0	77.5	75.0
76	58	73.0	76.0	74.0
75	56	72.0	75.0	73.0
74	55	71.0	74.0	72.0
73	54	70.0	73.0	71.0
72	53	68.0	72.0	70.0
71	52	67.0	71.0	69.0
70	51	66.0	70.0	68.0
69	50	65.0	69.0	67.0
68	49	64.0	67.5	66.0
67	48	62.0	66.5	65.0
66	47	61.0	65.0	64.0
65	46	60.0	64.0	63.0
64	45	59.0	63.0	62.0
63	44	57.0	62.0	61.0
62	43	56.0	60.5	60.5
61	42	55.0	59.5	59.5
60	41	54.0	58.5	58.5

**EMC measures**

SIMOGEAR geared motors are designed as components for installation in systems and machines. The manufacturer of the system or machine is responsible for complying with EMC Directive 2014/30/EU.

LA and LE motors, when correctly used in continuous operation connected to the line supply, fulfill basic EMC standards EN 50081 and EN 50082.

## Motors

Motors with Standard Efficiency IE1

IE1

## Selection and ordering data

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$		Efficiency class	$I_{St}/I_{rated}$	Article No.				Order code
		kW	rpm	Nm	400 V A		-	4/4 load %			3/4 load %	acc. to IEC 60034-30	Data position		
4-pole, 1 500 rpm at 50 Hz															
63	LA63MD4	0.09	1 400	0.61	0.42	0.61	51.30	45.80	-	2.90	B	B	1	1	-
	LA63ME4 <sup>1)</sup>	0.12	1 350	0.85	0.42	0.75	53.60	52.10	-	2.80	B	C	1	1	-
	LA63MF4 <sup>1)</sup>	0.18	1 350	1.27	0.58	0.76	58.30	56.80	-	3.00	B	D	1	1	-
71	LA71MG4 <sup>1)</sup>	0.25	1 350	1.77	0.77	0.78	61.90	60.40	-	3.00	C	D	1	1	-
	LA71MH4 <sup>1)</sup>	0.37	1 370	2.58	1.06	0.78	65.80	64.80	-	3.30	C	E	1	1	-
	LA71ZML4	0.55	1 370	3.83	1.54	0.73	70.00	69.00	-	3.70	C	H	1	1	-
80	LE80MB4	0.55	1 440	3.65	1.64	0.69	70.00	68.40	-	4.60	D	B	2	1	-
	LE80MF4 <sup>2)</sup>	0.75	1 430	5.01	2.00	0.75	72.10	72.00	IE1	4.70	D	D	2	1	-
90	LE90SE4 <sup>2)</sup>	1.10	1 425	7.37	2.80	0.76	75.00	75.40	IE1	5.00	E	L	2	1	-
	LE90LD4 <sup>2)</sup>	1.50	1 420	10.1	3.70	0.76	77.20	77.40	IE1	4.90	E	N	2	1	-
100	LE100LB4 <sup>2)</sup>	2.20	1 425	14.7	4.90	0.81	79.70	80.50	IE1	5.10	F	L	2	1	-
	LE100LH4 <sup>2)</sup>	3.00	1 425	20.1	6.30	0.85	81.50	83.00	IE1	5.40	F	N	2	1	-
112	LE112ME4 <sup>2)</sup>	4.00	1 435	26.6	8.20	0.85	83.10	84.50	IE1	5.30	G	H	2	1	-
132	LE132SF4 <sup>2)</sup>	5.50	1 450	36.2	11.20	0.82	84.70	85.70	IE1	5.70	H	F	2	1	-
	LE132ME4 <sup>2)</sup>	7.50	1 450	49.4	15.20	0.82	86.00	86.90	IE1	6.60	H	J	2	1	-
	LE132ZMSA4 <sup>2)</sup>	9.20	1 450	60.6	18.00	0.84	87.60	88.70	IE1	7.40	H	V	2	1	-
160	LE160MD4 <sup>2)</sup>	11.00	1 460	71.9	22.00	0.82	87.60	88.00	IE1	6.40	J	P	2	1	-
	LE160LA4 <sup>2)</sup>	15.00	1 460	98.1	30.00	0.82	88.70	89.30	IE1	7.00	J	S	2	1	-
2-pole, 3 000 rpm at 50 Hz															
63	LA63ME2 <sup>1)</sup>	0.18	2 820	0.61	0.51	0.79	62.00	60.50	-	3.70	B	C	1	1	P00
	LA63MF2 <sup>1)</sup>	0.25	2 830	0.84	0.69	0.80	63.00	62.00	-	4.00	B	D	1	1	P00
71	LA71MG2 <sup>1)</sup>	0.37	2 740	1.29	1.00	0.82	66.00	65.00	-	3.50	C	D	1	1	P00
	LA71MH2 <sup>1)</sup>	0.55	2 800	1.88	1.36	0.82	71.00	71.00	-	4.30	C	E	1	1	P00
100	LE100LD2 <sup>2)</sup>	3.00	2 835	10.1	6.10	0.87	81.50	82.80	IE1	6.20	F	M	2	1	P00
112	LE112MB2 <sup>2)</sup>	4.00	2 930	13.0	8.10	0.86	83.10	83.80	IE1	7.30	G	G	2	1	P00
132	LE132SB2 <sup>2)</sup>	5.50	2 905	18.1	10.60	0.89	84.70	85.70	IE1	5.60	H	E	2	1	P00
	LE132SF2 <sup>2)</sup>	7.50	2 925	24.5	14.40	0.87	86.00	86.90	IE1	6.30	H	F	2	1	P00
160	LE160MA2 <sup>2)</sup>	11.00	2 925	35.9	21.50	0.85	87.60	87.60	IE1	5.80	J	N	2	1	P00
	LE160MF2 <sup>2)</sup>	15.00	2 930	48.9	29.00	0.84	88.70	89.00	IE1	6.10	J	Q	2	1	P00
	LE160LB2 <sup>2)</sup>	18.50	2 935	60.2	35.00	0.86	89.30	90.00	IE1	7.00	J	T	2	1	P00
6-pole, 1 000 rpm at 50 Hz															
63	LA63MF6 <sup>1)</sup>	0.09	850	1.01	0.44	0.66	50.20	48.70	-	2.00	B	D	1	1	P01
	LA63MG6	0.12	870	1.32	0.75	0.62	37.20	32.60	-	1.90	B	E	1	1	P01
71	LA71MG6 <sup>1)</sup>	0.18	850	2.02	0.72	0.68	57.30	55.80	-	2.30	C	D	1	1	P01
	LA71MH6 <sup>1)</sup>	0.25	830	2.88	0.79	0.76	61.90	60.40	-	2.70	C	E	1	1	P01
100	LE100LD6 <sup>2)</sup>	1.50	940	15.2	3.90	0.74	75.20	76.00	IE1	4.00	F	M	2	1	P01
112	LE112MB6 <sup>2)</sup>	2.20	930	22.6	5.40	0.75	77.70	78.80	IE1	4.10	G	G	2	1	P01
132	LE132SB6 <sup>2)</sup>	3.00	955	30.0	7.30	0.74	79.70	80.20	IE1	4.60	H	E	2	1	P01
	LE132MA6 <sup>2)</sup>	4.00	950	40.2	9.30	0.76	81.40	82.90	IE1	4.70	H	H	2	1	P01
	LE132MJ6 <sup>2)</sup>	5.50	950	55.3	12.80	0.75	83.10	84.60	IE1	5.20	H	K	2	1	P01
160	LE160ML6 <sup>2)</sup>	7.50	970	73.8	17.60	0.73	84.70	85.40	IE1	5.50	J	H	2	1	P01
	LE160LN6 <sup>2)</sup>	11.00	965	108.9	24.00	0.77	86.40	86.40	IE1	5.90	J	U	2	1	P01
8-pole, 750 rpm at 50 Hz															
71	LA71MH8	0.09	630	1.36	0.36	0.68	51.00	49.50	-	2.20	C	E	1	1	P02
	LA71MJ8	0.12	645	1.78	0.53	0.64	51.00	49.50	-	2.20	C	F	1	1	P02
100	LE100LA8	0.75	705	10.2	3.01	0.62	62.60	60.80	-	3.00	F	B	2	1	P02
	LE100LK8	1.10	705	14.9	3.85	0.63	65.50	64.20	-	3.20	F	P	2	1	P02
112	LE112MG8	1.50	700	20.5	4.65	0.65	71.60	72.20	-	3.30	G	J	2	1	P02
132	LE132SL8	2.20	715	29.4	6.30	0.66	76.80	77.40	-	3.90	H	G	2	1	P02
	LE132MJ8	3.00	710	40.3	8.60	0.66	76.60	77.80	-	3.90	H	K	2	1	P02
160	LE160MD8	4.00	720	53.1	10.60	0.69	78.30	78.50	-	3.80	J	F	2	1	P02
	LE160ML8	5.50	720	72.9	13.80	0.70	81.70	82.50	-	4.00	J	H	2	1	P02
	LE160LN8	7.50	715	100.2	18.60	0.70	83.50	84.50	-	3.80	J	L	2	1	P02

<sup>1)</sup> The technical specifications also apply to LA163 and LA171 motors (with IEC B14 flange) for worm geared motors S.

<sup>2)</sup> Only as brake motor or motor for intermittent duty S3 - 75 %.

## Selection and ordering data (continued)

Frame size	Motor	$T_{St}/T_{rated}$	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{pFA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code Number of poles
		-	-	-	dB (A)	dB (A)	1/h	$10^{-4}$ kgm <sup>2</sup>	kg	Data position 9th 10th 11th 12th				
<b>4-pole, 1 500 rpm at 50 Hz</b>														
63	LA63MD4	2.60	2.70	2.30	42	53	20 000	2.9	3.2	<b>B</b>	<b>B</b>	<b>1</b>	<b>1</b>	-
	LA63ME4 <sup>1)</sup>	1.90	2.00	1.70	42	53	20 000	2.9	3.2	<b>B</b>	<b>C</b>	<b>1</b>	<b>1</b>	-
	LA63MF4 <sup>1)</sup>	1.90	1.90	1.60	42	53	15 000	3.7	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	-
71	LA71MG4 <sup>1)</sup>	1.90	1.90	1.50	44	55	10 000	5.2	4.3	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	-
	LA71MH4 <sup>1)</sup>	1.90	2.10	1.60	44	55	10 000	7.7	5.8	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	-
	LA71ZML4	2.30	2.30	2.10	46	57	9 000	11.0	8.1	<b>C</b>	<b>H</b>	<b>1</b>	<b>1</b>	-
80	LE80MB4	2.20	2.80	2.40	53	64	9 000	O. R.	O. R.	<b>D</b>	<b>B</b>	<b>2</b>	<b>1</b>	-
	LE80MF4 <sup>2)</sup>	2.10	2.50	2.30	53	64	9 000	O. R.	O. R.	<b>D</b>	<b>D</b>	<b>2</b>	<b>1</b>	-
90	LE90SE4 <sup>2)</sup>	2.20	2.60	2.40	56	67	7 500	O. R.	O. R.	<b>E</b>	<b>L</b>	<b>2</b>	<b>1</b>	-
	LE90LD4 <sup>2)</sup>	2.40	2.60	2.60	58	69	7 500	O. R.	O. R.	<b>E</b>	<b>N</b>	<b>2</b>	<b>1</b>	-
100	LE100LB4 <sup>2)</sup>	2.20	2.30	2.40	60	72	6 000	59.0	21	<b>F</b>	<b>L</b>	<b>2</b>	<b>1</b>	-
	LE100LH4 <sup>2)</sup>	2.40	2.60	2.60	60	72	6 000	78.0	25	<b>F</b>	<b>N</b>	<b>2</b>	<b>1</b>	-
112	LE112ME4 <sup>2)</sup>	2.20	2.60	2.40	58	70	5 000	100.0	31	<b>G</b>	<b>H</b>	<b>2</b>	<b>1</b>	-
132	LE132SF4 <sup>2)</sup>	2.30	2.70	2.50	64	76	3 000	190.0	44	<b>H</b>	<b>F</b>	<b>2</b>	<b>1</b>	-
	LE132ME4 <sup>2)</sup>	2.60	3.10	2.80	64	76	3 000	240.0	51	<b>H</b>	<b>J</b>	<b>2</b>	<b>1</b>	-
	LE132ZMSA4 <sup>2)</sup>	2.20	3.20	O. R.	65	77	1 600	330.0	O. R.	<b>H</b>	<b>V</b>	<b>2</b>	<b>1</b>	-
160	LE160MD4 <sup>2)</sup>	2.30	3.10	2.50	65	77	2 000	440.0	73	<b>J</b>	<b>P</b>	<b>2</b>	<b>1</b>	-
	LE160LA4 <sup>2)</sup>	2.50	3.40	2.70	65	77	2 000	560.0	84	<b>J</b>	<b>S</b>	<b>2</b>	<b>1</b>	-
<b>2-pole, 3 000 rpm at 50 Hz</b>														
63	LA63ME2 <sup>1)</sup>	2.00	2.20	O. R.	49	60	7 000	1.8	3.2	<b>B</b>	<b>C</b>	<b>1</b>	<b>1</b>	<b>P00</b>
	LA63MF2 <sup>1)</sup>	2.00	2.20	O. R.	49	60	7 000	2.2	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P00</b>
71	LA71MG2 <sup>1)</sup>	2.30	2.30	O. R.	52	63	7 000	2.9	4.5	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P00</b>
	LA71MH2 <sup>1)</sup>	2.50	2.60	O. R.	52	63	7 000	4.1	5.5	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P00</b>
100	LE100LD2 <sup>2)</sup>	3.20	2.90	3.50	67	79	3 000	34.0	23	<b>F</b>	<b>M</b>	<b>2</b>	<b>1</b>	<b>P00</b>
112	LE112MB2 <sup>2)</sup>	2.70	3.70	2.90	69	81	2 000	67.0	29	<b>G</b>	<b>G</b>	<b>2</b>	<b>1</b>	<b>P00</b>
132	LE132SB2 <sup>2)</sup>	1.90	2.50	2.00	68	80	1 000	130.0	40	<b>H</b>	<b>E</b>	<b>2</b>	<b>1</b>	<b>P00</b>
	LE132SF2 <sup>2)</sup>	2.10	3.20	2.30	68	80	1 000	160.0	46	<b>H</b>	<b>F</b>	<b>2</b>	<b>1</b>	<b>P00</b>
160	LE160MA2 <sup>2)</sup>	2.00	2.60	2.20	70	82	600	300.0	69	<b>J</b>	<b>N</b>	<b>2</b>	<b>1</b>	<b>P00</b>
	LE160MF2 <sup>2)</sup>	2.50	3.10	2.70	70	82	600	360.0	78	<b>J</b>	<b>Q</b>	<b>2</b>	<b>1</b>	<b>P00</b>
	LE160LB2 <sup>2)</sup>	2.50	3.20	2.70	70	82	600	440.0	90	<b>J</b>	<b>T</b>	<b>2</b>	<b>1</b>	<b>P00</b>
<b>6-pole, 1 000 rpm at 50 Hz</b>														
63	LA63MF6 <sup>1)</sup>	1.80	1.90	O. R.	39	50	15 000	3.7	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P01</b>
	LA63MG6	2.10	2.10	O. R.	39	50	15 000	3.7	3.6	<b>B</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P01</b>
71	LA71MG6 <sup>1)</sup>	2.10	1.90	O. R.	39	50	15 000	5.5	4.3	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P01</b>
	LA71MH6 <sup>1)</sup>	2.20	2.00	O. R.	39	50	15 000	8.0	5.3	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P01</b>
100	LE100LD6 <sup>2)</sup>	2.00	2.20	2.20	59	71	9 000	65.0	22	<b>F</b>	<b>M</b>	<b>2</b>	<b>1</b>	<b>P01</b>
112	LE112MB6 <sup>2)</sup>	2.30	2.50	2.50	57	69	8 000	92.0	29	<b>G</b>	<b>G</b>	<b>2</b>	<b>1</b>	<b>P01</b>
132	LE132SB6 <sup>2)</sup>	2.00	2.60	2.20	63	75	6 000	170.0	39	<b>H</b>	<b>E</b>	<b>2</b>	<b>1</b>	<b>P01</b>
	LE132MA6 <sup>2)</sup>	2.10	2.50	2.30	63	75	6 000	210.0	45	<b>H</b>	<b>H</b>	<b>2</b>	<b>1</b>	<b>P01</b>
	LE132MJ6 <sup>2)</sup>	2.50	2.80	2.70	63	75	5 000	270.0	55	<b>H</b>	<b>K</b>	<b>2</b>	<b>1</b>	<b>P01</b>
160	LE160ML6 <sup>2)</sup>	2.10	2.90	2.30	67	79	4 000	560.0	83	<b>J</b>	<b>H</b>	<b>2</b>	<b>1</b>	<b>P01</b>
	LE160LN6 <sup>2)</sup>	1.90	2.70	2.00	67	79	4 000	780.0	106	<b>J</b>	<b>U</b>	<b>2</b>	<b>1</b>	<b>P01</b>
<b>8-pole, 750 rpm at 50 Hz</b>														
71	LA71MH8	1.90	1.70	O. R.	36	47	O. R.	8.0	5.3	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P02</b>
	LA71MJ8	2.20	2.00	O. R.	36	47	O. R.	8.0	5.3	<b>C</b>	<b>F</b>	<b>1</b>	<b>1</b>	<b>P02</b>
100	LE100LA8	1.90	2.20	2.00	60	72	O. R.	56.0	17	<b>F</b>	<b>B</b>	<b>2</b>	<b>1</b>	<b>P02</b>
	LE100LK8	2.00	2.30	2.20	60	72	O. R.	78.0	22	<b>F</b>	<b>P</b>	<b>2</b>	<b>1</b>	<b>P02</b>
112	LE112MG8	1.60	1.90	1.70	63	75	O. R.	94.0	29	<b>G</b>	<b>J</b>	<b>2</b>	<b>1</b>	<b>P02</b>
132	LE132SL8	1.70	2.40	1.80	63	75	O. R.	190.0	37	<b>H</b>	<b>G</b>	<b>2</b>	<b>1</b>	<b>P02</b>
	LE132MJ8	1.80	2.20	1.90	63	75	O. R.	240.0	44	<b>H</b>	<b>K</b>	<b>2</b>	<b>1</b>	<b>P02</b>
160	LE160MD8	1.70	2.30	1.80	63	75	O. R.	440.0	60	<b>J</b>	<b>F</b>	<b>2</b>	<b>1</b>	<b>P02</b>
	LE160ML8	1.60	2.20	1.70	63	75	O. R.	560.0	72	<b>J</b>	<b>H</b>	<b>2</b>	<b>1</b>	<b>P02</b>
	LE160LN8	1.70	2.20	1.80	63	75	O. R.	770.0	91	<b>J</b>	<b>L</b>	<b>2</b>	<b>1</b>	<b>P02</b>

O. R. On request

<sup>1)</sup> The technical specifications also apply to LAI63 and LAI71 motors (with IEC B14 flange) for worm geared motors S.<sup>2)</sup> Only as brake motor or motor for intermittent duty S3 - 75 %.



## Motors

## Motors with Standard Efficiency IE1

IE1

## Selection and ordering data (continued)

Frame size	Motor size	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$		Efficiency class	$I_{St}/I_{rated}$	Article No.				Order code												
		kW	rpm	Nm	460 V A		-	4/4 load %			3/4 load %	acc. to IEC 60034-30	-	Data position				Number of poles									
9th																10th				11th				12th			
<b>4-pole, 1 800 rpm at 60 Hz, 50 Hz power</b>																											
63	LA63MD4	0.09	1 695	0.51	0.41	0.60	46.00	41.00	-	3.30	<b>B</b>	<b>B</b>	<b>1</b>	<b>1</b>	-												
	LA63ME4	0.12	1 670	0.69	0.42	0.68	54.10	51.80	-	3.20	<b>B</b>	<b>C</b>	<b>1</b>	<b>1</b>	-												
	LA63MF4	0.18	1 690	1.02	0.56	0.70	58.80	56.40	-	3.30	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	-												
71	LA71MG4	0.25	1 675	1.43	0.74	0.65	65.50	63.00	-	3.60	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	-												
	LA71MH4	0.37	1 695	2.08	0.97	0.66	73.00	71.80	-	4.20	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	-												
	LA71ZML4	0.55	1 680	3.13	1.41	0.68	72.20	71.00	-	4.20	<b>C</b>	<b>H</b>	<b>1</b>	<b>1</b>	-												
80	LE80MB4	0.55	1 745	3.01	1.41	0.69	74.00	73.00	-	5.70	<b>D</b>	<b>B</b>	<b>2</b>	<b>1</b>	-												
	LE80MF4 <sup>1)</sup>	0.75	1 735	4.13	1.70	0.75	77.00	76.60	IE1	5.60	<b>D</b>	<b>D</b>	<b>2</b>	<b>1</b>	-												
90	LE90SE4 <sup>1)</sup>	1.10	1 730	6.07	2.35	0.77	79.00	79.20	IE1	5.90	<b>E</b>	<b>L</b>	<b>2</b>	<b>1</b>	-												
	LE90LD4 <sup>1)</sup>	1.50	1 730	8.28	3.15	0.77	81.50	81.70	IE1	6.40	<b>E</b>	<b>N</b>	<b>2</b>	<b>1</b>	-												
100	LE100LB4 <sup>1)</sup>	2.20	1 720	12.2	4.30	0.82	83.00	83.00	-	5.80	<b>F</b>	<b>L</b>	<b>2</b>	<b>1</b>	-												
	LE100LH4 <sup>1)</sup>	3.00	1 725	16.6	5.50	0.86	85.00	85.00	-	6.00	<b>F</b>	<b>N</b>	<b>2</b>	<b>1</b>	-												
112	LE112ME4 <sup>1)</sup>	4.00	1 730	22.1	7.30	0.85	85.00	85.00	-	5.80	<b>G</b>	<b>H</b>	<b>2</b>	<b>1</b>	-												
132	LE132SF4 <sup>1)</sup>	5.50	1 745	30.1	9.90	0.84	87.00	87.00	-	6.70	<b>H</b>	<b>F</b>	<b>2</b>	<b>1</b>	-												
	LE132ME4 <sup>1)</sup>	7.50	1 750	40.9	13.40	0.84	87.50	87.50	-	7.00	<b>H</b>	<b>J</b>	<b>2</b>	<b>1</b>	-												
160	LE132ZMSA4 <sup>1)</sup>	9.20	1 760	49.9	15.40	0.85	88.50	88.90	IE1	9.10	<b>H</b>	<b>V</b>	<b>2</b>	<b>1</b>	-												
	LE160MD4 <sup>1)</sup>	11.00	1 760	59.7	19.90	0.82	88.50	88.50	-	7.70	<b>J</b>	<b>P</b>	<b>2</b>	<b>1</b>	-												
	LE160LA4 <sup>1)</sup>	15.00	1 760	81.4	27.00	0.82	89.50	89.50	-	7.60	<b>J</b>	<b>S</b>	<b>2</b>	<b>1</b>	-												
<b>2-pole, 3 600 rpm at 60 Hz, 50 Hz power</b>																											
63	LA63ME2	0.18	3 455	0.50	0.47	0.76	63.50	61.70	-	4.50	<b>B</b>	<b>C</b>	<b>1</b>	<b>1</b>	<b>P00</b>												
	LA63MF2	0.25	3 455	0.69	0.65	0.75	65.00	63.20	-	4.60	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P00</b>												
71	LA71MG2	0.37	3 410	1.04	0.91	0.76	67.00	65.10	-	5.00	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P00</b>												
	LA71MH2	0.55	3 440	1.53	1.25	0.78	71.10	70.00	-	5.40	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P00</b>												
100	LE100LD2 <sup>1)</sup>	3.00	3 430	8.35	5.30	0.88	84.50	84.50	-	6.80	<b>F</b>	<b>M</b>	<b>2</b>	<b>1</b>	<b>P00</b>												
112	LE112MB2 <sup>1)</sup>	4.00	3 525	10.8	7.10	0.88	84.50	84.50	-	7.50	<b>G</b>	<b>G</b>	<b>2</b>	<b>1</b>	<b>P00</b>												
132	LE132SB2 <sup>1)</sup>	5.50	3 505	15.0	9.30	0.90	86.00	86.00	-	5.70	<b>H</b>	<b>E</b>	<b>2</b>	<b>1</b>	<b>P00</b>												
	LE132SF2 <sup>1)</sup>	7.50	3 530	20.3	12.80	0.88	87.50	87.50	-	6.90	<b>H</b>	<b>F</b>	<b>2</b>	<b>1</b>	<b>P00</b>												
160	LE160MA2 <sup>1)</sup>	11.00	3 520	29.8	19.20	0.86	87.50	87.50	-	6.50	<b>J</b>	<b>N</b>	<b>2</b>	<b>1</b>	<b>P00</b>												
	LE160MF2 <sup>1)</sup>	15.00	3 530	40.6	26.00	0.86	88.50	88.50	-	6.40	<b>J</b>	<b>Q</b>	<b>2</b>	<b>1</b>	<b>P00</b>												
	LE160LB2 <sup>1)</sup>	18.50	3 530	50.0	31.00	0.87	89.50	89.50	-	7.20	<b>J</b>	<b>T</b>	<b>2</b>	<b>1</b>	<b>P00</b>												
<b>6-pole, 1 200 rpm at 60 Hz, 50 Hz power</b>																											
63	LA63MF6	0.09	1 075	0.8	0.38	0.63	47.10	44.90	-	2.20	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P01</b>												
	LA63MG6	0.12	1 100	1.04	0.73	0.53	39.40	33.80	-	2.10	<b>B</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P01</b>												
71	LA71MG6	0.18	1 080	1.59	0.67	0.61	56.40	54.10	-	3.10	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P01</b>												
	LA71MH6	0.25	1 090	2.19	0.72	0.70	62.90	60.60	-	3.40	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P01</b>												
100	LE100LD6 <sup>1)</sup>	1.50	1 140	12.6	3.30	0.78	77.00	77.50	-	4.50	<b>F</b>	<b>M</b>	<b>2</b>	<b>1</b>	<b>P01</b>												
112	LE112MB6 <sup>1)</sup>	2.20	1 130	18.6	4.70	0.78	78.50	79.00	-	4.50	<b>G</b>	<b>G</b>	<b>2</b>	<b>1</b>	<b>P01</b>												
132	LE132SB6 <sup>1)</sup>	3.00	1 150	24.9	6.30	0.75	83.50	83.50	-	4.60	<b>H</b>	<b>E</b>	<b>2</b>	<b>1</b>	<b>P01</b>												
	LE132MA6 <sup>1)</sup>	4.00	1 145	33.4	8.10	0.78	83.50	83.50	-	4.70	<b>H</b>	<b>H</b>	<b>2</b>	<b>1</b>	<b>P01</b>												
	LE132MJ6 <sup>1)</sup>	5.50	1 150	45.7	11.20	0.76	85.00	85.00	-	5.20	<b>H</b>	<b>K</b>	<b>2</b>	<b>1</b>	<b>P01</b>												
160	LE160ML6 <sup>1)</sup>	7.50	1 170	61.2	15.30	0.75	86.00	86.00	-	6.20	<b>J</b>	<b>H</b>	<b>2</b>	<b>1</b>	<b>P01</b>												
	LE160LN6 <sup>1)</sup>	11.00	1 165	90.2	21.00	0.77	89.00	89.00	-	6.30	<b>J</b>	<b>U</b>	<b>2</b>	<b>1</b>	<b>P01</b>												
<b>8-pole, 900 rpm at 60 Hz, 50 Hz power</b>																											
71	LA71MH8	0.09	815	1.05	0.36	0.61	51.40	49.70	-	2.40	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P02</b>												
	LA71MJ8	0.12	825	1.39	0.55	0.56	50.10	48.10	-	2.30	<b>C</b>	<b>F</b>	<b>1</b>	<b>1</b>	<b>P02</b>												
100	LE100LA8	0.75	855	8.38	2.73	0.61	67.90	67.40	-	3.30	<b>F</b>	<b>B</b>	<b>2</b>	<b>1</b>	<b>P02</b>												
	LE100LK8	1.10	855	12.3	3.20	0.62	72.40	72.40	-	3.50	<b>F</b>	<b>P</b>	<b>2</b>	<b>1</b>	<b>P02</b>												
112	LE112MG8	1.50	850	16.9	4.00	0.66	74.30	74.30	-	3.80	<b>G</b>	<b>J</b>	<b>2</b>	<b>1</b>	<b>P02</b>												
132	LE132SL8	2.20	865	24.3	5.40	0.66	80.60	80.60	-	4.60	<b>H</b>	<b>G</b>	<b>2</b>	<b>1</b>	<b>P02</b>												
	LE132MJ8	3.00	865	33.1	7.10	0.68	81.00	81.00	-	4.50	<b>H</b>	<b>K</b>	<b>2</b>	<b>1</b>	<b>P02</b>												
160	LE160MD8	4.00	870	43.9	9.60	0.70	78.30	78.80	-	4.30	<b>J</b>	<b>F</b>	<b>2</b>	<b>1</b>	<b>P02</b>												
	LE160ML8	5.50	870	60.4	12.40	0.71	81.90	81.90	-	4.20	<b>J</b>	<b>H</b>	<b>2</b>	<b>1</b>	<b>P02</b>												
	LE160LN8	7.50	870	82.3	17.20	0.70	84.90	84.90	-	4.30	<b>J</b>	<b>L</b>	<b>2</b>	<b>1</b>	<b>P02</b>												

<sup>1)</sup> Only as brake motor or motor for intermittent duty S3 - 75 %

## Selection and ordering data (continued)

Frame size	Motor	$T_{St}/T_{rated}$	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{ptA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code
										Data position 9th	Data position 10th	Data position 11th	Data position 12th	
<b>4-pole, 1 800 rpm at 60 Hz, 50 Hz power</b>														
63	LA63MD4	3.20	3.30	2.90	46	57	15 000	2.9	3.2	B	B	1	1	-
	LA63ME4	2.30	2.40	2.10	46	57	15 000	2.9	3.2	B	C	1	1	-
	LA63MF4	2.30	2.30	2.00	46	57	12 000	3.7	3.6	B	D	1	1	-
71	LA71MG4	2.20	2.30	1.80	48	59	8 000	5.2	4.3	C	D	1	1	-
	LA71MH4	2.30	2.50	2.00	48	59	8 000	7.7	5.8	C	E	1	1	-
	LA71ZML4	2.50	2.50	2.30	48	59	7 000	11	8.1	C	H	1	1	-
80	LE80MB4	2.40	3.30	2.60	55	66	7 000	O. R.	O. R.	D	B	2	1	-
	LE80MF4 <sup>1)</sup>	2.30	2.80	2.50	55	66	7 000	O. R.	O. R.	D	D	2	1	-
90	LE90SE4 <sup>1)</sup>	2.50	3.00	2.80	54	65	6 000	O. R.	O. R.	E	L	2	1	-
	LE90LD4 <sup>1)</sup>	2.60	3.00	2.90	55	66	6 000	O. R.	O. R.	E	N	2	1	-
100	LE100LB4 <sup>1)</sup>	2.20	2.40	2.40	62	74	5 000	59.0	21	F	L	2	1	-
	LE100LH4 <sup>1)</sup>	2.20	2.30	2.40	62	74	5 000	78.0	25	F	N	2	1	-
112	LE112ME4 <sup>1)</sup>	2.10	2.70	O. R.	62	74	5 000	100.0	31	G	H	2	1	-
132	LE132SF4 <sup>1)</sup>	2.20	2.80	O. R.	68	80	3 000	190.0	44	H	F	2	1	-
	LE132ME4 <sup>1)</sup>	2.40	3.00	O. R.	68	80	3 000	240.0	51	H	J	2	1	-
	LE132ZMSA4 <sup>1)</sup>	2.40	3.70	O. R.	69	81	1 600	330.0	O. R.	H	V	2	1	-
160	LE160MD4 <sup>1)</sup>	2.30	3.10	O. R.	69	81	2 000	440.0	73	J	P	2	1	-
	LE160LA4 <sup>1)</sup>	2.50	3.40	O. R.	69	81	2 000	560.0	84	J	S	2	1	-
<b>2-pole, 3 600 rpm at 60 Hz, 50 Hz power</b>														
63	LA63ME2	2.40	2.70	O. R.	53	64	5 000	1.8	3.2	B	C	1	1	P00
	LA63MF2	2.40	2.70	O. R.	53	64	5 000	2.2	3.6	B	D	1	1	P00
71	LA71MG2	2.90	2.90	O. R.	56	67	5 000	2.9	4.5	C	D	1	1	P00
	LA71MH2	3.00	2.90	O. R.	56	67	5 000	4.1	5.5	C	E	1	1	P00
100	LE100LD2 <sup>1)</sup>	3.40	3.30	O. R.	71	83	2 000	34.0	23	F	M	2	1	P00
112	LE112MB2 <sup>1)</sup>	2.70	3.80	O. R.	73	85	O. R.	67.0	29	G	G	2	1	P00
132	LE132SB2 <sup>1)</sup>	1.80	2.70	O. R.	72	84	O. R.	130.0	40	H	E	2	1	P00
	LE132SF2 <sup>1)</sup>	2.30	3.40	O. R.	72	84	O. R.	160.0	46	H	F	2	1	P00
160	LE160MA2 <sup>1)</sup>	2.10	2.90	O. R.	77	89	O. R.	300.0	69	J	N	2	1	P00
	LE160MF2 <sup>1)</sup>	2.40	3.10	O. R.	77	89	O. R.	360.0	78	J	Q	2	1	P00
	LE160LB2 <sup>1)</sup>	2.40	3.20	O. R.	77	89	O. R.	440.0	90	J	T	2	1	P00
<b>6-pole, 1 200 rpm at 60 Hz, 50 Hz power</b>														
63	LA63MF6	2.10	1.80	O. R.	43	54	10 500	3.7	3.6	B	D	1	1	P01
	LA63MG6	2.70	2.80	O. R.	43	54	10 500	3.7	3.6	B	E	1	1	P01
71	LA71MG6	2.50	2.50	O. R.	43	54	10 500	5.5	4.3	C	D	1	1	P01
	LA71MH6	2.70	2.60	O. R.	43	54	10 500	8.0	5.3	C	E	1	1	P01
100	LE100LD6 <sup>1)</sup>	2.10	2.50	O. R.	62	74	O. R.	65.0	22	F	M	2	1	P01
112	LE112MB6 <sup>1)</sup>	2.30	2.60	O. R.	60	72	O. R.	92.0	29	G	G	2	1	P01
132	LE132SB6 <sup>1)</sup>	1.90	2.30	O. R.	67	79	O. R.	170.0	39	H	E	2	1	P01
	LE132MA6 <sup>1)</sup>	2.00	2.40	O. R.	67	79	O. R.	210.0	45	H	H	2	1	P01
	LE132MJ6 <sup>1)</sup>	2.40	2.60	O. R.	67	79	O. R.	270.0	55	H	K	2	1	P01
160	LE160ML6 <sup>1)</sup>	2.30	3.00	O. R.	70	82	O. R.	560.0	83	J	H	2	1	P01
	LE160LN6 <sup>1)</sup>	1.90	2.70	O. R.	70	82	O. R.	780.0	106	J	U	2	1	P01
<b>8-pole, 900 rpm at 60 Hz, 50 Hz power</b>														
71	LA71MH8	2.30	2.00	O. R.	39	50	O. R.	8.0	5.3	C	E	1	1	P02
	LA71MJ8	2.60	2.40	O. R.	39	51	O. R.	8.0	5.3	C	F	1	1	P02
100	LE100LA8	1.70	2.30	O. R.	63	75	O. R.	56.0	17	F	B	2	1	P02
	LE100LK8	1.80	2.30	O. R.	63	75	O. R.	78.0	22	F	P	2	1	P02
112	LE112MG8	1.60	2.00	O. R.	66	78	O. R.	94.0	29	G	J	2	1	P02
132	LE132SL8	1.60	2.30	O. R.	66	78	O. R.	190.0	37	H	G	2	1	P02
	LE132MJ8	1.70	2.20	O. R.	66	78	O. R.	240.0	44	H	K	2	1	P02
160	LE160MD8	1.70	2.30	O. R.	71	83	O. R.	440.0	60	J	F	2	1	P02
	LE160ML8	1.60	2.20	O. R.	71	83	O. R.	560.0	72	J	H	2	1	P02
	LE160LN8	1.70	2.20	O. R.	71	83	O. R.	770.0	91	J	L	2	1	P02

O. R. On request

<sup>1)</sup> Only as brake motor or motor for intermittent duty S3 - 75 %

## Motors

## Motors with Standard Efficiency IE1

IE1

## Selection and ordering data (continued)

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$	Efficiency class	$I_{St}/I_{rated}$	Article No.	Order code			
		kW	rpm	Nm	460 V A						4/4 load %	3/4 load %	acc. to IEC 60034-30	Data position 9th 10th 11th 12th
<b>4-pole, 1 800 rpm at 60 Hz, 60 Hz power</b>														
63	LA63MD4	0.11	1 675	0.63	0.42	0.64	51.80	46.20	-	3.20	B B 1 1 -			
	LA63ME4 <sup>1)</sup>	0.14	1 650	0.81	0.43	0.74	56.00	54.50	-	3.10	B C 1 1 -			
	LA63MF4 <sup>1)</sup>	0.21	1 650	1.22	0.59	0.77	58.30	56.80	-	3.10	B D 1 1 -			
71	LA71MG4 <sup>1)</sup>	0.29	1 650	1.68	0.76	0.77	61.90	60.40	-	3.30	C D 1 1 -			
	LA71MH4 <sup>1)</sup>	0.43	1 670	2.46	1.08	0.76	65.80	64.80	-	3.80	C E 1 1 -			
	LA71ZML4	0.66	1 665	3.79	1.54	0.74	72.80	71.80	-	3.80	C H 1 1 -			
80	LE80MB4	0.63	1 740	3.46	1.55	0.69	74.00	72.90	IE1	5.40	D B 2 1 -			
	LE80MF4 <sup>2)</sup>	0.86	1 730	4.75	1.87	0.75	77.00	76.90	IE1	5.30	D D 2 1 -			
90	LE90SE4 <sup>2)</sup>	1.27	1 725	7.03	2.60	0.77	79.00	79.30	IE1	5.60	E L 2 1 -			
	LE90LD4 <sup>2)</sup>	1.75	1 720	9.72	3.50	0.77	81.50	82.00	IE1	6.00	E N 2 1 -			
100	LE100LB4 <sup>2)</sup>	2.55	1 720	14.2	4.70	0.82	83.00	83.00	IE1	5.80	F L 2 1 -			
	LE100LH4 <sup>2)</sup>	3.45	1 725	19.1	5.90	0.86	85.00	85.00	IE1	6.00	F N 2 1 -			
112	LE112ME4 <sup>2)</sup>	4.55	1 730	25.1	7.90	0.85	85.00	85.00	IE1	5.80	G H 2 1 -			
132	LE132SF4 <sup>2)</sup>	6.30	1 745	34.5	10.80	0.84	87.00	87.00	IE1	6.70	H F 2 1 -			
	LE132ME4 <sup>2)</sup>	8.60	1 750	46.9	14.70	0.84	87.50	87.50	IE1	7.00	H J 2 1 -			
	LE132ZMSA4 <sup>2)</sup>	10.50	1 750	57.3	17.70	0.85	88.50	89.50	IE1	8.00	H V 2 1 -			
160	LE160MD4 <sup>2)</sup>	12.60	1 760	68.4	22.00	0.82	88.50	88.50	IE1	6.80	J P 2 1 -			
	LE160LA4 <sup>2)</sup>	17.30	1 760	93.9	29.50	0.82	90.50	90.50	IE1	7.30	J S 2 1 -			
<b>2-pole, 3 600 rpm at 60 Hz, 60 Hz power</b>														
63	LA63ME2 <sup>1)</sup>	0.21	3 420	0.59	0.51	0.81	64.00	63.00	-	4.10	B C 1 1 P00			
	LA63MF2 <sup>1)</sup>	0.29	3 430	0.81	0.68	0.82	65.00	64.00	-	4.30	B D 1 1 P00			
71	LA71MG2 <sup>1)</sup>	0.43	3 340	1.23	1.00	0.82	66.00	65.00	-	4.50	C D 1 1 P00			
	LA71MH2 <sup>1)</sup>	0.63	3 400	1.77	1.36	0.82	71.00	71.00	-	4.90	C E 1 1 P00			
100	LE100LD2 <sup>2)</sup>	3.45	3 430	9.6	5.80	0.88	84.50	84.50	IE1	6.80	F M 2 1 P00			
112	LE112MB2 <sup>2)</sup>	4.55	3 525	12.3	7.70	0.88	84.50	84.50	IE1	7.50	G G 2 1 P00			
132	LE132SB2 <sup>2)</sup>	6.30	3 505	17.2	10.20	0.90	86.00	86.00	IE1	5.70	H E 2 1 P00			
	LE132SF2 <sup>2)</sup>	8.60	3 530	23.3	14.00	0.88	87.50	87.50	IE1	6.90	H F 2 1 P00			
160	LE160MA2 <sup>2)</sup>	12.60	3 520	34.2	21.00	0.86	87.50	87.50	IE1	5.70	J N 2 1 P00			
	LE160MF2 <sup>2)</sup>	17.30	3 530	46.8	28.00	0.86	89.50	89.50	IE1	6.40	J Q 2 1 P00			
	LE160LB2 <sup>2)</sup>	21.30	3 530	57.6	34.50	0.87	89.50	89.50	IE1	7.20	J T 2 1 P00			
<b>6-pole, 1 200 rpm at 60 Hz, 60 Hz power</b>														
63	LA63MF6 <sup>1)</sup>	0.10	1 050	0.91	0.39	0.67	48.00	46.50	-	2.10	B D 1 1 P01			
	LA63MG6	0.14	1 080	1.24	0.74	0.57	41.90	37.00	-	2.10	B E 1 1 P01			
71	LA71MG6 <sup>1)</sup>	0.21	1 035	1.94	0.69	0.67	57.30	55.80	-	3.00	C D 1 1 P01			
	LA71MH6 <sup>1)</sup>	0.29	1 030	2.69	0.78	0.75	61.90	60.40	-	3.10	C E 1 1 P01			
100	LE100LD6 <sup>2)</sup>	1.75	1 140	14.7	3.65	0.78	77.00	77.50	IE1	4.50	F M 2 1 P01			
112	LE112MB6 <sup>2)</sup>	2.55	1 130	21.5	5.20	0.78	78.50	79.00	IE1	4.50	G G 2 1 P01			
132	LE132SB6 <sup>2)</sup>	3.45	1 150	28.6	6.90	0.75	83.50	83.50	IE1	4.60	H E 2 1 P01			
	LE132MA6 <sup>2)</sup>	4.55	1 145	37.9	8.80	0.78	83.50	83.50	IE1	4.70	H H 2 1 P01			
	LE132MJ6 <sup>2)</sup>	6.30	1 150	52.3	12.20	0.76	85.00	85.00	IE1	5.20	H K 2 1 P01			
160	LE160ML6 <sup>2)</sup>	8.60	1 170	70.2	16.70	0.75	86.00	86.00	IE1	5.90	J H 2 1 P01			
	LE160LN6 <sup>2)</sup>	12.60	1 165	103.3	23.00	0.77	89.00	89.00	IE1	6.30	J U 2 1 P01			
<b>8-pole, 900 rpm at 60 Hz, 60 Hz power</b>														
71	LA71MH8	0.104	780	1.27	0.39	0.66	50.50	49.00	-	2.20	C E 1 1 P02			
	LA71MJ8	0.14	795	1.68	0.56	0.62	50.60	49.10	-	2.20	C F 1 1 P02			
100	LE100LA8	0.86	855	9.61	2.73	0.61	68.00	67.50	-	3.30	F B 2 1 P02			
	LE100LK8	1.27	855	14.2	3.55	0.62	72.50	72.50	-	3.50	F P 2 1 P02			
112	LE112MG8	1.75	850	19.7	4.50	0.66	74.30	74.30	-	3.80	G J 2 1 P02			
132	LE132SL8	2.55	865	28.2	6.00	0.66	81.40	81.40	-	4.10	H G 2 1 P02			
	LE132MJ8	3.45	865	38.1	7.80	0.68	82.10	82.10	-	4.00	H K 2 1 P02			
160	LE160MD8	4.55	870	49.9	10.40	0.70	78.30	78.80	-	4.10	J F 2 1 P02			
	LE160ML8	6.30	870	69.2	13.60	0.71	81.90	81.90	-	4.20	J H 2 1 P02			
	LE160LN8	8.60	865	94.0	18.90	0.70	82.00	82.00	-	4.10	J L 2 1 P02			

1) The technical specifications also apply to LAI63 and LAI71 motors (with IEC B14 flange) for worm geared motors S.

2) Only as brake motor or motor for intermittent duty S3 - 75 %.

## Selection and ordering data (continued)

Frame size	Motor	$T_{S1}/T_{rated}$	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{ptA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code Number of poles
		-	-	-	dB (A)	dB (A)	1/h	$10^{-4}$ kgm <sup>2</sup>	kg	Data position 9th 10th 11th 12th				
<b>4-pole, 1 800 rpm at 60 Hz, 60 Hz power</b>														
63	LA63MD4	2.50	2.70	2.30	46	57	15 000	2.9	3.2	<b>B</b>	<b>B</b>	<b>1</b>	<b>1</b>	-
	LA63ME4 <sup>1)</sup>	2.00	2.10	1.80	46	57	15 000	2.9	3.2	<b>B</b>	<b>C</b>	<b>1</b>	<b>1</b>	-
	LA63MF4 <sup>1)</sup>	2.00	2.00	1.70	46	57	12 000	3.7	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	-
71	LA71MG4 <sup>1)</sup>	1.90	2.00	1.60	48	59	8 000	5.2	4.3	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	-
	LA71MH4 <sup>1)</sup>	2.00	2.20	1.70	48	59	8 000	7.7	5.8	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	-
	LA71ZML4	2.40	2.40	2.20	50	61	7 000	11.0	8.1	<b>C</b>	<b>H</b>	<b>1</b>	<b>1</b>	-
80	LE80MB4	2.30	3.10	2.50	55	66	7 000	O. R.	O. R.	<b>D</b>	<b>B</b>	<b>2</b>	<b>1</b>	-
	LE80MF4 <sup>2)</sup>	2.20	2.70	2.40	55	66	7 000	O. R.	O. R.	<b>D</b>	<b>D</b>	<b>2</b>	<b>1</b>	-
90	LE90SE4 <sup>2)</sup>	2.40	2.80	2.60	54	65	6 000	O. R.	O. R.	<b>E</b>	<b>L</b>	<b>2</b>	<b>1</b>	-
	LE90LD4 <sup>2)</sup>	2.50	2.80	2.80	55	66	6 000	O. R.	O. R.	<b>E</b>	<b>N</b>	<b>2</b>	<b>1</b>	-
100	LE100LB4 <sup>2)</sup>	2.20	2.40	2.40	62	74	5 000	59.0	21	<b>F</b>	<b>L</b>	<b>2</b>	<b>1</b>	-
	LE100LH4 <sup>2)</sup>	2.20	2.30	2.40	62	74	5 000	78.0	25	<b>F</b>	<b>N</b>	<b>2</b>	<b>1</b>	-
112	LE112ME4 <sup>2)</sup>	2.10	2.70	2.30	62	74	5 000	100.0	31	<b>G</b>	<b>H</b>	<b>2</b>	<b>1</b>	-
132	LE132SF4 <sup>2)</sup>	2.20	2.80	2.40	68	80	3 000	190.0	44	<b>H</b>	<b>F</b>	<b>2</b>	<b>1</b>	-
	LE132ME4 <sup>2)</sup>	2.40	3.00	2.60	68	80	3 000	240.0	51	<b>H</b>	<b>J</b>	<b>2</b>	<b>1</b>	-
	LE132ZMSA4 <sup>2)</sup>	2.10	3.20	O. R.	69	81	1 600	330.0	O. R.	<b>H</b>	<b>V</b>	<b>2</b>	<b>1</b>	-
160	LE160MD4 <sup>2)</sup>	2.30	3.00	2.50	69	81	2 000	440.0	73	<b>J</b>	<b>P</b>	<b>2</b>	<b>1</b>	-
	LE160LA4 <sup>2)</sup>	2.50	3.40	2.70	69	81	2 000	560.0	84	<b>J</b>	<b>S</b>	<b>2</b>	<b>1</b>	-
<b>2-pole, 3 600 rpm at 60 Hz, 60 Hz power</b>														
63	LA63ME2 <sup>1)</sup>	2.10	2.30	O. R.	53	64	5 000	1.8	3.2	<b>B</b>	<b>C</b>	<b>1</b>	<b>1</b>	<b>P00</b>
	LA63MF2 <sup>1)</sup>	2.10	2.30	O. R.	53	64	5 000	2.2	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P00</b>
71	LA71MG2 <sup>1)</sup>	2.50	2.50	O. R.	56	67	5 000	2.9	4.5	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P00</b>
	LA71MH2 <sup>1)</sup>	2.60	2.50	O. R.	56	67	5 000	4.1	5.5	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P00</b>
100	LE100LD2 <sup>2)</sup>	3.40	3.30	3.70	71	83	2 000	34.0	23	<b>F</b>	<b>M</b>	<b>2</b>	<b>1</b>	<b>P00</b>
112	LE112MB2 <sup>2)</sup>	2.70	3.80	2.90	73	85	O. R.	67.0	29	<b>G</b>	<b>G</b>	<b>2</b>	<b>1</b>	<b>P00</b>
132	LE132SB2 <sup>2)</sup>	1.80	2.70	1.90	72	84	O. R.	130.0	40	<b>H</b>	<b>E</b>	<b>2</b>	<b>1</b>	<b>P00</b>
	LE132SF2 <sup>2)</sup>	2.30	3.40	2.50	72	84	O. R.	160.0	46	<b>H</b>	<b>F</b>	<b>2</b>	<b>1</b>	<b>P00</b>
160	LE160MA2 <sup>2)</sup>	2.00	2.80	2.20	77	89	O. R.	300.0	69	<b>J</b>	<b>N</b>	<b>2</b>	<b>1</b>	<b>P00</b>
	LE160MF2 <sup>2)</sup>	2.40	3.10	2.60	77	89	O. R.	360.0	78	<b>J</b>	<b>Q</b>	<b>2</b>	<b>1</b>	<b>P00</b>
	LE160LB2 <sup>2)</sup>	2.40	3.20	2.60	77	89	O. R.	440.0	90	<b>J</b>	<b>T</b>	<b>2</b>	<b>1</b>	<b>P00</b>
<b>6-pole, 1 200 rpm at 60 Hz, 60 Hz power</b>														
63	LA63MF6 <sup>1)</sup>	1.90	1.60	O. R.	43	54	10 500	3.7	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P01</b>
	LA63MG6	2.30	2.30	O. R.	43	54	10 500	3.7	3.6	<b>B</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P01</b>
71	LA71MG6 <sup>1)</sup>	2.10	2.10	O. R.	43	54	10 500	5.5	4.3	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P01</b>
	LA71MH6 <sup>1)</sup>	2.30	2.20	O. R.	43	54	10 500	8.0	5.3	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P01</b>
100	LE100LD6 <sup>2)</sup>	2.10	2.50	2.30	62	74	O. R.	65.0	22	<b>F</b>	<b>M</b>	<b>2</b>	<b>1</b>	<b>P01</b>
112	LE112MB6 <sup>2)</sup>	2.30	2.60	2.50	60	72	O. R.	92.0	29	<b>G</b>	<b>G</b>	<b>2</b>	<b>1</b>	<b>P01</b>
132	LE132SB6 <sup>2)</sup>	1.90	2.30	2.00	67	79	O. R.	170.0	39	<b>H</b>	<b>E</b>	<b>2</b>	<b>1</b>	<b>P01</b>
	LE132MA6 <sup>2)</sup>	2.00	2.40	2.20	67	79	O. R.	210.0	45	<b>H</b>	<b>H</b>	<b>2</b>	<b>1</b>	<b>P01</b>
	LE132MJ6 <sup>2)</sup>	2.40	2.60	2.60	67	79	O. R.	270.0	55	<b>H</b>	<b>K</b>	<b>2</b>	<b>1</b>	<b>P01</b>
160	LE160ML6 <sup>2)</sup>	2.20	2.90	2.40	70	82	O. R.	560.0	83	<b>J</b>	<b>H</b>	<b>2</b>	<b>1</b>	<b>P01</b>
	LE160LN6 <sup>2)</sup>	1.90	2.70	2.00	70	82	O. R.	780.0	106	<b>J</b>	<b>U</b>	<b>2</b>	<b>1</b>	<b>P01</b>
<b>8-pole, 900 rpm at 60 Hz, 60 Hz power</b>														
71	LA71MH8	1.90	1.70	O. R.	39	50	O. R.	8.0	5.3	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P02</b>
	LA71MJ8	2.20	2.00	O. R.	39	51	O. R.	8.0	5.3	<b>C</b>	<b>F</b>	<b>1</b>	<b>1</b>	<b>P02</b>
100	LE100LA8	1.70	2.30	1.80	63	75	O. R.	56.0	17	<b>F</b>	<b>B</b>	<b>2</b>	<b>1</b>	<b>P02</b>
	LE100LK8	1.80	2.30	1.90	63	75	O. R.	78.0	22	<b>F</b>	<b>P</b>	<b>2</b>	<b>1</b>	<b>P02</b>
112	LE112MG8	1.60	2.00	1.70	66	78	O. R.	94.0	29	<b>G</b>	<b>J</b>	<b>2</b>	<b>1</b>	<b>P02</b>
132	LE132SL8	1.60	2.20	1.70	66	78	O. R.	190.0	37	<b>H</b>	<b>G</b>	<b>2</b>	<b>1</b>	<b>P02</b>
	LE132MJ8	1.70	2.30	1.80	66	78	O. R.	240.0	44	<b>H</b>	<b>K</b>	<b>2</b>	<b>1</b>	<b>P02</b>
160	LE160MD8	1.70	2.20	1.80	71	83	O. R.	440.0	60	<b>J</b>	<b>F</b>	<b>2</b>	<b>1</b>	<b>P02</b>
	LE160ML8	1.60	2.20	1.70	71	83	O. R.	560.0	72	<b>J</b>	<b>H</b>	<b>2</b>	<b>1</b>	<b>P02</b>
	LE160LN8	1.70	2.10	1.80	71	83	O. R.	770.0	91	<b>J</b>	<b>L</b>	<b>2</b>	<b>1</b>	<b>P02</b>

O. R. On request

1) The technical specifications also apply to LAI63 and LAI71 motors (with IEC B14 flange) for worm geared motors S.

2) Only as brake motor or motor for intermittent duty S3 - 75 %.

## Motors

Motors with Standard Efficiency IE1

IE1

## Selection and ordering data (continued)

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$ 4/4 load %	$T_{Bk}/T_{rated}$	Article No.				Order code	
		kW	rpm	Nm	400 V A				-	-	Data position 9th 10th 11th 12th			
<b>4-pole, 2 610 rpm at 87 Hz power</b>														
63	LA63MD4	0.15	2 530	0.57	0.64	0.54	63.00	2.9	B	B	1	1	P91	-
	LA63ME4 <sup>1)</sup>	0.20	2 460	0.78	0.70	0.73	56.50	2.1	B	C	1	1	P91	-
	LA63MF4 <sup>1)</sup>	0.30	2 460	1.16	0.97	0.76	59.00	2.0	B	D	1	1	P91	-
71	LA71MG4 <sup>1)</sup>	0.45	2 460	1.75	1.40	0.78	59.50	1.9	C	D	1	1	P91	-
	LA71MH4 <sup>1)</sup>	0.65	2 480	2.50	1.80	0.79	66.00	2.1	C	E	1	1	P91	-
	LA71ZML4	0.95	2 480	3.66	2.68	0.73	70.00	2.3	C	H	1	1	P91	-
80	LE80MB4	0.95	2 570	3.53	2.80	0.66	74.20	2.8	D	B	2	1	P91	-
	LE80MF4	1.30	2 550	4.87	3.50	0.71	75.50	2.5	D	D	2	1	P92	-
90	LE90SE4	1.90	2 540	7.14	4.70	0.71	82.20	2.6	E	L	2	1	P92	-
	LE90LD4	2.60	2 535	9.79	6.40	0.71	82.60	2.6	E	N	2	1	P92	-
100	LE100LB4	3.60	2 540	14.3	8.30	0.77	81.70	2.5	F	L	2	1	P92	-
	LE100LH4	5.00	2 540	18.8	10.80	0.80	83.80	2.7	F	N	2	1	P92	-
112	LE112ME4	6.50	2 550	24.3	13.60	0.81	85.30	2.8	G	H	2	1	P92	-
132	LE132SF4	9.00	2 560	33.6	19.20	0.79	85.70	2.9	H	F	2	1	P92	-
	LE132ME4	13.00	2 560	48.5	26.50	0.79	86.20	3.2	H	J	2	1	P92	-
	LE132ZMSA4	15.20	2 565	56.6	28.50	0.84	86.00	3.4	H	V	2	1	P92	-
160	LE160MD4	17.00	2 575	63	37.00	0.76	87.50	3.5	J	P	2	1	P92	-
	LE160LA4	26.00	2 575	96.4	49.00	0.78	88.80	3.8	J	S	2	1	P92	-
<b>6-pole, 1 740 rpm at 87 Hz power</b>														
63	LA63MF6 <sup>1)</sup>	0.15	1 590	0.9	0.75	0.65	44.50	2.1	B	D	1	1	P91	P01
	LA63MG6	0.20	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	B	E	1	1	P91	P01
71	LA71MG6 <sup>1)</sup>	0.30	1 580	1.81	1.05	0.70	59.00	2.1	C	D	1	1	P91	P01
	LA71MH6 <sup>1)</sup>	0.45	1 570	2.74	1.40	0.75	62.00	2.1	C	E	1	1	P91	P01
100	LE100LD6	2.60	1 680	14.8	6.90	0.70	77.20	2.2	F	M	2	1	P92	P01
112	LE112MB6	3.80	1 680	21.6	9.30	0.72	82.00	2.6	G	G	2	1	P92	P01
132	LE132SB6	5.00	1 695	28.2	12.70	0.69	82.60	2.7	H	E	2	1	P92	P01
	LE132MA6	7.00	1 695	39.4	15.40	0.72	84.80	2.7	H	H	2	1	P92	P01
	LE132MJ6	9.00	1 695	50.7	21.00	0.72	85.80	3.0	H	K	2	1	P92	P01
160	LE160ML6	13.00	1 710	72.6	28.50	0.70	86.90	3.1	J	H	2	1	P92	P01
	LE160LN6	17.00	1 710	94.9	37.50	0.74	88.70	3.0	J	U	2	1	P92	P01
<b>8-pole, 1 305 rpm at 87 Hz power</b>														
71	LA71MH8	0.15	1 185	1.21	0.60	0.67	54.00	1.9	C	E	1	1	P92	P02
	LA71MJ8	0.20	1 200	1.59	0.85	0.63	54.00	2.2	C	F	1	1	P92	P02
100	LE100LA8	1.30	1 265	9.81	5.10	0.55	67.40	2.2	F	B	2	1	P92	P02
	LE100LK8	1.90	1 265	14.3	6.60	0.57	72.50	2.3	F	P	2	1	P92	P02
112	LE112MG8	2.60	1 255	19.8	8.00	0.61	77.20	1.9	G	J	2	1	P92	P02
132	LE132SL8	3.60	1 275	27	10.80	0.62	81.90	2.4	H	G	2	1	P92	P02
	LE132MJ8	5.00	1 270	37.6	13.90	0.63	82.40	2.3	H	K	2	1	P92	P02
160	LE160MD8	7.00	1 280	52.2	19.90	0.64	79.30	2.3	J	F	2	1	P92	P02
	LE160ML8	9.00	1 275	67.4	25.50	0.65	82.70	2.2	J	H	2	1	P92	P02
	LE160LN8	13.00	1 275	97.4	34.00	0.67	85.20	2.2	J	L	2	1	P92	P02

O. R. On request

<sup>1)</sup> The technical specifications also apply to LAI63 and LAI71 motors (with IEC B14 flange) for worm geared motors S.

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## Selection and ordering data (continued)

Frame size	Motor	$L_{pTA}$	$L_{WA}$	$J_{mot}$	$m_{mot}$	Article No.				Order code		
		dB (A)	dB (A)	$10^{-4}$ kgm <sup>2</sup>	kg	Data position	Power	Number of poles	9th	10th	11th	12th
<b>4-pole, 2 610 rpm at 87 Hz power</b>												
63	LA63MD4	O. R.	O. R.	2.9	3.2	B	B	1	1	P91	-	
	LA63ME4 <sup>1)</sup>	O. R.	O. R.	2.9	3.2	B	C	1	1	P91	-	
	LA63MF4 <sup>1)</sup>	O. R.	O. R.	3.7	3.6	B	D	1	1	P91	-	
71	LA71MG4 <sup>1)</sup>	O. R.	O. R.	5.2	4.3	C	D	1	1	P91	-	
	LA71MH4 <sup>1)</sup>	O. R.	O. R.	7.7	5.8	C	E	1	1	P91	-	
	LA71ZML4	O. R.	O. R.	11.0	8.1	C	H	1	1	P91	-	
80	LE80MB4	O. R.	O. R.	O. R.	O. R.	D	B	2	1	P91	-	
	LE80MF4	O. R.	O. R.	O. R.	O. R.	D	D	2	1	P92	-	
90	LE90SE4	O. R.	O. R.	O. R.	O. R.	E	L	2	1	P92	-	
	LE90LD4	O. R.	O. R.	O. R.	O. R.	E	N	2	1	P92	-	
100	LE100LB4	O. R.	O. R.	59.0	21	F	L	2	1	P92	-	
	LE100LH4	O. R.	O. R.	78.0	25	F	N	2	1	P92	-	
112	LE112ME4	O. R.	O. R.	100.0	31	G	H	2	1	P92	-	
132	LE132SF4	O. R.	O. R.	190.0	44	H	F	2	1	P92	-	
	LE132ME4	O. R.	O. R.	240.0	51	H	J	2	1	P92	-	
	LE132ZMSA4	O. R.	O. R.	330.0	O. R.	H	V	2	1	P92	-	
160	LE160MD4	O. R.	O. R.	440.0	73	J	P	2	1	P92	-	
	LE160LA4	O. R.	O. R.	560.0	84	J	S	2	1	P92	-	
<b>6-pole, 1 740 rpm at 87 Hz power</b>												
63	LA63MF6 <sup>1)</sup>	O. R.	O. R.	3.7	3.6	B	D	1	1	P91	P01	
	LA63MG6	O. R.	O. R.	3.7	3.6	B	E	1	1	P91	P01	
71	LA71MG6 <sup>1)</sup>	O. R.	O. R.	5.5	4.3	C	D	1	1	P91	P01	
	LA71MH6 <sup>1)</sup>	O. R.	O. R.	8.0	5.3	C	E	1	1	P91	P01	
100	LE100LD6	O. R.	O. R.	65.0	22	F	M	2	1	P92	P01	
112	LE112MB6	O. R.	O. R.	92.0	29	G	G	2	1	P92	P01	
132	LE132SB6	O. R.	O. R.	170.0	39	H	E	2	1	P92	P01	
	LE132MA6	O. R.	O. R.	210.0	45	H	H	2	1	P92	P01	
	LE132MJ6	O. R.	O. R.	270.0	55	H	K	2	1	P92	P01	
160	LE160ML6	O. R.	O. R.	560.0	83	J	H	2	1	P92	P01	
	LE160LN6	O. R.	O. R.	780.0	106	J	U	2	1	P92	P01	
<b>8-pole, 1 305 rpm at 87 Hz power</b>												
71	LA71MH8	O. R.	O. R.	8.0	5.3	C	E	1	1	P92	P02	
	LA71MJ8	O. R.	O. R.	8.0	5.3	C	F	1	1	P92	P02	
100	LE100LA8	O. R.	O. R.	56.0	17	F	B	2	1	P92	P02	
	LE100LK8	O. R.	O. R.	78.0	22	F	P	2	1	P92	P02	
112	LE112MG8	O. R.	O. R.	94.0	29	G	J	2	1	P92	P02	
132	LE132SL8	O. R.	O. R.	190.0	37	H	G	2	1	P92	P02	
	LE132MJ8	O. R.	O. R.	240.0	44	H	K	2	1	P92	P02	
160	LE160MD8	O. R.	O. R.	440.0	60	J	F	2	1	P92	P02	
	LE160ML8	O. R.	O. R.	560.0	72	J	H	2	1	P92	P02	
	LE160LN8	O. R.	O. R.	770.0	91	J	L	2	1	P92	P02	

O. R. On request

<sup>1)</sup> The technical specifications also apply to LAI63 and LAI71 motors (with IEC B14 flange) for worm geared motors S.



## Motors

Motors with High Efficiency IE2

IE2

## Selection and ordering data

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$		Efficiency class	$I_{St}/I_{rated}$	Article No.				Order code
		kW	rpm	Nm	400 V A	-	4/4 load %	3/4 load %			acc. to IEC 60034-30	Data position	9th	10th	
<b>4-pole, 1 500 rpm at 50 Hz</b>															
80	LE80MD4E	0.55	1 440	3.65	1.39	0.74	77.10	76.80	-	5.30	D	C	2	2	-
	LE80MH4E	0.75	1 440	4.97	1.79	0.76	79.60	79.90	IE2	5.60	D	E	2	2	-
90	LE90SG4E	1.10	1 425	7.37	2.50	0.78	81.40	81.80	IE2	5.60	E	K	2	2	-
	LE90LH4E	1.50	1 435	9.98	3.30	0.79	82.80	83.50	IE2	6.40	E	M	2	2	-
100	LE100LE4E	2.20	1 455	14.4	4.65	0.81	84.30	85.10	IE2	6.90	F	L	2	2	-
	LE100LK4E	3.00	1 455	19.7	6.20	0.82	85.50	86.40	IE2	6.90	F	M	2	2	-
112	LE112ME4E	4.00	1 460	26.2	8.20	0.81	86.60	87.30	IE2	7.10	G	H	2	2	-
132	LE132SF4E	5.50	1 465	35.9	11.30	0.80	87.70	89.00	IE2	6.90	H	G	2	2	-
	LE132MF4E	7.50	1 465	48.9	14.70	0.83	88.70	90.30	IE2	6.90	H	J	2	2	-
	LE132ZMM4E	9.20	1 455	60.4	17.90	0.83	89.30	90.40	IE2	7.10	H	V	2	2	-
160	LE160MF4E	11.00	1 470	71.5	21.00	0.85	89.80	90.90	IE2	6.70	J	P	2	2	-
	LE160LD4E	15.00	1 475	97.1	28.00	0.85	90.60	91.30	IE2	7.30	J	U	2	2	-
180	LES180MM4E	18.50	1 465	120.6	35.00	0.84	91.20	92.00	IE2	7.20	K	L	3	2	-
	LES180ZLJ4E	22.00	1 465	143.4	41.50	0.84	91.60	92.20	IE2	7.30	K	N	3	2	-
200	LES200LN4E	30.00	1 470	194.9	56.00	0.84	92.30	92.80	IE2	6.70	L	M	3	2	-
225	LES225SD4E	37.00	1 470	240.4	65.00	0.88	92.70	93.50	IE2	6.60	M	F	3	2	-
	LES225YMF4E	45.00	1 475	291	80.00	0.87	93.10	93.80	IE2	6.90	M	T	3	2	-
250	LES250MD4E	55.00	1 480	355	100.00	0.85	93.50	93.90	IE2	6.80	N	M	3	2	-
<b>2-pole, 3 000 rpm at 50 Hz</b>															
80	LE80MA2E	0.75	2 805	2.55	1.67	0.84	77.40	79.50	IE2	4.90	D	B	2	2	P00
	LE80ME2E	1.10	2 835	3.71	2.40	0.83	79.60	81.30	IE2	6.00	D	M	2	2	P00
90	LE90SG2E	1.50	2 885	4.96	3.15	0.84	81.30	82.30	IE2	6.90	E	K	2	2	P00
	LE90LH2E	2.20	2 890	7.27	4.50	0.85	83.20	83.90	IE2	7.10	E	M	2	2	P00
100	LE100LD2E	3.00	2 905	9.86	6.10	0.84	84.60	85.20	IE2	7.00	F	K	2	2	P00
112	LE112MA2E	4.00	2 950	12.9	7.80	0.86	85.80	86.70	IE2	7.40	G	G	2	2	P00
132	LE132SB2E	5.50	2 950	17.8	10.50	0.87	87.00	88.00	IE2	6.60	H	E	2	2	P00
	LE132SF2E	7.50	2 950	24.3	14.10	0.87	88.10	88.70	IE2	7.50	H	G	2	2	P00
160	LE160MB2E	11.00	2 955	35.5	20.50	0.87	89.40	90.00	IE2	7.40	J	N	2	2	P00
	LE160MG2E	15.00	2 955	48.5	27.00	0.88	90.30	90.90	IE2	7.60	J	Q	2	2	P00
	LE160LB2E	18.50	2 955	59.8	33.50	0.88	90.90	91.20	IE2	7.90	J	T	2	2	P00
<b>6-pole, 1 000 rpm at 50 Hz</b>															
80	LE80MD6E	0.37	925	3.82	1.08	0.69	71.40	71.50	-	4.00	D	C	2	2	P01
	LE80MK6E	0.55	935	5.62	1.63	0.66	74.00	74.00	-	4.40	D	F	2	2	P01
90	LE90SH6E	0.75	935	7.66	2.05	0.70	75.90	76.00	IE2	4.10	E	C	2	2	P01
	LE90LLB6E	1.10	935	11.2	2.90	0.70	78.10	78.60	IE2	4.40	E	P	2	2	P01
100	LE100LLB6E	1.50	970	14.8	3.70	0.73	79.80	80.50	IE2	5.40	F	P	2	2	P01
112	LE112ME6E	2.20	965	21.8	5.20	0.75	81.80	82.60	IE2	5.00	G	H	2	2	P01
132	LE132SC6E	3.00	970	29.5	7.20	0.72	83.30	83.40	IE2	5.00	H	F	2	2	P01
	LE132MB6E	4.00	970	39.4	9.10	0.75	84.60	85.50	IE2	5.00	H	H	2	2	P01
	LE132MJ6E	5.50	970	54.1	12.10	0.76	86.00	87.00	IE2	5.60	H	L	2	2	P01
160	LE160ML6E	7.50	975	73.5	16.80	0.74	87.20	88.00	IE2	4.70	J	H	2	2	P01
	LE160LL6E	11.00	975	107.7	23.50	0.76	88.70	89.60	IE2	4.80	J	V	2	2	P01
180	LES180LE6E	15.00	975	146.9	31.00	0.78	89.70	90.10	IE2	6.00	K	M	3	2	P01
200	LES200LG6E	18.50	978	180.6	36.00	0.82	90.40	91.30	IE2	5.80	L	L	3	2	P01
	LES200LP6E	22.00	978	214.8	42.50	0.82	90.90	91.60	IE2	6.20	L	N	3	2	P01
225	LES225YMF6E	30.00	980	292	57.00	0.83	91.70	92.50	IE2	6.10	M	K	3	2	P01
250	LES250MD6E	37.00	982	360	70.00	0.83	92.20	93.10	IE2	6.00	N	D	3	2	P01
<b>8-pole, 750 rpm at 50 Hz</b>															
180	LES180LE8E	11.00	720	145.9	26.00	0.70	86.60	87.60	-	4.90	K	M	3	2	P02
200	LES200LP8E	15.00	718	199.5	32.00	0.76	88.90	90.80	-	5.40	L	N	3	2	P02
225	LES225SD8E	18.50	730	242	38.50	0.78	89.00	89.90	-	5.40	M	F	3	2	P02
	LES225MD8E	22.00	730	288	44.00	0.80	90.30	91.30	-	5.50	M	G	3	2	P02
250	LES250MD8E	30.00	732	391	59.00	0.80	91.30	92.20	-	5.60	N	D	3	2	P02

## Selection and ordering data (continued)

Frame size	Motor	$T_{St}/T_{rated}$	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{pfA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code
										9th	10th	11th	12th	
<b>4-pole, 1 500 rpm at 50 Hz</b>														
80	LE80MD4E	2.20	3.10	2.47	53	64	9 000	17	9.3	<b>D</b>	<b>C</b>	<b>2</b>	<b>2</b>	-
	LE80MH4E	2.20	3.10	2.47	53	64	9 000	21	10	<b>D</b>	<b>E</b>	<b>2</b>	<b>2</b>	-
90	LE90SG4E	2.30	2.90	2.30	56	68	10 000	28	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>2</b>	-
	LE90LH4E	2.60	3.40	2.80	56	68	10 000	36	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>2</b>	-
100	LE100LE4E	2.10	3.30	2.43	60	72	6 000	86	20	<b>F</b>	<b>L</b>	<b>2</b>	<b>2</b>	-
	LE100LK4E	2.00	3.10	2.30	60	72	6 000	110	24	<b>F</b>	<b>M</b>	<b>2</b>	<b>2</b>	-
112	LE112ME4E	2.50	3.20	2.60	58	70	5 000	140	24	<b>G</b>	<b>H</b>	<b>2</b>	<b>2</b>	-
132	LE132SF4E	2.30	2.90	2.37	64	76	3 000	270	35	<b>H</b>	<b>G</b>	<b>2</b>	<b>2</b>	-
	LE132MF4E	2.30	2.90	2.30	64	76	3 000	340	42	<b>H</b>	<b>J</b>	<b>2</b>	<b>2</b>	-
	LE132ZMM4E	2.30	3.10	2.37	64	76	1 600	410	O. R.	<b>H</b>	<b>V</b>	<b>2</b>	<b>2</b>	-
160	LE160MF4E	2.10	2.80	2.30	65	77	2 000	650	61	<b>J</b>	<b>P</b>	<b>2</b>	<b>2</b>	-
	LE160LD4E	2.30	3.00	2.50	65	77	2 000	830	73	<b>J</b>	<b>U</b>	<b>2</b>	<b>2</b>	-
180	LES180MM4E	2.50	3.40	2.50	58	71	O. R.	1 200	151	<b>K</b>	<b>L</b>	<b>3</b>	<b>2</b>	-
	LES180ZLJ4E	2.60	3.50	2.60	58	71	O. R.	1 300	156	<b>K</b>	<b>N</b>	<b>3</b>	<b>2</b>	-
200	LES200LN4E	2.50	3.30	2.60	62	75	O. R.	2 000	211	<b>L</b>	<b>M</b>	<b>3</b>	<b>2</b>	-
225	LES225SD4E	2.30	2.90	2.00	62	75	O. R.	4 200	280	<b>M</b>	<b>F</b>	<b>3</b>	<b>2</b>	-
	LES225YMF4E	2.50	3.10	2.10	63	76	O. R.	4 600	305	<b>M</b>	<b>T</b>	<b>3</b>	<b>2</b>	-
250	LES250MD4E	2.70	3.00	2.10	62	75	O. R.	7 500	385	<b>N</b>	<b>M</b>	<b>3</b>	<b>2</b>	-
<b>2-pole, 3 000 rpm at 50 Hz</b>														
80	LE80MA2E	1.90	2.30	1.93	60	71	6 000	8	8.3	<b>D</b>	<b>B</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE80ME2E	2.70	3.10	2.57	60	71	6 000	11	10	<b>D</b>	<b>M</b>	<b>2</b>	<b>2</b>	<b>P00</b>
90	LE90SG2E	2.70	3.60	2.80	65	77	5 000	17	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE90LH2E	2.50	3.70	2.80	65	77	5 000	21	14	<b>E</b>	<b>M</b>	<b>2</b>	<b>2</b>	<b>P00</b>
100	LE100LD2E	2.30	3.30	2.63	67	79	3 000	44	21	<b>F</b>	<b>K</b>	<b>2</b>	<b>2</b>	<b>P00</b>
112	LE112MA2E	2.40	3.30	2.43	69	81	2 000	92	22	<b>G</b>	<b>G</b>	<b>2</b>	<b>2</b>	<b>P00</b>
132	LE132SB2E	1.80	2.90	2.13	68	80	1 000	200	32	<b>H</b>	<b>E</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE132SF2E	2.20	3.10	2.40	68	80	1 000	240	36	<b>H</b>	<b>G</b>	<b>2</b>	<b>2</b>	<b>P00</b>
160	LE160MB2E	2.10	3.20	2.40	70	82	600	450	57	<b>J</b>	<b>N</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE160MG2E	2.40	3.40	2.63	70	82	600	530	65	<b>J</b>	<b>Q</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE160LB2E	2.90	3.60	3.03	70	82	600	610	74	<b>J</b>	<b>T</b>	<b>2</b>	<b>2</b>	<b>P00</b>
<b>6-pole, 1 000 rpm at 50 Hz</b>														
80	LE80MD6E	2.10	2.40	2.17	42	53	12 000	17	8.3	<b>D</b>	<b>C</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE80MK6E	2.50	2.90	2.63	42	53	12 000	25	11.3	<b>D</b>	<b>F</b>	<b>2</b>	<b>2</b>	<b>P01</b>
90	LE90SH6E	2.00	2.50	2.13	43	55	10 000	30	12	<b>E</b>	<b>C</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE90LLB6E	2.20	2.60	2.23	43	55	10 000	40	15	<b>E</b>	<b>P</b>	<b>2</b>	<b>2</b>	<b>P01</b>
100	LE100LLB6E	2.00	2.80	2.17	59	71	9 000	110	24	<b>F</b>	<b>P</b>	<b>2</b>	<b>2</b>	<b>P01</b>
112	LE112ME6E	2.00	2.80	2.17	62	74	8 000	140	24	<b>G</b>	<b>H</b>	<b>2</b>	<b>2</b>	<b>P01</b>
132	LE132SC6E	1.60	2.50	1.93	63	75	6 000	240	31	<b>H</b>	<b>F</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE132MB6E	1.60	2.30	1.87	63	75	6 000	290	36	<b>H</b>	<b>H</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE132MJ6E	1.90	2.60	2.07	63	75	5 000	370	45	<b>H</b>	<b>L</b>	<b>2</b>	<b>2</b>	<b>P01</b>
160	LE160ML6E	1.90	2.20	1.93	67	79	4 000	750	67	<b>J</b>	<b>H</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE160LL6E	1.90	2.20	1.87	67	79	4 000	980	83	<b>J</b>	<b>V</b>	<b>2</b>	<b>2</b>	<b>P01</b>
180	LES180LE6E	2.50	3.10	2.40	56	70	O. R.	1 700	141	<b>K</b>	<b>M</b>	<b>3</b>	<b>2</b>	<b>P01</b>
200	LES200LG6E	2.40	2.60	2.20	58	72	O. R.	2 500	181	<b>L</b>	<b>L</b>	<b>3</b>	<b>2</b>	<b>P01</b>
	LES200LP6E	2.50	2.60	2.20	58	72	O. R.	3 000	201	<b>L</b>	<b>N</b>	<b>3</b>	<b>2</b>	<b>P01</b>
225	LES225YMF6E	2.50	2.80	2.00	56	70	O. R.	5 800	285	<b>M</b>	<b>K</b>	<b>3</b>	<b>2</b>	<b>P01</b>
250	LES250MD6E	2.80	2.50	2.00	57	71	O. R.	8 600	370	<b>N</b>	<b>D</b>	<b>3</b>	<b>2</b>	<b>P01</b>
<b>8-pole, 750 rpm at 50 Hz</b>														
180	LES180LE8E	2.30	2.60	O. R.	67	74	O. R.	1 950	155	<b>K</b>	<b>M</b>	<b>3</b>	<b>2</b>	<b>P02</b>
200	LES200LP8E	2.40	2.80	O. R.	57	64	O. R.	3 440	220	<b>L</b>	<b>N</b>	<b>3</b>	<b>2</b>	<b>P02</b>
225	LES225SD8E	2.20	2.70	1.90	53	56	O. R.	4 300	250	<b>M</b>	<b>F</b>	<b>3</b>	<b>2</b>	<b>P02</b>
	LES225MD8E	2.30	2.70	1.90	53	66	O. R.	5 000	270	<b>M</b>	<b>G</b>	<b>3</b>	<b>2</b>	<b>P02</b>
250	LES250MD8E	2.40	2.70	1.90	58	72	O. R.	8 600	370	<b>N</b>	<b>D</b>	<b>3</b>	<b>2</b>	<b>P02</b>

O. R. On request



## Motors

Motors with High Efficiency IE2

IE2

## Selection and ordering data (continued)

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$		Efficiency class	$I_{St}/I_{rated}$	Article No.				Order code
		kW	rpm	Nm	460 V A		4/4 load %	3/4 load %			acc. to IEC 60034-30	-	Data position 9th 10th 11th 12th	Number of poles	
<b>4-pole, 1 800 rpm at 60 Hz, 50 Hz power</b>															
80	LE80MD4E	0.55	1 750	3	1.29	0.71	75.50	74.60	-	6.40	D	C	2	2	-
	LE80MH4E	0.75	1 750	4.09	1.68	0.72	78.00	77.40	IE2	6.80	D	E	2	2	-
90	LE90SG4E	1.10	1 740	6.04	2.20	0.74	84.00	83.70	IE2	7.00	E	K	2	2	-
	LE90LH4E	1.50	1 745	8.21	3.00	0.75	84.00	84.00	IE2	7.50	E	M	2	2	-
100	LE100LE4E	2.20	1 760	11.9	4.05	0.78	87.50	88.30	IE2	8.10	F	L	2	2	-
	LE100LK4E	3.00	1 765	16.2	5.40	0.79	87.50	86.00	IE2	8.30	F	M	2	2	-
112	LE112ME4E	3.70	1 770	20	6.90	0.77	87.50	87.00	IE2	8.70	G	H	2	2	-
132	LE132SF4E	5.50	1 770	29.7	9.90	0.78	89.50	89.60	IE2	8.00	H	G	2	2	-
	LE132MF4E	7.50	1 770	40.5	12.80	0.82	89.50	90.30	IE2	8.00	H	J	2	2	-
	LE132ZMM4E	9.20	1 760	49.9	15.50	0.82	89.50	89.90	IE2	8.10	H	V	2	2	-
160	LE160MF4E	11.00	1 775	59.2	18.10	0.84	91.00	91.30	IE2	7.70	J	P	2	2	-
	LE160LD4E	15.00	1 780	80.5	24.50	0.84	91.00	90.70	IE2	8.50	J	U	2	2	-
180	LES180MM4E	18.50	1 770	99.8	30.50	0.83	92.40	92.60	IE2	7.70	K	L	3	2	-
	LES180ZLJ4E	22.00	1 770	118.7	36.00	0.83	92.40	92.50	IE2	8.40	K	N	3	2	-
200	LES200LN4E	30.00	1 778	161.1	48.00	0.84	93.00	92.90	IE2	8.20	L	M	3	2	-
225	LES225SD4E	37.00	1 778	198.7	57.00	0.87	93.00	93.20	IE2	7.20	M	F	3	2	-
	LES225YMF4E	45.00	1 778	241.7	70.00	0.86	93.60	93.80	IE2	7.60	M	T	3	2	-
250	LES250MD4E	55.00	1 785	294	87.00	0.84	94.10	94.10	IE2	7.30	N	M	3	2	-
<b>2-pole, 3 600 rpm at 60 Hz, 50 Hz power</b>															
80	LE80MA2E	0.75	3 445	2.08	1.50	0.83	75.50	75.50	IE2	6.00	D	B	2	2	P00
	LE80ME2E	1.10	3 465	3.03	2.05	0.82	82.50	82.50	IE2	6.80	D	M	2	2	P00
90	LE90SG2E	1.50	3 505	4.09	2.75	0.82	84.00	84.00	IE2	8.50	E	K	2	2	P00
	LE90LH2E	2.20	3 510	5.99	3.90	0.83	85.50	85.50	IE2	8.70	E	M	2	2	P00
100	LE100LD2E	3.00	3 520	8.14	5.20	0.83	87.50	87.30	IE2	8.10	F	K	2	2	P00
112	LE112MA2E	3.70	3 565	9.91	6.30	0.84	87.50	87.40	IE2	9.30	G	G	2	2	P00
132	LE132SB2E	5.50	3 555	14.8	9.10	0.86	88.50	88.30	IE2	7.60	H	E	2	2	P00
	LE132SF2E	7.50	3 560	20.1	12.10	0.87	89.50	89.60	IE2	8.20	H	G	2	2	P00
160	LE160MB2E	11.00	3 560	29.5	17.80	0.86	90.20	89.60	IE2	8.20	J	N	2	2	P00
	LE160MG2E	15.00	3 565	40.2	24.00	0.87	90.20	89.90	IE2	8.40	J	Q	2	2	P00
	LE160LB2E	18.50	3 565	49.6	29.50	0.87	91.00	90.50	IE2	8.90	J	T	2	2	P00
<b>6-pole, 1 200 rpm at 60 Hz, 50 Hz power</b>															
80	LE80MD6E	0.37	1 140	3.1	0.98	0.63	75.30	74.10	-	4.60	D	C	2	2	P01
	LE80MK6E	0.55	1 135	4.63	1.47	0.61	77.00	77.50	-	5.20	D	F	2	2	P01
90	LE90SH6E	0.75	1 145	6.25	1.98	0.65	73.00	72.70	IE1	4.50	E	C	2	2	P01
	LE90LLB6E	1.10	1 145	9.17	2.80	0.66	75.00	75.00	IE1	4.80	E	P	2	2	P01
100	LE100LLB6E	1.50	1 175	12.2	3.15	0.69	86.50	86.30	IE2	6.40	F	P	2	2	P01
112	LE112ME6E	2.20	1 170	18	4.30	0.73	87.50	87.30	IE2	6.30	G	H	2	2	P01
132	LE132SC6E	3.00	1 175	24.4	6.20	0.69	87.50	87.10	IE2	6.00	H	F	2	2	P01
	LE132MB6E	3.70	1 180	29.9	7.50	0.71	87.50	87.50	IE2	6.20	H	H	2	2	P01
	LE132MJ6E	5.50	1 175	44.7	10.60	0.73	89.50	89.80	IE2	6.50	H	L	2	2	P01
160	LE160ML6E	7.50	1 180	60.7	14.40	0.73	89.50	89.60	IE2	5.40	J	H	2	2	P01
	LE160LL6E	11.00	1 180	89	20.50	0.74	90.20	90.50	IE2	5.50	J	V	2	2	P01
180	LES180LE6E	15.00	1 178	121.6	27.00	0.77	90.20	90.20	IE2	6.90	K	M	3	2	P01
200	LES200LG6E	18.50	1 182	149.5	31.50	0.81	91.70	92.10	IE2	6.70	L	L	3	2	P01
	LES200LP6E	22.00	1 182	177.7	37.00	0.81	91.70	92.10	IE2	7.40	L	N	3	2	P01
225	LES225YMF6E	30.00	1 182	242.4	49.00	0.83	93.00	93.30	IE2	7.00	M	K	3	2	P01
250	LES250MD6E	37.00	1 185	298	60.00	0.83	93.00	93.30	IE2	7.30	N	D	3	2	P01
<b>8-pole, 900 rpm at 60 Hz, 50 Hz power</b>															
180	LES180LE8E	11.00	875	120	22.50	0.69	88.50	88.80	-	5.60	K	M	3	2	P02
200	LES200LP8E	15.00	875	163.7	28.50	0.74	89.50	90.70	-	6.30	L	N	3	2	P02
225	LES225SD8E	18.50	885	199.6	36.50	0.75	89.50	89.70	-	6.30	M	F	3	2	P02
	LES225MD8E	22.00	885	237.4	45.00	0.78	91.00	91.30	-	6.40	M	G	3	2	P02
250	LES250MD8E	30.00	885	324	60.00	0.79	91.00	91.30	-	6.40	N	D	3	2	P02

## Selection and ordering data (continued)

Frame size	Motor	$T_{S1}/T_{rated}$	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{ptA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code
										9th	10th	11th	12th	
<b>4-pole, 1 800 rpm at 60 Hz, 50 Hz power</b>														
80	LE80MD4E	2.70	3.80	2.94	55	66	7 000	17	9.3	<b>D</b>	<b>C</b>	<b>2</b>	<b>2</b>	-
	LE80MH4E	2.50	3.80	2.86	55	66	7 000	21	10	<b>D</b>	<b>E</b>	<b>2</b>	<b>2</b>	-
90	LE90SG4E	2.70	3.60	2.80	58	70	8 000	28	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>2</b>	-
	LE90LH4E	2.90	4.00	3.21	58	70	8 000	36	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>2</b>	-
100	LE100LE4E	2.50	3.90	2.77	62	74	5 000	86	20	<b>F</b>	<b>L</b>	<b>2</b>	<b>2</b>	-
	LE100LK4E	2.40	3.70	2.75	62	74	5 000	110	24	<b>F</b>	<b>M</b>	<b>2</b>	<b>2</b>	-
112	LE112ME4E	3.00	4.00	3.17	62	74	5 000	140	24	<b>G</b>	<b>H</b>	<b>2</b>	<b>2</b>	-
132	LE132SF4E	2.60	3.30	2.68	68	80	3 000	270	35	<b>H</b>	<b>G</b>	<b>2</b>	<b>2</b>	-
	LE132MF4E	2.70	3.40	2.67	68	80	3 000	340	42	<b>H</b>	<b>J</b>	<b>2</b>	<b>2</b>	-
	LE132ZMM4E	2.50	3.60	2.73	64	76	1 600	410	O. R.	<b>H</b>	<b>V</b>	<b>2</b>	<b>2</b>	-
160	LE160MF4E	2.50	3.20	2.71	69	81	2 000	650	61	<b>J</b>	<b>P</b>	<b>2</b>	<b>2</b>	-
	LE160LD4E	2.60	3.40	2.89	69	81	2 000	830	73	<b>J</b>	<b>U</b>	<b>2</b>	<b>2</b>	-
180	LES180MM4E	2.80	3.90	2.80	61	74	O. R.	1 200	151	<b>K</b>	<b>L</b>	<b>3</b>	<b>2</b>	-
	LES180ZLJ4E	3.00	3.90	3.00	62	74	O. R.	1 300	156	<b>K</b>	<b>N</b>	<b>3</b>	<b>2</b>	-
200	LES200LN4E	3.20	3.70	2.90	67	80	O. R.	2 000	211	<b>L</b>	<b>M</b>	<b>3</b>	<b>2</b>	-
225	LES225SD4E	2.70	3.30	2.30	66	80	O. R.	4 200	280	<b>M</b>	<b>F</b>	<b>3</b>	<b>2</b>	-
	LES225YMF4E	3.00	3.50	2.40	67	80	O. R.	4 600	305	<b>M</b>	<b>T</b>	<b>3</b>	<b>2</b>	-
250	LES250MD4E	3.10	3.30	2.40	66	80	O. R.	7 500	385	<b>N</b>	<b>M</b>	<b>3</b>	<b>2</b>	-
<b>2-pole, 3 600 rpm at 60 Hz, 50 Hz power</b>														
80	LE80MA2E	2.10	3.00	2.23	64	75	3 000	8	8.3	<b>D</b>	<b>B</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE80ME2E	2.20	3.20	3.08	64	75	3 000	11	10	<b>D</b>	<b>M</b>	<b>2</b>	<b>2</b>	<b>P00</b>
90	LE90SG2E	3.10	4.50	3.35	69	81	2 000	17	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE90LH2E	3.00	4.60	3.35	69	81	2 000	21	14	<b>E</b>	<b>M</b>	<b>2</b>	<b>2</b>	<b>P00</b>
100	LE100LD2E	2.60	3.80	2.98	71	83	2 000	44	21	<b>F</b>	<b>K</b>	<b>2</b>	<b>2</b>	<b>P00</b>
112	LE112MA2E	2.90	4.00	3.03	73	85	1 300	92	22	<b>G</b>	<b>G</b>	<b>2</b>	<b>2</b>	<b>P00</b>
132	LE132SB2E	2.00	3.30	2.37	72	84	800	200	32	<b>H</b>	<b>E</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE132SF2E	2.30	3.60	2.70	72	84	800	240	36	<b>H</b>	<b>G</b>	<b>2</b>	<b>2</b>	<b>P00</b>
160	LE160MB2E	2.40	3.60	2.68	77	89	500	450	57	<b>J</b>	<b>N</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE160MG2E	2.80	3.90	3.04	77	89	500	530	65	<b>J</b>	<b>Q</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE160LB2E	3.30	4.10	3.45	77	89	500	610	74	<b>J</b>	<b>T</b>	<b>2</b>	<b>2</b>	<b>P00</b>
<b>6-pole, 1 200 rpm at 60 Hz, 50 Hz power</b>														
80	LE80MD6E	2.30	2.90	2.50	45	56	8 400	17	8.3	<b>D</b>	<b>C</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE80MK6E	2.90	3.60	3.13	45	56	8 400	25	11.3	<b>D</b>	<b>F</b>	<b>2</b>	<b>2</b>	<b>P01</b>
90	LE90SH6E	2.20	3.00	2.43	46	58	7 000	30	12	<b>E</b>	<b>C</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE90LLB6E	2.40	3.10	2.57	46	58	7 000	40	15	<b>E</b>	<b>P</b>	<b>2</b>	<b>2</b>	<b>P01</b>
100	LE100LLB6E	2.20	3.20	2.43	62	74	6 300	110	24	<b>F</b>	<b>P</b>	<b>2</b>	<b>2</b>	<b>P01</b>
112	LE112ME6E	2.10	3.20	2.43	65	77	5 600	140	24	<b>G</b>	<b>H</b>	<b>2</b>	<b>2</b>	<b>P01</b>
132	LE132SC6E	1.80	2.90	2.23	67	79	4 200	240	31	<b>H</b>	<b>F</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE132MB6E	1.90	3.00	2.33	67	79	4 200	290	36	<b>H</b>	<b>H</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE132MJ6E	2.10	2.90	2.31	67	79	3 500	370	45	<b>H</b>	<b>L</b>	<b>2</b>	<b>2</b>	<b>P01</b>
160	LE160ML6E	2.10	2.50	2.18	70	82	2 800	750	67	<b>J</b>	<b>H</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE160LL6E	2.20	2.50	2.14	70	82	2 800	980	83	<b>J</b>	<b>V</b>	<b>2</b>	<b>2</b>	<b>P01</b>
180	LES180LE6E	2.80	3.40	2.70	60	74	O. R.	1 700	141	<b>K</b>	<b>M</b>	<b>3</b>	<b>2</b>	<b>P01</b>
200	LES200LG6E	2.60	3.00	2.50	62	76	O. R.	2 500	181	<b>L</b>	<b>L</b>	<b>3</b>	<b>2</b>	<b>P01</b>
	LES200LP6E	3.00	3.00	2.60	62	76	O. R.	3 000	201	<b>L</b>	<b>N</b>	<b>3</b>	<b>2</b>	<b>P01</b>
225	LES225YMF6E	2.90	3.10	2.30	60	73	O. R.	5 800	285	<b>M</b>	<b>K</b>	<b>3</b>	<b>2</b>	<b>P01</b>
250	LES250MD6E	3.30	2.80	2.30	63	77	O. R.	8 600	370	<b>N</b>	<b>D</b>	<b>3</b>	<b>2</b>	<b>P01</b>
<b>8-pole, 900 rpm at 60 Hz, 50 Hz power</b>														
180	LES180LE8E	2.60	2.90	O. R.	71	78	O. R.	1 950	155	<b>K</b>	<b>M</b>	<b>3</b>	<b>2</b>	<b>P02</b>
200	LES200LP8E	2.80	3.30	O. R.	59	66	O. R.	3 440	220	<b>L</b>	<b>N</b>	<b>3</b>	<b>2</b>	<b>P02</b>
225	LES225SD8E	2.50	3.10	O. R.	54	67	O. R.	4 300	250	<b>M</b>	<b>F</b>	<b>3</b>	<b>2</b>	<b>P02</b>
	LES225MD8E	2.50	3.00	O. R.	55	68	O. R.	5 000	270	<b>M</b>	<b>G</b>	<b>3</b>	<b>2</b>	<b>P02</b>
250	LES250MD8E	2.70	3.00	O. R.	57	71	O. R.	8 600	370	<b>N</b>	<b>D</b>	<b>3</b>	<b>2</b>	<b>P02</b>

O. R. On request

## Motors

## Motors with High Efficiency IE2

IE2

## Selection and ordering data (continued)

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$	Efficiency class	$I_{St}/I_{rated}$	Article No.	Order code				
		460 V A	4/4 load %	3/4 load %	acc. to IEC 60034-30						Data position 9th 10th 11th 12th	Number of poles			
		kW	rpm	Nm	A	-	%	%	-						
<b>4-pole, 1 800 rpm at 60 Hz, 60 Hz power</b>															
80	LE80MD4E	0.63	1 735	3.47	1.42	0.74	75.50	75.80	-	5.70	D C 2 2 -				
	LE80MH4E	0.86	1 740	4.72	1.82	0.76	78.00	78.50	IE2	6.20	D E 2 2 -				
90	LE90SG4E	1.27	1 725	7.03	2.45	0.78	84.00	84.70	IE2	6.10	E K 2 2 -				
	LE90LH4E	1.75	1 730	9.66	3.30	0.79	84.00	85.00	IE2	6.70	E M 2 2 -				
100	LE100LE4E	2.55	1 755	13.9	4.45	0.82	87.50	87.90	IE2	7.30	F L 2 2 -				
	LE100LK4E	3.45	1 755	18.8	6.00	0.82	87.50	88.20	IE2	7.50	F M 2 2 -				
112	LE112ME4E	4.55	1 760	24.7	8.00	0.82	87.50	88.00	IE2	7.50	G H 2 2 -				
132	LE132SF4E	6.30	1 765	34.1	10.90	0.81	89.50	89.80	IE2	7.30	H G 2 2 -				
	LE132MF4E	8.60	1 765	46.5	14.50	0.83	89.50	90.50	IE2	7.10	H J 2 2 -				
	LE132ZMM4E	10.50	1 760	57	17.70	0.83	91.00	92.00	IE2	7.20	H V 2 2 -				
160	LE160MF4E	12.60	1 770	68	20.50	0.85	91.00	91.40	IE2	7.00	J P 2 2 -				
	LE160LD4E	17.30	1 775	93.1	27.50	0.86	92.40	92.40	IE2	7.70	J U 2 2 -				
180	LES180MM4E	21.30	1 765	115.2	34.00	0.85	92.40	93.10	IE2	6.80	K L 3 2 -				
	LES180ZLJ4E	25.30	1 765	136.9	40.50	0.85	92.40	92.90	IE2	7.50	K N 3 2 -				
200	LES200LN4E	34.50	1 770	186.1	55.00	0.85	93.00	93.40	IE2	7.20	L M 3 2 -				
225	LES225SD4E	42.50	1 770	229.3	65.00	0.88	93.60	94.20	IE2	6.60	M F 3 2 -				
	LES225YMF4E	52.00	1 775	280	80.00	0.87	94.10	94.70	IE2	6.80	M T 3 2 -				
250	LES250MD4E	63.00	1 780	338	99.00	0.85	94.10	94.40	IE2	6.60	N M 3 2 -				
<b>2-pole, 3 600 rpm at 60 Hz, 60 Hz power</b>															
80	LE80MA2E	0.86	3 410	2.41	1.70	0.84	75.50	77.00	IE2	5.20	D B 2 2 P00				
	LE80ME2E	1.27	3 430	3.54	2.30	0.84	82.50	83.80	IE2	6.30	D M 2 2 P00				
90	LE90SG2E	1.75	3 480	4.8	3.10	0.85	84.00	84.50	IE2	7.40	E K 2 2 P00				
	LE90LH2E	2.55	3 485	6.99	4.35	0.86	85.50	86.40	IE2	7.60	E M 2 2 P00				
100	LE100LD2E	3.45	3 505	9.4	5.80	0.85	87.50	86.40	IE2	7.30	F K 2 2 P00				
112	LE112MA2E	4.55	3 550	12.2	7.50	0.87	87.50	87.40	IE2	7.80	G G 2 2 P00				
132	LE132SB2E	6.30	3 550	16.9	10.20	0.88	88.50	89.30	IE2	6.90	H E 2 2 P00				
	LE132SF2E	8.60	3 550	23.1	13.70	0.88	89.50	90.50	IE2	7.40	H G 2 2 P00				
160	LE160MB2E	12.60	3 555	33.8	19.90	0.85	90.20	89.60	IE2	7.40	J N 2 2 P00				
	LE160MG2E	17.30	3 555	46.5	27.00	0.88	91.00	90.60	IE2	7.60	J Q 2 2 P00				
	LE160LB2E	21.30	3 555	57.2	33.00	0.88	91.00	90.60	IE2	7.90	J T 2 2 P00				
<b>6-pole, 1 200 rpm at 60 Hz, 60 Hz power</b>															
80	LE80MD6E	0.43	1 125	3.65	1.04	0.69	75.30	75.30	-	4.20	D C 2 2 P01				
	LE80MK6E	0.63	1 135	5.3	1.56	0.66	77.00	77.50	-	4.80	D F 2 2 P01				
90	LE90SH6E	0.86	1 145	7.17	1.85	0.73	73.00	73.00	IE2	4.80	E C 2 2 P01				
	LE90LLB6E	1.27	1 135	10.7	3.05	0.70	75.00	75.00	IE1	4.40	E P 2 2 P01				
100	LE100LLB6E	1.75	1 170	14.3	3.45	0.74	86.50	87.10	IE2	5.80	F P 2 2 P01				
112	LE112ME6E	2.55	1 165	20.9	4.90	0.75	87.50	88.10	IE2	5.50	G H 2 2 P01				
132	LE132SC6E	3.45	1 170	28.2	6.90	0.72	87.50	87.80	IE2	5.20	H F 2 2 P01				
	LE132MB6E	4.55	1 170	37.1	8.70	0.75	87.50	88.50	IE2	5.30	H H 2 2 P01				
	LE132MJ6E	6.30	1 170	51.4	11.60	0.76	89.50	90.00	IE2	5.80	H L 2 2 P01				
160	LE160ML6E	8.60	1 175	69.9	16.10	0.75	89.50	90.20	IE2	4.90	J H 2 2 P01				
	LE160LL6E	12.60	1 175	102.4	23.00	0.76	90.20	91.00	IE2	4.90	J V 2 2 P01				
180	LES180LE6E	18.00	1 170	146.9	31.00	0.80	91.70	92.20	IE2	6.00	K M 3 2 P01				
200	LES200LG6E	22.00	1 175	178.8	36.50	0.83	91.00	91.90	IE1	5.80	L L 3 2 P01				
	LES200LP6E	26.50	1 175	215.4	43.50	0.83	91.70	92.80	IE1	6.30	L N 3 2 P01				
225	LES225YMF6E	36.00	1 175	293	59.00	0.84	91.70	92.50	IE1	6.00	M K 3 2 P01				
250	LES250MD6E	44.50	1 180	360	73.00	0.84	91.70	92.50	IE1	6.30	N D 3 2 P01				
<b>8-pole, 900 rpm at 60 Hz, 60 Hz power</b>															
180	LES180LE8E	12.60	865	139.1	26.00	0.73	86.80	87.80	-	4.90	K M 3 2 P02				
200	LES200LP8E	18.00	865	198.7	32.50	0.78	89.50	91.20	-	5.40	L N 3 2 P02				
225	LES225SD8E	22.00	880	238.7	36.50	0.79	90.50	91.20	-	5.40	M F 3 2 P02				
	LES225MD8E	26.50	880	288	45.00	0.81	91.00	91.90	-	5.40	M G 3 2 P02				
250	LES250MD8E	36.00	880	391	60.00	0.82	91.70	92.50	-	5.40	N D 3 2 P02				

## Selection and ordering data (continued)

Frame size	Motor	$T_{S1}/T_{rated}$	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{ptA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code
										Data position 9th	Data position 10th	Data position 11th	Data position 12th	
<b>4-pole, 1 800 rpm at 60 Hz, 60 Hz power</b>														
80	LE80MD4E	2.40	3.30	2.57	55	66	7 000	17	9.3	<b>D</b>	<b>C</b>	<b>2</b>	<b>2</b>	-
	LE80MH4E	2.20	3.30	2.50	55	66	7 000	21	10	<b>D</b>	<b>E</b>	<b>2</b>	<b>2</b>	-
90	LE90SG4E	2.30	3.00	2.37	58	70	8 000	28	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>2</b>	-
	LE90LH4E	2.50	3.40	2.73	58	70	8 000	36	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>2</b>	-
100	LE100LE4E	2.10	3.30	2.37	62	74	5 000	86	20	<b>F</b>	<b>L</b>	<b>2</b>	<b>2</b>	-
	LE100LK4E	2.00	3.10	2.30	62	74	5 000	110	24	<b>F</b>	<b>M</b>	<b>2</b>	<b>2</b>	-
112	LE112ME4E	2.40	3.20	2.53	62	74	5 000	140	24	<b>G</b>	<b>H</b>	<b>2</b>	<b>2</b>	-
132	LE132SF4E	2.30	2.90	2.37	68	80	3 000	270	35	<b>H</b>	<b>G</b>	<b>2</b>	<b>2</b>	-
	LE132MF4E	2.30	2.90	2.27	68	80	3 000	340	42	<b>H</b>	<b>J</b>	<b>2</b>	<b>2</b>	-
	LE132ZMM4E	2.10	3.00	2.33	64	76	1 600	410	O. R.	<b>H</b>	<b>V</b>	<b>2</b>	<b>2</b>	-
160	LE160MF4E	2.20	2.80	2.37	69	81	2 000	650	61	<b>J</b>	<b>P</b>	<b>2</b>	<b>2</b>	-
	LE160LD4E	2.30	2.90	2.50	69	81	2 000	830	73	<b>J</b>	<b>U</b>	<b>2</b>	<b>2</b>	-
180	LES180MM4E	2.50	3.40	2.50	61	74	O. R.	1200	151	<b>K</b>	<b>L</b>	<b>3</b>	<b>2</b>	-
	LES180ZLJ4E	2.60	3.40	2.60	62	74	O. R.	1300	156	<b>K</b>	<b>N</b>	<b>3</b>	<b>2</b>	-
200	LES200LN4E	2.70	3.20	2.50	67	80	O. R.	2000	211	<b>L</b>	<b>M</b>	<b>3</b>	<b>2</b>	-
225	LES225SD4E	2.30	2.90	2.00	66	80	O. R.	4200	280	<b>M</b>	<b>F</b>	<b>3</b>	<b>2</b>	-
	LES225YMF4E	2.50	3.10	2.10	67	80	O. R.	4600	305	<b>M</b>	<b>T</b>	<b>3</b>	<b>2</b>	-
250	LES250MD4E	2.80	2.90	2.10	66	80	O. R.	7500	385	<b>N</b>	<b>M</b>	<b>3</b>	<b>2</b>	-
<b>2-pole, 3 600 rpm at 60 Hz, 60 Hz power</b>														
80	LE80MA2E	1.90	2.30	1.93	64	75	3 000	8	8.3	<b>D</b>	<b>B</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE80ME2E	2.70	3.30	2.67	64	75	3 000	11	10	<b>D</b>	<b>M</b>	<b>2</b>	<b>2</b>	<b>P00</b>
90	LE90SG2E	2.60	3.80	2.83	69	81	2 000	17	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE90LH2E	2.60	3.90	2.87	69	81	2 000	21	14	<b>E</b>	<b>M</b>	<b>2</b>	<b>2</b>	<b>P00</b>
100	LE100LD2E	2.20	3.30	2.57	71	83	2 000	44	21	<b>F</b>	<b>K</b>	<b>2</b>	<b>2</b>	<b>P00</b>
112	LE112MA2E	2.40	3.30	2.43	73	85	1 300	92	22	<b>G</b>	<b>G</b>	<b>2</b>	<b>2</b>	<b>P00</b>
132	LE132SB2E	1.80	2.90	2.10	72	84	800	200	32	<b>H</b>	<b>E</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE132SF2E	2.00	3.10	2.33	72	84	800	240	36	<b>H</b>	<b>G</b>	<b>2</b>	<b>2</b>	<b>P00</b>
160	LE160MB2E	2.10	3.20	2.37	77	89	500	450	57	<b>J</b>	<b>N</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE160MG2E	2.40	3.40	2.63	77	89	500	530	65	<b>J</b>	<b>Q</b>	<b>2</b>	<b>2</b>	<b>P00</b>
	LE160LB2E	2.90	3.60	3.03	77	89	500	610	74	<b>J</b>	<b>T</b>	<b>2</b>	<b>2</b>	<b>P00</b>
<b>6-pole, 1 200 rpm at 60 Hz, 60 Hz power</b>														
80	LE80MD6E	2.10	2.60	2.23	45	56	8 400	17	8.3	<b>D</b>	<b>C</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE80MK6E	2.60	3.10	2.73	45	56	8 400	25	11.3	<b>D</b>	<b>F</b>	<b>2</b>	<b>2</b>	<b>P01</b>
90	LE90SH6E	1.90	2.60	2.17	46	58	7 000	30	12	<b>E</b>	<b>C</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE90LLB6E	2.10	2.60	2.20	46	58	7 000	40	15	<b>E</b>	<b>P</b>	<b>2</b>	<b>2</b>	<b>P01</b>
100	LE100LLB6E	1.90	2.80	2.13	62	74	6 300	110	24	<b>F</b>	<b>P</b>	<b>2</b>	<b>2</b>	<b>P01</b>
112	LE112ME6E	1.90	2.80	2.13	65	77	5 600	140	24	<b>G</b>	<b>H</b>	<b>2</b>	<b>2</b>	<b>P01</b>
132	LE132SC6E	1.60	2.60	1.97	67	79	4 200	240	31	<b>H</b>	<b>F</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE132MB6E	1.60	2.40	1.90	67	79	4 200	290	36	<b>H</b>	<b>H</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE132MJ6E	1.90	2.60	2.07	67	79	3 500	370	45	<b>H</b>	<b>L</b>	<b>2</b>	<b>2</b>	<b>P01</b>
160	LE160ML6E	1.90	2.20	1.93	70	82	2 800	750	67	<b>J</b>	<b>H</b>	<b>2</b>	<b>2</b>	<b>P01</b>
	LE160LL6E	1.90	2.20	1.87	70	82	2 800	980	83	<b>J</b>	<b>V</b>	<b>2</b>	<b>2</b>	<b>P01</b>
180	LES180LE6E	2.40	2.90	2.30	60	74	O. R.	1 700	141	<b>K</b>	<b>M</b>	<b>3</b>	<b>2</b>	<b>P01</b>
200	LES200LG6E	2.30	2.50	2.10	62	76	O. R.	2 500	181	<b>L</b>	<b>L</b>	<b>3</b>	<b>2</b>	<b>P01</b>
	LES200LP6E	2.50	2.50	2.20	62	76	O. R.	3 000	201	<b>L</b>	<b>N</b>	<b>3</b>	<b>2</b>	<b>P01</b>
225	LES225YMF6E	2.40	2.70	1.90	60	73	O. R.	5 800	285	<b>M</b>	<b>K</b>	<b>3</b>	<b>2</b>	<b>P01</b>
250	LES250MD6E	2.70	2.30	1.90	63	77	O. R.	8 600	370	<b>N</b>	<b>D</b>	<b>3</b>	<b>2</b>	<b>P01</b>
<b>8-pole, 900 rpm at 60 Hz, 60 Hz power</b>														
180	LES180LE8E	2.20	2.40	O. R.	71	78	O. R.	1 950	155	<b>K</b>	<b>M</b>	<b>3</b>	<b>2</b>	<b>P02</b>
200	LES200LP8E	2.30	2.70	O. R.	59	66	O. R.	3 440	220	<b>L</b>	<b>N</b>	<b>3</b>	<b>2</b>	<b>P02</b>
225	LES225SD8E	2.10	2.60	1.80	54	67	O. R.	4 300	250	<b>M</b>	<b>F</b>	<b>3</b>	<b>2</b>	<b>P02</b>
	LES225MD8E	2.20	2.60	1.80	55	68	O. R.	5 000	270	<b>M</b>	<b>G</b>	<b>3</b>	<b>2</b>	<b>P02</b>
250	LES250MD8E	2.20	2.50	1.80	57	71	O. R.	8 600	370	<b>N</b>	<b>D</b>	<b>3</b>	<b>2</b>	<b>P02</b>

O. R. On request

## Motors

Motors with High Efficiency IE2

IE2

## Selection and ordering data (continued)

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$ 4/4 load %	$T_{Bk}/T_{rated}$	Article No.				Order code	
		kW	rpm	Nm	400 V A				-	-	Data position 9th 10th 11th 12th			
<b>4-pole, 2 610 rpm at 87 Hz, 400 V, duty type S9</b>														
80	LE80MD4E	0.95	2 555	3.55	2.45	0.68	82.10	3.1	D	C	2	2	P91	-
	LE80MH4E	1.30	2 555	4.86	3.20	0.71	83.00	3.1	D	E	2	2	P91	-
90	LE90SG4E	1.90	2 540	7.14	4.50	0.72	84.30	2.9	E	K	2	2	P91	-
	LE90LH4E	2.50	2 550	9.36	5.80	0.73	85.70	3.6	E	M	2	2	P91	-
100	LE100LE4E	3.60	2 570	13.4	7.50	0.79	87.80	3.5	F	L	2	2	P91	-
	LE100LK4E	5.00	2 565	18.6	10.30	0.80	88.00	3.2	F	M	2	2	P91	-
112	LE112ME4E	6.50	2 570	24.2	14.00	0.76	88.20	3.4	G	H	2	2	P91	-
132	LE132SF4E	9.00	2 575	33.4	18.80	0.78	88.60	3.1	H	G	2	2	P91	-
	LE132MF4E	12.50	2 575	46.4	24.50	0.82	89.80	3.0	H	J	2	2	P91	-
	LE132ZMM4E	16.00	2 570	59.5	30.50	0.82	90.00	3.1	H	V	2	2	P91	-
160	LE160MF4E	17.00	2 585	62.8	33.00	0.81	91.20	3.1	J	P	2	2	P91	-
	LE160LD4E	23.50	2 585	86.8	45.50	0.81	92.20	3.3	J	U	2	2	P91	-
180	LES180MM4E	29.00	2 580	107.3	55.00	0.82	92.60	3.8	K	L	3	2	P91	-
	LES180ZLJ4E	34.00	2 575	126.1	65.00	0.83	91.00	3.9	K	N	3	2	P91	-
200	LES200LN4E	46.50	2 580	172.1	88.00	0.83	91.80	3.7	L	M	3	2	P91	-
225	LES225SD4E	55.50	2 580	205.4	105.00	0.87	91.90	3.2	M	F	3	2	P91	-
	LES225YMF4E	67.50	2 580	249.8	128.00	0.87	92.20	3.3	M	T	3	2	P91	-
250	LES250MD4E	82.50	2 590	304	160.00	0.83	93.20	3.4	N	M	3	2	P91	-
<b>6-pole, 1 740 rpm at 87 Hz, 400 V, duty type S9</b>														
80	LE80MD6E	0.65	1 675	3.71	1.85	0.63	78.90	2.5	D	C	2	2	P91	P01
	LE80MK6E	0.95	1 675	5.42	2.75	0.61	81.20	3.0	D	F	2	2	P91	P01
90	LE90SH6E	1.30	1 680	7.39	3.30	0.68	83.10	2.5	E	C	2	2	P91	P01
	LE90LLB6E	1.90	1 680	10.8	5.00	0.66	82.20	2.7	E	P	2	2	P91	P01
100	LE100LLB6E	2.60	1 710	14.5	6.10	0.70	88.00	2.8	F	P	2	2	P91	P01
112	LE112ME6E	3.80	1 710	21.2	8.60	0.73	87.00	2.8	G	H	2	2	P91	P01
132	LE132SC6E	5.00	1 715	27.8	11.80	0.70	87.40	2.6	H	F	2	2	P91	P01
	LE132MB6E	6.50	1 715	36.2	14.30	0.74	88.40	2.5	H	H	2	2	P91	P01
	LE132MJ6E	9.00	1 715	50.1	19.50	0.74	89.80	2.8	H	L	2	2	P91	P01
160	LE160ML6E	12.00	1 720	66.6	26.00	0.74	90.10	2.4	J	H	2	2	P91	P01
	LE160LL6E	17.00	1 720	94.4	35.00	0.77	90.80	2.5	J	V	2	2	P91	P01
180	LES180LE6E	23.50	1 715	131	49.30	0.75	91.70	O. R.	K	M	3	2	P91	P01
200	LES200LG6E	29.00	1 720	161	59.00	0.78	90.70	O. R.	L	L	3	2	P91	P01
	LES200LP6E	34.50	1 720	192	69.00	0.80	90.50	O. R.	L	N	3	2	P91	P01
225	LES225YMF6E	45.00	1 182	364	O. R.	0.83	93.00	3.1	M	K	3	2	P91	P01
250	LES250MD6E	55.50	1 185	447	O. R.	0.83	93.00	2.8	N	D	3	2	P91	P01
<b>8-pole, 1 305 rpm at 87 Hz, 400 V, duty type S9</b>														
180	LES180LE8E	19.00	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	K	M	3	2	P91	P02
200	LES200LP8E	26.00	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	L	N	3	2	P91	P02
225	LES225SD8E	32.00	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	M	F	3	2	P91	P02
	LES225MD8E	38.00	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	M	G	3	2	P91	P02
250	LES250MD8E	45.00	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	N	D	3	2	P91	P02

O. R. On request

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## Selection and ordering data (continued)

Frame size	Motor	$L_{pTA}$	$L_{WA}$	$J_{mot}$	$m_{mot}$	Article No.				Order code	
		dB (A)	dB (A)	$10^{-4}$ kgm <sup>2</sup>	kg	Data position 9th 10th 11th 12th	Power	Number of poles			
<b>4-pole, 2 610 rpm at 87 Hz, 400 V, duty type S9</b>											
80	LE80MD4E	O. R.	O. R.	17	9.3	D	C	2	2	P91	-
	LE80MH4E	O. R.	O. R.	21	10	D	E	2	2	P91	-
90	LE90SG4E	O. R.	O. R.	28	12	E	K	2	2	P91	-
	LE90LH4E	O. R.	O. R.	36	15	E	M	2	2	P91	-
100	LE100LE4E	O. R.	O. R.	86	20	F	L	2	2	P91	-
	LE100LK4E	O. R.	O. R.	110	24	F	M	2	2	P91	-
112	LE112ME4E	O. R.	O. R.	140	24	G	H	2	2	P91	-
132	LE132SF4E	O. R.	O. R.	270	35	H	G	2	2	P91	-
	LE132MF4E	O. R.	O. R.	340	42	H	J	2	2	P91	-
	LE132ZMM4E	O. R.	O. R.	410	O. R.	H	V	2	2	P91	-
160	LE160MF4E	O. R.	O. R.	650	61	J	P	2	2	P91	-
	LE160LD4E	O. R.	O. R.	830	73	J	U	2	2	P91	-
180	LES180MM4E	O. R.	O. R.	1 200	151	K	L	3	2	P91	-
	LES180ZLJ4E	O. R.	O. R.	1 300	156	K	N	3	2	P91	-
200	LES200LN4E	O. R.	O. R.	2 000	211	L	M	3	2	P91	-
225	LES225SD4E	79	O. R.	4 200	280	M	F	3	2	P91	-
	LES225YMF4E	79	O. R.	4 600	305	M	T	3	2	P91	-
250	LES250MD4E	78	O. R.	7 500	385	N	M	3	2	P91	-
<b>6-pole, 1 740 rpm at 87 Hz, 400 V, duty type S9</b>											
80	LE80MD6E	O. R.	O. R.	17	8.3	D	C	2	2	P91	P01
	LE80MK6E	O. R.	O. R.	25	11.3	D	F	2	2	P91	P01
90	LE90SH6E	O. R.	O. R.	30	12	E	C	2	2	P91	P01
	LE90LLB6E	O. R.	O. R.	40	15	E	P	2	2	P91	P01
100	LE100LLB6E	O. R.	O. R.	110	24	F	P	2	2	P91	P01
112	LE112ME6E	O. R.	O. R.	140	24	G	H	2	2	P91	P01
132	LE132SC6E	O. R.	O. R.	240	31	H	F	2	2	P91	P01
	LE132MB6E	O. R.	O. R.	290	36	H	H	2	2	P91	P01
	LE132MJ6E	O. R.	O. R.	370	45	H	L	2	2	P91	P01
160	LE160ML6E	O. R.	O. R.	750	67	J	H	2	2	P91	P01
	LE160LL6E	O. R.	O. R.	980	83	J	V	2	2	P91	P01
180	LES180LE6E	O. R.	O. R.	1 700	141	K	M	3	2	P91	P01
200	LES200LG6E	O. R.	O. R.	2 500	181	L	L	3	2	P91	P01
	LES200LP6E	O. R.	O. R.	3 000	201	L	N	3	2	P91	P01
225	LES225YMF6E	O. R.	O. R.	5 800	285	M	K	3	2	P91	P01
250	LES250MD6E	O. R.	O. R.	8 600	370	N	D	3	2	P91	P01
<b>8-pole, 1 305 rpm at 87 Hz, 400 V, duty type S9</b>											
180	LES180LE8E	O. R.	O. R.	1 950	155	K	M	3	2	P91	P02
200	LES200LP8E	O. R.	O. R.	3 440	220	L	N	3	2	P91	P02
225	LES225SD8E	O. R.	O. R.	4 300	250	M	F	3	2	P91	P02
	LES225MD8E	O. R.	O. R.	5 000	270	M	G	3	2	P91	P02
250	LES250MD8E	O. R.	O. R.	8 600	370	N	D	3	2	P91	P02

O. R. On request



## Motors

Motors with Premium Efficiency IE3

IE3

## Selection and ordering data

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$		Efficiency class	$I_{St}/I_{rated}$	Article No.				Order code
		kW	rpm	Nm	400 V A		-	4/4 load %			3/4 load %	acc. to IEC 60034-30	-	Data position	
4-pole, 1 500 rpm at 50 Hz															
80	LE80ZMQ4P	0.75	1 450	4.94	1.75	0.75	82.50	82.30	IE3	7.10	<b>D</b>	<b>F</b>	<b>2</b>	<b>3</b>	-
90	LE90SM4P	1.10	1 440	7.29	2.40	0.78	84.10	84.70	IE3	6.90	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	-
	LE90ZLR4P	1.50	1 445	9.91	3.15	0.80	85.30	85.90	IE3	7.20	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	-
100	LE100ZLSA4P	2.20	1 465	14.3	4.40	0.83	86.70	87.30	IE3	7.60	<b>F</b>	<b>N</b>	<b>2</b>	<b>3</b>	-
	LE100ZLSB4P	3.00	1 460	19.6	5.90	0.83	87.70	88.40	IE3	7.30	<b>F</b>	<b>P</b>	<b>2</b>	<b>3</b>	-
112	LE112ZMKB4P	4.00	1 460	26.2	7.90	0.82	88.60	88.60	IE3	7.10	<b>G</b>	<b>J</b>	<b>2</b>	<b>3</b>	-
132	LE132ZST4P	5.50	1 470	35.7	10.50	0.84	89.60	89.60	IE3	7.20	<b>H</b>	<b>J</b>	<b>2</b>	<b>3</b>	-
	LE132ZMS4P	7.50	1 470	48.7	14.30	0.84	90.40	90.40	IE3	7.40	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	-
160	LE160MPA4P	9.20	1 480	59.4	18.70	0.78	91.00	90.70	IE3	7.60	<b>J</b>	<b>Q</b>	<b>2</b>	<b>3</b>	-
	LE160MPB4P	11.00	1 475	71.2	20.50	0.84	91.40	91.40	IE3	6.90	<b>J</b>	<b>R</b>	<b>2</b>	<b>3</b>	-
	LE160ZLL4P	15.00	1 475	97.1	28.50	0.82	92.10	92.10	IE3	8.50	<b>J</b>	<b>U</b>	<b>2</b>	<b>3</b>	-
180	LES180MQ4P	18.50	1 470	120.2	35.00	0.82	92.60	93.10	IE3	7.20	<b>K</b>	<b>L</b>	<b>3</b>	<b>3</b>	-
	LES180ZLN4P	22.00	1 470	142.9	41.00	0.83	93.00	93.60	IE3	6.80	<b>K</b>	<b>N</b>	<b>3</b>	<b>3</b>	-
200	LES200ZLU4P	30.00	1 470	194.9	55.00	0.84	93.60	94.20	IE3	7.30	<b>L</b>	<b>N</b>	<b>3</b>	<b>3</b>	-
225	LES225SD4P	37.00	1 478	239.1	66.00	0.86	93.90	94.50	IE3	6.40	<b>M</b>	<b>F</b>	<b>3</b>	<b>3</b>	-
	LES225YMF4P	45.00	1 478	291	80.00	0.86	94.20	94.90	IE3	6.40	<b>M</b>	<b>T</b>	<b>3</b>	<b>3</b>	-
250	LES250MD4P	55.00	1 482	354	96.00	0.87	94.60	95.10	IE3	6.80	<b>N</b>	<b>M</b>	<b>3</b>	<b>3</b>	-
2-pole, 3 000 rpm at 50 Hz															
80	LE80ME2P	0.75	2 850	2.51	1.56	0.86	80.70	82.00	IE3	6.20	<b>D</b>	<b>B</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE80ZMJ2P	1.10	2 885	3.64	2.25	0.85	82.70	82.70	IE3	7.40	<b>D</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>
90	LE90SM2P	1.50	2 910	4.92	3.00	0.86	84.20	84.50	IE3	8.10	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE90ZLR2P	2.20	2 910	7.22	4.20	0.88	85.90	86.80	IE3	8.30	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>
100	LE100ZLK2P	3.00	2 920	9.81	5.60	0.88	87.10	87.10	IE3	8.00	<b>F</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>
112	LE112ZMH2P	4.00	2 950	12.9	7.40	0.89	88.10	88.10	IE3	7.50	<b>G</b>	<b>G</b>	<b>2</b>	<b>3</b>	<b>P00</b>
132	LE132SF2P	5.50	2 950	17.8	9.90	0.90	89.20	89.20	IE3	7.40	<b>H</b>	<b>E</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE132ZSQB2P	7.50	2 950	24.3	13.10	0.92	90.10	90.10	IE3	8.30	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P00</b>
160	LE160MG2P	11.00	2 955	35.5	19.60	0.89	91.20	91.20	IE3	7.90	<b>J</b>	<b>N</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE160MM2P	15.00	2 960	48.4	27.00	0.87	91.90	91.90	IE3	8.70	<b>J</b>	<b>P</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE160ZLJ2P	18.50	2 955	59.8	32.00	0.90	92.40	92.40	IE3	9.00	<b>J</b>	<b>T</b>	<b>2</b>	<b>3</b>	<b>P00</b>
6-pole, 1 000 rpm at 50 Hz															
90	LE90SQ6P	0.75	945	7.58	1.96	0.70	78.90	80.00	IE3	4.60	<b>E</b>	<b>C</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE90ZLR6P	1.10	940	11.2	2.85	0.69	81.00	80.00	IE3	4.60	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P01</b>
100	LE100LLB6P	1.50	970	14.8	3.60	0.73	82.50	83.10	IE3	5.20	<b>F</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P01</b>
112	LE112ZMKB6P	2.20	970	21.7	5.00	0.75	84.30	85.10	IE3	5.60	<b>G</b>	<b>J</b>	<b>2</b>	<b>3</b>	<b>P01</b>
132	LE132SH6P	3.00	975	29.4	6.60	0.77	85.60	87.50	IE3	5.30	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE132MJ6P	4.00	975	39.2	8.60	0.77	86.80	88.10	IE3	5.60	<b>H</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE132ZMS6P	5.50	975	53.9	11.70	0.77	88.00	89.00	IE3	5.70	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	<b>P01</b>
160	LE160MW6P	7.50	980	73.1	16.00	0.76	89.10	89.90	IE3	4.90	<b>J</b>	<b>J</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE160ZLW6P	11.00	975	107.7	23.00	0.77	90.30	91.10	IE3	5.00	<b>J</b>	<b>V</b>	<b>2</b>	<b>3</b>	<b>P01</b>
180	LES180LJ6P	15.00	975	146.9	29.50	0.80	91.20	91.90	IE3	5.90	<b>K</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>
200	LES200LM6P	18.50	978	180.6	37.00	0.79	91.70	92.50	IE3	5.60	<b>L</b>	<b>L</b>	<b>3</b>	<b>3</b>	<b>P01</b>
	LES200ZLS6P	22.00	978	214.8	43.50	0.79	92.20	93.10	IE3	5.60	<b>L</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>
225	LES225YMF6P	30.00	982	292.0	56.00	0.83	92.90	93.60	IE3	6.60	<b>M</b>	<b>K</b>	<b>3</b>	<b>3</b>	<b>P01</b>
250	LES250MD6P	37.00	985	359.0	70.00	0.85	93.30	94.00	IE3	7.00	<b>N</b>	<b>D</b>	<b>3</b>	<b>3</b>	<b>P01</b>

Electro\_Motor.ir

## Selection and ordering data (continued)

Frame size	Motor	$T_{St}/T_{rated}$	$T_{Br}/T_{rated}$	$T_A/T_{rated}$	$L_{pFA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code
										9th	10th	11th	12th	
<b>4-pole, 1 500 rpm at 50 Hz</b>														
80	LE80ZMQ4P	2.70	3.90	3.07	53	64	15 000	29	10	<b>D</b>	<b>F</b>	<b>2</b>	<b>3</b>	-
90	LE90SM4P	2.90	3.60	2.93	56	68	9 000	36	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	-
	LE90ZLR4P	2.70	3.60	2.97	56	68	7 500	49	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	-
100	LE100ZLSA4P	2.10	3.60	2.50	60	72	6 000	140	29	<b>F</b>	<b>N</b>	<b>2</b>	<b>3</b>	-
	LE100ZLSB4P	2.30	3.70	2.63	60	72	6 000	140	29	<b>F</b>	<b>P</b>	<b>2</b>	<b>3</b>	-
112	LE112ZMKB4P	2.40	3.70	2.70	58	70	5 100	170	29	<b>G</b>	<b>J</b>	<b>2</b>	<b>3</b>	-
132	LE132ZST4P	2.10	3.40	2.40	64	76	4 500	460	57	<b>H</b>	<b>J</b>	<b>2</b>	<b>3</b>	-
	LE132ZMS4P	2.40	3.50	2.63	64	76	4 500	460	57	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	-
160	LE160MPA4P	2.30	3.60	2.70	65	77	3 000	830	73	<b>J</b>	<b>Q</b>	<b>2</b>	<b>3</b>	-
	LE160MPB4P	2.20	3.20	2.50	65	77	3 000	830	73	<b>J</b>	<b>R</b>	<b>2</b>	<b>3</b>	-
	LE160ZLL4P	2.50	3.80	2.90	65	77	3 000	990	90	<b>J</b>	<b>U</b>	<b>2</b>	<b>3</b>	-
180	LES180MQ4P	2.50	3.30	2.40	66	73	600	1 300	165	<b>K</b>	<b>L</b>	<b>3</b>	<b>3</b>	-
	LES180ZLN4P	2.30	3.30	2.40	68	75	550	1 400	170	<b>K</b>	<b>N</b>	<b>3</b>	<b>3</b>	-
200	LES200ZLU4P	2.60	3.10	2.40	65	72	400	2 200	240	<b>L</b>	<b>N</b>	<b>3</b>	<b>3</b>	-
225	LES225SD4P	2.50	2.70	2.00	57	70	400	4 200	285	<b>M</b>	<b>F</b>	<b>3</b>	<b>3</b>	-
	LES225YMF4P	2.60	2.70	2.00	57	70	435	4 700	320	<b>M</b>	<b>T</b>	<b>3</b>	<b>3</b>	-
250	LES250MD4P	2.50	2.90	2.00	57	70	170	8 500	420	<b>N</b>	<b>M</b>	<b>3</b>	<b>3</b>	-
<b>2-pole, 3 000 rpm at 50 Hz</b>														
80	LE80ME2P	2.60	3.00	2.53	60	71	5 100	11	9.3	<b>D</b>	<b>B</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE80ZMJ2P	2.80	3.80	2.80	60	71	8 700	13	10	<b>D</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>
90	LE90SM2P	2.70	4.20	3.00	65	77	6 000	21	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE90ZLR2P	2.60	4.00	2.93	65	77	6 000	31	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>
100	LE100ZLK2P	2.80	4.30	3.23	67	79	2 700	54	26	<b>F</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>
112	LE112ZMH2P	1.90	3.90	2.17	69	81	1 350	120	29	<b>G</b>	<b>G</b>	<b>2</b>	<b>3</b>	<b>P00</b>
132	LE132SF2P	1.80	3.60	2.37	68	80	1 350	240	36	<b>H</b>	<b>E</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE132ZSQB2P	1.90	3.90	2.53	68	80	1 080	310	50	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P00</b>
160	LE160MG2P	2.40	3.80	2.80	70	82	600	530	65	<b>J</b>	<b>N</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE160MM2P	2.70	4.30	3.13	70	82	600	610	74	<b>J</b>	<b>P</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE160ZLJ2P	2.80	4.20	3.17	70	82	840	680	84	<b>J</b>	<b>T</b>	<b>2</b>	<b>3</b>	<b>P00</b>
<b>6-pole, 1 000 rpm at 50 Hz</b>														
90	LE90SQ6P	2.20	2.60	2.30	43	55	13 700	40	15	<b>E</b>	<b>C</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE90ZLR6P	2.30	2.70	2.40	43	55	O. R.	48	18	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P01</b>
100	LE100LLB6P	1.90	2.80	2.13	59	71	6 900	110	29	<b>F</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P01</b>
112	LE112ZMKB6P	2.20	2.80	2.23	65	74	6 900	170	29	<b>G</b>	<b>J</b>	<b>2</b>	<b>3</b>	<b>P01</b>
132	LE132SH6P	1.60	2.40	1.90	63	75	3 900	290	36	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE132MJ6P	1.70	2.50	1.97	63	75	3 900	370	45	<b>H</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE132ZMS6P	1.80	2.60	2.03	63	75	3 900	460	45	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	<b>P01</b>
160	LE160MW6P	1.90	2.30	1.97	67	79	3 300	980	83	<b>J</b>	<b>J</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE160ZLW6P	1.90	2.30	1.97	67	79	2 700	1 200	105	<b>J</b>	<b>V</b>	<b>2</b>	<b>3</b>	<b>P01</b>
180	LES180LJ6P	2.30	2.80	2.20	61	68	800	1 900	180	<b>K</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>
200	LES200LM6P	2.50	2.60	2.20	64	71	680	2 800	215	<b>L</b>	<b>L</b>	<b>3</b>	<b>3</b>	<b>P01</b>
	LES200ZLS6P	2.50	2.60	2.20	61	68	680	3 200	230	<b>L</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>
225	LES225YMF6P	2.60	3.00	2.10	O. R.	O. R.	270	6 700	325	<b>M</b>	<b>K</b>	<b>3</b>	<b>3</b>	<b>P01</b>
250	LES250MD6P	2.70	2.90	2.10	O. R.	O. R.	205	10 000	405	<b>N</b>	<b>D</b>	<b>3</b>	<b>3</b>	<b>P01</b>

O. R. On request



## Motors

Motors with Premium Efficiency IE3

IE3

## Selection and ordering data (continued)

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$		Efficiency class	$I_s/I_{rated}$	Article No.				Order code
		kW	rpm	Nm	460 V A		4/4 load %	3/4 load %			acc. to IEC 60034-30	Data position 9th 10th 11th 12th	Number of poles		
<b>4-pole, 1 800 rpm at 60 Hz, 50 Hz power</b>															
80	LE80ZMQ4P	0.75	1 760	4.07	1.59	0.71	83.50	82.60	IE3	8.30	D	F	2	3	-
90	LE90SM4P	1.10	1 750	6	2.15	0.75	86.50	86.40	IE3	8.20	E	K	2	3	-
	LE90ZLR4P	1.50	1 755	8.16	2.85	0.77	86.50	86.40	IE3	8.40	E	M	2	3	-
100	LE100ZLSA4P	2.20	1 770	11.9	3.90	0.81	87.50	87.40	IE2	8.70	F	N	2	3	-
	LE100ZLSB4P	3.00	1 765	16.2	5.20	0.81	89.50	89.60	IE3	8.60	F	P	2	3	-
112	LE112ZMKB4P	3.70	1 770	20	6.50	0.80	89.50	89.50	IE3	8.20	G	J	2	3	-
132	LE132ZST4P	5.50	1 775	29.6	9.10	0.83	89.50	89.50	IE2	8.20	H	J	2	3	-
	LE132ZMS4P	7.50	1 775	40.3	12.40	0.83	89.50	89.50	IE2	8.50	H	L	2	3	-
160	LE160MPA4P	9.20	1 785	49.2	16.40	0.77	91.70	91.10	IE3	8.80	J	Q	2	3	-
	LE160MPB4P	11.00	1 780	59	18.00	0.83	92.40	92.40	IE3	7.90	J	R	2	3	-
	LE160ZLL4P	15.00	1 780	80.5	25.00	0.81	93.00	93.00	IE3	9.50	J	U	2	3	-
180	LES180MQ4P	18.50	1 775	99.5	31.00	0.81	93.60	93.70	IE3	7.80	K	L	3	3	-
	LES180ZLN4P	22.00	1 775	118.4	37.50	0.81	93.60	93.80	IE3	7.70	K	N	3	3	-
200	LES200ZLU4P	30.00	1 778	161.1	48.00	0.83	94.10	94.30	IE3	8.10	L	N	3	3	-
225	LES225SD4P	37.00	1 782	198.3	58.00	0.85	94.50	94.70	IE3	7.50	M	F	3	3	-
	LES225YMF4P	45.00	1 782	241.1	70.00	0.85	95.00	95.30	IE3	7.20	M	T	3	3	-
250	LES250MD4P	55.00	1 786	294	84.00	0.86	95.40	95.60	IE3	7.60	N	M	3	3	-
<b>2-pole, 3 600 rpm at 60 Hz, 50 Hz power</b>															
80	LE80ME2P	0.75	3 480	2.06	1.46	0.84	77.00	78.00	IE3	7.10	D	B	2	3	P00
	LE80ZMJ2P	1.10	3 500	3	1.98	0.83	84.00	84.00	IE3	8.40	D	M	2	3	P00
90	LE90SM2P	1.50	3 525	4.06	2.60	0.84	85.50	85.00	IE3	9.80	E	K	2	3	P00
	LE90ZLR2P	2.20	3 530	5.95	3.65	0.87	86.50	86.30	IE3	9.60	E	M	2	3	P00
100	LE100ZLK2P	3.00	3 530	8.12	4.90	0.87	88.50	88.50	IE3	9.60	F	K	2	3	P00
112	LE112ZMH2P	3.70	3 560	9.92	6.00	0.87	88.50	88.50	IE3	9.20	G	G	2	3	P00
132	LE132SF2P	5.50	3 555	14.8	8.60	0.89	89.50	89.50	IE3	8.60	H	E	2	3	P00
	LE132SQB2P	7.50	3 560	20.1	11.50	0.91	90.20	90.20	IE3	9.40	H	H	2	3	P00
160	LE160MG2P	11.00	3 560	29.5	17.20	0.88	91.00	91.00	IE3	8.90	J	N	2	3	P00
	LE160MM2P	15.00	3 565	40.2	24.00	0.87	91.00	91.00	IE3	10.00	J	P	2	3	P00
	LE160ZLJ2P	18.50	3 560	49.6	28.00	0.89	91.70	91.70	IE3	10.20	J	T	2	3	P00
<b>6-pole, 1 200 rpm at 60 Hz, 50 Hz power</b>															
90	LE90SQ6P	0.75	1 155	6.2	1.76	0.65	82.50	82.30	IE3	5.30	E	C	2	3	P01
	LE90ZLR6P	1.10	1 150	9.1	2.80	0.66	75.00	75.10	IE1	4.90	E	M	2	3	P01
100	LE100LLB6P	1.50	1 175	12.2	3.15	0.69	86.50	86.30	IE2	6.00	F	M	2	3	P01
112	LE112ZMKB6P	2.20	1 175	17.9	4.40	0.72	87.50	87.50	IE2	6.50	G	J	2	3	P01
132	LE132SH6P	3.00	1 180	24.3	5.70	0.75	87.50	87.80	IE2	6.10	H	H	2	3	P01
	LE132MJ6P	3.70	1 180	29.9	7.10	0.73	89.50	89.70	IE3	6.80	H	K	2	3	P01
	LE132ZMS6P	5.50	1 180	44.5	10.30	0.75	89.50	90.00	IE2	6.60	H	L	2	3	P01
160	LE160MW6P	7.50	1 185	60.4	14.00	0.75	89.50	89.70	IE2	5.60	J	J	2	3	P01
	LE160ZLW6P	11.00	1 180	89	20.50	0.75	90.20	90.50	IE2	5.70	J	V	2	3	P01
180	LES180LJ6P	15.00	1 178	121.6	26.00	0.79	91.70	92.00	IE3	6.80	K	M	3	3	P01
200	LES200LM6P	18.50	1 180	149.7	32.00	0.78	93.00	93.80	IE3	6.50	L	L	3	3	P01
	LES200ZLS6P	22.00	1 180	178	37.50	0.79	93.00	93.50	IE3	6.30	L	M	3	3	P01
225	LES225YMF6P	30.00	1 185	241.8	49.00	0.82	94.10	94.40	IE3	7.40	M	K	3	3	P01
250	LES250MD6P	37.00	1 188	297	59.00	0.83	94.10	94.40	IE3	7.80	N	D	3	3	P01

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## Selection and ordering data (continued)

Frame size	Motor	$T_{Sf}/T_{rated}$	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{ptA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code
										9th	10th	11th	12th	
<b>4-pole, 1 800 rpm at 60 Hz, 50 Hz power</b>														
80	LE80ZMQ4P	3.10	4.70	3.57	55	66	12 000	29	10	<b>D</b>	<b>F</b>	<b>2</b>	<b>3</b>	-
90	LE90SM4P	3.40	4.40	3.60	58	70	7 000	36	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	-
	LE90ZLR4P	3.00	4.30	3.41	58	70	6 000	49	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	-
100	LE100ZLSA4P	2.50	4.30	2.97	62	74	4 800	140	29	<b>F</b>	<b>N</b>	<b>2</b>	<b>3</b>	-
	LE100ZLSB4P	2.60	4.30	2.97	62	74	4 800	140	29	<b>F</b>	<b>P</b>	<b>2</b>	<b>3</b>	-
112	LE112ZMKB4P	2.90	4.30	3.10	62	74	O. R.	170	29	<b>G</b>	<b>J</b>	<b>2</b>	<b>3</b>	-
132	LE132ZST4P	2.60	3.90	2.83	68	80	O. R.	460	57	<b>H</b>	<b>J</b>	<b>2</b>	<b>3</b>	-
	LE132ZMS4P	2.40	4.00	2.80	68	80	O. R.	460	57	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	-
160	LE160MPA4P	2.80	4.10	3.19	69	81	O. R.	830	73	<b>J</b>	<b>Q</b>	<b>2</b>	<b>3</b>	-
	LE160MPB4P	2.30	3.70	2.80	69	81	O. R.	830	73	<b>J</b>	<b>R</b>	<b>2</b>	<b>3</b>	-
	LE160ZLL4P	2.90	4.30	3.33	69	81	O. R.	990	90	<b>J</b>	<b>U</b>	<b>2</b>	<b>3</b>	-
180	LES180MQ4P	2.70	3.60	2.70	68	75	O. R.	1 300	165	<b>K</b>	<b>L</b>	<b>3</b>	<b>3</b>	-
	LES180ZLN4P	2.80	3.70	2.60	70	77	O. R.	1 400	170	<b>K</b>	<b>N</b>	<b>3</b>	<b>3</b>	-
200	LES200ZLU4P	3.00	3.50	2.70	70	77	O. R.	2 200	240	<b>L</b>	<b>N</b>	<b>3</b>	<b>3</b>	-
225	LES225SD4P	2.80	3.00	2.20	60	73	O. R.	4 200	285	<b>M</b>	<b>F</b>	<b>3</b>	<b>3</b>	-
	LES225YMF4P	2.90	3.00	2.20	60	73	O. R.	4 700	320	<b>M</b>	<b>T</b>	<b>3</b>	<b>3</b>	-
250	LES250MD4P	2.80	3.20	2.30	60	74	O. R.	8 500	420	<b>N</b>	<b>M</b>	<b>3</b>	<b>3</b>	-
<b>2-pole, 3 600 rpm at 60 Hz, 50 Hz power</b>														
80	LE80ME2P	3.00	3.60	2.90	64	75	O. R.	11	9.3	<b>D</b>	<b>B</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE80ZMJ2P	3.30	4.50	3.25	64	75	O. R.	13	10	<b>D</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>
90	LE90SM2P	3.10	4.90	3.50	69	81	O. R.	21	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE90ZLR2P	3.00	4.90	3.43	69	81	O. R.	31	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>
100	LE100ZLK2P	3.10	5.20	3.63	71	83	O. R.	54	26	<b>F</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>
112	LE112ZMH2P	2.20	4.90	2.83	73	85	O. R.	120	29	<b>G</b>	<b>G</b>	<b>2</b>	<b>3</b>	<b>P00</b>
132	LE132SF2P	2.10	4.20	2.77	72	84	O. R.	240	36	<b>H</b>	<b>E</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE132ZSQB2P	2.20	4.50	2.93	72	84	O. R.	310	50	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P00</b>
160	LE160MG2P	3.20	4.30	3.30	77	89	O. R.	530	65	<b>J</b>	<b>N</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE160MM2P	3.20	4.90	3.63	77	89	O. R.	610	74	<b>J</b>	<b>P</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE160ZLJ2P	3.00	4.80	3.50	77	89	O. R.	680	84	<b>J</b>	<b>T</b>	<b>2</b>	<b>3</b>	<b>P00</b>
<b>6-pole, 1 200 rpm at 60 Hz, 50 Hz power</b>														
90	LE90SQ6P	2.40	3.10	2.60	46	58	O. R.	40	15	<b>E</b>	<b>C</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE90ZLR6P	2.50	3.20	2.77	O. R.	O. R.	O. R.	48	18	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P01</b>
100	LE100LLB6P	2.10	3.10	2.39	62	74	O. R.	110	29	<b>F</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P01</b>
112	LE112ZMKB6P	2.50	3.30	2.59	65	77	O. R.	170	29	<b>G</b>	<b>J</b>	<b>2</b>	<b>3</b>	<b>P01</b>
132	LE132SH6P	1.70	2.80	2.16	67	79	O. R.	290	36	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE132MJ6P	2.00	3.10	2.40	67	79	O. R.	370	45	<b>H</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE132ZMS6P	2.00	3.00	2.31	67	79	O. R.	460	45	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	<b>P01</b>
160	LE160MW6P	2.30	2.50	2.26	70	82	O. R.	980	83	<b>J</b>	<b>J</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE160ZLW6P	2.20	2.50	2.14	67	79	O. R.	1 200	105	<b>J</b>	<b>V</b>	<b>2</b>	<b>3</b>	<b>P01</b>
180	LES180LJ6P	2.50	3.00	2.50	61	68	O. R.	1 900	180	<b>K</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>
200	LES200LM6P	2.80	3.00	2.50	64	71	O. R.	2 800	215	<b>L</b>	<b>L</b>	<b>3</b>	<b>3</b>	<b>P01</b>
	LES200ZLS6P	2.60	2.80	2.40	63	70	O. R.	3 200	230	<b>L</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>
225	LES225YMF6P	2.90	3.30	2.30	59	72	O. R.	6 700	325	<b>M</b>	<b>K</b>	<b>3</b>	<b>3</b>	<b>P01</b>
250	LES250MD6P	3.10	3.20	2.40	61	75	O. R.	10 000	405	<b>N</b>	<b>D</b>	<b>3</b>	<b>3</b>	<b>P01</b>

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## Motors

Motors with Premium Efficiency IE3

IE3

## Selection and ordering data (continued)

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$	Efficiency class	$I_{Sp}/I_{rated}$	Article No.	Order code			
		460 V A	4/4 load %	3/4 load %	acc. to IEC 60034-30						Data position 9th 10th 11th 12th	Number of poles		
<b>4-pole, 1 800 rpm at 60 Hz, 60 Hz power</b>														
80	LE80ZMQ4P	0.86	1 755	4.68	1.72	0.75	83.50	83.20	IE3	7.70	<b>D F 2 3</b>	-	-	
90	LE90SM4P	1.27	1 740	6.97	2.35	0.79	86.50	86.90	IE3	7.40	<b>E K 2 3</b>	-	-	
	LE90ZLR4P	1.75	1 740	9.6	3.15	0.80	86.50	87.00	IE3	7.50	<b>E M 2 3</b>	-	-	
100	LE100ZLSA4P	2.55	1 760	13.8	4.35	0.84	87.50	87.90	IE2	7.70	<b>F N 2 3</b>	-	-	
	LE100ZLSB4P	3.45	1 760	18.7	5.80	0.84	89.50	90.10	IE3	7.60	<b>F P 2 3</b>	-	-	
112	LE112ZMKB4P	4.55	1 770	24.5	7.70	0.83	89.50	89.50	IE3	8.20	<b>G J 2 3</b>	-	-	
132	LE132ZST4P	6.30	1 770	34	10.30	0.84	89.50	89.50	IE2	7.30	<b>H J 2 3</b>	-	-	
	LE132ZMS4P	8.60	1 770	46.4	13.80	0.85	89.50	89.50	IE2	7.50	<b>H L 2 3</b>	-	-	
160	LE160MPA4P	10.60	1 780	56.3	18.00	0.80	92.40	92.10	IE3	7.80	<b>J Q 2 3</b>	-	-	
	LE160MPB4P	12.60	1 775	67.8	20.00	0.85	92.40	92.40	IE3	7.10	<b>J R 2 3</b>	-	-	
	LE160ZLL4P	18.00	1 775	96.8	28.00	0.83	93.60	93.60	IE3	8.50	<b>J U 2 3</b>	-	-	
180	LES180MQ4P	21.30	1 770	114.9	34.50	0.83	93.60	94.00	IE3	7.20	<b>K L 3 3</b>	-	-	
	LES180ZLN4P	25.30	1 770	136.5	41.00	0.83	93.60	94.10	IE3	6.80	<b>K N 3 3</b>	-	-	
200	LES200ZLU4P	34.50	1 770	186.1	55.00	0.85	93.00	93.50	IE2	7.30	<b>L N 3 3</b>	-	-	
225	LES225SD4P	42.50	1 778	228.3	66.00	0.86	93.60	94.10	IE2	6.70	<b>M F 3 3</b>	-	-	
	LES225YMF4P	52.00	1 778	279	81.00	0.86	94.10	94.60	IE2	6.60	<b>M T 3 3</b>	-	-	
250	LES250MD4P	63.00	1 782	338	97.00	0.87	94.10	94.50	IE2	6.70	<b>N M 3 3</b>	-	-	
<b>2-pole, 3 600 rpm at 60 Hz, 60 Hz power</b>														
80	LE80ME2P	0.86	3 450	2.38	1.65	0.86	77.00	77.50	IE3	6.40	<b>D B 2 3</b>	<b>P00</b>		
	LE80ZMJ2P	1.27	3 480	3.48	2.25	0.85	84.00	84.00	IE3	7.40	<b>D M 2 3</b>	<b>P00</b>		
90	LE90SM2P	1.75	3 510	4.76	2.95	0.87	85.50	85.50	IE3	8.70	<b>E K 2 3</b>	<b>P00</b>		
	LE90ZLR2P	2.55	3 510	6.94	4.20	0.88	86.50	86.50	IE3	8.30	<b>E M 2 3</b>	<b>P00</b>		
100	LE100ZLK2P	3.45	3 515	9.37	5.50	0.88	87.50	87.50	IE2	8.50	<b>F K 2 3</b>	<b>P00</b>		
112	LE112ZMH2P	4.55	3 550	12.2	7.20	0.89	87.50	87.50	IE2	7.60	<b>G G 2 3</b>	<b>P00</b>		
132	LE132SF2P	6.30	3 545	17	9.70	0.90	89.50	89.50	IE3	7.50	<b>H E 2 3</b>	<b>P00</b>		
	LE132ZSQB2P	8.60	3 550	23.1	13.00	0.92	90.20	90.20	IE3	8.20	<b>H H 2 3</b>	<b>P00</b>		
160	LE160MG2P	12.60	3 555	33.8	19.50	0.89	91.00	91.00	IE3	7.90	<b>J N 2 3</b>	<b>P00</b>		
	LE160MM2P	18.00	3 555	48.4	27.00	0.88	91.70	91.70	IE3	8.80	<b>J P 2 3</b>	<b>P00</b>		
	LE160ZLJ2P	22.00	3 555	59.1	32.00	0.91	91.70	91.70	IE3	9.00	<b>J T 2 3</b>	<b>P00</b>		
<b>6-pole, 1 200 rpm at 60 Hz, 60 Hz power</b>														
90	LE90SQ6P	0.86	1 140	7.2	1.87	0.70	82.5	82.5	IE3	4.9	<b>E C 2 3</b>	<b>P01</b>		
	LE90ZLR6P	1.27	1 140	10.6	3.05	0.70	75.0	75.8	IE1	O. R.	<b>E M 2 3</b>	<b>P01</b>		
100	LE100LLB6P	1.75	1 170	14	3.45	0.74	86.5	87.1	IE2	5.5	<b>F M 2 3</b>	<b>P01</b>		
112	LE112ZMKB6P	2.55	1 170	21	4.90	0.75	87.5	88.1	IE2	5.9	<b>G J 2 3</b>	<b>P01</b>		
132	LE132SH6P	3.45	1 175	28	6.4	0.77	87.5	88.5	IE2	5.4	<b>H H 2 3</b>	<b>P01</b>		
	LE132MJ6P	4.55	1 175	37	8.5	0.77	87.5	88.5	IE2	5.7	<b>H K 2 3</b>	<b>P01</b>		
	LE132ZMS6P	6.3	1 175	51	11.5	0.77	89.5	90.5	IE2	5.9	<b>H L 2 3</b>	<b>P01</b>		
160	LE160MW6P	8.6	1 180	70	15.9	0.76	89.5	90.2	IE2	5.0	<b>J J 2 3</b>	<b>P01</b>		
	LE160ZLW6P	12.6	1 175	102	23.0	0.77	90.2	91.0	IE2	5.1	<b>J V 2 3</b>	<b>P01</b>		
180	LES180LJ6P	18.0	1 170	146.9	30.5	0.81	91.7	92.5	IE2	5.8	<b>K M 3 3</b>	<b>P01</b>		
200	LES200LM6P	22.0	1 175	178.8	37.5	0.80	91.7	92.0	IE2	5.6	<b>L L 3 3</b>	<b>P01</b>		
	LES200ZLS6P	26.5	1 175	215.4	44.0	0.81	93.0	94.0	IE2	5.5	<b>L M 3 3</b>	<b>P01</b>		
225	LES225YMF6P	36.0	1 180	291	58	0.84	93.0	93.7	IE2	6.5	<b>M K 3 3</b>	<b>P01</b>		
250	LES250MD6P	44.5	1 182	360	69	0.86	93.6	94.3	IE2	6.8	<b>N D 3 3</b>	<b>P01</b>		

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## Selection and ordering data (continued)

Frame size	Motor	$T_{St}/T_{rated}$	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{pfA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code
										9th	10th	11th	12th	
<b>4-pole, 1 800 rpm at 60 Hz, 60 Hz power</b>														
80	LE80ZMQ4P	2.70	4.10	3.10	55	66	12 000	29	10	<b>D</b>	<b>F</b>	<b>2</b>	<b>3</b>	-
90	LE90SM4P	2.90	3.80	3.03	58	70	7 000	36	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	-
	LE90ZLR4P	2.60	3.70	2.93	58	70	6 000	49	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	-
100	LE100ZLSA4P	2.20	3.70	2.57	62	74	4 800	140	29	<b>F</b>	<b>N</b>	<b>2</b>	<b>3</b>	-
	LE100ZLSB4P	2.20	3.80	2.57	62	74	4 800	140	29	<b>F</b>	<b>P</b>	<b>2</b>	<b>3</b>	-
112	LE112ZMKB4P	2.90	4.30	2.67	62	74	O. R.	170	29	<b>G</b>	<b>J</b>	<b>2</b>	<b>3</b>	-
132	LE132ZST4P	2.30	3.40	2.47	68	80	O. R.	460	57	<b>H</b>	<b>J</b>	<b>2</b>	<b>3</b>	-
	LE132ZMS4P	2.10	3.50	2.47	68	80	O. R.	460	57	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	-
160	LE160MPA4P	2.40	3.50	2.73	69	81	O. R.	830	73	<b>J</b>	<b>Q</b>	<b>2</b>	<b>3</b>	-
	LE160MPB4P	2.00	3.20	2.47	69	81	O. R.	830	73	<b>J</b>	<b>R</b>	<b>2</b>	<b>3</b>	-
	LE160ZLL4P	2.50	3.70	2.90	69	81	O. R.	990	90	<b>J</b>	<b>U</b>	<b>2</b>	<b>3</b>	-
180	LES180MQ4P	2.40	3.20	2.40	68	75	O. R.	1 300	165	<b>K</b>	<b>L</b>	<b>3</b>	<b>3</b>	-
	LES180ZLN4P	2.20	3.20	2.30	70	77	O. R.	1 400	170	<b>K</b>	<b>N</b>	<b>3</b>	<b>3</b>	-
200	LES200ZLU4P	2.40	3.00	2.30	70	77	O. R.	2 200	240	<b>L</b>	<b>N</b>	<b>3</b>	<b>3</b>	-
225	LES225SD4P	2.40	2.70	1.90	60	73	O. R.	4 200	285	<b>M</b>	<b>F</b>	<b>3</b>	<b>3</b>	-
	LES225YMF4P	2.60	2.60	2.00	60	73	O. R.	4 700	320	<b>M</b>	<b>T</b>	<b>3</b>	<b>3</b>	-
250	LES250MD4P	2.40	2.80	2.00	60	74	O. R.	8 500	420	<b>N</b>	<b>M</b>	<b>3</b>	<b>3</b>	-
<b>2-pole, 3 600 rpm at 60 Hz, 60 Hz power</b>														
80	LE80ME2P	2.60	3.10	2.50	64	75	O. R.	11	9.3	<b>D</b>	<b>B</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE80ZMJ2P	2.80	3.80	2.77	64	75	O. R.	13	10	<b>D</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>
90	LE90SM2P	2.60	4.20	2.97	69	81	O. R.	21	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE90ZLR2P	2.60	4.20	2.97	69	81	O. R.	31	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>
100	LE100ZLK2P	2.70	4.50	3.17	71	83	O. R.	54	26	<b>F</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>
112	LE112ZMH2P	1.80	4.00	2.30	73	85	O. R.	120	29	<b>G</b>	<b>G</b>	<b>2</b>	<b>3</b>	<b>P00</b>
132	LE132SF2P	1.80	3.70	2.40	72	84	O. R.	240	36	<b>H</b>	<b>E</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE132ZSQB2P	2.00	3.90	2.57	72	84	O. R.	310	50	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P00</b>
160	LE160MG2P	2.80	3.70	2.87	77	89	O. R.	530	65	<b>J</b>	<b>N</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE160MM2P	2.70	4.20	3.10	77	89	O. R.	610	74	<b>J</b>	<b>P</b>	<b>2</b>	<b>3</b>	<b>P00</b>
	LE160ZLJ2P	2.60	4.20	3.03	77	89	O. R.	680	84	<b>J</b>	<b>T</b>	<b>2</b>	<b>3</b>	<b>P00</b>
<b>6-pole, 1 200 rpm at 60 Hz, 60 Hz power</b>														
90	LE90SQ6P	2.1	2.7	2.30	46	58	O. R.	40	15	<b>E</b>	<b>C</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE90ZLR6P	O. R.	O. R.	2.40	O. R.	O. R.	O. R.	48	18	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P01</b>
100	LE100LLB6P	1.9	2.8	2.13	62	74	O. R.	110	29	<b>F</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P01</b>
112	LE112ZMKB6P	2.2	2.8	2.23	65	77	O. R.	170	29	<b>G</b>	<b>J</b>	<b>2</b>	<b>3</b>	<b>P01</b>
132	LE132SH6P	1.5	2.4	1.87	67	79	O. R.	290	36	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE132MJ6P	1.7	2.5	1.97	67	79	O. R.	370	45	<b>H</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE132ZMS6P	1.8	2.6	2.03	67	79	O. R.	460	45	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	<b>P01</b>
160	LE160MW6P	1.9	2.3	1.97	70	82	O. R.	980	83	<b>J</b>	<b>J</b>	<b>2</b>	<b>3</b>	<b>P01</b>
	LE160ZLW6P	1.9	2.3	1.87	67	79	O. R.	1 200	105	<b>J</b>	<b>V</b>	<b>2</b>	<b>3</b>	<b>P01</b>
180	LES180LJ6P	2.1	2.6	2.10	61	68	O. R.	1 900	180	<b>K</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>
200	LES200LM6P	2.4	2.5	2.10	64	71	O. R.	2 800	215	<b>L</b>	<b>L</b>	<b>3</b>	<b>3</b>	<b>P01</b>
	LES200ZLS6P	2.3	2.4	2.10	63	70	O. R.	3 200	230	<b>L</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>
225	LES225YMF6P	2.4	2.7	1.90	59	72	O. R.	6 700	325	<b>M</b>	<b>K</b>	<b>3</b>	<b>3</b>	<b>P01</b>
250	LES250MD6P	2.6	2.7	2.00	61	75	O. R.	10 000	405	<b>N</b>	<b>D</b>	<b>3</b>	<b>3</b>	<b>P01</b>

O. R. On request

## Motors

Motors with Premium Efficiency IE3

IE3

## Selection and ordering data (continued)

Frame size	Motor	$P_{rated}$	$n_{rated}$	$T_{rated}$	$I_{rated}$	$\cos \varphi$	$\eta$	$T_{Bk}/T_{rated}$	Article No.	Order code				
		kW	rpm	Nm	400 V A					4/4 load %	3/4 load %	Data position 9th 10th 11th 12th	Power	Number of poles
<b>4-pole, 2 610 rpm at 87 Hz power</b>														
80	LE80ZMQ4P	1.30	2 565	4.84	3.05	0.71	86.20	O. R.	3.9	<b>D F 2 3 P91</b>	-			
90	LE90SM4P	1.90	2 550	7.12	4.15	0.75	87.30	O. R.	3.6	<b>E K 2 3 P91</b>	-			
	LE90ZLR4P	2.60	2 555	9.72	5.30	0.76	88.00	O. R.	2.8	<b>E M 2 3 P91</b>	-			
100	LE100ZLSA4P	3.60	2 575	13.40	7.10	0.81	89.10	O. R.	3.8	<b>F N 2 3 P91</b>	-			
	LE100ZLSB4P	5.00	2 570	18.60	9.80	0.82	89.60	O. R.	3.9	<b>F P 2 3 P91</b>	-			
112	LE112ZMKB4P	6.50	2 575	24.10	13.00	0.81	90.20	O. R.	3.9	<b>G J 2 3 P91</b>	-			
132	LE132ZST4P	9.00	2 585	33.20	17.40	0.83	90.60	O. R.	3.6	<b>H J 2 3 P91</b>	-			
	LE132ZMS4P	12.50	2 580	46.30	23.50	0.83	91.20	O. R.	3.7	<b>H L 2 3 P91</b>	-			
160	LE160MPA4P	16.00	2 590	59.00	31.90	0.79	91.70	O. R.	3.8	<b>J Q 2 3 P91</b>	-			
	LE160MPB4P	17.00	2 585	62.80	32.50	0.83	92.00	O. R.	3.6	<b>J R 2 3 P91</b>	-			
	LE160ZLL4P	23.50	2 590	86.60	46.00	0.80	92.50	O. R.	4.2	<b>J U 2 3 P91</b>	-			
180	LES180MQ4P	27.20	2 585	100.00	53.00	O. R.	O. R.	O. R.	3.9	<b>K L 3 3 P91</b>	-			
	LES180ZLN4P	32.40	2 580	119.90	62.00	O. R.	O. R.	O. R.	3.9	<b>K N 3 3 P91</b>	-			
200	LES200ZLU4P	44.20	2 585	163.30	81.00	O. R.	O. R.	O. R.	3.7	<b>L N 3 3 P91</b>	-			
225	LES225YMF4P	71.00	2 588	262.00	128.00	0.86	93.40	7.80	2.8	<b>M T 3 3 P91</b>	-			
250	LES250MD4P	87.00	2 598	319.80	156.00	0.86	93.80	9.50	3.3	<b>N M 3 3 P91</b>	-			
<b>6-pole, 1 740 rpm at 87 Hz power</b>														
90	LE90SQ6P	1.30	1 685	7.37	3.35	0.66	84.50	O. R.	2.6	<b>E C 2 3 P91</b>	<b>P01</b>			
	LE90ZLR6P	1.90	1 685	10.80	4.95	0.65	85.30	O. R.	2.8	<b>E M 2 3 P91</b>	<b>P01</b>			
100	LE100LLB6P	2.60	1 710	14.50	6.20	0.70	87.10	O. R.	2.8	<b>F M 2 3 P91</b>	<b>P01</b>			
132	LE132SH6P	5.00	1 710	27.90	10.70	0.76	89.70	O. R.	2.5	<b>H H 2 3 P91</b>	<b>P01</b>			
	LE132MJ6P	6.50	1 715	36.20	13.80	0.73	91.20	O. R.	2.7	<b>H K 2 3 P91</b>	<b>P01</b>			
	LE132ZMS6P	9.00	1 715	50.10	18.80	0.76	90.90	O. R.	2.7	<b>H L 2 3 P91</b>	<b>P01</b>			
160	LE160MW6P	12.00	1 720	66.60	24.50	0.75	90.80	O. R.	2.5	<b>J J 2 3 P91</b>	<b>P01</b>			
	LE160ZLW6P	17.00	1 720	94.40	34.50	0.78	91.80	O. R.	2.5	<b>J V 2 3 P91</b>	<b>P01</b>			
180	LES180LJ6P	23.40	1 715	130.30	46.50	O. R.	O. R.	O. R.	3.1	<b>K M 3 3 P91</b>	<b>P01</b>			
200	LES200LM6P	28.50	1 720	158.20	56.00	O. R.	O. R.	O. R.	2.9	<b>L L 3 3 P91</b>	<b>P01</b>			
	LES200ZLS6P	34.30	1 720	190.40	68.00	O. R.	O. R.	O. R.	2.9	<b>L M 3 3 P91</b>	<b>P01</b>			
225	LES225YMF6P	47.00	1 720	261.00	O. R.	O. R.	O. R.	O. R.	O. R.	<b>M K 3 3 P91</b>	<b>P01</b>			
250	LES250MD6P	58.00	1 725	321.10	O. R.	O. R.	O. R.	O. R.	O. R.	<b>N D 3 3 P91</b>	<b>P01</b>			

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## Selection and ordering data (continued)

Frame size	Motor	$L_{p1A}$	$L_{WA}$	$J_{mot}$	$m_{mot}$	Article No.				Order code	
		dB (A)	dB (A)	$10^{-4}$ kgm <sup>2</sup>	kg	Data position 9th 10th 11th 12th	Power	Number of poles			
<b>4-pole, 2 610 rpm at 87 Hz power</b>											
80	LE80ZMQ4P	O. R.	O. R.	29	10	D	F	2	3	P91	-
90	LE90SM4P	O. R.	O. R.	36	12	E	K	2	3	P91	-
	LE90ZLR4P	O. R.	O. R.	49	15	E	M	2	3	P91	-
100	LE100ZLSA4P	O. R.	O. R.	140	29	F	N	2	3	P91	-
	LE100ZLSB4P	O. R.	O. R.	140	29	F	P	2	3	P91	-
112	LE112ZMKB4P	O. R.	O. R.	170	29	G	J	2	3	P91	-
132	LE132ZST4P	O. R.	O. R.	460	57	H	J	2	3	P91	-
	LE132ZMS4P	O. R.	O. R.	460	57	H	L	2	3	P91	-
160	LE160MPA4P	O. R.	O. R.	830	73	J	Q	2	3	P91	-
	LE160MPB4P	O. R.	O. R.	830	73	J	R	2	3	P91	-
	LE160ZLL4P	O. R.	O. R.	990	90	J	U	2	3	P91	-
180	LES180MQ4P	O. R.	O. R.	1 300	165	K	L	3	3	P91	-
	LES180ZLN4P	O. R.	O. R.	1 400	170	K	N	3	3	P91	-
200	LES200ZLU4P	O. R.	O. R.	2 200	240	L	N	3	3	P91	-
225	LES225YMF4P	79	92	4 700	320	M	T	3	3	P91	-
250	LES250MD4P	80	93	8 500	420	N	M	3	3	P91	-
<b>6-pole, 1 740 rpm at 87 Hz power</b>											
90	LE90SQ6P	O. R.	O. R.	40	15	E	C	2	3	P91	P01
	LE90ZLR6P	O. R.	O. R.	48	18	E	M	2	3	P91	P01
100	LE100LLB6P	O. R.	O. R.	110	29	F	M	2	3	P91	P01
132	LE132SH6P	O. R.	O. R.	290	36	H	H	2	3	P91	P01
	LE132MJ6P	O. R.	O. R.	370	45	H	K	2	3	P91	P01
	LE132ZMS6P	O. R.	O. R.	460	45	H	L	2	3	P91	P01
160	LE160MW6P	O. R.	O. R.	980	83	J	J	2	3	P91	P01
	LE160ZLW6P	O. R.	O. R.	1 200	105	J	V	2	3	P91	P01
180	LES180LJ6P	O. R.	O. R.	1 900	180	K	M	3	3	P91	P01
200	LES200LM6P	O. R.	O. R.	2 800	215	L	L	3	3	P91	P01
	LES200ZLS6P	O. R.	O. R.	3 200	230	L	M	3	3	P91	P01
225	LES225YMF6P	O. R.	O. R.	6 700	325	M	K	3	3	P91	P01
250	LES250MD6P	O. R.	O. R.	10 000	405	N	D	3	3	P91	P01

O. R. On request

## Motors

VSD10 line motors for inverter operation

Line voltage 400 V / 460 V

### Selection and ordering data

Frame size	Motor	$P_{rated}$ kW	Circuit	$f_{rated}$ Hz	$T_{rated}$ Nm	$I_{rated}$ 50/87 Hz: 400 V 60 Hz: 460 V A	$\cos \varphi$ -	$\eta$ 4/4 load %	Article No. Data position				Order code Power No. of poles	
									9th	10th	11th	12th	Power	No. of poles
<b>4-pole, 1 500 rpm at 50 Hz power</b>														
100	LE100LB4V	2.2	Y	52.9	14.0	5.2	0.81	79.7	F	L	2	8	P92	-
	LE100LH4V	3	Y	52.7	19.1	6.6	0.85	81.5	F	N	2	8	P92	-
112	LE112ME4V	4	Y	52.3	25.5	8.6	0.85	83.1	G	H	2	8	P92	-
132	LE132SF4V	5.5	Y	52.1	35.0	12.0	0.82	84.7	H	J	2	8	P92	-
	LE132ME4V	7.5	Y	51.7	47.5	16.2	0.82	86.0	H	F	2	8	P92	-
160	LE160MD4V	11	Y	51.5	70	23.5	0.82	87.6	J	P	2	8	P92	-
	LE160LA4V	15	Y	51.4	95	31.5	0.82	88.7	J	S	2	8	P92	-
180	LES180ZMQ4V	18.5	Y	51.1	118	37	0.85	89.3	K	N	3	8	P92	-
	LES180ZLJ4V	22	Y	51.1	140	45	0.83	89.9	K	L	3	8	P92	-
200	LES200LN4V	30	Y	50.9	191	60	0.83	90.7	L	M	3	8	P92	-
225	LES225MD4V	37	Y	50.9	236	72	0.85	91.4	M	R	3	8	P92	-
	LES225SD4V	45	Y	50.9	286	84	0.88	92.4	M	F	3	8	P92	-
250	LES250MD4V	55	Y	50.8	350	105	0.86	92.3	N	M	3	8	P92	-
<b>4-pole, 1 800 rpm at 60 Hz power</b>														
100	LE100LB4V	2.55	Y	62.8	13.5	4.9	0.82	83.0	F	L	2	8	P92	-
	LE100LH4V	3.45	Y	62.6	18.3	6.2	0.86	85.0	F	N	2	8	P92	-
112	LE112ME4V	4.55	Y	62.2	24.0	8.3	0.85	85.0	G	H	2	8	P92	-
132	LE132SF4V	6.3	Y	62.0	33.5	11.3	0.84	87.0	H	J	2	8	P92	-
	LE132ME4V	8.6	Y	61.7	45.5	15.4	0.84	87.5	H	F	2	8	P92	-
160	LE160MD4V	12.6	Y	61.4	67	23.0	0.82	88.5	J	P	2	8	P92	-
	LE160LA4V	17.3	Y	61.4	92	30.5	0.82	90.5	J	S	2	8	P92	-
180	LES180ZMQ4V	21.3	Y	61.1	113	36.0	0.85	91.0	K	N	3	8	P92	-
	LES180ZLJ4V	25.3	Y	61.1	134	43.5	0.84	91.0	K	L	3	8	P92	-
200	LES200LN4V	34.5	Y	60.9	183	58	0.84	92.4	L	M	3	8	P92	-
225	LES225MD4V	42.5	Y	60.9	225	70	0.86	92.4	M	R	3	8	P92	-
	LES225SD4V	52	Y	60.9	276	84	0.83	93.0	M	F	3	8	P92	-
250	LES250MD4V	63	Y	60.8	334	103	0.86	93.0	N	M	3	8	P92	-
<b>4-pole, 2 610 rpm at 87 Hz power</b>														
100	LE100LB4V	3.7	Δ	89.3	13.5	8.6	0.79	83.0	F	L	2	8	P92	-
	LE100LH4V	5	Δ	89.3	18.3	11.3	0.79	85.0	F	N	2	8	P92	-
112	LE112ME4V	6.6	Δ	89.0	24.0	14.6	0.81	85.0	G	H	2	8	P92	-
132	LE132SF4V	9	Δ	88.8	33.0	19.4	0.81	87.0	H	J	2	8	P92	-
	LE132ME4V	12.5	Δ	88.8	45.5	27.1	0.80	87.5	H	F	2	8	P92	-
160	LE160MD4V	17	Δ	88.3	62	37.5	0.78	88.5	J	P	2	8	P92	-
	LE160LA4V	23.5	Δ	88.2	86	51	0.77	90.5	J	S	2	8	P92	-
180	LES180ZMQ4V	31	Δ	88.1	113	62	0.84	91.0	K	N	3	8	P92	-
	LES180ZLJ4V	36.5	Δ	88.0	134	74	0.82	91.0	K	L	3	8	P92	-
200	LES200LN4V	48	Δ	87.8	176	97	0.81	92.4	L	M	3	8	P92	-

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## Selection and ordering data (continued)

Frame size	Motor	$L_{pFA}$	$L_{WA}$	Mech. speed limit	$J_{mot}$	$m_{mot}$	Preferred SINAMICS G120-PM240 Other SINAMICS inverters also possible Type <sup>1)</sup>	Frame size	IES class acc. to EN 50598-2	Article No. Data position				Order code	
		dB (A)	dB (A)							rpm	$10^{-4}$ kgm <sup>2</sup> kg	9th	10th	11th	12th
<b>4-pole, 1 500 rpm at 50 Hz power</b>															
100	LE100LB4V	79.0	91.0	4 200	59	15	6SL3210-1PE16-1.L1	FSA	IES1	F	L	2	8	P92	-
	LE100LH4V	79.0	91.0	4 200	78	21	6SL3210-1PE18-0.L1	FSA	IES1	F	N	2	8	P92	-
112	LE112ME4V	77.4	89.4	4 200	100	27	6SL3210-1PE21-1.L0	FSB	IES1	G	H	2	8	P92	-
132	LE132SF4V	76.0	88.0	4 200	190	39	6SL3210-1PE21-4.L0	FSB	IES1	H	J	2	8	P92	-
	LE132ME4V	76.0	88.0	4 200	240	43	6SL3210-1PE21-8.L0	FSB	IES1	H	F	2	8	P92	-
160	LE160MD4V	83.5	95.5	4 200	440	67	6SL3210-1PE22-7.L0	FSC	IES1	J	P	2	8	P92	-
	LE160LA4V	83.5	95.5	4 200	560	75	6SL3210-1PE23-3.L0	FSC	IES2	J	S	2	8	P92	-
180	LES180ZMQ4V	71.0	83.0	4 200	1 300	170	6SL3210-1PE23-8.L0	FSD	IES2	K	N	3	8	P92	-
	LES180ZLJ4V	71.0	83.0	4 200	1 300	170	6SL3210-1PE24-5.L0	FSD	IES2	K	L	3	8	P92	-
200	LES200LN4V	76.3	88.3	4 200	2 000	220	6SL3210-1PE26-0.L0	FSD	IES2	L	M	3	8	P92	-
225	LES225MD4V	67.0	83.0	4 500	3 700	260	6SL3210-1PE27-5.L0	FSD	IES2	M	R	3	8	P92	-
	LES225SD4V	70.0	83.0	4 500	4 500	290	6SL3210-1PE28-8.L0	FSE	IES2	M	F	3	8	P92	-
250	LES250MD4V	70.0	83.0	3 700	6 900	360	6SL3210-1PE31-1.L0	FSE	IES2	N	M	3	8	P92	-
<b>4-pole, 1 800 rpm at 60 Hz power</b>															
100	LE100LB4V	79.0	91.0	4 200	59	15	6SL3210-1PE16-1.L1	FSA	IES1	F	L	2	8	P92	-
	LE100LH4V	79.0	91.0	4 200	78	21	6SL3210-1PE18-0.L1	FSA	IES1	F	N	2	8	P92	-
112	LE112ME4V	77.2	89.2	4 200	100	27	6SL3210-1PE21-1.L0	FSB	IES1	G	H	2	8	P92	-
132	LE132SF4V	76.0	88.0	4 200	190	39	6SL3210-1PE21-4.L0	FSB	IES1	H	J	2	8	P92	-
	LE132ME4V	76.0	88.0	4 200	240	43	6SL3210-1PE21-8.L0	FSB	IES1	H	F	2	8	P92	-
160	LE160MD4V	82.3	94.3	4 200	440	67	6SL3210-1PE22-7.L0	FSC	IES1	J	P	2	8	P92	-
	LE160LA4V	82.3	94.3	4 200	560	75	6SL3210-1PE23-3.L0	FSC	IES2	J	S	2	8	P92	-
180	LES180ZMQ4V	73.0	85.0	4 200	1 300	170	6SL3210-1PE23-8.L0	FSD	IES2	K	N	3	8	P92	-
	LES180ZLJ4V	73.0	85.0	4 200	1 300	170	6SL3210-1PE24-5.L0	FSD	IES2	K	L	3	8	P92	-
200	LES200LN4V	77.7	89.7	4 200	2 000	220	6SL3210-1PE26-0.L0	FSD	IES2	L	M	3	8	P92	-
225	LES225MD4V	70.0	86.0	4 500	3 700	260	6SL3210-1PE27-5.L0	FSD	IES2	M	R	3	8	P92	-
	LES225SD4V	72.0	86.0	4 500	4 500	290	6SL3210-1PE28-8.L0	FSE	IES2	M	F	3	8	P92	-
250	LES250MD4V	72.0	86.0	3 700	6 900	360	6SL3210-1PE31-1.L0	FSE	IES2	N	M	3	8	P92	-
<b>4-pole, 2 610 rpm at 87 Hz power</b>															
100	LE100LB4V	81.0	93.0	4 200	59	15	6SL3210-1PE21-1.L0	FSB	IES1	F	L	2	8	P92	-
	LE100LH4V	81.0	93.0	4 200	78	21	6SL3210-1PE21-4.L0	FSB	IES1	F	N	2	8	P92	-
112	LE112ME4V	78.4	90.4	4 200	100	27	6SL3210-1PE21-8.L0	FSB	IES1	G	H	2	8	P92	-
132	LE132SF4V	83.0	95.0	4 200	190	39	6SL3210-1PE22-7.L0	FSC	IES1	H	J	2	8	P92	-
	LE132ME4V	83.0	95.0	4 200	240	43	6SL3210-1PE23-3.L0	FSC	IES1	H	F	2	8	P92	-
160	LE160MD4V	85.8	97.8	4 200	440	67	6SL3210-1PE24-5.L0	FSD	IES1	J	P	2	8	P92	-
	LE160LA4V	85.8	97.8	4 200	560	75	6SL3210-1PE26-0.L0	FSD	IES2	J	S	2	8	P92	-
180	LES180ZMQ4V	84.0	96.0	4 200	1 300	170	6SL3210-1PE27-5.L0	FSD	IES2	K	N	3	8	P92	-
	LES180ZLJ4V	84.0	96.0	4 200	1 300	170	6SL3210-1PE28-8.L0	FSE	IES2	K	L	3	8	P92	-
200	LES200LN4V	83.1	95.1	4 200	2 000	220	6SL3210-1PE31-1.L0	FSE	IES2	L	M	3	8	P92	-

<sup>1)</sup> In addition to the Power Module, a Control Unit and an Operator Panel are required (see Catalog D 31 and/or D 35).

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## Motors

VSD10 line motors for inverter operation

Line voltage 500 V / 575 V

### Selection and ordering data

Frame size	Motor	$P_{rated}$ kW	Circuit	$f_{rated}$ Hz	$T_{rated}$ Nm	$I_{rated}$ 50/87 Hz: 500 V 60 Hz: 575 V A	$\cos \varphi$ -	$\eta$ 4/4 load %	Article No. Data position				Order code Power No. of poles	
									9th	10th	11th	12th	Power	No. of poles
<b>4-pole, 1 500 rpm at 50 Hz power</b>														
100	LE100LB4V	2.2	Y	52.8	14.0	4.1	0.81	79.7	F	L	2	8	P92	-
	LE100LH4V	3	Y	52.6	19.1	5.2	0.85	81.5	F	N	2	8	P92	-
112	LE112ME4V	4	Y	52.4	25.5	6.8	0.85	83.1	G	H	2	8	P92	-
132	LE132SF4V	5.5	Y	52.0	35.0	9.5	0.82	84.7	H	J	2	8	P92	-
	LE132ME4V	7.5	Y	51.9	47.8	12.8	0.82	86.0	H	F	2	8	P92	-
160	LE160MD4V	11	Y	51.5	70	18.4	0.82	87.6	J	P	2	8	P92	-
	LE160LA4V	13.5	Y	51.2	86	23.0	0.79	88.7	J	S	2	8	P92	-
180	LES180ZMQ4V	16.7	Y	51.0	106	27.0	0.84	89.3	K	N	3	8	P92	-
	LES180ZLJ4V	21.5	Y	51.1	137	34.5	0.83	89.9	K	L	3	8	P92	-
200	LES200LN4V	30	Y	51.0	191	48	0.83	90.7	L	M	3	8	P92	-
225	LES225MD4V	33	Y	50.6	210	51	0.84	92.0	M	R	3	8	P92	-
	LES225SD4V	41	Y	50.7	261	61	0.87	92.4	M	F	3	8	P92	-
250	LES250MD4V	52	Y	50.7	331	80	0.85	92.3	N	M	3	8	P92	-
<b>4-pole, 1 800 rpm at 60 Hz power</b>														
100	LE100LB4V	2.55	Y	62.8	13.5	3.95	0.82	83.0	F	L	2	8	P92	-
	LE100LH4V	3.45	Y	62.6	18.3	4.95	0.86	85.0	F	N	2	8	P92	-
112	LE112ME4V	4.55	Y	62.3	24.1	6.6	0.85	85.0	G	H	2	8	P92	-
132	LE132SF4V	6.3	Y	62.0	33.4	9.0	0.84	87.0	H	J	2	8	P92	-
	LE132ME4V	8.6	Y	61.9	45.6	12.3	0.84	87.5	H	F	2	8	P92	-
160	LE160MD4V	12.6	Y	61.5	66.9	18.2	0.82	88.5	J	P	2	8	P92	-
	LE160LA4V	15.6	Y	61.2	82.8	22.5	0.81	90.5	J	S	2	8	P92	-
180	LES180ZMQ4V	19.2	Y	61.0	102	26.5	0.84	91.0	K	N	3	8	P92	-
	LES180ZLJ4V	25.3	Y	61.2	134	34.5	0.84	91.0	K	L	3	8	P92	-
200	LES200LN4V	34.5	Y	61.0	183	46.5	0.84	92.4	L	M	3	8	P92	-
225	LES225MD4V	38	Y	60.6	202	51	0.84	92.4	M	R	3	8	P92	-
	LES225SD4V	47	Y	60.7	249	61	0.87	93.0	M	F	3	8	P92	-
250	LES250MD4V	59	Y	60.7	313	78	0.85	93.0	N	M	3	8	P92	-
<b>4-pole, 2 610 rpm at 87 Hz power</b>														
100	LE100LB4V	3.7	$\Delta$	89.6	13.5	6.8	0.79	83.0	F	L	2	8	P92	-
	LE100LH4V	5	$\Delta$	89.3	18.3	8.7	0.79	85.0	F	N	2	8	P92	-
112	LE112ME4V	6.6	$\Delta$	89.1	24.1	12.0	0.81	85.0	G	H	2	8	P92	-
132	LE132SF4V	9	$\Delta$	88.8	32.9	15.4	0.81	87.0	H	J	2	8	P92	-
	LE132ME4V	12.5	$\Delta$	88.7	45.7	21.5	0.80	87.5	H	F	2	8	P92	-
160	LE160MD4V	17	$\Delta$	88.4	62.2	29.5	0.78	88.5	J	P	2	8	P92	-
	LE160LA4V	23.5	$\Delta$	88.3	86	40.5	0.77	90.5	J	S	2	8	P92	-
180	LES180ZMQ4V	31	$\Delta$	88.0	113	49	0.84	91.0	K	N	3	8	P92	-
	LES180ZLJ4V	37	$\Delta$	88.1	134	59	0.82	91.0	K	L	3	8	P92	-
200	LES200LN4V	48	$\Delta$	87.9	176	77	0.81	92.4	L	M	3	8	P92	-

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## Selection and ordering data (continued)

Frame size	Motor	$L_{pA}$	$L_{WA}$	Mech. speed limit	$J_{mot}$	$m_{mot}$	Preferred SINAMICS G120-PM240 Other SINAMICS inverters also possible	Frame size	IES class acc. to EN 50598-2	Article No.				Order code		
		dB (A)	dB (A)							rpm	$10^{-4}$ kgm <sup>2</sup> kg	Type <sup>1)</sup>	Data position	Power	No. of poles	9th
<b>4-pole, 1 500 rpm at 50 Hz power</b>																
100	LE100LB4V	80.0	92.1	4 200	59	18					F	L	2	8	P92	-
	LE100LH4V	80.0	92.1	4 200	78	22					F	N	2	8	P92	-
112	LE112ME4V	79.0	91.3	4 200	100	27					G	H	2	8	P92	-
132	LE132SF4V	77.0	89.4	4 200	190	38	6SL3210-1PH21-4.L0	FSD			H	J	2	8	P92	-
	LE132ME4V	77.0	89.4	4 200	240	44	6SL3210-1PH21-4.L0	FSD			H	F	2	8	P92	-
160	LE160MD4V	85.0	97.8	4 200	440	62	6SL3210-1PH22-0.L0	FSD			J	P	2	8	P92	-
	LE160LA4V	85.0	97.8	4 200	560	73	6SL3210-1PH22-3.L0	FSD			J	S	2	8	P92	-
180	LES180ZMQ4V	72.0	85.0	4 200	1 300	170	6SL3210-1PH22-7.L0	FSD			K	N	3	8	P92	-
	LES180ZLJ4V	72.0	85.0	4 200	1 300	170	6SL3210-1PH23-5.L0	FSD			K	L	3	8	P92	-
200	LES200LN4V	78.0	91.3	4 200	2 000	220	6SL3210-1PH25-2.L0	FSE			L	M	3	8	P92	-
225	LES225MD4V	70.0	84.0	4 500	3 700	260	6SL3210-1PH25-2.L0	FSE			M	R	3	8	P92	-
	LES225SD4V	71.0	84.0	4 500	4 500	290	6SL3210-1PH26-2.L0	FSE			M	F	3	8	P92	-
250	LES250MD4V	71.0	84.0	3 700	6 900	360	6SL3210-1PH28-0.L0	FSF			N	M	3	8	P92	-
<b>4-pole, 1 800 rpm at 60 Hz power</b>																
100	LE100LB4V	80.0	92.1	4 200	59	18					F	L	2	8	P92	-
	LE100LH4V	80.0	92.1	4 200	78	22					F	N	2	8	P92	-
112	LE112ME4V	79.0	91.3	4 200	100	27	6SL3210-1PH21-4.L0	FSD			G	H	2	8	P92	-
132	LE132SF4V	77.0	89.4	4 200	190	38	6SL3210-1PH22-0.L0	FSD			H	J	2	8	P92	-
	LE132ME4V	77.0	89.4	4 200	240	44	6SL3210-1PH22-3.L0	FSD			H	F	2	8	P92	-
160	LE160MD4V	85.0	97.8	4 200	440	62	6SL3210-1PH23-5.L0	FSD			J	P	2	8	P92	-
	LE160LA4V	85.0	97.8	4 200	560	73	6SL3210-1PH24-2.L0	FSD			J	S	2	8	P92	-
180	LES180ZMQ4V	72.0	85.0	4 200	1 300	170	6SL3210-1PH22-7.L0	FSD			K	N	3	8	P92	-
	LES180ZLJ4V	72.0	85.0	4 200	1 300	170	6SL3210-1PH23-5.L0	FSD			K	L	3	8	P92	-
200	LES200LN4V	78.0	91.3	4 200	2 000	220	6SL3210-1PH25-2.L0	FSE			L	M	3	8	P92	-
225	LES225MD4V	70.0	84.0	4 500	3 700	260	6SL3210-1PH25-2.L0	FSE			M	R	3	8	P92	-
	LES225SD4V	71.0	84.0	4 500	4 500	290	6SL3210-1PH26-2.L0	FSE			M	F	3	8	P92	-
250	LES250MD4V	71.0	84.0	3 700	6 900	360	6SL3210-1PH28-0.L0	FSF			N	M	3	8	P92	-
<b>4-pole, 2 610 rpm at 87 Hz power</b>																
100	LE100LB4V	81.0	93.1	4 200	59	18					F	L	2	8	P92	-
	LE100LH4V	81.0	93.1	4 200	78	22					F	N	2	8	P92	-
112	LE112ME4V	80.0	92.3	4 200	100	27	6SL3210-1PH21-4.L0	FSD			G	H	2	8	P92	-
132	LE132SF4V	83.0	95.4	4 200	190	38	6SL3210-1PH21-4.L0	FSD			H	J	2	8	P92	-
	LE132ME4V	83.0	95.4	4 200	240	44	6SL3210-1PH22-0.L0	FSD			H	F	2	8	P92	-
160	LE160MD4V	85.0	97.8	4 200	440	62	6SL3210-1PH22-3.L0	FSD			J	P	2	8	P92	-
	LE160LA4V	85.0	97.8	4 200	560	73					J	S	2	8	P92	-
180	LES180ZMQ4V	84.0	97.0	4 200	1 300	170	6SL3210-1PH25-2.L0	FSE			K	N	3	8	P92	-
	LES180ZLJ4V	84.0	97.0	4 200	1 300	170	6SL3210-1PH26-2.L0	FSE			K	L	3	8	P92	-
200	LES200LN4V	84.0	97.3	4 200	2 000	220	6SL3210-1PH31-0.L0	FSF			L	M	3	8	P92	-

<sup>1)</sup> In addition to the Power Module, a Control Unit and an Operator Panel are required (see Catalog D 31 and/or D 35).

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## Motors

VSD10 line motors for inverter operation

Line voltage 690 V

### Selection and ordering data

Frame size	Motor	$P_{rated}$ kW	Circuit	$f_{rated}$ Hz	$T_{rated}$ Nm	$I_{rated}$ A	$\cos \varphi$ -	$\eta$ %	Article No. Data position				Order code	
									9th	10th	11th	12th	Power	No. of poles
<b>4-pole, 1 500 rpm at 50 Hz power</b>														
100	LE100LB4V	2.2	Y	52.9	14.0	3.0	0.81	79.7	F	L	2	8	P92	-
	LE100LH4V	3	Y	52.5	19.1	3.8	0.85	81.5	F	N	2	8	P92	-
112	LE112ME4V	4	Y	52.5	25.5	5.0	0.85	83.1	G	H	2	8	P92	-
132	LE132SF4V	5.5	Y	52.0	35.0	6.9	0.82	84.7	H	J	2	8	P92	-
	LE132ME4V	7.5	Y	51.7	47.8	9.3	0.82	86.0	H	F	2	8	P92	-
160	LE160MD4V	11	Y	51.5	70	13.4	0.82	87.6	J	P	2	8	P92	-
	LE160LA4V	15	Y	51.4	95.5	18.0	0.82	88.7	J	S	2	8	P92	-
180	LES180ZMQ4V	18.5	Y	51.1	117.8	21.5	0.85	89.3	K	N	3	8	P92	-
	LES180ZLJ4V	22	Y	51.2	140	25.0	0.85	89.9	K	L	3	8	P92	-
200	LES200LN4V	30	Y	51.0	191	35.0	0.83	90.7	L	M	3	8	P92	-
225	LES225MD4V	37	Y	50.8	236	41.5	0.85	91.4	M	R	3	8	P92	-
	LES225SD4V	45	Y	50.8	286	48.5	0.88	92.4	M	F	3	8	P92	-
250	LES250MD4V	55	Y	50.8	350	61.0	0.86	92.3	N	M	3	8	P92	-
<b>4-pole, 2 610 rpm at 87 Hz power</b>														
100	LE100LB4V	3.7	$\Delta$	89.5	13.5	4.95	0.79	83.0	F	L	2	8	P92	-
	LE100LH4V	5	$\Delta$	89.5	18.3	6.5	0.79	85.0	F	N	2	8	P92	-
112	LE112ME4V	6.6	$\Delta$	89.2	24.1	8.4	0.81	85.0	G	H	2	8	P92	-
132	LE132SF4V	9	$\Delta$	88.7	32.9	11.2	0.81	87.0	H	J	2	8	P92	-
	LE132ME4V	12.5	$\Delta$	88.6	45.7	15.6	0.80	87.5	H	F	2	8	P92	-
160	LE160MD4V	17	$\Delta$	88.3	62.2	21.5	0.78	88.5	J	P	2	8	P92	-
	LE160LA4V	23.5	$\Delta$	88.2	86	29.5	0.77	90.5	J	S	2	8	P92	-
180	LES180ZMQ4V	31	$\Delta$	88.0	112	35	0.84	91.0	K	N	3	8	P92	-
	LES180ZLJ4V	36.5	$\Delta$	88.2	134	42	0.84	91.0	K	L	3	8	P92	-
200	LES200LN4V	48	$\Delta$	87.9	176	56	0.81	92.4	L	M	3	8	P92	-

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## Selection and ordering data (continued)

Frame size	Motor	$L_{pTA}$	$L_{WA}$	Mech. speed limit	$J_{mot}$	$m_{mot}$	Preferred SINAMICS G120-PM240 Other SINAMICS inverters also possible	Frame size	IES class acc. to EN 50598-2	Article No.				Order code		
		dB (A)	dB (A)							rpm	$10^{-4}$ kgm <sup>2</sup>	Type <sup>1)</sup>	Data position			
											9th	10th	11th	12th		
<b>4-pole, 1 500 rpm at 50 Hz power</b>																
100	LE100LB4V	80.0	92.1	4 200	59	18					F	L	2	8	P92	-
	LE100LH4V	80.0	92.1	4 200	78	22					F	N	2	8	P92	-
112	LE112ME4V	79.0	91.3	4 200	100	27	6SL3210-1PH21-4.L0	FSD			G	H	2	8	P92	-
132	LE132SF4V	77.0	89.4	4 200	190	38	6SL3210-1PH21-4.L0	FSD			H	J	2	8	P92	-
	LE132ME4V	77.0	89.4	4 200	240	44	6SL3210-1PH22-0.L0	FSD			H	F	2	8	P92	-
160	LE160MD4V	85.0	97.8	4 200	440	62	6SL3210-1PH22-7.L0	FSD			J	P	2	8	P92	-
	LE160LA4V	85.0	97.8	4 200	560	73	6SL3210-1PH23-5.L0	FSD			J	S	2	8	P92	-
180	LES180ZMQ4V	72.0	85.0	4 200	1 300	170	6SL3210-1PH22-3.L0	FSD			K	N	3	8	P92	-
	LES180ZLJ4V	72.0	85.0	4 200	1 300	170	6SL3210-1PH22-7.L0	FSD			K	L	3	8	P92	-
200	LES200LN4V	78.0	91.3	4 200	2 000	220	6SL3210-1PH23-5.L0	FSD			L	M	3	8	P92	-
225	LES225MD4V	70.0	84.0	4 500	3 700	260	6SL3210-1PH24-2.L0	FSD			M	R	3	8	P92	-
	LES225SD4V	71.0	84.0	4 500	4 500	290	6SL3210-1PH25-2.L0	FSE			M	F	3	8	P92	-
250	LES250MD4V	71.0	84.0	3 700	6 900	360	6SL3210-1PH26-2.L0	FSE			N	M	3	8	P92	-
<b>4-pole, 2 610 rpm at 87 Hz power</b>																
100	LE100LB4V	81.0	93.1	4 200	59	18					F	L	2	8	P92	-
	LE100LH4V	81.0	93.1	4 200	78	22					F	N	2	8	P92	-
112	LE112ME4V	80.0	92.3	4 200	100	27	6SL3210-1PH21-4.L0	FSD			G	H	2	8	P92	-
132	LE132SF4V	83.0	95.4	4 200	190	38	6SL3210-1PH21-4.L0	FSD			H	J	2	8	P92	-
	LE132ME4V	83.0	95.4	4 200	240	44	6SL3210-1PH21-4.L0	FSD			H	F	2	8	P92	-
160	LE160MD4V	85.0	97.8	4 200	440	62	6SL3210-1PH22-0.L0	FSD			J	P	2	8	P92	-
	LE160LA4V	85.0	97.8	4 200	560	73					J	S	2	8	P92	-
180	LES180ZMQ4V	84.0	97.0	4 200	1 300	170	6SL3210-1PH24-2.L0	FSD			K	N	3	8	P92	-
	LES180ZLJ4V	84.0	97.0	4 200	1 300	170	6SL3210-1PH25-2.L0	FSE			K	L	3	8	P92	-
200	LES200LN4V	84.0	97.3	4 200	2 000	220	6SL3210-1PH26-2.L0	FSE			L	M	3	8	P92	-

<sup>1)</sup> In addition to the Power Module, a Control Unit and an Operator Panel are required (see Catalog D 31 and/or D 35).

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## Motors

NEMA Premium Efficient motors MG1, Table 12-12



## Selection and ordering data

Frame size	Motor	$P_{rated}$		$n_{rated}$	$T_{rated}$	EISA	$I_{rated}$	$\cos \varphi$	$\eta$	$I_{St}/I_{rated}$		$T_{St}/T_{rated}$
		kW	hp							rpm	Nm	
4-pole, 1 800 rpm at 60 Hz, 50 Hz power												
63	LA63MD4	0.09	0.12	1 695	0.51	-	0.41	0.60	46.00	41.00	3.30	3.20
	LA63ME4 <sup>1)</sup>	0.12	0.16	1 670	0.69	-	0.42	0.68	54.10	51.80	3.20	2.30
	LA63MF4 <sup>1)</sup>	0.18	0.25	1 690	1.02	-	0.56	0.70	58.80	56.40	3.30	2.30
71	LA71MG4	0.25	0.33	1 675	1.43	-	0.74	0.65	65.50	63.00	3.60	2.20
	LA71MH4	0.37	0.50	1 695	2.08	-	0.97	0.66	73.00	71.80	4.20	2.30
	LA71ZML4	0.55	0.75	1 680	3.13	-	1.41	0.68	72.20	71.00	4.20	2.50
80	LE80MD4E	0.55	0.75	1 750	3.00	-	1.17	0.74	80.00	80.00	5.70	2.40
	LE80ZMQ4P	0.75	1.00	1 760	4.07	✓	1.53	0.71	85.50	84.50	8.30	3.10
90	LE90SM4P	1.10	1.50	1 750	6.00	✓	2.10	0.75	86.50	86.30	8.20	3.40
	LE90ZLR4P	1.50	2.00	1 755	8.16	✓	2.85	0.77	86.50	87.00	8.40	3.00
100	LE100ZLSA4P	2.20	3.00	1 770	11.9	✓	3.80	0.81	89.50	89.50	9.60	3.50
	LE100ZLSB4P	3.00	4.00	1 760	16.3	✓	5.10	0.82	89.50	89.50	9.50	3.10
112	LE112ZMKB4P	3.70	5.00	1 770	20.0	✓	6.50	0.80	89.50	89.50	8.20	2.90
132	LE132ZST4P	5.50	7.50	1 780	29.5	✓	9.10	0.83	91.70	91.70	9.50	2.90
	LE132ZMS4P	7.50	10.00	1 770	40.5	✓	12.40	0.83	91.70	91.70	9.60	2.70
160	LE160MPA4P	9.20	12.30	1 785	49.2	✓	16.40	0.77	91.70	91.10	8.80	2.80
	LE160MPB4P	11.00	15.00	1 775	59.2	✓	18.00	0.83	92.40	92.40	8.90	3.00
	LE160ZLL4P	15.00	20.00	1 780	80.5	✓	25.00	0.81	93.00	93.00	9.50	2.90
180	LES180MQ4P	18.50	25.00	1 775	99.5	✓	30.50	0.81	93.60	93.70	7.80	2.70
	LES180ZLN4P	22.00	30.00	1 775	118.4	✓	36.50	0.81	93.60	93.80	7.70	2.80
200	LES200ZLU4P	30.00	40.00	1 778	161.1	✓	48.00	0.83	94.10	94.30	8.10	3.00
225	LES225SD4P	37.00	50.00	1 782	198.3	✓	58.00	0.85	94.50	94.70	7.50	2.80
	LES225YMF4P	45.00	60.00	1 782	241.1	✓	70.00	0.85	95.00	95.30	7.20	2.90
250	LES250MD4P	55.00	75.00	1 786	294	✓	84.00	0.86	95.40	95.60	7.60	2.80
2-pole, 3 600 rpm at 60 Hz, 50 Hz power												
63	LA63ME2 <sup>1)</sup>	0.18	0.25	3 455	0.5	-	0.47	0.76	63.50	61.70	4.50	2.40
	LA63MF2 <sup>1)</sup>	0.25	0.33	3 455	0.69	-	0.65	0.75	65.00	63.20	4.60	2.40
71	LA71MG2 <sup>1)</sup>	0.37	0.50	3 410	1.04	-	0.91	0.76	67.00	65.10	5.00	2.90
	LA71MH2 <sup>1)</sup>	0.55	0.75	3 440	1.53	-	1.25	0.78	71.10	70.00	5.40	3.00
80	LE80ME2P	0.75	1.00	3 480	2.06	✓	1.46	0.84	77.00	78.00	7.10	3.00
	LE80ZMJ2P	1.10	1.50	3 500	3	✓	1.98	0.83	84.00	84.00	8.40	3.30
90	LE90SM2P	1.50	2.00	3 525	4.06	✓	2.60	0.84	85.50	85.00	9.80	3.10
	LE90ZLR2P	2.20	3.00	3 530	5.95	✓	3.65	0.87	86.50	86.30	9.60	3.00
100	LE100ZLK2P	3.00	4.00	3 525	8.13	✓	4.90	0.87	88.50	88.50	9.70	3.80
112	LE112ZMH2P	3.70	5.00	3 565	9.91	✓	6.00	0.87	88.50	88.50	10.00	3.80
132	LE132SF2P	5.50	7.50	3 555	14.8	✓	8.60	0.90	89.50	89.50	8.60	2.10
	LE132ZSQB2P	7.50	10.00	3 555	20.1	✓	11.50	0.91	90.20	90.20	9.50	2.40
160	LE160MG2P	11.00	15.00	3 560	29.5	✓	17.20	0.88	91.00	91.00	8.50	2.80
	LE160MM2P	15.00	20.00	3 565	40.2	✓	24.00	0.86	91.00	91.00	9.70	3.10
	LE160ZLJ2P	18.50	25.00	3 560	49.6	✓	28.00	0.90	91.70	91.70	9.40	3.10

<sup>1)</sup> The technical specifications also apply to LAI63 and LAI71 motors (with IEC B14 flange) for worm geared motors S.

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## Selection and ordering data (continued)

Frame size	Motor	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{pfa}$ dB (A)	$L_{WA}$ dB (A)	$Z_0$ 1/h	$J_{mot}$ $10^{-4}$ kgm <sup>2</sup>	$m_{mot}$ kg	Article No.				Order code	
		-	-						Data position	9th	10th	11th	12th	Number of poles
<b>4-pole, 1 800 rpm at 60 Hz, 50 Hz power</b>														
63	LA63MD4	3.30	O. R.	46	57	15 000	2.9	3.2	<b>B</b>	<b>B</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
	LA63ME4 <sup>1)</sup>	2.40	O. R.	46	57	15 000	2.9	3.2	<b>B</b>	<b>C</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
	LA63MF4 <sup>1)</sup>	2.30	O. R.	46	57	15 000	3.7	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
71	LA71MG4	2.30	O. R.	48	59	15 000	5.2	4.3	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
	LA71MH4	2.50	O. R.	48	59	15 000	7.7	5.8	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
	LA71ZML4	2.50	2.30	48	59	7 000	11	8.1	<b>C</b>	<b>H</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
80	LE80MD4E	3.30	O. R.	55	66	10 000	17	9.3	<b>D</b>	<b>C</b>	<b>2</b>	<b>2</b>	-	<b>N38</b>
	LE80ZMQ4P	4.70	3.57	55	66	O. R.	29	10	<b>D</b>	<b>F</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
90	LE90SM4P	4.40	3.60	58	70	O. R.	36	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
	LE90ZLR4P	4.30	3.41	58	70	O. R.	49	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
100	LE100ZLSA4P	5.10	3.61	62	74	O. R.	140	29	<b>F</b>	<b>N</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
	LE100ZLSB4P	4.60	3.40	62	74	O. R.	140	29	<b>F</b>	<b>P</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
112	LE112ZMKB4P	4.30	3.10	62	74	O. R.	170	29	<b>G</b>	<b>J</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
132	LE132ZST4P	4.40	3.53	68	80	O. R.	460	57	<b>H</b>	<b>J</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
	LE132ZMS4P	4.20	3.07	68	80	O. R.	460	57	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
160	LE160MPA4P	4.10	3.19	69	81	O. R.	830	73	<b>J</b>	<b>Q</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
	LE160MPB4P	3.80	3.03	69	81	O. R.	830	73	<b>J</b>	<b>R</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
	LE160ZLL4P	4.30	3.33	69	81	O. R.	990	90	<b>J</b>	<b>U</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
180	LES180MQ4P	3.60	2.70	68	75	O. R.	1 300	165	<b>K</b>	<b>L</b>	<b>3</b>	<b>3</b>	-	<b>N38</b>
	LES180ZLN4P	3.70	2.70	70	77	O. R.	1 400	170	<b>K</b>	<b>N</b>	<b>3</b>	<b>3</b>	-	<b>N38</b>
200	LES200ZLU4P	3.50	2.70	70	77	O. R.	2 200	240	<b>L</b>	<b>N</b>	<b>3</b>	<b>3</b>	-	<b>N38</b>
225	LES225SD4P	3.00	2.20	60	73	O. R.	4 200	285	<b>M</b>	<b>F</b>	<b>3</b>	<b>3</b>	-	<b>N38</b>
	LES225YMF4P	3.00	2.20	60	73	O. R.	4 700	320	<b>M</b>	<b>T</b>	<b>3</b>	<b>3</b>	-	<b>N38</b>
250	LES250MD4P	3.20	2.30	60	74	O. R.	8 500	420	<b>N</b>	<b>M</b>	<b>3</b>	<b>3</b>	-	<b>N38</b>
<b>2-pole, 3 600 rpm at 60 Hz, 50 Hz power</b>														
63	LA63ME2 <sup>1)</sup>	2.70	O. R.	53	64	5 000	1.8	3.2	<b>B</b>	<b>C</b>	<b>1</b>	<b>1</b>	<b>P00</b>	<b>N38</b>
	LA63MF2 <sup>1)</sup>	2.70	O. R.	53	64	5 000	2.2	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P00</b>	<b>N38</b>
71	LA71MG2 <sup>1)</sup>	2.90	O. R.	56	67	5 000	2.9	4.5	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P00</b>	<b>N38</b>
	LA71MH2 <sup>1)</sup>	2.90	O. R.	56	67	5 000	4.1	5.5	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P00</b>	<b>N38</b>
80	LE80ME2P	3.60	2.90	64	75	O. R.	11	9.3	<b>D</b>	<b>B</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
	LE80ZMJ2P	4.50	3.25	64	75	O. R.	13	10	<b>D</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
90	LE90SM2P	4.90	3.50	69	81	O. R.	21	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
	LE90ZLR2P	4.90	3.43	69	81	O. R.	31	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
100	LE100ZLK2P	5.50	4.17	71	83	O. R.	54	26	<b>F</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
112	LE112ZMH2P	5.60	3.43	73	85	O. R.	120	29	<b>G</b>	<b>G</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
132	LE132SF2P	4.40	2.87	72	84	O. R.	240	36	<b>H</b>	<b>E</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
	LE132ZSQB2P	4.70	3.10	72	84	O. R.	310	50	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
160	LE160MG2P	4.30	3.13	77	89	O. R.	530	65	<b>J</b>	<b>N</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
	LE160MM2P	4.80	3.53	77	89	O. R.	610	74	<b>J</b>	<b>P</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
	LE160ZLJ2P	4.40	3.33	77	89	O. R.	680	84	<b>J</b>	<b>T</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>

O. R. On request

<sup>1)</sup> The technical specifications also apply to LA163 and LA171 motors (with IEC B14 flange) for worm geared motors S.

## Motors

NEMA Premium Efficient motors MG1, Table 12-12



## Selection and ordering data (continued)

Frame size	Motor	$P_{rated}$		$n_{rated}$	$T_{rated}$	EISA	$I_{rated}$	$\cos \varphi$	$\eta$	$I_{St}/I_{rated}$		$T_{St}/T_{rated}$	
		kW	hp							rpm	Nm	CC no.	460 V
6-pole, 1 200 rpm at 60 Hz, 50 Hz power													
63	LA63MF6 <sup>1)</sup>	0.09	0.12	1 075	0.8	-	0.38	0.63	47.10	44.90	2.20	2.10	
	LA63MG6	0.12	0.16	1 100	1.04	-	0.73	0.53	39.40	33.80	2.10	2.70	
71	LA71MG6 <sup>1)</sup>	0.18	0.25	1 080	1.59	-	0.67	0.61	56.40	54.10	3.10	2.50	
	LA71MH6 <sup>1)</sup>	0.25	0.33	1 090	2.19	-	0.72	0.70	62.90	60.60	3.40	2.70	
80	LE80MD6E	0.37	0.50	1 140	3.1	-	0.98	0.63	75.30	74.10	4.60	2.30	
	LE80MK6E	0.55	0.75	1 135	4.63	-	1.47	0.61	77.00	77.50	5.20	2.90	
90	LE90SQ6P	0.75	1.00	1 155	6.2	✓	1.76	0.65	82.50	82.30	5.30	2.40	
100	LE100ZLSA6P	1.10	1.50	1 180	8.9	✓	2.30	0.69	87.50	87.20	6.70	2.40	
112	LE112ZMKA6P	1.50	2.00	1 175	12.2	✓	2.90	0.73	88.50	88.30	6.90	2.20	
132	LE132SQB6P	3.00	4.00	1 185	24.2	✓	5.60	0.75	89.50	89.60	7.50	2.30	
	LE132SQA6P	2.20	3.00	1 185	17.7	✓	4.15	0.74	89.50	89.30	8.00	2.30	
	LE132MJ6P	3.70	5.00	1 180	29.9	✓	7.10	0.73	89.50	89.50	7.60	2.40	
	LE132ZMS6P	5.50	7.50	1 180	44.5	✓	10.30	0.74	91.00	91.30	7.20	2.30	
160	LE160MW6P	7.50	10.00	1 185	60.4	✓	13.80	0.75	91.00	91.00	5.90	2.40	
	LE160ZLW6P	11.00	15.00	1 180	89	✓	20.00	0.75	91.70	91.90	5.80	2.30	
180	LES180LJ6P	15.00	20.00	1 178	121.6	✓	26.00	0.79	91.70	92.00	6.80	2.50	
200	LES200LM6P	18.50	25.00	1 180	149.7	✓	32.00	0.78	93.00	93.80	6.50	2.80	
	LES200ZLS6P	22.00	30.00	1 180	178	✓	37.50	0.79	93.00	93.50	6.30	2.60	

O. R. On request

<sup>1)</sup> The technical specifications also apply to LAI63 and LAI71 motors (with IEC B14 flange) for worm geared motors S.

**Selection and ordering data** (continued)

Frame size	Motor	$T_{Br}/T_{rated}$	$T_A/T_{rated}$	$L_{pFA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code		
									Data position				Number of poles	Specification UL-R/CSA	
										9th	10th	11th			12th
<b>6-pole, 1 200 rpm at 60 Hz, 50 Hz power</b>															
<b>63</b>	LA63MF6 <sup>1)</sup>	1.80	O. R.	43	54	10 500	3.7	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P01</b>	<b>N38</b>	
	LA63MG6	2.80	O. R.	43	54	10 500	3.7	3.6	<b>B</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P01</b>	<b>N38</b>	
<b>71</b>	LA71MG6 <sup>1)</sup>	2.50	O. R.	43	54	10 500	5.5	4.3	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P01</b>	<b>N38</b>	
	LA71MH6 <sup>1)</sup>	2.60	O. R.	43	54	10 500	8	5.3	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P01</b>	<b>N38</b>	
<b>80</b>	LE80MD6E	2.90	O. R.	45	56	8 400	17	8.3	<b>D</b>	<b>C</b>	<b>2</b>	<b>2</b>	<b>P01</b>	<b>N38</b>	
	LE80MK6E	3.60	O. R.	45	56	8 400	25	11.3	<b>D</b>	<b>F</b>	<b>2</b>	<b>2</b>	<b>P01</b>	<b>N38</b>	
<b>90</b>	LE90SQ6P	3.10	2.63	46	58	O. R.	40	15	<b>E</b>	<b>C</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
<b>100</b>	LE100ZLSA6P	3.30	2.54	62	74	O. R.	140	25	<b>F</b>	<b>N</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
<b>112</b>	LE112ZMKA6P	3.20	2.46	65	77	O. R.	170	29	<b>G</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
<b>132</b>	LE132SQB6P	3.30	2.59	67	79	O. R.	370	45	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
	LE132SQA6P	3.50	2.53	67	79	O. R.	370	45	<b>H</b>	<b>G</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
	LE132MJ6P	3.40	2.63	67	79	O. R.	370	45	<b>H</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
	LE132ZMS6P	3.30	2.51	67	79	O. R.	460	45	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
<b>160</b>	LE160MW6P	2.60	2.33	70	82	O. R.	980	83	<b>J</b>	<b>J</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
	LE160ZLW6P	2.60	2.21	70	82	O. R.	1 200	105	<b>J</b>	<b>V</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
<b>180</b>	LES180LJ6P	3.00	2.40	61	68	O. R.	1 900	180	<b>K</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
<b>200</b>	LES200LM6P	3.00	2.50	64	71	O. R.	2 800	215	<b>L</b>	<b>L</b>	<b>3</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	
	LES200ZLS6P	2.80	2.40	63	70	O. R.	3 200	230	<b>L</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>	<b>N38</b>	

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<sup>1)</sup> The technical specifications also apply to LAI63 and LAI71 motors (with IEC B14 flange) for worm geared motors S.



## Motors

## NEMA Premium Efficient motors MG1, Table 12-12



## Selection and ordering data (continued)

Frame size	Motor	$P_{rated}$		$n_{rated}$	$T_{rated}$	EISA	$I_{rated}$	$\cos \varphi$	$\eta$	$I_{St}/I_{rated}$		$T_{St}/T_{rated}$
		kW	hp							rpm	Nm	
4-pole, 1 800 rpm at 60 Hz, 60 Hz power												
63	LA63ME4 <sup>1)</sup>	0.14	0.19	1 650	0.81	-	0.43	0.74	56.00	54.50	3.10	2.00
	LA63MF4 <sup>1)</sup>	0.21	0.28	1 650	1.22	-	0.59	0.77	58.30	56.80	3.10	2.00
	LA63MD4	0.11	0.15	1 695	0.62	-	0.41	0.60	46.00	41.00	3.30	3.20
71	LA71MG4 <sup>1)</sup>	0.29	0.39	1 650	1.68	-	0.76	0.77	61.90	60.40	3.30	1.90
	LA71MH4 <sup>1)</sup>	0.43	0.58	1 669	2.46	-	1.08	0.76	65.80	64.80	3.80	2.00
	LA71ZML4	0.66	0.89	1 665	3.79	-	1.54	0.74	72.80	71.80	3.80	2.40
80	LE80MD4E	0.63	0.85	1 735	3.47	-	1.30	0.76	80.00	79.50	6.00	2.30
	LE80ZMQ4P	0.86	1.15	1 755	4.68	-	1.66	0.75	85.50	85.10	7.70	2.70
90	LE90SM4P	1.27	1.70	1 740	6.97	-	2.35	0.79	86.50	86.70	7.40	2.90
	LE90ZLR4P	1.75	2.35	1 740	9.6	-	3.15	0.80	86.50	87.00	7.50	2.60
100	LE100ZLSA4P	2.55	3.40	1 765	13.8	-	4.25	0.84	89.50	89.70	8.50	3.00
	LE100ZLSB4P	3.45	4.60	1 755	18.8	-	5.80	0.84	89.50	90.10	8.40	2.70
112	LE112ZMKB4P	4.55	6.10	1 760	24.7	-	7.70	0.83	89.50	89.50	7.30	2.50
132	LE132ZST4P	6.30	8.40	1 775	33.9	-	10.30	0.84	91.70	91.70	8.40	2.50
	LE132ZMS4P	8.60	11.50	1 765	46.5	-	13.80	0.85	91.70	91.70	8.40	2.30
160	LE160MPA4P	10.60	14.20	1 780	56.9	-	18.00	0.80	92.40	92.10	7.70	2.40
	LE160MPB4P	12.60	16.90	1 770	68	-	20.00	0.85	92.40	92.40	7.90	2.60
	LE160ZLL4P	18.00	24.00	1 775	96.8	-	28.00	0.83	93.60	93.60	8.50	2.50
180	LES180MQ4P	21.30	28.60	1 770	114.9	-	34.50	0.83	93.60	94.00	7.20	2.40
	LES180ZLN4P	25.30	33.90	1 770	136.5	-	41.00	0.83	93.60	94.10	6.80	2.20
200	LES200ZLU4P	34.50	46.30	1 770	186.1	-	55.00	0.85	93.00	93.50	7.30	2.40
2-pole, 3 600 rpm at 60 Hz, 60 Hz power												
63	LA63ME2 <sup>1)</sup>	0.21	0.28	3 420	0.59	-	0.51	0.81	64.00	63.00	4.10	2.10
	LA63MF2 <sup>1)</sup>	0.29	0.39	3 430	0.81	-	0.68	0.82	65.00	64.00	4.30	2.10
71	LA71MG2 <sup>1)</sup>	0.43	0.58	3 340	1.23	-	1.00	0.82	66.00	65.00	4.50	2.50
	LA71MH2 <sup>1)</sup>	0.63	0.85	3 400	1.77	-	1.36	0.82	71.00	71.00	4.90	2.60
80	LE80ME2P	0.86	1.15	3 450	2.38	-	1.63	0.86	77.00	78.00	6.40	2.60
	LE80ZMJ2P	1.27	1.70	3 480	3.48	-	2.25	0.85	84.00	84.00	7.40	2.80
90	LE90SM2P	1.75	2.35	3 510	4.76	-	2.95	0.87	85.50	85.60	8.70	2.60
	LE90ZLR2P	2.55	3.40	3 510	6.94	-	4.20	0.88	86.50	86.90	8.30	2.60
100	LE100ZLK2P	3.45	4.60	3 520	9.36	-	5.50	0.89	88.50	88.50	8.50	3.30
112	LE112ZMH2P	4.60	6.20	3 555	12.4	-	7.20	0.90	88.50	88.50	8.20	3.00
132	LE132SF2P	6.30	8.40	3 545	17	-	9.70	0.91	89.50	89.50	7.50	1.90
	LE132SQB2P	8.60	11.50	3 550	23.1	-	13.00	0.92	90.20	90.20	8.40	2.10
160	LE160MG2P	12.60	16.90	3 555	33.8	-	19.50	0.89	91.00	91.00	7.60	2.40
	LE160MM2P	18.00	24.00	3 560	48.3	-	27.00	0.88	91.70	91.70	8.70	2.70
	LE160ZLJ2P	22.00	30.00	3 550	59.2	-	32.00	0.91	91.70	91.70	8.20	2.70
6-pole, 1 200 rpm at 60 Hz, 60 Hz power												
63	LA63MF6	0.10	0.13	1 050	0.91	-	0.39	0.67	48.00	46.50	2.10	1.90
	LA63MG6	0.14	0.19	1 080	1.24	-	0.74	0.57	41.90	37.00	2.10	2.30
71	LA71MG6	0.21	0.28	1 035	1.94	-	0.69	0.67	57.30	55.80	3.00	2.10
	LA71MH6	0.29	0.39	1 030	2.69	-	0.78	0.75	61.90	60.40	3.10	2.30
80	LE80MD6E	0.43	0.58	1 125	3.65	-	1.04	0.69	75.30	75.30	4.20	2.10
	LE80MK6E	0.63	0.85	1 135	5.3	-	1.56	0.66	77.00	77.50	4.80	2.60
90	LE90SQ6P	0.86	1.15	1 140	7.2	-	1.87	0.70	82.50	83.00	4.90	2.10
100	LE100ZLSA6P	1.27	1.70	1 175	10.3	-	2.55	0.71	87.50	87.20	6.10	2.10
112	LE112ZMKA6P	1.75	2.35	1 170	14.3	-	3.25	0.76	88.50	88.70	6.20	2.00
132	LE132SQB6P	3.45	4.60	1 180	27.9	-	6.30	0.77	89.50	90.00	6.70	2.00
	LE132SQA6P	2.55	3.40	1 180	20.6	-	4.65	0.77	89.50	89.80	7.10	2.00
	LE132MJ6P	4.60	6.20	1 175	37.4	-	8.30	0.77	89.50	90.50	6.40	2.00
	LE132ZMS6P	6.30	8.40	1 175	51.2	-	11.30	0.77	91.00	91.80	6.60	2.00
160	LE160MW6P	8.60	11.50	1 180	62.6	-	15.60	0.76	91.00	91.40	5.20	2.00
	LE160ZLW6P	12.60	16.90	1 175	102.4	-	22.50	0.77	91.70	92.20	5.20	2.00
180	LES180LJ6P	18.00	24.00	1 170	146.9	-	30.50	0.81	91.70	92.50	5.80	2.10
200	LES200LM6P	22.00	30.00	1 175	178.8	-	37.50	0.80	91.70	92.00	5.60	2.40
	LES200ZLS6P	26.50	35.50	1 175	215.4	-	44.00	0.81	93.00	94.00	5.50	2.30

<sup>1)</sup> The technical specifications also apply to LAI63 and LAI71 motors (with IEC B14 flange) for worm geared motors S.

**Selection and ordering data (continued)**

Frame size	Motor	$T_{Bk}/T_{rated}$	$T_A/T_{rated}$	$L_{pFA}$	$L_{WA}$	$Z_0$	$J_{mot}$	$m_{mot}$	Article No.				Order code	
									Data position 9th	10th	11th	12th	Number of poles	Specification UL-R/CSA
		-	-	dB (A)	dB (A)	1/h	$10^{-4}$ kgm <sup>2</sup>	kg						
<b>4-pole, 1 800 rpm at 60 Hz, 60 Hz power</b>														
63	LA63ME4 <sup>1)</sup>	2.10	O. R.	46	57	15 000	2.9	3.2	<b>B</b>	<b>C</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
	LA63MF4 <sup>1)</sup>	2.00	O. R.	46	57	15 000	3.7	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
	LA63MD4	3.30	O. R.	46	57	15 000	2.9	3.2	<b>B</b>	<b>B</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
71	LA71MG4 <sup>1)</sup>	2.00	O. R.	48	59	15 000	5.2	4.3	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
	LA71MH4 <sup>1)</sup>	2.20	O. R.	48	59	15 000	7.7	5.8	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
	LA71ZML4	2.40	2.20	50	61	7 000	11	8.1	<b>C</b>	<b>H</b>	<b>1</b>	<b>1</b>	-	<b>N38</b>
80	LE80MD4E	3.20	2.50	55	66	10 000	17	9.3	<b>D</b>	<b>C</b>	<b>2</b>	<b>2</b>	-	<b>N38</b>
	LE80ZMQ4P	4.10	3.10	55	66	O. R.	29	10	<b>D</b>	<b>F</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
90	LE90SM4P	3.80	3.03	58	70	O. R.	36	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
	LE90ZLR4P	3.70	2.93	58	70	O. R.	49	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
100	LE100ZLSA4P	4.40	3.10	62	74	O. R.	140	29	<b>F</b>	<b>N</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
	LE100ZLSB4P	3.90	2.90	62	74	O. R.	140	29	<b>F</b>	<b>P</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
112	LE112ZMKB4P	3.80	2.67	62	74	O. R.	170	29	<b>G</b>	<b>J</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
132	LE132ZST4P	3.90	3.07	68	80	O. R.	460	57	<b>H</b>	<b>J</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
	LE132ZMS4P	3.60	2.63	68	80	O. R.	460	57	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
160	LE160MPA4P	3.50	2.73	69	81	O. R.	830	73	<b>J</b>	<b>Q</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
	LE160MPB4P	3.30	2.63	69	81	O. R.	830	73	<b>J</b>	<b>R</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
	LE160ZLL4P	3.70	2.90	69	81	O. R.	990	90	<b>J</b>	<b>U</b>	<b>2</b>	<b>3</b>	-	<b>N38</b>
180	LES180MQ4P	3.20	2.40	68	75	O. R.	1 300	165	<b>K</b>	<b>L</b>	<b>3</b>	<b>3</b>	-	<b>N38</b>
	LES180ZLN4P	3.20	2.30	70	77	O. R.	1 400	170	<b>K</b>	<b>N</b>	<b>3</b>	<b>3</b>	-	<b>N38</b>
200	LES200ZLU4P	3.00	2.30	70	77	O. R.	2 200	240	<b>L</b>	<b>N</b>	<b>3</b>	<b>3</b>	-	<b>N38</b>
<b>2-pole, 3 600 rpm at 60 Hz, 60 Hz power</b>														
63	LA63ME2 <sup>1)</sup>	2.30	O. R.	53	64	5 000	1.8	3.2	<b>B</b>	<b>C</b>	<b>1</b>	<b>1</b>	<b>P00</b>	<b>N38</b>
	LA63MF2 <sup>1)</sup>	2.30	O. R.	53	64	5 000	2.2	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P00</b>	<b>N38</b>
71	LA71MG2 <sup>1)</sup>	2.50	O. R.	56	67	5 000	2.9	4.5	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P00</b>	<b>N38</b>
	LA71MH2 <sup>1)</sup>	2.50	O. R.	56	67	5 000	4.1	5.5	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P00</b>	<b>N38</b>
80	LE80ME2P	3.10	2.50	64	75	O. R.	11	9.3	<b>D</b>	<b>B</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
	LE80ZMJ2P	3.80	2.77	64	75	O. R.	13	10	<b>D</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
90	LE90SM2P	4.20	2.97	69	81	O. R.	21	12	<b>E</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
	LE90ZLR2P	4.20	2.97	69	81	O. R.	31	15	<b>E</b>	<b>M</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
100	LE100ZLK2P	4.70	3.57	71	83	O. R.	54	26	<b>F</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
112	LE112ZMH2P	4.50	2.80	73	85	O. R.	120	29	<b>G</b>	<b>G</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
132	LE132SF2P	3.80	2.50	72	84	O. R.	240	36	<b>H</b>	<b>E</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
	LE132ZSQB2P	4.10	2.70	72	84	O. R.	310	50	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
160	LE160MG2P	3.70	2.70	77	89	O. R.	530	65	<b>J</b>	<b>N</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
	LE160MM2P	4.20	3.07	77	89	O. R.	610	74	<b>J</b>	<b>P</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
	LE160ZLJ2P	3.80	2.87	77	89	O. R.	680	84	<b>J</b>	<b>T</b>	<b>2</b>	<b>3</b>	<b>P00</b>	<b>N38</b>
<b>6-pole, 1 200 rpm at 60 Hz, 60 Hz power</b>														
63	LA63MF6	1.60	O. R.	43	54	10 500	3.7	3.6	<b>B</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P01</b>	<b>N38</b>
	LA63MG6	2.30	O. R.	43	54	10 500	3.7	3.6	<b>B</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P01</b>	<b>N38</b>
71	LA71MG6	2.10	O. R.	43	54	10 500	5.5	4.3	<b>C</b>	<b>D</b>	<b>1</b>	<b>1</b>	<b>P01</b>	<b>N38</b>
	LA71MH6	2.20	O. R.	43	54	10 500	8	5.3	<b>C</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>P01</b>	<b>N38</b>
80	LE80MD6E	2.60	2.30	45	56	8 400	17	8.3	<b>D</b>	<b>C</b>	<b>2</b>	<b>2</b>	<b>P01</b>	<b>N38</b>
	LE80MK6E	3.10	2.80	45	56	8 400	25	11.3	<b>D</b>	<b>F</b>	<b>2</b>	<b>2</b>	<b>P01</b>	<b>N38</b>
90	LE90SQ6P	2.70	2.27	46	58	O. R.	40	15	<b>E</b>	<b>C</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
100	LE100ZLSA6P	2.80	2.20	62	74	O. R.	140	25	<b>F</b>	<b>N</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
112	LE112ZMKA6P	2.80	2.17	65	77	O. R.	170	29	<b>G</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
132	LE132SQB6P	2.90	2.27	67	79	O. R.	370	45	<b>H</b>	<b>H</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
	LE132SQA6P	3.10	2.20	67	79	O. R.	370	45	<b>H</b>	<b>G</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
	LE132MJ6P	2.80	2.17	67	79	O. R.	370	45	<b>H</b>	<b>K</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
	LE132ZMS6P	2.90	2.20	67	79	O. R.	460	45	<b>H</b>	<b>L</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
160	LE160MW6P	2.30	2.00	70	82	O. R.	980	83	<b>J</b>	<b>J</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
	LE160ZLW6P	2.30	1.93	70	82	O. R.	1 200	105	<b>J</b>	<b>V</b>	<b>2</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
180	LES180LJ6P	2.60	2.10	61	68	O. R.	900	180	<b>K</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
200	LES200LM6P	2.50	2.10	64	71	O. R.	2 800	215	<b>L</b>	<b>L</b>	<b>3</b>	<b>3</b>	<b>P01</b>	<b>N38</b>
	LES200ZLS6P	2.40	2.10	63	70	O. R.	3 200	230	<b>L</b>	<b>M</b>	<b>3</b>	<b>3</b>	<b>P01</b>	<b>N38</b>

O. R. On request

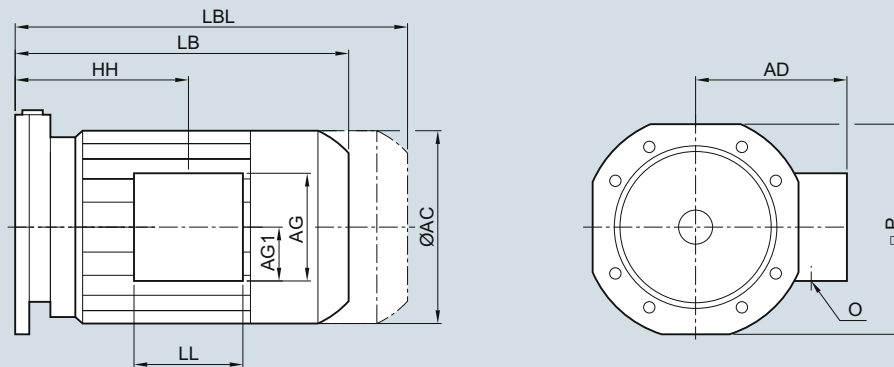
<sup>1)</sup> The technical specifications also apply to LAI63 and LAI71 motors (with IEC B14 flange) for worm geared motors S.

## Motors

## Dimensions

## Motor frame size LA63 to LE80

## Overview

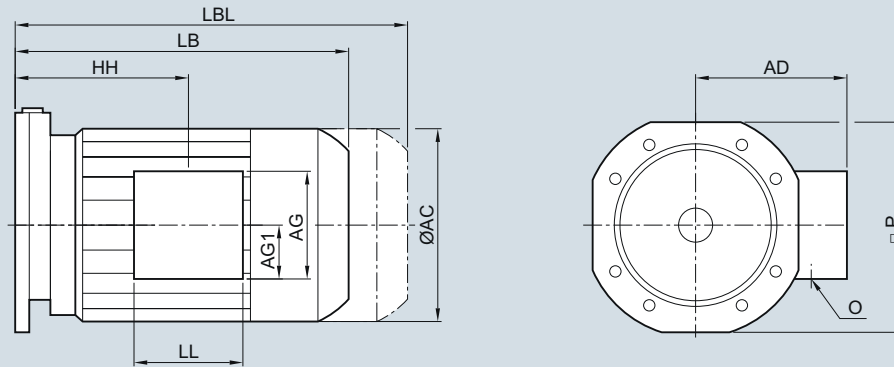


Motor	Gearbox type						Dimensions					Terminal box						
	D/Z	E	FD/FZ	B	K	C	P	HH	LB	LBL	AC	Type <sup>1)</sup>	AD	LL	AG	AG1	O metric	O NPT
LA63	19	-	-	19	-	-	-	61.5	160.5	205.0	117.8	gk127 gk030 TB1E10	124.0	90	90	45.0	M20x1.5/ M25x1.5	2 x 1/2"
	29	-	29	29	-	29	120	95.0	194.0	238.5	101.0		75	75	37.5			
	39	39	39	39	39	39							132.0	123	119.5	58.0		
	49	49	49	49	49	49	160	85.5	184.5	229.0								
	59	59	-	-	-	-												
	69	69	69	-	69	69												
LA71	-	-	-	-	79	-												
	19	-	-	19	-	-	-	93.5	184.5	239.5	138.8	gk127 gk030 TB1E10	134.0	90	90	45.0	M20x1.5/ M25x1.5	2 x 1/2"
	29	-	29	29	-	29	120	135.0	226.0	281.0	111.0		75	75	37.5			
	39	39	39	39	39	39							142.0	123	119.5	58.0		
	49	49	49	49	49	49	160	125.5	216.5	271.5								
	59	-	-	-	-	-												
	69	69	69	-	69	69												
	-	-	-	-	79	-												
79	79	79	-	-	-	198	123.5	214.5	269.5									
LA71Z	-	-	-	-	89	89												
	19	-	-	19	-	-	-	93.5	203.5	258.5	138.8	gk127 gk030 TB1E10	134.0	90	90	45.0	M20x1.5/ M25x1.5	2 x 1/2"
	29	-	29	29	-	29	120	135.0	245.0	300.0	111.0		75	75	37.5			
	39	39	39	39	39	39							142.0	123	119.5	58.0		
	49	49	49	49	49	49	160	125.5	235.5	290.5								
	59	-	-	-	-	-												
	69	69	69	-	69	69												
	-	-	-	-	79	-												
79	-	79	-	-	-	198	123.5	233.5	288.5									
LE80	-	-	-	-	89	89												
	19	-	-	19	-	-	0	120.0	240.0	300.0	156.3	TB1E10 TB1E00	149.2	123	119.5	58.0	M20x1.5/ M25x1.5	2 x 1/2"
	29	-	29	29	-	29	120	170.0	290.0	350.0	121.0		79	93	50.0			
	39	39	39	39	39	39												
	49	49	49	49	49	49	160	160.5	280.5	340.5								
	59	-	-	-	-	-												
	69	69	69	-	69	69												
	-	-	-	-	79	-												
	79	-	79	-	-	-	198	154.5	274.5	334.5								
	-	-	-	-	89	89												
	89	89	89	-	-	-	245	141.5	261.5	321.5								
-	-	-	-	109	-													

<sup>1)</sup> Terminal box type is dependent on the motor options, see page 11/15.

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## Overview



Motor	Gearbox type						Dimensions					Terminal box						
	D/Z	E	FD/FZ	B	K	C	P	HH	LB	LBL	AC	Type <sup>1)</sup>	AD	LL	AG	AG1	O metric	O NPT
LE80Z	19	-	-	19	-	-	0	155.0	275.0	335.0	156.3	TB1E10 TB1E00	149.2	123	119.5	58.0	M20x1.5/ M25x1.5	2 x 1/2"
	29	-	29	29	-	29	120	205.0	325.0	385.0	121.0		79	93	50.0	-		
	39	39	39	39	39	39												
	49	49	49	49	49	49	160	195.5	315.5	375.5								
	59	-	-	-	-	-												
	69	69	69	-	69	69												
	-	-	-	-	79	-												
	79	-	79	-	-	-	198	189.5	309.5	369.5								
	-	-	-	-	89	89												
	89	89	89	-	-	-	245	176.5	296.5	356.5								
-	-	-	-	109	-													
LE90	29	-	29	29	-	29	120	207.5	351.5	421.5	173.8	TB1E10 TB1E00	154.2	123	119.5	58	M20x1.5/ M25x1.5	3/4"+1/2"
	39	39	39	39	39	39							126.0	79	93	50	-	
	49	49	49	49	49	49	160	198.0	342.0	412.0								
	59	-	-	-	-	-												
	69	69	69	-	69	69												
	-	-	-	-	79	-												
	79	-	79	-	-	-	198	192.0	336.0	406.0								
	-	-	-	-	89	89												
	89	89	89	-	-	-	245	179.0	323.0	393.0								
	-	-	-	-	109	-												
-	-	-	-	129	-	300	172.0	316.0	386.0									
109	109	109	-	-	-													
129	129	129	-	-	-	350	165.0	309.0	379.0									
-	-	-	-	149	-													
LE90Z	29	-	29	29	-	29	120	247.5	391.5	461.5	173.8	TB1E10 TB1E00	154.2	123	119.5	58	M20x1.5/ M25x1.5	3/4"+1/2"
	39	39	39	39	39	39							126.0	79	93	50	-	
	49	49	49	49	49	49	160	238.0	382.0	452.0								
	59	-	-	-	-	-												
	69	69	69	-	69	69												
	-	-	-	-	79	-												
	79	-	79	-	-	-	198	232.0	376.0	446.0								
	-	-	-	-	89	89												
	89	89	89	-	-	-	245	219.0	363.0	433.0								
	-	-	-	-	109	-												
-	-	-	-	129	-	300	212.0	356.0	426.0									
109	109	109	-	-	-													
129	129	129	-	-	-	350	205.0	349.0	419.0									
-	-	-	-	149	-													

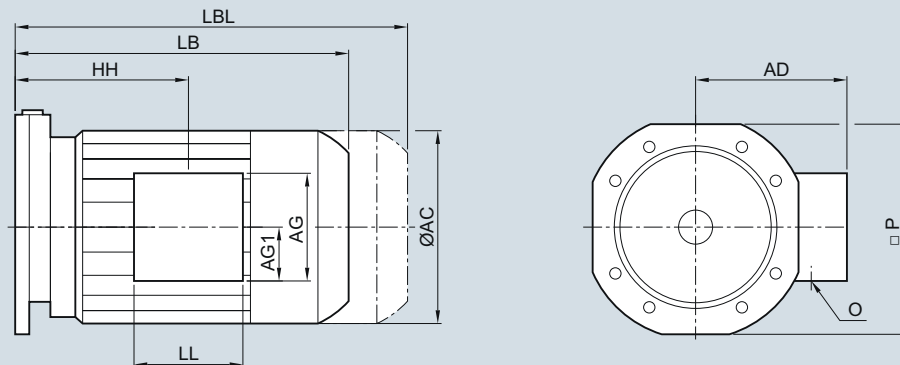
<sup>1)</sup> Terminal box type is dependent on the motor options, see page 11/15.

## Motors

## Dimensions

## Motor frame size LE100Z to LE112Z

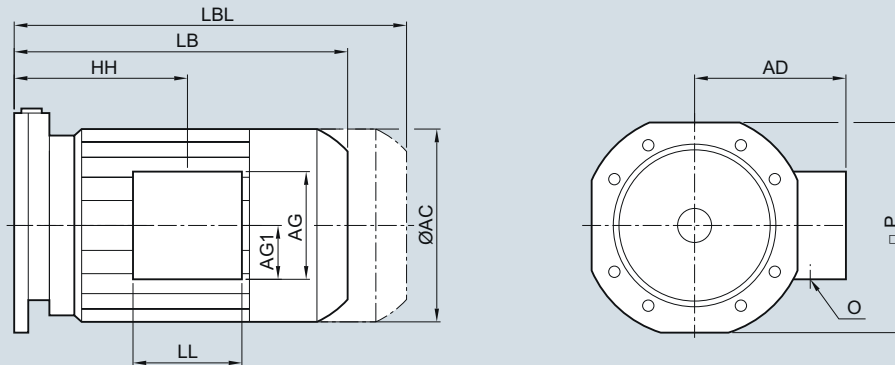
## Overview (continued)



Motor	Gearbox type						Dimensions						Terminal box							
	D/Z	E	FD/FZ	B	K	C	P	HH	LB	LBL	AC	Type <sup>1)</sup>	AD	LL	AG	AG1	O metric	O NPT		
LE100	29	-	29	29	-	29	120	242.5	408.0	486.5	198.0	TB1F10	170.5	135	135	67.5	2xM32x1.5	3/4"+1/2"		
	39	39	39	39	39	39						TB1F00	166.0	112	135	71.5				
	49	49	49	49	49	49	160	233.0	398.5	477.0										
	59	-	-	-	-	-														
	69	69	69	-	69	69														
	-	-	-	-	79	-														
	79	-	79	-	-	-	198	227.0	392.5	471.0										
	-	-	-	-	89	89														
	89	89	89	-	-	-	245	210.0	375.5	454.0										
	-	-	-	-	109	-														
	-	-	-	-	129	-	300	201.0	366.5	445.0										
	109	109	109	-	-	-														
	129	129	129	-	-	-	350	192.0	357.5	436.0										
-	-	-	-	149	-															
149	149	149	-	169	-	405	190.5	356.0	434.5											
LE100Z	29	-	29	29	-	29	120	277.5	443.0	521.5	198.0	TB1F10	170.5	135	135	67.5	2xM32x1.5	3/4"+1/2"		
	39	39	39	39	39	39						TB1F00	166.0	112	135	71.5				
	49	49	49	49	49	49	160	268.0	433.5	512.0										
	59	-	-	-	-	-														
	69	69	69	-	69	69														
	-	-	-	-	79	-														
	79	-	79	-	-	-	198	262.0	427.5	506.0										
	-	-	-	-	89	89														
	89	89	89	-	-	-	245	245.0	410.5	489.0										
	-	-	-	-	109	-														
	-	-	-	-	129	-	300	236.0	401.5	480.0										
	109	109	109	-	-	-														
	129	129	129	-	-	-	350	227.0	392.5	471.0										
-	-	-	-	149	-															
149	149	149	-	169	-	405	225.5	391.0	469.5											
LE112	29	-	29	29	-	29	120	244.0	418.0	491.0	222.0	TB1F10	181.5	135	135	67.5	2xM32x1.5	3/4"+1/2"		
	39	39	39	39	39	39						TB1F00	177.0	112	135	71.5				
	49	49	49	49	49	49	160	234.5	408.5	481.5										
	59	-	-	-	-	-														
	69	69	69	-	69	69														
	-	-	-	-	79	-														
	79	-	79	-	-	-	198	228.5	402.5	475.5										
	-	-	-	-	89	89														
	89	89	89	-	-	-	245	211.5	385.5	458.5										
	-	-	-	-	109	-														
	-	-	-	-	129	-	300	202.5	376.5	449.5										
	109	109	109	-	-	-														
	129	129	129	-	-	-	350	193.5	367.5	440.5										
-	-	-	-	149	-	405	192.0	366.0	439.0											
149	149	149	-	169	-	465	179.5	353.5	426.5											
169	169	169	-	-	-															
189	189	189	-	189	-															

<sup>1)</sup> Terminal box type is dependent on the motor options, see page 11/15.

## Overview (continued)



Motor	Gearbox type						Dimensions					Terminal box						
	D/Z	E	FD/FZ	B	K	C	P	HH	LB	LBL	AC	Type <sup>1)</sup>	AD	LL	AG	AG1	O metric	O NPT
LE112Z	29	-	29	29	-	29	120	269.0	443.0	516.0	222.0	TB1F10	181.5	135	135	67.5	2xM32x1.5	3/4"+1/2"
	39	39	39	39	39	39							TB1F00	177.0	112	135	71.5	
	49	49	49	49	49	49	160											
	59	-	-	-	-	-												
	69	69	69	-	69	69												
	-	-	-	-	79	-												
	79	-	79	-	-	-	198	253.5	427.5	500.5								
	-	-	-	-	89	89												
	89	89	89	-	-	-	245	236.5	410.5	483.5								
	-	-	-	-	109	-												
	-	-	-	-	129	-	300	227.5	401.5	474.5								
	109	109	109	-	-	-												
	129	129	129	-	-	-	350	218.5	392.5	465.5								
	-	-	-	-	149	-												
149	149	149	-	169	-	405	217.0	391.0	464.0									
169	169	169	-	-	-	465	204.5	378.5	451.5									
189	189	189	-	189	-													
LE132	49	49	49	49	49	49	160	266.0	461.5	566.0	264.0	TB1H10	207.0	162	162	81.0	2xM32x1.5	3/4"+1/2"
	59	-	-	-	-	-							TB1H00	202.0	130	155	84.5	
	69	69	69	-	69	69												
	-	-	-	-	79	-												
	79	-	79	-	-	-	198	260.0	455.5	560.0								
	-	-	-	-	89	89												
	89	89	89	-	-	-	245	243.0	438.5	543.0								
	-	-	-	-	109	-												
	-	-	-	-	129	-	300	234.0	429.5	534.0								
	109	109	109	-	-	-												
	129	129	129	-	-	-	350	223.0	418.5	523.0								
	-	-	-	-	149	-												
	149	149	149	-	169	-	405	216.5	412.0	516.5								
	169	169	169	-	-	-	465	203.5	399.0	503.5								
189	189	189	-	189	-													
LE132Z	49	49	49	49	49	49	160	316.0	511.5	616.0	264.0	TB1H10	207.0	162	162	81.0	2xM32x1.5	3/4"+1/2"
	59	-	-	-	-	-							TB1H00	202.0	130	155	84.5	
	69	69	69	-	69	69												
	-	-	-	-	79	-												
	79	-	79	-	-	-	198	310.0	505.5	610.0								
	-	-	-	-	89	89												
	89	89	89	-	-	-	245	293.0	488.5	593.0								
	-	-	-	-	109	-												
	-	-	-	-	129	-	300	284.0	479.5	584.0								
	109	109	109	-	-	-												
	129	129	129	-	-	-	350	273.0	468.5	573.0								
	-	-	-	-	149	-												
	149	149	149	-	169	-	405	266.5	462.0	566.5								
	169	169	169	-	-	-	465	253.5	499.0	553.5								
189	189	189	-	189	-													

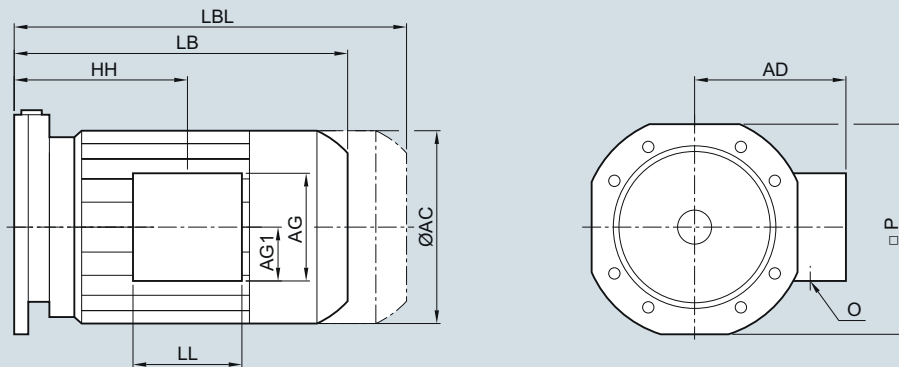
<sup>1)</sup> Terminal box type is dependent on the motor options, see page 11/15.

## Motors

## Dimensions

## Motor frame size LE160Z to LE200

## Overview (continued)

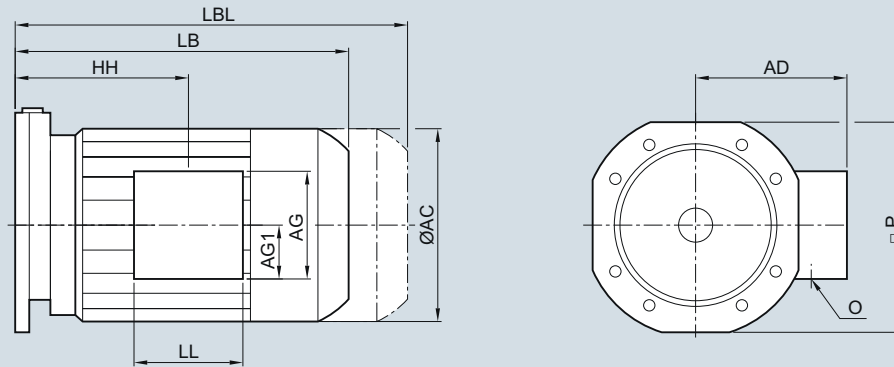


Motor	Gearbox type						Dimensions					Terminal box						
	D/Z	E	FD/FZ	B	K	C	P	HH	LB	LBL	AC	Type <sup>1)</sup>	AD	LL	AG	AG1	O metric	O NPT
LE160	49	49	49	49	49	49	160	299.5	543.5	659.5	318.0	TB1J10	241.0	180	180	90.0	2xM40x1.5	1 1/4"+1/2"
	59	-	-	-	-	-												
	69	69	69	-	69	69												
	-	-	-	-	79	-												
	79	-	79	-	-	-												
	-	-	-	-	89	89												
	89	89	89	-	-	-												
	-	-	-	-	109	-												
	-	-	-	-	129	-												
	109	109	109	-	-	-												
	129	129	129	-	-	-												
	-	-	-	-	149	-												
149	149	149	-	169	-													
169	169	169	-	-	-													
189	189	189	-	189	-													
LE160Z	49	49	49	49	49	49	160	359.5	603.5	719.5	318.0	TB1J10	241.0	180	180	90.0	2xM40x1.5	1 1/4"+1/2"
	59	-	-	-	-	-												
	69	69	69	-	69	69												
	-	-	-	-	79	-												
	79	-	79	-	-	-												
	-	-	-	-	89	89												
	89	89	89	-	-	-												
	-	-	-	-	109	-												
	-	-	-	-	129	-												
	109	109	109	-	-	-												
	129	129	129	-	-	-												
	-	-	-	-	149	-												
149	149	149	-	169	-													
169	169	169	-	-	-													
189	189	189	-	189	-													
LES180	89	89	89	-	-	-	245	336.0	593.5	722.5	352.5	TB1K01	292.0	197	265	153	2xM40x1.5	1 1/2"+1/2"
	-	-	-	-	109	-												
	-	-	-	-	129	-												
	109	109	109	-	-	-												
	129	129	129	-	-	-												
	-	-	-	-	149	-												
	149	149	149	-	169	-												
	169	169	169	-	-	-												
	189	189	189	-	189	-												

<sup>1)</sup> Terminal box type is dependent on the motor options, see page 11/15.

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## Overview (continued)



Motor	Gearbox type						Dimensions					Terminal box						
	D/Z	E	FD/FZ	B	K	C	P	HH	LB	LBL	AC	Type <sup>1)</sup>	AD	LL	AG	AG1	O metric	O NPT
LES180Z	89	89	89	-	-	-	245	366.0	623.5	752.5	352.5	TB1K01	292.0	197	265	153	2xM40x1.5	1 1/2"+1/2"
	-	-	-	-	109	-	300	357.0	614.5	743.5								
	-	-	-	-	129	-	350	346.0	603.5	732.5								
	109	109	109	-	-	-	405	339.5	597.0	726.0								
	129	129	129	-	-	-	465	326.0	583.5	712.5								
	-	-	-	-	149	-	405	339.5	597.0	726.0								
	149	149	149	-	169	-	465	326.0	583.5	712.5								
LES200	-	-	-	-	129	-	300	391.5	652.5	799.5	392.5	TB1L01	315.0	197	266	154	2xM50x1.5	1 1/2"+1/2"
	109	109	109	-	-	-	350	380.5	641.5	788.5								
	129	129	129	-	-	-	405	374.0	635.0	782.0								
	-	-	-	-	149	-	465	360.5	621.5	768.5								
	149	149	149	-	169	-	405	374.0	635.0	782.0								
LES200Z	-	-	-	-	129	-	300	416.5	677.5	824.5	392.5	TB1L01	315.0	197	266	154	2xM50x1.5	1 1/2"+1/2"
	109	109	109	-	-	-	350	405.5	666.5	813.5								
	129	129	129	-	-	-	405	399.0	660.0	807.0								
	-	-	-	-	149	-	466	385.5	646.5	793.5								
	149	149	149	-	169	-	405	399.0	660.0	807.0								
LES225	-	-	-	-	129	-	300	420.0	698.0	937.0	439.0	TB1L01	337.0	197	266	154	2xM50x1.5	1 1/2"+1/2"
	109	109	109	-	-	-	350	409.0	687.0	926.0	TB1N01	407.5	233	319	174	2xM63x1.5	-	
	129	129	129	-	-	-	405	402.5	680.5	919.5								
	-	-	-	-	149	-	465	388.0	666.0	905.0								
	149	149	149	-	169	-	405	402.5	680.5	919.5								
	169	169	169	-	-	-	465	388.0	666.0	905.0								
LES225Y	-	-	-	-	129	-	300	480.0	758.0	997.0	439.0	TB1L01	337.0	197	266	154	2xM50x1.5	1 1/2"+1/2"
	109	109	109	-	-	-	350	469.0	747.0	986.0	TB1N01	407.5	233	319	174	2xM63x1.5	-	
	129	129	129	-	-	-	405	462.5	740.5	979.5								
	-	-	-	-	149	-	465	448.0	726.0	965.0								
	149	149	149	-	169	-	405	462.5	740.5	979.5								
	169	169	169	-	-	-	465	448.0	726.0	965.0								
LES250	129	129	129	-	-	-	350	487.5	798.5	1 023.5	487.0	TB1N01	407.5	233	319	174	2xM63x1.5	2 1/2"+1/2"
	-	-	-	-	149	-	405	481.0	792.0	1 017.0	TB1Q01	457.0	299	374	210	2xM63x1.5	-	
	149	149	149	-	169	-	405	481.0	792.0	1 017.0								
	169	169	169	-	-	-	465	462.5	773.5	998.5								
	189	189	189	-	189	-	465	462.5	773.5	998.5								

<sup>1)</sup> Terminal box type is dependent on the motor options, see page 11/15.

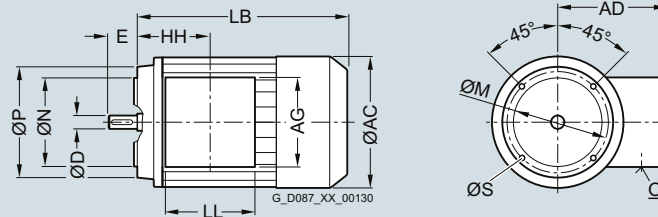


## Motors

### Dimensions

#### Motors for worm geared motors S

##### Motors with B14 flange



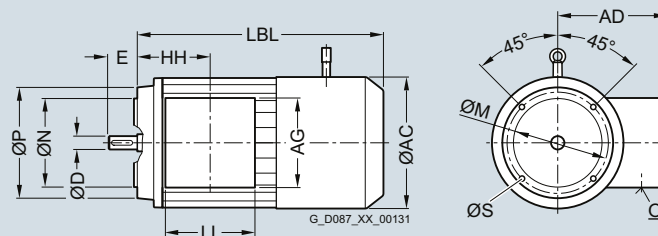
Motor	P	HH	LB	AC	N	M	S	D	E	AD	LL	AG	O
LAI63	90	69.5	179.5	118.0	60	75	M5	11	23	101.0	75	75	M20x1.5/M25x1.5
										115.0 <sup>1)</sup>	90 <sup>1)</sup>	90 <sup>1)</sup>	
										135.5 <sup>2)</sup>	90 <sup>2)</sup>	90 <sup>2)</sup>	
LAI71	105	63.5	210.0	139.0	70	85	M6	14	30	111.0	75	75	M20x1.5/M25x1.5
										125.0 <sup>1)</sup>	90 <sup>1)</sup>	90 <sup>1)</sup>	
										146.0 <sup>2)</sup>	90 <sup>2)</sup>	90 <sup>2)</sup>	

<sup>1)</sup> for motors with more than 6 terminals and 2 auxiliary terminals

<sup>2)</sup> for motors with encoder or brake

8

##### Motors with brake and B14 flange, or with encoder and without brake and B14 flange

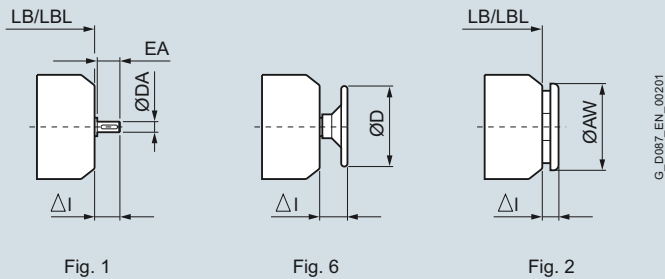


Motor	P	HH	LBL	AC	N	M	S	D	E	AD	LL	AG	O
LAI63	90	69.5	230.5	118.0	60	75	M5	11	23	135.5	90	90	M20x1.5/M25x1.5
LAI71	105	63.5	261.5	139.0	70	85	M6	14	30	146.0	90	90	M20x1.5/M25x1.5

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**Second shaft extension, handwheel, and canopy**

Further information about the second shaft extension, the handwheel, and the canopy can be found in [chapter "Motor options"](#) from page 11/64.



Relevant figure 1 Motor	Second shaft extension			6 Handwheel at the second shaft extension		2 Canopy	
	DA	EA	ΔI	D	ΔI	AW	ΔI
LAI63 <sup>1)</sup>	-	-	-	-	-	124	27
LAI71 <sup>1)</sup>	-	-	-	-	-	124	27
LA63	-	-	-	-	-	122.8	11.9
LA71	14	30	34	100	50	137.8	25.9
LA71Z							
LE80	14	30	34	100	50	137.8	25.9
LE80Z							
LE90	19	40	45	160	65	175.8	16
LE90Z							
LE100	19	40	45	160	65	195	40
LE100Z							
LE112	24	50	56	200	77	195	40
LE112Z							
LE132	28	60	68	200	89	260	60
LE132Z							
LE160	38	80	88	315	111	260	60
LE160Z	38	80	88	315	111	260	60
LES180	42	110	125	-	-	340	90
LES180Z							
LES200	48	110	130	-	-	340	90
LES200Z							
LES225	55	110	115	-	-	425	96
LES225Y							
LES250	60	140	145	-	-	470	96

<sup>1)</sup> Only for worm geared motors S

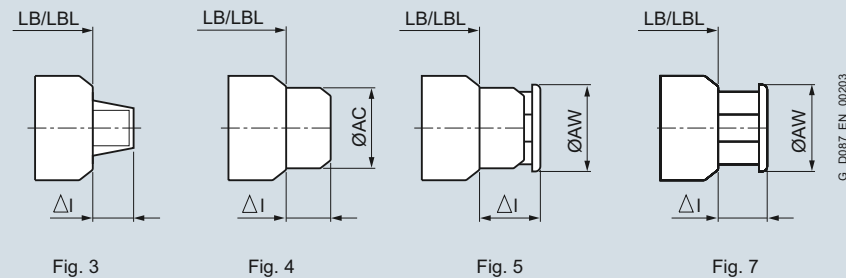
## Motors

### Dimensions

#### Additional lengths

#### Encoder

Further information about the encoder can be found in [chapter "Motor options"](#) from page 11/41.



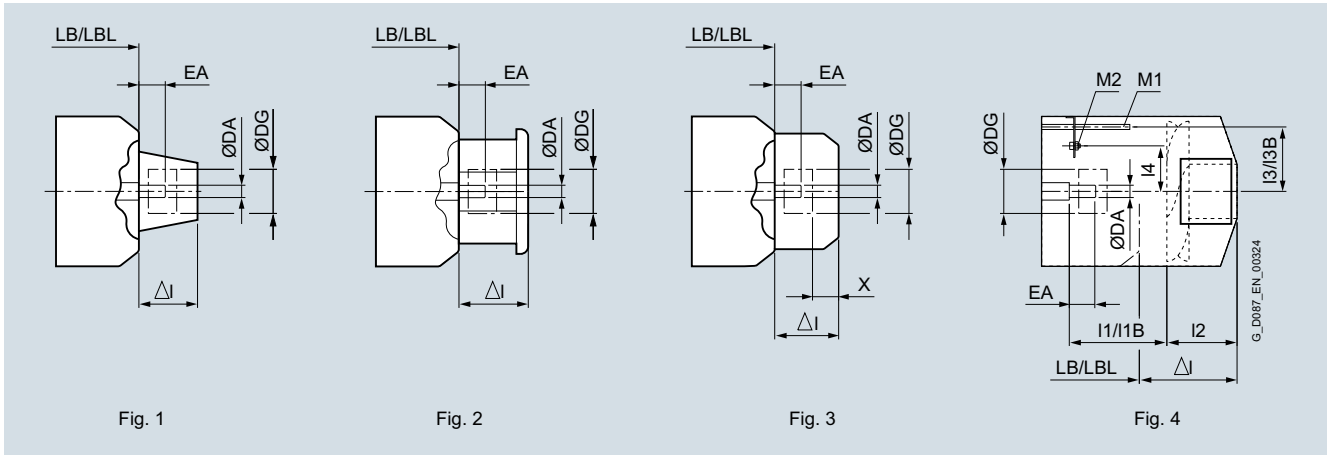
Motor	3 Encoder with protective plate		4 Encoder under cover			5 Encoder under cover with canopy			7 Encoder with canopy			
	ΔI 1XP	AC	ΔI 1XP IN 8.5834 IA 8.5883	LL, HOG9, HOG10	AW	ΔI 1XP	LL, HOG9, HOG10	AW	ΔI 1XP	LL, HOG9	HOG10	
LAI63 <sup>1)</sup>	70	-	-	-	-	-	-	-	-	-	-	
LAI71 <sup>1)</sup>	70	-	-	-	-	-	-	-	-	-	-	
LA63	70	-	-	-	-	-	-	-	-	-	-	
LA71	70	139	92.5	-	138	118.5	-	-	-	-	-	
LA71Z												
LE80	70	156.5	92.5	-	138	118.5	-	155	67.5	-	-	
LE80Z												
LE90	70	174	92.5	-	176	107	-	155	67.5	-	-	
LE90Z												
LE100	-	174	93.5	-	176	108	-	195	83	-	-	
LE100Z												
LE112	-	195	95.0	-	194	111	-	195	83	83	-	
LE112Z												
LE132	-	195	95.0	-	194	111	-	260	87	87	130	
LE132Z								260	87	87		
LE160	-	195	95.0	-	310	111	-	260	87	87	130	
LE160Z								260	87	87		
LE180	-	195	95.0	-	310	111	-	340	91	91	131	
LE180Z												
LES200	-	195	95.0	-	310	111	-	340	91	91	131	
LES200Z												
LES225	-	-	-	-	-	-	-	425	158.2	124.5	158.2	
LES225Y												
LES250	-	-	-	-	-	-	-	472	158.2	124.5	158.2	

<sup>1)</sup> Only for worm geared motors S

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**Prepared for encoder mounting**

Further information about "prepared for encoder mounting" can be found in [chapter "Motor options" on page 11/57](#).



Relevant figure Motor	1 Encoder prepared with protective plate			2 Encoder prepared under canopy		3 Encoder prepared under cover		4 Encoder prepared + separately driven fan + with / without brake									
	DA	EA	DG	ΔI	ΔI	ΔI	X	ΔI	I1	I2	I3	Brake	I1B	I3B	I4	M1	M2
LA63	12	25	Max. 60	70	-	-	-	-	-	-	-	-	-	-	-	-	-
LA71		30															
LA71Z																	
LE80		30 (25) <sup>1)</sup>			67.5			213.0	121.2	95	56.0	L4, L8	95.5	67.0		M6x130	
LE80Z												L16	95.5	56.0			
LE90								213.0	109.4	105	66.0	L4, L8	95.5	67.0			
LE90Z												L16	95.5	56.0			
LE100		25		-	83	93.5		218.5	115.3	105	66.0	L8, L16	93.5	75.0			
LE100Z												L32	93.5	66.0			
LE112						95.0		206.0	115.5	105	72.5	L8, L16	93.5	75.0			
LE112Z												L32	93.5	66.0			
LE132					87			258.5	132.0	127	98.0	L16, L32	97.0	85.0			
LE132Z												L60	97.0	72.5		M8x160	
LE160												L16, L32	97.0	85.0		M6x130	
LE160Z												L60	97.0	72.5		M8x160	
LES180					91			274.0	162.0	151.5	157.0	L32, L60	93.5	95.0			
LES180Z												L80	97.5	116.0			
LES200												L150	97.5	98.0			
LES200Z												L80	97.5	116.0			
												L150	97.5	98.0			
								285.0	147.0	152	115.0	L150, L260	93.0	141.0		M8x170	
												L150, L260	93.0	141.0			
								274.0	162.0	151.5	157.0	L260	95.0	157.0		M10x210	
								293.0	136.5	151.5	175.0	L260, L400	96.0	175.0			

<sup>1)</sup> Value in parenthesis applies to motor with separately driven fan and brake

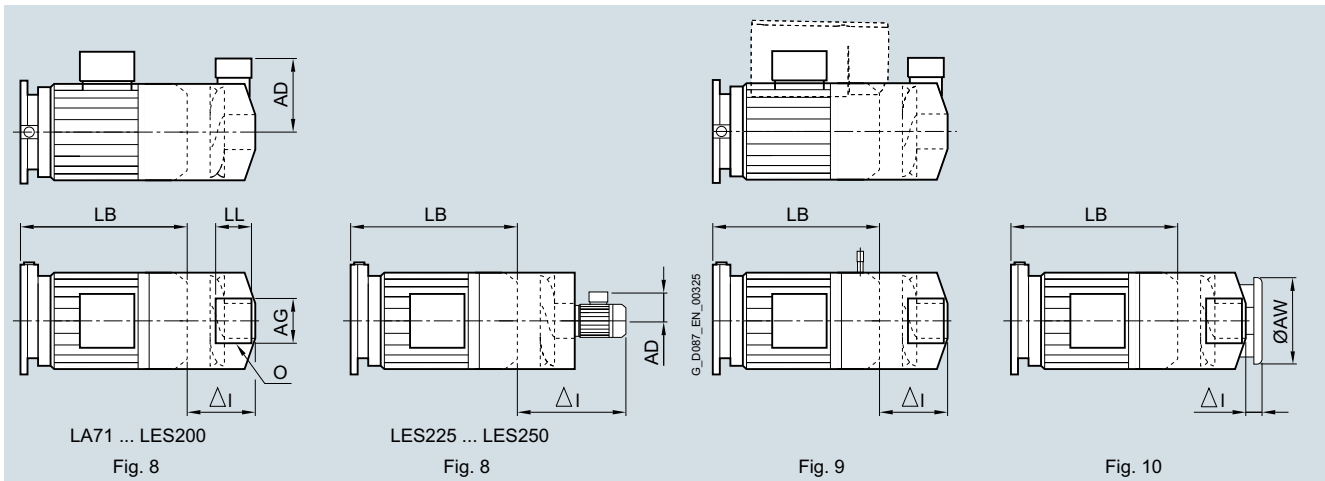
## Motors

### Dimensions

#### Additional lengths

#### Separately driven fan, encoder and canopy

Further information about the separately driven fan can be found in chapter "Motor options" on page 11/11.

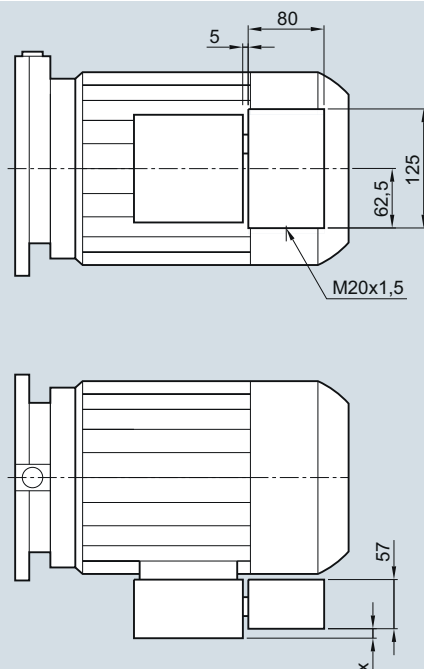


Motor	Relevant figure 8 Separately driven fan					9 ΔI	9 ΔI	9 Encoder + separately driven fan			9 ΔI	9 Brake + encoder + separately driven fan			9 ΔI	10 SINAMICS G110M Canopy for separately driven fan	
	ΔI	AD	LL	AG	O			1XP	LL, HOG9, HOG10	1XP		LL, HOG9	HOG10	ΔI		ΔI	AW
LA63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LA71	110.5	122.5	95	105	M16x1.5	134.5	229.5	-	229.5	-	-	229.5	37	150			
LA71Z																	
LE80	89	130	95	105	M16x1.5	118	213	-	213	-	-	213	40	170			
LE80Z																	
LE90	85	140.5	95	105	M16x1.5	120	213	-	213	-	-	213	30	188			
LE90Z																	
LE100	81.5	149	95	105	M16x1.5	121.5	218.5	-	218.5	-	-	218.5	28	210			
LE100Z																	
LE112	81	161	95	105	M16x1.5	113	206	-	206	-	-	206	33	249			
LE112Z																	
LE132	114.5	185	95	105	M16x1.5	164.5	258.5	258.5	258.5	258.5	302.5	-	25	300			
LE132Z																	
LE160	131	211	95	105	M16x1.5	191	285	285	285	285	329	-	32	338			
LE160Z																	
LES180	132	211	95	105	M16x1.5	199	274	274	274	274	319	-	32	338			
LES180Z																	
LES200	141	211	95	105	M16x1.5	233	293	293	293	293	337	-	32	338			
LES200Z																	
LES225	227.5	101	-	-	M25x1.5 + M16x1.5	-	-	786.5	-	-	-	-	258	470			
LES225Y		101	-	-													
LES250	232.5	101	-	-	M25x1.5 + M16x1.5	-	-	826.5	-	-	-	-	256	525			

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**Overview**

Further information about the application terminal box can be found in [chapter "Motor options" on page 11/61](#).



Motor	x	Terminal box type
LA63	2.5 (3.5)	gk127 (TB1E10)
LA71	2.5 (3.5)	
LE80	3.5	TB1E10
LE90	3.5	
LE100	7.0	TB1F10
LE112	7.0	
LE132	11.5	TB1H10
LE160	19.8	TB1J10
LES180	38.0	TB1K01
LES200	39.0	TB1L01

( ) Dimension or terminal box type in parenthesis for terminal box with 9 terminals (YYY connection)

## Motors

### Dimensions

#### HAN 10E motor plug

#### Overview

Further information about the motor plug can be found in chapter "Motor options" on page 11/17.

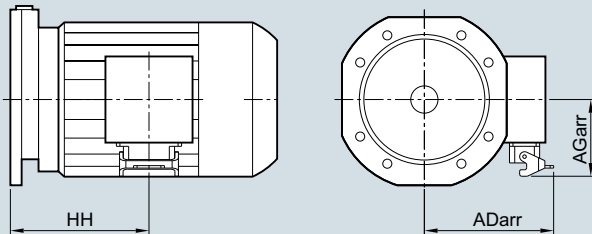


Fig. 1

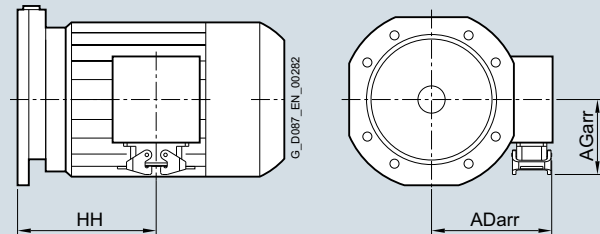


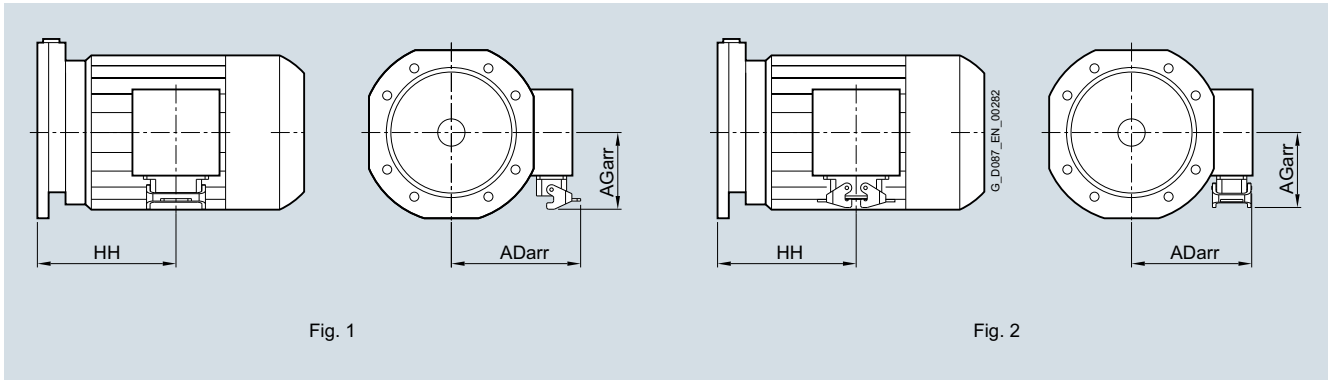
Fig. 2

Relevant figure		Fig. 1						Fig. 2			
Motor	Gearbox type					HAN 10E motor plug with one bracket			HAN 10E motor plug with two brackets		
	D/Z	FD/FZ	B	K	C	HH	ADarr	AGarr	HH	ADarr	AGarr
LA63	19	-	19	-	-	61.5	132	92.0	61.5	127.0	89.5
	39	29, 39	29, 39	39	29, 39	95.0			95.0		
	49 ... 69	49, 69	49	49 ... 79	49, 69	85.5			85.5		
LA71 LA71Z	19	-	19	-	-	93.5	142.0	92.0	93.5	127.0	89.5
	29, 39	29, 39	29, 39	39	29, 39	135.0			135.0		
	49 ... 69	49, 69	49	49 ... 79	49, 69	125.5			125.5		
LE80	79	79	-	89	89	123.5	155.0	106.0	123.5	139.5	103.5
	19	-	19	-	-	120.0			120.0		
	29, 39	29, 39	29, 39	39	29, 39	170.0			170.0		
	49 ... 69	49, 69	49	49 ... 79	49, 69	160.5			160.5		
	79	79	-	89	89	154.5			154.5		
LE80Z	89	89	-	109	-	141.5	155.0	106.0	141.5	139.5	103.5
	19	-	19	-	-	155.0			155.0		
	29, 39	29, 39	29, 39	39	29, 39	205.0			205.0		
	49 ... 69	49, 69	49	49 ... 79	49, 69	195.5			195.5		
	79	79	-	89	89	189.5			189.5		
LE90	89	89	-	109	-	176.5	160.0	106.0	176.5	144.5	103.5
	29, 39	29, 39	29, 39	39	29, 39	207.5			207.5		
	49 ... 69	49, 69	49	49 ... 79	49, 69	198.0			198.0		
	79	79	-	89	89	192.0			192.0		
	89	89	-	109	-	179.0			179.0		
	109	109	-	129	-	172.0			172.0		
LE90Z	129	129	-	149	-	165.0	160.0	106.0	165.0	144.5	103.5
	29, 39	29, 39	29, 39	39	29, 39	247.5			247.5		
	49 ... 69	49, 69	49	49 ... 79	49, 69	238.0			238.0		
	79	79	-	89	89	232.0			232.0		
	89	89	-	109	-	219.0			219.0		
	109	109	-	129	-	212.0			212.0		
LE100	129	129	-	149	-	205.0	179.5	115.5	205.0	164.0	113.0
	29, 39	29, 39	29, 39	39	29, 39	242.5			242.5		
	49 ... 69	49, 69	49	49 ... 79	49, 69	233.0			233.0		
	79	79	-	89	89	227.0			227.0		
	89	89	-	109	-	210.0			210.0		
	109	109	-	129	-	201.0			201.0		
	129	129	-	149	-	192.0			192.0		
LE100Z	149	149	-	169	-	190.5	179.5	115.5	190.5	164.0	113.0
	29, 39	29, 39	29, 39	39	29, 39	277.5			277.5		
	49 ... 69	49, 69	49	49 ... 79	49, 69	268.0			268.0		
	79	79	-	89	89	262.0			262.0		
	89	89	-	109	-	245.0			245.0		
	109	109	-	129	-	236.0			236.0		
	129	129	-	149	-	227.0			227.0		
149	149	-	169	-	225.5	225.5					

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## Overview (continued)

Further information about the motor plug can be found in chapter "Motor options" on page 11/17.



Relevant figure						Fig. 1			Fig. 2		
Motor	Gearbox type					HAN 10E motor plug with one bracket			HAN 10E motor plug with two brackets		
	D/Z	FD/FZ	B	K	C	HH	ADarr	AGarr	HH	ADarr	AGarr
LE112	29, 39	29, 39	29, 39	39	29, 39	244.0	190.5	115.5	244.0	175.0	113.0
	49 ... 69	49, 69	49	49 ... 79	49, 69	234.5					
	79	79	-	89	89	228.5					
	89	89	-	109	-	211.5					
	109	109	-	129	-	202.5					
	129	129	-	149	-	193.5					
	149	149	-	169	-	192.0					
169, 189	169, 189	-	189	-	179.5						
LE112Z	29, 39	29, 39	29, 39	39	29, 39	269.0	190.5	115.5	269.0	1175.0	113.0
	49 ... 69	49, 69	49	49 ... 79	49, 69	234.5					
	79	79	-	89	89	253.5					
	89	89	-	109	-	236.5					
	-	-	-	129	-	227.5					
	129	129	-	149	-	218.5					
	149	149	-	169	-	217.0					
169, 189	169, 189	-	189	-	204.5						
LE132	49 ... 69	49, 69	49	49 ... 79	49, 69	266.0	209.5	138.0	266.0	223.0	135.5
	79	79	-	89	89	260.0					
	89	89	-	109	-	243.0					
	109	109	-	129	-	234.0					
	129	129	-	149	-	223.0					
	149	149	-	169	-	216.5					
	169, 189	169, 189	-	189	-	203.5					
LE132Z	49 ... 69	49, 69	49	49 ... 79	49, 69	316.0	209.5	138.0	316.0	223.0	135.5
	79	79	-	89	89	310.0					
	89	89	-	109	-	293.0					
	109	109	-	129	-	284.0					
	129	129	-	149	-	273.0					
	149	149	-	169	-	266.5					
	169, 189	169, 189	-	189	-	253.5					



## Motors

### Dimensions

#### HAN K4/4 motor plug

#### Overview

Further information about the motor plug can be found in chapter "Motor options" on page 11/18.

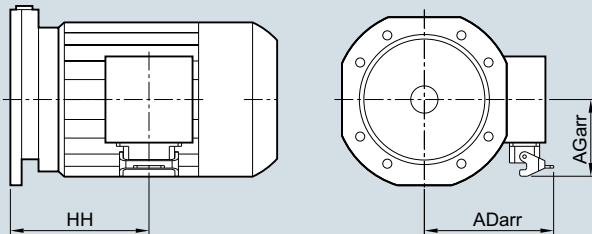


Fig. 1

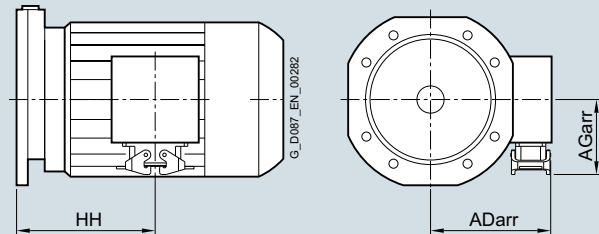


Fig. 2

Relevant figure		Fig. 1						Fig. 2			
Motor	Gearbox type					K4/4 motor plug with one bracket			K4/4 motor plug with two brackets		
	D/Z	FD/FZ	B	K	C	HH	ADarr	AGarr	HH	ADarr	AGarr
LE112	29, 39	29, 39	29, 39	39	29, 39	244.0	190.5	115.5	244.0	175.0	113.0
	49 ... 69	49, 69	49	49 ... 79	49, 69	234.5					
	79	79	-	89	89	228.5					
	89	89	-	109	-	211.5					
	109	109	-	129	-	202.5					
	129	129	-	149	-	193.5					
	149	149	-	169	-	192.0					
169, 189	169, 189	-	189	-	179.5						
LE112Z	29, 39	29, 39	29, 39	39	29, 39	269.0	190.5	115.5	269.0	1175.0	113.0
	49 ... 69	49, 69	49	49 ... 79	49, 69	234.5					
	79	79	-	89	89	253.5					
	89	89	-	109	-	236.5					
	-	-	-	129	-	227.5					
	129	129	-	149	-	218.5					
	149	149	-	169	-	217.0					
169, 189	169, 189	-	189	-	204.5						
LE132	49 ... 69	49, 69	49	49 ... 79	49, 69	266.0	209.5	138.0	266.0	223.0	135.5
	79	79	-	89	89	260.0					
	89	89	-	109	-	243.0					
	109	109	-	129	-	234.0					
	129	129	-	149	-	223.0					
	149	149	-	169	-	216.5					
	169, 189	169, 189	-	189	-	203.5					
LE132Z	49 ... 69	49, 69	49	49 ... 79	49, 69	316.0	209.5	138.0	316.0	223.0	135.5
	79	79	-	89	89	310.0					
	89	89	-	109	-	293.0					
	109	109	-	129	-	284.0					
	129	129	-	149	-	273.0					
	149	149	-	169	-	266.5					
	169, 189	169, 189	-	189	-	253.5					
LE160	49 ... 69	49, 69	49	49 ... 79	49, 69	299.5	138.5	138.0	299.5	123.0	135.5
	79	79	-	89	89	293.5					
	89	89	-	109	-	276.5					
	109	109	-	129	-	267.5					
	129	129	-	149	-	256.5					
	149	149	-	169	-	250.0					
	169, 189	169, 189	-	189	-	237.0					
LE160Z	49 ... 69	49, 69	49	49 ... 79	49, 69	359.5	138.5	138.0	359.5	123.0	135.5
	79	79	-	89	89	353.5					
	89	89	-	109	-	336.5					
	109	109	-	129	-	327.5					
	129	129	-	149	-	316.5					
	149	149	-	169	-	310.0					
	169, 189	169, 189	-	189	-	297.0					

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**Overview** (continued)

Further information about the motor plug can be found in chapter "Motor options" on page 11/18.

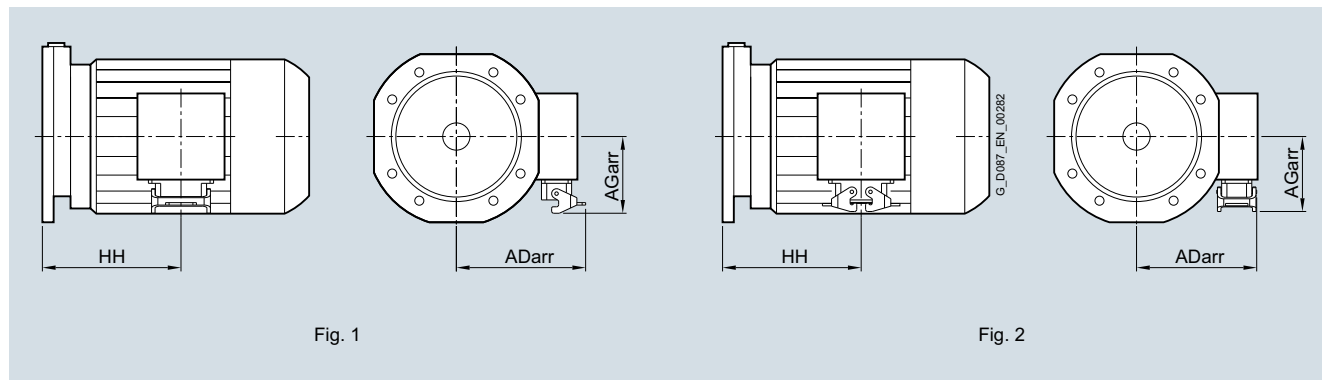


Fig. 1

Fig. 2

Relevant figure						Fig. 1			Fig. 2		
Motor	Gearbox type					K4/4 motor plug with one bracket			K4/4 motor plug with two brackets		
	D/Z	FD/FZ	B	K	C	HH	ADarr	AGarr	HH	ADarr	AGarr
<b>LES180</b>	89	89	-	109	-	336.0	278.5	201.0	336.0	263.0	198.5
	109	109	-	129	-	327.0			327.0		
	129	129	-	149	-	316.0			316.0		
	149	149	-	169	-	309.5			309.5		
	169, 189	169, 189	-	189	-	296.0			296.0		
<b>LES180Z</b>	89	89	-	109	-	366.0	278.5	201.0	366.0	263.0	198.5
	-	-	-	129	-	357.0			357.0		
	129	129	-	149	-	346.0			346.0		
	149	149	-	169	-	339.5			339.5		
	169, 189	169, 189	-	189	-	326.0			326.0		
<b>LES200</b>	109	109	-	129	-	391.5	302.5	201.0	391.5	287.0	198.5
	129	129	-	149	-	380.5			380.5		
	149	149	-	169	-	374.0			374.0		
	169, 189	169, 189	-	189	-	360.5			360.5		
<b>LES200Z</b>	109	109	-	129	-	300.0	302.5	201.0	300.0	287.0	198.5
	129	129	-	149	-	350.0			350.0		
	149	149	-	169	-	405.0			405.0		
	169, 189	169, 189	-	189	-	466.0			466.0		

## Motors

### Dimensions

#### HAN Q8 and HAN Q12 motor plugs

#### Overview

Further information about the motor plug can be found in chapter "Motor options" on page 11/20 to page 11/24.

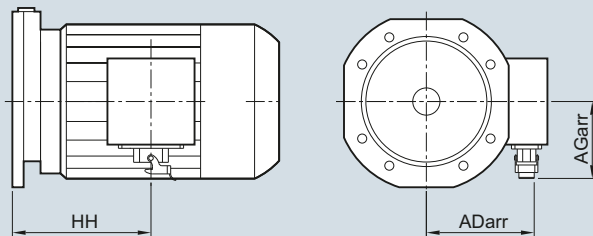


Fig. 1

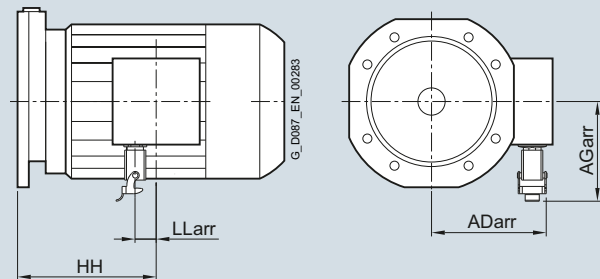


Fig. 2

Relevant figure		Fig. 1						Fig. 2				
Motor	Gearbox type					HAN Q8 motor plug			HAN Q12 motor plug			
	D/Z	FD/FZ	B	K	C	HH	ADarr	AGarr	HH	ADarr	AGarr	LLarr
LA63	19	-	19	-	-	61.5	110.0	87.5	61.5	104.0	109.0	18
	39	29, 39	29, 39	39	29, 39	95.0						
	49 ... 69	49, 69	49	49 ... 79	49, 69	85.5						
LA71 LA71Z	19	-	19	-	-	93.5	120.0	87.5	93.5	114.0	109.0	
	29, 39	29, 39	29, 39	39	29, 39	135.0						
	49 ... 69	49, 69	49	49 ... 79	49, 69	125.5						
LE80	79	79	-	89	89	123.5	134.0	107.0	123.5	128.0	122.0	
	19	-	19	-	-	120.0						
	29, 39	29, 39	29, 39	39	29, 39	170.0						
	49 ... 69	49, 69	49	49 ... 79	49, 69	160.5						
	79	79	-	89	89	154.5						
LE80Z	89	89	-	109	-	141.5	134.0	107.0	141.5	233.0	122.0	
	19	-	19	-	-	155.0						
	29, 39	29, 39	29, 39	39	29, 39	205.0						
	49 ... 69	49, 69	49	49 ... 79	49, 69	195.5						
	79	79	-	89	89	189.5						
LE90	89	89	-	109	-	176.5	139.0	107.0	176.5	133.0	122.0	
	29, 39	29, 39	29, 39	39	29, 39	207.5						
	49 ... 69	49, 69	49	49 ... 79	49, 69	198.0						
	79	79	-	89	89	192.0						
	89	89	-	109	-	179.0						
	109	109	-	129	-	172.0						
LE90Z	129	129	-	149	-	165.0	139.0	107.0	165.0	152.5	122.0	
	29, 39	29, 39	29, 39	39	29, 39	247.5						
	49 ... 69	49, 69	49	49 ... 79	49, 69	238.0						
	79	79	-	89	89	232.0						
	89	89	-	109	-	219.0						
	109	109	-	129	-	212.0						
LE100	129	129	-	149	-	205.0	158.5	116.5	-	-	-	-
	29, 39	29, 39	29, 39	39	29, 39	242.5						
	49 ... 69	49, 69	49	49 ... 79	49, 69	233.0						
	79	79	-	89	89	227.0						
	89	89	-	109	-	210.0						
	109	109	-	129	-	201.0						
	129	129	-	149	-	192.0						
LE100Z	149	149	-	169	-	190.5	158.5	116.5	-	-	-	-
	29, 39	29, 39	29, 39	39	29, 39	277.5						
	49 ... 69	49, 69	49	49 ... 79	49, 69	268.0						
	79	79	-	89	89	262.0						
	89	89	-	109	-	245.0						
	109	109	-	129	-	236.0						
	129	129	-	149	-	227.0						
149	149	-	169	-	225.5							

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## Overview (continued)

Further information about the motor plug can be found in chapter "Motor options" on page 11/20 to page 11/24.

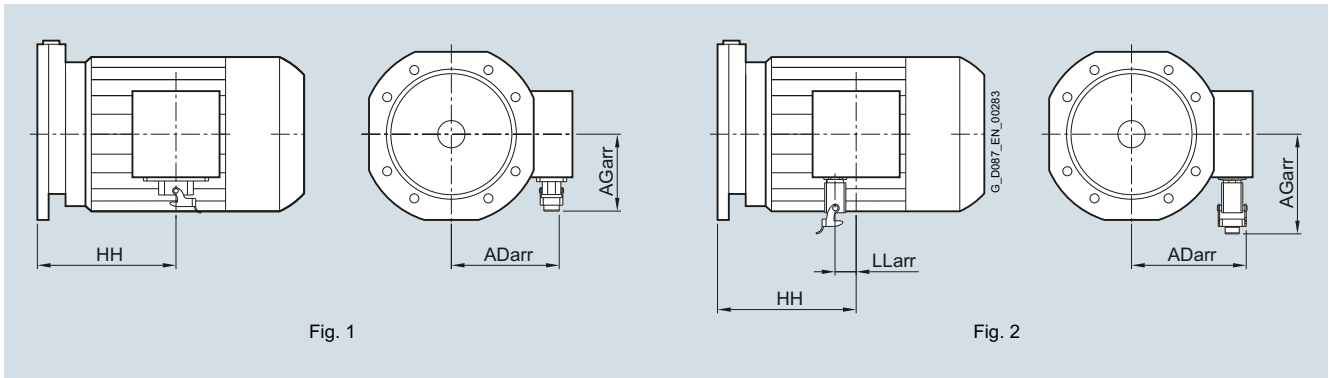


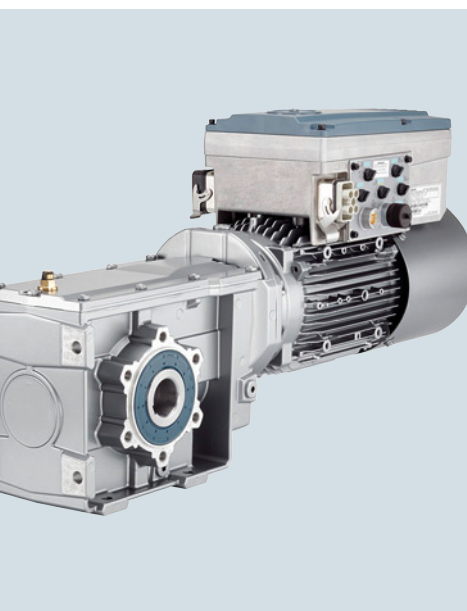
Fig. 1

Fig. 2

Relevant figure						Fig. 1			Fig. 2			
Motor	Gearbox type					HAN Q8 motor plug			HAN Q12 motor plug			
	D/Z	FD/FZ	B	K	C	HH	ADarr	AGarr	HH	ADarr	AGarr	LLarr
LE112	29, 39	29, 39	29, 39	39	29, 39	244.0	169.5	116.5	-	-	-	-
	49 ... 69	49, 69	49	49 ... 79	49, 69	234.5						
	79	79	-	89	89	228.5						
	89	89	-	109	-	211.5						
	109	109	-	129	-	202.5						
	129	129	-	149	-	193.5						
	149	149	-	169	-	192.0						
169, 189	169, 189	-	189	-	179.5							
LE112Z	29, 39	29, 39	29, 39	39	29, 39	269.0	169.5	116.5	-	-	-	-
	49 ... 69	49, 69	49	49 ... 79	49, 69	234.5						
	79	79	-	89	89	253.5						
	89	89	-	109	-	236.5						
	-	-	-	129	-	227.5						
	129	129	-	149	-	218.5						
	149	149	-	169	-	217.0						
169, 189	169, 189	-	189	-	204.5							
LE132	49 ... 69	49, 69	49	49 ... 79	49, 69	266.0	188.5	130.0	-	-	-	-
	79	79	-	89	89	260.0						
	89	89	-	109	-	243.0						
	109	109	-	129	-	234.0						
	129	129	-	149	-	223.0						
	149	149	-	169	-	216.5						
	169, 189	169, 189	-	189	-	203.5						
LE132Z	49 ... 69	49, 69	49	49 ... 79	49, 69	316.0	188.5	130.0	-	-	-	-
	79	79	-	89	89	310.0						
	89	89	-	109	-	293.0						
	109	109	-	129	-	284.0						
	129	129	-	149	-	273.0						
	149	149	-	169	-	266.5						
	169, 189	169, 189	-	189	-	253.5						

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## SINAMICS G110M motor integrated frequency inverter

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- 9/4 More information

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**9/24 DC link components**

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- 9/28 PC inverter connection kit 2 (mini USB interface cable for communication with a PC)
- 9/28 Installation kits
- 9/28 STARTER commissioning tool
- 9/29 SINAMICS Startdrive commissioning tool
- 9/29 Connecting cables for the Control Unit
- 9/29 PROFINET connecting cable
- 9/29 PROFIBUS connecting cable
- 9/29 AS-Interface connecting cable
- 9/30 Connecting cables/connectors for supplying the Control Unit with power
- 9/30 Connecting cables and connectors for digital inputs and outputs
- 9/30 Connecting cables and connectors for analog inputs
- 9/30 Connecting cables for Power Modules
- 9/30 Connecting cables pre-assembled at one end and connector sets to connect to the line supply
- 9/30 Connector insert for power loop-through
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- 9/31 Spare Parts Kit
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**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

**Introduction****Type designation SINAMICS G110M (integrated in the motor in SIMOGEAR) <sup>1)</sup>**

Motor frame size	
71	<b>A</b>
80, 90	<b>B</b>
100, 112	<b>C</b>

Power Module	
0.37 kW	<b>0037</b>
0.75 kW	<b>0075</b>
1.1 kW	<b>0110</b>
1.5 kW	<b>0150</b>
2.2 kW	<b>0220</b>
3.0 kW	<b>0300</b>
4.0 kW	<b>0400</b>

Control Unit	
Connection (line voltage and 24 V DC)	
Terminal strip, cable entry via cable gland	<b>A</b>
HAN Q4/2 + connector 7/8"	<b>B</b>
Bus system	
USS	<b>1</b>
AS-Interface	<b>2</b>
PROFIBUS	<b>3</b>
PROFINET	<b>4</b>

Motor connection	
Star	<b>S</b>
Delta	<b>D</b>

Braking resistor	
Without	<b>0</b>
Internal (FSA)	<b>1</b>
Internal (FSB)	<b>2</b>

Externally mounted components	
Without	<b>0</b>
24 V DC power supply	<b>1</b>
Repair switch	<b>2</b>

Example:

<b>G110M</b>	<b>- B</b>	<b>0110</b>	<b>- A</b>	<b>1</b>	<b>S</b>	<b>- 0</b>	<b>0</b>
	↓	↓	↓	↓	↓	↓	↓
	(1)	(2)	(3)	(4)	(5)	(6)	(7)

- (1) Motor frame size
- (2) Power Module rated power
- (3) Control Unit: Connection (line voltage and 24 V DC)
- (4) Control Unit: Bus system
- (5) Motor connection
- (6) Braking resistor
- (7) Externally mounted components

<sup>1)</sup> SINAMICS G110M can also be ordered as individual components. The components are supplied in separate packages. Installation must be performed by the customer. For further details, see Catalog [D 31.2](#).

## SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

Introduction

Selection and ordering data <sup>1)</sup>

Motor frame size	Power Module power kW	Motor connection	Type designation	Order code
71	0.37	Star	G110M - A0037 - ■ ■ S - ■ ■	U01
	0.75	Delta	G110M - A0075 - ■ ■ D - ■ ■	U02
80	0.75	Star	G110M - B0075 - ■ ■ S - ■ ■	U07
	1.1	Delta	G110M - B0110 - ■ ■ D - ■ ■	U08
		Star	G110M - B0110 - ■ ■ S - ■ ■	U09
	1.5	Delta	G110M - B0150 - ■ ■ D - ■ ■	U10
90	1.1	Star	G110M - B0110 - ■ ■ S - ■ ■	U09
	1.5	Star	G110M - B0150 - ■ ■ S - ■ ■	U11
	2.2	Delta	G110M - B0220 - ■ ■ D - ■ ■	U12
		Star	G110M - B0220 - ■ ■ S - ■ ■	U13
	3.0	Delta	G110M - B0300 - ■ ■ D - ■ ■	U14
100	2.2	Star	G110M - C0220 - ■ ■ S - ■ ■	U19
	3.0	Star	G110M - C0300 - ■ ■ S - ■ ■	U21
	4.0	Delta	G110M - C0400 - ■ ■ D - ■ ■	U22
		Star	G110M - C0400 - ■ ■ S - ■ ■	U23
112	4.0	Star	G110M - C0400 - ■ ■ S - ■ ■	U23

## Type designation supplement and additional order code

Control Unit	Connection (400 V 3 AC / 24 V DC)	Bus system		
	Cable gland <sup>1)</sup>	USS/Modbus RTU	A 1	U40
		AS-Interface	A 2	U41
		PROFIBUS DP (DP)	A 3	U42
		PROFINET/ EtherNet IP (PN)	A 4	U43
	HAN Q4/2 + connector 7/8"	AS-Interface	B 2	U51
		PROFIBUS DP (DP)	B 3	U52
		PROFINET/ EtherNet IP (PN)	B 4	U53
Braking resistor	Without		0	-
	Internal (FSA)		1	U60
	Internal (FSB)		2	U61
Externally mounted components	Without		0	-
	24 V DC power supply		1	U70
	Repair switch		2	U71
Accessories	SD card installed			U80

\* On delivery, the openings in the housing for line voltage, 24 V DC, and brake are sealed with a dummy screw cap (exception: on brake motors, the brake cable is already connected via a cable gland)  
Cable glands are available optionally as an installation kit, see page 9/28.

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<sup>1)</sup> SINAMICS G110M can also be ordered as individual components.  
The components are supplied in separate packages. Installation must be performed by the customer.  
For further details, see Catalog D 31.2.


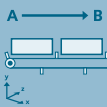
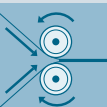



# SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

## Introduction

### Application

Use	Requirements for torque accuracy/speed accuracy/position accuracy/coordination of axes/functionality					
	Continuous motion			Non-continuous motion		
	Basic	Medium	High	Basic	Medium	High
<b>Pumping, ventilating, compressing</b> 	Centrifugal pumps Radial / axial fans Compressors	Centrifugal pumps Radial / axial fans Compressors	Eccentric screw pumps	Hydraulic pumps Metering pumps	Hydraulic pumps Metering pumps	Descaling pumps Hydraulic pumps
	V20 G110 G120C G120P	G120P G130/G150 G180 <sup>1)</sup>	S120	G120	S110	S120
<b>Moving</b> 	Conveyor belts Roller conveyors Chain conveyors	Conveyor belts Roller conveyors Chain conveyors Lifting/lowering devices Elevators Escalators/moving walkways Indoor cranes Marine drives Cable railways	Elevators Container cranes Mining hoists Excavators for open-cast mining Test bays	Acceleration conveyors Storage and retrieval machines	Acceleration conveyors Storage and retrieval machines Cross cutters Reel changers	Storage and retrieval machines Robotics Pick & place Rotary indexing tables Cross cutters Roll feeds Engagers/disengagers
	V20 G110D <b>G110M</b> G120C ET 200pro FC-2 <sup>3)</sup>	G120 G120D G130/G150 G180 <sup>1)</sup>	S120 S150 DCM	V90 G120 G120D	S110 S210 DCM	S120 S210 DCM
<b>Processing</b> 	Mills Mixers Kneaders Crushers Agitators Centrifuges	Mills Mixers Kneaders Crushers Agitators Centrifuges Extruders Rotary furnaces	Extruders Winders and unwinders Lead/follower drives Calenders Main press drives Printing machines	Tubular bagging machines Single-axis motion control such as • Position profile • Path profile	Tubular bagging machines Single-axis motion control such as • Position profile • Path profile	Servo presses Rolling mill drives Multi-axis motion control such as • Multi-axis positioning • Cams • Interpolations
	V20 G120C	G120 G130/G150 G180 <sup>1)</sup>	S120 S150 DCM	V90 G120	S110 S210	S120 S210 DCM
<b>Machining</b> 	Main drives for • Turning • Milling • Drilling	Main drives for • Drilling • Sawing	Main drives for • Turning • Milling • Drilling • Gear cutting • Grinding	Axle drives for • Turning • Milling • Drilling	Axle drives for • Drilling • Sawing	Axle drives for • Turning • Milling • Drilling • Lasering • Gear cutting • Grinding • Nibbling and punching
	S110	S110 S120	S120	S110	S110 S120	S120

SINAMICS G110M fulfills all requirements that plant manufacturers demand from their frequency inverters in drives for conveyor system applications. It is available integrated in the motor up to IP66 degree of protection<sup>2)</sup> and sets standards in efficiency – from the installation phase through commissioning as far as handling. SINAMICS G110M is also suitable for pump and fan

applications in which a motor integrated inverter is required as a distributed system.

Practical application examples and descriptions are available on the Internet at

[www.siemens.com/sinamics-applications](http://www.siemens.com/sinamics-applications)  
[www.siemens.com/conveyor-technology](http://www.siemens.com/conveyor-technology)

### More information

You may also be interested in these frequency inverters:

- Simple applications with AS-Interface in IP65 degree of protection ⇒ SINAMICS G110D
- More performance for the control cabinet in IP20 degree of protection ⇒ SINAMICS G120, SINAMICS G120C (Catalog D 31.1)
- With enhanced functionality, with positioning function in IP65 degree of protection ⇒ SINAMICS G120D
- With positioning function in the control cabinet in IP20 degree of protection ⇒ SINAMICS G120 (Catalog D 31.1)

<sup>1)</sup> Industry-specific inverters.

<sup>2)</sup> Geared motors are available to IP55 / IP65 degree of protection

<sup>3)</sup> Information on the SIMATIC ET 200pro FC-2 frequency converter is available at: [www.siemens.com/et200pro-fc](http://www.siemens.com/et200pro-fc)

**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

**SINAMICS G110M distributed frequency inverters****Overview**

The SINAMICS G110M motor integrated frequency inverters are the solution for drive tasks in which a motor integrated frequency inverter is required. With different device versions (frame sizes FSA and FSB) in a power range from 0.37 kW to 4 kW, the SINAMICS G110M is suitable for a wide variety of drive solutions. SINAMICS G110M supports continuous speed control of three-phase asynchronous motors and fulfills all the requirements of conveyor system applications from simple speed control through to demanding sensorless vector control. It can be integrated seamlessly into the system thanks to its compact design in IP65/IP66 degree of protection.

Through the integrated functions such as quick stop and the limit switch function, the SINAMICS G110M is particularly suited for conveyor system applications.

For applications that require safety engineering, the SINAMICS G110M has the integrated STO (Safe Torque Off<sup>1)</sup>) function, which can be implemented without further external components.

Integration via PROFIBUS, PROFINET, AS-Interface, or USS into a higher-level SIMATIC controller is very easy thanks to complete TIA Portal integration<sup>1)</sup> – one tool and one operating and data storage concept.

Observe the configuring information when making your selection.



Fig. 9/1 SINAMICS G110M Control Unit CU240M PN, cable gland, and Power Module PM240M FSA 1.5 kW



Fig. 9/2 SINAMICS G110M Control Unit CU240M PN, plug-in and Power Module PM240M FSA 1.5 kW

**Reasons for using distributed drive systems**

- Modular drive solutions – thus standardized mechatronic elements that can be individually tested
- No need for a cabinet, resulting in a smaller space requirement and less cooling
- Long cables between the inverter and motor can be avoided (which means lower power losses, reduced interference emission and lower costs for shielded cables and additional filters)
- Considerable benefits for conveyor systems with their extensive coverage (e.g. in the automotive and logistics industries)

**Siemens family of distributed drives**

Siemens offers an innovative portfolio of frequency inverters to optimally implement distributed drive solutions. The strengths of the individual members of the drive family permit simple adaptation to the widest range of application demands:

- Identical connection systems
- Standard commissioning and configuration tools

Products from the family of distributed drives:

- **SINAMICS G110M** inverters
- SINAMICS G110D inverters
- SINAMICS G120D inverters
- SIMATIC ET200pro FC-2 frequency converters
- SIRIUS M200D motor starters

**Modularity**

SINAMICS G110M is a modular, motor integrated inverter system with IP65/66 degree of protection comprising various function units. The main units are:

- Control Unit (CU)
- Power Module (PM)

The Control Unit controls and monitors the Power Module and the connected motor using several different closed-loop control types that can be selected. The digital and analog inputs and digital outputs on the device support the simple wiring of sensors and actuators directly at the drive. The input signals can either be directly linked within the Control Unit and initiate local responses independently or they can be transferred to the central control via PROFIBUS, PROFINET or AS-Interface for further processing within the context of the overall plant.

The Power Module supplies the motor in a power range from 0.37 kW to 4 kW. The Power Module is controlled by a microprocessor in the Control Unit. State-of-the-art IGBT technology with pulse width modulation is used for highly reliable and flexible motor operation. Comprehensive protection functions provide a high degree of protection for the Power Module and the motor.

The latest technical documentation (catalogs, dimension drawings, certificates, manuals and operating instructions) is available on the Internet at the following address:

[www.siemens.com/sinamics-g110m](http://www.siemens.com/sinamics-g110m)

and offline in the DT Configurator integrated in Catalog CA 01 on DVD-ROM. In addition, the DT Configurator can be used on the Internet without requiring any installation. The DT Configurator can be found in the Siemens Industry Mall at the following address:

[www.siemens.com/dt-configurator](http://www.siemens.com/dt-configurator)

<sup>1)</sup> Available for firmware version V4.7 or higher.

## SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

### SINAMICS G110M distributed frequency inverters

#### Overview (continued)

##### Safety Integrated

The distributed SINAMICS G110M inverters are already equipped with the integrated STO safety function (Safe Torque Off <sup>1)</sup>, certified in accordance with IEC 61508 SIL 2 as well as EN ISO 13849-1 PL d and Category 3). It can be activated either over PROFIsafe or over the safety input.

#### Benefits

##### Fast commissioning

- Preconfigured with SIMOGEAR
- Loop-through of 24 V DC and 400 V 3 AC and communication – no T-distributor necessary
- Internal braking resistors – typical applications can be implemented without external braking resistors
- Rugged, with IP65/66 degree of protection, up to 55° C ambient temperature
- Commissioning via fieldbus or on site via standard USB interface/optical interface for IOP-2 Handheld

##### Fast commissioning on site

- Local commissioning via DIP switch and potentiometer, standard USB interface, or IOP-2 Handheld Intelligent Operator Panel
- Plug-in connections for 400 V 3 AC and 24 V DC, plug-in I/Os, and communication
- Local diagnostics with LEDs
- Uploading, saving, and cloning of parameters with SINAMICS SD card and IOP-2 Handheld Intelligent Operator Panel

##### Full functionality

- Integrated safety function (STO locally via F-DI or via PROFIsafe)
- PROFINET communication to PROFIBUS at no extra cost
- Integrated communication: USS, Modbus RTU, PROFIBUS, PROFINET, EtherNet/IP and AS-Interface
- Basic PLC functions and additional conveyor technology functions
- I/O can be used as distributed I/O of the PLC

##### Efficient engineering

- Fully integrated in Totally Integrated Automation, Totally Integrated Automation Portal and Integrated Drive System
- Automatic diagnostics in combination with SIMATIC controller

##### Flexible commissioning

- Integrated, specific software functionality for conveyor systems:
  - Quick Stop function for fast response times for the sensors, e.g. roller conveyor, belt conveyor
  - Limit switch functionality, e.g. for rotary table, corner transfer unit
- Use of the same software tools (STARTER and SINAMICS Startdrive) as for all SINAMICS drives

#### Design

The SINAMICS G110M distributed inverters are modular frequency inverters for standard drives.

Each SINAMICS G110M comprises two operative units: a Power Module and a Control Unit.



Fig. 9/3 SINAMICS G110M Control Unit CU240M PN, plug-in and Power Module PM240M FSA 1.5 kW

#### Power Modules

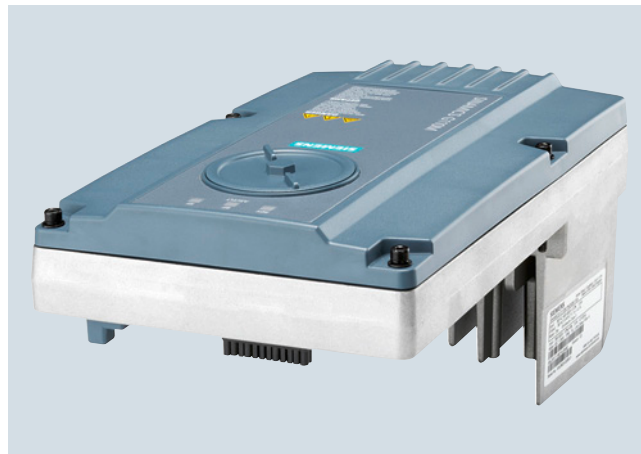


Fig. 9/4 SINAMICS G110M Power Module PM240M FSA 1.5 kW

The following PM240M Power Modules are available for the SINAMICS G110M distributed inverters:

PM240M Power Modules Rated power	Frame size
0.37 kW	FSA
0.75 kW	FSA
1.1 kW	FSA
1.5 kW	FSA
2.2 kW	FSB
3 kW	FSB
4 kW	FSB

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<sup>1)</sup> Available for firmware version V4.7 or higher.

## Design (continued)

### Control Units

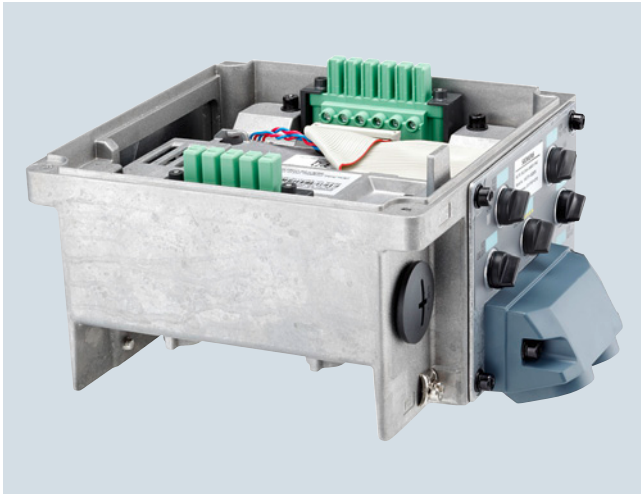


Fig. 9/5 SINAMICS G110M Control Unit CU240M PN cable gland

A Control Unit performs closed-loop control functions for the inverter. In addition to closed-loop control, it has additional functions that can be adapted to the particular application through parameterization.

Various Control Units are available for SINAMICS G110M distributed inverters, [see page 9/9](#).

### Supplementary system components

#### Intelligent Operator Panel IOP-2 Handheld

The IOP-2 Handheld supports both newcomers and drive experts. Thanks to the large plain text display, menu-based operation and the application wizards, it is easy to commission, diagnose and locally control standard drives.

#### Memory card

The parameter settings for an inverter and the firmware can be stored on the SINAMICS SD memory card. When service is required, e.g. after the inverter has been replaced and the data has been downloaded from the memory card, the system is immediately ready for use again.

#### PC inverter connection kit (mini USB interface cable) for communication with a PC

For controlling and commissioning an inverter directly from a PC if the appropriate software (STARTER commissioning tool V4.3 and higher or SINAMICS Startdrive V13 and higher) has been installed.

#### Internal braking resistors

Excess energy in the DC link is dissipated in the internal braking resistor.

#### 24 V DC power supply

A 24 V DC power supply is also available for SINAMICS G110M. This is mounted directly on the inverter and supplies the device with 24 V DC, so there is no need to connect an external 24 V DC power supply.

#### Repair switch

A repair switch is available for SINAMICS G110M inverters. This is installed directly on the inverter and disconnects the input end of the SINAMICS G110M from the 400 V line voltage.

#### Connecting cable for the Control Units

Flexible plug-in cables to transfer data between the Industrial Ethernet stations or PROFIBUS stations, as well as to supply power to the Control Unit (24 V DC).

Connector sets and pre-assembled cables for the line supply can be ordered as accessories.

#### Installation kits

Different installation kits can be ordered as accessories for the Control Units with plug-in connections and Control Units with cable gland connections.

These contain caps or cable glands for protection or electrical connection respectively.

#### Spare Parts Kit

A Spare Parts Kit is available which comprises small parts such as seals, caps and screws.

**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

**SINAMICS G110M distributed frequency inverters****Technical specifications**

Unless explicitly specified otherwise, the following technical specifications are valid for all the following SINAMICS G110M distributed inverter components listed here.

<b>SINAMICS G110M</b>	
<b>Mechanical specifications</b>	
<b>Vibratory load</b>	
• Transport acc. to EN 60721-3-2 <sup>1)</sup>	Class 1M2
• Operation acc. to EN 60721-3-3	Class 3M3
<b>Shock load</b>	
• Transport acc. to EN 60721-3-2 <sup>1)</sup>	Class 1M2
• Operation acc. to EN 60721-3-3	Class 3M3
<b>Environmental conditions</b>	
<b>Protection class acc. to EN 61800-5-1</b>	Class III (PELV)
<b>Touch protection acc. to EN 61800-5-1</b>	Class I (with protective conductor system)
<b>Permissible ambient/coolant temperature (air) during operation</b>	-10 ... +40 °C (14 ... 104 °F) without derating >40 ... 55 °C (104 ... 131 °F) <a href="#">see derating characteristics</a>
<b>Humidity, max.</b>	95 % at 40 °C (104 °F)
<b>Ambient temperature</b>	
• Storage <sup>1)</sup> acc. to EN 60068-2-1	-40 ... +70 °C (-40 ... +158 °F)
• Transport <sup>1)</sup> acc. to EN 60068-2-1	-40 ... +70 °C (-40 ... +158 °F)
• Operation acc. to EN 60068-2-2	-10 ... +40 °C (14 ... 104 °F) without derating
<b>Environmental class/harmful chemical substances</b>	
• Operation acc. to EN 60721-3-3	Class 3C2
<b>Degree of pollution acc. to EN 61800-5-1</b>	2
<b>Certification for fail-safe versions</b>	
• According to IEC 61508	SIL 2
• According to EN ISO 13849-1	PL d and Category 3
<b>Standards</b>	
<b>Compliance with standards</b>	UR, cUR, CE, RCM
<b>CE marking, according to</b>	Low Voltage Directive 2014/35/EU
<b>EMC directive</b>	
• Frame sizes FSA to FSB with integrated line filter class A	Category C2 <sup>2)</sup> according to EN 61800-3
	<u>Note:</u> The EMC product standard EN 61800-3 does not apply directly to an inverter but to a PDS (Power Drive System), which comprises the complete circuitry, motor, and cables in addition to the inverter. The frequency inverters on their own do not generally require identification according to the EMC Directive.

<sup>1)</sup> In product packaging.

<sup>2)</sup> With shielded motor cable up to 5 m.

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**Overview**

The Control Unit performs closed-loop control functions for the inverter. In addition to the primary closed-loop control function, it has many additional functions that can be adapted to the particular application through parameterization.

The Control Units are available in two versions for connection to 400 V 3 AC and 24 V DC – screw-type or plug-in. The version in USS fieldbus communication is only available as screw-type. The differences between the screw-type and plug-in versions are presented in the following pictures:

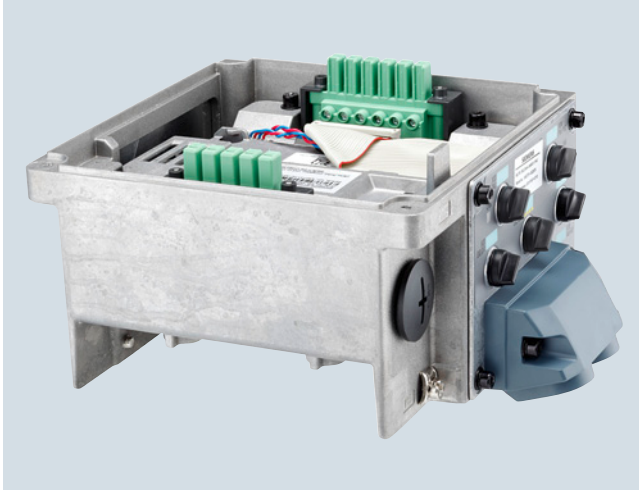


Fig. 9/6 SINAMICS G110M Control Unit CU240M PN cable gland

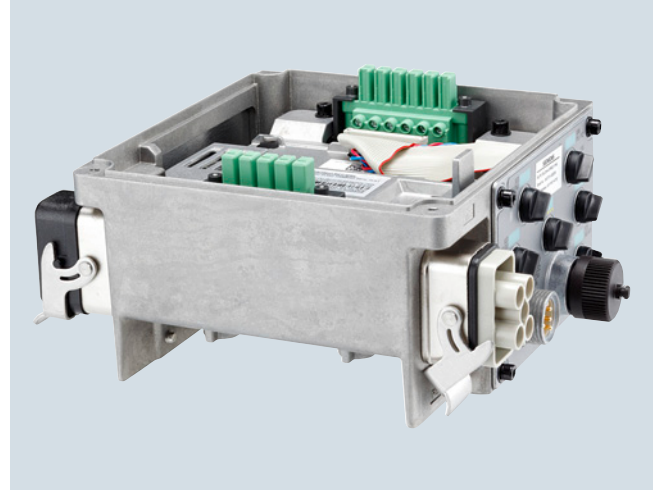


Fig. 9/7 SINAMICS G110M Control Unit CU240M PN plug-in

Several Control Units are available in different versions:

Control Unit		Communication via	Connection system	For motor frame sizes
Control Unit CU240M, screw-type	CU240M	USS, Modbus RTU	Screw-type	71, 80/90, 100/112
Control Unit CU240M AS-i, screw-type	CU240M AS-i	AS-Interface	Screw-type	71, 80/90, 100/112
Control Unit CU240M AS-i, plug-in	CU240M AS-i	AS-Interface	Plug-in	71, 80/90, 100/112
Control Unit CU240M DP, screw-type	CU240M DP	PROFIBUS	Screw-type	71, 80/90, 100/112
Control Unit CU240M DP, plug-in	CU240M DP	PROFIBUS	Plug-in	71, 80/90, 100/112
Control Unit CU240M PN, screw-type	CU240M PN	PROFINET, EtherNet/IP	Screw-type	71, 80/90, 100/112
Control Unit CU240M PN, plug-in	CU240M PN	PROFINET, EtherNet/IP	Plug-in	71, 80/90, 100/112

**Safety Integrated functions**

The safety function "Safe Torque Off" (STO <sup>1)</sup>) is already integrated (certified according to IEC 61508 SIL 2 and EN ISO 13849-1 PL d and Category 3) into the basic versions of the CU240M series (CU240M, CU240M DP, and CU240M PN). It prevents active movement of the drive. It can be activated either over PROFIsafe or over the safety input.

Existing systems in particular can be simply updated with safety technology without the need to change the motor or mechanical system.

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<sup>1)</sup> Available for firmware version V4.7 or higher.

# SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

## CU240M Control Units

### Design

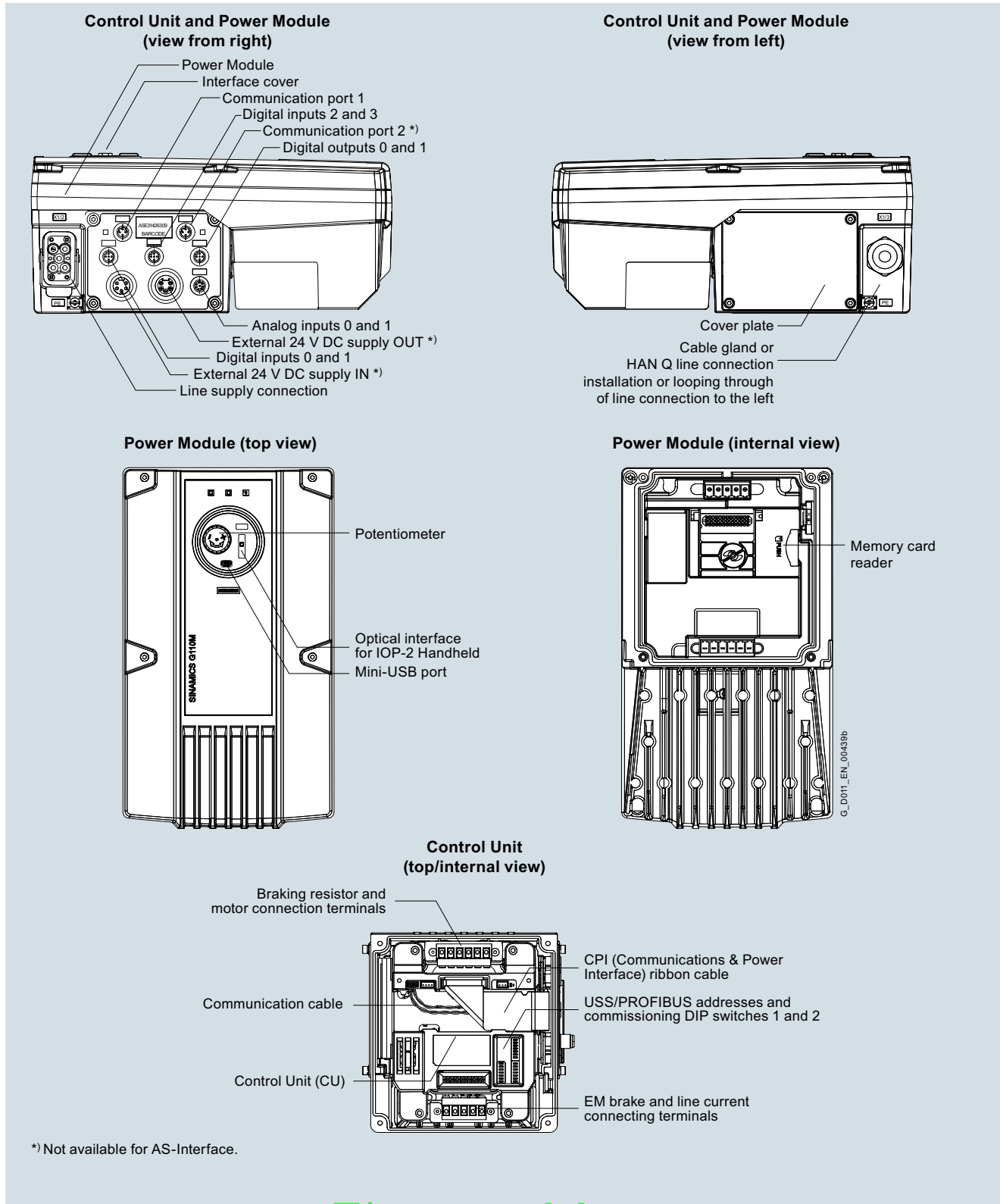


Fig. 9/8 Design of the Control Unit and Power Module

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# SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

CU240M Control Units

## Integration

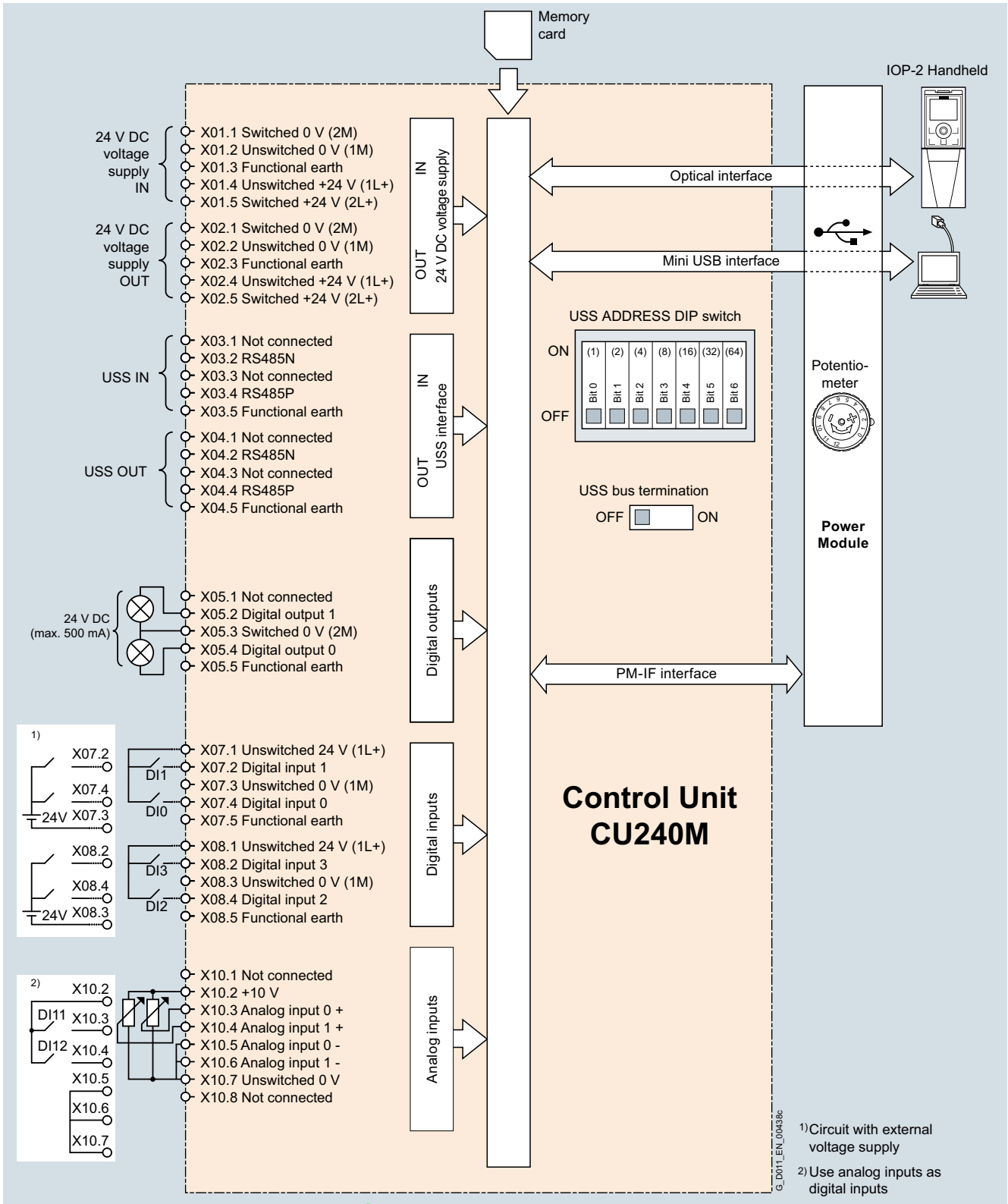


Fig. 9/9 Connection diagram for CU240M Control Units

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# SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

## CU240M Control Units

### Integration (continued)

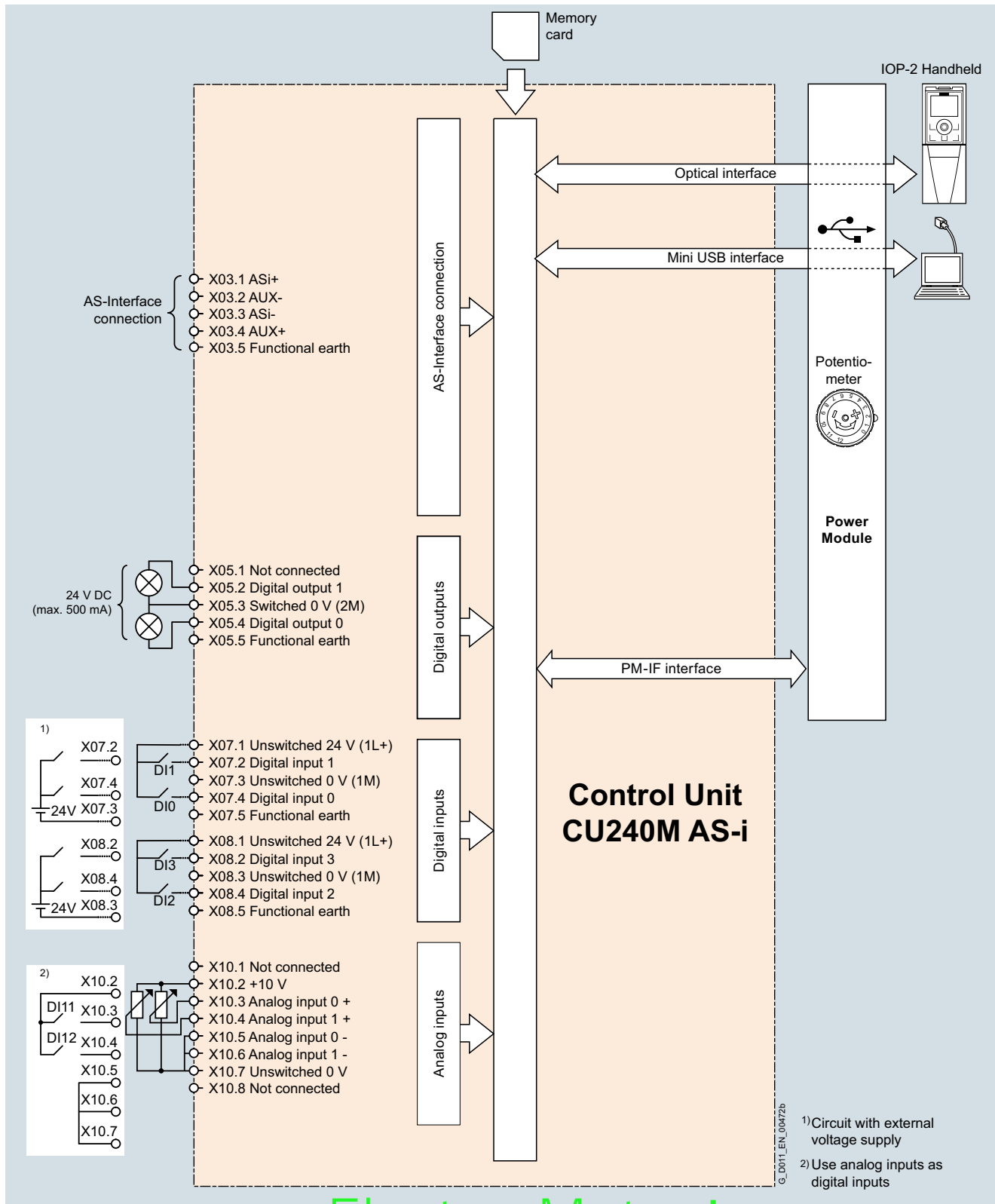


Fig. 9/10 Connection diagram for CU240M AS-i Control Units

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Integration (continued)

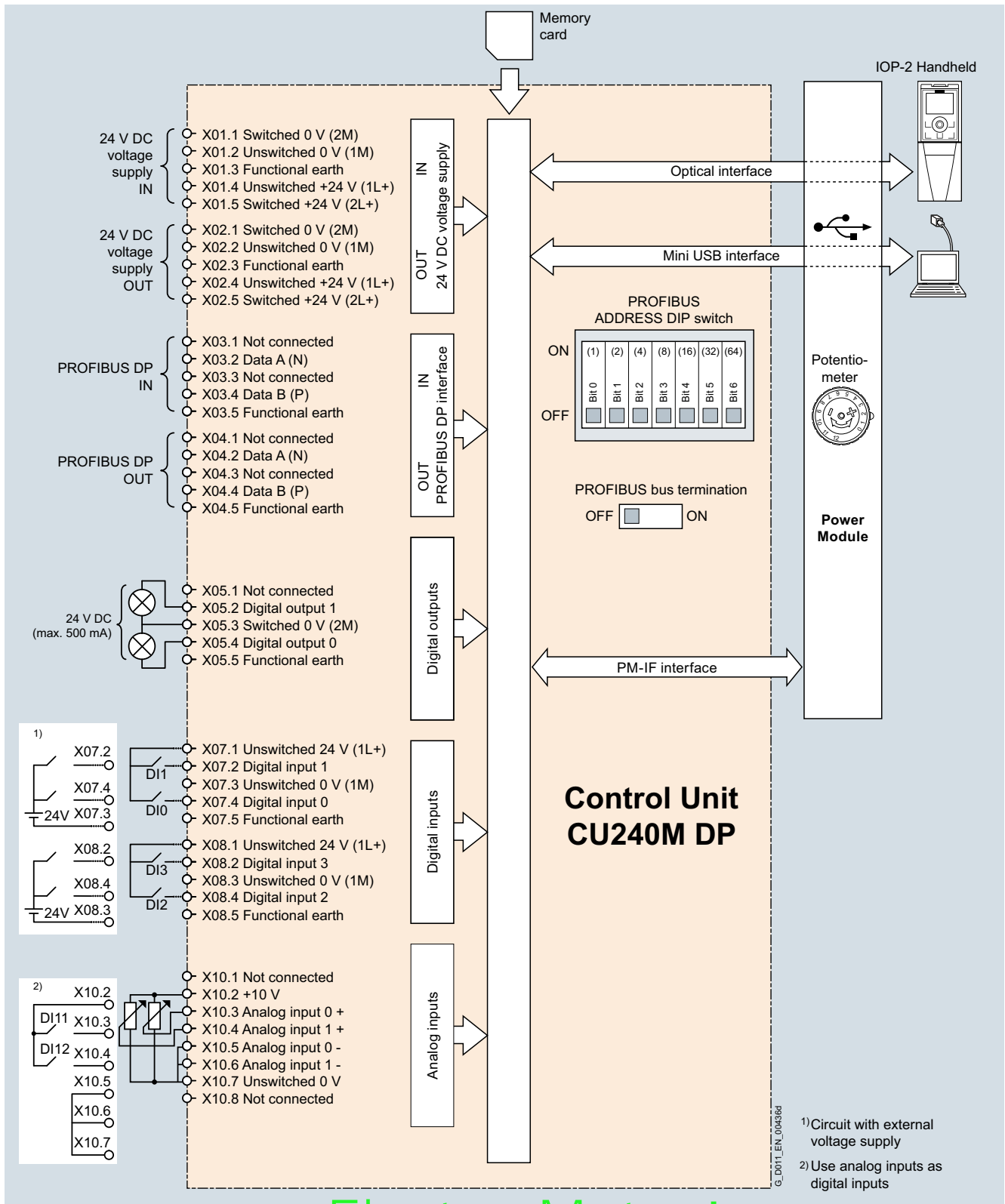


Fig. 9/11 Connection diagram for CU240M DP Control Units

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# SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

## CU240M Control Units

### Integration (continued)

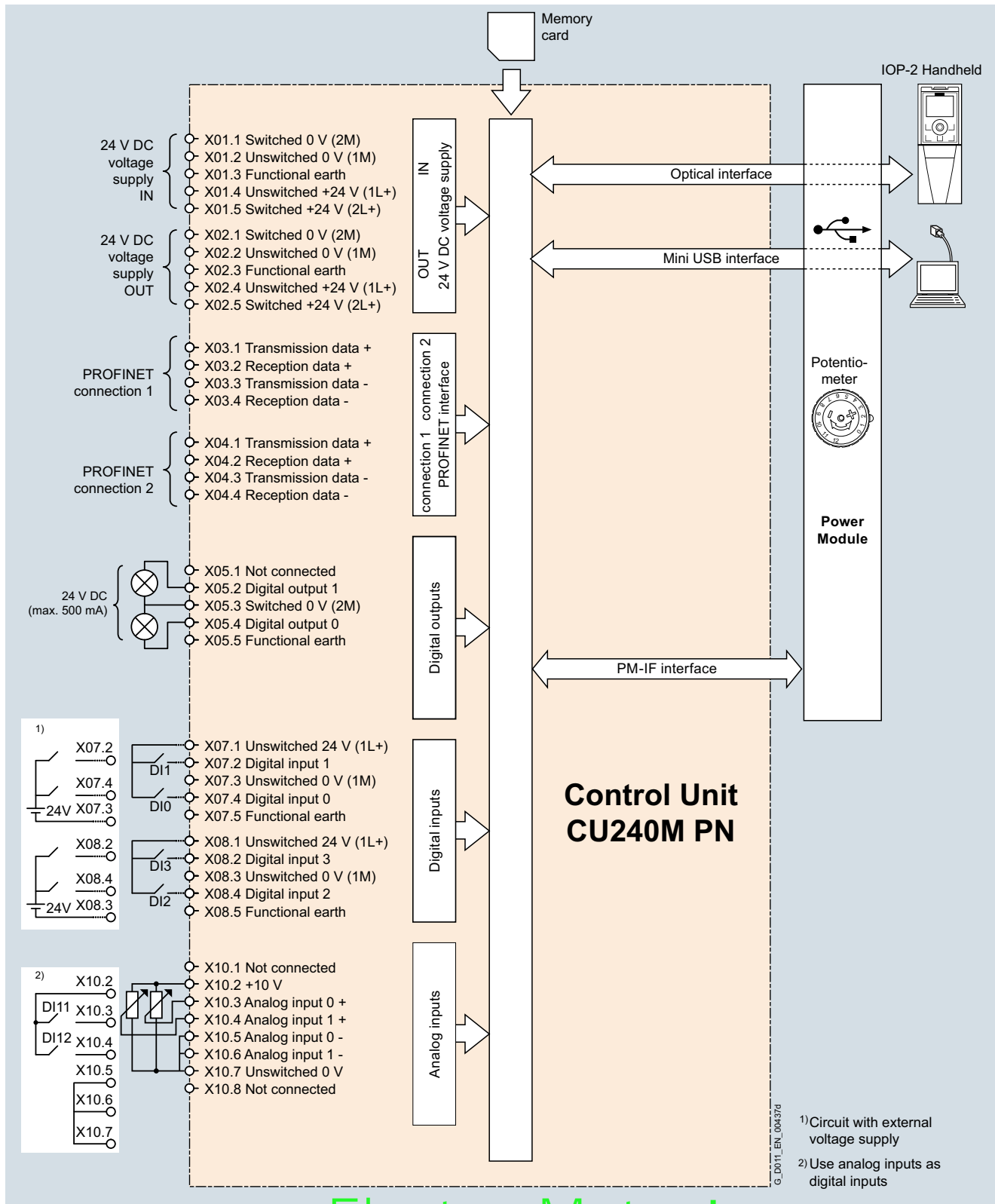


Fig. 9/12 Connection diagram for CU240M PN Control Units

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## SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

CU240M Control Units

## Technical specifications

Control Unit	CU240M USS With screw-type connections	CU240M AS-i With screw-type connections	CU240M AS-i With plug-in connections	CU240M PROFIBUS With screw-type connections	CU240M PROFIBUS With plug-in connections	CU240M PROFINET With screw-type connections	CU240M PROFINET With plug-in connections
<b>Electrical specifications</b>							
<b>Operating voltage</b>	External 24 V DC $\pm$ 15 % Power supply with protective extra low voltage PELV acc. to EN 61800-5-1 must be used.						
<b>Current consumption</b> <sup>1)</sup> (from the 24 V DC supply)							
• With Power Module frame sizes FSA	235 mA	290 mA	290 mA	235 mA	235 mA	290 mA	290 mA
• With Power Module frame sizes FSB	235 mA	290 mA	290 mA	235 mA	235 mA	290 mA	290 mA
<b>Interfaces</b>							
<b>Digital inputs</b> (non-isolated)	4 programmable, PNP, SIMATIC compatible						
• Optionally parameterizable as safe inputs	1						
<b>Analog inputs</b> (0 ... 10 V or 0 ... 20 mA with 12 bit resolution)	2						
<b>Digital outputs</b> (24 V DC, 0 ... 0.5 A)	2, programmable						
<b>Bus interface</b>	USS	AS-Interface	AS-Interface	PROFIBUS DP	PROFIBUS DP	PROFINET	PROFINET
• Fieldbus protocols	USS Modbus RTU	AS-Interface	AS-Interface	PROFIBUS DP incl. PROFI-safe	PROFIBUS DP incl. PROFI-safe	PROFINET incl. PROFI-safe EtherNet/IP	PROFINET incl. PROFI-safe EtherNet/IP
• Profiles	–	3.0	3.0	PROFI-drive	PROFI-drive	PROFI-drive PROFI-energy	PROFI-drive PROFI-energy
<b>PTC/KTY interface</b> (connection via Power Module)	✓						
• Motor temperature sensor	1 input, sensors that can be connected: PTC, KTY, bimetal, or Pt1000						
<b>Control of a mechanical motor brake</b> (connection via the Control Unit)	✓						
<b>Slot for SINAMICS memory card (SD card)</b>	✓						
<b>Commissioning interface (mini USB)</b>	✓						
<b>Safety functions</b>							
<b>Integrated safety functions</b> <sup>2)</sup>	Safe Torque Off (STO) acc. to IEC 61508 SIL 2 and EN ISO 13849-1 PL d and Category 3						
<b>Open-loop/closed-loop control techniques</b>							
<b>V/f linear/square/parameterizable</b>	✓						
<b>V/f with flux current control (FCC)</b>	✓						
<b>Vector control, sensorless</b>	✓						
<b>Torque control, sensorless</b>	✓						

<sup>1)</sup> The current consumption of connected sensors (total, max. 200 mA) as well as the current drawn from the digital outputs (total, max. 500 mA) must be added, where applicable.

<sup>2)</sup> Available for firmware version V4.7 or higher.

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**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

**CU240M Control Units****Technical specifications** (continued)

Control Unit	CU240M USS With screw-type connections	CU240M AS-i With screw-type connections	CU240M AS-i With plug-in connections	CU240M PROFIBUS With screw-type connections	CU240M PROFIBUS With plug-in connections	CU240M PROFINET With screw-type connections	CU240M PROFINET With plug-in connections
<b>Software functions</b>							
Fixed frequencies	✓						
Signal interconnection with BICO technology	✓						
Automatic restart after line supply failure or operational fault	✓						
Slip compensation	✓						
Free function blocks (FFB) for logical and arithmetic operations	✓						
Ramp smoothing	✓						
Selectable drive data sets	✓(4)						
Selectable command data sets (CDS) (manual/auto)	✓(4)						
Flying restart	✓						
JOG	✓						
Cyclic recording of ramp-up and ramp-down	✓						
Technology controller (PID)	✓						
Quick stop	✓						
Limit switch logic	✓						
Thermal motor protection	✓						
Thermal inverter protection	✓						
Setpoint input	✓						
Motor identification	✓						
Motor holding brake	✓						
<b>Mechanical specifications and ambient conditions</b>							
Degree of protection	IP66/UL Type 3	IP66/UL Type 3	IP65/UL Type 3	IP66/UL Type 3	IP65/UL Type 3	IP66/UL Type 3	IP65/UL Type 3
Operating temperature	-10 ... +40 °C (14 ... 104 °F) without derating >40 ... 55 °C (104 ... 131 °F) <a href="#">see derating characteristics</a>						
Air temperature	-40 ... +70 °C (40 ... +158 °F)						
Relative humidity	<95 % RH, condensation not permissible						
<b>Dimensions</b>							
• Width	205 mm						
• Height	105 mm						
• Depth	171 mm						
Weight, approx.	1.75 kg	1.85 kg	1.85 kg	1.85 kg	1.85 kg	1.85 kg	1.85 kg

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**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

PM240M Power Modules

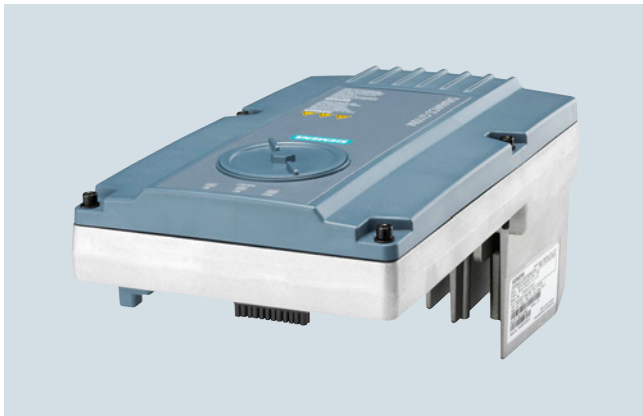
**Overview**

Fig. 9/13 SINAMICS G110M Power Module PM240M FSA  
(0.37 to 1.5 kW)

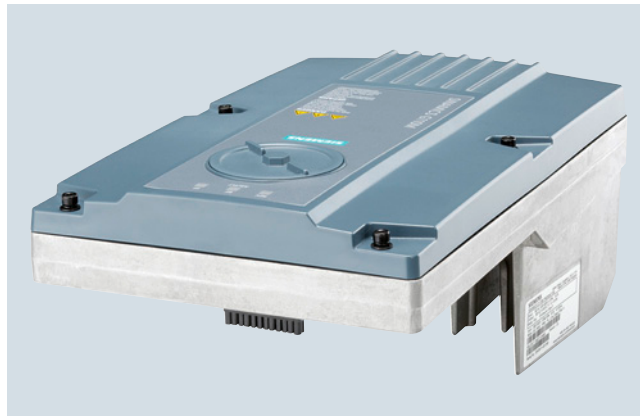


Fig. 9/14 SINAMICS G110M Power Module PM240M FSB (2.2 to 4 kW)

The PM240M Power Modules are suitable for safety-related applications. In conjunction with the CU240M Control Unit, the drive can be transformed into a Safety Integrated drive (see Control Units).

The PM240M Power Modules with integrated line filter class A are suitable for connection to TN and TT supply systems.

# SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

## PM240M Power Modules

### Integration

PM240M Power Modules feature the following interfaces as standard:

- PM-IF interface to connect the PM240M Power Module to the Control Unit.
- Motor connection including control of the motor brake and temperature sensor
- Line connection via cable gland or HAN Q4/2 (connector)
- Line supply loop-through via cable gland/terminal or HAN Q4/2 (socket)
- USB connection for connection of a PC
- Analog potentiometer for setting a speed
- SD card slot for the use of memory cards

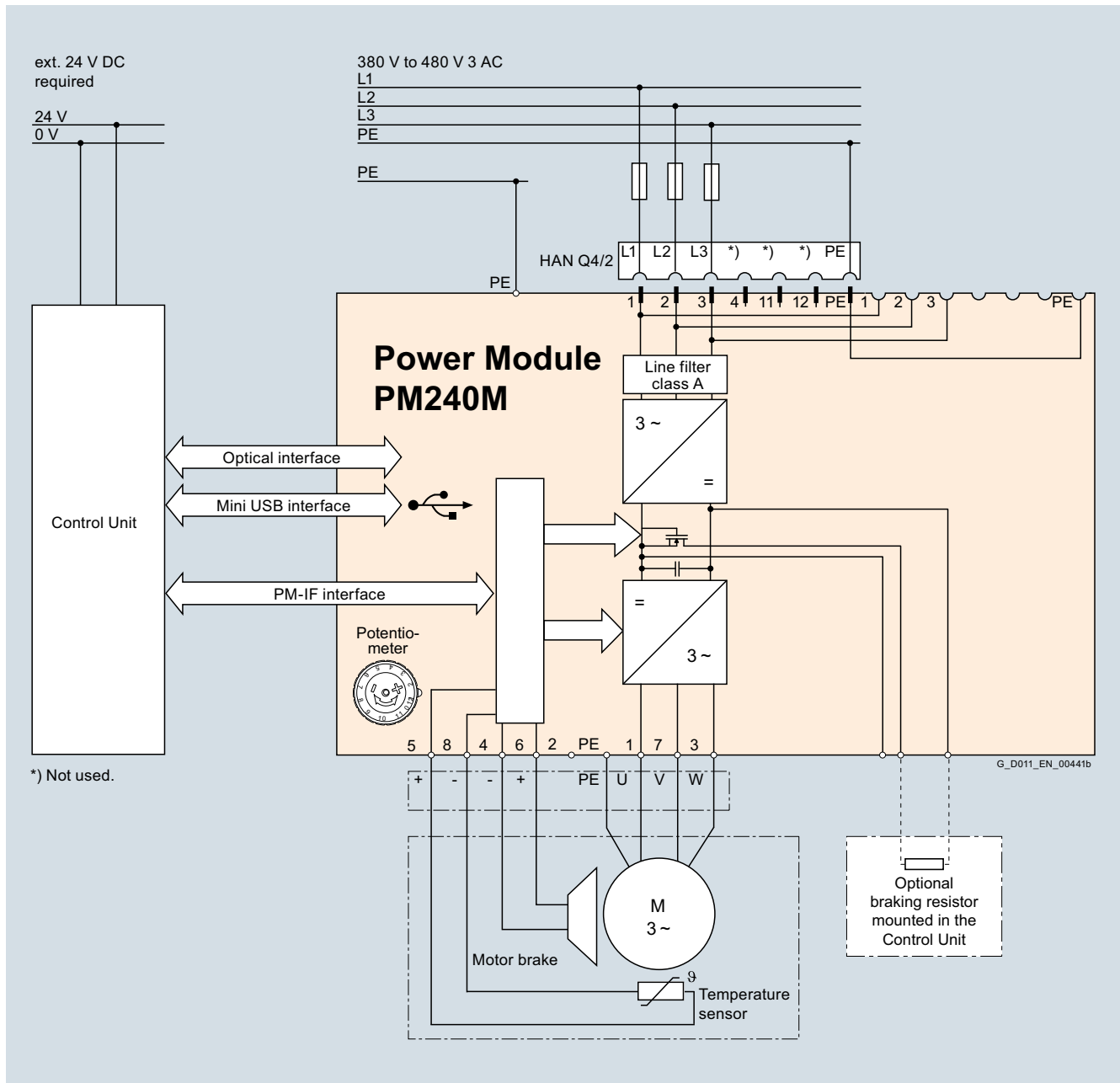


Fig. 9/15 Connection diagram for PM240M Power Module with integrated line filter class A

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# SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

PM240M Power Modules

## Technical specifications

### General technical specifications

	PM240M Power Modules										
<b>System operating voltage</b>	380 V (-10 %) ... 480 V 3 AC (+10 %)										
<b>Line supply requirements</b>	> 100										
<b>Short-circuit power ratio <math>R_{SC}</math></b>											
<b>Input frequency</b>	47 ... 63 Hz										
<b>Output frequency</b>											
• Control type $V/f$	0 ... 550 Hz										
• Control type Vector	0 ... 200 Hz										
<b>Pulse frequency</b>	4 kHz (standard); 4 ... 16 kHz (in steps of 2 kHz), <a href="#">see derating data</a>										
<b>Power factor</b>	0.95										
<b>Inverter efficiency</b>	95 ... 97 %										
<b>Output voltage, max.</b> in % of input voltage	87 %										
<b>Overload capability</b>											
• High overload (HO)	0.37 ... 3 kW: 2 × rated output current for 3 s, followed by 1.5 × rated output current for 57 s, over a cycle time of 300 s (110 % on average) 4 kW: 1.6 × rated output current for 3 s, followed by 1.5 × rated output current for 57 s, over a cycle time of 300 s (110 % on average)										
<b>Electromagnetic compatibility</b>	Integrated line filter class A according to EN 55011										
<b>Possible braking methods</b>	Dynamic braking with internal braking resistors (accessories) Dynamic brake with external braking resistors $R_{min} = 200 \Omega$ (for FSA), $R_{min} = 60 \Omega$ (for FSB) DC brake Integrated brake control supplies DC power supply for the brake										
	<table border="1"> <thead> <tr> <th>Line input voltage</th> <th>380 V AC</th> <th>400 V AC</th> <th>440 V AC</th> <th>480 V AC</th> </tr> </thead> <tbody> <tr> <td>Resulting brake voltage</td> <td>171 V DC</td> <td>180 V DC</td> <td>198 V DC</td> <td>216 V DC</td> </tr> </tbody> </table>	Line input voltage	380 V AC	400 V AC	440 V AC	480 V AC	Resulting brake voltage	171 V DC	180 V DC	198 V DC	216 V DC
Line input voltage	380 V AC	400 V AC	440 V AC	480 V AC							
Resulting brake voltage	171 V DC	180 V DC	198 V DC	216 V DC							
	Disconnection on the DC side permits "fast" braking (max. output current 1 A)										
<b>Degree of protection</b>	IP66 (for Control Unit with screw-type connections) IP65 (for Control Unit with plug-in connections)										
<b>Operating temperature</b>	-10 ... +40 °C (14 ... 104 °F) without derating >40 ... 55 °C (104 ... 131 °F) <a href="#">see derating characteristics</a>										
<b>Storage temperature</b>	-40 ... +70 °C (-40 ... +158 °F)										
<b>Permissible mounting positions</b>	All										
<b>Relative humidity</b>	< 95 % RH, condensation not permissible										
<b>Cooling</b>	External cooling with motor fan										
<b>Installation altitude</b>	Up to 1000 m above sea level without derating Over 1000 m, see derating data										
<b>Short Circuit Current Rating (SCCR)<sup>1)</sup></b>	40 kA										
<b>Protection functions</b>	<ul style="list-style-type: none"> <li>• Undervoltage</li> <li>• Phase failure detection</li> <li>• Overvoltage</li> <li>• Overload</li> <li>• Ground fault</li> <li>• Short-circuit</li> <li>• Stall protection</li> <li>• Motor blocking protection</li> <li>• Motor overtemperature</li> <li>• Inverter overtemperature</li> <li>• Parameter locking</li> </ul>										
<b>Compliance with standards</b>	CE, UR, cUR, RCM										
<b>CE marking, according to</b>	Low Voltage Directive 2014/35/EU Filtered variants also: EMC Directive 2014/30/EU										

<sup>1)</sup> Applies to industrial control cabinet installations to NEC Article 409/UL 508A.



**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

**PM240M Power Modules****Technical specifications (continued)**

Line voltage 380 ... 480 V 3 AC		PM240M Power Modules			
Rated output current $I_{rated}$ <sup>1)</sup>	A	1.3	2.2	3.1	4.1
Maximum output current $I_{max}$	A	2.6	4.4	6.2	8.2
Rated power	kW	0.37	0.75	1.1	1.5
Rated pulse frequency	kHz	4	4	4	4
Efficiency $\eta$	%	96.8	98.1	98.2	97.3
Power loss <sup>2)</sup> at rated output current	kW	0.025	0.032	0.041	0.052
Cooling air requirement	m <sup>3</sup> /s	0.0048	0.0048	0.0048	0.0048
Sound pressure level $L_{pA}$ (1 m)	dB	–	–	–	–
Rated input current <sup>3)</sup>	A	1.3	2	2.8	3.6
<b>Line supply connection U1/L1, V1/L2, W1/L3, PE</b>					
• Conductor cross-section, recommended	mm <sup>2</sup>	1 ... 2.5 18 ... 14 AWG	1 ... 2.5 18 ... 14 AWG	1 ... 2.5 18 ... 14 AWG	1 ... 2.5 18 ... 14 AWG
<b>PE connection (external connection)</b>					
• Conductor cross-section (recommended)	mm <sup>2</sup>	10	10	10	10
<b>Motor connection U2, V2, W2, PE, motor brake, temperature sensor</b>					
• Conductor cross-section	mm <sup>2</sup>	1 ... 2.5 18 ... 14 AWG	1 ... 2.5 18 ... 14 AWG	1 ... 2.5 18 ... 14 AWG	1 ... 2.5 18 ... 14 AWG
<b>Motor cable length, max. Shielded</b>	m	–	–	–	–
<b>Degree of protection</b>		IP66	IP66	IP66	IP66
<b>Dimensions</b>					
• Width	mm	161	161	161	161
• Height	mm	135	135	135	135
• Depth	mm	270	270	270	270
<b>Frame size</b>		FSA	FSA	FSA	FSA
<b>Weight, approx.</b>	kg	2.1	2.1	2.1	2.1

<sup>1)</sup> The rated output current  $I_{rated}$  is based on the duty cycle for high overload (HO).

<sup>2)</sup> Typical values. Additional information can be found on the Internet at <https://support.automation.siemens.com/WWW/view/en/94059311>

<sup>3)</sup> The input current depends on the motor load and line impedance. The input currents apply for load at rated power for a line impedance corresponding to  $u_K = 1\%$ .

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## SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

PM240M Power Modules

## Technical specifications (continued)

Line voltage 380 ... 480 V 3 AC		PM240M Power Modules		
Rated output current $I_{rated}$ <sup>1)</sup>	A	5.6	7.3	8.8
Maximum output current $I_{max}$	A	11.2	14.6	14.1
Rated power	kW	2.2	3	4
Rated pulse frequency	kHz	4	4	4
Efficiency $\eta$	%	97.6	97.6	97.7
Power loss <sup>2)</sup> at rated output current	kW	0.078	0.103	0.126
Cooling air requirement	m <sup>3</sup> /s	0.024	0.024	0.024
Sound pressure level $L_{pA}$ (1 m)	dB	–	–	–
Rated input current <sup>3)</sup>	A	5.3	6.9	8
<b>Line supply connection U1/L1, V1/L2, W1/L3, PE</b> • Conductor cross-section, recommended	mm <sup>2</sup>	1 ... 2.5 18 ... 14 AWG	1 ... 2.5 18 ... 14 AWG	1 ... 2.5 18 ... 14 AWG
<b>PE connection</b> (external connection) • Conductor cross-section (recommended)	mm <sup>2</sup>	10	10	10
<b>Motor connection U2, V2, W2, PE, motor brake, temperature sensor</b> • Conductor cross-section	mm <sup>2</sup>	1 ... 2.5 18 ... 14 AWG	1 ... 2.5 18 ... 14 AWG	1 ... 2.5 18 ... 14 AWG
Motor cable length, max. Shielded	m	–	–	–
Degree of protection		IP66	IP66	IP66
<b>Dimensions</b> • Width • Height • Depth	mm	181 135 309	181 135 309	181 135 309
Frame size		FSB	FSB	FSB
Weight, approx.	kg	3.4	3.4	3.4

<sup>1)</sup> The rated output current  $I_{rated}$  is based on the duty cycle for high overload (HO).

<sup>2)</sup> Typical values. Additional information can be found on the Internet at <https://support.automation.siemens.com/WWW/view/en/94059311>.

<sup>3)</sup> The input current depends on the motor load and line impedance. The input currents apply for load at rated power for a line impedance corresponding to  $u_K = 1\%$ .

# SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

## PM240M Power Modules

### Characteristic curves

#### Derating data

Rated power at 400 V 3 AC		Rated output current in A for a pulse frequency of (derating as a function of the pulse frequency)						
kW	hp	4 kHz	6 kHz	8 kHz	10 kHz	12 kHz	14 kHz	16 kHz
0.37	0.5	1.3	1.11	0.91	0.78	0.65	0.59	0.52
0.75	1.0	2.2	1.9	1.5	1.3	1.1	1.0	0.9
1.1	1.5	3.1	2.6	2.2	1.9	1.6	1.4	1.2
1.5	2.0	4.1	3.5	2.9	2.5	2.1	1.8	1.6
2.2	3.0	5.6	4.8	3.9	3.4	2.8	2.5	2.2
3.0	4.0	7.3	6.2	5.1	4.4	3.7	3.3	2.9
4.0	5.0	8.8	7.5	6.2	5.3	4.4	4.0	3.5

#### Ambient temperature

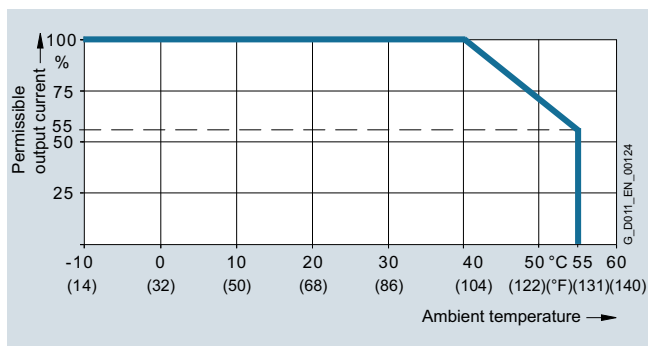


Fig. 9/16 Permissible output current as a function of ambient temperature for PM240M Power Modules, frame sizes FSA and FSB

#### Installation altitude

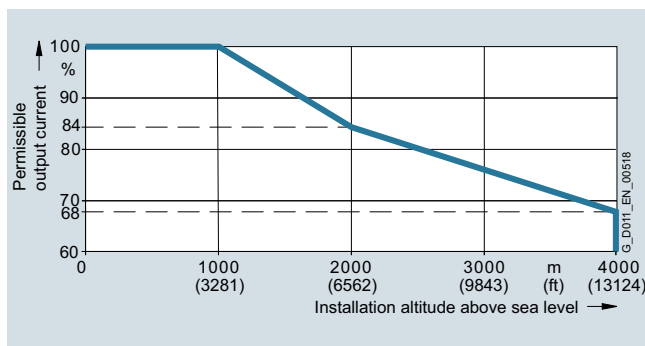


Fig. 9/17 Permissible output current as a function of installation altitude for PM240M Power Modules, frame sizes FSA and FSB

9

#### Note:

The ambient temperature of the Control Units and the SIMOGEAR geared motors must be taken into account. The temperature ranges are specified in the technical specifications under Control Units.

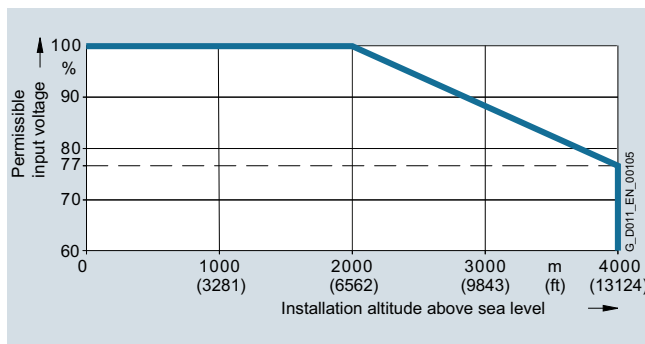


Fig. 9/18 Permissible input voltage as a function of installation altitude for PM240M Power Modules, frame sizes FSA and FSB

#### Motor frequency

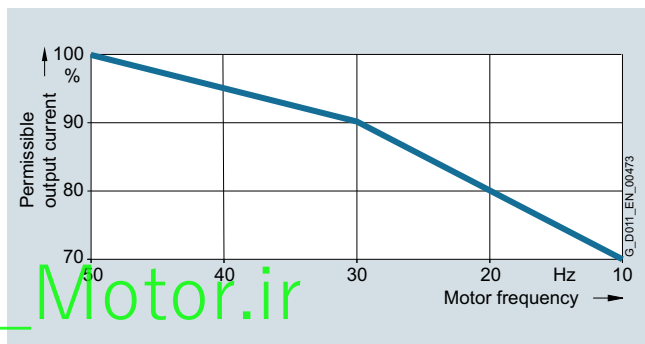


Fig. 9/19 Permissible output current as a function of motor frequency for PM240M Power Modules, frame sizes FSA and FSB

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**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

**Line-side components****Repair switch**

Fig. 9/20 SINAMICS G110M repair switch

With the optional repair switch, SINAMICS G110M can be separated from the line supply in a simple manner. No additional external components are required in the 400 V supply line.

The repair switch can be locked with three locks. It can therefore be locked to prevent unintentional restart of the drive system.



Fig. 9/21 SINAMICS G110M repair switch, installed

The repair switch is installed and delivered ready for use in combination with our SIMOGEAR geared motor.

Note:

It is possible to install either a repair switch or a 24 V DC power supply, but it is not possible to install both options on the same unit.

**Fuses**

The following table lists recommendations for additional line-side components such as fuses.

Note regarding use in compliance with IEC standards: 3NA3 type fuses are recommended for European countries. The values in the table take into account the overload capability of the inverter.

Note regarding use in compliance with UL regulations: Fuses for use in North America must be UL-certified, Class J fuses with a rated voltage of 600 V AC.

**Short Circuit Current Rating (SCCR)** according to UL

Applies to industrial control panel installations according to NEC Article 409 or UL 508A.

- PM240M: 40 kA

Additional information about the fuses listed is provided in Catalog LV 10.

Individual protection

Rated power			IEC-compliant Fuse		UL/cUL-compliant Fuse type	
kW	hp	Frame size	A	Article No.	Rated voltage 600 V AC	
					Class	Current A
<b>380 ... 480 V 3 AC</b>						
0.37	0.5	FSA	10	<b>3NA3803</b>	J, CC	10
0.75	1.0	FSA	10	<b>3NA3803</b>	J, CC	10
1.1	1.5	FSA	10	<b>3NA3803</b>	J, CC	10
1.5	2.0	FSA	10	<b>3NA3803</b>	J, CC	10
2.2	3	FSB	20	<b>3NA3807</b>	J, CC	20
3	4	FSB	20	<b>3NA3807</b>	J, CC	20
4	5	FSB	20	<b>3NA3807</b>	J, CC	20

The SINAMICS G110M system supports an inverter loop-through of line current to several inverters connected in series.

Further information can be found in the operating instructions on the Internet at

[www.siemens.com/sinamics-g110m](http://www.siemens.com/sinamics-g110m)

Group protection (installation on power bus)

For installations with several inverters, the inverters are normally supplied from a 400 V power bus.

Further information can be found in the operating instructions on the Internet at:

[www.siemens.com/sinamics-g110m/documentation](http://www.siemens.com/sinamics-g110m/documentation)

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**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

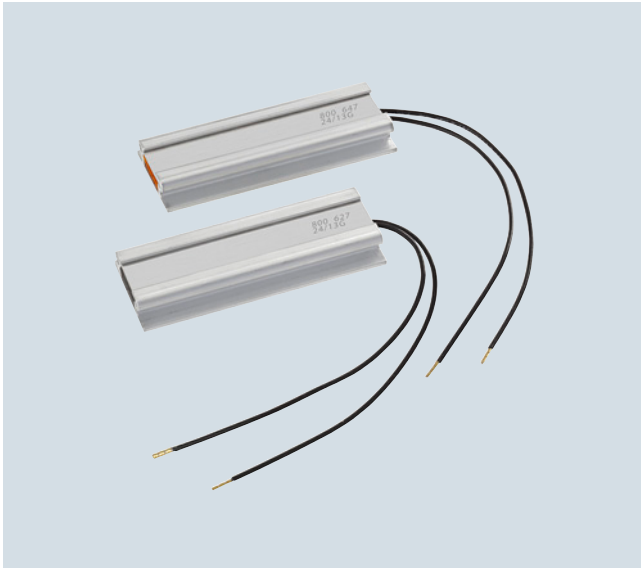
**DC link components – braking resistors****Overview**

Fig. 9/22 SINAMICS G braking resistors FSA and FSB

Excess energy in the DC link is dissipated in the braking resistors in regenerative operation.

The braking resistors are intended for use with SINAMICS G110M, which have an integrated braking chopper, but cannot regenerate energy to the line supply. For regenerative operation, e.g. the braking of a rotating mass with high moment of inertia, a braking resistor must be connected to convert the resulting energy into heat.

The braking resistors can be mounted on the side of the Control Unit housing at the bottom. The heat from the braking resistor is dissipated over the Control Unit housing. Every braking resistor is equipped with thermal protection. The thermal protection prevents the braking resistor from being thermally overloaded.

All braking resistors are provided as standard with a cable for connecting to the internal terminals.

**Technical specifications**

Line voltage 380 ... 480 V 3 AC		Braking resistor	
<b>Resistor</b>	Ω	350	175
<b>Rated power <math>P_{DB}</math></b> (Continuous braking power)	kW	0.0075	0.02
<b>Peak power <math>P_{max}</math></b> (load duration $t_a = 12$ s with period $t = 240$ s)	kW	0.075	0.2
<b>Degree of protection</b>		IP20	IP20
<b>Dimensions</b>			
• Width	mm	11	11
• Height	mm	34	34
• Length	mm	84	84
<b>Weight, approx.</b>	kg	0.1	0.1
<b>Suitable for SINAMICS G110M (frame size)</b>		FSA	FSB

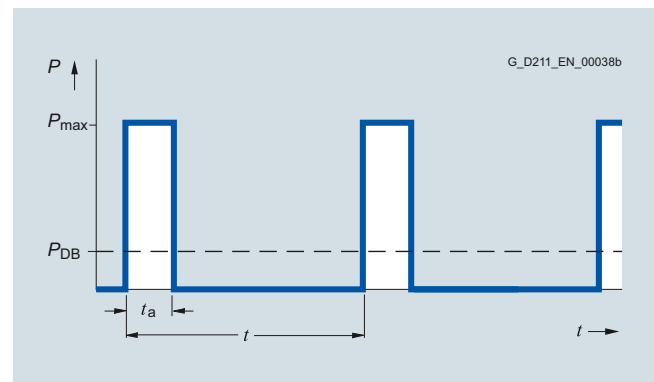
**Characteristic curve**

Fig. 9/23 Load diagram for braking resistors  
 $t_a = 12$  s  
 $t = 240$  s

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**Overview**

Fig. 9/24 24 V DC power supply



Fig. 9/25 24 V DC power supply, installed

The optional 24 V DC power supply enables the internal electronics to be supplied with 24 V DC directly from the DC link. No external cable is needed for the 24 V DC supply and only the 400 V 3 AC line voltage has to be connected. The optional 24 V DC power supply supplies power to the internal circuitry of the Control Unit, the low-voltage circuits of the Power Module and all inputs and outputs.

Note:

It is possible to install either a 24 V DC power supply or a repair switch, but it is not possible to install both options on the same unit.

**Technical specifications**

<b>24 V DC power supply</b>	
<b>Operating voltage</b>	24 V DC $\pm 10\%$
<b>Current consumption</b> (from DC link at full operation of Power Module and Control Unit including digital outputs)	1.2 A
<b>Output current, max.</b>	2 A

## SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

### Available motor/inverter combinations

#### Overview

The available motor/inverter combinations that are integrated in the motor as standard are listed in the tables below.

Due to the specific properties of SINAMICS G110M, the following restrictions apply to the options that can be ordered with the motors:

- The inverter and the manual release lever of the brake cannot be mounted in the same position.
- Standby heating is not possible for the motor
- Terminal box position 4 (i.e. the inverter is directed downwards in installation position M1) on request

#### 4-pole, 1 500 rpm at 50 Hz power <sup>1)</sup>

Frame size	Motor	P <sub>50Hz</sub> kW	Power Module Frame Size A (FSA)				Frame Size B (FSB)		
			0.37	0.75	1.1	1.5	2.2	3	4
<b>Motors with Standard Efficiency IE1</b>									
71	LA71MG4	0.25	✓	✓					
	LA71MH4	0.37	✓	✓					
<b>Motors with High Efficiency IE2</b>									
80	LE80MD4E	0.55		✓	✓				
	LE80MH4E	0.75		✓	✓	✓			
90	LE90SG4E	1.1			✓	✓	✓		
	LE90LH4E	1.5				✓	✓	✓	
100	LE100LE4E	2.2					✓	✓	✓
	LE100LK4E	3						✓	✓
112	LE112ME4E	4							✓
<b>Motors with Premium Efficiency IE3</b>									
80	LE80ZMQ4P	0.75		✓	✓	✓			
90	LE90SM4P	1.1			✓	✓	✓		
	LE90ZLR4P	1.5				✓	✓	✓	
100	LE100ZLSA4P	2.2					✓	✓	✓
	LE100ZLSB4P	3						✓	✓
112	LE112ZMKB4P	4							✓

#### 4-pole, 2 610 rpm at 87 Hz power <sup>1)</sup>

Frame size	Motor	P <sub>87Hz</sub> kW	Power Module Frame Size A (FSA)				Frame Size B (FSB)		
			0.37	0.75	1.1	1.5	2.2	3	4
<b>Motors with Standard Efficiency IE1</b>									
71	LA71MG4	0.45		✓					
	LA71MH4	0.65		✓	✓				
<b>Motors with High Efficiency IE2</b>									
80	LE80MD4E	0.95			✓	✓			
	LE80MH4E	1.30				✓	✓		
90	LE90SG4E	1.90					✓	✓	
	LE90LH4E	2.60						✓	✓
100	LE100LE4E	3.60							✓
<b>Motors with Premium Efficiency IE3</b>									
80	LE80ZMQ4P	1.30				✓	✓		
90	LE90SM4P	1.90					✓	✓	
	LE90ZLR4P	2.60						✓	✓
100	LE100ZLSA4P	3.60							✓

<sup>1)</sup> Other motor/inverter combinations on request.

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## Accessories

### Intelligent Operator Panel IOP-2 Handheld



Fig. 9/26 IOP-2 Handheld for mobile use

The Intelligent Operator Panel IOP-2 Handheld is a very user-friendly and powerful operator panel for commissioning and diagnostics as well as local operator control and monitoring of the SINAMICS G110M distributed inverter.

The IOP-2 Handheld supports both newcomers and drive experts. Thanks to the membrane keyboard with a central sensor control field, the high-contrast color displays, the menu-based operation, and the application wizards, it is easy to commission standard drives. A drive can be essentially commissioned without having to use a printed parameter list – as the parameters are displayed in plain text, and explanatory help texts and the parameter filtering function are provided.

Application wizards interactively guide you when commissioning important applications such as conveyor technology, pumps, fans, and compressors. There is a basic commissioning wizard for general commissioning.

Up to two process values can be graphically visualized and up to four process values can be numerically visualized on the status screen/display. Process values can also be displayed in technological units.

The IOP-2 Handheld supports standard commissioning of identical drives. For this purpose, a parameter list can be copied from an inverter into the IOP-2 Handheld and downloaded into other drive units of the same type as required.

In addition to the IOP-2, the IOP-2 Handheld includes a housing with rechargeable batteries, a charging unit, an RS232 connecting cable, and a USB cable. The charging unit is supplied with connector adapters for Europe, the US and UK. When the batteries are fully charged, the operating time is up to 10 hours.

To connect the IOP-2 Handheld to SINAMICS G110D, SINAMICS G120D, SINAMICS G110M, and SIMATIC ET 200pro FC-2, the RS232 connecting cable with optical interface is additionally required.

### Updating the IOP-2 Handheld

The IOP-2 Handheld can be updated and expanded using the integrated USB interface.

Data to support future drive systems can be transferred from the PC to the IOP-2 Handheld. Further, the USB interface allows user languages and wizards that will become available in the future to be subsequently downloaded and the firmware to be updated for the IOP-2 Handheld. <sup>1)</sup>

### Selection and ordering data

Description	Article No.
<b>IOP-2 Handheld</b> for use with SINAMICS G120 SINAMICS G120C SINAMICS G120P SINAMICS G110D SINAMICS G120D SINAMICS G110M SIMATIC ET 200pro FC-2 Included in the scope of delivery: <ul style="list-style-type: none"> <li>• IOP-2</li> <li>• Handheld housing</li> <li>• Rechargeable batteries (4 × AA)</li> <li>• Charging unit (international)</li> <li>• RS232 connecting cable 3 m long, can used in combination with SINAMICS G120 SINAMICS G120C SINAMICS G120P</li> <li>• USB cable (1 m long)</li> </ul>	<b>6SL3255-0AA00-4HA1</b>
RS232 connecting cable 2.5 m long, with optical interface to connect the IOP-2 Handheld to SINAMICS G110D SINAMICS G120D SINAMICS G110M SIMATIC ET 200pro FC-2	<b>3RK1922-2BP00</b>

### Technical specifications

IOP-2 Handheld	
<b>Display</b> <ul style="list-style-type: none"> <li>• Resolution</li> </ul>	High-contrast color display, a variety of display options 320 × 240 pixels
<b>Operator panel</b>	Membrane keyboard with central sensor control field
<b>Operating languages</b>	English, German, French, Italian, Spanish, Portuguese, Dutch, Swedish, Finnish, Russian, Czech, Polish, Turkish, Chinese Simplified
<b>Ambient temperature</b> <ul style="list-style-type: none"> <li>• During transport and storage</li> <li>• During operation</li> </ul>	-20 ... +55 °C (-4 ... +131 °F) 0 ... 40 °C (32 ... 104 °F)
<b>Air humidity</b>	Relative humidity < 95 %, non-condensing
<b>Degree of protection</b>	IP20
<b>Dimensions (W × H × D)</b>	195.04 × 70 × 37.58 mm
<b>Weight, approx.</b>	0.724 kg
<b>Compliance with standards</b>	CE, RCM, cULus, EAC, KCC-REM-S49-SINAMICS

<sup>1)</sup> Information on updates for the IOP-2 Handheld is available at <https://support.industry.siemens.com/cs/document/67273266>



## SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

### Supplementary system components

#### Accessories (continued)

##### Memory cards



Fig. 9/27 SINAMICS memory card (SD card)

The parameter settings for an inverter can be stored on the SINAMICS SD card. When service is required, e.g. after the inverter has been replaced and the data has been downloaded from the memory card, the system is immediately ready for use again.

- Parameter settings can be written from the memory card to the inverter or saved from the inverter to the memory card.
- Up to 100 parameter sets can be stored.
- The memory card supports standard commissioning without the use of the Intelligent Operator Panel IOP-2 Handheld or the STARTER and SINAMICS Startdrive commissioning tools.

##### Note:

The memory card is optional, but it facilitates inverter replacement.

##### Selection and ordering data

Description	Article No.
<b>SINAMICS SD Card (memory card)</b> 512 MB	<b>6SL3054-4AG00-2AA0</b>
<b>Optional firmware memory card</b>	
<b>SINAMICS SD card 512 MB + firmware V4.7</b> (Multicard V4.7 SP3)	<b>6SL3054-7EH00-2BA0</b>
<b>SINAMICS SD card 512 MB + firmware V4.7 SP3</b> (Multicard V4.7)	<b>6SL3054-7TB00-2BA0</b>
<b>SINAMICS SD card 512 MB + firmware V4.7 SP6</b> (Multicard V4.7 SP6)	<b>6SL3054-7TD00-2BA0</b>
<b>SINAMICS SD card 512 MB + firmware V4.7 SP9</b> (Multicard V4.7 SP9)	<b>6SL3054-7TE00-2BA0</b>

For an overview and more information on all available firmware versions, see

<https://support.industry.siemens.com/cs/document/67364620>

##### PC inverter connection kit 2 (mini USB interface cable for communication with a PC)

For controlling and commissioning an inverter directly from a PC via a point-to-point connection if the appropriate software (STARTER commissioning tool <sup>1)</sup>, V4.3 SP3 and higher or SINAMICS Startdrive V13 and higher) has been installed.

##### Selection and ordering data

Description	Article No.
<b>PC inverter connection kit 2</b> USB cable (3 m long) for • SINAMICS G120C • SINAMICS G120 Control Units - CU230P-2 - CU240E-2 - CU250S-2 • SINAMICS G110M Control Units - CU240M • SINAMICS G120D Control Units - CU240D-2 - CU250D-2	<b>6SL3255-0AA00-2CA0</b>

##### Installation kits

Different installation kits can be ordered as accessories for the Control Units with plug-in connections and Control Units with cable gland connections.

These contain caps or cable glands for protection or electrical connection respectively.

##### Selection and ordering data

Description	Article No.
<b>Installation kit for Control Units with cable gland connections</b> Contains cable glands for the electrical connections	<b>6SL3566-2VA00-0GA0</b>
<b>Installation kit for Control Units with plug-in connections</b> Contains caps for protection of the electrical connections	<b>6SL3566-2LA00-0GA0</b>

##### STARTER commissioning tool

The STARTER commissioning tool (V4.3 SP3 and higher) supports the commissioning and maintenance of SINAMICS G110M inverters. The operator guidance combined with comprehensive, user-friendly functions for the relevant drive solution allow you to commission the device quickly and easily.

##### Selection and ordering data

Description	Article No.
<b>STARTER commissioning tool <sup>1)</sup></b> on DVD-ROM	<b>6SL3072-0AA00-0AG0</b>

<sup>1)</sup> The STARTER commissioning tool is also available on the Internet at <http://support.automation.siemens.com/WW/view/en/10804985/133100>

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**Accessories** (continued)**SINAMICS Startdrive commissioning tool**

The SINAMICS Startdrive commissioning tool (V13 and higher) supports the commissioning and maintenance of SINAMICS G110M inverters. SINAMICS Startdrive is part of the TIA Portal engineering platform. It supports the intuitive integration of SINAMICS drives in automation. The same operator control concept, the elimination of interfaces and a high degree of user-friendliness make it possible to quickly integrate SINAMICS into an automation process and start it up with the TIA Portal. The TIA Portal with SINAMICS Startdrive offers you a totally integrated engineering platform for the complete application from the project engineering phase through to commissioning and diagnostics.

**Selection and ordering data**

Description	Article No.
<b>SINAMICS Startdrive commissioning tool</b> <sup>1)</sup> incl. single license and Certificate of License English, French, German, Italian, Spanish, Chinese Simplified	
• On DVD-ROM	<b>6SL3072-4EA02-0XA0</b>
• Software download/ online software delivery	<b>6SL3072-4EA02-0XG0</b>

<sup>1)</sup> The SINAMICS Startdrive commissioning tool is also available on the Internet at <http://support.automation.siemens.com/WW/view/en/68034568>

An overview of all available accessories (e.g. connectors and cables) can be found under the following link:  
[www.siemens.com/distributeddrives-supplementaryproducts](http://www.siemens.com/distributeddrives-supplementaryproducts)

**Connecting cables for the Control Unit****PROFINET connecting cable**

Flexible connecting cables and plug-in connectors that can be assembled in the field for transmission of data (up to 100 Mbit/s) between industrial Ethernet stations with IP65 degree of protection.

**Selection and ordering data**

Description	Article No.
<b>IE connecting cable M12-180/M12-180 axial outlet</b> Pre-assembled IE FC TP trailing cable GP 2 x 2 PROFINET type C with two 4-pole M12 plugs (4-pole, D-coded), IP65/IP67 degree of protection, UL, plug connector/plug connector (IN/OUT) Length: • 0.3 m • 0.5 m • 1.0 m • 1.5 m • 2.0 m • 3.0 m • 5.0 m • 10 m • 15 m	 <b>6XV1870-8AE30</b> <b>6XV1870-8AE50</b> <b>6XV1870-8AH10</b> <b>6XV1870-8AH15</b> <b>6XV1870-8AH20</b> <b>6XV1870-8AH30</b> <b>6XV1870-8AH50</b> <b>6XV1870-8AN10</b> <b>6XV1870-8AN15</b>
<b>IE connecting cable M12-180/ IE FC RJ45 Plug 145 axial outlet</b> Pre-assembled IE FC TP trailing cable GP 2 x 2 (PROFINET type C) with M12 plugs (D-coded) and IE FC RJ45 plug, IP65/IP67 degree of protection Length: • 2.0 m • 3.0 m • 5.0 m • 10 m • 15 m	 <b>6XV1871-5TH20</b> <b>6XV1871-5TH30</b> <b>6XV1871-5TH50</b> <b>6XV1871-5TN10</b> <b>6XV1871-5TN15</b>

**PROFINET connecting cable** (continued)**Selection and ordering data**

Description	Article No.
<b>IE M12 Plug PRO axial outlet</b> For assembly in the field, M12 plug-in connector (D-coded), metal enclosure, UL, fast connection method, plug connector	
• 1 unit	<b>6GK1901-0DB20-6AA0</b>
• 8 units	<b>6GK1901-0DB20-6AA8</b>

**PROFIBUS connecting cable**

Flexible plug-in cables/connectors for transmission of data (up to 12 Mbit/s) from PROFIBUS stations.

**Selection and ordering data**

Description	Article No.
<b>PROFIBUS M12 plug-in cable axial outlet</b> Pre-assembled with two 5-pole M12 plug/socket connectors, UL Length: • 0.3 m • 0.5 m • 1.0 m • 1.5 m • 2.0 m • 3.0 m • 5.0 m • 10 m • 15 m	 <b>6XV1830-3DE30</b> <b>6XV1830-3DE50</b> <b>6XV1830-3DH10</b> <b>6XV1830-3DH15</b> <b>6XV1830-3DH20</b> <b>6XV1830-3DH30</b> <b>6XV1830-3DH50</b> <b>6XV1830-3DN10</b> <b>6XV1830-3DN15</b>
<b>PROFIBUS M12 plug connector axial outlet</b> 5-pole, B-coded, metal enclosure, 1 package = 5 units • Pin insert • Female contact insert	 <b>6GK1905-0EA00</b> <b>6GK1905-0EB00</b>

**AS-Interface connecting cable****Selection and ordering data**

Description	Article No.
<b>AS-Interface M12 feeder</b> to connect the AS-Interface and the U <sub>AUX</sub> cable to an M12 socket, UL: • 1.0 m • 2.0 m	 <b>3RK1901-1NR21</b> <b>3RK1901-1NR22</b>

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**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

**Supplementary system components****Accessories (continued)****Connecting cables/connectors for supplying the Control Unit with power****Selection and ordering data**

Description	Article No.
<b>7/8" plug-in cable axial outlet</b> For 24 V switched and unswitched, pre-assembled with 2 × 7/8" at both ends (axial), 5 × 1.5 mm <sup>2</sup> , 5-pole plug/socket connectors Length:	
• 0.3 m	<b>6XV1822-5BE30</b>
• 0.5 m	<b>6XV1822-5BE50</b>
• 1.0 m	<b>6XV1822-5BH10</b>
• 1.5 m	<b>6XV1822-5BH15</b>
• 2.0 m	<b>6XV1822-5BH20</b>
• 3.0 m	<b>6XV1822-5BH30</b>
• 5.0 m	<b>6XV1822-5BH50</b>
• 10 m	<b>6XV1822-5BN10</b>
• 15 m	<b>6XV1822-5BN15</b>
<b>7/8" power cable, angled outlet, pre-assembled at one end</b> For 24 V switched and unswitched, pre-assembled with 1 × 7/8" angled at one end, 5 × 1.5 mm <sup>2</sup> , 5-pole socket connector Length:	
• 3.0 m	<b>3RK1902-3GB30</b>
• 5.0 m	<b>3RK1902-3GB50</b>
• 10 m	<b>3RK1902-3GC10</b>
<b>7/8" power cable, angled outlet</b> For 24 V switched and unswitched, pre-assembled with 2 × 7/8" angled at both ends, 5 × 1.5 mm <sup>2</sup> , 5-pole plug/socket connectors Length:	
• 3.0 m	<b>3RK1902-3NB30</b>
• 5.0 m	<b>3RK1902-3NB50</b>
• 10 m	<b>3RK1902-3NC10</b>
<b>7/8" plug connector axial outlet</b> 5-pole, B-coded, plastic enclosure, 1 package = 5 units	
• Pin insert (IN)	<b>6GK1905-0FA00</b>
• Female contact insert (OUT)	<b>6GK1905-0FB00</b>
<b>7/8" plug connector angled outlet</b> 5-pole, B-coded, plastic enclosure, 1 package = 5 units	
• Pin insert (IN)	<b>3RK1902-3BA00</b>
• Female contact insert (OUT)	<b>3RK1902-3DA00</b>

**Connecting cables and connectors for digital inputs and outputs****Selection and ordering data**

Description	Article No.
<b>M12 plug-in cable pre-assembled at both ends, axial outlet</b> M12 straight plug, M12 straight socket, screw mounting, 3-pin, 3 × 0.34 mm <sup>2</sup> , A-coded, black PUR sheath, max. 4 A Length:	
• 1.5 m	<b>3RK1902-4PB15-3AA0</b>
<b>M12 connector</b> Y cable for distributed I/O for dual connection of I/Os using single 5-pole M12 cables, 200 mm	
• Straight	<b>6ES7194-6KA00-0XA0</b>

**Connecting cables and connectors for analog inputs****Selection and ordering data**

Description	Article No.
<b>M12 cable connector</b> 8-pole male connector	
• Straight cable outlet	Ordered from and supplied by KnorrTec
<b>T distribution piece</b> To connect two analog inputs 8-pole M12 male connector to 2 × 4-pole M12 socket, angled	Ordered from and supplied by KnorrTec

**Connecting cables for Power Modules****Connecting cables pre-assembled at one end and connector sets to connect to the line supply****Selection and ordering data**

Description	Article No.
<b>Connecting cable pre-assembled at one end</b> Power supply cable, open at one end, for HAN Q4/2, angled, 4 × 4 mm <sup>2</sup>	
• 1.5 m long	<b>3RK1911-0DB13</b>
• 5 m long	<b>3RK1911-0DB33</b>
<b>Connector set for the power supply</b> Socket insert HAN Q4/2, 5 socket contacts, grommet housing, angled outlet including screw connection	
• 2.5 mm <sup>2</sup>	<b>3RK1911-2BE50</b>
• 4 mm <sup>2</sup>	<b>3RK1911-2BE10</b>
• 6 mm <sup>2</sup>	<b>3RK1911-2BE30</b>

**Connector insert for power loop-through****Selection and ordering data**

Description	Article No.
<b>Connector set for power loop-through</b> Plug insert HAN Q4/2, 4 socket contacts, grommet housing, angled outlet including screw connection	
• 2.5 mm <sup>2</sup>	<b>3RK1911-2BF50</b>
• 4 mm <sup>2</sup>	<b>3RK1911-2BF10</b>

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**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

**Supplementary system components****Accessories** (continued)**Power bus distribution 400 V in IP65 degree of protection****Selection and ordering data**

Not essential (daisy chaining within device); use is optional.

Description	Article-No. (to order, see Solution Partners)
<b>Power T clamp connector for 2.5 ... 6 mm<sup>2</sup></b> With attached 7-pole connector, female contact insert, grommet housing, UL Seals for various cable cross-sections must be ordered separately	Ordered from and supplied by Harting
<b>T clamp connector</b> Completely pre-assembled	Ordered from and supplied by KnorrTec
<b>T distributor box, IDC connection power cable</b> Pre-assembled, UL, uncut power cable, 2.5 ... 6 mm <sup>2</sup> , Push-in connection: 1.5 ... 6 mm <sup>2</sup> Seals for various cable cross-sections must be ordered separately	Ordered from and supplied by Weidmüller
<b>Y distributor</b> For direct connection of 400 V supply line, HAN Q4/2, conductor cross-section 1.5 ... 4 mm <sup>2</sup>	Ordered from and supplied by Harting

**More information**

A comprehensive range of supplementary products is provided for the distributed drive technology, e.g. pre-assembled cables and connectors. An overview is provided at the following link:  
[www.siemens.com/distributeddrives-supplementaryproducts](http://www.siemens.com/distributeddrives-supplementaryproducts)

Further selected accessories are available from Siemens Solution Partners. Please go to the "Solution Partner Finder" and select technology "Distributed Field Installation System".  
[www.siemens.com/automation/partnerfinder](http://www.siemens.com/automation/partnerfinder)

For more information about connecting cables and plug-in connectors, please refer to Catalog IK PI.

**Spare parts > Spare Parts Kit****Overview**

A Spare Parts Kit can be ordered, comprising small parts such as replacement seals, caps, PROFIBUS address windows and screws.

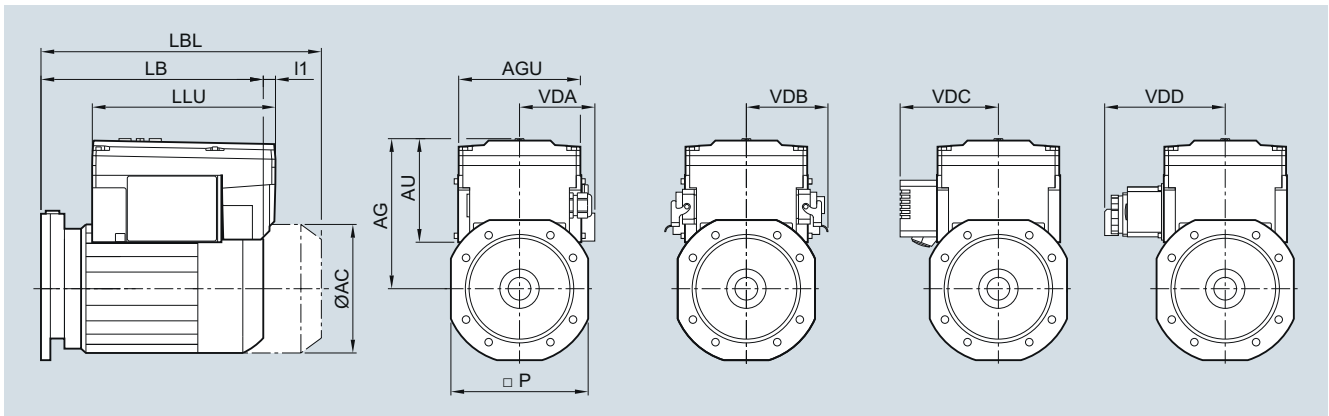
**Selection and ordering data**

Description	Article No.
<b>Spare Parts Kit for SINAMICS G110M</b> Comprising replacement seals, caps, connectors and screws	<b>6SL3500-0TK02-0AA0</b>

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**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

**Dimensions****Motors with SINAMICS G110M**

The diagram is for terminal box position 2A (for further information about the terminal box position, see [page 11/12](#)).

Motor	Gearbox type						SINAMICS G110M														
	D/Z	E	FD/FZ	B	K	C	Power Module	Dimensions											Sealing cap	Plug-in technology	24 V DC power supply
							Frame size	LB	LBL	P	AC	I1	AG	AU	LLU	AGU	VDA	VDB	VDC	VDD	
<b>LA71</b>	19	-	-	19	-	-	<b>FSA</b>	184.5	239.5	-	138.8	74.5	184.5	137	270	161	117	108	130	171	
	29	-	29	29	-	29		226	281	120											
	39	39	39	39	39	39		216.5	271.5	160											
	49	49	49	49	49	49															
	59	-	-	-	-	-															
	69	69	69	-	69	69															
	-	-	-	-	79	-															
	79	-	79	-	-	-		214.5	269.5	198											
<b>LE80</b>	19	-	-	19	-	-	<b>FSA</b>	240	300	-	156.3	35	191	137	270	161	117	108	130	171	
	29	-	29	29	-	29		290	350	120											
	39	39	39	39	39	39		280.5	340.5	160											
	49	49	49	49	49	49															
	59	-	-	-	-	-															
	69	69	69	-	69	69															
	-	-	-	-	79	-															
	79	-	79	-	-	-		274.5	334.5	198											
<b>LE80Z</b>	19	-	-	19	-	-	<b>FSA</b>	275	335	-	156.3	35	191	137	270	161	117	108	130	171	
	29	-	29	29	-	29		325	385	120											
	39	39	39	39	39	39		315.5	375.5	160											
	49	49	49	49	49	49															
	59	-	-	-	-	-															
	69	69	69	-	69	69															
	-	-	-	-	79	-															
	79	-	79	-	-	-		309.5	369.5	198											
	-	-	-	-	89	89															
	89	89	89	-	-	-	296.5	356.5	245												
	-	-	-	-	109	-															

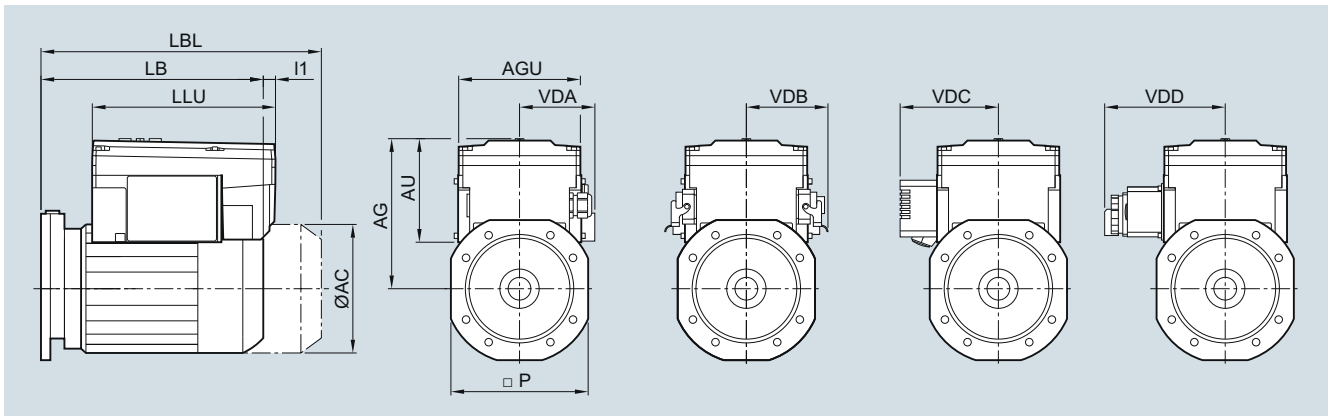
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# SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

## Dimensions

### Motors with SINAMICS G110M (continued)



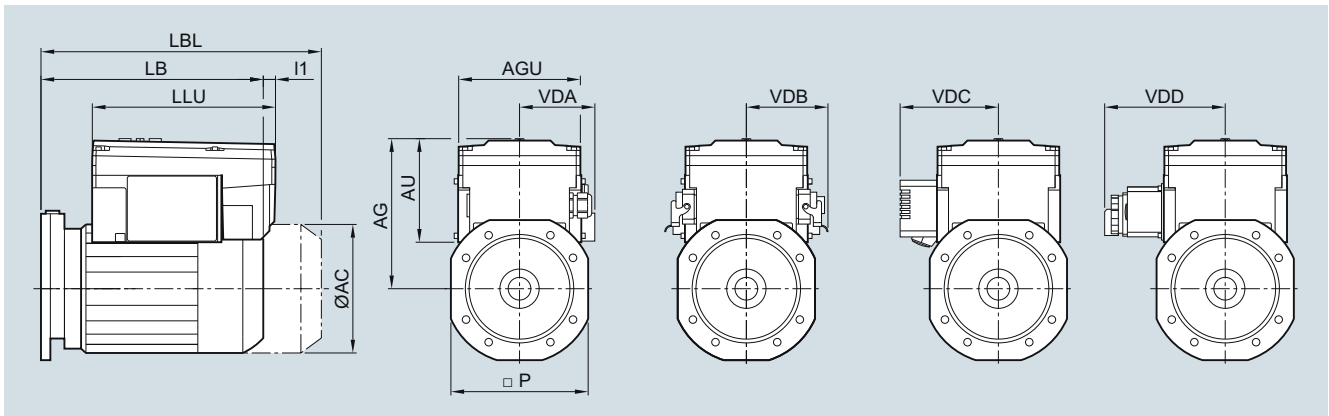
The diagram is for terminal box position 2A (for further information about the terminal box position, see [page 11/12](#)).

Motor	Gearbox type						SINAMICS G110M																				
	D/Z	E	FD/FZ	B	K	C	Power Module	Dimensions													Sealing cap	Plug-in technology	24 V DC power supply	Repair switch			
							Frame size	LB	LBL	P	AC	I1	AG	AU	LLU	AGU	VDA	VDB	VDC	VDD							
LE90	29	-	29	29	-	29	FSA	351.5	421.5	120	173.8	11	196	137	270	161	117	108	130	171							
	39	39	39	39	39	39		342	412	160																	
	49	49	49	49	49	49																					
	59	-	-	-	-	-																					
	69	69	69	-	69	69																					
	-	-	-	-	79	-																					
	79	-	79	-	-	-			336	406	198																
	-	-	-	-	89	89																					
	89	89	89	-	-	-			323	393	245																
	-	-	-	-	109	-																					
	-	-	-	-	129	-																					
109	109	109	-	-	-																						
129	129	129	-	-	-		309	379	350																		
-	-	-	-	149	-																						
LE90Z	29	-	29	29	-	29	FSA	391.5	461.5	120	173.8	11	196	137	270	161	117	108	130	171							
	39	39	39	39	39	39		382	452	160																	
	49	49	49	49	49	49																					
	59	-	-	-	-	-																					
	69	69	69	-	69	69																					
	-	-	-	-	79	-																					
	79	-	79	-	-	-			376	446	198																
	-	-	-	-	89	89																					
	89	89	89	-	-	-			363	433	245																
	-	-	-	-	109	-																					
	-	-	-	-	129	-																					
109	109	109	-	-	-																						
129	129	129	-	-	-		349	419	350																		
-	-	-	-	149	-																						
LE90	29	-	29	29	-	29	FSB	351.5	421.5	120	173.8	50.5	196	137	309.5	181	117	108	130	171							
	39	39	39	39	39	39		342	412	160																	
	49	49	49	49	49	49																					
	59	-	-	-	-	-																					
	69	69	69	-	69	69																					
	-	-	-	-	79	-																					
	79	-	79	-	-	-			336	406	198																
	-	-	-	-	89	89																					
	89	89	89	-	-	-			323	393	245																
	-	-	-	-	109	-																					
	-	-	-	-	129	-																					
109	109	109	-	-	-		316	386	300																		
129	129	129	-	-	-		309	379	350																		
-	-	-	-	149	-																						

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**SINAMICS G110M motor integrated frequency inverter**

0.37 kW to 4 kW

**Dimensions****Motors with SINAMICS G110M (continued)**

The diagram is for terminal box position 2A (for further information about the terminal box position, see [page 11/12](#)).

Motor	Gearbox type						SINAMICS G110M																	
							Power Module		Dimensions										Sealing cap	Plug-in	24 V DC power supply	Repair switch		
	D/Z	E	FD/FZ	B	K	C	Frame size	LB	LBL	P	AC	I1	AG	AU	LLU	AGU	VDA	VDB	VDC	VDD				
<b>LE90Z</b>	29	-	29	29	-	29	<b>FSB</b>	391.5	461.5	120	173.8	50.5	196	137	309.5	181	117	108	130	171				
	39	39	39	39	39	39		382	452	160														
	49	49	49	49	49	49																		
	59	-	-	-	-	-																		
	69	69	69	-	69	69																		
	-	-	-	-	79	-																		
	79	-	79	-	-	-			376	446	198													
	-	-	-	-	89	89																		
	89	89	89	-	-	-			363	433	245													
	-	-	-	-	109	-																		
	-	-	-	-	129	-			356	426	300													
	109	109	109	-	-	-			349	419	350													
129	129	129	-	-	-																			
-	-	-	-	149	-																			
<b>LE100</b>	29	-	29	29	-	29	<b>FSB</b>	408	486.5	120	198	37.5	226	137	309.5	181	117	108	130	171				
	39	39	39	39	39	39		398.5	477	160														
	49	49	49	49	49	49																		
	59	-	-	-	-	-																		
	69	69	69	-	69	69																		
	-	-	-	-	79	-																		
	79	79	79	-	-	-			392.5	471	198													
	-	-	-	-	89	89																		
	89	89	89	-	-	-			375.5	454	245													
	-	-	-	-	109	-																		
	-	-	-	-	129	-			366.5	445	300													
	109	109	109	-	-	-			357.5	436	350													
129	129	129	-	-	-																			
-	-	-	-	149	-		356	434.5	405															
149	149	149	-	169	-		443	521.5	120	198	37.5	226	137	309.5	181	117	108	130	171					
<b>LE100Z</b>	29	-	29	29	-	29	<b>FSB</b>	443	521.5	120	198	37.5	226	137	309.5	181	117	108	130	171				
	39	39	39	39	39	39		433.5	512	160														
	49	49	49	49	49	49																		
	59	-	-	-	-	-																		
	69	69	69	-	69	69																		
	-	-	-	-	79	-																		
	79	-	79	-	-	-			427.5	506	198													
	-	-	-	-	89	89																		
	89	89	89	-	-	-			410.5	489	245													
	-	-	-	-	109	-																		
	-	-	-	-	129	-			392.5	471	350													
	109	109	109	-	-	-			391	469.5	405													
129	129	129	-	-	-																			
-	-	-	-	149	-																			
149	149	149	-	169	-																			

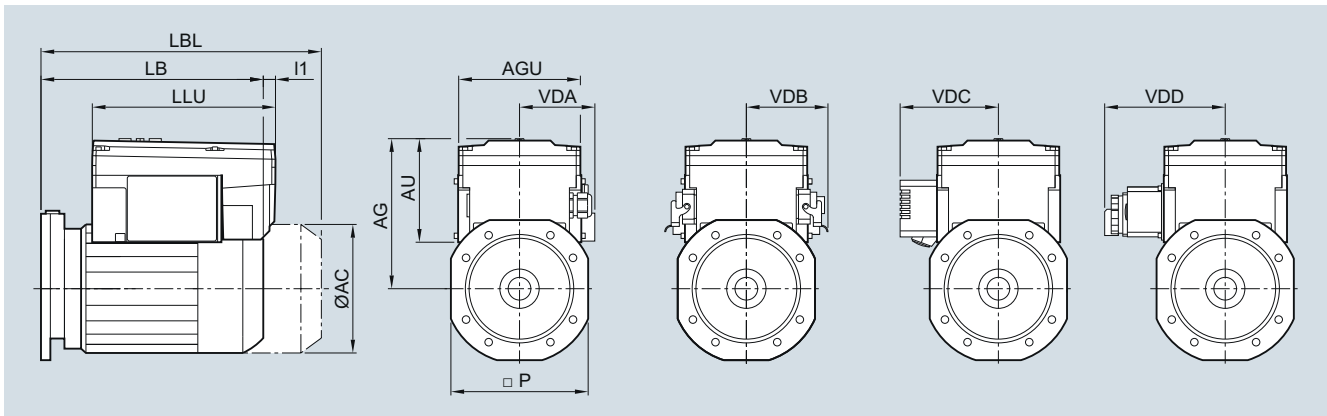
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# SINAMICS G110M motor integrated frequency inverter

0.37 kW to 4 kW

## Dimensions

### Motors with SINAMICS G110M (continued)



The diagram is for terminal box position 2A (for further information about the terminal box position, see [page 11/12](#)).

Motor	Gearbox type						SINAMICS G110M													
							Power Module		Dimensions										Sealing cap	Plug-in
	D/Z	E	FD/FZ	B	K	C	Frame size	LB	LBL	P	AC	I1	AG	AU	LLU	AGU	VDA	VDB	VDC	VDD
LE112	29	-	29	29	-	29	FSB	418	491	120	222	29	237	137	309.5	181	117	108	130	171
	39	39	39	39	39	39		408.5	481.5	160										
	49	49	49	49	49	49														
	59	-	-	-	-	-														
	69	69	69	-	69	69														
	-	-	-	-	79	-														
	79	-	79	-	-	-		402.5	475.5	198										
	-	-	-	-	89	89														
	89	89	89	-	-	-		385.5	458.5	245										
	-	-	-	-	109	-														
	-	-	-	-	129	-		376.5	449.5	300										
	109	109	109	-	-	-														
	129	129	129	-	-	-		367.5	440.5	350										
	-	-	-	-	149	-														
149	149	149	-	169	-	366	439	405												
169	-	169	-	-	-	353.5	426.5	465												
189	-	189	-	189	-															
LE112Z	29	-	29	29	-	29	FSB	443	516	120	222	29	237	137	309.5	181	117	108	130	171
	39	39	39	39	39	39														
	49	49	49	49	49	49				160										
	59	-	-	-	-	-														
	69	69	69	-	69	69														
	-	-	-	-	79	-														
	79	-	79	-	-	-		427.5	500.5	198										
	-	-	-	-	89	89														
	89	89	89	-	-	-		410.5	483.5	245										
	-	-	-	-	109	-														
	-	-	-	-	129	-				300										
	109	109	109	-	-	-														
	129	129	129	-	-	-		392.5	465.5	350										
	-	-	-	-	149	-														
149	149	149	-	-	-	391	464	405												
169	-	169	-	-	-	353.5	426.5	465												
189	-	189	-	189	-															

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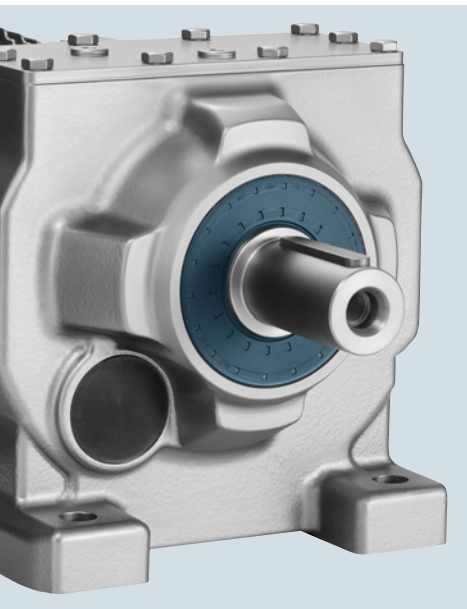
## SINAMICS G110M motor integrated frequency inverter

### Notes

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## Gearbox options

**10/2 Mounting position**

- 10/2 Overview
  - Helical gearboxes Z and D
  - 10/4 Foot-mounted design
  - 10/6 Foot/flange-mounted design
  - 10/8 Flange-mounted design or with housing flange
  - Helical gearboxes E
  - 10/11 Foot-mounted design
  - 10/12 Flange-mounted design or with housing flange
  - Parallel shaft gearbox
  - 10/13 Shaft-mounted design
  - 10/15 Flange-mounted design or with housing flange
  - 10/17 Foot-mounted design
  - Bevel gearbox B
  - 10/19 Foot-mounted design
  - 10/21 Housing flange design and flange-mounted design
  - 10/23 Shaft-mounted design
  - Bevel gearbox K
  - 10/25 Foot-mounted design
  - 10/26 Housing flange design and flange-mounted design
  - 10/27 Shaft-mounted design
  - Helical worm gearbox
  - 10/28 Shaft-mounted design
  - 10/30 Housing flange design and flange-mounted design
  - 10/32 Foot-mounted design
  - Worm gearbox
  - 10/34 Foot-mounted, flange-mounted, shaft-mounted and housing flange designs
  - 10/35 Tandem gearbox
  - 10/36 Special mounting positions

**10/37 Mounting**

- Mounting types
- 10/37 Overview
- 10/38 Flange-mounted designs
- 10/40 • Water drain holes at the output flange
- 10/41 • Output flange seal
- 10/41 Parallel shaft gearboxes F.AD. in a shaft-mounted design
- 10/41 Bevel gearboxes KAD. in a shaft-mounted design
- 10/41 Bevel gearboxes BAD. in a shaft-mounted design
- 10/42 Helical worm gearboxes CAD. in a shaft-mounted design
- 10/43 Worm gearboxes SAD. in a shaft-mounted design
- Shaft designs
- 10/43 Selection and ordering data
- 10/46 SIMOLOC assembly system
- 10/47 Hollow shaft cover

**10/47 Output shaft bearings**

- 10/47 Reinforced output shaft bearings

**10/48 Output side accessories**

- Accessories for VLplus reinforced bearing systems
- 10/48 Drywell
- 10/48 Grease cartridge

**10/49 Lubrication and sealing**

- Overview
- 10/49 • Lubrication
- 10/49 • Sealing
- 10/49 • Oil quantities
- 10/49 Sealing system
- 10/49 Roller bearing greases for gearboxes and motors
- 10/50 Selection

**10/51 Venting and oil level control**

- Venting
- 10/51 Overview
- 10/54 Pressure breather valve
- 10/55 Oil expansion unit
- Oil level control
- 10/57 Oil level checking screw
- 10/57 Oil drain
- 10/58 PT100 electrical oil temperature monitoring
- 10/59 Electrical oil level monitoring system

**10/60 Special version**

- 10/60 Reduced-backlash version
- 10/60 Shrink-glued output gearwheel

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## Gearbox options

### Mounting position

#### Overview

The mounting position must be specified when you place your order to ensure that the gearbox is supplied with the correct quantity of oil.

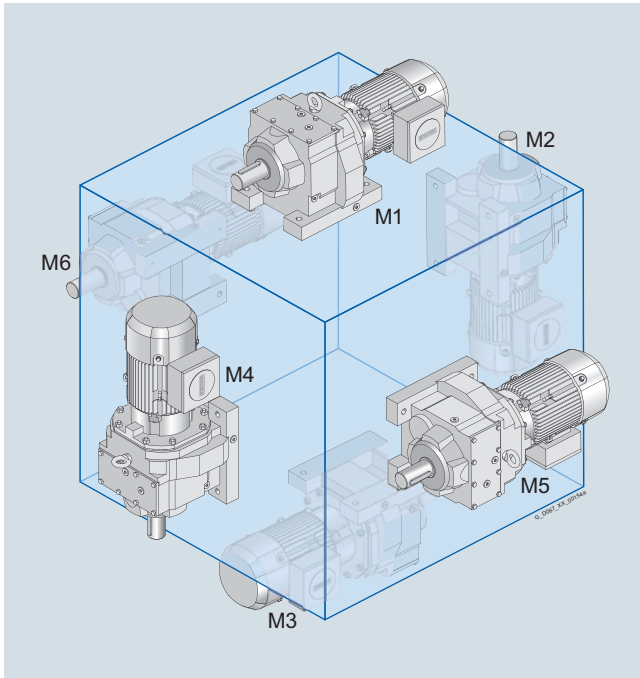


Fig. 10/1 Helical geared motors

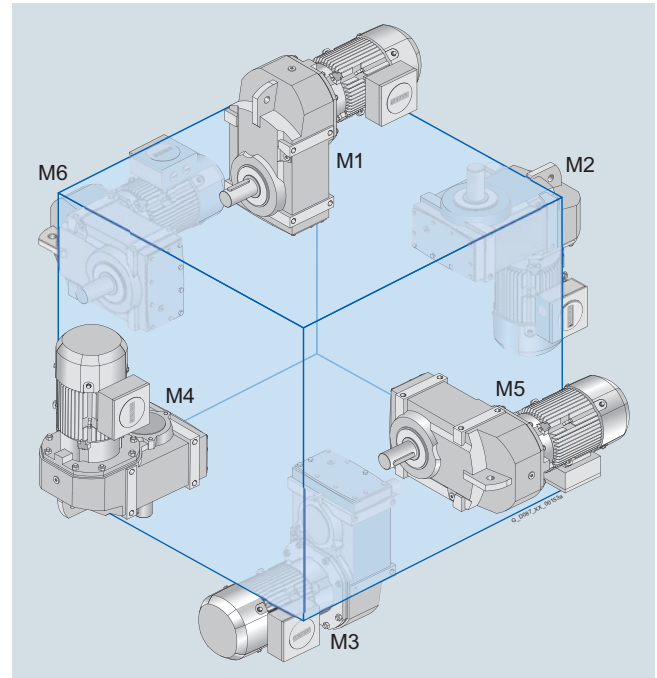


Fig. 10/2 Parallel shaft geared motors

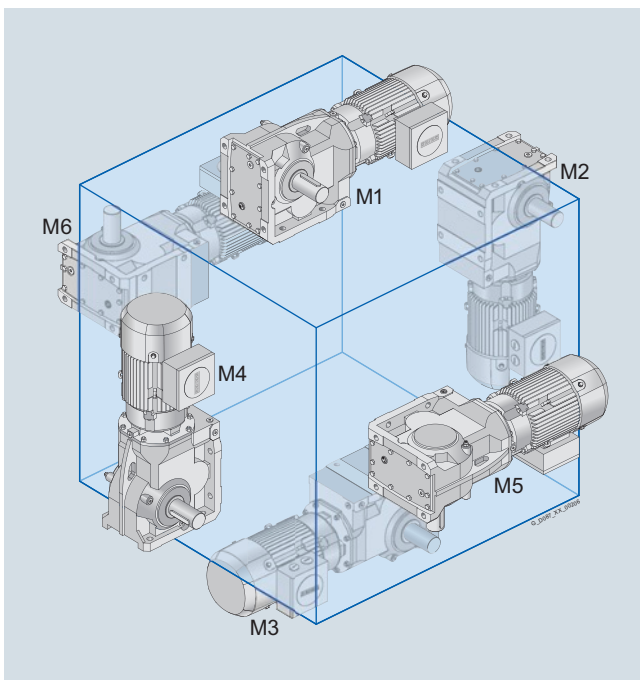


Fig. 10/3 Bevel geared motors

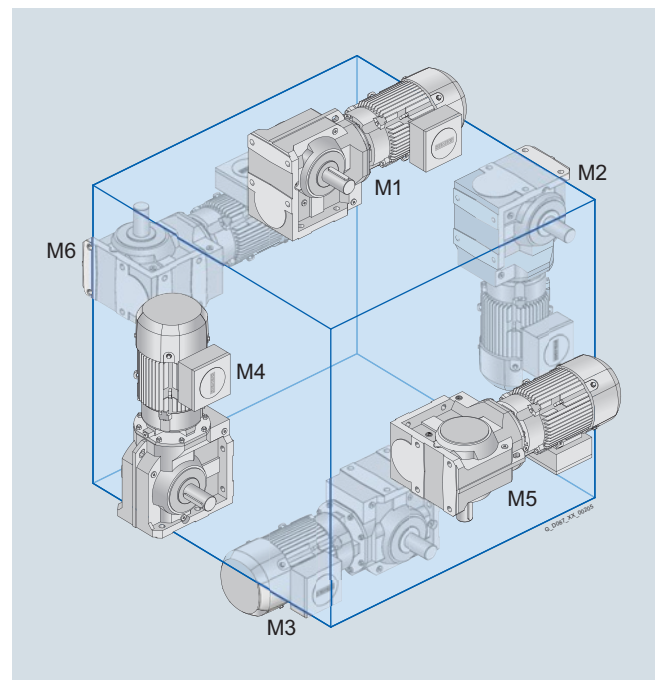


Fig. 10/4 Helical worm geared motors

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### Overview (continued)

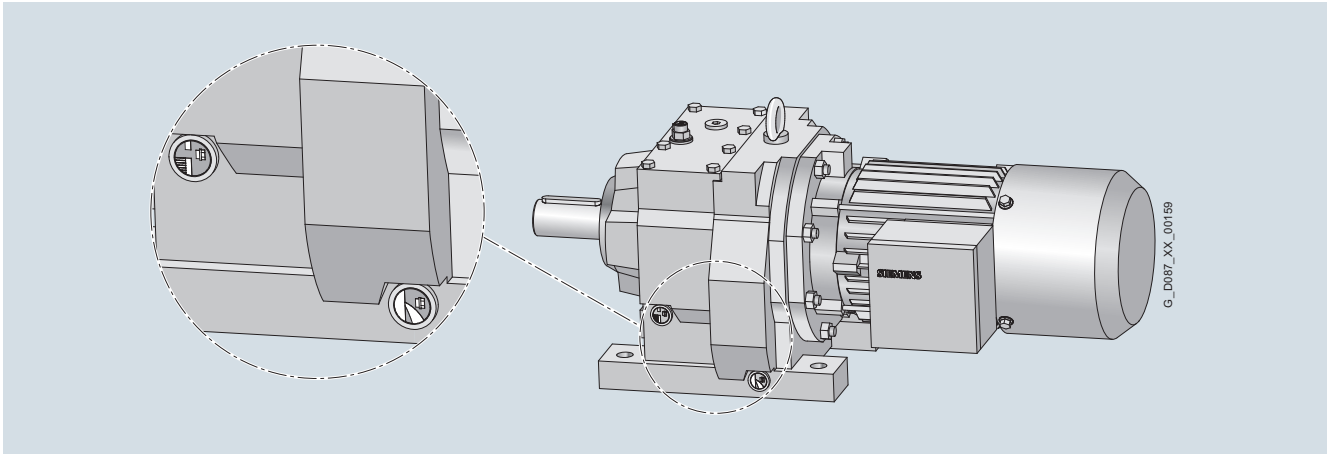








Fig. 10/5 Dimensional drawing from DT Configurator with details

An explanation of the symbols used to represent mounting positions can be found on the following pages

#### Symbol

##### Oil valves

	Venting
	Oil drain
	Oil level checking screw
	Oil dipstick, optional
	Venting main gearbox (applies only to tandem geared motors)
	Oil drain main gearbox (applies only to tandem geared motors)

##### Supplements

*	On opposite side
A, B	Output side A, output side B
②	2-stage gearbox
③	3-stage gearbox
① ... ④	Terminal box position

#### Note:

The **DT Configurator** can be used to configure SIMOGEAR geared motors.

The DT Configurator is available in conjunction with the electronic catalog CA 01 on DVD. In addition, the DT Configurator can be used on the Internet without requiring any installation.

The DT Configurator can be found in the Siemens Mall at the following address:

[www.siemens.com/dt-configurator](http://www.siemens.com/dt-configurator)

For the selected mounting position, the 3D images show the exact position of the oil valves.

## Gearbox options

### Mounting position

#### Helical gearboxes Z and D

#### Foot-mounted design

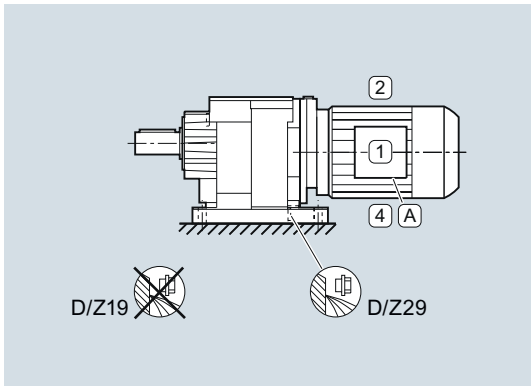
#### Helical gearboxes Z and D, sizes 19 and 29

##### Oil valves

Sizes 19 and 29 are lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

##### M1

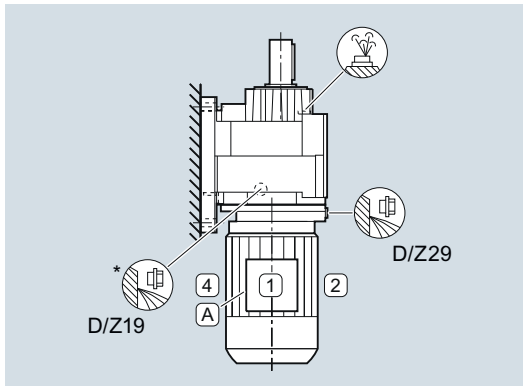


Order code:

M1

D01

##### M2

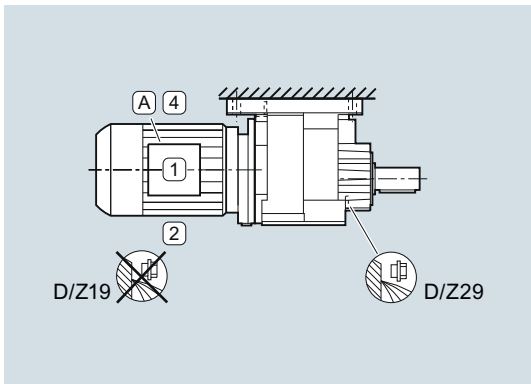


Order code:

M2

D02

##### M3

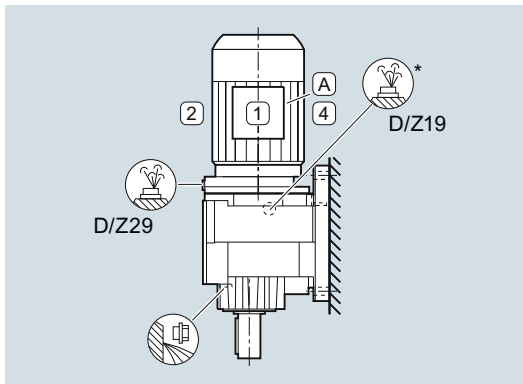


Order code:

M3

D03

##### M4

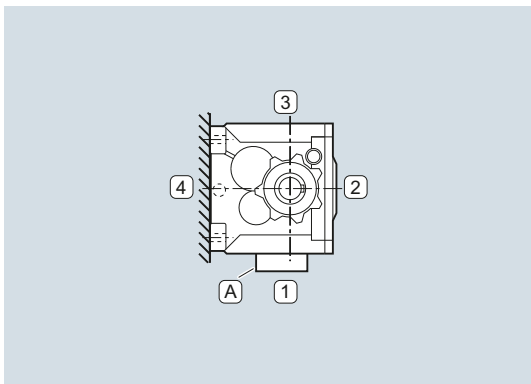


Order code:

M4

D04

##### M5

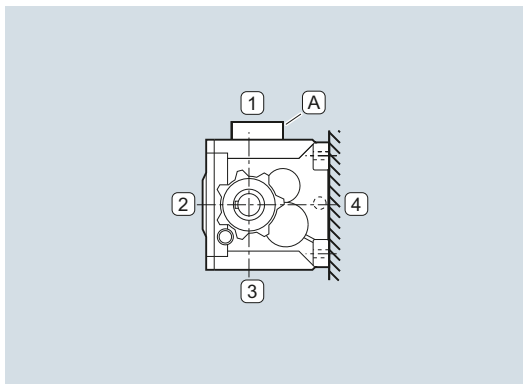


Order code:

M5

D05

##### M6



Order code:

M6

D06

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10

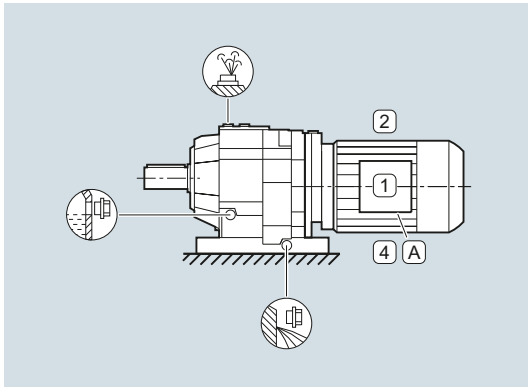
**Foot-mounted design** (continued)

**Helical gearboxes Z and D, sizes 39 to 189**

**Oil valves**

For an explanation of the symbols, see [page 10/3](#).

**M1**

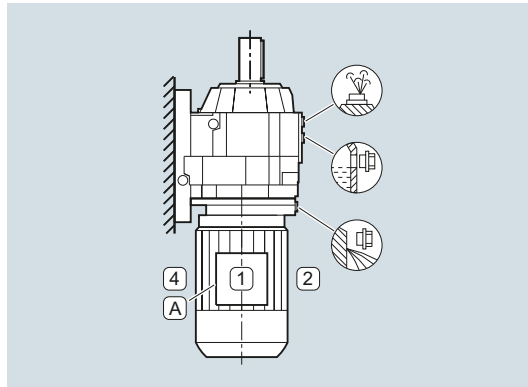


Order code:

M1

**D01**

**M2**

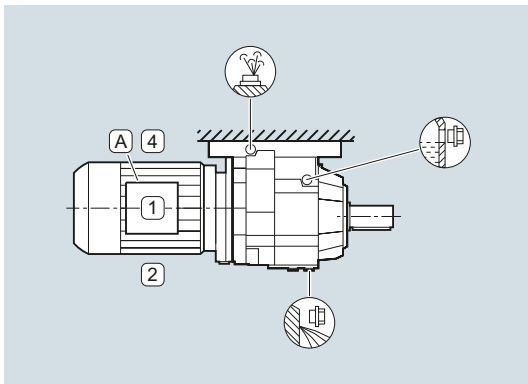


Order code:

M2

**D02**

**M3**

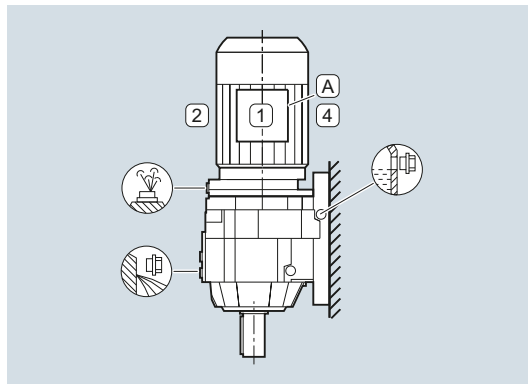


Order code:

M3

**D03**

**M4**

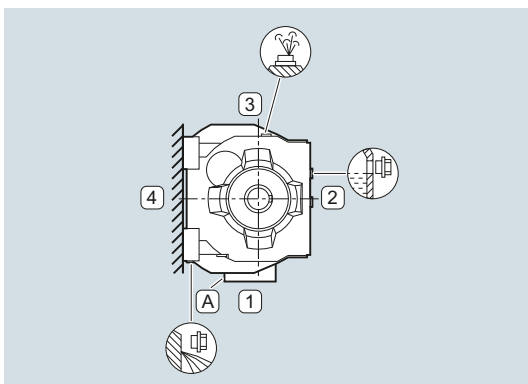


Order code:

M4

**D04**

**M5**

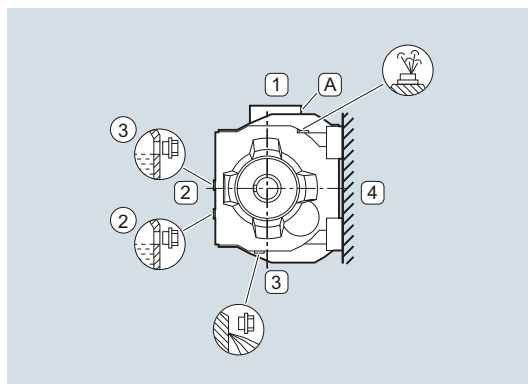


Order code:

M5

**D05**

**M6**



Order code:

M6

**D06**

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## Gearbox options

### Mounting position

#### Helical gearboxes Z and D

#### Foot/flange-mounted design

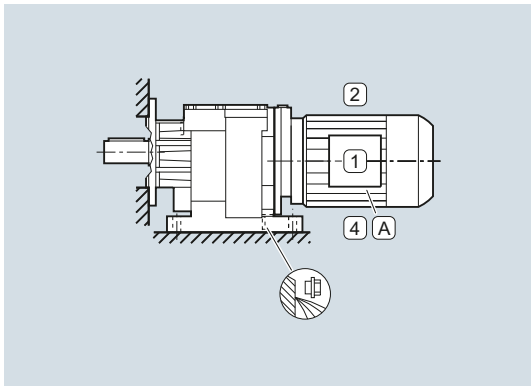
#### Helical gearboxes ZB and DB, size 29

##### Oil valves

Size 29 is lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

##### M1

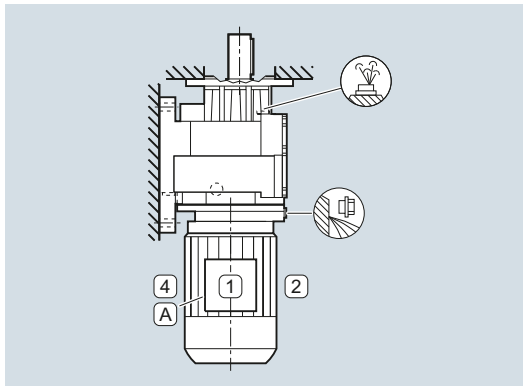


Order code:

M1

D01

##### M2

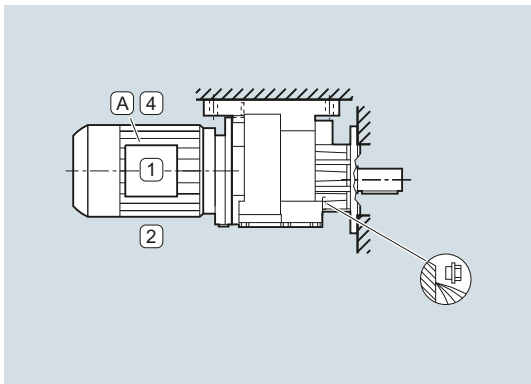


Order code:

M2

D02

##### M3

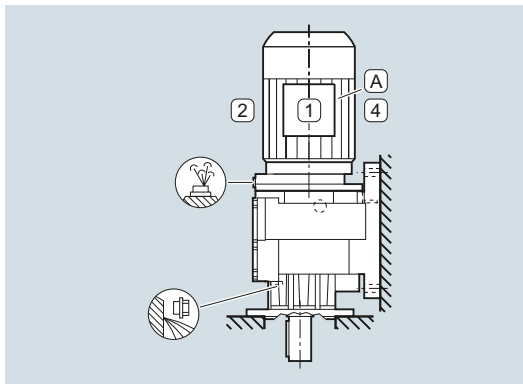


Order code:

M3

D03

##### M4

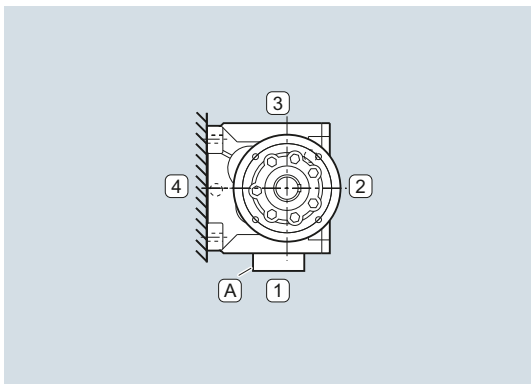


Order code:

M4

D04

##### M5

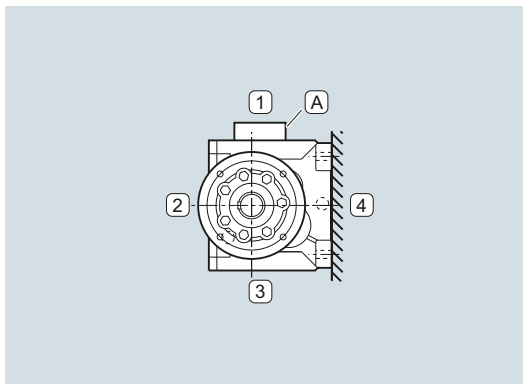


Order code:

M5

D05

##### M6



Order code:

M6

D06

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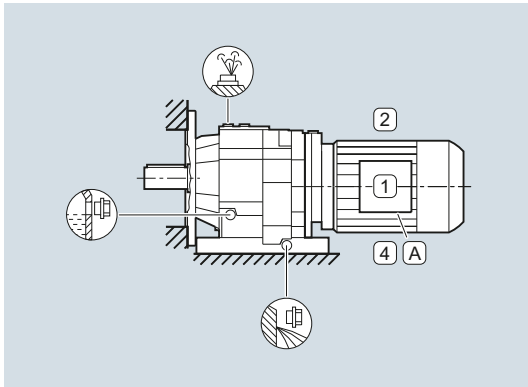
**Foot/flange-mounted design** (continued)

**Helical gearboxes ZB and DB, sizes 39 to 89**

**Oil valves**

For an explanation of the symbols, see [page 10/3](#).

**M1**

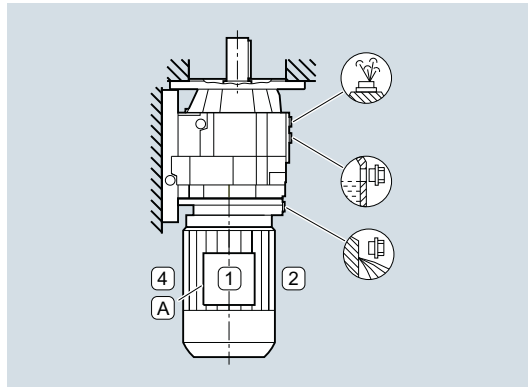


Order code:

M1

**D01**

**M2**

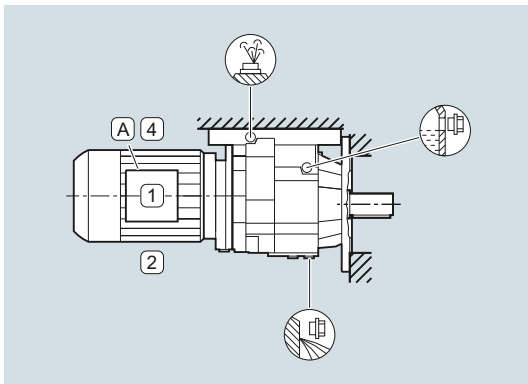


Order code:

M2

**D02**

**M3**

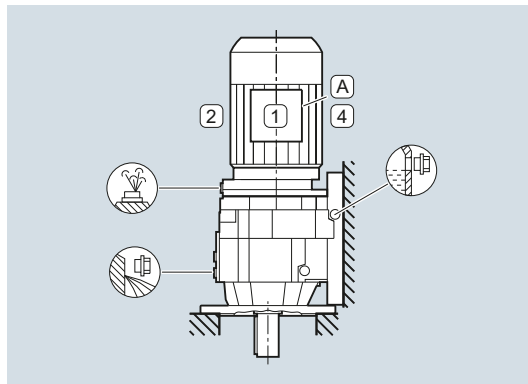


Order code:

M3

**D03**

**M4**

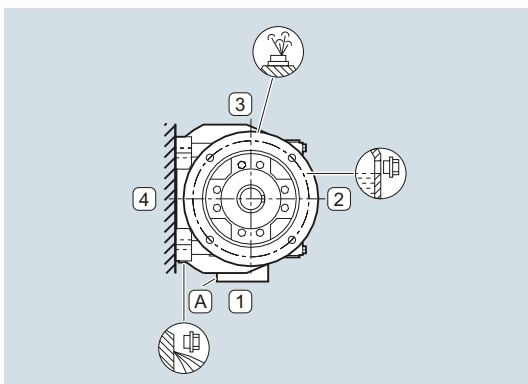


Order code:

M4

**D04**

**M5**

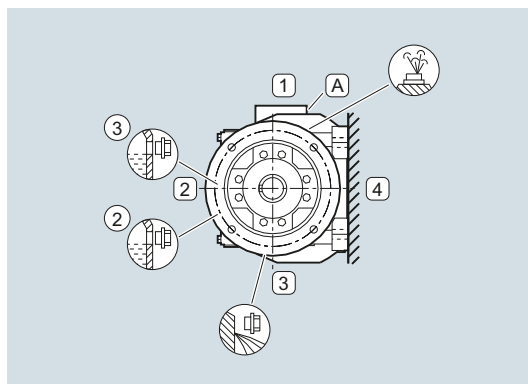


Order code:

M5

**D05**

**M6**



Order code:

M6

**D06**

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## Gearbox options

### Mounting position

#### Helical gearboxes Z and D

#### Flange-mounted design or with housing flange

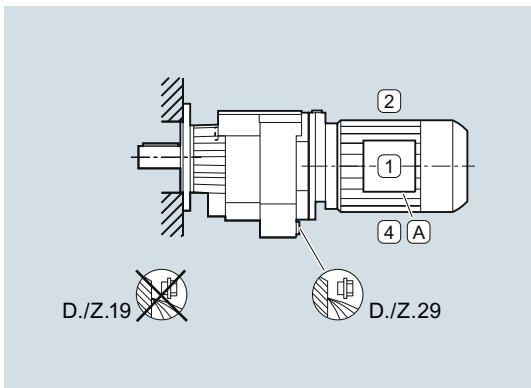
#### Helical gearboxes ZF and DF or ZZ and DZ, sizes 19 and 29

#### Oil valves

Sizes 19 and 29 are lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

#### M1

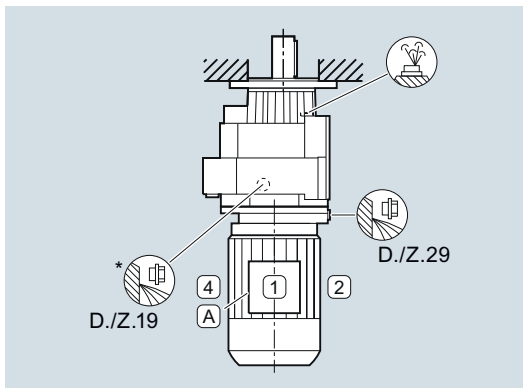


Order code:

M1

D01

#### M2

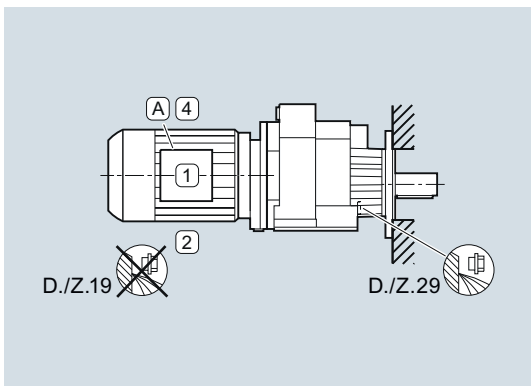


Order code:

M2

D02

#### M3

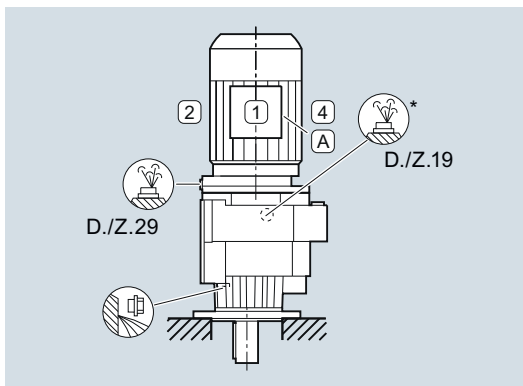


Order code:

M3

D03

#### M4

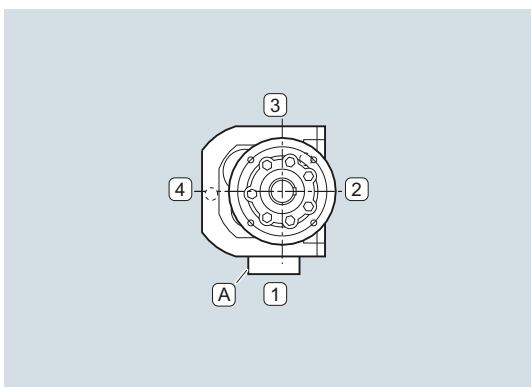


Order code:

M4

D04

#### M5

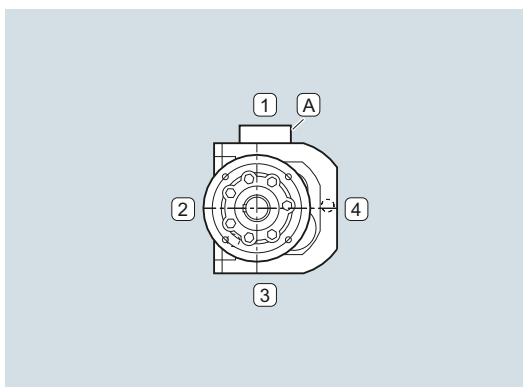


Order code:

M5

D05

#### M6



Order code:

M6

D06

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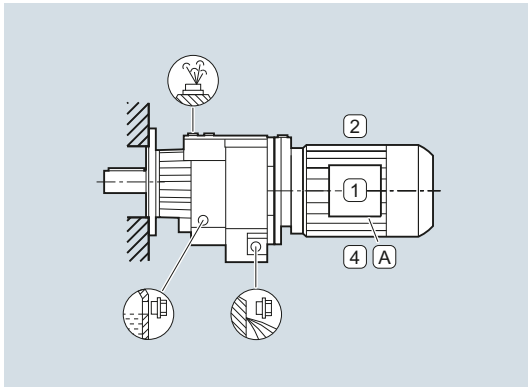
**Flange-mounted design or with housing flange** (continued)

**Helical gearboxes ZF and DF or ZZ and DZ, size 39**

**Oil valves**

For an explanation of the symbols, see [page 10/3](#).

**M1**

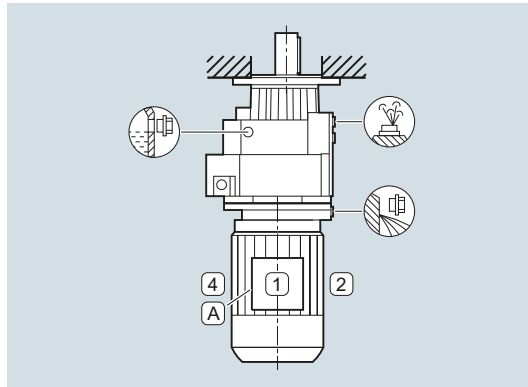


Order code:

M1

**D01**

**M2**

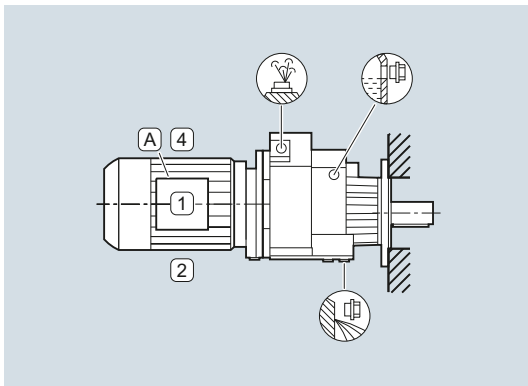


Order code:

M2

**D02**

**M3**

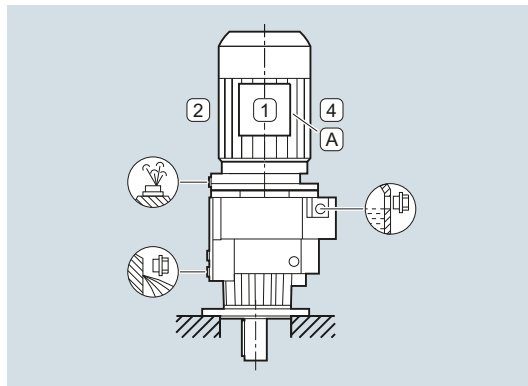


Order code:

M3

**D03**

**M4**

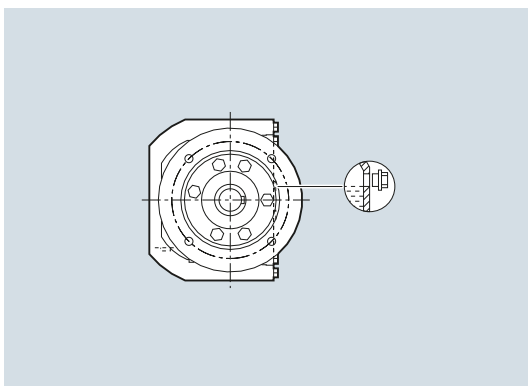


Order code:

M4

**D04**

**M5**

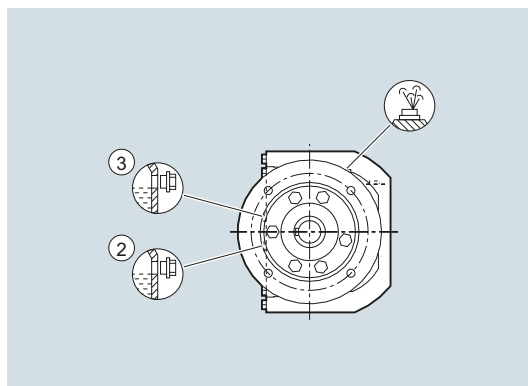


Order code:

M5

**D05**

**M6**



Order code:

M6

**D06**

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## Gearbox options

### Mounting position

#### Helical gearboxes Z and D

#### Flange-mounted design or with housing flange (continued)

**Helical gearboxes ZF and DF, sizes 49 to 189, or ZZ and DZ, sizes 49 to 129**

**Helical gearboxes ZF and DF with VLplus/XLplus reinforced bearing systems, sizes 89 to 169**

**Cooling tower gearboxes, sizes 89 to 189 (mounting positions M2 and M4)**

#### Oil valves

For an explanation of the symbols, see [page 10/3](#).

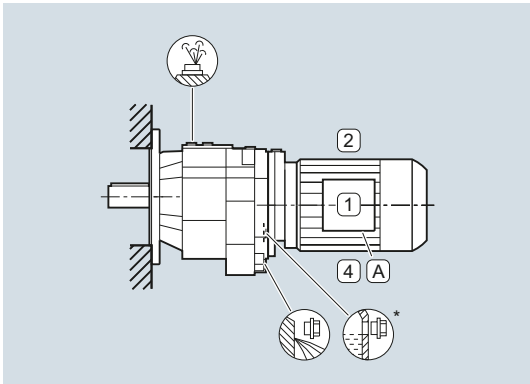
An oil dipstick is available as an option for 2-stage helical gearboxes ZF89 to ZF189 and ZKF89 to ZKF189 with mounting position M4.

Order code:

Oil dipstick (mounting position M4)

**G48**

#### M1

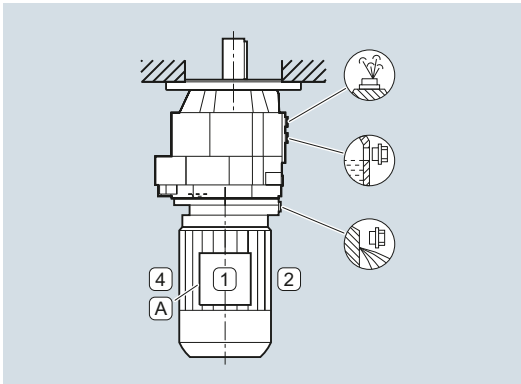


Order code:

M1

**D01**

#### M2

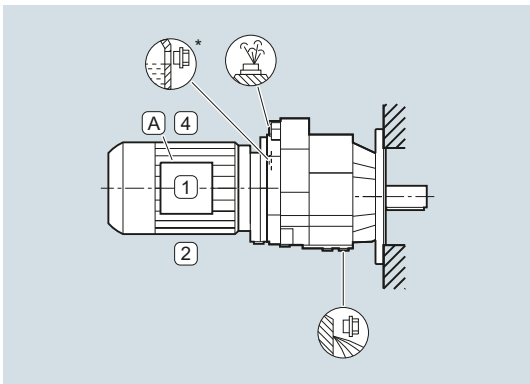


Order code:

M2

**D02**

#### M3

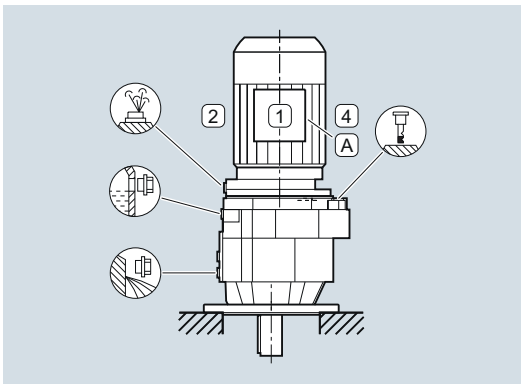


Order code:

M3

**D03**

#### M4

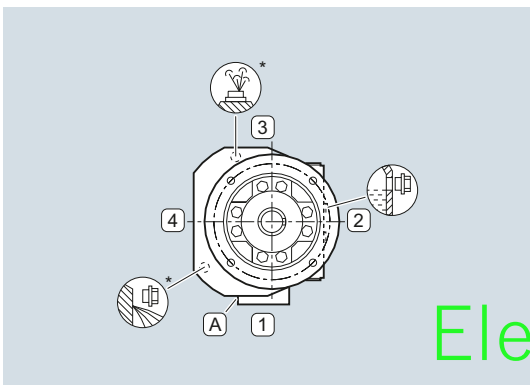


Order code:

M4

**D04**

#### M5

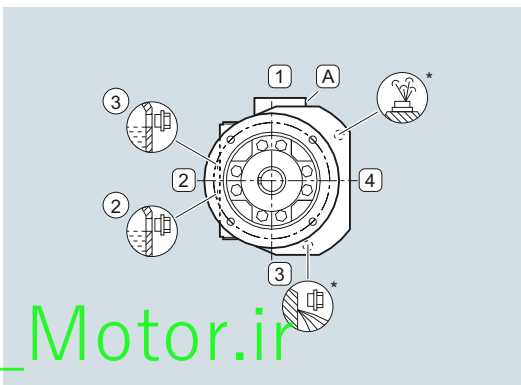


Order code:

M5

**D05**

#### M6



Order code:

M6

**D06**

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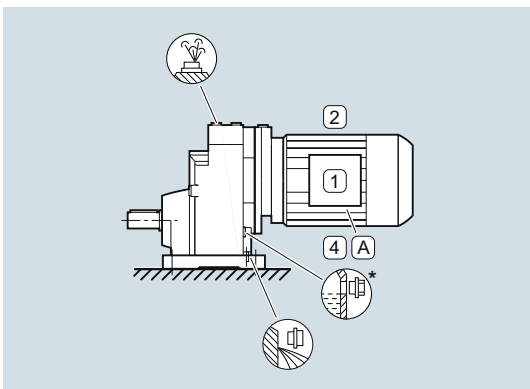
**Foot-mounted design**

**Helical gearboxes E, sizes 39 to 149**

**Oil valves**

For an explanation of the symbols, see [page 10/3](#).

**M1**

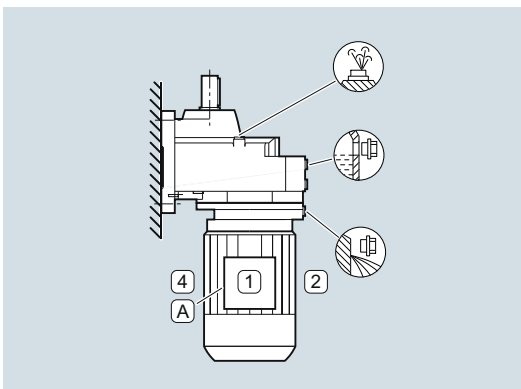


Order code:

M1

**D01**

**M2**

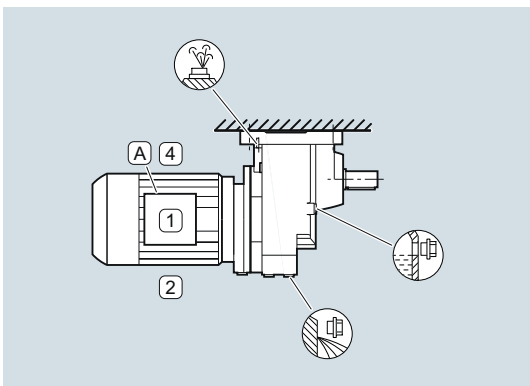


Order code:

M2

**D02**

**M3**

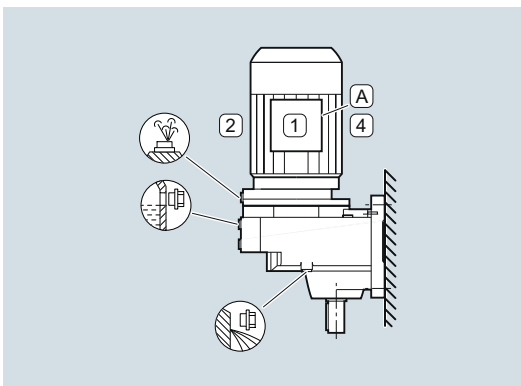


Order code:

M3

**D03**

**M4**

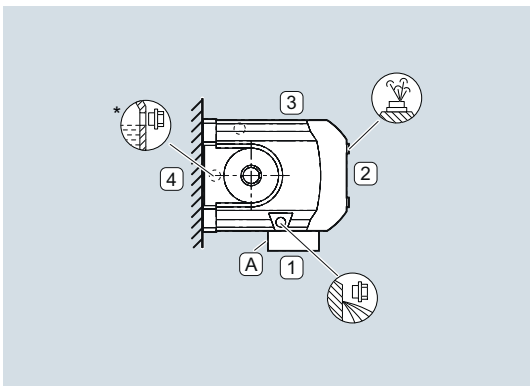


Order code:

M4

**D04**

**M5**

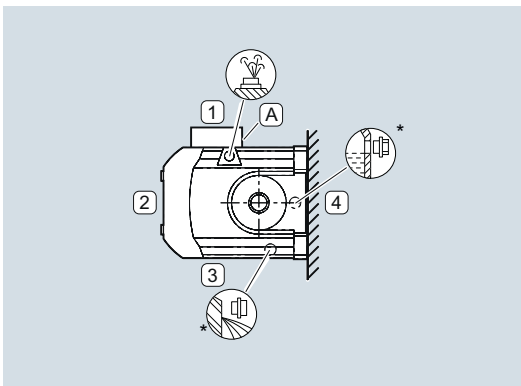


Order code:

M5

**D05**

**M6**



Order code:

M6

**D06**

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## Gearbox options

### Mounting position

#### Helical gearboxes E

#### Flange-mounted design or with housing flange

Helical gearboxes EF, sizes 39 to 149

Cooling tower gearboxes EKF, sizes 89 to 149 (mounting positions M2 and M4)

#### Oil valves

For an explanation of the symbols, see [page 10/3](#).

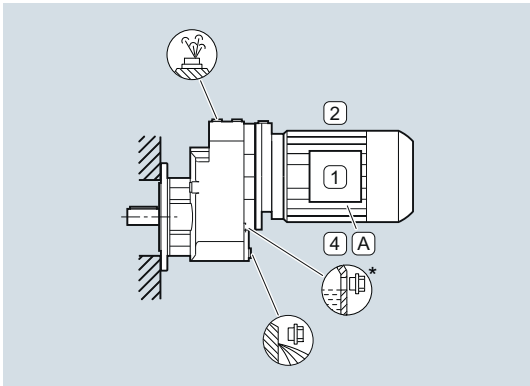
An oil dipstick is available as an option for 1-stage helical gearboxes EF89 to EF149 and EKF89 to EKF149 with mounting position M4.

Order code:

Oil dipstick (mounting position M4)

**G48**

**M1**

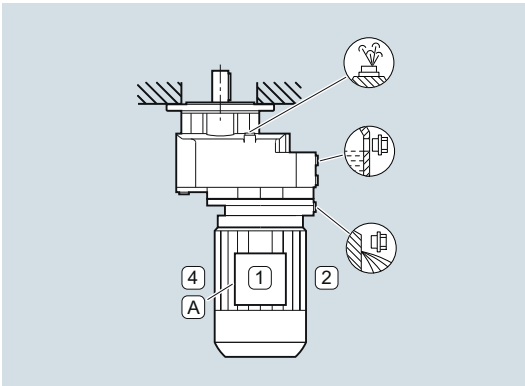


Order code:

M1

**D01**

**M2**

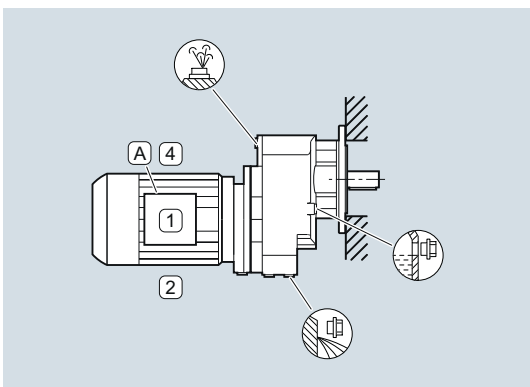


Order code:

M2

**D02**

**M3**

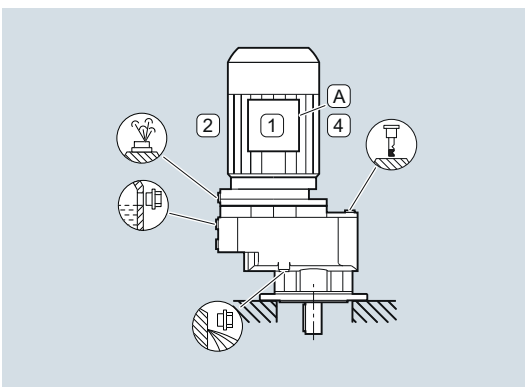


Order code:

M3

**D03**

**M4**

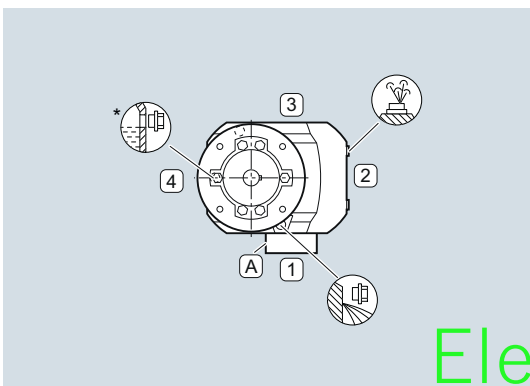


Order code:

M4

**D04**

**M5**

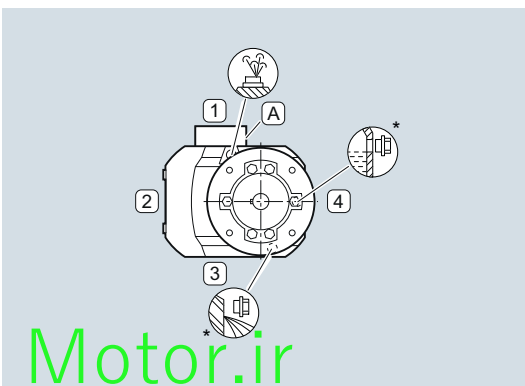


Order code:

M5

**D05**

**M6**



Order code:

M6

**D06**

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**Shaft-mounted design**

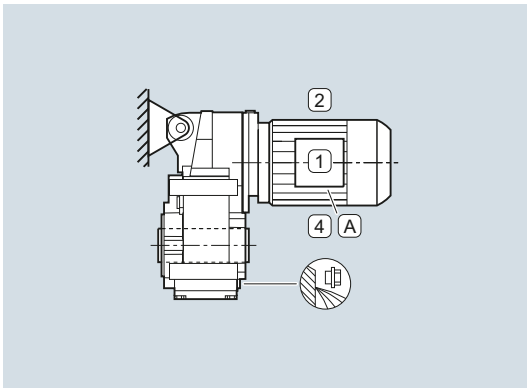
**Parallel shaft gearboxes F.AD., size 29**

**Oil valves**

Size 29 is lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

**M1**

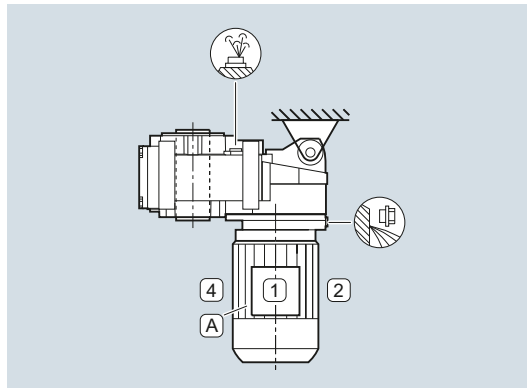


Order code:

M1

**D01**

**M2**

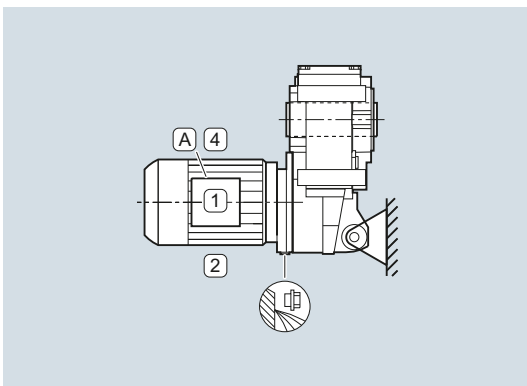


Order code:

M2

**D02**

**M3**

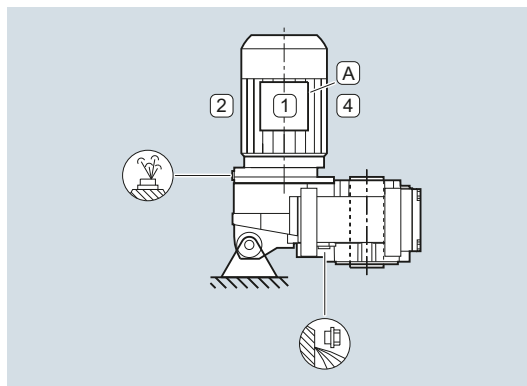


Order code:

M3

**D03**

**M4**

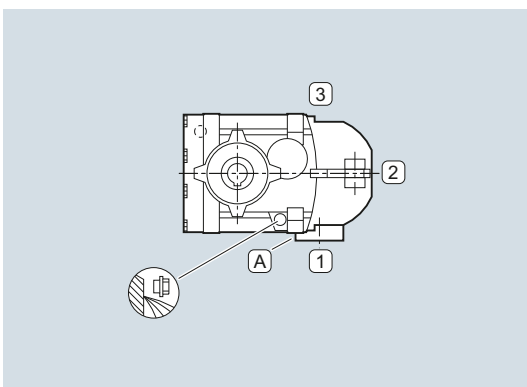


Order code:

M4

**D04**

**M5**

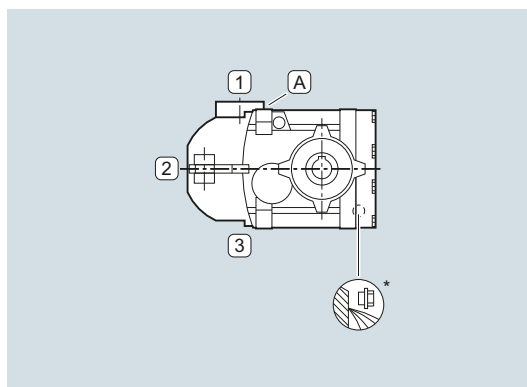


Order code:

M5

**D05**

**M6**



Order code:

M6

**D06**

## Gearbox options

### Mounting position

#### Parallel shaft gearbox

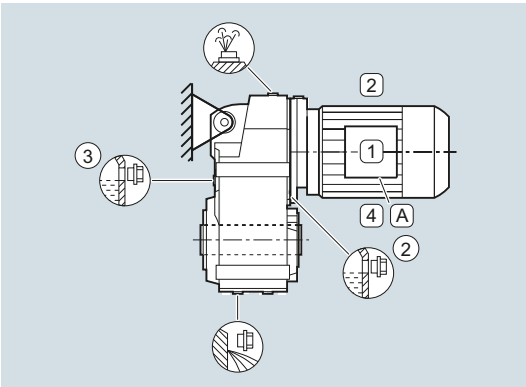
#### Shaft-mounted design (continued)

#### Parallel shaft gearboxes F.AD., sizes 39 to 189

##### Oil valves

For an explanation of the symbols, see [page 10/3](#).

##### M1

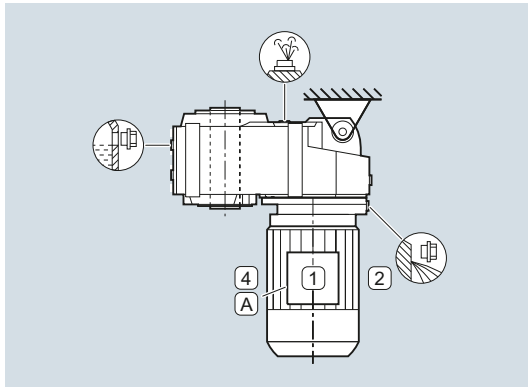


Order code:

M1

D01

##### M2

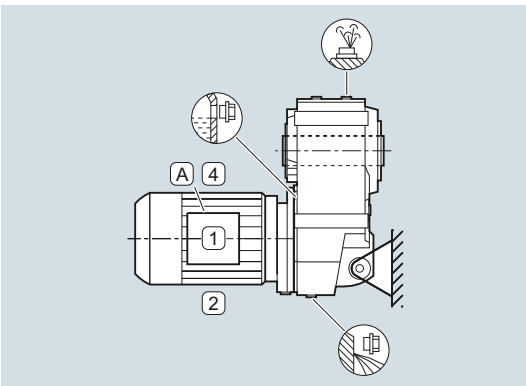


Order code:

M2

D02

##### M3

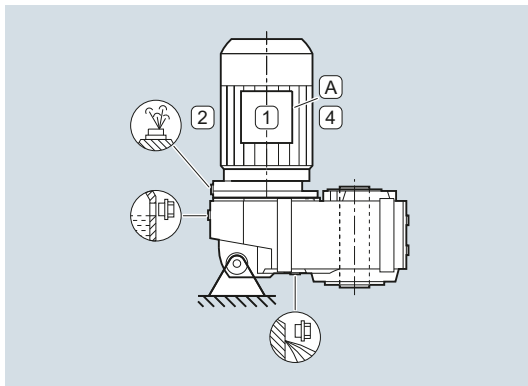


Order code:

M3

D03

##### M4

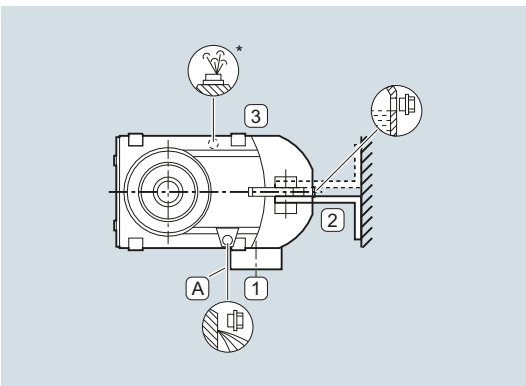


Order code:

M4

D04

##### M5

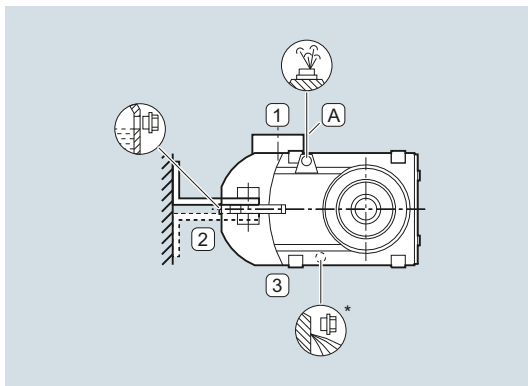


Order code:

M5

D05

##### M6



Order code:

M6

D06

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**Flange-mounted design or with housing flange**

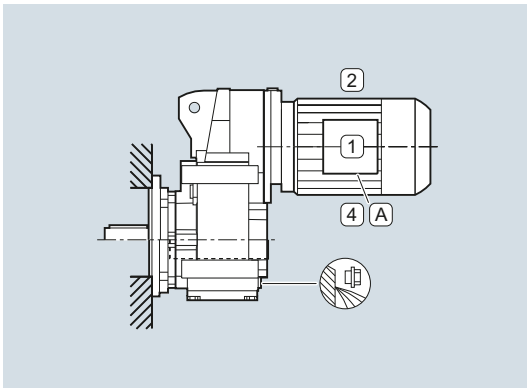
**Parallel shaft gearboxes F..F or F..Z, size 29**

**Oil valves**

Size 29 is lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

**M1**

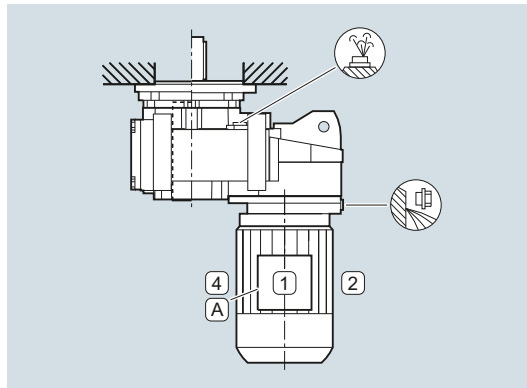


Order code:

M1

**D01**

**M2**

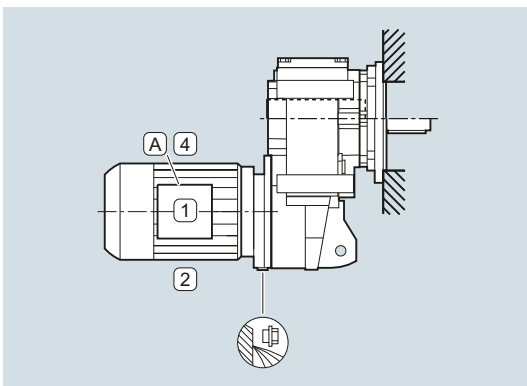


Order code:

M2

**D02**

**M3**

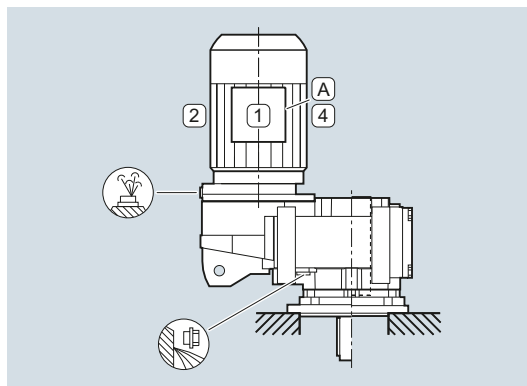


Order code:

M3

**D03**

**M4**

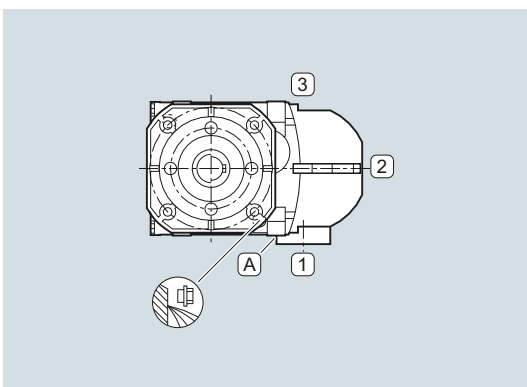


Order code:

M4

**D04**

**M5**

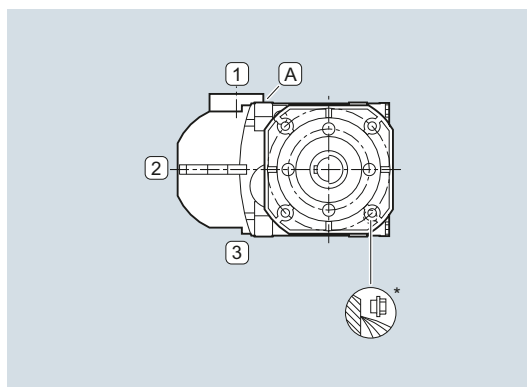


Order code:

M5

**D05**

**M6**



Order code:

M6

**D06**

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## Gearbox options

### Mounting position

#### Parallel shaft gearbox

#### Flange-mounted design or with housing flange (continued)

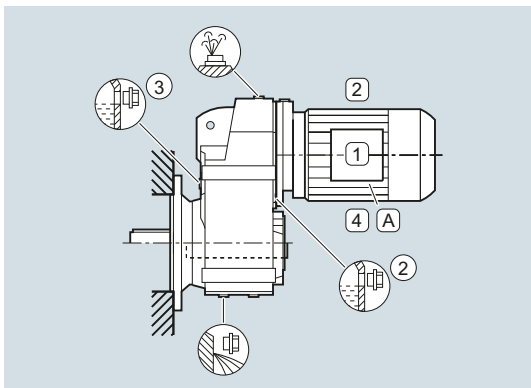
Parallel shaft gearboxes F..F or F..Z, sizes 39 to 189

Parallel shaft gearboxes F..F with VLplus reinforced bearing systems, sizes 89 to 169

#### Oil valves

For an explanation of the symbols, see page 10/3.

M1

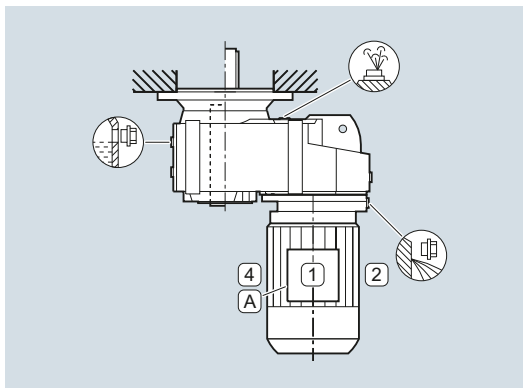


Order code:

M1

D01

M2

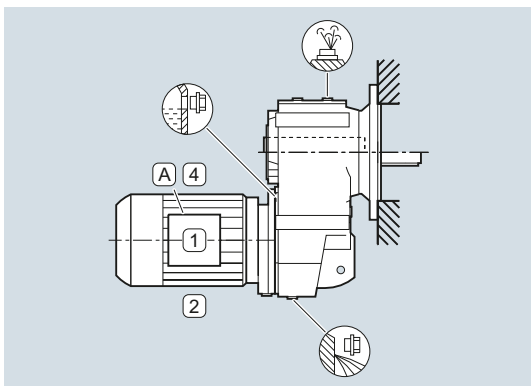


Order code:

M2

D02

M3

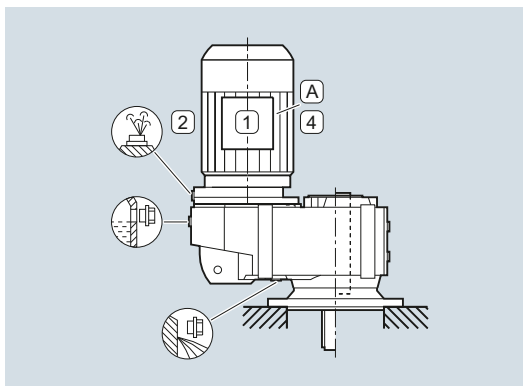


Order code:

M3

D03

M4

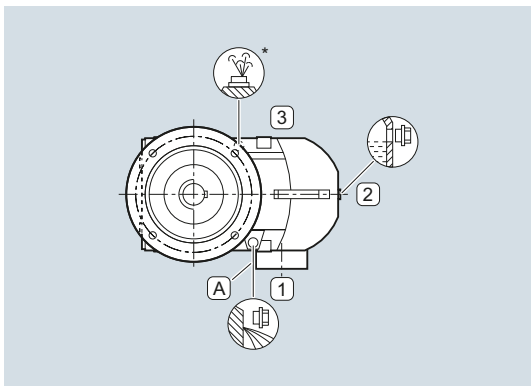


Order code:

M4

D04

M5

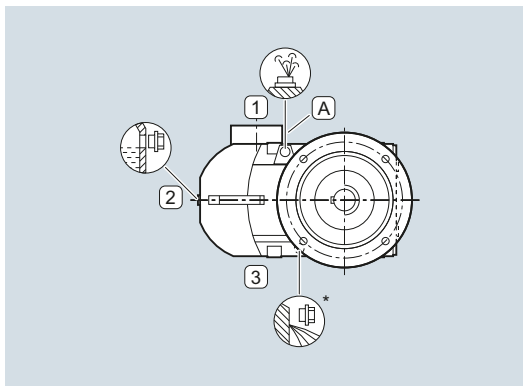


Order code:

M5

D05

M6



Order code:

M6

D06

Electro\_Motor.ir

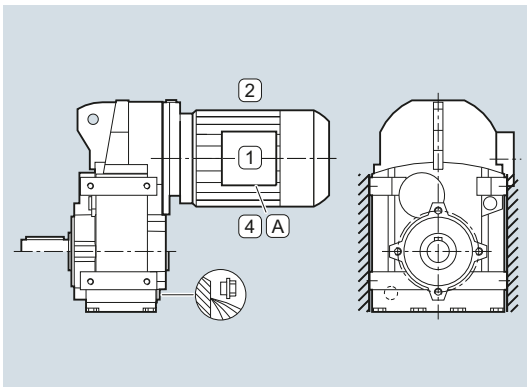
**Foot-mounted design**

**Parallel shaft gearbox F, size 29**

**Oil valves**

For an explanation of the symbols, see [page 10/3](#).

**M1**

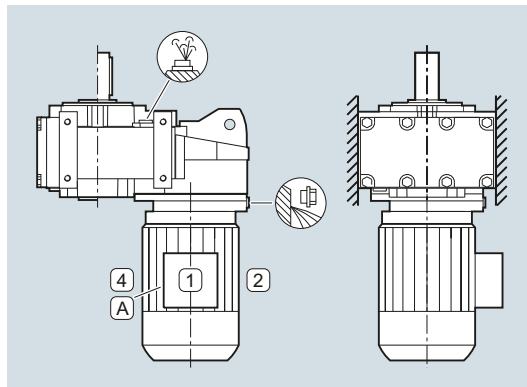


Order code:

M1

**D01**

**M2**

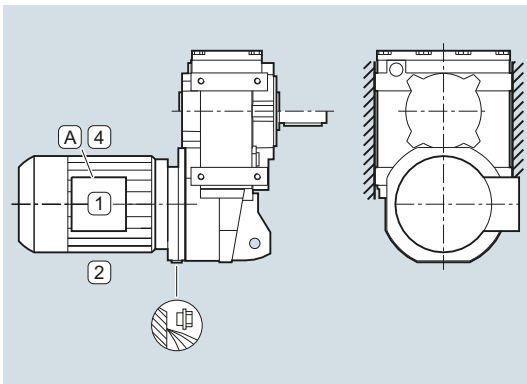


Order code:

M2

**D02**

**M3**

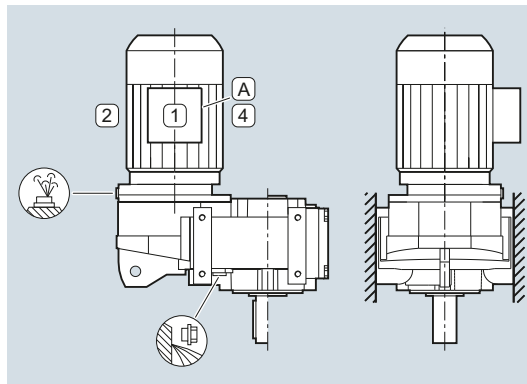


Order code:

M3

**D03**

**M4**

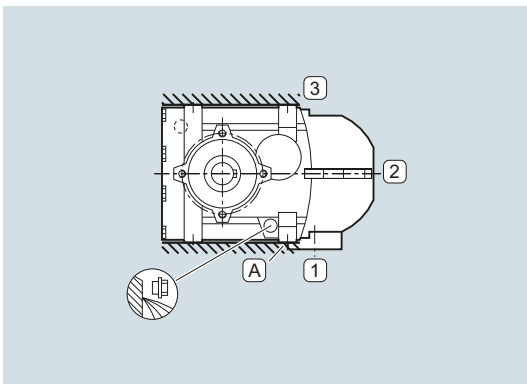


Order code:

M4

**D04**

**M5**

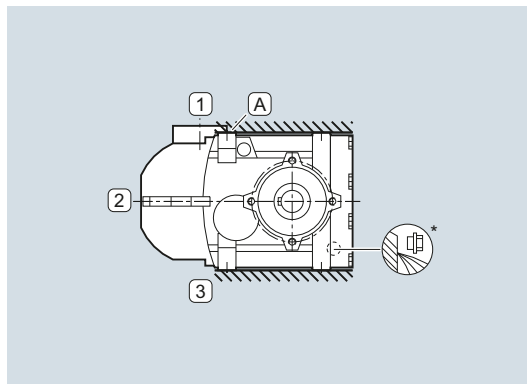


Order code:

M5

**D05**

**M6**



Order code:

M6

**D06**

## Gearbox options

### Mounting position

#### Parallel shaft gearbox

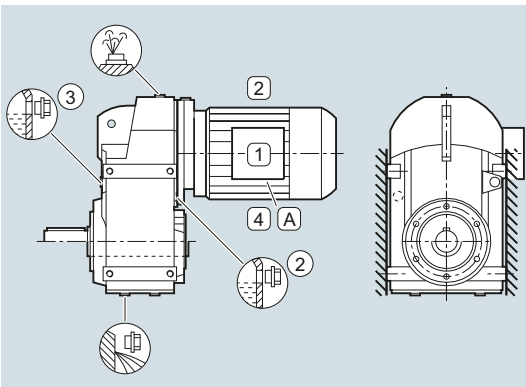
#### Foot-mounted design (continued)

#### Parallel shaft gearbox F, sizes 39 to 189

##### Oil valves

For an explanation of the symbols, see [page 10/3](#).

**M1**

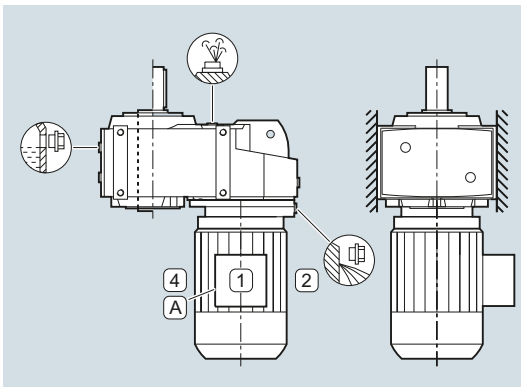


Order code:

M1

**D01**

**M2**

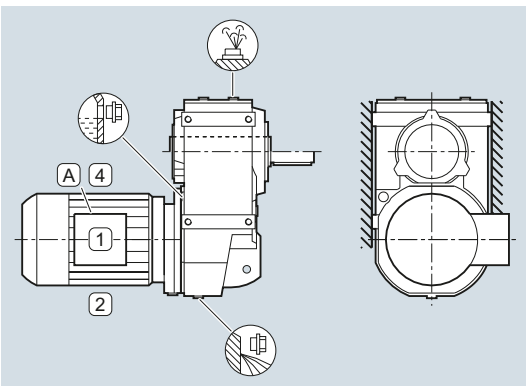


Order code:

M2

**D02**

**M3**

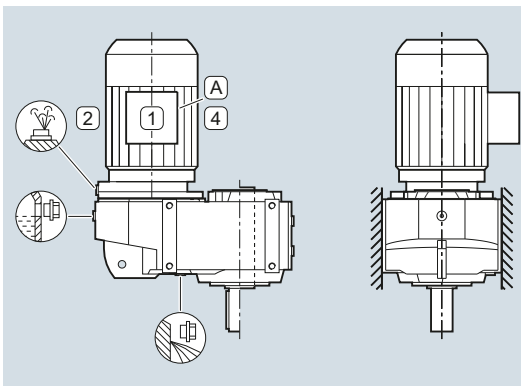


Order code:

M3

**D03**

**M4**

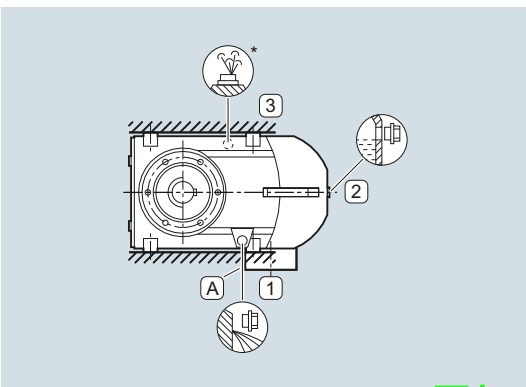


Order code:

M4

**D04**

**M5**

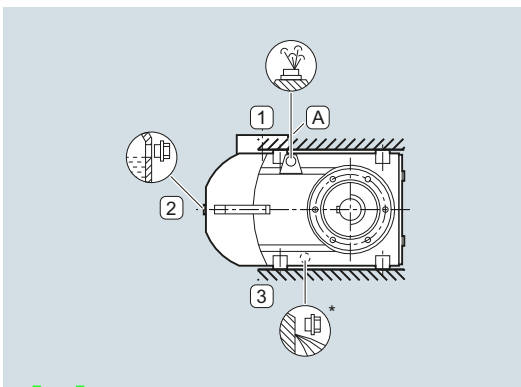


Order code:

M5

**D05**

**M6**



Order code:

M6

**D06**

Electro\_Motor.ir

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**Foot-mounted design**

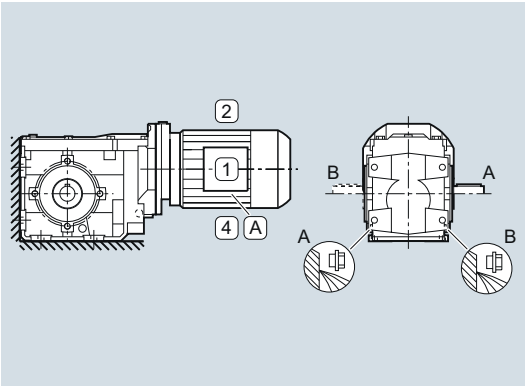
**Bevel gearboxes B, sizes 19 and 29**

**Oil valves**

Sizes 19 and 29 are lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

**M1**

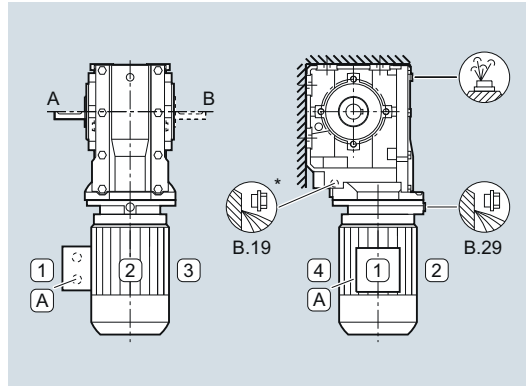


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

**M2**

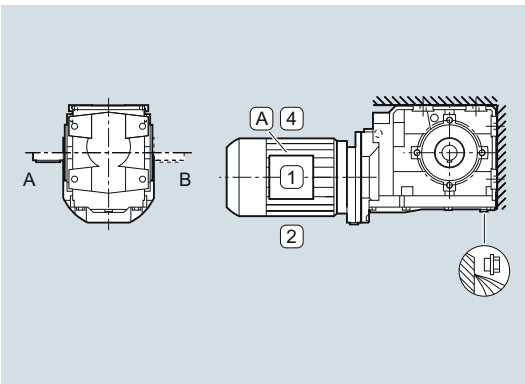


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

**M3**

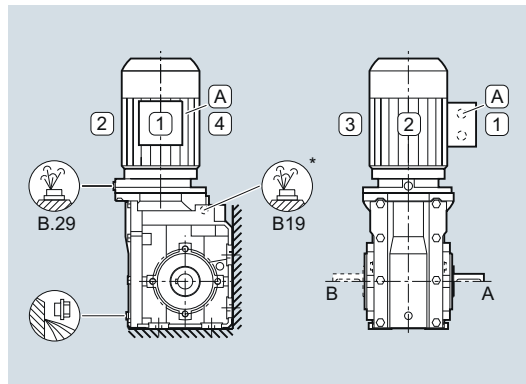


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

**M4**

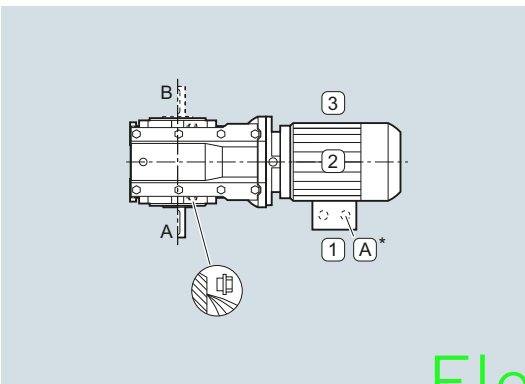


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

**M5**

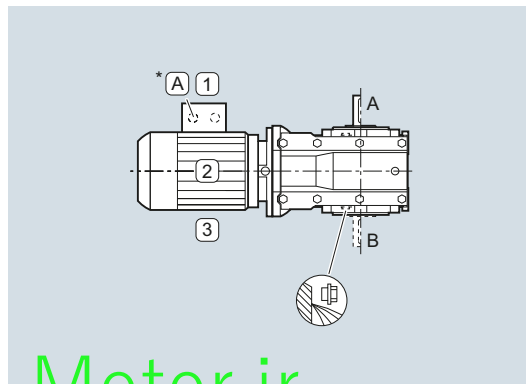


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

**M6**



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

Electro Motor.ir

## Gearbox options

### Mounting position

#### Bevel gearbox B

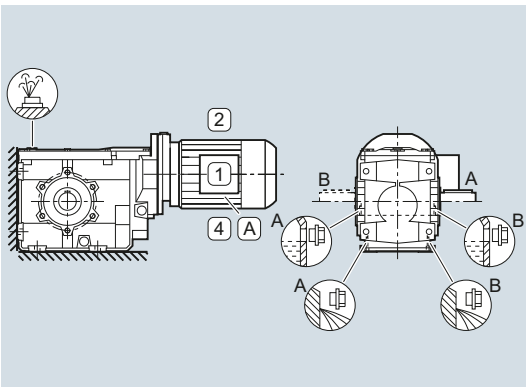
#### Foot-mounted design (continued)

#### Bevel gearboxes B, sizes 39 and 49

#### Oil valves

For an explanation of the symbols, see [page 10/3](#).

#### M1

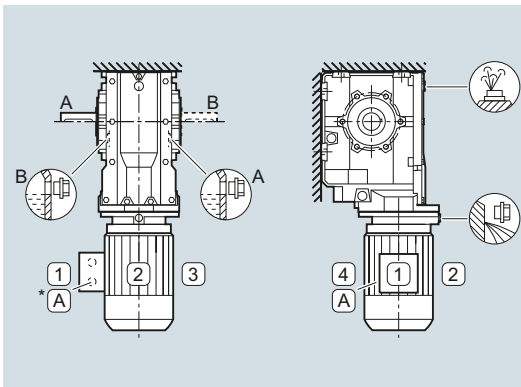


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

#### M2

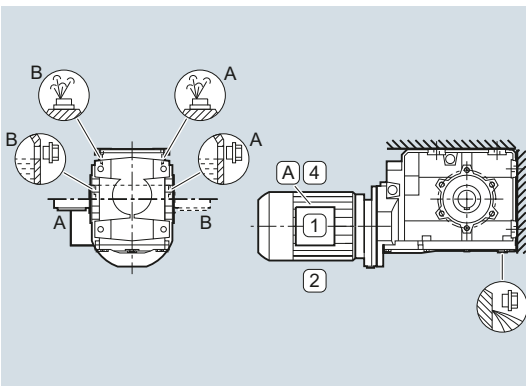


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

#### M3

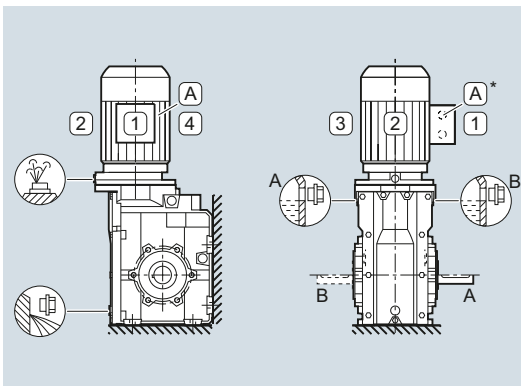


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

#### M4

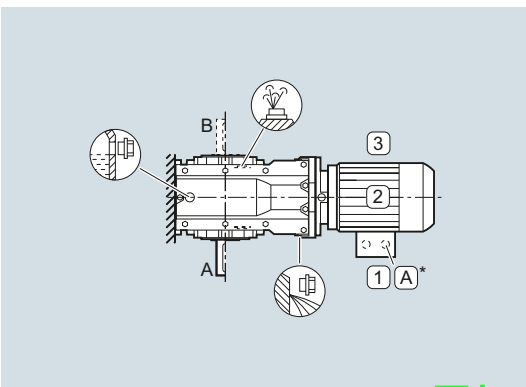


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

#### M5

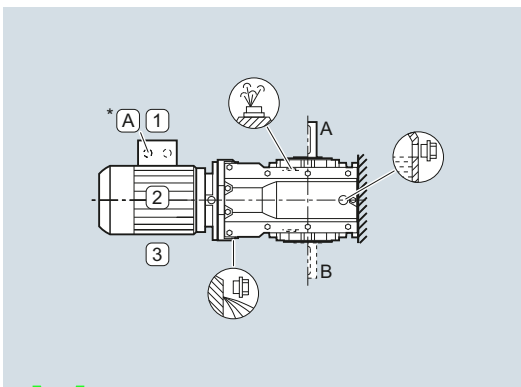


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

#### M6



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

Electro-Motor.ir

**Housing flange design and flange-mounted design**

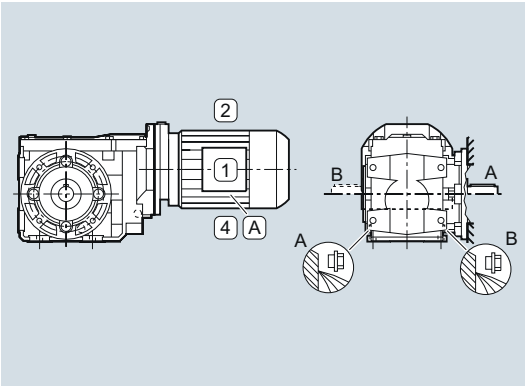
**Bevel gearboxes B.Z and B.F, sizes 19 and 29**

**Oil valves**

Sizes 19 and 29 are lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

**M1**

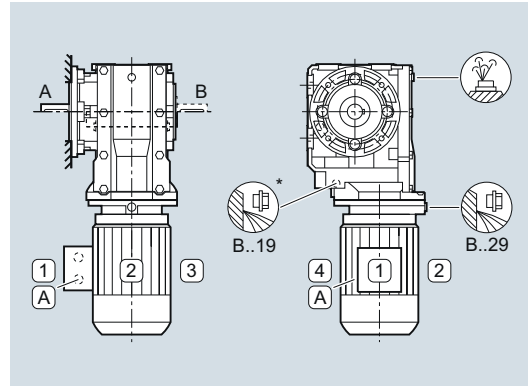


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

**M2**

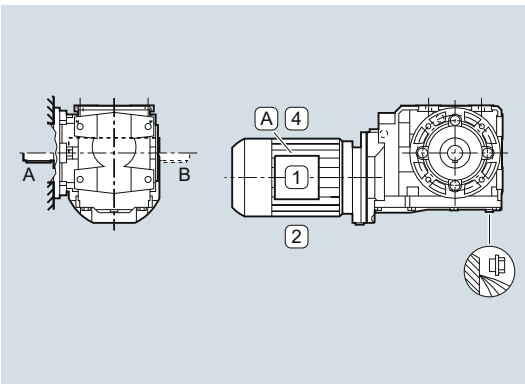


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

**M3**

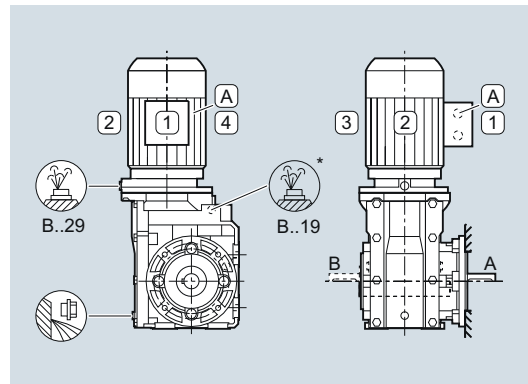


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

**M4**

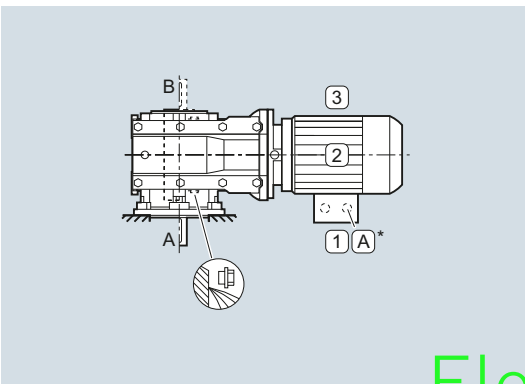


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

**M5**

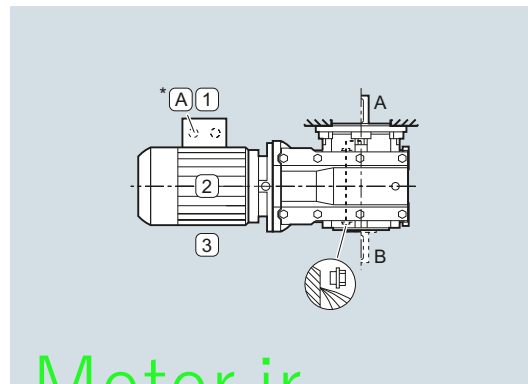


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

**M6**



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

Electro Motor.ir

## Gearbox options

### Mounting position

#### Bevel gearbox B

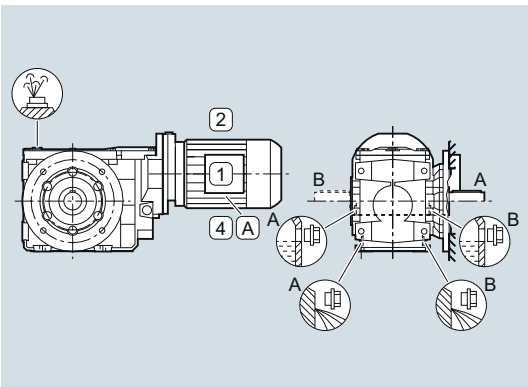
#### Housing flange design and flange-mounted design (continued)

#### Bevel gearboxes B.Z and B.F, sizes 39 and 49

#### Oil valves

For an explanation of the symbols, see [page 10/3](#).

#### M1

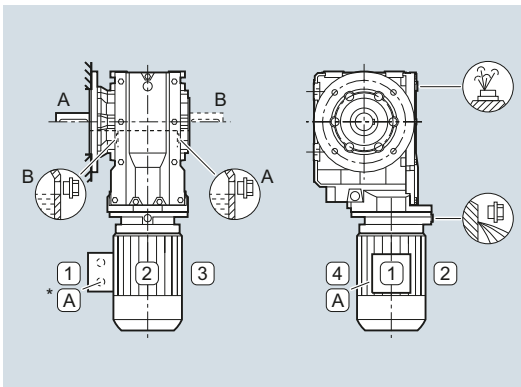


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

#### M2

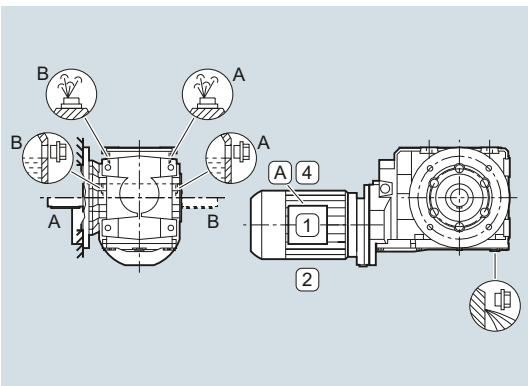


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

#### M3

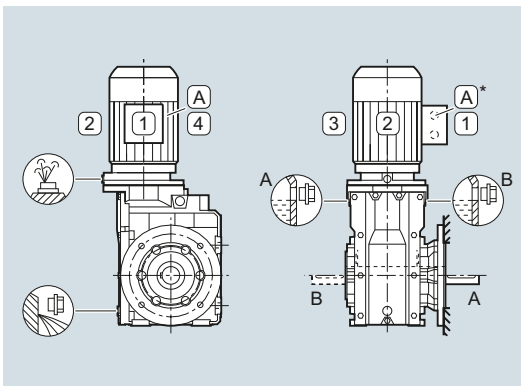


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

#### M4

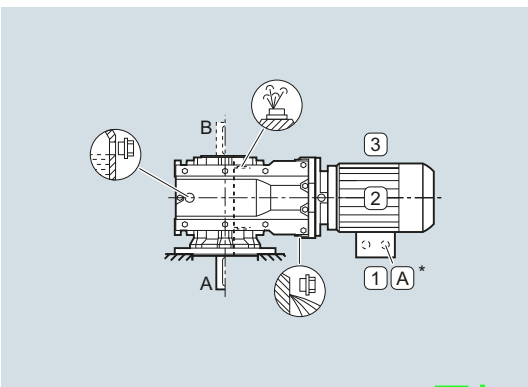


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

#### M5

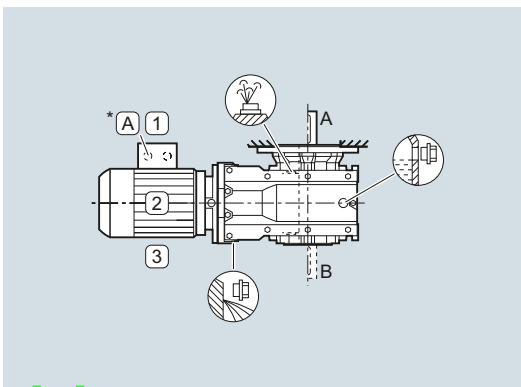


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

#### M6



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

Electro Motor.ir

**Shaft-mounted design**

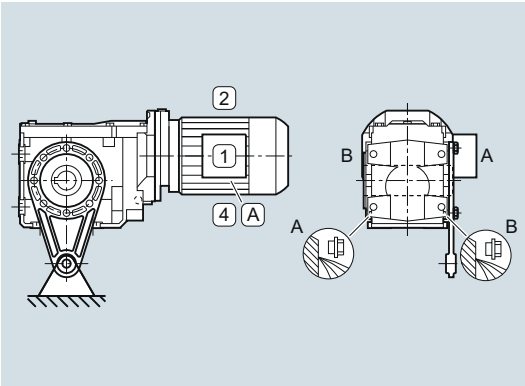
**Bevel gearboxes BAD., sizes 19 and 29**

**Oil valves**

Sizes 19 and 29 are lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

**M1**

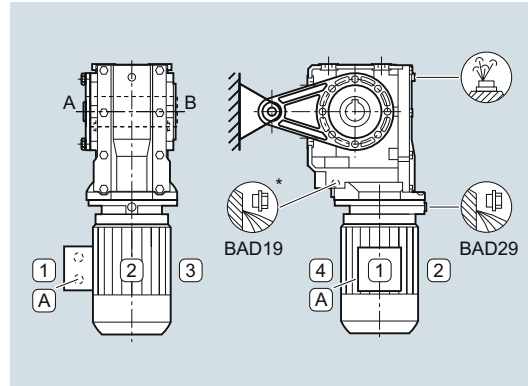


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

**M2**

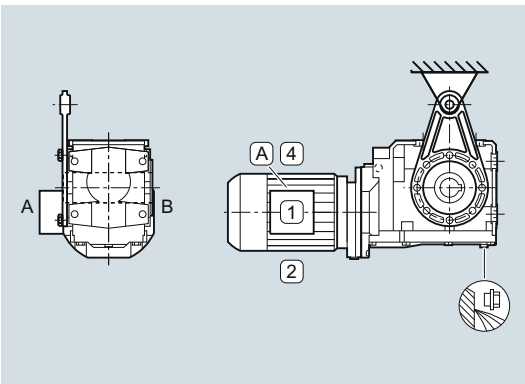


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

**M3**

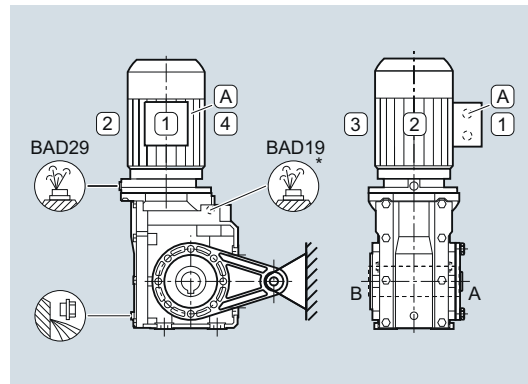


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

**M4**

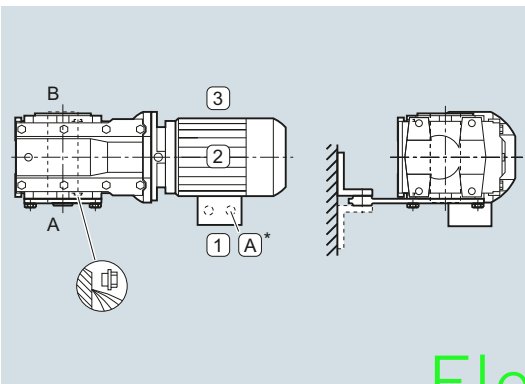


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

**M5**

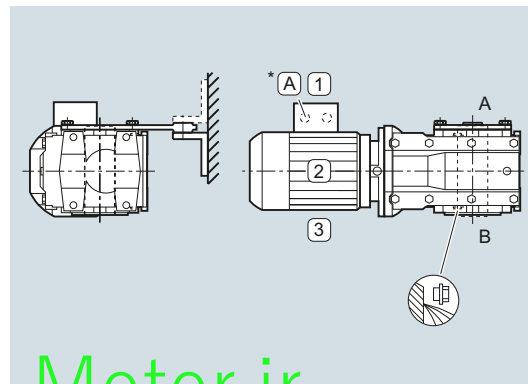


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

**M6**



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

Electro Motor.ir



## Gearbox options

### Mounting position

#### Bevel gearbox B

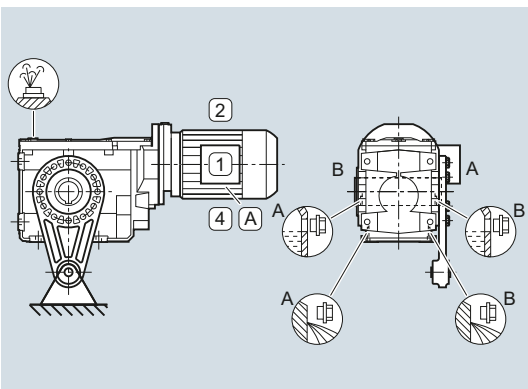
#### Shaft-mounted design (continued)

#### Bevel gearboxes BAD., sizes 39 and 49

#### Oil valves

For an explanation of the symbols, see [page 10/3](#).

#### M1

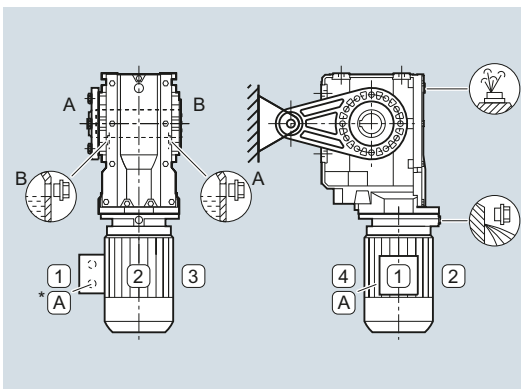


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

#### M2

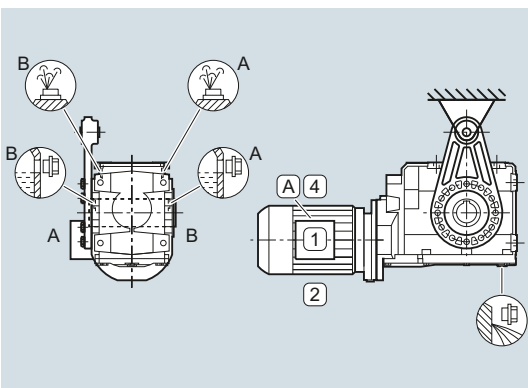


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

#### M3

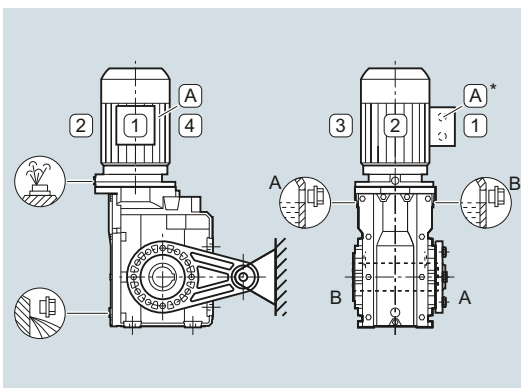


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

#### M4

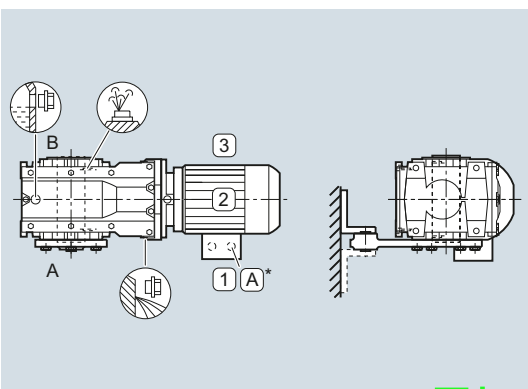


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

#### M5

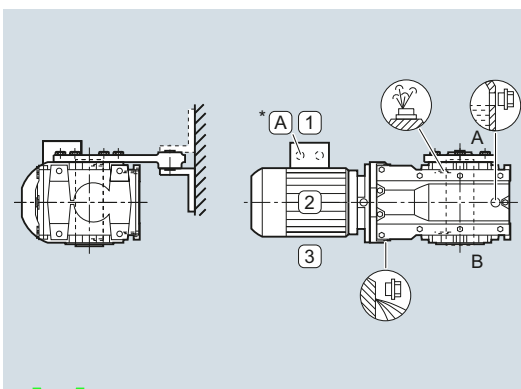


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

#### M6



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

Electro Motor.ir

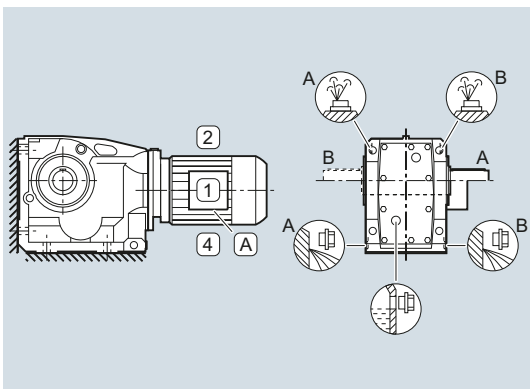
**Foot-mounted design**

**Bevel gearboxes K, sizes 39 to 189**

**Oil valves**

For an explanation of the symbols, see [page 10/3](#).

**M1**

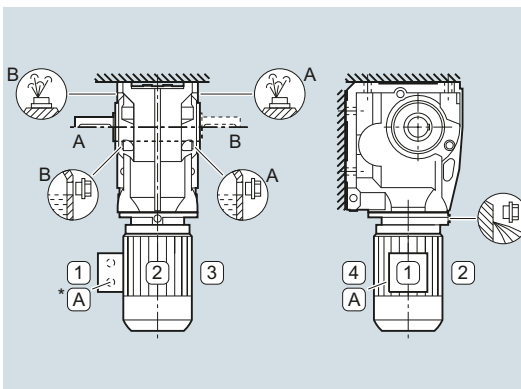


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

**M2**

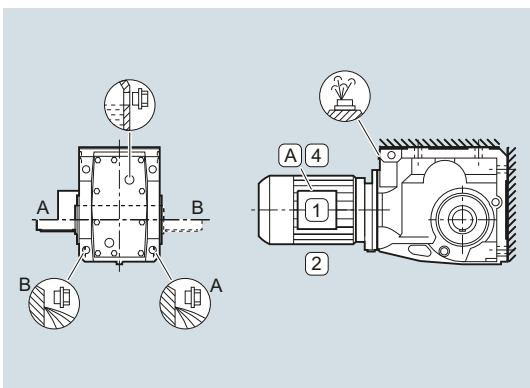


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

**M3**

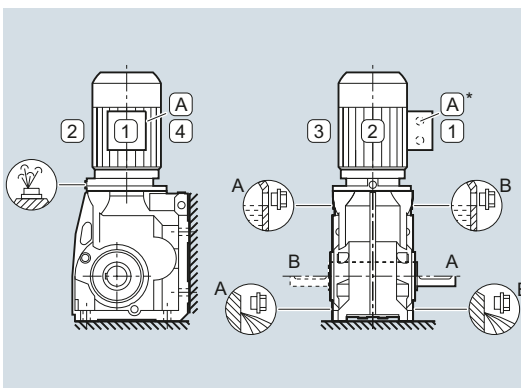


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

**M4**

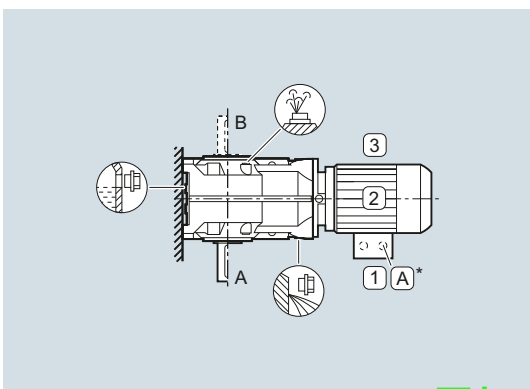


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

**M5**

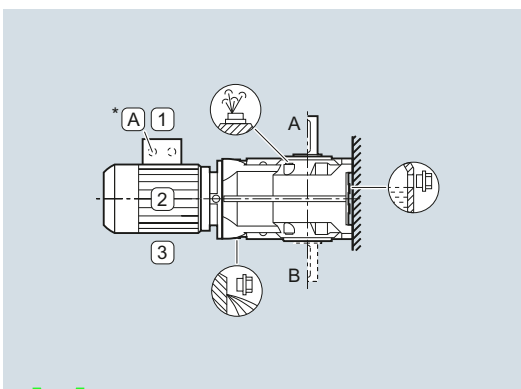


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

**M6**



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

Electro-Motor.ir

## Gearbox options

### Mounting position

#### Bevel gearbox K

#### Housing flange design and flange-mounted design

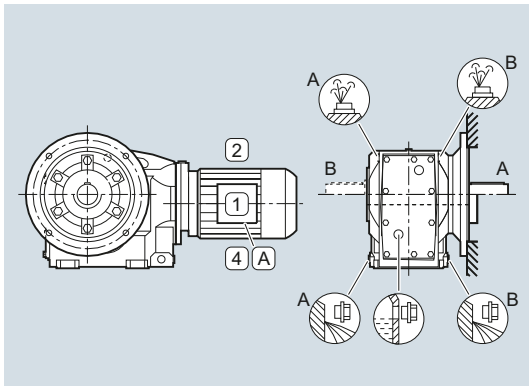
*Bevel gearboxes KAZ and K.F, sizes 39 to 189*

*Bevel gearboxes K.F with VLplus reinforced bearing systems, sizes 89 to 169*

#### Oil valves

For an explanation of the symbols, see [page 10/3](#).

#### M1



Order code:

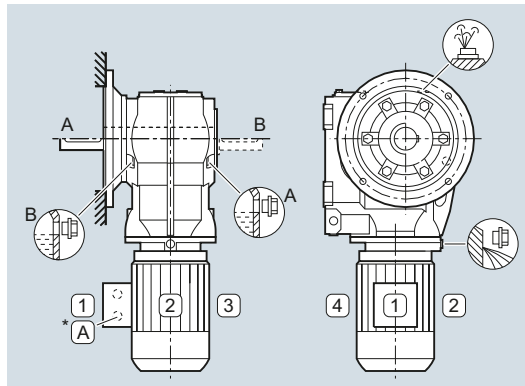
M1 output side A

M1 output side B

**D11**

**D21**

#### M2



Order code:

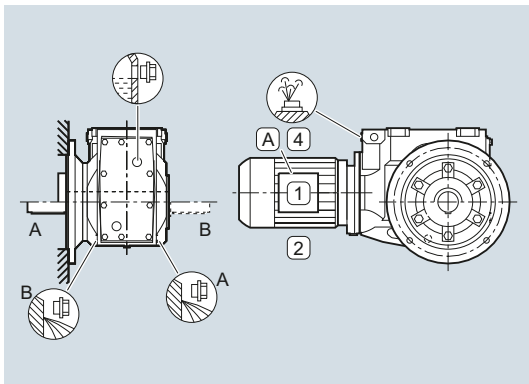
M2 output side A

M2 output side B

**D12**

**D22**

#### M3



Order code:

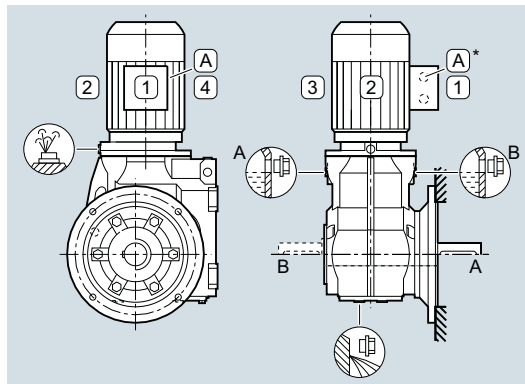
M3 output side A

M3 output side B

**D13**

**D23**

#### M4



Order code:

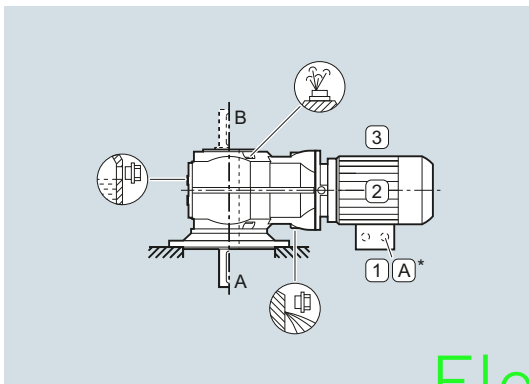
M4 output side A

M4 output side B

**D14**

**D24**

#### M5



Order code:

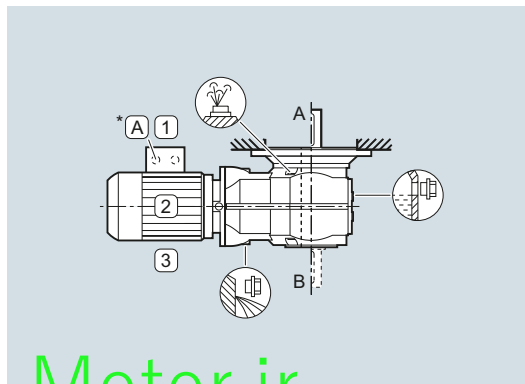
M5 output side A

M5 output side B

**D15**

**D25**

#### M6



Order code:

M6 output side A

M6 output side B

**D16**

**D26**

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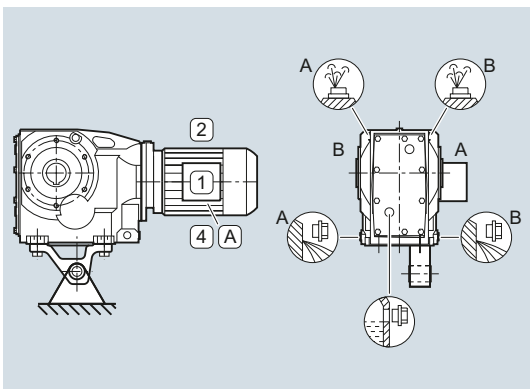
**Shaft-mounted design**

**Bevel gearboxes KAD., sizes 39 to 189**

**Oil valves**

For an explanation of the symbols, see [page 10/3](#).

**M1**

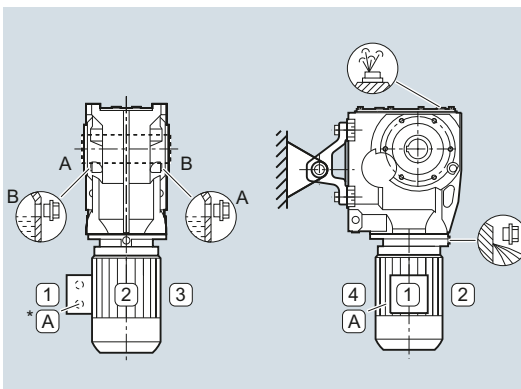


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

**M2**

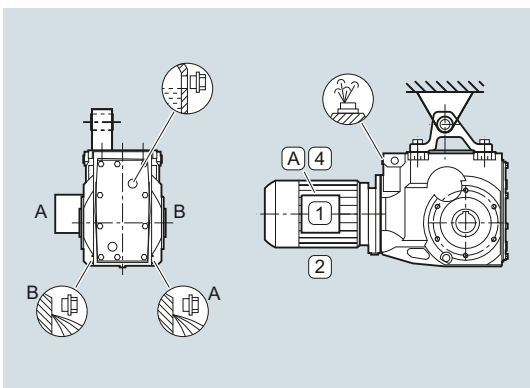


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

**M3**

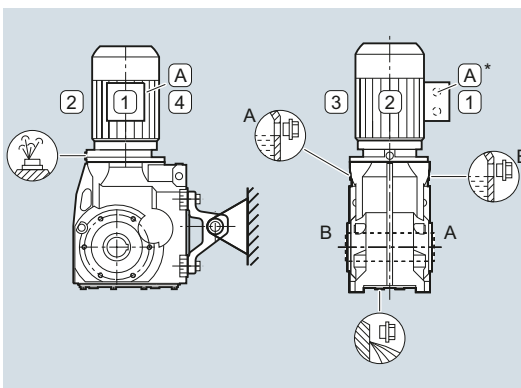


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

**M4**

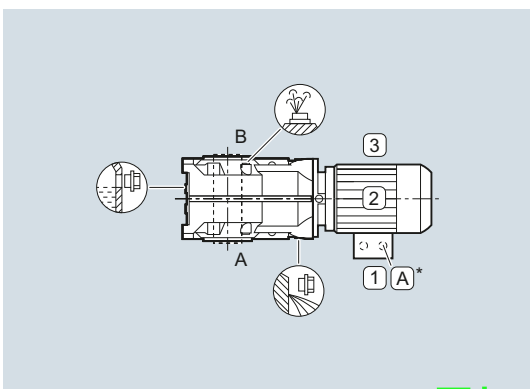


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

**M5**

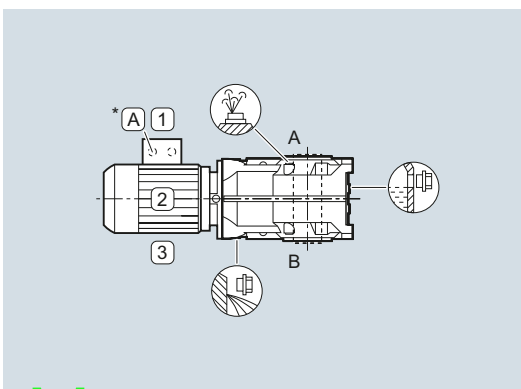


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

**M6**



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

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## Gearbox options

### Mounting position

#### Helical worm gearbox

##### Shaft-mounted design

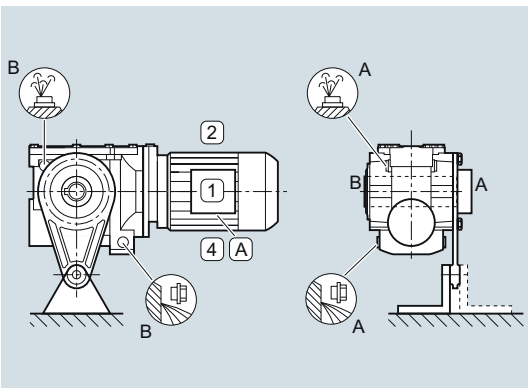
##### Helical worm gearboxes CAD., size 29

##### Oil valves

Size 29 is lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

##### M1

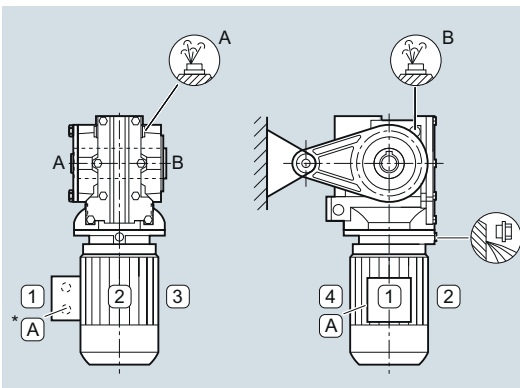


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

##### M2

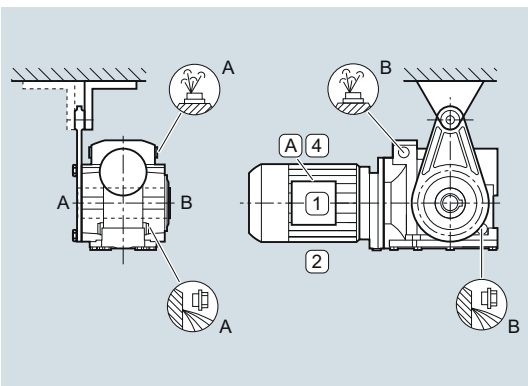


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

##### M3

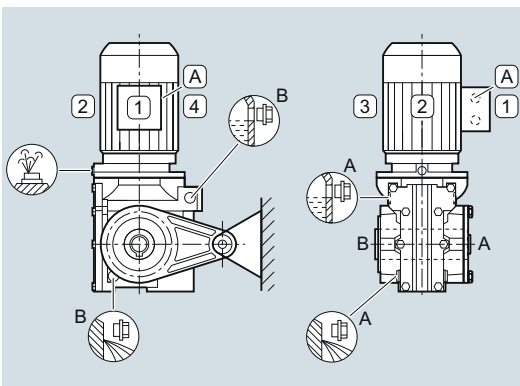


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

##### M4

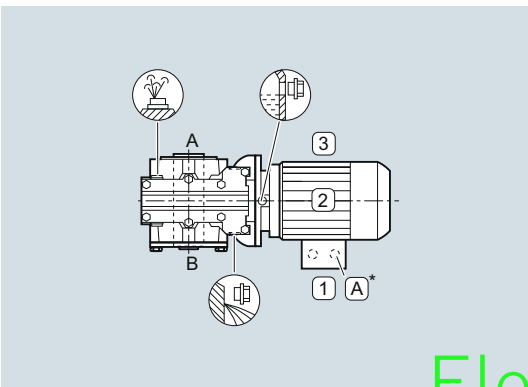


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

##### M5

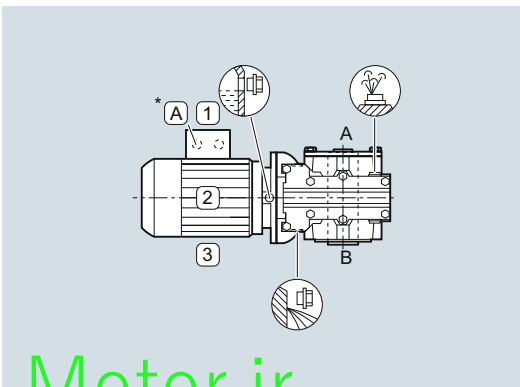


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

##### M6



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

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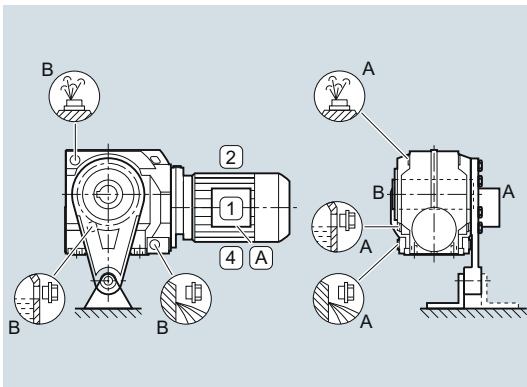
**Shaft-mounted design** (continued)

**Helical worm gearboxes CAD., sizes 39 to 89**

**Oil valves**

For an explanation of the symbols, see [page 10/3](#).

**M1**



Order code:

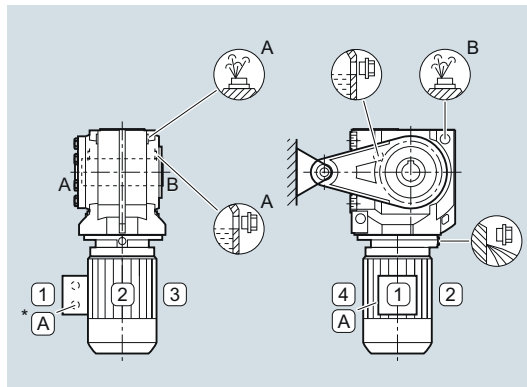
M1 output side A

M1 output side B

**D11**

**D21**

**M2**



Order code:

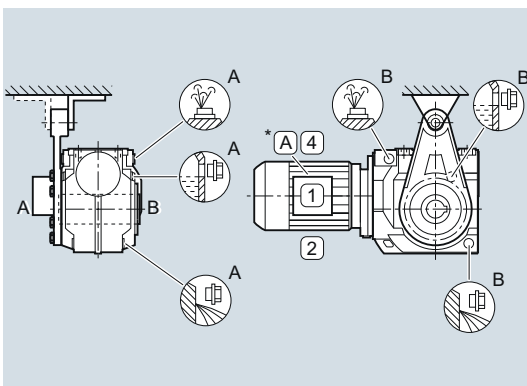
M2 output side A

M2 output side B

**D12**

**D22**

**M3**



Order code:

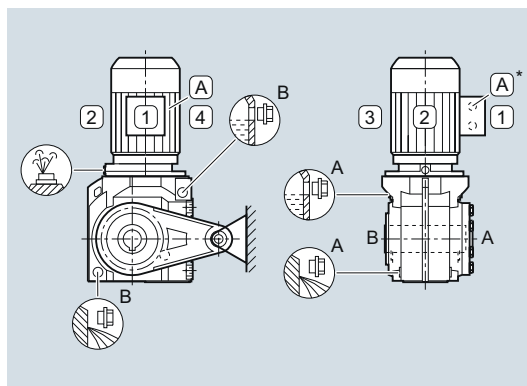
M3 output side A

M3 output side B

**D13**

**D23**

**M4**



Order code:

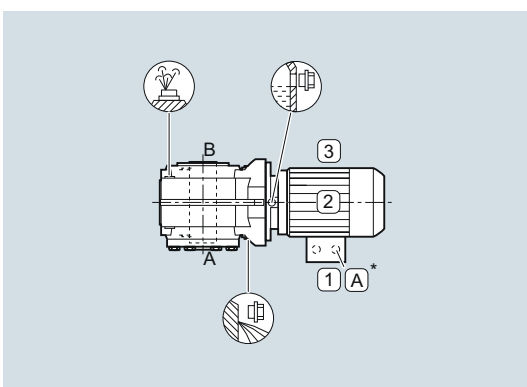
M4 output side A

M4 output side B

**D14**

**D24**

**M5**



Order code:

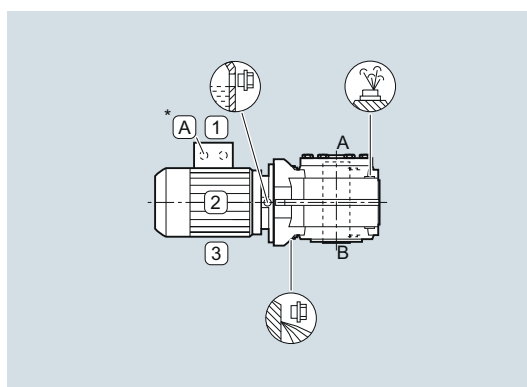
M5 output side A

M5 output side B

**D15**

**D25**

**M6**



Order code:

M6 output side A

M6 output side B

**D16**

**D26**

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## Gearbox options

### Mounting position

#### Helical worm gearbox

#### Housing flange design and flange-mounted design

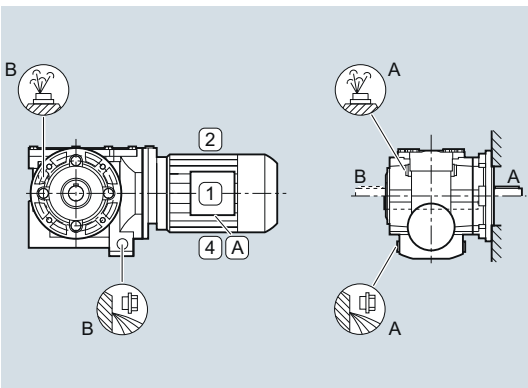
#### Helical worm gearboxes CAZ and C.F, size 29

##### Oil valves

Size 29 is lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

##### M1

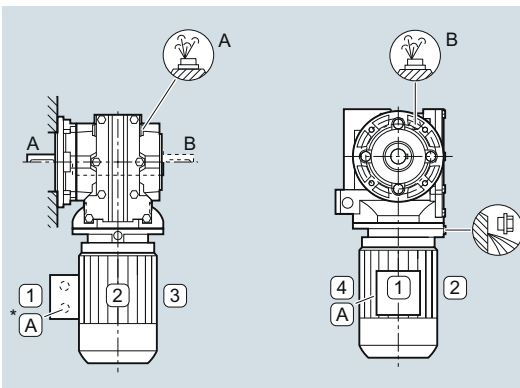


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

##### M2

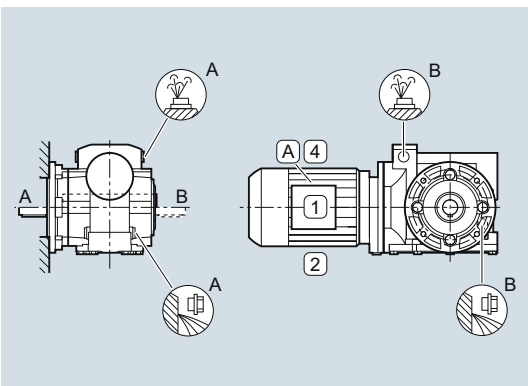


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

##### M3

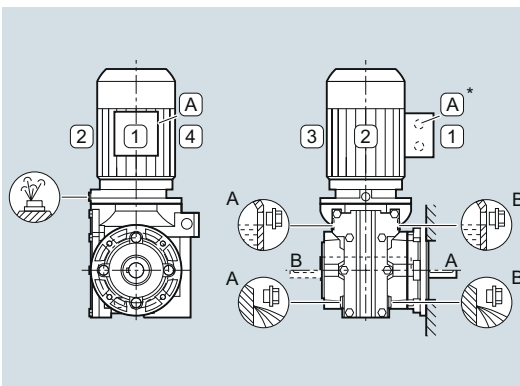


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

##### M4

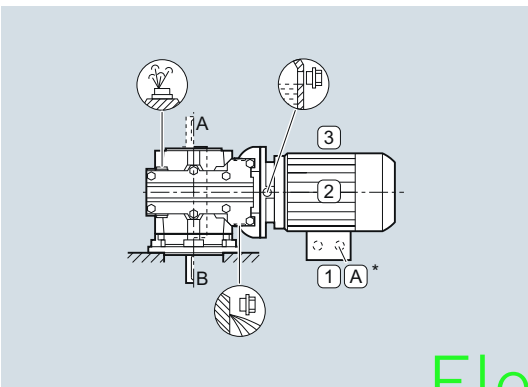


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

##### M5

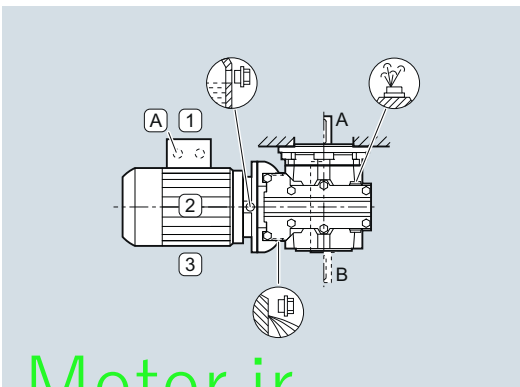


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

##### M6



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

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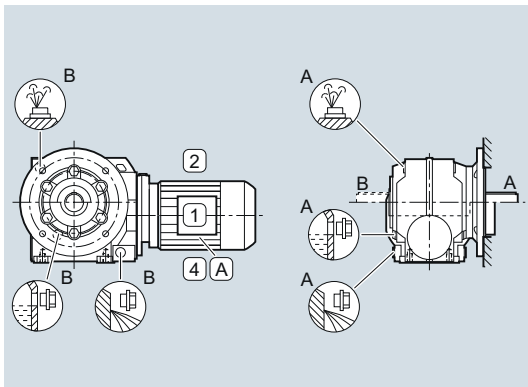
**Housing flange design and flange-mounted design (continued)**

**Helical worm gearboxes CAZ and C.F, sizes 39 to 89**

**Oil valves**

For an explanation of the symbols, see [page 10/3](#).

**M1**

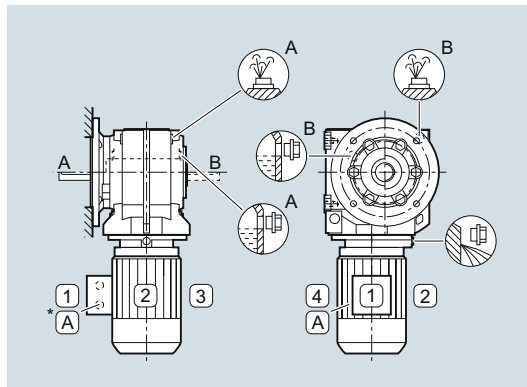


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

**M2**

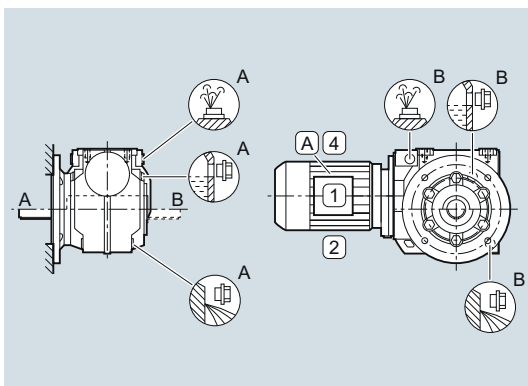


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

**M3**

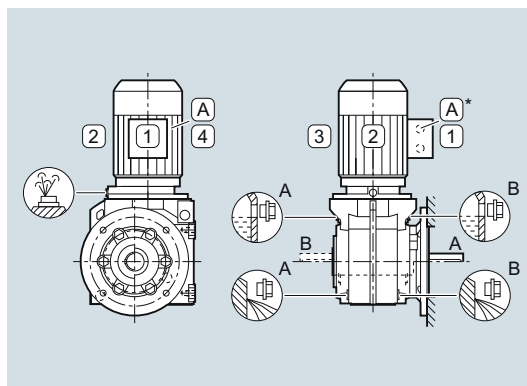


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

**M4**

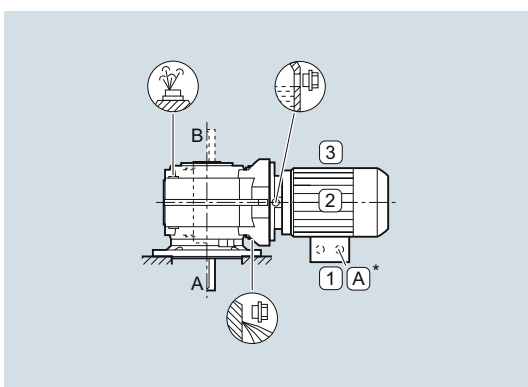


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

**M5**

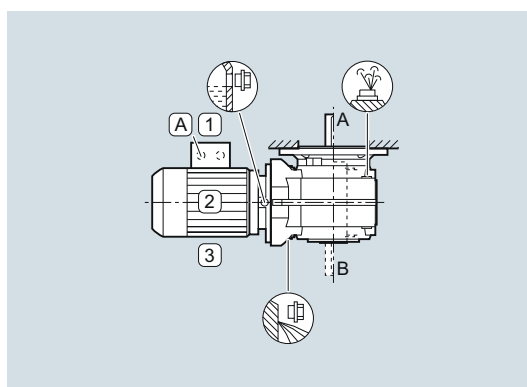


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

**M6**



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

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## Gearbox options

### Mounting position

#### Helical worm gearbox

#### Foot-mounted design

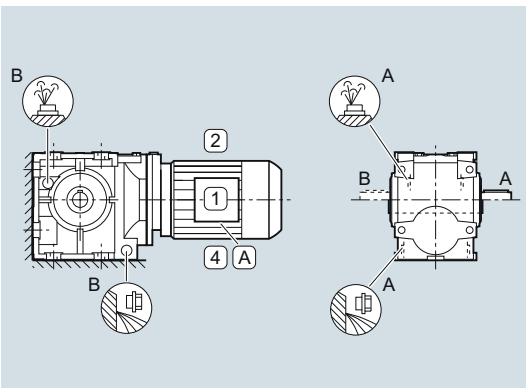
#### Helical worm gearboxes C, size 29

##### Oil valves

Size 29 is lubricated for life.

For an explanation of the symbols, see [page 10/3](#).

##### M1



Order code:

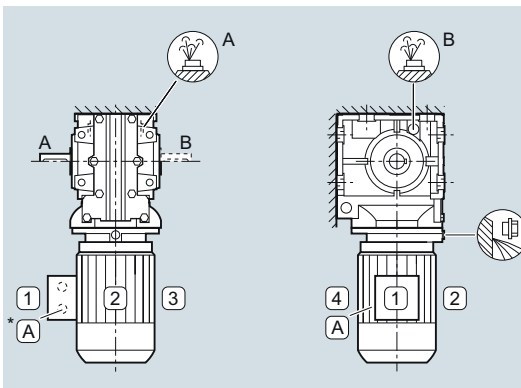
M1 output side A

M1 output side B

**D11**

**D21**

##### M2



Order code:

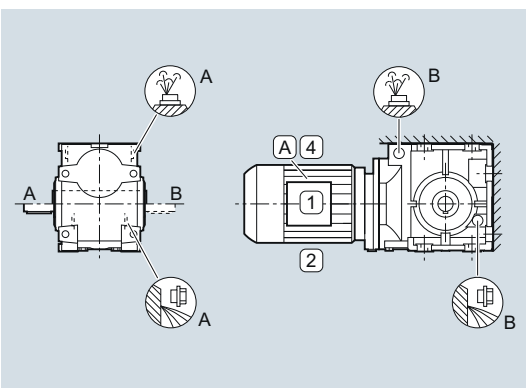
M2 output side A

M2 output side B

**D12**

**D22**

##### M3



Order code:

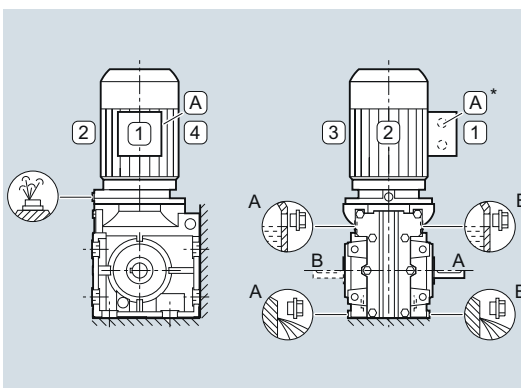
M3 output side A

M3 output side B

**D13**

**D23**

##### M4



Order code:

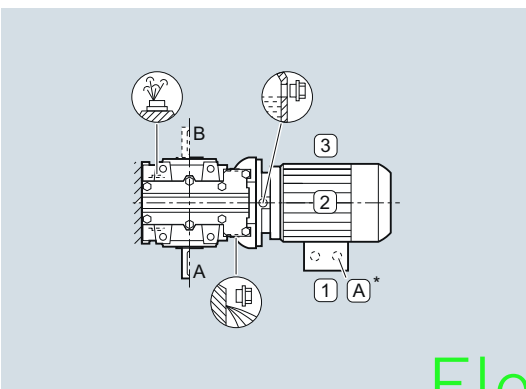
M4 output side A

M4 output side B

**D14**

**D24**

##### M5



Order code:

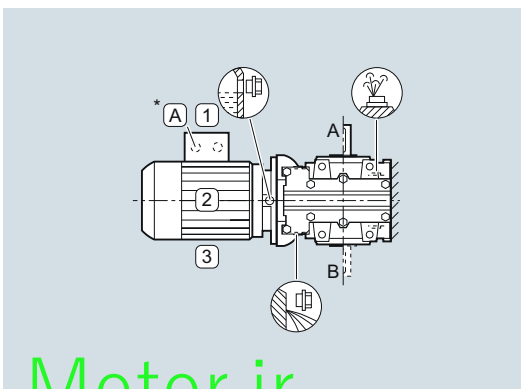
M5 output side A

M5 output side B

**D15**

**D25**

##### M6



Order code:

M6 output side A

M6 output side B

**D16**

**D26**

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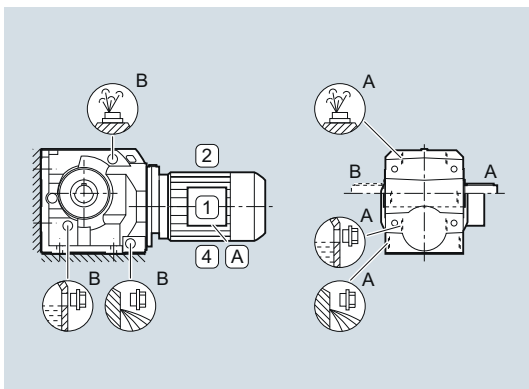
**Foot-mounted design (continued)**

**Helical worm gearboxes C, sizes 39 to 89**

**Oil valves**

For an explanation of the symbols, see [page 10/3](#).

**M1**

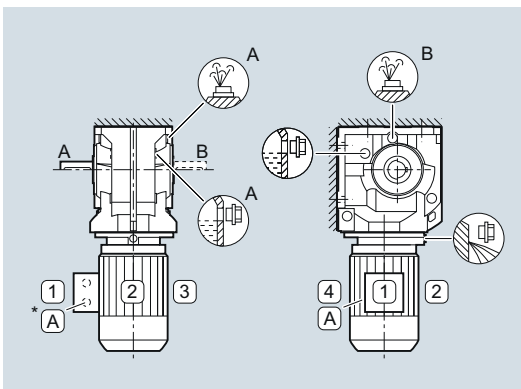


Order code:

M1 output side A  
M1 output side B

**D11**  
**D21**

**M2**

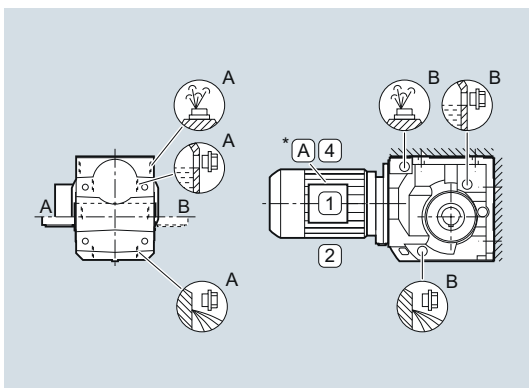


Order code:

M2 output side A  
M2 output side B

**D12**  
**D22**

**M3**

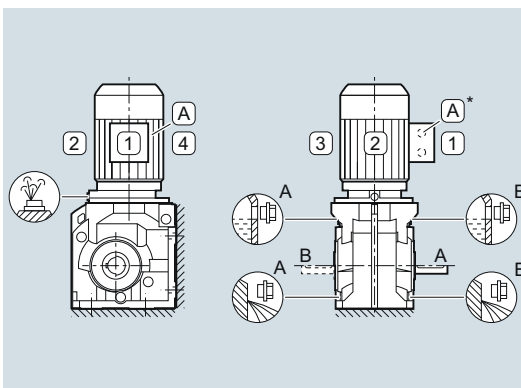


Order code:

M3 output side A  
M3 output side B

**D13**  
**D23**

**M4**

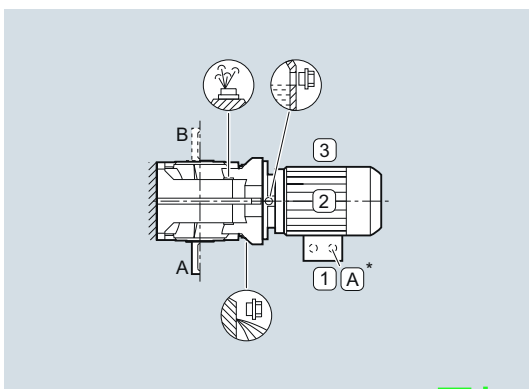


Order code:

M4 output side A  
M4 output side B

**D14**  
**D24**

**M5**

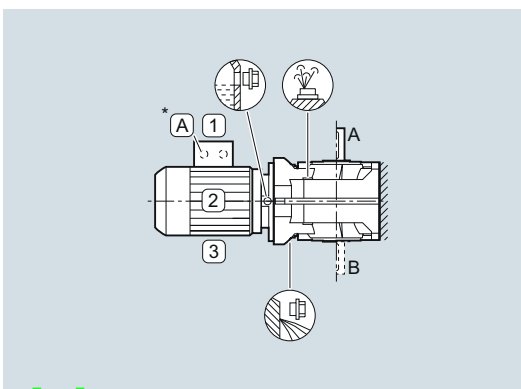


Order code:

M5 output side A  
M5 output side B

**D15**  
**D25**

**M6**



Order code:

M6 output side A  
M6 output side B

**D16**  
**D26**

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## Gearbox options

### Mounting position

#### Worm gearbox

#### Foot-mounted, flange-mounted, shaft-mounted and housing flange designs

#### Worm gearboxes S., sizes 09 to 29

##### Oil valves

The worm gearboxes S are lubricated for life.  
For an explanation of the symbols, see [page 10/3](#).

**M0** is a universal mounting position in which the geared motor can be installed in any position.

Order code:

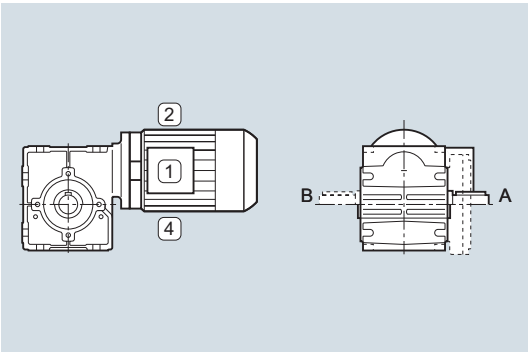
M0 output side A

**D10**

M0 output side B

**D20**

#### M1



Order code:

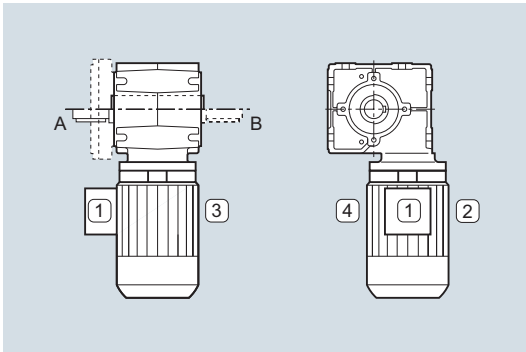
M1 output side A

**D11**

M1 output side B

**D21**

#### M2



Order code:

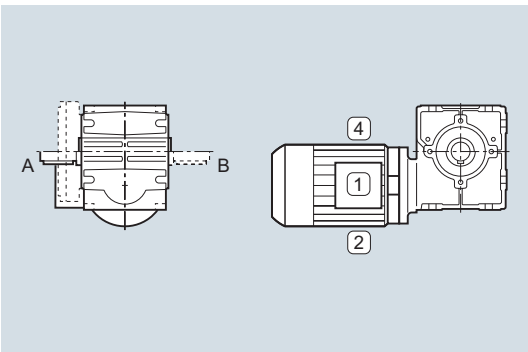
M2 output side A

**D12**

M2 output side B

**D22**

#### M3



Order code:

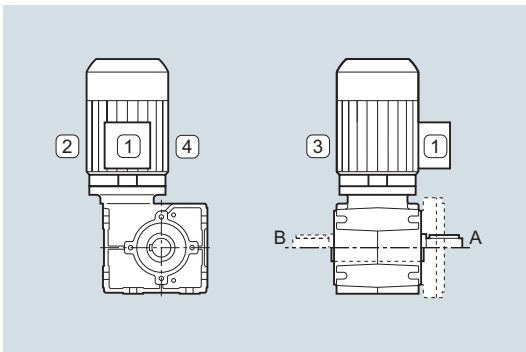
M3 output side A

**D13**

M3 output side B

**D23**

#### M4



Order code:

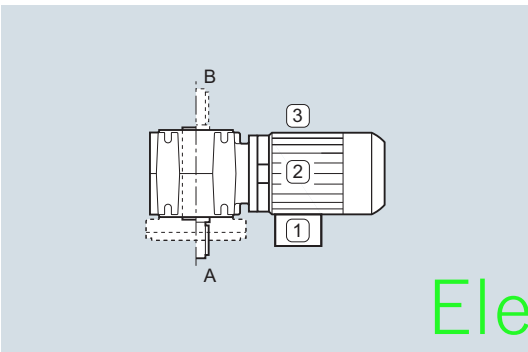
M4 output side A

**D14**

M4 output side B

**D24**

#### M5



Order code:

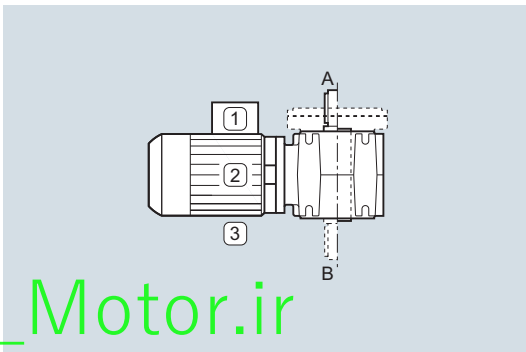
M5 output side A

**D15**

M5 output side B

**D25**

#### M6



Order code:

M6 output side A

**D16**

M6 output side B

**D26**

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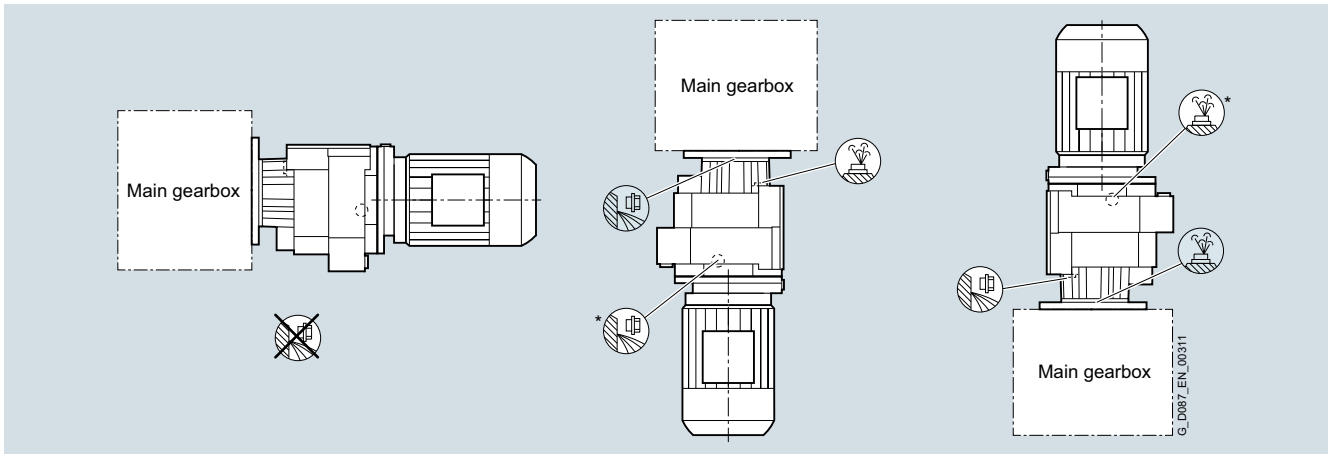
**Overview**

The tandem gearbox is mounted in the same position as the main gearbox. The diagrams below are only designed to show the position of the oil control valves of the 2nd gearbox.

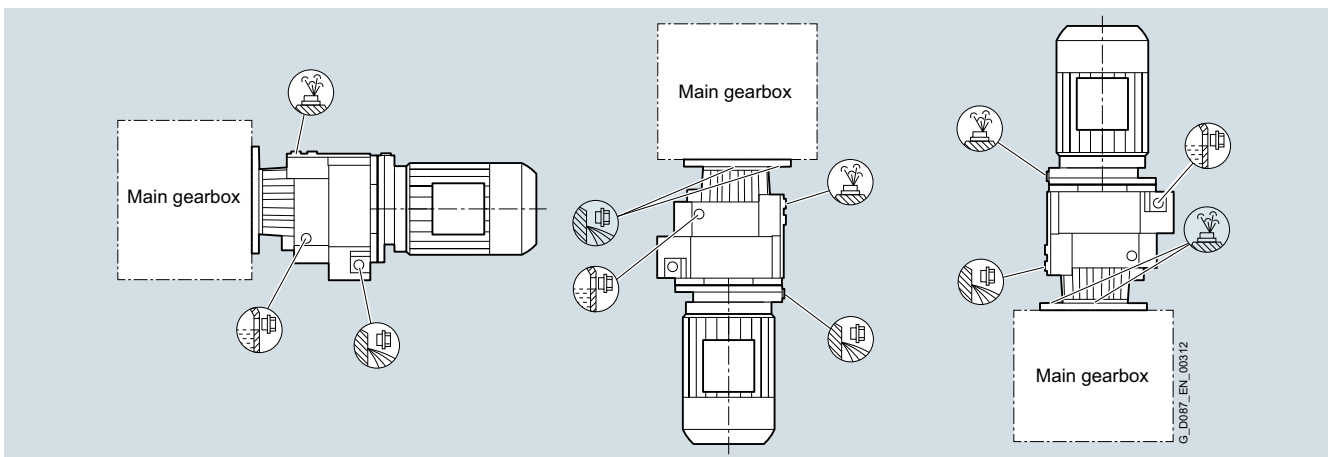
**Note:**

In a horizontal operating position, the convex face of the housing of the 2nd gearbox generally points vertically downwards. For an explanation of the symbols, see [page 10/3](#).

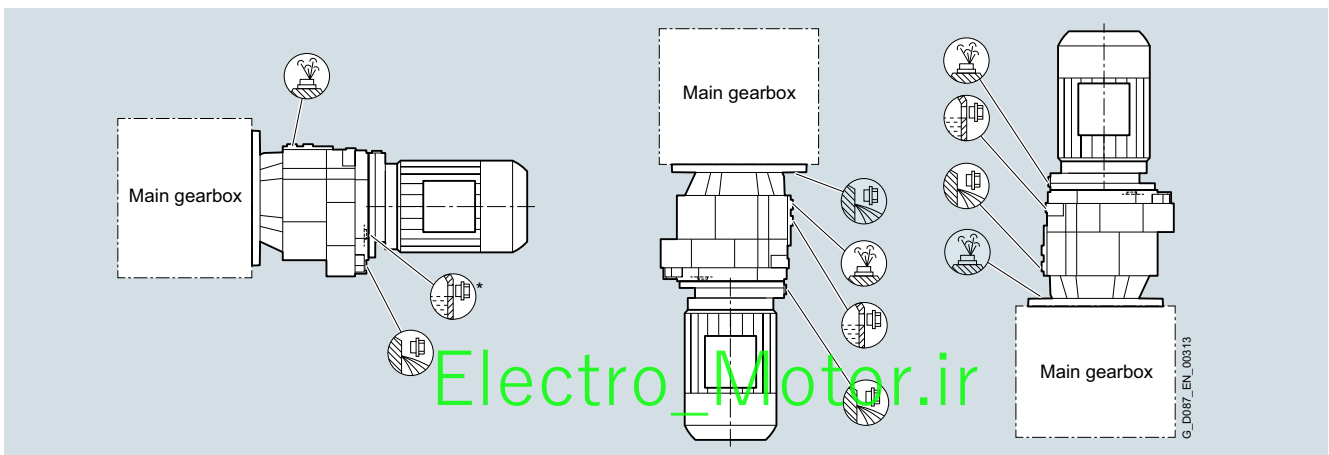
**Tandem gearbox: 2nd gearbox size 19**



**Tandem gearbox: 2nd gearbox size 39**



**Tandem gearbox: 2nd gearbox sizes 49 to 69**



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## Gearbox options

### Mounting position

#### Special mounting positions

#### Overview

Apart from the standard types of construction, geared motors can also be supplied in different inclined positions.

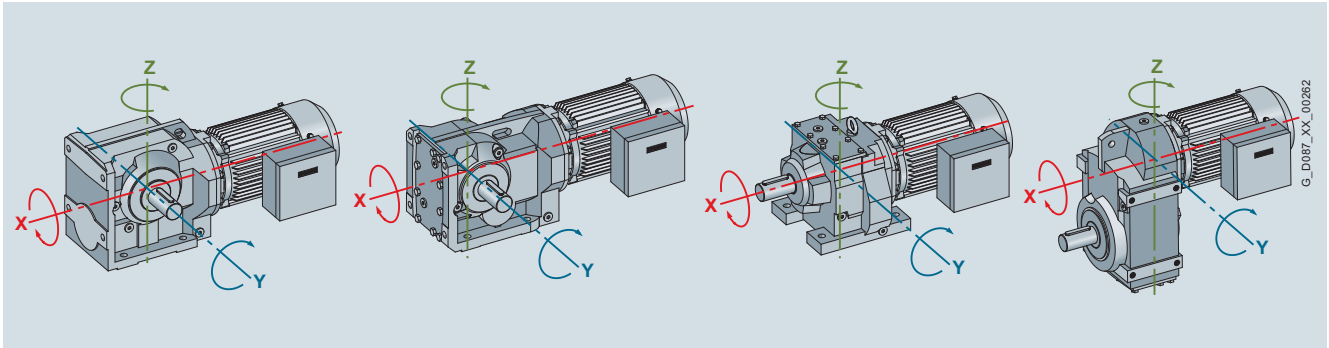


Fig. 10/6 Axes of rotation of the geared motors

Order code:

Y axis	X axis	Z axis
Rotation angle 5 °	<b>E01</b>	Rotation angle 5 °
Rotation angle 10 °	<b>E02</b>	Rotation angle 10 °
Rotation angle 15 °	<b>E03</b>	Rotation angle 15 °
Rotation angle 20 °	<b>E04</b>	Rotation angle 20 °
Rotation angle 25 °	<b>E05</b>	Rotation angle 25 °
Rotation angle 30 °	<b>E06</b>	Rotation angle 30 °
Rotation angle 35 °	<b>E07</b>	Rotation angle 35 °
Rotation angle 40 °	<b>E08</b>	Rotation angle 40 °
Rotation angle 45 °	<b>E09</b>	Rotation angle 45 °
Rotation angle 50 °	<b>E10</b>	Rotation angle 50 °
Rotation angle 55 °	<b>E11</b>	Rotation angle 55 °
Rotation angle 60 °	<b>E12</b>	Rotation angle 60 °
Rotation angle 65 °	<b>E13</b>	Rotation angle 65 °
Rotation angle 70 °	<b>E14</b>	Rotation angle 70 °
Rotation angle 75 °	<b>E15</b>	Rotation angle 75 °
Rotation angle 80 °	<b>E16</b>	Rotation angle 80 °
Rotation angle 85 °	<b>E17</b>	Rotation angle 85 °

Use the functions of the [DT Configurator](#) to precisely design the special mounting position you require.

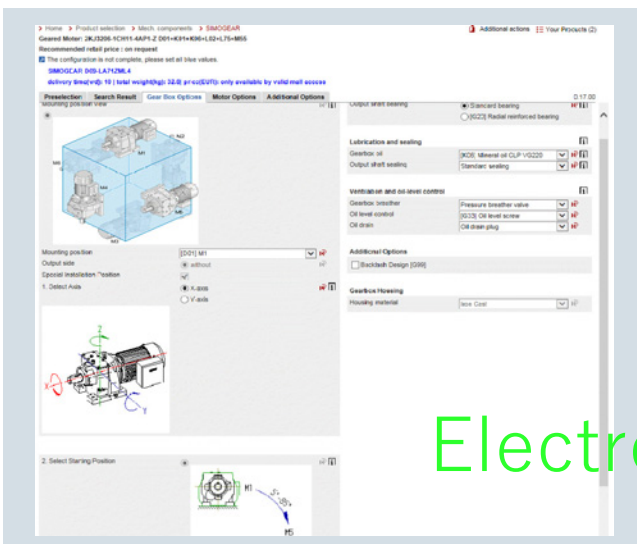


Fig. 10/7 DT Configurator

**Overview**

Mounting type	Type designation 2nd data position	Possible for							Example	Article No. 14th data position
		D, Z	E	F	B	K	C	S		
Foot-mounted design	-	✓	✓	✓	✓	✓	✓	✓		A
Foot/flange-mounted design	B	✓ <sup>1)</sup>	-	-	-	-	-	-		B
Flange-mounted design (A type)	F	✓	✓	✓	✓	✓	✓	✓		F
Housing flange (C type)	Z	✓	✓	✓	✓	✓	✓	✓		H
Shaft-mounted design (torque arm)	D	-	-	✓	✓	-	✓	✓		D C

<sup>1)</sup> Only for sizes 29 to 89

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## Gearbox options

### Mounting

#### Mounting types

##### Flange-mounted designs

The flange-mounted designs are available with different diameters.

Gearbox type	Flange diameter													Order code
	mm													
<b>Helical gearboxes DF and ZF</b>														
Gearbox size	19	29	39	49	59	69	79	89	109	129	149	169	189	
	120	120	120											H02
	140	140		140										H03
	160	160	160	160	160									H04
			200	200	200	200								H05
					250	250	250							H06
							300	300						H07
							350	350	350	350				H08
								450	450	450	450	450		H09
										550	550	550	550	H10
												660	660	H11
<i>Helical gearboxes VLplus</i>														
							300							H07
							350	350	350					H08
							450	450	450	450	450			H09
									550	550	550			H10
												660		H11
<i>Helical gearboxes XLplus</i>														
							450	450						H09
									550	550				H10
												660		H11
<b>Helical gearboxes DB and ZB</b>														
Gearbox size	29	39	49	59	69	79	89							
	120	120												H02
			140											H03
			160	160										H04
					200									H05
						250								H06
											300			H07
<b>Helical gearboxes EF</b>														
Gearbox size	39	49	69	89	109	129	149							
	120													H02
	140													H03
	160	160												H04
	200	200	200											H05
		250	250	250										H06
				300	300									H07
				350	350	350	350							H08
					450	450	450	450	450					H09
									550	550				H10
<b>Cooling tower gearboxes</b>														
Gearbox size	EKF89	EKF109	EKF129	EKF149	ZKF89	ZKF109	ZKF129	ZKF149	ZKF169	ZKF189				
	250													H06
	300	300			300									H07
	350	350	350	350	350	350	350							H08
		450	450	450	450	450	450	450	450					H09
				550			550	550	550	550				H10
									660	660				H11
<i>Cooling tower gearboxes XLplus</i>														
				450	450									H09
						550	550							H10
								660						H11

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## Flange-mounted designs (continued)

Gearbox type	Flange diameter mm										Order code	
<b>Parallel shaft gearboxes F..F</b>												
Gearbox size	29	39	49	69	79	89	109	129	149	169	189	
	120											H02
	160	160										H04
			200									H05
				250	250							H06
						300						H07
							350					H08
								450	450			H09
										550		H10
											660	H11
<i>Parallel shaft gearbox VLplus</i>												
						300						H07
							350					H08
								450	450			H09
										550		H10
<b>Bevel gearboxes B.F</b>												
Gearbox size	19		29			39			49			
	120		120									H02
			160			160						H04
						200			200			H05
<b>Bevel gearboxes K.F</b>												
Gearbox size	39	49	69	79	89	109	129	149	169	189		
	160											H04
		200										H05
			250	250								H06
					300							H07
						350						H08
							450	450				H09
									550			H10
										660		H11
<i>Bevel gearboxes VLplus</i>												
						300						H07
							350					H08
								450	450			H09
										550		H10
<b>Helical worm gearboxes C.F</b>												
Gearbox size	29		39		49		69		89			
	120											H02
	160		160									H04
					200		200					H05
										250		H06
<b>Worm gearboxes S.F</b>												
Gearbox size	09			19			29					
	80			110			120					H01
	120 / Q90			120			160 / Q136					H02



## Gearbox options

### Mounting

#### Mounting types

##### Flange-mounted designs (continued)

##### Water drain holes at the output flange

For gearboxes in a flange-mounted design, water drain holes can be located at the output flange. This is required for mounting position M2 (output shaft facing upwards), if there is a risk that water will collect in the output flange.

Order code:

Water drain holes at the output flange

G77

Flange diameter mm	Possible for												
	19	29	39	49	59	69	79	89	109	129	149	169	189
<b>Helical gearboxes Z and D</b>													
120													
140				✓									
160				✓	✓ <sup>1)</sup>								
200				✓	✓	✓ <sup>2)</sup>							
250					✓	✓	✓ <sup>1)</sup>						
300							✓	✓					
350							✓	✓	✓	✓			
450								✓	✓	✓	✓	✓	
550										✓	✓	✓	✓
660												✓	✓

<sup>1)</sup> Water drain holes are also possible for foot/flange-mounted designs

<sup>2)</sup> Water drain holes are only possible for foot/flange-mounted designs

<b>Helical gearboxes E</b>													
Gearbox size	39	49	69	89	109	129	149						
120	✓												
140	✓												
160	✓		✓										
200	✓		✓	✓									
250			✓	✓		✓							
300						✓		✓					
350								✓		✓			✓
450										✓		✓	

<b>Cooling tower gearboxes</b>											
Gearbox size	EKF89	EKF109	EKF129	EKF149	ZKF89	ZKF109	ZKF129	ZKF149	ZKF169	ZKF189	
250	✓										
300	✓				✓						
350	✓	✓	✓	✓	✓	✓	✓				
450		✓	✓	✓	✓	✓	✓	✓	✓		
550				✓			✓	✓	✓	✓	✓
660									✓	✓	✓

<b>Parallel shaft gearboxes F</b>												
Gearbox size	29	39	49	69	79	89	109	129	149	169	189	
120												
140												
160			✓									
200				✓								
250				✓	✓							
300						✓						
350							✓					
450								✓	✓			
550										✓		
660												✓

<b>Bevel gearboxes K</b>												
Gearbox size	39	49	69	79	89	109	129	149	169	189		
160	✓											
200		✓										
250			✓	✓								
300						✓						
350							✓					
450								✓	✓			
550										✓		
660											✓	

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### Flange-mounted designs (continued)

#### Output flange seal

The flange sealing option enables you to create a fluid-tight interface between the housing and the output flange. The seal prevents the escape of fluids (e.g. oil or water).

The gearbox in a flange-mounted design can be used when a fluid-tight space at the output is required. Input gears are a typical application.

The flange sealing option must always be ordered for use in combination with the "water drain holes at the output flange" option.

Order code:

Output flange seal

**G78**

### Parallel shaft gearboxes F.AD. in a shaft-mounted design

The rubber buffers (supplied loose) are used to flexibly support the gearbox on the housing plate provided.

When mounting, the rubber buffers must be pretensioned to the dimension specified in the dimensional drawing.

The elastomer used for support is manufactured out of natural rubber  $70^\circ \pm 5$  Shore A.

The rubber buffers are suitable for all mounting positions and can withstand temperatures of between  $-40$  and  $+80$  °C.

Article No. at 14th data position

Shaft-mounted design

**D**

The dimensions of the torque arm can be seen in the dimensional drawings.

### Bevel gearboxes KAD. in a shaft-mounted design

The torque arm of bevel gearboxes K is mounted on the underside of the housing. The rubber buffers are used to flexibly support the gearbox on the torque arm.

The elastomer used for support is manufactured out of natural rubber of grade  $60^\circ$  Shore A.

The rubber elastic buffers are suitable for all mounting positions and can withstand temperatures of between  $-40$  and  $+80$  °C.

Article No. at 14th data position

Shaft-mounted design

**C**

The dimensions of the torque arm can be seen in the dimensional drawings.

### Bevel gearboxes BAD. in a shaft-mounted design

The torque arm can be screwed to the gearbox housing at various positions.

The elastomer used for support is manufactured out of natural rubber  $60^\circ$  Shore A. The rubber elastic buffers are suitable for all mounting positions and can withstand temperatures of between  $-40$  and  $+80$  °C.

Article No. at 14th data position

Shaft-mounted design

**D**

When ordered, the torque arm is supplied loose.

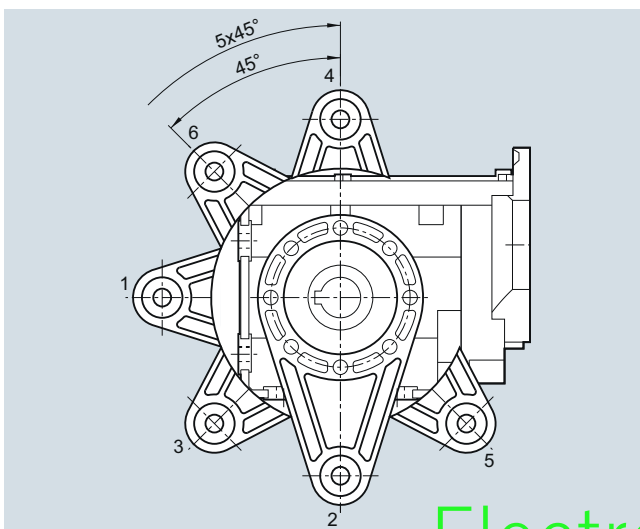


Fig. 10/8 Bevel gearboxes BAD., sizes 19 and 29

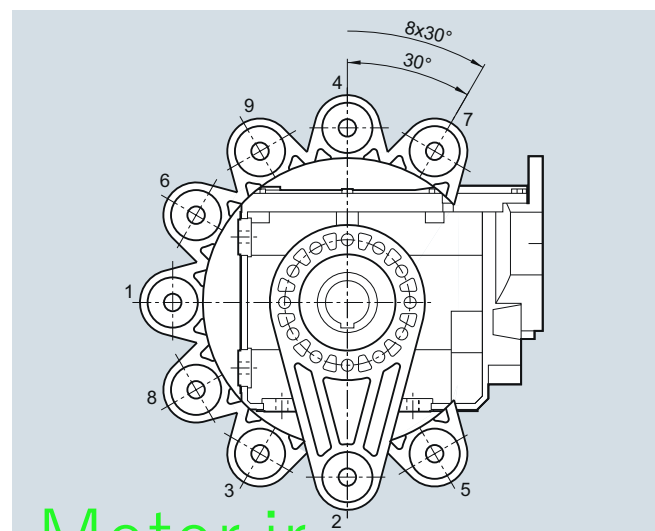


Fig. 10/9 Bevel gearboxes BAD., sizes 39 and 49

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## Gearbox options

### Mounting

#### Mounting types

##### Helical worm gearboxes CAD. in a shaft-mounted design

The torque arm can be screwed to the gearbox housing at various positions.

The elastomer used for support is manufactured out of natural rubber 60° Shore A. The rubber elastic buffers are suitable for all mounting positions and can withstand temperatures of between -40 and +80 °C.

##### Shaft-mounted design for size 29

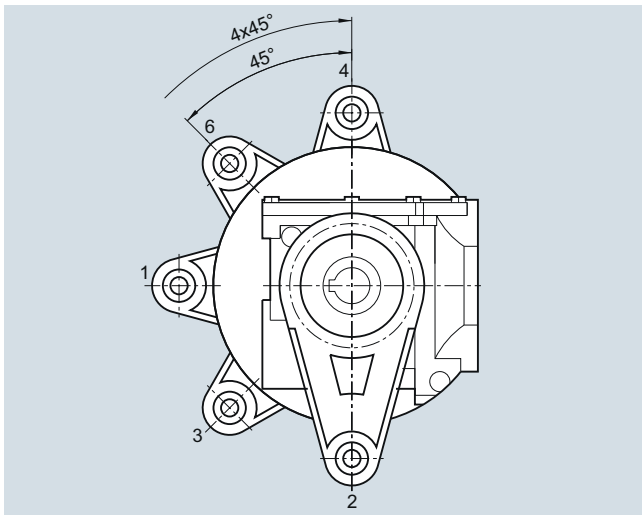


Fig. 10/10 Helical worm gearboxes CAD., size 29

Article No. at 14th data position

Shaft-mounted design

**D**

When ordered, the torque arm is supplied loose.

##### Shaft-mounted design for sizes 39 to 89

Article No. at 14th data position

Shaft-mounted design

**D**

When ordered, the torque arm is supplied loose.

Order code:

Figure 1

**G09**

Figure 2

**G10**

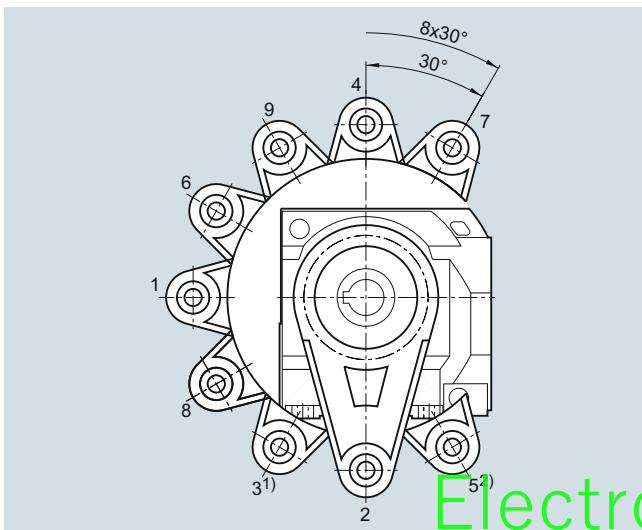


Fig. 10/11 Helical worm gearboxes CAD., Figure 1, sizes 39 to 89

1) Position not possible for sizes CAD.39 and CAD.69

2) Position not possible for size CAD.39

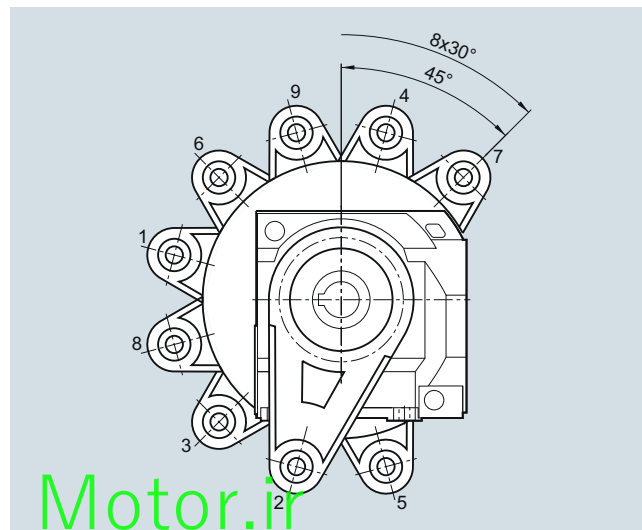


Fig. 10/12 Helical worm gearboxes CAD., Figure 2, sizes 39 to 89

**Worm gearboxes SAD. in a shaft-mounted design**

The torque arm can be screwed to the gearbox housing at various positions.

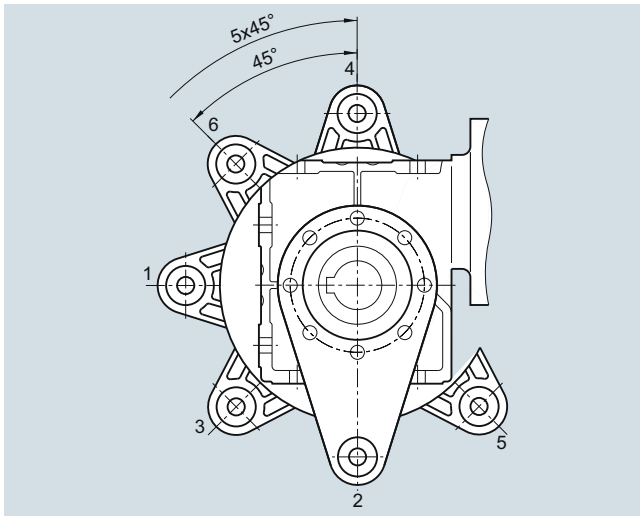


Fig. 10/13 Worm gearboxes S in a shaft-mounted design

Article No. at 14th data position

Shaft-mounted design

**D**

When ordered, the torque arm is supplied loose.

**Shaft designs****Selection and ordering data**

Shaft design	Dimensions						Article No. 8th data position	Article No. supplement	
	mm								
<b>Helical gearboxes Z and D</b>									
<b>Gearbox size</b>	<b>19</b>	<b>29</b>	<b>39</b>	<b>49</b>	<b>59</b>	<b>69</b>			
Solid shaft	V20 x 40	V25 x 50	V25 x 50	V30 x 60	V35 x 70	V35 x 70	<b>1</b>		
	V16 x 28				V30 x 60		<b>2</b>		
	V16 x 40		V30 x 60		V40 x 80		<b>3</b>		
Solid shaft without feather key	VG20 x 40	VG25 x 50	VG25 x 50	VG30 x 60	VG35 x 70	VG35 x 70	<b>9</b>	<b>H1G</b>	
Solid shaft, inches	V0.75" x 1.57"	V1" x 1.97"	V1" x 1.97"	V1.25" x 2.36"	V1.375" x 2.76"	V1.375" x 2.76"	<b>9</b>	<b>H6A</b>	
<b>Gearbox size</b>	<b>79</b>	<b>89</b>	<b>109</b>	<b>129</b>	<b>149</b>	<b>169</b>			
Solid shaft	V40 x 80	V50 x 100	V60 x 120	V70 x 140	V90 x 170	V110 x 210	<b>1</b>		
	V35 x 70					V100 x 210	<b>2</b>		
	V50 x 100	V60 x 120					<b>3</b>		
Solid shaft without feather key	VG40 x 80	VG50 x 100	-	-	-	-	<b>9</b>	<b>H1G</b>	
Solid shaft, inches	V1.625" x 3.15"	V2.125" x 3.94"	V2.375" x 4.72"	V2.875" x 5.51"	V3.625" x 6.69"	V4.375" x 8.27"	<b>9</b>	<b>H6A</b>	
Solid shaft VLplus		VM50 x 100	VM70 x 140	VM90 x 170	VM110 x 210	VM120 x 210	<b>9</b>	<b>H1C</b>	
Solid shaft XLplus		VR50 x 100	VR70 x 140	VR90 x 170	VR110 x 210	VR120 x 210	<b>9</b>	<b>H1D</b>	
<b>Gearbox size</b>	<b>189</b>								
Solid shaft	V120 x 210						<b>1</b>		
Solid shaft, inches	V4.75" x 8.27"						<b>9</b>	<b>H6A</b>	
<b>Helical gearboxes E</b>									
<b>Gearbox size</b>	<b>39</b>	<b>49</b>	<b>69</b>	<b>89</b>	<b>109</b>	<b>129</b>	<b>149</b>		
Solid shaft	V20 x 40	V25 x 50	V30 x 60	V40 x 80	V50 x 100	V60 x 120	V70 x 140	<b>1</b>	
Solid shaft, inches	V0.75" x 1.57"	V1" x 1.97"	V1.25" x 2.36"	V1.625" x 3.15"	V2.125" x 3.94"	V2.375" x 4.725"	V2.875" x 5.51"	<b>9</b>	<b>H6A</b>
<b>Cooling tower gearboxes</b>									
<b>Gearbox size</b>	<b>EKF89</b>	<b>EKF109</b>	<b>EKF129</b>	<b>EKF149</b>					
Solid shaft	VC40 x 80/160	VC50 x 100/180	VC60 x 120/200	VC70 x 140/220				<b>9</b>	
<b>Gearbox size</b>	<b>ZKF89</b>	<b>ZKF109</b>	<b>ZKF129</b>	<b>ZKF149</b>	<b>ZKF169</b>	<b>ZKF189</b>			
Solid shaft	VC50 x 100/180	VC60 x 120/200	VC70 x 140/220	VC90 x 170/250	VC110 x 210/330	VC120 x 210/330		<b>9</b>	
Solid shaft XLplus	VC60 x 120	VC70 x 140	VC90 x 170	VC100 x 210	VC120 x 210			<b>9</b>	

## Gearbox options

### Mounting

#### Shaft designs

##### Selection and ordering data (continued)

Shaft design	Dimensions						Article No. 8th data position	Article No. supplement
	mm							
<b>Parallel shaft gearboxes F</b>								
<b>Gearbox size</b>	<b>29</b>	<b>39</b>	<b>49</b>	<b>69</b>	<b>79</b>	<b>89</b>		
Solid shaft	V25 x 50	V25 x 50	V30 x 60	V35 x 70	V40 x 80	V50 x 100	1	
		V30 x 70	V40 x 80		V50 x 100		3	
Solid shaft without feather key	VG25 x 50	VG25 x 50	VG30 x 60	VG35 x 70	VG40 x 80	VG50 x 100	9	H1G
Solid shaft, inches	V1" x 1.97"	V1" x 1.97"	V1.25" x 2.36"	V1.375" x 2.76"	V1.625" x 3.15"	V2" x 3.94"	9	H6A
Solid shaft VLplus						VM60 x 120	9	H1C
Hollow shaft	H25	H30	H35	H40	H40	H50	5	
		H25	H30				6	
Hollow shaft, inches	H1"	H1.25"	H1.375"	H1.5"	H1.5"	H2"	9	H7A
Hollow shaft VLplus						HM50	9	H2F
Hollow shaft with shrink disk	HS25	HS30	HS35	HS40	HS40	HS50	9	H3A
SIMOLOC assembly system, metric	HF25	HF30	HF35	HF40	HF40	HF50	9	H3G
	HF20	HF25	HF30	HF35	HF35	HF40	9	H3H
SIMOLOC assembly system, inches	HF1.0"	HF1.25"	HF1.375"	HF1.5"	HF1.5"	HF2.0"	9	H3J
	HF0.75"	HF1.1875"	HF1.4375"	HF1.625"	HF1.625"	HF1.9375"	9	H3K
		HF1.0"	HF1.25"	HF1.4375"	HF1.4375"	HF1.75"	9	H3L
		-	HF1.1875"	HF1.375"	HF1.375"	HF1.625"	9	H3M
Splined hollow shaft		N30	N35	N35	N45	N50	9	H4A
<b>Gearbox size</b>	<b>109</b>	<b>129</b>	<b>149</b>	<b>169</b>	<b>189</b>			
Solid shaft	V60 x 120	V70 x 140	V90 x 170	V110x120	V120x210		1	
	V80 x 170	V90 x 170	V100 x 210	V120 x 210	V140 x 250		3	
Solid shaft, inches	V2.375" x 4.72	V2.875 x 5.51	V3.625" x 6.69"	V4.375"x8.27"	V4.75"x8.27"		9	H6A
Solid shaft VLplus	VM70 x 140	VM90 x 170	VM100 x 210	VM120 x 210			9	H1C
Hollow shaft	H60	H70	H90	H100	H120		5	
	H70		H80	H110			6	
Hollow shaft, inches	H2.375"	H2.75"	H3.625"	H4"	H4.5"		9	H7A
Hollow shaft VLplus	HM60	HM70	HM90	HM100			9	H2F
Hollow shaft with shrink disk	HS65	HS75	HS95	HS105	HS125		9	H3A
			HS90				9	H3B
	HS70						9	H3C
Splined hollow shaft	N65	N70	N85	N90	N110		9	H4A
<b>Bevel gearboxes B</b>								
<b>Gearbox size</b>	<b>19</b>	<b>29</b>	<b>39</b>	<b>49</b>				
Solid shaft	V20 x 40	V20 x 40	V30 x 60	V35 x 70			1	
Solid shaft without feather key	VG20 x 40	VG20 x 40	VG30 x 60	VG35 x 70			9	H1G
Solid shaft, inches	V0.75" x 1.57"	V0.75" x 1.57"	V1" x 1.97"	V1.375" x 2.76"			9	H6A
Solid shaft, both ends <sup>1)</sup>	VD20 x 40	VD20 x 40	VD30 x 60	VD35 x 70			9	H5A
Hollow shaft	H20	H20	H30	H40			5	
		H25	H35	H35			6	
			H40				7	
Hollow shaft, inches	H0.75"	H0.75"	H1.25"	H1.5"			9	H7A
Hollow shaft with shrink disk		HS20	HS35	HS40			9	H3A
SIMOLOC assembly system, metric		HF25	HF30	HF35			9	H3G
		HF20	HF25	HF30	HF40		9	H3H
SIMOLOC assembly system, inches		HF1.0"	HF1.25"	HF1.375"			9	H3J
		HF0.75"	HF1.1875"	HF1.4375"			9	H3K
			HF1.0"	HF1.25"			9	H3L
				HF1.1875"			9	H3M
				HF1.625"			9	H3N

<sup>1)</sup> Can only be selected in conjunction with foot-mounted design

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## Selection and ordering data (continued)

Shaft design	Dimensions					Article No. 8th data position	Article No. supplement
	mm						
<b>Bevel gearboxes K</b>							
<b>Gearbox size</b>	<b>39</b>	<b>49</b>	<b>69</b>	<b>79</b>	<b>89</b>		
Solid shaft	V25 x 50	V30 x 60	V35 x 70	V40 x 80	V50 x 100	1	
	V35 x 70	V40 x 80		V50 x 100		3	
Solid shaft without feather key	VG25 x 50	VG30 x 60	VG35 x 70	VG40 x 80	VG50 x 100	9	H1G
Solid shaft, inches	V1" x 1.97"	V1.25" x 2.36"	V1.375" x 2.76"	V1.625" x 3.15"	V2" x 3.94"	9	H6A
Solid shaft, both ends <sup>1)</sup>	VD25 x 50	VD30 x 60	VD35 x 70	VD40 x 80	VD50 x 100	9	H5A
Solid shaft VLplus					VM60 x 120	9	H1C
Hollow shaft	H30	H35	H40	H40	H50	5	
	H25	H30				6	
Hollow shaft, inches	H1.25"	H1.375"	H1.5"	H1.5"	H2"	9	H7A
Hollow shaft VLplus					HM50	9	H2F
Hollow shaft with shrink disk	HS30	HS35	HS40	HS40	HS50	9	H3A
SIMOLOC assembly system, metric	HF30	HF35	HF40	HF40	HF50	9	H3G
	HF25	HF30	HF35	HF35	HF40	9	H3H
SIMOLOC assembly system, inches	HF1.25"	HF1.375"	HF1.5"	HF1.5"	HF2.0"	9	H3J
	HF1.1875"	HF1.4375"	HF1.625"	HF1.625"	HF1.9375"	9	H3K
	HF1.0"	HF1.25"	HF1.4375"	HF1.4375"	HF1.75"	9	H3L
		HF1.1875"	HF1.375"	HF1.375"	HF1.625"	9	H3M
Splined hollow shaft	N30	N35	N35	N45	N50	9	H4A
<b>Gearbox size</b>	<b>109</b>	<b>129</b>	<b>149</b>	<b>169</b>	<b>189</b>		
Solid shaft	V60 x 120	V70 x 140	V90 x 170	V110 x 210	V120 x 210	1	
	V80 x 170	V90 x 170	V100 x 210	V120 x 210	V140 x 250	3	
Solid shaft, inches	V2.375" x 4.72"	V2.875" x 5.51"	V3.625" x 6.69"	V4.375" x 8.27"	V4.75" x 8.27"	9	H6A
Solid shaft, both ends <sup>1)</sup>	VD60 x 120	VD70 x 140	VD90 x 170	VD110 x 210	VD120 x 210	9	H5A
Solid shaft VLplus	VM70 x 140	VM90 x 170	VM100 x 210	VM120 x 210		9	H1C
Hollow shaft	H60	H70	H90	H100	H120	5	
			H80			6	
				H110		7	
Hollow shaft, inches	H2.375"	H2.75"	H3.625"	H4"	H4.5"	9	H7A
Hollow shaft VLplus	HM60	HM70	HM90	HM100		9	H2F
Hollow shaft with shrink disk	HS65	HS75	HS95	HS105	HS125	9	H3A
			HS90			9	H3B
		HS70				9	H3C
Splined hollow shaft	N65	N70	N85	N90	N110	9	H4A
<b>Helical worm gearboxes C</b>							
<b>Gearbox size</b>	<b>29</b>	<b>39</b>	<b>49</b>	<b>69</b>	<b>89</b>		
Solid shaft	V20 x 40	V25 x 50	V30 x 60	V35 x 70	V45 x 90	1	
				V40 x 80	V50 x 100	2	
		V35 x 70	V40 x 80	V50 x 100	V70 x 140	3	
Solid shaft without feather key	VG20 x 40	VG25 x 50	VG30 x 60	VG35 x 70	VG45 x 90	9	H1G
Solid shaft, inches	V0.75" x 1.57"	V1" x 1.97"	V1.25" x 2.36"	V1.375" x 2.76"	V1.75" x 3.54"	9	H6A
Solid shaft, both ends <sup>1)</sup>	VD20 x 40	VD25 x 50	VD30 x 60	VD35 x 70	VD45 x 90	9	H5A
Hollow shaft	H20	H25	H30	H40	H50	5	
		H30	H35	H45	H60	6	
Hollow shaft, inches	H0.75"	H1.25"	H1.375"	H1.5"	H2"	9	H7A
Hollow shaft with shrink disk	HS20	HS30	HS35	HS40	HS50	9	H3A
				HS50	HS60	9	H3C
SIMOLOC assembly system, metric	HF25	HF30	HF35	HF40	HF50	9	H3G
	HF20	HF25	HF30	HF35	HF40	9	H3H
SIMOLOC assembly system, inches	HF1.0"	HF1.25"	HF1.375"	HF1.5"	HF2.0"	9	H3J
	HF0.75"	HF1.1875"	HF1.4375"	HF1.625"	HF1.9375"	9	H3K
		HF1.0"	HF1.25"	HF1.4375"	HF1.75"	9	H3L
		-	HF1.1875"	HF1.375"	HF1.625"	9	H3M

<sup>1)</sup> Can only be selected in conjunction with foot-mounted design

## Gearbox options

### Mounting

#### Shaft designs

##### Selection and ordering data (continued)

Shaft design	Dimensions			Article No. 8th data position	Article No. supplement
	mm				
<b>Worm gearboxes S</b>					
<b>Gearbox size</b>	<b>09</b>	<b>19</b>	<b>29</b>		
Solid shaft	V16 x 40	V20 x 40	V20 x 40	<b>1</b>	
	V14 x 30	V18 x 40	V25 x 50	<b>3</b>	
Solid shaft, both ends <sup>1)</sup>	VD16 x 40	VD20 x 40	VD20 x 40	<b>9</b>	<b>H5A</b>
Hollow shaft	H16	H18	H20	<b>5</b>	
	H14	H20	H25	<b>6</b>	
Hollow shaft stainless steel	HX16	HX20	HX20	<b>9</b>	<b>H8A</b>
Plug-in shaft	VE16 x 40	VE20 x 40	VE20 x 40	<b>7</b>	

<sup>1)</sup> Can only be selected in conjunction with foot-mounted design

#### SIMOLOC assembly system

The new SIMOLOC assembly system has been designed to provide a friction-locked connection between the motor shaft made of drawn shaft material of grade h11 or lower and the hollow shaft in the gearbox.

The SIMOLOC assembly system offers a low-cost, easy-to-fit alternative to conventional shaft connections such as hollow shaft with a feather key, hollow shaft with shrink disk or hollow shaft with spline.

It is compatible with the shaft-mounted designs of the parallel shaft, bevel and helical worm gearboxes.

Several diameters are available for each gearbox size.

##### Components of the SIMOLOC assembly system

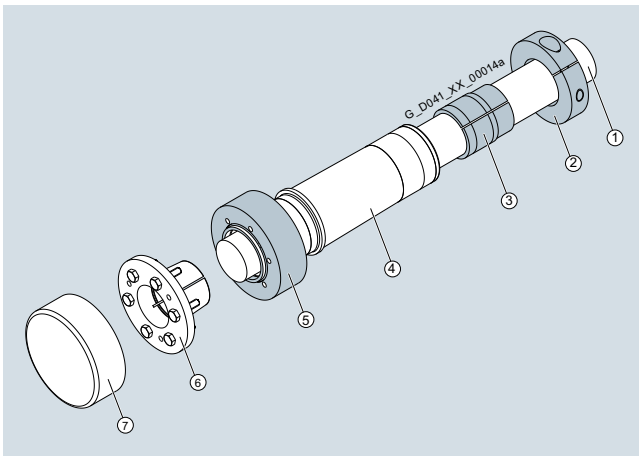


Fig. 10/14 SIMOLOC assembly system

- ① Machine shaft
- ② Clamping ring
- ③ Bronze bushing
- ④ Hollow shaft of gearbox
- ⑤ V-ring
- ⑥ Taper bushing
- ⑦ Rotating protection cover

#### Benefits

##### Cost reduction

- The drive shaft of the motor can be made of low-cost, drawn shaft material of grade h11 or lower.
- The shaft is cheaper to machine because there is no need to machine the shaft seat and a keyway is not required.

##### Quick and easy mounting

- Easy to mount and dismantle thanks to adequate clearance between the motor shaft and hollow shaft. The press fit is not made until the taper bushing is inserted.
- The press fit prevents the formation of fretting corrosion. The taper bushing can be removed easily in order to separate the press-fit connection.
- No tight fits need to be overcome when the gearbox is pushed onto the motor shaft.

##### Variability

- Quick adjustment of the gearbox to different motor shaft diameters is possible by replacement of the taper and bronze bushings.
- Easy conversion from metric to inch dimensions and vice versa.

##### Available diameters

The SIMOLOC assembly system can be supplied for shaft-mounted designs. 2 metric versions and 2 to 4 inch versions are available for all sizes.

#### Scope of supply

The gearbox is shipped with a SIMOLOC hollow shaft. The diameter-specific components are supplied as a separate assembly kit. The unit is supplied with pre-assembled rotating protection cover. The non-rotating protection cover can be ordered as an option.

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#### Hollow shaft cover

##### Sealing cap

The bore of the hollow shaft is sealed using a plastic sealing cap.

Gearboxes in size 39 and larger with hollow shaft and shrink disk have a rotating protective cover.

The dimensions of the rotating protective cover can be seen in the dimensional drawings provided in the gearbox chapters.

For safety reasons, stationary protection covers may be required.

The sealing cap is not approved for the ATEX design.

##### Protection cover

For sizes 19 to 189, a stationary protection cover for the hollow shaft or hollow shaft with shrink disk versions can be selected.

The dimensions of the protection cover can be seen in the separate dimensional drawing provided in the gearbox chapters.

The protection cover is approved for the ATEX design.

Order code:

Protection cover

**G60**

#### Reinforced output shaft bearings

The gearboxes can be supplied with the standard design or with a reinforced output shaft bearing design. The reinforced bearings allow higher radial and combined forces (radial and axial) to be absorbed.

Design	Possible for													Order code
<b>Helical gearboxes Z and D</b>														
<b>Gearbox size</b>	19	29	39	49	59	69	79	89	109	129	149	169	189	
Radially reinforced output shaft bearings						✓	✓	✓	✓	✓	✓			<b>G20</b>
VLplus reinforced bearing system <sup>2)</sup>								✓	✓	✓	✓	✓		<b>G30</b>
XLplus reinforced bearing system <sup>2)</sup>								✓	✓	✓	✓	✓		<b>G31</b>
<b>Cooling tower gearboxes</b>														
<b>Gearbox size</b>	EKF89	EKF109	EKF129	EKF149	ZKF89	ZKF109	ZKF129	ZKF149	ZKF169	ZKF189				
Radially reinforced output shaft bearings					✓	✓	✓	✓						<b>G20</b>
XLplus reinforced bearing system <sup>2)</sup>					✓	✓	✓	✓	✓					<b>G31</b>
<b>Parallel shaft gearboxes F</b>														
<b>Gearbox size</b>	29	39	49	69	79	89	109	129	149	169	189			
Radially reinforced output shaft bearings			✓ <sup>1)</sup>	✓	✓	✓	✓	✓	✓	✓	✓			<b>G20</b>
VLplus reinforced bearing system <sup>2)</sup>						✓	✓	✓	✓	✓				<b>G30</b>
<b>Bevel gearboxes K</b>														
<b>Gearbox size</b>	39	49	69	79	89	109	129	149	169	189				
Radially reinforced output shaft bearings		✓ <sup>1)</sup>	✓	✓	✓	✓	✓	✓	✓	✓				<b>G20</b>
VLplus reinforced bearing system <sup>2)</sup>					✓	✓	✓	✓	✓					<b>G30</b>

<sup>1)</sup> Not possible for flange-mounted design with solid shaft (gearbox type FZF, FDF, KF)

<sup>2)</sup> VLplus and XLplus reinforced bearing systems can only be selected with flange-mounted design.



## Gearbox options

### Output side accessories

#### Accessories for VLplus reinforced bearing systems

##### Drywell

To offer increased protection against escaping gear oil in the event of a leak, the VLplus version can be selected with the Drywell option. Any oil that escapes in the event of a leak at the oil chamber is captured and conveyed to an indicator.

The indicator is an oil sight glass. As an option, the version with a capacitive sensor is available, which responds in the event of an oil leak.

A disconnecter approved for use in ATEX applications must be provided for explosion-proof (ATEX) gearboxes. This must be installed outside the hazardous area.

Drywell is available for the following mounting positions:

Gearbox type	Mounting position
Helical gearbox ZF/DF with VLplus	M4
Parallel shaft gearbox FZF/FDF with VLplus	M4
Bevel gearbox KF with VLplus	M5-A / M6-B

Order code:

Drywell with oil sight glass	<b>G89</b>
Drywell with oil sensor	<b>G90</b>
Drywell with ATEX oil sensor	<b>G91</b>
24 V Drywell disconnecter	<b>G88</b>

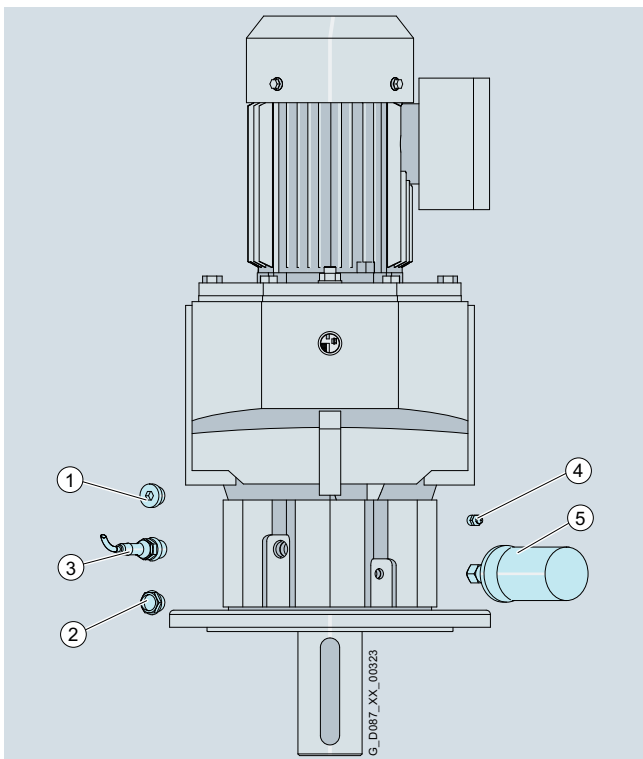


Fig. 10/15 VLplus version with Drywell / grease cartridge

- ① Screw plug (standard)
- ② Drywell with oil sight glass
- ③ Drywell with oil sensor
- ④ Grease nipple / regreasing device (standard)
- ⑤ Grease cartridge / automatic regreasing device

##### Grease cartridge

The output bearing of the flange must be lubricated regularly. A grease cartridge (automatic regreasing device) can be used for this with the VLplus version. This ensures a continuous supply and prevents the bearing from being provided with too little or too much grease.

Order code:

Grease cartridge	<b>G93</b>
------------------	------------

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#### Overview

##### Lubrication

The gearboxes are filled in the factory with a high-quality lubricant. Lubricants permitted for the various gearbox types and applications are listed in the lubricant table.

Other oils from various lubricant manufacturers that have been approved by Siemens AG can be found on the Internet in the Service and Support pages in the List of approved and recommended gear lubricants T 7300:

<https://support.automation.siemens.com/WW/view/en/44231658>

##### Note:

For ambient conditions with a high air humidity and salt-laden atmosphere, we recommend that only mineral or PAO oils are used.

##### Oil quantities

The lubricant quantity depends on the gearbox type, size and mounting position. The corresponding oil quantities are specified in the operating instructions and on the rating plate of the geared motor.

##### Sealing

The standard models of gearbox are supplied with high-quality radial shaft sealing rings with dust protection lips. This sealing design is reliable for a wide range of applications.

Special application areas and environmental conditions require special radial shaft sealing rings and materials, which are coordinated with the particular gearbox oil and environment. This coordinated sealing system results in a high reliability and availability of the plant.

When compared to standard sealing systems, the maintenance intervals can be extended. This therefore reduces maintenance costs.

#### Sealing system

Output shaft sealing	Description	Ambient condition	Order code
<b>Normal environmental stress</b>			
Standard seal	High-quality NBR radial shaft sealing ring with dust protection lip.	Environment with low dust and pollution levels with low moisture.	-
<b>Longer service life</b>			
Seal with longer service life	The radial shaft sealing ring with protective lip is designed with an additional seal on the internal gearbox side. The sealing system has a high degree of reliability due to its resistance to impurities in the oil.	Environment with low dust and pollution levels with low moisture.	<b>G23</b>
<b>Longer service life and increased environmental stress</b>			
Seal for increased environmental stress	This seal is equipped with an additional fiber disk. In addition to the longer service life, it also provides increased protection against higher environmental stress as a result of dust and dirt deposits. As a consequence, the sealing system has a high degree of reliability. For additional environmental stress, e.g. water jets or significant levels of pollution as a result of production materials, please contact your local Siemens office.	Environments with increased pollution and dust levels as well as low moisture. Typical applications: Production areas with increased pollution and dust, such as wood chips, dusts or granulate as well as occasional spray water.	<b>G24</b>

#### Roller bearing greases for gearboxes and motors

The roller bearings of gearboxes and motors are lubricated in the factory with a roller bearing grease that is coordinated with the selected application area. The quantity of grease between the rolling elements and the space in front of the bearing depends on the operating conditions and the gearbox mounting position. For operation in the selected application areas, it is not necessary to relubricate the roller bearings.

We recommend that the grease filling of the roller bearings is also changed when the oil or shaft sealing rings are replaced.

Other greases supplied by different lubricant manufacturers that have been approved by Siemens AG are specified in the List of approved and recommended gear lubricants T 7300.

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## Gearbox options

### Lubrication and sealing

#### Selection

Gearboxes can be used for different applications. The following lubricants and seals can be selected to ensure that a gearbox is optimally designed for a specific application.

#### Note:

Note the ambient conditions specified in chapter "General options" on page 12/2.

Selection of lubricant				Selection of seal		
Area of application	Permissible ambient temperature of oil °C	Oil type Designation acc. to DIN 51502	Order code	Environmental stress		
				Standard	Standard	Increased
				Service life		
				Standard	Longer	Longer
				-	G23	G24
<b>Helical gearboxes Z, D, and E, cooling tower gearboxes EKF and ZKF, parallel shaft gearboxes F, and bevel gearboxes K</b>						
Standard	-15 ... +40	CLP ISO VG220	K06	✓	✓	✓
	-35 ... +40	CLP ISO PAO VG220	K12	✓	✓	✓
	-40 ... +10	CLP ISO PAO VG68	K13	✓	✓	✓
	-25 ... +80	CLP ISO PG VG460	K08	✓	✓	✓
	-25 ... +50	CLP ISO PG VG220	K07	✓	✓	✓
Foodstuff area	-25 ... +40	CLP ISO H1 VG460	K11	✓	✓	-
	-30 ... +10	CLP ISO H1 VG100	K14	✓	✓	-
Biodegradable oil	-20 ... +40	CLP ISO E VG220	K10	✓	✓	-
<b>Bevel gearboxes B</b>						
Standard	-25 ... +40	CLP ISO PG VG220	K07	✓	✓ <sup>1)</sup>	✓ <sup>1)</sup>
	-35 ... +40	CLP ISO PAO VG220	K12	✓	✓ <sup>1)</sup>	✓ <sup>1)</sup>
	-25 ... +40	CLP ISO PAO VG460	K16	✓	✓ <sup>1)</sup>	✓ <sup>1)</sup>
	-40 ... +10	CLP ISO PAO VG68	K13	✓	✓ <sup>1)</sup>	✓ <sup>1)</sup>
	-25 ... +80	CLP ISO PG VG460	K08	✓	✓ <sup>1)</sup>	✓ <sup>1)</sup>
Foodstuff area	-25 ... +40	CLP ISO H1 VG460	K11	✓	✓ <sup>1)</sup>	-
	-30 ... +10	CLP ISO H1 VG100	K14	✓	✓ <sup>1)</sup>	-
<b>Helical worm gearboxes C</b>						
Standard	-25 ... +40	CLP ISO PG VG220	K07	✓	✓	✓
	-25 ... +60	CLP ISO PG VG460	K08	✓	✓	✓
	-35 ... +40	CLP ISO PAO VG220	K12	✓	✓	✓
	-25 ... +40	CLP ISO PAO VG460	K16	✓	✓	✓
	-40 ... +10	CLP ISO PAO VG68	K13	✓	✓	✓
Foodstuff area	-25 ... +40	CLP ISO H1 VG460	K11	✓	✓	-
	-30 ... +10	CLP ISO H1 VG100	K14	✓	✓	-
<b>Worm gearboxes S</b>						
Standard	-25 ... +40	CLP ISO PG VG220	K07	✓	-	-
	-25 ... +60	CLP ISO PG VG460	K08	✓	-	-
Foodstuff area	-25 ... +40	CLP ISO H1 VG460	K11	✓	-	-
	-30 ... +10	CLP ISO H1 VG100	K14	✓	-	-

<sup>1)</sup> Not possible with size B19

CLP = mineral oil

CLP PG = polyglycol oil

E = ester oil, organic oil (bio oil / risk of water pollution, class WGK1)

PAO = poly-alpha-olefin oil

CLP H1 = physiologically safe oil (USDA-H1 approval)

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### Overview

Gearboxes from size 39 for standard mounting positions are supplied as standard with pressure breather valve, oil level control and drain screw.

Gearbox sizes 19 and 29 are supplied ready for operation, lubricated for life, and can be operated in mounting positions M1, M3, M5, and M6 without requiring a pressure breather valve. For mounting positions M2 and M4, they are equipped with a pressure breather valve.

### Possible venting and oil level control options

Design	Possible for													Order code	Technical information → page
<b>Helical gearboxes Z and D</b>															
Size	19	29	39	49	59	69	79	89	109	129	149	169	189		
Lubricated for life	✓	✓													
Pressure breather valve			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G45	page 10/54
Pressure breather valve, stainless steel			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G49	page 10/54
Oil expansion unit			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G47	page 10/55
Oil sight glass with reflector				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G34	page 10/57
Magnetic oil drain screw			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G53	page 10/57
Oil drain valve, straight			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G54	page 10/57
Oil drain valve, angled			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G55	page 10/57
Oil level sensor								✓	✓	✓	✓	✓	✓	G37	page 10/59
Oil level sensor ATEX								✓	✓	✓	✓	✓	✓	G38	page 10/59
PT100 electrical temperature monitoring				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G69	page 10/58
24 V disconnecter				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G70	page 10/58
USB / plug adapter cable				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G71	page 10/58
<b>Helical gearboxes E</b>															
Size	39	49	69	89	109	129	149								
Pressure breather valve	✓	✓	✓	✓	✓	✓	✓							G45	page 10/54
Pressure breather valve, stainless steel	✓	✓	✓	✓	✓	✓	✓							G49	page 10/54
Oil expansion unit	✓	✓	✓	✓	✓	✓	✓							G47	page 10/55
Oil sight glass with reflector	✓	✓	✓	✓	✓	✓	✓							G34	page 10/57
Magnetic oil drain screw	✓	✓	✓	✓	✓	✓	✓							G53	page 10/57
Oil drain valve, straight	✓	✓	✓	✓	✓	✓	✓							G54	page 10/57
Oil drain valve, angled	✓	✓	✓	✓	✓	✓	✓							G55	page 10/57
Oil level sensor					✓	✓	✓							G37	page 10/59
Oil level sensor ATEX					✓	✓	✓							G38	page 10/59
PT100 electrical temperature monitoring		✓		✓	✓	✓	✓							G69	page 10/58
24 V disconnecter		✓		✓	✓	✓	✓							G70	page 10/58
USB / plug adapter cable		✓		✓	✓	✓	✓							G71	page 10/58
<b>Cooling tower gearboxes</b>															
Size	EKF89	EKF109	EKF129	EKF149	ZKF89	ZKF109	ZKF129	ZKF149	ZKF169	ZKF189					
Pressure breather valve	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				G45	page 10/54
Pressure breather valve, stainless steel	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				G49	page 10/54
Oil dipstick														G48	
Oil expansion unit	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				G47	page 10/55
Oil sight glass with reflector	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				G34	page 10/57
Magnetic oil drain screw	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				G53	page 10/57
Oil drain valve, straight	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				G54	page 10/57
Oil drain valve, angled	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				G55	page 10/57
PT100 electrical temperature monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				G69	page 10/58
24 V disconnecter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				G70	page 10/58
USB / plug adapter cable	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				G71	page 10/58

## Gearbox options

### Venting and oil level control

#### Venting

#### Overview (continued)

Possible venting and oil level control options

Design	Possible for											Order code	Technical information → page
	29	39	49	69	79	89	109	129	149	169	189		
<b>Parallel shaft gearboxes F</b>													
Size	29	39	49	69	79	89	109	129	149	169	189		
Lubricated for life	✓												
Pressure breather valve		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G45	page 10/54
Pressure breather valve, stainless steel		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G49	page 10/54
Oil expansion unit		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G47	page 10/55
Oil sight glass with reflector			✓	✓	✓	✓	✓	✓	✓	✓	✓	G34	page 10/57
Magnetic oil drain screw		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G53	page 10/57
Oil drain valve, straight		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G54	page 10/57
Oil drain valve, angled		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G55	page 10/57
Oil level sensor						✓	✓	✓	✓	✓	✓	G37	page 10/59
Oil level sensor ATEX						✓	✓	✓	✓	✓	✓	G38	page 10/59
PT100 electrical temperature monitoring			✓	✓	✓	✓	✓	✓	✓	✓	✓	G69	page 10/58
24 V disconnecter			✓	✓	✓	✓	✓	✓	✓	✓	✓	G70	page 10/58
USB / plug adapter cable			✓	✓	✓	✓	✓	✓	✓	✓	✓	G71	page 10/58
<b>Bevel gearboxes B</b>													
Size	19		29		39		49						
Lubricated for life	✓		✓										
Pressure breather valve	✓		✓		✓		✓		✓			G45	page 10/54
Pressure breather valve, stainless steel	✓		✓		✓		✓		✓			G49	page 10/54
Oil expansion unit			✓		✓		✓		✓			G47	page 10/55
Oil sight glass with reflector					✓		✓		✓			G34	page 10/57
Magnetic oil drain screw					✓		✓		✓			G53	page 10/57
Oil drain valve, straight					✓		✓		✓			G54	page 10/57
Oil drain valve, angled					✓		✓		✓			G55	page 10/57
PT100 electrical temperature monitoring							✓		✓			G69	page 10/58
24 V disconnecter							✓		✓			G70	page 10/58
USB / plug adapter cable							✓		✓			G71	page 10/58
<b>Bevel gearboxes K</b>													
Size		39	49	69	79	89	109	129	149	169	189		
Pressure breather valve		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G45	page 10/54
Pressure breather valve, stainless steel		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G49	page 10/54
Oil expansion unit		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G47	page 10/55
Oil sight glass with reflector			✓	✓	✓	✓	✓	✓	✓	✓	✓	G34	page 10/57
Magnetic oil drain screw		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G53	page 10/57
Oil drain valve, straight		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G54	page 10/57
Oil drain valve, angled		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G55	page 10/57
Oil level sensor						✓	✓	✓	✓	✓	✓	G37	page 10/59
Oil level sensor ATEX						✓	✓	✓	✓	✓	✓	G38	page 10/59
PT100 electrical temperature monitoring		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G69	page 10/58
24 V disconnecter		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G70	page 10/58
USB / plug adapter cable		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	G71	page 10/58

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### Overview (continued)

Possible venting and oil level control options

Design	Possible for					Order code	Technical information → page
	29	39	49	69	89		
<b>Helical worm gearboxes C</b>							
Size	29	39	49	69	89		
Lubricated for life	✓ <sup>1)</sup>						
Pressure breather valve	✓	✓	✓	✓	✓	G45	page 10/54
Pressure breather valve, stainless steel	✓	✓	✓	✓	✓	G49	page 10/54
Oil expansion unit		✓	✓	✓	✓	G47	page 10/55
Oil sight glass with reflector			✓	✓	✓	G34	page 10/57
Magnetic oil drain screw		✓	✓	✓	✓	G53	page 10/57
Oil drain valve, straight		✓	✓	✓	✓	G54	page 10/57
Oil drain valve, angled		✓	✓	✓	✓	G55	page 10/57
PT100 electrical temperature monitoring			✓	✓	✓	G69	page 10/58
24 V disconnecter parameterized			✓	✓	✓	G70	page 10/58
USB / plug adapter cable			✓	✓	✓	G71	page 10/58
<b>Worm gearboxes S</b>							
Size	09	19	29				
Lubricated for life	✓	✓	✓				

<sup>1)</sup> Helical worm gearboxes for all mounting positions are equipped with a pressure breather valve.

## Gearbox options

### Venting and oil level control

#### Venting

##### Pressure breather valve

Gearboxes from size 39 are supplied with an installed pressure breather valve; this is suitable for both indoors and outdoors use.

Gearbox sizes 19 and 29 can be operated in mounting positions M1, M3, M5, and M6 without requiring a pressure breather valve. For mounting positions M2 and M4, they are equipped with a pressure breather valve.

A stainless-steel version of the pressure breather valve is also available for use in special ambient conditions.

Order code:

Pressure breather valve

**G45**

Pressure breather valve, stainless steel

**G49**

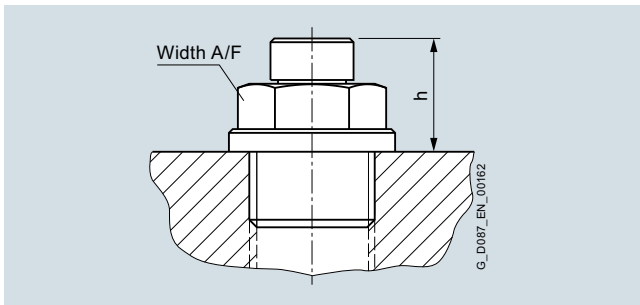


Fig. 10/16 Pressure breather valve

##### Technical specifications

Size	Width across flats Width A/F	Thread	Dimension h mm
<b>Helical gearboxes Z and D</b>			
19, 29	12	G 1/8 A	15
39	12	G 1/8 A	15
49 ... 79	13	G 1/4 A	15
89 ... 129	17	G 3/8 A	15
149 ... 189	24	G 3/4 A	18
<b>Helical gearboxes E</b>			
39	12	G 1/8 A	15
49 ... 69	13	G 1/4 A	15
89 ... 129	17	G 3/8 A	15
149	24	G 3/4 A	18
<b>Cooling tower gearboxes ZKF</b>			
89 ... 129	17	G 3/8 A	15
149 ... 189	24	G 3/4 A	18
<b>Cooling tower gearboxes EKF</b>			
89 ... 129	17	G 3/8 A	15
149	24	G 3/4 A	18
<b>Parallel shaft gearboxes F</b>			
29	12	G 1/8 A	15
39	12	G 1/8 A	15
49 ... 79	13	G 1/4 A	15
89 ... 129	17	G 3/8 A	15
149 ... 189	24	G 3/4 A	18
<b>Bevel gearboxes B</b>			
19, 29	12	G 1/8 A	15
39	12	G 1/8 A	15
49	13	G 1/4 A	15
<b>Bevel gearboxes K</b>			
39	12	G 1/8 A	15
49 ... 89	13	G 1/4 A	15
109 ... 129	17	G 3/8 A	15
149 ... 189	24	G 3/4 A	18
<b>Helical worm gearboxes C</b>			
29	12	G 1/8 A	15
39	12	G 1/8 A	15
49 ... 89	13	G 1/4 A	15

#### Oil expansion unit

The oil expansion unit increases the expansion space for the lubricant. For certain types of construction and at high operating temperatures, this avoids that lubricant escapes.

The oil expansion unit is supplied as a mounting kit, and can be mounted onto the geared motor vertically or at an angle.

Order code:

Oil expansion unit

**G47**

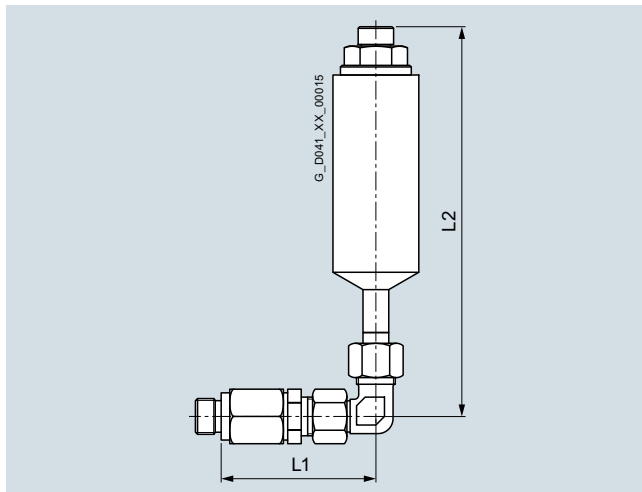


Fig. 10/17 Oil expansion unit type 1

#### Technical specifications

Size	Motor frame size	Width across flats	Thread	Dimension L1	Dimension L2
		Width A/F		mm	mm
<b>Helical gearboxes Z and D</b>					
39	63 ... 90	22	G1/8A	69.5	155
	100 ... 112			82.5	
49 ... 69	63 ... 90	19/22	G1/4A	42	155
	100 ... 112			71.5	
	132			93.5	
79	80 ... 90	19/22	G1/4A	42	155
	100 ... 132			71.5	
	160			93.5	
89	100 ... 132	22	G3/8A	42.5	155
	160			71.5	
	180			105.0	
<b>Helical gearboxes E</b>					
39	63 ... 90	22	G1/8A	69.5	155
	100 ... 112			82.5	
49	63 ... 90	19/22	G1/4A	42	155
	100 ... 112			71.5	
	132			93.5	
69	71 ... 90	19/22	G1/4A	42	155
	100 ... 112			71.5	
	132 ... 160			93.5	
89	100 ... 132	22	G3/8A	42.5	155
	160			71.5	
	180			105	

#### Technical specifications

Size	Motor frame size	Width across flats	Thread	Dimension L1	Dimension L2
		Width A/F		mm	mm
<b>Cooling tower gearboxes ZKF</b>					
89	100 ... 132	22	G3/8A	42.5	155
	160			71.5	
	180			105.0	
<b>Cooling tower gearboxes EKF</b>					
89	100 ... 132	22	G3/8A	42.5	155
	160			71.5	
	180			105	
<b>Parallel shaft gearboxes F</b>					
39	63 ... 90	22	G1/8A	69.5	155
	100 ... 112			82.5	
49 ... 69	63 ... 90	19/22	G1/4A	42	155
	100 ... 112			71.5	
	132			93.5	
79	80 ... 90	19/22	G1/4A	42.5	155
	100 ... 132			71.5	
	160			93.5	
89	100 ... 132	22	G3/8A	42.5	155
	160			71.5	
	180			105	
<b>Bevel gearboxes B</b>					
29	63 ... 90	22	G1/8A	69.5	155
	100			82.5	
39	63 ... 90	22	G1/8A	69.5	155
	100 ... 112			82.5	
49	63 ... 90	19/22	G1/4A	42	155
	100 ... 112			71.5	
	132			93.5	
<b>Bevel gearboxes K</b>					
39	63 ... 90	22	G1/8A	69.5	155
	100 ... 112			82.5	
49	63 ... 90	19/22	G1/4A	42	155
	100 ... 112			71.5	
69	71 ... 90	19/22	G1/4A	42	155
	100 ... 112			71.5	
	132			93.5	
79	71 ... 90	19/22	G1/4A	42	155
	100 ... 132			71.5	
89	80 ... 132	19/22	G1/4A	71.5	155
	160			93.5	
109	100 ... 132	22	G3/8A	42.5	155
	160			71.5	
	180			105	
<b>Helical worm gearboxes C</b>					
49 ... 69	63 ... 90	19/22	G1/4A	42	155
	100 ... 112			71.5	
	132			93.5	
89	80 ... 90	19/22	G1/4A	71.5	155
	100 ... 132			71.5	
	132			93.5	

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## Gearbox options

### Venting and oil level control

#### Venting

#### Oil expansion unit (continued)

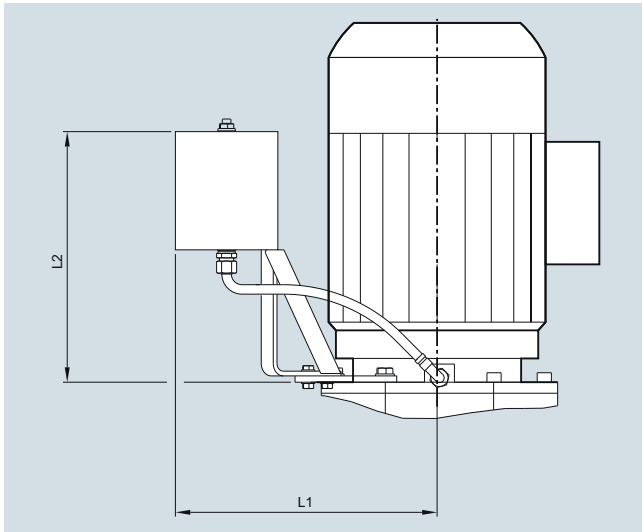


Fig. 10/18 Oil expansion unit type 2

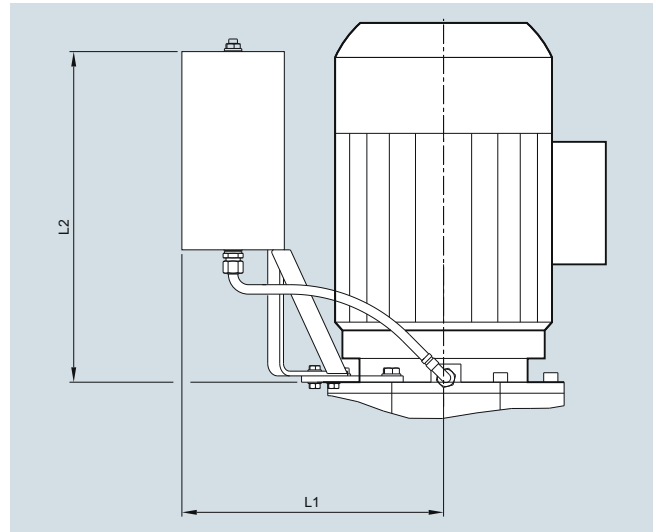


Fig. 10/19 Oil expansion unit type 3

#### Technical specifications

Size	Motor frame size	Type	Thread	Dimension L1 mm	Dimension L2 mm
<b>Helical gearboxes Z and D</b>					
109	90 ... 225	2	G3/8A	406	334
129	90 ... 250	2	G3/8A	442	334
149	100 ... 250	3	G3/4A	465	505
169	112 ... 250	3	G3/4A	493	505
189	112 ... 250	3	G3/4A	493	505
<b>Helical gearboxes E</b>					
109	90 ... 225	2	G3/8A	406	334
129	90 ... 250	2	G3/8A	442	334
149	100 ... 250	3	G3/4A	465	505
<b>Cooling tower gearboxes ZKF</b>					
109	90 ... 225	2	G3/8A	406	334
129	90 ... 250	2	G3/8A	442	334
149	100 ... 250	3	G3/4A	465	505
169	112 ... 250	3	G3/4A	493	505
189	112 ... 250	3	G3/4A	493	505
<b>Cooling tower gearboxes EKF</b>					
109	90 ... 225	2	G3/8A	406	334
129	90 ... 250	2	G3/8A	442	334
149	100 ... 250	3	G3/4A	465	505
<b>Parallel shaft gearboxes F</b>					
109	90 ... 225	2	G3/8A	406	334
129	90 ... 250	2	G3/8A	442	334
149	100 ... 250	3	G3/4A	465	505
169	112 ... 250	3	G3/4A	493	505
189	112 ... 250	3	G3/4A	493	505
<b>Bevel gearboxes K</b>					
129	90 ... 225	2	G3/8A	442	334
149	90 ... 250	2	G3/4A (G3/8A)	465	334
169	100 ... 250	3	G3/4A	493	505
189	112 ... 250	3	G3/4A	493	505

Value in parenthesis applies to mounting position M4.

### Oil level checking screw

For sizes 49 and higher, the oil level is checked using the oil level checking screw.

The oil sight glass is available with a reflector to facilitate visual monitoring.

Order code:

Oil sight glass with reflector

G34

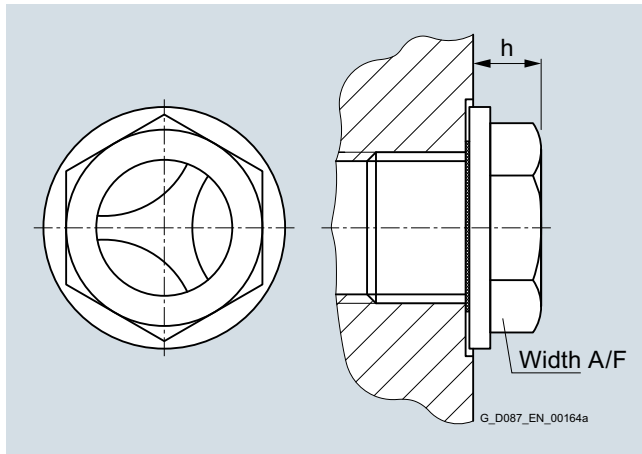


Fig. 10/20 Oil sight glass

### Technical specifications

Size	Width across flats Width A/F	Thread	Dimension h mm
<b>Helical gearboxes Z and D</b>			
49 ... 79	16	G 1/4 A	10
89 ... 129	19	G 3/8 A	9
149 ... 189	24	G 3/4 A	10
<b>Helical gearboxes E</b>			
49 ... 69	16	G 1/4 A	10
89 ... 129	19	G 3/8 A	9
149	24	G 3/4 A	10
<b>Cooling tower gearboxes ZKF</b>			
89 ... 129	19	G 3/8 A	9
149 ... 189	24	G 3/4 A	10
<b>Cooling tower gearboxes EKF</b>			
89 ... 129	19	G 3/8 A	9
149	24	G 3/4 A	10
<b>Parallel shaft gearboxes F</b>			
49 ... 79	16	G 1/4 A	10
89 ... 129	19	G 3/8 A	9
149 ... 189	24	G 3/4 A	10
<b>Bevel gearboxes B</b>			
49	16	G 1/4 A	10
<b>Bevel gearboxes K</b>			
49 ... 89	16	G 1/4 A	10
109 ... 129	19	G 3/8 A	9
149 ... 189	24	G 3/4 A	10
<b>Helical worm gearboxes C</b>			
49 ... 89	16	G 1/4 A	10

### Oil drain

#### Magnetic oil drain screw

For gearboxes from size 39, a magnetic oil drain screw is available that is inserted in the oil drain hole. This serves to collect any metal particles in the gearbox oil.

Order code:

Magnetic oil drain screw

G53

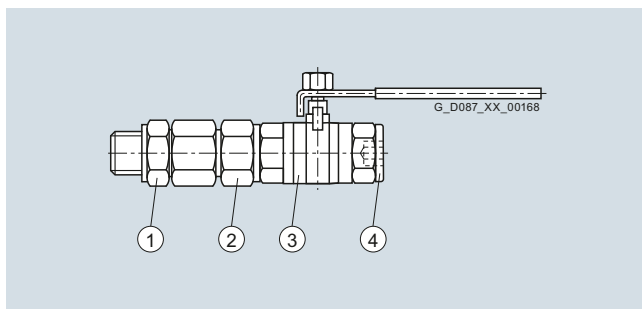


Fig. 10/21 Oil drain valve, straight

- ① Oil drain valve, straight
- ② Screw gland
- ③ Screw gland
- ④ Screw plug

#### Oil drain valve

For gearboxes from size 39, an oil drain valve is available in either a straight or angled design.

The oil drain valve is supplied complete with screw plug as a kit.

Order code:

Oil drain valve, straight

G54

Oil drain valve, angled

G55

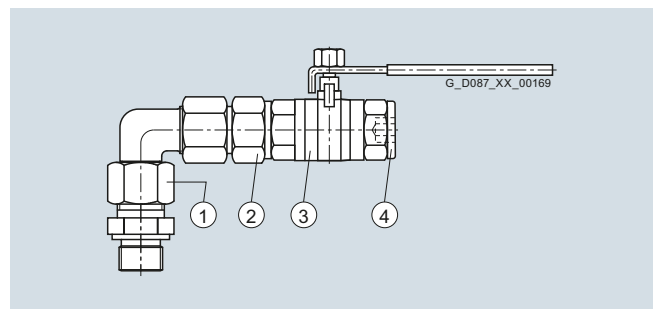


Fig. 10/22 Oil drain valve, angled

- ① Oil drain valve, angled
- ② Screw gland
- ③ Screw gland
- ④ Screw plug

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## Gearbox options

### Venting and oil level control

#### Oil level control

#### PT100 electrical oil temperature monitoring

From size 49, the PT100 electrical oil temperature monitoring function is available for monitoring the oil temperature in the gearbox.

The Pt100 temperature sensor can be used both in hazardous and non-hazardous areas. In hazardous areas, the sensor may only be operated in conjunction with a disconnecter (temperature transmitter).

#### 24 V disconnecter

The device is parameterized for a temperature measuring range of -40 °C to +120 °C. Application-specific max. permitted limit temperatures must be set on the transmitter either with the PLC controller or the "PACTware" configuration software.

#### USB / plug adapter cable

The adapter cable is required to alter parameters in the disconnecter via the "PACTware" software.

For more information on the disconnecter and the adapter cable, visit [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

#### Technical specifications

PT100 electrical temperature monitoring	
Measuring circuit	1Pt100 in 3-wire circuit
Tolerance	Class B $\pm 0.3$ °C at 0 °C according to EN 60751
Connecting cable	Hose cable 1x [3 x AWG 22/7-Cu-silver-plated/PTFE/PTFE, 0.36 mm <sup>2</sup> ]
Recommended measuring current	0.3 ... 1.0 mA
Max. operating current	25 mA
Max. operating voltage	10 V DC
Cable length	2 000 mm, open ends
Degree of protection	IP68
Type of protection	II 2G Ex ia IIC Gb II 2D Ex ia IIIC Db
Order code	<b>G69</b>

#### 24 V disconnecter

Isolated barrier	1-channel
Supply voltage	24 V DC (Power Rail)
Current output	0/4 mA ... 20 mA
Monitoring	Cable error and sensor break monitoring
Configuration	PACTware
Order code	<b>G70</b>

#### USB / plug adapter cable (connection)

On PC	USB type A
On device	3.5 mm and 3.55 mm plug
Cable length	3 m
Order code	<b>G71</b>

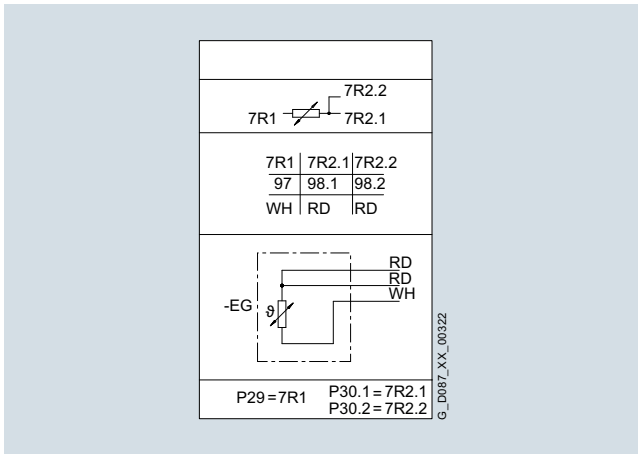


Fig. 10/23 Sensor circuit diagram for PT100 electrical oil temperature monitoring

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#### Electrical oil level monitoring system

If the area in which the gearbox is installed is difficult to access, the gearbox oil level will need to be monitored remotely by means of a capacitive sensor.

The capacitive sensor is supplied with a 2 m long cable. The oil level can be monitored only when the gearbox is stationary (i.e. monitoring prior to startup).

A disconnecter approved for use in ATEX applications must be provided for explosion-proof (ATEX) gearboxes. This must be installed outside the hazardous area.

Order code:

Oil level sensor  
Oil level sensor ATEX version  
24 V disconnecter

**G37**  
**G38**  
**G40**

The electrical oil level monitoring system is available for the following gearboxes

Size	Mounting position					
	M1	M2	M3	M4	M5	M6
<b>Helical gearboxes Z</b>						
89... 169	✓	✓	✓	✓	✓	✓
189		✓			✓	✓
<b>Helical gearboxes D</b>						
89	✓	✓	✓	✓	✓	
109 ... 169	✓	✓	✓	✓	✓	✓
189		✓			✓	✓
<b>Helical gearboxes E</b>						
89	✓	✓	✓	✓		
109	✓	✓		✓		
129 .... 149	✓	✓	✓	✓	✓	✓
<b>Parallel shaft gearboxes F</b>						
89 ... 189	✓	✓	✓	✓	✓	✓
<b>Bevel gearboxes K</b>						
109 ... 189	✓	✓	✓	✓	✓	✓

The ATEX version of the electrical oil level monitoring system is available for the following gearboxes

Size	Mounting position					
	M1	M2	M3	M4	M5	M6
<b>Helical gearboxes Z/ZB</b>						
89... 129		✓			✓	✓
149		✓		✓	✓	✓
169	✓	✓	✓	✓	✓	✓
<b>Helical gearboxes ZF</b>						
89... 149		✓		✓	✓	✓
169	✓	✓	✓	✓	✓	✓
<b>Helical gearboxes D/DB</b>						
89		✓			✓	
109 ... 129		✓			✓	✓
149		✓		✓	✓	
169	✓	✓	✓	✓	✓	
<b>Helical gearboxes DF</b>						
89		✓		✓	✓	
109 ... 129		✓		✓	✓	✓
149		✓		✓	✓	
169	✓	✓	✓	✓	✓	
<b>Helical gearboxes E</b>						
89				✓		
109		✓				
129	✓		✓	✓		
149	✓	✓	✓	✓	✓	✓
<b>Parallel shaft gearboxes F</b>						
89 ... 129		✓		✓	✓	✓
149	✓	✓	✓	✓	✓	✓
169 ... 189		✓	✓	✓	✓	✓
<b>Bevel gearboxes K</b>						
109	✓		✓		✓	
129	✓	✓	✓	✓	✓	
149 ... 189	✓	✓	✓	✓	✓	✓

## Gearbox options

### Special version

#### Reduced-backlash version

Gearboxes with reduced backlash are required to perform high-precision positioning tasks and to achieve a high level of control quality. A minimal torsional backlash also has a favorable effect on torque spikes during startup and on load switching in the drive train. With this version, all machine elements in the gearbox that are in the power flow are designed with reduced backlash. As a result, this version also has the option "Shrink-glued output gearwheel".

To ensure that the entire driven machine can be designed with minimum possible backlash, it is advisable to select the solution with integral motor mounting (without adapter), output shafts with shrink disk connection or with smooth shafts (without feather key). In this case, only backlash-free power transmission elements should be used.

The specified torsional backlash in minutes of the angle ['] is based on the maximum rotation angle of the output shaft (no load, max. 1 % of rated output torque) with stationary input shaft.

For the exact values, refer to the torque tables. If no values are specified in the tables, this means that a reduced-backlash version is not available for the specific version.

The dimensions of the reduced-backlash gearboxes are identical to those of the standard versions.

The following gearboxes are available in reduced-backlash versions

Gearbox	Size														
	09	19	29	39	49	59	69	79	89	109	129	149	169	189	
Helical gearboxes Z and D		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Helical gearboxes E	On request														
Parallel shaft gearboxes F			✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
Bevel gearboxes B		✓	✓	✓	✓										
Bevel gearboxes K				✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
Helical worm gearboxes C	Not possible														
Worm gearboxes S	Not possible														

Order code:

Reduced-backlash version

**G99**

#### Shrink-glued output gearwheel

The gearbox output stage is subjected to particular high levels of mechanical stress during rigorous reversing duty or acceleration of high mass moments of inertia. The shrink-glued output gearwheel option ensures the load-bearing capacity of the shaft/hub connection in the event of dynamic load.

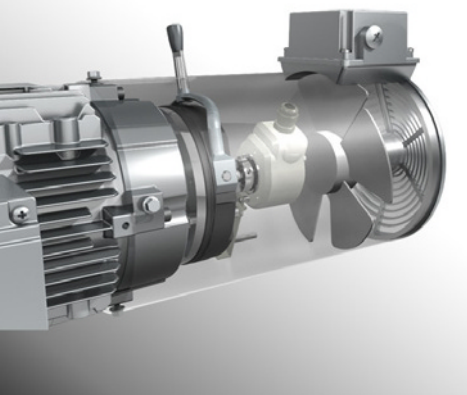
Order code:

Shrink-glued output gearwheel

**G97**

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## Motor options



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## Motor options

### Electrical design

#### Voltages and frequencies

##### Duty types

###### Line operation

The three-phase AC motors are designed for duty type S1 according to IEC 60034 (continuous duty).

Order codes for line operation:

Duty type S1

-

Duty type S3 - 75 %

**P90**

###### Inverter operation

For inverter operation (**P91, P92**), the motors with the applicable voltages are also stamped with duty type Inv. Duty.

Depending on the selected voltage, the technical specifications for the operating points at 50 Hz, 60 Hz, and 87 Hz are stated on the rating plate.

With IE2 motors rated for 0.75 kW and above with duty type S1/Inv. Duty (**P91**) that fall within the scope of the Eco-design Directive (EC) No. 640/2009, the notice "IE2 Inv. Duty only" is also attached to the motor.

**IE2**

EU REGULATION 640/2009  
USE WITH VARIABLE  
SPEED DRIVE ONLY!

Order codes for inverter operation:

Duty type S1//Inv. Duty

**P91**

Duty type Inv. Duty (VSD10)

**P92**

##### Standard voltages

Three-phase AC motors are available for rated voltages ranging from 200 up to 690 V.

Motor frame sizes 63 up to 112 are generally supplied for the voltage range 230/400 V at 50 Hz.

For motor frame sizes from 132 and above, the standard version is 400/690 V at 50 Hz.

At the customer's request, we can stamp a tolerance of  $\pm 10\%$  on the rating plate for our standard voltages.

The voltage tolerance  $\pm 10\%$  is not compatible with the functionally safe rotary encoder.

Order code:

Voltage tolerance  $\pm 10\%$  <sup>4)</sup>

**P80**

##### Standard motor voltages

Frequency Hz	Voltages V	Power	Possible specifications					Motor frame size		Article No. 13th data position	Article No. supplement	Inverter operation	
			CE	UL-R/ CSA	China	EAC	Ex- port <sup>1)</sup>	63 ... 112	132 ... 250			P91	P92
<b>Voltages for 50/60 Hz</b>													
<i>Voltages for 50/60 Hz, 50 Hz power</i>													
50 Hz	230 V $\Delta$ /400 V Y	P <sub>50</sub>	✓ <sup>4)</sup>	✓	✓ <sup>2) 4)</sup>	✓ <sup>4)</sup>	✓ <sup>4)</sup>	✓	-	4		✓	-
60 Hz	460 V Y	P <sub>50</sub>											
50 Hz	230 V $\Delta$ /400 V Y <sup>4)</sup>	P <sub>50</sub>	✓	✓	✓	✓	✓	-	✓	9	N3A	✓	-
60 Hz	460 V Y <sup>4)</sup>	P <sub>50</sub>											
50 Hz	400 V $\Delta$ /690 V Y <sup>4)</sup>	P <sub>50</sub>	✓		✓ <sup>3) 4)</sup>	✓	✓ <sup>4)</sup>	-	✓	4		-	-
60 Hz	460 V $\Delta$ <sup>4)</sup>	P <sub>50</sub>											
50 Hz	400 V $\Delta$ /690 V Y	P <sub>50</sub>	✓		✓ <sup>3) 4)</sup>	✓	✓ <sup>4)</sup>	✓	-	9	N3B	-	-
60 Hz	460 V $\Delta$	P <sub>50</sub>											
50 Hz	220 V $\Delta$ /380 V Y <sup>4)</sup>	P <sub>50</sub>	✓	✓	✓	✓	✓	✓ <sup>2)</sup>	✓	9	N3C	✓	-
60 Hz	440 V Y <sup>4)</sup>	P <sub>50</sub>											
<i>Voltages for 50/60 Hz, 60 Hz power</i>													
50 Hz	230 V $\Delta$ /400 V Y	P <sub>50</sub>	✓	✓	✓	✓	✓	✓	-	2		✓	-
60 Hz	460 V Y	P <sub>60</sub>											
50 Hz	230 V $\Delta$ /400 V Y	P <sub>50</sub>	✓	✓	✓ <sup>4)</sup>	✓ <sup>4)</sup>	✓ <sup>4)</sup>	-	✓	9	N2A	✓	-
60 Hz	460 V $\Delta$	P <sub>60</sub>											
50 Hz	400 V $\Delta$ /690 V Y <sup>4)</sup>	P <sub>50</sub>	✓	✓	✓	✓	✓	-	✓	2		-	-
60 Hz	460 V $\Delta$ <sup>4)</sup>	P <sub>60</sub>											
50 Hz	400 V $\Delta$ /690 V Y	P <sub>50</sub>	✓	✓	✓ <sup>3) 4)</sup>	✓	✓ <sup>4)</sup>	✓	-	9	N2B	-	-
60 Hz	460 V $\Delta$	P <sub>60</sub>											
50 Hz	220 V $\Delta$ /380 V Y	P <sub>50</sub>	✓	✓	✓	✓	✓	✓	✓	9	N2C	✓	✓
60 Hz	440 V Y	P <sub>60</sub>											
50 Hz	277 V $\Delta$ /480 V Y	P <sub>50</sub>	✓	✓	✓	✓	✓	✓	✓	9	N2G	-	✓
60 Hz	550 V Y	P <sub>60</sub>											

<sup>1)</sup> With motor power 0.75 kW or higher.

<sup>2)</sup> Can be selected for motor frame size 80 or higher.

<sup>3)</sup> Can be selected for motor frame size 100 or higher.

<sup>4)</sup> Cannot be selected for worm gearboxes S.

**Standard voltages (continued)**

## Standard motor voltages

Frequency Hz	Voltages V	Power	Possible specifications					Motor frame size		Article No. 13th data position	Supplement Article No.	Inverter operation	
			CE	UL-R/ CSA	China	EAC	Ex- port <sup>1)</sup>	63 ... 112	132 ... 250			P91	P92
<b>Voltages for 50 Hz</b>													
50 Hz	400 V Y	P <sub>50</sub>	✓		✓ <sup>3) 4)</sup>	✓		✓	✓	9	N6B	✓	-
50 Hz	400 V Δ <sup>4)</sup>	P <sub>50</sub>	✓		✓ <sup>3)</sup>	✓		✓	✓	9	N6C	✓	-
50/87 Hz	230 V Δ/400 V Δ	P <sub>50</sub> /P <sub>87</sub>	✓		✓ <sup>3) 4)</sup>	✓		✓	✓	9	N6A	✓	-
50 Hz	500 V Y	P <sub>50</sub>	✓			✓	✓	✓	✓	9	N1C	✓	-
50 Hz	500 V Δ <sup>4)</sup>	P <sub>50</sub>	✓			✓	✓	✓ <sup>3)</sup>	✓	9	N1D	✓	-
50 Hz	220 V Δ/380 V Y	P <sub>50</sub>	✓		✓ <sup>3) 4)</sup>	✓	✓	■	■	9	N1R	✓	-
50 Hz	380 V Δ/660 V Y	P <sub>50</sub>	✓		✓ <sup>3) 4)</sup>	✓	✓	■	■	9	N1S	-	✓
50 Hz +3/-5 %	240 V Δ/415 V Y	P <sub>50</sub>	✓			✓	✓	■	■	9	N1T	✓	-
50 Hz +3/-5 %	415 V Δ	P <sub>50</sub>	✓			✓	✓	■	■	9	N1U	✓	-
50 Hz	200 V Δ	P <sub>50</sub>	✓			✓	✓	■	■	9	N1K	✓	-
<b>Voltages for 60 Hz</b>													
<i>Voltages for 60 Hz, 50 Hz power</i>													
60 Hz	220 V Δ/380 V Y	P <sub>50</sub>	✓			✓		■	■	9	N4C	✓	-
60 Hz	380 V Δ/660 V Y	P <sub>50</sub>	✓			✓		■	■	9	N4D	-	-
60 Hz	440 V Y	P <sub>50</sub>	✓			✓		■	■	9	N4E	✓	-
60 Hz	440 V Δ	P <sub>50</sub>	✓			✓		■	■	9	N4F	✓	-
60 Hz	460 V Y	P <sub>50</sub>	✓	✓		✓		■	■	9	N4H	✓	-
60 Hz	460 V Δ	P <sub>50</sub>	✓	✓		✓		■	■	9	N4J	✓	-
60 Hz	575 V Y	P <sub>50</sub>	✓	✓		✓		■	■	9	N4L	✓	-
60 Hz	575 V Δ <sup>4)</sup>	P <sub>50</sub>	✓	✓		✓		-	■	9	N4M	✓	-
60 Hz	230 V YY/460 V Y	P <sub>50</sub>	✓	✓		✓		■	■	9	N4N	✓	-
60 Hz	230 V Δ/400 V Y	P <sub>50</sub>	✓			✓		■	■	9	N4A	✓	-
60 Hz	400 V Δ/690 V Y	P <sub>50</sub>	✓			✓		■	■	9	N4B	✓	-
60 Hz	200 V Δ	P <sub>50</sub>	✓			✓		■	■	9	N4P	✓	-
60 Hz	208 V Δ	P <sub>50</sub>	✓			✓		■	■	9	N4Q	✓	-
<i>Voltages for 60 Hz, 60 Hz power</i>													
60 Hz	220 V Δ/380 V Y	P <sub>60</sub>	✓			✓		■	■	9	N5C	✓	-
60 Hz	380 V Δ/660 V Y	P <sub>60</sub>	✓			✓		■	■	9	N5D	-	-
60 Hz	440 V Y	P <sub>60</sub>	✓			✓		■	■	9	N5E	✓	-
60 Hz	440 V Δ	P <sub>60</sub>	✓			✓		■	■	9	N5F	✓	-
60 Hz	460 V Y	P <sub>60</sub>	✓	✓		✓		✓	✓	9	N5H	✓	-
60 Hz	460 V Δ	P <sub>60</sub>	✓	✓		✓		✓	✓	9	N5J	✓	-
60 Hz	575 V Y	P <sub>60</sub>	✓	✓		✓		■	■	9	N5L	✓	-
60 Hz	575 V Δ <sup>4)</sup>	P <sub>60</sub>	✓	✓		✓		■ <sup>3)</sup>	■	9	N5M	✓	-
60 Hz	230 V YY/460 V Y	P <sub>60</sub>	✓	✓		✓		■	■	9	N5N	✓	-
<b>Voltages for brake motors with function rectifier<sup>4)</sup></b>													
50 Hz	400 V Y	P <sub>50</sub>	✓			✓		✓	✓ <sup>2)</sup>	9	N6B	✓	-
50 Hz	400 V Δ	P <sub>50</sub>	✓			✓		✓	✓ <sup>2)</sup>	9	N6C	✓	-
60 Hz	440 V Δ	P <sub>50</sub>	✓			✓		✓	✓ <sup>2)</sup>	9	N4G	-	-
60 Hz	440 V Δ	P <sub>60</sub>	✓			✓		✓	✓ <sup>2)</sup>	9	N5G	-	-
60 Hz	460 V Δ	P <sub>50</sub>	✓			✓		✓	✓ <sup>2)</sup>	9	N4K	-	-
60 Hz	460 V Δ	P <sub>60</sub>	✓			✓		✓	✓ <sup>2)</sup>	9	N5K	-	-

1) With motor power 0.75 kW or higher.

2) Can be selected for motor frame size 80 or higher.

3) Can be selected for motor frame size 100 or higher.

4) Cannot be selected for worm gearboxes S.

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# Motor options

## Electrical design

### Voltages and frequencies

#### Standard voltages (continued)

Standard motor voltages

Frequency Hz	Voltages V	Power	Possible specifications					Motor frame size		Article No. 13th data position	Supplement Article No.	Inverter operation	
			CE	UL-R/ CSA	China	EAC	Ex- port <sup>1)</sup>	63 ... 112	132 ... 250			P91	P92

#### Voltages for VSD10 line motors for inverter operation <sup>4)</sup>

##### Voltages for 50/60 Hz, 60 Hz power

50 Hz	220 V Δ/380 V Y	P <sub>50</sub>	✓	✓		✓	✓	■ <sup>3)</sup>	✓	9	N2C	✓	✓
60 Hz	440 V Y	P <sub>60</sub>											
50 Hz	277 V Δ/480 V Y	P <sub>50</sub>	✓			✓	✓	■ <sup>3)</sup>		9	N2G	-	✓
60 Hz	550 V Y	P <sub>60</sub>											
50 Hz	380 V Y	P <sub>50</sub>	✓	✓		✓	✓	■ <sup>3)</sup>		9	N2H <sup>5)</sup>	-	✓
60 Hz	440 V Y	P <sub>60</sub>											

##### Voltages for 50 Hz

50 Hz	380 V Δ/660 V Y	P <sub>50</sub>	✓			✓	✓	■ <sup>3)</sup>		9	N1S	-	✓
50 Hz	220 V Δ	P <sub>50</sub>	✓	✓		✓	✓	■ <sup>3)</sup>		9	N1V <sup>5)</sup>	-	✓

■ With additional price

- 1) With motor power 0.75 kW or higher.
- 2) Can be selected for motor frame size 80 or higher.
- 3) Can be selected for motor frame size 100 or higher.
- 4) Cannot be selected for worm gearboxes S.
- 5) Voltage can only be selected in conjunction with HAN K4/4, HAN Q8, and HAN Q8 motor plug with cable.

### Motor protection

#### Temperature sensor

The temperature sensor is a **positive temperature coefficient (PTC) thermistor** which offers comprehensive protection against thermal motor overload. The temperature of the winding can be accurately monitored thanks to its low thermal capacity and the excellent heat contact with the winding. The PTC thermistor exhibits a sudden change in resistance when a rated response temperature is reached.

A tripping unit is used to evaluate the change in resistance and to open auxiliary circuits via auxiliary contacts.

The switching hysteresis of the PTC thermistor is low, which facilitates fast restarting of the drive. Motors with this type of protection are recommended for heavy duty starting, intermittent duty, extreme changes in load, high ambient temperatures, or fluctuating supply systems.

In order to prevent serious damage by impulse voltage peaks to the sensor and the downstream evaluation electronic circuitry which can occur in inverter operation as a result of the close contact between PTC thermistor and winding, the connecting cables and the PTC thermistor have reinforced insulation designed to provide "protective separation".

Order code:

PTC thermistor for disconnection

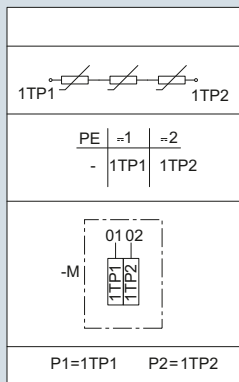
**M10**

PTC thermistor for warning and disconnection <sup>1)</sup>

**M11**

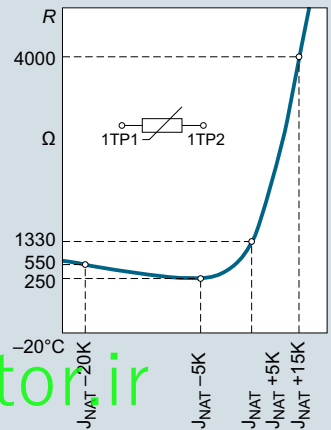
<sup>1)</sup> Not possible for worm geared motors S

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g\_D087\_XX\_00136

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g\_D087\_XX\_0005a

Fig. 11/1 Connection circuit diagram

Fig. 11/2 Temperature sensor characteristic

**Temperature switch**

The temperature switch is a **winding thermostat** (NC contact) and is suitable as a protection device for slowly increasing motor temperatures. When the rated response temperature is reached, it can open an auxiliary circuit. When the motor temperature decreases, the winding thermostat closes again as soon as the temperature falls significantly below the rated response temperature.

When the motor current rises quickly (e.g. with a locked rotor), these switches are not suitable due to their large thermal time constants.

The temperature switch provides safety isolation in accordance with EN 61800-5-1 up to max. 500 V.

The temperature switch is not compatible with the functionally safe rotary encoder.

Order code:

Winding thermostat for disconnection

**M12**

Winding thermostat for warning and disconnection <sup>1)</sup>

**M13**

<sup>1)</sup> Not possible for worm geared motors S

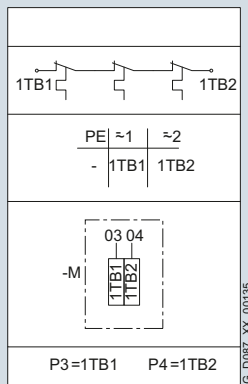


Fig. 11/3 Connection circuit diagram

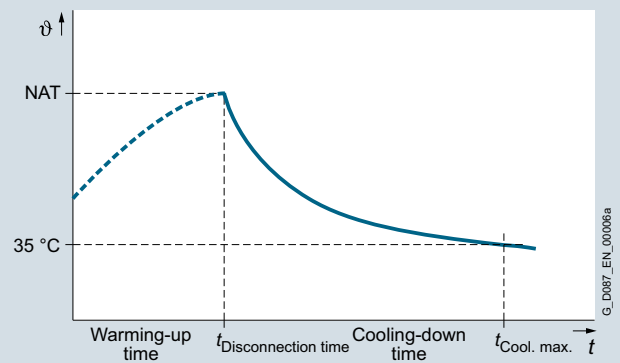


Fig. 11/4 Temperature switch characteristic

**KTY 84-130 temperature sensor**

This sensor is a PTC thermistor that changes its resistance depending on the temperature in accordance with a defined curve. The KTY 84-130 temperature sensor can be used for monitoring the motor temperature in inverter operation.

Some inverters determine the motor temperature using the resistance of the temperature sensor. They can be set to a required temperature for warning and disconnection.

In order to prevent serious damage by impulse voltage peaks to the sensor and the downstream evaluation electronic circuitry which can occur in inverter operation as a result of the close contact between temperature sensor and winding, the connecting cables and the temperature sensor have reinforced insulation designed to provide "protective separation".

Order code:

KTY 84-130 temperature sensor <sup>1)</sup>

**M16**

<sup>1)</sup> Not possible for worm geared motors S

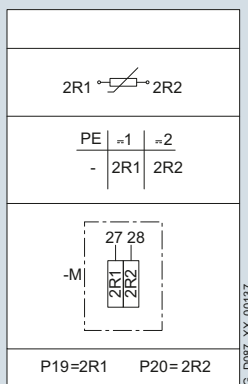


Fig. 11/5 Connection circuit diagram

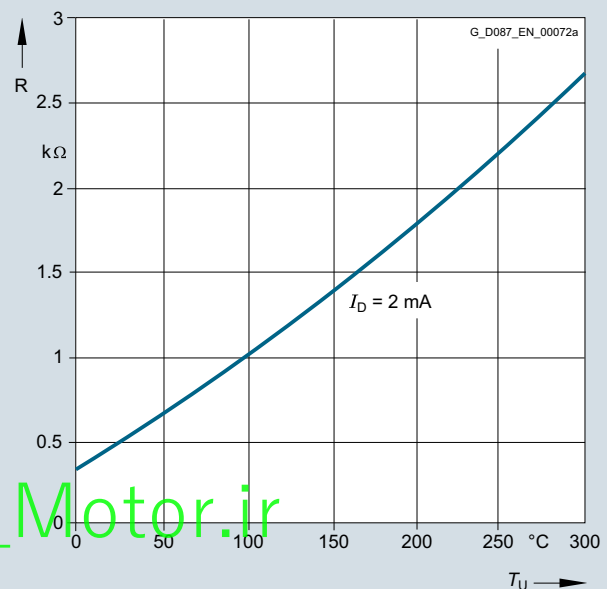


Fig. 11/6 Temperature sensor characteristic

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## Motor options

### Electrical design

#### Motor protection

##### 1x Pt100 resistance thermometer

This sensor is a PTC thermistor and at 0 °C has a resistance of 100 Ω. Its resistance changes almost linearly in the range between 0 and 100 °C. Changes in temperature are transferred to an evaluation device in the form of resistance changes.

The evaluation device is not included in the scope of supply.

In order to prevent serious damage by impulse voltage peaks to the sensor and the downstream evaluation electronic circuitry which can occur in inverter operation as a result of the close contact between resistance thermometer and winding, the connecting cables and the resistance thermometer have reinforced insulation designed to provide "protective separation".

Order code:

1x Pt100 resistance thermometer

**M19**

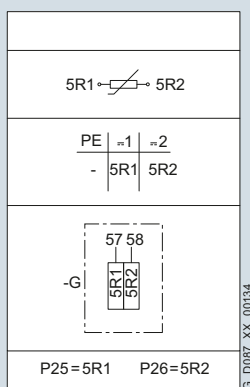


Fig. 11/7 Connection circuit diagram

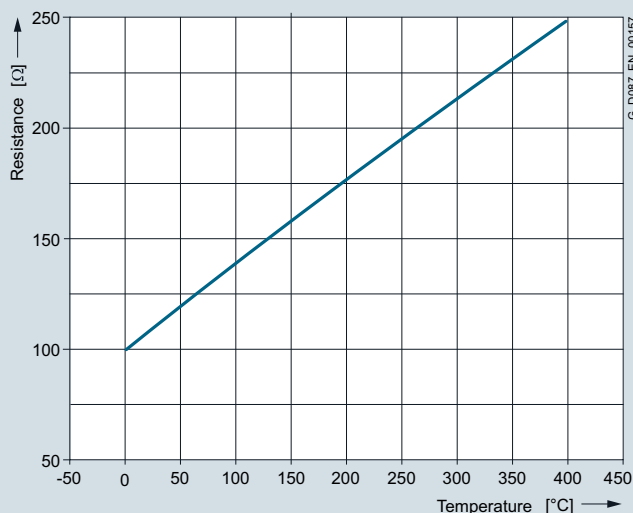


Fig. 11/8 Pt100 resistance thermometer characteristic

##### Pt1000 resistance thermometer

The resistance thermometer has a chip for a temperature sensor, the resistance of which changes in relation to temperature according to a series of reproducible basic values. The changes in resistance are transferred as changes in current. At 0 °C, the measurement resistances are adjusted to 1000 Ω for the Pt1000, and correspond to the accuracy class B (i.e. the relationship between resistance and temperature). The limit deviation is ±0.3 °C, and the admissible deviations are defined in EN 60751.

The Pt1000 resistance thermometer will gradually replace the KTY84-130 temperature sensors available today.

Similar to the method of operation of the Pt100, the relationship between the temperature and the electrical resistance of conductors is utilized in the Pt1000 to measure the temperature, just like with the additional resistance thermometers described above.

Pure metals undergo larger changes in resistance than alloys and have relatively constant temperature coefficients.

Temperatures for alarm and tripping can be set as required when using converters from Siemens that determine the motor temperature in accordance with the measuring principle described above. With these devices, the measured signal is evaluated directly in the converter. For line operation, the 3RS10 temperature monitoring relay, which forms part of the protection equipment, can be ordered separately. For further details, see Catalog IC 10, Article No.: E86060-K1010-A101-A8-7600.

Order code:

Pt1000 resistance thermometer

**M17**

1) Not possible for worm geared motors S

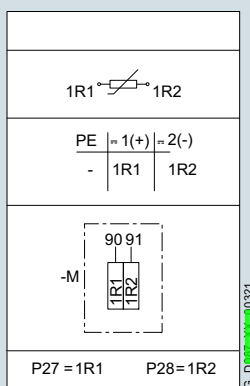


Fig. 11/9 Connection circuit diagram

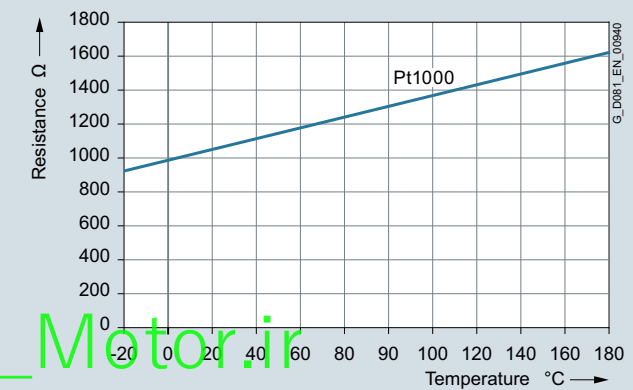


Fig. 11/10 Pt1000 resistance thermometer characteristic

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**Selection and ordering data**

Motor protection	Motor frame size												Order code
	63	71	80	90	100	112	132	160	180	200	225	250	
PTC thermistor disconnection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>M10</b>
PTC thermistor, warning and disconnection <sup>1)</sup>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>M11</b>
Winding thermostat, disconnection <sup>3)</sup>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>M12</b>
Winding thermostat, warning and disconnection <sup>1) 2) 3)</sup>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>M13</b>
KTY 84-130 temperature sensor <sup>1)</sup>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>M16</b>
1× Pt100 resistance thermometer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>M19</b>
Pt1000 resistance thermometer			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>M17</b>
<b>Motor protection for VSD10 line motors</b>													
PTC thermistor, disconnection						✓	✓	✓	✓	✓	✓	✓	<b>M10</b>
Winding thermostat, disconnection <sup>3)</sup>						✓	✓	✓	✓	✓	✓	✓	<b>M12</b>
KTY 84-130 temperature sensor						✓	✓	✓	✓	✓	✓	✓	<b>M16</b>
1× Pt100 resistance thermometer						✓	✓	✓	✓	✓	✓	✓	<b>M19</b>

<sup>1)</sup> Not possible for worm geared motors S

<sup>2)</sup> Not possible for inverter operation

<sup>3)</sup> Not possible for functionally safe rotary encoder

**Protective devices**

Number of windings	Example	Function	Number of temperature-dependent protective devices	Number of terminals
1	Motors with one pole number	Disconnection	3 or 1 (motor frame sizes 80 and 90)	2
		Warning and disconnection	6	3 (motor frame size 71 to 200)
				4 (motor frame size 225 to 250)

**Anti-condensation heating**

Motors whose windings are at risk of condensation due to the climatic conditions, e.g. inactive motors in humid atmospheres or motors that are subjected to widely fluctuating temperatures, can be equipped with anti-condensation heaters. Anti-condensation heating must not be switched on during operation.

Instead of an anti-condensation heater, another possibility is to connect a voltage that is approximately 4 to 10 % of the rated motor voltage to stator terminals U1 and V1; 20 to 30 % of rated motor current is sufficient to heat the motor.

Anti-condensation heating cannot be selected in conjunction with the SINAMICS G110M motor integrated frequency inverter.

Order code:

115 V anti-condensation heating

**M40**

230 V anti-condensation heating

**M41**
**Technical specifications**

Motor frame size	Heating power W
63 ... 80 <sup>1)</sup>	12.5
90 ... 112	25
132 ... 200	50
225 ... 250	92

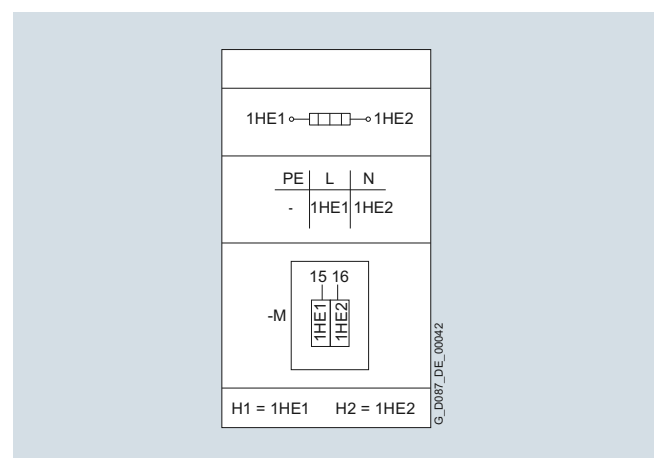
<sup>1)</sup> Only possible for worm geared motors S in motor frame size 71


Fig. 11/11 Connection circuit diagram for the anti-condensation heating

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## Motor options

### Electrical design

#### Windings and insulation

##### Inverter operation

All motors used in SIMOGEAR geared motors are equipped with innovative insulation systems, consisting of high-quality enamel wires and insulating sheet materials in conjunction with highly temperature-resistant impregnations.

The motors can be operated with SINAMICS G and SINAMICS S converters and inverters (controlled and uncontrolled infeed) provided that the permissible voltage peaks listed in the relevant table are not exceeded.

Continuous operation while utilizing the admissible voltage tolerances must be avoided and is not recommended according to IEC 60034-1 2011 Chapter 7.3.

Preferred supply system configurations are TT systems and TN systems with neutral-point grounding. In the case of a fault when connected to an IT supply system (ground fault), the insulation is excessively stressed. In this case, the process should be terminated as quickly as possible ( $t < 2$  h), and the fault resolved. We do not recommend operation on TN supply systems with transition-point grounding.

##### Impulse Voltage Insulation Class (IVIC) – category C (strong)

The insulation system of the motors meets the requirements of EN 60034-18-41:2014 according to the stress category C (strong).

The insulation systems of the motors are optimized for operation on SINAMICS inverters. The admissible voltage peaks specified in the table must not be exceeded.

Thanks to the high-quality insulation systems, the requirements of IVIC C are significantly exceeded; see the comparison in the table. This also means that significantly more stringent requirements can be met by the system operator.

##### Note:

When motors are operated on SINAMICS inverters additional losses occur which, depending on the admissible winding overtemperature, can make it necessary to reduce the torque. The admissible torque values can be obtained from the SIZER engineering tool. The lowest frequency specified there is 5 Hz. For stationary inverter operation at lower frequencies, particularly in the case of frame sizes  $< 100$ , it is necessary to inquire at the Quotation Center.

For inverter operation with the outputs specified in the catalog, the motors are utilized according to temperature class 155 (F), i.e. in this case neither a service factor  $> 1$  nor an increased coolant temperature is possible.

The table below shows a comparison between the maximum admissible peak-peak voltage at the motor terminal as stipulated by EN 60034-18-41 and the peak-peak voltage tolerance of SIMOTICS insulation systems.

	Line voltage $U_{rated}$			
	400 V		480 V	
Standard	IVIC C	Siemens	IVIC C	Siemens
$\hat{U}_{phase-ground}$	1 680	2 200	2 016	2 200
$\hat{U}_{phase-phase}$	2 360	3 000	2 832	3 000

The following applies for the voltage rise time:  $T_a > 0.3 \pm 0.2 \mu s$

The voltages specified are peak-peak values ( $V_{pk/pk}$ ).

##### Example of how to design a drive system for a line voltage of 400 V in compliance with the specifications for the motor and inverter

When SIMOGEAR geared motors are operated on SINAMICS inverters, reflections may cause voltage peaks in excess of the upper tolerance limits. These effects may also be influenced by the design and length of the cables used.

A = standard power cable (NYCWY)

B = power cable with symmetrical shield (e.g. Prototflex)

In the example below, various motor configurations are assessed on the basis of the following general conditions:

- Configuration with a single motor:  
Each motor has its own Motor Module with a separate infeed for each module
- Configuration with multiple motors:  
Each motor has its own Motor Module; these modules are interconnected via a common DC link which is supplied by an Active Line Module combined with an Active Interface Module (AIM).
- TN system  $U_k = 5\%$
- $U_{DC Link} = 1.5 \times U_{Line}$  with a modulation depth  $ALM_{max} < 0.97$  and  $U_{DC,max}$
- Motor Modules in booksize format
- Active Line Module (ALM) with matching Active Interface Module (AIM)
- No parallel connection of Active Line Modules
- Pulse frequencies set to factory defaults

On this basis, the maximum recommended cable lengths [m] are:

Rated power kW	Rated voltage $U_{Line} = 400 V \pm 10\%$ (DC link voltage $U_{DC Link} = 640 V_{DC}$ )			
	Multi-motor operation		Single-motor operation	
	Cable type A	Cable type B	Cable type A	Cable type B
0.09 ... 4	50 <sup>1)</sup>	50 <sup>1)</sup>	50 <sup>1)</sup>	50 <sup>1)</sup>
5.5 ... 7.5	55	70 <sup>1)</sup>	70 <sup>1)</sup>	70 <sup>1)</sup>
11 ... 18.5	50	75	100 <sup>1)</sup>	100 <sup>1)</sup>
22 ... 45	100 <sup>1)</sup>	100 <sup>1)</sup>		
55 ... 90	85			

<sup>1)</sup> Cable length limitation by SINAMICS Motor Module

Provided that the cables do not exceed the recommended lengths and on the basis of the specified general conditions, it can be assumed that the system will operate in compliance with the product specifications.

Other lengths of cable may be used, but the potential voltage peaks and front times must be checked separately according to the table for compliance with the product specifications.

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### DURIGNIT IR 2000 insulation

The DURIGNIT IR 2000 insulating system consists of high-quality enamel wires and insulating sheet materials in conjunction with temperature-resistant resin impregnation.

This ensures that these motors will have a high mechanical and electrical strength, high service value, and a long service life. The insulating system protects the winding to a large degree against aggressive gases, vapors, dust, oil, and increased air humidity. It can withstand the usual vibration stressing. The insulation is suitable up to an absolute air humidity of 30 g water per m<sup>3</sup> of air. Moisture condensation should be prevented from forming on the winding.

Please inquire about extreme applications.

### Temperature class

All motors are designed for temperature class 155 (F). They are utilized to temperature class 130 (B).

The 4-pole motors can be optionally implemented for temperature class 180 (H). The winding is utilized to temperature class 155 (F).

Order code:

Temperature class 180 (H) <sup>1)</sup>

**M08**

<sup>1)</sup> Not possible for worm geared motors S

### Increased air humidity/temperature with 30 to 60 g water per m<sup>3</sup> of air

The motors in the standard range are designed for up to 30 g water per m<sup>3</sup>. A design for increased air humidity in the range between 30 and 60 g water per m<sup>3</sup> air as a function of the temperature is possible, as shown in the following table.

Order code:

Increased air humidity/temperature with 30 to 60 g water per m<sup>3</sup> of air <sup>1)</sup>

**N54**

<sup>1)</sup> Not possible for worm geared motors S

Relative humidity	Temperature						
	+20 °C	+30 °C	+40 °C	+50 °C	+60 °C	+70 °C	+80 °C
10 %	2	3	5	8	13	20	29
15 %	3	5	8	12	19	30	44
20 %	3	6	10	17	26	39	58
25 %	4	8	13	21	32	49	
30 %	5	9	15	25	39	59	
35 %	6	11	18	29	45		
40 %	7	12	20	33	52		
45 %	8	14	23	38	58		
50 %	9	15	26	41			
55 %	10	17	28	46			
60 %	10	19	31	50			
65 %	11	20	33	54			
70 %	12	21	36	58			
75 %	13	23	38				
80 %	14	24	41				
85 %	15	26	43				
90 %	16	27	46				
95 %	16	29	49				
100 %	17	30	51				

## Motor options

### Mechanical design

#### Degrees of protection

##### Overview

###### Note:

The degree of protection only applies to the electrical equipment (motor, brake, encoder). Depending on the application area, the applicable measures must be applied to the gearbox.

###### Available degrees of protection

Degree of protection	Motor options that can be mounted	Order code
IP55	No restrictions	K01
IP56 <sup>1)</sup>	Possible in conjunction with separately driven fan, incremental encoder and absolute encoder	K02
IP65 <sup>1)</sup>	Possible in conjunction with a brake, backstop, separately driven fan, incremental encoder, absolute encoder, resolver, and motor plug.	K03

<sup>1)</sup> Not possible for worm geared motors S

#### Cooling and ventilation

##### Overview

The motors have radial-flow fans, which cool regardless of the direction of rotation of the motor (cooling method IC 411,

IEC 60034-6). The air flows from the non-drive end (NDE) to the drive end (DE).

##### Self ventilation

The motor fan can either be a standard fan, metal fan, or high inertia fan.

###### Fan design

Motor frame size	Fan	Material Fan	Fan cover	Order code
63 ... 90	Standard fan	Plastic	Sheet metal	
	Metal fan	Aluminum	Sheet metal	M21
	High inertia fan	Steel core with plastic fan blades	Sheet metal	M22
100 ... 132	Standard fan	Plastic	Sheet metal	
	Metal fan	Aluminum	Sheet metal	M21
	High inertia fan	Cast iron	Sheet metal	M22
160	Standard fan	Plastic	Sheet metal	
	Metal fan	Aluminum	Sheet metal	M21
180 ... 200	Standard fan	Plastic	Sheet metal	
	Metal fan	Steel	Sheet metal	M21
225 ... 250	Standard fan	Plastic	Plastic / sheet metal <sup>1)</sup>	
	Metal fan	Steel	Plastic / sheet metal <sup>1)</sup>	M21

<sup>1)</sup> The fan cover is made of sheet metal for motors with brake

##### Standard fan

As standard, the motors are equipped with a plastic fan. This can be used for the entire standard ambient temperature range.

##### Metal fan

As an alternative to the standard plastic fans, aluminum fans are available for the motors.

Metal fans are used for specific environmental conditions, e.g.:

- If there are solid or dirt particles, such as wood chips, textile fibers in the cooling air
- Special motor designs for increased ambient temperatures exceeding +60 °C

Order code:

Metal fan	M21
-----------	-----

##### High inertia fan

When required, 4-pole motors in frame sizes 71 to 132 can be equipped with a high inertia fan.

High inertia fans as an additional inertia are finely balanced according to ISO 1940. Typical applications are drives for traveling gear, conveying equipment, or in general for supporting soft starting and/or soft braking in line operation.

Order code:

High inertia fan <sup>1)</sup>	M22
--------------------------------	-----

<sup>1)</sup> Not possible for worm geared motors S

A high inertia fan increases the moment of inertia of the motor according to the table below.

Motor frame size	$J_2$ 10 <sup>-4</sup> kgm <sup>2</sup>	$m_{fan}$ kg
71	17.1	1.38
80	27.9	1.75
90	54.0	2.55
100	116.0	3.30
112	230.0	5.30
132	562.0	9.10

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### Forced ventilation

Forced ventilation (separately driven fan) can be combined with almost all brakes and encoders as required.

Order code:

Separately driven fan <sup>1)</sup>

**M23**

<sup>1)</sup> Not possible for worm geared motors S

### Technical specifications

Motor frame size	Frequency Hz	Rated voltage range			Connection	Rated current A	Power consumption W	Volume flow m <sup>3</sup> /h	Weight kg
		Phase	V						
71	50	1 AC	230 ... 277		⊥(Δ)	0.10	27.0	78	1.45
		3 AC	220 ... 303/346 ... 525		Δ/Y	0.11/0.06	31.0		
	60	1 AC	230 ... 277		⊥(Δ)	0.12	33.0	98	
		3 AC	220 ... 332/380 ... 575		Δ/Y	0.10/0.06	29.0		
80	50	1 AC	230 ... 277		⊥(Δ)	0.11	29.0	127	1.50
		3 AC	200 ... 303/346 ... 525		Δ/Y	0.11/0.06	31.0		
	60	1 AC	230 ... 277		⊥(Δ)	0.14	37.0	148	
		3 AC	220 ... 332/380 ... 575		Δ/Y	0.10/0.06	34.0		
90	50	1 AC	230 ... 277		⊥(Δ)	0.25	65.0	200	1.90
		3 AC	200 ... 303/346 ... 525		Δ/Y	0.38/0.22	91.0		
	60	1 AC	230 ... 277		⊥(Δ)	0.29	65.0	240	
		3 AC	220 ... 332/380 ... 575		Δ/Y	0.33/0.19	77.0		
100	50	1 AC	230 ... 277		⊥(Δ)	0.28	66.0	260	2.05
		3 AC	200 ... 303/346 ... 525		Δ/Y	0.37/0.22	91.0		
	60	1 AC	230 ... 277		⊥(Δ)	0.30	75.0	310	
		3 AC	220 ... 332/380 ... 575		Δ/Y	0.31/0.18	87.0		
112	50	1 AC	230 ... 277		⊥(Δ)	0.28	71.0	337	2.15
		3 AC	200 ... 303/346 ... 525		Δ/Y	0.35/0.20	97.0		
	60	1 AC	230 ... 277		⊥(Δ)	0.37	94.0	411	
		3 AC	220 ... 332/380 ... 575		Δ/Y	0.31/0.18	103.0		
132	50	1 AC	230 ... 277		⊥(Δ)	0.52	125.0	560	3.00
		3 AC	200 ... 303/346 ... 525		Δ/Y	0.64/0.37	160.0		
	60	1 AC	230 ... 277		⊥(Δ)	0.61	163.0	650	
		3 AC	220 ... 332/380 ... 575		Δ/Y	0.35/0.20	180.0		
160	50	1 AC	230 ... 277		⊥(Δ)	1.05	246.0	980	
		3 AC	200 ... 303 / 346... 525		Δ/Y	1.28 / 0.74	314.0		
	60	1 AC	230 ... 277		⊥(Δ)	1.52	390.0	1170	
		3 AC	220 ... 332 / 380... 575		Δ/Y	1.08 / 0.62	391.0		
180	50	1 AC	230 ... 277		⊥(Δ)	1.05	246.0	1166	8.15
		3 AC	200 ... 303 / 346... 525		Δ/Y	1.28 / 0.74	314.0		
	60	1 AC	230 ... 277		⊥(Δ)	1.52	390.0	1306	
		3 AC	220 ... 332 / 380... 575		Δ/Y	1.08 / 0.62	391.0		
200	50	1 AC	230 ... 277		⊥(Δ)	1.05	246.0	1331	9.75
		3 AC	200 ... 303 / 346... 525		Δ/Y	1.28 / 0.74	314.0		
	60	1 AC	230 ... 277		⊥(Δ)	1.52	390.0	1586	
		3 AC	220 ... 332 / 380... 575		Δ/Y	1.08 / 0.62	391.0		
225 ... 250	50	3 AC	220 ... 240 / 380 ... 420		Δ/Y	2.0 / 1.15	450.0	On request	22.0
	60		440 ... 480		Y	1.05	520.0		

### Modular system in combination with self ventilation and forced ventilation for motor frame size 63 to 200

Cooling method	Motor plug	Encoder				Resol- ver <sup>3)</sup>	Encoder under cover <sup>2)</sup>	Encoder acces- sories	Brake			Microswitch	Back- stop	2nd shaft exten- sion	
		Incremental encoder	Absolute encoder	Functionally safe no	Functionally safe yes				Without manual release	With manual release	Air flow monitoring <sup>1)</sup>				Wear monitoring
<b>Self ventilation</b>															
Standard fan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	On request	✓	✓
Metal fan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	On request	✓	✓
High inertia fan <sup>2) 4)</sup>	✓	✓	-	✓	-	✓	✓	✓	✓	✓	✓	✓	On request	✓	✓
Canopy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	On request	✓	-
<b>Forced ventilation <sup>2) 4)</sup></b>															
Canopy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	On request	✓	-

<sup>1)</sup> Can be selected for brake type L32 or higher

<sup>2)</sup> Can be selected for motor frame size 71 or higher

<sup>3)</sup> Cannot be combined with brake motor

<sup>4)</sup> Not possible for worm geared motors S



## Motor options

### Mechanical design

#### Motor connection and terminal boxes

##### Connection, circuit and terminal boxes

###### Location and position of the terminal box

The terminal box of the motor can be mounted in four different locations or positions. The position of the terminal box is always when viewing the drive end (DE) of the motor.

The standard position of the terminal box is on the right-hand side, with the cable entry from below (1A).

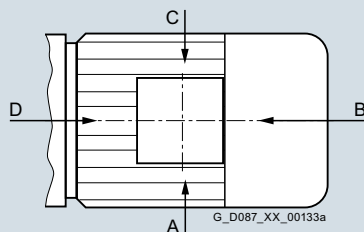
The terminal box is always located at the non-drive end (NDE) of the motor.

###### Selection data, cable entry

Terminal box position	Position of the cable entry	Order code
<b>Motor</b>	<b>LA63 ... 71, LE80 ... 160, LES180 ... 250</b>	
1	A	M55
	B	M56
	C	M57
	D	M58
2	A	M59
	B	M60
	C	M61
	D	M62
3	A	M63
	B	M64
	C	M65
	D	M66
4	A	M67
	B	M68
	C	M69
	D	M70 <sup>1)</sup>

1) Not possible for worm geared motors S

Position of the cable entry



Terminal box position

When viewing DE

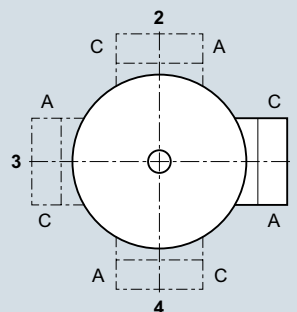


Fig. 11/12 Terminal box position and cable entry

###### Motor connection

The number of winding ends depends on the winding design. Three-phase AC motors are connected to the three phase conductors L1, L2, and L3 of a three-phase line supply. The motor rated voltage in the operating connection must match the phase conductor voltages of the line supply.

When the three phases operate in sequence and are connected to the terminals of the motor in alphabetical order U1, V1 and W1, the motor rotates clockwise when viewing the DE motor shaft.

The direction of rotation of the motor can be reversed if two connecting cables are interchanged. Labeled terminals are provided to connect the protective conductor.

The connections for a brake, anti-condensation heating or thermal motor protection are also located in the terminal box.

###### Note:

Different sizes of terminal box are used depending on the connections required.

Additional notes see "Terminal box type" on page 11/15.

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**Connection, circuit, and terminal boxes** (continued)

Motor connection Δ/Y

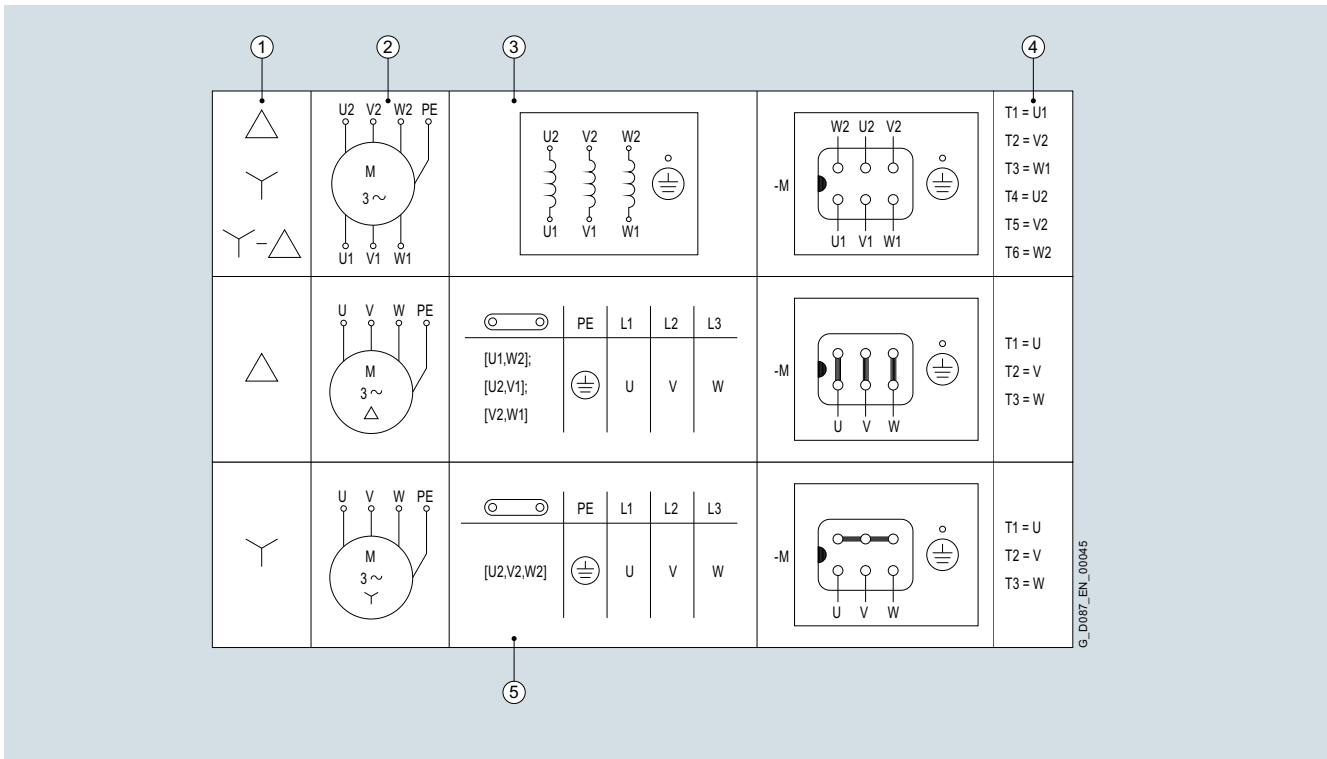


Fig. 11/13 Connection circuit diagram, motor connection Δ/Y

- ① Motor connection
- ② Circuit diagram symbols
- ③ Winding arrangement in the motor
- ④ Comparison:  
Terminal designation acc. to NEMA MG1/acc. to IEC 60034-8
- ⑤ Location of the jumpers on the terminal board and juxtaposition of the line connection with the motor connection

Motor connection Y

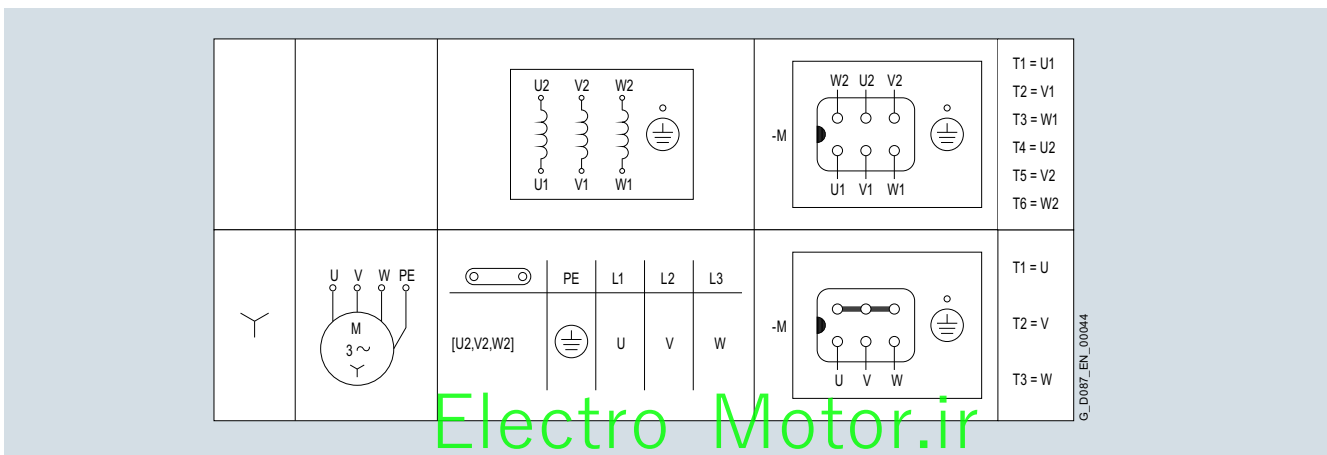


Fig. 11/14 Connection circuit diagram, motor connection Y

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## Motor options

### Mechanical design

#### Motor connection and terminal boxes

#### Connection, circuit, and terminal boxes (continued)

#### Motor connection YY/Y

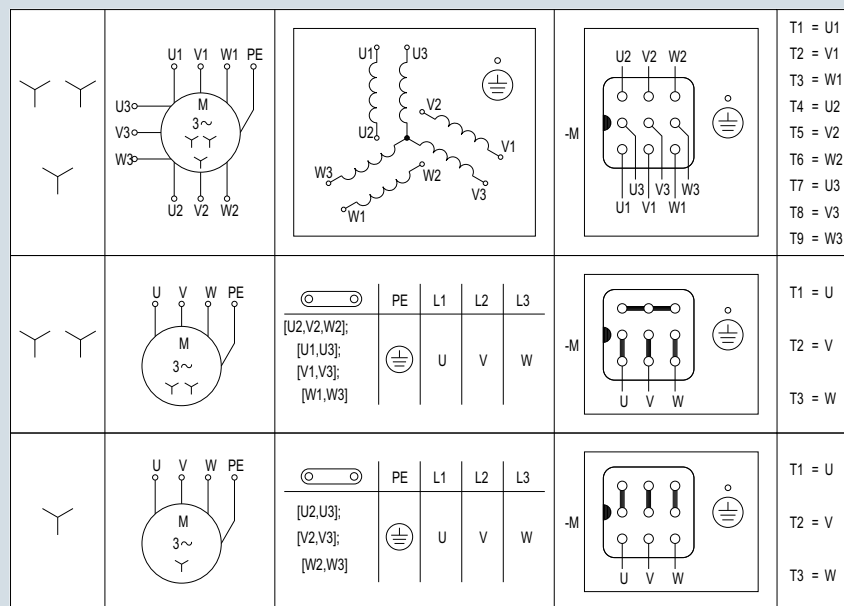


Fig. 11/15 Connection circuit diagram, motor connection YY/Y

#### Terminal connection

The terminal board accommodates the terminals that are connected to the leads to the motor windings.

The terminals are designed so that up to frame size 160, the external (line) connections can be established without requiring cable lugs.

#### Terminal box assignment

Motor frame size	Terminals Number	Contact screw thread	Max. connectable conductor mm <sup>2</sup>	Number of cable entries	Terminal box material	Line feeder cable connection	Auxiliary terminals	
							Max. number	Max. connectable conductor mm <sup>2</sup>
63	6 (9 for YY/Y motor connection)	M4	1.5 (2.5 with cable lug)	2 cable entries with screw plugs	Aluminum alloy	With or without cable lug	8	2.5
71								
80								
90								
100								
112								
132								
160	M5	16	4	2 cable entries with screw plugs	Cast iron	With cable lug	10	2.5
180								
200								
225								
M8								
M10								
250	M12	240						

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#### Connection, circuit, and terminal boxes (continued)

##### Terminal box type

The terminal box contains all the electrical connections that are installed in the motor. Different sizes of terminal box are used depending on the connections required.

The dimensions of terminal boxes can be found in [chapter "Motors" from page 8/42](#).



Fig. 11/16 Terminal box type gk030, TB1E00, TB1F00, TB1H00, TB1J00

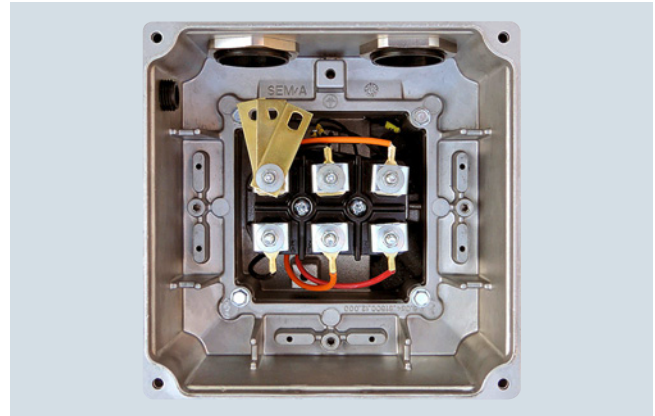


Fig. 11/17 Terminal box type gk127, TB1E10, TB1F10, TB1H10, TB1J10, TB1K01, TB1L01, TB1N01

##### Cable entry metric

Motor frame size	Motor options					Terminal box type
	Brake	Winding protection	Heating	Application terminal box	Cable entry metric	
63 ... 71	Without	PTC thermistor for disconnection	Without	Without	1 x M25 x 1.5 + 1 x M20 x 1.5	gk030 <sup>1)</sup>
		Winding thermostat for disconnection				
		KTY 84-130 temperature sensor				
		1x Pt100 resistance thermometer				
		Without	With			
	With	No restriction				gk127 <sup>1) 2)</sup>
80 ... 90	Without	PTC thermistor for disconnection	No restriction	Without		TB1E00
		Winding thermostat for disconnection				
		KTY 84-130 temperature sensor				
		1x Pt100 resistance thermometer				
	With	No restriction				TB1E10
100 ... 112	Without	PTC thermistor for disconnection	No restriction	Without	2 x M32 x 1.5	TB1F00
		Winding thermostat for disconnection				
		KTY 84-130 temperature sensor				
		1x Pt100 resistance thermometer				
	With	No restriction				TB1F10
132	Without	PTC thermistor for disconnection	No restriction	Without		TB1H00
		Winding thermostat for disconnection				
		KTY 84-130 temperature sensor				
		1x Pt100 resistance thermometer				
	With	No restriction				TB1H10
160	Without	PTC thermistor for disconnection	No restriction	Without	2 x M40 x 1.5	TB1J00
		Winding thermostat for disconnection				
		KTY 84-130 temperature sensor				
		1x Pt100 resistance thermometer				
	With	No restriction				TB1J10
180	Without	No restriction				TB1K01
	With	No restriction				
200	Without	No restriction			2 x M50 x 1.5	TB1L01
	With	No restriction				
225	Without	No restriction				TB1L01
	With	No restriction				TB1N01
250	Without	No restriction			2 x M63 x 1.5	TB1N01
	With	No restriction				

<sup>1)</sup> For terminal boxes with 9 terminals (circuit YY/Y) terminal box type TB1E10

<sup>2)</sup> For brake motors in UL-R and CSA version terminal box type TB1E10

## Motor options

### Mechanical design

#### Motor connection and terminal boxes

##### Connection, circuit, and terminal boxes (continued)

###### Cable entry NPT

The cable entry with national pipe thread (NPT) can be ordered as an option. The dimensions of terminal boxes can be found in [chapter "Motors" from page 8/42](#).

Order code:

Cable entry NPT	<b>M45</b>
-----------------	------------

Motor frame size	Cable entry NPT	Terminal box type
63 ... 71	2 x 1/2"	gk127 <sup>1) 2)</sup>
80 ... 90		TB1E10
100 ... 112	3/4" + 1/2"	TB1F10
132		TB1H10
160	1 1/4" x 1/2"	TB1J10
180	1 1/2" x 1/2"	TB1K01
200 ... 225		TB1L01
250	2 1/2" x 1/2"	TB1N01

<sup>1)</sup> For terminal boxes with 9 terminals (circuit YY/Y) terminal box type TB1E10

<sup>2)</sup> For brake motors in UL-R and CSA version terminal box type TB1E10

###### Terminal box cast

Motors can be supplied with the bottom half of the terminal box cast onto the motor housing in order to prevent water ingress into the housing.

In this case, no further changes can be made to the position of the terminal box.

Order code:

Terminal box cast <sup>1)</sup>	<b>M53</b>
---------------------------------	------------

<sup>1)</sup> Not possible in conjunction with UL-R and CSA design.

###### External grounding

IEC 60034 specifies additional external grounding for motors with ratings of 100 kW and higher. For motors, sizes 63 up to 160, this is optionally available.

Motors in sizes 180 to 250 are supplied as standard with external grounding.

Order code:

External grounding	<b>N53</b>
--------------------	------------

###### Maximum conductor connection for external grounding

Motor frame size	Thread size
63 ... 90	M4
100 ... 112	M5
132 ... 180	M6
200	2 x M6
225 ... 250	2 x M8

###### Modular system in combination with motor connection and terminal box

Modular system	Encoder system	Brake		Microswitch		Self ventilation Forced ventilation	Backstop	Second shaft extension
		Without manual release	With manual release	Without locking mechanism	With locking mechanism <sup>1)</sup>			
Terminal box	✓	✓	✓	✓	✓	✓	✓	✓
Motor plug	✓	✓	✓	✓	-	On request	✓	✓

<sup>1)</sup> Only manual brake release with locking mechanism can be selected for motor frame sizes 225 and 250.

<sup>2)</sup> Can be selected for brake type L32 or higher

### Overview

The motor plug is supplied ready for use, and replaces the terminal box with terminal board.

Motor plugs are also available in an EMC design. A counterplug can also be provided.

In the basic design, the motor plug connection is in position B, see page 11/12. The dimensions depend on the motor frame size.

Particularly in cases where a brake with a manual release lever is used in the direction of the non-drive end (NDE), a check must be made to ensure that the motor plug does not collide with the manual release lever in the direction of the drive end (DE).

The main advantages of a motor plug over a terminal box with terminals are as follows:

- Peripheral equipment can be quickly installed
- Reduction of installation and repair times for end users
- No wiring errors as a result of the plug system
- Replacement of a geared motor without having to make any intervention in the electronics

The winding connections and, optionally, the power supply for the brake and the signal cables for the temperature sensors are connected in the plug housing.

### HAN 10E motor plug

The motor plug is compatible with the products from the ECOFAST field device system. It is available for motor frame sizes 63 to 132 and can be used for line voltages at the motor plug  $\leq 500$  V and rated currents  $\leq 16$  A.

The motor plug can be used in the standard temperature range from  $-20$  up to  $+40$  °C. A special design is required for higher temperatures.

The motor connection (star or delta connection) is selected by the customer in the form of the counterplug used.

#### Technical specifications

Number of contacts	10 + ⊕
Max. voltage	500 V
Max. current load per PIN	16 A
Specifications	CE, cUL-Rus
Degree of protection	IP65

Order code:

HAN 10E motor plug (2 brackets) <sup>1)</sup>	<b>N00</b>
HAN 10E motor plug (2 brackets) EMC <sup>1)</sup>	<b>N01</b>
HAN 10E motor plug (1 bracket) <sup>1)</sup>	<b>N04</b>
HAN 10E motor plug (1 bracket) EMC <sup>1)</sup>	<b>N06</b>
HAN 10E counterplug <sup>1)</sup>	<b>N18</b>

<sup>1)</sup> Not possible for worm geared motors S

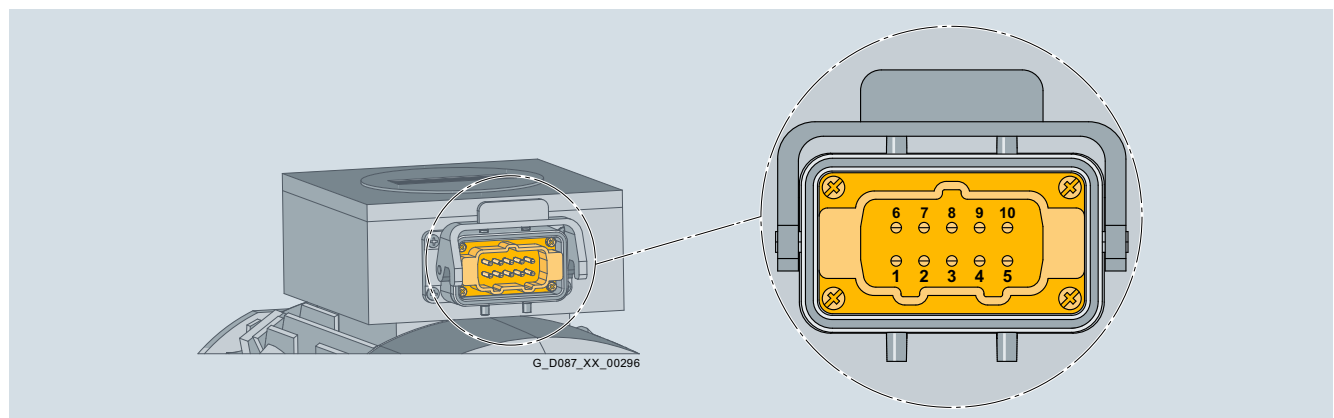


Fig. 11/18 HAN 10 E motor plug with pin assignments

#### Connection assignment

PIN	1	2	3	4	5	6	7	8	9	10	PE
Connection	U1	V1	W1	Brake	Brake	W2	U2	V2	Temperature-dependent winding protection		Protective conductor

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## Motor options

### Mechanical design

#### Motor plug

#### HAN 10E motor plug (continued)

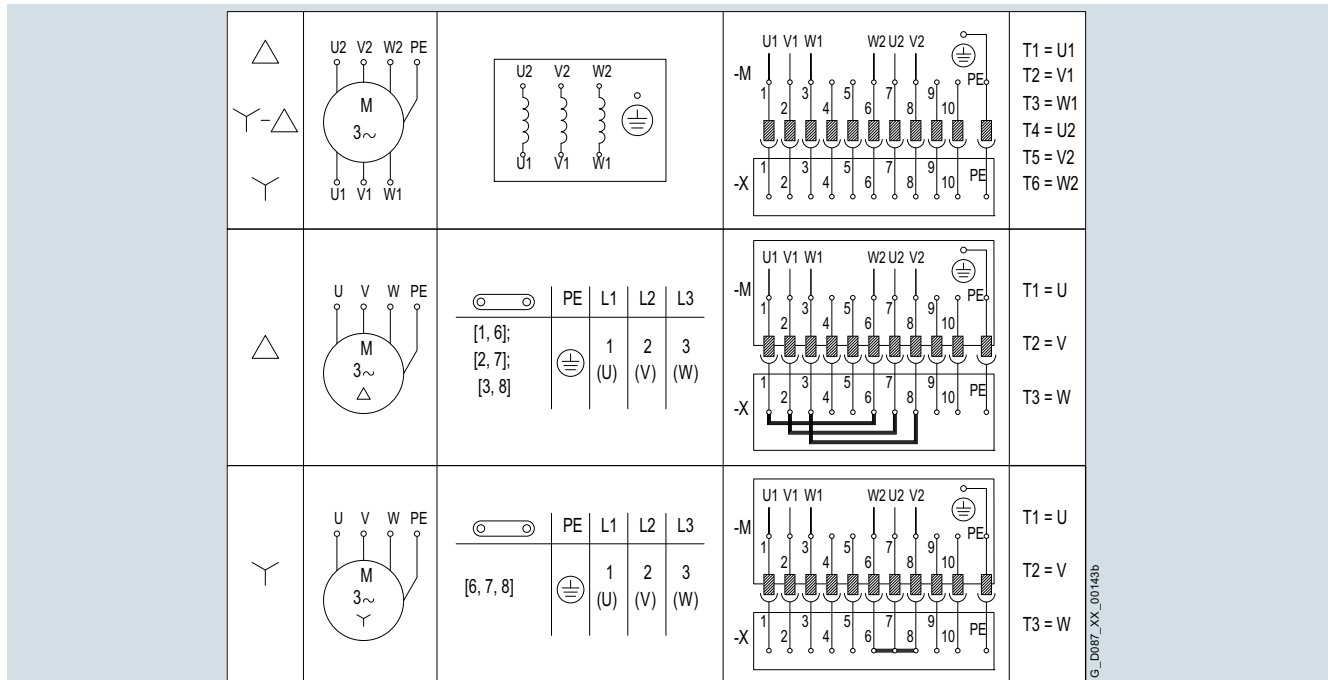


Fig. 11/19 Connection circuit diagram for motor winding

#### HAN K4/4 motor plug

The motor plug is available for motor frame sizes 132 up to 200, and can be used for line voltages  $\leq 690$  V at the power connection and  $\leq 250$  V at the control connection – as well as rated currents  $\leq 63$  A at the power connection and  $\leq 16$  A at the control connection. The jumpers are connected to the terminal board at the factory depending on the selected circuit or voltage.

##### Technical specifications

Number of contacts	4 + 4 + ⊕
Max. voltage power range	690 V (pollution degree 3)
Max. current load power range per PIN	63 A
Max. voltage control range	250 V (pollution degree 3)
Max. current load control range per PIN	16 A
Specifications	CE, cUL-Rus
Degree of protection (interlocked)	IP65

##### Order code:

- HAN K4/4 motor plug (1 bracket) <sup>1)</sup>
- HAN K4/4 motor plug (1 bracket) EMC <sup>1)</sup>
- HAN K4/4 motor plug (2 brackets) <sup>1)</sup>
- HAN K4/4 motor plug (2 brackets) EMC <sup>1)</sup>
- HAN K4/4 counterplug <sup>1)</sup>

**N08**

**N09**

**N10**

**N11**

**N19**

<sup>1)</sup> Not possible for worm geared motors S

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**HAN K4/4 motor plug (continued)**

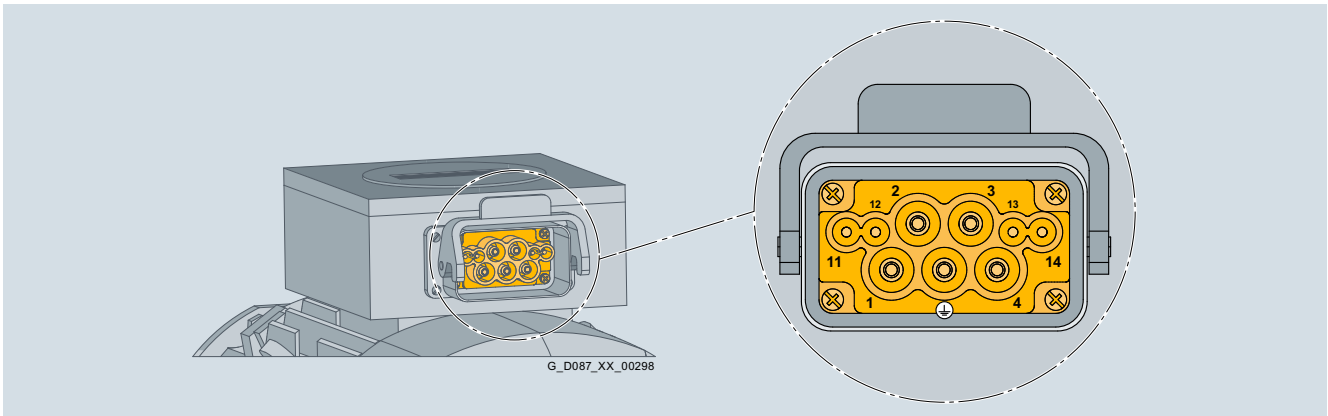


Fig. 11/20 HAN K4/4 motor plug with pin assignments

Connection assignment

PIN	1	2	3	4	11	12	13	14	PE
Connection	U	V	W	-	Brake	Brake	Temperature-dependent winding protection	Protective conductor	

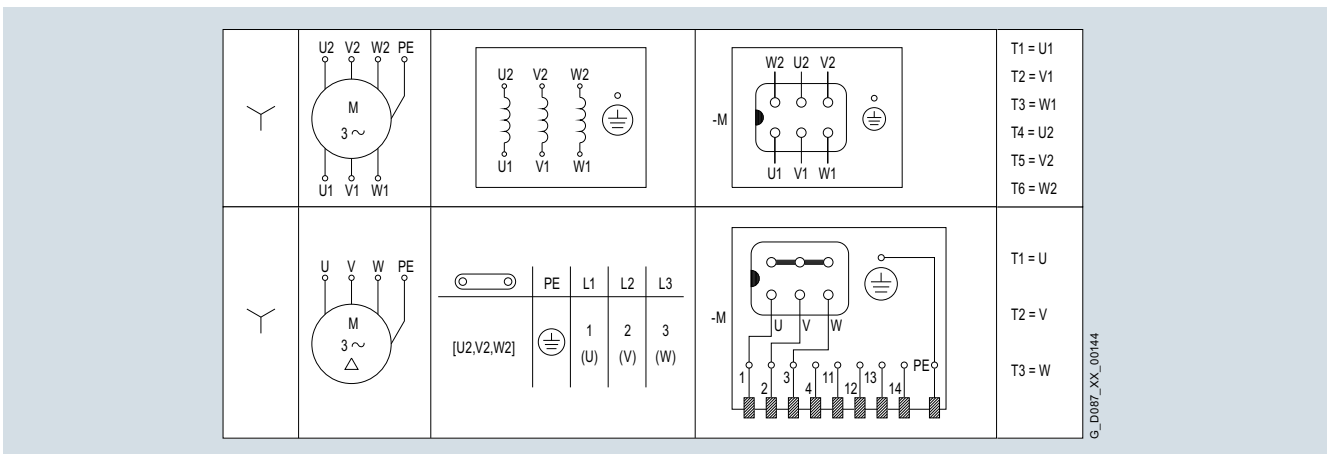


Fig. 11/21 Connection circuit diagram for motor winding Y connection

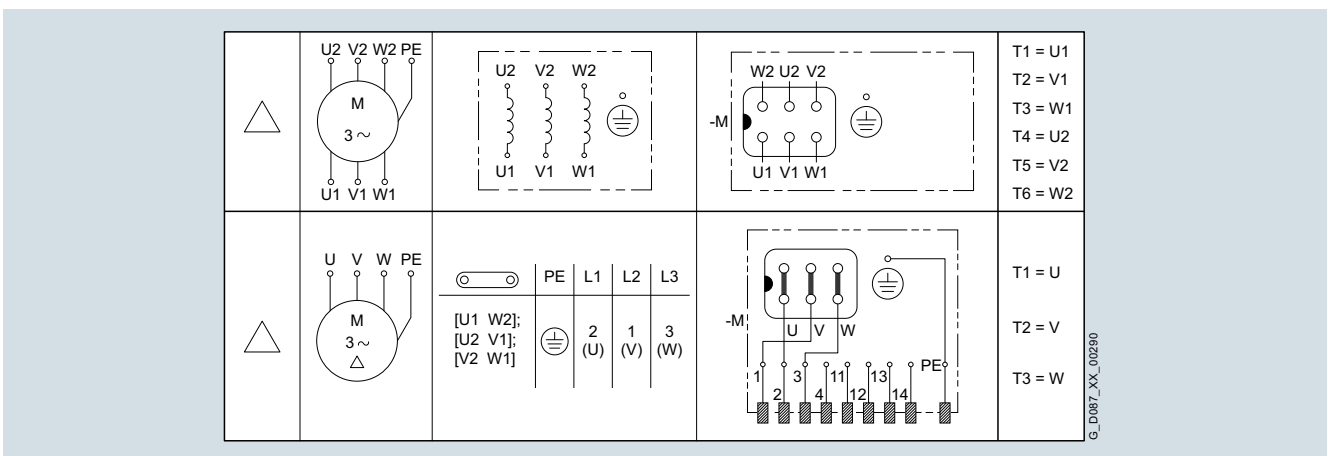


Fig. 11/22 Connection circuit diagram for motor winding Δ connection

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## Motor options

### Mechanical design

#### Motor plug

#### HAN Q8 motor plug

The motor plug is available for motor frame sizes 63 to 132 and can be used for line voltages  $\leq 500$  V as well as rated currents  $\leq 16$  A. The jumpers are connected to the terminal board at the factory depending on the selected circuit or voltage.

Order code:

HAN Q8 motor plug (1 bracket) EMC <sup>1)</sup>

**N12**

<sup>1)</sup> Not possible for worm geared motors S

#### Technical specifications

Number of contacts	8 + ⊕
Max. voltage	500 V (pollution degree 3)
Max. current load per PIN	16 A
Specifications	CE, cUL-Rus
Degree of protection (interlocked)	IP65

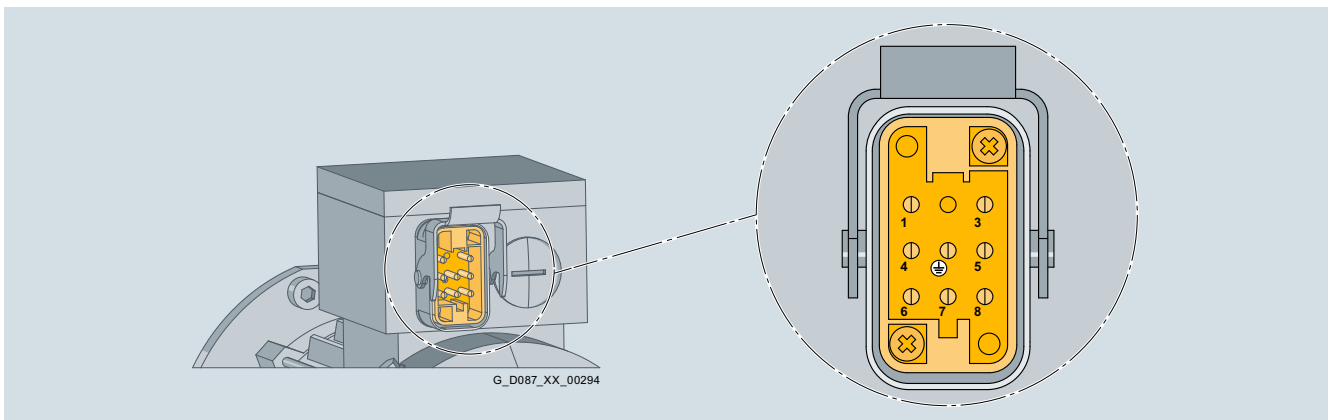


Fig. 11/23 HAN Q8 motor plug with pin assignments for motor frame sizes 63 and 71

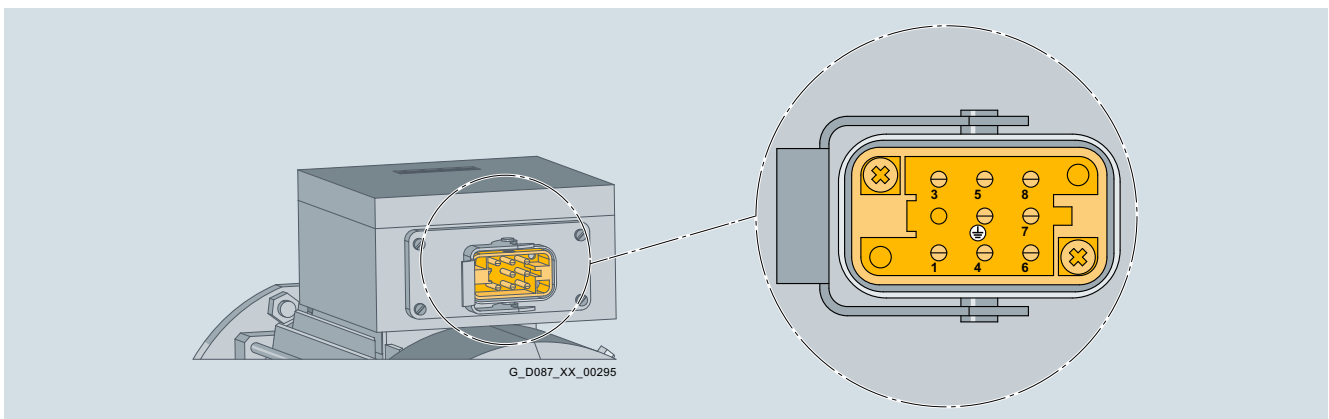


Fig. 11/24 HAN Q8 motor plug with pin assignments for motor frame sizes 80 to 132

#### Connection assignment

PIN	1	2	3	4	5	6	7	8	PE
Connection	U	-	W	Brake	Temperature-dependent motor protection	Brake	V	Temperature-dependent motor protection	Protective conductor

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**HAN Q8 motor plug** (continued)

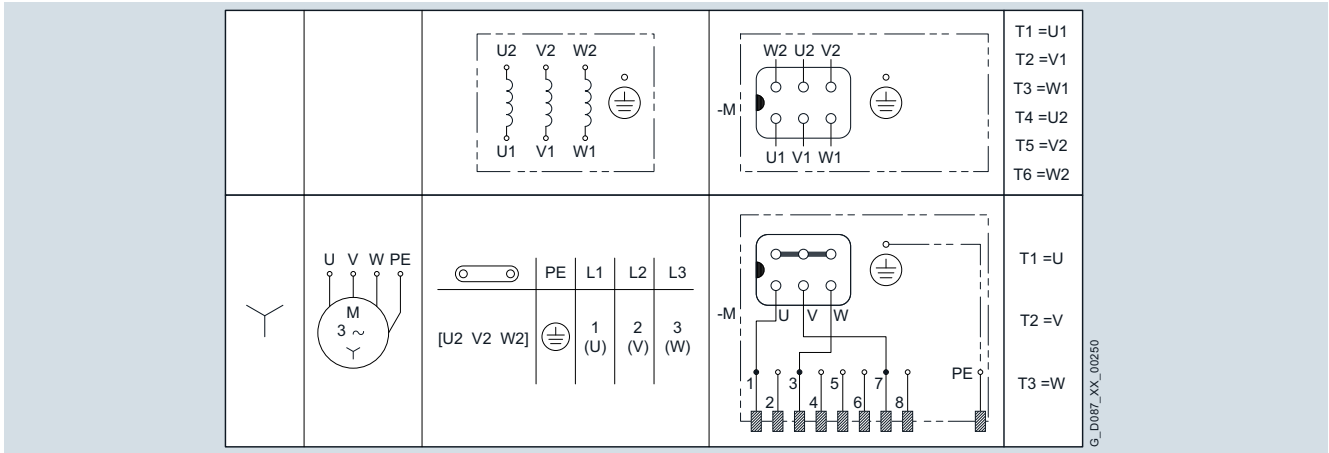


Fig. 11/25 Connection circuit diagram for motor winding Y connection

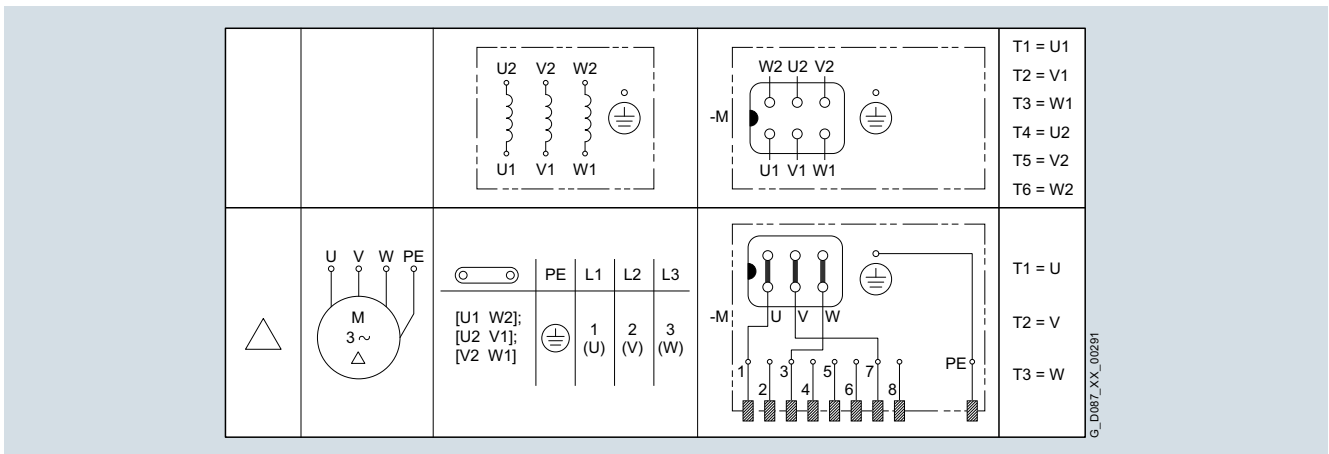


Fig. 11/26 Connection circuit diagram for motor winding Δ connection

## Motor options

### Mechanical design

#### Motor plug

##### HAN Q8 motor plug with cable

The motor plug with cable is available for motor frame sizes 63 to 112 and can be used for line voltages  $\leq 500$  V as well as rated currents  $\leq 16$  A.

One of the intended uses of the motor plug with cable is to provide an optimum connection to SINAMICS G120D.

The jumpers are connected to the terminal board at the factory depending on the selected circuit or voltage.

##### Technical specifications

Motor plug	
Number of contacts	8 + ⊕
Max. voltage	500 V / UL 600 V + 10 % (pollution degree 3)
Max. current load per PIN	16 A
Specifications	CE, cUL-Rus
Degree of protection (interlocked)	IP65
Cable suitable for cable carriers	
Approvals	
• VDE	yes
• cULus or UL/CSA	yes
• UL-CSA File No.	E172204/LL104758
Rated voltage	
• Power cores $U_0/U$	600 / 1 000 V
• Signal cores $U_0/U$	300 V
Operating temperature on the surface	
• Permanently installed	-50 °C ... +90 °C
• Moving	-30 °C ... +80 °C
Smallest bending radius	
• Permanently installed	5 x outer diameter
• Moving	12 x outer diameter
Bending operations	Typ. $2 \times 10^6$ cycles
Oil resistance	DIN VDE 0282 Part 10 + HD22.10
Outer jacket	Polyurethane (PUR)
Design	$4 \times 1.5 \text{ mm}^2 + 2 \times (2 \times 0.75 \text{ mm}^2)$ (shielded)
Outer diameter	11.7 ... 12.7 mm

##### Note:

With the HAN Q8 motor plug version with 0.5 m cable (**K50**), the plug insert in the plug is rotated by 180°, see Fig. 11/28.

##### Order code:

HAN Q8 motor plug with 0.5 m cable  
(plug insert rotated by 180°)

**K50**

HAN Q8 motor plug with 1 m cable

**K51**

HAN Q8 motor plug with 2 m cable

**K52**

HAN Q8 motor plug with 3 m cable

**K53**

HAN Q8 motor plug with 4 m cable

**K54**

HAN Q8 motor plug with 5 m cable

**K55**

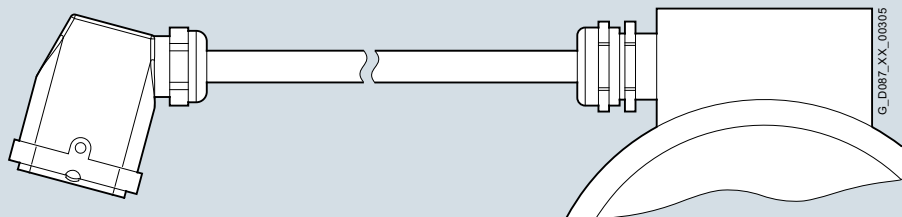


Fig. 11/27 HAN Q8 motor plug with cable

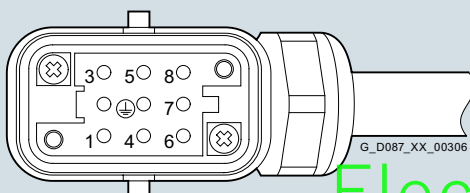


Fig. 11/28 Pin assignments for motor plug with 0.5 m cable, plug insert rotated by 180°

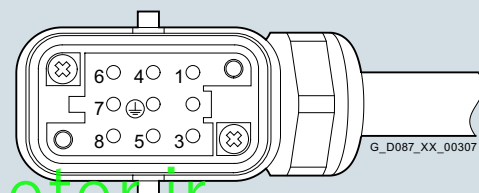
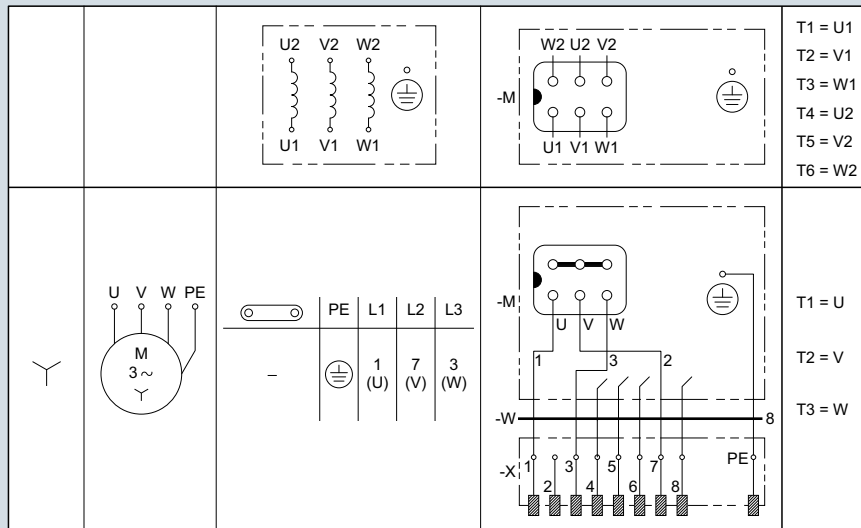


Fig. 11/29 Pin assignments for motor plug with 1 m to 5 m cable, plug insert rotated by 0°

**HAN Q8 motor plug with cable** (continued)

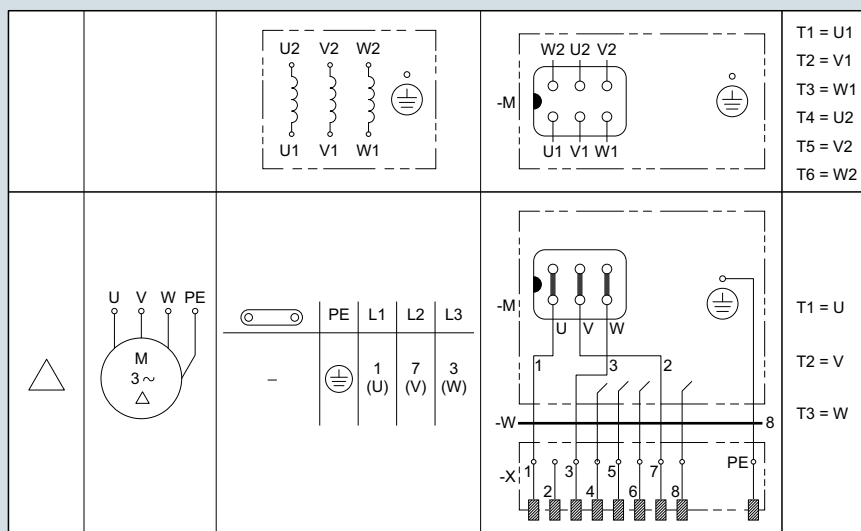
Connection assignment

PIN	1	2	3	4	5	6	7	8	PE
Connection	U	-	W	Brake	Temperature-dependent motor protection	Brake	V	Temperature-dependent motor protection	Protective conductor



G\_D087\_XX\_00293

Fig. 11/30 Connection circuit diagram for motor winding Y connection



G\_D087\_XX\_00292

Fig. 11/31 Connection circuit diagram for motor winding Δ connection

## Motor options

### Mechanical design

#### Motor plug

#### HAN Q12 motor plug

The motor plug is available for motor frame sizes 63 to 90 and can be used for line voltages  $\leq 400$  V as well as rated currents  $\leq 10$  A. The motor connection (star or delta connection) is selected by the customer.

Order code:

HAN Q12 motor plug (1 bracket) EMC <sup>1)</sup>

**N13**

<sup>1)</sup> Not possible for worm geared motors S

#### Technical specifications

Number of contacts	12 + ⊕
Max. voltage	400 V (pollution degree 3)
Max. current load per PIN	10 A
Specifications	CE
Degree of protection (interlocked)	IP65

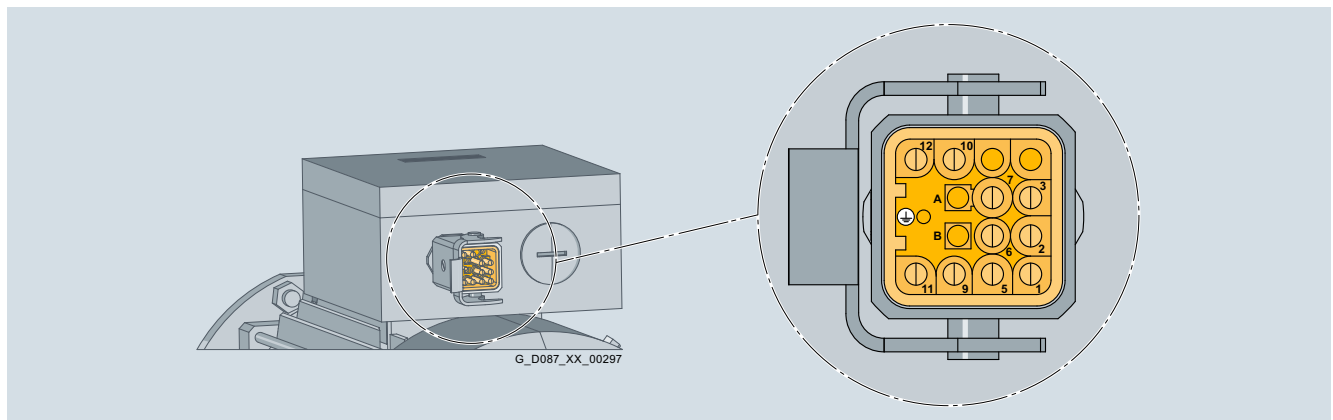


Fig. 11/32 HAN Q12 motor plug with pin assignments

#### Connection assignment

PIN	1	2	3	4	5	6	7	8	9	10	11	12	PE
Connection	U1	V1	W1	-	W2	U2	V2	-	Brake	Temperature-dependent winding protection	Brake	Temperature-dependent winding protection	Protective conductor

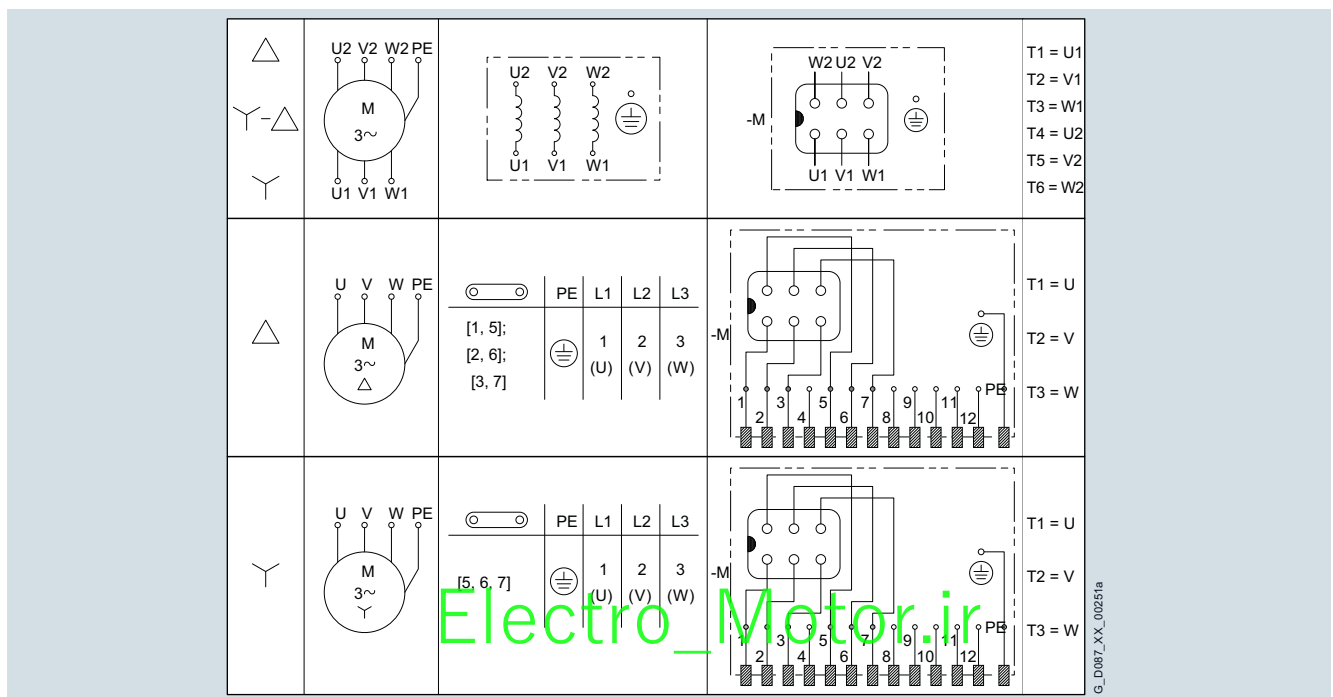


Fig. 11/33 Connection circuit diagram for motor winding

#### Overview

SIMOGEAR geared motors can be supplied with spring-operated disk brakes in order to reduce the motor run-on time or to hold loads, for example.

Our MODULOG modular system allows several brake sizes to be used with one motor frame size. This chapter specifies the assignment to the motor frame sizes and possible brake options.

#### Design and principle of operation

Single-disk, spring-operated brakes have two friction surfaces. When the brake is in a zero current state, a braking torque is generated using several springs.

The brake is released electromagnetically. When the motor brakes, the rotor which can be axially shifted on the hub or the shaft is pressed via the armature disk against the friction surface by means of the springs. In the braked state, there is a gap between the armature disk and the solenoid assembly.

To release the brake, the solenoid is energized with DC voltage. The resulting magnetic force attracts the armature disk onto the solenoid assembly against the spring force.

The spring force is then no longer applied to the rotor, which can now rotate freely.

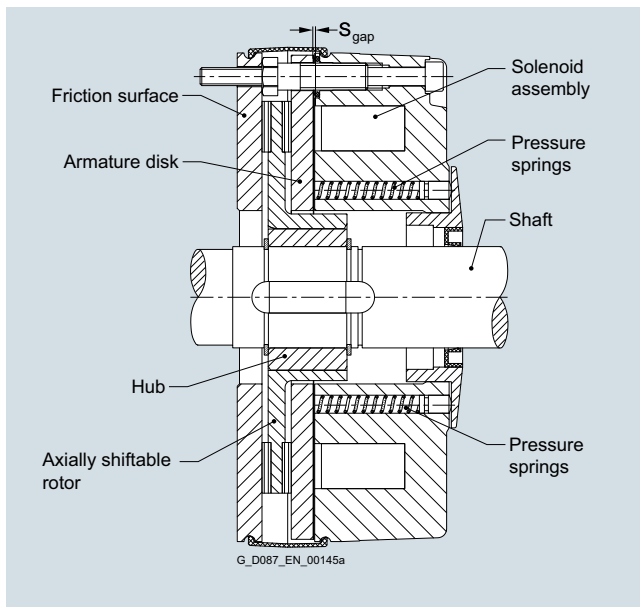


Fig. 11/34 Brake L

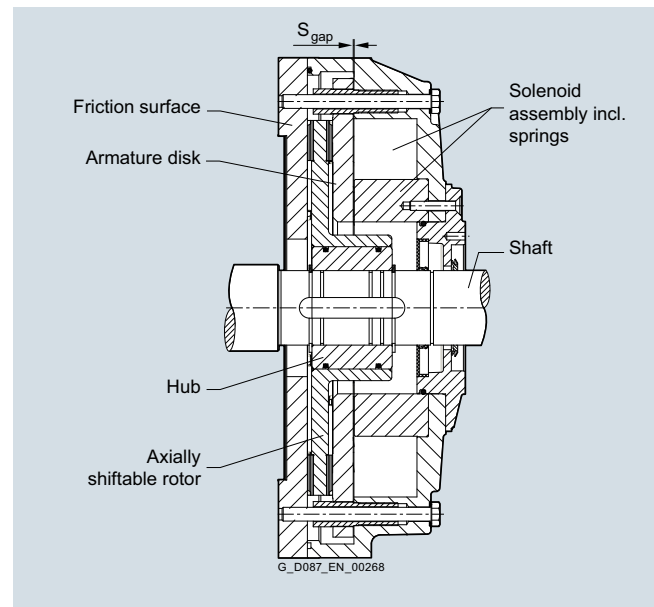


Fig. 11/35 Brake FDX

## Motor options

### Mounted components

#### Brake

#### Selecting the brake

Our MODULOG modular system allows several brake sizes to be used with one motor frame size.

#### Brake assignment

Brake type	Braking torque Nm	Motor frame size											Order code				
		63	71	80	90	100	112	132	160	180	200	225		250			
L4/1.4	1.4	○	○	○													B01
L4/2	2	○	○	○													B02
L4/3	3	○	○	○													B03
L4	4	□	□	○													B00
L4/5	5	○	○	○													B57
L8/3	3		○ <sup>1)</sup>	○	○												B05
L8/4	4		○ <sup>1)</sup>	○	○												B06
L8/5	5		○ <sup>1)</sup>	○	○												B07
L8/6.3	6.3		○ <sup>1)</sup>	○	○												B08
L8	8		○ <sup>1)</sup>	□	○												B04
L8/10	10		○ <sup>1)</sup>	○	○												B09
L16/8	8			○	○	○											B14
L16/10	10			○	○	○											B11
L16/13	13			○	○	○											B12
L16	16			●	□	○											B10
L16/20	20				○	○											B13
L32/14	14				○	○	○										B66
L32/18	18				○	○	○										B16
L32/23	23				○	○	○										B17
L32	32				○	□	□										B15
L32/40	40					○	○										B18
L60/25	25					○	○										B67
L60/38	38					○	○										B20
L60/50	50					○	○										B21
L60	60						○										B19
L80/25	25							○									B24
L80/35	35							○									B25
L80/50	50							○									B26
L80/63	63							○									B27
L80	80							□									B22
L80/100	100							○									B23
L150/60	60							○	○								B31
L150/80	80							○	○								B32
L150/100	100							○	○								B29
L150/125	125							○	○								B30
L150	150							○	□								B28
L260/100	100								○	○	○						B34
L260/145	145								○	○	○						B35
L260/180	180								○	○	○						B36
L260/200	200								○	○	○						B37
L260/240	240								○	○	○						B38
L260	260								○	□	□						B33
L260/315	315									○	○						B58
L400/265	265										○	○					B40
L400/300	300										○	○					B41
L400/360	360										○	○					B42
L400	400										○	○					B39
L400/600	600										●	●					B59
FDX30/265	265											○	○				B50
FDX30/300	300											○	○				B51
FDX30/360	360											○	○				B52
FDX30/400	400											□	○				B53
FDX30/500	500											○	○				B54
FDX30/650	650											○	○				B55
FDX30/750	750												○				B56
FDX30/850	850												○				B64
FDX40/650	650												○				B60
FDX40/750	750												○				B61
FDX40/850	850												□				B62
FDX40/1000	1 000												○				B63

- Standard assignment
- Working brake and holding brake
- Can only be used as holding brake

<sup>1)</sup> Not possible for worm geared motors S

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**Connecting the brake**

Labeled terminals are provided in the main terminal box of the motor to connect the brake.

**Connection circuit diagram with AC or DC control**

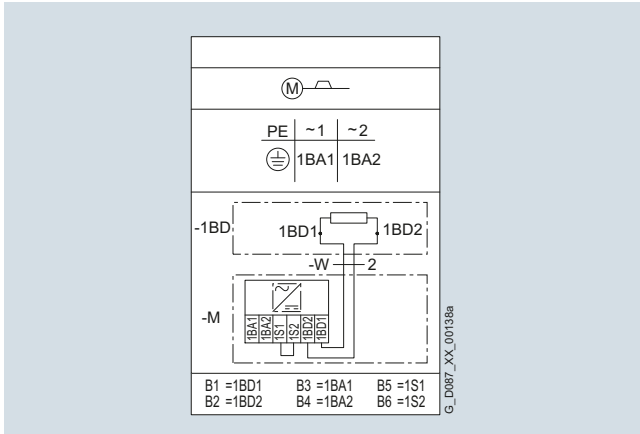


Fig. 11/36 Connection circuit diagram with AC control voltage

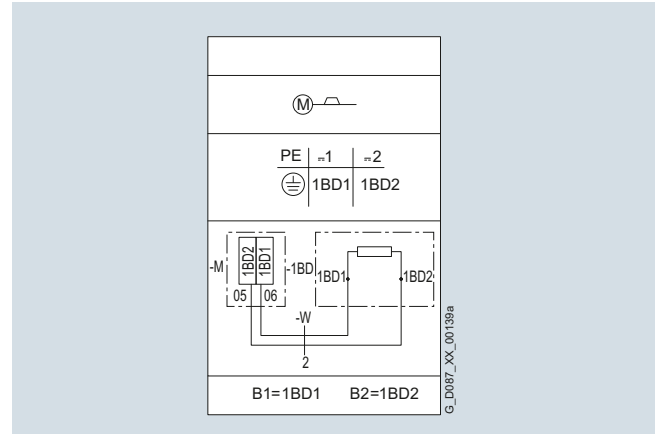


Fig. 11/37 Connection circuit diagram with DC control voltage

**Function diagram of a brake switched on the AC side or DC and AC sides**

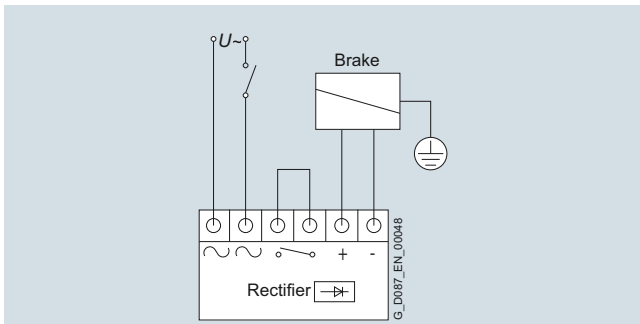


Fig. 11/38 Function diagram of a brake switched on the AC side

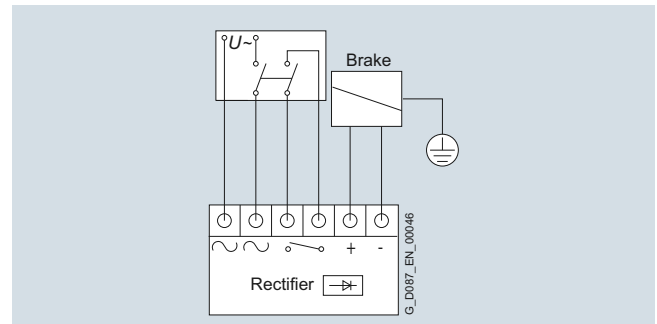


Fig. 11/39 Function diagram of a brake switched on the DC and AC sides

**Supply voltages**

The following supply voltages are available for brakes.

Supply voltage	Possible specifications					Motor frame sizes	Brake type		Rectifier		Coil voltage		Order code
	CE	UL-R/CSA	China	EAC	Export <sup>1)</sup>		L4 ... L400	FDX30/ FDX40	Brake L	Brake FDX	Brake L	Brake FDX	
<b>DC voltages</b>													
24 V DC ± 10 %	✓	✓	✓	✓	✓	63 ... 200	✓	-	-	-	-	-	<b>C66</b>
103 V DC ± 10 %	✓	✓	✓	✓	✓	63 ... 200	✓	-	-	-	-	-	<b>C52</b>
180 V DC ± 10 %	✓	✓	✓	✓	✓	63 ... 200	✓	-	-	-	-	-	<b>C53</b>
205 V DC ± 10 %	✓	✓	✓	✓	✓	63 ... 200	✓	-	-	-	-	-	<b>C64</b>
<b>AC voltages</b>													
200 V AC ± 10 %	✓	✓ <sup>1)</sup>	✓	✓	✓	63 ... 250	✓	✓	Rectifier bridge	Rectifier PMG	180 V DC	103 V DC	<b>C45</b>
230 V AC ± 10 %	✓	✓ <sup>1)</sup>	✓	✓	✓	63 ... 250	✓	✓	Half-wave rectifier		103 V DC	103 V DC	<b>C46</b>
380 V AC ± 10 %	✓	✓ <sup>1)</sup>	✓	✓	✓	63 ... 250	✓	✓			180 V DC	180 V DC	<b>C48</b>
400 V AC ± 10 %	✓	✓ <sup>1)</sup>	✓	✓	✓	63 ... 250	✓	✓			180 V DC	180 V DC	<b>C47</b>
415 V AC ± 10 %	✓	✓ <sup>1)</sup>	✓	✓	✓	63 ... 250	✓	✓			180 V DC	180 V DC	<b>C50</b>
460 V AC ± 10 %	✓	✓ <sup>1)</sup>	✓	✓	✓	63 ... 250	✓	✓			205 V DC	205 V DC	<b>C63</b>
<b>AC voltages with function rectifier with disconnection on the DC side using current or voltage sensing <sup>1)</sup></b>													
230 V AC ± 10 %	✓		✓	✓	✓	63 ... 200	✓	-	Function rectifier	-	103 V DC	-	<b>C72</b>
400 V AC ± 10 %	✓		✓	✓	✓	63 ... 200	✓	-	-	205 V DC	-	<b>C47</b>	
460 V AC ± 10 %	✓		✓	✓	✓	63 ... 200	✓	-	-	215 V DC	-	<b>C74</b>	

<sup>1)</sup> Not possible for worm geared motors S



## Motor options

### Mounted components

#### Brake

##### Brake control

The brakes are released by DC voltage. The brake is controlled by the DC supply voltage in systems without a rectifier, or by the AC supply voltage in systems with a rectifier. Half-wave rectifiers or rectifier bridges are used as rectifiers.

The rectifiers are listed in the following table.

Supply voltage	DC voltages	AC voltages	Switching frequency
<b>Brake L</b>	Without	Rectifier	No restriction
		Function rectifier	See Section "Function rectifier" page 11/29
<b>Brake FDX</b>	-	Rectifier PMG	See table "Switching frequency of PMG rectifiers"

##### Switching frequency of PMG rectifiers

Duty cycle/switching frequency for the 205 V DC brake solenoid

Supply voltage $V_{AC}$	Switching frequency $s/h^{-1}$														
	1	10	20	30	40	50	60	70	80	90	100	110	120	130	140
<b>410 ... 480 V AC</b>															
410	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
420	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
440	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.40	98.53	97.66	96.80	95.93	95.06
460	98.08	97.21	96.34	95.48	94.61	93.74	92.88	92.01	91.14	90.28	89.41	88.54	87.68	86.81	85.94
480	90.07	89.21	88.34	87.47	86.61	85.74	84.87	84.01	83.14	82.27	81.41	80.54	79.67	78.81	77.94

Duty cycle/switching frequency for the 180 V DC brake solenoid

Supply voltage $V_{AC}$	Switching frequency $s/h^{-1}$														
	1	10	20	30	40	50	60	70	80	90	100	110	120	130	140
<b>380 ... 440 V AC</b>															
380	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.54	98.67
400	100.00	99.13	98.27	97.40	96.53	95.67	94.80	93.93	93.07	92.20	91.33	90.47	89.60	88.73	87.87
410	95.18	94.31	93.45	92.58	91.71	90.85	89.98	89.11	88.25	87.38	86.51	85.65	84.78	83.91	83.05
420	90.70	89.84	88.97	88.10	87.24	86.37	85.50	84.64	83.77	82.90	82.04	81.17	80.30	79.44	78.57
440	82.64	81.78	80.91	80.04	79.18	78.31	77.44	76.58	75.71	74.84	73.98	73.11	72.24	71.38	70.51

Duty cycle/switching frequency for the 103 V DC brake solenoid

Supply voltage $V_{AC}$	Switching frequency $s/h^{-1}$														
	1	10	20	30	40	50	60	70	80	90	100	110	120	130	140
<b>190 ... 240 V AC</b>															
190	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
200	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
210	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
220	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.58	98.71	97.84	96.98	96.11
230	99.04	98.17	97.30	96.44	95.57	94.70	93.84	92.97	92.10	91.24	90.37	89.50	88.64	87.77	86.90
240	90.96	90.09	89.22	88.36	87.49	86.62	85.76	84.89	84.02	83.16	82.29	81.42	80.56	79.69	78.82

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**Function rectifier**

The following table provides an overview of brake control with function rectifiers.

Function rectifier	Unit	High-speed rectifier + disconnection on the DC side using	
		Current sensing <sup>4) 5)</sup>	Voltage sensing <sup>4) 5)</sup>
Supply voltage	$V_{AC} \pm 10\%$	220 ... 460	220 ... 500
Supply frequency	Hz	40 ... 60	40 ... 60
Max. output current up to an ambient temperature of +40 °C <sup>1)</sup>	$A_{DC}$	1.2	1.2
Output voltage	$V_{DC}$	0.445 x supply voltage (0.89 - max. 8 %) x supply voltage	0.445 x supply voltage (0.89 - max. 8 %) x supply voltage
Permissible continuous current of the current sensor	$A_{DC}$	0.27 ... 34	-
Max. switching frequency <sup>2)</sup>	rpm	76 <sup>2)3)</sup>	76 <sup>2)3)</sup>
Supported motors		Max. motor current 34 A	No restrictions
Supported brakes		L4 ... L400	L4 ... L400
Suitable for		Braking operation for fast brake release + application	Braking operation for fast brake release + application
Inverter operation		Not suitable	Separate power supply required
Line operation		Direct-on-line starting	Direct-on-line Y/Δ starting
Motor starters		Not suitable	No restrictions
Operation with driving loads and/or high moment of inertia		No restrictions	Separate power supply required
Suppressor circuit		Spark suppressor	Spark suppressor
<b>Order code</b>		<b>C59 <sup>6)</sup></b>	<b>C60</b>

- 1) At higher ambient temperatures the output current decreases.
- 2) The specified maximum switching frequencies are upper limit values. They are essentially dependent on the braking power and the permissible operating energy of the brakes.
- 3) The maximum switching frequency is obtained from the overexcitation times and recovery times as well as switching-off in holding operation.
- 4) Not possible for worm geared motors S.
- 5) Not compatible with the functionally safe rotary encoder.
- 6) The function rectifier **C59** is connected to the terminal board at the factory depending on the selected circuit or voltage.

Duty cycle, function rectifier

The high-speed rectifier releases the brake with overexcitation and thus reduces the maximum duty cycle (on-load factor) of the brake.

Depending on the supply voltage and the switching frequency, the maximum duty cycle of the brake solenoid can be taken from the following diagrams and tables.

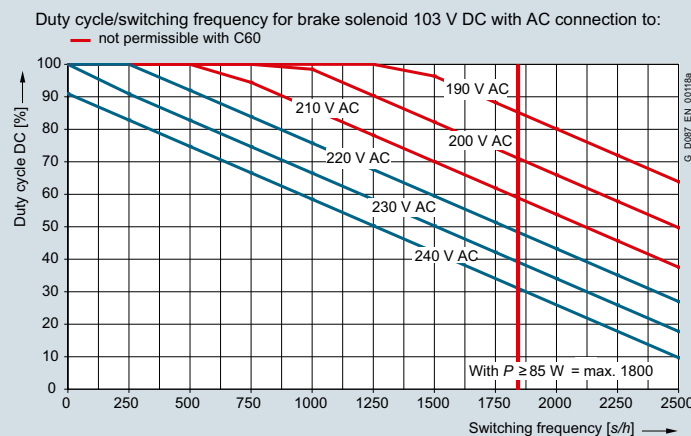


Fig. 11/40 Duty cycle/switching frequency for the 103 V DC brake solenoid

Supply voltage	Switching frequency										
	s/h <sup>-1</sup>										
$V_{AC}$	1	250	500	750	1 000	1 250	1 500	1 750	Up to brake size L80		
220 ... 240 V AC for separate power supply											
220	100	100	91	83	75	67	59	51	43	35	26
230	100	90	82	74	66	58	50	42	34	25	17
240	100	82	74	66	58	50	42	34	25	17	9

# Motor options

## Mounted components

### Brake

#### Function rectifier (continued)

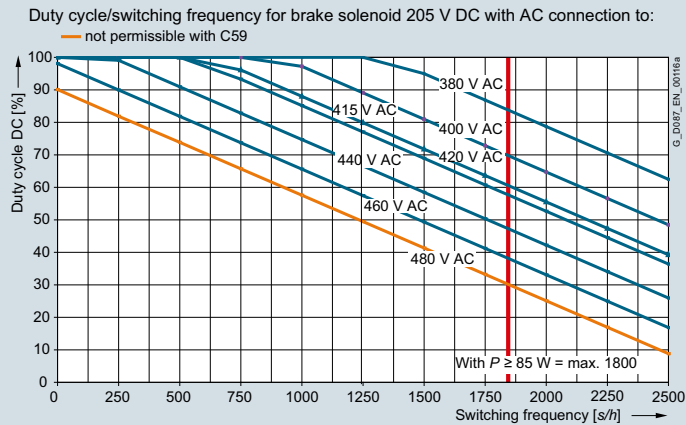


Fig. 11/41 Duty cycle/switching frequency for the 205 V DC brake solenoid

Supply voltage $V_{AC}$	Switching frequency $s/h^{-1}$										
	1	250	500	750	1 000	1 250	1 500	1 750	2 000	2 250	2 500
<b>400 V AC for connection at the motor terminal board</b>											
380	100	100	100	100	100	100	94	86	78	70	62
400	100	100	100	100	97	89	80	72	64	56	48
420	100	100	100	93	85	77	68	60	52	44	36
<b>380 ... 440 V AC for separate power supply</b>											
380	100	100	100	100	100	100	94	86	78	70	62
400	100	100	100	100	97	89	80	72	64	56	48
440	100	99	90	82	74	66	58	50	42	34	25

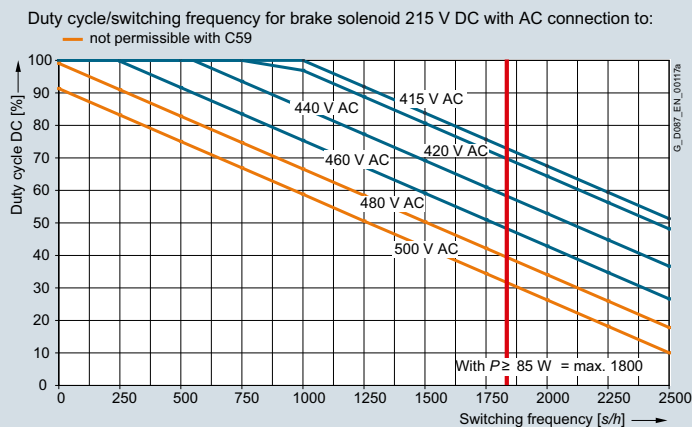


Fig. 11/42 Duty cycle/switching frequency for the 215 V DC brake solenoid

Supply voltage $V_{AC}$	Switching frequency $s/h^{-1}$										
	1	250	500	750	1 000	1 250	1 500	1 750	2 000	2 250	2 500
<b>410 ... 480 V AC for separate power supply<sup>1)</sup></b>											
410	100	100	100	100	100	95	87	78	70	62	54
460	100	99	91	83	75	67	59	51	42	34	26
480	100	90	82	74	66	58	50	42	34	25	17

<sup>1)</sup> The brake power supply voltage can be limited by the rectifier.

**Brake options**

**Manual brake release**

The brakes L can be supplied with a manual brake release lever. The manual brake release lever can be used to release the brake at zero current. When the brake has been released, the motor shaft can rotate freely in order to bring the output shaft to a certain position or for use as an emergency release in the event of a power failure, for example.

The manual brake release lever can be fixed in the released position using an additional locking mechanism mounted on the brake.

Only the manual brake release lever with locking mechanism can be selected for brakes FDX.

The manual brake release lever can be mounted in various different positions. The position of the manual brake release lever relates to the standard design of the motor. The standard position is "2".

Order code:

Manual brake release lever	<b>C02</b>
Manual brake release lever with locking mechanism <sup>1) 2)</sup>	<b>C03</b>

<sup>1)</sup> Not possible for worm geared motors S

<sup>2)</sup> Not compatible with the functionally safe rotary encoder

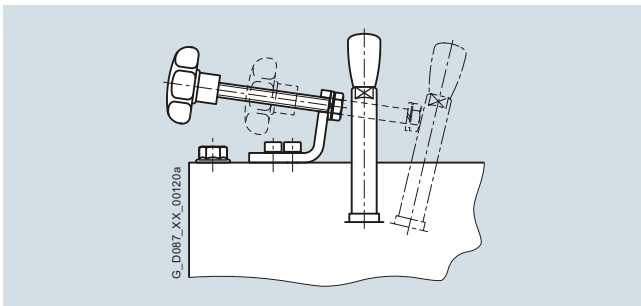


Fig. 11/43 Example of manual brake release lever with locking mechanism for brake L

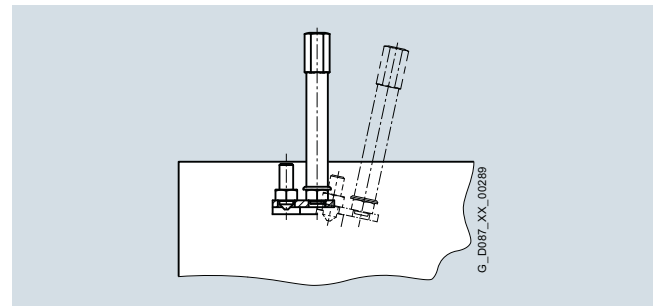


Fig. 11/44 Example of manual brake release lever with locking mechanism for brake FDX

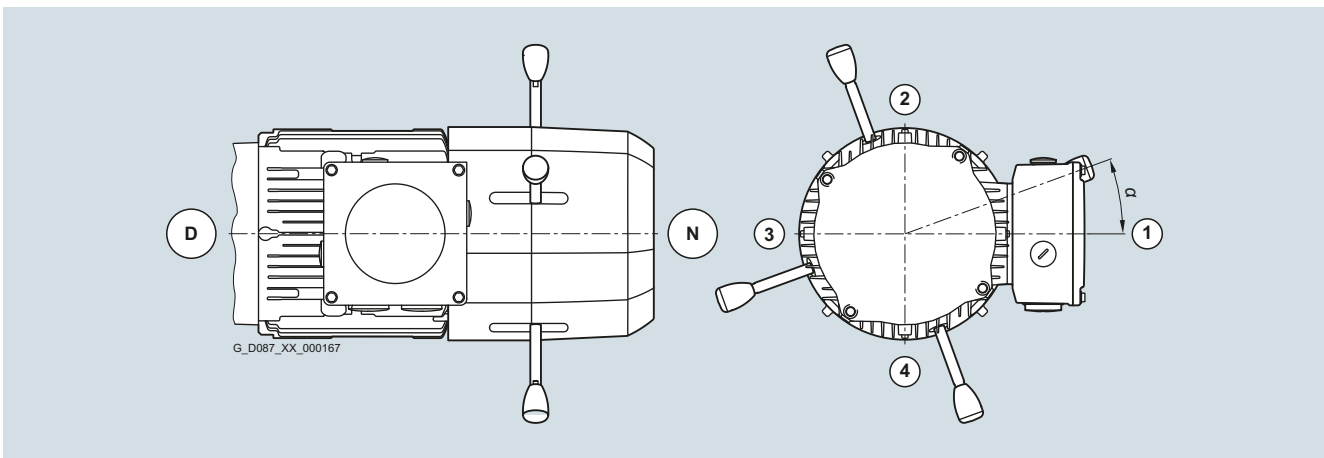


Fig. 11/45 Manual brake release lever position

Manual brake release lever position	Motor frame size														Order code
	63 <sup>1)</sup>	71 <sup>1)</sup>	63	71	80	90	100	112	132	160	180	200	225	250	
	Angle $\alpha$														
1	0°	0°	0°	10°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	<b>C26</b>
2	90°	90°	90°	100°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	<b>C27</b>
3	180°	180°	180°	190°	180°	180°	180°	180°	180°	180°	180°	180°	180°	180°	<b>C28</b>
4	-	-	270°	280°	270°	270°	270°	270°	270°	270°	270°	270°	270°	270°	<b>C29</b>

<sup>1)</sup> Only for worm geared motors S

## Motor options

### Mounted components

#### Brake

#### Brake options (continued)

The dimensions of the manual brake release lever depend on the size.

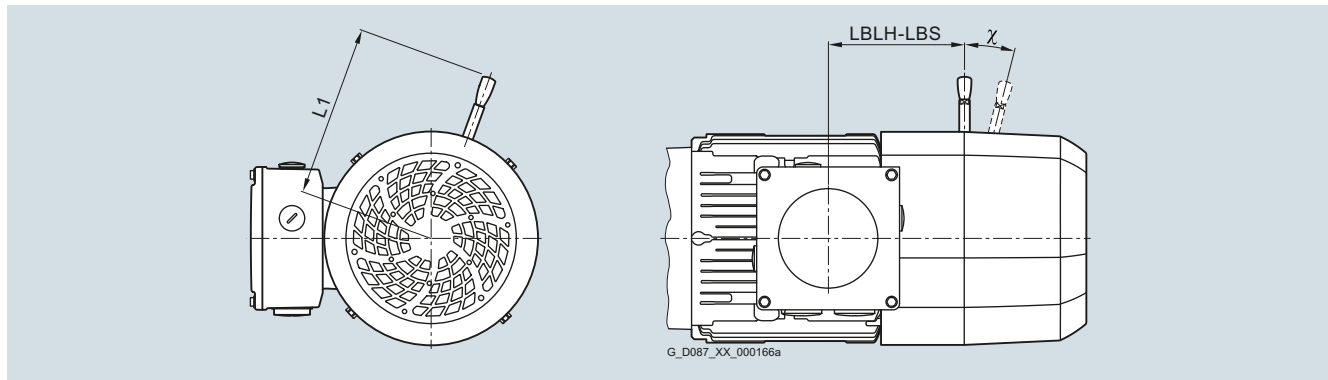


Fig. 11/46 Dimensions, manual brake release lever

Motor frame size	Brake type	Terminal box position	Distance				Angle, manual brake release lever $\chi$
			Centerline of the motor up to the outermost position of the manual brake release lever		Center of the terminal box up to the center of the manual brake release lever		
			Without locking mechanism	With locking mechanism	Standard corrosion protection	Increased corrosion protection	
			mm	mm	mm	mm	Tolerance +3°
			L1	L1	LBLH-LBS	LBLH-LBS	$\chi$
63 <sup>1)</sup>	L4	1A, 2A, 3A, 4A	107	-	97.4	97.4	12°
71 <sup>1)</sup>	L4	1A, 2A, 3A, 4A	107	-	130.8	130.8	12°
63	L4	1A, 2A, 3A, 4A	107	127	83.3	83.3	12°
71	L4	1A, 2A, 3A, 4A	107	127	71.8	71.8	12°
	L8	1A, 2A, 3A, 4A	116	136	72.3	72.3	10°
80	L4	1A, 2A, 3A, 4A	107	127	97.3	97.3	12°
	L8	1A, 2A, 3A, 4A	116	136	97.8	97.8	10°
	L16	1A, 2A, 3A, 4A	132	151	108.9	108.9	9°
90	L8	1A, 2A, 3A, 4A	116	136	102.8	102.8	10°
	L16	1A, 2A, 3A, 4A	132	151	113.9	113.9	9°
	L32	1A, 2A, 3A, 4A	161	161	115.9	115.9	10°
100	L16	1A, 2A, 3A, 4A	132	151	126.9	126.9	9°
	L32	1A, 2A, 3A, 4A	161	161	128.9	128.9	10°
	L60	1A, 2A, 3A, 4A	195	195	132.5	132.5	9°
112	L32	1A, 2A, 3A, 4A	161	161	128.9	128.9	10°
	L60	1A, 2A, 3A, 4A	195	195	132.5	132.5	9°
132	L80	1A, 2A, 3A, 4A	240	240	158.0	158.0	10°
	L150	1A, 2A, 3A, 4A	279	279	171.1	171.1	9°
132Z	L80	1A, 2A, 3A, 4A	240	240	158.0	158.0	10°
	L150	1A, 2A, 3A, 4A	279	279	171.1	171.1	9°
160	L150	1A, 2A, 3A, 4A	279	279	204.1	204.1	9°
	L260	1A, 2A, 3A, 4A	319	319	210.6	210.6	10°
180	L260	1A, 2A, 3A, 4A	319	319	198.6	209.6	10°
200	L260	1A, 2A, 3A, 4A	319	319	207.6	218.6	10°
	L400	1A, 2A, 3A, 4A	445	445	217.7	230.2	10°
225	L400	1A, 2A, 3A, 4A	445	445	269.2	269.2	10°
	FDX30	1A, 2A, 3A, 4A	330	330	270.0	270.0	12°
250	FDX30	1A, 2A, 3A, 4A	330	330	273.0	273.0	12°
	FDX40	1A, 2A, 3A, 4A	377	377	273.0	273.0	10°

<sup>1)</sup> Only for worm geared motors S

**Brake options** (continued)

**Monitoring**
Brake with microswitch to monitor the release

The air gap  $s_{\text{gap}}$  of the brake is monitored by a microswitch mounted on the base plate of the solenoid assembly.

The motor does not start up until the brake has been fully released ( $s_{\text{gap}} = 0$ ) and the armature disk is in contact with the solenoid assembly. The microswitch is actuated and controls the motor contactor.

When the brake is switched off, the armature disk reaches the maximum air gap ( $s_{\text{gapmax}}$ ) and the microswitch opens. This means that the motor contactor is not controlled and the motor does not start.

This method is used for machines and units which require a precisely defined starting and braking procedure, as well as for fault monitoring of faulty rectifiers, interrupted connecting cables, faulty solenoids, and excessively large air gaps (brake solenoid cannot fully attract the armature disk).

The microswitch for air gap monitoring is available for brakes in sizes L32 to L400 and FDX30 and FDX40.

Note:

The mechanical components of the microswitch must be protected against icing at low temperatures.

Order code:

Microswitch for monitoring brake release

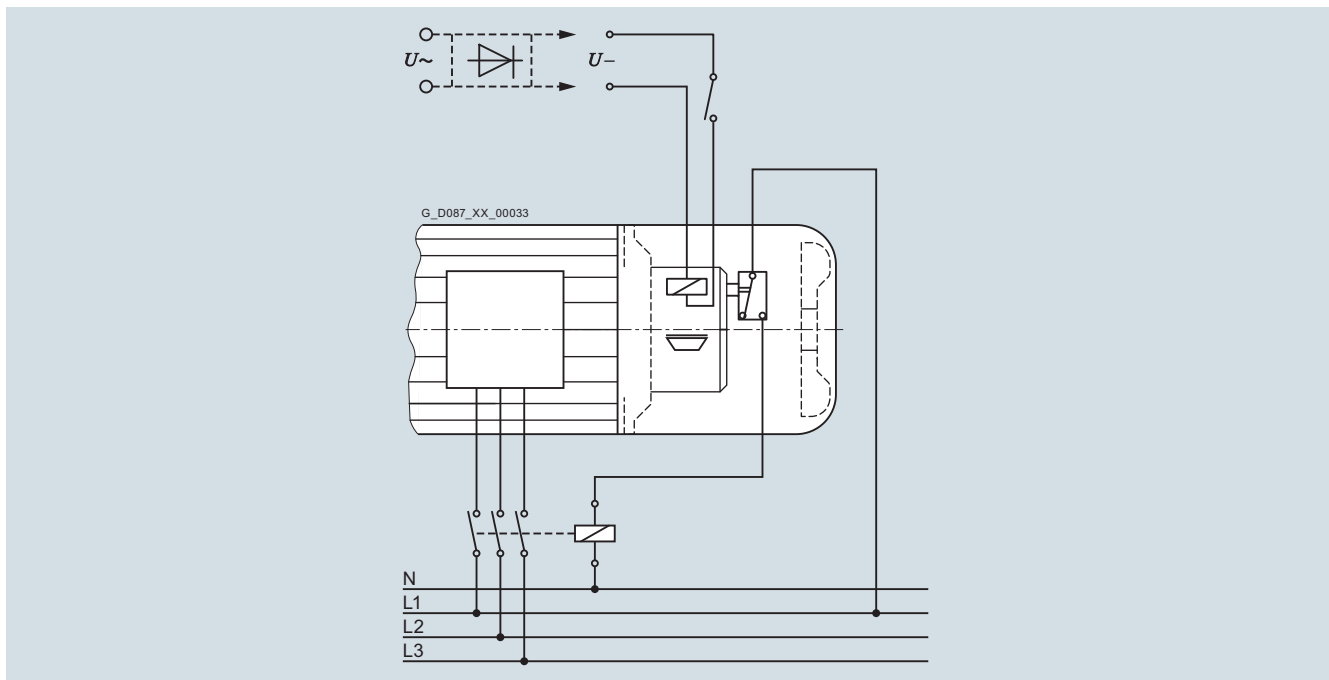
**C04**


Fig. 11/47 Circuit principle with microswitch

## Motor options

### Mounted components

#### Brake

#### Brake options (continued)

##### Enclosed brake

The brakes L can be supplied as enclosed brakes. This version is standard for brakes FDX.

Enclosed brakes include a dust protection ring around the circumference and an integrated shaft sealing ring at the shaft outlet. This prevents the release and penetration of dust, moisture, and other pollution. Other advantages are reduced noise when applying the brake as well as, in combination with a motor anti-condensation heater, a reduced risk of the rotor freezing on the friction surfaces.

In addition, a condensation drain hole can be incorporated in the dust protection ring for brakes L.

The enclosed brake can also be shipped in combination with a manual brake release lever and a manual brake release lever with locking mechanism.

Order code:

Enclosed brake	<b>C01</b>
Enclosed brake with condensation drain hole	<b>C11</b>

##### Corrosion protection

The brakes L are supplied as standard with corrosion protection. A friction plate or adapter flange is always mounted between the mating friction surface (end shield on the ventilation side) and the rotor. The rotor is made of a rustproof material.

Order code:

Increased corrosion protection	<b>C10</b>
--------------------------------	------------

##### Brake with increased corrosion protection

The adapter flanges and armature disks of the brakes are chromium-plated for increased protection against corrosion. This prevents the friction surfaces from seizing up.

Increased corrosion protection is employed when a motor is used in corrosive environmental conditions (high air humidity, dripping water, crane systems, for example) and/or during prolonged standstill periods.

The brakes FDX are supplied as standard with increased corrosion protection.

Corrosion protection		Brake type										
Design	Material	L4	L8	L16	L32	L60	L80	L150	L260	L400	FDX30	FDX40
<b>Standard corrosion protection</b>												
Friction surface to the motor	Friction plate of stainless steel	✓	✓	✓	✓	✓	✓					
	Adapter flange with thin zinc film							✓	✓	✓		
	End shield								✓	✓		
Armature disk	Gas-nitrided	✓	✓	✓	✓							
	Thin zinc film					✓	✓	✓	✓	✓		
<b>Increased corrosion protection</b>												
Friction surface to the motor	Friction plate of stainless steel	✓	✓	✓	✓	✓	✓					
	Chromium-plated adapter flange							✓	✓	✓	✓	✓
Armature disk	Chromium-plated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

##### Brake cable protection

The brake cable of the geared motors is normally routed through the cable gland of the terminal box.

For motor frame sizes 63 to 132, we are offering an optional version of brake cable routing which ensures enhanced protection for the brake cable. In this version, the brake cable is brought into the motor directly under the fan cover through a hole in the base of the terminal box. This arrangement ensures that most of the cable is covered and protected against mechanical damage.

Order code:

Brake cable protection <sup>1)</sup>	<b>C80</b>
--------------------------------------	------------

<sup>1)</sup> Not possible for worm geared motors S

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### Brake options (continued)

#### Reduced-noise rotor-hub connection

The brakes are supplied with a reduced-noise rotor-hub connection. This reduces rattling noise of the rotor, particularly at low speeds and in inverter operation.

#### Wear-resistant friction lining

The brakes L can also be selected with a wear-resistant friction lining.

Order code:

Wear-resistant friction lining

**C06**

### Brake options for motor frame sizes 63 to 250

Option	Brake type											
	L4	L8	L16	L32	L60	L80	L150	L260	L400	FDX30	FDX40	
Without rectifier	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	
Rectifier for disconnection on the DC and AC sides	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Function rectifier for quick brake release and application <sup>1)</sup>	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	
Standard friction lining	✓	✓	✓	✓	✓	✓	✓	✓	✓	<input type="checkbox"/>	<input type="checkbox"/>	
Wear-resistant friction lining	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	
Microswitch for monitoring brake release	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓	
Manual brake release	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	
Manual brake release with locking mechanism	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Standard corrosion protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	
Increased corrosion protection	✓	✓	✓	✓	✓	✓	✓	✓	✓	<input type="checkbox"/>	<input type="checkbox"/>	
Enclosed brake	✓	✓	✓	✓	✓	✓	✓	✓	✓	<input type="checkbox"/>	<input type="checkbox"/>	
Enclosed brake with condensation drain hole	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	
Brake cable protection	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	

Standard design

<sup>1)</sup> Not possible for UL-R or CSA versions

### Possible modular system in combination with brake for motor frame sizes 63 to 250

Design	Motor plug	Encoder					Ventilation		Backstop	Second shaft extension
		Incremental encoder	Absolute encoder	Resolver	Encoder under cover without canopy	Encoder accessories	Self ventilation	Forced ventilation		
<b>Brake</b>	✓	✓	✓		✓	✓	✓		✓	
Manual brake release	✓	✓	✓	-	✓	✓	✓	-	✓	
• Without locking mechanism	✓	✓	✓	-	✓	✓	✓	-	✓	
• With locking mechanism	✓	✓	✓	-	✓	✓	✓	-	✓	
Microswitch	✓	✓	✓	-	✓	✓	✓	-	✓	
• Air flow monitoring <sup>1)</sup>	✓	✓	✓	-	✓	✓	✓	-	✓	

<sup>1)</sup> Can be selected for brake type L32 or higher

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## Motor options

### Mounted components

#### Brake

#### Technical specifications <sup>1)</sup>

##### Braking torques as a function of speed and permissible speed limits with operating brake

Brake type	Maximum permissible operating speed		Braking torque measured at rated braking torque at 100 rpm			
	Friction lining Standard rpm	Wear-resistant (C06) rpm	1 500 rpm %	2 500 rpm %	3 000 rpm %	At max. speed %
L4	4 000	3 600	87	82	80	77
L8	4 000	3 600	85	79	78	75
L16	3 600	3 600	83	77	76	74
L32	3 600	3 600	81	76	74	72
L60	3 600	3 000	80	75	73	71
L80	3 600	3 000	79	73	72	69
L150	3 600	1 800	77	71	70	67
L260	3 600	1 800	75	69	68	66
L400	3 000	1 800	73	67	66	65
FDX30	3 000	-	73	67	66	66
FDX40	3 000	-	70	64	63	63

##### Braking torques as a function of speed and permissible speed limits with holding brake and emergency stop function

Brake type	Max. permissible no-load speed with emergency stop function		Braking torque measured at rated braking torque at 100 rpm			
	Friction lining Standard rpm	Wear-resistant (C06) rpm	1 500 rpm %	2 500 rpm %	3 000 rpm %	At max. speed %
L4	6 000	6 000	87	82	80	73
L8	5 000	4 500	85	79	78	72
L16	4 000	3 600	83	77	76	73
L32	3 600	3 600	81	76	74	72
L60	3 600	3 000	80	75	73	71
L80	3 600	3 000	79	73	72	69
L150	3 600	1 800	77	71	70	67
L260	3 600	1 800	75	69	68	66
L400	3 000	1 800	73	67	66	65
FDX30	6 000	-	73	67	66	59
FDX40	6 000	-	70	64	63	56

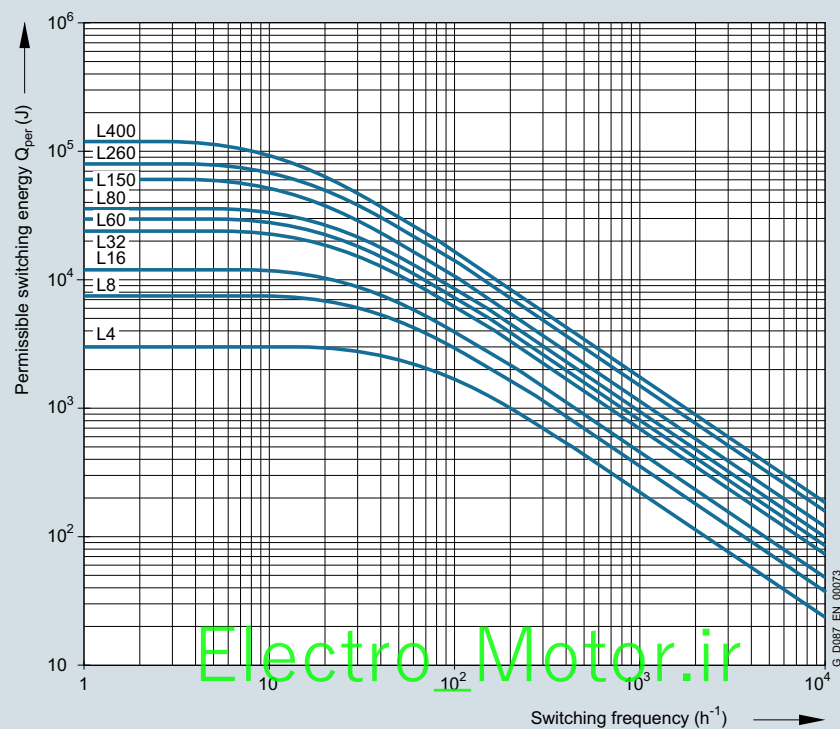


Fig. 11/48 Permissible operating energy

<sup>1)</sup> Values refer to brake in its delivery state

### Technical specifications (continued) <sup>1)</sup>

#### Disconnection times, application times, and moments of inertia for brakes L

Brake type	Rated braking torque $T_{br}$ At 100 rpm  Nm	Disconnection time		Application time		Response time		Rise time		Weight  kg	Moment of inertia  $J_B$  for wear-resistant lining  $10^{-4} \text{ kgm}^2$				
		$t_2$ Standard excitation ms	Over-excitation ms	$t_1 = t_{11} + t_{12}$ AC and DC switched or DC switched ms	$t_{11}$ ms	$t_{12}$ ms	$t_1 = t_{11} + t_{12}$ AC switched ms	$t_{11}$ ms	$t_{12}$ ms		$J_B$	$J_B$			
L4/1.4	1.4	20	13	31	13.0	18.0	250	110	140	0.85	0.15	0.15			
L4/2	2.0	27	17	22	9.0	13.0	175	77	98						
L4/3	3.0	29	18	30	12.0	18.0	230	101	129						
L4	4.0	45	28	28	15.0	13.0	190	120	70						
L4/5	5.0	56	35	25	13.0	12.0	158	100	58						
L8/3	3.0	21	12	65	39.0	26.0	510	326	184	1.5	0.61	0.61			
L8/4	4.0	30	17	50	30.0	20.0	390	250	140						
L8/5	5.0	35	20	40	24.0	16.0	310	200	110						
L8/6.3	6.3	45	30	38	18.0	20.0	315	174	141						
L8	8.0	57	38	31	15.0	16.0	245	135	110						
L8/10	10.0	71	47	26	12.5	13.5	205	113	92						
L16/8	8.0	55	41	36	22.0	14.0	350	183	167				2.6	2	2
L16/10	10.0	48	36	58	35.0	23.0	680	355	325						
L16/13	13.0	60	34	50	30.0	20.0	560	293	267						
L16	16.0	76	48	47	28.0	19.0	460	240	220						
L16/20	20.0	93	59	38	23.0	15.0	390	204	186						
L32/14	14.0	65	50	46	27.0	19.0	400	210	290	3.9	4.5	4.5			
L32/18	18.0	65	44	70	45.0	25.0	600	325	275						
L32/23	23.0	82	56	75	40.0	35.0	680	300	380						
L32	32.0	115	78	53	28.0	25.0	490	215	275						
L32/40	40.0	140	95	45	24.0	21.0	440	194	246						
L60/25	25.0	130	66	47	25.0	22.0	540	220	320				5.8	6.3	6.3
L60/38	38.0	140	60	60	24.0	36.0	800	290	510						
L60/50	50.0	175	75	50	20.0	30.0	665	240	425						
L60	60.0	210	90	42	17.0	25.0	580	210	370						
L80/25	25.0	95	56	103	48.0	55.0	1 600	690	710	8.4	15	15			
L80/35	35.0	128	75	73	34.0	39.0	1 200	520	680						
L80/50	50.0	160	94	90	42.0	48.0	1 920	830	1 090						
L80/63	63.0	170	100	72	34.0	38.0	1 550	670	880						
L80	80.0	220	130	57	27.0	30.0	1 200	520	680						
L80/100	100.0	280	165	49	24.0	25.0	990	430	560						
L150/60	60.0	135	81	55	27.5	27.5	920	470	450				12.5	29	29
L150/80	80.0	180	108	40	20.0	20.0	690	350	340						
L150/100	100.0	180	108	93	48.0	45.0	1 300	700	600						
L150/125	125.0	225	135	85	44.0	41.0	1 200	650	550						
L150	150.0	270	160	78	33.0	45.0	1 080	480	600						
L260/100	100.0	210	95	205	82.0	123.0	1 775	605	1 170	21.0	73	73			
L260/145	145.0	230	170	180	72.0	108.0	1 200	440	790						
L260/180	180.0	230	100	185	73.0	112.0	2 500	850	1 650						
L260/200	200.0	260	120	178	70.0	108.0	2 720	920	1 800						
L260/240	240.0	312	140	170	67.0	103.0	2 300	570	1 530						
L260	260.0	340	150	165	65.0	100.0	2 100	700	1 400						
L260/315	315.0	410	180	150	60.0	90.0	1 750	590	1 160						
L400/265	265.0	260	140	275	155.0	120.0	3 100	2 000	1 100				32.0	200	200
L400/300	300.0	290	150	260	125.0	135.0	2 800	1 540	1 260						
L400/360	360.0	350	165	255	125.0	130.0	2 660	1 440	1 220						
L400	400.0	390	185	230	110.0	120.0	2 400	1 300	1 100						
L400/600	600.0	585	265	175	55.0	120.0	1 400	800	1 100						

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<sup>1)</sup> Values refer to brake in its delivery state

## Motor options

### Mounted components

#### Brake

#### Technical specifications (continued) <sup>1)</sup>

##### Working capacity for brakes L

Brake type	Rated braking torque $T_{br}$	Power consumption	Working capacity				Working capacity with wear-resistant friction lining										
			Per braking operation $W_{1max}$	Friction energy until the brake lining is replaced $W_{tot}$	Friction energy until the air gap is readjusted $W_y$		Per braking operation $W_{1max}$	Friction energy until the brake lining is replaced $W_{tot}$	Friction energy until the air gap is readjusted $W_y$								
					With over-excitation				With over-excitation								
	At 100 rpm Nm	At +20 °C W	kJ	MJ	MJ	MJ	kJ	MJ	MJ	MJ							
L4/1.4	1.4	20	3	156	46.8	52	3	312	94	104							
L4/2	2.0			176				59			351	117					
L4/3	3.0			170				39.6			57	339	80	113			
L4	4.0			180				36.0			60	360	72	120			
L4/5	5.0			176				23.4			59	351	46	117			
L8/3	3.0	25	7.5	324	86.4	108	7.5	648	173	216							
L8/4	4.0																
L8/5	5.0										75.6			151			
L8/6.3	6.3												756				
L8	8.0											64.8		648	130		
L8/10	10.0											54.0			108		
L16/8	8.0	30	12	405	108.0	162	12	810	216	324							
L16/10	10.0																
L16/13	13.0																
L16	16.0																
L16/20	20.0										396	80.0	158	792	160	317	
L32/14	14.0	40	24	948	285.0	284	7	1 896	570	568							
L32/18	18.0											283					
L32/23	23.0											260.0		1 885	518		
L32	32.0											212.0	284		1 888	425	
L32/40	40.0											165.0			1 893	331	
L60/25	25.0	50	30	1 276	306.0	306	18	2 560	612	612							
L60/38	38.0											280.0		2 553	560		
L60/50	50.0										1 320	238.0	317		2 640	476	635
L60	60.0										1 322						
L80/25	25.0	55	36	2 310	396.0	396	11	4 536	792	792							
L80/35	35.0																
L80/50	50.0																
L80/63	63.0																
L80	80.0																
L80/100	100.0											260.0	389			519	778
L150/60	60.0	85	60	2 295	612.0	612	36	4 590	1 224	1 224							
L150/80	80.0																
L150/100	100.0																
L150/125	125.0																
L150	150.0																
L260/100	100.0	100	80	4 680	936.0	1 287	10	7 020	1 872	2 574							
L260/145	145.0																
L260/180	180.0										3 510						
L260/200	200.0																
L260/240	240.0																
L260	260.0																
L260/315	315.0	130		3 489	756.0	1 279		6 978	1 512	2 559							
L400/265	265.0	110	120	6 480	1 440.0	1 872	28	12 960	2 880	3 744							
L400/300	300.0																
L400/360	360.0																
L400	400.0																
L400/600	600.0											576.0				1 152	

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<sup>1)</sup> Values refer to brake in its delivery state

**Technical specifications** (continued) <sup>1)</sup>
**No-load switching frequency for brakes L**

Motor type	Power 4-pole At 50 Hz kW	Brake type	Overexcitation							
			Without		With		Without		With	
			No-load switching frequency ( $Z_A$ )							
			1/h	1/h	1/h	1/h	1/h	1/h	1/h	1/h
			4-pole		2-pole		6-pole		8-pole	
LA63..	0.12	L4/5, L4	-	-	-	-	-	-	-	-
	0.18	L4/3, L4/2, L4/1,4	-	-	-	-	-	-	-	-
LA71..	0.25	L4/5, L4	7 300	9 500	2 500	3 200	10 500	14 000	14 500	19 000
	0.37	L4/3, L4/2, L4/1,4	12 500	13 500	4 300	4 500	18 500	20 000	25 000	27 000
		L8/10, L8, L8/6,3	6 000	7 600	1 800	2 500	9 000	11 000	12 000	15 000
		L8/5, L8/4	8 900	11 000	2 900	3 500	13 000	16 000	17 500	22 000
		L8/3	11 000	12 000	3 500	4 000	16 500	18 000	22 000	24 000
LE80.. LE80..E LE80..P	0.55	L4/5, L4	9 000	9 500	2 900	3 100	13 500	14 000	-	-
	0.75	L4/3, L4/2, L4/1,4	10 500	11 500	3 500	3 800	15 500	16 500	-	-
		L8/10, L8, L8/6,3	6 300	7 500	2 100	2 500	9 400	11 000	-	-
		L8/5, L8/4, L8/3	9 500	10 000	3 100	3 300	14 000	15 000	-	-
		L16	6 500	7 500	2 100	2 500	9 700	11 000	-	-
		L16/13, L16/10, L16/8	7 500	8 000	2 500	2 600	11 000	12 000	-	-
LE90.. LE90..E LE90..P	1.1	L8/10, L8, L8/6,3	6 500	7 000	2 100	2 300	9 700	10 500	-	-
	1.5	L8/5, L8/4, L8/3	8 000	8 500	2 600	2 800	12 000	12 500	-	-
		L16/20, L16	3 200	4 300	1 000	1 400	4 800	6 400	-	-
		L16/13, L16/10, L16/8	6 500	7 000	2 100	2 300	9 700	10 500	-	-
		L32	2 200	3 000	700	1 000	3 300	4 500	-	-
		L32/23, L32/18	3 300	4 200	1 100	1 400	4 900	6 300	-	-
		L32/14	5 500	6 000	1 800	2 000	8 200	12 000	-	-
LE100.. LE100..E LE100..P	2.2	L16/20, L16	6 000	6 500	2 000	2 100	9 000	9 700	12 000	13 000
	3.0	L16/13, L16/10, L16/8	6 500	7 000	2 100	2 300	9 700	10 500	14 000	14 000
		L32/40, L32	3 200	4 600	1 000	1 500	4 800	6 900	6 400	9 200
		L32/23, L32/18, L32/14	6 000	6 500	2 000	2 100	9 000	9 700	12 000	13 000
		L60/50	1 100	2 100	350	700	1 600	3 100	2 200	4 200
		L60/38, L60/25	3 200	4 600	1 000	1 500	4 800	6 900	9 200	9 200
LE112.. LE112..E LE112..P	4.0	L32/40, L32	3 300	3 500	1 100	1 100	4 900	5 200	6 600	7 000
		L32/23, L32/18, L32/14	3 600	3 800	1 200	1 200	5 400	5 700	7 600	7 600
		L60, L60/50	2 600	3 200	850	1 050	3 900	4 800	5 200	6 400
		L60/38, L60/25	3 200	3 600	1 050	1 200	4 800	5 400	7 200	7 200
LE132.. LE132..E LE132..P	5.5 7.5	L80/100, L80	1 850	2 050	600	6 500	2 700	3 000	3 700	4 100
		L80/63, L80/50	2 050	2 200	650	700	3 000	3 300	4 100	4 400
		L80/35, L80/25	2 200	2 350	700	750	3 300	3 500	4 400	4 700
		L150, L150/125	1 200	1 500	400	500	1 800	2 200	2 400	3 000
		L150/100, L150/80, L150/60	1 900	2 050	600	650	2 800	3 000	3 800	4 100
LE160.. LE160..E LE160..P	11.0 15.0	L150, L150/125	1 400	1 550	450	500	2 100	2 300	2 800	3 100
		L150/100, L150/80, L150/60	1 650	1 750	550	550	2 400	2 600	3 300	3 500
		L260, L260/240	850	1 200	250	400	1 200	1 800	1 700	2 400
		L260/200, L260/180	1 050	1 300	350	400	1 500	1 900	2 100	2 600
		L260/145, L260/100	1 450	1 550	450	500	2 100	2 300	2 900	3 100
LES180..E	18.5	L260/315, L260, L260/240	500	550	320	330	750	800	1 000	1 100
	22.0	L260/200, L260/180, L260/145, L260/100	550	600	174	200	800	900	1 100	1 200
LES200..E	30.0	L260/315, L260, L260/240	450	500	150	150	650	750	900	1 000
		L260/200, L260/180, L260/145, L260/100	500	525	150	175	750	750	1 000	1 050
		L400, L400/360, L400/300, L400/265	400	425	125	125	600	600	800	850

Conversion factors for no-load switching frequency:

 60 Hz operation  $0.75 \times Z_A$ 

 IE3 motors  $0.1 \times Z_A$ 

No-load switching frequencies for IE1 motors on request.

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<sup>1)</sup> Values refer to brake in its delivery state

## Motor options

### Mounted components

#### Brake

#### Technical specifications (continued) <sup>1)</sup>

##### Disconnection times, application times and moments of inertia for brakes FDX

Brake type	Rated braking torque $T_{br}$ At 100 rpm Nm	Solenoid voltage $V_{DC}$	Disconnection time		Applica- tion time $t_1 = t_{11} + t_{12}$ ms	Response time $t_{11}$ ms	Rise time $t_{12}$ ms	Applica- tion time $t_1 = t_{11} + t_{12}$ ms	Response time $t_{11}$ ms	Rise time $t_{12}$ ms	Weight kg	Moment of inertia $J_B$ $10^{-4}$ kgm <sup>2</sup>
			Standard excitation ms	Over- excitation ms								
FDX30/265	265	All	-	173	255	125	130	1 710	1 360	350	45	195
FDX30/300	300		-	180	250	120	130	1 620	1 270	350	45	195
FDX30/360	360		-	192	243	113	130	1 460	1 110	350	45	195
FDX30/400	400		-	200	235	105	130	1 350	1 000	350	45	195
FDX30/500	500		-	220	220	90	130	800	740	350	45	195
FDX30/650	650		-	250	200	70	130	690	340	350	45	195
FDX30/750	750	103	-	260	190	60	130	670	320	350	45	195
FDX30/750	750	180; 205	-	200	190	60	130	620	270	350	45	195
FDX30/850	850	103	-	270	180	50	130	600	250	350	45	195
FDX30/850	850	180; 205	-	210	180	50	130	550	200	350	45	195
FDX40/650	650	All	-	280	390	230	160	2 600	2 100	500	80	445
FDX40/750	750		-	315	370	210	160	2 230	1 730	500	80	445
FDX40/850	850		-	350	350	190	160	1 860	1 360	500	80	445
FDX40/1000	1 000		-	400	320	160	160	1 300	800	500	80	445

##### Working capacity for brakes FDX

Brake type	Rated braking torque At 100 rpm Nm	Solenoid voltage $V_{DC}$	Power consumption At +20 °C W	Working capacity			
				per braking operation $W_{1max}$ kJ	Friction energy until the brake lining is replaced $W_{tot}$ MJ	Friction energy until the air gap is readjusted $W_V$ MJ	With overexcitation MJ
FDX30/265	265	All	560/140	150	3 700	-	-
FDX30/300	300		560/140	150	3 700	-	-
FDX30/360	360		560/140	150	3 700	-	-
FDX30/400	400		560/140	150	3 700	-	-
FDX30/500	500		560/140	150	3 700	-	-
FDX30/650	650		560/140	150	3 700	-	-
FDX30/750	750	103	560/140	150	3 700	-	-
FDX30/750	750	180; 205	880/220	150	3 700	-	-
FDX30/850	850	103	560/140	150	3 700	-	-
FDX30/850	850	180; 205	880/220	150	3 700	-	-
FDX40/650	650	All	560/140	200	4 000	-	-
FDX40/750	750		560/140	200	4 000	-	-
FDX40/850	850		560/140	200	4 000	-	-
FDX40/1000	1 000		560/140	200	4 000	-	-

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<sup>1)</sup> Values refer to brake in its delivery state

**Overview**

Encoder	Motor frame size												Order code	Technical information → page
	63	71	80	90	100	112	132	160	180	200	225	250		
<b>Incremental encoder</b>														
<i>Incremental encoder 1XP8012<sup>1)</sup></i>														
1XP8012-11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q54	page 11/42
<i>Incremental encoder 1XP8032<sup>1)</sup></i>														
1XP8032-20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q44	page 11/43
1XP8032-10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q47	page 11/43
1XP8032-11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q48	page 11/43
<i>Incremental encoder 1XP8022</i>														
1XP8022-20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q56	page 11/44
1XP8022-21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q57	page 11/44
1XP8022-22	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q58	page 11/44
1XP8022-10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q59	page 11/44
1XP8022-11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q60	page 11/44
1XP8022-12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q61	page 11/44
<b>Resolver<sup>2)</sup></b>														
1XP8013-10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q85	page 11/45
1XP8023-11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q86	page 11/45
1XP8013-11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q87	page 11/45
1XP8023-10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q88	page 11/45
<b>Absolute encoder</b>														
1XP8024-21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q79	page 11/47
1XP8014-20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ <sup>3)</sup>	✓ <sup>3)</sup>	Q80	page 11/46
1XP8024-20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ <sup>3)</sup>	✓ <sup>3)</sup>	Q81	page 11/46
1XP8014-10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ <sup>3)</sup>	✓ <sup>3)</sup>	Q82	page 11/46
1XP8024-10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ <sup>3)</sup>	✓ <sup>3)</sup>	Q83	page 11/46
<b>Rugged encoders</b>														
Leine und Linde LL 861 900 220						✓	✓	✓	✓	✓	✓	✓	Q92	page 11/48
Hübner HOG 9 D 1024						✓	✓	✓	✓	✓	✓	✓	Q93	page 11/48
Hübner HOG 10 D 1024							✓	✓	✓	✓	✓	✓	Q94	page 11/49
<b>Functionally safe rotary encoder</b>														
<i>Incremental encoder IN 8.5834</i>														
IN 8.5834FS2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q42	page 11/50
IN 8.5834FS3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q43	page 11/50
<i>Absolute encoder IA 8.5883</i>														
IA 8.5883FS2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q77	page 11/52
IA 8.5883FS3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q78	page 11/52
<b>Mechanical protection</b>														
Encoder under cover	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			Q95	page 11/56

<sup>1)</sup> Incremental encoders Q45, Q46, Q49, Q50, Q51, Q52, Q53, and Q55 have been discontinued. More information is available in the Online Support at: <https://support.industry.siemens.com/cs/ww/en/view/109754499>.

<sup>2)</sup> Cannot be selected in combination with brake

<sup>3)</sup> Can only be selected in combination with brake

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## Motor options

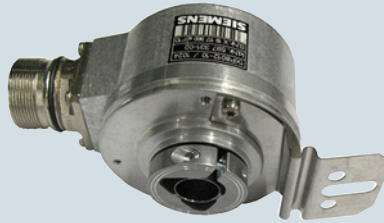
### Mounted components

#### Encoder

#### Incremental encoders

##### Incremental encoder 1XP8012

The incremental encoder is available up to motor frame size 200.



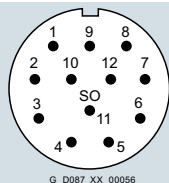
#### Technical specifications

Incremental encoder 1XP8012	-11
Pulses per revolution	2 048
Incremental signals	HTL
Supply voltage $U_B$	10 ... 30 V <sub>DC</sub>
Maximum current consumption without load	150 mA
Permissible load per output	$I_{Load} \leq 100 \text{ mA}$ (except for $\overline{U_{aS}}$ )
Outputs	2 short-circuit-proof square-wave pulses $U_{a1}$ , $U_{a2}$ (maximum 1 min) 2 short-circuit-proof square-wave pulses $\overline{U_{a1}}$ , $\overline{U_{a2}}$ (maximum 1 min) Zero pulse $U_{a0}$ Zero pulse $\overline{U_{a0}}$ Fault-detection signal $\overline{U_{aS}}$
Signal level	$U_{High} \geq 21 \text{ V}$ at $-I_{High} = 20 \text{ mA}$ $U_{Low} \leq 2.8 \text{ V}$ $I_{Low} = 20 \text{ mA}$ ( $U_B = 24 \text{ V}$ )
Minimum edge interval	0.8 $\mu\text{s}$ at 160 kHz
Switching times (10 ... 90 %)	$t_+$ , $t_- \leq 200 \text{ ns}$ (with 1 m cable), except for $\overline{U_{aS}}$
Maximum frequency	160 kHz
Moment of inertia of rotor	$4.3 \times 10^{-6} \text{ kgm}^2$
Maximum mechanical speed	6 000 rpm
Vibration (55 ... 2 000 Hz)	$\leq 150 \text{ m/s}^2$ (EN 60068-2-6)
Shock (6/2 ms)	$\leq 1 000 \text{ m/s}^2$ (EN 60068-2-27)/ $\leq 2 000 \text{ m/s}^2$ (EN 60068-2-27)
Degree of protection	IP66
Ambient temperature range	-20 °C to +40 °C
Connection system → page 11/58	12-pole flange socket, 0° coding
Weight, approx.	0.30 kg
Certification	CE, cUL-Rus
<b>Order code</b>	<b>Q54<sup>1)</sup></b>

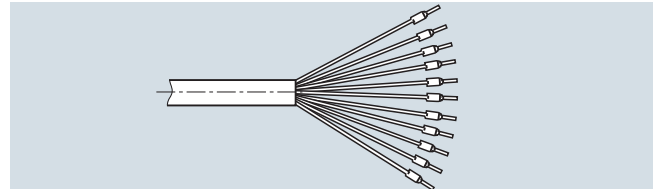
<sup>1)</sup> For worm geared motors S, the incremental encoder is available only for motor frame size 71.

#### Connection assignment

For cable available as an option, see „Encoder accessories (continued)“ from page 11/59.



G\_D087\_XX\_90056



	Voltage supply		Incremental signals						Other signals			
Connection	$U_B$	Sensor $U_B$	0 V	Sensor 0 V	$U_{a1}$	$\overline{U_{a1}}$	$U_{a2}$	$\overline{U_{a2}}$	$U_{a0}$	$\overline{U_{a0}}$	$\overline{U_{aS}}$	Free
Flange socket	12	2	10	11	5	6	8	1	3	4	7	9
Core color	brown/green	blue	white/green	white	brown	green	gray	pink	red	black	violet	yellow

**Incremental encoders** (continued)

**Incremental encoder 1XP8032**

The incremental encoder is available up to motor frame size 200.

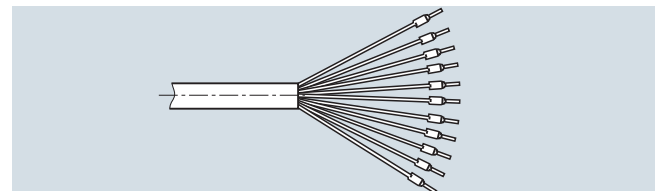
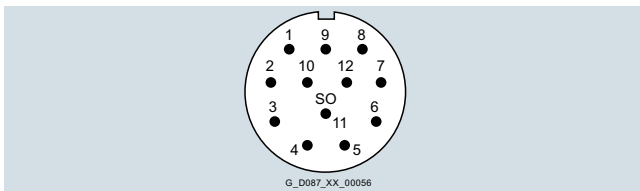
## Technical specifications

Incremental encoder 1XP8032	-11	-10	-20
Pulses per revolution	2 048	1 024	1 024
Incremental signals	HTL		TTL
Supply voltage $U_B$	10 ... 30 V <sub>DC</sub>		5 V <sub>DC</sub> ± 10 %
Maximum current consumption without load	150 mA		120 mA
Permissible load per output	$I_{Load} \leq 100$ mA (except for $\overline{U_{aS}}$ )		$I_{Load} \leq 20$ mA
Outputs	2 short-circuit-proof square-wave pulses $U_{a1}$ , $U_{a2}$ (maximum 1 min) 2 short-circuit-proof square-wave pulses $\overline{U_{a1}}$ , $\overline{U_{a2}}$ (maximum 1 min) Zero pulse $U_{a0}$ Zero pulse $\overline{U_{a0}}$ Fault-detection signal $\overline{U_{aS}}$		Square-wave pulses $U_{a1}$ , $U_{a2}$ Square-wave pulses $\overline{U_{a1}}$ , $\overline{U_{a2}}$ Zero pulse $U_{a0}$ Zero pulse $\overline{U_{a0}}$ Fault-detection signal $\overline{U_{aS}}$
Signal level	$U_{High} \geq 21$ V at $-I_{High} = 20$ mA $U_{Low} \leq 2.8$ V $I_{Low} = 20$ mA ( $U_B = 24$ V)		$U_{High} \geq 2.5$ V at $-I_{High} = 20$ mA $U_{Low} \leq 0.5$ V $I_{Low} = 20$ mA
Minimum edge interval	0.8 µs at 160 kHz		0.45 µs at 300 kHz
Switching times (10 ... 90 %)	$t_+$ , $t_- \leq 200$ ns (with 1 m cable), except for $\overline{U_{aS}}$		$t_+$ , $t_- \leq 30$ ns (with 1 m cable)
Maximum frequency	160 kHz		300 kHz
Moment of inertia of rotor	$4.3 \times 10^{-6}$ kgm <sup>2</sup>		
Maximum mechanical speed	6 000 rpm		
Vibration (55 ... 2 000 Hz)	$\leq 150$ m/s <sup>2</sup> (EN 60068-2-6)		
Shock (6/2 ms)	$\leq 1 000$ m/s <sup>2</sup> (EN 60068-2-27)/ $\leq 2 000$ m/s <sup>2</sup> (EN 60068-2-27)		
Degree of protection	IP66		
Ambient temperature range	-20 °C to +40 °C		
Connection system → page 11/58	0.8 m cable with 12-pole coupling socket, 0° coding		
Weight, approx.	0.30 kg		
Certification	CE, cUL-Rus		
<b>Order code</b>	<b>Q48<sup>1)</sup></b>	<b>Q47<sup>1)</sup></b>	<b>Q44<sup>1)</sup></b>

<sup>1)</sup> For worm geared motors S, the incremental encoder is available only for motor frame size 71.

## Connection assignment

For cable available as an option, see „Encoder accessories (continued)“ from page 11/59.



	Voltage supply		Incremental signals						Other signals			
Connection	$U_B$	Sensor $U_B$	0 V	Sensor 0 V	$U_{a1}$	$\overline{U_{a1}}$	$U_{a2}$	$\overline{U_{a2}}$	$U_{a0}$	$\overline{U_{a0}}$	$\overline{U_{aS}}$	Free
Flange socket	12	2	10	11	5	6	8	1	3	4	7	9
Core color	brown/green	blue	white/green	white	brown	green	gray	pink	red	black	violet	yellow

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## Motor options

### Mounted components

#### Encoder

#### Incremental encoders (continued)

##### Incremental encoder 1XP8022

The incremental encoder is available up to motor frame size 200.



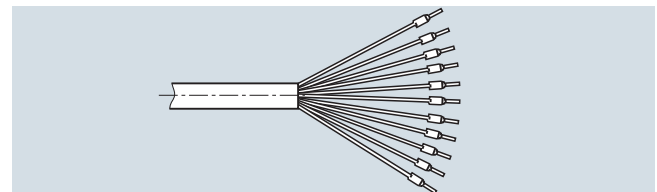
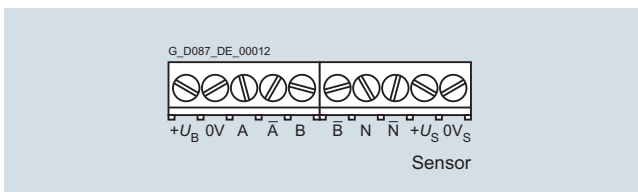
#### Technical specifications

Incremental encoder 1XP8022	-11	-10	-12	-21	-20	-22
Pulses per revolution	2 048	1 024	512	2 048	1 024	512
Incremental signals	HTL			TTL		
Supply voltage $U_B$	8 ... 30 V <sub>DC</sub> (reverse-polarity protected)			5 V <sub>DC</sub> ± 5 % (reverse-polarity protected)		
Maximum current consumption without load	≤ 100 mA					
Permissible load per output	$I_L \leq 70$ mA					
Outputs	2 square-wave pulses A, B 2 square-wave pulses $\bar{A}$ , $\bar{B}$ Zero pulse N Zero pulse $\bar{N}$					
Signal level	$U_{High} \geq U_B - 3$ V $U_{Low} \leq 1.5$ V			$U_{High} \geq 2.5$ V $U_{Low} \leq 0.5$ V		
Minimum edge interval	500 ns			≤ 200 ns		
Switching times (10 ... 90 %)	≤ 1 μs					
Maximum frequency	120 kHz					
Moment of inertia of rotor	$6 \times 10^{-6}$ kgm <sup>2</sup>					
Maximum mechanical speed	8 000 rpm					
Vibration (55 ... 2 000 Hz)	≤ 100 m/s <sup>2</sup> (EN 60068-2-6)					
Shock (11 ms)	≤ 1 000 m/s <sup>2</sup> (EN 60068-2-27)					
Degree of protection	IP66					
Ambient temperature range	-20 °C to +40 °C					
Connection system → page 11/58	Cable terminal box					
Weight, approx.	0.35 kg					
Certification	CE, cUL-Rus					
<b>Order code</b>	<b>Q60</b> <sup>1)</sup>	<b>Q59</b> <sup>1)</sup>	<b>Q61</b> <sup>1)</sup>	<b>Q57</b> <sup>1)</sup>	<b>Q56</b> <sup>1)</sup>	<b>Q58</b> <sup>1)</sup>

<sup>1)</sup> For worm geared motors S, the incremental encoder is available only for motor frame size 71.

#### Connection assignment

For cable available as an option, see „Encoder accessories (continued)“ from page 11/59.



#### Connections

Connection	+U <sub>B</sub>	0V	A	$\bar{A}$	B	$\bar{B}$	N	$\bar{N}$	+U <sub>S</sub>	0V <sub>S</sub>
Cable terminal box										
Core color	red	blue	green	brown	gray	black	pink	white	yellow	violet

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**Resolvers 1XP8013 and 1XP8023 <sup>1)</sup>**

Resolvers are available up to motor frame size 200.

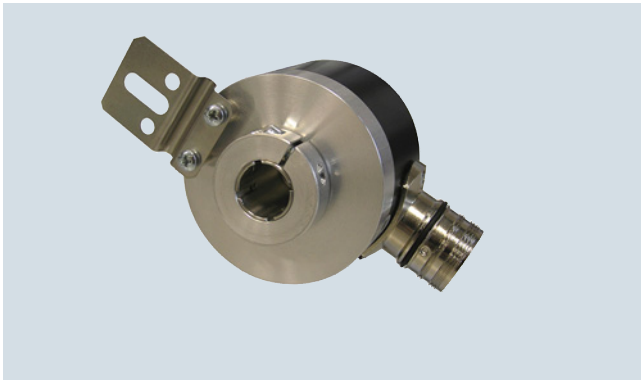


Fig. 11/49 Resolver 1XP8013

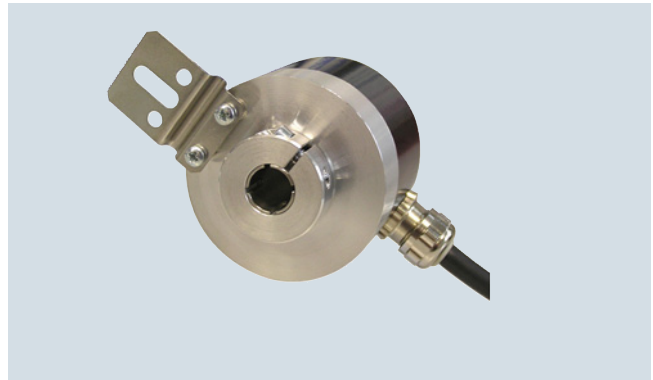


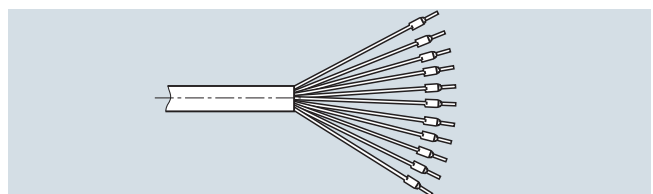
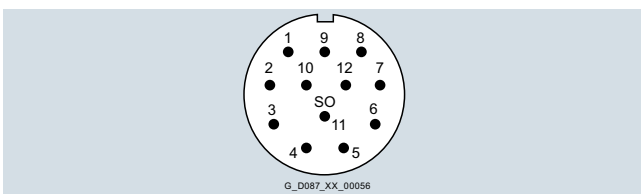
Fig. 11/50 Resolver 1XP8023

**Technical specifications**

Resolver	1XP8013-10	1XP8023-10	1XP8013-11	1XP8023-11
Input voltage	7 V <sub>RMS</sub>		7 V <sub>RMS</sub>	
Current consumption (maximum)	120 mA		65 mA	
Input frequency	5 kHz		10 kHz	
Phase shift	0° (+25°)		0° (± 10°)	
Zero voltage (maximum)	50 mV		50 mV	
Pole pairs	1		1	
Primary side	R1 - R2		R1 - R2	
<b>Impedance</b>				
Z <sub>ro</sub>	55 + j50 (± 20 %) Ω		70 + j100 (± 20 %) Ω	
Z <sub>so</sub>	115 + j175 (± 20 %) Ω		180 + j300 (± 20 %) Ω	
Z <sub>ss</sub>	115 + j160 (± 20 %) Ω		175 + j275 (± 20 %) Ω	
<b>DC resistance</b>				
Rotor	36 (± 10 %) Ω		36 (± 10 %) Ω	
Stator	60 (± 10 %) Ω		60 (± 10 %) Ω	
Maximum permissible mechanical speed	≤ 8 000 rpm		≤ 8 000 rpm	
Permissible electrical speed	≤ 8 000 rpm		≤ 8 000 rpm	
Vibration (55 ... 2 000 Hz)	≤ 100 m/s <sup>2</sup>		≤ 100 m/s <sup>2</sup>	
Shock (6 ms)	≤ 1 000 m/s <sup>2</sup>		≤ 1 000 m/s <sup>2</sup>	
Connection system → <a href="#">page 11/58</a>	Flange socket, 0° coding	1 m cable with coupling socket	Flange socket, 0° coding	1 m cable with coupling socket
Degree of protection	IP65		IP65	
Ambient temperature range	-20 °C to +40 °C			
Weight, approx.	320 g	500 g	320 g	500 g
Certification	CE, cUL-Rus			
<b>Order code</b>	<b>Q85 <sup>1)</sup></b>	<b>Q88 <sup>1)</sup></b>	<b>Q87 <sup>1)</sup></b>	<b>Q86 <sup>1)</sup></b>

<sup>1)</sup> For worm geared motors S, the resolver is available only for motor frame size 71.

**Connection assignment**

 For cable available as an option, see „Encoder accessories (continued)“ from [page 11/59](#).


	Input voltage		Sine tap		Cosine tap	
Connection	R1	R2	S1	S3	S2	S4
Flange socket	10	7	11	12	1	2
Core color	pink	white	red	blue	yellow	violet

<sup>1)</sup> Resolver cannot be combined with brake motor

## Motor options

### Mounted components

#### Encoder

#### Absolute encoders 1XP8014 and 1XP8024

Absolute encoders are available up to motor frame size 250.

The multiturn absolute encoder can be shipped with EnDAT protocol or SSI protocol and mounted on the shaft.

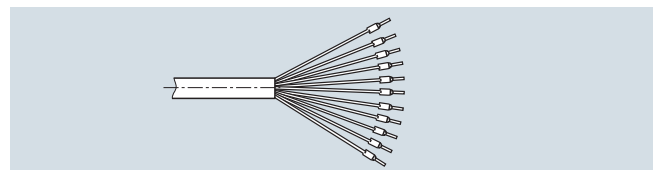
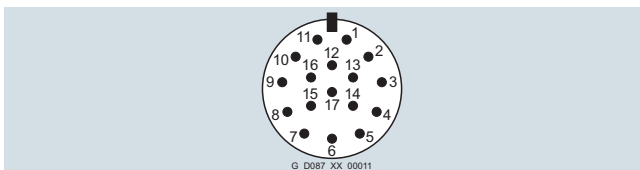
#### Technical specifications

Absolute encoder	1XP8014-20	1XP8024-20	1XP8014-10	1XP8024-10
Supply voltage $U_B$	10 ... 30 V		5 V $\pm$ 5 %	
Maximum current consumption without load	$\leq$ 200 mA			
Absolute position values	SSI		EnDAT 2.1	
• Code	Gray		Dual	
• Positions per revolution	8 192 (13 bit)			
• Differentiable revolutions	4 096			
Incremental signals	$\sim$ 1 V <sub>PP</sub>			
• Pulses per revolution	512		2 048	
• Outputs	Sine/cosine pulses A, B			
• Limit frequency -3 dB	$\geq$ 200 kHz			
• Signal size	0.8 ... 1.2 V <sub>PP</sub>			
Moment of inertia of rotor	$4.3 \times 10^{-6}$ kgm <sup>2</sup>			
Maximum permissible mechanical speed	$\leq$ 6 000 rpm			
Permissible electrical speed with system accuracy	$\leq$ 1 500 rpm/ $\pm$ 1 LSB $\leq$ 10 000 rpm/ $\pm$ 50 LSB			
Vibration (55 ... 2 000 Hz)	15 g	30 g	15 g	30 g
Shock (6 ms)	100 g			
Degree of protection	IP66			
Ambient temperature range	-20 °C to +40 °C			
Connection system → page 11/58	Flange socket, 17-pole with 0° coding	1 m cable with coupling socket	Flange socket, 17-pole with 0° coding	1 m cable with coupling socket
Weight, approx.	0.3 kg			
Certification	CE, cUL-Rus			
<b>Order code</b>	<b>Q80<sup>1)</sup></b>	<b>Q81<sup>1)</sup></b>	<b>Q82<sup>1)</sup></b>	<b>Q83<sup>1)</sup></b>

<sup>1)</sup> For worm geared motors S, the absolute encoder is available only for motor frame size 71.

#### Connection assignment

For cable available as an option, see „Encoder accessories (continued)“ from page 11/59.



	Voltage supply					Incremental signals				Absolute position values				Other signals	
Connection	$U_B$	Sensor $U_B$	0 V	Sensor 0 V	Inner shield	A+	A-	B+	B-	DATA	$\overline{\text{DATA}}$	CLOCK	$\overline{\text{CLOCK}}$	Rot. direction	Zeros
Flange socket (SSI)	7	1	10	4	11	15	16	12	13	14	17	8	9	2	5
Core color	brown/ green	blue	white/ green	white		green/ black	yellow/ black	blue/ black	red/ black	gray	pink	violet	yellow	black	green

	Voltage supply					Incremental signals				Absolute position values					
Connection	$U_B$	Sensor $U_B$	0 V	Sensor 0 V	Inner shield	A+	A-	B+	B-	DATA	$\overline{\text{DATA}}$	CLOCK	$\overline{\text{CLOCK}}$	-	-
Flange socket (EnDAT 2.1)	7	1	10	4	11	15	16	12	13	14	17	8	9		
Core color	brown/ green	blue	white/ green	white		green/ black	yellow/ black	blue/ black	red/ black	gray	pink	violet	yellow	black	green

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**Absolute encoder 1XP8024-21**

The absolute encoder is available with SSI protocol and HTL incremental signals up to motor frame size 200. This is ideally suited to SINAMICS G120D.

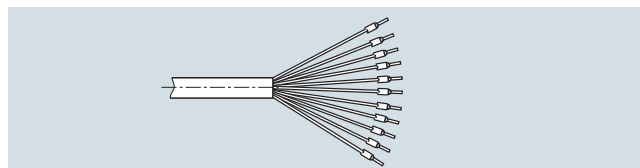
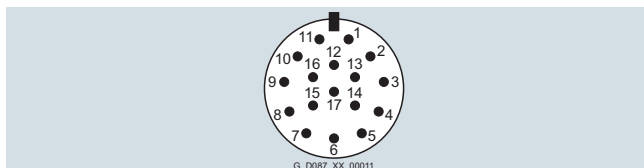
Technical specifications

Absolute encoder	1XP8024-21
Supply voltage $U_B$	10 ... 30 V
Maximum current consumption without load	28 mA at 24 V
Absolute position values	SSI
• Code	Gray
• Positions per revolution	8 192 (13 bit)
• Differentiable revolutions	4 096
• Calculation time $t_{cal}$	$\leq 5 \mu s$
Incremental signals	HTL
• Outputs	2 short-circuit-proof square-wave pulses $U_{a1}$ , $U_{a2}$ (maximum 1 min) 2 short-circuit-proof square-wave pulses $\overline{U_{a1}}$ , $\overline{U_{a2}}$ (maximum 1 min)
• Signal level	$U_{High} U_B - 2.5 V$ $I_{High} = 20 mA$ $U_{Low} \leq 1.6 V$ $I_{Low} = 20 mA$
• Pulses per revolution	2 048
• Sampling rate	$\geq 205 kHz$
• Edge interval	0.43 $\mu s$
Starting torque at 20 °C	$\leq 0.01 Nm$
Moment of inertia of rotor	$4.3 \times 10^{-6} kgm^2$
Maximum permissible mechanical speed	$\leq 6 000 rpm$
Vibration (55 ... 2 000 Hz)	$\leq 150 m/s^2$ (EN 60068-2-6)
Shock (6 ms)	$\leq 1 000 m/s^2$ (EN 60068-2-27)
Degree of protection	IP66
Ambient temperature range	-20 °C to +40 °C
Connection system → <a href="#">page 11/58</a>	1 m cable with 17-pole coupling socket, 0° coding
Weight, approx.	0.3 kg
Certification	CE, cUL-Rus
<b>Order code</b>	<b>Q79<sup>1)</sup></b>

1) For worm geared motors S, the absolute encoder can only be selected for motor frame size 71.

Connection assignment

For cable available as an option, see „Encoder accessories (continued)“ from [page 11/59](#).



	Voltage supply				Incremental signals				Absolute position values				Other signals		
Connection	$U_B$	Sensor $U_B$	0 V	Sensor 0 V	Inner shield	$U_{a1}$	$\overline{U_{a1}}$	$U_{a2}$	$\overline{U_{a2}}$	DATA	$\overline{DATA}$	CLOCK	$\overline{CLOCK}$	Count. direction	Zeros
Flange socket (SSI)	7	1	10	4	11	15	16	12	13	14	17	8	9	2	5
Core color	brown/ green	blue	white/ green	white		green/ black	yellow/ black	blue/ black	red/ black	gray	pink	violet	yellow	black	green

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## Motor options

### Mounted components

#### Encoder

#### Rugged encoders

##### Rotary pulse encoder LL 861 900 220



Fig. 11/51 Leine und Linde LL 861 900 220

With its rugged design, this rotary pulse encoder is also suitable for demanding operating environments. It is resistant to shock and vibration and has insulated bearings.

The rotary pulse encoder LL 861 900 220 is available in combination with self-ventilated motors in frame size 112 or larger, or in combination with forced-ventilated motors in frame size 160 or larger.

The version of the rotary pulse encoder with a diagnostics system (ADS) can be supplied by Leine and Linde.

#### Technical specifications

Supply voltage $U_B$	+9 ... +30 V
Current consumption without load	max. 80 mA
Permissible load current per output	40 mA
Pulses per revolution	1 024
Outputs	6 short-circuit-proof square-wave pulses A, A', B, B', 0, 0', high current HTL
Pulse offset between the two outputs	$90^\circ \pm 25^\circ$ electrical
Output amplitude	$U_{High} \geq U_B - 4 V$ $U_{Low} \leq 2.5 V$
Pulse duty factor	$1:1 \pm 10 \%$
Rate of change	50 V/ $\mu$ s (without load)
Maximum frequency	100 kHz for 350 m cable
Maximum speed	4 000 rpm
Degree of protection	IP66
Ambient temperature range	-20 °C to +40 °C
Maximum permissible radial cantilever force	300 N
Maximum permissible axial force	100 N
Connection system → page 11/58	Terminal strips in the encoder Cable connection, M20 x 1.5 radial
Weight, approx.	1.3 kg
<b>Order code</b>	<b>Q92</b>

#### Manufacturer:

Leine und Linde (Germany) GmbH  
Bahnhofstrasse 36  
73430 Aalen, Germany  
Phone: +49 (0) 73 61-78093-0  
Fax: +49 (0) 73 61-78093-11  
[www.leinelinde.com](http://www.leinelinde.com)  
E-mail: [info@leinelinde.de](mailto:info@leinelinde.de)

##### Rotary pulse encoder HOG9 D 1024 I



Fig. 11/52 Hübner HOG9 D 1024 I

The encoder is equipped with insulated bearings.

The rotary pulse encoder HOG9 D 1024 I is available in combination with self-ventilated motors in frame size 112 or larger, or in combination with forced-ventilated motors in frame size 160 or larger.

#### Technical specifications

Supply voltage $U_B$	+9 ... +30 V
Current consumption without load	50 ... 100 mA
Permissible load current per output	60 mA, 300 mA peak
Pulses per revolution	1 024
Outputs	4 short-circuit-proof square-wave pulses A, B and A', B'
Pulse offset between the two outputs	$90^\circ \pm 20^\circ$
Output amplitude	$U_{High} \geq U_B - 3.5 V$ $U_{Low} \leq 1.5 V$
Pulse duty factor	$1:1 \pm 20 \%$
Rate of change	10 V/ $\mu$ s (without load)
Maximum frequency	120 kHz
Maximum speed	7 000 rpm
Degree of protection	IP56
Ambient temperature range	-20 °C to +40 °C
Maximum permissible radial cantilever force	300 N
Maximum permissible axial force	200 N
Connection system → page 11/58	Radial connector (mating connector is part of the scope of delivery)
Mechanical design acc. to Hübner Ident. No.	73 522 E
Weight	0.7 kg
<b>Order code</b>	<b>Q93</b>

#### Manufacturer:

Baumer Hübner GmbH  
Max-Dohn-Str. 2+4  
10589 Berlin, Germany  
Phone: +49 (0) 30-6 90 03-0  
Fax: +49 (0) 30-6 90 03-1 04  
[www.baumerhuebner.com](http://www.baumerhuebner.com)  
E-mail: [info@baumerhuebner.com](mailto:info@baumerhuebner.com)

**Rugged encoders** (continued)

**Rotary pulse encoder HOG10 D 1024 I**


Fig. 11/53 Hübner HOG10 D 1024 I

This encoder is extremely rugged and is therefore suitable for harsh operating conditions. It is equipped with insulated bearings.

The rotary pulse encoder HOG10 D 1024 I is available for motor frame size 132 and higher.

Technical specifications

Supply voltage $U_B$	+9 ... +30 V
Current consumption without load	Approx. 100 mA
Permissible load current per output	60 mA, 300 mA peak
Pulses per revolution	1 024
Outputs	4 short-circuit-proof square-wave pulses A, B and A', B'
Pulse offset between the two outputs	$90^\circ \pm 20\%$
Output amplitude	$U_{\text{High}} \geq U_B - 3.5 \text{ V}$ $U_{\text{Low}} \leq 1.5 \text{ V}$
Pulse duty factor	$1:1 \pm 20\%$
Rate of change	10 V/ $\mu\text{s}$ (without load)
Maximum frequency	120 kHz
Maximum speed	7 000 rpm
Degree of protection	IP66
Ambient temperature range	-20 °C to +40 °C
Maximum permissible radial cantilever force	400 N
Maximum permissible axial force	250 N
Connection system → <a href="#">page 11/58</a>	Terminals, cable connection M20x1.5
Mechanical design acc. to Hübner Ident. No.	74 055 E
Weight, approx.	1.6 kg
<b>Order code</b>	<b>Q94</b>

Manufacturer:

Baumer Hübner GmbH

Max-Dohrn-Str. 2+4

10589 Berlin, Germany

Phone: +49 (0) 30-6 90 03-0

Fax: +49 (0) 30-6 90 03-1 04

[www.baumerhuebner.com](http://www.baumerhuebner.com)E-mail: [info@baumerhuebner.com](mailto:info@baumerhuebner.com)

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## Motor options

### Mounted components



#### Encoder

#### Functionally safe rotary encoder

Information about configuring and application of the functionally safe rotary encoder can be found in chapter "Configuring guide" on page 2/23.

#### Incremental encoder IN 8.5834

This incremental encoder is available for motor frame sizes 71 to 200.



Fig. 11/54 Incremental encoder IN 8.5834

#### Technical specifications

Incremental encoder	IN 8.5834FS2	IN 8.5834FS3
Pulses per revolution	1 024	
Supply voltage $U_B$	5 V <sub>DC</sub> ± 5 %	
Maximum current consumption without load	≤ 70 mA	
Reverse polarity protection for supply voltage	yes	
Outputs	Sinusoidal/cosinusoidal	
• Max. frequency -3dB	400 kHz	
• Signal level	1 V <sub>pp</sub> (± 10 %)	
• Outputs	Sine signal: B, B_Inv Cosine signal: A, A_Inv	
• Short-circuit strength	Yes (short-circuit-proof to 0 V or output, only one channel at a time, when supply voltage is correctly applied)	
Starting torque (at 20 °C)	< 0.03 Nm	
Moment of inertia of rotor	7 × 10 <sup>-6</sup> kgm <sup>2</sup>	
Max. permissible mechanical speed	≤ 3 000 rpm	
Maximum permissible angular acceleration	≤ 4 000 rad/s <sup>2</sup>	
Vibration (10 ... 150 Hz)	200 m/s <sup>2</sup> (EN 60068-2-6)	
Shock resistance (11 ms)	500 m/s <sup>2</sup> (EN 60068-2-27)	
Degree of protection	IP65	
Ambient temperature range	-20 °C to +40 °C	
Connection system	Tangential 1 m cable with coupling socket 12-pole, M23 with 0° coding	
Weight, approx.	0.45 kg	
Certification	CE, cULus, SIL/PL	
UL file	File 224618	
CE-compliant (compliance with applicable national and regional laws, standards and regulations is also essential)	EMC Directive 2014/30/EU Machinery Directive 2006/42/EC RoHS Directive 2011/65/EU	
<b>Safety values</b>		
Classification	PLd / SIL2	PLe / SIL3
System structure	2-channel (Cat. 3)	2-channel (Cat. 4)
PFH d value	2.16 × 10 <sup>-8</sup> h <sup>-1</sup> (The specified value refers to a diagnostic coverage of 90 % that must be achieved with an encoder evaluation unit. The encoder evaluation unit must at least comply with the requirements for SIL2.)	1.09 × 10 <sup>-8</sup> h <sup>-1</sup> (The specified value refers to a diagnostic coverage of 99 % that must be achieved with an encoder evaluation unit. The encoder evaluation unit must at least comply with the requirements for SIL3.)
Service life	20 years	20 years
Relevant standards (compliance with applicable national and regional laws, standards, and regulations is also essential)	EN ISO 13849-1:2008 EN ISO 13849-2:2012 EN 61800-5-2:2007	EN ISO 13849-1:2008 EN ISO 13849-2:2012 EN 61800-5-2:2007
<b>Order code</b>	<b>Q42<sup>1)</sup></b>	<b>Q43<sup>1)</sup></b>

<sup>1)</sup> The functionally safe rotary encoder is not compatible with worm geared motors S.

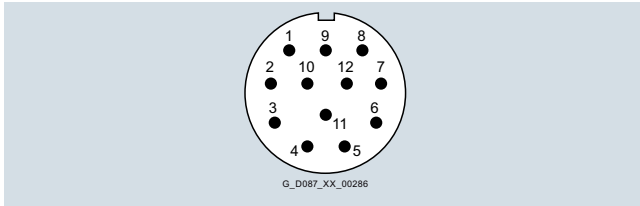
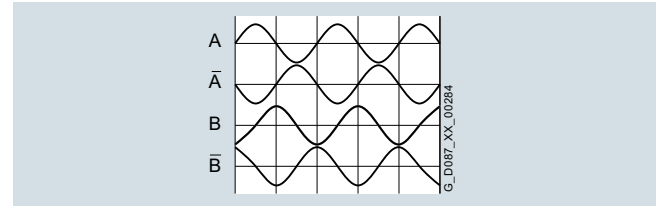

**Functionally safe rotary encoder (continued)**
**Incremental encoder IN 8.5834**
Connection assignment

Signal


Fig. 11/55 Chart pattern with shaft rotating in clockwise direction (looking in direction of clamping ring)

	Voltage supply		Incremental signals					
Connection	$U_B$	Sensor $U_B$ <sup>1)</sup>	0 V	Sensor 0 V <sup>1)</sup>	A+	A-	B+	B-
Flange socket	12	2	10	11	5	6	8	1

1) Jumpers between sensor pins in rotary encoder

Manufacturer:

 Fritz Kübler GmbH  
 Schubertstrasse 47  
 78054 Villingen-Schwenningen, Germany

Phone: +49 (0) 77 20 - 39 03-0

Fax: +49 (0) 77 20 - 21 56 4

[www.kuebler.com](http://www.kuebler.com)

 E-mail: [info@kuebler.com](mailto:info@kuebler.com)



## Motor options

### Mounted components



#### Encoder

#### Functionally safe rotary encoder (continued)

##### Absolute encoder IA 8.5883

This absolute encoder is available for motor frame sizes 71 to 200.



Fig. 11/56 Absolute encoder IA 8.5883

#### Technical specifications

Absolute encoder	IA 8.5883FS2	IA 8.5883FS3
Supply voltage $U_B$	5 V <sub>DC</sub> ± 5 %	
Maximum current consumption without load	≤ 80 mA	
Reverse polarity protection for supply voltage	yes	
Absolute position values	SSI	
• Output driver	RS 485 transceiver type	
• Permitted load / channel	Max. ± 20 mA	
• Signal level	HIGH type 3.8 V LOW with I load = 20 mA type 1.3 V	
• Positions per revolution	8 192 (13 bit)	
• Differentiable revolutions	4 096 (12 bit)	
• Code	Gray	
• SSI clock rate	50 kHz ... 2 MHz	
• Monoflop time	≤ 15 μs	
• Data refresh rate	ST resolution ≤ 1 μs	
SinCos signals	~ 1 V <sub>pp</sub>	
• Max. frequency -3dB	400 kHz	
• Signal level	1 V <sub>pp</sub> (± 10 %)	
• Short-circuit strength	Yes (short-circuit-proof to 0 V or output, only one channel at a time, when supply voltage is correctly applied)	
• Pulses per revolution	2 048	
• Outputs	Sine signal: B, B_Inv Cosine signal: A, A_Inv	
Starting torque (at 20 °C)	< 0.03 Nm	
Moment of inertia of rotor	7 x 10 <sup>-6</sup> kgm <sup>2</sup>	
Max. permissible mechanical speed	≤ 3 000 rpm	
Maximum permissible angular acceleration	≤ 4 000 rad/s <sup>2</sup>	
Vibration (10 ... 150 Hz)	200 m/s <sup>2</sup> (EN 60068-2-6)	
Shock resistance (11 ms)	500 m/s <sup>2</sup> (EN 60068-2-27)	
Degree of protection	IP65	
Ambient temperature range	-20 °C to +40 °C	
Connection system	Tangential 1 m cable with coupling socket 17-pole, M23 with 0° coding	
Weight, approx.	0.45 kg	
Certification	CE, cULus, SIL/PL	
UL file	File 224618	
CE-compliant (compliance with applicable national and regional laws, standards and regulations is also essential)	EMC Directive 2014/30/EU Machinery Directive 2006/42/EC RoHS Directive 2011/65/EU	
<b>Order code</b>	<b>Q77</b> <sup>1)</sup>	<b>Q78</b> <sup>1)</sup>

<sup>1)</sup> The functionally safe rotary encoder is not compatible with worm geared motors S.


**Functionally safe rotary encoder** (continued)

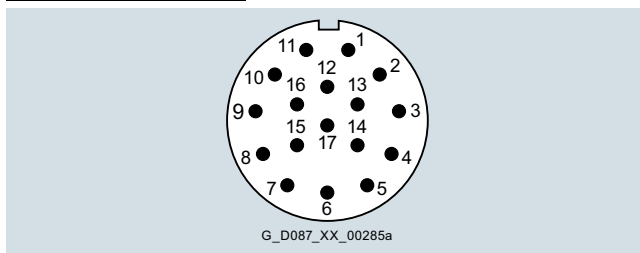
**Absolute encoder IA 8.5883**

## Technical specifications

Absolute encoder	IA 8.5883FS2	IA 8.5883FS3
<b>Safety values</b>		
Classification	PLd / SIL2	PLe / SIL3
System structure	2-channel (Cat. 3)	2-channel (Cat. 4)
PFH d value	$2.16 \times 10^{-8} \text{ h}^{-1}$ (The specified value refers to a diagnostic coverage of 90 % that must be achieved with an encoder evaluation unit. The encoder evaluation unit must at least comply with the requirements for SIL2.)	$1.09 \times 10^{-8} \text{ h}^{-1}$ (The specified value refers to a diagnostic coverage of 99 % that must be achieved with an encoder evaluation unit. The encoder evaluation unit must at least comply with the requirements for SIL3.)
Service life	20 years	20 years
Relevant standards (compliance with applicable national and regional laws, standards, and regulations is also essential)	EN ISO 13849-1:2008 EN ISO 13849-2:2012 EN 61800-5-2:2007	EN ISO 13849-1:2008 EN ISO 13849-2:2012 EN 61800-5-2:2007
<b>Order code</b>	<b>Q77<sup>1)</sup></b>	<b>Q78<sup>1)</sup></b>

<sup>1)</sup> The functionally safe rotary encoder is not compatible with worm geared motors S.

## Connection assignment



## Signal

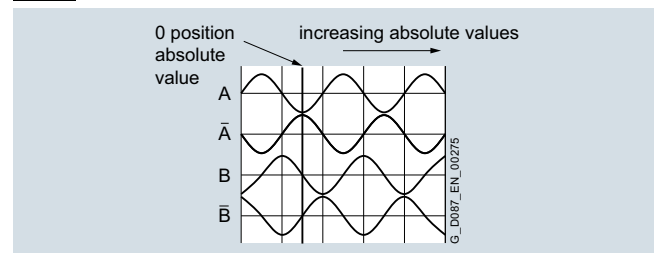


Fig. 11/57 Chart pattern with shaft rotating in clockwise direction (looking in direction of clamping ring)

	Voltage supply				Incremental signals				Absolute position values				Other signals		
Connection	$U_B$	Sensör $U_B$ <sup>1)</sup>	0 V	Sensör 0 V <sup>1)</sup>	Inner shield <sup>2)</sup>	A+	A-	B+	B-	DATA	$\overline{\text{DATA}}$	CLOCK	$\overline{\text{CLOCK}}$	Rot. direction	Zeros <sup>4)</sup>
						D+	D-	C+	C-					DIR <sup>3)</sup>	SET <sup>4)</sup>
Flange socket (SSI)	7	1	10	4	11	15	16	12	13	14	17	8	9	2	5

<sup>1)</sup> Sensor pins jumpered internally in connector

<sup>2)</sup> No inner shield

<sup>3)</sup> When the input is activated, the absolute values are counted backwards

<sup>4)</sup> When the input is activated, the absolute value is set to zero

## Manufacturer:

Fritz Kübler GmbH  
 Schubertstrasse 47  
 78054 Villingen-Schwenningen, Germany

Phone: +49 (0) 77 20 - 39 03-0

Fax: +49 (0) 77 20 - 21 56 4

[www.kuebler.com](http://www.kuebler.com)

E-mail: [info@kuebler.com](mailto:info@kuebler.com)

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## Motor options

### Mounted components



#### Encoder

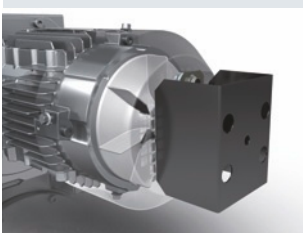
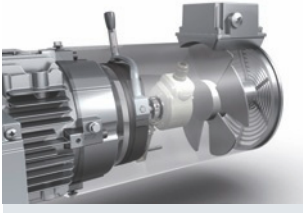
#### Functionally safe rotary encoder (continued)

The maximum permissible air gaps for brake motors with functionally safe rotary encoder are different, see table.

Technical specifications of brake with functionally safe rotary encoder

Brake type	Rated braking torque	Working capacity	Rated air gap $S_{LSN}$	Max. rated air gap $S_{LSM}$
	$T_{br}$			
	At 100 rpm	Friction energy until the air gap is readjusted $W_f$		
	Nm	MJ	mm	mm
L4/1.4	1.4	46.8	0.2	0.65
L4/2	2	46.8	0.2	0.6
L4/3	3	39.6	0.2	0.55
L4	4	36.0	0.2	0.5
L4/5	5	23.4	0.2	0.4
L8/3	3	86.4	0.2	0.6
L8/4	4	86.4	0.2	0.6
L8/5	5	75.6	0.2	0.6
L8/6.3	6.3	75.6	0.2	0.6
L8	8	64.8	0.2	0.5
L8/10	10	54	0.2	0.5
L16/4	4	108	0.2	0.6
L16/8	8	108	0.2	0.6
L16/10	10	108	0.2	0.6
L16/13	13	108	0.2	0.6
L16	16	108	0.2	0.6
L16/20	20	80	0.2	0.5
L32/8	8	190	0.3	0.7
L32/14	14	190	0.3	0.7
L32/18	18	190	0.3	0.7
L32/23	23	173	0.3	0.7
L32	32	141	0.3	0.6
L32/40	40	110	0.3	0.5
L60/25	25	204	0.3	0.7
L60/35	35	204	0.3	0.7
L60/38	38	187	0.3	0.7
L60/50	50	159	0.3	0.6
L60	60	159	0.3	0.6
L80/25	25	264	0.3	0.7
L80/35	35	264	0.3	0.7
L80/50	50	264	0.3	0.7
L80/63	63	264	0.3	0.7
L80	80	264	0.3	0.7
L80/100	100	173	0.3	0.6
L150/60	60	273	0.4	0.8
L150/80	80	273	0.4	0.8
L150/100	100	273	0.4	0.8
L150/125	125	273	0.4	0.8
L150	150	273	0.4	0.8
L260/100	100	418	0.4	0.8
L260/145	145	418	0.4	0.8
L260/180	180	418	0.4	0.8
L260/200	200	418	0.4	0.8
L260/240	240	418	0.4	0.8
L260	260	418	0.4	0.8
L260/315	315	336	0.4	0.7
L400/265	265	643	0.5	0.9
L400/300	300	643	0.5	0.9
L400/360	360	643	0.5	0.9
L400	400	643	0.5	0.9
L400/600	600	257	0.5	0.7

**Mechanical protection**

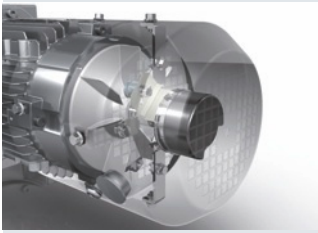
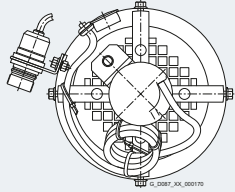
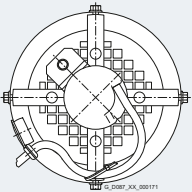
Design	Figure	Encoder type	Encoder order code	Connection system	Mounting of flange/coupling socket
<b>Protection plate</b>					
For self-ventilated motors up to frame size 90, the encoder is mounted outside the fan cover. In the standard version, the encoder is covered by a protective metal plate (painted red).		1XP8012-..	<b>Q50, Q51, Q52, Q53, Q54, Q55</b>	Flange socket	
		1XP8014-..	<b>Q80, Q82</b>		
		1XP8013-..	<b>Q85, Q87</b>		
		1XP8022-..	<b>Q56, Q57, Q58, Q59, Q60, Q61</b>	Cable terminal box	
		1XP8032-..	<b>Q44, Q45, Q46, Q47, Q48, Q49</b>	0.8 m cable + coupling socket	
		1XP8024-..	<b>Q79, Q81, Q83</b>	1 m cable + coupling socket	
		1XP8023-..	<b>Q86, Q88</b>		
<b>Canopy</b>					
From motor frame size 100, the encoder is protected by a canopy.		1XP8012-..	<b>Q50, Q51, Q52, Q53, Q54, Q55</b>	Flange socket	
		1XP8014-..	<b>Q80, Q82</b>		
		1XP8013-..	<b>Q85, Q87</b>		
		1XP8022-..	<b>Q56, Q57, Q58, Q59, Q60, Q61</b>	Cable terminal box	
		1XP8032-..	<b>Q44, Q45, Q46, Q47, Q48, Q49</b>	0.8 m cable + coupling socket	
		1XP8024-..	<b>Q79, Q81, Q83</b>	1 m cable + coupling socket	
		1XP8023-..	<b>Q86, Q88</b>		
		Leine & Linde LL 861 900 220	<b>Q92</b>	Cable terminal box	
		HOG9 D 1021 I	<b>Q93</b>	Flange socket	
HOG10 D 1021 I	<b>Q94</b>	Cable terminal box			
<b>Fan cover of the motor (with separately driven fan)</b>					
For force-ventilated motors the encoder is mounted inside the fan cover.		1XP8012-..	<b>Q50, Q51, Q52, Q53, Q54, Q55</b>	Flange socket (from motor frame size 132)	
		1XP8014-..	<b>Q80, Q82</b>		
		1XP8013-..	<b>Q85, Q87</b>		
		1XP8022-..	<b>Q56, Q57, Q58, Q59, Q60, Q61</b>	Cable terminal box	
		1XP8032-..	<b>Q44, Q45, Q46, Q47, Q48, Q49</b>	0.8 m cable + coupling socket	The coupling socket is attached to the motor cooling fins using a claw.
		1XP8024-..	<b>Q79, Q81, Q83</b>	1 m cable + coupling socket	The cable is freely fed out of the fan cover.
		1XP8023-..	<b>Q86, Q88</b>		
		Leine & Linde LL 861 900 220	<b>Q92</b>	Cable terminal box	
		HOG9 D 1021 I	<b>Q93</b>	Flange socket	
		HOG10 D 1021 I	<b>Q94</b>	Cable terminal box	
		IN 8.5834	<b>Q42, Q43</b>	1 m cable + coupling socket	The coupling socket is attached to the motor cooling fins using a cable tie with claw.
		IA 8.5883	<b>Q77, Q78</b>	1 m cable + coupling socket	

## Motor options

### Mounted components

#### Encoder

#### Mechanical protection (continued)

Design	Figure	Encoder type	Encoder order code	Connection system	Mounting of flange/coupling socket
<b>Encoder under cover</b>					
<p>Optionally, for motor frame sizes 71 to 200, instead of the protective metal plate, a protective cover can be ordered. This provides additional mechanical protection for the encoder.</p> <p>Order code for encoder under cover: <b>Q95</b></p>		1XP8022-..	<b>Q56, Q57, Q58, Q59, Q60, Q61</b>	Cable terminal box	<p>The coupling socket is attached to the cover by a bracket.</p> 
		1XP8032-..	<b>Q44, Q45, Q46, Q47, Q48, Q49</b>	0.8 m cable + coupling socket	
		1XP8024-..	<b>Q79, Q81, Q83</b>	1 m cable + coupling socket	<p>The cable is brought out through a cutout with protective envelope.</p> 
		1XP8023-..	<b>Q86, Q88</b>		
		IN 8.5834	<b>Q42, Q43</b>	1 m cable + coupling socket	<p>The coupling socket is attached to the motor cooling fins using a cable tie with claw.</p>
IA 8.5883	<b>Q77, Q78</b>	1 m cable + coupling socket			

### Motors prepared for encoder mounting

The interface for the modular encoder-mounting shaft is designed for a total maximum weight of  $m = 500\text{g}$ . The connections and wiring for the encoder system must be selected such that the rotary encoder is not subjected to any additional forces. The encoder must be mounted in such a way that normal linear expansion does not subject the torque arm to any impermissible forces.

In the delivery state, the encoder-mounting shaft has a maximum radial runout of  $\leq 0.1\text{ mm}$ . When the encoder is selected, it must be ensured that the minimum immersion depth of the solid shaft into the hollow shaft corresponds to the encoder manufacturer's specifications. The encoder manufacturer's instructions and recommendations must also be observed.

The interface "Prepared for encoder mounting" is always shipped with an encoder protection device for protection during transportation. The encoder protection device should be used in order to protect the mounted encoder and the mounting system against mechanical damage.

For the dimensions of the available mounting space and other dimensions, please refer to [page 8/51](#).

This option is suitable for applications with medium shock and vibration requirements. At medium cycle frequencies of the application, speeds up to 3 600 rpm are possible.

Order code:

Prepared for encoder mounting (12 mm) <sup>1)</sup>

**N50**

<sup>1)</sup> Not possible for worm geared motors S

### MOTION-CONNECT signal cables

MOTION-CONNECT signal cables for encoder types incremental encoder (HTL/TTL), absolute encoder (SSI/EnDat 2.1) and resolver are available for connecting Siemens 1XP8 encoders to SINAMICS S110/120 and G120.

These cables can be ordered in precise 10 cm lengths.

Description	Article No.:
<b>Incremental encoder (HTL/TTL) 1XP8012; 1XP8032 and 1XP8022</b>	
Pre-assembled signal cable (fixed routing/with D-sub connector on control side)	<b>6FX5002-2CR00-■■■■■</b>
Pre-assembled signal cable (fixed routing/with bare wire ends on control side)	<b>6FX5002-2CA12-■■■■■</b>
Pre-assembled signal cable (trailing type/with bare wire ends on control side)	<b>6FX8002-2CA12-■■■■■</b>
<b>Absolute encoder (SSI) 1XP8014-20; 1XP8024-20; 1XP8024-21</b>	
Pre-assembled signal cable (fixed routing)	<b>6FX5002-2CC06-■■■■■</b>
Pre-assembled signal cable (trailing type)	<b>6FX8002-2CC06-■■■■■</b>
<b>Absolute encoder (EnDat 2.1) 1XP8014-10; 1XP8024-10</b>	
Pre-assembled signal cable (fixed routing/with D-sub connector on control side)	<b>6FX5002-2CH00-■■■■■</b>
Pre-assembled signal cable (trailing type/with D-sub connector on control side)	<b>6FX8002-2CH00-■■■■■</b>
<b>Resolvers 1XP8013 and 1XP8023</b>	
Pre-assembled signal cable (fixed routing)	<b>6FX5002-2CF06-■■■■■</b>
Pre-assembled signal cable (trailing type)	<b>6FX8002-2CF06-■■■■■</b>
<b>Functionally safe rotary encoder</b>	
Connecting cable for incremental encoder IN 8.5834FS2, IN 8.5834FS3	<b>6FX5002-2CG00-■■■■■</b>
Connecting cable for absolute encoder IA 8.5883FS2, IA 8.5883FS3	<b>6FX5002-2CH00-■■■■■</b>

For further selection options and information about MOTION-CONNECT signal cables, please refer to Catalog [D 21.4](#) and the [Industry Mall](#).


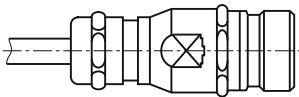
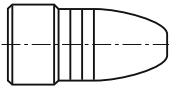
## Motor options

### Mounted components

#### Encoder

#### Encoder accessories

##### Connection system

Connection system	Description	Design
<b>M23 flange socket</b>		
	The flange socket is mounted directly on the encoder.	Pin contacts External thread
<b>M23 coupling socket</b>		
	The coupling socket is connected to the encoder via a cable.	Pin contacts External thread
<b>M23 connector</b>		
	The connector is connected to the flange/coupling socket.	Socket contacts Union nut

##### Technical specifications

	Cable suitable for cable carriers	Cable unsuitable for cable carriers
Approvals		
• VDE	yes	yes
• cULus or UL/CSA	yes	yes
• UL-CSA File No.	AWM STYLE 20963 80 °C 30 V E63216	E242293
Operating temperature on the surface		
• Permanently installed	-40 °C ... +80 °C	-40 °C ... +100 °C
• Moving	-10 °C ... +80 °C	-30 °C ... +100 °C
Smallest bending radius		
• Permanently installed	≥ 70 mm	≥ 35 mm
• Moving	≥ 100 mm	≥ 70 mm
Bending operations	Typ. 5 x 10 <sup>6</sup> cycles	-
Oil resistance	EN 50363-10-2	Oil-resistant
Outer jacket	Polyurethane (PUR)	Polyurethane (PUR)
Design	4x2x0,14+4x0.5 (for incremental encoder) 4x2x0,14+4x0.5+4x0.5 (for absolute encoder)	5x2x0.14 mm <sup>2</sup>
Outer diameter	8 mm	7 mm ± 0.2 mm

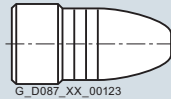
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**Encoder accessories (continued)**

**Connector**

A straight connector for shielded cables up to 8 mm in diameter is available for encoders with flange/coupling socket.

Selection table

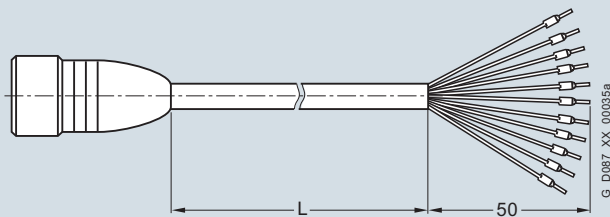


Encoder type	Order code Article No.
	<b>M23 connector</b>
Incremental encoders 1XP8012, 1XP8032, IN 8.5834 Resolvers 1XP8013 and 1XP8023	<b>Q62</b> FDU:55190000565002
Absolute encoders 1XP8014, 1XP8024, IA 8.5883	<b>Q62</b> FDU:55190000565003

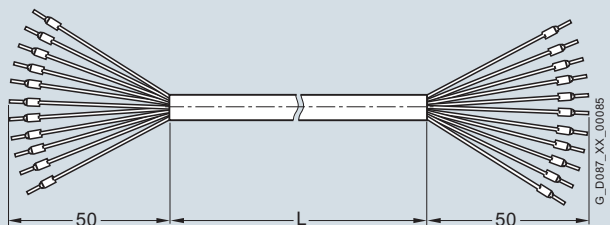
**Cable with end sleeves**

A pre-assembled cable with end sleeves and three different cable lengths can be supplied for the encoders.

Selection table



Encoder type	Suitable for cable carrier Yes/no	Order code Article No.		
		2 m	8 m	15 m
Incremental encoders 1XP8012, 1XP8032	yes	<b>Q69</b> FDU:70000004013446	<b>Q70</b> FDU:70000004013447	<b>Q71</b> FDU:70000004013448
Resolvers 1XP8013 and 1XP8023	no	<b>Q69</b> FDU:70000004013576	<b>Q70</b> FDU:70000004013577	<b>Q71</b> FDU:70000004013578
Absolute encoders 1XP8014 and 1XP8024	yes	<b>Q69</b> FDU:70000004013454	<b>Q70</b> FDU:70000004013455	<b>Q71</b> FDU:70000004013456



Encoder type	Suitable for cable carrier Yes/no	Order code Article No.		
		2 m	8 m	15 m
Incremental encoder 1XP8022	no	<b>Q63</b> FDU:70000004013418	<b>Q64</b> FDU:70000004013419	<b>Q65</b> FDU:70000004013420

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## Motor options

### Mounted components

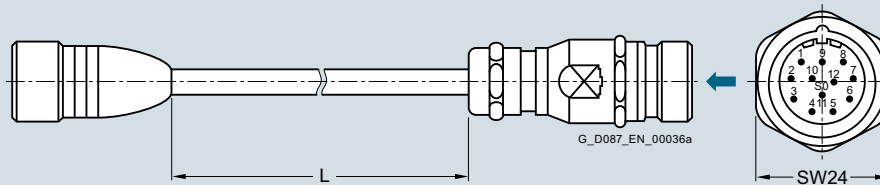
#### Encoder

#### Encoder accessories (continued)

##### Cable with coupling socket

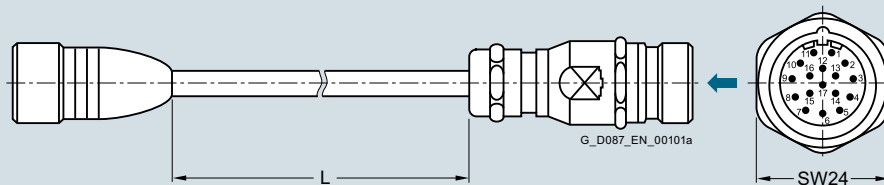
A cable with a straight coupling socket can be supplied for the encoders.

##### Selection table

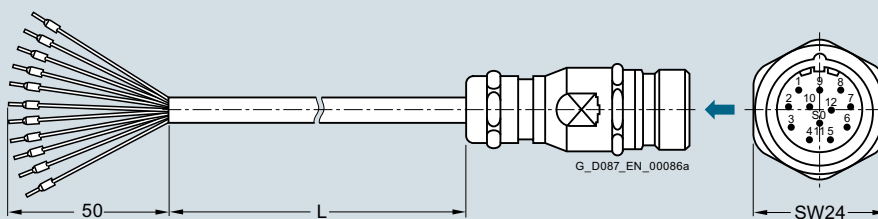


Encoder type	Suitable for cable carrier Yes/no	Order code		
		Article No.		
Free cable length L		2 m	8 m	15 m
Incremental encoders 1XP8012, 1XP8032	yes	<b>Q72</b> FDU:70000004013449	<b>Q73</b> FDU:70000004013450	<b>Q74</b> FDU:70000004013451
Resolvers 1XP8013 and 1XP8023	no	<b>Q72</b> FDU:70000004013579	<b>Q73</b> FDU:70000004013580	<b>Q74</b> FDU:70000004013581

For the connection assignment, see the encoder flange socket.



Encoder type	Suitable for cable carrier Yes/no	Order code		
		Article No.		
Free cable length L		2 m	8 m	15 m
Absolute encoders 1XP8014 and 1XP8024	yes	<b>Q72</b> FDU:70000004013457	<b>Q73</b> FDU:70000004013458	<b>Q74</b> FDU:70000004013459



Encoder type	Suitable for cable carrier Yes/no	Order code		
		Article No.		
Free cable length L		2 m	8 m	15 m
Incremental encoder 1XP8022	no	<b>Q66</b> FDU:70000004013421	<b>Q67</b> FDU:70000004013422	<b>Q68</b> FDU:70000004013443

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### Encoder accessories (continued)

#### EnDAT gateways for absolute encoders

Using interface converters (gateways), EnDAT absolute encoders can be integrated in networks with a serial bus system (PROFIBUS DP, CANopen, and DeviceNET).



Fig. 11/58 EnDAT gateways

#### Technical specifications

Gateways <sup>1)</sup>	PROFINET	PROFIBUS DP	CANopen	DeviceNET
Supply voltage	9 ... 36 V DC	9 ... 30 V DC	9 ... 30 V DC	9 ... 30 V DC
<b>Encoder data</b>				
Connection	EnDat	EnDat	EnDat	EnDat
Supply voltage	5 V DC ± 5 %	5 V DC ± 5 %	5 V DC ± 5 %	5 V DC ± 5 %
Absolute encoder	1XP8014-10 ( <b>Q82</b> ) and 1XP8024-10 ( <b>Q83</b> )			
<b>Accessories</b>				
Cable with coupling socket	<b>Q72, Q73, Q74</b>			
<b>Order code</b>	<b>Q01<sup>2)</sup></b>	<b>Q02</b>	<b>Q03</b>	<b>Q04</b>

<sup>1)</sup> Not possible for worm geared motors S.

<sup>2)</sup> Not possible in conjunction with UL-R and CSA design.

#### Manufacturer:

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 Am Sandtorkai 50  
 20457 Hamburg, Germany  
 Phone: +49 (0) 40 3176758 60  
 Fax: +49 (0) 40 3176758 65  
[www.leinelinde.com](http://www.leinelinde.com)  
 E-mail: [info@leinelinde.de](mailto:info@leinelinde.de)

#### Application terminal box for sensors

The application terminal box contains the connections for the sensors in the motor (temperature measurement) and on the motor (encoder). This is used to isolate the connections for the power section from those for the sensor section.

The application terminal box is available for motor frame sizes 63 to 200.

The following encoders are possible in combination with the application terminal box:

- Incremental encoder 1XP8022 (**Q56 ... Q61**)
- Incremental encoder LL 861 900 220 (**Q92**)

Order code:

Application terminal box <sup>1)</sup> **Q75**

<sup>1)</sup> Not possible for worm geared motors S

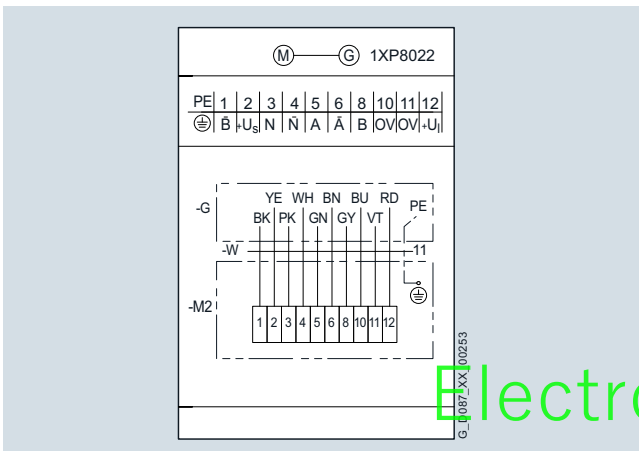


Fig. 11/59 Connection circuit diagram

## Motor options

### Mounted components

#### Encoder

#### Encoder accessories (continued)

##### Modular system in combination with encoder systems

Encoder	Motor plug	Brake	Self ventilation			Forced ventilation <sup>1)</sup>	Backstop
			Standard fan	Metal fan	High inertia fan <sup>1)</sup>		
<b>Incremental encoder</b>							
1XP8012-..	✓	✓	✓	✓	✓	✓	✓
1XP8022-..	✓	✓	✓	✓	✓	✓	✓
1XP8032-..	✓	✓	✓	✓	✓	✓	✓
<b>Absolute encoder</b>							
1XP8014-..	✓	✓	✓	✓	✓	✓	✓
1XP8024-..	✓	✓	✓	✓	✓	✓	✓
<b>Resolver</b>							
1XP8013-..	✓	-	✓	✓	✓	✓	✓
1XP8023-..	✓	-	✓	✓	✓	✓	✓
<b>Rugged encoders</b>							
LL 861 900 220	✓	-	✓	✓	✓	✓	✓
HOG9 D 1024 I	✓	-	✓	✓	✓	✓	✓
HOG10 D 1024 I	✓	-	✓	✓	✓	✓	✓
<b>Functionally safe rotary encoder</b>							
IN 8.5834-..	✓	✓	✓	✓	✓	✓	-
IA 8.5883-..	✓	✓	✓	✓	✓	✓	-

<sup>1)</sup> Can be selected for motor frame size 71 or higher

#### Backstop

Motors in frame sizes 71 to 250 can be supplied with a backstop, which prevents them from rotating in the opposite direction to that used in operation.

Above the disengage speed, in the operational direction of rotation, there is no connection between the inner and outer rings of the backstop.

For starting and stopping below the disengage speed, the operating time may be a maximum of 20 seconds.

In the direction of rotation opposite to the operational direction of rotation, there is a fixed connection between the inner and outer rings of the backstop. This allows the rated backstop torque to be transmitted.

When selecting the backstop, the direction of rotation of the geared motor output shaft must be specified.

Please note that motor speeds that are lower (e.g. in inverter operation) than the disengage speed can damage the backstop.

Order code:

Backstop <sup>1)</sup>

**N23**

<sup>1)</sup> Not possible for worm geared motors S

Order code, output shaft direction of rotation:

Clockwise

**K18**

Counterclockwise

**K19**

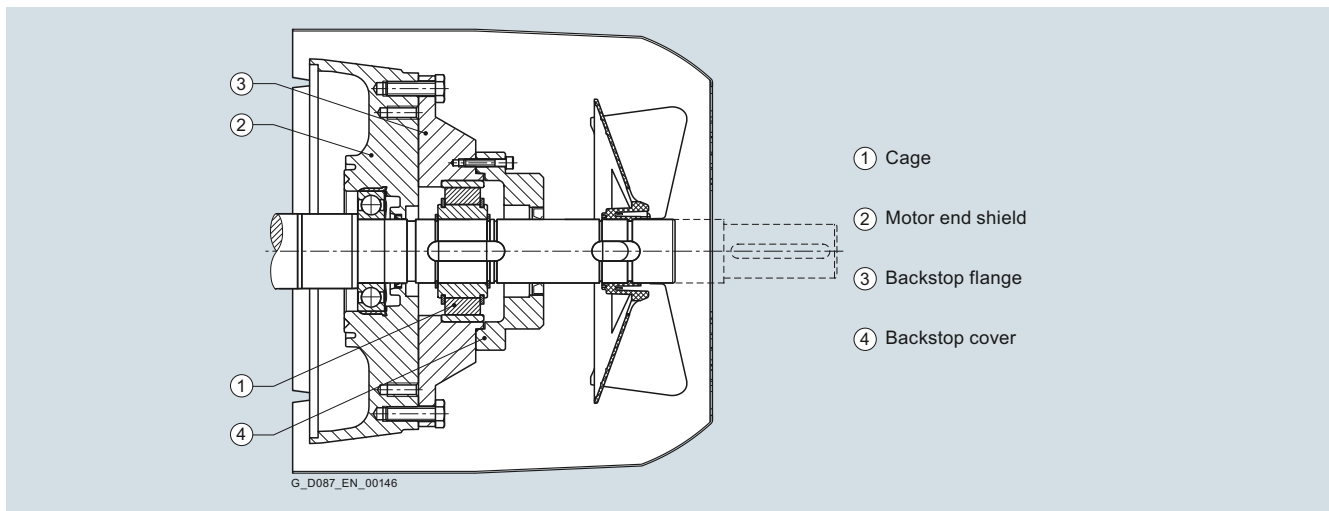


Fig. 11/60 Backstop

#### Technical specifications

Motor frame size	Rated torque	Disengage speed	Maximum speed	Weight	Moment of inertia of cage and inner ring
	$T_{SP}$ Nm	$n_{dis}$ rpm	$n_{max}$ rpm	$m_{Bstp}$ kg	$J_{Bstp}$ $10^{-4}$ kgm <sup>2</sup>
71	100	890	5 000	0.26	1.0
80	100	890	5 000	0.26	1.0
90	150	860	5 000	0.42	2.0
100	150	860	5 000	0.42	2.0
112	150	860	5 000	0.42	2.0
132	420	750	5 000	1.16	8.0
160	800	700	5 000	1.16	8.0
180	1 050	670	5 000	1.60	20.0
200	1 050	670	5 000	1.60	20.0
225	1 350	630	5 000	4.20	27.0
250	1 350	630	5 000	4.20	27.0

#### Modular system in combination with backstop

Modular system	Motor plug	Brake	Encoder	Self ventilation Forced ventilation	Second shaft extension
Backstop	✓		✓	✓	✓

## Motor options

### Mounted components

#### Second shaft extension and handwheel

##### Second shaft extension

For 4-pole motors a free, second shaft extension can be supplied on the non-drive end (NDE). The second shaft extension has a 60° centering hole to DIN 332, Part 2 with M3 to M24 tapped hole depending on the shaft diameter.

For a coupling output, the second shaft extension can transmit the full rated power. Please also inquire about the power that can be transmitted and permissible cantilever force if belt pulleys, chains, or gear pinions are used on the second shaft extension.

A second shaft extension cannot be provided if a rotary pulse encoder and/or a separately driven fan has been mounted to the motor.

Order code:

Second shaft extension <sup>1)</sup>

**N39**

<sup>1)</sup> Not possible for worm geared motors S

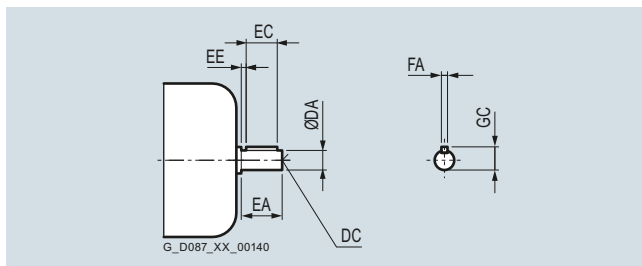


Fig. 11/61 Second motor shaft extension

##### Technical specifications

Motor frame size	DA	EA	Distance between fan cover and shaft shoulder	DC	EC	EE	FA	GC
63	-	-	-	-	-	-	-	-
71	14	30	4	M5	22	4	5	16.0
80	14	30	4	M5	22	4	5	16.0
90	19	40	5	M6	32	4	6	21.5
100	19	40	5	M6	32	4	6	21.5
112	24	50	6	M8	40	5	8	27.0
132	28	60	8	M10	50	5	8	31.0
160	38	80	8	M12	70	5	10	41.0
180	42	110	15	M16	90	10	12	45.0
200	48	110	20	M16	100	5	14	51.5
225	55	110	5	M20	100	5	16	59.0
250	60	140	5	M20	125	10	18	64.0

##### Modular system in combination with second shaft extension

Modular system	Motor plug	Brake	Backstop	Encoder	Self ventilation	Forced ventilation
<b>Second shaft extension</b>						
Without handwheel	✓	✓	✓	-	✓	-
With handwheel	✓	✓	✓	-	✓	-

##### Canopy

Geared motors with a vertical mounting position (motor at the top) can also be fitted with a canopy. The canopy prevents small items from falling into the geared motor; in the case of outdoors installation, its primary function is to serve as a rain canopy.

If the motor is to be used or stored in the open air, we recommend that it is kept under additional cover to protect it from prolonged exposure to direct sunlight, rain, snow, ice, or dust.

##### Handwheel

Motors of frame sizes 71 to 160 can be supplied with a second shaft extension and additionally with a handwheel.

The handwheel is a disk-type handwheel in accordance with DIN 3670. By mounting it on the second shaft extension of the motor, the geared motor can be rotated even when the motor winding is in a no-voltage state.

Order code:

Handwheel <sup>1)</sup>

**N40**

<sup>1)</sup> Not possible for worm geared motors S

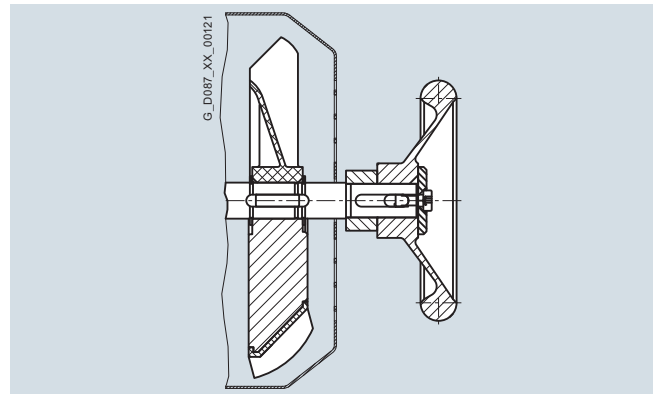


Fig. 11/62 Handwheel

#### Condensation drain hole

Condensation can accumulate inside the motor as the result of environmental effects. This can result in corrosion and lower clearances and creepage distances.

The condensation is drained to the outside through the condensation drain hole. Depending on the mounting position, the drain holes are located at the DE and/or NDE of the motor.

Order code:

Condensation drain hole <sup>1)</sup>

**N46**

<sup>1)</sup> Not possible for worm geared motors S

The option "condensation drain hole" can only be used for the following applications under certain conditions:

Motor	Gearbox type						Mounting position	
	D./Z.	E.	FD./FZ.	B	K	C	Possible	Not possible
LA63, LA71	19			19			M2	M1, M3, M4, M5, M6
LA71	19 ... 79	39 ... 89	29 ... 79	19...49	39 ... 89	29 ... 89	M4	M1, M2, M3, M5, M6
LE80	89	89	89		109		M2	M1, M3, M4, M5, M6
LE90	89 ... 129	89 ... 129	89 ... 129		109 ... 149		M1, M2, M3, M5, M6	M4
LE100	89 ... 149	89 ... 149	89 ... 149		109 ... 169		M1, M2, M3, M5, M6	M4
LE112	89 ... 189	89 ... 149	89 ... 189		109 ... 189		M1, M2, M3, M5, M6	M4
LE132	129 ... 189	129 ... 149	129 ... 189		149 ... 189		M1, M2, M3, M5, M6	M4
LE160	149 ... 189	149	149 ... 189		169 ... 189		M1, M2, M3, M5, M6	M4
LES180	109 ... 189	109 ... 149	109 ... 189		129 ... 189		M1, M2, M3, M5, M6	M4
LES200	129 ... 189	129 ... 149	129 ... 189		149 ... 189		M1, M2, M3, M5, M6	M4
LES225	On request							
LES250	On request							

#### Internal motor corrosion protection

The outer surfaces of the geared motors have a high quality paint finish.

For special applications, it may be necessary to apply a protective coating to the inner surfaces of the motor as well.

Order code:

Internal motor corrosion protection <sup>1)</sup>

**N41**

<sup>1)</sup> Not possible for worm geared motors S

#### Increased corrosion protection for mounted motor components

For motors of sizes 63 to 200 with additional mounted components such as a brake or backstop, the "Corrosion protection of mounted motor components" option can be selected for corrosivity category C3 and above. As a result, the internal surfaces of the mounted motor components as well as the fan cover are also coated from the inside.

Order code:

Corrosion protection for mounted motor components <sup>1)</sup>

**L06**

<sup>1)</sup> Not possible for worm geared motors S, functionally safe rotary encoder and encoder under cover

## Motor options

### Notes

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## General options



<b>12/2</b>	<b>Environmental conditions</b>
12/2	Standard ambient temperature of the geared motors
12/2	Extreme ambient temperatures
12/2	Increased protection against humidity and tropical climates
<b>12/3</b>	<b>Surface treatment and preservation</b>
12/3	Surface treatment
12/3	• Surface pretreatment
12/4	• Painting flange surfaces
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12/5	• Long-term preservation up to 36 months
<b>12/6</b>	<b>Rating plate</b>
12/6	Overview
12/6	Rating plate for helical, parallel shaft, bevel and helical worm geared motors
12/7	Rating plate for worm geared motor S
12/8	Second rating plate
<b>12/9</b>	<b>Documentation</b>
12/9	Safety instruction sheet and operating instructions
12/9	Test certificates
<b>12/10</b>	<b>Fast track</b>
12/10	Overview



## General options

### Environmental conditions

#### Standard ambient temperature of the geared motors

Depending on the gearbox type, the SIMOGEAR geared motors can be deployed in the following standard ambient temperature ranges:

Gearbox type	Ambient temperature
Helical geared motor Z./D./E. Parallel shaft geared motor FZ./FD. Bevel geared motor K	-15 °C to +40 °C
Bevel geared motor B Helical worm geared motor C Worm geared motor S	-20 °C to +40 °C
Geared motors with SINAMICS G110M motor integrated frequency inverter	-10 °C to +40 °C

An extended ambient temperature range from -20 °C to +40 °C is additionally available for the helical gearboxes, parallel shaft gearboxes, and bevel gearboxes K.

Order code:

Ambient temperature -20 to +40 °C

**K95**

#### Extreme ambient temperatures

When operating the SIMOGEAR geared motors outside the specified standard ambient temperatures, the geared motors must be adapted to the special environmental conditions. Please contact Siemens in this regard.

#### Increased protection against humidity and tropical climates

Increased protection against humidity and tropical climates can be optionally supplied for the (geared) motors, frame sizes 63 to 200. This design is suitable for air humidity in the range between 30 and 60 g water per m<sup>3</sup> air as a function of the temperature (see page 11/9).

The increased protection against humidity and tropical climates includes surface treatment with corrosivity category C2 (**L03**), increased winding protection against moisture and acid (**N54**), and internal motor corrosion protection (**N41**).

Please contact Siemens, if the motor requires other functions (brake, backstop, encoder systems).

Order code:

Increased protection against humidity and tropical climates

**N43**

### Surface treatment

To protect the drives against corrosion and external influences, five high-quality paint systems are available in various colors.

The corrosion protection system is designed in accordance with the corrosivity categories of EN ISO 12944-2.

Geared motors, frame size 49 and higher, are painted in RAL 7016 (anthracite gray) to corrosivity category C1 as standard. This ensures that they are protected against corrosion for indoors use.

**Geared motors, frame sizes 09 to 39 with an aluminum housing, are supplied unpainted as standard.**

The shaft extensions and bare surfaces are treated with corrosion protection for 6 months.

### Surface pretreatment

For especially demanding applications, the drives can also be pretreated in order to ensure an optimum paint finish even in areas that are hidden or difficult to access.

Order code:

Special pretreatment

**L19**

Corrosivity category	Paint system			Description	Order code
	Primer	Intermediate coat	Top coat		
<b>Surface protection</b>					
<i>Aluminum gearbox housing<sup>1)</sup></i>					
<b>Unpainted</b> (standard)	-	-	-	<ul style="list-style-type: none"> <li>Indoor installation</li> <li>Heated buildings with neutral atmospheres</li> </ul>	<b>L00</b>
<b>C1</b> Normal environmental stress	-	-	1-component hydro paint	<ul style="list-style-type: none"> <li>Resistant to greases, conditionally resistant to mineral oils, aliphatic solvents</li> <li>Standard paint</li> </ul>	<b>L02</b>
<i>Cast iron gearbox housing<sup>2)</sup></i>					
<b>C1</b> Normal environmental stress	-	-	1-component hydro paint	<ul style="list-style-type: none"> <li>Indoor installation</li> <li>Heated buildings with neutral atmospheres</li> <li>Resistant to greases, conditionally resistant to mineral oils, aliphatic solvents</li> <li>Standard paint</li> </ul>	<b>L02</b>
<i>All geared motors</i>					
<b>C2</b> Low environmental stress	2-component epoxy zinc phosphate	-	2-component polyurethane	<ul style="list-style-type: none"> <li>Indoor and outdoor installation</li> <li>Unheated buildings with condensation, production areas with low humidity, e.g. warehouses and sports facilities</li> <li>Atmospheres with little pollution, rural areas</li> <li>Resistant to greases, mineral oils and sulfuric acid (10 %), caustic soda (10 %), and conditionally resistant to aliphatic solvents</li> </ul>	<b>L03</b>
<b>C3</b> Average environmental stress	2-component epoxy zinc phosphate	-	2-component polyurethane	<ul style="list-style-type: none"> <li>Indoor and outdoor installation</li> <li>Production areas with high humidity and some air pollution, e.g. food production areas, dairies, laundries, and breweries</li> <li>Urban and industrial atmospheres, moderate contamination from sulfur dioxide, coastal areas with low salt levels</li> <li>Resistant to greases, mineral oils, aliphatic solvents, sulfuric acid (10 %), caustic soda (10 %)</li> </ul>	<b>L04</b>
<b>C4</b> High environmental stress	2-component epoxy zinc phosphate	-	2-component polyurethane	<ul style="list-style-type: none"> <li>Indoor and outdoor installation</li> <li>Chemical plants, swimming pools, wastewater treatment plants, electroplating shops, and bathhouses above seawater</li> <li>Industrial areas and coastal areas with moderate salt levels</li> <li>Resistant to greases, mineral oils, aliphatic solvents, sulfuric acid (10 %), caustic soda (10 %)</li> </ul>	<b>L20</b>
<b>C5</b> Very high environmental stress	2-component epoxy zinc phosphate	2-component polyurethane	2-component polyurethane	<ul style="list-style-type: none"> <li>Indoor and outdoor installation</li> <li>Buildings/areas with almost constant condensation and high degrees of pollution, e.g. malt factories and aseptic areas</li> <li>Industrial areas with high humidity and aggressive atmosphere, coastal areas and offshore environments with high salt levels</li> <li>Resistant to greases, mineral oils, aliphatic solvents, sulfuric acid (10 %), caustic soda (20 %)</li> </ul>	<b>L05</b>

<sup>1)</sup> Helical gearboxes D/Z19 to D/Z39, parallel shaft gearboxes F29 and bevel gearboxes B29 and B39

<sup>2)</sup> The bevel gearbox B49 is supplied painted

## General options

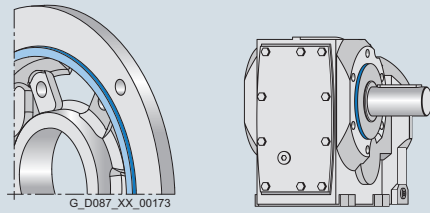
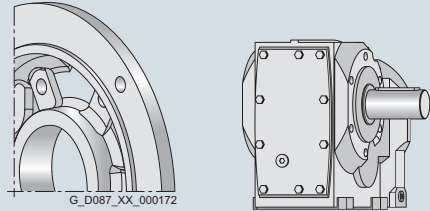
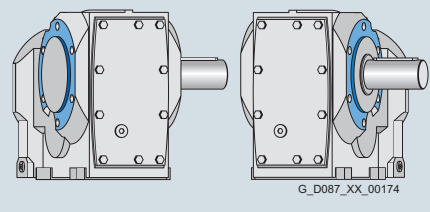
### Surface treatment and preservation

#### Surface treatment (continued)

Corrosivity category	Paint system			Description	Order code
	Base coat	Intermediate coat	Top coat		
<b>Primer</b>				<b>Ability to be painted</b>	
<b>C2 G</b>	2-component polyurethane	-	-	<ul style="list-style-type: none"> <li>2-component polyurethane paint,</li> <li>2-component epoxy paint and acid-hardening paint,</li> <li>2-component acrylic paint</li> </ul>	<b>L01</b>
<b>C4 G</b>	2-component epoxy zinc phosphate	-	-	<ul style="list-style-type: none"> <li>2-component polyurethane paint,</li> <li>2-component epoxy paint and acid-hardening paint,</li> <li>2-component acrylic paint</li> </ul>	<b>L09</b>
<b>Unpainted</b>	-	-	-	<ul style="list-style-type: none"> <li>Plastic paint, synthetic resin paint, oil paint,</li> <li>2-component polyurethane paint,</li> <li>2-component epoxy paint</li> </ul>	<b>L00</b>

#### Painting flange surfaces

For flange-mounted or housing flange designs, the flange surface and centering are not painted at the selected output end. The versions listed in the table can be optionally selected.





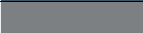
Design	Figure	Possible for	Order code
Centering not painted		<ul style="list-style-type: none"> <li>Flange-mounted design</li> <li>Housing flange design</li> </ul>	<b>L11</b>
Flange completely painted		<ul style="list-style-type: none"> <li>Flange-mounted design</li> <li>Housing flange design</li> </ul>	<b>L12</b>
Centering flange not painted on both sides		<ul style="list-style-type: none"> <li>Housing flange design for bevel gearbox and helical worm gearbox</li> </ul>	<b>L27</b>

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#### Surface treatment (continued)

##### Colors

In addition to anthracite gray (RAL 7016), you can select from other standard colors.

RAL color	Designation	Color, example	Order code
RAL 7016	Anthracite gray (standard)		L75
RAL 5015	Sky blue		L50
RAL 7030	Stone gray		L55
RAL 7031	Blue gray		L53
RAL 7012	Basalt gray		L83

##### Colors for conductive paint finish acc. to ATEX

RAL 7016	Anthracite gray		L75
RAL 5015	Sky blue		L50
RAL 7031	Blue gray		L53
RAL 9011	Graphite black		L80

You can find additional colors in the [DT Configurator](#).

#### Preservation

All gearboxes and geared motors are preserved as standard for 6 months.

##### Long-term preservation up to 36 months

If the gearboxes are stored for longer than 6 months, then we recommend the "Long-term preservation" option. A VCI (volatile corrosion inhibitor) is added to the gearbox oil.

Until commissioning, it is not permissible that the gearbox is opened, as otherwise the VCI will vaporize.

The oil level must be checked before commissioning. Corrosion protection is also applied to the flange contact surfaces and shaft extensions. We recommend that the gearbox is stored in the appropriate mounting position.

##### Note

For light colors in corrosivity category C1 we recommend selection of surface treatment in the corrosivity category one level higher to ensure adequate and uniform coloring for the geared motor.

##### Storage conditions

Geared motors, stored in dry, dust-free and evenly tempered rooms do not require any special packaging.

In all other areas, the units must be packaged in foil with desiccant and moisture indicator. If required, protection must be provided against mold and termites. The storage location must be vibration- and shock-free. The storage conditions must be regularly checked.

Order code:

Long-term preservation up to 36 months

**K17**

For information about storage and commissioning please refer to the [operating instructions](#).

## General options

### Rating plate

#### Overview

The rating plates on the gearboxes and geared motors are normally manufactured out of coated aluminum foil. They are covered with a special masking film which ensures permanent resistance to UV radiation and media of all kinds (oils, greases, salt water, cleaning agents, etc.).

The adhesive and the material ensure firm adhesion and long-term legibility within the operating temperature range from -40 to +155 °C.

For geared motors, the rating plate is attached to a stainless steel plate on the motor.

For specific designs, additional rating plates are attached to the motor.

#### Rating plate for helical, parallel shaft, bevel and helical worm geared motors


<b>SIEMENS</b> FDU0412/8999999 nnn 2KJ3105-1EM22-2AV1-Z ZF59-LE90SG4E-L32/14N-IN SI04 IP55 30kg Tamb -15...+40°C K-ID: 1234567890 1.5L OIL CLP VG220 i: 28 50Hz n2: 49.3r/min   60Hz n2: 59.7r/min T2: 213Nm fB: 2.1   T2: 203Nm fB: 2.2 3-Mot. ThCl.155(F) TP-WT 14 Nm 230V +-10% AC 50Hz 230/400V +-10% D/Y   60Hz 460V +-10% Y 4.33/2.5A cosφ 0.78 2.2 A cosφ 0.78 1.1kW S1 IE2-81.4% 1425r/min   1.27kW S1 IE2-84% 1725r/min Mot. 1AV2090B 1LE1001-0EB0 SIEMENS AG, Bahnhofstr. 40, DE-72072 Tübingen		IEC60034  (IM)M1	<b>SIEMENS</b> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 17 20 21 16 18 19 22 23 24 25 26 27 28 29 30 31 32 38 39 40 33 34 41 42 35 36 37 43 44 45 46 47 SIEMENS AG, Bahnhofstr. 40, DE-72072 Tübingen
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Fig. 12/1 Example, rating plate on helical geared motor

#### General data

- 1 Data matrix code
- 2 Applicable standard
- 3 Serial No.  
FDU: Siemens AG, Bahnhofstr. 40, 72072 Tübingen, Germany
- 4 CE marking or other marking, if required
- 5 Article No.
- 6 Type designation - SI04 functional safety designation
- 7 Mounting position
- 8 Degree of protection acc. to IEC 60034-5
- 9 Weight  $m$  [kg]
- 10 Ambient temperature
- 11 Customer-specific data<sup>1)</sup> (customer ID/free text), max. 20 characters
- 12 Oil quantity [l] main gearbox/intermediate gearbox
- 13 Oil type
- 14 Oil viscosity ISO VG class to DIN 51519/ISO 3448
- 15 Total transmission ratio  $i$

#### Frequency 1

- 16 Rated frequency  $f$  [Hz]
- 17 Gearbox output speed  $n_2$  [rpm]
- 18 Geared motor output torque  $T_2$  [Nm]
- 19 Service factor  $f_B$

#### Frequency 2

- 20 Rated frequency  $f$  [Hz]
- 21 Gearbox output speed  $n_2$  [rpm]
- 22 Geared motor output torque  $T_2$  [Nm]
- 23 Service factor  $f_B$

#### Motor and brake data

- 24 Phase number and type of current for the motor
- 25 Temperature class Th.Cl.
- 26 Motor protection
- 27 Symbols (IEC 60617-2): = brake
- 28 Rated braking torque  $T_{br}$  [Nm]
- 29 Brake supply voltage  $U$  [V]

#### Frequency 1

- 30 Rated frequency  $f$  [Hz]
- 31 Rated voltage range  $U$  [V]
- 32 Circuit, graphic symbols acc. to EN 60617 Part 6/IEC 60617-6
- 33 Rated current  $I_{rated}$  [A]
- 34 Power factor  $\cos \varphi$
- 35 Rated power  $P_{rated}$  [kW], duty type (if ≠ S1)
- 36 Efficiency class marking according to IEC 60034-30
- 37 Rated speed  $n_{rated}$  [rpm]

#### Frequency 2

- 38 Rated frequency  $f$  [Hz]
- 39 Rated voltage range  $U$  [V]
- 40 Circuit, graphic symbols acc. to EN 60617 Part 6/IEC 60617-6
- 41 Rated current  $I_{rated}$  [A]
- 42 Power factor  $\cos \varphi$
- 43 Rated power  $P_{rated}$  [kW], duty type (if ≠ S1)
- 44 Efficiency class
- 45 Rated speed  $n_{rated}$  [rpm]
- 46 Motor series
- 47 Motor designation

When ordering a replacement/spare part, always specify the serial No.

- <sup>1)</sup> The customer-specific data are used to specify the customer ID/serial number. The following data are not permissible:
- Technical specifications for the geared motor (e.g. ambient temperature, voltage data, etc.)
  - Details of Siemens Article No. (MLFB)
  - Unlawful texts

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**Rating plate for worm geared motor S**

The worm geared motors S have separate rating plates for the gearbox side and the motor side.

**Rating plate on the gearbox side**

The rating plate on the gearbox side particularly contains the output data of the worm geared motor S.

<b>SIEMENS</b> FDU1508/8999999 nnn 2KJ3731-1CD11-2AM1-Z S19-LAI71MG4-L4N IP55 10kg Tamb -20...+40°C M1-A		<b>SIEMENS</b> 1 2 3 4 5 6 7 8 9 10 11   14 12 13   16 15 17 18 19 20 SIEMENS AG, Bahnhofstr. 40, DE-72072 Tübingen	
i=5 50Hz T2: 8.1Nm		n2:270r/min   60Hz fB:4.8 T2: 7.7Nm n2: 330r/min fB:4.7 4 Nm 230V +-10% AC SIEMENS AG, Bahnhofstr. 40, DE-72072 Tübingen	

Fig. 12/2 Example of rating plate on gearbox side on worm geared motor S

**General data**

- 1 Matrix code
- 2 Serial No.
- 3 Article No.
- 4 Type designation
- 5 Mounting position
- 6 Degree of protection acc. to IEC 60034-5 or IEC 60529
- 7 Weight  $m$  [kg]
- 8 Ambient temperature
- 9 Total transmission ratio

**Frequency 1**

- 10 Rated frequency  $f$  [Hz]
- 11 Gearbox output speed  $n_2$  [rpm]
- 12 Geared motor output torque  $T_2$  [Nm]
- 13 Service factor  $f_B$

When ordering a replacement/spare part, always specify the serial No.

**General data**

- Frequency 2
- 14 Rated frequency  $f$  [Hz]
  - 15 Gearbox output speed  $n_2$  [rpm]
  - 16 Geared motor output torque  $T_2$  [Nm]
  - 17 Service factor  $f_B$

**Motor data**

- 18 Symbols (IEC 60617-2): = brake
- 19 Rated braking torque  $T_{br}$  [Nm]
- 20 Brake supply voltage  $U$  [V]

**Rating plate on the motor side**

In addition a rating plate with the electrical data of the motor is attached to the motor on the worm geared motor S.

<b>SIEMENS</b> 3-Mot. 1LA7070-4AB12-Z (H) CE UD 1505/1726907-016-001 IP55 71M IM B14 IEC/EN60034 ThCl155(F)-20°C<=TAMB<=40°C 50Hz 230/400V Δ/Y 60Hz 460V Y 0.25 kW 1.47/0.85A 0.30kW 0.77 A cosPhi 0.76 1350/min cosPhi 0.77 1650/min 220-240/380-420V Δ/Y 440-480V Y 1.40-1.35/0.81-0.78 A 0.78-0.76 A S1/S9-INV. DUTY 70000004061966		<b>SIEMENS</b> 1 2 3 4 5 6 7 8 9 10 11 12 19 20 13 14 21 22 15 16 23 24 17 25 18 26 27 28	
--	--	---	--

Fig. 12/3 Example of rating plate on the motor side on worm geared motor S

**Motor data**

- 1 Number of phases
- 2 Type designation
- 3 Balancing type (H=half-key balancing)
- 4 CE marking or other marking, if required
- 5 Identification No.
- 6 Degree of protection acc. to IEC 60034-5 or IEC 60529
- 7 Frame sizes
- 8 Mounting position
- 9 Applicable standard
- 10 Temperature class Th.Cl. and operating temperature range

**Frequency 1**

- 11 Rated frequency  $f$  [Hz]
- 12 Rated voltage [V] and circuit, graphic symbols acc. to EN 60617 Part 6 / IEC 60617-6
- 13 Rated power  $P_{rated}$  [kW], duty type (if ≠ S1)
- 14 Rated current  $I_{rated}$  [A]

**Motor data**

- Frequency 1
- 15 Power factor  $\cos \varphi$
  - 16 Rated speed  $n_{rated}$  [rpm]
  - 17 Wide range voltage [V] and circuit
  - 18 Current for wide range voltage [A]
- Frequency 2
- 19 Rated frequency  $f$  [Hz]
  - 20 Rated voltage range  $U$  [V]
  - 21 Rated power  $P_{rated}$  [kW], duty type (if ≠ S1)
  - 22 Rated current  $I_{rated}$  [A]
  - 23 Power factor  $\cos \varphi$
  - 24 Rated speed  $n_{rated}$  [rpm]
  - 25 Wide range voltage [V] and circuit
  - 26 Current for wide range voltage [A]
  - 27 Duty type
  - 28 Material number

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## General options

### Rating plate

#### Second rating plate

##### **Second rating plate, supplied loose**

For the gearboxes and geared motors, an additional rating plate can be supplied loose.

For worm geared motors the rating plate on the gearbox side is supplied.

Order code:

Second rating plate, supplied loose

**K41**

##### **Second rating plate, attached**

When requested, a second rating plate can be attached to the motor.

Order code:

Second rating plate, attached <sup>1)</sup>

**K68**

<sup>1)</sup> Not possible for worm geared motors S



Fig. 12/4 Example, rating plate on the motor

### Safety instruction sheet and operating instructions

The geared motors are shipped with a multi-language safety instruction sheet for each delivery batch.

Geared motors with the G110M motor integrated frequency inverter are shipped with the safety instruction sheet and the documentation for the G110M for each delivery batch.

Geared motors with a functionally safe rotary encoder are shipped with the safety instruction sheet and one set of operating instructions in German or English for each delivery batch.

One set of operating instructions is enclosed for each geared motor using the following ordering option.

Enclosed documentation	Language	Order code
1 set of operating instructions for each geared motor	German	<b>W21</b>
	English	<b>W22</b>

The operating instructions include the following documents:

- Replacement part drawings and lists
- Mounting instructions
- Declaration of incorporation of partly completed machinery according to the EC Machinery Directive 2006/42/EC (gearboxes)
- EC Declaration of Conformity according to Directive 2014/35/EU (motors)

The latest versions of the operating instructions, the declaration of incorporation, and the declarations of conformity are available in the Industry Online Support:

<https://support.industry.siemens.com/cs/ww/en/ps/13424/man>

### Test certificates

On request, the following documents are available by e-mail:

Additional documentation	The following is checked:	Order code
Declaration of compliance with the order EN 10204-2.1 and factory test report EN 10204-2.2, geared motor	-	<b>On request</b>
Factory test report EN 10204-2.2 for material	-	<b>On request</b>
Acceptance test certificate EN 10204-3.1 for the motor	<ul style="list-style-type: none"> <li>• 3 no-load currents of the 3 phases</li> <li>• Power loss for no-load operation</li> <li>• No-load speed</li> </ul>	<b>W10</b>
Acceptance test certificate EN 10204-3.1 for gearboxes	<ul style="list-style-type: none"> <li>• Output shaft diameter</li> <li>• Concentricity of the output shaft</li> <li>• Concentricity of the input shaft (for gearboxes with input unit A only)</li> <li>• Input shaft diameter (for gearboxes with input unit A only)</li> <li>• Noise (subjective assessment)</li> </ul>	<b>W11</b>
Acceptance test certificate EN 10204-3.1 for paint finish	-	<b>W12</b>



## General options

### Fast track

#### Overview

For a faster delivery of our SIMOGEAR geared motors outside the standard delivery times we offer a fast track option.

In lead time category A, the SIMOGEAR geared motors can be shipped unpainted within 2 working days and painted within 4 working days; in lead time category B, they can be shipped unpainted within 3 working days and painted within 5 working days.

The maximum order quantity is 5 units/order. The order must reach your Siemens sales region by 3:00 p.m. (German local time).

The following product range is available for the fast track option:

- SIMOGEAR gearbox sizes 09 to 189
- SIMOGEAR motor frame sizes 63 to 200
- Paint finish in corrosivity category C1 to C3
- Not ATEX design, functionally safe rotary encoder, or SINAMICS G110M motor integrated frequency inverter

Order code:

Fast track

**W50**

## Appendix



<b>13/2</b>	<b>Lists</b>
13/2	List of order codes
13/7	Index of variables to dimension drives
13/11	Subject index
13/16	Index of abbreviations
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13/17	Your benefit from practical training directly from the manufacturer
13/17	Increased profits and lower costs
13/17	Your benefits with SITRAIN – Training for Industry
13/17	Contact
<b>13/18</b>	<b>Partner · Industry Mall and Interactive Catalog CA 01</b>
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## Appendix

### Lists

#### List of order codes

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<b>B00 to B67</b>	Brake types according to size and braking torque	11/26
<b>Brake options</b>		
<b>C01</b>	Enclosed brake	11/34
<b>C02</b>	Manual brake release lever	11/31
<b>C03</b>	Manual brake release lever with locking mechanism	11/31
<b>C04</b>	Microswitch for monitoring brake release	11/33
<b>C06</b>	Wear-resistant friction lining	11/35
<b>C10</b>	Increased corrosion protection	11/34
<b>C11</b>	Enclosed brake with condensation drain hole	11/34
<b>C80</b>	Brake cable protection	11/34
<b>Manual brake release lever position</b>		
<b>C26</b>	1	11/31
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<b>C28</b>	3	11/31
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<b>Brake supply voltage</b>		
<b>C45 ... C74</b>	Standard voltages, brake	11/27
<b>Function rectifier</b>		
<b>C59</b>	Function rectifier with disconnection on the DC side by sensing the current	11/29
<b>C60</b>	Function rectifier with disconnection on the DC side by sensing the voltage	11/29
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<b>D01 ... D06</b>	Mounting positions of the geared motors (helical, cooling tower, and parallel shaft gearboxes)	10/4 ... 10/19
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<b>D10 and D20</b>	Output side A or B worm gearbox	10/34
<b>Special mounting positions</b>		
<b>E01 ... E17</b>	Y axis of rotation	10/36
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<b>G09</b>	Figure 1	10/42
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<b>Output shaft bearings</b>		
<b>G20</b>	Radially reinforced output shaft bearings	10/47
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<b>Output sealing</b>		
<b>G23</b>	Seal with longer service life	10/49
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<b>G60</b>	Protection cover	10/47

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Order code	Special version Designation	Detailed data Chapter/Page
<b>Electrical oil temperature monitoring</b>		
G69	PT100 electrical oil temperature monitoring	10/58
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G71	USB / plug adapter cable (connection)	10/58
<b>Water drain holes</b>		
G77	Water drain holes at the output flange	10/40 ... 10/41
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G78	Output flange seal	10/41
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G88	24 V Drywell disconnecter	10/48
G89	Drywell with oil sight glass	10/48
G90	Drywell with oil sensor	10/48
G91	Drywell with ATEX oil sensor	10/48
G93	Grease cartridge	10/48
<b>Shrink-glued output gearwheel</b>		
G97	Shrink-glued output gearwheel	10/60
<b>Reduced-backlash version</b>		
G99	Reduced-backlash version	10/60
<b>Flange diameter</b>		
H01 ... H11	Flange diameter	10/38 ... 10/39
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K03	IP65	11/10
<b>Lubricants</b>		
K06	CLP ISO VG220	10/50
K07	CLP ISO PG VG220	10/50
K08	CLP ISO PG VG460	10/50
K10	CLP ISO E VG220	10/50
K11	CLP ISO H1 VG460	10/50
K12	CLP ISO PAO VG220	10/50
K13	CLP ISO PAO VG68	10/50
K14	CLP ISO H1 VG100	10/50
K16	CLP ISO PAO VG460	10/50
<b>Long-term preservation</b>		
K17	Long-term preservation up to 36 months	12/5
<b>Direction of rotation of the output shaft (required with backstop)</b>		
K18	Clockwise	1/27
K19	Counterclockwise	1/27
<b>Rating plate and additional rating plates</b>		
K41	Second rating plate, supplied loose	12/8
K68	Second rating plate, attached	12/8
<b>Ambient temperature</b>		
K95	Ambient temperature -20 °C to +40 °C	12/2
<b>Surface treatment</b>		
L00	Unpainted	12/3
L01	Primer according to corrosivity category C2 G	12/4
L02	Surface protection for normal environmental stress C1	12/3
L03	Surface protection for low environmental stress C2	12/3
L04	Surface protection for average environmental stress C3	12/3
L05	Surface protection for very high environmental stress C5	12/3
L09	Primer according to corrosivity category C4 G	12/4
L11	Centering not painted	12/4
L12	Flange completely painted	12/4
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#### List of order codes

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L55	RAL 7030 stone gray	12/5
L75	RAL 7016 anthracite gray	12/5
L80	RAL 9011 graphite black	12/5
L83	RAL 7012 basalt gray	12/5
<b>Insulating material class</b>		
M08	Temperature class 180 (H)	11/9
N54	Increased air humidity/temperature with 30 to 60 g water per m <sup>3</sup> of air	11/9
<b>Thermal motor protection</b>		
M10	PTC thermistor for disconnection	11/4
M11	PTC thermistor for warning and disconnection	11/4
M12	Winding thermostat for disconnection (WT)	11/5
M13	Winding thermostat for warning and disconnection (WT)	11/5
M16	KTY 84-130 temperature sensor	11/5
M17	Pt1000 resistance thermometer	11/6
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<b>Fan</b>		
M21	Metal fan	11/10
M22	High inertia fan	11/10
M23	Separately driven fan	11/11
<b>Anti-condensation heating</b>		
M40	115 V anti-condensation heating	11/7
M41	230 V anti-condensation heating	11/7
<b>Terminal box position cable entry</b>		
M45	Cable entry NPT	11/16
<b>Terminal box cast</b>		
M53	Terminal box cast	11/16
<b>Terminal box position</b>		
M55 ... M70	Location and position of the terminal box	11/12
<b>Motor plug</b>		
N00	HAN 10E motor plug (2 brackets)	11/17
N01	HAN 10E motor plug (2 brackets) EMC	11/17
N04	HAN 10E motor plug (1 bracket)	11/17
N06	HAN 10E motor plug (1 bracket) EMC	11/17
N08	HAN K4/4 motor plug (1 bracket)	11/18
N09	HAN K4/4 motor plug (1 bracket) EMC	11/18
N10	HAN K4/4 motor plug (2 brackets)	11/18
N11	HAN K4/4 motor plug (2 brackets) EMC	11/18
N12	HAN Q8 motor plug (1 bracket) EMC	11/20
N13	HAN Q12 motor plug (1 bracket) EMC	11/24
N18	HAN 10E counterplug	11/17
N19	HAN K4/4 counterplug	11/18
K50	HAN Q8 motor plug with 0.5 m cable (plug insert rotated by 180°)	11/22
K51 ... K55	HAN Q8 motor plug with 1 m to 5 m cable	11/22
<b>Canopy</b>		
N22	Canopy	11/64
<b>Backstop on motor</b>		
N23	Backstop	11/63
<b>Second shaft extension on motor</b>		
N39	Second shaft extension	11/64
<b>Handwheel</b>		
N40	Handwheel	11/64

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Order code	Special version Designation	Detailed data Chapter/Page
<b>Geared motors for use worldwide</b>		
N30	Design in accordance with EAC	1/24
N38	Design in accordance with UL-R and CSA	1/23
N67	Design for the Chinese market	1/23
N68	Without CE marking	1/24
<b>Designs for special environmental conditions</b>		
L06	Corrosion protection for mounted motor components	11/65
N41	Internal motor corrosion protection	11/65
N43	Increased protection against humidity and tropical climates	12/2
N46	Condensation drain hole	11/65
<b>External grounding</b>		
N53	External grounding	11/16
<b>Motors prepared for encoder mounting</b>		
N50	Prepared for encoder mounting	11/57
<b>Pole number of the motor</b>		
P00	2-pole	Chapter 8
P01	6-pole	Chapter 8
P02	8-pole	Chapter 8
<b>Voltage tolerance</b>		
P80	Voltage tolerance $\pm 10\%$	11/2
<b>Duty types</b>		
P90	Duty type S3 - 75 %	11/2
P91	Duty type S1/Inv. Duty	11/2
P92	Duty type Inv. Duty	11/2
<b>EnDAT gateways for absolute encoders</b>		
Q01	Gateway EnDAT PROFINET	11/61
Q02	Gateway EnDAT PROFIBUS DP	11/61
Q03	Gateway EnDAT CANopen	11/61
Q04	Gateway EnDAT DeviceNET	11/61
<b>Application terminal box for sensors</b>		
Q75	Application terminal box	11/61
<b>Incremental encoder IN</b>		
Q42	Functionally safe rotary encoder IN 8.5834FS2	11/50
Q43	Functionally safe rotary encoder IN 8.5834FS3	11/50
Q44	Rotary pulse encoder 1XP8032-20 (IN 1024 TTL with coupling socket)	11/43
Q47	Rotary pulse encoder 1XP8032-10 (IN 1024 HTL with coupling socket)	11/43
Q48	Rotary pulse encoder 1XP8032-11 (IN 2048 HTL with coupling socket)	11/43
Q54	Rotary pulse encoder 1XP8012-11 (IN 2048 HTL with flange socket)	11/42
Q56	Rotary pulse encoder 1XP8022-20 (IN 1024 TTL with cable box)	11/44
Q57	Rotary pulse encoder 1XP8022-21 (IN 2048 TTL with cable box)	11/44
Q58	Rotary pulse encoder 1XP8022-22 (IN 512 TTL with cable box)	11/44
Q59	Rotary pulse encoder 1XP8022-10 (IN 1024 HTL with cable box)	11/44
Q60	Rotary pulse encoder 1XP8022-11 (IN 2048 HTL with cable box)	11/44
Q61	Rotary pulse encoder 1XP8022-12 (IN 512 HTL with cable box)	11/44
<b>Modular set of cables for encoders 1XP8012, 1XP8032, 1XP8013, 1XP8023, 1XP8014 and 1XP8024</b>		
Q62	Connector	11/59
Q69	Cable with connector and end sleeves, 2 m	11/59
Q70	Cable with connector and end sleeves, 8 m	11/59
Q71	Cable with connector and end sleeves, 15 m	11/59
<b>Modular set of cables for encoders 1XP8012, 1XP8032, 1XP8013, 1XP8023, 1XP8014 and 1XP8024</b>		
Q72	Cable with coupling socket, 2 m	11/60
Q73	Cable with coupling socket, 8 m	11/60
Q74	Cable with coupling socket, 15 m	11/60

## Appendix

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#### List of order codes

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<b>Modular set of cables for encoder 1XP8022</b>		
Q63	Cable with end sleeves, 2 m	11/59
Q64	Cable with end sleeves, 8 m	11/59
Q65	Cable with end sleeves, 15 m	11/59
Q66	Cable with coupling socket, 2 m	11/60
Q67	Cable with coupling socket, 8 m	11/60
Q68	Cable with coupling socket, 15 m	11/60
<b>Absolute encoder IA</b>		
Q77	Functionally safe rotary encoder IA 8.5883FS2	11/52
Q78	Functionally safe rotary encoder IA 8.5883FS3	11/52
Q79	Absolute encoder 1XP8024-21 (IA SSI protocol with coupling socket)	11/47
Q80	Absolute encoder 1XP8014-20 (IA SSI protocol with flange socket)	11/46
Q81	Absolute encoder 1XP8024-20 (IA SSI protocol cable with coupling socket)	11/46
Q82	Absolute encoder 1XP8014-10 (IA EnDAT protocol with flange socket)	11/46
Q83	Absolute encoder 1XP8024-10 (IA EnDAT protocol cable with coupling socket)	11/46
<b>Resolver IR</b>		
Q85	Resolver 1XP8013-10 (IR with flange socket)	11/45
Q86	Resolver 1XP8023-11 (IR cable with coupling socket)	11/45
Q87	Resolver 1XP8013-11 (IR with flange socket)	11/45
Q88	Resolver 1XP8023-10 (IR cable with coupling socket)	11/45
<b>Rugged encoders</b>		
Q92	Rotary pulse encoder LL Leine und Linde	11/48
Q93	Rotary pulse encoder HOG 9	11/48
Q94	Rotary pulse encoder HOG 10	11/49
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U42	Control Unit with cable gland PROFIBUS DP (DP)	9/3
U43	Control Unit with cable gland PROFINET/ EtherNet IP (PN)	9/3
U51	Control Unit, plug-in version AS-Interface	9/3
U52	Control Unit, plug-in version PROFIBUS DP (DP)	9/3
U53	Control Unit, plug-in version PROFINET/ EtherNet IP (PN)	9/3
U60	Internal braking resistor (FSA)	9/3
U61	Internal braking resistor (FSB)	9/3
U70	24 V DC power supply	9/3
U71	Repair switch	9/3
U80	SD card installed	9/3
<b>Documentation</b>		
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W11	Acceptance test certificate EN 10204-3.1 for gearboxes	12/9
W12	Acceptance test certificate EN 10204-3.1 for paint finish	12/9
W21	Operating Instructions (German)	12/9
W22	Operating Instructions (English)	12/9
<b>Fast track</b>		
W50	Fast track	12/10

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## Overview of data to dimension drives

Code	Description	Unit
a	Gearbox constant for calculating the radial force	kNmm
$\alpha$	Force application angle	°
b, d, l, y, z	Gearbox constants	mm
C	Additional factor to calculate the radial force	-
$\cos \varphi$	Power factor	-
d	Diameter of the input element	mm
$d_0$	Average diameter of the mounted transmission element	mm
DC	Cyclic duration factor	%
$\eta$	Efficiency	%
f	Rated frequency	Hz
$f_B$	Service factor	-
$f_{B1}$	Required service factor	-
$f_{br}$	Braking torque correction factor	-
$f_{Btot}$	Service factor of the driven machine	-
$f_{limit}$	Limit frequency	Hz
$f_{rated}$	Rated motor frequency	Hz
$F_{ax}$	Permissible axial force	N
$F_r$	Radial force at the output shaft	N
$F_{R2}$	Permissible radial force at the center of shaft extension (l/2)	N
$F_{Ravail}$	Available radial force from the mounted transmission element	N
$F_x$	Permissible radial force from out of center force application point	N
$F_{xperm1}$	Permissible radial force, limited by the bearing service life, at a distance of x from the shaft shoulder	N
$F_{xperm2}$	Permissible radial force, limited by the shaft strength, at a distance of x from the shaft shoulder	N
i	Transmission ratio	-
$I_{St}$	Starting current	A
$I_{rated}$	Rated current	A
$J_2$	Moment of inertia referred to the output speed of the gearbox	kgm <sup>2</sup>
$J_{AD}$	Moment of inertia of the adapter	kgm <sup>2</sup>
$J_{add}$	Additional moment of inertia	kgm <sup>2</sup>
$J_B$	Moment of inertia of the brake	kgm <sup>2</sup>
$J_{Bstp}$	Moment of inertia of cage and inner ring	kgm <sup>2</sup>
$J_G$	Moment of inertia of the gearbox reduced to the input shaft	kgm <sup>2</sup>
$J_{mot}$	Moment of inertia of the motor	kgm <sup>2</sup>
$J_x$	Moment of inertia of the load referred to the motor shaft	kgm <sup>2</sup>
$J_z$	Additional moment of inertia of a high inertia fan	kgm <sup>2</sup>
k	Factor for taking into account operating conditions	-
$k_{DC}$	Factor for increased power	-
$k_{FI}$	Factor for taking into account the additional moment of inertia	-
$k_{HT}$	Factor for abnormal coolant temperature and installation altitude	-

Code	Description	Unit
$k_M$	Factor for taking into account the load torque while accelerating	-
$k_P$	Factor for taking into account the required power and duty cycle	-
$L_{h10}$	Nominal bearing service life	h
$L_{na}$	Modified bearing service life	h
$L_{pfA}$	Measuring surface sound pressure level	dB (A)
$L_{rated}$	Service life of the brake lining until readjustment	h
$L_{ratedmax}$	Service life of the brake lining until replacement	h
$L_{WA}$	Sound power level	dB (A)
m	Drive weight without any oil	kg
$m_{AF}$	Mass acceleration factor	-
$m_{Bstp}$	Weight of the backstop	kg
$m_{fan}$	Fan weight	kg
$m_{mot}$	Motor weight (without end shield at DE)	kg
$n_1$	Input speed of the gearbox	rpm
$n_2$	Output speed of the gearbox	rpm
$n_{br}$	Braking speed	rpm
$n_{dis}$	Disengage speed	rpm
$n_{max}$	Maximum speed	rpm
$n_{rated}$	Rated speed	rpm
$P_1$	Actual steady-state power of the motor	kW
$P_{DC}$	Power for the new duty cycle	kW
$P_{mot}$	Motor power	kW
$P_{perm}$	Permissible motor power	kW
$P_{rated}$	Rated motor power	kW
$P_{req}$	Required input power	kW
$P_S$	Actual steady-state power of the motor	kW
$Q_{perm}$	Permissible operating energy	J
r	Radius of the output element	m
$R_{ex}$	Exact number of teeth ratio	-
$s_{br}$	Braking distance	m
$s_{gap}$	Brake air gap	mm
$s_{gapmax}$	Maximum brake air gap	mm
$t_1$	Application time of the brake	ms
$t_2$	Disconnection time	ms
$t_3$	Slipping time	ms
$t_{11}$	Response time	ms
$t_{12}$	Rise time	ms
$t_{br}$	Braking time	s
$t_R$	Duty cycle (decimal)	-
$t_s$	Cycle duration	ms
$T_2$	Geared motor output torque	Nm
$T_{2N}$	Maximum output torque of the gearbox	Nm
$T_{2req}$	Required output torque of the driven machine	Nm

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## Appendix

### Lists

#### Index of variables to dimension drives

##### Overview of data to dimension drives (continued)

Code	Description	Unit
$T_A$	Acceleration torque of the motor	Nm
$T_{Bk}$	Breakdown torque	Nm
$T_{br}$	Rated braking torque	Nm
$T_{DC}$	Torque for the new duty cycle	Nm
$T_{rated}$	Rated motor torque	Nm
$T_{req}$	Required torque	Nm
$T_{SP}$	Rated backstop torque	Nm
$T_{St}$	Relative starting torque	Nm
$T_x$	Reduced load torque	Nm
$U$	Rated voltage	V
$v$	Travel velocity	m/s
$W$	Friction energy per braking operation	J
$W_{tot}$	Friction energy until the brake lining is replaced	MJ
$W_V$	Friction energy until the brake is readjusted	MJ
$x$	Distance from the shaft shoulder up to the point where force is applied	mm
$Z$	Switching frequency	1/h
$Z_A$	No-load switching frequency, motor with brake	1/h
$Z_0$	No-load switching frequency, motor without brake	1/h
$Z_{perm}$	Permissible switching frequency	1/h
$\vartheta_{amb}$	Ambient temperature	°C

## Important drive technology variables

SI unit Size	Symbol		Unit symbol		Designation or Conversion factor <sup>*)</sup>
	SI	Previously	SI	Previously	
Length (distance)	l	L, s	m	m	1 km = 1 000 m
Area	A	F	m <sup>2</sup>	m <sup>2</sup>	1 m <sup>2</sup> = 100 dm <sup>2</sup>
Volume	V	V	m <sup>3</sup>	m <sup>3</sup>	1 m <sup>3</sup> = 1 000 dm <sup>3</sup> 1 dm <sup>3</sup> = 1 l
Plane angle	α, β, γ	α, β, γ	rad	Degrees °	1 rad = 1 m/m 1 L = π/2 rad 1° = π/180 rad
Rotation angle	φ	φ		Degrees °	1' = 1°/60; 1'' = 1'/60
Time					1 min = 60 s 1 h = 60 min
Time period/duration	t	t	s	s	1 d = 24 h
Frequency	f	f	Hz	1/s	1 Hz = 1/s
Speed	n	n	rpm	rpm	Rotations per minute
Velocity	v	v	m/s	m/s	1 km/h = $\frac{1}{3.6}$ m/s
Acceleration	a	b	m/s <sup>2</sup>	m/s <sup>2</sup>	g = 9.81 m/s <sup>2</sup>
Acceleration due to gravity	g	g			
Angular velocity	ω	Ω	rad/s	1/s	
Angular acceleration	α	ζ	rad/s <sup>2</sup>	1/s <sup>2</sup>	
Mass	m	m	kg	kg	1
Density		d	kg/dm <sup>3</sup>	kg/dm <sup>3</sup>	10 <sup>3</sup>
Force	F	P, K	N	kp	9.81
Force due to weight	G	G			1 N = 1 kg · 1 m/s <sup>2</sup>
Pressure	p	p	Pa N/m <sup>2</sup>	kp/cm <sup>2</sup>	1 Pa = 1 N/m <sup>2</sup> 9.81 · 10 <sup>4</sup>
Mechanical tension	σ	σ	N/mm <sup>2</sup>	kp/mm <sup>2</sup>	9.81
Work	W	A		kpm	9.81
Energy	W	E	J	kcal	4187
Quantity of heat	Q	Q			1 J = 1 Nm = 1 Ws
Torque of a force		M <sub>t</sub>			9.81
Torque	T	M <sub>d</sub>	Nm	kpm	1 Nm = 1 J
Bending torque		M <sub>b</sub>			
Power	P	N	W	PS	735.5 1 W = 1 J/s = 1 Nm/s = $\frac{\text{kgm}^2}{\text{s}^3}$
Moment of inertia	J	θ	kgm <sup>2</sup>	kpm <sup>2</sup>	9.81

<sup>\*)</sup> The numerical value of a variable in previously used units multiplied by the conversion rate gives the numerical value of the variable in SI units.

Conversion from kW to hp:

$$1 \text{ kW} = 1.34102 \text{ hp}$$

$$1 \text{ hp} = 0.745700 \text{ kW}$$

$$1 \text{ hp} = 1.01387 \text{ PS}$$

hp = horse power (US)

PS = Pferdestärke (horse power in German)

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## Appendix

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#### Index of variables to dimension drives

##### Important drive technology variables (continued)

SI unit Size	Symbol		Unit symbol		Designation or Conversion factor *)
	SI	Previously	SI	Previously	
Dynamic viscosity	$\eta$	$\eta$	Pa · s	P	$10^{-1}$
Kinematic viscosity	$\nu$	$\nu$	m <sup>2</sup> /s	St	$10^{-4}$
Electrical current	I	I	A	A	1 A = 1 W/V = 1 V/Ω
Electrical voltage	U	U	V	V	1 V = 1 W/A
Electrical resistance	R	R	Ω	Ω	1 Ω = 1 V/A = 1/S
Electrical conductance	G	G	S	S	1 S = 1/Ω
Electrical capacitance	C	C	F	F	1 F = 1 C/V
Electric charge	Q	Q	C	C	1 C = 1 A · s
Inductance	L	L	H	H	1 H = 1 Vs/A
Magnetic flux density Induction	B	B	T	G	$10^4$ 1 T = 1 Wb/m <sup>2</sup>
Magnetic field strength	H	H	A/m	A/m	
Magnetic flux	φ	φ	Wb	M	$10^8$ 1 Wb = 1 V · s
Temperature	T(θ)	t	K(°C)	°C	0 K = -273.15 °C

\*) The numerical value of a variable in previously used units multiplied by the conversion rate gives the numerical value of the variable in SI units.

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## Appendix

### Lists

#### Index of abbreviations

Abbreviation	Meaning	Abbreviation	Meaning
<b>AC</b>	Alternating Current, three-phase	<b>MODULOG</b>	Modular logistically optimized design (motor)
<b>ATEX</b>	Atmosphère explosible	<b>NDE</b>	Non-drive end
<b>CAD</b>	Computer-Aided Design	<b>NN</b>	Sea level
<b>CCC</b>	China Compulsory Certification	<b>NAT</b>	Rated response temperature
<b>CEL</b>	China Energy Label	<b>NEE</b>	NEMA Energy Efficient
<b>CEMEP</b>	Comité Européen de Constructeurs de Machines Électriques et d'Électronique de Puissance (European sector committee of manufacturers of electrical machines)	<b>NPT</b>	National Pipe Thread
<b>CONT</b>	Continuous duty	<b>PAO</b>	Polyalphaolefine
<b>CQC</b>	China Quality Certification Center	<b>PE</b>	Protective Earth, grounding
<b>CSA</b>	Canadian Standards Association	<b>PG</b>	Polyglycol
<b>CT</b>	Coolant temperature	<b>PTC</b>	Positive Temperature Coefficient
<b>DC</b>	Direct Current	<b>SA</b>	Site altitude (installation altitude)
<b>DC</b>	Duty cycle	<b>SSI</b>	Simple Sensor Interface
<b>DE</b>	Drive end	<b>SW</b>	Width across flats
<b>DIN</b>	German Institute for Standardization (Deutsches Institut für Normen e. V. -DIN)	<b>TIA</b>	Totally Integrated Automation
<b>EAC</b>	Eurasian conformity	<b>TIP</b>	Totally Integrated Power
<b>EBPG</b>	Energy-related products directive	<b>TTL</b>	Transistor Transistor Logic
<b>EC</b>	European Community	<b>UL-R</b>	Underwriters Laboratories Inc. - Recognition Mark
<b>ECL</b>	Energy Conservation Law of PRC	<b>VDE</b>	Association of Electrical Engineering, Electronics and Information Technology (Verband der Elektrotechnik Elektronik Informationstechnik e. V.)
<b>EER</b>	Energy Efficiency Regulations	<b>VDI</b>	Association of German Engineers (Verein Deutscher Ingenieure)
<b>EFF</b>	Efficiency	<b>WGK</b>	Class, signifying risk of water pollution
<b>EGE</b>	Europäische Größeneinheit		
<b>EISA</b>	Energy Independence and Security Act		
<b>EMC</b>	Electromagnetic compatibility		
<b>EN</b>	European standard		
<b>EPAct</b>	Energy Policy Act		
<b>EU</b>	European Union		
<b>EuP</b>	Energy Using Products		
<b>FVA</b>	Research Association for Drive Technology (Forschungsvereinigung Antriebstechnik e. V.)		
<b>HF</b>	High frequency		
<b>HTL</b>	High Transistor Logic		
<b>IDS</b>	Integrated Drive Systems		
<b>IE</b>	International Efficiency		
<b>IEC</b>	International Electrotechnical Commission		
<b>IP</b>	International Protection		
<b>ISO</b>	International Organization for Standardization		

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### **Your benefit from practical training directly from the manufacturer**

SITRAIN – Training for Industry – provides you with comprehensive support in solving your tasks.

Training directly from the manufacturer enables you to make correct decisions with confidence.

### **Increased profits and lower costs:**

- Shorter times for commissioning, maintenance and servicing
- Optimized production operations
- Reliable configuration and commissioning
- Shortened startup times, reduced downtimes, and faster troubleshooting
- Exclude expensive faulty planning right from the start.
- Flexible plant adaptation to market requirements
- Compliance with quality standards in production
- Increased employee satisfaction and motivation
- Shorter familiarization times following changes in technology and staff

### **Contact**

Visit our site on the Internet at:  
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or let us advise you personally:

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**SITRAIN Customer Support Germany**

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#### Skills development

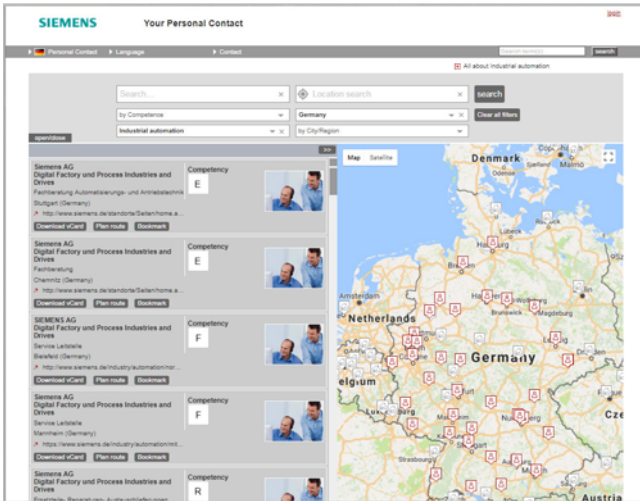
Do you want to develop skills and fill in gaps in your knowledge? Our solution: We will provide a program tailored exactly to your personal requirements. After an individual requirements analysis, we will train you in our training centers near you or directly at your offices. You will practice on the most modern training equipment with special exercise units. The individual training courses are optimally matched to each other and help with the continuous development of knowledge and skills. After finishing a training module, the follow-up measures make success certain, as well as the refreshment and deepening of the knowledge gained.

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# Appendix

## Partner · Industry Mall and Interactive Catalog CA 01

### Partner at Siemens



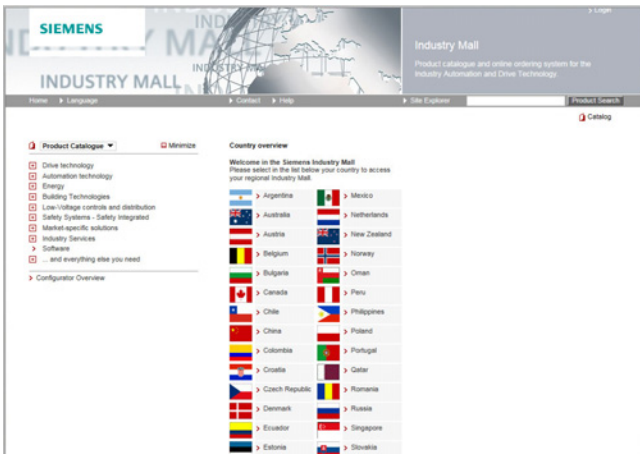
At your service locally, around the globe for consulting, sales, training, service, support, spare parts on the entire portfolio of Digital Factory and Process Industries and Drives.

Your partner can be found in our Personal Contacts Database at: [www.siemens.com/automation-contact](http://www.siemens.com/automation-contact)

You start by selecting

- the required competence,
  - products and branches,
  - a country and a city
- or by a
- location search or free text search.

### Easy product selection and ordering in the Industry Mall and with the Interactive Catalog CA 01



#### Industry Mall

The Industry Mall is a Siemens Internet ordering platform. Here you have a clear and informative online access to a huge range of products.

Powerful search functions make it easy to select the required products. Configurators enable you to configure complex product and system components quickly and easily. CAx data types are also provided here.

Data transfer allows the whole procedure, from selection through ordering to tracking and tracing, to be carried out online. Availability checks, customer-specific discounts and bid creation are also possible.

[www.siemens.com/industrymall](http://www.siemens.com/industrymall)



#### Interactive Catalog CA 01 - Products for Automation and Drives

The Interactive Catalog CA 01 combined with the Siemens Industry Mall unites the benefits of offline and online media in one application – the performance of an offline catalog with the availability of manifold and up-to-date information on the Internet.

Select products and assemble orders with the CA 01, determine the availability of the selected products and track & trace via the Industry Mall.

More information and download: [www.siemens.com/automation/ca01](http://www.siemens.com/automation/ca01)

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### Downloading catalogs

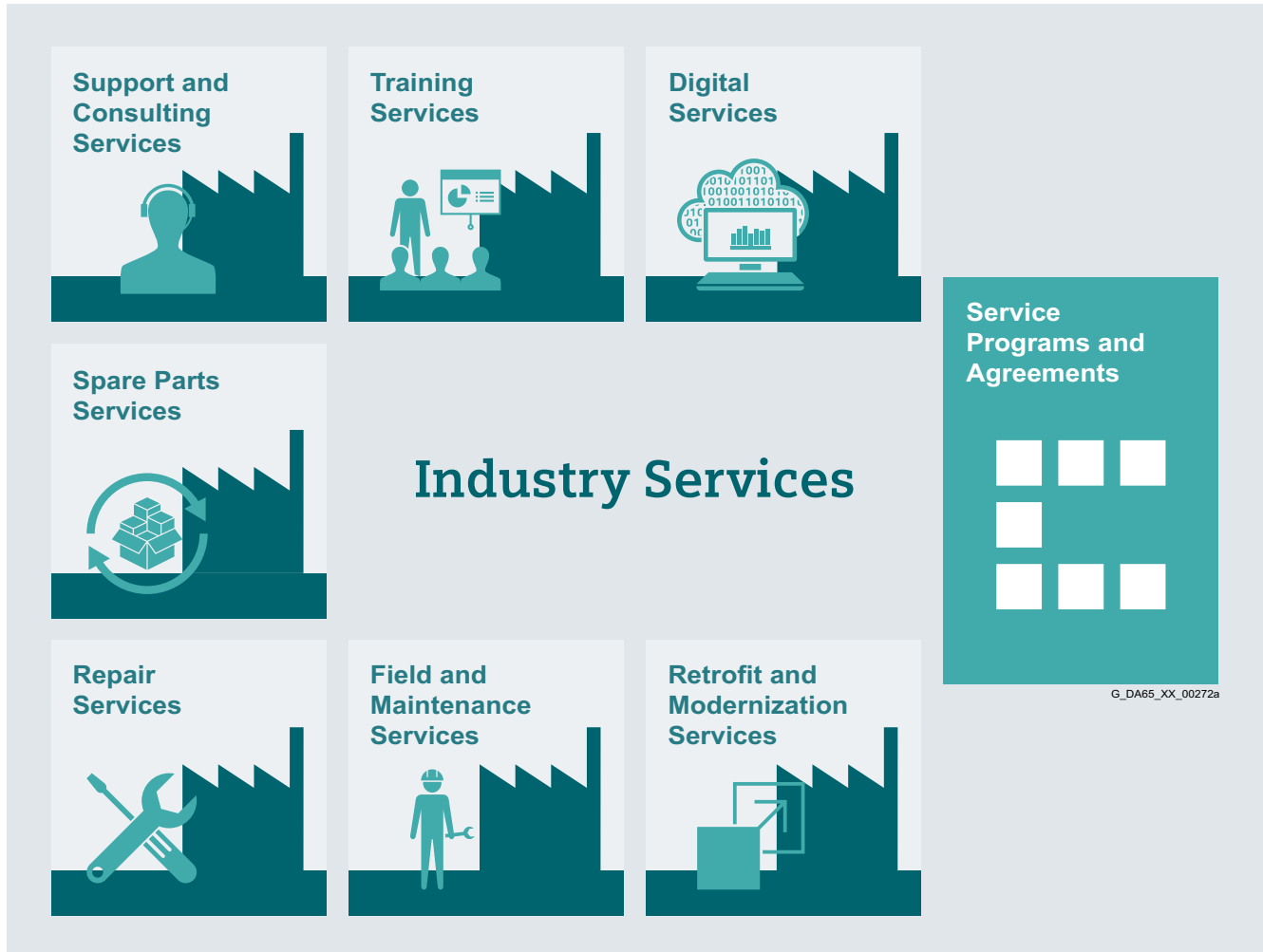
The screenshot shows the Siemens Information and Download Center interface. At the top, there is a navigation bar with the Siemens logo and a search bar. Below the navigation bar, there are tabs for 'Catalogs (362)', 'Brochures (810)', 'Customer Magazines (8)', and 'Demo Software (15)'. A filter dialog is open, showing a search bar with the text '10' and a dropdown menu set to 'English'. Below the filter dialog, there is a list of catalog items. The first item is 'Catalog D 11 - 2015 (13 MB)' with order number 'E3030.A551-A10-A6-7000' and a 'download' button. The second item is 'Catalog D 12 - 2017 with dimension drawings' with order number 'kern (Bestellnummer vorhanden)' and a 'download' button. On the right side of the page, there is a sidebar with a 'Text Size' selector, a 'Share this Page' button, and a list of products and services including 'Building Technologies (2)', 'Drive technology (294)', 'Energy (11)', 'Industrial automation (922)', 'Low-voltage controls and distribution (32)', 'Safety systems - Safety Integrated (31)', 'Services (8)', and 'Software (1)'. There is also a section for 'All about Products & Services' with links for 'Press releases', 'Catalog and ordering system online', 'Technical info', 'Support', and 'Service offer'.

In the Information and Download Center you can download catalogs and brochures in PDF format without having to register. The filter dialog makes it possible to carry out targeted searches. [www.siemens.com/industry/infocenter](http://www.siemens.com/industry/infocenter)

## Appendix

### Industry Services

#### Overview



#### **Keep your business running and shaping your digital future – with Industry Services**

Optimizing the productivity of your equipment and operations can be a challenge, especially with constantly changing market conditions. Working with our service experts makes it easier. We understand your industry's unique processes and provide the services needed so that you can better achieve your business goals.

You can count on us to maximize your uptime and minimize your downtime, increasing your operations' productivity and reliability. When your operations have to be changed quickly to meet a new demand or business opportunity, our services give you the flexibility to adapt. Of course, we take care that your production is protected against cyber threats. We assist in keeping your operations as energy and resource efficient as possible and reducing your total cost of ownership. As a trendsetter, we ensure that you can capitalize on the opportunities of digitalization and by applying data analytics to enhance decision making: You can be sure that your plant reaches its full potential and retains this over the longer lifespan.

You can rely on our highly dedicated team of engineers, technicians and specialists to deliver the services you need – safely, professionally and in compliance with all regulations. We are there for you, where you need us, when you need us.

<https://www.siemens.com/global/en/home/products/services/industry.html>

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#### Overview

##### Digital Services



Digital Services make your industrial processes transparent to gain improvements in productivity, asset availability, and energy efficiency.

Production data is generated, filtered and translated with intelligent analytics to enhance decision-making.

This is done whilst taking data security into consideration and with continuous protection against cyber-attack threats.

<https://www.siemens.com/global/en/home/products/services/industry/digital-services.html>

##### Support and Consulting Services



**Industry Online Support** site for comprehensive information, application examples, FAQs and support requests.

**Technical and Engineering Support** for advice and answers for all inquiries about functionality, handling, and fault clearance. The Service Card as prepaid support for value added services such as Priority Call Back or Extended Support offers the clear advantage of quick and easy purchasing.

**Information & Consulting Services**, e.g. SIMATIC System Audit; clarity about the state and service capability of your automation system or Lifecycle Information Services; transparency on the lifecycle of the products in your plants.

<https://support.industry.siemens.com/cs/ww/en/sc/2235>

##### Training Services



From the basics and advanced to specialist skills, SITRAIN courses provide expertise right from the manufacturer – and encompass the entire spectrum of Siemens products and systems for the industry.

Worldwide, SITRAIN courses are available wherever you need a training course in more than 170 locations in over 60 countries.

<https://support.industry.siemens.com/cs/ww/en/sc/2226>

##### Spare Parts Services



Spare Parts Services are available worldwide for smooth and fast supply of spare parts – and thus optimal plant availability. Genuine spare parts are available for up to ten years. Logistic experts take care of procurement, transport, custom clearance, storage and order management. Reliable logistics processes ensure that components reach their destination as needed.

Since not all spare parts can be kept in stock at all times, Siemens offers a preventive measure for spare parts provisioning on the customer's premises with optimized **Spare Parts Packages** for individual products, custom-assembled drive components and entire integrated drive trains – including risk consulting.

**Asset Optimization Services** help you design a strategy for parts supply where your investment and carrying costs are reduced and the risk of obsolescence is avoided.

<https://support.industry.siemens.com/cs/ww/en/sc/2110>

## Appendix

### Industry Services

#### Industry Services – Portfolio overview

##### Overview (continued)

#### Repair Services



Repair Services are offered on-site and in regional repair centers for fast restoration of faulty devices' functionality.

Also available are extended repair services, which include additional diagnostic and repair measures, as well as emergency services.

<https://support.industry.siemens.com/cs/ww/en/sc/2154>

#### Retrofit and Modernization Services

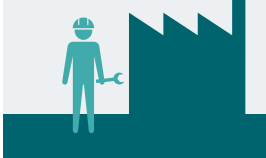


Provide a cost-effective solution for the expansion of entire plants, optimization of systems or upgrading existing products to the latest technology and software, e.g. migration services for automation systems.

Service experts support projects from planning through commissioning and, if desired over the entire extended lifespan, e.g. Retrofit for Integrated Drive Systems for an extended lifetime of your machines and plants.

<https://support.industry.siemens.com/cs/ww/en/sc/2286>

#### Field and Maintenance Services



Siemens specialists are available globally to provide expert field and maintenance services, including commissioning, functional testing, preventive maintenance and fault clearance. All services can be included in customized service agreements with defined reaction times or fixed maintenance intervals.

<https://support.industry.siemens.com/cs/ww/en/sc/2265>

#### Service Programs and Agreements



A technical Service Program or Agreement enables you to easily bundle a wide range of services into a single annual or multi-year agreement.

You pick the services you need to match your unique requirements or fill gaps in your organization's maintenance capabilities.

Programs and agreements can be customized as KPI-based and/or performance-based contracts.

<https://support.industry.siemens.com/cs/ww/en/sc/2275>

**Overview**

Online Support – fast, intuitive, whenever you want, wherever you need

**Web**



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**App**








Scan the QR code for information on our Online Support app.





**FAQ / Application examples**

Information about industrial products, programming and configuration as well as application examples

---



**Technical Information**

Videos, documentation, manuals, updates, product notes, compatibility tool, certificates, planning data such as dimensional drawings, product data, 3D models

---



**Forum**

Exchange information and experience with other users and experts

## Online Support for Siemens Products for Industry

Siemens Industry and Online Support with some 1.7 million visitors per month is one of the most popular web services provided by Siemens. It is the central access point for comprehensive technical know-how about products, systems and services for automation and drives applications as well as for process industries.

In connection with the challenges and opportunities related to digitalization you can look forward to continued support with innovative offerings.

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## Appendix

### Conversion tables

#### Rotary inertia (to convert from A to B, multiply by entry in table)

A	B	lb-in <sup>2</sup>	lb-ft <sup>2</sup>	lb-in-s <sup>2</sup>	lb-ft-s <sup>2</sup> slug-ft <sup>2</sup>	kg-cm <sup>2</sup>	kg-cm-s <sup>2</sup>	gm-cm <sup>2</sup>	gm-cm-s <sup>2</sup>	oz-in <sup>2</sup>	oz-in-s <sup>2</sup>
lb-in <sup>2</sup>	1		$6.94 \times 10^{-3}$	$2.59 \times 10^{-3}$	$2.15 \times 10^{-4}$	2.926	$2.98 \times 10^{-3}$	$2.92 \times 10^3$	2.984	16	$4.14 \times 10^{-2}$
lb-ft <sup>2</sup>	144	1		0.3729	$3.10 \times 10^{-2}$	421.40	0.4297	$4.21 \times 10^5$	429.71	2304	5.967
lb-in-s <sup>2</sup>	386.08	2.681	1		$8.33 \times 10^{-2}$	$1.129 \times 10^3$	1.152	$1.129 \times 10^6$	$1.152 \times 10^3$	$6.177 \times 10^3$	16
lb-ft-s <sup>2</sup> slug-ft <sup>2</sup>	$4.63 \times 10^3$	32.17	12	1		$1.35 \times 10^4$	13.825	$1.355 \times 10^7$	$1.38 \times 10^4$	$7.41 \times 10^4$	192
kg-cm <sup>2</sup>	0.3417	$2.37 \times 10^{-3}$	$8.85 \times 10^{-4}$	$7.37 \times 10^{-5}$	1		$1.019 \times 10^{-3}$	1000	1.019	5.46	$1.41 \times 10^{-2}$
kg-cm-s <sup>2</sup>	335.1	2.327	0.8679	$7.23 \times 10^{-2}$	980.66	1		$9.8 \times 10^5$	1000	$5.36 \times 10^3$	13.887
gm-cm <sup>2</sup>	$3.417 \times 10^{-4}$	$2.37 \times 10^{-6}$	$8.85 \times 10^{-7}$	$7.37 \times 10^{-8}$	$1 \times 10^{-3}$		$1.01 \times 10^{-6}$	1	$1.01 \times 10^{-3}$	$5.46 \times 10^{-3}$	$1.41 \times 10^{-5}$
gm-cm-s <sup>2</sup>	0.335	$2.32 \times 10^{-3}$	$8.67 \times 10^{-4}$	$7.23 \times 10^{-5}$	0.9806	$1 \times 10^{-3}$		980.6	1	5.36	$1.38 \times 10^{-2}$
oz-in <sup>2</sup>	0.0625	$4.34 \times 10^{-4}$	$1.61 \times 10^{-4}$	$1.34 \times 10^{-5}$	0.182	$1.86 \times 10^{-4}$		182.9	0.186	1	$2.59 \times 10^{-3}$
oz-in-s <sup>2</sup>	24.13	0.1675	$6.25 \times 10^{-2}$	$5.20 \times 10^{-3}$	70.615	$7.20 \times 10^{-2}$		$7.09 \times 10^4$	72.0	386.08	1

#### Torque (to convert from A to B, multiply by entry in table)

A	B	lb-in	lb-ft	oz-in	N-m	kg-cm	kg-m	gm-cm	dyne-cm
lb-in	1		$8.333 \times 10^{-2}$	16	0.113	1.152	$1.152 \times 10^{-2}$	$1.152 \times 10^3$	$1.129 \times 10^6$
lb-ft	12	1		192	1.355	13.825	0.138	$1.382 \times 10^4$	$1.355 \times 10^7$
oz-in	$6.25 \times 10^{-2}$	$5.208 \times 10^{-3}$	1		$7.061 \times 10^{-3}$	$7.200 \times 10^{-2}$	$7.200 \times 10^{-4}$	72.007	$7.061 \times 10^4$
N-m	8.850	0.737	141.612	1		10.197	0.102	$1.019 \times 10^4$	$1 \times 10^7$
kg-cm	0.8679	$7.233 \times 10^{-2}$	13.877	$9.806 \times 10^{-2}$	1		$10^{-2}$	1000	$9.806 \times 10^5$
kg-m	86.796	7.233	$1.388 \times 10^3$	9.806	100	1		$1 \times 10^5$	$9.806 \times 10^7$
gm-cm	$8.679 \times 10^{-4}$	$7.233 \times 10^{-5}$	$1.388 \times 10^{-2}$	$9.806 \times 10^{-5}$	$1 \times 10^{-3}$	$1 \times 10^{-5}$		1	980.665
dyne-cm	$8.850 \times 10^{-7}$	$7.375 \times 10^{-8}$	$1.416 \times 10^{-5}$	$10^{-7}$	$1.0197 \times 10^{-6}$	$1.019 \times 10^{-8}$		$1.019 \times 10^{-3}$	1

#### Length (to convert from A to B, multiply by entry in table)

A	B	inches	feet	cm	yd	mm	m
inches	1		0.0833	2.54	0.028	25.4	0.0254
feet	12	1		30.48	0.333	304.8	0.3048
cm	0.3937	0.03281	1		$1.09 \times 10^{-2}$	10	0.01
yd	36	3	91.44	1		914.4	0.914
mm	0.03937	0.00328	0.1	$1.09 \times 10^{-3}$	1		0.001
m	39.37	3.281	100	1.09	1000	1	

#### Force (to convert from A to B, multiply by entry in table)

A	B	lb	oz	gm	dyne	N
lb	1		16	453.6	$4.448 \times 10^5$	4.4482
oz	0.0625	1		28.35	$2.780 \times 10^4$	0.27801
gm	$2.205 \times 10^{-3}$	0.03527	1		$1.02 \times 10^{-3}$	N.A.
dyne	$2.248 \times 10^{-6}$	$3.59 \times 10^{-5}$	980.7	1		0.00001
N	0.22481	3.5967	N.A.	100000	1	

#### Mass (to convert from A to B, multiply by entry in table)

A	B	lb	oz	gm	kg	slug
lb	1		16	453.6	0.4536	0.0311
oz	$6.25 \times 10^{-2}$	1		28.35	0.02835	$1.93 \times 10^{-3}$
gm	$2.205 \times 10^{-3}$	$3.527 \times 10^{-2}$	1		$10^{-3}$	$6.852 \times 10^{-5}$
kg	2.205	35.27	$10^3$	1		$6.852 \times 10^{-2}$
slug	32.17	514.8	$1.459 \times 10^4$	14.59	1	

#### Rotation (to convert from A to B, multiply by entry in table)

A	B	rpm	rad/s	degrees/s
rpm	1		0.105	6.0
rad/s	9.55	1		57.30
degrees/s	0.167	$1.745 \times 10^{-2}$	1	

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**Temperature Conversion**

°F	°C	°C	°F
0	-17.8	-10	14
32	0	0	32
50	10	10	50
70	21.1	20	68
90	32.2	30	86
98.4	37	37	98.4
212	100	100	212
subtract 32 and multiply by $\frac{5}{9}$		multiply by $\frac{9}{5}$ and add 32	

**Mechanism Efficiencies**

Acme-screw with brass nut	~0.35–0.65
Acme-screw with plastic nut	~0.50–0.85
Ball-screw	~0.85–0.95
Chain and sprocket	~0.95–0.98
Preloaded ball-screw	~0.75–0.85
Spur or bevel-gears	~0.90
Timing belts	~0.96–0.98
Worm gears	~0.45–0.85
Helical gear (1 reduction)	~0.92

**Friction Coefficients**

Materials	$\mu$
Steel on steel (greased)	~0.15
Plastic on steel	~0.15–0.25
Copper on steel	~0.30
Brass on steel	~0.35
Aluminum on steel	~0.45
Steel on steel	~0.58
Mechanism	$\mu$
Ball bushings	<0.001
Linear bearings	<0.001
Dove-tail slides	~0.2++
Gibb ways	~0.5++

**Material Densities**

Material	lb-in <sup>3</sup>	gm-cm <sup>3</sup>
Aluminum	0.096	2.66
Brass	0.299	8.30
Bronze	0.295	8.17
Copper	0.322	8.91
Hard wood	0.029	0.80
Soft wood	0.018	0.48
Plastic	0.040	1.11
Glass	0.079–0.090	2.2–2.5
Titanium	0.163	4.51
Paper	0.025–0.043	0.7–1.2
Polyvinyl chloride	0.047–0.050	1.3–1.4
Rubber	0.033–0.036	0.92–0.99
Silicone rubber, without filler	0.043	1.2
Cast iron, gray	0.274	7.6
Steel	0.280	7.75

**Wire Gauges<sup>1)</sup>**

Cross-section mm <sup>2</sup>	Standard Wire Gauge (SWG)	American Wire Gauge (AWG)
0.2	25	24
0.3	23	22
0.5	21	20
0.75	20	19
1.0	19	18
1.5	17	16
2.5	15	13
4	13	11
6	12	9
10	9	7
16	7	6
25	5	3
35	3	2
50	0	1/0
70	000	2/0
95	00000	3/0
120	0000000	4/0
150	–	6/0
185	–	7/0

<sup>1)</sup> The table shows approximate SWG/AWG sizes nearest to standard metric sizes; the cross-sections do not match exactly.

## Appendix

### Notes

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### 1. General Provisions

By using this catalog you can acquire hardware and software products described therein from Siemens AG subject to the following Terms and Conditions of Sale and Delivery (hereinafter referred to as "T&C"). Please note that the scope, the quality and the conditions for supplies and services, including software products, by any Siemens entity having a registered office outside Germany, shall be subject exclusively to the General Terms and Conditions of the respective Siemens entity. The following T&C apply exclusively for orders placed with Siemens Aktiengesellschaft, Germany.

#### 1.1 For customers with a seat or registered office in Germany

For customers with a seat or registered office in Germany, the following applies subordinate to the T&C:

- for installation work the "General Conditions for Erection Works – Germany"<sup>1)</sup> ("Allgemeine Montagebedingungen – Deutschland" (only available in German at the moment)) and/or
- for Plant Analytics Services the "Standard Terms and Conditions for Plant Analytics Services – for Customer in Germany"<sup>1)</sup> ("Allgemeine Geschäftsbedingungen für das Plant Analytics Services – für Kunden in Deutschland" (only available in German at the moment)) and/or
- for stand-alone software products and software products forming a part of a product or project, the "General License Conditions for Software Products for Automation and Drives for Customers with a Seat or registered Office in Germany"<sup>1)</sup> and/or
- for other supplies and/or services the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"<sup>1)</sup>.  
In case such supplies and/or services should contain Open Source Software, the conditions of which shall prevail over the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"<sup>1)</sup>. A notice will be contained in the scope of delivery in which the applicable conditions for Open Source Software are specified. This shall apply mutatis mutandis for notices referring to other third party software components.

#### 1.2 For customers with a seat or registered office outside Germany

For customers with a seat or registered office outside Germany, the following applies subordinate to the T&C:

- for Plant Analytics Services the "Standard Terms and Conditions for Plant Analytics Services"<sup>1)</sup> and/or
- for services the "International Terms & Conditions for Services"<sup>1)</sup> supplemented by "Software Licensing Conditions"<sup>1)</sup> and/or
- for other supplies of hard- and/or software the "International Terms & Conditions for Products"<sup>1)</sup> supplemented by "Software Licensing Conditions"<sup>1)</sup>

#### 1.3 For customers with master or framework agreement

To the extent our supplies and/or services offered are covered by an existing master or framework agreement, the terms and conditions of that agreement shall apply instead of T&C.

### 2. Prices

The prices are in € (Euro) ex point of delivery, exclusive of packaging.

The sales tax (value added tax) is not included in the prices. It shall be charged separately at the respective rate according to the applicable statutory legal regulations.

Prices are subject to change without prior notice. We will charge the prices valid at the time of delivery.

To compensate for variations in the price of raw materials (e.g. silver, copper, aluminum, lead, gold, dysprosium and neodym), surcharges are calculated on a daily basis using the so-called metal factor for products containing these raw materials. A surcharge for the respective raw material is calculated as a supplement to the price of a product if the basic official price of the raw material in question is exceeded.

The metal factor of a product indicates the basic official price (for those raw materials concerned) as of which the surcharges on the price of the product are applied, and with what method of calculation.

An exact explanation of the metal factor can be downloaded at: [www.siemens.com/automation/salesmaterial-as/catalog/en/terms\\_of\\_trade\\_en.pdf](http://www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf)

To calculate the surcharge (except in the cases of dysprosium and neodym), the official price from the day prior to that on which the order was received or the release order was effected is used.

To calculate the surcharge applicable to dysprosium and neodym ("rare earths"), the corresponding three-month basic average price in the quarter prior to that in which the order was received or the release order was effected is used with a one-month buffer (details on the calculation can be found in the explanation of the metal factor).

### 3. Additional Terms and Conditions

The dimensions are in mm. In Germany, according to the German law on units in measuring technology, data in inches apply only to devices for export.

Illustrations are not binding.

Insofar as there are no remarks on the individual pages of this catalog - especially with regard to data, dimensions and weights given - these are subject to change without prior notice.

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<sup>1)</sup> The text of the Terms and Conditions of Siemens AG can be downloaded at [www.siemens.com/automation/salesmaterial-as/catalog/en/terms\\_of\\_trade\\_en.pdf](http://www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf)

## Appendix

### Conditions of sale and delivery

#### 4. Export regulations

We shall not be obligated to fulfill any agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes and/or other sanctions.

Export may be subject to license. We shall indicate in the delivery details whether licenses are required under German, European and US export lists.

Our products are controlled by the U.S. Government (when labeled with "ECCN" unequal "N") and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

The export indications can be viewed in advance in the description of the respective goods on the Industry Mall, our online catalog system. Only the export labels "AL" and "ECCN" indicated on order confirmations, delivery notes and invoices are authoritative.

Products labeled with "AL" unequal "N" are subject to European / national export authorization. Products without label, with label "AL:N" / "ECCN:N", or label "AL:9X9999" / "ECCN: 9X9999" may require authorization from responsible authorities depending on the final end-use, or the destination.

If you transfer goods (hardware and/or software and/or technology as well as corresponding documentation, regardless of the mode of provision) delivered by us or works and services (including all kinds of technical support) performed by us to a third party worldwide, you must comply with all applicable national and international (re-)export control regulations.

If required for the purpose of conducting export control checks, you (upon request by us) shall promptly provide us with all information pertaining to the particular end customer, final disposition and intended use of goods delivered by us respectively works and services provided by us, as well as to any export control restrictions existing in this relation.

The products listed in this catalog may be subject to European/German and/or US export regulations. Any export requiring approval is therefore subject to authorization by the relevant authorities.

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