### **New Generation 1LE1/1PC1**



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### Orientation

#### Overview



Increasing energy costs have resulted in greater emphasis on the power consumption of drive systems. It is extremely important to utilize the full potential for minimization here to secure competitiveness today and in the future. The environment will also profit from reduced energy consumption.

With this in mind, we have already developed a new generation of low-voltage motors that you can use in drives to move even more than before. Innovative copper rotors that we develop and manufacture entirely in-house create the perfect conditions for motors with a high degree of efficiency (EFF2 and EFF1 motors are located in the same housing). The new motors for EFF1 (High Efficiency) offer considerable energy savings and protect our environment

The modular mounting concept also provides total flexibility: Each motor is based on a uniform concept for all markets worldwide. Our motors are manufactured in accordance with modern ecological principles and give machines and plants more drive. Worldwide and for every application. Efficiency over the complete life cycle is a clear benefit of our motors especially for the use of 1LE1/1PC1 designed to EFF1. All machine manufacturers and plant operators can profit from this – not to mention the environment. We will be launching our new 1LE1/1PC1 motors onto the market step by step.

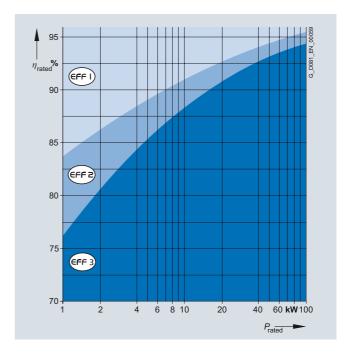
### Classified energy-saving motors for an efficient energy balance

Depending on requirements, energy-saving motors are available for an efficient energy balance for the EU in accordance with CEMEP (European Committee of Manufacturers of Electrical Machines and Power Electronics) as well as for the North American market in accordance with EPACT (US Energy Policy Act).

#### Efficiency requirements according to CEMEP

CEMEP classifies efficiency levels for 2-pole and 4-pole motors with outputs of 1.1 to 90 kW. Three efficiency classes are defined:

- **EFF1** (High Efficiency motors referred to below as "Motors with high efficiency")
- EFF2 (Improved Efficiency motors referred to below as "Motors with improved efficiency")
- EFF3 (Conventional Efficiency motors)



### At a glance: EU/CEMEP for Europe

- Status
  - Voluntary compliance with efficiency classification
- Covers
- 2-pole, 4-pole 50 Hz squirrel-cage motors from 1.1 to 90 kW (at 400 V and 50 Hz)
- Required marking
   Efficiency class on the motor rating plate
   η<sub>rated</sub>, η<sub>3/4</sub> load and efficiency class in the documentation

#### Efficiency requirements according to EPACT

In 1997, an act was passed in the US to define minimum efficiencies for low-voltage three-phase motors (EPACT).

An act is in force in Canada that is largely identical, although it is based on different verification methods. The efficiency is verified for these motors for the USA using IEEE 112, Test Method B and for Canada using CSA-C390. Apart from a few exceptions, all three-phase low-voltage motors imported into the USA or Canada must comply with the legal efficiency requirements. The law demands minimum efficiency levels for motors with a voltage of 230 and 460 V at 60 Hz, in the output range of 1 to 200 HP (0.75 to 150 kW) with 2, 4 and 6 poles. Explosion-proof motors must also be included.

The EPACT efficiency requirements exclude, for example:

- Motors whose frame size-output classification does not correspond with the standard series according to NEMA MG1-12.
- Flange-mounting motors
- Brake motors
- Converter-fed motors
- Motors with design letter C and higher

Orientation

#### Overview (continued)

EPACT lays down that the nominal efficiency at full load and a "CC" number (Compliance Certification) must be included on the rating plate. The "CC" number is issued by the US Department of Energy (DOE). The following information is stamped on the rating plate of EPACT motors which must be marked by law:

- Nominal efficiency
- · Design letter
- · Code letter
- CONT
- CC No. CC 032A (Siemens) and NEMA MG1-12.

#### At a glance: EPACT/CSA for North America

• Status

Minimum efficiencies required by law

Covers

2-, 4- and 6-pole 60 Hz squirrel-cage motors from 1 to 200 HP (0.75 to 150 kW) for 230 V and/or 460 V 60 Hz

• Required marking Efficiency  $\eta_{\rm rated}$  on the motor rating plate

### Motors with increased output and compact construction (1LE1)

Motors with increased output and compact construction can be used to advantage in confined spaces. For a slightly longer overall length, the output is at least as high as that of the next larger shaft height. These compact motors are also optimized for efficiency. They are available in EFF1 and EFF2 and therefore reduce the operating costs.

### Motors without fan cover and external fan (1LE1 with order code F90)

Forced-air cooled motors with surface cooling without fan cover and external fan are mainly used for driving fans.

### Standard motors with reduced output without fan cover and external fan (1PC1)

Self-cooled motors with surface cooling without fan cover and external fan are suitable for the following operating conditions:

- Types of duty with adequate cooling times (e.g. temporary duty for positioning drives)
- Environmental conditions that demand compact installation space (e.g. in motors with a stopping function)

Conditions under which an external fan has an adverse effect (e.g. simple cleaning in the food industry, textile industry)

### Motors delivered ex-stock with shorter delivery time – General Line 1LE1

The most popular basic versions of the 1LE1 motor series can be supplied ex-stock and are termed the "General Line".

A so-called "Sector version" will be available soon for some of the motors available from stock. These include a located bearing at the drive end (DE), PTC thermistor and screwed-on feet for the IM B35 type of construction.

The normal delivery time for General Line motors is 1 to 2 days from the time of clarification of the order at the factory until delivery from the factory. To determine the time of arrival at the customer site, the appropriate shipping time must be added.

#### Benefits

There is considerable potential in our new 1LE1/1PC1 series of low-voltage motors. As a consistent further development of our existing motors, the 1LE1/1PC1 motors offer numerous advantages:

#### Greater efficiency

Instead of cast-aluminum rotors, the new copper technology is used in the EFF1 motors. The motors are therefore considerably more compact. EFF2 and EFF1 motors are based on the same housing. For changeover to the higher efficiency class − from EFF2 to EFF1 − reconstruction of the machine is no longer necessary. Savings are achieved in time and costs. And what is more: You can save a considerable amount of energy with EFF1 motors because they have power losses of up to 40 % less than EFF2 motors. The energy saving potential and life cycle costs of the new motors can be calculated with our SinaSave™ software. You can download the SinaSave program in the Internet using the following link: <a href="http://www.siemens.com/energysaving">http://www.siemens.com/energysaving</a>. For more information, see catalog part 11 "Appendix", "Energy-saving program SinaSave". Our 1LE1 motors also impress customers with their extremely long life and their weight-optimized design has a positive effect on the stability of the equipment unit.

#### More application

The motors are approved and certified for worldwide use and meet high quality standards (confirmed, for example, by CSA  $^{1)}\!,$  UL  $^{2)}\!,$  and CQC  $^{3)}\!).$ 

#### Improved design

The new, optimized housing in modern EMC design has an attractive appearance and enhances functionality. The rotatable, accessible connection boxes, integral eyebolts, screwed-on feet and reinforced bearing plates ensure this.

#### Greater output

For the same shaft height, our high-performance motors offer an additional complete rated output level. The best is: We are also consistently implementing energy efficiency improvements here, too. The motors are offered – based on the categories of CEMEP – in high efficiency and improved efficiency versions.

#### More flexibility

The optimized architecture of the motors makes installation easier in general. Encoders, brakes and separately driven fans can be retrofitted easily. Connection boxes and feet for flexible mounting can be selected. Smaller inventories make stockkeeping easier and motor suppliers can respond to customer requirements more quickly. Optimized manufacturing processes support fast availability. All motors up to 460 V can be operated either directly on line or converter-fed – without the need for any additional measures.

<sup>1)</sup> Canadian Standard Association

<sup>2)</sup> Underwriters Laboratories Inc.

<sup>3)</sup> China Quality Certification

#### **Orientation**

#### Application

As soon as the range of motors and options is complete, it will be possible to use the 1LE1/1PC1 motors from Siemens in all areas and sectors of industry due to their numerous options. They are suitable both for special environmental conditions such as those that predominate in the chemical or petrochemical industries as well as for most climatic requirements such as those of offshore applications. Their large range of mains voltages enables them to be used all over the world.

The wide field of implementation includes the following applications:

- Pumps
- Fans
- Compressors
- Conveyor systems such as cranes, belts and lifting gear
- High-bay warehouses
- Packaging machines
- · Automation and Drives

#### Technical specifications

#### Technical data at a glance

This table lists the most important technical data. For more information and details, see catalog part 0 "Introduction".

Type of motor	IEC Squirrel-Cage Motors 1LE1/1PC1
Connection types	Star connection/delta connection You can establish the connection type used from the Order No. supplements in the selection and ordering data for the required motor.
Number of poles	2, 4, 6, 8
Frame sizes	100 L to 160 L
Rated output	0.75 22 kW (motor series 1LE1)/0.3 9 kW (motor series 1PC1)
Frequencies	50 Hz and 60 Hz
Versions	Self-ventilated 1LE1 energy-saving motors with:  Improved efficiency (EFF2) High efficiency (EFF1) Self-ventilated 1LE1 motors with increased output and: Improved efficiency (EFF2) High efficiency (EFF1)
	Forced-air-cooled 1LE1 motors without external fan and fan cover with:  • Improved efficiency (EFF2)  • High efficiency (EFF1)  Self-cooled 1PC1 motors without external fan and fan cover with:  • Improved efficiency
	High efficiency
Marking	EU/CEMEP efficiency classification, EFF1: 2-, 4-pole, EFF2: 2-, 4-pole US Energy Policy Act EPACT: 2-, 4-, 6-pole
Rated speed (synchronous speed)	750 3000 rpm
Rated torque	9.9 150 Nm (motor series 1LE1)/4.05 60 Nm (motor series 1PC1)
Insulation of the stator winding according to EN 60034-1 (IEC 60034-1)	Temperature class 155 (F), used acc. to temperature class 130 (B) (also for motors with increased output) DURIGNIT IR 2000 insulation system
Degree of protection according to EN 60034-5 (IEC 60034-5)	IP55 as standard
Cooling according to EN 60034-6 (IEC 60034-6)	Self-ventilated (motor series 1LE1) frame sizes 100 L to 160 L (IC 411), Forced-air-cooled (motor series 1LE1 with order code F90) frame sizes 100 L to 160 L (IC 416) Self-cooled (motor series 1PC1) frame sizes 100 L to 160 L (IC 410)
Admissible coolant temperature and site altitude	–20 °C +40 °C as standard, site altitude up to 1000 m above sea level. See "Coolant temperature and site altitude" in catalog part 0 "Introduction".
Standard voltages according to EN 60038 (IEC 60038)	50 Hz: 230 V, 400 V, 500 V, 690 V The voltage to be used can be found in the selection and ordering data for the required motor.
Type of construction according to EN 60034-7 (IEC 60034-7)	Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6, IM V5 with protective cover With flange: IM B5, IM V1 without protective cover, IM V1 with protective cover, IM V3, IM B35 With standard flange and special flange (next larger flange): IM B14, IM V19, IM V18 without protective cover, IM V18 with protective cover, IM B34
Paint finish Suitability of paint finish for climate group according to IEC 60721, Part 2-1	Standard: Color RAL 7030 stone gray See "Paint finish" in catalog part 0 "Introduction".
Vibration quantity level according to EN 60034-14 (IEC 60034-14)	Level A (normal – without special vibration requirements) Optionally: Level B (with special vibration requirements) See "Balance and vibration quantity" in catalog part 0 "Introduction".
Shaft extension according to DIN 748 (IEC 60072)	Balance type: Half-key balancing as standard See "Balance and vibration quantity" in catalog part 0 "Introduction".
Sound pressure level according to DIN EN ISO 1680 (tolerance +3 dB)	The sound pressure level is listed in the selection and ordering data for the required motor.
Weights	The weight is listed in the selection and ordering data for the required motor.
Modular mounting concept	Rotary pulse encoder, brake, separately driven fan or prepared for mountings
Consistent series concept	<ul> <li>Cast housing feet, screw-mounted feet available as an option and retrofittable</li> <li>Connection box obliquely partitioned and rotatable through 4 x 90°</li> <li>Bearings at DE and NDE are of identical design, reinforced bearings available as an option</li> </ul>
Options	See the selection and ordering data for "Special versions"

Orientation

### Selection and ordering data

Preliminary selection of the motor according to motor type/series, speed or number of poles, frame size, rated output, rated torque, rated speed and rated current

#### General Line motors with shorter delivery time

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	Α	
Aluminum seri	ies 1LE1 (motors v	vith external fan)				
3000, 2-pole	100 L 160 L	3 18.5	2835 2935	10 60	6 34	1/8 1/11
1500, 4-pole	100 L 160 L	2.2 15	1425 1460	14.8 98	4.85 29.5	1/12 1/15
1000. 6-pole	100 L 160 L	1.5 11	930 970	15.3 110	3.95 23.5	1/16 1/17

#### Self-ventilated energy-saving motors with improved efficiency (Improved Efficiency EFF2)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	Α	
Aluminum series	s 1LE1 (motors wi	th external fan)				
3000, 2-pole	100 L 160 L	3 18.5	2835 2935	10 60	6 34	1/18 1/19
1500, 4-pole	100 L 160 L	2.2 15	1425 1460	14.8 98	4.85 29.5	1/18 1/19
1000, 6-pole	100 L 160 L	1.5 11	930 970	15.3 110	3.95 23.5	1/18 1/19
750, 8-pole	100 L 160 L	0.75 7.5	700 720	10.4 100	2.65 18.6	1/18 1/19

#### Self-ventilated energy-saving motors with high efficiency (High Efficiency EFF1)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW/HP	rpm	Nm	Α	
Aluminum seri	ies 1LE1 (motors	with external fan)				
For use accordin	g to CEMEP					
3000, 2-pole	100 L 160 L	3 18.5	2905 2955	9.9 60	5.9 33	1/22 1/23
1500, 4-pole	100 L 160 L	2.2 15	1455 1475	14 97	4.55 27.5	1/22 1/23
1000, 6-pole	100 L 160 L	1.5 11	965 975	15 108	3.5 22	1/22 1/23
750, 8-pole	100 L 160 L	0.75 7.5	720 735	9.9 98	2.75 17.4	1/22 1/23
For use in the No	orth American marke	et according to EPAC	т			
3000, 2-pole	100 L 160 L	4 25	3520 3565	8.1 50	5.2 29	1/26 1/27
1500, 4-pole	100 L 160 L	3 20	1760 1780	12 80	4.05 24.5	1/26 1/27
1000, 6-pole	100 L 160 L	2 15	1170 1180	12 89	3.15 19.6	1/26 1/27

#### Self-ventilated motors with increased output and improved efficiency (Improved Efficiency EFF2)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	А	
Aluminum seri	ies 1LE1 (motors w	vith external fan)				
3000, 2-pole	100 L 160 L	4 22	2850 2930	13.3 72	7.9 39.5	1/30 1/31
1500, 4-pole	100 L 160 L	4 18.5	1430 1460	26.8 121	8.5 35	1/30 1/31
1000, 6-pole	100 L 160 L	2.2 15	930 965	22.5 148	5.3 33	1/30 1/31

### Self-ventilated motors with increased output and high efficiency (High Efficiency EFF1)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	Α	
Aluminum serie	s 1LE1 (motors wi	th external fan)				
3000, 2-pole	100 L 160 L	4 22	2905 2955	13 71	7.6 38.5	1/34 1/35
1500, 4-pole	100 L 160 L	4 18.5	1460 1475	26 120	8.2 34	1/34 1/35
1000, 6-pole	100 L 160 L	2.2 15	960 975	22 147	4.95 29.5	1/34 1/35

### Orientation

### Selection and ordering data (continued)

Forced-air cooled motors without external fan and fan cover with improved efficiency (Improved Efficiency EFF2)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	Α	
Aluminum serie	es 1LE1 (motors w	rithout external fa	n and fan cover)			
3000, 2-pole	100 L 160 L	3 18.5	2835 2935	10 60	6 34	1/38 1/39
1500, 4-pole	100 L 160 L	2.2 15	1425 1460	14.8 98	4.85 29.5	1/38 1/39
1000, 6-pole	100 L 160 L	1.5 11	930 970	15.3 110	3.95 23.5	1/38 1/39
750, 8-pole	100 L 160 L	0.75 7.5	700 720	10.4 100	2.65 18.6	1/38 1/39

### Forced-air cooled motors without external fan and fan cover with high efficiency (High Efficiency EFF1)

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	Α	
Aluminum series	1LE1 (motors wi	thout external fan a	and fan cover)			
3000, 2-pole	100 L 160 L	3 18.5	2905 2955	9.9 60	5.9 33	1/42 1/43
1500, 4-pole	100 L 160 L	2.2 15	1455 1475	14 97	4.55 27.5	1/42 1/43
1000, 6-pole	100 L 160 L	1.5 11	965 975	15 108	3.5 22	1/42 1/43
750, 8-pole	100 L 160 L	0.75 7.5	720 735	9.9 98	2.75 17.4	1/42 1/43

#### Self-cooled motors without external fan and fan cover with improved efficiency

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	Α	
Aluminum serie	es 1PC1 (motors v	without external fa	n and fan cover)			
3000, 2-pole	100 L 160 L	1.2 7.4	2830 2935	4.05 24	2.3 12.9	1/46 1/47
1500, 4-pole	100 L 160 L	0.88 6	1420 1460	5.92 39	1.8 10.9	1/46 1/47
1000, 6-pole	100 L 160 L	0.6 4.4	930 970	6.12 43	1.4 8.9	1/46 1/47
750, 8-pole	100 L 160 L	0.3 3	695 730	4.05 24	0.97 6.8	1/46 1/47

### Self-cooled motors without external fan and fan cover with high efficiency

Speed	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	Α	
Aluminum serie	es 1PC1 (motors	without external fa	an and fan cover)			
3000, 2-pole	100 L 160 L	1.4 9	2920 2960	4.6 29	2.6 15.2	1/50 1/51
1500, 4-pole	100 L 160 L	1.1 6.2	1460 1480	7.2 40	2.2 11.4	1/50 1/51
1000, 6-pole	100 L 160 L	0.85 6.5	960 975	8.5 64	1.92 13.2	1/50 1/51
750, 8-pole	100 L 160 L	0.37 4.6	720 730	4.8 60	1.28 10.8	1/50 1/51

Orientation

#### More information

For further information, please get in touch with your local Siemens contact.

http://www.siemens.com/automation/partner you can find details of Siemens contact partners worldwide responsible for particular technologies.

You can obtain in most cases a contact partner for

- · technical support
- spare parts/repairs
- service
- training
- · sales or
- technical support/engineering

The selection procedure starts with:

- a country
- a product or
- a sector.

By further specifying the remaining criteria you will find exactly the right contact partner with his/her respective expertise.

### General Line motors with shorter delivery time

Selection	on and or	dering da	ta									
Rated ou	utput at	Frame size	Operating	values at ra	ated output					Order No.	Price	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class according to CEMEP	at 50 Hz	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V, 50 Hz			
P <sub>rated</sub> kW	P <sub>rated</sub> kW	FS	n <sub>rated</sub> rpm	T <sub>rated</sub> Nm	(EFF2)	$\eta_{ m rated}$ %	$\eta_{ m rated}$	$\cos\!arphi_{ m rated}$	I <sub>rated</sub> A			m kg
Motor ve	ersion: tem	perature cla	ss 155 (F),	IP55 degre	e of protec	tion, used	acc. to ten	nperature o	class 130 (E	3)		
2-pole	– 3000 rpr	n at 50 Hz	, 3600 rpn	n at 60 Hz								
	400 VY, 50 H											
	t flange: IM		M B7, IM B8	B, IM V5 with	nout protect	tive cover, I	M V6 <sup>1)</sup>					
- Witho	out motor pro	otection										
3	3.45	100 L	2835	10	EFF2	82.6	83.2	0.87	6	1LE1002-1AA42-2AA0		20
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	1LE1002-1BA22-2AA0		25
5.5	6.3	132 S	2905	18	EFF2	86	86.6	0.89	10.4	1LE1002-1CA02-2AA0		35
7.5	8.6	132 S	2925	24	EFF2	87.6	88.7	0.88	14	1LE1002-1CA12-2AA0		40
	ange: IM B5,		ut protectiv	e cover, IM	V3 <sup>2)</sup>							
- Witho	out motor pro											
3	3.45	100 L	2835	10	EFF2	82.6	83.2	0.87	6	1LE1002-1AA42-2FA0		21
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	1LE1002-1BA22-2FA0		26
5.5	6.3	132 S	2905	18	EFF2	86	86.6	0.89	10.4	1LE1002-1CA02-2FA0		40
7.5	8.6	132 S	2925	24	EFF2	87.6	88.7	0.88	14	1LE1002-1CA12-2FA0		45
	motor protec											
3	3.45	100 L	2835	10	EFF2	82.6	83.2	0.87	6	1LE1002-1AA42-2FB0		21
	andard flanç		M V18 with	out protecti	ve cover, IN	1 V 19 <sup>3)</sup>						
- Witho	out motor pro	otection										
3	3.45	100 L	2835	10	EFF2	82.6	83.3	0.87	6	1LE1002-1AA42-2KA0		22
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	1LE1002-1BA22-2KA0		27

These motors are standard painted with special finish color RAL 7030 (stone gray).

Additional options like protective cover and condensation drainage holes are not possible.

<sup>1)</sup> Only the type of construction IM B3 will be stamped on the rating plate.

 $<sup>^{2)}\,\,</sup>$  Only the type of construction IM B5 will be stamped on the rating plate.

<sup>3)</sup> Only the type of construction IM B14 will be stamped on the rating plate.

### General Line motors with shorter delivery time

Selection and order	<b>ing data</b> (continue	d)						
Order No.	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated	output	Flange size according
	with direct starting as	multiple of rated				Measuring-	Sound	to DIN EN
	torque	current	torque			surface sound pressure level at 50 Hz	pressure level at 50 Hz	50347
	$T_{LR}/T_{rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	J kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)	
Motor version: tempera			n, used acc. to tempe	rature class	s 130 (B)			
2-pole – 3000 rpm at	: 50 Hz, 3600 rpm a	t 60 Hz						
230 V∆/400 VY, 50 Hz; 4	60 VY, 60 Hz							
• Without flange: IM B3,	IM B6, IM B7, IM B8, IN	M V5 without protective	cover, IM V6 <sup>1)</sup>					
- Without motor protect	tion							
1LE1002-1AA42-2AA0	3.2	6.2	2.9	16	0.0034	67	79	
1LE1002-1BA22-2AA0	2.7	7.3	3.7	16	0.0067	69	81	
1LE1002-1CA02-2AA0	2	5.6	2.6	16	0.01267	68	80	
1LE1002-1CA12-2AA0	2.2	6.4	3	16	0.01601	68	80	
• With flange: IM B5, IM	V1 without protective c	over, IM V3 <sup>2)</sup>						
- Without motor protect	tion							
1LE1002-1AA42-2FA0	3.2	6.2	2.9	16	0.0034	67	79	FF 215
1LE1002-1BA22-2FA0	2.7	7.3	3.7	16	0.0067	69	81	FF 215
1LE1002-1CA02-2FA0	2	5.6	2.6	16	0.01267	68	80	FF 265
1LE1002-1CA12-2FA0	2.2	6.4	3	16	0.01601	68	80	FF 265
- With motor protection	with PTC thermistors v	with 3 embedded tempe	erature sensors for trip	ping				
1LE1002-1AA42-2FB0	3.2	6.2	2.9	16	0.0034	67	79	FF 215
• With standard flange: II	M B14, IM V18 without	protective cover, IM V1	93)					
- Without motor protect	tion							
1LE1002-1AA42-2KA0	3.2	6.2	2.9	16	0.0034	67	79	FT 130
1LE1002-1BA22-2KA0	2.7	7.3	3.7	16	0.0067	69	81	FT 130

These motors are standard painted with special finish color RAL 7030 (stone gray).

Additional options like protective cover and condensation drainage holes are not possible.

<sup>1)</sup> Only the type of construction IM B3 will be stamped on the rating plate.

<sup>2)</sup> Only the type of construction IM B5 will be stamped on the rating plate.

<sup>3)</sup> Only the type of construction IM B14 will be stamped on the rating plate.

### General Line motors with shorter delivery time

Selection and ordering data (continued)												
Rated or	utput at	Frame size	Operating	values at r	ated output					Order No.	Price	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz			Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz			
Prated	$P_{\text{rated}}$	FS	n <sub>rated</sub>	$T_{\rm rated}$	(EFF2)	$\eta_{\rm rated}$	$\eta_{\rm rated}$	$\cos\!arphi_{ m rated}$	I <sub>rated</sub>			m
kW	kW		rpm	Nm		%	%		А			kg
		perature cla	. ,,			tion, used	acc. to ten	nperature (	class 130 (E	3)		
		m at 50 Hz	<u> </u>	n at 60 Hz								
		Hz; 460 V∆,					1\					
	0	B3, IM B6,	IM B7, IM B	B, IM V5 wit	hout protect	tive cover, I	M V6 <sup>1)</sup>					
	out motor pi											
3	3.45	100 L	2835	10	EFF2	82.6	83.2	0.87	6	1LE1002-1AA43-4AA0		20
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	1LE1002-1BA23-4AA0		25
5.5	6.3	132 S	2905	18	EFF2	86	86.6	0.89	10.4	1LE1002-1CA03-4AA0		35
7.5	8.6	132 S	2925	24	EFF2	87.6	88.7	0.88	14	1LE1002-1CA13-4AA0		40
11	12.6	160 M	2920	36	EFF2	88.4	88.5	0.85	21	1LE1002-1DA23-4AA0		60
15	17.3	160 M	2930	49	EFF2	89.5	89.7	0.84	29	1LE1002-1DA33-4AA0		68
18.5	21.3	160 L	2935	60	EFF2	90.9	91	0.86	34	1LE1002-1DA43-4AA0		78
		ction with P										
3	3.45	100 L	2835	10	EFF2	82.6	83.2	0.87	6	1LE1002-1AA43-4AB0		20
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	1LE1002-1BA23-4AB0		25
5.5	6.3	132 S	2905	18	EFF2	86	86.6	0.89	10.4	1LE1002-1CA03-4AB0		35
7.5	8.6	132 S	2925	24	EFF2	87.6	88.7	0.88	14	1LE1002-1CA13-4AB0		40
11	12.6	160 M	2920	36	EFF2	88.4	88.5	0.85	21	1LE1002-1DA23-4AB0		60
15	17.3	160 M	2930	49	EFF2	89.5	89.7	0.84	29	1LE1002-1DA33-4AB0		68
18.5	21.3	160 L	2935	60	EFF2	90.9	91	0.86	34	1LE1002-1DA43-4AB0		78
		, IM V1 with	out protectiv	e cover, IM	V3 <sup>2)</sup>							
	out motor pi											
3	3.45	100 L	2835	10	EFF2	82.6	83.2	0.87	6	1LE1002-1AA43-4FA0		21
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	1LE1002-1BA23-4FA0		26
5.5	6.3	132 S	2905	18	EFF2	86	86.6	0.89	10.4	1LE1002-1CA03-4FA0		40
7.5	8.6	132 S	2925	24	EFF2	87.6	88.7	0.88	14	1LE1002-1CA13-4FA0		45
11	12.6	160 M	2920	36	EFF2	88.4	88.5	0.85	21	1LE1002-1DA23-4FA0		69
15	17.3	160 M	2930	49	EFF2	89.5	89.7	0.84	29	1LE1002-1DA33-4FA0		77
18.5	21.3	160 L	2935	60	EFF2	90.9	91	0.86	34	1LE1002-1DA43-4FA0		87
		ction with P										
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	1LE1002-1BA23-4FB0		26
5.5	6.3	132 S	2905	18	EFF2	86	86.6	0.89	10.4	1LE1002-1CA03-4FB0		40
7.5	8.6	132 S	2925	24	EFF2	87.6	88.7	0.88	14	1LE1002-1CA13-4FB0		45
11	12.6	160 M	2920	36	EFF2	88.4	88.5	0.85	21	1LE1002-1DA23-4FB0		69
15	17.3	160 M	2930	49	EFF2	89.5	89.7	0.84	29	1LE1002-1DA33-4FB0		77
18.5	21.3	160 L	2935	60	EFF2	90.9	91	0.86	34	1LE1002-1DA43-4FB0		87

These motors are standard painted with special finish color RAL 7030 (stone gray).

Additional options like protective cover and condensation drainage holes are not possible.

<sup>1)</sup> Only the type of construction IM B3 will be stamped on the rating plate.

 $<sup>^{2)}\,\,</sup>$  Only the type of construction IM B5 will be stamped on the rating plate.

### General Line motors with shorter delivery time

Selection and order	ing data (continue	d)						
Order No.	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated	output	Flange size according
	with direct starting as	multiple of rated				Measuring-	Sound	to DIN EN
	torque	current	torque			surface sound pressure level at 50 Hz		50347
	$T_{LR}/T_{rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	J kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)	
Motor version: tempera	ture class 155 (F), IP5	5 degree of protection	n, used acc. to tempe	rature class	s 130 (B)			
2-pole - 3000 rpm at	: 50 Hz, 3600 rpm a	t 60 Hz						
400 V∆/690 VY, 50 Hz; 4	60 V∆, 60 Hz							
• Without flange: IM B3,	IM B6, IM B7, IM B8, IN	V5 without protective	cover, IM V6 <sup>1)</sup>					
- Without motor protect	tion							
1LE1002-1AA43-4AA0	3.2	6.2	2.9	16	0.0034	67	79	
1LE1002-1BA23-4AA0	2.7	7.3	3.7	16	0.0067	69	81	
1LE1002-1CA03-4AA0	2	5.6	2.6	16	0.01267	68	80	
1LE1002-1CA13-4AA0	2.2	6.4	3	16	0.01601	68	80	
1LE1002-1DA23-4AA0	2.1	6.1	2.7	16	0.02971	70	82	
1LE1002-1DA33-4AA0	2.5	6.1	3.2	16	0.03619	70	82	
1LE1002-1DA43-4AA0	2.5	7	3.2	16	0.04395	70	82	
- With motor protection	with PTC thermistors v	vith 3 embedded tempe	erature sensors for trip	ping				
1LE1002-1AA43-4AB0	3.2	6.2	2.9	16	0.0034	67	79	
1LE1002-1BA23-4AB0	2.7	7.3	3.7	16	0.0067	69	81	
1LE1002-1CA03-4AB0	2	5.6	2.6	16	0.01267	68	80	
1LE1002-1CA13-4AB0	2.2	6.4	3	16	0.01601	68	80	
1LE1002-1DA23-4AB0	2.1	6.1	2.7	16	0.02971	70	82	
1LE1002-1DA33-4AB0	2.5	6.1	3.2	16	0.03619	70	82	
1LE1002-1DA43-4AB0	2.5	7	3.2	16	0.04395	70	82	
<ul> <li>With flange: IM B5, IM</li> </ul>	V1 without protective c	over, IM V3 <sup>2)</sup>						
- Without motor protect	tion							
1LE1002-1AA43-4FA0	3.2	6.2	2.9	16	0.0034	67	79	FF 215
1LE1002-1BA23-4FA0	2.7	7.3	3.7	16	0.0067	69	81	FF 215
1LE1002-1CA03-4FA0	2	5.6	2.6	16	0.01267	68	80	FF 265
1LE1002-1CA13-4FA0	2.2	6.4	3	16	0.01601	68	80	FF 265
1LE1002-1DA23-4FA0	2.1	6.1	2.7	16	0.02971	70	82	FF 300
1LE1002-1DA33-4FA0	2.5	6.1	3.2	16	0.03619	70	82	FF 300
1LE1002-1DA43-4FA0	2.5	7	3.2	16	0.04395	70	82	FF 300
- With motor protection	with PTC thermistors v	vith 3 embedded tempe	erature sensors for trip	ping				
1LE1002-1BA23-4FB0	2.7	7.3	3.7	16	0.0067	69	81	FF 215
1LE1002-1CA03-4FB0	2	5.6	2.6	16	0.01267	68	80	FF 265
1LE1002-1CA13-4FB0	2.2	6.4	3	16	0.01601	68	80	FF 265
1LE1002-1DA23-4FB0	2.1	6.1	2.7	16	0.02971	70	82	FF 300
1LE1002-1DA33-4FB0	2.5	6.1	3.2	16	0.03619	70	82	FF 300
1LE1002-1DA43-4FB0	2.5	7	3.2	16	0.04395	70	82	FF 300

These motors are standard painted with special finish color RAL 7030 (stone gray).

Additional options like protective cover and condensation drainage holes are not possible.

<sup>1)</sup> Only the type of construction IM B3 will be stamped on the rating plate.

 $<sup>^{2)}\,\,</sup>$  Only the type of construction IM B5 will be stamped on the rating plate.

### General Line motors with shorter delivery time

Selection	on and or	dering da	ata (contir	nued)								
Rated ou	itput at	Frame	Operating	values at ra	ated output					Order No.	Price	Weight
50 Hz	60 Hz	size	Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class according to CEMEP	Efficiency at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz			
P <sub>rated</sub> kW	P <sub>rated</sub> kW	FS	n <sub>rated</sub> rpm	T <sub>rated</sub> Nm	(EFF2)	$\eta_{ m rated}$	$\eta_{ m rated}$ %	$\cos\!arphi_{ m rated}$	I <sub>rated</sub> A			m kg
Motor ve	ersion: tem	perature cla	ass 155 (F),	IP55 degre	ee of protec	tion, used	acc. to ter	nperature o	class 130 (E	3)		
4-pole -	– 1500 rpr	n at 50 Hz	z, 1800 rpr	n at 60 Hz								
	100 VY, 50 H											
<ul> <li>Without</li> </ul>	t flange: IM	B3, IM B6, I	IM B7, IM B8	B, IM V5 with	hout protect	tive cover, I	M V6 <sup>1)</sup>					
- Witho	out motor pro	otection										
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	1LE1002-1AB42-2AA0		18
3	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	1LE1002-1AB52-2AA0		22
4	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	1LE1002-1BB22-2AA0		27
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	1LE1002-1CB02-2AA0		38
7.5	8.6	132 M	1450	49	EFF2	87	87.4	0.83	15	1LE1002-1CB22-2AA0		44
11	12.6	160 M	1460	72	EFF2	88.4	88.1	0.82	22	1LE1002-1DB22-2AA0		62
15	17.3	160 L	1460	98	EFF2	89.4	89.7	0.82	29.5	1LE1002-1DB42-2AA0		73
- With	motor protec	ction with P	TC thermisto	ors with 3 er	mbedded te	mperature	sensors for	tripping				
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	1LE1002-1AB42-2AB0		18
• With fla	ange: IM B5,	IM V1 with	out protectiv	e cover, IM	V3 <sup>2)</sup>							
- Witho	out motor pro	otection										
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	1LE1002-1AB42-2FA0		19
3	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	1LE1002-1AB52-2FA0		23
4	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	1LE1002-1BB22-2FA0		28
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	1LE1002-1CB02-2FA0		43
7.5	8.6	132 M	1450	49	EFF2	87	87.4	0.83	15	1LE1002-1CB22-2FA0		49
11	12.6	160 M	1460	72	EFF2	88.4	88.1	0.82	22	1LE1002-1DB22-2FA0		71
15	17.3	160 L	1460	98	EFF2	89.4	89.7	0.82	29.5	1LE1002-1DB42-2FA0		82
- With	motor protec		TC thermisto	ors with 3 er	mbedded te	mperature	sensors for	tripping				
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	1LE1002-1AB42-2FB0		19
3	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	1LE1002-1AB52-2FB0		23
4	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	1LE1002-1BB22-2FB0		28
<ul> <li>With sta</li> </ul>	andard flanç	ge: IM B14,	IM V18 with	out protecti	ve cover, IM	1 V19 <sup>3)</sup>						
	out motor pro	otection										
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	1LE1002-1AB42-2KA0		20
3	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	1LE1002-1AB52-2KA0		24
4	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	1LE1002-1BB22-2KA0		29

These motors are standard painted with special finish color RAL 7030 (stone gray).

Additional options like protective cover and condensation drainage holes are not possible.

<sup>1)</sup> Only the type of construction IM B3 will be stamped on the rating plate.

 $<sup>^{2)}\,\,</sup>$  Only the type of construction IM B5 will be stamped on the rating plate.

<sup>3)</sup> Only the type of construction IM B14 will be stamped on the rating plate.

### General Line motors with shorter delivery time

Selection and order	ing data (continue	d)						
Order No.	`	Locked-rotor current	Breakdown torque	Torque	Moment	Noise at rated	output	Flange size
	· ·		, ,	class	of inertia		'	according
	with direct starting as torque	multiple of rated current	torque			Measuring- surface sound pressure level at 50 Hz	Sound pressure level at 50 Hz	to DIN EN 50347
	$T_{LR}/T_{rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	J kgm <sup>2</sup>	$L_{pfA}$ dB(A)	L <sub>WA</sub> dB(A)	
Motor version: tempera	ture class 155 (F), IP5	5 degree of protection	n, used acc. to tempe	rature class	130 (B)			
4-pole - 1500 rpm at	50 Hz, 1800 rpm at	t 60 Hz						
230 V∆/400 VY, 50 Hz; 4	60 VY, 60 Hz							
• Without flange: IM B3, I	M B6, IM B7, IM B8, IN	V5 without protective	cover, IM V6 <sup>1)</sup>					
- Without motor protect	tion							
1LE1002-1AB42-2AA0	2.3	5.1	2.7	16	0.0059	60	72	
1LE1002-1AB52-2AA0	2.4	5.4	2.6	16	0.0078	60	72	
1LE1002-1BB22-2AA0	2.2	5.3	2.6	16	0.0102	58	70	
1LE1002-1CB02-2AA0	2.3	6.2	2.7	16	0.0186	64	76	
1LE1002-1CB22-2AA0	2.5	6.6	2.9	16	0.02371	64	76	
1LE1002-1DB22-2AA0	2.3	6.4	3.1	16	0.04395	65	77	
1LE1002-1DB42-2AA0	2.5	7	3.4	16	0.05616	65	77	
- With motor protection	with PTC thermistors v	vith 3 embedded tempe	erature sensors for trip	ping				
1LE1002-1AB42-2AB0	2.3	5.1	2.7	16	0.0059	63	75	
• With flange: IM B5, IM	V1 without protective co	over, IM V3 <sup>2)</sup>						
- Without motor protect	tion							
1LE1002-1AB42-2FA0	2.3	5.1	2.7	16	0.0059	60	72	FF 215
1LE1002-1AB52-2FA0	2.4	5.4	2.6	16	0.0078	60	72	FF 215
1LE1002-1BB22-2FA0	2.2	5.3	2.6	16	0.0102	58	70	FF 215
1LE1002-1CB02-2FA0	2.3	6.2	2.7	16	0.0186	64	76	FF 265
1LE1002-1CB22-2FA0	2.5	6.6	2.9	16	0.02371	64	76	FF 265
1LE1002-1DB22-2FA0	2.3	6.4	3.1	16	0.04395	65	77	FF 300
1LE1002-1DB42-2FA0	2.5	7	3.4	16	0.05616	65	77	FF 300
- With motor protection	with PTC thermistors v	vith 3 embedded tempe	erature sensors for trip	ping				
1LE1002-1AB42-2FB0	2.3	5.1	2.7	16	0.0059	60	72	FF 215
1LE1002-1AB52-2FB0	2.4	5.4	2.6	16	0.0078	60	72	FF 215
1LE1002-1BB22-2FB0	2.2	5.3	2.6	16	0.0102	58	70	FF 215
• With standard flange: If		protective cover, IM V1	9 <sup>3)</sup>					
- Without motor protect	tion							
1LE1002-1AB42-2KA0	2.3	5.1	2.7	16	0.0059	60	72	FT 130
1LE1002-1AB52-2KA0	2.4	5.4	2.6	16	0.0078	63	75	FT 130
1LE1002-1BB22-2KA0	2.2	5.3	2.6	16	0.0102	58	70	FT 130

These motors are standard painted with special finish color RAL 7030 (stone gray).

Additional options like protective cover and condensation drainage holes are not possible.

<sup>1)</sup> Only the type of construction IM B3 will be stamped on the rating plate.

 $<sup>^{2)}\,\,</sup>$  Only the type of construction IM B5 will be stamped on the rating plate.

<sup>3)</sup> Only the type of construction IM B14 will be stamped on the rating plate.

### General Line motors with shorter delivery time

Selecti	ion and o	rdering da	<b>ata</b> (contir	nued)								
Rated o	output at	Frame size	Operating	y values at r	ated output					Order No.	Price	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz		at 50 Hz	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz			
P <sub>rated</sub> kW	P <sub>rated</sub> kW	FS	n <sub>rated</sub> rpm	T <sub>rated</sub> Nm	(EFF2)	$\eta_{rated}$ %	$\eta_{ m rated}$	$\cos\!arphi_{ m rated}$	I <sub>rated</sub> A			m kg
	ersion: tem					ction, used	acc. to ter	nperature	class 130 (I	3)		
4-pole	– 1500 rpi	m at 50 Hz	z, 1800 rpi	n at 60 Hz	2							
	/690 VY, 50 I											
	ut flange: IM		IM B7, IM B	8, IM V5 wit	hout protect	tive cover, I	IM V6 <sup>1)</sup>					
	nout motor pr	rotection										
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	1LE1002-1AB43-4AA0		18
3	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	1LE1002-1AB53-4AA0		22
4	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	1LE1002-1BB23-4AA0		27
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	1LE1002-1CB03-4AA0		38
7.5	8.6	132 M	1450	49	EFF2	87	87.4	0.83	15	1LE1002-1CB23-4AA0		44
11	12.6	160 M	1460	72	EFF2	88.4	88.1	0.82	22	1LE1002-1DB23-4AA0		62
15	17.3	160 L	1460	98	EFF2	89.4	89.7	0.82	29.5	1LE1002-1DB43-4AA0		73
	motor prote											
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	1LE1002-1AB43-4AB0		18
3	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	1LE1002-1AB53-4AB0		22
4	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	1LE1002-1BB23-4AB0		27
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	1LE1002-1CB03-4AB0		38
7.5	8.6	132 M	1450	49	EFF2	87	87.4	0.83	15	1LE1002-1CB23-4AB0		44
11	12.6	160 M	1460	72	EFF2	88.4	88.1	0.82	22	1LE1002-1DB23-4AB0		62
15	17.3	160 L	1460	98	EFF2	89.4	89.7	0.82	29.5	1LE1002-1DB43-4AB0		73
	lange: IM B5		out protecti	ve cover, IM	V3 <sup>2</sup> )							
	nout motor pr											40
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	1LE1002-1AB43-4FA0		19
3 4	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	1LE1002-1AB53-4FA0		23
	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	1LE1002-1BB23-4FA0		28
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	1LE1002-1CB03-4FA0		43
7.5	8.6	132 M	1450	49	EFF2	87	87.4	0.83	15	1LE1002-1CB23-4FA0		49
11 15	12.6 17.3	160 M 160 L	1460 1460	72 98	EFF2 EFF2	88.4 89.4	88.1 89.7	0.82	22 29.5	1LE1002-1DB23-4FA0		71 82
									∠9.5	1LE1002-1DB43-4FA0		0∠
- vvitn	motor prote 4.6	112 M	1435	ors with 3 er 27	EFF2	84.2	85.1	0.84	8.2	1LE1002-1BB23-4FB0		28
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	1LE1002-1CB03-4FB0		43
7.5	8.6	132 S	1450	49	EFF2	87	87.4	0.83	15	1LE1002-1CB03-4FB0		43
11	12.6	160 M	1460	72	EFF2	88.4	88.1	0.82	22	1LE1002-1CB23-4FB0		71
15	17.3	160 M	1460	98	EFF2	89.4	89.7	0.82	29.5	1LE1002-1DB23-4FB0		82
	lange: IM B3		1400	30	LIIZ	03.4	03.1	0.02	23.0	1LL 1002-10043-4FB0		02
	nout motor pr											
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	1LE1002-1CB03-4JA0		43
7.5	8.6	132 M	1450	49	EFF2	87	87.4	0.83	15	1LE1002-1CB23-4JA0		49
11	12.6	160 M	1460	72	EFF2	88.4	88.1	0.82	22	1LE1002-1CB23-4JA0		71
15	17.3	160 L	1460	98	EFF2	89.4	89.7	0.82	29.5	1LE1002-1DB23-4JA0		82
10	17.0	100 L	1700	50	-114	55.7	55.1	5.02	20.0	122 1002 10040-40A0		02

These motors are standard painted with special finish color RAL 7030 (stone gray).

Additional options like protective cover and condensation drainage holes are not possible.

<sup>1)</sup> Only the type of construction IM B3 will be stamped on the rating plate.

 $<sup>^{2)}\,\,</sup>$  Only the type of construction IM B5 will be stamped on the rating plate.

### General Line motors with shorter delivery time

Selection and order	ing data (continue	d)						
Order No.	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated	output	Flange size according
	with direct starting as	multiple of rated				Measuring-	Sound	to DIN EN
	torque	current	torque			surface sound pressure level at 50 Hz	pressure level at 50 Hz	50347
	$T_{LR}/T_{rated}$	$I_{\rm LR}/I_{\rm rated}$	$T_{\rm B}/T_{\rm rated}$	CL	J kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)	
Motor version: tempera	ture class 155 (F). IP5	5 degree of protection	n, used acc, to tempe	rature class		J ()	()	
4-pole – 1500 rpm at					,			
400 V∆/690 VY, 50 Hz; 4	60 V∆, 60 Hz							
Without flange: IM B3,		1 V5 without protective	cover, IM V6 <sup>1)</sup>					
- Without motor protect			,					
1LE1002-1AB43-4AA0	2.3	5.1	2.7	16	0.0059	60	72	
1LE1002-1AB53-4AA0	2.4	5.4	2.6	16	0.0078	60	72	
1LE1002-1BB23-4AA0	2.2	5.3	2.6	16	0.0102	58	70	
1LE1002-1CB03-4AA0	2.3	6.2	2.7	16	0.0186	64	76	
1LE1002-1CB23-4AA0	2.5	6.6	2.9	16	0.02371	64	76	
1LE1002-1DB23-4AA0	2.3	6.4	3.1	16	0.04395	65	77	
1LE1002-1DB43-4AA0	2.5	7	3.4	16	0.05616	65	77	
- With motor protection	=: ~	•	· · ·		0.00010		• •	
1LE1002-1AB43-4AB0	2.3	5.1	2.7	16	0.0059	60	72	
1LE1002-1AB53-4AB0	2.4	5.4	2.6	16	0.0078	60	72	
1LE1002-1BB23-4AB0	2.2	5.3	2.6	16	0.0102	58	70	
1LE1002-1CB03-4AB0	2.3	6.2	2.7	16	0.0186	64	76	
1LE1002-1CB23-4AB0	2.5	6.6	2.9	16	0.02371	64	76	
1LE1002-1DB23-4AB0	2.3	6.4	3.1	16	0.04395	65	77	
1LE1002-1DB43-4AB0	2.5	7	3.4	16	0.05616	65	77	
With flange: IM B5, IM '			<u> </u>		0.00010		• •	
- Without motor protect	•	0 0 0 1, 11 1 1 0						
1LE1002-1AB43-4FA0	2.3	5.1	2.7	16	0.0059	60	72	FF 215
1LE1002-1AB53-4FA0	2.4	5.4	2.6	16	0.0033	60	72	FF 215
1LE1002-1BB23-4FA0	2.2	5.3	2.6	16	0.0070	58	70	FF 215
1LE1002-1CB03-4FA0	2.3	6.2	2.7	16	0.0102	64	76	FF 265
1LE1002-1CB23-4FA0	2.5	6.6	2.9	16	0.02371	64	76	FF 265
1LE1002-1DB23-4FA0	2.3	6.4	3.1	16	0.02371	65	77	FF 300
1LE1002-1DB43-4FA0	2.5	7	3.4	16	0.04595	65	77	FF 300
- With motor protection	=: *	•	· · ·		0.00010	03	11	11 300
1LE1002-1BB23-4FB0	2.2	5.3	2.6	16	0.0102	58	70	FF 215
1LE1002-1CB03-4FB0	2.3	6.2	2.7	16	0.0102	64	76	FF 265
1LE1002-1CB03-4FB0	2.5	6.6	2.9	16	0.0186	64	76	FF 265
1LE1002-1CB23-4FB0	2.3	6.4	3.1	16	0.02371	65	77	FF 300
1LE1002-1DB23-4FB0	2.5	7	3.4	16	0.04395	65	77	FF 300
• With flange: IM B35	۷.۵	<i>r</i>	J. <del>4</del>	10	0.00010	00	11	11 300
Ŭ	tion							
- Without motor protect		6.0	0.7	10	0.0100	64	70	FF 005
1LE1002-1CB03-4JA0	2.3	6.2	2.7	16	0.0186	64	76	FF 265
1LE1002-1CB23-4JA0	2.5	6.6	2.9	16	0.02371	64	76	FF 265
1LE1002-1DB23-4JA0	2.3	6.4	3.1	16	0.04395	65	77	FF 300
1LE1002-1DB43-4JA0	2.5	7	3.4	16	0.05616	65	77	FF 300

These motors are standard painted with special finish color RAL 7030 (stone gray).

Additional options like protective cover and condensation drainage holes are not possible.

<sup>1)</sup> Only the type of construction IM B3 will be stamped on the rating plate.

 $<sup>^{2)}\,\,</sup>$  Only the type of construction IM B5 will be stamped on the rating plate.

### General Line motors with shorter delivery time

Calcat	on code	udovina a di	oto / > = -+'	) )								
Selecti	on and o	raering da	ata (contir	iuea)								
Rated or	utput at	Frame size	Operating	values at r	ated output					Order No.	Price	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz		at 50 Hz	Efficiency at 50 Hz 3/4-load	factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz			
P <sub>rated</sub>	P <sub>rated</sub>	FS	n <sub>rated</sub>	T <sub>rated</sub>	(EFF2)	$\eta_{rated}$	$\eta_{rated}$	$\cos\!arphi_{ m rated}$	l <sub>rated</sub>			m
kW	kW		rpm	Nm		%	%		Α			kg
	ersion: tem		. , , ,			ction, used	acc. to ter	nperature o	class 130 (E	3)		
_	– 1000 rp			n at 60 Hz								
	400 VY, 50 I			O INANE mili	haut arataa	tiva aavar l	M V(c1)					
	ut flange: IM out motor pr		IIVI B7, IIVI B	B, IIVI V5 WILI	nout protec	live cover, i	IVI VO'					
	1.75		940	15.3		74	72.6	0.74	3.95	1LE1002-1AC42-2AA0		10
2.2	2.55	100 L 112 M	930	23		78	78.1	0.74	5.3	1LE1002-1BC22-2AA0		19 25
3	3.45	132 S	955	30		80	79.4	0.74	7.3	1LE1002-1CC02-2AA0		34
4	4.6	132 M	950	40		83	83.4	0.74	9.2	1LE1002-1CC22-2AA0		39
5.5	6.3	132 M	950	55		85	85.3	0.75	12.4	1LE1002-1CC32-2AA0		48
	ange: IM B5				V3 <sup>2)</sup>	30	30.0	5		OOOL ENNO		
	out motor pr		23t p. 010011V	2 00.01, 1101								
1.5	1.75	100 L	940	15.3		74	72.6	0.74	3.95	1LE1002-1AC42-2FA0		20
2.2	2.55	112 M	930	23		78	78.1	0.77	5.3	1LE1002-1BC22-2FA0		26
3	3.45	132 S	955	30		80	79.4	0.74	7.3	1LE1002-1CC02-2FA0		39
4	4.6	132 M	950	40		83	83.4	0.76	9.2	1LE1002-1CC22-2FA0		44
- With	motor prote	ction with P	TC thermisto	ors with 3 er	nbedded te	mperature	sensors for	tripping				
1.5	1.75	100 L	940	15.3		74	72.6	0.74	3.95	1LE1002-1AC42-2FB0		20
2.2	2.55	112 M	930	23		78	78.1	0.77	5.3	1LE1002-1BC22-2FB0		26
3	3.45	132 S	955	30		80	79.4	0.74	7.3	1LE1002-1CC02-2FB0		39
• With s	tandard flan	ge: IM B14,	IM V18 with	out protecti	ve cover, IN	1 V 19 <sup>3)</sup>						
- With	out motor pr	rotection										
1.5	1.75	100 L	940	15.3		74	72.6	0.74	3.95	1LE1002-1AC42-2KA0		21
2.2	2.55	112 M	930	23		78	78.1	0.77	5.3	1LE1002-1BC22-2KA0		27
	690 VY, 50 I											
Withou	ut flange: IM	B3, IM B6, I	IM B7, IM B	B, IM V5 with	hout protec	tive cover, I	M V6 <sup>1)</sup>					
	out motor pr											
3	3.45	132 S	955	30		80	79.4	0.74	7.3	1LE1002-1CC03-4AA0		34
4	4.6	132 M	950	40		83	83.4	0.76	9.2	1LE1002-1CC23-4AA0		39
5.5	6.3	132 M	950	55		85	85.3	0.75	12.4	1LE1002-1CC33-4AA0		48
7.5	8.6	160 M	970	75		86	85.4	0.73	17.2	1LE1002-1DC23-4AA0		72
11	12.6	160 L	965	110	nabadd!	87.6	87.9	0.77	23.5	1LE1002-1DC43-4AA0		92
	motor prote				iibeaaea te				7.2	11 E1002-10002 44 B0		24
3 4	3.45	132 S 132 M	955 950	30 40		80	79.4	0.74	7.3 9.2	1LE1002-1CC03-4AB0		34 39
5.5	6.3	132 M	950	55		85	83.4 85.3	0.76	12.4	1LE1002-1CC23-4AB0 1LE1002-1CC33-4AB0		48
7.5	8.6	132 M	950	75		86	86.5	0.75	17.2	1LE1002-1CC33-4AB0		72
11	12.6	160 lvi	965	110		87.6	87.9	0.73	23.5	1LE1002-1DC23-4AB0		92
	ange: IM B5				V3 <sup>2)</sup>	01.0	51.5	0.11	20.0	122 1002-10043-4AD0		JL.
	out motor pr		out protectiv	o cover, ilvi	VO							
3	3.45	132 S	955	30		80	79.4	0.74	7.3	1LE1002-1CC03-4FA0		39
4	4.6	132 M	950	40		83	83.4	0.74	9.2	1LE1002-1CC23-4FA0		44
5.5	6.3	132 M	950	55		85	85.3	0.75	12.4	1LE1002-1CC33-4FA0		53
7.5	8.6	160 M	970	75		86	85.4	0.73	17.2	1LE1002-1CC33-4FA0		81
11	12.6	160 L	965	110		87.6	87.9	0.77	23.5	1LE1002-1DC43-4FA0		101
	motor prote				nbedded te				_0.0			101
4	4.6	132 M	950	40		83	83.4	0.76	9.2	1LE1002-1CC23-4FB0		44
5.5	6.3	132 M	950	55		85	85.3	0.75	12.4	1LE1002-1CC33-4FB0		53
7.5	8.6	160 M	970	75		86	85.4	0.73	17.2	1LE1002-1CC33-4FB0		81
11	12.6	160 L	965	110		87.6	87.9	0.77	23.5	1LE1002-1DC43-4FB0		101
	0	.00 L	000			3	5	2	_0.0			

These motors are standard painted with special finish color RAL 7030 (stone gray).

Additional options like protective cover and condensation drainage holes are not possible.

<sup>1)</sup> Only the type of construction IM B3 will be stamped on the rating plate.

 $<sup>^{2)}\,\,</sup>$  Only the type of construction IM B5 will be stamped on the rating plate.

<sup>3)</sup> Only the type of construction IM B14 will be stamped on the rating plate.

### General Line motors with shorter delivery time

Corder No.   Locked-rotor torque   Locked-rotor current   Breakdown torque   Class   Moment of inertia   With direct starting as multiple of rated torque   Current   torque   Torque   Current   Securing   Se	according to to DIN EN 50347
With direct starting as multiple of rated torque   Courrent   Corque   Courrent   Co	according to to DIN EN 50347
torque current torque surface sound press pressure level level at 50 Hz 50 Hz 1, FLp/Trated	to ure DIN EN 50347
Current   Current   Current   Part   Current   Part   Current	at 50347
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)   G-pole - 1000 rpm at 50 Hz, 1200 rpm at 60 Hz   230 Va/400 VY, 50 Hz, 460 VY, 60 Hz   Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6 <sup>1)</sup> - Without motor protection   LE1002-1AC42-2AA0   2	
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)	
Motor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B) 6-pole — 1000 rpm at 50 Hz, 1200 rpm at 60 Hz 230 VA/400 VY, 50 Hz, 460 VY, 60 Hz  - Without flange: IM 83, IM 86, IM 87, IM 88, IM V5 without protective cover, IM V6 <sup>1)</sup> - Without motor protection  1LE1002-1AC42-2AA0	
6-pole − 1000 rpm at 50 Hz, 1200 rpm at 60 Hz 230 V/400 VY, 50 Hz; 460 VY, 60 Hz  • Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹¹  - Without motor protection  1LE1002-1AC42-2AA0 2 4 2.2 16 0.0065 59 71  1LE1002-1BC22-2AA0 2.1 4.1 2.4 16 0.0065 57 69  1LE1002-1CC02-2AA0 2.1 4.7 2.5 16 0.02116 63 75  1LE1002-1CC32-2AA0 2.5 5.2 2.8 16 0.02116 63 75  1LE1002-1CC32-2AA0 2.5 5.2 2.8 16 0.02734 63 75  1LE1002-1CC32-2AA0 2.5 5.2 2.8 16 0.02734 63 75  1LE1002-1CC32-2AA0 2.5 5.2 2.8 16 0.0065 59 71  1LE1002-1CC32-2AA0 2.5 5.2 2.8 16 0.0065 59 71  1LE1002-1AC42-2FA0 2 4 2.2 16 0.0065 59 71  1LE1002-1AC42-2FA0 2 4 2.2 16 0.0065 59 71  1LE1002-1CC32-2FA0 2 4.6 2.6 16 0.0167 63 75  - With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping  1LE1002-1AC42-2FB0 2 4 2.2 16 0.0065 59 71  1LE1002-1AC42-2FB0 2 3 4.1 2.5 16 0.0092 68 80  1LE1002-1AC42-2FB0 2 4.6 2.6 16 0.0167 63 75  • With standard flange: IM B14, IM V18 without protective cover, IM V19³¹  - Without motor protection  1LE1002-1AC42-2KA0 2 4 2.2 16 0.0065 59 71  1LE1002-1BC22-2KA0 2.3 4.1 2.5 16 0.0092 68 80  400 V∆/690 VY, 50 Hz; 460 V∆, 60 Hz  • Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹¹  - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹¹  - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹¹  - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹¹  - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹¹  - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹¹  - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹¹  - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM	
<ul> <li>Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6<sup>1)</sup> - Without motor protection</li> <li>LE1002-1AC42-2AA0 2 4 2.2 16 0.0065 59 71 LE1002-1BC22-2AA0 2.1 4.1 2.4 16 0.0065 57 69</li> <li>LE1002-1CC02-2AA0 2 4.6 2.6 16 0.0167 63 75</li> <li>LE1002-1CC22-2AA0 2.1 4.7 2.5 16 0.02116 63 75</li> <li>LE1002-1CC32-2AA0 2.5 5.2 2.8 16 0.02734 63 75</li> <li>With flange: IM B5, IM V1 without protective cover, IM V3<sup>2)</sup> - Without motor protection</li> <li>LE1002-1BC42-2FA0 2 4 2.2 16 0.0065 59 71</li> <li>LE1002-1CC32-2AA0 2.3 4.1 2.5 16 0.0092 57 69</li> <li>LE1002-1CC32-2FA0 2 4.6 2.6 16 0.0167 63 75</li> <li>LE1002-1CC32-2FA0 2.1 4.7 2.5 16 0.02116 63 75</li> <li>LE1002-1CC32-2FA0 2.1 4.7 2.5 16 0.0216 63 75</li> <li>LE1002-1CC32-2FA0 2.1 4.7 2.5 16 0.0092 57 69</li> <li>LE1002-1CC32-2FA0 2.1 4.7 2.5 16 0.00167 63 75</li> <li>LE1002-1CC32-2FA0 2.1 4.7 2.5 16 0.00167 63 75</li> <li>With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping</li> <li>LE1002-1BC42-2FB0 2 4 2.2 16 0.0065 59 71</li> <li>LE1002-1BC32-2FB0 2 4.6 2.6 16 0.0065 59 71</li> <li>LE1002-1BC42-2FB0 2 4 2.2 16 0.0065 59 71</li> <li>LE1002-1BC42-2FB0 2 4.6 2.6 16 0.0065 59 71</li> <li>LE1002-1BC42-2FB0 2 4.6 2.6 16 0.0065 59 71</li> <li>LE1002-1BC42-2FB0 2 4.6 2.6 16 0.0065 59 71</li> <li>LE1002-1BC32-2FB0 2 4.6 2.6 16 0.0065 59 71</li> <li>LE1002-1BC42-2FB0 2 4 2.2 16 0.0065 59 71</li> <li>With standard flange: IM B14, IM V18 without protective cover, IM V19<sup>3)</sup> - Without flange: IM B14, IM V18 without protective cover, IM V6<sup>1)</sup> - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6<sup>1)</sup> - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6<sup>1)</sup> - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6<sup>1)</sup> - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6<sup>1)</sup> - Witho</li></ul>	
- Without motor protection    LE1002-1AC42-2AA0   2	
The Head of State   Head of	
1LE1002-1BC22-2AA0	
1LE1002-1CC02-2AA0   2	
1LE1002-1CC22-2AA0         2.1         4.7         2.5         16         0.02116         63         75           1LE1002-1CC32-2AA0         2.5         5.2         2.8         16         0.02734         63         75           • With flange: IM B5, IM V1 without protective cover, IM V3²¹         • Without motor protection         • Value         0.0065         59         71           1LE1002-1AC42-2FA0         2         4         2.2         16         0.0065         59         71           1LE1002-1BC22-2FA0         2.3         4.1         2.5         16         0.0167         63         75           1LE1002-1CC22-2FA0         2.1         4.7         2.5         16         0.02116         63         75           1LE1002-1CC22-2FA0         2.1         4.7         2.5         16         0.02116         63         75           1LE1002-1AC42-2FB0         2         4         2.2         16         0.0065         59         71           1LE1002-1BC22-2FB0         2.3         4.1         2.5         16         0.0167         63         75           •	
1LE1002-1CC32-2AA0       2.5       5.2       2.8       16       0.02734       63       75         • With flange: IM B5, IM V1 without protective cover, IM V3²¹	
<ul> <li>With flange: IM B5, IM V1 without protective cover, IM V3<sup>2</sup>)         <ul> <li>Without motor protection</li> </ul> </li> <li>LE1002-1AC42-2FA0 2 4 2.2 16 0.0065 59 71</li> <li>LE1002-1BC22-2FA0 2.3 4.1 2.5 16 0.0092 57 69</li> <li>LE1002-1CC02-2FA0 2 4.6 2.6 16 0.0167 63 75</li> <li>LE1002-1CC22-2FA0 2.1 4.7 2.5 16 0.02116 63 75</li> <li>With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping</li> <li>LLE1002-1AC42-2FB0 2 4 2.2 16 0.0065 59 71</li> <li>LLE1002-1BC22-2FB0 2.3 4.1 2.5 16 0.0092 68 80</li> <li>LLE1002-1CC02-2FB0 2 4.6 2.6 16 0.0167 63 75</li> <li>With standard flange: IM B14, IM V18 without protective cover, IM V19<sup>3</sup>)         <ul> <li>Without motor protection</li> </ul> </li> <li>LLE1002-1AC42-2FA0 2 4 2.2 16 0.0065 59 71</li> <li>LLE1002-1CC02-2FB0 2 4.6 2.6 16 0.0167 63 75</li> <li>Without motor protection</li> <li>LLE1002-1CC02-2FB0 2 4.6 2.6 16 0.0092 68 80</li> <li>Without motor protection</li> <li>LLE1002-1BC22-2KA0 2 4 2.2 16 0.0065 59 71</li> <li>LLE1002-1BC22-2KA0 2.3 4.1 2.5 16 0.0092 68 80</li> <li>Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6<sup>1</sup>)         <ul> <li>Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6<sup>1</sup>)</li> <li>Without motor protection</li> </ul> </li> <li>LLE1002-1CC03-4AA0 2 4.6 2.6 16 0.017 63 75</li> <li>LLE1002-1CC23-4AA0 2.1 4.7 2.5 16 0.02116 63 75</li> </ul>	
- Without motor protection    1LE1002-1AC42-2FA0   2   4   2.2   16   0.0065   59   71     1LE1002-1BC22-2FA0   2.3   4.1   2.5   16   0.0092   57   69     1LE1002-1CC02-2FA0   2   4.6   2.6   16   0.0167   63   75     1LE1002-1CC22-2FA0   2.1   4.7   2.5   16   0.02116   63   75     - With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping   1LE1002-1AC42-2FB0   2   4   2.2   16   0.0065   59   71     1LE1002-1BC22-2FB0   2.3   4.1   2.5   16   0.0092   68   80     1LE1002-1CC02-2FB0   2   4.6   2.6   16   0.0167   63   75     - With standard flange: IM B14, IM V18 without protective cover, IM V19 <sup>3</sup>     - Without motor protection   1LE1002-1AC42-2KA0   2   4   2.2   16   0.0065   59   71     1LE1002-1BC22-2KA0   2.3   4.1   2.5   16   0.0092   68   80     400 VΔ/690 VY, 50 Hz; 460 VΔ, 60 Hz   - Without motor protection    Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6 <sup>1</sup>     - Without motor protection   1LE1002-1CC03-4AA0   2   4.6   2.6   16   0.017   63   75     1LE1002-1CC03-4AA0   2   4.6   2.6   16   0.017   63   75     1LE1002-1CC03-4AA0   2   4.6   2.6   16   0.017   63   75     1LE1002-1CC03-4AA0   2   4.6   2.6   16   0.0017   63   75     1LE1002-1CC03-4AA0   2   4.7   2.5   16   0.002116   63   75     1LE1002-1CC03-4AA0   2   4.6   2.5   16   0.002116   63   75     1LE1002-1CC03-4AA0   2   4.6   2.6   16   0.002116   63   75     1LE1003-1CC03-4AA0   2   4.7   2.5   16   0.002116   63   75     1LE1003-1CC03-4AA0   2   4.6   2.6   4.7	
ILE1002-1AC42-2FA0         2         4         2.2         16         0.0065         59         71           ILE1002-1BC22-2FA0         2.3         4.1         2.5         16         0.0092         57         69           ILE1002-1CC02-2FA0         2         4.6         2.6         16         0.0167         63         75           LE1002-1CC22-2FA0         2.1         4.7         2.5         16         0.02116         63         75           With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping         LE1002-1AC42-2FB0         2         4         2.2         16         0.0065         59         71           ILE1002-1BC22-2FB0         2.3         4.1         2.5         16         0.0092         68         80           ILE1002-1CC02-2FB0         2         4.6         2.6         16         0.0167         63         75           • With standard flange: IM B14, IM V18 without protective cover, IM V19 <sup>3)</sup> - Without motor protection         4         2.2         16         0.0065         59         71           ILE1002-1AC42-2KA0         2.3         4.1         2.5         16         0.0092         68         80           400 VΔ/690 VY, 50 Hz; 460 VΔ, 60 Hz	
1LE1002-1BC22-2FA0   2.3   4.1   2.5   16   0.0092   57   69     1LE1002-1CC02-2FA0   2   4.6   2.6   16   0.0167   63   75     1LE1002-1CC22-2FA0   2.1   4.7   2.5   16   0.02116   63   75     - With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping     1LE1002-1AC42-2FB0   2   4   2.2   16   0.0065   59   71     1LE1002-1BC22-2FB0   2.3   4.1   2.5   16   0.0092   68   80     1LE1002-1CC02-2FB0   2   4.6   2.6   16   0.0167   63   75     With standard flange: IM B14, IM V18 without protective cover, IM V19 <sup>3)</sup>     - Without motor protection     1LE1002-1AC42-2KA0   2   4   2.2   16   0.0065   59   71     1LE1002-1BC22-2KA0   2.3   4.1   2.5   16   0.0092   68   80     400 VΔ/690 VY, 50 Hz; 460 VΔ, 60 Hz     • Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6 <sup>1)</sup>     - Without motor protection     1LE1002-1CC03-4AA0   2   4.6   2.6   16   0.017   63   75     1LE1002-1CC3-4AA0   2   4.6   2.6   16   0.017   63   75     1LE1002-1CC3-4AA0   2   4.6   2.6   16   0.02116   63   75     1LE1002-1CC3-4AA0   2.1   4.7   2.5   16   0.02116   63   75     1LE102-1CC3-4AA0   2.1   4.7   2.5   16   0.02116   63   75     1LE102-1CC3-4AA0   2.1   4.7   2.5   16   0.02116   63   75     1LE102-1CC3-4AA0   2.1   4.7   2.5   16   0.02116   63   75     1LE102	
ILE1002-1CC02-2FA0       2       4.6       2.6       16       0.0167       63       75         ILE1002-1CC22-2FA0       2.1       4.7       2.5       16       0.02116       63       75         With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping	FF 215
1LE1002-1CC22-2FA0       2.1       4.7       2.5       16       0.02116       63       75         - With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping         1LE1002-1AC42-2FB0       2       4       2.2       16       0.0065       59       71         1LE1002-1BC22-2FB0       2.3       4.1       2.5       16       0.0092       68       80         1LE1002-1CC02-2FB0       2       4.6       2.6       16       0.0167       63       75         • With standard flange: IM B14, IM V18 without protective cover, IM V19 <sup>3)</sup> -       Without motor protection       -       UE1002-1AC42-2KA0       2       4       2.2       16       0.0065       59       71         1LE1002-1BC22-2KA0       2.3       4.1       2.5       16       0.0092       68       80         400 VΔ/690 VY, 50 Hz; 460 VΔ, 60 Hz       •       Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6 <sup>1)</sup> -       Without motor protection         1LE1002-1CC03-4AA0       2       4.6       2.6       16       0.017       63       75         1LE1002-1CC23-4AA0       2.1       4.7       2.5       16       0.02116       63       75     <	FF 215
- With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping  1LE1002-1AC42-2FB0	FF 265
1LE1002-1AC42-2FB0       2       4       2.2       16       0.0065       59       71         1LE1002-1BC22-2FB0       2.3       4.1       2.5       16       0.0092       68       80         1LE1002-1CC02-2FB0       2       4.6       2.6       16       0.0167       63       75         • With standard flange: IM B14, IM V18 without protective cover, IM V19³)       - Without motor protection       - Without motor protection       - VIII       - VIII       - VIII       0.0065       59       71         1LE1002-1BC22-2KA0       2.3       4.1       2.5       16       0.0092       68       80         400 VΔ/690 VY, 50 Hz; 460 VΔ, 60 Hz       - Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹)       - Without motor protection         1LE1002-1CC03-4AA0       2       4.6       2.6       16       0.017       63       75         1LE1002-1CC23-4AA0       2       4.6       2.6       16       0.02116       63       75	FF 265
1LE1002-1BC22-2FB0       2.3       4.1       2.5       16       0.0092       68       80         1LE1002-1CC02-2FB0       2       4.6       2.6       16       0.0167       63       75         • With standard flange: IM B14, IM V18 without protective cover, IM V19³)       - Without motor protection       - Without motor protection       - Without motor protection       - VIII       - VIII <td< td=""><td>FE 0.15</td></td<>	FE 0.15
1LE1002-1CC02-2FB0       2       4.6       2.6       16       0.0167       63       75         • With standard flange: IM B14, IM V18 without protective cover, IM V19³)	FF 215
<ul> <li>• With standard flange: IM B14, IM V18 without protective cover, IM V19<sup>3</sup>)         - Without motor protection  1LE1002-1AC42-2KA0</li></ul>	FF 215
- Without motor protection  1LE1002-1AC42-2KA0 2 4 2.2 16 0.0065 59 71  1LE1002-1BC22-2KA0 2.3 4.1 2.5 16 0.0092 68 80  400 VΔ/690 VY, 50 Hz; 460 VΔ, 60 Hz  • Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6 <sup>1)</sup> - Without motor protection  1LE1002-1CC03-4AA0 2 4.6 2.6 16 0.017 63 75  1LE1002-1CC23-4AA0 2.1 4.7 2.5 16 0.02116 63 75	FF 265
1LE1002-1AC42-2KA0       2       4       2.2       16       0.0065       59       71         1LE1002-1BC22-2KA0       2.3       4.1       2.5       16       0.0092       68       80         400 VΔ/690 VY, 50 Hz; 460 VΔ, 60 Hz       Vithout flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹)       Vithout motor protection       1LE1002-1CC03-4AA0       2       4.6       2.6       16       0.017       63       75         1LE1002-1CC23-4AA0       2.1       4.7       2.5       16       0.02116       63       75	
1LE1002-1BC22-2KA0       2.3       4.1       2.5       16       0.0092       68       80         400 VΔ/690 VY, 50 Hz; 460 VΔ, 60 Hz       • Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹)         • Without motor protection       1LE1002-1CC03-4AA0       2       4.6       2.6       16       0.017       63       75         1LE1002-1CC23-4AA0       2.1       4.7       2.5       16       0.02116       63       75	ET 100
400 VΔ/690 VY, 50 Hz; 460 VΔ, 60 Hz         • Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6¹)         - Without motor protection         1LE1002-1CC03-4AA0       2       4.6       2.6       16       0.017       63       75         1LE1002-1CC23-4AA0       2.1       4.7       2.5       16       0.02116       63       75	FT 130 FT 130
• Without flange: IM B3, IM B6, IM B7, IM B8, IM V5 without protective cover, IM V6 <sup>1)</sup> - Without motor protection  1LE1002-1CC03-4AA0 2 4.6 2.6 16 0.017 63 75  1LE1002-1CC23-4AA0 2.1 4.7 2.5 16 0.02116 63 75	FI 130
- Without motor protection   1LE1002-1CC03-4AA0	
1LE1002-1CC03-4AA0         2         4.6         2.6         16         0.017         63         75           1LE1002-1CC23-4AA0         2.1         4.7         2.5         16         0.02116         63         75	
<b>1LE1002-1CC23-4AA0</b> 2.1 4.7 2.5 16 0.02116 63 75	
<b>1LE1002-10C33-4AA0</b> 2.1 5.5 2.9 16 0.04993 68 80	
<b>1LE1002-1DC43-4AA0</b> 1.9 5.9 2.7 16 0.0678 68 80	
- With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping	
<b>1LE1002-1CC03-4AB0</b> 2 4.6 2.6 16 0.0167 63 75	
<b>1LE1002-1CC23-4AB0</b> 2.1 4.7 2.5 16 0.02116 63 75	
1LE1002-1CC33-4AB0 2.5 5.2 2.8 16 0.02734 63 75	
<b>1LE1002-1DC23-4AB0</b> 2.1 5.5 2.9 16 0.04993 68 80	
<b>1LE1002-1DC43-4AB0</b> 1.9 5.9 2.7 16 0.0678 68 80	
With flange: IM B5, IM V1 without protective cover, IM V3 <sup>2)</sup>	
- Without motor protection	
<b>1LE1002-1CC03-4FA0</b> 2 4.6 2.6 16 0.0167 63 75	FF 265
<b>1LE1002-1CC23-4FA0</b> 2.1 4.7 2.5 16 0.02116 63 75	FF 265
<b>1LE1002-1CC33-4FA0</b> 2.5 5.2 2.8 16 0.02734 63 75	FF 265
<b>1LE1002-1DC23-4FA0</b> 2.1 5.5 2.9 16 0.04993 68 80	FF 300
<b>1LE1002-1DC43-4FA0</b> 1.9 5.9 2.7 16 0.0678 68 80	FF 300
- With motor protection with PTC thermistors with 3 embedded temperature sensors for tripping	
<b>1LE1002-1CC23-4FB0</b> 2.1 4.7 2.5 16 0.02116 63 75	
<b>1LE1002-1CC33-4FB0</b> 2.5 5.2 2.8 16 0.02734 63 75	FF 265
<b>1LE1002-1DC23-4FB0</b> 2.1 5.5 2.9 16 0.04993 68 80	FF 265 FF 265
<b>1LE1002-1DC43-4FB0</b> 1.9 5.9 2.7 16 0.0678 68 80	

These motors are standard painted with special finish color RAL 7030 (stone gray).

Additional options like protective cover and condensation drainage holes are not possible.

<sup>1)</sup> Only the type of construction IM B3 will be stamped on the rating plate.

 $<sup>^{2)}\,\,</sup>$  Only the type of construction IM B5 will be stamped on the rating plate.

<sup>3)</sup> Only the type of construction IM B14 will be stamped on the rating plate.

Self-ventilated energy-saving motors with improved efficiency

### Selection and ordering data

Rated ou	itput at	Frame size	Operating	values at r	ated outpu	t				Order No.	Price	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class accord- ing to CEMEP	at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/20.	IM B3 type of construc- tion	IM B3 type of construc- tion approx.
Prated	$P_{\text{rated}}$	FS	n <sub>rated</sub>	$T_{\rm rated}$	(EFF2)	$\eta_{rated}$	$\eta_{\mathrm{rated}}$	$\cos\!arphi_{ m rated}$	I <sub>rated</sub>			m
kW	kW		rpm	Nm		%	%		А			kg
	ersion: tem				<u>.</u>	ection, use	d acc. to t	emperatur	e class 130	) (B)		
•	– 3000 rpi		<u> </u>									
3	3.45	100 L	2835	10	EFF2	82.6	83.2	0.87	6	1LE1002-1AA4Q-QQQ		20
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	1LE1002-1BA2Q-QQQ		25
5.5	6.3	132 S	2905	18	EFF2	86	86.6	0.89	10.4	1LE1002-1CA0Q-QQQ		35
7.5	8.6	132 S	2925	24	EFF2	87.6	88.7	0.88	14	1LE1002-1CA1		40
11	12.6	160 M	2920	36	EFF2	88.4	88.5	0.85	21	1LE1002-1DA2Q-QQQ		60
15	17.3	160 M	2930	49	EFF2	89.5	89.7	0.84	29	1LE1002-1DA3Q-QQQ		68
18.5	21.3	160 L	2935	60	EFF2	90.9	91	0.86	34	1LE1002-1DA4Q-QQQ		78
4-pole -	– 1500 rpi	m at 50 H	z, 1800 rp	m at 60 H	Z							
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	1LE1002-1AB4Q-QQQ		18
3	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	1LE1002-1AB5Q-QQQ		22
4	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	1LE1002-1BB2Q-QQQ		27
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	1LE1002-1CB0Q-QQQ		38
7.5	8.6	132 M	1450	49	EFF2	87	87.4	0.83	15	1LE1002-1CB2Q-QQQ		44
11	12.6	160 M	1460	72	EFF2	88.4	88.1	0.82	22	1LE1002-1DB2Q-QQQ		62
15	17.3	160 L	1460	98	EFF2	89.4	89.7	0.82	29.5	1LE1002-1DB4Q-QQQ		73
6-pole -	– 1000 rpi	m at 50 H	z, 1200 rp	m at 60 H	Z							
1.5	1.75	100 L	940	15.3		74	72.6	0.74	3.95	1LE1002-1AC4Q-QQQ		19
2.2	2.55	112 M	930	23		78	78.1	0.77	5.3	1LE1002-1BC2Q-QQQ		25
3	3.45	132 S	955	30		80	79.4	0.74	7.3	1LE1002-1CC0Q-QQQ		34
4	4.6	132 M	950	40		83	83.4	0.76	9.2	1LE1002-1CC2U-UUU		39
5.5	6.3	132 M	950	55		85	85.3	0.75	12.4	1LE1002-1CC3U-UUU		48
7.5	8.6	160 M	970	75		86	85.4	0.73	17.2	1LE1002-1DC2Q-QQQ		72
11	12.6	160 L	965	110		87.6	87.9	0.77	23.5	1LE1002-1DC4U-UUU		92
8-pole -	– 750 rpm	at 50 Hz,	900 rpm	at 60 Hz								
0.75	0.86	100 L	705	10.4		65.4	60.2	0.62	2.65	1LE1002-1AD4Q-QQQ		17
1.1	1.3	100 L	705	15.1		68.3	67.6	0.63	3.7	1LE1002-1AD5Q-QQQ		22
1.5	1.75	112 M	700	20		75.9	72.8	0.68	4.2	1LE1002-1BD2Q-QQQ		25
2.2	2.55	132 S	715	29		81	80.4	0.66	5.9	1LE1002-1CD0Q-QQQ		37
3	3.45	132 M	710	40		81.6	81.4	0.68	7.8	1LE1002-1CD2Q-QQQ		44
4	4.6	160 M	720	53		80	78.7	0.69	10.4	1LE1002-1DD2Q-QQQ		60
5.5	6.3	160 M	720	73		83.5	83.9	0.70	13.6	1LE1002-1DD3Q-QQQ		72
7.5	8.6	160 L	715	100		83.5	84.7	0.70	18.6	1LE1002-1DD4Q-QQQ		91
-			-					-				

#### Note:

The 2-, 4-, and 6-pole motors listed above can be delivered ex stock with shorter delivery time.

These motors can be selected from defined versions (voltages, types of construction, motor protection and position of the connection box) in section "General Line motors with shorter delivery time" on Pages 1/8 to 1/17.

Self-ventilated energy-saving motors with improved efficiency

Selection and ordering data (continued)											
Order No.	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated ou					
		g as multiple of rat	ted			Measuring- surface sound	Sound pressure level at 50 Hz				
	torque	current	torque			pressure level at 50 Hz	level at 50 Hz				
	$T_{LR}/T_{rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	J kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)				
Motor version: temperatur			ection, used acc.	to temperature cl	ass 130 (B)						
2-pole – 3000 rpm at 50			0.0	10	0.0004	07	70				
1LE1002-1AA4U-UUU	3.2	6.2	2.9	16	0.0034	67	79				
1LE1002-1BA2Q-QQQ	2.7	7.3	3.7	16	0.0067	69	81				
1LE1002-1CA0Q-QQQQ	2.2	5.6 6.4	2.6	16 16	0.01267	68	80				
1LE1002-1CA1G-GGG	2.2	6.1	2.7	16	0.01601 0.02971	68 70	82				
1LE1002-1DA2G-GGG	2.5	6.1	3.2	16	0.03619	70	82				
1LE1002-1DA3Q-QQQ	2.5	7	3.2	16	0.03619	70	82				
4-pole – 1500 rpm at 50		· ·	3.2	10	0.04393	70	02				
1LE1002-1AB4Q-QQQ	2.3	5.1	2.7	16	0.0059	60	72				
1LE1002-1AB5Q-QQQ	2.4	5.4	2.6	16	0.0078	60	72				
1LE1002-1BB2Q-QQQ	2.2	5.3	2.6	16	0.0102	58	70				
1LE1002-1CB0Q-QQQ	2.3	6.2	2.7	16	0.0186	64	76				
1LE1002-1CB2Q-QQQ	2.5	6.6	2.9	16	0.02371	64	76				
1LE1002-1DB2Q-QQQ	2.3	6.4	3.1	16	0.04395	65	77				
1LE1002-1DB4Q-QQQ	2.5	7	3.4	16	0.05616	65	77				
6-pole - 1000 rpm at 50	Hz, 1200 rpm	at 60 Hz									
1LE1002-1AC4Q-QQQ	2	4	2.2	16	0.0065	61	73				
1LE1002-1BC2Q-QQQ	2.3	4.1	2.5	16	0.0092	68	80				
1LE1002-1CC0Q-QQQ	2	4.6	2.6	16	0.0167	63	75				
1LE1002-1CC2	2.1	4.7	2.5	16	0.02116	63	75				
1LE1002-1CC3	2.5	5.2	2.8	16	0.02734	63	75				
1LE1002-1DC2	2.1	5.5	2.9	16	0.04993	68	80				
1LE1002-1DC4Q-QQQ	1.9	5.9	2.7	16	0.0678	68	80				
8-pole – 750 rpm at 50	Hz, 900 rpm at	60 Hz									
1LE1002-1AD4Q-QQQ	1.9	3	2.2	16	0.0056	60	72				
1LE1002-1AD5Q-QQQ	2	3.2	2.3	16	0.0078	60	72				
1LE1002-1BD2Q-QQQ	1.9	3.4	2.1	16	0.0094	63	75				
1LE1002-1CD0Q-QQQ	1.7	3.9	2.4	13	0.0186	63	75				
1LE1002-1CD2Q-QQQ	1.8	3.9	2.2	13	0.02372	63	75				
1LE1002-1DD2Q-QQQ	1.7	3.8	2.3	13	0.0439	63	75				
1LE1002-1DD3Q-QQQ	1.6	4	2.2	13	0.0562	63	75				
1LE1002-1DD4Q-QQQ	1.7	3.8	2.2	13	0.0772	63	75				

Self-ventilated energy-saving motors with improved efficiency

#### Selection and ordering data (continued)

Order No. supplements

	Frame size	Positions 12 au Standard volta 50 Hz	nd 13: Voltages ges	(voltage	codes)	Further voltages			
			400 VΔ/690 VY	500 VY	500 VΔ		380 VΔ/660 VY	415 VY	415 V <b>∆</b>
		60 Hz				Rated voltage ran			
		460 VY	460 VΔ			(210 230 VΔ/ 360 400 VY) <sup>1)</sup>	(360 400 VΔ/ 625 695 VY) <sup>1)</sup>	(395 435 VY) <sup>1)</sup>	(395 435 VΔ) <sup>1)</sup>
		see "Selection a outputs at 60 H	and ordering dat z	a" for					
		22	34	27	40	21	33	23	35
1LE1002-1A□-□	100 L	0	0	0	0	/	/	/	/
1LE1002-1B□-□	112 M	0	0	0	0	/	/	1	/
1LE1002-1C□-□	132 S/M	0	0	0	0	✓	✓	1	✓
1LE1002-1D□-□	160 M/L	0	0	0	0	✓	✓	✓	✓

O Without additional charge 
✓ With additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/54).

Motor type	Frame		Positio	on 14: T	ypes of	constru	ction (t	ype lette	r)						
	size		Withou	ut flang	е					With fla	nge (ac	c. to DIN	EN 5034	7)	
			IM B3 2) 3)	IM B6 3)	IM B7 3)	IM B8 3)	IM V6	IM V5 without protec- tive cover 3)	IM V5 with protec- tive cover 3) 4) 5)	Flange size	IM B5 3) 6)	IM V1 without protec- tive cover 3)	IM V1 with protec- tive cover 3) 4) 5)	IM V3	IM B35
			Α	Т	U	V	D	С	С		F	G	G	Н	J
		Order No. sup- plement <b>-Z</b> with order code		-	-	-	-	-	-Z H00		-	-	-Z H00	-	-
1LE1002-1A□	100 L								/	FF 215	/	1	1	1	/
1LE1002-1B□	112 M								1	FF 215	1	1	1	1	1
1LE1002-1C□	132 S/M								✓	FF 265	/	✓	✓	✓	/
1LE1002-1D□	160 M/L								/	FF 300	/	/	/	/	/

Motor type	Frame size		Position	14: Type	s of cons	struction	(type lette	er)						
				ndard fla DIN EN 5					With sta (next lar EN 5034	ger stan		nge acc.	to DIN	
			Flange size	IM B14 3) 7)	IM V19	IM V18 without protec- tive cover 3)	IM V18 with pro- tective cover 3) 4) 5)	IM B34	Flange size	IM B14	IM V19	IM V18 without protec- tive cover 3)	IM V18 with protec- tive cover 3) 4) 5)	IM B34
				K	L	M	M	N		K	L	M	M	N
		Order No.sup- plement -Z with		-	-	-	-Z H00	-		-Z	-Z	-Z	-Z H00	-Z
		order code								P01	P01	P01	P01	P01
1LE1002-1A□	100 L		FT 130	✓	✓	✓	✓	✓	FT 165	/	/	✓	✓	✓
1LE1002-1B□	112 M		FT 130	/	/	/	1	/	FT 165	/	/	✓	/	/
1LE1002-1C□	132 S/M		FT 165	/	/	/	/	/	FT 215	/	/	✓	✓	1
1LE1002-1D□	160 M/L		FT 215	/	/	/	/	/	-	-	-	-	-	-

### □ Standard version✓ With additional charge

- 1) A rated voltage range is also specified on the rating plate.
- The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate. With type of construction IM V5 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.
- The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code H03), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.
- 4) Option second shaft extension (order code **L05**) not possible

- 5) In combination with an encoder, it is not necessary to order the protective cover (order code H00), as this is delivered as a protection for the encoder as standard. In this case, the protective cover is standard design (without additional charge).
- The types of construction IM V3 and IM V1 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate. With type of construction IM V1 with protective cover, the protective cover has to be additionally ordered with order code H00. The protective cover is not stamped on the rating plate.
- The types of construction IM V19 and IM V18 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate. With type of construction IM V18 with protective cover, the protective cover has to be additionally ordered with order code H00. The protective cover is not stamped on the rating plate.

Self-ventilated energy-saving motors with improved efficiency

### Selection and ordering data (continued)

Motor type	Frame size	Position 15: Mo	tor protection (mo	tor protection lette	er)		
		Without motor protection	Motor protection with PTC ther- mistors with 3 embedded temperature sensors for tripping 1)	Motor protection with PTC ther- mistors with 6 embedded temperature sen- sors for alarm and tripping 1)	Motor tempera- ture detection with embedded temperature sensor KTY 84-130 <sup>1)</sup>	NTC thermistors for tripping	Temperature detectors for tripping 1)
		Α	В	С	F	Z	Z
	Order code					Q2A	Q3A
1LE1002-1A□.	100 L		✓	1	✓	✓	✓
1LE1002-1B□.	112 M		✓	✓	✓	✓	✓
1LE1002-1C□.	132 S/M		✓	✓	✓	✓	✓
1LE1002-1D□.	160 M/L		✓	/	/	/	/

□ ✓ Standard version With additional charge

Motortyp	Frame size	Position 16: Connection b	ox (connection box code)		
		Connection box top <sup>2)</sup>	Connection box on RHS 3)	Connection box on LHS 3)	Connection box bottom <sup>3)</sup>
		4	5	6	7
1LE1002-1A□	100 L		✓	✓	✓
1LE1002-1B□	112 M		✓	✓	✓
1LE1002-1C	132 S/M		✓	✓	✓
1LE1002-1D□	160 M/L		1	1	<b>√</b>

□ ✓ Standard version

With additional charge

<sup>1)</sup> Evaluation with appropriate tripping unit (see Catalog LV 1) is recom-

With type of construction, cast feet as standard. Screwed-on feet are available with order code H01, see "Special versions".

 $<sup>^{3)}</sup>$  With type of construction, screwed-on feet as standard.

Self-ventilated energy-saving motors with high efficiency

Selection and o	rderina	data
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OCICCII	on and o	racing c	iata									
Rated or	utput at	Frame size	Operating	y values at i	rated outpu	t				Order No.	Price	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz		at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/24.	type of	IM B3 type of construc- tion approx.
Prated	$P_{\text{rated}}$	FS	n <sub>rated</sub>	$T_{\rm rated}$	(EFF I)	$\eta_{rated}$	$\eta_{rated}$	$\cos\!arphi_{ m rated}$	I <sub>rated</sub>			m
kW	kW		rpm	Nm	CFF	%	%		Α			kg
Motor v	ersion: ten	nperature o	lass 155 (F	), IP55 deg	ree of prot	ection, use	ed acc. to t	emperatur	e class 130	) (B)		
	according											
2-pole	– 3000 rp	m at 50 H	lz, 3600 rp	m at 60 H	z							
3	3.45	100 L	2905	9.9	EFF1	86.7	87.5	0.84	5.9	1LE1001-1AA4Q-QQQ		21
4	4.6	112 M	2950	13	EFF1	88	88.5	0.86	7.4	1LE1001-1BA2Q-QQQ		27
5.5	6.3	132 S	2950	18	EFF1	89.5	90.6	0.87	10.2	1LE1001-1CA0		39
7.5	8.6	132 S	2950	24	EFF1	90	91	0.87	13.8	1LE1001-1CA1Q-QQQ		43
11	12.6	160 M	2955	36	EFF1	90.8	91	0.87	20	1LE1001-1DA2Q-QQQ		67
15	17.3	160 M	2955	48	EFF1	91.4	91.5	0.88	27	1LE1001-1DA3Q-QQQ		75
18.5	21.3	160 L	2955	60	EFF1	92	92.5	0.88	33	1LE1001-1DA4Q-QQQ		84
4-pole	– 1500 rp	m at 50 H	lz, 1800 rp	m at 60 H	z							
2.2	2.55	100 L	1455	14	EFF1	86.4	87	0.81	4.55	1LE1001-1AB4Q-QQQ		21
3	3.45	100 L	1455	20	EFF1	87.4	88	0.82	6	1LE1001-1AB5Q-QQQ		25
4	4.6	112 M	1460	26	EFF1	88.3	88.5	0.81	8.1	1LE1001-1BB2Q-QQQ		29
5.5	6.3	132 S	1465	36	EFF1	89.2	89.5	0.80	11.2	1LE1001-1CB0Q-QQQ		42
7.5	8.6	132 M	1465	49	EFF1	90.1	91	0.83	14.4	1LE1001-1CB2Q-QQQ		49
11	12.6	160 M	1470	71	EFF1	91.2	91.8	0.85	20.5	1LE1001-1DB2Q-QQQ		71
15	17.3	160 L	1475	97	EFF1	92	92.4	0.85	27.5	1LE1001-1DB4Q-QQQ		83
6-pole	– 1000 rp	m at 50 H	lz, 1200 rp	m at 60 H	z							
1.5	1.75	100 L	970	15		84.5	84.5	0.73	3.5	1LE1001-1AC4Q-QQQ		25
2.2	2.55	112 M	965	22		85	85	0.75	5	1LE1001-1BC2Q-QQQ		29
3	3.45	132 S	970	30		85	85	0.74	6.9	1LE1001-1CC0Q-QQQ		38
4	4.6	132 M	970	39		86	86	0.78	8.6	1LE1001-1CC2Q-QQQ		43
5.5	6.3	132 M	970	54		88	88	0.77	11.8	1LE1001-1CC3Q-QQQ		52
7.5	8.6	160 M	975	73		89	89	0.77	15.8	1LE1001-1DC2Q-QQQ		77
11	12.6	160 L	975	108		89.5	89	0.80	22	1LE1001-1DC4Q-QQQ		93
8-pole	– 750 rpn	n at 50 Hz	, 900 rpm	at 60 Hz								
0.75	0.86	100 L	725	9.9		68	65	0.58	2.75	1LE1001-1AD4Q-QQQ		21
1.1	1.3	100 L	725	14		68	64.5	0.58	4.05	1LE1001-1AD5Q-QQQ		25
1.5	1.75	112 M	720	20		77	75.5	0.67	4.2	1LE1001-1BD2Q-QQQ		29
2.2	2.55	132 S	725	29		77.5	76.7	0.63	6.5	1LE1001-1CD0Q-QQQ		41
3	3.45	132 M	730	40		84	82	0.65	7.9	1LE1001-1CD2Q-QQQ		49
4	4.6	160 M	730	52		87	88	0.69	9.6	1LE1001-1DD2Q-QQQ		69
5.5	6.3	160 M	735	72		87.5	89	0.69	13.2	1LE1001-1DD3Q-QQQ		82
7.5	8.6	160 L	730	98		88	89	0.72	17	1LE1001-1DD4Q-QQQ		94

Self-ventilated energy-saving motors with high efficiency

Selection and ordering	<b>g data</b> (continu	ied)					
Order No.	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated or	utput
	with direct starting	ng as multiple of ra	ted			Measuring-	Sound pressure
	torque	current	torque			surface sound pressure level at 50 Hz	level at 50 Hz
	$T_{LR}/T_{rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	<i>J</i> kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)
Motor version: temperatur	re class 155 (F), I	P55 degree of pro	tection, used acc	. to temperature of	class 130 (B)		
For use according to CEM							
2-pole – 3000 rpm at 50	0 Hz, 3600 rpm	at 60 Hz					
1LE1001-1AA4Q-QQQ	2.3	7	3.3	16	0.0044	67	79
1LE1001-1BA2Q-QQQ	2.4	7.4	3.3	16	0.0092	69	81
1LE1001-1CA0U-UUU	1.8	6.7	2.9	16	0.02012	68	80
1LE1001-1CA1Q-QQQ	2.2	7.5	3.1	16	0.02353	68	80
1LE1001-1DA2Q-QQQ	2.1	7.4	3.2	16	0.04471	70	82
1LE1001-1DA3Q-QQQ	2.4	7.6	3.4	16	0.05277	70	82
1LE1001-1DA4Q-QQQ	2.9	7.9	3.6	16	0.06085	70	82
4-pole – 1500 rpm at 50	0 Hz, 1800 rpm	at 60 Hz					
1LE1001-1AB4Q-QQQ	2.1	6.9	3.3	16	0.0086	60	72
1LE1001-1AB5Q-QQQ	2	6.9	3.1	16	0.0109	60	72
1LE1001-1BB2Q-QQQ	2.5	7.1	3.2	16	0.014	58	70
1LE1001-1CB0Q-QQQ	2.3	6.9	2.9	16	0.02698	64	76
1LE1001-1CB2Q-QQQ	2.3	6.9	2.9	16	0.03353	64	76
1LE1001-1DB2Q-QQQ	2.2	6.7	2.8	16	0.06495	65	77
1LE1001-1DB4Q-QQQ	2.5	7.3	3	16	0.08281	65	77
6-pole – 1000 rpm at 50	0 Hz, 1200 rpm	at 60 Hz					
1LE1001-1AC4Q-QQQ	2	6.2	2.9	16	0.0113	59	71
1LE1001-1BC2Q-QQQ	2.1	6	3.1	16	0.0139	57	69
1LE1001-1CC0Q-QQQ	1.6	5.6	2.6	13	0.02371	63	75
1LE1001-1CC2Q-QQQ	1.6	5.6	2.5	13	0.02918	63	75
1LE1001-1CC3Q-QQQ	1.9	6.1	2.8	16	0.03673	63	75
1LE1001-1DC2Q-QQQ	1.8	6.3	2.8	16	0.0754	67	79
1LE1001-1DC4Q-QQQ	1.7	6.2	2.7	16	0.0975	67	79
8-pole – 750 rpm at 50	Hz, 900 rpm at	60 Hz					
1LE1001-1AD4Q-QQQ	1.6	4	2.8	13	0.0086	60	72
1LE1001-1AD5Q-QQQ	1.8	4	2.8	13	0.0109	60	72
1LE1001-1BD2Q-QQQ	1.4	4.2	2.4	13	0.014	63	75
1LE1001-1CD0Q-QQQ	1.4	3.6	1.8	10	0.02698	63	75
1LE1001-1CD2Q-QQQ	1.4	5	2.4	10	0.03463	63	75
1LE1001-1DD2Q-QQQ	1.8	4.3	2	13	0.0649	63	75
1LE1001-1DD3Q-QQQ	2.1	4.4	2.1	13	0.0828	63	75
1LE1001-1DD4Q-QQQ	1.9	4.5	2.1	13	0.0982	63	75

Self-ventilated energy-saving motors with high efficiency

#### Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 at Standard volta	nd 13: Voltages ges	(voltage	codes)	Further voltages			
			400 VΔ/690 VY	500 VY	500 VΔ		380 VΔ/660 VY	415 VY	415 VΔ
		60 Hz				Rated voltage ran			
		460 VY	460 VΔ			(210 230 VΔ/ 360 400 VY) 1)	(360 400 VΔ/ 625 695 VY) <sup>1)</sup>	(395 435 VY) <sup>1)</sup>	(395 435 VΔ) <sup>1)</sup>
		see "Selection a outputs at 60 H	and ordering dat z	a" for					
		22	34	27	40	21	33	23	35
1LE1001-1A□-□	100 L	0	0	0	0	/	/	✓	/
1LE1001-1B□-□	112 M	0	0	0	0	✓	✓	✓	/
1LE1001-1C□-□	132 S/M	0	0	0	0	1	1	✓	/
1LE1001-1D□-□	160 M/L	0	0	0	0	✓	✓	✓	✓

O Without additional charge 
✓ With additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/54).

Motor type	Frame size			n 14: Ty ıt flange	pes of c	onstruc	tion (ty	pe letter	·)	With fla	ange (ad	c. to DIN	I EN 503	47)	
			IM B3 2)3)	IM B6	IM B7	IM B8	IM V6	IM V5 without protec- tive cover 3)	IM V5 with protec- tive cover 3) 4) 5)	3120	IM B5 3) 6)	IM V1 without protec- tive cover 3)	IM V1 with protec- tive cover 3) 4) 5)	IM V3	IM B35
			Α	Т	U	V	D	С	С		F	G	G	Н	J
		Order No. sup- plement <b>-Z</b> with order code	-	-	-	-	-	-	-Z H00		-	-	-Z H00	-	-
1LE1001-1A□	100 L								/	FF 215	/	/	/	/	/
1LE1001-1B□	112 M								/	FF 215	1	1	/	1	1
1LE1001-1C□	132 S/M								1	FF 265	1	✓	1	✓	✓
1LE1001-1D□	160 M/L								✓	FF 300	1	✓	1	1	1

Motor type	Frame size		Position	14: Type	s of cons	truction (	type lette	r)						
				ndard fla DIN EN 5						andard f acc. to D			er stande	erd
			Flange size	IM.B14 3) 7)	IM V19 3)	IM V18 without protec- tive cover 3)	IM V18 with pro- tective cover 3) 4) 5)	IM B34	Flange size	IM B14 3) 7)	IM V19	IM V18 without protec- tive cover 3)		IM B34
				K	L	M	M	N		K	L	М	М	N
		Order No. supplement -Z with		-	-	-	-Z H00	-		-Z	-Z	-Z	-Z H00	-Z
		order code								P01	P01	P01	P01	P01
1LE1001-1A□	100 L		FT 130	✓	✓	✓	✓	✓	FT 165	✓	✓	✓	✓	✓
1LE1001-1B□	112 M		FT 130	✓	✓	✓	✓	✓	FT 165	✓	✓	✓	✓	✓
1LE1001-1C□	132 S/M		FT 165	✓	✓	✓	✓	✓	FT 215	✓	✓	✓	✓	✓
1LE1001-1D□	160 M/L		FT 215	/	/	/	✓	1	-	-	-	-	-	-

- Standard version✓ With additional charge
- 1) A rated voltage range is also specified on the rating plate.
- 2) The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate. With type of construction IM V5 with protective cover, the protective cover has to be additionally ordered with order code H00. The protective cover is not stamped on the rating plate.
- 3) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code H03), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.
- 4) Option second shaft extension (order code L05) not possible.

- 5) In combination with an encoder, it is not necessary to order the protective cover (order code H00), as this is delivered as a protection for the encoder as standard. In this case, the protective cover is standard design (without additional charge).
- The types of construction IM V3 and IM V1 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate. With type of construction IM V1 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.
- 7) The types of construction IM V19 and IM V18 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate. With type of construction IM V18 with protective cover, the protective cover has to be additionally ordered with order code H00. The protective cover is not stamped on the rating plate.

Self-ventilated energy-saving motors with high efficiency

### Selection and ordering data (continued)

Motor type	Frame		Position 15: Mot	or protection (mo	tor protection lette	er)		
	size		Without motor protection	Motor protection with PTC ther- mistors with 3 embedded temperature sensors for tripping 1)	Motor protection with PTC ther- mistors with 6 embedded temperature sensors for alarm and tripping 1)	Motor tempera- ture detection with embedded temperature sensor KTY 84-130 <sup>1)</sup>	NTC thermistors for tripping	Temperature detectors for tripping <sup>1)</sup>
			Α	В	С	F	Z	Z
		Order code					Q2A	Q3A
1LE1001-1A□.	100 L			✓	✓	✓	✓	1
1LE1001-1B□.	112 M			✓	✓	1	✓	<b>✓</b>
1LE1001-1C□.	132 S/M			✓	✓	/	/	<b>✓</b>
1LE1001-1D	160 M/L		П	1	1	1	1	1

□ Standard version✓ With additional charge

Motor type	Frame	Position 16: Connectio	n box (connection box code)		
	size	Connection box top <sup>2)</sup>	Connection box on RHS <sup>3)</sup>	Connection box on LHS 3)	Connection box bottom 3)
		4	5	6	7
1LE1001-1A□	100 L		✓	✓	✓
1LE1001-1B	112 M		<b>√</b>	✓	✓
1LE1001-1C	132 S/M		<b>√</b>	✓	✓
1LE1001-1D	160 M/L		/	/	/

□ Standard version✓ With additional charge

Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended

With type of construction, cast feet as standard. Screwed-on feet are available with order code H01, see "Special versions".

 $<sup>^{3)}</sup>$  With type of construction, screwed-on feet as standard.

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### Selection and ordering data (continued)

Rated ou	utput at	Frame size	Operating	g values at	rated outp	out			Order No.	Price	Weight
50 Hz	60 Hz	3120	Rated speed at 60 Hz	Rated torque at 60 Hz	EPACT with CC-No. CCxxx	Nominal effi- ciency at 60 Hz	Power factor at 60 Hz 4/4-load	460 V,	For Order No. supplements for voltage, type of con- struction, motor protection and connection box, see from Page 1/28	IM B3 type of construc- tion	IM B3 type of construc- tion approx.
P <sub>rated</sub> kW	P <sub>rated</sub> HP	FS	n <sub>rated</sub>	T <sub>rated</sub> Nm		$\eta_{ m rated}$	cos $arphi_{ m rated}$	I <sub>rated</sub>			m kg
Motor ve	ersion: temp	erature cla			ee of pro	tection, used acc.	to temperatu		30 (B)		9
	in the North		. ,.			,			( )		
	– 3600 rpn										
3	4	100 L	3520	8.1	A. S.	86.5	0.83	5.2	1LE1001-1AA4Q-QQQ		21
4	5	112 M	3565	9.9	A. S.	87.5	0.84	6.3	1LE1001-1BA2Q-QQQ		27
5.5	7.5	132 S	3560	15	A. S.	89.5	0.86	9	1LE1001-1CA0U-UUU		39
7.5	10	132 S	3560	20	A. S.	90.2	0.87	12	1LE1001-1CA1Q-QQQ		43
11	15	160 M	3560	30	A. S.	90.2	0.86	17.8	1LE1001-1DA2Q-QQQ		67
15	20	160 M	3565	40	A. S.	91	0.87	24	1LE1001-1DA3Q-QQQ		75
18.5	25	160 L	3565	50	A. S.	91.7	0.87	29	1LE1001-1DA4Q-QQQ		84
4-pole	– 1800 rpn	n at 60 Hz									
2.2	3	100 L	1760	12	A. S.	87.5	0.78	4.05	1LE1001-1AB4Q-QQQ		21
3	4	100 L	1765	16	A. S.	87.5	0.79	5.4	1LE1001-1AB5Q-QQQ		25
4	5	112 M	1770	20	A. S.	88.5	0.77	6.8	1LE1001-1BB2Q-QQQ		29
5.5	7.5	132 S	1770	30	A. S.	89.5	0.78	9.9	1LE1001-1CB0Q-QQQ		42
7.5	10	132 M	1770	40	A. S.	89.5	0.82	12.8	1LE1001-1CB2Q-QQQ		49
11	15	160 M	1775	59	A. S.	91	0.84	18.1	1LE1001-1DB2Q-QQQ		71
15	20	160 L	1780	80	A. S.	91.7	0.84	24.5	1LE1001-1DB4Q-QQQ		83
6-pole	– 1200 rpn	n at 60 Hz									
1.5	2	100 L	1175	12	A. S.	86.5	0.69	3.15	1LE1001-1AC4Q-QQQ		25
2.2	3	112 M	1170	18	A. S.	87.5	0.73	4.3	1LE1001-1BC2Q-QQQ		29
3	4	132 S	1175	24	A. S.	87.5	0.7	6.1	1LE1001-1CC0Q-QQQ		38
4	5	132 M	1180	30	A. S.	87.5	0.73	7.3	1LE1001-1CC2Q-QQQ		43
5.5	7.5	132 M	1175	45	A. S.	89.5	0.74	10.4	1LE1001-1CC3Q-QQQ		52
7.5	10	160 M	1180	61	A. S.	89.5	0.74	14.2	1LE1001-1DC2Q-QQQ		77
11	15	160 L	1180	89	A. S.	90.2	0.78	19.6	1LE1001-1DC4Q-QQQ		93

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Self-ventilated energy-saving motors with high efficiency

Selection and orderin	g data (continu	ed)					
Order No.	Locked-rotor torque	Locked-rotor current	Breaddown torque	Torque class	Moment of inertia	Noise at rated out	put
	with direct starting	g as multiple of rate	ed			Measuring-	Sound pressure
	torque	current	torque			surface sound pressure level at 60 Hz	level at 60 Hz
	$T_{\rm LR}/T_{\rm rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	<i>J</i> kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)
Motor version: temperatu	re class 155 (F), IF	P55 degree of prot	ection, used acc.	to temperature cl	lass 130 (B)		
For use in the North Ame		rding to EPACT					
2-pole – 3600 rpm at 6	0 Hz						
1LE1001-1AA4Q-QQQ	2.56	7.3	3.83	16	0.0044	71	83
1LE1001-1BA2Q-QQQ	2.9	7.8	4	16	0.0092	73	85
1LE1001-1CA0Q-QQQ	2.04	6.9	3.3	16	0.02012	72	84
1LE1001-1CA1Q-QQQ	2.3	7.4	3.56	16	0.02353	72	84
1LE1001-1DA2Q-QQQ		7.4	3.63	16	0.04471	77	89
1LE1001-1DA3Q-QQQ		7.6	3.91	16	0.05277	77	89
1LE1001-1DA4Q-QQQ		7.9	4.1	16	0.06085	77	89
4-pole – 1800 rpm at 6							
1LE1001-1AB4Q-QQQ	2.45	7.3	3.85	16	0.0086	62	74
1LE1001-1AB5Q-QQQ	2.38	7.5	3.68	16	0.0109	62	74
1LE1001-1BB2Q-QQQ	3	7.5	4	16	0.014	62	74
1LE1001-1CB0Q-QQQ	2.61	7.3	3.29	16	0.02698	68	80
1LE1001-1CB2Q-QQQ	2.7	7.1	3.407	16	0.03353	68	80
1LE1001-1DB2Q-QQQ	2.65	7	3.22	16	0.06495	69	81
1LE1001-1DB4Q-QQQ		7.7	3.37	16	0.08281	69	81
6-pole – 1200 rpm at 6	0 Hz						
1LE1001-1AC4Q-QQQ	2.33	6.4	3.38	16	0.0113	62	74
1LE1001-1BC2Q-QQQ	2.3	6.5	3.4	16	0.0139	60	72
1LE1001-1CC0Q-QQQ	1.75	5.8	3.03	13	0.02371	67	79
1LE1001-1CC2Q-QQQ	2.08	5.8	3.166	13	0.02918	67	79
1LE1001-1CC3Q-QQQ	2.04	6.3	3.17	16	0.03673	67	79
1LE1001-1DC2Q-QQQ	1.95	6.3	3.213	16	0.0754	70	82
1LE1001-1DC4Q-QQQ	1.834	6.2	2.98	16	0.0975	70	82

Self-ventilated energy-saving motors with high efficiency

### Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 a	nd 13: Voltages (voltage codes)
		Standard volta	ages
		60 Hz	
		460 VY	460 V∆
		see "Selection 60 Hz	and ordering data" for outputs at
		22	34
1LE1001-1A□-□	100 L	0	0
1LE1001-1B□-□	112 M	0	0
1LE1001-1C□-□	132 S/M	0	0
1LE1001-1D□-□	160 M/L	0	0

- Without additional charge
- ✓ With additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/54).

Motor type	Frame size		Positio	on 14: T	ype of c	onstruc	tion (ty	pe letter)	)						
			With fl	ange						With flai	nge (acc	. to DIN I	EN 5034	7)	
			IM B3	IM B6 2)	IM B7	IM B8	IM V6	IM V5 without protec- tion cover 2)	IM V5 with protec- tion cover 2) 3) 4)	Flange size	IM B5 2) 5)	IM V1 without protec- tion cover 2)		IM V3	IM B35
			Α	т	U	V	D	С	С		F	G	G	н	J
		Order No. supplement -Z with order code	-	-	-	-	-	-	-Z H00		-	-	-Z H00	-	-
1LE1001-1A□	100 L								/	FF 215	1	/	/	1	/
1LE1001-1B□	112 M								1	FF 215	1	1	1	1	1
1LE1001-1C□	132 S/M								✓	FF 265	1	✓	1	1	/
1LE1001-1D□	160 M/L								/	FF 300	/	/	/	/	1

Motor type	Frame size		Position	14: Type	of const	ruction (t	ype letter)	)						
				ndard fla DIN EN 5					With sta (next lar			ge acc. t	o DIN EN	N 50347)
			Flange size	IM B14 2) 6)	IM V19 2)	IM V18 without protec- tive cover 2)	IM V18 with pro- tective cover 2) 3) 4)	IM B34	Flange size	IM B14 2) 6)	IM V19 2)	IM V18 without protec- tive cover 2)	IM V18 with protec- tive 2) 3) 4)	IM B34
				K	L	М	М	N		K	L	М	M	N
		Order No. supplement		-	-	-	-Z H00	-		-Z	-Z	-Z	-Z H00	-Z
		- <b>Z</b> with order code					1100			P01	P01	P01	P01	P01
1LE1001-1A□	100 L		FT 130	1	/	1	/	1	FT 165	1	1	1	1	1
1LE1001-1B□	112 M		FT 130	✓	✓	✓	✓	✓	FT 165	1	✓	✓	✓	✓
1LE1001-1C□	132 S/M		FT 165	✓	✓	✓	✓	✓	FT 215	✓	✓	✓	✓	✓
1LE1001-1D□	160 M/L		FT 215	1	1	1	✓	1	-	-	-	-	-	-

- □ Standard version✓ With additional charge
- The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate. With type of construction IM V5 with protective cover, the protective cover has to be additionally ordered with order code H00. The protective cover is not stamped on the rating plate.
- The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code H03), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.
- Option second shaft extension (order code L05) not possible
- 4) In combination with an encoder, it is not necessary to order the protective cover (order code **H00**), as this is delivered as a protection for the encoder as standard. In this case, the protective cover is standard design (without additional charge).
- 5) The types of construction IM V3 and IM V1 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate. With type of construction IM V1 with protective cover, the protective cover has to be additionally ordered with order code H00. The protective cover is not stamped on the rating plate.
- 6) The types of construction IM V19 and IM V18 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate. With type of construction IM V18 with protective cover, the protective cover has to be additionally ordered with order code H00. The protective cover is not stamped on the rating plate.

Self-ventilated energy-saving motors with high efficiency

### Selection and ordering data (continued)

Motor type	Frame size	Position 15: Mo	Position 15: Motor protection (motor protection letter)										
		Without motor protection	Motor protection with PTC ther- mistors with 3 embedded tem- perature sensors for tripping 1)	Motor protection with PTC ther- mistors with 6 embedded tem- perature sensors for alarm and tripping 1)	Motor tempera- ture detection with embedded temperature sen- sor KTY 84-130 1	NTC thermistors for tripping	Temperature detectors for tripping 1)						
		Α	В	С	F	Z	Z						
	Order code					Q2A	Q3A						
1LE1001-1A□.	100 L		✓	✓	✓	✓	✓						
1LE1001-1B□.	112 M		✓	✓	✓	✓	✓						
1LE1001-1C□.	132 S/M		1	✓	✓	1	1						
1LE1001-1D□.	160 M/L		/	/	1	1	<b>✓</b>						

■ Standard version

✓ With additional charge

Motor type	Frame size	Position 16: Connection bo	osition 16: Connection box (connection box code)											
		Connection box top <sup>2)</sup>	Connection box on RHS 3)	Connection box on LHS <sup>3)</sup>	Connection box bottom 3)									
		4	5	6	7									
1LE1001-1A□	100 L		✓	✓	✓									
1LE1001-1B	112 M		✓	✓	✓									
1LE1001-1C	132 S/M		✓	✓	✓									
11 F1001-1D - 🗆	160 M/I	П	J	J	1									

Standard version

✓ With additional charge

Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

<sup>2)</sup> With type of construction, cast feet as standard. Screwed-on feet are available with order code H01, see "Special versions".

<sup>3)</sup> With type of construction, screwed-on feet as standard.

Self-ventilated motors with increased output and improved efficiency

### Selection and ordering data

Rated ou	utput at	Frame size	Operating	y values at r	ated outpu	t				Order No.	Price	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class accord- ing to CEMEP	at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/32.	IM B3 type of construc- tion	IM B3 type of construc- tion approx.
P <sub>rated</sub> kW	P <sub>rated</sub> kW	FS	n <sub>rated</sub> rpm	$T_{ m rated}$ Nm	(EFF2)	$\eta_{\mathrm{rated}}$ %	$\eta_{ m rated}$ %	$\cos\!arphi_{ m rated}$	I <sub>rated</sub> A			m kg
Motor ve	ersion: tem	perature c	lass 155 (F)	), IP55 deg	ree of prote	ection, with	h increase	d output, u	sed acc. to	temperature class 130 (B)	) <sup>1)</sup>	
2-pole	– 3000 rp	m at 50 H	z, 3600 rp	m at 60 H	z							
4	4.6	100 L	2850	13.3	EFF2	85.6	86.2	0.85	7.9	1LE1002-1AA6Q-QQQ		25
5.5	6.3	112 M	2935	18	EFF2	87	85.5	0.86	10.6	1LE1002-1BA6Q-QQQ		31
11	12.6	132 M	2920	36	EFF2	90	90.7	0.90	19.6	1LE1002-1CA6Q-QQQ		53
22	24.5	160 L	2930	72	EFF2	91.6	91.4	0.88	39.5	1LE1002-1DA6Q-QQQ		85
4-pole	– 1500 rp	m at 50 H	z, 1800 rp	m at 60 H	z							
4	4.6	100 L	1430	26.8	EFF2	84.2	85.1	0.81	8.5	1LE1002-1AB6Q-QQQ		27
5.5	6.3	112 M	1420	37	EFF2	85.7	86.5	0.81	11	1LE1002-1BB6Q-QQQ		33
11	12.6	132 M	1450	72	EFF2	88.8	89.3	0.84	21.5	1LE1002-1CB6Q-QQQ		58
18.5	21.3	160 L	1460	121	EFF2	90	90.2	0.85	35	1LE1002-1DB6Q-QQQ		85
6-pole	– 1000 rp	m at 50 H	z, 1200 rp	m at 60 H	z							
2.2	2.55	100 L	930	22.5		76	77.3	0.78	5.3	1LE1002-1AC6Q-QQQ		24
3	3.45	112 M	945	30		79	78.2	0.72	7.6	1LE1002-1BC6Q-QQQ		32
7.5	8.6	132 M	950	75		85.5	85.7	0.74	17.2	1LE1002-1CC6Q-QQQ		54
15	17.3	160 L	965	148		88	88	0.75	33	1LE1002-1DC6Q-QQQ		109

Order No. supplements, see from Page 1/32.

<sup>&</sup>lt;sup>1)</sup> For Order No. 1LE1002-1CC6Q-QQQ use acc. to temperature class 155 (F).

Self-ventilated motors with increased output and improved efficiency

Selection and ordering	<b>g data</b> (continu	ed)					
Order No.	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated ou	itput
	with direct startin	current torque that the current torque to starting as multiple of rated current torque $I_{LR}/I_{rated}$ $T_B/T_{rated}$ $T_B/T_{rated}$ (F), IP55 degree of protection				Measuring-	Sound pressure
	torque	current	torque			surface sound pressure level at 50 Hz	level at 50 Hz
	$T_{LR}/T_{rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	<i>J</i> kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)
-			ection, with incre	ased output, used	acc. to temperat	ure class 130 (B)	
2-pole – 3000 rpm at 50		at 60 Hz					
1LE1002-1AA6Q-QQQ	4.5	7	4.1	16	0.0044	67	79
1LE1002-1BA6Q-QQQ	2.9	7.5	3.8	16	0.0085	69	81
1LE1002-1CA6Q-QQQ	2.8	7.5	3.7	16	0.02233	68	80
1LE1002-1DA6Q-QQQ	2.6	7.5	3.4	16	0.04913	70	82
4-pole – 1500 rpm at 50	D Hz, 1800 rpm	at 60 Hz					
1LE1002-1AB6Q-QQQ	2.9	5.8	3.1	16	0.01	60	72
1LE1002-1BB6Q-QQQ	3	5.8	3.1	16	0.0124	58	70
1LE1002-1CB6Q-QQQ	2.5	7.2	3	16	0.03259	64	76
1LE1002-1DB6Q-QQQ	2.7	7.2	3.2	16	0.06843	65	77
6-pole – 1000 rpm at 50	D Hz, 1200 rpm	at 60 Hz					
1LE1002-1AC6Q-QQQ	2	4	2.2	16	0.0084	59	71
1LE1002-1BC6Q-QQQ	2.9	4.6	3	16	0.0128	57	69
1LE1002-1CC6Q-QQQ	2.4	5.3	3	16	0.032	63	75
1LE1002-1DC6Q-QQQ	2.9	6	3.4	16	0.0936	67	79

Self-ventilated motors with increased output and improved efficiency

#### Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Standard volta	nd 13: Voltages ges	(voltage	codes)	Further voltages						
		50 Hz				50 Hz						
		230 V∆/400 VY	400 VΔ/690 VY	500 VY	500 V∆	220 VA/380 VY	380 V∆/660 VY	415 VY	415 V∆			
		60 Hz				Rated voltage range						
		460 VY	460 V∆			(210 230 VΔ/ 360 400 VY) 1)	(360 400 VΔ/ 625 695 VY) 1)	(395 435 VY) <sup>1)</sup>	(395 435 VΔ) <sup>1)</sup>			
		see "Selection a outputs at 60 H	and ordering dat z	a" for								
		22	34	27	40	21	33	23	35			
1LE1002-1A□-□	100 L	0	0	0	0	✓	✓	✓	✓			
1LE1002-1B□-□	112 M	0	0	0	0	✓	✓	✓	✓			
1LE1002-1C□-□	132 M	0	0	0	0	✓	✓	✓	✓			
1LE1002-1D□-□	160 L	0	0	0	0	1	1	1	1			

O Without additional charge✓ With additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/54).

Motor type	Frame size			n 14: Ty ıt flange	•	onstruc	tion (typ	e letter)		With flange (acc. to DIN EN 50347)						
			IM B3 2)3)	IM B6	IM B7	IM B8	IM V6	IM V5 without protec- tive cover 3)	IM V5 with protec- tive cover 3) 4) 5)	Flange size	IM B5 3) 6)	IM V1 without protec- tive cover 3)	IM V1 with protec- tive cover 3) 4) 5)	IM V3	IM B35	
			Α	Т	U	V	D	С	С		F	G	G	Н	J	
		Order No. supplement -Z with order code	-	-	-	-	-	-	-Z H00		-	-	-Z H00	-	-	
1LE1002-1A□	100 L								/	FF 215	/	1	/	1	/	
1LE1002-1B□	112 M								✓	FF 215	✓	✓	✓	1	1	
1LE1002-1C□	132 M								1	FF 265	1	1	1	1	1	
1LE1002-1D□	160 L								/	FF 300	/	/	1	/	/	

Motor type	Frame size		Position	14: Type	s of cons	truction (	type lette							
				ndard fla DIN EN 50					indard fl DIN EN 5		ext larger	stander	d flange	
			Flange size	IM.B14 3)7)	IM V19	IM V18 without protec- tive cover 3)	IM V18 with pro- tective cover 3) 4) 5)	IM B34	Flange size	IM B14 3) 7)	IM V19	IM V18 without protec- tive cover 3)	IM V18 with protec- tive cover 3) 4) 5)	IM B34
				K	L	M	M	N		K	L	M	M	N
		Order No. supplement -Z with		-	-	-	-Z H00	-		-Z	-Z	-Z	-Z H00	-Z
		order code								P01	P01	P01	P01	P01
1LE1002-1A□	100 L		FT 130	✓	✓	✓	✓	✓	FT 165	✓	✓	/	/	✓
1LE1002-1B□	112 M		FT 130	✓	✓	✓	✓	✓	FT 165	✓	✓	✓	✓	1
1LE1002-1C□	132 S/M		FT 165	✓	✓	✓	✓	✓	FT 215	✓	✓	✓	✓	✓
1LE1002-1D□	160 M/L		FT 215	/	/	/	/	/	-	_	_	-	-	-

Desition 14. Types of construction (type letter)

- □ Standard version✓ With additional charge
- A rated voltage range is also specified on the rating plate.
- The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate. With type of construction IM V5 with protective cover, the protective cover has to be additionally ordered with order code H00. The protective cover is not stamped on the rating plate.
- The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.
- <sup>4)</sup> Option second shaft extension (order code **L05**) not possible

- 5) In combination with an encoder, it is not necessary to order the protective cover (order code H00), as this is delivered as a protection for the encoder as standard. In this case, the protective cover is standard design (without additional charge).
- The types of construction IM V3 and IM V1 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate. With type of construction IM V1 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.
- 7) The types of construction IM V19 and IM V18 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate. With type of construction IM V18 with protective cover, the protective cover has to be additionally ordered with order code H00. The protective cover is not stamped on the rating plate.

Self-ventilated motors with increased output and improved efficiency

### Selection and ordering data (continued)

Motor type	Frame		Position 15: Motor protection (motor protection letter)											
	size		Without motor protection	Motor protection with PTC ther- mistors with 3 embedded temperature sensors for tripping <sup>1)</sup>	Motor protection with PTC ther- mistors with 6 embedded temperature sensors for alarm and tripping 1)	Motor tempera- ture detection with embedded temperature sensor KTY 84-130 <sup>1)</sup>	NTC thermistors for tripping	Temperature detectors for tripping <sup>1)</sup>						
			Α	В	С	F	Z	Z						
		Order code					Q2A	Q3A						
1LE1002-1A□.	100 L			✓	✓	✓	✓	✓						
1LE1002-1B□.	112 M			✓	✓	✓	✓	✓						
1LE1002-1C□.	132 M			✓	1	1	✓	✓						
1LE1002-1D□.	160 L	·		/	/	/	/	/						

□ Standard version✓ With additional charge

Motor type	Frame	Position 16: Connection box (connection box code)										
	size	Connection box top <sup>2)</sup>	Connection box on RHS <sup>2)</sup>	Connection box on LHS <sup>2)</sup>	Connection box bottom <sup>2)</sup>							
		4	5	6	7							
1LE1002-1A□	100 L		✓	✓	✓							
1LE1002-1B	112 M		✓	✓	✓							
1LE1002-1C	132 M		✓	✓	✓							
1LE1002-1D□	160 L		✓	1	<b>√</b>							

■ Standard version

✓ With additional charge

<sup>1)</sup> Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

 $<sup>^{2)}\,\,</sup>$  With type of construction, screwed-on feet as standard.

Self-ventilated motors with increased output and high efficiency

### Selection and ordering data

Rated ou	utput at	Frame size	Operating	values at r	ated outpu	t				Order No.	Price	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class accord- ing to CEMEP	at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	Power factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/36.	IM B3 type of construc- tion	IM B3 type of construc- tion approx.
P <sub>rated</sub> kW	P <sub>rated</sub> kW	FS	n <sub>rated</sub> rpm	T <sub>rated</sub> Nm	(EFF I)	$\eta_{ m rated}$ %	$\eta_{ m rated}$ %	$\cos\!arphi_{ m rated}$	I <sub>rated</sub> A			m kg
Motor ve	ersion: tem	perature cl	ass 155 (F	, IP55 deg	ree of prote	ection, with	h increase	d output, u	sed acc. to	temperature class 130 (B)	)	
2-pole	– 3000 rp	m at 50 H	z, 3600 rp	m at 60 H	z							
4	4.6	100 L	2905	13	EFF1	88	89	0.86	7.6	1LE1001-1AA6Q-QQQ		26
5.5	6.3	112 M	2950	18	EFF1	89	88.5	0.89	10	1LE1001-1BA6Q-QQQ		34
11	12.6	132 M	2955	36	EFF1	91.5	92.5	0.89	19.4	1LE1001-1CA6Q-QQQ		57
22	25.3	160 L	2955	71	EFF1	92.8	93.5	0.89	38.5	1LE1001-1DA6Q-QQQ		94
4-pole	– 1500 rp	m at 50 H:	z, 1800 rp	m at 60 H	z							
4	4.6	100 L	1460	26	EFF1	88.3	88.3	0.8	8.2	1LE1001-1AB6Q-QQQ		30
5.5	6.3	112 M	1460	36	EFF1	89.2	89.2	0.81	11	1LE1001-1BB6Q-QQQ		34
11	12.6	132 M	1465	72	EFF1	91	91.0	0.84	21	1LE1001-1CB6Q-QQQ		64
18.5	21.3	160 L	1475	120	EFF1	92.4	92.4	0.85	34	1LE1001-1DB6Q-QQQ		100
6-pole	– 1000 rp	m at 50 H	z, 1200 rp	m at 60 H	z							
2.2	2.55	100 L	965	22		84.5	85.6	0.76	4.95	1LE1001-1AC6Q-QQQ		30
3	3.45	112 M	960	30		84.5	84.7	0.79	6.5	1LE1001-1BC6Q-QQQ		34
7.5	8.6	132 M	970	74		88.5	88.5	0.77	15.4	1LE1001-1CC6Q-QQQ		64
15	17.3	160 L	975	147		90.6	91	0.81	29.5	1LE1001-1DC6Q-QQQ		115

Self-ventilated motors with increased output and high efficiency

Selection and ordering	<b>g data</b> (continu	ied)										
Order No.	Locked-rotor torque	Locked-rotor	Breakdown torque	Torque class	Moment of inertia	Noise at rated ou	ıtput					
	•	ng as multiple of ra				Measuring-	Sound pressure					
	torque	current	torque			surface sound pressure level at 50 Hz	level at 50 Hz					
	$T_{LR}/T_{rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	<i>J</i> kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)					
Motor version: temperature class 155 (F), IP55 degree of protection, with increased output, used acc. to temperature class 130 (B)												
2-pole – 3000 rpm at 50	0 Hz, 3600 rpm	at 60 Hz										
1LE1001-1AA6Q-QQQ	2.5	7.6	3.5	16	0.0054	67	79					
1LE1001-1BA6Q-QQQ	2.2	7.7	3.3	16	0.0119	73	85					
1LE1001-1CA6Q-QQQ	2.5	7.9	3.2	16	0.03143	68	80					
1LE1001-1DA6Q-QQQ	3.1	8.4	3.7	16	0.06764	70	82					
4-pole – 1500 rpm at 50	D Hz, 1800 rpm	at 60 Hz										
1LE1001-1AB6Q-QQQ	2.2	7.5	3.5	16	0.0137	60	72					
1LE1001-1BB6Q-QQQ	2.5	7.1	3.1	16	0.0166	58	70					
1LE1001-1CB6Q-QQQ	2.9	7.7	3.1	16	0.04571	64	76					
1LE1001-1DB6Q-QQQ	2.8	7.7	3.3	16	0.09854	65	77					
6-pole – 1000 rpm at 50	D Hz, 1200 rpm	at 60 Hz										
1LE1001-1AC6Q-QQQ	1.9	5.7	2.9	16	0.0137	59	71					
1LE1001-1BC6Q-QQQ	2.1	6	3.1	16	0.0166	57	69					
1LE1001-1CC6Q-QQQ	2.1	6.5	3	16	0.04572	63	75					
1LE1001-1DC6Q-QQQ	1.9	6.5	2.9	16	0.1208	67	79					

Self-ventilated motors with increased output and high efficiency

#### Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 a Standard volta	nd 13: Voltages ges	(voltage	codes)	) Further voltages						
		50 Hz				50 Hz						
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 V∆/660 VY	415 VY	415 V∆			
		60 Hz				Rated voltage range						
		460 VY	460 VΔ			$^{(210\ldots230V\Delta\!/}_{360\ldots400VY)^{1)}}$	$^{(360\;\ldots\;400\;V\Delta/}_{625\;\ldots\;695\;VY)^{\;1)}$	(395 435 VY) <sup>1)</sup>	(395 435 VΔ) <sup>1)</sup>			
		see "Selection outputs at 60 H	and ordering dat z	a" for								
		22	34	27	40	21	33	23	35			
1LE1001-1A□-□	100 L	0	0	0	0	✓	✓	✓	✓			
1LE1001-1B□-□	112 M	0	0	0	0	✓	✓	✓	✓			
1LE1001-1C□-□	132 M	0	0	0	0	✓	✓	✓	✓			
1LE1001-1D□-□	160 L	0	0	0	0	✓	✓	✓	✓			

- 0 Without additional charge
- Order other voltages with voltage code 9 in position 12, code 0 in position 13 and the corresponding order code (see "Special With additional charge versions" in the "Selection and ordering data" under "Voltages". Page 1/54).

Motor type	Frame size		Position 14: Types of construction (type letter) Without flange								With flange (acc. to DIN EN 50347)						
			IM B3 2)3)	IM B6	IM B7	IM B8	IM V6	IM V5 without protec- tive cover 3)	IM V5 with protec- tive cover 3) 4) 5)	Flange size	IM B5 3) 6)	IM V1 without protec- tive cover 3)		IM V3	IM B35		
			Α	Т	U	V	D	С	С		F	G	G	н	J		
		Order No. supplement -Z with order code	-	-	-	-	-	-	-Z H00		-	-	-Z H00	-	-		
1LE1001-1A□	100 L								1	FF 215	1	1	1	1	1		
1LE1001-1B□	112 M								1	FF 215	1	1	1	1	1		
1LE1001-1C□	132 M								1	FF 265	1	1	1	1	1		
1LE1001-1D□	160 L								/	FF 300	/	/	/	/	/		

Motor ty	pe	Frame size		Position 14: Types of construction (type letter)													
											With standard flange (next larger standerd flange acc. to DIN EN 50347)						
				Flange size	IM B14 3)7)	IM V19	IM V18 without protec- tive cover 3)	IM V18 with pro- tective cover 3) 4) 5)	IM B34	Flange size	IM B14	IM V19	without	IM V18 with protec- tive cover 3) 4) 5)	IM B34		
					K	L	M	M	N		K	L	M	М	N		
			Order No. supplement -Z with		-	-	-	-Z H00	-		-Z	-Z	-Z	-Z H00	-Z		
			order code					1100			P01	P01	P01	P01	P01		
1LE1001	-1A□	100 L		FT 130	✓	✓	1	✓	✓	FT 165	✓	✓	✓	✓	✓		
1LE1001	-1B <b>□</b>	112 M		FT 130	✓	✓	1	✓	✓	FT 165	✓	✓	✓	✓	✓		
1LE1001	-1C□	132 S/M		FT 165	✓	✓	✓	✓	✓	FT 215	✓	✓	✓	✓	✓		
1LE1001	-1D□	160 M/L		FT 215	/	/	/	/	/	-	-	-	-	-	-		

- Standard version With additional charge
- 1) A rated voltage range is also specified on the rating plate.
- The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate. With type of construction IM V5 with protective cover, the protective cover has to be additionally ordered with order code H00. The protective cover is not stamped on the rating plate.
- The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code **H03**), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.
- Option second shaft extension (order code L05) not possible

- In combination with an encoder, it is not necessary to order the protective cover (order code H00), as this is delivered as a protection for the encoder as standard. In this case, the protective cover is standard design (without additional charge).
- The types of construction IM V3 and IM V1 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate. With type of construction IM V1 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate
- The types of construction IM V19 and IM V18 without protective cover/with protective cover are also possible as long as no condensation drainage holes (order code **H03**) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate. With type of construction IM V18 with protective cover, the protective cover has to be additionally ordered with order code **H00**. The protective cover is not stamped on the rating plate.

Self-ventilated motors with increased output and high efficiency

### Selection and ordering data (continued)

Motor type	Frame		Position 15: Mot	tor protection (mo	tor protection lette	er)		
	size		Without motor protection	Motor protection with PTC ther- mistors with 3 embedded temperature sensors for tripping 1)	Motor protection with PTC ther- mistors with 6 embedded temperature sensors for alarm and tripping 1)	Motor tempera- ture detection with embedded temperature sensor KTY 84-130 <sup>1)</sup>	NTC thermistors for tripping	Temperature detectors for tripping <sup>1)</sup>
			Α	В	С	F	Z	Z
		Order code					Q2A	Q3A
1LE1001-1A□.	100 L			✓	✓	✓	✓	✓
1LE1001-1B□.	112 M			✓	1	✓	✓	✓
1LE1001-1C□.	132 M			✓	1	/	✓	<b>√</b>
1LE1001-1D□.	160 L	·		/	/	/	/	/

□ Standard version✓ With additional charge

Motor type	Frame	Position 16: Connection box (connection box code)								
	size	Connection box top <sup>2)</sup>	Connection box on RHS <sup>2)</sup>	Connection box on LHS <sup>2)</sup>	Connection box bottom <sup>2)</sup>					
		4	5	6	7					
1LE1001-1A□	100 L		✓	✓	✓					
1LE1001-1B	112 M		✓	✓	✓					
1LE1001-1C	132 M		✓	✓	✓					
1LE1001-1D□	160 L		✓	<b>√</b>	<b>√</b>					

■ Standard version

✓ With additional charge

<sup>1)</sup> Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

 $<sup>^{2)}\,\,</sup>$  With type of construction, screwed-on feet as standard.

Forced-air cooled motors without external fan and fan cover with improved efficiency

		ordering _								O I N 31 7	D :	<b>NA</b> /
Rated o	output at	Frame size	Operating	y values at i	rated outpur	t				Order No. with -Z and order code	Price	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz		Efficiency at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz	For Order No. supplements for voltage, type of construc- tion, motor protection and connection box, see table from Page 1/40.		IM B3 type of construc- tion approx.
P <sub>rated</sub> kW	P <sub>rated</sub> kW	FS	n <sub>rated</sub> rpm	T <sub>rated</sub> Nm	(EFF2)	$\eta_{ m rated}$ %	$\eta_{ m rated}$	$\cos\!arphi_{ m rated}$	/ <sub>rated</sub> A			m kg
		mperature	class 155 (		gree of pro			temperat		30 (B)		Ng
		•	Hz, 3600 ı	•								
3	3.45	100 L	2835	10	EFF2	82.6	83.2	0.87	6	1LE1002-1AA4Q-QQQ-Z F90		20
4	4.6	112 M	2930	13	EFF2	84.8	84.4	0.86	7.9	1LE1002-1BA2Q-QQQ-Z F90		25
5.5	6.3	132 S	2905	18	EFF2	86	86.6	0.89	10.4	1LE1002-1CA0U-UUU-Z F90		35
7.5	8.6	132 S	2925	24	EFF2	87.6	88.7	0.88	14	1LE1002-1CA1Q-QQQ-Z F90		40
11	12.6	160 M	2920	36	EFF2	88.4	88.5	0.85	21	1LE1002-1DA2Q-QQQ-Z F90		60
15	17.3	160 M	2930	49	EFF2	89.5	89.7	0.84	29	1LE1002-1DA3Q-QQQ-Z F90		68
18.5	21.3	160 L	2935	60	EFF2	90.9	91	0.86	34	1LE1002-1DA4Q-QQQ-Z F90		78
4-pole	– 1500 r	pm at 50	Hz, 1800 ı	rpm at 60	Hz					1 30		
2.2	2.55	100 L	1425	14.8	EFF2	81	84	0.81	4.85	1LE1002-1AB4Q-QQQ-Z F90		18
3	3.45	100 L	1425	20.2	EFF2	82.8	83.6	0.85	6.2	1LE1002-1AB5Q-QQQ-Z F90		22
4	4.6	112 M	1435	27	EFF2	84.2	85.1	0.84	8.2	1LE1002-1BB2Q-QQ-Z F90		27
5.5	6.3	132 S	1450	36	EFF2	86	86.5	0.83	11.2	1LE1002-1CB0Q-QQ-Z F90		38
7.5	8.6	132 M	1450	49	EFF2	87	87.4	0.83	15	1LE1002-1CB2U-UUU-Z F90		44
11	12.6	160 M	1460	72	EFF2	88.4	88.1	0.82	22	1LE1002-1DB2Q-QQ-Z F90		62
15	17.3	160 L	1460	98	EFF2	89.4	89.7	0.82	29.5	1LE1002-1DB4Q-QQ-Z F90		73
6-pole	– 1000 r	pm at 50	Hz, 1200 ı	rpm at 60	Hz					, 00		
1.5	1.75	100 L	940	15.3		74	72.6	0.74	3.95	1LE1002-1AC4Q-QQQ-Z F90		19
2.2	2.55	112 M	930	23		78	78.1	0.77	5.3	1LE1002-1BC2Q-QQQ-Z F90		25
3	3.45	132 S	955	30		80	79.4	0.74	7.3	1LE1002-1CC0Q-QQQ-Z F90		34
4	4.6	132 M	950	40		83	83.4	0.76	9.2	1LE1002-1CC2Q-QQQ-Z F90		39
5.5	6.3	132 M	950	55		85	85.3	0.75	12.4	1LE1002-1CC3Q-QQQ-Z F90		48
7.5	8.6	160 M	970	75		86	85.4	0.73	17.2	1LE1002-1DC2Q-QQ-Z F90		72
11	12.6	160 L	965	110		87.6	87.9	0.77	23.5	1LE1002-1DC4Q-QQQ-Z F90		92
8-pole	– 750 rp	m at 50 F	łz, 900 rpr	n at 60 Hz	<u>z</u>							
0.75	0.86	100 L	705	10.4		65.4	60.2	0.62	2.65	1LE1002-1AD4Q-QQQ-Z F90		17
1.1	1.3	100 L	705	15.1		68.3	67.6	0.63	3.71	1LE1002-1AD5Q-QQQ-Z F90		22
1.5	1.75	112 M	700	20		75.9	72.8	0.68	4.2	1LE1002-1BD2Q-QQ-Z F90		25
2.2	2.55	132 S	715	29		81	80	0.66	5.9	1LE1002-1CD0Q-QQQ-Z F90		37
3	3.45	132 M	710	40		81.6	81	0.68	7.8	1LE1002-1CD2Q-QQQ-Z F90		44
4	4.6	160 M	720	53		80	78.7	0.69	10.4	1LE1002-1DD2Q-QQ-Z F90		60
5.5	6.3	160 M	720	73		83.5	83.9	0.70	13.6	1LE1002-1DD3Q-QQQ-Z F90		72
7.5	8.6	160 L	715	100		83.5	84.7	0.70	18.6	1LE1002-1DD4Q-QQQ-Z F90		91

Forced-air cooled motors without external fan and fan cover with improved efficiency

Selection and ordering	data (continue	d)					
Order No. with -Z and order code	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated or	utput
	with direct startin torque	g as multiple of ra current	ited torque			Measuring- surface sound pressure level at 50 Hz	Sound pressure level at 50 Hz
	$T_{LR}/T_{rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	J kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)
Motor version: temperature 2-pole – 3000 rpm at 50			ection, used acc. t	o temperature cla	ass 130 (B)		
1LE1002-1AA4Q-QQQ-Z		6.2	2.9	16	0.0034	67	79
F90 1LE1002-1BA2Q-QQQ-Z F90	2.7	7.3	3.7	16	0.0067	69	81
1LE1002-1CA0Q-QQQ-Z F90	2	5.6	2.6	16	0.01267	68	80
1LE1002-1CA1Q-QQQ-Z F90	2.2	6.4	3	16	0.01601	68	80
1LE1002-1DA2Q-QQ-Z F90	2.1	6.1	2.7	16	0.02971	70	82
1LE1002-1DA3Q-QQQ-Z F90	2.5	6.1	3.2	16	0.03619	70	82
1LE1002-1DA4Q-QQQ-Z F90	2.5	7	3.2	16	0.04395	70	82
4-pole – 1500 rpm at 50							
1LE1002-1AB4Q-QQQ-Z F90		5.1	2.7	16	0.0059	60	72
1LE1002-1AB5Q-QQQ-Z F90	2.4	5.4	2.6	16	0.0078	60	72
1LE1002-1BB2Q-QQ-Z F90	2.2	5.3	2.6	16	0.0102	58	70
1LE1002-1CB0Q-QQQ-Z F90	2.3	6.2	2.7	16	0.0186	64	76
1LE1002-1CB2Q-QQQ-Z F90	2.5	6.6	2.9	16	0.02371	64	76
1LE1002-1DB2Q-QQQ-Z F90	2.3	6.4	3.1	16	0.04395	65	77
1LE1002-1DB4Q-QQQ-Z F90		7	3.4	16	0.05616	65	77
6-pole – 1000 rpm at 50 1LE1002-1AC4U-UUU-Z		60 Hz	2.2	16	0.0065	59	71
F90		4.1	2.5	16	0.0092	57	69
F90 1LE1002-1CC0Q-QQQ-Z	2	4.6	2.6	16	0.0167	63	75
	2.1	4.7	2.5	16	0.02116	63	75
	2.5	5.2	2.8	16	0.02734	63	75
1LE1002-1DC2	2.1	5.5	2.9	16	0.04993	68	80
F90 1LE1002-1DC4Q-QQQ-Z F90	1.9	5.9	2.7	16	0.0678	68	80
8-pole – 750 rpm at 50 H	lz, 900 rpm at 60	0 Hz					
1LE1002-1AD4Q-QQQ-Z F90	1.9	3	2.2	16	0.0056	60	72
1LE1002-1AD5 Z F90	2	3.2	2.3	16	0.0078	60	72
1LE1002-1BD2Q-QQQ-Z F90	1.9	3.4	2.1	16	0.0094	63	75
1LE1002-1CD0Q-QQQ-Z F90	1.7	3.9	2.4	13	0.0186	63	75
1LE1002-1CD2 Z F90	1.8	3.9	2.2	13	0.02372	63	75
1LE1002-1DD2	1.7	3.8	2.3	13	0.0439	63	75
1LE1002-1DD3Q-QQQ-Z F90	1.6	4	2.2	13	0.0562	63	75
1LE1002-1DD4Q-QQQ-Z F90	1.7	3.8	2.2	13	0.0772	63	75

Forced-air cooled motors without external fan and fan cover with improved efficiency

#### Selection and ordering data (continued)

Order No. supplements

Motor type	Frame		nd 13: Voltages	(voltage	codes)						
	size	Standard volta	ges			Further voltages					
		50 Hz				50 Hz					
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 V∆	220 VΔ/380 VY	380 V∆/660 VY	415 VY	415 V∆		
		60 Hz				Rated voltage range					
		460 VY	460 VΔ			(210 230 VΔ/ 360 400 VY) 1)	(360 400 VΔ/ 625 695 VY) 1)	(395 435 VY) <sup>1)</sup>	(395 435 VΔ) <sup>1)</sup>		
		see "Selection a outputs at 60 H	and ordering dat z	a" for							
		22	34	27	40	21	33	23	35		
1LE1002-1A□-□Z F90	100 L	0	0	0	0	1	1	1	1		
1LE1002-1B□-□Z F90	112 M	0	0	0	0	✓	✓	✓	✓		
1LE1002-1C□-□Z F90	132 S/M	0	0	0	0	✓	1	1	1		
1LE1002-1D□-□Z F90	160 M/L	0	0	0	0	1	1	✓	✓		

O Without additional charge 
✓ With additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/54).

Motor type	Frame size		Position Without f		of const	ruction (t	ype letter	)	With flan	ige (acc. t	to DIN EN	50347)	•			
		<u>!</u>	IM B3 2) 3)	IM B6	IM B7 3)	IM B8 3)	IM V6	IM V5 without protec- tive cover 3)	Flange size	IM B5 3) 4)	IM V1 without protec- tive cover 3)	IM V3	IM B35			
			Α	Т	U	٧	D	С		F	G	Н	J			
	ple	rder No. sup ement <b>-Z</b> with der code	_	-	-	-	-	-		-	-	-	-			
1LE1002-1A□Z F90	100 L	ı		0					FF 215	✓	✓	✓	✓			
1LE1002-1B□Z F90	112 M	I	_						FF 215	✓	✓	✓	✓			
1LE1002-1C□Z F90	132 S/M	I							FF 265	1	1	✓	1			
1LE1002-1D□Z F90	160 M/L	ı							FF 300	✓	✓	✓	✓			

Motor type	Frame size		Position 1	osition 14: Types of construction (type letter)									
				dard flange IN EN 5034				With stan				nderd	
			Flange size	IM B14 3) 5)	IM V19 3)	IM V18 without protective cover 3)	IM B34	Flange size	IM B14 3) 5)	IM V19	IM V18 without protec- tive cover 3)	IM B34	
				K	L	M	N		K	L	M	N	
		Order No. sup- plement <b>-Z</b> with		-	-	-	-		-Z	-Z	-Z	-Z	
		order code							P01	P01	P01	P01	
1LE1002-1A□Z F90	100 L		FT 130	1	/	1	1	FT 165	✓	✓	✓	✓	
1LE1002-1B□Z F90	112 M		FT 130	✓	✓	1	✓	FT 165	1	✓	✓	✓	
1LE1002-1C□Z F90	132 S/M		FT 165	✓	1	1	✓	FT 215	✓	1	1	1	
1LE1002-1D□Z	160 M/L		FT 215	1	1	1	1	-	-	-	-	_	

- Standard version
- ✓ With additional charge
- 1) A rated voltage range is also specified on the rating plate.
- The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate.
- The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code H03), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.
- The types of construction IM V3 and IM V1 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate.
- 5) The types of construction IM V19 and IM V18 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate.

Forced-air cooled motors without external fan and fan cover with improved efficiency

#### Selection and ordering data (continued)

Motor type	Frame		Position 15: Mo	tor protection (m	otor protection l	etter)			
	size		Without Motor protec- motor tion with PTC thermistors with 3 embedded temperature sensors for tripping 1)		Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping 1)	Motor tempera- ture detection with embedded temperature sensor KTY 84-130 <sup>1)</sup>	NTC thermistors for tripping	Temperature detectors for tripping 1)	
			Α	В	С	F	Z	Z	
		Order code					Q2A	Q3A	
1LE1002-1A□Z F90	100 L			1	1	1	1	1	
1LE1002-1B□Z F90	112 M			1	1	1	1	1	
1LE1002-1C□Z F90	132 S/M			1	1	1	1	<b>√</b>	
1LE1002-1D□Z F90	160 M/L			✓	✓	✓	✓	<b>✓</b>	

Standard version

With additional charge

Motor type	Frame	Position 16: Connection bo	x (connection box code)		
	size	Connection box top <sup>2)</sup>	Connection box on RHS <sup>3)</sup>	Connection box on LHS <sup>3)</sup>	Connection box bottom <sup>3)</sup>
		4	5	6	7
1LE1002-1A□-Z F90	100 L		✓	✓	<b>✓</b>
1LE1002-1B□-Z F90	112 M		✓	✓	✓
1LE1002-1C□-Z F90	132 S/M		<b>✓</b>	<b>✓</b>	<b>✓</b>
1LE1002-1D□-Z	160 M/L	0	✓	✓	✓

Standard version

With additional charge

<sup>1)</sup> Evaluation with appropriate tripping unit (see Catalog LV 1) is recom-

<sup>2)</sup> With type of construction, cast feet as standard. Screwed-on feet are available with order code H01, see "Special versions".

<sup>3)</sup> With type of construction, screwed-on feet as standard.

Forced-air cooled motors without external fan and fan cover with high efficiency

Se	lection	and	ordering	data	(continued)	1
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Select	ion and	oraering	data (COI	ilinuea)								
Rated c	output at	Frame size	Operating	y values at I	rated outpu	t				Order No. with -Z and order code	Price	Weight
50 Hz	60 Hz	50	Rated speed at 50 Hz	50 Hz		at 50 Hz 4/4-load	Efficiency at 50 Hz 3/4-load	factor at 50 Hz 4/4-load	Rated current at 400 V. 50 Hz	For Order No. supplements for voltage, type of construction, motor protection and connection box, see table from Page 1/44.		IM B3 type of construc- tion approx.
P <sub>rated</sub> kW	P <sub>rated</sub> kW	FS	n <sub>rated</sub> rpm	T <sub>rated</sub> Nm	(EFF I)	$\eta_{ m rated}$	$\eta_{ m rated}$	$\cos\!arphi_{ m rated}$	I <sub>rated</sub>			m kg
		mperature	class 155 (		egree of pro	, <del>-</del>	,-	temperat		30 (B)		9
		•	Hz, 3600 i	•		00.7	07.5					
3	3.45	100 L	2905	9.9	EFF1	86.7	87.5	0.84	5.9	1LE1001-1AA4Q-QQQ-Z F90		21
4	4.6	112 M	2950	13	EFF1	88	88.5	0.86	7.4	1LE1001-1BA2Q-QQQ-Z F90		27
5.5	6.3	132 S	2950	18	EFF1	89.5	90.6	0.87	10.2	1LE1001-1CA0Q-QQQ-Z F90		39
7.5	8.6	132 S	2950	24	EFF1	90	91	0.87	13.8	1LE1001-1CA1Q-QQQ-Z F90		43
11	12.6	160 M	2955	36	EFF1	90.8	91	0.87	20	1LE1001-1DA2Q-QQQ-Z F90		67
15	17.3	160 M	2955	48	EFF1	91.4	91.5	0.88	27	1LE1001-1DA3Q-QQQ-Z F90		75
18.5	21.3	160 L	2955	60	EFF1	92	92.5	0.88	33	1LE1001-1DA4Q-QQQ-Z F90		84
4-pole	– 1500 r	pm at 50	Hz, 1800 ı	rpm at 60	Hz							
2.2	2.55	100 L	1455	14	EFF1	86.4	87	0.81	4.55	1LE1001-1AB4Q-QQQ-Z F90		21
3	3.45	100 L	1455	20	EFF1	87.4	88	0.82	6	1LE1001-1AB5Q-QQQ-Z F90		25
4	4.6	112 M	1460	26	EFF1	88.3	88.5	0.81	8.1	1LE1001-1BB2Q-QQQ-Z F90		29
5.5	6.3	132 S	1465	36	EFF1	89.2	89.5	0.80	11.2	1LE1001-1CB0Q-QQ-Z F90		42
7.5	8.6	132 M	1465	49	EFF1	90.1	91	0.83	14.4	1LE1001-1CB2U-UUU-Z F90		49
11	12.6	160 M	1470	71	EFF1	91.2	91.8	0.85	20.5	1LE1001-1DB2Q-QQ-Z F90		71
15	17.3	160 L	1475	97	EFF1	92	92.4	0.85	27.5	1LE1001-1DB4Q-QQ-Z F90		83
6-pole	– 1000 r	pm at 50	Hz, 1200 ı	rpm at 60	Hz					130		
1.5	1.75	100 L	970	15		84.5	84.5	0.73	3.5	1LE1001-1AC4Q-QQQ-Z F90		25
2.2	2.55	112 M	965	22		85	85	0.75	5	1LE1001-1BC2Q-QQQ-Z F90		29
3	3.45	132 S	970	30		85	85	0.74	6.9	1LE1001-1CC0Q-QQQ-Z F90		38
4	4.6	132 M	970	39		86	86	0.78	8.6	1LE1001-1CC2Z F90		43
5.5	6.3	132 M	970	54		88	88	0.77	11.8	1LE1001-1CC3Q-QQQ-Z F90		52
7.5	8.6	160 M	975	73		89	89	0.77	15.8	1LE1001-1DC2Q-QQQ-Z F90		77
11	12.6	160 L	975	108		89.5	89	0.80	22	1LE1001-1DC4Q-QQQ-Z F90		93
8-pole	– 750 rp		łz, 900 rpr	n at 60 Hz	Z							
0.75	0.86	100 L	725	9.9		68	65	0.58	2.75	1LE1001-1AD4Q-QQQ-Z F90		21
1.1	1.3	110 L	725	14		68	64.5	0.58	4.05	1LE1001-1AD5Q-QQQ-Z F90		25
1.5	1.75	112 M	720	20		77	75.5	0.67	4.2	1LE1001-1BD2Q-QQQ-Z F90		29
2.2	2.55	132 S	725	29		77.5	76.7	0.63	6.5	1LE1001-1CD0Q-QQQ-Z F90		41
3	3.45	132 M	730	40		84	82	0.65	7.9	1LE1001-1CD2Q-QQ-Z F90		49
4	4.6	160 M	730	52		87	88	0.69	9.6	1LE1001-1DD2Q-QQ-Z F90		69
5.5	6.3	160 M	735	72		87.5	89	0.69	13.2	1LE1001-1DD3Q-QQQ-Z F90		82
7.5	8.6	160 L	730	98		88	89	0.72	17	1LE1001-1DD4U-UU-Z F90		94

Order No. supplements, see from Page 1/44.

Forced-air cooled motors without external fan and fan cover with high efficiency

Selection and ordering	data (continue	d)					
Order No. with -Z and order code	Locked-rotor torque	Locked-rotor current	Breakdown torque	Torque class	Moment of inertia	Noise at rated or	utput
	with direct startin torque	g as multiple of ra current	ited torque			Measuring- surface sound pressure level at 50 Hz	Sound pressure level at 50 Hz
	$T_{LR}/T_{rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	J kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)
Motor version: temperature 2-pole – 3000 rpm at 50			ction, used acc. t	o temperature cla	ass 130 (B)		
1LE1001-1AA4Q-QQQ-Z F90		7	3.3	16	0.0044	67	79
1LE1001-1BA2Q-QQQ-Z F90	2.4	7.4	3.3	16	0.0092	69	81
1LE1001-1CA0Q-QQQ-Z F90	1.8	6.7	2.9	16	0.02012	68	80
1LE1001-1CA1Q-QQQ-Z F90	2.2	7.5	3.1	16	0.02353	68	80
1LE1001-1DA2Q-QQQ-Z F90	2.1	7.4	3.2	16	0.04471	70	82
1LE1001-1DA3Q-QQQ-Z F90	2.4	7.6	3.4	16	0.05277	70	82
1LE1001-1DA4Q-QQQ-Z F90	2.9	7.9	3.6	16	0.06085	70	82
4-pole – 1500 rpm at 50				10	0.000		=0
1LE1001-1AB4Q-QQQ-Z F90		6.9	3.3	16	0.0086	60	72
1LE1001-1AB5Q-QQQ-Z F90		6.9	3.1	16	0.0109	60	72
F90	2.5	7.1	3.2	16	0.014	58	70
F90	2.3	6.9	2.9	16	0.02698	64	76
1LE1001-1CB2Q-QQ-Z F90	2.3	6.9	2.9	16	0.03353	64	76
1LE1001-1DB2Q-QQ-Z F90	2.2	6.7	2.8	16	0.06495	65	77
1LE1001-1DB4Q-QQQ-Z F90		7.3	3	16	0.08281	65	77
6-pole – 1000 rpm at 50 1LE1001-1AC4U-UUUU-Z F90		6.2	2.9	16	0.0113	59	71
	2.1	6	3.1	16	0.0139	57	69
1LE1001-1CC0Q-QQQ-Z F90	1.6	5.6	2.6	13	0.02371	63	75
1LE1001-1CC2Q-QQQ-Z F90	1.6	5.6	2.5	13	0.02918	63	75
1LE1001-1CC3Q-QQQ-Z F90	1.9	6.1	2.8	16	0.03673	63	75
1LE1001-1DC2Q-QQQ-Z F90	1.8	6.3	2.8	16	0.0754	67	79
1LE1001-1DC4Q-QQQ-Z F90	1.7	6.2	2.7	16	0.0975	67	79
8-pole – 750 rpm at 50 H			0.0	10	0.0000	00	70
1LE1001-1AD4Q-QQQ-Z F90 1LE1001-1AD5Q-QQQ-Z		4	2.8	13	0.0086	60	72
F90			2.8	13	0.0109	60	72
1LE1001-1BD2Q-QQQ-Z F90		4.2	2.4	13	0.014	63	75
1LE1001-1CD00-000-Z F90		3.6	1.8	10	0.02698	63	75
1LE1001-1CD2Q-QQQ-Z F90		5	2.4	10	0.03463	63	75 
F90	1.8	4.3	2	13	0.0649	63	75
1LE1001-1DD3Q-QQQ-Z F90		4.4	2.1	13	0.0828	63	75
1LE1001-1DD4Q-QQQ-Z F90	1.9	4.5	2.1	13	0.0982	63	75

## Forced-air cooled motors without external fan and fan cover with high efficiency

#### Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 au Standard volta	nd 13: Voltages ges	(voltage	codes)	Further voltages			
		50 Hz				50 Hz			
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 V∆
		60 Hz				Rated voltage ran			
		460 VY	460 VΔ			(210 230 VΔ/ 360 400 VY) <sup>1)</sup>	(360 400 VΔ/ 625 695 VY) 1)	(395 435 VY) <sup>1)</sup>	(395 435 VΔ) <sup>1)</sup>
		see "Selection a outputs at 60 H	and ordering dat z	a" for					
		22	34	27	40	21	33	23	35
1LE1001-1A□-□Z F90	100 L	0	0	0	0	1	1	1	1
1LE1001-1B□-□Z F90	112 M	0	0	0	0	1	1	1	✓
1LE1001-1C□-□Z F90	132 S/M	0	0	0	0	1	1	1	1
1LE1001-1D□-□Z F90	160 M/L	0	0	0	0	1	1	✓	✓

O Without additional charge 
✓ With additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/54).

Motor type	Frame size				s of cons	truction (	type lette	r)	With fire	(	4- DIN FN	l 500.47\	
	3120		Without	tiange					with flai	nge (acc.	to DIN EN	150347)	
			IM B3 2) 3)	IM B6	IM B7	IM B8	IM V6	IM V5 without protec- tive cover 3)	Flange size	IM <sub>B</sub> 5	IM V1 without protec- tive cover 3)	IM V3	IM B35
			Α	T	U	V	D	С		F	G	Н	J
		Order No. supplement <b>-Z</b> with order code		-	-	-	-	-		-	-	-	-
1LE1001-1A□Z F90	100 L								FF 215	✓	✓	✓	✓
1LE1001-1B□Z F90	112 M								FF 215	1	1	✓	✓
1LE1001-1C□Z F90	132 S/M								FF 265	1	1	✓	✓
1LE1001-1D□Z F90	160 M/L								FF 300	1	1	✓	✓

Motor type	Frame size		Position 1	4: Types of	construction	on (type lett	er)						
				dard flange N EN 50347	<b>'</b> )			With standard flange (next larger standerd flange acc. to DIN EN 50347)					
			Flange size	IM B14 3) 5)	IM V19 3)	IM V18 without protective cover 3)	IM B34	Flange size	IM B14 3) 5)	IM V19 3)	IM V18 without protec- tive cover 3)	IM B34	
				K	L	M	N		K	L	M	N	
		Order No. supplement -Z with		-	-	-	-		-Z	-Z	-Z	-Z	
		order code							P01	P01	P01	P01	
1LE1001-1A□Z F90	100 L		FT 130	✓	1	1	✓	FT 165	✓	✓	1	✓	
1LE1001-1B□Z F90	112 M		FT 130	1	1	1	1	FT 165	✓	✓	✓	✓	
1LE1001-1C□Z F90	132 S/M		FT 165	✓	1	✓	✓	FT 215	✓	✓	1	1	
1LE1001-1D□Z F90	160 M/L		FT 215	✓	1	1	✓	-	-	-	-	-	

□ Standard version✓ With extra price

- 1) A rated voltage range is also specified on the rating plate.
- The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate.
- The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code H03), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.
- The types of construction IM V3 and IM V1 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate.
- The types of construction IM V19 and IM V18 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate.

Forced-air cooled motors without external fan and fan cover with high efficiency

### Selection and ordering data (continued)

Motor type	Frame		Position 15: Mo	tor protection (m	otor protection I	etter)		
	size		Without motor protection	Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping 1)	Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping 1)	Motor tempera- ture detection with embedded temperature sensor KTY 84-130 <sup>1)</sup>	NTC ther- mistors for trip- ping	Temperature detectors for tripping 1)
			Α	В	С	F	Z	Z
		Order code					Q2A	Q3A
1LE1001-1A□Z F90	100 L			✓	✓	✓	1	✓
1LE1001-1B□Z F90	112 M			1	1	1	1	✓
1LE1001-1C□Z F90	132 S/M		_	✓	1	<b>√</b>	1	✓
1LE1001-1D□Z F90	160 M/L			✓	✓	✓	✓	✓

Standard version

✓ With additional charge

Motor type	Frame	Position 16: Connection bo	x (connection box code)		
	size	Connection box top <sup>2)</sup>	Connection box on RHS <sup>3)</sup>	Connection box on LHS <sup>3)</sup>	Connection box bottom <sup>3)</sup>
		4	5	6	7
1LE1001-1A□-Z F90	100 L		/	<b>✓</b>	/
1LE1001-1B□-Z F90	112 M		✓	✓	✓
1LE1001-1C□-Z F90	132 S/M		✓	<b>✓</b>	<b>✓</b>
1LE1001-1D□-Z	160 M/L		✓	✓	✓

Standard version

✓ With additional charge

<sup>1)</sup> Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

With type of construction, cast feet as standard. Screwed-on feet are available with order code H01, see "Special versions".

<sup>3)</sup> With type of construction, screwed-on feet as standard.

Self-cooled motors without external fan and fan cover with improved efficiency

Selecti	ion and or	dering da	ta									
Rated o	output at	Frame size	Operating	g values at	rated outp	ut				Order No.	Price	Weight
50 Hz	60 Hz		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency Class accord- ing to CEMEP		Effi- ciency at 50 Hz 3/4-load	50 Hz	400 V,	For Order No. supplements for voltage, type of construc- tion, motor protection and connection box, see from Page 1/48	IM B3 type of construc- tion	IM B3 type of construc- tion approx.
Prated	$P_{\text{rated}}$	FS	n <sub>rated</sub>	$T_{\text{rated}}$		$\eta_{rated}$	$\eta_{ m rated}$	$\cos\!arphi_{ m rated}$	I <sub>rated</sub>			m
kW	kW		rpm	Nm		%	%		А			kg
	ersion: temp					ection, use	ed acc. to	temperatu	re class 1	30 (B)		
	– 3000 rpn		,		Z							
1.2		100 L	2830	4.05		81.4		0.92	2.3	1PC1002-1AA4Q-QQQ		20
1.6		112 M	2925	5.2		83.6		0.93	2.95	1PC1002-1BA2Q-QQQ		25
2.2		132 S	2910	7.24		84		0.94	4	1PC1002-1CA0U-UUU		35
3		132 S	2920	9.8		87		0.93	5.35	1PC1002-1CA1		40
4.4		160 M	2830	15		89.6		0.9	7.9	1PC1002-1DA2		60
6		160 M	2935	20		90		0.91	10.6	1PC1002-1DA3Q-QQQ		68
7.4		160 L	2930	24		90.6		0.92	12.9	1PC1002-1DA4Q-QQQ		78
4-pole	– 1500 rpn	n at 50 Hz	, <mark>1800 rp</mark> n	n at 60 H	Z							
0.88		100 L	1420	5.92		80.7		0.88	1.8	1PC1002-1AB4Q-QQQ		18
1.2		100 L	1420	8.06		83		0.89	2.35	1PC1002-1AB5Q-QQQ		22
1.6		112 M	1430	11		83.7		0.89	3.1	1PC1002-1BB2Q-QQQ		27
2.2		132 S	1450	14.53		85.8		0.89	4.15	1PC1002-1CB0Q-QQQ		38
3		132 M	1450	19.8		87.2		0.89	5.58	1PC1002-1CB2Q-QQQ		44
4.4		160 M	1460	29		88		0.88	8.2	1PC1002-1DB2Q-QQQ		62
6		160 L	1460	39		89.5		0.89	10.9	1PC1002-1DB4Q-QQQ		73
6-pole	– 1000 rpn	n at 50 Hz	, <mark>1200 rp</mark> n	n at 60 H	z							
0.6		100 L	935	6.12		76.1		0.81	1.4	1PC1002-1AC4U-UUU		19
0.88		112 M	930	9		79		0.82	1.96	1PC1002-1BC2Q-QQQ		25
1.2		132 S	950	12		80.7		0.83	2.58	1PC1002-1CC0Q-QQQ		34
1.6		132 M	950	16		83.2		0.83	3.35	1PC1002-1CC2Q-QQQ		39
2.2		132 M	950	22.13		85.1		0.83	4.5	1PC1002-1CC3Q-QQQ		48
3		160 M	970	30		86.5		0.81	6.2	1PC1002-1DC2Q-QQQ		72
4.4		160 L	970	43		88		0.81	8.9	1PC1002-1DC4U-UUU		92
8-pole	– 750 rpm	at 50 Hz,	900 rpm a	at 60 Hz								
0.3		100 L	710	4.05		66.3		0.67	0.97	1PC1002-1AD4U-UUU		17
0.44		100 L	705	6		71		0.69	1.3	1PC1002-1AD5Q-QQQ		22
0.6		112 M	695	8.2		75.2		0.72	1.6	1PC1002-1BD2Q-QQQ		25
0.88		132 S	720	11.66		80.6		0.71	2.2	1PC1002-1CD0Q-QQQ		37
1.2		132 M	720	16		81.5		0.72	2.95	1PC1002-1CD2		44
1.6		160 M	730	21		82		0.74	3.8	1PC1002-1DD2Q-QQQ		60
2.2		160 M	730	29		85		0.74	5.1	1PC1002-1DD3		72
3		160 L	730	39		86		0.74	6.8	1PC1002-1DD4Q-QQQ		91

Self-cooled motors without external fan and fan cover with improved efficiency

Selection and ordering	g data (continu	led)					
Order No.	Locked-rotor torque	Locked-rotor current	Breaddown torque	Torque class	Moment of inertia	Noise at rated ou	itput
	•	ing as multiple of r	'			Measuring-	Sound pressure
	torque	current	torque			surface sound	level at 50 Hz
						pressure level at 50 Hz	
						00112	
	T /T		T /T		,	,	,
	$T_{LR}/T_{rated}$	$I_{LR}/I_{rated}$	$T_{\rm B}/T_{\rm rated}$	CL	<i>J</i> kgm <sup>2</sup>	L <sub>pfA</sub>	L <sub>WA</sub>
Motor version: temperature	o class 155 (E) II	PEE dogroo of pro	taction used see	to tomporature		dB(A)	dB(A)
2-pole – 3000 rpm at 50			tection, used act	. to temperature t	ilass 130 (b)		
1PC1002-1AA4D-DDD	3	6	3	16	0.0034	67	79
1PC1002-1BA2Q-QQQ	2.3	7.2	3	13	0.0067	69	81
1PC1002-1CA0Q-QQQ	1.7	5.3	2.3	10	0.0127	62	74
1PC1002-1CA1Q-QQQ	2	6.3	2.8	13	0.0160	62	74
1PC1002-1DA2Q-QQQ	2.1	6.3	2.9	13	0.0297	60	72
1PC1002-1DA3	2.5	7	3.1	16	0.0362	60	72
1PC1002-1DA4Q-QQQ	2.5	7	3.1	16	0.0439	60	72
4-pole – 1500 rpm at 50	Hz, 1800 rpm	at 60 Hz					
1PC1002-1AB4Q-QQQ	2	5.1	2.2	13	0.0059	60	72
1PC1002-1AB5Q-QQQ	2.2	5.4	2.4	13	0.0078	60	72
1PC1002-1BB2Q-QQQ	1.9	5.4	2.2	13	0.0102	58	70
1PC1002-1CB0Q-QQQ	2.2	5.7	2.6	13	0.0186	64	76
1PC1002-1CB2Q-QQQ	2.4	6.4	2.7	16	0.0237	64	76
1PC1002-1DB2Q-QQQ	2.1	7	2.8	13	0.0439	64	76
1PC1002-1DB4Q-QQQ	2.4	7.5	3	16	0.0562	64	76
6-pole - 1000 rpm at 50	Hz, 1200 rpm	at 60 Hz					
1PC1002-1AC4Q-QQQ	1.8	4.1	2	10	0.0065	59	71
1PC1002-1BC2Q-QQQ	2.1	4.2	2.2	13	0.0092	55	67
1PC1002-1CC0Q-QQQ	1.7	4.5	2.2	10	0.0167	63	75
1PC1002-1CC2U-UUU	1.9	4.6	2.2	13	0.0212	63	75
1PC1002-1CC3Q-QQQ	2.2	5	2.5	13	0.0274	63	75
1PC1002-1DC2	2.1	6	2.7	13	0.0563	67	79
1PC1002-1DC4U-UUU	2.1	6.4	2.8	13	0.0780	67	79
8-pole – 750 rpm at 50							
1PC1002-1AD4Q-QQQ	1.8	3.3	2.2	10	0.0056	60	72
1PC1002-1AD5Q-QQQ	1.8	3.4	2.2	10	0.0078	60	72
1PC1002-1BD2Q-QQQ	1.7	3.3	1.9	10	0.0094	63	75
1PC1002-1CD0	1.6	4.2	2.3	10	0.0186	63	75
1PC1002-1CD2Q-QQQ	1.7	4.2	2.3	10	0.0237	63	75
1PC1002-1DD2Q-QQQ	1.7	4.9	2.3	10	0.0439	63	75
1PC1002-1DD3Q-QQQ	1.5	5	2.3	10	0.0562	63	75
1PC1002-1DD4Q-QQQ	1.8	5.4	2.5	10	0.0772	63	75

Self-cooled motors without external fan and fan cover with improved efficiency

#### Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 a	nd 13: Voltages	(voltage	codes)	5)					
		Standard volta	ges			Further voltages					
		50 Hz				50 Hz					
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 VΔ		
		60 Hz				Rated voltage rar	nge				
		460 VY	460 VΔ			(210 230 VΔ/ 360 400 VY) 1)	(360 400 VΔ/ 625 695 VY) <sup>1)</sup>	(395 435 VY)	(395 435 V∆)		
		see "Selection a 60 Hz	and ordering dat	ta" for out	tputs at						
		22	34	27	40	21	33	23	35		
1PC1002-1A□-□	100 L	0	0	0	0	✓	✓	✓	✓		
1PC1002-1B□-□	112 M	0	0	0	0	✓	✓	✓	✓		
1PC1002-1C□-□	132 S/M	0	0	0	0	✓	1	✓	✓		
1PC1002-1D□-□	160 M/L	0	0	0	0	/	1	1	/		

Without additional charge

✓ With additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/54).

Motor type	Frame size		Positio	n 14: Typ	e of con	struction	(type le	tter)						
			With fla	With flange						With flange (acc. to DIN EN 50347)				
			IM B3 2) 3)	IM B6	IM B7	IM B8	IM V6	IM V5 without protec- tive cover 3)	Flange size	IM B5 3) 4)	IM V1 without protec- tive cover 3)	IM V3	IM B35	
			Α	Т	U	V	D	С		F	G	Н	J	
		Order No. supplement - <b>Z</b> with order code	-	-	-	-	-	-		-	-	-	-	
1PC1002-1A□	100 L								FF 215	/	1	/	1	
1PC1002-1B□	112 M								FF 215	1	1	1	<b>√</b>	
1PC1002-1C□	132 S/M								FF 265	1	✓	1	1	
1PC1002-1D□	160 M/L								FF 300	/	/	/	/	

Motor type	Frame size		Position 14: Type of construction (type letter)									
				ndard flang DIN EN 503				With standard flange (next larger standerd flange acc. to DIN EN 50347)				
			Flange size	IM B14 3) 5)	IM V19 3)	IM V18 without protec- tive cover 3)	IM B34	Flange size	IM B14 3) 5)	IM V19 3)	IM V18 without protec- tive cover 3)	IM B34
				K	L	М	N		K	L	М	N
		Order No.		-	-	-	-		-Z	-Z	-Z	-Z
		supplement -Z with order code							P01	P01	P01	P01
1PC1002-1A□	100 L		FT 130	✓	1	✓	✓	FT 165	/	✓	/	/
1PC1002-1B□	112 M		FT 130	/	✓	✓	✓	FT 165	✓	✓	1	1
1PC1002-1C□	132 S/M		FT 165	✓	✓	✓	✓	FT 215	✓	✓	1	✓
1PC1002-1D□	160 M/L		FT 215	✓	✓	✓	/	-	-	-	-	_

Standard versionWith additional charge

- 1) A rated voltage range is also specified on the rating plate.
- The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate.
- The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code H03), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.
- The types of construction IM V3 and IM V1 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate.
- The types of construction IM V19 and IM V18 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate.

Self-cooled motors without external fan and fan cover with improved efficiency

### Selection and ordering data (continued)

Motor type	Frame size		Position 15: Motor protection (motor protection letter)								
			Without motor protection	Motor protection with PTC ther- mistors with 3 embedded tem- perature sen- sors for tripping 1)	NTC thermistors for tripping	Temperature detectors for tripping 1)					
			Α	В	С	F	Z	Z			
		Order code					Q2A	Q3A			
1PC1002-1A□.	100 L			✓	✓	✓	✓	✓			
1PC1002-1B□.	112 M			✓	✓	✓	✓	✓			
1PC1002-1C□.	132 S/M			✓	✓	✓	✓	1			
1PC1002-1D□.	160 M/L			✓	✓	✓	✓	<b>√</b>			

Standard version 

With additional charge

Motor type	Frame size	Position 16: Connection	osition 16: Connection box (connection box code)										
		Connection box top <sup>2)</sup>	Connection box on RHS 3)	Connection box on LHS <sup>3)</sup>	Connection box bottom 3)								
		4	5	6	7								
1PC1002-1A□	100 L		✓	✓	✓								
1PC1002-1B□	112 M		✓	✓	✓								
1PC1002-1C□	132 S/M		✓	✓	✓								
1PC1002-1D	160 M/L		1	/	J								

Standard version

□ ✓ With additional charge

<sup>1)</sup> Evaluation with appropriate tripping unit (see Catalog LV 1) is recom-

 $<sup>^{2)}</sup>$  With type of construction, cast feet as standard. Screwed-on feet are available with order code  $\bf H01$ , see "Special versions".

<sup>3)</sup> With type of construction, screwed-on feet as standard.

Self-cooled motors without external fan and fan cover with high efficiency

size  50 Hz  Rated Rated Efficiency Effi- Effi- Power factor at speed at torque at 50 Hz  So Hz  So Hz  Rated Rated Efficiency Effi- Effi- Power factor at speed at torque at 50 Hz  So	Selection	on and or	dering da	ıtal									
Practice	Rated ou	utput at		Operating	g values at	rated outp	ut				Order No.	Price	Weight
Motor version: temperature class 156 (F), IP55 degree of protection, used acc. to temperature class 130 (B)   2-pole - 3000 rpm at 50 Hz, 3600 rpm at 60 Hz     1.4	50 Hz	60 Hz		speed at	torque at	Class accord- ing to	ciency at 50 Hz	ciency at 50 Hz	factor at 50 Hz	current at 400 V,	for voltage, type of construc- tion, motor protection and connection box, see from	type of construc-	
Notor version: temperature class 155 (F), IP55 degree of protection, used acc. to temperature class 130 (B)	Prated	P <sub>rated</sub>	FS	n <sub>rated</sub>	T <sub>rated</sub>		$\eta_{ m rated}$	$\eta_{rated}$	$\cos\!arphi_{ m rated}$	I <sub>rated</sub>			m
2-pole - 3000 rpm at 50 Hz, 3600 rpm at 60 Hz   1.4	kW			rpm	Nm		%	%		Α			kg
1.4							ection, use	ed acc. to	temperatu	re class 1	30 (B)		
1.6	2-pole	– 3000 rpn	n at 50 Hz	, 3600 rpr	n at 60 H	Z							
3.1 132 S 2955 10 91 0.89 5.5 1PC1001-1CA0□-□□□□ 39 4.3 132 S 2955 14 91.5 0.9 7.5 1PC1001-1CA1□-□□□□ 43 6.3 160 M 2955 20 94.5 0.89 10.8 1PC1001-1DA2□-□□□□ 67 6.5 160 M 2960 21 91.5 0.9 11.4 1PC1001-1DA2□-□□□□ 75 9 160 L 2960 29 93.5 0.91 15.2 1PC1001-1DA4□-□□□□ 84 4-pole − 1500 rpm at 50 Hz, 1800 rpm at 60 Hz  1.1 100 L 1460 7.2 86 0.83 2.2 1PC1001-1DA4□-□□□□ 21 1.5 100 L 1460 9.8 86 0.84 3 1PC1001-1DB2□-□□□□ 25 2 112 M 1460 13 88.5 0.83 3.95 1PC1001-1BB2□-□□□□ 29 2.6 132 S 1465 17 89.5 0.83 5.1 1PC1001-1CB2□-□□□□ 29 2.6 132 S 1465 17 89.5 0.83 5.1 1PC1001-1CB2□-□□□□ 49 6 160 M 1470 39 91 0.87 11 1PC1001-1CB2□-□□□□ 49 6 160 M 1470 39 91 0.87 11 1PC1001-1DB2□-□□□□ 71 6.2 160 L 1480 40 91.5 0.86 11.4 1PC1001-1DB2□-□□□□ 71 6.2 160 L 960 8.5 85 0.75 1.92 1PC1001-1BB2□-□□□□ 25 1.2 112 M 960 12 83.5 0.75 1.92 1PC1001-1BB2□-□□□□ 25 1.5 132 S 970 15 86.5 0.75 2.75 1PC1001-1BC2□-□□□□ 29 1.5 132 S 970 15 86.5 0.77 3.25 1PC1001-1CB2□-□□□□ 29 1.5 132 M 970 25 87 0.79 5.3 1PC1001-1CB2□-□□□□ 29 1.5 160 L 975 64 89.5 0.8 13.2 1PC1001-1CB2□-□□□□ 29 1.5 160 L 975 64 89.5 0.8 13.2 1PC1001-1CB2□-□□□□ 38 2.7 132 M 975 26 88 0.77 5.8 1PC1001-1CC2□-□□□□ 38 2.7 132 M 975 26 88 0.77 5.8 1PC1001-1CC2□-□□□□ 43 2.7 132 M 975 26 88 0.77 5.8 1PC1001-1CC2□-□□□□ 39 3 8-pole − 750 rpm at 50 Hz, 900 rpm at 60 Hz 0.37 100 L 730 4.8 72.5 0.58 1.28 1PC1001-1CC2□-□□□□ 39 1.5 112 M 720 9.9 77.5 0.66 2.1 1PC1001-1DC2□-□□□□ 29 1.1 132 S 730 14 82.5 0.65 2.95 1PC1001-1DC2□-□□□□ 29 1.1 132 S 730 14 82.5 0.66 2.95 1PC1001-1DC2□-□□□□ 29 1.1 132 M 730 20 84 0.68 3.8 1PC1001-1DD2□-□□□□ 49 2.4 160 M 730 31 88.5 0.7 5.6 1PC1001-1DD3□-□□□□ 49 3.3 160 M 730 43 88 0.7 7.7 1PC1001-1DD3□-□□□□ 49	1.4		100 L	2920	4.6		87.5		0.88	2.6	1PC1001-1AA4Q-QQQ		21
4.3	1.6		112 M	2955	5.2		82		0.9	3.15	1PC1001-1BA2Q-QQQ		27
6.3	3.1		132 S	2955	10		91		0.89		1PC1001-1CA0Q-QQQ		39
6.5	4.3		132 S	2955	14		91.5		0.9	7.5	1PC1001-1CA1		43
9 160 L 2960 29 93.5 0.91 15.2 1PC1001-1DA4□-□□□□ 84  4-pole − 1500 rpm at 50 Hz, 1800 rpm at 60 Hz  1.1 100 L 1460 7.2 86 0.83 2.2 1PC1001-1AB4□-□□□ 21  1.5 100 L 1460 9.8 86 0.84 3 1PC1001-1AB5□-□□□□ 25  2 112 M 1460 13 88.5 0.83 3.95 1PC1001-1BB2□-□□□ 29  2.6 132 S 1465 17 89.5 0.83 5.1 1PC1001-1BB2□-□□□ 42  4 132 M 1465 26 89.5 0.84 7.7 1PC1001-1CB□□□□□ 49  6 160 M 1470 39 91 0.87 11 1PC1001-1DB2□-□□□ 49  6.2 160 L 1480 40 91.5 0.86 11.4 1PC1001-1DB2□-□□□ 83  6-pole − 1000 rpm at 50 Hz, 1200 rpm at 60 Hz  0.85 100 L 960 8.5 85 0.75 1.92 1PC1001-1BC□□□□ 29  1.5 132 S 970 15 86.5 0.77 3.25 1PC1001-1BC□□□□ 38  2.7 132 M 970 25 87 0.79 5.3 1PC1001-1CC□□□□□ 38  2.7 132 M 975 26 88 0.77 1.96 1PC1001-1CC□□□□□ 38  2.7 132 M 975 49 89 0.77 10.6 1PC1001-1CC□□□□□ 43  2.7 132 M 975 49 89 0.77 10.6 1PC1001-1DC□□□□ 52  5 160 L 975 64 89.5 0.8 13.2 1PC1001-1DC□□□□ 52  5 160 L 975 64 89.5 0.8 13.2 1PC1001-1DC□□□□ 77  6.5 160 L 975 64 89.5 0.8 13.2 1PC1001-1DC□□□□ 39  8-pole − 750 rpm at 50 Hz, 900 rpm at 60 Hz  0.37 100 L 720 7.3 73 73 0.62 1.76 1PC1001-1DC□□□□ 93  8-pole − 750 rpm at 50 Hz, 900 rpm at 60 Hz  0.75 112 M 720 9.9 77.5 0.66 2.1 1PC1001-1DC□□□□ 29  1.1 132 S 730 14 82.5 0.66 2.95 1PC1001-1DC□□□□□ 41  1.5 132 M 730 20 84 0.68 3.8 1PC1001-1DC□□□□□ 49  2.4 160 M 730 31 88.5 0.7 5.6 1PC1001-1DC□□□□□ 49  3.3 160 M 730 31 88.5 0.7 5.6 1PC1001-1DD□□□□□ 49	6.3		160 M	2955	20		94.5		0.89	10.8	1PC1001-1DA2Q-QQQ		67
4-pole – 1500 rpm at 50 Hz, 1800 rpm at 60 Hz         1.1       100 L       1460       7.2       86       0.83       2.2       1PC1001-1AB4Q-□□□□       21         1.5       100 L       1460       9.8       86       0.84       3       1PC1001-1BB2D-□□□□       25         2       112 M       1460       13       88.5       0.83       3.95       1PC1001-1BB2D-□□□□       29         2.6       132 S       1465       17       89.5       0.83       5.1       1PC1001-1CB0D-□□□□       42         4       132 M       1465       26       89.5       0.84       7.7       1PC1001-1CB2D-□□□□       71         6.2       160 L       1480       40       91.5       0.86       11.4       1PC1001-1DB2D-□□□□       71         6.2       160 L       1480       40       91.5       0.86       11.4       1PC1001-1DB4D-□□□□       71         6.2       160 L       1480       40       91.5       0.86       11.4       1PC1001-1DB4D-□□□□       71         6.2       160 L       1200       83.5       85       0.75       1.92       1PC1001-1DC4D-□□□□       25         1.2       112 M       960	6.5		160 M	2960	21		91.5		0.9	11.4	1PC1001-1DA3Q-QQQ		75
1.1         100 L         1460         7.2         86         0.83         2.2         1PC1001-1AB4□-□□□□         21           1.5         100 L         1460         9.8         86         0.84         3         1PC1001-1AB5□-□□□□         25           2         112 M         1460         13         88.5         0.83         3.95         1PC1001-1BB2□-□□□□         29           4         132 M         1465         17         89.5         0.84         7.7         1PC1001-1CB2□-□□□□         49           6         160 M         1470         39         91         0.87         11         1PC1001-1DB2□-□□□□         71           6.2         160 L         1480         40         91.5         0.86         11.4         1PC1001-1DB2□-□□□□         83           6-pole - 1000 rpm at 50 Hz, 1200 rpm at 60 Hz         10         1.96         8.5         85         0.75         1.92         1PC1001-1DB2□-□□□□         25           1.2         112 M         960         8.5         85         0.75         1.92         1PC1001-1CC2□-□□□□         25           1.2         112 M         960         12         83.5         0.75         2.75         1PC1001-1BC2□-□□□□							93.5		0.91	15.2	1PC1001-1DA4Q-QQQ		84
1.5         100 L         1460         9.8         86         0.84         3         1PC1001-1AB5□-□□□         25           2         112 M         1460         13         88.5         0.83         3.95         1PC1001-1BB2□-□□□         29           2.6         132 S         1465         17         89.5         0.83         5.1         1PC1001-1CB2□-□□□         49           4         132 M         1465         26         89.5         0.84         7.7         1PC1001-1CB2□-□□□         49           6         160 M         1470         39         91         0.87         11         1PC1001-1CB2□-□□□□         71           6.2         160 L         1480         40         91.5         0.86         11.4         1PC1001-1DB2□-□□□□         71           6.2         160 L         1480         40         91.5         0.86         11.4         1PC1001-1DB2□-□□□□         25           8.5         100 L         960         8.5         85         0.75         1.92         1PC1001-1AC4□-□□□□         25           1.2         112 M         960         12         83.5         0.75         2.75         1PC1001-1BC2□-□□□□         25           2.	4-pole	– 1500 rpn	n at 50 Hz	, 1800 rpr	n at 60 H	Z							
2       112 M       1460       13       88.5       0.83       3.95       1PC1001-1BB2□-□□□□       29         2.6       132 S       1465       17       89.5       0.83       5.1       1PC1001-1CB0□-□□□□       42         4       132 M       1465       26       89.5       0.84       7.7       1PC1001-1CB2□-□□□□       49         6       160 M       1470       39       91       0.87       11       1PC1001-1DB2□-□□□□       71         6.2       160 L       1480       40       91.5       0.86       11.4       1PC1001-1DB4□-□□□□       83         6-pole - 1000 rpm at 50 Hz, 1200 rpm at 60 Hz       8.5       85       0.75       1.92       1PC1001-1AC4□-□□□□       25         1.2       112 M       960       8.5       85       0.75       1.92       1PC1001-1AC4□-□□□□       29         1.5       132 S       970       15       86.5       0.77       3.25       1PC1001-1BC2□-□□□□       38         2.5       132 M       975       26       88       0.77       5.8       1PC1001-1CC2□-□□□□       43         2.7       132 M       975       49       89       0.77       1.6       1PC1001-1DC2□-□□□□	1.1		100 L	1460	7.2		86		0.83	2.2	1PC1001-1AB4Q-QQQ		21
2.6       132 S       1465       17       89.5       0.83       5.1       1PC1001-1CBQ□-□□□□       42         4       132 M       1465       26       89.5       0.84       7.7       1PC1001-1CB2□-□□□□       49         6       160 M       1470       39       91       0.87       11       1PC1001-1DB2□-□□□□       71         6.2       160 L       1480       40       91.5       0.86       11.4       1PC1001-1DB4□-□□□□       83         6-pole - 1000 rpm at 50 Hz, 1200 rpm at 60 Hz <ul> <li>960</li> <li>8.5</li> <li>85</li> <li>0.75</li> <li>1.92</li> <li>1PC1001-1AC4□□□□□</li> <li>25</li> </ul> 1.2     112 M       960       12       83.5       0.75       2.75       1PC1001-1BC2□□□□□       29         1.5       132 S       970       15       86.5       0.77       3.25       1PC1001-1CC2□□□□□       38         2.5       132 M       975       26       88       0.77       5.8       1PC1001-1CC2□□□□□       52         5       160 M       975       64       89.5       0.8       13.2       1PC1001-1DC2□□□□□       79         6.5       160 L       9			100 L	1460	9.8		86		0.84	3	1PC1001-1AB5Q-QQQ		25
49 132 M 1465 26 89.5 0.84 7.7 1PC1001-1CB2□-□□□□ 49 6 160 M 1470 39 91 0.87 11 1PC1001-1DB2□-□□□□ 71 6.2 160 L 1480 40 91.5 0.86 11.4 1PC1001-1DB2□-□□□□ 83 6-pole − 1000 rpm at 50 Hz, 1200 rpm at 60 Hz	2		112 M	1460	13		88.5		0.83	3.95	1PC1001-1BB2Q-QQQ		29
6	2.6		132 S	1465	17		89.5		0.83	5.1	1PC1001-1CB0Q-QQQ		42
6.2 160 L 1480 40 91.5 0.86 11.4 1PC1001-1DB4□-□□□□ 83 6-pole - 1000 rpm at 50 Hz, 1200 rpm at 60 Hz  0.85 100 L 960 8.5 85 0.75 1.92 1PC1001-1AC4□-□□□□ 25 1.2 112 M 960 12 83.5 0.75 2.75 1PC1001-1BC2□-□□□□ 38 2.5 132 S 970 15 86.5 0.77 3.25 1PC1001-1CC□□□□□ 38 2.5 132 M 970 25 87 0.79 5.3 1PC1001-1CC□□□□□ 43 2.7 132 M 975 26 88 0.77 5.8 1PC1001-1CC□□□□□ 52 5 160 M 975 49 89 0.77 10.6 1PC1001-1DC□□□□□ 77 6.5 160 L 975 64 89.5 0.8 13.2 1PC1001-1DC□□□□□ 93 8-pole - 750 rpm at 50 Hz, 900 rpm at 60 Hz 0.37 100 L 730 4.8 72.5 0.58 1.28 1PC1001-1AD4□-□□□□ 21 0.55 100 L 720 7.3 73 0.62 1.76 1PC1001-1AD4□-□□□□ 25 0.75 112 M 720 9.9 77.5 0.66 2.1 1PC1001-1AD5□-□□□□ 25 1.1 132 S 730 14 82.5 0.66 2.1 1PC1001-1BD2□-□□□□ 29 1.1 132 S 730 14 82.5 0.66 2.95 1PC1001-1CD□□□□ 41 1.5 132 M 730 20 84 0.68 3.8 1PC1001-1DD2□-□□□□ 49 2.4 160 M 730 31 88.5 0.7 5.6 1PC1001-1DD2□-□□□□ 49 3.3 160 M 730 43 88 0.7 7.7 1PC1001-1DD3□-□□□□ 69	4		132 M	1465	26		89.5		0.84	7.7	1PC1001-1CB2Q-QQQ		49
6-pole – 1000 rpm at 50 Hz, 1200 rpm at 60 Hz         0.85       100 L       960       8.5       85       0.75       1.92       1PC1001-1AC4□-□□□       25         1.2       112 M       960       12       83.5       0.75       2.75       1PC1001-1BC2□-□□□       29         1.5       132 S       970       15       86.5       0.77       3.25       1PC1001-1CC2□-□□□       38         2.5       132 M       970       25       87       0.79       5.3       1PC1001-1CC2□-□□□       43         2.7       132 M       975       26       88       0.77       5.8       1PC1001-1CC3□-□□□       52         5       160 M       975       49       89       0.77       10.6       1PC1001-1DC2□-□□□       77         6.5       160 L       975       64       89.5       0.8       13.2       1PC1001-1DC4□-□□□       93         8-pole – 750 rpm at 50 Hz, 900 rpm at 60 Hz         0.37       100 L       730       4.8       72.5       0.58       1.28       1PC1001-1AD4□-□□□□       21         0.55       100 L       720       7.3       73       0.62       1.76       1PC1001-1AD5□-□□□□       25     <	6		160 M	1470	39		91		0.87	11	1PC1001-1DB2Q-QQQ		71
0.85         100 L         960         8.5         85         0.75         1.92         1PC1001-1AC4□-□□□□         25           1.2         112 M         960         12         83.5         0.75         2.75         1PC1001-1BC2□-□□□□         29           1.5         132 S         970         15         86.5         0.77         3.25         1PC1001-1CC2□-□□□□         38           2.5         132 M         970         25         87         0.79         5.3         1PC1001-1CC2□-□□□□         43           2.7         132 M         975         26         88         0.77         5.8         1PC1001-1CC2□-□□□□         52           5         160 M         975         49         89         0.77         10.6         1PC1001-1DC2□-□□□□         77           6.5         160 L         975         64         89.5         0.8         13.2         1PC1001-1DC4□-□□□□         93           8-pole - 750 rpm at 50 Hz, 900 rpm at 60 Hz           0.37         100 L         730         4.8         72.5         0.58         1.28         1PC1001-1AD4□-□□□□         21           0.55         100 L         720         7.3         73         0.62         1.	6.2		160 L	1480	40		91.5		0.86	11.4	1PC1001-1DB4Q-QQQ		83
1.2       112 M       960       12       83.5       0.75       2.75       1PC1001-1BC2□-□□□□       29         1.5       132 S       970       15       86.5       0.77       3.25       1PC1001-1CC□-□□□□       38         2.5       132 M       970       25       87       0.79       5.3       1PC1001-1CC□-□□□□       43         2.7       132 M       975       26       88       0.77       5.8       1PC1001-1CC□-□□□□       52         5       160 M       975       49       89       0.77       10.6       1PC1001-1DC2□-□□□□       77         6.5       160 L       975       64       89.5       0.8       13.2       1PC1001-1DC4□-□□□□       93         8-pole - 750 rpm at 50 Hz, 900 rpm at 60 Hz         0.37       100 L       730       4.8       72.5       0.58       1.28       1PC1001-1AD4□-□□□□       21         0.55       100 L       720       7.3       73       0.62       1.76       1PC1001-1AD5□-□□□□       25         0.75       112 M       720       9.9       77.5       0.66       2.1       1PC1001-1BD2□-□□□□       41         1.5       132 M       730       20 </td <td>6-pole</td> <td>– 1000 rpn</td> <td>n at 50 Hz</td> <td>, 1200 rpr</td> <td>n at 60 H</td> <td>Z</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	6-pole	– 1000 rpn	n at 50 Hz	, 1200 rpr	n at 60 H	Z							
1.5       132 S       970       15       86.5       0.77       3.25       1PC1001-1CC0□-□□□□       38         2.5       132 M       970       25       87       0.79       5.3       1PC1001-1CC2□-□□□□       43         2.7       132 M       975       26       88       0.77       5.8       1PC1001-1CC2□-□□□□       52         5       160 M       975       49       89       0.77       10.6       1PC1001-1DC2□-□□□□       77         6.5       160 L       975       64       89.5       0.8       13.2       1PC1001-1DC4□-□□□□       93         8-pole - 750 rpm at 50 Hz, 900 rpm at 60 Hz         0.37       100 L       730       4.8       72.5       0.58       1.28       1PC1001-1AD4□-□□□□       21         0.55       100 L       720       7.3       73       0.62       1.76       1PC1001-1AD5□-□□□□       25         0.75       112 M       720       9.9       77.5       0.66       2.1       1PC1001-1BD2□-□□□□       29         1.1       132 S       730       14       82.5       0.65       2.95       1PC1001-1CD2□-□□□□       49         2.4       160 M       730       3	0.85		100 L	960	8.5		85		0.75	1.92	1PC1001-1AC4U-UUU		25
2.5	1.2		112 M	960	12		83.5		0.75	2.75	1PC1001-1BC2Q-QQQ		29
2.7       132 M       975       26       88       0.77       5.8       1PC1001-1CC3□-□□□□       52         5       160 M       975       49       89       0.77       10.6       1PC1001-1DC2□-□□□□       77         6.5       160 L       975       64       89.5       0.8       13.2       1PC1001-1DC4□-□□□□       93         8-pole - 750 rpm at 50 Hz, 900 rpm at 60 Hz         0.37       100 L       730       4.8       72.5       0.58       1.28       1PC1001-1AD4□-□□□□       21         0.55       100 L       720       7.3       73       0.62       1.76       1PC1001-1AD5□-□□□□       25         0.75       112 M       720       9.9       77.5       0.66       2.1       1PC1001-1BD2□-□□□□       29         1.1       132 S       730       14       82.5       0.65       2.95       1PC1001-1CD2□-□□□□       41         1.5       132 M       730       20       84       0.68       3.8       1PC1001-1DD2□-□□□□       49         2.4       160 M       730       31       88.5       0.7       5.6       1PC1001-1DD2□-□□□□       69         3.3       160 M       730       43<	1.5		132 S	970	15		86.5		0.77	3.25	1PC1001-1CC0Q-QQQ		38
5       160 M       975       49       89       0.77       10.6       1PC1001-1DC2□-□□□□       77         6.5       160 L       975       64       89.5       0.8       13.2       1PC1001-1DC4□-□□□□       93         8-pole - 750 rpm at 50 Hz, 900 rpm at 60 Hz         0.37       100 L       730       4.8       72.5       0.58       1.28       1PC1001-1AD4□-□□□□       21         0.55       100 L       720       7.3       73       0.62       1.76       1PC1001-1AD5□-□□□□       25         0.75       112 M       720       9.9       77.5       0.66       2.1       1PC1001-1BD2□-□□□□       29         1.1       132 S       730       14       82.5       0.65       2.95       1PC1001-1CD0□-□□□□       41         1.5       132 M       730       20       84       0.68       3.8       1PC1001-1CD2□-□□□□       49         2.4       160 M       730       31       88.5       0.7       5.6       1PC1001-1DD2□-□□□□       69         3.3       160 M       730       43       88       0.7       7.7       1PC1001-1DD3□-□□□□       82	2.5		132 M	970	25		87		0.79	5.3	1PC1001-1CC2U-UUU		43
6.5 160 L 975 64 89.5 0.8 13.2 1PC1001-1DC4□-□□□ 93  8-pole - 750 rpm at 50 Hz, 900 rpm at 60 Hz  0.37 100 L 730 4.8 72.5 0.58 1.28 1PC1001-1AD4□-□□□ 21  0.55 100 L 720 7.3 73 0.62 1.76 1PC1001-1AD5□-□□□ 25  0.75 112 M 720 9.9 77.5 0.66 2.1 1PC1001-1BD2□-□□□ 29  1.1 132 S 730 14 82.5 0.65 2.95 1PC1001-1CD□□□□ 41  1.5 132 M 730 20 84 0.68 3.8 1PC1001-1CD□□□□ 49  2.4 160 M 730 31 88.5 0.7 5.6 1PC1001-1DD2□□□□□ 69  3.3 160 M 730 43 88 0.7 7.7 1PC1001-1DD3□-□□□□ 82	2.7		132 M	975	26		88		0.77	5.8	1PC1001-1CC3Q-QQQ		52
8-pole - 750 rpm at 50 Hz, 900 rpm at 60 Hz         0.37       100 L       730       4.8       72.5       0.58       1.28       1PC1001-1AD4D-DDDD       21         0.55       100 L       720       7.3       73       0.62       1.76       1PC1001-1AD5D-DDDD       25         0.75       112 M       720       9.9       77.5       0.66       2.1       1PC1001-1BD2D-DDDD       29         1.1       132 S       730       14       82.5       0.65       2.95       1PC1001-1CDDD-DDDD       41         1.5       132 M       730       20       84       0.68       3.8       1PC1001-1CD2D-DDDD       49         2.4       160 M       730       31       88.5       0.7       5.6       1PC1001-1DD2D-DDD       69         3.3       160 M       730       43       88       0.7       7.7       1PC1001-1DD3D-DDD       82	5		160 M	975	49		89		0.77	10.6	1PC1001-1DC2		77
0.37       100 L       730       4.8       72.5       0.58       1.28       1PC1001-1AD4□-□□□□       21         0.55       100 L       720       7.3       73       0.62       1.76       1PC1001-1AD5□-□□□□       25         0.75       112 M       720       9.9       77.5       0.66       2.1       1PC1001-1BD2□-□□□□       29         1.1       132 S       730       14       82.5       0.65       2.95       1PC1001-1CD□□□□□□       41         1.5       132 M       730       20       84       0.68       3.8       1PC1001-1CD□□□□□□       49         2.4       160 M       730       31       88.5       0.7       5.6       1PC1001-1DD□□□□□□       69         3.3       160 M       730       43       88       0.7       7.7       1PC1001-1DD□□□□□□       82	6.5		160 L	975	64		89.5		0.8	13.2	1PC1001-1DC4Q-QQQ		93
0.55       100 L       720       7.3       73       0.62       1.76       1PC1001-1AD5□-□□□□       25         0.75       112 M       720       9.9       77.5       0.66       2.1       1PC1001-1BD2□-□□□□       29         1.1       132 S       730       14       82.5       0.65       2.95       1PC1001-1CD□□□□□□       41         1.5       132 M       730       20       84       0.68       3.8       1PC1001-1CD□□□□□□       49         2.4       160 M       730       31       88.5       0.7       5.6       1PC1001-1DD2□□□□□□       69         3.3       160 M       730       43       88       0.7       7.7       1PC1001-1DD3□□□□□□       82	8-pole	– 750 rpm	at 50 Hz,	900 rpm a	at 60 Hz								
0.75         112 M         720         9.9         77.5         0.66         2.1         1PC1001-1BD2U-UUUU         29           1.1         132 S         730         14         82.5         0.65         2.95         1PC1001-1CD0U-UUUU         41           1.5         132 M         730         20         84         0.68         3.8         1PC1001-1CD2U-UUUU         49           2.4         160 M         730         31         88.5         0.7         5.6         1PC1001-1DD2U-UUUU         69           3.3         160 M         730         43         88         0.7         7.7         1PC1001-1DD3U-UUUU         82	0.37		100 L	730	4.8		72.5		0.58	1.28	1PC1001-1AD4Q-QQQ		21
1.1     132 S     730     14     82.5     0.65     2.95     1PC1001-1CDQ-QQQQ     41       1.5     132 M     730     20     84     0.68     3.8     1PC1001-1CDQQ-QQQQ     49       2.4     160 M     730     31     88.5     0.7     5.6     1PC1001-1DDQQ-QQQQ     69       3.3     160 M     730     43     88     0.7     7.7     1PC1001-1DDQQ-QQQQ     82	0.55		100 L	720	7.3		73		0.62	1.76	1PC1001-1AD5Q-QQQ		25
1.5     132 M     730     20     84     0.68     3.8     1PC1001-1CD2U-UUU     49       2.4     160 M     730     31     88.5     0.7     5.6     1PC1001-1DD2U-UUUU     69       3.3     160 M     730     43     88     0.7     7.7     1PC1001-1DD3U-UUUU     82	0.75		112 M	720	9.9		77.5		0.66	2.1	1PC1001-1BD2U-UUU		29
2.4     160 M     730     31     88.5     0.7     5.6     1PC1001-1DD2U-UUU     69       3.3     160 M     730     43     88     0.7     7.7     1PC1001-1DD3U-UUU     82	1.1		132 S	730	14		82.5		0.65	2.95	1PC1001-1CD0Q-QQQ		41
3.3 160 M 730 43 88 0.7 7.7 <b>1PC1001-1DD3D-DDD</b> 82	1.5		132 M	730	20		84		0.68	3.8	1PC1001-1CD2U-UUU		49
	2.4		160 M	730	31		88.5		0.7	5.6	1PC1001-1DD2Q-QQQ		69
4.6 160 L 730 60 88 0.7 10.8 <b>1PC1001-1DD4Q-QQQ</b> 94	3.3		160 M	730	43		88		0.7	7.7	1PC1001-1DD3Q-QQQ		82
	4.6		160 L	730	60		88		0.7	10.8	1PC1001-1DD4Q-QQQ		94

Self-cooled motors without external fan and fan cover with high efficiency

Selection and ordering of	data (continue	d)					
	Locked-rotor torque	Locked-rotor current	Breaddown torque	Torque class	Moment of inertia	Noise at rated out	put
		as multiple of rate				Measuring-	Sound pressure
	torque	current	torque			surface sound pressure level at 50 Hz	level at 50 Hz
	$T_{LR}/T_{rated}$	I <sub>LR</sub> /I <sub>rated</sub>	$T_{\rm B}/T_{\rm rated}$	CL	J kgm <sup>2</sup>	L <sub>pfA</sub> dB(A)	L <sub>WA</sub> dB(A)
Motor version: temperature o			ction, used acc. to	o temperature cla	ss 130 (B)		
2-pole – 3000 rpm at 50 F	lz, 3600 rpm at	60 Hz					
1PC1001-1AA4Q-QQQ	2.1	8.3	3.6	13	0.0044	67	79
1PC1001-1BA2Q-QQQ	2.5	9.5	3.5	16	0.0092	69	81
1PC1001-1CA0Q-QQQ	1.9	7.1	2.9	13	0.0201	62	74
1PC1001-1CA1Q-QQQ	1.9	7.6	2.9	13	0.0235	62	74
1PC1001-1DA2Q-QQQ	1.8	7.1	3	10	0.0447	60	72
1PC1001-1DA3Q-QQQ	2.3	8.7	3.3	13	0.0528	60	72
1PC1001-1DA4Q-QQQ	2.4	8.7	3.2	16	0.0608	60	72
4-pole – 1500 rpm at 50 H	łz, 1800 rpm at	60 Hz					
	2.1	7.6	3.3	13	0.0086	60	72
	2.2	7.8	3.5	13	0.0109	60	72
1PC1001-1BB2Q-QQQ	2.3	7.4	3.1	13	0.0140	58	70
	2.2	7.5	2.8	13	0.0270	64	76
1PC1001-1CB2	2.1	7.3	2.9	13	0.0335	64	76
1PC1001-1DB2Q-QQQ	1.8	6	2.5	10	0.0649	64	76
1PC1001-1DB4Q-QQQ	2.6	8.6	3.5	16	0.0828	64	76
6-pole – 1000 rpm at 50 H	lz. 1200 rpm at	60 Hz					
	1.7	5.5	2.6	10	0.0113	59	71
	1.7	5.7	2.7	10	0.0139	55	67
	1.4	5.5	2.4	7	0.0237	63	75
	1.4	5.4	2.3	7	0.0292	63	75
	1.9	6.8	3	13	0.0367	63	75
	1.6	6	2.6	10	0.0754	67	79
	1.6	6	2.6	10	0.0975	67	79
8-pole – 750 rpm at 50 Hz							
	1.5	4.5	2.7	10	0.0086	60	72
	1.6	4.4	2.5	10	0.0109	60	72
	1.3	4.4	2.4	7	0.0140	63	75
	1.2	4.5	2.1	7	0.0270	63	75
	1.2	4.7	2.3	7	0.0346	63	75
		***		<u> </u>			
	1.6	4 4	1.8	10	0.0649	63	/5
1PC1001-1DD2Q-QQQ	1.6 1.6	4.4	1.8	10	0.0649	63	75 75

Self-cooled motors without external fan and fan cover with high efficiency

#### Selection and ordering data (continued)

Order No. supplements

Motor type	Frame size	Positions 12 a	nd 13: Voltages	(voltage	codes)				
		Standard volta	ges			Further voltages			
		50 Hz				50 Hz			
		230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	220 VΔ/380 VY	380 VΔ/660 VY	415 VY	415 VΔ
		60 Hz				Rated voltage ran	nge		
		460 VY	460 VΔ			(210 230 VΔ/ 360 400 VY) 1)	(360 400 VΔ/ 625 695 VY) <sup>1)</sup>	(395 435 VY)	(395 435 V∆)
		see "Selection a 60 Hz	and ordering dat	ta" for out	tputs at				
		22	34	27	40	21	33	23	35
1PC1001-1A□-□	100 L	0	0	0	0	✓	✓	✓	✓
1PC1001-1B□-□	112 M	0	0	0	0	✓	✓	✓	✓
1PC1001-1C□-□	132 S/M	0	0	0	0	✓	✓	✓	✓
1PC1001-1D□-□	160 M/L	0	0	0	0	1	1	1	1

O Without additional charge✓ With additional charge

Order other voltages with voltage code **9** in position 12, code **0** in position 13 and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Voltages", Page 1/54).

Motor type	Frame size		Position 14: Type of construction (type letter)										
			With fla	inge					With flan	ge (acc. to	DIN EN 5	0347)	
			IM B3 2) 3)	IM B6	IM B7	IM B8	IM V6	IM V5 without protec- tive cover 3)	Flange size	IM B5 3) 4)	IM V1 without protec- tive cover 3)	IM V3	IM B35
			Α	Т	U	٧	D	С		F	G	Н	J
		Order No. supplement - <b>Z</b> with order code	-	-	-	-	-	-		-	-	-	-
1PC1001-1A□	100 L								FF 215	✓	✓	1	✓
1PC1001-1B□	112 M								FF 215	✓	✓	✓	✓
1PC1001-1C□	132 S/M								FF 265	✓	✓	✓	✓
1PC1001-1D□	160 M/L								FF 300	/	/	/	/

Motor type	Frame size		Position 14: Type of construction (type letter)									
				ndard flang DIN EN 503					ndard flan jer stande	ge rd flange a	cc. to DIN	EN 50347)
			Flange size	IM B14 3) 5)	IM V19 3)	IM V18 without protec- tive cover 3)	IM B34	Flange size	IM B14 3) 5)	IM V19 3)	IM V18 without protec- tive cover 3)	IM B34
				K	L	М	N		K	L	М	N
		Order No. supplement		-	-	-	-		-Z	-Z	-Z	-Z
		-Z with order code							P01	P01	P01	P01
1PC1001-1A□	100 L		FT 130	✓	/	✓	✓	FT 165	/	✓	/	/
1PC1001-1B□	112 M		FT 130	/	/	✓	✓	FT 165	✓	✓	1	✓
1PC1001-1C□	132 S/M		FT 165	✓	✓	✓	✓	FT 215	✓	✓	1	✓
1PC1001-1D□	160 M/L		FT 215	✓	✓	✓	/	-	_	-	-	_

- Standard version✓ With additional charge
- 1) A rated voltage range is also specified on the rating plate.
- The types of construction IM B6/7/8, IM V6 and IM V5 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B3 is then stamped on the rating plate.
- The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code H03), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.
- 4) The types of construction IM V3 and IM V1 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B5 is then stamped on the rating plate.
- 5) The types of construction IM V19 and IM V18 without protective cover are also possible as long as no condensation drainage holes (order code H03) and no stamping of these types of construction on the rating plate are required. As standard, the type of construction IM B14 is then stamped on the rating plate.

Self-cooled motors without external fan and fan cover with high efficiency

### Selection and ordering data (continued)

Motor type	Frame size		Position 15: Motor protection (motor protection letter)									
			Without motor protection	Motor protection with PTC ther- mistors with 3 embedded tem- perature sen- sors for tripping 1)	Motor protection with PTC ther- mistors with 6 embedded tem- perature sen- sors for alarm, and tripping 1)	Motor tempera- ture detection with embedded temperature sensor KTY 84-130 <sup>1)</sup>	NTC thermistors for tripping	Temperature detectors for tripping 1)				
			Α	В	С	F	Z	Z				
		Order code					Q2A	Q3A				
1PC1001-1A□.	100 L			✓	✓	✓	✓	✓				
1PC1001-1B□.	112 M			✓	✓	✓	✓	✓				
1PC1001-1C□.	132 S/M			/	1	1	✓	1				
1PC1001-1D□.	160 M/I		П	1	1	1	1	1				

Standard version 

With additional charge

Motor type	Frame size	Position 16: Connection b	oox (connection box code)		
		Connection box top <sup>2)</sup>	Connection box on RHS <sup>3)</sup>	Connection box on LHS <sup>3)</sup>	Connection box bottom <sup>3)</sup>
		4	5	6	7
1PC1001-1A□	100 L		✓	✓	✓
1PC1001-1B□	112 M		✓	✓	✓
1PC1001-1C□	132 S/M		✓	✓	✓
1PC1001-1D□	160 M/L		✓	✓	<b>✓</b>

Standard version

□ ✓ With additional charge

<sup>1)</sup> Evaluation with appropriate tripping unit (see Catalog LV 1) is recom-

 $<sup>^{2)}</sup>$  With type of construction, cast feet as standard. Screwed-on feet are available with order code  $\bf H01$ , see "Special versions".

<sup>3)</sup> With type of construction, screwed-on feet as standard.

#### **Special versions**

#### Selection and ordering data

#### Voltages

Additional order codes for other voltages or voltage codes (without -Z supplement)

Not possible for General Line motors with shorter delivery time.

For some non-standard voltages at 50 or 60 Hz, order codes are specified. They are ordered by specifying the code digit 9 for voltage in the 12th position and 0 in the 13th position of the Order No. and the appropriate order code.

Special versions

Voltage code 12th / 13th position of the Order No.

Additional identification code with order code and plain text if required

Motor type frame size

56 63 80 90 100 112 132 160 71

Self-ventilated energy-saving motors with improved efficiency
Self-ventilated energy-saving motors with high efficiency
Self-ventilated motors with increased output and improved efficiency
Self-ventilated motors with increased output and high efficiency
Forced-air cooled motors without external fan and fan cover with improved efficiency
Forced-air cooled motors without external fan and fan cover with high efficiency
Self-cooled motors without external fan and fan cover with high efficiency
Self-cooled motors without external fan and fan cover with high efficiency

					 	 	1LE1	1LE1/1PC1	1LE1/1PC1 (Alumin
Voltage at 60 Hz									
220 VΔ/380 VY; 50 Hz output	9	0	M2A				✓	✓	✓ ✓ ✓
220 VΔ/380 VY; 60 Hz output	9	0	M1A				✓	✓	✓ ✓ ✓
380 V∆/660 VY; 50 Hz output	9	0	M2B				✓	✓ ✓	✓ ✓ ✓
380 VΔ/660 VY; 60 Hz output	9	0	M1B				✓	<b>✓</b> ✓	✓ ✓ ✓
440 VY; 50 Hz output	9	0	M2C				<b>√</b>	✓ ✓	√ √ √
440 VY; 60 Hz output	9	0	M1C				✓	✓ ✓	✓ ✓ ✓
440 VΔ; 50 Hz output	9	0	M2D				<b>✓</b>	✓ ✓	✓ ✓ ✓
440 VΔ; 60 Hz output	9	0	M1D				✓	✓ ✓	✓ ✓ ✓
460 VY; 50 Hz output	9	0	M2E				<b>√</b>	✓ ✓	✓ ✓ ✓
460 VY; 60 Hz output	9	0	M1E				0	0 0	0 0 0
460 V∆; 50 Hz output	9	0	M2F				✓	✓	✓ ✓ ✓
460 VΔ; 60 Hz output	9	0	M1F				0	0 0	0 0 0
575 VY; 50 Hz output	9	0	M2G				✓	✓	✓ ✓ ✓
575 VY; 60 Hz output	9	0	M1G				✓	✓ ✓	✓ ✓ ✓
575 VΔ; 50 Hz output	9	0	M2H				✓	✓ ✓	✓ ✓ ✓
575 V∆; 60 Hz output	9	0	M1H				✓	✓	✓ ✓ ✓
Non-standard voltages and / o	or freq	uencies							
Non-standard winding for voltages between 200 V and 690 V (voltages outside this range are available on request) 1)		0	M1Y				<b>✓</b>		

Without additional charge

With additional charge

Plain text must be specified in the order: voltage, frequency, circuit, required rated output in kW.

**Special versions** 

#### **Options**

#### Options or order codes (supplement -Z is required)

Not possible for General Line motors with shorter delivery time.

Special versions	Additional identi- fication code <b>-Z</b> with order code and plain text if required	Motor	type frame	size							
		56	63	71	20	00	100	110	122	160	

Self-ventilated energy-saving motors with improved efficiency
Self-ventilated energy-saving motors with high efficiency
Self-ventilated motors with increased output and improved efficiency
Self-ventilated motors with increased output and high efficiency

Self-ventilated motors wit	h increased out	put and high efficiency				
			1LE1 (	Aluminum	1)	
Motor connection and connection	tion box					
One cable gland, metal	R15		1	✓	✓	1
Rotation of the connection box through 90°, entry from DE	R10		0	0	0	0
Rotation of the connection box through 90°, entry from NDE	R11		0	0	0	0
Rotation of the connection box through 180°	R12		0	0	0	0
Larger connection box	R50		1	/	✓	1
Reduction piece for M cable gland in accordance with British standard, both cable entries mounted 1)	R30		<b>√</b>	✓	<b>/</b>	<b>√</b>
External earthing	H04		1	✓	✓	1
3 cables protruding, 0.5 m long <sup>2)3)</sup>	R20		1	✓	✓	1
3 cables protruding, 1.5 m long <sup>2)3)</sup>	R21		1	✓	✓	1
6 cables protruding, 0.5 m long <sup>2)</sup>	R22		1	✓	✓	1
6 cables protruding, 1.5 m long <sup>2)</sup>	R23		1	1	✓	1
6 cables protruding, 3 m long <sup>2)</sup>	R24		✓	1	✓	1
Connection box on NDE 4)	H08		1	✓	✓	1
Windings and insulation						
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	N01		✓	✓	✓	1
Temperature class 155 (F), used acc. to 155 (F), with increased output	N02		1	✓	✓	1
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	N03		1	✓	✓	✓
Temperature class 180 (H) at rated power and max. CT 60 °C <sup>5)</sup>	N11		1	✓	✓	1
Increased air humidity/ temperature with 30 to 60 g water per m <sup>3</sup> of air	N20		✓	✓	✓	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	N05		✓	✓	/	1

### **Special versions**

Special versions	Additional identification code <b>-Z</b> with order code and plain text if required	Mo	tor type fram	e size						
		56	63	71	80	90	100	112	132	160
Self-ventilated energy-saw Self-ventilated energy-saw Self-ventilated motors wit Self-ventilated motors wit	ving motors with h increased out	n high effic put and im	iency proved eff	iciency						
Windings and insulation (sont	in. (a d)						1LE1 (A	lluminum)		
Windings and insulation (cont	,							,		
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	N06						✓	<i>,</i>	<i></i>	<b>V</b>
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	N07						✓	✓ 	✓ 	<b>√</b>
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	N08						✓	✓ 	✓	✓
Increased air humidity/ temperature with 60 to 100 g water per m <sup>3</sup> of air	N21						1	✓	✓	1
Temperature class 155 (F), used acc. to 155 (F), other requirements	Y52 • and identification code						✓	1	✓	1
Colors and paint finish										
Special finish in RAL 7030 stone gray								0	0	_
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005, Page 0/101	<b>Y54</b> • and special finish RAL						<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>√</b>
Special finish in special RAL colors: for RAL colors, see "Special finish in special RAL colors", Page 0/101	Y51 • and special finish RAL						✓	1	1	<b>✓</b>
Special finish sea air resistant	S03						O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	S00						0	0	0	0
Unpainted, only primed	S01						1	1	1	✓
Modular technology - Basic v	ersions <sup>6)</sup>									
Mounting of separately driven fan	F70						✓	1	✓	✓
Mounting of brake 7)	F01						1	1	1	✓
Mounting of 1XP8012-10 (HTL) rotary pulse encoder 8)	G01						1	1	1	✓
Mounting of 1XP8012-20 (TTL) rotary pulse encoder 8)	G02						1	1	1	✓
Modular technology - Additio	nal versions									
Brake supply voltage 24 V DC							1	1	1	1
Brake supply voltage 230 V AC, 50/60 Hz	F11						0	0	0	0
Brake supply voltage 400 V AC, 50/60 Hz	F12						1	✓	✓	✓
Mechanical manual brake release with lever (no locking)	F50						1	✓	1	1

### **Special versions**

0 ' 1 '	A 1 100 1 1 1 1									
Special versions	Additional identi- fication code -Z with order code and plain text if required	Motor	type frame s	size						
	roquirod	56	63	71	80	90	100	112	132	160
Self-ventilated energy-say Self-ventilated energy-say Self-ventilated motors wit Self-ventilated motors wit	ving motors with h increased out	n high efficier put and impr	ncy oved effici							
Special technology <sup>6)</sup>							1LE1 (A	\luminum)	)	
Mounting of LL 861 900 220 rotary pulse encoder 8)	G04						1	1	1	1
Mounting of HOG 9 D 1024 I rotary pulse encoder 8)	G05						✓	1	1	1
Mounting of HOG 10 D 1024 I rotary pulse encoder 8)	G06						✓	1	✓	1
Mechanical design and degree	es of protection									
Protective cover for types of construction 8)	H00						✓	✓	✓	✓
Screwed-on feet (instead of cast)	H01						✓	1	✓	1
Radial seal on DE for flange- mounting motors with oil resis- tance to 0.1 bar <sup>9)</sup>	H23						✓	1	✓	✓
Low-noise version for 2-pole motors with clockwise direction of rotation	F77						-	-	✓	✓
Low-noise version for 2-pole motors with counter-clockwise direction of rotation	F78						-	-	✓	✓
IP65 degree of protection 10)	H20						1	1	1	1
IP56 degree of protection (non-heavy-sea) 11)	H22						✓	1	✓	1
Vibration-proof version	H02						✓	✓	✓	✓
Condensation drainage holes <sup>12)</sup>	H03						✓	1	✓	✓
Non-rusting screws (externally)	H07						✓	✓	✓	✓
Prepared for mountings, only center hole <sup>13)</sup>	G40						✓	✓	✓	<b>√</b>
Prepared for mountings with D12 shaft 13)	G41						✓	✓	✓	<b>√</b>
Prepared for mountings with D16 shaft 13)	G42						✓	✓	✓	<b>√</b>
Protective cover for encoder (loosely enclosed – only for mountings acc. to order codes G40, G41 and G42)	G43						✓	✓	<i>,</i>	<b>✓</b>
Coolant temperature and site	altitude									
Coolant temperature -40 °C to +40 °C <sup>14)</sup>	D03						✓	✓	✓	✓
Coolant temperature -30 °C to +40 °C <sup>14)</sup>	D04						1	1	✓	1
Designs in accordance with s	tandards and spec	cifications								
Electrical according to NEMA MG1-12 15)	D30						✓	✓	✓	1
Design according to UL with "Recognition Mark" 16)	D31						1	1	✓	✓
Canadian regulations (CSA) 17)	D40						✓	✓	1	✓
PSE Mark Japan 18)	D46						✓	1	✓	-

#### **Special versions**

Motor type frame size Special versions Additional identification code -Z with order code and plain text if required 160 56 63 71 80 90 100 112 132 Self-ventilated energy-saving motors with improved efficiency Self-ventilated energy-saving motors with high efficiency Self-ventilated motors with increased output and improved efficiency Self-ventilated motors with increased output and high efficiency 1LE1 (Aluminum) **Bearings and lubrication** Measuring nipple for SPM Q01 1 shock pulse measurement for bearing inspection Bearing design for increased L22 cantilever forces Special bearing for DE and L25 NDE, bearing size 63 Regreasing device 19) L23 Located bearing at DE L20 Located bearing at NDE L21 **Balance and vibration quantity** Vibration quantity A L00 Vibration quantity B Half-key balancing (standard) Full-key balancing L02 Balancing without key L01 Shaft and rotor Concentricity of shaft exten-L08 sion, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors Second standard shaft exten-L05 sion Shaft extension with standard L04 dimensions, without featherkey way Concentricity of shaft exten-L07 sion in accordance with DIN 42955 Tolerance R Standard shaft made of non-L06 rusting steel Non-standard cylindrical shaft extension <sup>20)</sup> Y55 • and identi-fication code Heating and ventilation Fan cover for textile industry F75 Metal external fan 21) F76 Q02 Anti-condensation heaters for Anti-condensation heaters for 115 V Q03 Sheet metal fan cover F74 Rating plate and extra rating plates Second rating plate, loose M10 Nirosta rating plate M11

1

1

Extra rating plate or rating plate with deviating rating plate data **Y80 •** and identification code

Y82 • and identi-

Y84 • and identi-

fication code

fication code

Extra rating plate with identifi-

Additional information on rating

plate and on package label (max. of 20 characters)

cation codes

#### **Special versions**

Special versions	Additional identi- fication code <b>-Z</b> with order code and plain text if required	Motor t	type frame	size						
		56	63	71	80	90	100	112	132	160
Self-ventilated energy-say Self-ventilated energy-say Self-ventilated motors wit Self-ventilated motors wit	ving motors witl h increased out	n high efficien put and impro	cy oved effic	eiency						
							1LE1 (	Aluminum	)	
Packaging, safety notes, docu	mentation and te	st certificates								
Without safety and commissioning note. Customer's declaration of renouncement required.	B00						0	0	0	0
With one safety and start-up guide per box pallet	B01						0	0	0	0
Acceptance test certificate 3.1 in accordance with EN 10204	B02						1	1	✓	1
Printed operating instructions English/German enclosed	B04						1	1	✓	1
Type test with heat run for horizontal motors, with acceptance							1	1	1	1
Wire-lattice pallet	B99		·			·	0	0	0	0
Connected in star for dispatch	M01						✓	✓	✓	✓
Connected in delta for dispatch	M02						1	/	1	1

- Standard version
- O Without additional charge
- This order code only determines the price of the version Additional plain text is required.
- O. R. Available on request
- ✓ With additional charge

- Not possible in combination with order code R15 "One cable gland, metal".
- 2) In combination with motor protection (position 15 of the Order No.) or with option anti-condensation heater request required.
- 3) Not possible in combination with voltage code 22 or 34.
- 4) Not possible in combination with the following order codes: N01, N02, N03, N05, N06, N07, N08, N11.

Use according to temperature class 155 (F) possible only.

- Cannot be used for motors in UL version (order code D31). The grease lifetime specified in catalog part 0 "Introduction" refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.
- 6) A second shaft extension is not possible. Please inquire for mounted brakes.
- When quoting or ordering, it is necessary to provide the brake supply voltage for order codes F10, F11 and F12.
- 8) All encoders are supplied with a protective cover as standard. The protective cover is not supplied with the combination rotary pulse encoder with separately driven fan, as, in this case, the roatry pulse encoder is installed under the fan cover.
- 9) Not possible for type of construction IM V3.
- 10) Not possible in combination with rotary pulse encoder HOG 9 D 1024l (order code G05) and/or brake 2LM8 (order code F01).
- 11) Not possible in combination with brake 2LM8 order code F01
- 12) Supplied with the condensation drainage holes sealed at the drive end (DE) and non-drive end (NDE) (IP55, IP56, IP65). If condensation drainage holes are required for motors with IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to order the motors in their respective type of construction and order code H03, so that the condensation drainage holes can be mounted in the correct positional arrangement.

- 13) Motors that are prepared for additional mountings (order codes G40, G41, G42) are supplied without protective cover as standard. If a protective cover is requested as cover or as mechanical protection for mounting provided by the customer, it can be ordered with order code G43. Not possible in combination with order code L00, vibration quantity level B.
- 14) In connection with mountings, the respective technical data must be observed; request required.
- 15) 1LE1 motors in EFF1 version without additional charge (standard version).
- 16) Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range.
- 17) The rated voltage is indicated on the rating plate without voltage range.
- 18) "Small power motors" with a rated output of up to 3 kW which are exported to Japan must bear the PSE marking.
- <sup>19)</sup> Not possible when brake is mounted.
- When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes Y55 and L05:
  - Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
  - Dimensions E and EA ≤ 2 x length E (normal) of the shaft extension For an explanation of the order codes, see catalog part 0 "Introduction".
- 21) For 1LE1 motors with metal external fan, converter-fed operation is permitted. The metal external fan is not possible in combination with the low-noise version order code F77 or F78.

#### **Special versions**

Options or order codes (supplement -Z is required)

Not possible for General Line motors with shorter delivery time.

Additional identification code **-Z** with order code Special versions

and plain text if required

Motor type frame size

56 71 100 112 132 160

Forced-air cooled motors without external fan and fan cover with improved efficiency Forced-air cooled motors without external fan and fan cover with high efficiency Self-cooled motors without external fan and fan cover with improved efficiency Self-cooled motors without external fan and fan cover with high efficiency

		ina ian coto. man ingil omolono,	1LE1/1	1PC1 (Alun	ninum)	
Motor connection and connection	tion box					
One cable gland, metal	R15		✓	✓	✓	✓
Rotation of the connection box through 90°, entry from DE	R10		0	0	0	0
Rotation of the connection box through 90°, entry from NDE	R11		0	0	0	0
Rotation of the connection box through 180°	R12		0	0	0	0
Larger connection box	R50		✓	✓	✓	✓
Reduction piece for M cable gland in accordance with British standard, both cable entries mounted 1)	R30		✓	✓	1	1
External earthing	H04		✓	✓	✓	1
3 cables protruding, 0.5 m long <sup>2)3)</sup>	R20		1	✓	✓	✓
3 cables protruding, 1.5 m long <sup>2)3)</sup>	R21		1	✓	✓	✓
6 cables protruding, 0.5 m long <sup>2)</sup>	R22		1	✓	✓	✓
6 cables protruding, 1.5 m long <sup>2)</sup>	R23		1	✓	1	✓
6 cables protruding, 3 m long <sup>2)</sup>	R24		1	✓	✓	✓
Connection box on NDE 4)	H08		✓	✓	✓	✓
Windings and insulation						
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	N01		✓	✓	✓	1
Temperature class 155 (F), used acc. to 155 (F), with increased output	N02		✓	✓	1	1
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	N03		✓	✓	✓	1
Temperature class 180 (H) at rated power and max. CT 60 °C <sup>5)</sup>	N11		1	1	1	✓
Increased air humidity/ temperature with 30 to 60 g water per m <sup>3</sup> of air	N20		1	✓	1	<b>√</b>
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	N05		✓	✓	✓	<b>√</b>

### **Special versions**

Special versions	Additional identification code <b>-Z</b> with order code and plain text if required		Motor typ	pe frame s	ize 71	80	90	100	112	132	160
Forced-air cooled motors Forced-air cooled motors Self-cooled motors without Self-cooled motors without	without externaut externa	al fan an Ind fan d	nd fan co nd fan co cover w	over with over with ith impro	n improve n high eff oved effic	ed efficien iciency iency		100	112	102	100
								1LE1/1F	PC1 (Alum	inum)	
Windings and insulation (cont	,										
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	N06							<i>y</i>	<i>,</i>	<i></i>	<i>,</i>
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	N07							✓	<b>√</b>	<b>√</b>	<b>√</b>
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	N08							✓	<b>√</b>	<b>√</b>	✓
Increased air humidity/ temperature with 60 to 100 g water per m <sup>3</sup> of air	N21							✓	✓	✓	✓
Temperature class 155 (F), used acc. to 155 (F), other requirements	Y52 • and identification code							✓	1	✓	✓
Colors and paint finish											
Special finish in RAL 7030 stone gray											
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005, Page 0/101	Y54 • and special finish RAL							•	<b>,</b>	<b>,</b>	<b>/</b>
Special finish in special-RAL colors: for RAL colors, see "Special finish in special RAL colors", Page 0/101	<b>Y51 •</b> and special finish RAL							1	1	1	1
Special finish sea air resistant	S03							O. R.	0. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	S00							0	0	0	0
Unpainted, only primed	S01							✓	✓	✓	<b>√</b>
Mechanical design and degree Screwed-on feet (instead of cast)	H01							1	1	1	✓
Radial seal on DE for flange- mounting motors with oil resis- tance to 0.1 bar <sup>6</sup>	H23							1	1	1	<b>✓</b>
IP65 degree of protection	H20							✓	1	✓	✓
IP56 degree of protection (non-heavy-sea)	H22							✓	✓	1	✓
Vibration-proof version	H02							✓	✓	✓	✓
Condensation drainage holes 7								✓	✓	✓	✓
Non-rusting screws (externally)								✓	✓	✓	✓
Coolant temperature and site											
Coolant temperature -40 °C to +40 °C	D03							<b>/</b>	/	<i>'</i>	/
Coolant temperature –30 °C to +40 °C	D04							✓	✓	✓	1

### **Special versions**

Special versions

Additional identification code -Z
with order code
and plain text if
required

Motor type frame size

Motor type frame size

56 63 71 80 90 100 112 132 160

Forced-air cooled motors without external fan and fan cover with improved efficiency Forced-air cooled motors without external fan and fan cover with high efficiency Self-cooled motors without external fan and fan cover with improved efficiency Self-cooled motors without external fan and fan cover with high efficiency

Self-cooled motors withou	ut external fan a	and fan cover with high efficiency				
			1LE1/1	PC1 (Alur	ninum)	
Designs in accordance with s	tandards and spe	cifications				
Electrical according to NEMA MG1-12 8)	D30		✓	✓	✓	✓
Design according to UL with "Recognition Mark" 9)	D31		✓	✓	1	✓
Canadian regulations (CSA) 10)	D40		1	1	✓	1
PSE Mark Japan 11)	D46		✓	✓	✓	-
Bearings and lubrication						
Measuring nipple for SPM shock pulse measurement for bearing inspection	Q01		✓	1	✓	1
Bearing design for increased canteliver forces	L22		1	1	✓	1
Special bearing for DE and NDE, bearing size 63	L25		✓	✓	1	✓
Regreasing device	L23		1	1	✓	1
Located bearing at DE	L20		✓	/	✓	1
Located bearing at NDE	L21		✓	/	✓	
Balance and vibration quantit	у					
Vibration quantity A						
Vibration quantity B	L00		✓	/	✓	1
Half-key balancing (standard)						
Full-key balancing	L02		✓	✓	✓	1
Balancing without key	L01		✓	/	✓	1
Shaft and rotor						
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors	L08		✓	1	<b>√</b>	<b>√</b>
Shaft extension with standard dimensions, without featherkey way	L04		1	1	✓	<b>√</b>
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L07		1	1	1	1
Standard shaft made of non- rusting steel	L06		✓	✓	1	1
Non-standard cylindrical shaft extension <sup>12)</sup>	Y55 • and identification code		✓	✓	1	✓
Heating and ventillation						
Anti-condensation heaters for 230 V	Q02		✓	✓	✓	✓
Anti-condensation heaters for 115 V	Q03		✓	✓	1	1

#### **Special versions**

Special versions	Additional identi- fication code <b>-Z</b> with order code and plain text if required		Motor typ	e frame	size						
			56	63	71	80	90	100	112	132	160
Forced-air cooled motors Forced-air cooled motors Self-cooled motors withou	without externa ut external fan a	al fan an ind fan d	d fan co cover wi	ver wit th impr	h high effi oved effic	ciency iency	ncy				
Self-cooled motors withou	ut external fan a	ind fan d	cover wi	th high	efficiency	'					
								1LE1/1	PC1 (Alun	ninum)	
Rating plate and extra rating p											
Second rating plate, loose	M10							✓	✓	✓	1
Nirosta rating plate	M11							✓	✓	✓	✓
Extra rating plate or rating plate with deviating rating plate data								✓	✓	✓	1
Extra rating plate with identification codes	Y82 • and identification code							✓	✓	✓	1
Additional information on rating plate and on package label (max. of 20 characters)	Y84 • and identification code							1	/	1	1
Packaging, safety notes, docu	mentation and te	st certific	ates								
Without safety and commissioning note. Customer's declaration of renouncement required.	B00							0	0	0	0
With one safety and start-up guide per box pallet	B01							0	0	0	0
Acceptance test certificate 3.1 in accordance with EN 10204	B02							✓	1	1	1
Printed operating instructions English/German enclosed	B04							1	1	1	1
Type test with heat run for horizontal motors, with acceptance								1	1	1	1
Wire-lattice pallet	B99							0	0	0	0
Connected in star for dispatch	M01							1	/	✓	1
Connected in delta for dispatch	M02							1	/	/	1

- Standard version
- O Without additional charge
- This order code only determines the price of the version Additional plain text is required.
- O. R. Available on request
- ✓ With additional charge

- Not possible in combination with order code R15 "One cable gland, metal".
- 2) In combination with motor protection (position 15 of the Order No.) or with option anti-condensation heater request required.
- 3) Not possible in combination with voltage code 22 or 34
- <sup>4)</sup> Not possible in combination with the following order codes: N01, N02, N03, N05, N06, N07, N08, N11.
  Use according to temperature class 155 (F) possible only.
- Cannot be used for motors in UL version (order code D31). The grease lifetime specified in catalog part 0 "Introduction" refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.
- 6) Not possible for type of construction IM V3.
- 7) Supplied with the condensation drainage holes sealed at the drive end (DE) and non-drive end (NDE) (IP55, IP56, IP65). If condensation drainage holes are required for motors with IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to order the motors in their respective type of construction and order code H03, so that the condensation drainage holes can be mounted in the correct positional arrangement.

- 8) 1LE1 motors in EFF1 version without additional charge (standard version).
- Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range.
- <sup>10)</sup> The rated voltage is indicated on the rating plate without voltage range.
- 11) "Small power motors" with a rated output of up to 3 kW which are exported to Japan must bear the PSE marking.
- 12) When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order code Y55.
  - The featherkeys are supplied in every case. For order code **Y55**:

     Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
  - Dimensions E and EA ≤ 2 x length E (normal) of the shaft extension For an explanation of the order codes, see catalog part 0 "Introduction".

#### **Accessories**

#### Overview

#### Couplings

The motor from Siemens is connected to the machine or gear unit through a coupling. Flender is an important coupling manufacturer with a wide range of products. For standard applications, Siemens recommends that elastic couplings of Flender types N-Eupex and Rupex or torsionally rigid couplings of types Arpex and Zapex are used. For special applications, Fludex and Elpex couplings are recommended.

Source of supply:

Siemens contact partner – ordering from Catalog Siemens MD 10.1 "FLENDER Standard Couplings"

or

A. Friedr. Flender AG Kupplungswerk Mussum Industriepark Bocholt Schlavenhorst 100 46395 Bocholt, Germany Tel. +49 (0) 2871-92 2185 Fax +49 (0) 2871-92 2579

http://www.flender.com e-mail: couplings@flender.com

#### Mounting of encoder

In the case of mounting by the customer.

Baumer Hübner GmbH Planufer 92b 10967 Berlin, Germany Tel. +49 (0) 30-690 03-0 Fax +49 (0) 30-690 03-104

http://www.baumerhuebner.com e-mail: info@baumerhuebner.com

Leine & Linde (Deutschland) GmbH Bahnhofstraße 36 73430 Aalen, Germany Tel. +49 (0) 7361-78 093-0 Fax +49 (0) 7361-78 093-11

http://www.leinelinde.com e-mail: info@leinelinde.se

#### More information

#### Spare motors and repair parts

- Supply commitment for spare motors and repair parts following delivery of the motor
  - For up to 5 years, in the event of total motor failure, Siemens will supply a comparable motor with regard to the mounting dimensions and functions (the type series may vary).
  - Repair parts will be supplied for up to 5 years.
  - For up to 10 years, Siemens will provide information and will, if necessary, supply documentation for repair parts.
- When repair parts are ordered, the following details must be provided:
  - Designation and part number
  - Order No. and factory number of the motor
- For bearing types, see the "Orientation", "Technical data", Page 0/124.
- For standard components, a supply commitment does not apply.
- Support Hotline In Germany

Tel.: 01 80 - 5 05 04 48

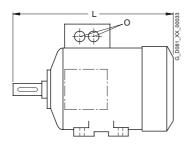
You will find telephone numbers for other countries on our Internet site:

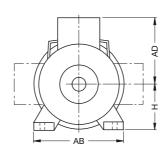
http://www.siemens.com/automation/service&support

**Dimensions** 

#### Overview

#### Overall dimensions





Frame size	Type	Num- ber of	Dimensi	ons			
		poles	L	AD	Н	AB	0
100 L	General Line motors with shorter delivery time				100	196	2 x M32 x1.5
	Self-ventilated energy- saving motors with improved/high effi- ciency		395.5 <sup>1)</sup>	166	100	196	2 x M32 x1.5
	Self-ventilated motors with increased output and improved/high effi- ciency		430.5 <sup>1)</sup>	166	100	196	2 x M32 x1.5
	Forced-air-cooled motors without external fan and fan cover with improved/high effi- ciency		321.5	166	100	196	2 x M32 x1.5
	Self-cooled motors without external fan and fan cover with improved/high effi- ciency		321.5	166	100	196	2 x M32 x1.5
112 M	General Line motors with shorter delivery time		389 <sup>1)</sup>	177	112	226	2 x M32 x1.5
	Self-ventilated energy- saving motors with improved/high effi- ciency		389 <sup>1)</sup>	177	112	226	2 x M32 x1.5
	Self-ventilated motors with increased output and improved/high effi- ciency		414 <sup>1)</sup>	177	112	226	2 x M32 x1.5
	Forced-air-cooled motors without external fan and fan cover with improved/high effi- ciency		311	177	112	226	2 x M32 x1.5
	Self-cooled motors without external fan and fan cover with improved/high effi- ciency		311	177	112	226	2 x M32 x1.5

Frame size	Туре	berof	Dimen	sions			
		poles	L	AD	Н	AB	0
132 S/ 132 M	General Line motors with shorter delivery time		465 <sup>1)</sup>	202	132	256	2 x M32 x 1.5
	Self-ventilated energy- saving motors with improved/high effi- ciency		465 <sup>1)</sup>	202	132	256	2 x M32 x 1.5
	Self-ventilated motors with increased output and improved/high effi- ciency		515 <sup>1)</sup>	202	132	256	2 x M32 x 1.5
	Forced-air-cooled motors without external fan and fan cover with improved/high effi- ciency		380.5	202	132	256	2 x M32 x 1.5
	Self-cooled motors without external fan and fan cover with improved/high effi- ciency		380.5	202	132	256	2 x M32 x 1.5
160 M/ 160 L	General Line motors with shorter delivery time		604 <sup>1)</sup>	236.5	160	300	2 x M40 x 1.5
	Self-ventilated energy- saving motors with improved/high effi- ciency		604 <sup>1)</sup>	236.5	160	300	2 x M40 x 1.5
	Self-ventilated motors with increased output and improved/high effi- ciency		664 <sup>1)</sup>	236.5	160	300	2 x M40 x 1.5
	Forced-air-cooled motors without external fan and fan cover with improved/high effi- ciency		510	236.5	160	300	2 x M40 x 1.5
	Self-cooled motors without external fan and fan cover with improved/high effi- ciency		510	236.5	160	300	2 x M40 x 1.5

<sup>1)</sup> The length is specified as far as the tip of the fan cover.

#### **Dimensions**

#### Overview (continued)

#### Notes on the dimensions

■ Dimension drawings according to DIN EN 50347 and IEC 60072.

The shaft extensions specified in the dimension tables (DIN 748) and centering spigot diameters (DIN EN 50347) are machined with the following fits:

Dimension designation	ISO fit DIN ISO 286-2	
D, DA	up to 30 over 30 to 50 over 50	j6 k6 m6
N	up to 250 over 250	j6 h6
F, FA K S	Flange (FF)	h9 H17 H17

The drilled holes of couplings and belt pulleys should have an ISO fit of at least H7.

#### ■ Dimension tolerances

For the following dimensions, the admissible deviations are given below:

Dimension designation	Dimensions	Admissible deviation
Н	up to 250 over 250	-0.5 -1.0
E, EA		-0.5

Keyways and feather keyways (dimensions GA, GC, F and FA) are made in compliance with DIN 6885 Part 1.

■ All dimensions are specified in mm.

**Dimensions** 

#### More information

#### SD configurator

### SD configurator (on DVD of the interactive catalog CA01 "Products for Automation and Drives")



The interactive Catalog CA 01 contains over 100 000 products with approximately 5 million potential drive system product variants.

The **SD configurator** has been developed to facilitate selection of the correct motor and/or converter from the wide spectrum of A&D SD products. It is integrated as a "selection aid" in this catalog.

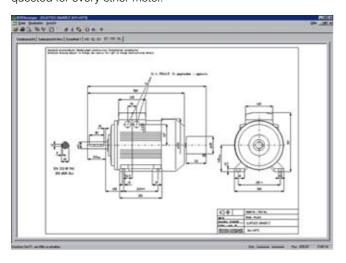
The **SD configurator** makes it easier to find the right drive solution. It supplies the correct order number as well as the corresponding documentation.

It can display operating instructions, factory test certificate, terminal box documentation, etc. and generates data sheets, dimension drawings and a start-up calculation for the relevant products.

#### Dimension sheet generator

(part of the SD configurator)

A dimension drawing can be created in the SD configurator for every configurable motor. A dimension drawing can be requested for every other motor.



It is also easy to assign a suitable converter to the selected motor.

The extensive help function not only explains the program functions, it also contains extensive technical background material.

#### SD configurator product range:

Low-voltage motors (energy-saving motors) with corresponding documentation and dimension drawings, low-voltage converters of the MICROMASTER 4 product series, SINAMICS G110 and SINAMICS G120 inverter chassis units as well as SINAMICS G120D distributed frequency inverters, and SIMATIC ET 200S FC and SIMATIC ET 200pro FC frequency converters for distributed I/O.

The interactive CA 01 catalog can be ordered from your local Siemens sales representative or on the Internet at http://www.siemens.com/automation/CA01

Links to tips, tricks and downloads for functional or content updates can be found at this address.

Order No. for CA 01, English International: DVD: **E86060-D4001-A510-C7-7600** 

Note: The SD configurator offline tool within CA 01 can be updated for the new 1LE1 motor series online over the Internet.

When a complete Order No. is entered with or without order codes, a dimension drawing can be called up under the "Documentation" tab.

These dimension drawings can be presented in different views and sections and printed.

The corresponding dimension sheets can be exported, saved and processed further in DXF format (interchange/import format for CAD systems) or as bitmap graphics.

The SD configurator has been integrated into the CA 01 electronic catalog as a selection aid (for further information, see above).

The interactive CA 01 catalog can be ordered from your local Siemens sales representative or on the Internet at http://www.siemens.com/automation/CA01.

At this address, you will also find links to Tips & Tricks and to downloads for function or content updates.

Order No. for CA 01, English International DVD: **E86060-D4001-A510-C7-7600** 

Note.

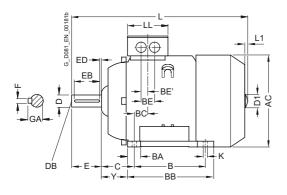
The SD configurator offline tool within CA01 can be updated for the new 1LE1 motor series online over the Internet.

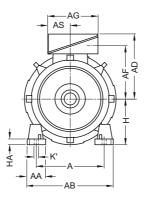
#### **Dimensions**

### Dimensional drawings

Aluminum series 1LE1, frame sizes 100 to 160 - General Line motors with shorter delivery time

#### Type of construction IM B3





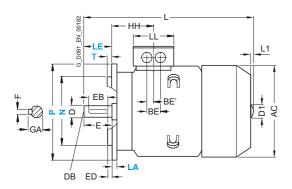
Eyebolts from frame size 100 L

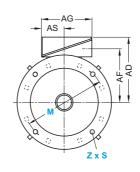
Integral feet only for frame sizes 132 S/M and 160 L/M have 2 holes at NDE



### Types of construction IM B5 and IM V1

For flange dimensions, see Page 1/76 (Z = the number of retaining holes)





Eyebolts from frame size 100 L

For mot	or	Dime	nsion d	esignati	ion acc	. to IEC														
Frame size	Number of poles	Α	AA	AB	AC	AD	AF	AG	AS	B*	ВА	BA'	BB	ВС	BE	BE'	С	Н	НА	Y <sup>1)</sup>
100 L	2, 4, 6, 8	160	42	196	198	166	125.5	135	63.5	140	37.5	-	176	33.5	50	25	63	100	12	45
112 M	2, 4, 6, 8	190	46	226	222	177	136.5	135	63.5	140	35.4	-	176	26	50	25	70	112	12	52
132 S	2, 4, 6, 8	216	53	256	262	202	159.5	155	70.5	140	38	76	218	26.5	48	24	89	132	15	69
132 M	2, 4, 6, 8	216	53	256	262	202	159.5	155	70.5	178	38	76	218	26.5	48	24	89	132	15	69
160 M	2, 4, 6, 8	254	60	300	314	236.5	190	175	77.5	210	44	89	300	47	57	28.5	108	160	18	85
160 L	2, 4, 6, 8	254	60	300	314	236.5	190	175	77.5	254	44	89	300	47	57	28.5	108	160	18	85

<sup>\*</sup> This dimension is assigned in DIN EN 50347 to the frame size listed.

<sup>1)</sup> Additional information: not a standard dimension acc. to DIN 50347.

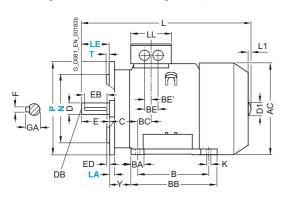
**Dimensions** 

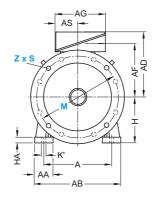
### Dimensional drawings (continued)

Aluminum series 1LE1, frame sizes 100 to 160 - General Line motors with shorter delivery time

#### Type of construction IM B35

For flange dimensions, see Page 1/76 (Z = the number of retaining holes)





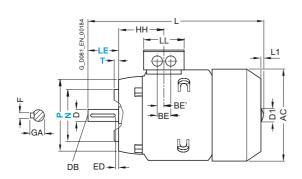
Eyebolts from frame size 100 L

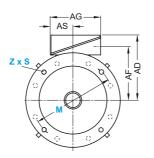
Integral feet only for frame sizes 132 S/M and 160 L/M have 2 holes at NDE



#### Type of construction IM B14

For flange dimensions, see Page 1/76 (Z = the number of retaining holes)





Eyebolts from frame size 100 L

For mot	or	Dimens	ion desig	gnation ac	c. to IEC				DE shaft extension						
Frame size	Number of poles	HH	K	K'	L 1)	L1	D1	LL	D	DB	E	EB	ED	F	GA
100 L	2, 4, 6, 8	96.5	12	16	395.5	7	32	112	28	M10	60	50	5	8	31
112 M	2, 4, 6, 8	96	12	16	389	7	32	112	28	M10	60	50	5	8	31
132 S	2, 4, 6, 8	115.5	12	16	465	8.5	39	130	38	M12	80	70	5	10	41
132 M	2, 4, 6, 8	115.5	12	16	465	8.5	39	130	38	M12	80	70	5	10	41
160 M	2, 4, 6, 8	155	15	19	604	10	45	145	42	M16	110	90	10	12	45
160 L	2, 4, 6, 8	155	15	19	604	10	45	145	42	M16	110	90	10	12	45

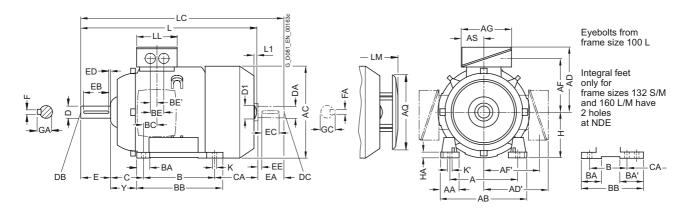
<sup>1)</sup> The length is specified as far as the tip of the fan cover.

#### **Dimensions**

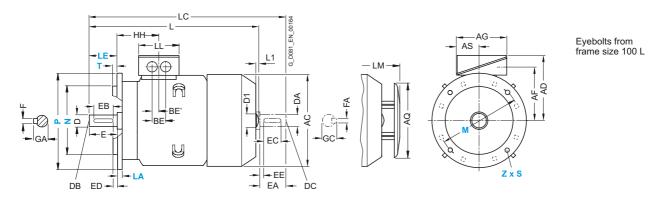
#### Dimensional drawings (continued)

Aluminum series 1LE1, frame sizes 100 to 160 - self-ventilated motors with improved/high efficiency

#### Type of construction IM B3



#### Types of construction IM B5 and IM V1



For mot	or	Dime	ensio	n desi	gnatio	on acc.	to <b>IEC</b>																	
Frame size	Number of poles	Α	AA	AB	AC	AD	AD'	AF	AF'	AG	AQ	AS	B*	ВА	BA'	BB	ВС	BE	BE'	С	CA*	Н	НА	Y <sup>1)</sup>
100 L	2, 4, 6, 8	160	42	196	198	166	166	125.5	125.5	135	195	63.5	140	37.5	-	176	33.5	50	25	63	141	100	12	45
112 M	2, 4, 6, 8	190	46	226	222	177	177	136.5	136.5	135	195	63.5	140	35.4	-	176	26	50	25	70	129.7	112	12	52
132 S	2, 4, 6, 8	216	53	256	262	202	202	159.5	159.5	155	260	70.5	140	38	76 <sup>2)</sup>	218 <sup>3)</sup>	26.5	48	24	89	128.5 <sup>4)</sup>	132	15	69
132 M	2, 4, 6, 8	216	53	256	262	202	202	159.5	159.5	155	260	70.5	178	38	76	218	26.5	48	24	89	128.5 <sup>4)</sup>	132	15	69
160 M	2, 4, 6, 8	254	60	300	314	236.5	236.5	190	190	175	260	77.5	210	44	89 <sup>5)</sup>	300 <sup>6)</sup>	47	57	28.5	108	148 <sup>7)</sup>	160	18	85
160 L	2, 4, 6, 8	254	60	300	314	236.5	236.5	190	190	175	260	77.5	254	44	89	300	47	57	28.5	108	148 <sup>7)</sup>	160	18	85

<sup>\*</sup> This dimension is assigned in DIN EN 50347 to the frame size listed.

<sup>1)</sup> Additional information: not a standard dimension acc. to DIN 50347.

<sup>2)</sup> With screwed-on feet, dimension BA' is 38 mm.

<sup>3)</sup> With screwed-on feet, dimension BB is 180 mm.

<sup>4)</sup> With screwed-on feet, dimension CA is 166.5 mm.

<sup>5)</sup> With screwed-on feet, dimension BA' is 44 mm.

<sup>6)</sup> With screwed-on feet, dimension BB is 256 mm.

<sup>7)</sup> With screwed-on feet, dimension CA is 192 mm.

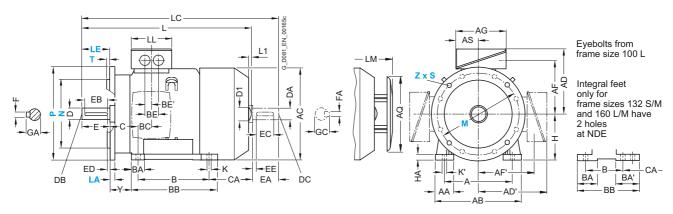
**Dimensions** 

#### Dimensional drawings (continued)

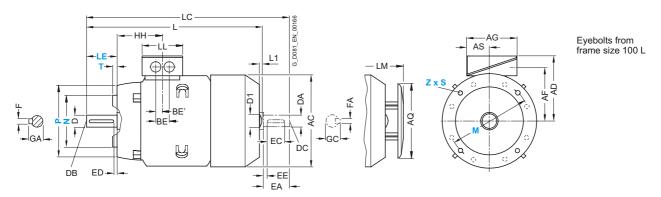
Aluminum series 1LE1, frame sizes 100 to 160 - self-ventilated motors with improved/high efficiency

#### Type of construction IM B35

For flange dimensions, see Page 1/76 (Z = the number of retaining holes)



#### Type of construction IM B14



For mote	or	Dimen	sion (	desig	nation a	cc. to	IEC				DE :	shaft e	xtensi	on				NDE	shaft	exten:	sion			
Frame size	Number of poles	HH	K	K'	L 1)	L1	D1	LC	LL	LM	D	DB	Е	EB	ED	F	GA	DA	DC	EA	EC	EE	FA	GC
100 L	2, 4, 6, 8	96.5	12	16	395.5	7	32	454	112	428.5	28	M10	60	50	5	8	31	24	M8	50	40	5	8	27
112 M	2, 4, 6, 8	96	12	16	389	7	32	450	112	422	28	M10	60	50	5	8	31	24	M8	50	40	5	8	27
132 S	2, 4, 6, 8	115.5	12	16	465	8.5	39	535.5	130	500.5	38	M12	80	70	5	10	41	28	M10	60	50	5	8	31
132 M	2, 4, 6, 8	115.5	12	16	465	8.5	39	535.5	130	500.5	38	M12	80	70	5	10	41	28	M10	60	50	5	8	31
160 M	2, 4, 6, 8	155	15	19	604	10	45	730	145	638	42	M16	110	90	10	12	45	42	M16	110	90	10	12	45
160 L	2, 4, 6, 8	155	15	19	604	10	45	730	145	638	42	M16	110	90	10	12	45	42	M16	110	90	10	12	45

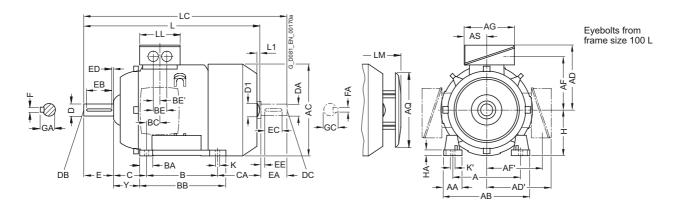
<sup>1)</sup> The length is specified as far as the tip of the fan cover.

#### **Dimensions**

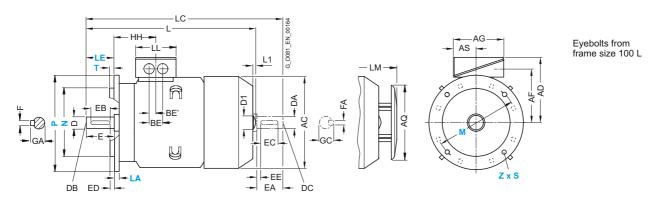
#### Dimensional drawings (continued)

Aluminum series 1LE1, frame sizes 100 to 160 - self-ventilated motors with increased output and improved/high efficiency

#### Type of construction IM B3



#### Type of construction IM B5 and IM V1



For mo	tor	Dime	ensior	n desi	gnatio	n acc. t	to IEC																	
Frame size	Number of poles	Α	AA	AB	AC	AD	AD'	AF	AF'	AG	AQ	AS	B*	ВА	BA'	BB	ВС	BE	BE'	С	CA*	Н	НА	Y 1)
100 L	2, 4, 6, 8	160	42	196	198	166	166	125.5	125.5	135	195	63.5	140	37.5	-	176	33.5	50	25	63	176	100	12	45
112 M	2, 4, 6, 8	190	46	226	222	177	177	136.5	136.5	135	195	63.5	140	35.4	-	176	26	50	25	70	155	112	12	52
132 M	2, 4, 6, 8	216	53	256	262	202	202	159.5	159.5	155	260	70.5	178	38	-	218	26.5	48	24	89	178.5	132	15	69
160 L	2, 4, 6, 8	254	60	300	314	236.5	236.5	190	190	175	260	77.5	254	44	-	300	47	57	28.5	108	208	160	18	85

<sup>\*</sup> This dimension is assigned in DIN EN 50347 to the frame size listed.

<sup>1)</sup> Additional information: not a standard dimension acc. to DIN 50347.

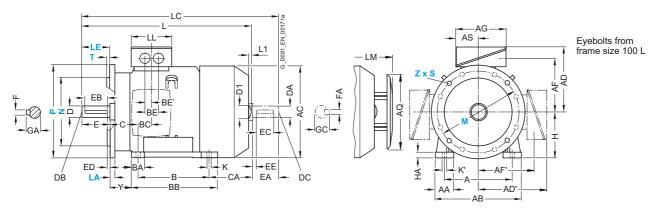
**Dimensions** 

### Dimensional drawings (continued)

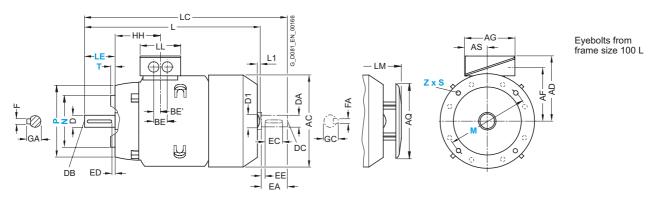
Aluminum series 1LE1, frame sizes 100 to 160 - self-ventilated motors with increased output and improved/high efficiency

#### Type of construction IM B35

For flange dimensions, see Page 1/76 (Z = the number of retaining holes)



#### Type of construction IM B14



For mot	or	Dimer	nsion	desig	nation a	acc. to	IEC				DE	shaft e	xtensi	on				NDE	shaft	exten	sion			
Frame size	Number of poles	НН	K	K'	L 1)	L1	D1	LC	LL	LM	D	DB	Е	EB	ED	F	GA	DA	DC	EA	EC	EE	FA	GC
100 L	2, 4, 6, 8	96.5	12	16	430.5	7	32	489	112	463.5	28	M10	60	50	5	8	31	24	M8	50	40	5	8	27
112 M	2, 4, 6, 8	96	12	16	414	7	32	475	112	447	28	M10	60	50	5	8	31	24	M8	50	40	5	8	27
132 M	2, 4, 6, 8	115.5	12	16	515	8.5	39	585.5	130	550.5	38	M12	80	70	5	10	41	28	M10	60	50	5	8	31
160 L	2, 4, 6, 8	155	15	19	664	10	45	790	145	698	42	M16	110	90	10	12	45	42	M16	110	90	10	12	45

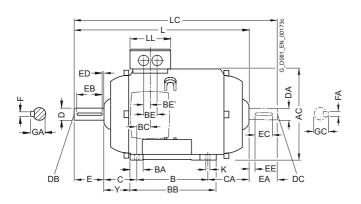
<sup>1)</sup> The length is specified as far as the tip of the fan cover.

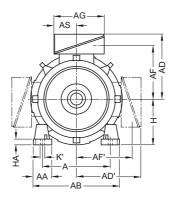
#### **Dimensions**

#### Dimensional drawings (continued)

Aluminum series 1LE1, frame sizes 100 to 160 – forced-air cooled motors with improved/high efficiency Aluminum series 1PC1, frame sizes 100 to 160 – self-cooled motors with improved/high efficiency

#### Type of construction IM B3





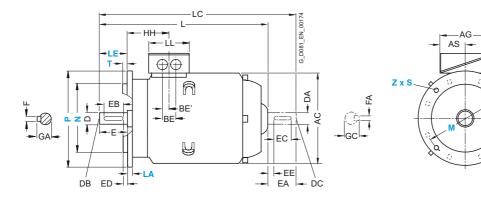
Eyebolts from frame size 100 L

Integral feet only for frame sizes 132 S/M and 160 L/M have 2 holes at NDE



#### Type of construction IM B5 and IM V1

For flange dimensions, see Page 1/76 (Z = the number of retaining holes)



Eyebolts from frame size 100 L

For mot	or	Dime	ension	desig	nation	acc. to	IEC																
Frame size	Number of poles	Α	AA	AB	AC	AD	AD'	AF	AF'	AG	AS	B*	ВА	BA'	BB	ВС	BE	BE'	С	CA*	Н	НА	Y 1)
100 L	2, 4, 6, 8	160	42	196	197	166	166	125.5	125.5	135	63.5	140	37.5	-	176	33.5	50	25	63	-	100	12	45
112 M	2, 4, 6, 8	190	46	226	221	177	177	136.5	136.5	135	63.5	140			176	26	50	25	70	-	112	12	52
132 S	2, 4, 6, 8	216	53	256	261	202	202	159.5	159.5	155	70.5	140	38	76 <sup>2)</sup>	218 <sup>3)</sup>	26.5	48	24	89	-	132	15	69
132 M	2, 4, 6, 8	216	53	256	261	202	202	159.5	159.5	155	70.5	178	38	76	218	26.5	48	24	89	-	132	15	69
160 M	2, 4, 6, 8	254	60	300	314	236.5	236.5	190	190	175	77.5	210	44	89 <sup>4)</sup>	300 <sup>5)</sup>	47	57	28.5	108	-	160	18	85
160 L	2, 4, 6, 8	254	60	300	314	236.5	236.5	190	190	175	77.5	254	44	89	300	47	57	28.5	108	-	160	18	85

<sup>\*</sup> This dimension is assigned in DIN EN 50347 to the frame size listed.

<sup>1)</sup> Additional information: not a standard dimension acc. to DIN 50347.

<sup>2)</sup> With screwed-on feet, dimension BA' is 38 mm.

<sup>3)</sup> With screwed-on feet, dimension BB is 180 mm.

<sup>4)</sup> With screwed-on feet, dimension BA' is 44 mm.

<sup>5)</sup> With screwed-on feet, dimension BB is 256 mm.

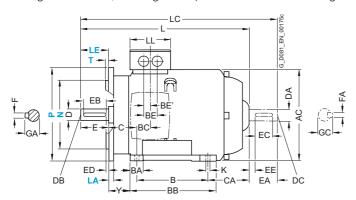
**Dimensions** 

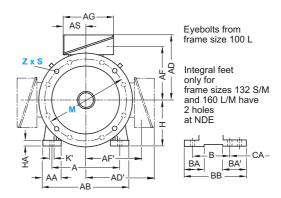
#### Dimensional drawings (continued)

Aluminum series 1LE1, frame sizes 100 to 160 – forced-air cooled motors with improved/high efficiency Aluminum series 1PC1, frame sizes 100 to 160 – self-cooled motors with improved/high efficiency

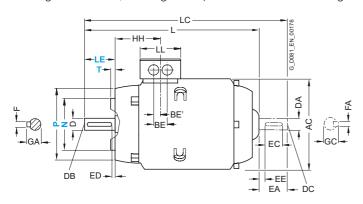
#### Type of construction IM B35

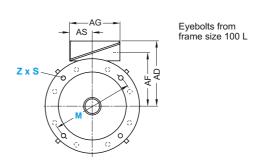
For flange dimensions, see Page 1/76 (Z = the number of retaining holes)





#### Type of construction IM B14



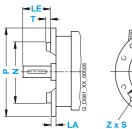


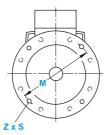
For motor	r	Dime	nsion o	designa	ition acc	c. to IE	С	DE sh	aft exte	ension					NDE	shaft e	xtensio	n			
	Number of poles	НН	K	K'	L	LC	LL	D	DB	E	EB	ED	F	GA	DA	DC	EA	EC	EE	FA	GC
100 L 2	2, 4, 6, 8	96.5	12	16	321.5	-	112	28	M10	60	50	5	8	31	-	-	-	-	-	-	_
112 M	2, 4, 6, 8	96	12	16	311	-	112	28	M10	60	50	5	8	31	-	-	-	-	-	-	_
132 S	2, 4, 6, 8	115.5	12	16	380.5	-	130	38	M12	80	70	5	10	41	-	-	-	-	-	-	_
132 M	2, 4, 6, 8	115.5	12	16	380.5	-	130	38	M12	80	70	5	10	41	-	-	-	-	-	-	-
160 M	2, 4, 6, 8	155	15	19	510	-	145	42	M16	110	90	10	12	45	-	-	-	-	-	-	_
160 L 2	2, 4, 6, 8	155	15	19	510	-	145	42	M16	110	90	10	12	45	-	-	-	-	-	-	-

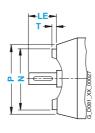
#### **Dimensions**

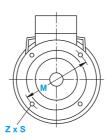
#### Dimensional drawings (continued)

#### Flange dimensions









In DIN EN 50347, flanges FF with through holes and flanges FT with tapped holes are assigned to frame sizes. The designation of flange A and C according to DIN 42948 (in-valid since 09/2003) are also listed for information purposes. See the table below. (Z = the number of retaining)holes)

Frame size	Type of construction	Flange type	Flange with Through holes (FF// Tapped holes (FT/C		Dim	ensior	n desi	gnatio	n acc	. to <b>IE</b>	С	
			According to DIN EN 50347	Acc. to DIN 42948	LA	LE	M	N	Р	S	Т	Z
100 L	IM B5, IM B35, IM V1, IM V3	Flange	FF 215	A 250	11	60	215	180	250	14.5	4	4
	IM B14, IM B34, IM V18, IM V19	Standard flange	FT 130	C 160	-	60	130	110	160	M8	3.5	4
	IM B14, IM B34, IM V18, IM V19	Special flange (next larger standard flange)	FT 165	C 200		60	165	130	200	M10	3.5	4
112 M	IM B5, IM B35, IM V1, IM V3	Flange	FF 215	A 250	11	60	215	180	250	14.5	4	4
	IM B14, IM B34, IM V18, IM V19	Standard flange	FT 130	C 160	-	60	130	110	160	M8	3.5	4
	IM B14, IM B34, IM V18, IM V19	Special flange (next larger standard flange)	FT 165	C 200	-	60	165	130	200	M10	3.5	4
132 S, 132 M	IM B5, IM B35, IM V1, IM V3	Flange	FF 265	A 300	12	80	265	230	300	14.5	4	4
	IM B14, IM B34, IM V18, IM V19	Standard flange	FT 165	C 200	-	80	165	130	200	M10	3.5	4
	IM B14, IM B34, IM V18, IM V19	Special flange (next larger standard flange)	FT 215	C 250	-	80	215	180	250	M12	4	4
160 M, 160 L	IM B5, IM B35, IM V1, IM V3	Flansch	FF 300	A 350	13	110	300	250	350	18.5	5	4
	IM B14, IM B34, IM V18, IM V19	Normflansch	FT 215	C 250	-	110	215	180	250	M12	4	4