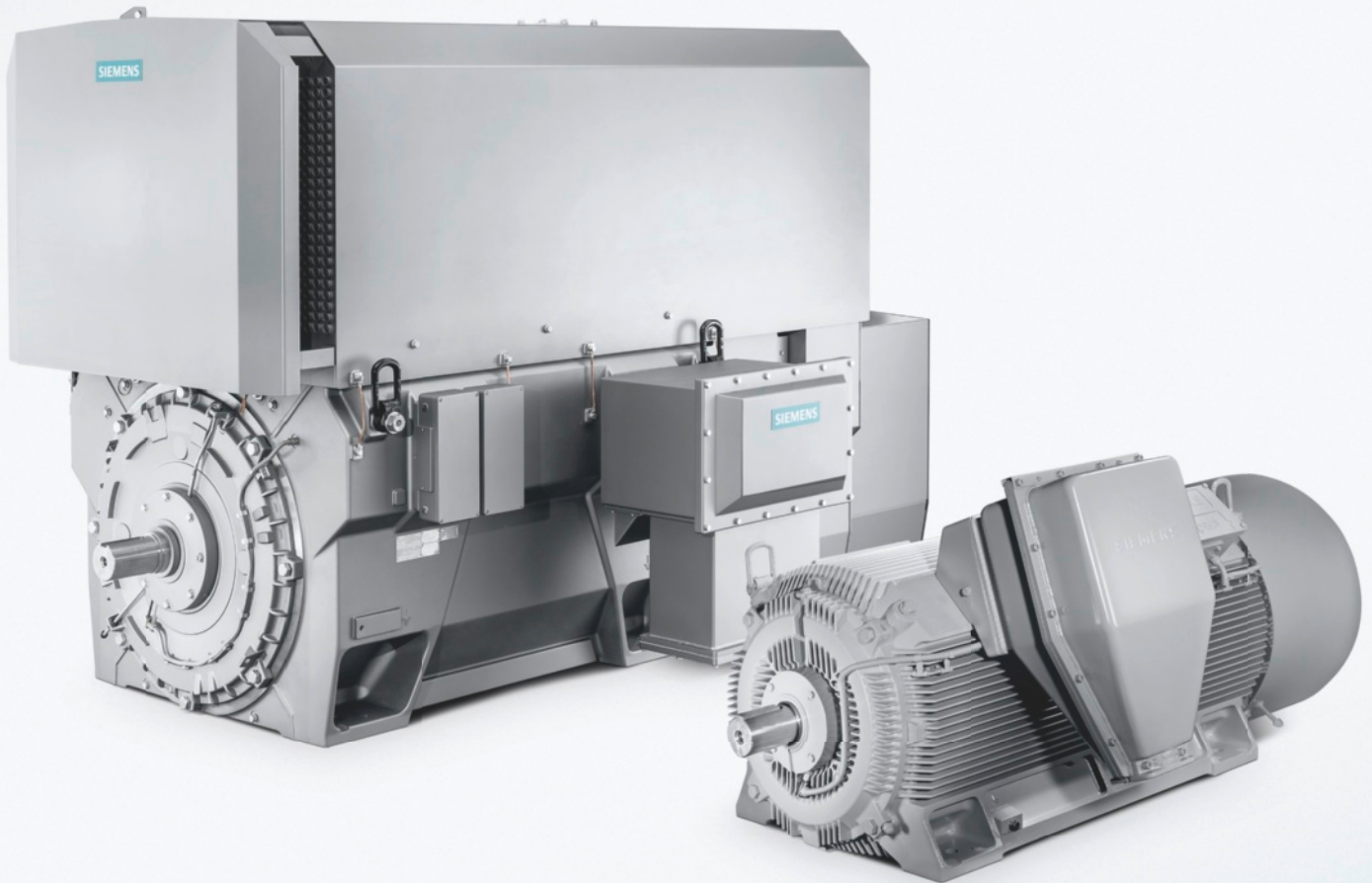


SIEMENS



Three-Phase Induction Motors SIMOTICS HV, SIMOTICS TN

- Series H-compact
- Series H-compact PLUS

Motors

Catalog
D 84.1


Edition
2014

Answers for industry.

Related catalogs


SIMOTICS Low-Voltage Motors D 81.1
 Type series 1LE1, 1MB1 and 1PC1
 Frame sizes 80 to 315
 Power range 0.3 to 250 kW

E86060-K5581-A111-A6-7600




Asynchronous Motors D 86.1
 Standardline
 N-compact 1LA8, H-compact 1LA4

E86060-K5586-A111-A2-7600




SINAMICS G130 D 11
 Drive Converter Chassis Units
SINAMICS G150
 Drive Converter Cabinet Units

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SINAMICS GM150/SINAMICS SM150 D 12
 Medium-Voltage Converters

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SINAMICS S120 D 21.3
 Chassis Format Units and
 Cabinet Modules
SINAMICS S150
 Converter Cabinet Units

E86060-K5521-A131-A3-7600




SINAMICS D 15.1
PERFECT HARMONY GH180
 Medium-Voltage Air-Cooled Drives

E86060-K5515-A111-A3-7600



Industry Mall
 Information and Ordering Platform
 in the Internet:

www.siemens.com/industrymall



Further documentation

Brochure "Explosion Protection" 6ZB 5310-0LE02-0BA5

Motors

Three-Phase Induction Motors SIMOTICS HV, SIMOTICS TN

- Series H-compact
- Series H-compact PLUS

Catalog D 84.1 · 2014

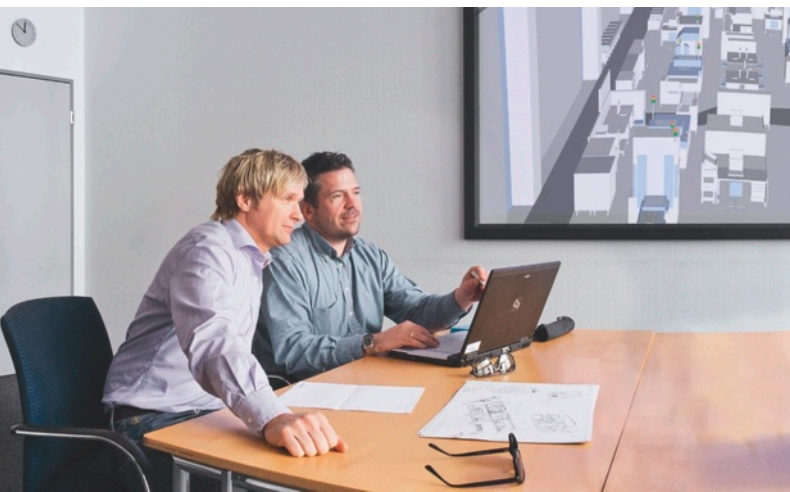


The products and systems described in this catalog are manufactured/distributed under application of a certified quality management system in accordance with DIN EN ISO 9001 (Certified Registration No. 002241 QM UM). The certificate is recognized by all IQNet countries.

Supersedes:
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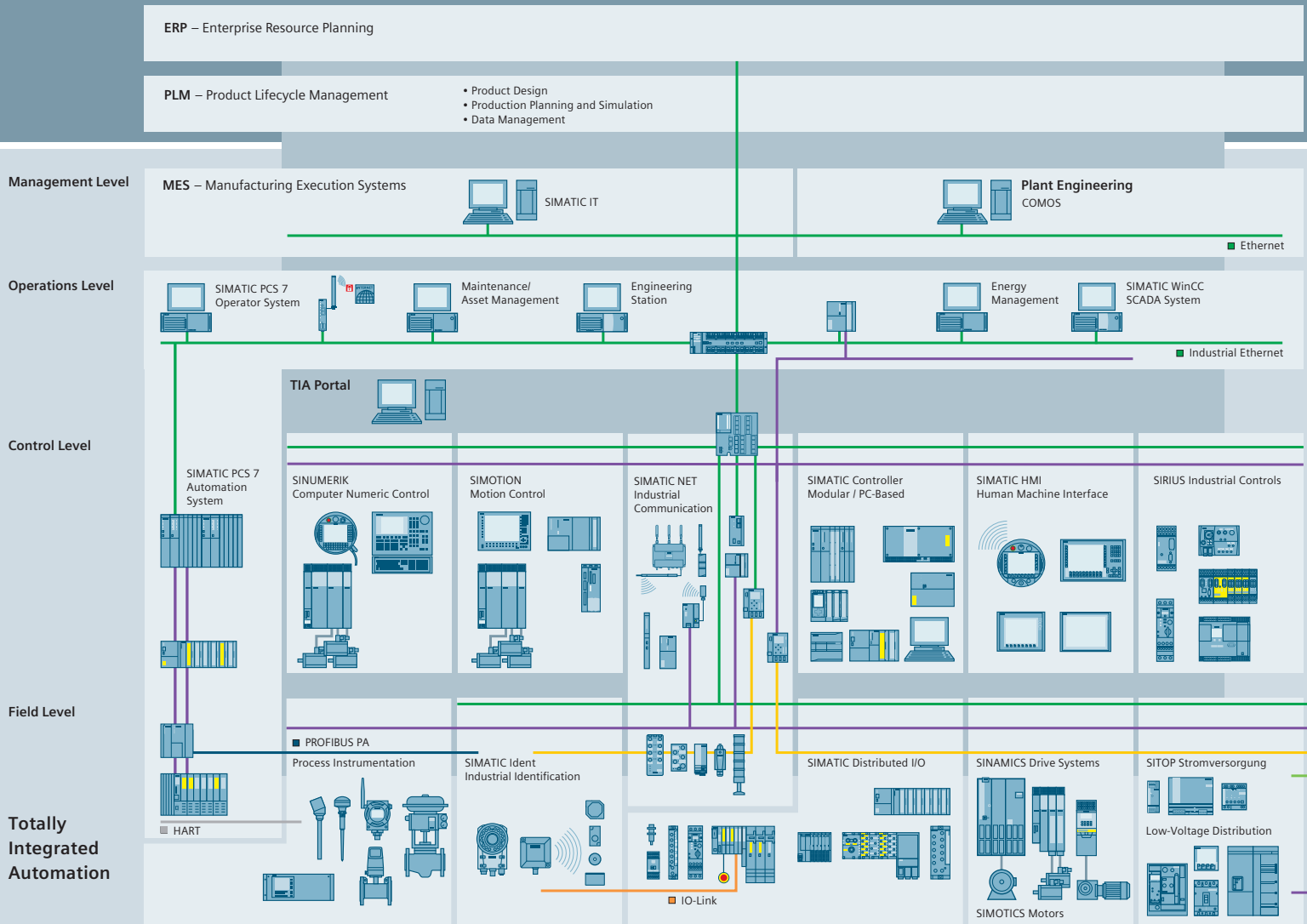
Answers for industry.

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The Siemens Industry Sector is the world's leading supplier of innovative and environmentally friendly products and solutions for industrial companies. End-to-end automation technology and industrial software, solid market expertise, and technology-based services are the levers we use to increase our customers' productivity, efficiency and flexibility. With a global workforce of more than 100 000 employees, the Industry Sector comprises the Industry Automation, Drive Technologies, and Customer Services divisions, as well as the Metals Technologies Business Unit.

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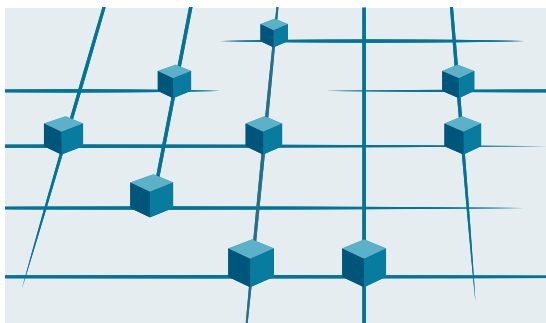
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Totally Integrated Automation
Efficient interoperability of all automation components



■ PROFINET
■ Industrial Ethernet
■ PROFIBUS
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■ KNX GAMMA instabus

Totally
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A unique complete approach for all industries

As one of the world's leading automation suppliers, Siemens provides an integrated, comprehensive portfolio for all requirements in process and manufacturing industries. All components are mutually compatible and system-tested. This ensures that they reliably perform their tasks in industrial use and interact efficiently, and that each automation solution can be implemented with little time and effort based on standard products. The integration of many separate individual engineering tasks into a single engineering environment, for example, provides enormous time and cost savings.

With its comprehensive technology and industry-specific expertise, Siemens is continuously driving progress in manufacturing industries – and Totally Integrated Automation plays a key role.

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- **Integrated engineering**
Consistent, comprehensive engineering throughout the entire product development and production process
- **Industrial data management**
Access to all important data occurring in productive operation – along the entire value chain and across all levels
- **Industrial communication**
Integrated communication based on international cross-vendor standards that are mutually compatible
- **Industrial security**
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- **Safety Integrated**
Reliable protection of personnel, machinery, and the environment thanks to seamless integration of safety technologies into the standard automation

Making things right with Totally Integrated Automation

Totally Integrated Automation, industrial automation from Siemens, stands for the efficient interoperability of all automation components. The open system architecture covers the entire production process and is based on end-to-end shared characteristics: consistent data management, global standards, and uniform hardware and software interfaces.

Totally Integrated Automation lays the foundation for comprehensive optimization of the production process:

- Time and cost savings due to efficient engineering
- Minimized downtime due to integrated diagnostic functions
- Simplified implementation of automation solutions due to global standards
- Better performance due to interoperability of system-tested components

Integrated Drive Systems

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

The motors in this catalog are important elements of Siemens Integrated Drive System, contributing significantly to increased efficiency, productivity, and availability in industrial production processes.

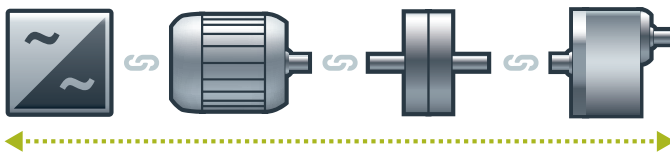
Integrated Drive Systems are Siemens' trendsetting answer to the high degree of complexity that characterizes drive and automation technology today. The world's only true one-stop solution for entire drive systems is characterized in particular by its threefold integration:

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

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

Horizontal integration

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



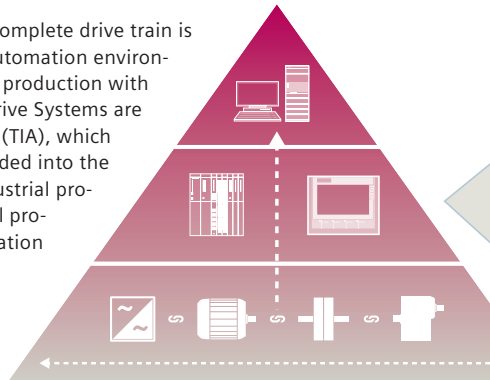
You can boost the availability of your application or plant to up to

99%*

*e.g., conveyor application

Vertical integration

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



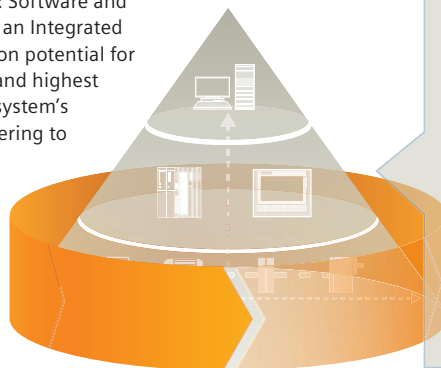
With TIA Portal you can cut your engineering time by up to

30%

Lifecycle integration

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

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



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

15%

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Introduction



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Introduction

Overview

1

Overview

In this catalog, the motor series H-compact and H-compact PLUS in the low-voltage version SIMOTICS TN and in the high-voltage version SIMOTICS HV are described.

In addition to the general technical data, this catalog includes detailed descriptions of the standard versions and the options that can be supplied by specifying order codes. It should be noted that certain order codes and combinations of order codes are not possible for all motor types. Customized solutions can be offered on request.

Article number code

The Article No. comprises a combination of digits and letters.

For options, the Article No. is supplemented by an additional hyphen and the letter **Z**. In addition, the order codes for the corresponding options must be specified.

Example:

1LA4 354-4AN60-Z H05 + K16 + L20

Ordering data:

- Complete Article No. and order code(s).
- If a quotation is available, in addition to the Article No., the quotation number should also be specified.
- When ordering a complete motor as a spare part, please specify the factory serial No. of the previously supplied motor as well as the Article No.

Overview

The following overview explains the meaning of the individual positions of the Article No. The selection tables in Chapters 2 to 4 include the motors available as standard from this range.

Structure of the Article No.:		Position:	1	2	3	4	5	6	7	-	8	9	10	11	12	-	Z	
1st to 4th positions: Motor design	• Standard version		1	L	A	4												
	- Self-ventilated		1	P	Q	4												
	- Force ventilated		1	L	H	4												
	• Explosion-protected version		1	M	A	4												
	- Ex e		1	M	G	4												
	- Ex px		1	M	S	4												
5th to 6th positions: Shaft height	• 315 mm						3	1										
	• 355 mm						3	5										
	• 400 mm						4	0										
	• 450 mm						4	5										
	• 500 mm						5	0										
	• 560 mm						5	6										
	• 630 mm						6	3										
7th position: Laminated core length	• Short								0									
	• Medium								2									
	• Long								4									
	• Extra long								6									
8th position: Pole number	• 2-pole										2							
	• 4-pole										4							
	• 6-pole										6							
	• 8-pole										8							
	• 10-pole										3							
	• 12-pole										5							
9th position: Rotor version	• Standard aluminum rotor											A						
	• Special aluminum rotor											B						
	• Standard copper rotor											C						
	• Special copper rotor											D						
	• Special version (CuSi,...)											E						
10th position: Character for operation with:	• Line supply, low voltage												A					
	• Line supply, high voltage												N					
	• LV drive converter												M					
	• MV drive converter												V					
	• Converters, others (e.g. SINAMICS PERFECT HARMONY)												W					
11th position: voltage code	Line supply, high voltage:	MV drive converter:	LV drive converter:															
	3.3 kV, 50 Hz	2.3 kV, 50 Hz	690 V, 50 Hz															0
	6.6 kV, 60 Hz	2.3 kV, 60 Hz	-															1
	-	3.3 kV, 50 Hz	-															2
	3.0 kV, 50 Hz	3.3 kV, 60 Hz	-															3
	4.0 kV, 60 Hz	4.16 kV, 50 Hz	-															4
	5.0 kV, 50 Hz	4.16 kV, 60 Hz	-															5
	6.0 kV, 50 Hz	6.0 kV, 50 Hz	-															6
	6.6 kV, 50 Hz	6.6 kV, 50 Hz	-															7
	10 kV, 50 Hz	-	-															8
	Other voltage/frequency (additional text data)																	9
12th position: Type of construction	• IM B3																	0
	• IM V1 with canopy																	4
	• IM V1 without canopy																	8
	• IM B35																	6
Options: Additional order codes required.																		

Introduction

SIMOTICS HV/TN Series H-compact

Performance features

1

Overview

Performance features of the H-compact series

The H-compact series of motors is characterized by:

- Extremely compact design
- Longest lifetime and highest reliability
- Globally proven Siemens MICALASTIC insulation system

- Proven over many years of use in the widest range of sectors
- Wide range of options, that allow the motor to be optimally adapted to customer requirements
- Various cooling concepts for every environment

Overview table of the H-compact series

Series	Version	Voltages	Powers	Degree of protection	Cooling method	Type of protection	Type of construction
1LA4	IEC	690 V	1150 ... 1650 kW ¹⁾	IP55	IC411	–	IM B3, IM B35, IM V1
		2.3 ... 11 kV	200 ... 3000 kW ²⁾				
1LA4 Standardline		3.0; 3.3; 6.0; 6.6 kV	200 ... 800 kW ³⁾			–	IM B3
1MS4		2.3 ... 11 kV	200 ... 3000 kW ²⁾			Ex nA	IM B3, IM B35, IM V1
1MG4		2.3 ... 11 kV	200 ... 3000 kW ²⁾			Ex px	
1MA4		3.4 ... 6.6 kV	170 ... 630 kW ³⁾			Ex e	
1PQ4		690 V	1150 ... 1700 kW ¹⁾		IC416	–	
		2.3 ... 6.6 kV	1180 ... 2950 kW ⁴⁾				
1LH4		690 V	1380 ... 1750 kW ¹⁾		IC71W	–	
		2.3 ... 6.6 kV	1224 ... 1488 kW ³⁾				

Cooling method	
IC411	Rib-cooled, self-ventilated
IC416	Rib-cooled, force-ventilated
IC71W	Water-jacket-cooled
Type of protection	
Ex nA	Non-sparking motor, Zone 2
Ex pe	Pressurized motor enclosure, increased safety of the terminal box, Zone 1
Ex e	Increased safety of the motor, Zone 1

Degree of protection	
IP55	Enclosed, protected against dust and jet-water
Type of construction	
IM B3	Horizontal, with feet, without flange
IM B35	Horizontal, with feet, with flange
IM V1	Vertical, without feet, with flange

1LA4 Standardline version

The 1LA4 Standardline motors are self-ventilated, enclosed rib-cooled motors belonging to the H-compact series with a restricted range of options. Due to the fact that there are a restricted number of selectable options, they have significantly shorter delivery times as a result of the simplified order administration and the standardized production process. The compact and rugged design guarantees a high degree of reliability and availability for small frame sizes.

With Standardline, a defined range of motors (pole number, power rating) are available for line operation. See Catalog D 86.1.

¹⁾ Only for converter operation. Values apply for 50 Hz, 4-pole version, insulation system, thermal class 155 (F), utilized to 155 (F).

²⁾ Values apply for 2.3 to 6.6 kV, 50 Hz, 4-pole version, insulation system, thermal class 155 (F), utilized to 130 (B).

³⁾ Values apply for 50 Hz, 4-pole version, insulation system, thermal class 155 (F), utilized to 130 (B).

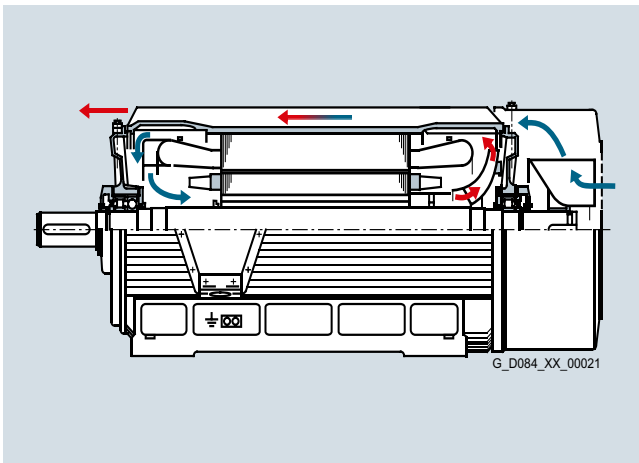
⁴⁾ Values apply for 6 to 6.6 kV, 50 Hz, 4-pole version, insulation system, thermal class 155 (F), utilized to 155 (F).

Mode of operation

Self-ventilated, IC411 cooling type, 1LA4, 1MA4, 1MS4, 1MG4 series

Self-ventilated, rib-cooled motors have a technically sophisticated cooling concept that corresponds to cooling type IC411 according to DIN EN 60034-6/VDE 0530-6 (IEC 60034-6) with an additional, inner cooling air circuit with fan. As can be seen in the diagram, a fan is located at the non-drive end, which draws in the air from outside and blows it axially over the outer cooling ribs of the frame. Heat is exchanged with the inner cooling circuit at this location, which guarantees a uniform temperature distribution in the active motor and bearing areas.

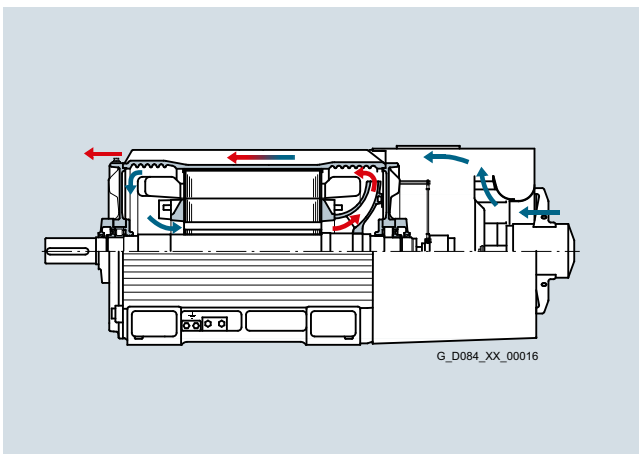
The fan impellers for the inner and outer cooling air flow are mounted on the motor shaft and play a role in achieving the significantly reduced noise level thanks to their optimized aerodynamic design.



Force-ventilated, IC416 cooling type, 1PQ4 series

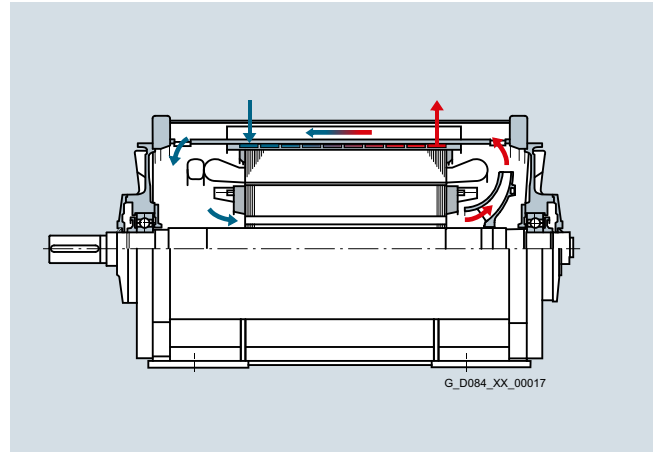
For the force-ventilated motors, a fan unit is located at the non-drive end, which draws in the air from outside and blows it axially over the outer cooling ribs of the frame. Heat is exchanged with the inner cooling circuit at this location, which guarantees a uniform temperature distribution in the active motor and bearing areas.

The fan impeller for the inner cooling circuit is mounted on the motor shaft and is bidirectional. Further, the outer cooling air flow is generated from a separately-driven fan that guarantees a constant cooling power in every operating state. This means that the motor can always be operated over its complete speed control range and in both directions of rotation.



Water-jacket-cooled, IC71W cooling type, 1LH4 series

The water-jacket-cooled motors have a double wall frame jacket with a spiral cooling water duct and, in addition, an inner cooling air circuit. The cooling water inlet is at the drive end, the outlet is at the non-drive end. Intensive heat exchange takes place through the cooling water. The inner air cooling circuit guarantees a uniform temperature distribution in the active motor and bearing areas.



Introduction

SIMOTICS HV/TN Series H-compact PLUS

Article number code

1

Overview

The following overview explains the meaning of the individual positions of the Article No. The selection tables in Parts 2 to 4 include the motors available as standard from this range.

Structure of the Article No.:	Position:	1	2	3	4	5	6	7	-	8	9	10	11	12	-	Z
1st to 4th position: Motor version	Standard version															
	Degree of protection/cooling															
	IEC															
	NEMA															
	Open-circuit ventilated	IP23/IC01	–	1	R	A	4									
	Air/air cooling	IP55/IC611 or IC616	–	1	R	Q	4									
	Air/water cooling	IP55/IC81W or IC86W	–	1	R	N	4									
	Open-circuit ventilated	IP23/IC01	–	1	R	A	6									
	Open-circuit ventilated	IP24W/IC01	WP11	1	R	P	6									
	Air/air cooling	IP55/IC611 or IC616	TEAAC	1	R	Q	6									
	Air/water cooling	IP55/IC81W or IC86W	TEWAC	1	R	N	6									
	Ex e version															
	Air/air cooling	IP55/IC611 or IC616	–	1	S	J	4									
	Air/water cooling	IP55/IC81W or IC86W	–	1	S	N	4									
	Air/air cooling	IP55/IC611 or IC616	–	1	S	J	6									
	Air/water cooling	IP55/IC81W or IC86W	–	1	S	N	6									
	Ex nA version															
	Air/air cooling	IP55/IC611 or IC616	–	1	S	G	4									
	Air/water cooling	IP55/IC81W or IC86W	–	1	S	L	4									
	Air/air cooling	IP55/IC611 or IC616	–	1	S	G	6									
	Air/water cooling	IP55/IC81W or IC86W	–	1	S	L	6									
	Ex px version															
	Air/air cooling	IP55/IC611 or IC616	–	1	S	B	4									
	Air/water cooling	IP55/IC81W or IC86W	–	1	S	Q	4									
	Air/air cooling	IP55/IC611 or IC616	–	1	S	B	6									
	Air/water cooling	IP55/IC81W or IC86W	–	1	S	Q	6									
5th to 6th position: Shaft height	• 450 mm					4	5									
	• 500 mm					5	0									
	• 560 mm					5	6									
	• 630 mm					6	3									
	• 710 mm					7	1									
7th position: Laminated core length	The laminated core length is coded in digits 0 to 9 (without fixed assignment)															
8th position: Pole number	• 2-pole															2
	• 4-pole															4
	• 6-pole															6
	• 8-pole															8
	• 10-pole															3
	• 12-pole															5
	• 14-pole															7
	• 16-pole															9
																Additional order code H1A

Overview (continued)

Structure of the Article No.:	Position:	1	2	3	4	5	6	7	-	8	9	10	11	12	-	Z																
9th position: Cooling method for:	IEC version:	Cooling method:																														
	<ul style="list-style-type: none"> With shaft-mounted fan (basic version) or shaft-mounted fan for the inner and separately-driven fan for the outer cooling circuit With shaft-mounted fan for the inner and outer cooling circuits With separately-driven fan for the inner or for the inner and outer cooling circuits 	IC01/IC81W										H																				
		IC616									H																					
		IC611									J																					
		IC86W/IC666									F																					
	NEMA version (only available for 1R.6 motors with shaft height 710; other shaft heights on request)	Cooling method:																														
	<ul style="list-style-type: none"> With separately-driven fan for the inner and outer cooling circuits With shaft-mounted fan With shaft-mounted fan for the inner and separately-drive fan for the outer cooling circuit With shaft-mounted fan for the inner and outer cooling circuits 	TEAAC										A																				
		WPII or TEWAC										B																				
		TEAAC										B																				
		TEAAC										C																				
10th position: Rotor version or drive converter type	Line operation	Letter	Converter operation		Letter																											
	1R.4: Standard rotor with E-Cu	E	1R.4: MV drive converter		V																											
	1R.4: Standard rotor with Si-Cu	S	1R.4: LV drive converter		M																											
	1R.6: Standard rotor with E-Cu	JKL (power-dependent)	1R.6: LV drive converter; copper rotor		P (SINAMICS G/ SINAMCIS S)																											
					Q (other converters)																											
	1R.6: Standard rotor with Si-Cu	MN (power-dependent)	1R.6: MV drive converter; copper rotor		S (SINAMICS GM/ SINAMICS SM)																											
					T (SINAMICS PERFECT HARMONY)																											
				U (other converters)																												
	1R.4 and 1R.6: Special rotor with E-Cu	X																														
	1R.4 and 1R.6: Special rotor with Si-Cu	Y																														
11th position: Voltage code	1R.4: Line operation:	1R.4: Operation with MV drive converter:	1R.4: Operation with LV drive converter	1R.6: Line operation	1R.6: Converter operation																											
	3.3 kV, 50 Hz	2.3 kV, 50 Hz	690 V, 50 Hz, on request	3.3 kV, 50 Hz	690 V, 50 Hz												0															
	6.6 kV, 60 Hz	2.3 kV, 60 Hz	–	6.6 kV, 60 Hz	690 V, 60 Hz												1															
	–	3.3 kV, 50 Hz	–	13.2 kV, 60 Hz	2,3 kV, 50 Hz													2														
	3.0 kV, 50 Hz	3.3 kV, 60 Hz	–	4.16 kV, 60 Hz	4,16 kV, 60 Hz													3														
	4.0 kV, 60 Hz	4.16 kV, 50 Hz	–	4.0 kV, 60 Hz	4,16 kV, 50 Hz													4														
	5.0 kV, 50 Hz	4.16 kV, 60 Hz	–	2.3 kV, 60 Hz	3,3 kV, 50 Hz													5														
	6.0 kV, 50 Hz	6.0 kV, 50 Hz	–	6.0 kV, 50 Hz	6,0 kV, 50 Hz													6														
	6.6 kV, 50 Hz	6.6 kV, 50 Hz	–	6.6 kV, 50 Hz	6,6 k V, 50 Hz													7														
	10 kV, 50 Hz	–	–	10 kV, 50 Hz	6,6 kV, 60 Hz													8														
	Other voltage/frequency (additional text data)																9															
12th position: Type of construction	<ul style="list-style-type: none"> IM B3 IM V1 with canopy (for shaft height 630 mm, only in type of construction IM V10) IM V1 without canopy (for shaft height 630 mm, only in type of construction IM V10) 																															0
																								4								
																								8								
Options: Additional order code required. Refer to section Options and tests in Chapter 2, Chapter 3 and Chapter 4.																																

Introduction

SIMOTICS HV/TN Series H-compact PLUS

Performance features

1

Overview

Performance features of the H compact PLUS series

The H-compact PLUS motors have a modular design (basic enclosure and cover).

This means that the following cooling methods can be implemented:

- Air/water cooling
- Air/air cooling
- Open-circuit cooling

The new 1R.6/1S.6 series is the second generation of the H-compact PLUS motors. They offer higher power ratings (for two-pole motors), permit a higher external moment of inertia, sport an innovative design as well as an extended range of options.

Overview table of the H-compact PLUS series

Series	Version	Voltages	Powers	Degree of protection	Cooling method	Type of protection	Type of construction
1RA4	IEC	690 V	1370 ... 2800 kW ²⁾	IP23	IC01	No	IM B3, IM V1, (shaft height 630 only V10)
1RA6		3.3 ... 11 kV ¹⁾	1370 ... 11700 kW ³⁾				
1RN4	IEC	690 V	1370 ... 2800 kW ²⁾	IP55	IC81W	No	
1RN6		3.3 ... 11 kV ¹⁾	1370 ... 11700 kW ³⁾				
1RQ4	IEC	690 V	1090 ... 2400 kW ²⁾	IP55	IC611/IC616	No	
1RQ6		3.3 ... 11 kV ¹⁾	1090 ... 8700 kW ³⁾				
1SG4	IEC	690 V	1090 ... 2400 kW ²⁾	IP55	IC611/IC616	Ex nA, Ex tc	
1SG6		3.3 ... 11 kV ¹⁾	1090 ... 8700 kW ³⁾				
1SL4	IEC	690 V	1370 ... 2800 kW ²⁾	IP55	IC81W	Ex nA, Ex tc	
1SL6		3.3 ... 11 kV ¹⁾	1370 ... 11700 kW ³⁾				
1SB4	IEC	690 V	1090 ... 2400 kW ²⁾	IP55	IC611/IC616	Ex px	
1SB6		3.3 ... 11 kV ¹⁾	1090 ... 8700 kW ³⁾				
1SQ4	IEC	690 V	1370 ... 2800 kW ²⁾	IP55	IC81W	Ex px	
1SQ6		3.3 ... 11 kV ¹⁾	1370 ... 11700 kW ³⁾				
1SJ4, 1SJ6	IEC	On request	On request	IP55	IC611/IC616	Ex e	
1SN4, 1SN6					IC81W		
1RP6	IEC	690 V	1370 ... 2800 kW ²⁾	IP24W	IC01	No	IM B3, IM V1
		3.3 ... 11 kV	1370 ... 11700 kW ³⁾				
	NEMA	3.3 ... 13.8 kV	11000 ... 18000 hp ⁴⁾	WP11	Open	No	
1RN6	NEMA	3.3 ... 13.8 kV	11000 ... 18000 hp ⁴⁾	TEWAC	Air/water	No	
1RQ6	NEMA	3.3 ... 13.8 kV	11000 ... 18000 hp ⁴⁾	TEAAC	Air/air	No	
1SG6	NEMA	3.3 ... 13.8 kV	11000 ... 18000 hp ⁴⁾	TEAAC	Air/air	Class 1, Div 2	
1SL6	NEMA	3.3 ... 13.8 kV	11000 ... 18000 hp ⁴⁾	TEWAC	Air/water	Class 1, Div 2	

¹⁾ 13.8 kV on request.

²⁾ Power rating values apply for 690 V, 50 Hz, 4-pole version, insulation system thermal class 155 (F), utilized to 155 (F).

³⁾ Power rating values apply for 6 kV, 50 Hz, 4-pole version, insulation system thermal class 155 (F), utilized to 130 (B).

⁴⁾ Power rating values apply for 6.6 kV, 60 Hz, 4-pole version, insulation system thermal class 155 (F), utilized to 130 (B).

Introduction

SIMOTICS HV/TN Series H-compact PLUS

Performance features

1

Overview (continued)

Cooling method	
IC01	Air-cooled, self-ventilated
IC81W	Air/water cooler, inner cooling circuit self-ventilated
IC86W	Air/water cooler, inner cooling circuit force-ventilated
IC611	Air/air cooler, inner cooling circuit self-ventilated, outer cooling circuit self-ventilated
IC616	Air/air cooler, inner cooling circuit self-ventilated, outer cooling circuit force-ventilated
IC666	Air/air cooler, inner cooling circuit force-ventilated, outer cooling circuit force-ventilated
TEWAC	Closed motor with air/water cooler
TEAAC	Closed motor with air/air cooler
Type of protection	
Ex nA	Non-sparking motor, Zone 2
Ex px	Pressurized motor enclosure, increased safety of the terminal box, Zone 1
Class1, Div 2	Non-sparking motor

Degree of protection	
IP23	Protected against the ingress of solid foreign bodies with a diameter greater than 12 mm and water spray
IP24W	Protected against the ingress of solid foreign bodies with a diameter greater than 12 mm and splashwater. Weather-protected version.
IP55	Protected against dust and jet-water
WP11	Weather-protected motor with air intake baffles
TEWAC	Closed motor with air/water cooler
TEAAC	Closed motor with air/air cooler
Type of construction	
IM B3	Horizontal, with feet, without flange
IM V1	Vertical, without feet, with flanged bearing shield
IM V10	Vertical, without feet, with flange at the enclosure

Introduction

SIMOTICS HV/TN Series H-compact PLUS

Cooling concepts

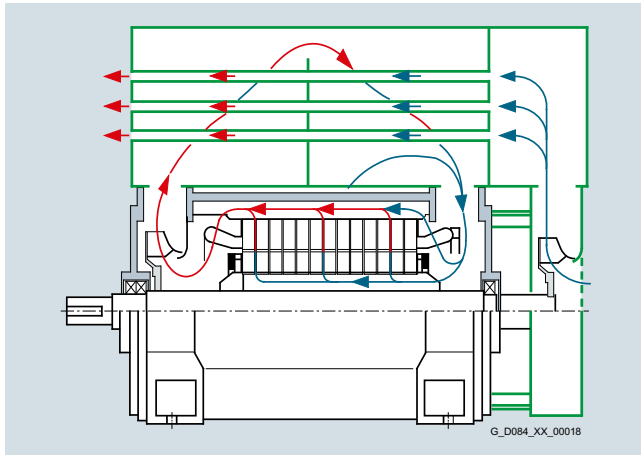
1

Mode of operation

The following diagrams show the general mode of operation of the cooling. They do not include any design details.

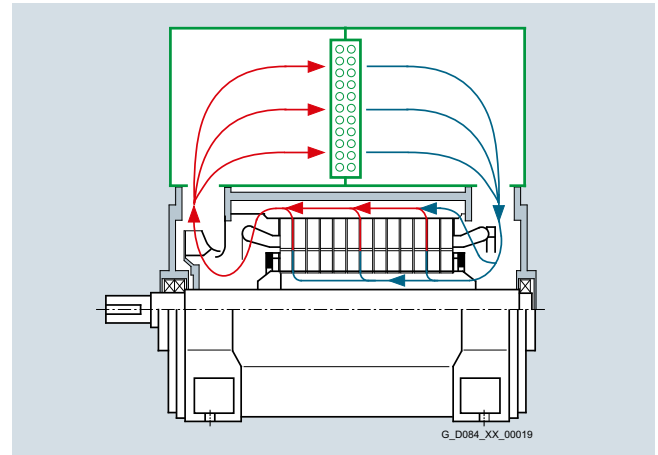
Air/air heat exchanger (IC611)

1RQ. series with one-sided ventilation (Z ventilation)

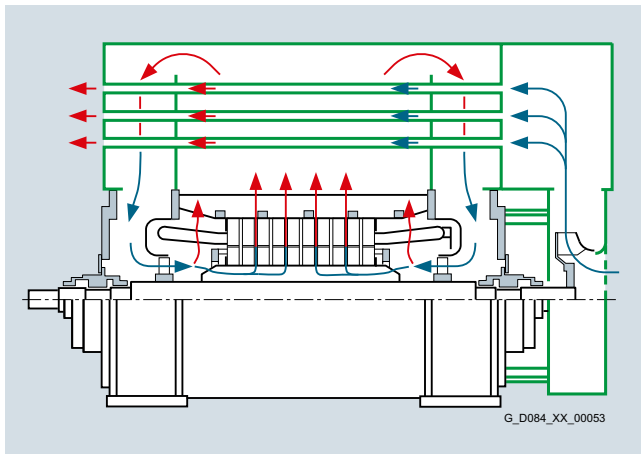


Air/water heat exchanger (IC81W)

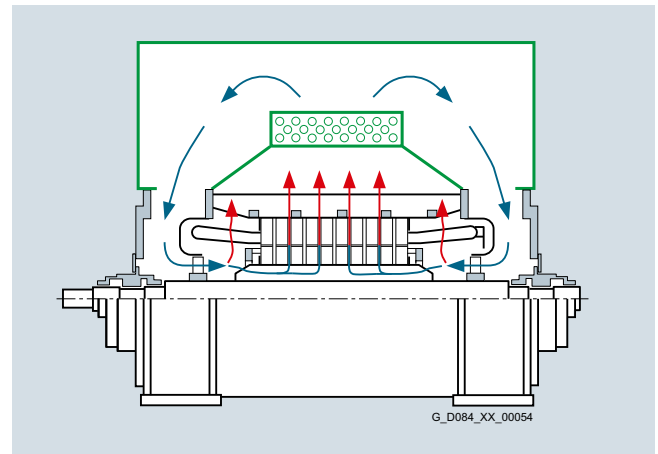
1RN. series with one-sided ventilation (Z ventilation)



1RQ. series with two-sided ventilation (X ventilation)



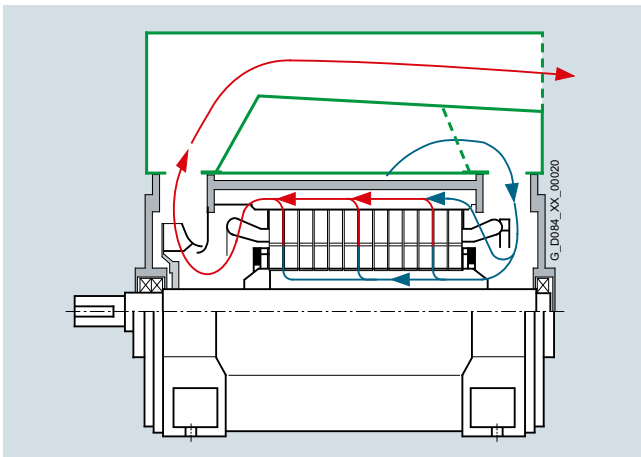
1RN. series with two-sided ventilation (X ventilation)



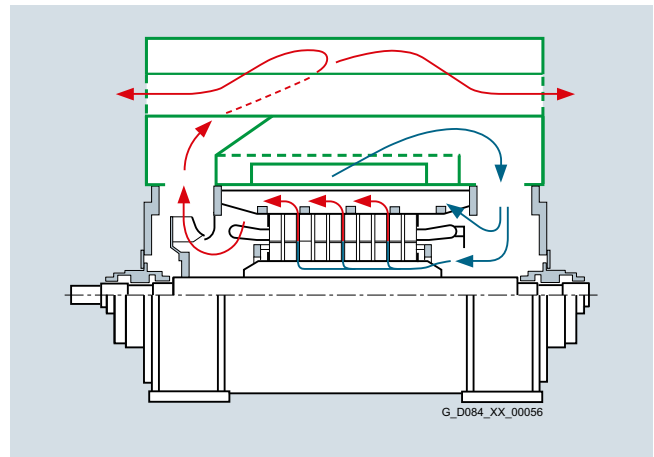
Mode of operation (continued)

Open-circuit ventilation (IC01)

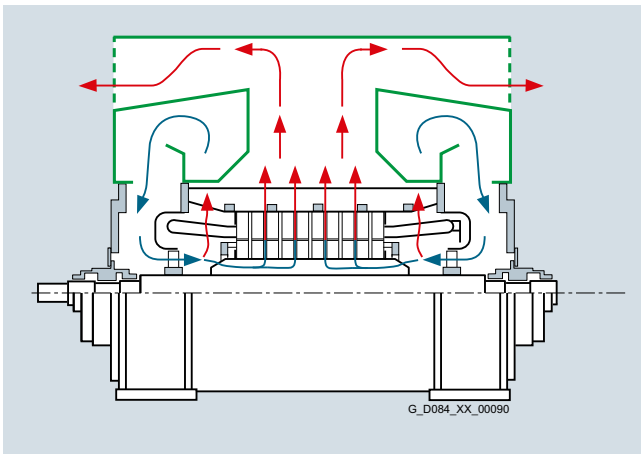
1RA. series with one-sided ventilation (Z ventilation)



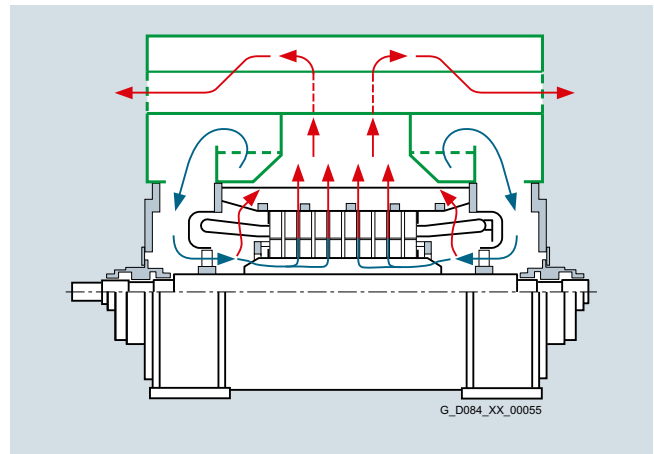
1RP. series with one-sided ventilation (Z ventilation)



1RA. series with two-sided ventilation (X ventilation)



1RP. series with two-sided ventilation (X ventilation)



Introduction

General technical versions

Overview

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Overview

Motor protection

A series of standard and optional monitoring and protective devices are available for motor protection.

Protective device	Description
Stator winding monitoring	6 PT100 resistance thermometers for temperature monitoring as standard.
Roller bearing monitoring	Measuring nipple for shock pulse measurement as standard. Optional PT100 resistance thermometer for temperature monitoring.
Sleeve bearing monitoring	Optional PT100 resistance thermometer for temperature monitoring. Optional for circulating oil cooling: Throttle valves, manometer and flowmeter in the oil intake line. Optional holes in the oil discharge line to mount a thermometer or a sight glass to monitor the oil flow.
Shaft vibration monitoring	Optional for motors with sleeve bearings.
Air temperature monitoring in the cooling circuit	Optional using a thermometer in the cooler assembly on the air intake and air discharge side for H-compact PLUS motors.
Leakage water monitoring	Optional using sensors in the cooler housing for water-cooled H-compact PLUS motors.
Starting and speed monitoring	Optional rotary pulse encoder for motors for converter operation.
Anti-condensation heating	Standard for H-compact PLUS motors. Optional for H-compact motors.

Electrical design

High voltage motors have the Siemens MICALASTIC insulation system according to thermal class 155 (F).

The rotor windings of H-compact motors are manufactured out of die cast aluminum or copper:

Shaft height mm	Rotor design with number of poles					
	2	4	6	8	10	12
315	Al	Al	Al	–	–	–
355	Al	Al	Al	Al	–	–
400	Al	Al	Al	Al	–	–
450	Cu	Al/Cu	Al	Al	Al	Cu
500	Cu	Al	Cu	Cu	Cu	Cu
560	Cu	Cu	Cu	Cu	Cu	Cu
630	Cu	Cu	Cu	Cu	Cu	Cu

H-compact PLUS motors always have copper rotors.

Motor connection and terminal boxes for high voltage motors

The motor terminal boxes are generously dimensioned. This design allows cables, which are generally used worldwide, to be simply and quickly connected up as well as to accommodate all of the generally used cable entry fittings.

Arrangement of the motor terminal box (standard version):

When viewing the drive side, the motor terminal box is mounted at the righthand side of the stator frame with cable entry from the bottom. When requested, it can be mounted on the lefthand side. However, it must be specified when ordering. When requested, the terminal box can be mounted, rotated through 90° or through 180° if the spatial situation at the machine permits this (except for terminal boxes with cast cable entry glands).

Terminal arrangement according to DIN 42962.

Degree of protection of the motor terminal box: IP55, IP56, IP66 – depending on the terminal box type (refer to the table).

The motor terminal boxes comprise a lower section or housing, bolted to the stator frame, and a removable cover. The 1XA8711, 1XB8911 and 1XB8751 terminal boxes that are normally used have bushings manufactured out of casting resin. All of the other terminal boxes have cast-resin post insulators with bolted bus-bars (exception: cable connector connection).

All motor terminal boxes are short-circuit proof. If a short-circuit occurs in the motor, all of the forces generated by the short-circuit current are reliably handled by the components in the terminal box (e.g. cast-resin post insulators).

Further, all motor terminal boxes are short-circuit proof. If arcs occur in the motor terminal box, the pressure generated is immediately dissipated using a pressure relief mechanism.

Short-circuit strength and short-circuit proof of the motor terminal boxes used as standard:

- 400 MVA at 6 kV; 0.2 s
- 700 MVA at 10 kV; 0.2 s

These values correspond to a rated peak withstand current of approx. 100 kA.

Motor connecting cable and cable entry fittings are not supplied with the motor.

Overview

Overview of the generally used motor terminal boxes

Terminal box	Rated voltage kV	Current A	Cable entries Number	Cable entry diameter, max. mm
1XB1 631	1	1230	4	75
1XA8 711	6.6	315	1	75
1XB8 751	6.6	630 (for parallel connection)	2	75
1XB8 911	11	315	1	75
1XD1 543-3AA	11	1200	–	–
1XD1 643-3AA	13.2	800	–	–

Cable connector connection on request.

Connection options

Terminal box	Terminal element	Number of cables	Cable cross-section (Cu or Al), max. that can be introduced mm ²	Weight kg	Degree of protection to DIN EN 60529
1XB1 631	Cable lug	4 cables, 3-conductor	240	83	IP55
1XA8 711	Connecting terminal on M16 studs Connection with cable lug and two hexagon nuts	1 cable, 3-conductor	1 x 3 x 240	42	IP55 ¹⁾
1XB8 751	Connecting terminal on M16 studs Connection with cable lug and two hexagon nuts	2 cables, 3-conductor	2 x 3 x 240	131	IP56
1XB8 911	Connecting terminal on M16 studs Connection with cable lug and two hexagon nuts	1 cable, 3-conductor	1 x 3 x 240	93	IP56
1XD1 543-3AA	Cable lug on busbar	6 cables, 1-conductor	300	230	IP55
1XD1 643-3AA	Cable lug on busbar	4 cables, 1-conductor	300	500	IP55

1) IP66 on request.

Introduction

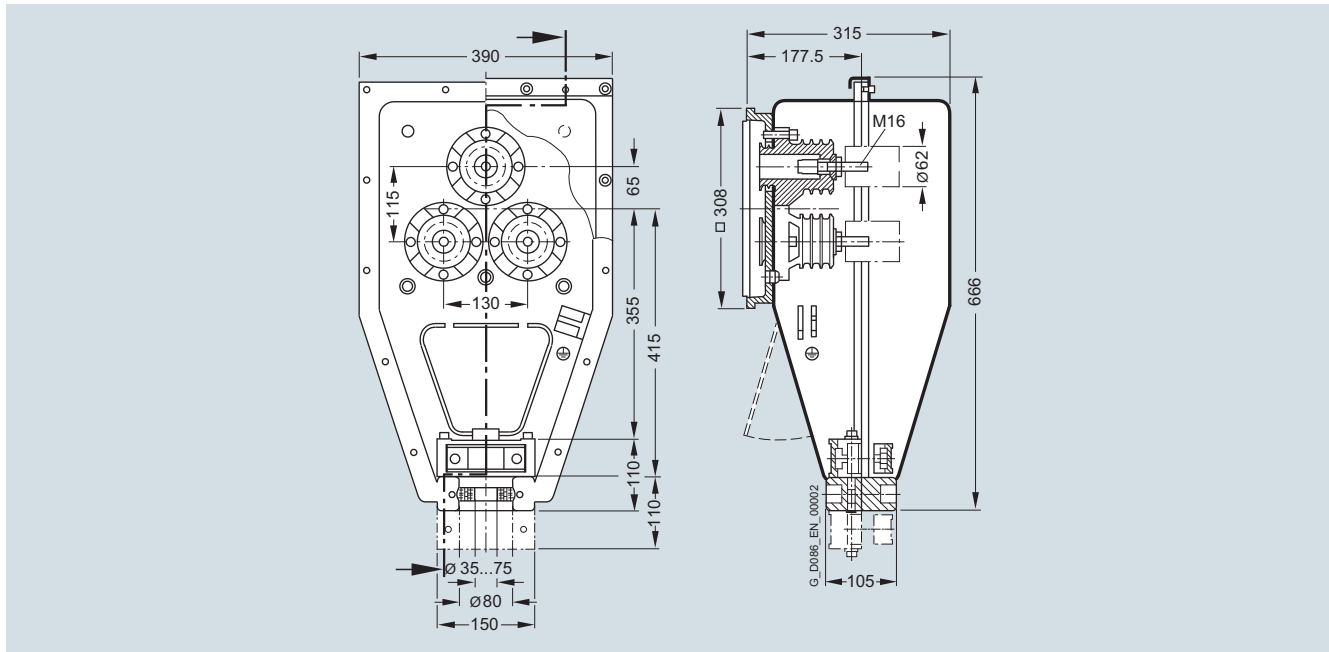
General technical versions

Motor terminal boxes

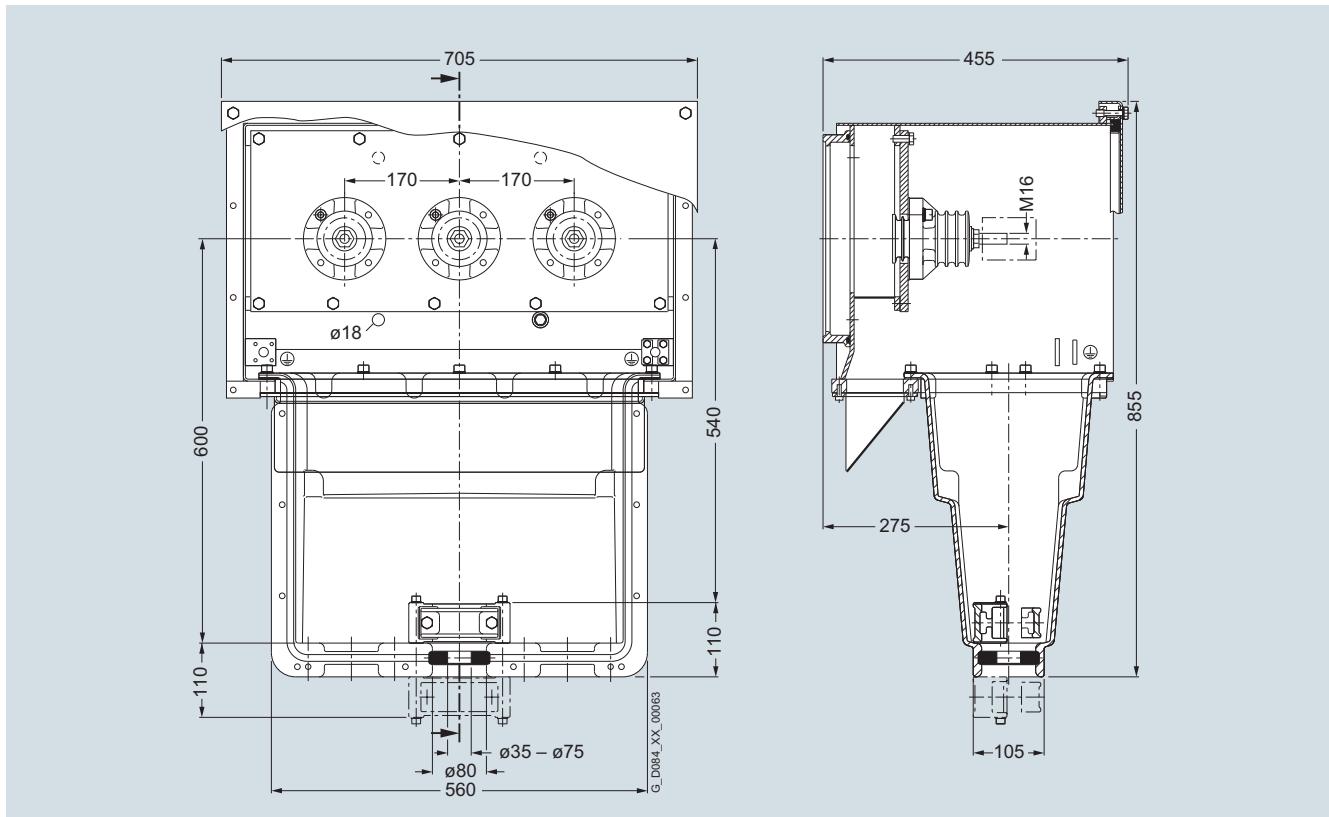
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Dimension drawings

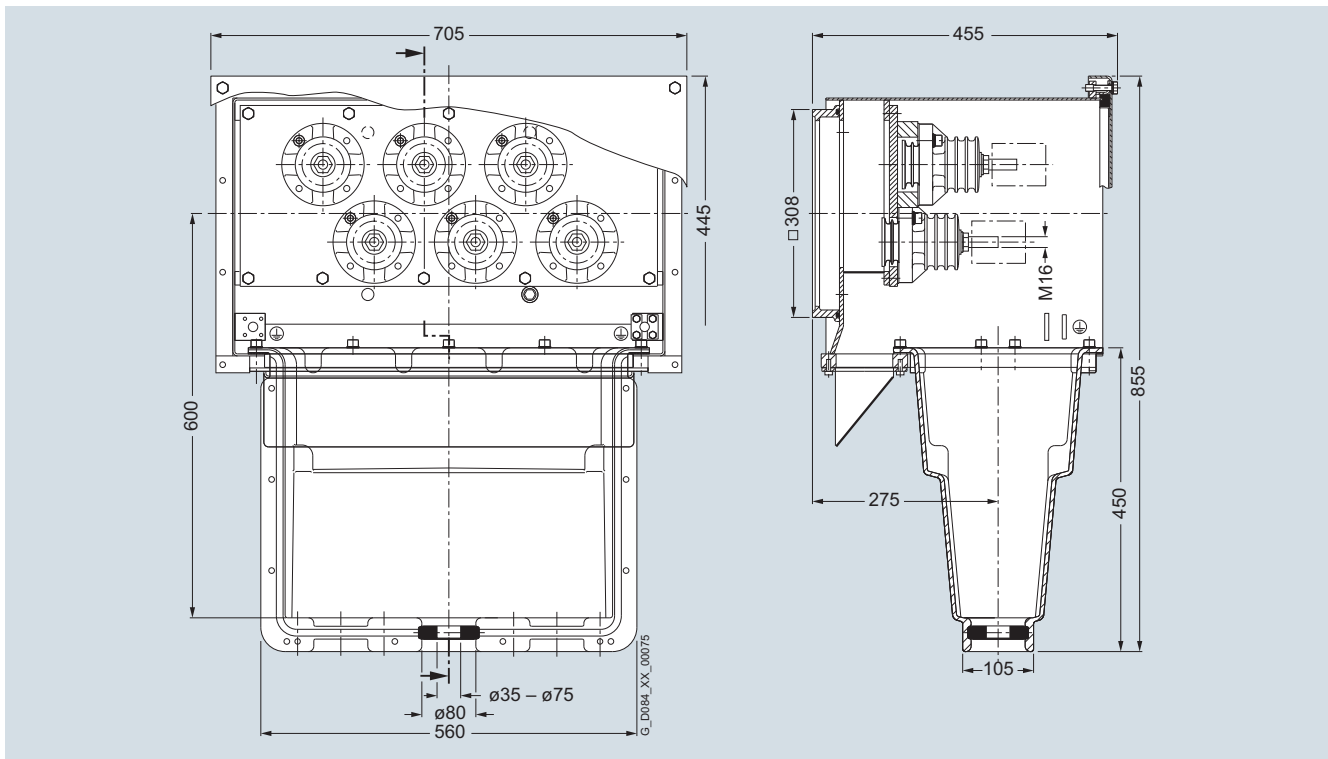
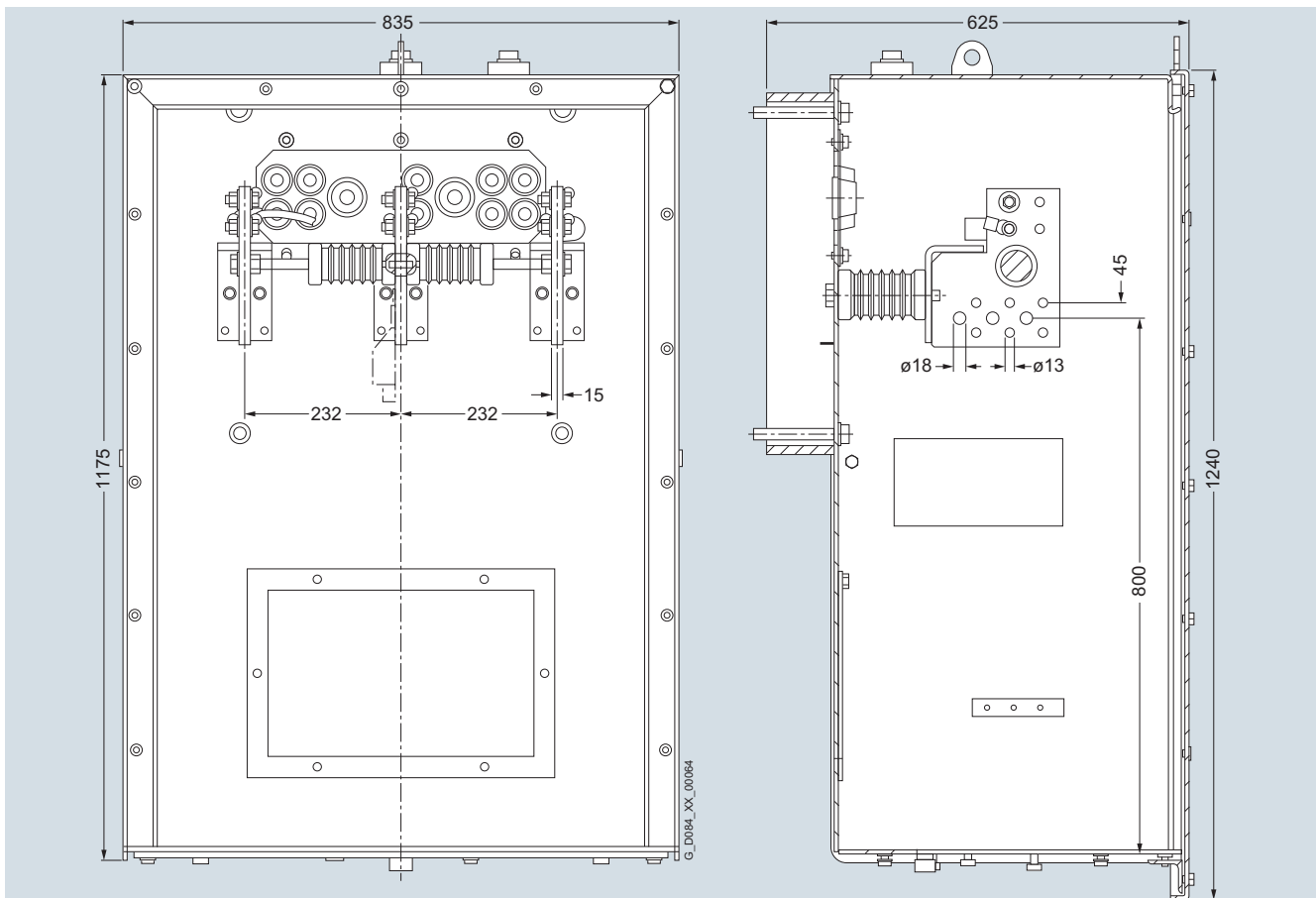
Terminal box type 1XA8 711 (up to 6.6 kV, 3 terminals)



Terminal box type 1XB8 911 (up to 11 kV)



Dimension drawings (continued)

Terminal box type 1XB8 751 (up to 6.6 kV, 6 terminals)**Terminal box type 1XD1 543-3AA up to 11 kV IEC and 6.6 kV NEMA**

Introduction

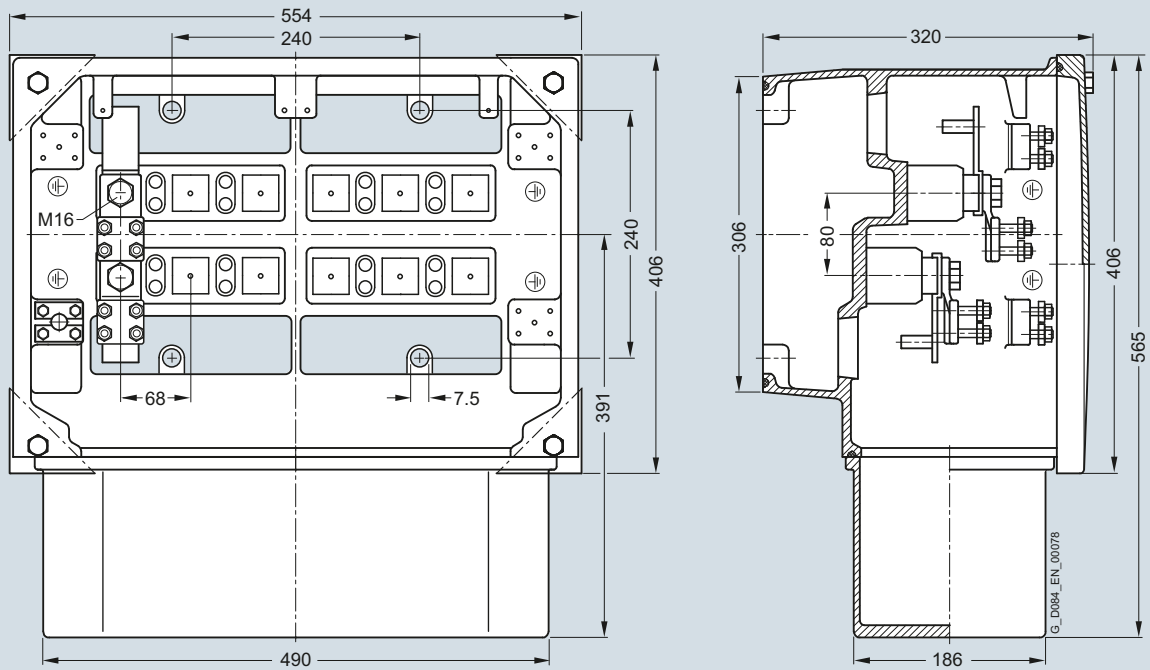
General technical versions

Motor terminal boxes

1

Dimension drawings (continued)

Terminal box type 1XB1 631 (up to 1 kV, 12 terminals)



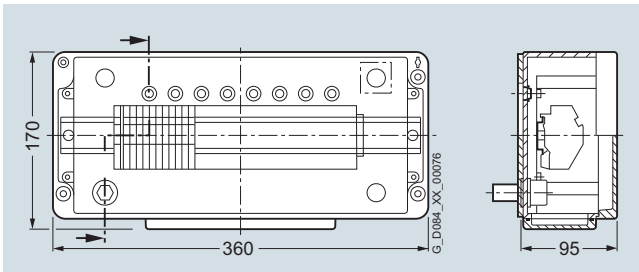
Dimension drawings (continued)

Neutral point terminal box

The motor terminal box is also used to form the neutral point of winding ends.

Auxiliary terminal box to connect monitoring elements, anti-condensation heating

The standard version 1XB9 014 comprises an aluminum enclosure. Max. cable cross-section that can be connected, 4 mm².



Terminal boxes manufactured out of cast iron (1XB9 016) and stainless steel (1XB9 015) can be optionally ordered.

Introduction

General technical versions

Mechanical design

1

Overview

Bearing version

Motors for connection to the line supply have roller bearings or sleeve bearings as standard according to the following overview.

The bearing concepts for motors for converter operation depend on the speed control range.

Overview, bearing versions

Motor type	Bearing version						IM V1 ²⁾
	IM B3, IM B35 ¹⁾		Number of poles 4		Number of poles ≥ 6		
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	
1LA4/1M.4 31.	Roller bearings (sleeve bearings optional)	Roller bearings (sleeve bearings optional)	Roller bearings (sleeve bearings optional)	Roller bearings (sleeve bearings optional)	Roller bearings (sleeve bearings not available)	Roller bearings (sleeve bearings not available)	Roller bearings (sleeve bearings not available)
1LA4/1M.4 35.							
1LA4/1M.4 40.	Sleeve bearing	Sleeve bearing			Roller bearings (sleeve bearings optional)	Roller bearings (sleeve bearings optional)	
1LA4/1M.4 45.							
1LA4/1M.4 50.							
1LA4/1M.4 56.	Not available	Not available		Sleeve bearing			
1LA4 63.							
1R.6/1S.6 45.	Roller bearings (sleeve bearings optional)	Sleeve bearing	Roller bearings (sleeve bearings optional)	Roller bearings (sleeve bearings optional)	Roller bearings (sleeve bearings optional)	Roller bearings (sleeve bearings optional)	Roller bearings (sleeve bearings not available)
1R.6/1S.6 50.							
1R.6/1S.6 56.	Sleeve bearing						
1R.4/1S.4 63.				Sleeve bearing			
1R.6/1S.6 71.							

Assignment, type of construction and roller bearing type

Motor series	Type of construction	Shaft height mm	Drive end	Non-drive end
1LA4/1M.4	IM B3	315 ... 450	Deep-groove ball bearings (locating bearing)	Deep-groove ball bearings (floating bearing)
		500 ... 560 (converter version)	Deep-groove ball bearings (locating bearing)	Deep-groove ball bearings (floating bearing)
		500 ... 560 (line version)	Twin bearings: Deep-groove ball bearing and cylindrical-roller bearing (locating bearing)	Cylindrical-roller bearings (floating bearing)
		630	Twin bearings: Deep-groove ball bearing and cylindrical-roller bearing (locating bearing)	Cylindrical-roller bearings (floating bearing)
	IM V1	315 ... 560	Double bearings: Deep-groove ball bearings and angular-contact ball bearings (thrust bearing)	Deep-groove ball bearings (floating bearing)
		630	Deep-groove ball bearings (floating bearing)	Pair of angular-contact ball bearings (thrust bearing)
1R./1S.	IM B3	450	Deep-groove ball bearings (locating bearing)	Deep-groove ball bearings (floating bearing)
		500 ... 710	Double bearings: Deep-groove ball bearings and cylindrical-roller bearings (locating bearing)	Cylindrical-roller bearings (floating bearing)
	IM V1	450	Deep-groove ball bearings (floating bearing)	Double-row ball bearings: Deep-groove ball bearings and angular-contact ball bearings (thrust bearing)
		500 ... 560	Deep-groove ball bearings (floating bearing)	Angular-contact ball bearings (thrust bearing)
		710	Deep-groove ball bearings (floating bearing)	Pair of angular-contact ball bearings (thrust bearing)
	IM V10	630	Deep-groove ball bearings (floating bearing)	Pair of angular-contact ball bearings (thrust bearing)

For motors with sleeve bearings, lateral flange or (for shaft heights 450, 500 and 710 mm), center flange sleeve bearings are used. Generally, these motors are equipped with two floating bearings. This means that the rotor must be axially guided by the

bearings of the driven machine through a coupling with limited axial play. An appropriate sleeve bearing can be installed at the drive end if the motor rotor is to be axially guided.

¹⁾ IM B35 only for motor types 1L. and 1M.; not available with sleeve bearings.

²⁾ Motor type 1R.4 / 1S.4 63. only in type of construction IM V10.

Overview (continued)

Vibration response

Horizontal motors up to 3600 rpm fulfill, as standard, vibration severity level A according to IEC 60034-14. Vibration severity level B is optionally possible; but not for 2-pole H-compact PLUS motors with roller bearings. Values for vertical motors on request.

Balancing quality

The motor rotors are balanced dynamically with half feather key (but without mounted coupling halves). The balancing quality according to ISO 1940 is, up to and including 1500 rpm, G 1.5 and beyond this, G1.

Direction of rotation, fan

The direction of rotation must be specified in every order.

2-pole H-compact motors have an external unidirectional fan. For higher-pole motors, for shaft heights 315 to 450 mm, external bidirectional fans are used and for shaft heights 500 to 630 mm, unidirectional external fans.

H-compact PLUS motors have unidirectional inner and outer fans. In particular, this means that for motors with two-sided ventilation bidirectional fan design is not possible.

For H-compact PLUS motors with single side ventilation, bidirectional fan design is available on request. (Bidirectional fan design may result in reduced power rating and efficiency as well as a higher noise level.)

Paint finish

Unless otherwise specified in the order, the motors are supplied in the standard paint finish color RAL 7030 (stone gray). Other colors are available on request at an additional cost. Motors can be optionally supplied with a special paint finish.

The standard paint finish is classified in the "Moderate" climate group according to IEC 721-2-1. It is suitable for:

- Installed indoors or outdoors under a roof, where the motors are not exposed to any direct effects of the weather.
- Temperatures, continuously up to +100 °C, briefly up to +120 °C
- Relative air humidity up to 85 % at +25 °C continuously; briefly up to +100 % at +30 °C

The **special paint finish** is classified in the "Worldwide" climate group acc. to IEC 721-2-1. It is suitable for:

- Installed outdoors, where motors are directly exposed to the effects of the weather, e.g. direct solar radiation
- Additional temperature and humidity ranges
- Temperatures, continuously up to +120 °C, briefly up to +140 °C

Typical installation locations are industrial environments and coastal areas. For outdoor applications in salt laden atmospheres, one of the options E81, E82 or E83 should be selected.

Standards and regulations

The motors comply with the appropriate standards and regulations, especially those listed in the table below.

Title	IEC	DIN/EN/ISO
General specifications for rotating electrical machinery	IEC 60034-1	DIN EN 60034-1
Degrees of protection for rotating electrical machinery (IP code)	IEC 60034-5	DIN EN 60034-5
Cooling methods for rotating electrical machinery (IC code)	IEC 60034-6	DIN EN 60034-6
Types of construction, mounting types and terminal box positions for rotating electrical machinery (IM code)	IEC 60034-7	DIN EN 60034-7
Terminal designations and direction of rotation for rotating electrical machinery	IEC 60034-8	DIN EN 60034-8
Mechanical vibration of rotating electrical machinery	IEC 60034-14	DIN EN 60034-14
Rated impulse voltages for rotating electrical machinery	IEC 60034-15	DIN EN 60034-15
Electrical insulation – thermal classification	IEC 60085	DIN EN 60085
Mechanical vibration – requirements on the balancing quality of rotors	–	DIN ISO 1940-1
Determining the losses and efficiency from tests	IEC 60034-2-1	DIN EN 60034-2-1

Introduction

General technical versions

Guideline for coupling selection

1

Overview

The motors in this catalog are designed for operation with a flexible coupling. The maximum half coupling weights are shown in the table below.

Maximum allowable coupling weight

Shaft end diameter	Max. weight of half coupling for 2-pole motors	Max. weight of half coupling for 4-pole and motors with higher pole numbers
mm	kg	kg
50	10	10
55	10	20
60	10	20
65	10	20
70	20	30
75	20	30
80	20	40
85	30	50
90	30	50
95	30	60
100	40	70
105	40	80
110	50	90
115	50	100
120	60	110
125	70	130
130	70	140
135	80	160
140	90	170
145	100	190
150	110	210
155	120	230
160	130	250
165	140	270
170	150	300
175	160	320
180	180	350
185	190	380
190	210	410
195	220	440
200	240	470
205	250	500
210	270	540

Note:

Motor and driven machine have to be aligned according to manual.

If the coupling weight exceeds the maximum value, feasibility has to be checked.

Overview



Motor of the LOHER VARIO series

LOHER VARIO

For applications with rib or water-jacket cooled motors and an extended range of options or special requirements on project management, the LOHER VARIO series of motors is available on request.

They have the following performance features:

- High degree of variability as a result of the welded steel enclosure (dimensions can be adapted, instrumentation, bearing concepts)
- Flexible production processes and customized documentation
- High-pole machines up to 16-pole, higher pole numbers are available on request
- Anti-corrosion protection using special paint finishes according to the manufacturers standard or customer specifications
- Water-jacket cooling IC71W in the extended power range with up to 60 % higher power density; compact and quiet, admirably suited for converter operation with constant load torque and wide field-weakening range
- Optimized starting and operating parameters, coordinated and harmonized to meet customer applications
- Complies with almost all application requirements and specifications
- High degree of sector-specific adaptation options
- For safe area applications and types of protection Ex n, Ex p and Ex d in rib and water-jacket cooled versions
- Low-voltage and high-voltage versions up to 11 kV



LOHER VARIO PLUS motor in a water-cooled version (cooling type IC81W)

LOHER VARIO PLUS

For applications with modular-cooled motors and an extended range of options or special requirements on project management, the LOHER VARIO PLUS series of motors is available on request.

They have the following performance features:

- High degree of variability as a result of the platform-based enclosure (dimensions can be adapted, mounted components)
- Customized machines, also for special installation locations and applications
- Flexible production processes and customized documentation
- High-pole machines up to 16-pole, higher pole numbers are available on request
- Anti-corrosion protection using special paint finishes according to the manufacturers standard or customer specifications
- Widest range of connection systems fulfill special requirements (e.g. requirements relating to short-circuit strength, cable cross-sections, phase-segregated version)
- Optimized starting and operating parameters, coordinated and harmonized to meet customer applications
- Complies with almost all application requirements and specifications
- High degree of sector-specific adaptation options
- For safe area applications and types of protection Ex n and Ex p in special versions
- Low-voltage and high-voltage versions up to 11 kV

Introduction

Notes

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Motors for line operation



2/2	Overview	2/124	Water-cooled motors
2/3	Air-cooled motors	2/124	<u>H-compact PLUS 1RN4 and 1RN6</u>
2/3	<u>H-compact 1LA4</u>		Selection and ordering data
	Selection and ordering data	2/126	3.3 to 6.6 kV, 50 Hz
2/5	2 to 6.6 kV, 50 Hz	2/130	9 to 11 kV, 50 Hz
2/8	9 to 11 kV, 50 Hz	2/134	4 to 6.6 kV, 60 Hz
2/10	2 to 6.6 kV, 60 Hz	2/138	12.5 to 13.8 kV, 60 Hz
	Dimension drawings	2/139	4 to 6.6 kV, 60 Hz NEMA version
2/13	IM B3 type of construction, roller bearings	2/140	12.5 to 13.8 kV, 60 Hz NEMA version
2/19	IM B3 type of construction, sleeve bearings		Dimension drawings
2/24	IM V1 type of construction, roller bearings	2/141	IM B3 type of construction, roller bearings (1RN4, 1RN6)
2/30	<u>H-compact PLUS 1RQ4 and 1RQ6</u>	2/148	IM B3 type of construction, sleeve bearings (1RN4, 1RN6)
	Selection and ordering data	2/155	IM V1 type of construction, roller bearings (1RN4, 1RN6)
2/32	3.3 to 6.6 kV, 50 Hz	2/162	IM B3 type of construction, roller bearings (1RN6)
2/36	9 to 11 kV, 50 Hz	2/165	IM B3 type of construction, sleeve bearings (1RN6)
2/40	4 to 6.6 kV, 60 Hz	2/168	IM V1 type of construction, roller bearings (1RN6)
2/44	12.5 to 13.8 kV, 60 Hz		
2/45	4 to 6.6 kV, 60 Hz NEMA version	2/170	Options and tests
2/46	12.5 to 13.8 kV, 60 Hz NEMA version	2/170	<u>Description of options</u>
	Dimension drawings		
2/47	IM B3 type of construction, roller bearings (1RQ4, 1RQ6)		
2/54	IM B3 type of construction, sleeve bearings (1RQ4, 1RQ6)		
2/62	IM V1 type of construction, roller bearings (1RQ4, 1RQ6)		
2/70	IM B3 type of construction, roller bearings (1RQ6)		
2/72	IM B3 type of construction, sleeve bearings (1RQ6)		
2/75	IM V1 type of construction, roller bearings (1RQ6)		
2/77	<u>H-compact PLUS 1RA4, 1RA6 and 1RP6</u>		
	Selection and ordering data		
2/79	3.3 to 6.6 kV, 50 Hz		
2/83	9 to 11 kV, 50 Hz		
2/87	4 to 6.6 kV, 60 Hz		
2/91	12.5 to 13.8 kV, 60 Hz		
2/92	4 to 6.6 kV, 60 Hz NEMA version		
2/93	12.5 to 13.8 kV, 60 Hz NEMA version		
	Dimension drawings		
2/94	IM B3 type of construction, roller bearings (1RA4, 1RA6)		
2/101	IM B3 type of construction, sleeve bearings (1RA4, 1RA6)		
2/109	IM V1 type of construction, roller bearings (1RA4, 1RA6)		
2/116	IM B3 type of construction, roller bearings (1RP6)		
2/119	IM B3 type of construction, sleeve bearings (1RP6)		
2/122	IM V1 type of construction, roller bearings (1RP6)		

Motors for line operation

Overview

Overview

Normal conditions

Selection and ordering data included in this chapter are valid for standard operating and installation conditions:

- Installation altitude of the motor ≤ 1000 m above sea level
- Ambient temperature (= coolant temperature for air-cooled motors) = 40 °C
- Coolant temperature for water-cooled motors = 25 °C
- Thermal class 155 (F) utilized to 130 (B)
- Continuous duty S1
- Permissible tolerances in compliance with IEC/EN 60034-1:
 - Rated voltage $V_{rated} \pm 5\%$
 - Rated frequency $f_{rated} \pm 2\%$

The H-compact and H-compact PLUS series are designed to be directly switched-on when certain starting conditions are maintained.

Motor starting does not have to be separately checked if the following criteria are maintained:

- The voltage when starting does not drop below $0.9 \times V_{rated}$.
- The load torque increases approximately with the square of the speed ($T \sim n^2$).
- The maximum load torque does not exceed the corresponding value in the following table:

Shaft height	315		350		400		450		500		560		630		710	
Number of poles	2	4...	2	4...	2	4...	2	4...	2	4...	2	4...	2	4...	2	4...
H-compact																
max. load torque = $T_{rated} \times$	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	–	–
H-compact PLUS																
max. load torque = $T_{rated} \times$	–	–	–	–	–	–	0.75	0.9	0.7	0.9	0.6	0.9	0.6	0.9	0.5	0.9

Start-up with max. permissible inertia according to "selection and ordering data" is possible either for three times from cold or two times from warm motor condition (natural coast down between consecutive starts assumed).

If limits of load characteristic and/or inertia are exceeded, the motor start-up calculation has to be checked. In this case, please contact your Siemens sales representative.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Overview



Technical data

Overview of technical data

H-compact 1LA4	
Rated voltage	2.0 ... 11 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Cooling method	IC411
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	315 ... 630 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Die-cast aluminum or copper (dependent on the shaft height and number of poles)
Standards	IEC, EN
Frame design	Cast iron with cooling ribs

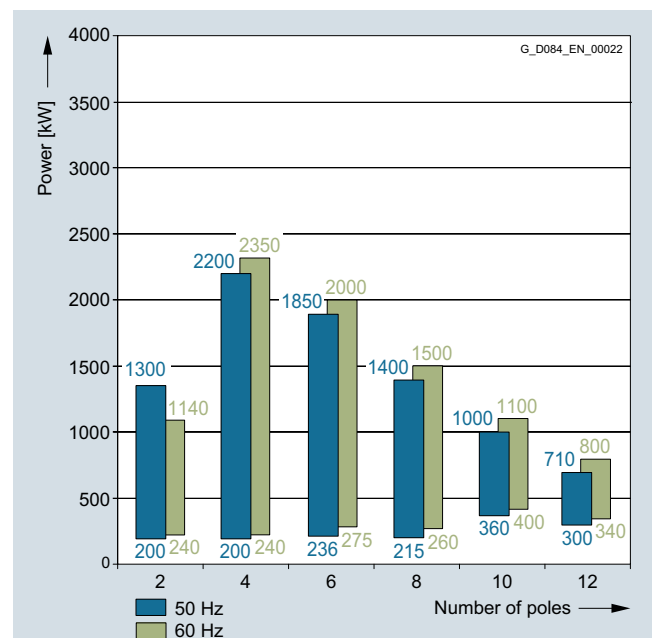
Power range for IEC motors for line operation

1LA4, 1MS4 (Ex nA), 1MG4 (Ex px) series

Insulation system, thermal class 155 (F), utilized to 130 (B).

Ambient temperature up to 40 °C, installation altitude up to 1000 m.

2.0 to 3.3 kV; 50 and 60 Hz



Motors for line operation

Air-cooled motors

H-compact 1LA4

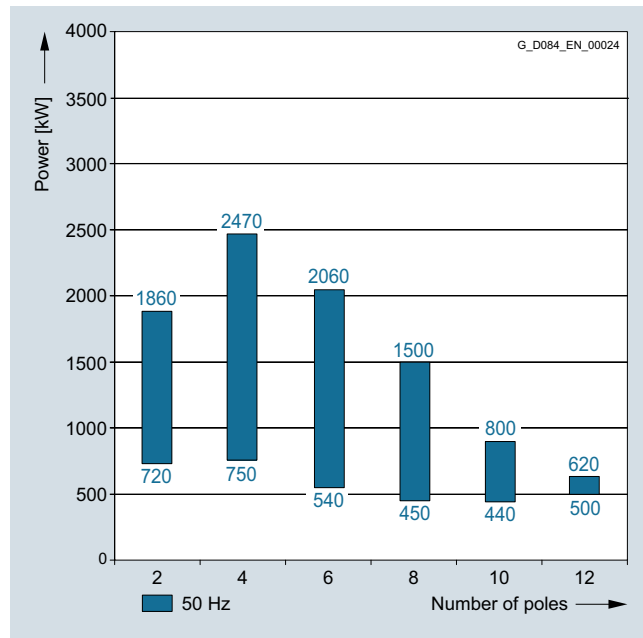
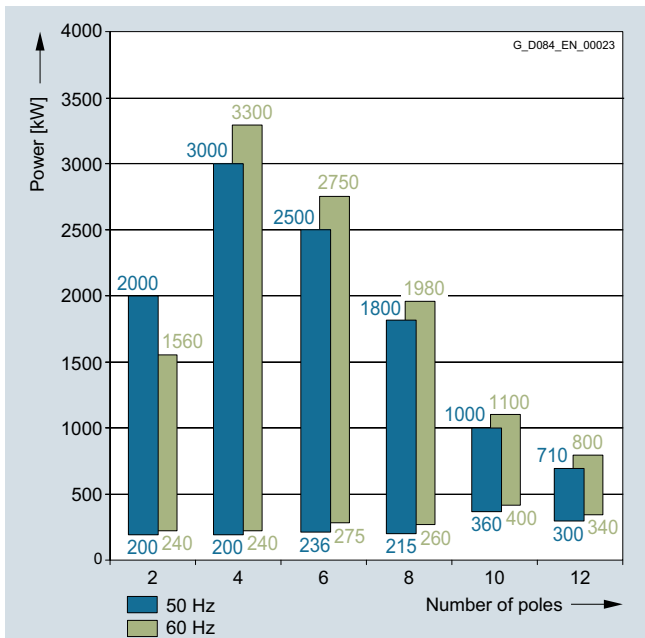
Technical data (continued)

Power range for IEC motors for line operation
(continued)

3.4 to 6.6 kV; 50 and 60 Hz

9 to 11 kV; 50 Hz

2



Selection and ordering data

The 1LA4 data also apply to explosion-protected 1MG4 (Ex px) and 1MS4 (Ex nA) motors.

Rated power IEC kW	High voltage motor H-compact Article No.	Speed rpm	Rated current A	Efficiency		Power factor		Torque Nm	Break- down torque T_B/T_{rated}	Locked- rotor torque T_{LR}/T_{rated}	Locked- rotor current I_{LR}/I_{rated}	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ					Motor kgm ²	External, max. ¹⁾ kgm ²
2.0 ... 6.6 kV, 50 Hz													
2-pole													
200	1LA4 310-2AN	2970	23.5	94.7	94.9	0.87	0.86	643	2.30	0.90	5.0	2.2	28
236	1LA4 312-2AN	2967	27.5	94.5	94.8	0.87	0.85	760	2.30	0.90	5.0	2.2	26
300	1LA4 314-2AN	2972	34.5	95.2	95.4	0.88	0.86	964	2.40	1.05	5.2	2.7	30
355	1LA4 316-2AN	2974	40.5	95.7	95.8	0.88	0.87	1140	2.50	1.10	5.3	3.1	35
400	1LA4 350-2AN	2978	45.5	95.6	95.8	0.88	0.86	1283	2.30	1.05	5.2	4.3	38
450	1LA4 352-2AN	2978	51.0	95.9	96.0	0.88	0.87	1443	2.50	1.20	5.5	4.8	43
500	1LA4 354-2AN	2980	57.0	96.1	96.3	0.88	0.87	1602	2.50	1.20	5.5	5.2	46
560	1LA4 400-2AN	2984	64.0	96.0	96.0	0.88	0.86	1792	2.50	0.85	5.4	7.8	26
650	1LA4 402-2AN	2985	74.0	96.3	96.3	0.88	0.87	2079	2.60	0.90	5.6	8.7	27
750	1LA4 404-2AN	2985	84.0	96.5	96.5	0.89	0.88	2399	2.60	0.95	5.6	9.9	30
820	1LA4 450-2CN	2983	92.0	96.2	96.2	0.89	0.87	2625	2.40	0.80	5.5	17.0	68
940	1LA4 452-2CN	2984	106	96.5	96.4	0.89	0.87	3008	2.50	0.80	5.8	19.0	76
1030	1LA4 454-2CN	2984	114	96.6	96.6	0.90	0.89	3296	2.40	0.75	5.7	21.0	79
1200	1LA4 500-2CN	2985	132	96.7	96.6	0.90	0.89	3839	2.30	0.65	5.3	29.0	93
1300	1LA4 502-2CN	2986	144	96.8	96.7	0.90	0.89	4157	2.30	0.65	5.3	32.0	98
1420 ²⁾	1LA4 504-2CN	2986	154	96.9	96.9	0.91	0.90	4541	2.40	0.70	5.5	35.0	125
1680 ²⁾	1LA4 560-2CN	2990	184	96.9	96.7	0.91	0.90	5365	2.50	0.45	5.4	53.0	104
1900 ²⁾	1LA4 562-2CN	2991	205	97.0	96.9	0.91	0.90	6066	2.60	0.50	5.7	58.0	131
2000 ²⁾	1LA4 564-2CN	2990	220	97.2	97.1	0.91	0.90	6387	2.50	0.45	5	64.0	136
4-pole													
200	1LA4 310-4AN	1480	25.5	93.8	94.0	0.81	0.77	1290	2.30	1.15	5.2	2.8	159
250	1LA4 312-4AN	1480	30.5	94.5	94.8	0.84	0.81	1613	2.30	1.15	5.3	3.5	201
300	1LA4 314-4AN	1480	36.0	94.7	95.0	0.85	0.82	1936	2.40	1.25	5.5	4.0	222
365	1LA4 316-4AN	1481	43.5	95.2	95.5	0.85	0.82	2353	2.40	1.25	5.5	4.8	297
400	1LA4 350-4AN	1485	48.0	95.2	95.4	0.84	0.81	2572	2.50	1.25	5.5	6.0	224
470	1LA4 352-4AN	1484	56.0	95.4	95.6	0.85	0.82	3024	2.35	1.20	5.3	6.9	247
560	1LA4 354-4AN	1485	65.0	95.7	95.9	0.86	0.84	3601	2.40	1.30	5.5	8.1	296
600	1LA4 400-4AN	1489	71.0	95.4	95.4	0.85	0.81	3848	2.60	1.25	5.70	11.6	288
680	1LA4 402-4AN	1489	80.0	95.7	95.6	0.85	0.82	4361	2.60	1.25	5.70	12.9	330
750	1LA4 404-4AN	1489	88.0	95.8	95.7	0.86	0.83	4810	2.65	1.30	5.80	14.5	381
900	1LA4 450-4AN	1489	108	96.0	96.0	0.84	0.82	5772	2.25	0.95	5.20	22.0	438
950	1LA4 452-4AN	1489	112	96.0	96.1	0.85	0.83	6093	2.25	0.95	5.20	24.0	556

Voltage code:

3 kV, 50 Hz
3.3 kV, 50 Hz
5 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

3
0
5
6
7
9

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)

0
4
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

²⁾ Not available for ≤ 3.3 kV.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated}	Locked-rotor torque T_{LR}/T_{rated}	Locked-rotor current I_{LR}/I_{rated}	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
2.0 ... 6.6 kV, 50 Hz														
4-pole (continued)														
1050	1LA4 454-4AN	1489	124	96.2	96.3	0.85	0.83	6734	2.30	0.95	5.25	27.0	653	
1200	1LA4 500-4AN	1492	140	96.5	96.3	0.85	0.83	7680	2.4	0.90	5.5	33.0	447	
1300	1LA4 502-4AN	1492	150	96.6	96.4	0.86	0.84	8320	2.4	0.90	5.5	37.0	538	
1450	1LA4 504-4AN	1492	166	96.7	96.7	0.87	0.86	9280	2.4	0.90	5.5	42.0	628	
1700	1LA4 560-4CN	1494	196	96.7	96.6	0.86	0.83	10866	2.5	0.60	5.5	79.0	551	
1900	1LA4 562-4CN	1494	215	96.9	96.8	0.88	0.85	12144	2.5	0.60	5.5	92.0	698	
2200	1LA4 564-4CN	1494	250	97.2	97.1	0.88	0.86	14061	2.5	0.60	5.5	104.0	761	
2400 ²⁾	1LA4 632-4CN	1494	265	97.3	97.2	0.89	0.87	15341	2.3	0.55	5.5	157.0	845	
2700 ²⁾	1LA4 634-4CN	1495	300	97.4	97.3	0.89	0.87	17184	2.3	0.55	5.5	171.0	940	
3000 ²⁾	1LA4 636-4CN	1495	335	97.5	97.4	0.89	0.87	19164	2.3	0.55	5.5	186.2	1020	
6-pole														
236	1LA4 314-6AN	986	29.5	94.1	94.5	0.82	0.78	2286	2.50	1.25	5.3	5.3	375	
270	1LA4 316-6AN	985	33.5	94.3	94.8	0.82	0.80	2617	2.40	1.25	5.5	6.4	431	
315	1LA4 350-6AN	989	39.0	94.8	95.1	0.82	0.79	3041	2.30	1.10	5.3	10.8	541	
365	1LA4 352-6AN	989	44.5	95.1	95.4	0.83	0.80	3524	2.20	1.10	5.3	12.7	667	
425	1LA4 354-6AN	990	52.0	95.3	95.5	0.82	0.79	4099	2.40	1.25	5.5	15.0	841	
490	1LA4 400-6AN	991	59.0	95.4	95.6	0.84	0.81	4722	2.30	1.05	5.5	21.2	740	
570	1LA4 402-6AN	992	68.0	95.7	95.9	0.84	0.81	5487	2.30	1.10	5.5	24.2	1193	
630	1LA4 404-6AN	991	77.0	95.8	95.9	0.82	0.80	6071	2.40	1.20	5.5	27.3	1233	
700	1LA4 450-6AN	992	84.0	95.8	95.9	0.84	0.81	6738	2.30	1.10	5.4	33.0	1417	
750	1LA4 452-6AN	993	90.0	96.4	96.4	0.84	0.81	7212	2.30	1.10	5.4	37.0	1813	
800	1LA4 454-6AN	993	94.0	96.0	96.1	0.85	0.82	7693	2.30	1.10	5.4	41.0	1789	
1040	1LA4 500-6CN	994	120	96.5	96.6	0.87	0.85	9992	2.10	0.75	5.30	82.0	1668	
1160	1LA4 502-6CN	994	132	96.6	96.7	0.88	0.86	11145	2.10	0.75	5.30	92.0	1858	
1270	1LA4 504-6CN	994	144	96.8	96.9	0.88	0.86	12202	2.15	0.75	5.40	102.0	2048	
1470	1LA4 560-6CN	995	168	96.9	96.9	0.87	0.85	14109	2.25	0.65	5.25	138.0	2105	
1720	1LA4 562-6CN	995	196	97.0	97.1	0.87	0.85	16509	2.25	0.65	5.30	158.0	2470	
1900	1LA4 564-6CN	995	215	97.1	97.2	0.88	0.86	18236	2.30	0.65	5.35	183.0	2890	
2050 ²⁾	1LA4 632-6CN	995	230	97.0	96.8	0.89	0.87	19676	2.3	0.50	5.5	269.1	2230	
2300 ²⁾	1LA4 634-6CN	995	255	97.1	97.0	0.90	0.88	22075	2.3	0.50	5.5	297.4	2450	
2500 ²⁾	1LA4 636-6CN	995	275	97.2	97.1	0.90	0.88	23995	2.3	0.50	5.5	323.0	2680	
8-pole														
215	1LA4 350-8AN	738	27.0	93.8	94.2	0.81	0.78	2782	2.30	1.00	5.1	10.6	826	
250	1LA4 352-8AN	739	31.5	94.0	94.4	0.81	0.78	3230	2.40	1.00	5.3	12.5	986	
300	1LA4 354-8AN	739	38.0	94.2	94.7	0.81	0.78	3876	2.40	1.10	5.3	14.8	1107	
370	1LA4 400-8AN	741	45.5	95.0	95.3	0.82	0.79	4768	2.40	1.05	5.1	21.3	1110	

Voltage code:

3 kV, 50 Hz
3.3 kV, 50 Hz
5 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

3
0
5
6
7
9

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)

0
4
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Not available for ≤ 3.3 kV.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated}	Locked-rotor torque T_{LR}/T_{rated}	Locked-rotor current I_{LR}/I_{rated}	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
2.0 ... 6.6 kV, 50 Hz														
8-pole (continued)														
420	1LA4 402-8AN	741	52.0	95.2	95.5	0.82	0.79	5412	2.40	1.10	5.4	24.4	1402	
465	1LA4 404-8AN	741	57.0	95.2	95.5	0.82	0.79	5992	2.40	1.00	5.4	27.4	1589	
530	1LA4 450-8AN	742	67.0	95.4	95.6	0.80	0.77	6821	2.50	1.00	5.4	34.0	2016	
600	1LA4 452-8AN	742	75.0	95.6	95.7	0.81	0.76	7722	2.50	1.00	5.4	37.0	2563	
670	1LA4 454-8AN	742	83.0	95.7	95.9	0.81	0.78	8622	2.50	1.00	5.4	42.0	2778	
800	1LA4 500-8CN	746	98	96.1	96.1	0.82	0.78	10241	2.15	0.75	5.10	82.0	2820	
850	1LA4 502-8CN	746	106	96.1	96.1	0.81	0.78	10881	2.20	0.80	5.25	92.0	2470	
980	1LA4 504-8CN	746	122	96.2	96.2	0.81	0.78	12546	2.20	0.75	5.20	102.0	3582	
1100	1LA4 560-8CN	746	132	96.4	96.4	0.83	0.80	14082	2.30	0.70	5.10	138.0	3672	
1260	1LA4 562-8CN	746	152	96.6	96.6	0.83	0.81	16130	2.30	0.70	5.05	158.0	4692	
1430	1LA4 564-8CN	746	172	96.7	96.7	0.83	0.80	18306	2.35	0.70	5.20	183.0	4582	
1630 ²⁾	1LA4 634-8CN	746	192	96.7	96.5	0.84	0.81	20867	2.4	0.50	5.5	294.0	4100	
1800 ²⁾	1LA4 636-8CN	746	210	96.8	96.6	0.84	0.81	23043	2.4	0.50	5.5	320.1	4440	
10-pole														
360	1LA4 450-3AN	591	48.5	94.3	94.6	0.76	0.71	5817	2.30	1.00	4.5	34.0	3266	
400	1LA4 452-3AN	591	54.0	94.6	94.9	0.76	0.71	6463	2.30	1.00	4.5	37.0	4063	
450	1LA4 454-3AN	592	60.0	94.8	95.0	0.76	0.71	7259	2.30	1.00	4.5	42.0	4458	
530	1LA4 500-3CN	593	68.0	95.2	95.4	0.79	0.75	8535	2.30	0.95	4.8	82.0	5280	
590	1LA4 502-3CN	593	75.0	95.4	95.6	0.79	0.74	9501	2.30	0.95	4.8	92.0	6200	
650	1LA4 504-3CN	593	83.0	95.5	95.6	0.79	0.74	10467	2.30	0.95	4.8	102.0	6770	
770	1LA4 560-3CN	595	98.0	95.8	95.9	0.79	0.75	12358	2.20	0.75	5.0	138.0	3902	
850	1LA4 562-3CN	596	108	95.9	96.0	0.79	0.75	13619	2.20	0.75	5.0	158.0	4102	
1000	1LA4 564-3CN	595	126	96.1	96.2	0.80	0.75	16049	2.20	0.75	5.0	183.0	5717	
12-pole														
300	1LA4 450-5CN	492	43.0	93.6	93.7	0.72	0.66	5823	2.10	0.75	4.2	34.0	3166	
325	1LA4 452-5CN	492	47.0	93.7	93.7	0.71	0.64	6308	2.10	0.75	4.2	37.0	3063	
350	1LA4 454-5CN	493	45.0	93.8	93.8	0.72	0.65	6779	2.10	0.75	4.2	42.0	3158	
420	1LA4 500-5CN	494	59.0	94.6	94.6	0.72	0.67	8119	2.00	0.65	4.2	82.0	4500	
460	1LA4 502-5CN	494	64.0	94.7	94.7	0.73	0.68	8892	2.00	0.65	4.2	92.0	5360	
500	1LA4 504-5CN	494	71.0	94.7	94.7	0.72	0.67	9665	2.00	0.65	4.2	102.0	4640	
580	1LA4 560-5CN	495	81.0	95.1	95.0	0.72	0.65	11189	2.00	0.65	4.4	138.0	7284	
640	1LA4 562-5CN	495	90.0	95.3	95.1	0.72	0.65	12346	2.00	0.65	4.4	158.0	8862	
710	1LA4 564-5CN	495	99.0	95.4	95.2	0.72	0.65	13697	2.00	0.65	4.4	183.0	10478	

Voltage code:

3 kV, 50 Hz
3.3 kV, 50 Hz
5 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

3
0
5
6
7
9

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)

0
4
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

²⁾ Not available for ≤ 3.3 kV.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
9 ... 11 kV, 50 Hz														
2-pole														
720	1LA4 450-2CN	2983	48.5	95.9	95.9	0.89	0.88	2305	2.30	0.70	5.5	17.0	73	
820	1LA4 452-2CN	2984	55.0	96.2	96.1	0.90	0.88	2624	2.40	0.75	5.7	19.0	81	
900	1LA4 454-2CN	2984	60.0	96.3	96.3	0.90	0.89	2880	2.40	0.75	5.8	21.0	94	
1120	1LA4 500-2CN	2986	75.0	96.4	96.4	0.90	0.89	3582	2.50	0.70	5.6	29.0	102	
1170	1LA4 502-2CN	2987	78.0	96.5	96.5	0.90	0.89	3740	2.50	0.70	5.9	32.0	123	
1290	1LA4 504-2CN	2988	85.0	96.7	96.6	0.91	0.90	4123	2.60	0.75	6.0	35.0	147	
1550	1LA4 560-2CN	2991	102	96.7	96.6	0.91	0.90	4948	2.50	0.50	5.5	53.0	118	
1700	1LA4 562-2CN	2991	112	96.9	96.8	0.91	0.90	5427	2.50	0.50	5.5	58.0	138	
1860	1LA4 564-2CN	2991	122	97.0	96.9	0.91	0.90	5938	2.50	0.50	5.5	64.0	147	
4-pole														
800	1LA4 450-4AN	1489	57	95.6	95.6	0.85	0.83	5131	2.25	0.95	5.15	22.0	528	
850	1LA4 452-4AN	1489	60	95.8	95.8	0.86	0.85	5452	2.25	0.95	5.15	24.0	626	
900	1LA4 454-4AN	1489	63	95.9	96.0	0.86	0.84	5772	2.25	0.95	5.20	27.0	803	
1060	1LA4 500-4AN	1492	74	96.2	96.1	0.86	0.84	6784	2.4	0.90	5.5	33.0	477	
1180	1LA4 502-4AN	1492	82	96.3	96.4	0.86	0.85	7552	2.4	0.90	5.5	37.0	568	
1320	1LA4 504-4AN	1492	91	96.5	96.5	0.87	0.86	8448	2.4	0.90	5.5	42.0	703	
1500	1LA4 560-4CN	1494	104	96.6	96.4	0.86	0.83	9587	2.6	0.60	5.5	79.0	600	
1700	1LA4 562-4CN	1494	116	96.8	96.7	0.88	0.85	10866	2.5	0.60	5.4	92.0	713	
2000	1LA4 564-4CN	1494	136	97.0	96.9	0.88	0.85	12783	2.6	0.60	5.5	104.0	841	
2210	1LA4 634-4CN	1495	148	97.2	97.0	0.89	0.87	14117	2.3	0.5	5.5	171.0	1030	
2470	1LA4 636-4CN	1495	164	97.3	97.2	0.89	0.87	15778	2.3	0.5	5.5	186.2	1120	
6-pole														
540	1LA4 450-6AN	993	38.5	95.3	95.4	0.85	0.82	5193	2.30	1.10	5.4	33.0	947	
590	1LA4 452-6AN	993	42.0	95.4	95.5	0.85	0.82	5674	2.40	1.20	5.5	37.0	843	
630	1LA4 454-6AN	993	45.0	95.5	95.6	0.85	0.83	6058	2.40	1.20	5.5	41.0	1039	
950	1LA4 500-6CN	995	66	96.3	96.5	0.86	0.85	9118	2.10	0.65	5.10	82.0	1018	
1050	1LA4 502-6CN	995	72	96.4	96.7	0.87	0.85	10078	2.10	0.65	5.15	92.0	1158	
1170	1LA4 504-6CN	995	80	96.6	96.8	0.87	0.85	11230	2.20	0.75	5.25	102.0	1298	
1250	1LA4 560-6CN	996	86.0	96.7	96.8	0.87	0.85	11984	2.45	0.65	5.6	138.0	1680	
1450	1LA4 562-6CN	996	99.0	96.8	96.9	0.87	0.85	13902	2.45	0.65	5.6	158.0	2025	
1650	1LA4 564-6CN	996	112	96.9	97.0	0.87	0.85	15819	2.45	0.65	5.6	183.0	2035	
1860	1LA4 634-6CN	995	124	96.5	96.4	0.90	0.88	17852	2.3	0.5	5.5	297.4	1800	
2060	1LA4 636-6CN	995	136	96.7	96.6	0.90	0.88	19772	2.3	0.5	5.5	323.0	2090	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)

0
4
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
9 ... 11 kV, 50 Hz														
8-pole														
450	1LA4 450-8AN	743	34.0	94.8	95.0	0.80	0.76	5783	2.60	1.00	5.5	34.0	1286	
480	1LA4 452-8AN	743	36.0	95.0	95.2	0.81	0.77	6169	2.60	1.00	5.5	37.0	1383	
560	1LA4 454-8AN	743	42.0	95.3	95.4	0.81	0.77	7197	2.60	1.00	5.5	42.0	1788	
700	1LA4 500-8CN	746	52.0	95.8	95.8	0.81	0.77	8960	2.20	0.75	5.5	82.0	1740	
750	1LA4 502-8CN	746	55.0	95.9	95.9	0.82	0.78	9600	2.20	0.75	5.5	92.0	2020	
800	1LA4 504-8CN	746	59.0	96.0	96.0	0.82	0.78	10240	2.20	0.75	5.5	102.0	2240	
950	1LA4 560-8CN	746	70.0	96.2	96.1	0.81	0.77	12160	2.40	0.65	5.3	138.0	2562	
1050	1LA4 562-8CN	746	77.0	96.2	96.2	0.82	0.78	13440	2.40	0.65	5.3	158.0	2282	
1250	1LA4 564-8CN	746	92.0	96.5	96.3	0.81	0.77	16000	2.50	0.70	5.5	183.0	3217	
1350	1LA4 634-8CN	746	96	96.2	96.0	0.84	0.81	17282	2.4	0.50	5.5	294.0	O. R. ²⁾	
1500	1LA4 636-8CN	746	106	96.3	96.1	0.84	0.81	19202	2.4	0.50	5.5	320.1	O. R. ²⁾	
10-pole														
440	1LA4 500-3CN	593	33.5	94.7	95.0	0.80	0.76	7085	2.20	0.85	4.7	82.0	3080	
500	1LA4 502-3CN	593	38.0	95.0	95.2	0.80	0.75	8051	2.20	0.90	4.7	92.0	3770	
530	1LA4 504-3CN	593	40.0	95.1	95.3	0.80	0.75	8535	2.20	0.90	4.7	102.0	4070	
630	1LA4 560-3CN	595	47.5	95.4	95.6	0.80	0.75	10111	2.20	0.75	5.0	138.0	2382	
690	1LA4 562-3CN	596	52.0	95.4	95.6	0.80	0.75	11055	2.20	0.80	5.1	158.0	2317	
800	1LA4 564-3CN	596	61.0	95.6	95.7	0.79	0.75	12817	2.25	0.80	5.2	183.0	2807	
12-pole														
500	1LA4 560-5CN	496	43.0	94.8	94.6	0.71	0.65	9626	2.00	0.65	4.4	138.0	4655	
560	1LA4 562-5CN	496	48.0	95.0	94.8	0.71	0.64	10781	2.00	0.65	4.4	158.0	5533	
620	1LA4 564-5CN	496	52.0	95.1	94.9	0.72	0.65	11936	2.00	0.65	4.4	183.0	5774	

Voltage code:

10 kV, 50 Hz
Other voltage8
9

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)0
4
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.

Higher pole numbers are available on request.

1) Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

2) On request.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Selection and ordering data

The 1LA4 data also apply to explosion-protected 1MG4 (Ex px) and 1MS4 (Ex nA) motors.

Rated power IEC kW	High voltage motor H-compact Article No.	Speed rpm	Rated current A	Efficiency			Power factor		Torque Nm	Break- down torque T_B/T_{rated}	Locked- rotor torque T_{LR}/T_{rated}	Locked- rotor current I_{LR}/I_{rated}	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load %	3/4 load %	Motor kgm ²					Exter- nal, max. 1) kgm ²	
2.0 ... 6.6 kV, 60 Hz														
2-pole														
240	1LA4 310-2AN	3572	40.5	94.7	94.7	0.87	0.86	642	2.3	0.95	5.0	2.2	18	
285	1LA4 312-2AN	3569	48.0	94.7	94.7	0.87	0.85	763	2.2	0.85	5.0	2.2	16	
350	1LA4 314-2AN	3572	59.0	95.2	95.2	0.87	0.86	936	2.4	1.00	5.3	2.7	18	
410	1LA4 316-2AN	3574	68.0	95.6	95.6	0.88	0.87	1095	2.5	1.10	5.4	3.1	26	
460	1LA4 350-2AN	3578	76.0	95.6	95.6	0.88	0.86	1228	2.5	1.05	5.4	4.3	25	
510	1LA4 352-2AN	3580	84.0	95.9	95.8	0.88	0.87	1360	2.6	1.20	5.6	4.8	29	
560	1LA4 354-2AN	3579	91.0	96.0	96.0	0.89	0.88	1494	2.5	1.25	5.6	5.2	31	
630	1LA4 400-2AN	3583	104	95.9	95.6	0.88	0.87	1679	2.3	0.80	5.3	7.8	14	
730	1LA4 402-2AN	3585	120	96.1	95.9	0.88	0.87	1944	2.5	0.85	5.5	8.7	16	
830	1LA4 404-2AN	3585	134	96.3	96.1	0.89	0.88	2211	2.6	0.90	5.5	9.9	19	
920	1LA4 450-2CN	3583	150	96.1	95.8	0.89	0.88	2452	2.40	0.70	5.5	17.0	43	
1000	1LA4 452-2CN	3584	160	96.2	95.8	0.90	0.88	2664	2.45	0.70	5.7	19.0	46	
1140	1LA4 454-2CN	3585	182	96.6	96.4	0.90	0.88	3037	2.55	0.75	5.9	21.0	54	
1330 ²⁾	1LA4 500-2CN	3586	215	96.3	95.9	0.90	0.89	3542	2.4	0.65	5.5	29.0	52	
1380 ²⁾	1LA4 502-2CN	3586	220	96.3	96.0	0.91	0.90	3675	2.4	0.65	5.5	32.0	58	
1560 ²⁾	1LA4 504-2CN	3586	245	96.7	96.3	0.91	0.90	4154	2.5	0.70	5.6	35.0	72	
4-pole														
240	1LA4 310-4AN	1780	44.5	93.8	93.7	0.80	0.76	1288	2.40	1.15	5.3	2.8	104	
300	1LA4 312-4AN	1780	52.0	94.6	94.6	0.84	0.81	1609	2.30	1.20	5.2	3.5	133	
360	1LA4 314-4AN	1780	62.0	94.9	95.0	0.85	0.82	1931	2.30	1.25	5.3	4.0	145	
440	1LA4 316-4AN	1780	75.0	95.3	95.4	0.85	0.82	2360	2.40	1.30	5.5	4.8	200	
470	1LA4 350-4AN	1783	81.0	95.2	95.2	0.85	0.83	2517	2.30	1.15	5.2	6.0	144	
550	1LA4 352-4AN	1783	93.0	95.5	95.5	0.86	0.84	2946	2.20	1.15	5.2	6.9	159	
640	1LA4 354-4AN	1784	106	95.6	95.6	0.87	0.85	3426	2.30	1.20	5.5	8.1	195	
680	1LA4 400-4AN	1788	116	95.1	94.8	0.86	0.83	3632	2.55	1.20	5.80	11.6	174	
750	1LA4 402-4AN	1788	126	95.4	95.2	0.87	0.84	4006	2.55	1.25	5.80	12.9	206	
830	1LA4 404-4AN	1789	138	96.6	95.3	0.87	0.85	4431	2.55	1.20	5.90	14.5	243	
1000	1LA4 450-4AN	1789	172	95.6	95.1	0.84	0.82	5338	2.40	0.95	5.25	22.0	298	

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)

0
4
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Not available for ≤ 3.3 kV.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated}	Locked-rotor torque T_{LR}/T_{rated}	Locked-rotor current I_{LR}/I_{rated}	Moment of inertia	
			I_{rated} at 4.16 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
2.0 ... 6.6 kV, 60 Hz														
4-pole (continued)														
1050	1LA4 452-4AN	1789	178	95.7	95.4	0.86	0.84	5605	2.30	0.95	5.20	24.0	366	
1150	1LA4 454-4AN	1789	194	95.9	95.6	0.86	0.84	6139	2.30	0.95	5.25	27.0	443	
1350	1LA4 500-4AN	1792	230	96.1	95.8	0.85	0.83	7194	2.40	0.90	5.5	33.0	277	
1450	1LA4 502-4AN	1792	245	96.2	95.9	0.86	0.84	7727	2.40	0.90	5.5	37.0	348	
1600	1LA4 504-4AN	1792	260	96.3	96.2	0.88	0.86	8526	2.40	0.90	5.5	42.0	413	
1870	1LA4 560-4CN	1794	315	96.4	96.0	0.86	0.84	9954	2.50	0.55	5.5	79.0	356	
2090	1LA4 562-4CN	1794	345	96.6	96.3	0.87	0.84	11125	2.60	0.60	5.6	92.0	458	
2350	1LA4 564-4CN	1794	385	96.8	96.6	0.88	0.85	12508	2.60	0.60	5.6	104.0	540	
2640 ²⁾	1LA4 632-4CN	1793	425	96.9	96.7	0.89	0.87	14068	2.3	0.55	5.5	157.0	O. R. ³⁾	
2970 ²⁾	1LA4 634-4CN	1794	475	97.1	96.9	0.89	0.87	15758	2.3	0.55	5.5	171.0	O. R. ³⁾	
3300 ²⁾	1LA4 636-4CN	1794	530	97.3	97.1	0.89	0.87	17573	2.3	0.55	5.5	186.2	O. R. ³⁾	
6-pole														
275	1LA4 314-6AN	1184	49.0	94.3	94.5	0.83	0.80	2218	2.40	1.20	5.2	5.3	247	
325	1LA4 316-6AN	1185	58.0	94.7	95.0	0.82	0.80	2619	2.40	1.20	5.5	6.4	360	
380	1LA4 350-6AN	1190	68.0	95.1	95.1	0.82	0.79	3049	2.40	1.15	5.3	10.8	498	
430	1LA4 352-6AN	1190	75.0	95.3	95.4	0.83	0.80	3450	2.20	1.10	5.5	12.7	615	
510	1LA4 354-6AN	1189	90.0	95.5	95.6	0.82	0.80	4096	2.30	1.15	5.5	15.0	689	
560	1LA4 400-6AN	1192	98.0	95.6	95.5	0.83	0.80	4486	2.50	1.10	5.5	21.2	740	
670	1LA4 402-6AN	1192	116	95.8	95.8	0.83	0.81	5367	2.40	1.10	5.5	24.2	780	
690	1LA4 404-6AN	1191	120	95.8	95.8	0.83	0.82	5532	2.30	1.10	5.5	27.3	925	
800	1LA4 450-6AN	1192	138	95.8	95.7	0.84	0.81	6409	2.30	1.10	5.4	33.0	947	
850	1LA4 452-6AN	1192	144	95.9	95.9	0.85	0.83	6809	2.30	1.10	5.4	37.0	1083	
900	1LA4 454-6AN	1192	154	96.0	96.0	0.85	0.83	7210	2.30	1.10	5.4	41.0	1489	
1160	1LA4 500-6CN	1195	192	96.5	96.6	0.87	0.86	9270	2.10	0.75	5.30	82.0	1168	
1290	1LA4 502-6CN	1195	210	96.7	96.7	0.88	0.86	10309	2.15	0.75	5.35	92.0	1308	
1380	1LA4 504-6CN	1195	225	96.8	96.8	0.88	0.86	11028	2.15	0.75	5.40	102.0	1598	
1570	1LA4 560-6CN	1195	260	96.7	96.7	0.87	0.86	12547	2.20	0.60	5.15	138.0	1425	
1870	1LA4 562-6CN	1195	310	97.0	96.9	0.87	0.85	14944	2.25	0.65	5.30	158.0	1640	
2050	1LA4 564-6CN	1195	335	97.1	97.1	0.88	0.86	16383	2.25	0.60	5.25	183.0	1980	
2255 ²⁾	1LA4 632-6CN	1194	360	96.8	96.6	0.89	0.87	18043	2.3	0.50	5.5	269.1	O. R. ³⁾	
2530 ²⁾	1LA4 634-6CN	1194	400	96.9	96.7	0.90	0.88	20243	2.3	0.50	5.5	297.4	O. R. ³⁾	
2750 ²⁾	1LA4 636-6CN	1194	435	97.0	96.9	0.90	0.88	22003	2.3	0.50	5.5	323.0	O. R. ³⁾	

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage4
1
9

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)0
4
8

1) Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

2) Not available for ≤ 3.3 kV.

3) On request.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated}	Locked-rotor torque T_{LR}/T_{rated}	Locked-rotor current I_{LR}/I_{rated}	Moment of inertia	
			I_{rated} at 4.16 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
2.0 ... 6.6 kV, 60 Hz														
8-pole														
260	1LA4 350-8AN	889	47.5	94.2	94.4	0.81	0.78	2793	2.30	0.95	5.1	10.6	683	
300	1LA4 352-8AN	889	54.0	94.5	94.6	0.81	0.78	3222	2.40	1.00	5.2	12.5	824	
360	1LA4 354-8AN	890	65.0	94.7	94.9	0.81	0.78	3863	2.50	1.05	5.4	14.8	879	
445	1LA4 400-8AN	892	80.0	95.3	95.3	0.81	0.79	4764	2.40	1.05	5.3	21.3	1044	
490	1LA4 402-8AN	891	86.0	95.3	95.3	0.83	0.80	5251	2.30	1.00	5.2	24.4	1069	
540	1LA4 404-8AN	892	96.0	95.6	95.6	0.82	0.80	5781	2.40	1.05	5.4	27.4	1446	
600	1LA4 450-8AN	891	108	95.4	95.5	0.81	0.78	6430	2.50	1.00	5.4	34.0	1466	
670	1LA4 452-8AN	892	120	95.6	95.7	0.81	0.76	7172	2.60	1.00	5.5	37.0	1843	
770	1LA4 454-8AN	892	138	95.8	95.9	0.81	0.78	8243	2.60	1.00	5.5	42.0	1958	
900	1LA4 500-8CN	896	160	96.1	95.9	0.81	0.77	9593	2.35	0.75	5.25	82.0	2290	
950	1LA4 502-8CN	896	170	96.1	96.0	0.81	0.78	10126	2.20	0.70	5.25	92.0	2050	
1040	1LA4 504-8CN	896	182	96.2	96.2	0.82	0.81	11085	2.10	0.70	5.10	102.0	2290	
1250	1LA4 560-8CN	896	220	96.4	96.2	0.82	0.78	13323	2.50	0.70	5.30	138.0	2487	
1400	1LA4 562-8CN	896	240	96.6	96.5	0.83	0.81	14922	2.30	0.65	5.10	158.0	3012	
1530	1LA4 564-8CN	896	265	96.7	96.5	0.83	0.79	16307	2.55	0.70	5.40	183.0	3687	
1793 ²⁾	1LA4 634-8CN	895	305	96.5	96.1	0.84	0.81	19135	2.4	0.50	5.5	294.0	O. R. ³⁾	
1980 ²⁾	1LA4 636-8CN	895	340	96.7	96.2	0.84	0.81	21130	2.4	0.50	5.5	320.1	O. R. ³⁾	
10-pole														
400	1LA4 450-3AN	711	77.0	94.5	94.7	0.76	0.73	5372	2.20	1.00	4.8	34.0	2416	
450	1LA4 452-3AN	711	87.0	94.7	94.8	0.76	0.72	6044	2.30	1.00	4.8	37.0	2513	
500	1LA4 454-3AN	711	96.0	94.8	95.0	0.76	0.73	6715	2.30	1.00	4.8	42.0	2488	
610	1LA4 500-3CN	713	112	95.4	95.5	0.79	0.75	8170	2.20	0.90	4.8	82.0	3700	
670	1LA4 502-3CN	713	124	95.4	95.6	0.79	0.75	8973	2.20	0.90	4.8	92.0	4170	
710	1LA4 504-3CN	714	132	95.6	95.5	0.78	0.74	9496	2.40	0.95	5.1	102.0	4840	
870	1LA4 560-3CN	715	160	95.9	95.9	0.79	0.74	11619	2.30	0.75	5.1	138.0	2862	
950	1LA4 562-3CN	716	176	96.0	95.9	0.78	0.73	12670	2.50	0.80	5.5	158.0	3377	
1100	1LA4 564-3CN	716	200	96.1	96.1	0.79	0.75	14670	2.30	0.75	5.3	183.0	3517	
12-pole														
340	1LA4 450-5CN	593	71.0	94.0	93.8	0.71	0.64	5475	2.00	0.70	4.3	34.0	2286	
375	1LA4 452-5CN	592	78.0	94.2	94.1	0.71	0.66	6049	2.00	0.70	4.3	37.0	2723	
410	1LA4 454-5CN	592	84.0	94.2	94.1	0.72	0.66	6613	2.00	0.70	4.3	42.0	2428	
460	1LA4 500-5CN	595	95.0	94.6	94.4	0.71	0.65	7382	2.00	0.65	4.2	82.0	3200	
500	1LA4 502-5CN	594	102	94.8	94.7	0.72	0.67	8038	2.00	0.65	4.2	92.0	3880	
540	1LA4 504-5CN	594	110	94.9	94.8	0.72	0.67	8681	2.00	0.65	4.2	102.0	3850	
650	1LA4 560-5CN	595	134	95.2	94.9	0.71	0.64	10432	2.00	0.65	4.4	138.0	5636	
710	1LA4 562-5CN	596	144	95.3	95.0	0.72	0.65	11375	2.00	0.65	4.4	158.0	6123	
800	1LA4 564-5CN	596	164	95.4	95.1	0.71	0.65	12817	2.00	0.65	4.4	183.0	7377	

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)

0
4
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.

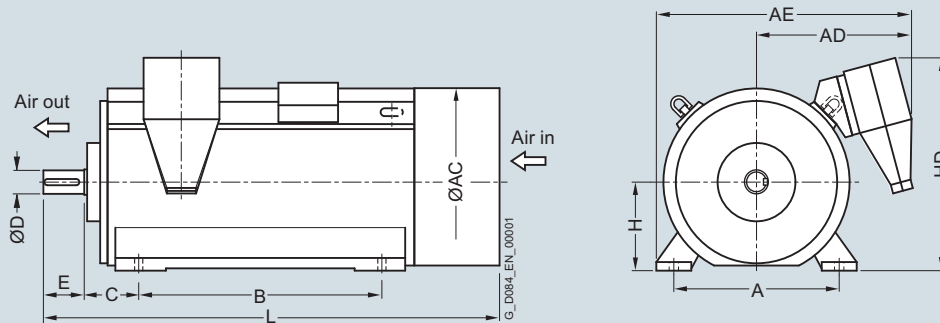
Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Not available for ≤ 3.3 kV.

³⁾ On request.

Dimension drawings



Motor type	Weight kg	Dimensions										
		A	AC	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ²⁾	L
Up to 6.6 kV, IM B3 type of construction, roller bearings ³⁾												
2-pole												
1LA4 310-2AN.0	1550	610	700	710	1075	710	200	70	105	315	860	1590
1LA4 312-2AN.0	1550	610	700	710	1075	710	200	70	105	315	860	1590
1LA4 314-2AN.0	1850	610	700	710	1075	900	200	70	105	315	860	1790
1LA4 316-2AN.0	2000	610	700	710	1075	900	200	70	105	315	860	1790
1LA4 350-2AN.0	2300	686	780	740	1155	1000	224	75	105	355	930	1930
1LA4 352-2AN.0	2400	686	780	740	1155	1000	224	75	105	355	930	1930
1LA4 354-2AN.0	2550	686	780	740	1155	1000	224	75	105	355	930	1930
1LA4 400-2AN.0	3150	750	870	775	1225	1120	254	85	130	400	1010	2095
1LA4 402-2AN.0	3300	750	870	775	1225	1120	254	85	130	400	1010	2095
1LA4 404-2AN.0	3550	750	870	775	1225	1120	254	85	130	400	1010	2095
1LA4 450-2CN.0 ⁴⁾	4600	850	960	825	1340	1250	280	95	130	450	1100	2320
1LA4 452-2CN.0 ⁴⁾	4900	850	960	825	1340	1250	280	95	130	450	1100	2320
1LA4 454-2CN.0 ⁴⁾	5200	850	960	825	1340	1250	280	95	130	450	1100	2320
4-pole												
1LA4 310-4AN.0	1500	610	700	710	1075	710	200	90	130	315	860	1610
1LA4 312-4AN.0	1650	610	700	710	1075	710	200	90	130	315	860	1610
1LA4 314-4AN.0	1900	610	700	710	1075	900	200	90	130	315	860	1810
1LA4 316-4AN.0	2050	610	700	710	1075	900	200	90	130	315	860	1810
1LA4 350-4AN.0	2350	686	780	740	1155	1000	224	100	165	355	930	1985
1LA4 352-4AN.0	2550	686	780	740	1155	1000	224	100	165	355	930	1985
1LA4 354-4AN.0	2750	686	780	740	1155	1000	224	100	165	355	930	1985
1LA4 400-4AN.0	3400	750	870	775	1225	1120	254	120	165	400	1010	2125
1LA4 402-4AN.0	3600	750	870	775	1225	1120	254	120	165	400	1010	2125
1LA4 404-4AN.0	3800	750	870	775	1225	1120	254	120	165	400	1010	2125
1LA4 450-4AN.0	4700	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 452-4AN.0	5000	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 454-4AN.0	5300	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 500-4AN.0	5900	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 502-4AN.0	6300	950	1070	875	1440	1320	315	140	200	500	1200	2525

¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 140 mm (for H = 500), by + 145 mm (for H = 560) or by + 155 mm (for H = 630).

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 70 mm.

³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

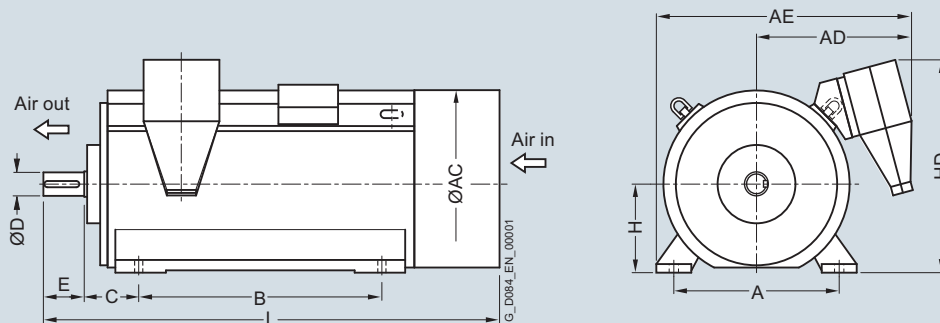
⁴⁾ Roller bearings only for 50 Hz operation.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		A	AC	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ²⁾	L
Up to 6.6 kV, IM B3 type of construction, roller bearings ³⁾												
4-pole												
1LA4 504-4AN.0	6800	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 560-4CN.0	8200	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 562-4CN.0	8900	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 564-4CN.0	9700	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 632-4CN.0 ⁴⁾	12200	1120	1350	945	1560	1600	335	170	240	630	1410	3015
1LA4 634-4CN.0 ⁴⁾	12800	1120	1350	945	1560	1600	335	170	240	630	1410	3015
1LA4 636-4CN.0 ⁴⁾	13600	1120	1350	945	1560	1600	335	170	240	630	1410	3015
6-pole												
1LA4 314-6AN.0	1950	610	700	710	1075	900	200	90	130	315	860	1810
1LA4 316-6AN.0	2150	610	700	710	1075	900	200	90	130	315	860	1810
1LA4 350-6AN.0	2400	686	780	740	1155	1000	224	100	165	355	930	1985
1LA4 352-6AN.0	2600	686	780	740	1155	1000	224	100	165	355	930	1985
1LA4 354-6AN.0	2850	686	780	740	1155	1000	224	100	165	355	930	1985
1LA4 400-6AN.0	3500	750	870	775	1225	1120	254	120	165	400	1010	2125
1LA4 402-6AN.0	3750	750	870	775	1225	1120	254	120	165	400	1010	2125
1LA4 404-6AN.0	4000	750	870	775	1225	1120	254	120	165	400	1010	2125
1LA4 450-6AN.0	4600	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 452-6AN.0	4900	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 454-6AN.0	5200	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 500-6CN.0	6400	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 502-6CN.0	6800	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 504-6CN.0	7300	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 560-6CN.0	8500	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 562-6CN.0	9300	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 564-6CN.0	10100	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 632-6CN.0	12700	1120	1350	945	1560	1600	335	180	240	630	1410	3015
1LA4 634-6CN.0	13400	1120	1350	945	1560	1600	335	180	240	630	1410	3015
1LA4 636-6CN.0	14100	1120	1350	945	1560	1600	335	180	240	630	1410	3015

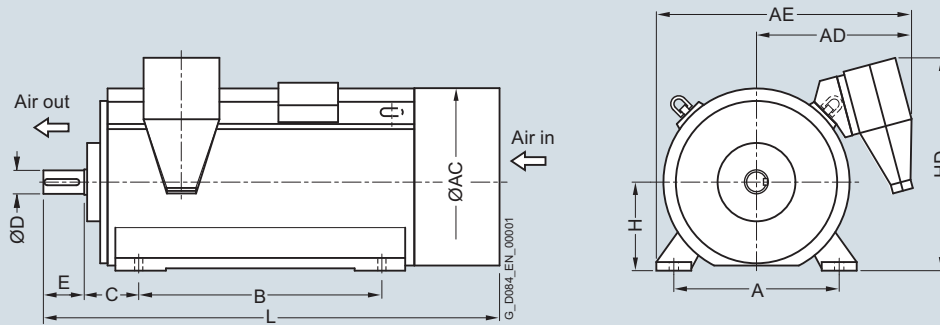
¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 140 mm (for H = 500), by + 145 mm (for H = 560) or by + 155 mm (for H = 630).

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 70 mm.

³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

⁴⁾ Roller bearings only for 50 Hz operation.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		A	AC	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ²⁾	L
Up to 6.6 kV, IM B3 type of construction, roller bearings³⁾												
8-pole												
1LA4 350-8AN.0	2400	686	780	740	1155	1000	224	100	165	355	930	1985
1LA4 352-8AN.0	2600	686	780	740	1155	1000	224	100	165	355	930	1985
1LA4 354-8AN.0	2800	686	780	740	1155	1000	224	100	165	355	930	1985
1LA4 400-8AN.0	3450	750	870	775	1225	1120	254	120	165	400	1010	2125
1LA4 402-8AN.0	3700	750	870	775	1225	1120	254	120	165	400	1010	2125
1LA4 404-8AN.0	3950	750	870	775	1225	1120	254	120	165	400	1010	2125
1LA4 450-8AN.0	4600	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 452-8AN.0	4900	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 454-8AN.0	5200	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 500-8CN.0	6400	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 502-8CN.0	6700	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 504-8CN.0	7200	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 560-8CN.0	8500	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 562-8CN.0	9200	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 564-8CN.0	10000	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 634-8CN.0	13300	1120	1350	945	1560	1600	335	180	240	630	1410	3015
1LA4 636-8CN.0	14000	1120	1350	945	1560	1600	335	180	240	630	1410	3015
10-pole												
1LA4 450-3AN.0	4600	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 452-3AN.0	4900	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 454-3AN.0	5200	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 500-3CN.0	6400	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 502-3CN.0	6700	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 504-3CN.0	7200	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 560-3CN.0	8500	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 562-3CN.0	9200	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 564-3CN.0	10000	1060	1210	925	1560	1400	335	160	240	560	1310	2775

¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 140 mm (for H = 500), by + 145 mm (for H = 560) or by + 155 mm (for H = 630).

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 70 mm.

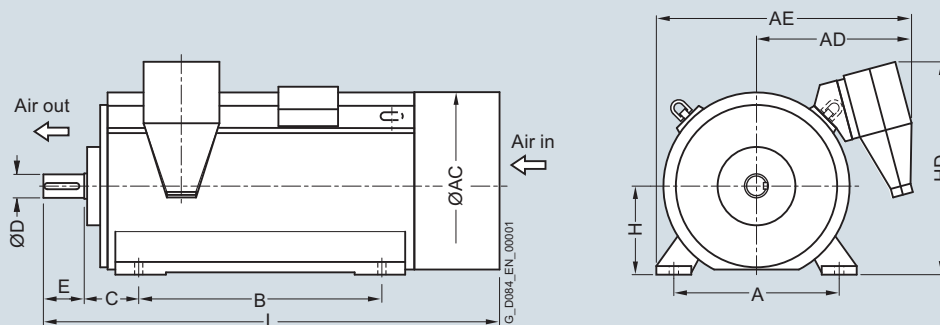
³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		A	AC	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ²⁾	L
Up to 6.6 kV, IM B3 type of construction, roller bearings³⁾												
12-pole												
1LA4 450-5CN.0	4600	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 452-5CN.0	4900	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 454-5CN.0	5200	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4 500-5CN.0	6400	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 502-5CN.0	6700	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 504-5CN.0	7200	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4 560-5CN.0	8500	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 562-5CN.0	9200	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4 564-5CN.0	10000	1060	1210	925	1560	1400	335	160	240	560	1310	2775

Note:

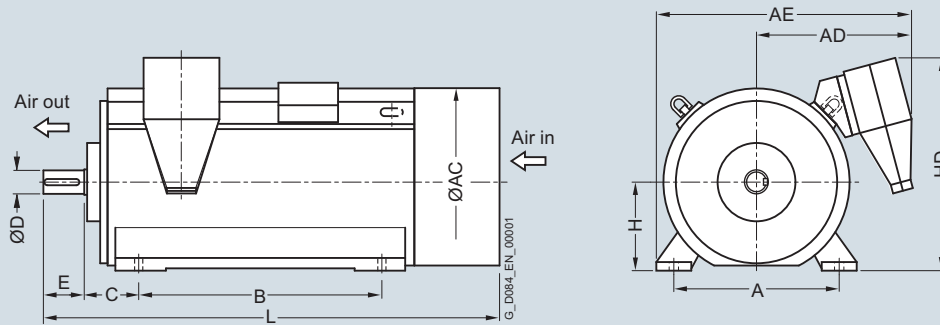
Higher pole numbers are available on request.

¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 140 mm (for H = 500), by + 145 mm (for H = 560) or by + 155 mm (for H = 630).

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 70 mm.

³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

Dimension drawings



Motor type	Weight kg	Dimensions										
		A mm	AC mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings¹⁾												
2-pole												
1LA4 450-2CN.0 ²⁾	4600	850	960	970	1485	1250	280	95	130	450	1170	2320
1LA4 452-2CN.0 ²⁾	4900	850	960	970	1485	1250	280	95	130	450	1170	2320
1LA4 454-2CN.0 ²⁾	5200	850	960	970	1485	1250	280	95	130	450	1170	2320
4-pole												
1LA4 450-4AN.0	4600	850	960	970	1485	1250	280	130	200	450	1170	2390
1LA4 452-4AN.0	4900	850	960	970	1485	1250	280	130	200	450	1170	2390
1LA4 454-4AN.0	5200	850	960	970	1485	1250	280	130	200	450	1170	2390
1LA4 500-4AN.0	5900	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 502-4AN.0	6200	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 504-4AN.0	6700	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 560-4CN.0	8100	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 562-4CN.0	8800	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 564-4CN.0	9600	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 634-4CN.0 ²⁾	12800	1120	1350	1100	1675	1600	335	170	240	630	1480	3015
1LA4 636-4CN.0 ²⁾	13600	1120	1350	1100	1675	1600	335	170	240	630	1480	3015
6-pole												
1LA4 450-6AN.0	4600	850	960	970	1485	1250	280	130	200	450	1170	2390
1LA4 452-6AN.0	4800	850	960	970	1485	1250	280	130	200	450	1170	2390
1LA4 454-6AN.0	5200	850	960	970	1485	1250	280	130	200	450	1170	2390
1LA4 500-6CN.0	6300	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 502-6CN.0	6800	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 504-6CN.0	7200	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 560-6CN.0	8500	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 562-6CN.0	9100	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 564-6CN.0	10000	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 634-6CN.0	13400	1120	1350	1100	1675	1600	335	180	240	630	1480	3015
1LA4 636-6CN.0	14100	1120	1350	1100	1675	1600	335	180	240	630	1480	3015

¹⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

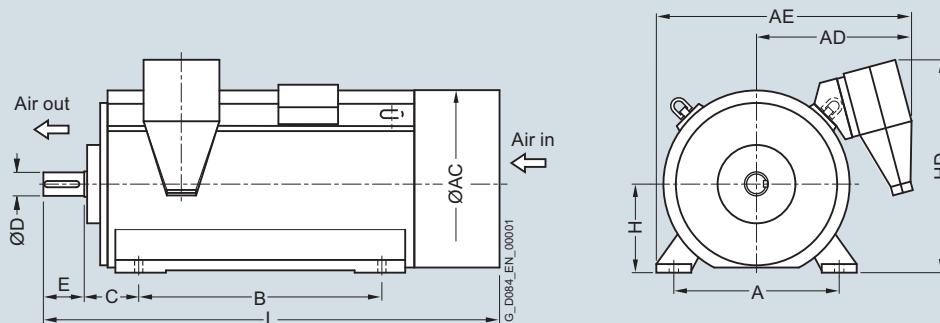
²⁾ Roller bearings only for 50 Hz operation.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		A mm	AC mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, roller bearings¹⁾

8-pole

1LA4 450-8AN.0	4600	850	960	970	1485	1250	280	130	200	450	1170	2390
1LA4 452-8AN.0	4800	850	960	970	1485	1250	280	130	200	450	1170	2390
1LA4 454-8AN.0	5200	850	960	970	1485	1250	280	130	200	450	1170	2390
1LA4 500-8CN.0	6300	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 502-8CN.0	6700	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 504-8CN.0	7100	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 560-8CN.0	8400	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 562-8CN.0	9100	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 564-8CN.0	10000	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 634-8CN.0	13300	1120	1350	1100	1675	1600	335	180	240	630	1480	3015
1LA4 636-8CN.0	14000	1120	1350	1100	1675	1600	335	180	240	630	1480	3015

10-pole

1LA4 500-3CN.0	6300	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 502-3CN.0	6700	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 504-3CN.0	7100	950	1070	1015	1580	1320	315	140	200	500	1270	2525
1LA4 560-3CN.0	8400	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 562-3CN.0	9100	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 564-3CN.0	10000	1060	1210	1070	1705	1400	335	160	240	560	1380	2775

12-pole

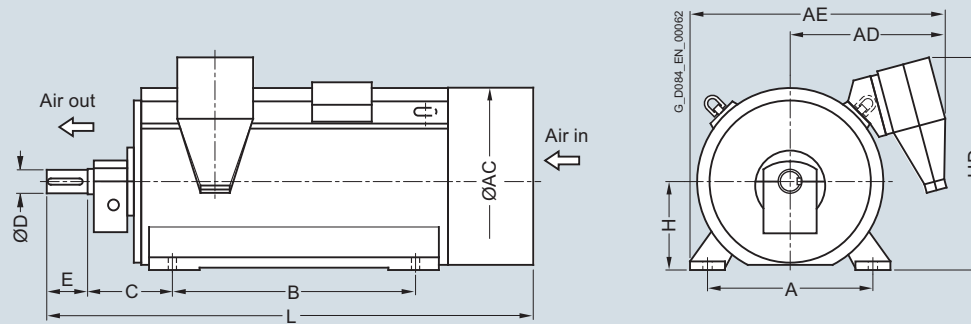
1LA4 560-5CN.0	8400	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 562-5CN.0	9100	1060	1210	1070	1705	1400	335	160	240	560	1380	2775
1LA4 564-5CN.0	10000	1060	1210	1070	1705	1400	335	160	240	560	1380	2775

Note:

Higher pole numbers are available on request.

¹⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

Dimension drawings



Motor type	Weight kg	Dimensions										
		A	AC	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ²⁾	L
Up to 6.6 kV, IM B3 type of construction, sleeve bearings³⁾												
2-pole												
1LA4 310-2AN.0-Z K96	1650	610	700	710	1075	710	375	70	105	315	860	1980
1LA4 312-2AN.0-Z K96	1650	610	700	710	1075	710	375	70	105	315	860	1980
1LA4 314-2AN.0-Z K96	1950	610	700	710	1075	900	375	70	105	315	860	2180
1LA4 316-2AN.0-Z K96	2100	610	700	710	1075	900	375	70	105	315	860	2180
1LA4 350-2AN.0-Z K96	2400	686	780	740	1155	1000	400	75	105	355	930	2340
1LA4 352-2AN.0-Z K96	2500	686	780	740	1155	1000	400	75	105	355	930	2340
1LA4 354-2AN.0-Z K96	2600	686	780	740	1155	1000	400	75	105	355	930	2340
1LA4 400-2AN.0-Z K96	3200	750	870	775	1225	1120	425	85	130	400	1010	2510
1LA4 402-2AN.0-Z K96	3350	750	870	775	1225	1120	425	85	130	400	1010	2510
1LA4 404-2AN.0-Z K96	3600	750	870	775	1225	1120	425	85	130	400	1010	2510
1LA4 450-2CN.0-Z K96 ⁴⁾	4700	850	960	825	1340	1250	475	95	130	450	1100	2515
1LA4 452-2CN.0-Z K96 ⁴⁾	5000	850	960	825	1340	1250	475	95	130	450	1100	2515
1LA4 454-2CN.0-Z K96 ⁴⁾	5200	850	960	825	1340	1250	475	95	130	450	1100	2515
1LA4 500-2CN.0	6100	950	1070	875	1440	1320	500	110	165	500	1200	2675
1LA4 502-2CN.0	6300	950	1070	875	1440	1320	500	110	165	500	1200	2675
1LA4 504-2CN.0	6700	950	1070	875	1440	1320	500	110	165	500	1200	2675
1LA4 560-2CN.0	8200	1060	1210	925	1560	1400	500	120	165	560	1310	2865
1LA4 562-2CN.0	8600	1060	1210	925	1560	1400	500	120	165	560	1310	2865
1LA4 564-2CN.0	9100	1060	1210	925	1560	1400	500	120	165	560	1310	2865
4-pole												
1LA4 310-4AN.0-Z K96	1600	610	700	710	1075	710	375	90	130	315	860	2010
1LA4 312-4AN.0-Z K96	1750	610	700	710	1075	710	375	90	130	315	860	2010
1LA4 314-4AN.0-Z K96	2000	610	700	710	1075	900	375	90	130	315	860	2210
1LA4 316-4AN.0-Z K96	2150	610	700	710	1075	900	375	90	130	315	860	2210
1LA4 350-4AN.0-Z K96	2450	686	780	740	1155	1000	400	100	165	355	930	2400
1LA4 352-4AN.0-Z K96	2600	686	780	740	1155	1000	400	100	165	355	930	2400
1LA4 354-4AN.0-Z K96	2850	686	780	740	1155	1000	400	100	165	355	930	2400
1LA4 400-4AN.0-Z K96	3450	750	870	775	1225	1120	450	120	165	400	1010	2570
1LA4 402-4AN.0-Z K96	3650	750	870	775	1225	1120	450	120	165	400	1010	2570

¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 140 mm (for H = 500), by + 145 mm (for H = 560) or by + 155 mm (for H = 630).

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 70 mm.

³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

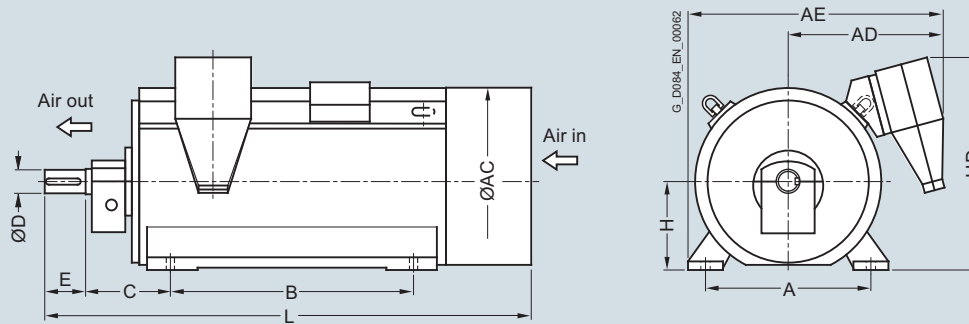
⁴⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		A	AC	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ²⁾	L
Up to 6.6 kV, IM B3 type of construction, sleeve bearings³⁾												
4-pole												
1LA4 404-4AN.0-Z K96	3850	750	870	775	1225	1120	450	120	165	400	1010	2570
1LA4 450-4AN.0-Z K96	4800	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 452-4AN.0-Z K96	5100	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 454-4AN.0-Z K96	5400	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 500-4AN.0-Z K96	6100	950	1070	875	1440	1320	500	140	200	500	1200	2870
1LA4 502-4AN.0-Z K96	6500	950	1070	875	1440	1320	500	140	200	500	1200	2870
1LA4 504-4AN.0-Z K96	7000	950	1070	875	1440	1320	500	140	200	500	1200	2870
1LA4 560-4CN.0-Z K96	8500	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 562-4CN.0-Z K96	9200	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 564-4CN.0-Z K96	10000	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 632-4CN.0-Z K96 ⁴⁾	12500	1120	1350	945	1560	1600	560	170	240	630	1410	3450
1LA4 634-4CN.0-Z K96 ⁴⁾	13100	1120	1350	945	1560	1600	560	170	240	630	1410	3450
1LA4 636-4CN.0-Z K96 ⁴⁾	13900	1120	1350	945	1560	1600	560	170	240	630	1410	3450
6-pole												
1LA4 450-6AN.0-Z K96	4800	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 452-6AN.0-Z K96	5000	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 454-6AN.0-Z K96	5300	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 500-6CN.0-Z K96	6600	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 502-6CN.0-Z K96	7000	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 504-6CN.0-Z K96	7500	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 560-6CN.0-Z K96	8800	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 562-6CN.0-Z K96	9500	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 564-6CN.0-Z K96	10400	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 632-6CN.0-Z K96	13000	1120	1350	945	1560	1600	560	180	240	630	1410	3450
1LA4 634-6CN.0-Z K96	13700	1120	1350	945	1560	1600	560	180	240	630	1410	3450
1LA4 636-6CN.0-Z K96	14500	1120	1350	945	1560	1600	560	180	240	630	1410	3450

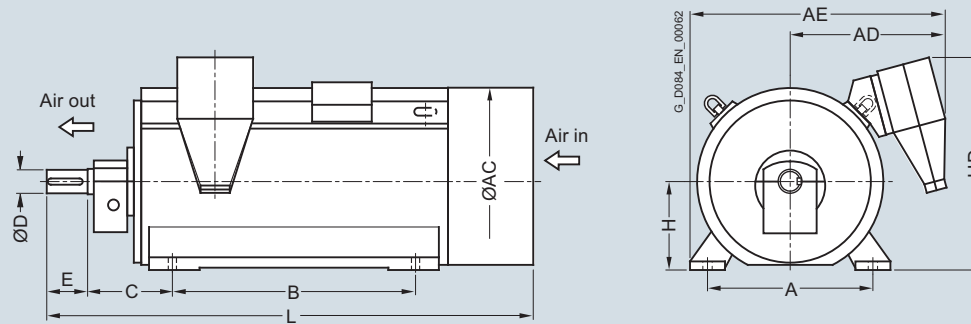
¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 140 mm (for H = 500), by + 145 mm (for H = 560) or by + 155 mm (for H = 630).

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 70 mm.

³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

⁴⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		A	AC	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ²⁾	L
Up to 6.6 kV, IM B3 type of construction, sleeve bearings ³⁾												
8-pole												
1LA4 450-8AN.0-Z K96	4700	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 452-8AN.0-Z K96	5000	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 454-8AN.0-Z K96	5300	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 500-8CN.0-Z K96	6600	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 502-8CN.0-Z K96	6900	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 504-8CN.0-Z K96	7400	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 560-8CN.0-Z K96	8800	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 562-8CN.0-Z K96	9500	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 564-8CN.0-Z K96	10300	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 634-8CN.0-Z K96	13600	1120	1350	945	1560	1600	560	180	240	630	1410	3450
1LA4 636-8CN.0-Z K96	14400	1120	1350	945	1560	1600	560	180	240	630	1410	3450
10-pole												
1LA4 450-3AN.0-Z K96	4700	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 452-3AN.0-Z K96	5000	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 454-3AN.0-Z K96	5300	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 500-3CN.0-Z K96	6600	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 502-3CN.0-Z K96	6900	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 504-3CN.0-Z K96	7400	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 560-3CN.0-Z K96	8800	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 562-3CN.0-Z K96	9500	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 564-3CN.0-Z K96	10300	1060	1210	925	1560	1400	560	160	240	560	1310	3170
12-pole												
1LA4 450-5CN.0-Z K96	4700	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 452-5CN.0-Z K96	5000	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 454-5CN.0-Z K96	5300	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4 500-5CN.0-Z K96	6600	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 502-5CN.0-Z K96	6900	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 504-5CN.0-Z K96	7400	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4 560-5CN.0-Z K96	8800	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 562-5CN.0-Z K96	9500	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4 564-5CN.0-Z K96	10300	1060	1210	925	1560	1400	560	160	240	560	1310	3170

Note:

Higher pole numbers are available on request.

¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 140 mm (for H = 500), by + 145 mm (for H = 560) or by + 155 mm (for H = 630).

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 70 mm.

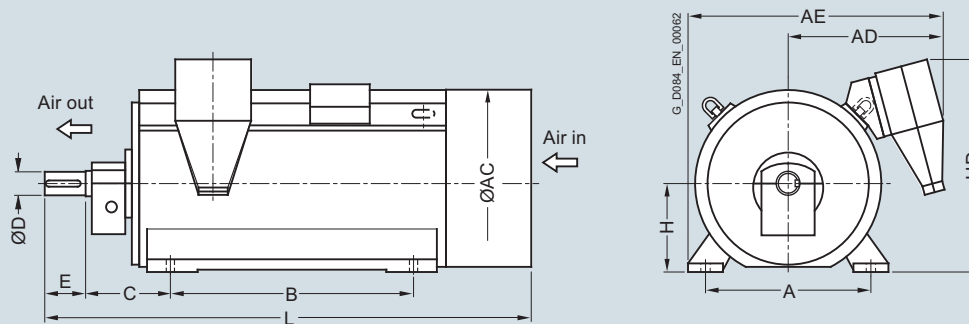
³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Dimension drawings

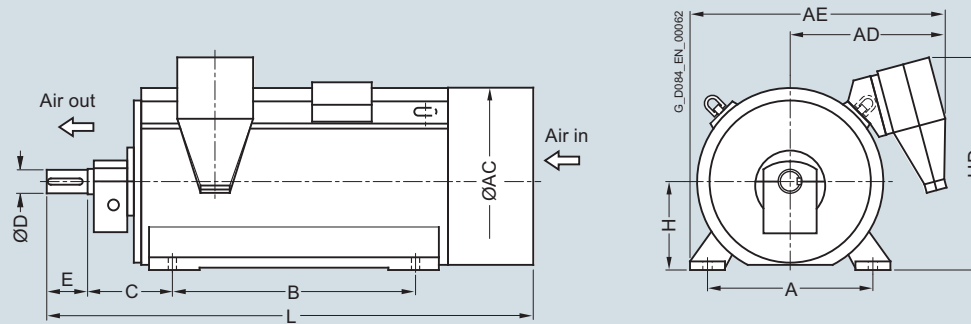


Motor type	Weight kg	Dimensions										
		A mm	AC mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings¹⁾												
2-pole												
1LA4 450-2CN.0-Z K96 ²⁾	4600	850	960	970	1485	1250	475	95	130	450	1170	2515
1LA4 452-2CN.0-Z K96 ²⁾	4900	850	960	970	1485	1250	475	95	130	450	1170	2515
1LA4 454-2CN.0-Z K96 ²⁾	5200	850	960	970	1485	1250	475	95	130	450	1170	2515
1LA4 500-2CN.0	6000	950	1070	1015	1580	1320	500	110	165	500	1270	2675
1LA4 502-2CN.0	6300	950	1070	1015	1580	1320	500	110	165	500	1270	2675
1LA4 504-2CN.0	6700	950	1070	1015	1580	1320	500	110	165	500	1270	2675
1LA4 560-2CN.0	8100	1060	1210	1070	1705	1400	500	120	165	560	1380	2865
1LA4 562-2CN.0	8600	1060	1210	1070	1705	1400	500	120	165	560	1380	2865
1LA4 564-2CN.0	9100	1060	1210	1070	1705	1400	500	120	165	560	1380	2865
4-pole												
1LA4 450-4AN.0-Z K96	4700	850	960	970	1485	1250	475	130	200	450	1170	2745
1LA4 452-4AN.0-Z K96	5000	850	960	970	1485	1250	475	130	200	450	1170	2745
1LA4 454-4AN.0-Z K96	5300	850	960	970	1485	1250	475	130	200	450	1170	2745
1LA4 500-4AN.0-Z K96	6100	950	1070	1015	1580	1320	500	140	200	500	1270	2870
1LA4 502-4AN.0-Z K96	6400	950	1070	1015	1580	1320	500	140	200	500	1270	2870
1LA4 504-4AN.0-Z K96	6900	950	1070	1015	1580	1320	500	140	200	500	1270	2870
1LA4 560-4CN.0-Z K96	8400	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 562-4CN.0-Z K96	9100	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 564-4CN.0-Z K96	9800	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 634-4CN.0-Z K96 ²⁾	13100	1120	1350	945	1560	1600	560	170	240	630	1410	3450
1LA4 636-4CN.0-Z K96 ²⁾	13900	1120	1350	945	1560	1600	560	170	240	630	1410	3450
6-pole												
1LA4 450-6AN.0-Z K96	4700	850	960	970	1485	1250	475	130	200	450	1170	2745
1LA4 452-6AN.0-Z K96	5000	850	960	970	1485	1250	475	130	200	450	1170	2745
1LA4 454-6AN.0-Z K96	5300	850	960	970	1485	1250	475	130	200	450	1170	2745
1LA4 500-6CN.0-Z K96	6500	950	1070	1015	1580	1320	530	140	200	500	1270	2900
1LA4 502-6CN.0-Z K96	7000	950	1070	1015	1580	1320	530	140	200	500	1270	2900
1LA4 504-6CN.0-Z K96	7400	950	1070	1015	1580	1320	530	140	200	500	1270	2900
1LA4 560-6CN.0-Z K96	8800	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 562-6CN.0-Z K96	9400	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 564-6CN.0-Z K96	10300	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 634-6CN.0-Z K96	13700	1120	1350	945	1560	1600	560	180	240	630	1410	3450
1LA4 636-6CN.0-Z K96	14500	1120	1350	945	1560	1600	560	180	240	630	1410	3450

¹⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		A mm	AC mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings¹⁾												
8-pole												
1LA4 450-8AN.0-Z K96	4700	850	960	970	1485	1250	475	130	200	450	1170	2745
1LA4 452-8AN.0-Z K96	4900	850	960	970	1485	1250	475	130	200	450	1170	2745
1LA4 454-8AN.0-Z K96	5300	850	960	970	1485	1250	475	130	200	450	1170	2745
1LA4 500-8CN.0-Z K96	6500	950	1070	1015	1580	1320	530	140	200	500	1270	2900
1LA4 502-8CN.0-Z K96	6900	950	1070	1015	1580	1320	530	140	200	500	1270	2900
1LA4 504-8CN.0-Z K96	7400	950	1070	1015	1580	1320	530	140	200	500	1270	2900
1LA4 560-8CN.0-Z K96	8700	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 562-8CN.0-Z K96	9300	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 564-8CN.0-Z K96	10300	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 634-8CN.0-Z K96	13600	1120	1350	945	1560	1600	560	180	240	630	1410	3450
1LA4 636-8CN.0-Z K96	14400	1120	1350	945	1560	1600	560	180	240	630	1410	3450
10-pole												
1LA4 500-3CN.0-Z K96	6500	950	1070	1015	1580	1320	530	140	200	500	1270	2900
1LA4 502-3CN.0-Z K96	6900	950	1070	1015	1580	1320	530	140	200	500	1270	2900
1LA4 504-3CN.0-Z K96	7400	950	1070	1015	1580	1320	530	140	200	500	1270	2900
1LA4 560-3CN.0-Z K96	8700	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 562-3CN.0-Z K96	9300	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 564-3CN.0-Z K96	10300	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
12-pole												
1LA4 560-5CN.0-Z K96	8700	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 562-5CN.0-Z K96	9300	1060	1210	1070	1705	1400	560	160	240	560	1380	3170
1LA4 564-5CN.0-Z K96	10300	1060	1210	1070	1705	1400	560	160	240	560	1380	3170

Note:

Higher pole numbers are available on request.

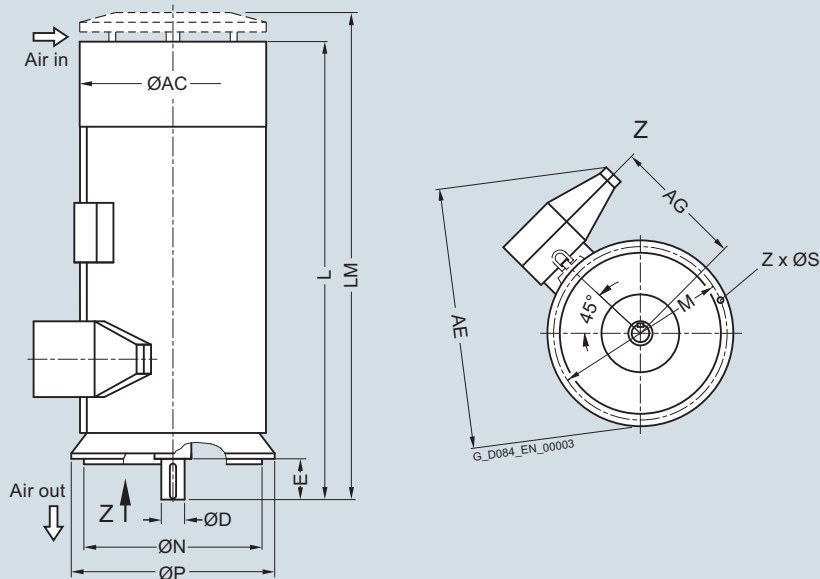
1) The dimensions also apply for the 1MA4 and 1MS4 series.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Dimension drawings



Motor type	Weight kg	Dimensions											
		AC mm	AG ¹⁾ mm	AE ²⁾ mm	D mm	E mm	L mm	LM mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings³⁾

2-pole

1LA4 310-2AN..	1600	700	620	1225	70	105	1590	1720	800	680	740	22	8
1LA4 312-2AN..	1600	700	620	1225	70	105	1590	1720	800	680	740	22	8
1LA4 314-2AN..	1850	700	620	1225	70	105	1790	1920	800	680	740	22	8
1LA4 316-2AN..	2000	700	620	1225	70	105	1790	1920	800	680	740	22	8
1LA4 350-2AN.. ⁴⁾	2350	780	660	1310	75	105	1930	2070	900	780	840	22	8
1LA4 352-2AN.. ⁴⁾	2450	780	660	1310	75	105	1930	2070	900	780	840	22	8
1LA4 354-2AN.. ⁴⁾	2550	780	660	1310	75	105	1930	2070	900	780	840	22	8
1LA4 400-2AN.. ⁴⁾	3100	870	710	1400	85	130	2095	2245	1000	880	940	22	8
1LA4 402-2AN.. ⁴⁾	3300	870	710	1400	85	130	2095	2245	1000	880	940	22	8
1LA4 404-2AN.. ⁴⁾	3550	870	710	1400	85	130	2095	2245	1000	880	940	22	8

4-pole

1LA4 310-4AN..	1500	700	620	1225	90	130	1610	1740	800	680	740	22	8
1LA4 312-4AN..	1650	700	620	1225	90	130	1610	1740	800	680	740	22	8
1LA4 314-4AN..	1900	700	620	1225	90	130	1810	1940	800	680	740	22	8
1LA4 316-4AN..	2050	700	620	1225	90	130	1810	1940	800	680	740	22	8
1LA4 350-4AN..	2400	780	660	1310	100	165	1985	2125	900	780	840	22	8
1LA4 352-4AN..	2600	780	660	1310	100	165	1985	2125	900	780	840	22	8
1LA4 354-4AN..	2800	780	660	1310	100	165	1985	2125	900	780	840	22	8
1LA4 400-4AN..	3400	870	710	1400	120	165	2125	2275	1000	880	940	22	8
1LA4 402-4AN..	3600	870	710	1400	120	165	2125	2275	1000	880	940	22	8
1LA4 404-4AN..	3800	870	710	1400	120	165	2125	2275	1000	880	940	22	8
1LA4 450-4AN..	4700	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8

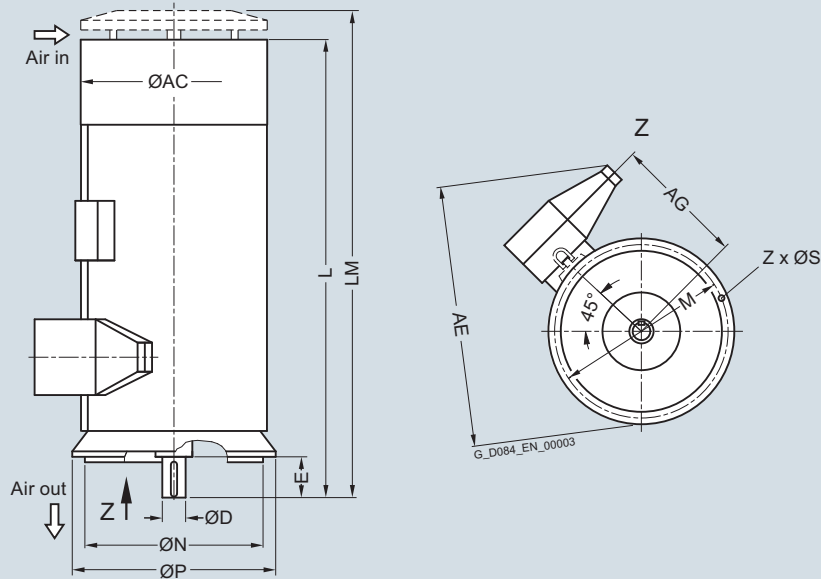
¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 45 mm.

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 185 mm (for AC = 1070), by + 180 mm (for AC = 1210) or by + 130 mm (for AC = 1350).

³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

⁴⁾ Only in the 50 Hz version.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions											
		AC	AG ¹⁾	AE ²⁾	D	E	L	LM	P	N	M	S	Z

Up to 6.6 kV, IM V1 type of construction, roller bearings³⁾

4-pole													
1LA4 452-4AN..	5000	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 454-4AN..	5200	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 500-4AN..	5900	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 502-4AN..	6300	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 504-4AN..	6800	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 560-4CN..	8300	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 562-4CN..	9000	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 564-4CN..	9700	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
6-pole													
1LA4 314-6AN..	1950	700	620	1225	90	130	1810	1940	800	680	740	22	8
1LA4 316-6AN..	2150	700	620	1225	90	130	1810	1940	800	680	740	22	8
1LA4 350-6AN..	2450	780	660	1310	100	165	1985	2125	900	780	840	22	8
1LA4 352-6AN..	2650	780	660	1310	100	165	1985	2125	900	780	840	22	8
1LA4 354-6AN..	2900	780	660	1310	100	165	1985	2125	900	780	840	22	8
1LA4 400-6AN..	3500	870	710	1400	120	165	2125	2275	1000	880	940	22	8
1LA4 402-6AN..	3750	870	710	1400	120	165	2125	2275	1000	880	940	22	8
1LA4 404-6AN..	4000	870	710	1400	120	165	2125	2275	1000	880	940	22	8
1LA4 450-6AN..	4600	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 452-6AN..	4900	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 454-6AN..	5200	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 500-6CN..	6400	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 502-6CN..	6800	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 504-6CN..	7300	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 560-6CN..	8500	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 562-6CN..	9300	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16

¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 45 mm.

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 185 mm (for AC = 1070), by + 180 mm (for AC = 1210) or by + 130 mm (for AC = 1350).

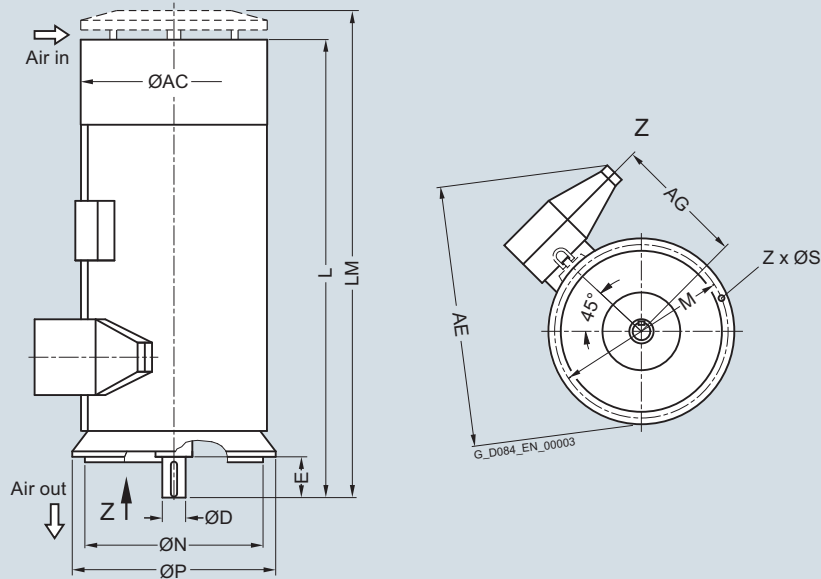
³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Dimension drawings (continued)



Motor type	Weight kg	Dimensions											
		AC mm	AG ¹⁾ mm	AE ²⁾ mm	D mm	E mm	L mm	LM mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, IM V1 type of construction, roller bearings³⁾													
6-pole													
1LA4 564-6CN..	10100	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 632-6CN..	12700	1350	O. R. ⁴⁾	1820	180	240	3115	3305	1400	1250	1320	26	16
1LA4 634-6CN..	13400	1350	O. R. ⁴⁾	1820	180	240	3115	3305	1400	1250	1320	26	16
1LA4 636-6CN..	14100	1350	O. R. ⁴⁾	1820	180	240	3115	3305	1400	1250	1320	26	16
8-pole													
1LA4 350-8AN..	2450	780	660	1310	100	165	1985	2125	900	780	840	22	8
1LA4 352-8AN..	2650	780	660	1310	100	165	1985	2125	900	780	840	22	8
1LA4 354-8AN..	2850	780	660	1310	100	165	1985	2125	900	780	840	22	8
1LA4 400-8AN..	3450	870	710	1400	120	165	2125	2275	1000	880	940	22	8
1LA4 402-8AN..	3700	870	710	1400	120	165	2125	2275	1000	880	940	22	8
1LA4 404-8AN..	3950	870	710	1400	120	165	2125	2275	1000	880	940	22	8
1LA4 450-8AN..	4600	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 452-8AN..	4900	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 454-8AN..	5200	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 500-8CN..	6400	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 502-8CN..	6800	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 504-8CN..	7200	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 560-8CN..	8500	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 562-8CN..	9200	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 564-8CN..	10000	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 632-8CN..	12500	1350	O. R. ⁴⁾	1820	180	240	3115	3305	1400	1250	1320	26	16
1LA4 634-8CN..	13300	1350	O. R. ⁴⁾	1820	180	240	3115	3305	1400	1250	1320	26	16
1LA4 636-8CN..	14000	1350	O. R. ⁴⁾	1820	180	240	3115	3305	1400	1250	1320	26	16

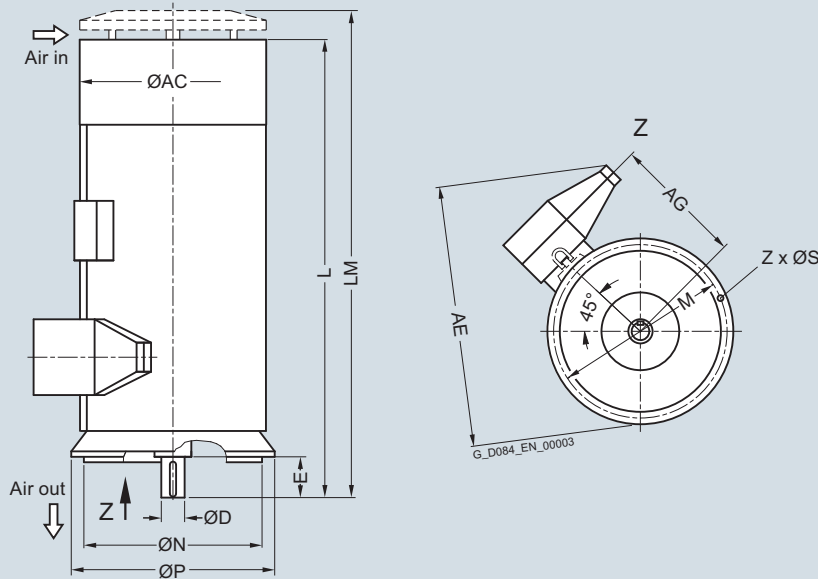
¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 45 mm.

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 185 mm (for AC = 1070), by + 180 mm (for AC = 1210) or by + 130 mm (for AC = 1350).

³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

⁴⁾ On request.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions											
		AC	AG ¹⁾	AE ²⁾	D	E	L	LM	P	N	M	S	Z

Up to 6.6 kV, IM V1 type of construction, roller bearings³⁾

10-pole													
1LA4 450-3AN..	4600	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 452-3AN..	4900	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 454-3AN..	5200	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 500-3CN..	6400	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 502-3CN..	6800	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 504-3CN..	7200	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 560-3CN..	8500	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 562-3CN..	9200	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 564-3CN..	10000	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
12-pole													
1LA4 450-5CN..	4600	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 452-5CN..	4900	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 454-5CN..	5200	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4 500-5CN..	6400	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 502-5CN..	6800	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 504-5CN..	7200	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4 560-5CN..	8500	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 562-5CN..	9200	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4 564-5CN..	10000	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16

Note:

Higher pole numbers are available on request.

¹⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 45 mm.

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by + 185 mm (for AC = 1070), by + 180 mm (for AC = 1210) or by + 130 mm (for AC = 1350).

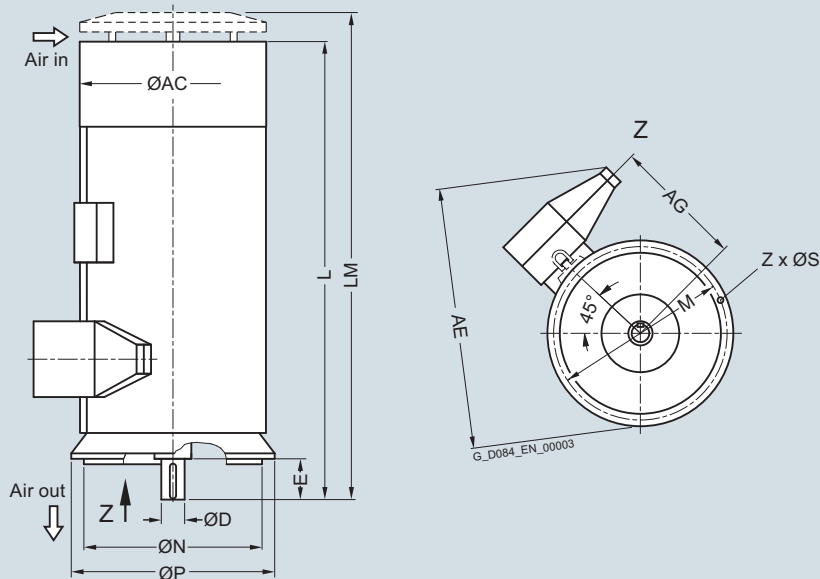
³⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

Motors for line operation

Air-cooled motors

H-compact 1LA4

Dimension drawings



Motor type	Weight kg	Dimensions											
		AC mm	AG mm	AE mm	D mm	E mm	L mm	LM mm	P mm	N mm	M mm	S mm	Z Quantity

9 ... 11 kV, IM V1 type of construction, roller bearings¹⁾

4-pole

1LA4 450-4AN..	4600	960	865	1740	130	200	2390	2550	1150	1000	1080	26	8
1LA4 452-4AN..	4900	960	865	1740	130	200	2390	2550	1150	1000	1080	26	8
1LA4 454-4AN..	5200	960	865	1740	130	200	2390	2550	1150	1000	1080	26	8
1LA4 500-4AN..	5900	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 502-4AN..	6300	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 504-4AN..	6700	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 560-4CN..	8100	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 562-4CN..	8900	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 564-4CN..	9600	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16

6-pole

1LA4 450-6AN..	4600	960	865	1740	130	200	2390	2550	1150	1000	1080	26	8
1LA4 452-6AN..	4800	960	865	1740	130	200	2390	2550	1150	1000	1080	26	8
1LA4 454-6AN..	5100	960	865	1740	130	200	2390	2550	1150	1000	1080	26	8
1LA4 500-6CN..	6400	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 502-6CN..	6800	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 504-6CN..	7200	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 560-6CN..	8500	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 562-6CN..	9200	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 564-6CN..	10000	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 634-6CN..	13400	1350	O. R. ²⁾	1820	180	240	3115	3305	1400	1250	1320	26	16
1LA4 636-6CN..	14100	1350	O. R. ²⁾	1820	180	240	3115	3305	1400	1250	1320	26	16

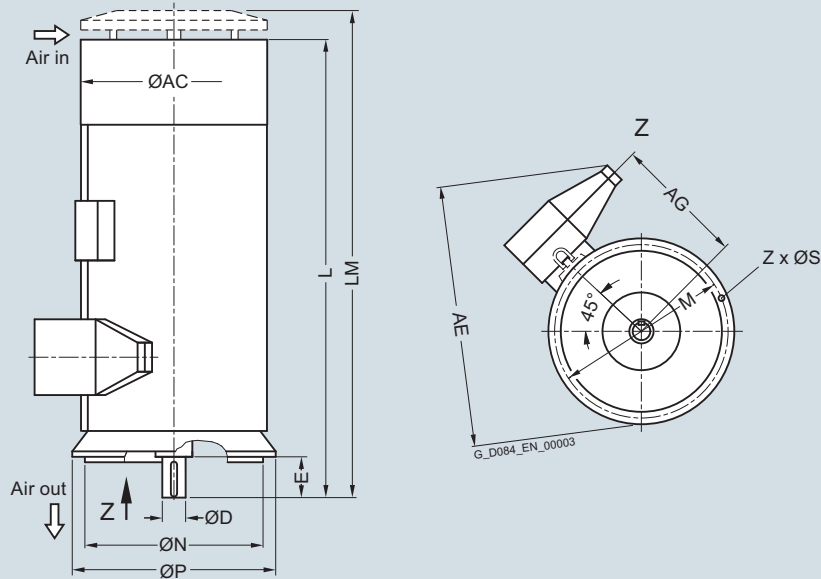
8-pole

1LA4 450-8AN..	4600	960	865	1740	130	200	2390	2550	1150	1000	1080	26	8
1LA4 452-8AN..	4800	960	865	1740	130	200	2390	2550	1150	1000	1080	26	8
1LA4 454-8AN..	5100	960	865	1740	130	200	2390	2550	1150	1000	1080	26	8
1LA4 500-8CN..	6300	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16

¹⁾ The dimensions also apply for the 1MA4 and 1MS4 series.

²⁾ On request.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions											
		AC mm	AG mm	AE mm	D mm	E mm	L mm	LM mm	P mm	N mm	M mm	S mm	Z Quantity
9 ... 11 kV, IM V1 type of construction, roller bearings¹⁾													
8-pole													
1LA4 502-8CN..	6800	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 504-8CN..	7200	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 560-8CN..	8400	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 562-8CN..	9100	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 564-8CN..	10000	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 634-8CN..	13300	1350	O. R. ²⁾	1820	180	240	3115	3305	1400	1250	1320	26	16
1LA4 636-8CN..	14000	1350	O. R. ²⁾	1820	180	240	3115	3305	1400	1250	1320	26	16
10-pole													
1LA4 500-3CN..	6300	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 502-3CN..	6800	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 504-3CN..	7200	1070	940	1845	140	200	2525	2695	1250	1120	1180	26	16
1LA4 560-3CN..	8400	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 562-3CN..	9100	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 564-3CN..	10000	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
12-pole													
1LA4 560-5CN..	8400	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 562-5CN..	9100	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16
1LA4 564-5CN..	10000	1210	1010	1980	160	240	2775	2955	1400	1250	1320	26	16

Note:

Higher pole numbers are available on request.

¹⁾ The dimensions also apply for the 1MA4 and 1MS4 series.²⁾ On request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Overview



Technical data

Overview of technical data

H-compact PLUS 1RQ4/1RQ6	
Rated voltage	3.3 ... 13.8 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Cooling method	IC611/IC616
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	450 ... 710 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN, NEMA
Frame design for shaft heights 450 ... 560 mm	Frame: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 710 mm	Frame: Steel Cooling enclosure: Steel

Technical data (continued)

Power ranges for IEC motors for line operation

1RQ4, 1SG4 (Ex nA), 1SB4 (Ex px) series

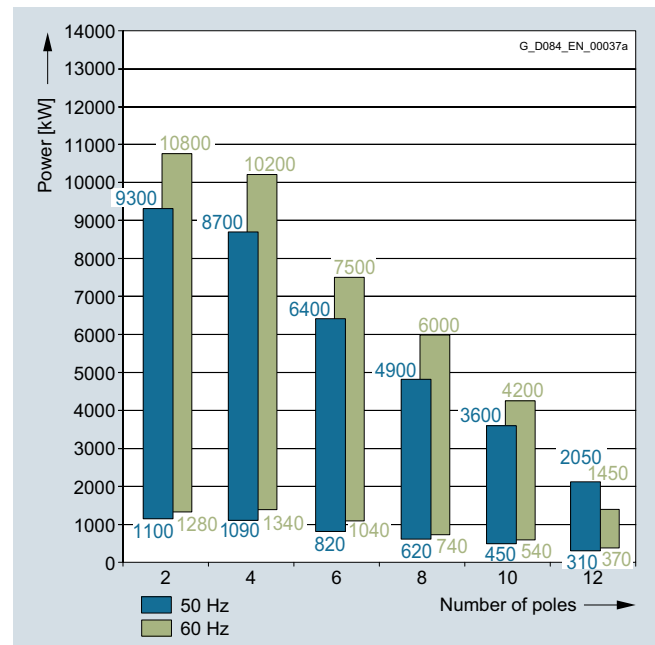
1RQ6, 1SG6 (Ex nA), 1SB6 (Ex px) series

Insulationsystem, thermal class 155 (F), utilized to 130 (B).

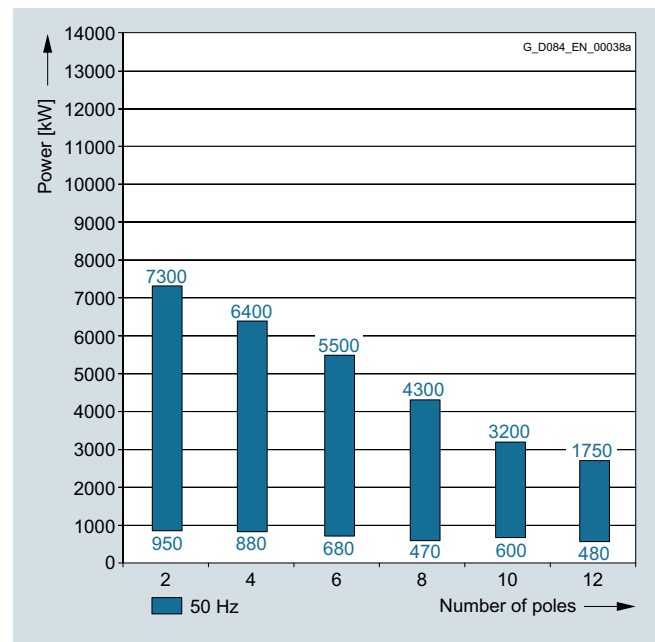
Ambient temperature up to 40 °C, installation altitude up to 1000 m.

3.3 to 6.6 kV; 50 Hz

4.0 to 6.6 kV; 60 Hz



9 to 11 kV; 50 Hz



Motors for line operation

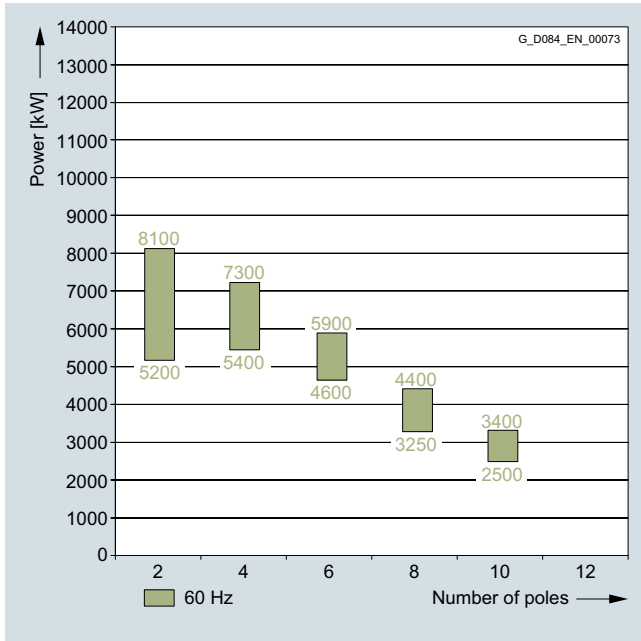
Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Technical data (continued)

Power ranges for IEC motors for line operation
(continued)

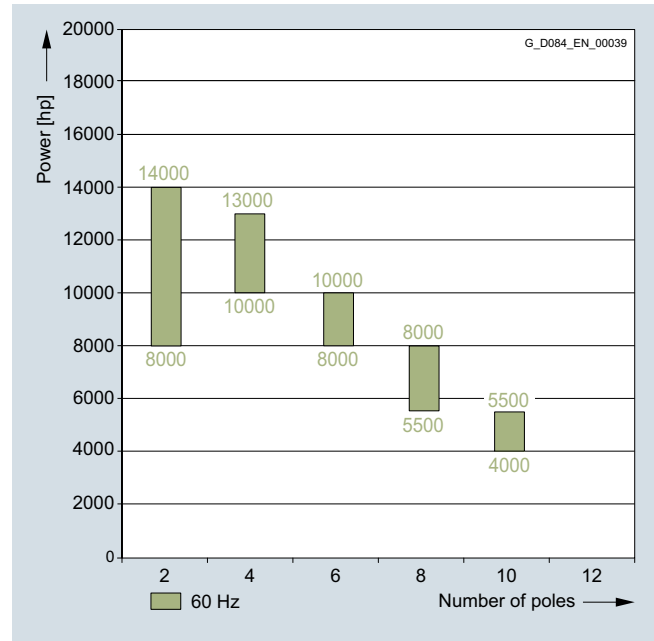
12.5 to 13.8 kV; 60 Hz



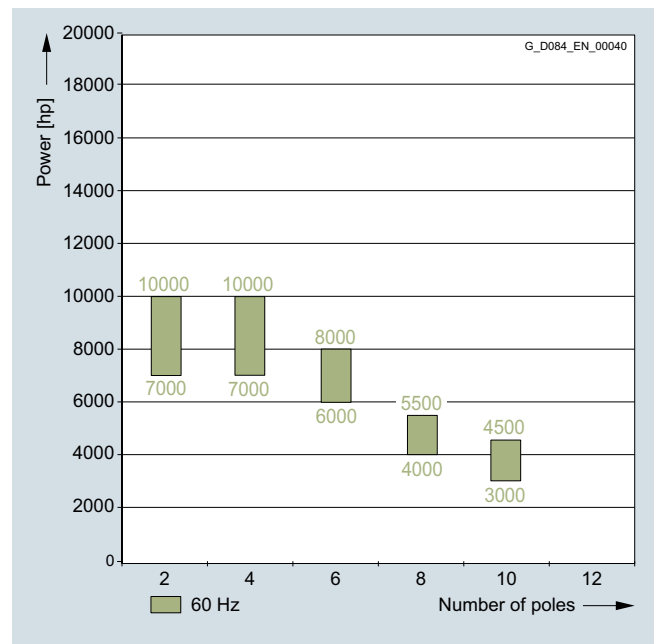
Power ranges for NEMA motors for line operation

Insulation system, thermal class 155 (F), utilized to 130 (B).

4 to 6.6 kV; 60 Hz



12.5 to 13.8 kV; 60 Hz



2

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

The following data also apply to explosion-protected motors 1SB4/1SB6 (Ex px) and 1SG4/1SG6 (Ex nA).

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
3.3 ... 6.6 kV, 50 Hz														
2-pole														
1100	1RQ6 450-2JJ	2978	124	95.6	95.6	0.90	0.89	3529	2.40	0.65	5.50	13	74	
1220	1RQ6 452-2JJ	2980	136	95.9	95.9	0.90	0.89	3912	2.40	0.60	5.50	14	76	
1350	1RQ6 454-2JJ	2982	150	96.0	96.1	0.90	0.89	4325	2.50	0.55	5.50	15	78	
1490	1RQ6 456-2JJ	2982	164	96.2	96.3	0.91	0.91	4774	2.40	0.50	5.50	17	81	
1850	1RQ6 500-2JJ	2979	205	96.2	96.3	0.91	0.90	5930	2.50	0.65	5.50	19	71	
2050	1RQ6 502-2JJ	2977	225	96.4	96.5	0.91	0.91	6576	2.35	0.70	5.50	21	79	
2300	1RQ6 504-2JJ	2978	250	96.5	96.7	0.93	0.92	7375	2.40	0.65	5.50	25	88	
2500	1RQ6 506-2JJ	2979	270	96.7	96.9	0.92	0.92	8014	2.40	0.70	5.50	26	98	
2900	1RQ6 560-2JJ	2980	315	96.6	96.8	0.91	0.91	9293	2.10	0.60	4.70	39	170	
3200	1RQ6 562-2JJ	2982	350	96.8	96.9	0.91	0.91	10247	2.25	0.60	5.10	43	190	
3700	1RQ6 564-2JJ	2982	400	97.0	97.1	0.92	0.92	11849	2.25	0.60	5.20	49	210	
4000	1RQ6 566-2JJ	2983	430	97.1	97.2	0.92	0.92	12805	2.30	0.55	5.30	54	230	
4000	1RQ4 630-2JE	2984	450	96.6	96.5	0.89	0.89	12802	2.40	0.35	4.60	80	150	
4500	1RQ4 632-2JE	2986	495	96.9	96.8	0.90	0.88	14392	2.70	0.42	5.40	85	200	
5300	1RQ4 634-2JE	2986	580	97.3	97.2	0.90	0.89	16951	2.70	0.44	5.40	95	280	
6000	1RQ4 636-2JE	2987	660	97.5	97.4	0.90	0.89	19183	2.70	0.45	5.50	105	320	
4-pole														
1090	1RQ6 450-4JJ	1487	124	95.5	95.6	0.88	0.85	7002	2.30	0.70	5.50	20	315	
1200	1RQ6 452-4JJ	1488	138	95.6	95.7	0.88	0.85	7704	2.30	0.70	5.50	21	350	
1290	1RQ6 454-4JJ	1487	146	95.7	95.9	0.89	0.88	8286	2.20	0.70	5.50	25	390	
1420	1RQ6 456-4JJ	1487	158	96.0	96.2	0.90	0.90	9123	2.30	0.70	5.50	28	435	
1800 ²⁾	1RQ6 500-4JJ	1486	198	96.0	96.3	0.91	0.91	11567	2.35	0.65	5.10	43	400	
2000 ²⁾	1RQ6 502-4JJ	1486	215	96.2	96.4	0.92	0.91	12852	2.45	0.65	5.30	46	450	
2200 ²⁾	1RQ6 504-4JJ	1488	240	96.4	96.6	0.92	0.91	14119	2.45	0.65	5.30	52	500	
2400 ²⁾	1RQ6 506-4JJ	1488	260	96.5	96.7	0.92	0.91	15402	2.50	0.65	5.40	56	550	
3000 ²⁾	1RQ6 560-4JJ	1491	330	96.7	96.9	0.91	0.90	19214	2.35	0.70	5.30	84	790	
3300 ²⁾	1RQ6 562-4JJ	1492	360	96.9	97.0	0.91	0.89	21121	2.25	0.60	5.10	94	870	
3700 ²⁾	1RQ6 564-4JJ	1491	405	97.0	97.2	0.91	0.90	23697	2.30	0.65	5.10	104	960	
4000 ²⁾	1RQ6 566-4JJ	1492	430	97.2	97.3	0.92	0.90	25601	2.35	0.65	5.30	115	1060	
4400	1RQ4 630-4JE	1490	490	96.8	96.9	0.89	0.89	28201	2.30	0.62	5.20	150	920	
4900	1RQ4 632-4JE	1491	550	97.0	97.1	0.89	0.88	31385	2.45	0.65	5.50	170	1150	
5300	1RQ4 634-4JE	1492	590	97.3	97.2	0.89	0.88	33924	2.40	0.62	5.50	185	1350	
5800	1RQ4 636-4JE	1492	650	97.3	97.3	0.88	0.87	37125	2.40	0.61	5.50	200	1200	

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Data of vertical motors (IM V1) on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency			Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²	External, max. 1) kgm ²						
3.3 ... 6.6 kV, 50 Hz															
6-pole															
820	1RQ6 450-6JJ	989	96	95.4	95.9	0.86	0.85	7923	2.10	0.95	5.50	26	780		
910	1RQ6 452-6JJ	990	106	95.6	96.0	0.86	0.84	8782	2.20	1.00	5.50	29	880		
1020	1RQ6 454-6JJ	991	120	95.7	96.0	0.86	0.84	9839	2.20	0.90	5.50	32	990		
1130	1RQ6 456-6JJ	992	134	96.0	96.3	0.85	0.81	10882	2.30	0.85	5.50	37	1160		
1400	1RQ6 500-6JJ	990	164	95.9	96.3	0.86	0.85	13505	2.10	0.85	5.40	56	1280		
1600	1RQ6 502-6JJ	991	188	96.2	96.5	0.85	0.84	15419	2.15	0.81	5.50	62	1420		
1780	1RQ6 504-6JJ	991	205	96.3	96.6	0.86	0.85	17153	2.15	0.85	5.40	69	1580		
1950	1RQ6 506-6JJ	991	225	96.4	96.6	0.86	0.84	18792	2.10	0.75	5.40	77	1780		
2250	1RQ6 560-6JJ	992	255	96.5	96.7	0.88	0.87	21661	2.55	0.75	5.40	108	1920		
2550	1RQ6 562-6JJ	992	290	96.6	96.9	0.87	0.87	24549	2.60	0.72	5.30	119	2100		
2800	1RQ6 564-6JJ	992	315	96.8	97.0	0.88	0.87	26956	2.60	0.73	5.30	132	2350		
3000	1RQ6 566-6JJ	993	340	96.9	97.1	0.88	0.87	28852	2.70	0.75	5.50	146	2600		
3550	1RQ4 630-6JE	993	410	96.8	96.7	0.86	0.85	34141	2.15	0.63	5.00	188	2400		
3850	1RQ4 632-6JE	993	440	96.9	96.8	0.87	0.85	37027	2.20	0.66	5.20	207	2800		
4100	1RQ4 634-6JE	994	475	96.9	96.9	0.86	0.84	39391	2.30	0.68	5.50	228	2500		
4400	1RQ4 636-6JE	994	510	97.1	97.1	0.86	0.84	42274	2.40	0.68	5.50	251	3200		
8-pole															
620	1RQ6 450-8JJ	743	77	94.9	95.2	0.82	0.78	7968	2.30	0.80	5.50	32	960		
675	1RQ6 452-8JJ	744	83	95.1	95.3	0.82	0.77	8669	2.30	0.80	5.50	36	1060		
750	1RQ6 454-8JJ	742	92	95.2	95.5	0.82	0.78	9657	2.20	0.80	5.50	41	1160		
810	1RQ6 456-8JJ	744	100	95.3	95.5	0.82	0.78	10397	2.50	0.85	5.50	46	1300		
1040	1RQ6 500-8JJ	743	128	95.5	95.7	0.82	0.79	13367	2.10	0.64	5.20	69	1400		
1160	1RQ6 502-8JJ	744	142	95.7	95.8	0.82	0.78	14890	2.10	0.62	5.50	76	1540		
1280	1RQ6 504-8JJ	744	154	95.8	96.0	0.83	0.79	16430	2.30	0.72	5.50	85	1720		
1400	1RQ6 506-8JJ	744	170	95.9	96.1	0.83	0.80	17970	2.30	0.73	5.50	94	1900		
1650	1RQ6 560-8JJ	743	196	96.3	96.7	0.84	0.83	21208	2.35	0.67	5.20	128	2600		
1850	1RQ6 562-8JJ	743	215	96.4	96.8	0.85	0.84	23779	2.30	0.68	5.10	141	2900		
2000	1RQ6 564-8JJ	744	235	96.5	96.9	0.85	0.83	25672	2.35	0.70	5.30	156	3200		
2200	1RQ6 566-8JJ	744	260	96.6	97.0	0.85	0.83	28239	2.45	0.74	5.50	173	3550		
2650	1RQ4 630-8JE	744	315	96.4	96.4	0.84	0.81	34015	2.40	0.75	5.10	246	3300		
2850	1RQ4 632-8JE	745	340	96.5	96.5	0.83	0.79	36534	2.50	0.81	5.50	272	3600		
3000	1RQ4 634-8JE	745	355	96.5	96.6	0.84	0.81	38456	2.50	0.81	5.50	300	3800		
3200	1RQ4 636-8JE	745	375	96.7	96.6	0.85	0.82	41020	2.50	0.80	5.50	331	4200		

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

1) Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated}	Locked-rotor torque T_{LR}/T_{rated}	Locked-rotor current I_{LR}/I_{rated}	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
3.3 ... 6.6 kV, 50 Hz														
10-pole														
450	1RQ6 450-3JJ	592	59	93.7	93.6	0.78	0.72	7259	2.30	1.00	5.40	39	1250	
500	1RQ6 452-3JJ	592	66	93.9	93.8	0.78	0.72	8066	2.40	1.00	5.50	43	1500	
560	1RQ6 454-3JJ	592	74	94.1	94.0	0.77	0.71	9034	2.40	1.00	5.50	48	1650	
610	1RQ6 456-3JJ	593	82	94.2	94.0	0.76	0.69	9824	2.50	1.00	5.50	54	1950	
740	1RQ4 500-3JE	593	94	94.6	94.6	0.80	0.76	11917	2.20	0.83	5.20	74	1600	
820	1RQ4 502-3JE	593	104	94.8	94.8	0.80	0.76	13206	2.30	0.85	5.40	84	1950	
900	1RQ4 504-3JE	593	114	94.9	94.9	0.80	0.76	14494	2.30	0.90	5.40	92	2500	
1020	1RQ4 506-3JE	593	128	95.1	95.1	0.80	0.74	16427	2.30	0.90	5.50	103	3100	
1220	1RQ4 560-3JE	594	156	95.2	95.1	0.79	0.74	19614	2.30	0.85	5.20	128	3000	
1400	1RQ4 562-3JE	594	176	95.5	95.4	0.80	0.75	22508	2.30	0.85	5.40	146	4600	
1550	1RQ4 564-3JE	594	194	95.6	95.6	0.80	0.75	24920	2.40	0.85	5.50	163	5100	
1660	1RQ4 566-3JE	595	215	95.7	95.7	0.78	0.72	26644	2.40	0.85	5.50	178	5700	
2000	1RQ4 630-3JE	593	240	96.0	96.2	0.84	0.81	32209	2.10	0.74	4.80	246	5000	
2200	1RQ4 632-3JE	594	260	96.1	96.3	0.84	0.81	35370	2.20	0.76	4.90	272	5700	
2400	1RQ4 634-3JE	594	285	96.3	96.5	0.84	0.81	38586	2.20	0.77	4.90	300	6600	
2600	1RQ4 636-3JE	594	315	96.4	96.6	0.83	0.79	41801	2.50	0.88	5.50	331	7300	
12-pole														
310	1RQ6 450-5JJ	493	46.0	92.7	92.5	0.71	0.64	6005	2.00	0.72	4.60	39	1250	
350	1RQ6 452-5JJ	493	52	93.1	92.7	0.70	0.62	6780	2.20	0.78	4.90	43	1600	
400	1RQ6 454-5JJ	493	58	93.4	93.2	0.71	0.66	7748	2.00	0.72	4.60	48	1800	
450	1RQ6 456-5JJ	493	64	93.6	93.4	0.72	0.66	8717	2.10	0.75	4.80	54	1950	
540	1RQ4 500-5JE	492	76	94.0	93.9	0.73	0.67	10482	2.10	0.70	4.60	74	2200	
610	1RQ4 502-5JE	493	85	94.3	94.2	0.73	0.67	11816	2.20	0.75	4.80	84	3000	
670	1RQ4 504-5JE	493	95	94.4	94.3	0.72	0.65	12979	2.30	0.78	5.00	91	3700	
740	1RQ4 506-5JE	493	104	94.6	94.4	0.72	0.65	14335	2.30	0.78	5.20	102	4400	
920	1RQ4 560-5JE	494	128	94.7	94.8	0.73	0.67	17785	2.00	0.67	4.50	128	4100	
1020	1RQ4 562-5JE	495	144	94.9	94.9	0.72	0.65	19679	2.10	0.72	4.60	146	4700	
1120	1RQ4 564-5JE	495	158	95.0	95.0	0.72	0.65	21608	2.20	0.72	4.80	163	5300	
1220	1RQ4 566-5JE	495	172	95.2	95.1	0.72	0.65	23537	2.30	0.75	4.80	178	5900	
1600	1RQ4 630-5JE	494	205	95.5	95.8	0.78	0.72	30931	2.25	0.83	5.00	246	5700	
1800	1RQ4 632-5JE	494	230	95.8	96.0	0.78	0.73	34798	2.30	0.85	5.10	272	7500	
1950	1RQ4 634-5JE	494	250	96.0	96.1	0.78	0.73	37697	2.30	0.87	5.20	300	8800	
2050	1RQ4 636-5JE	495	265	96.2	96.3	0.78	0.72	39551	2.45	0.92	5.40	331	10500	

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements. NEMA version on request.

Higher pole numbers are available on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives. For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

The following data also apply to explosion-protected motors 1SB4/1SB6 (Ex px) and 1SG4/1SG6 (Ex nA).

Rated power IEC	High voltage motor H-compact PLUS	Speed	Rated current		Efficiency		Power factor		Torque	Break-down torque	Locked-rotor torque	Locked-rotor current	Moment of inertia	
			I_{rated} at 6 kV	4/4 load	3/4 load	4/4 load	3/4 load	$T_{\text{B}}/$ T_{rated}					$T_{\text{LR}}/$ T_{rated}	$I_{\text{LR}}/$ I_{rated}
kW	Article No.	rpm	A	%	%	cos φ	cos φ	Nm	[-]	[-]	[-]	kgm ²	kgm ²	
3.3 ... 6.6 kV, 50 Hz														
2-pole														
5400 ²⁾	1RQ6 710-2HJ	2991	600	96.9	96.7	0.89	0.88	17245	2.40	0.51	5.50	134	166	
7000 ²⁾	1RQ6 712-2HJ	2990	770	97.1	97.0	0.90	0.90	22362	2.20	0.49	5.20	148	172	
8100 ²⁾	1RQ6 714-2HJ	2991	880	97.3	97.1	0.91	0.90	25871	2.40	0.55	5.50	163	182	
9300 ²⁾	1RQ6 716-2HJ	2990	1000	97.4	97.3	0.92	0.91	29710	2.30	0.54	5.50	180	200	
4-pole														
6100 ²⁾	1RQ6 710-4JJ	1493	660	97.3	97.4	0.91	0.90	39025	2.20	0.58	5.50	278	772	
7000 ²⁾	1RQ6 712-4JJ	1493	760	97.4	97.5	0.91	0.90	44773	2.20	0.58	5.50	305	815	
7400 ²⁾	1RQ6 714-4JJ	1493	790	97.4	97.5	0.92	0.92	47357	2.10	0.60	5.50	341	989	
8700 ²⁾	1RQ6 716-4JJ	1493	930	97.6	97.6	0.92	0.91	55655	2.20	0.61	5.50	374	1066	
6-pole														
4900	1RQ6 710-6JJ	994	560	97.0	97.3	0.86	0.85	47091	2.10	0.68	5.20	338	2362	
5300	1RQ6 712-6JJ	994	600	97.2	97.4	0.87	0.86	50929	2.10	0.75	5.50	375	2725	
5800	1RQ6 714-6JJ	994	650	97.3	97.4	0.88	0.86	55713	2.20	0.80	5.50	427	3373	
6400	1RQ6 716-6JJ	995	730	97.4	97.5	0.87	0.86	61459	2.30	0.83	5.50	476	3924	
8-pole														
3650	1RQ6 710-8JJ	745	425	96.8	97.1	0.85	0.83	46798	1.90	0.77	5.20	426	5374	
4000	1RQ6 712-8JJ	745	465	96.9	97.2	0.85	0.84	51282	1.90	0.78	5.20	476	6124	
4400	1RQ6 714-8JJ	746	510	97.0	97.2	0.85	0.83	56368	2.10	0.89	5.50	542	7308	
4900	1RQ6 716-8JJ	746	570	97.1	97.3	0.85	0.83	62760	2.20	0.93	5.50	608	8492	
10-pole														
2750	1RQ6 710-3JJ	596	340	96.3	96.9	0.81	0.78	44099	2.10	0.72	5.10	426	8974	
3000	1RQ6 712-3JJ	596	370	96.6	97.0	0.81	0.77	48083	2.20	0.76	5.40	476	10324	
3300	1RQ6 714-3JJ	596	405	96.8	97.0	0.81	0.77	52867	2.30	0.82	5.50	542	12458	
3600	1RQ6 716-3JJ	596	440	96.8	97.0	0.81	0.77	57653	2.40	0.85	5.50	609	14691	

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ $V_{\text{rated}} < 6$ kV on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
9.0 ... 11 kV, 50 Hz														
2-pole														
950	1RQ6 450-2JJ	2979	65	95.2	95.3	0.89	0.89	3048	2.20	0.55	5.50	13	32	
1050	1RQ6 452-2JJ	2981	71	95.5	95.6	0.90	0.90	3365	2.40	0.55	5.50	14	34	
1150	1RQ6 454-2JJ	2981	76	95.6	95.7	0.91	0.91	3686	2.30	0.50	5.50	15	35	
1250	1RQ6 456-2JJ	2982	82	95.9	96.0	0.92	0.92	4006	2.40	0.50	5.50	17	38	
1600	1RQ6 500-2JJ	2980	106	96.0	96.1	0.91	0.90	5127	2.50	0.60	5.50	19	53	
1730	1RQ6 502-2JJ	2980	112	96.1	96.3	0.92	0.91	5544	2.50	0.70	5.50	21	59	
1930	1RQ6 504-2JJ	2979	124	96.3	96.5	0.93	0.92	6187	2.45	0.70	5.50	25	66	
2050	1RQ6 506-2JJ	2980	132	96.4	96.6	0.93	0.93	6569	2.50	0.75	5.50	26	73	
2600	1RQ6 560-2JJ	2983	170	96.5	96.6	0.91	0.90	8323	2.35	0.55	5.30	39	105	
2800	1RQ6 562-2JJ	2983	184	96.6	96.7	0.91	0.91	8963	2.15	0.55	4.90	43	115	
3200	1RQ6 564-2JJ	2983	205	96.8	96.9	0.92	0.92	10244	2.20	0.55	5.00	49	130	
3400	1RQ6 566-2JJ	2983	220	96.9	97.0	0.93	0.93	10884	2.25	0.60	5.20	54	145	
3600	1RQ4 630-2JE	2986	240	96.5	96.2	0.89	0.88	11514	2.60	0.39	5.10	61	100	
4100	1RQ4 632-2JE	2987	270	96.8	96.7	0.90	0.89	13108	2.70	0.42	5.50	68	140	
4600	1RQ4 634-2JE	2987	305	97.1	96.9	0.90	0.89	14707	2.70	0.42	5.50	77	160	
5200	1RQ4 636-2JE	2987	340	97.3	97.1	0.91	0.90	16625	2.60	0.43	5.50	87	200	
4-pole														
880	1RQ6 450-4JJ	1485	59	94.9	95.2	0.90	0.90	5662	2.10	0.70	5.50	20	154	
940	1RQ6 452-4JJ	1486	63	95.2	95.5	0.90	0.90	6043	2.20	0.70	5.50	22	194	
1080	1RQ6 454-4JJ	1487	73	95.4	95.7	0.90	0.90	6939	2.20	0.70	5.50	25	250	
1160	1RQ6 456-4JJ	1486	77	95.6	95.9	0.91	0.91	7455	2.20	0.70	5.50	28	310	
1520 ²⁾	1RQ6 500-4JJ	1487	100	95.7	95.9	0.92	0.91	9761	2.45	0.70	5.40	43	200	
1640 ²⁾	1RQ6 502-4JJ	1487	108	95.8	96.0	0.91	0.91	10532	2.30	0.60	5.10	46	220	
1820 ²⁾	1RQ6 504-4JJ	1487	120	96.0	96.2	0.92	0.91	11688	2.30	0.60	5.00	52	250	
2000 ²⁾	1RQ6 506-4JJ	1489	130	96.2	96.4	0.92	0.91	12826	2.50	0.60	5.50	56	280	
2500 ²⁾	1RQ6 560-4JJ	1492	164	96.5	96.6	0.91	0.89	16001	2.40	0.60	5.40	84	460	
2800 ²⁾	1RQ6 562-4JJ	1492	184	96.7	96.8	0.91	0.90	17921	2.35	0.60	5.30	94	510	
3100 ²⁾	1RQ6 564-4JJ	1492	200	96.8	96.9	0.92	0.91	19841	2.35	0.60	5.30	104	560	
3350 ²⁾	1RQ6 566-4JJ	1493	215	96.9	97.0	0.92	0.91	21427	2.45	0.65	5.50	115	620	
3800	1RQ4 630-4JE	1491	255	96.7	96.6	0.89	0.88	24339	2.40	0.62	5.40	139	600	
4250	1RQ4 632-4JE	1491	280	96.8	96.9	0.90	0.90	27222	2.40	0.64	5.50	154	720	
4700	1RQ4 634-4JE	1492	310	97.0	97.0	0.90	0.89	30084	2.40	0.63	5.50	174	850	
5100	1RQ4 636-4JE	1492	340	97.2	97.1	0.89	0.88	32644	2.45	0.60	5.50	186	850	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Data of vertical motors (IM V1) on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated}	Locked-rotor torque T_{LR}/T_{rated}	Locked-rotor current I_{LR}/I_{rated}	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
9.0 ... 11 kV, 50 Hz														
6-pole														
680	1RQ6 450-6JJ	991	48.5	94.8	95.2	0.85	0.82	6558	2.20	0.85	5.50	26	380	
760	1RQ6 452-6JJ	991	54	95.1	95.5	0.86	0.84	7332	2.20	0.90	5.50	29	435	
820	1RQ6 454-6JJ	991	57	95.2	95.7	0.87	0.85	7909	2.20	0.85	5.50	32	490	
960	1RQ6 456-6JJ	992	67	95.5	95.8	0.86	0.83	9246	2.20	0.80	5.50	37	570	
1120	1RQ6 500-6JJ	991	78	95.6	96.0	0.87	0.85	10793	2.20	0.88	5.50	56	740	
1280	1RQ6 502-6JJ	991	90	95.9	96.2	0.86	0.85	12335	2.15	0.79	5.50	62	820	
1400	1RQ6 504-6JJ	992	97	95.9	96.3	0.87	0.86	13478	2.15	0.83	5.50	69	910	
1525	1RQ6 506-6JJ	992	106	96.0	96.4	0.87	0.86	14681	2.15	0.86	5.50	77	1020	
1950	1RQ6 560-6JJ	992	132	96.2	96.5	0.88	0.87	18773	2.55	0.69	5.20	108	1180	
2150	1RQ6 562-6JJ	993	146	96.3	96.6	0.88	0.87	20677	2.55	0.74	5.50	119	1300	
2400	1RQ6 564-6JJ	992	164	96.5	96.7	0.88	0.88	23105	2.55	0.70	5.40	132	1460	
2600	1RQ6 566-6JJ	993	174	96.6	96.8	0.89	0.88	25005	2.75	0.80	5.50	146	1600	
3100	1RQ4 630-6JE	994	215	96.6	96.5	0.86	0.84	29784	2.30	0.66	5.40	188	1400	
3400	1RQ4 632-6JE	994	235	96.7	96.7	0.87	0.85	32666	2.30	0.68	5.50	207	1700	
3700	1RQ4 634-6JE	994	255	96.8	96.8	0.86	0.85	35548	2.30	0.67	5.50	228	2000	
4000	1RQ4 636-6JE	994	275	97.0	96.9	0.86	0.84	38431	2.40	0.67	5.50	251	2400	
8-pole														
470	1RQ6 450-8JJ	743	34.5	94.0	94.5	0.84	0.81	6045	2.20	0.75	5.50	32	250	
495	1RQ6 452-8JJ	743	35.5	94.2	94.8	0.85	0.82	6365	2.30	0.75	5.50	36	320	
520	1RQ6 454-8JJ	743	37.0	94.1	94.7	0.86	0.83	6688	2.20	0.75	5.50	41	390	
540	1RQ6 456-8JJ	745	40.5	94.3	94.6	0.82	0.77	6923	2.40	0.70	5.50	45	495	
830	1RQ6 500-8JJ	744	61	95.0	95.4	0.83	0.81	10654	2.10	0.62	5.30	69	780	
930	1RQ6 502-8JJ	744	67	95.3	95.6	0.84	0.81	11938	2.10	0.61	5.20	76	860	
1020	1RQ6 504-8JJ	744	73	95.4	95.8	0.84	0.82	13093	2.10	0.62	5.20	85	960	
1120	1RQ6 506-8JJ	744	81	95.6	95.9	0.84	0.82	14376	2.10	0.64	5.30	94	1060	
1380	1RQ6 560-8JJ	744	99	96.1	96.4	0.84	0.82	17714	2.50	0.64	5.50	128	1600	
1550	1RQ6 562-8JJ	744	110	96.3	96.6	0.84	0.82	19896	2.50	0.67	5.50	141	1760	
1700	1RQ6 564-8JJ	745	122	96.3	96.5	0.84	0.81	21792	2.55	0.68	5.50	156	1960	
1900	1RQ6 566-8JJ	745	136	96.4	96.6	0.84	0.82	24356	2.60	0.70	5.50	173	2150	
2300	1RQ4 630-8JE	744	164	96.1	96.1	0.84	0.81	29523	2.40	0.76	5.30	246	2000	
2500	1RQ4 632-8JE	745	180	96.2	96.2	0.83	0.79	32047	2.60	0.81	5.50	272	2100	
2700	1RQ4 634-8JE	745	194	96.3	96.3	0.83	0.79	34611	2.60	0.80	5.50	300	2400	
2900	1RQ4 636-8JE	745	205	96.5	96.5	0.84	0.80	37174	2.60	0.80	5.50	331	2900	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
9.0 ... 11 kV, 50 Hz														
10-pole														
600	1RQ4 500-3JE	595	48.0	93.8	93.6	0.77	0.71	9630	2.40	0.85	5.50	74	900	
680	1RQ4 502-3JE	594	51	94.2	94.2	0.81	0.76	10933	2.30	0.90	5.50	84	1150	
750	1RQ4 504-3JE	594	57	94.3	94.3	0.81	0.76	12058	2.30	0.90	5.50	92	1300	
820	1RQ4 506-3JE	594	61	94.5	94.5	0.82	0.77	13184	2.30	0.90	5.50	103	1600	
1050	1RQ4 560-3JE	594	81	94.7	94.7	0.79	0.73	16881	2.40	0.85	5.50	128	1850	
1180	1RQ4 562-3JE	594	90	95.0	95.0	0.80	0.75	18971	2.30	0.85	5.50	146	2300	
1300	1RQ4 564-3JE	595	100	95.2	95.1	0.79	0.74	20866	2.40	0.82	5.50	163	2600	
1400	1RQ4 566-3JE	595	112	95.3	95.0	0.76	0.69	22471	2.60	0.82	5.50	178	2750	
1800	1RQ4 630-3JE	594	132	95.8	95.9	0.82	0.78	28939	2.40	0.85	5.40	246	2600	
1950	1RQ4 632-3JE	595	146	96.0	96.0	0.80	0.74	31298	2.60	0.88	5.50	272	3100	
2100	1RQ4 634-3JE	595	156	96.1	96.1	0.81	0.76	33706	2.60	0.89	5.50	300	3200	
2250	1RQ4 636-3JE	595	166	96.2	96.1	0.81	0.76	36113	2.60	0.85	5.50	331	3500	
12-pole														
480	1RQ4 502-5JE	494	42.0	93.4	93.4	0.70	0.62	9279	2.40	0.85	5.40	84	1500	
530	1RQ4 504-5JE	494	46.0	93.5	93.5	0.70	0.62	10246	2.40	0.85	5.40	91	1650	
580	1RQ4 506-5JE	494	50	93.7	93.9	0.72	0.64	11213	2.50	0.85	5.40	102	1800	
720	1RQ4 560-5JE	495	60	94.0	94.4	0.74	0.67	13891	2.10	0.70	4.80	128	1950	
840	1RQ4 562-5JE	495	71	94.4	94.7	0.72	0.65	16206	2.30	0.78	5.00	146	2500	
920	1RQ4 564-5JE	495	77	94.6	94.9	0.73	0.66	17749	2.30	0.75	5.00	163	2950	
1000	1RQ4 566-5JE	495	83	94.8	95.1	0.73	0.67	19293	2.30	0.75	5.00	178	3400	
1400	1RQ4 630-5JE	495	110	95.2	95.7	0.77	0.71	27010	2.50	0.91	5.40	246	3100	
1500	1RQ4 632-5JE	495	116	95.3	95.9	0.79	0.73	28939	2.35	0.86	5.30	272	3300	
1630	1RQ4 634-5JE	495	124	95.5	96.1	0.79	0.75	31447	2.30	0.84	5.20	300	4100	
1750	1RQ4 636-5JE	496	138	95.7	96.0	0.76	0.69	33695	2.70	1.00	5.50	331	4300	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
9.0 ... 11 kV, 50 Hz														
2-pole														
5100	1RQ6 710-2HJ	2991	340	96.8	96.6	0.89	0.87	16284	2.50	0.53	5.50	134	176	
6000	1RQ6 712-2HJ	2991	395	96.9	96.7	0.91	0.90	19164	2.30	0.51	5.50	148	202	
6600	1RQ6 714-2HJ	2991	425	96.9	96.8	0.92	0.91	21081	2.30	0.53	5.50	163	217	
7300	1RQ6 716-2HJ	2990	470	97.0	96.8	0.92	0.92	23317	2.40	0.55	5.50	180	250	
4-pole														
5100	1RQ6 710-4JJ	1494	335	97.1	97.1	0.91	0.90	32613	2.30	0.57	5.50	278	822	
5500	1RQ6 712-4JJ	1493	355	97.1	97.2	0.92	0.91	35180	2.20	0.58	5.50	305	945	
6100	1RQ6 714-4JJ	1493	395	97.1	97.3	0.92	0.91	39020	2.20	0.60	5.50	341	1109	
6400	1RQ6 716-4JJ	1494	415	97.2	97.3	0.92	0.91	40924	2.30	0.60	5.50	374	1326	
6-pole														
4200	1RQ6 710-6JJ	994	290	96.9	97.1	0.87	0.85	40353	2.10	0.69	5.40	338	2212	
4600	1RQ6 712-6JJ	994	315	97.0	97.2	0.87	0.86	44186	2.20	0.73	5.50	375	2525	
5000	1RQ6 714-6JJ	995	340	97.1	97.3	0.88	0.86	48018	2.30	0.79	5.50	427	3073	
5500	1RQ6 716-6JJ	995	375	97.2	97.3	0.87	0.86	52802	2.30	0.79	5.50	476	3474	
8-pole														
3150	1RQ6 710-8JJ	745	220	96.6	96.9	0.85	0.84	40379	2.00	0.76	5.30	426	5924	
3450	1RQ6 712-8JJ	745	240	96.7	97.0	0.86	0.84	44216	2.00	0.80	5.40	476	6774	
3850	1RQ6 714-8JJ	746	270	96.8	97.1	0.85	0.83	49317	2.10	0.86	5.50	542	7958	
4300	1RQ6 716-8JJ	746	300	96.9	97.2	0.85	0.83	55059	2.20	0.89	5.50	608	9292	
10-pole														
2300	1RQ6 710-3JJ	596	172	96.3	96.6	0.80	0.76	36841	2.40	0.82	5.50	426	8174	
2550	1RQ6 712-3JJ	596	188	96.4	96.7	0.81	0.77	40851	2.30	0.79	5.50	476	9424	
2900	1RQ6 714-3JJ	596	215	96.6	96.9	0.81	0.77	46442	2.40	0.83	5.50	542	13308	
3200	1RQ6 716-3JJ	597	235	96.7	96.9	0.81	0.77	51238	2.50	0.86	5.50	609	14591	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

The following data also apply to explosion-protected motors 1SB4/1SB6 (Ex px) and 1SG4/1SG6 (Ex nA).

Rated power IEC	High voltage motor H-compact PLUS	Speed	Rated current	Efficiency			Power factor		Torque	Break-down torque	Locked-rotor torque	Locked-rotor current	Moment of inertia	
				I_{rated} at 6.6 kV	4/4 load	3/4 load	4/4 load	3/4 load					$T_{\text{B}}/T_{\text{rated}}$	$T_{\text{LR}}/T_{\text{rated}}$
kW	Article No.	rpm	A	%	%	cos φ	cos φ	Nm	[-]	[-]	[-]	kgm ²	kgm ²	
4.0 ... 6.6 kV, 60 Hz														
2-pole														
1280	1RQ6 450-2JJ	3575	130	95.3	95.2	0.90	0.90	3420	2.00	0.50	5.30	13	44	
1420	1RQ6 452-2JJ	3577	142	95.6	95.6	0.91	0.91	3795	2.20	0.55	5.50	14	46	
1580	1RQ6 454-2JJ	3579	158	95.9	95.8	0.91	0.91	4218	2.30	0.55	5.50	15	48	
1740	1RQ6 456-2JJ	3582	174	96.1	96.0	0.91	0.91	4641	2.40	0.50	5.50	17	51	
2200	1RQ6 500-2JJ	3580	220	96.2	96.2	0.90	0.89	5868	2.40	0.60	5.50	20	63	
2350	1RQ6 502-2JJ	3580	235	96.3	96.3	0.91	0.91	6268	2.40	0.70	5.50	22	70	
2650	1RQ6 504-2JJ	3579	260	96.6	96.6	0.92	0.92	7071	2.45	0.60	5.50	26	78	
2900	1RQ6 506-2JJ	3579	280	96.8	96.8	0.93	0.92	7738	2.35	0.70	5.50	27	86	
3400	1RQ6 560-2JJ	3581	340	96.6	96.5	0.90	0.90	9067	2.05	0.55	4.80	39	130	
3800	1RQ6 562-2JJ	3582	380	96.7	96.6	0.91	0.90	10130	2.15	0.55	5.00	43	145	
4100	1RQ6 564-2JJ	3582	400	96.9	96.8	0.92	0.92	10930	2.25	0.55	5.20	49	160	
4500	1RQ6 566-2JJ	3583	440	97.0	97.0	0.92	0.92	11993	2.20	0.55	5.10	54	180	
4300	1RQ4 630-2JE	3584	435	96.1	95.8	0.90	0.89	11458	2.30	0.33	4.70	61	80	
4900	1RQ4 632-2JE	3585	495	96.5	96.2	0.90	0.89	13053	2.50	0.37	5.10	68	110	
5600	1RQ4 634-2JE	3586	560	96.9	96.6	0.90	0.90	14914	2.60	0.38	5.30	77	160	
6300	1RQ4 636-2JE	3587	620	97.1	96.8	0.91	0.90	16773	2.60	0.40	5.50	87	190	
4-pole														
1340	1RQ6 450-4JJ	1786	138	95.5	95.5	0.89	0.87	7168	2.20	0.70	5.50	20	200	
1410	1RQ6 452-4JJ	1788	146	95.5	95.4	0.88	0.86	7535	2.30	0.65	5.50	22	240	
1590	1RQ6 454-4JJ	1787	162	95.8	95.9	0.90	0.89	8502	2.20	0.65	5.50	25	295	
1740	1RQ6 456-4JJ	1787	176	96.0	96.1	0.90	0.90	9304	2.20	0.65	5.50	28	355	
2150 ²⁾	1RQ6 500-4JJ	1786	215	96.0	96.1	0.92	0.91	11496	2.30	0.60	5.00	43	250	
2350 ²⁾	1RQ6 502-4JJ	1787	235	96.2	96.2	0.92	0.91	12558	2.40	0.60	5.30	46	290	
2700 ²⁾	1RQ6 504-4JJ	1788	265	96.4	96.4	0.92	0.91	14420	2.45	0.60	5.30	52	320	
2950 ²⁾	1RQ6 506-4JJ	1788	290	96.6	96.6	0.92	0.91	15755	2.50	0.60	5.40	56	360	
3500 ²⁾	1RQ6 560-4JJ	1791	350	96.7	96.6	0.91	0.90	18661	2.30	0.60	5.20	84	660	
3900 ²⁾	1RQ6 562-4JJ	1792	390	96.8	96.8	0.90	0.89	20783	2.30	0.55	5.20	94	730	
4400 ²⁾	1RQ6 564-4JJ	1792	435	97.0	97.0	0.91	0.90	23447	2.35	0.55	5.30	104	800	
4700 ²⁾	1RQ6 566-4JJ	1792	465	97.1	97.0	0.91	0.90	25046	2.35	0.55	5.30	115	880	
5000	1RQ4 630-4JE	1791	500	96.8	96.6	0.90	0.89	26661	2.40	0.60	5.30	139	650	
5500	1RQ4 632-4JE	1791	551	96.9	96.8	0.90	0.90	29327	2.40	0.62	5.30	154	750	
6100	1RQ4 634-4JE	1791	610	97.1	96.9	0.90	0.90	32527	2.40	0.65	5.50	174	800	
6700	1RQ4 636-4JE	1791	670	97.2	97.1	0.90	0.90	35726	2.40	0.65	5.50	186	820	

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Data of vertical motors (IM V1) on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6.6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. 1) kgm ²	
4.0 ... 6.6 kV, 60 Hz														
6-pole														
1040	1RQ6 450-6JJ	1189	110	95.5	95.8	0.86	0.84	8360	2.10	0.80	5.50	26	530	
1130	1RQ6 452-6JJ	1191	122	95.7	95.9	0.85	0.83	9070	2.10	0.80	5.50	29	600	
1270	1RQ6 454-6JJ	1190	134	95.9	96.1	0.86	0.84	10197	2.10	0.80	5.50	32	660	
1360	1RQ6 456-6JJ	1191	144	96.0	96.1	0.86	0.84	10911	2.20	0.85	5.50	37	770	
1700	1RQ6 500-6JJ	1190	180	96.1	96.3	0.86	0.85	13643	2.15	0.83	5.40	56	1000	
1920	1RQ6 502-6JJ	1191	205	96.3	96.4	0.85	0.84	15395	2.15	0.79	5.50	62	1120	
2100	1RQ6 504-6JJ	1190	220	96.3	96.5	0.86	0.86	16853	2.00	0.72	5.20	69	1240	
2300	1RQ6 506-6JJ	1191	240	96.5	96.6	0.86	0.84	18442	2.20	0.74	5.40	77	1380	
2700	1RQ6 560-6JJ	1191	280	96.5	96.6	0.88	0.87	21650	2.40	0.66	5.00	108	1440	
3050	1RQ6 562-6JJ	1191	315	96.6	96.8	0.88	0.87	24456	2.35	0.64	5.10	119	1580	
3350	1RQ6 564-6JJ	1192	345	96.8	96.9	0.88	0.88	26839	2.55	0.72	5.30	132	1740	
3600	1RQ6 566-6JJ	1192	370	96.9	97.0	0.88	0.88	28842	2.60	0.73	5.50	146	1940	
4250	1RQ4 630-6JE	1193	445	96.8	96.7	0.86	0.84	34021	2.30	0.62	5.20	188	1850	
4550	1RQ4 632-6JE	1193	480	96.8	96.8	0.86	0.85	36423	2.20	0.62	5.20	207	1700	
4900	1RQ4 634-6JE	1194	510	97.0	96.9	0.87	0.85	39192	2.30	0.66	5.40	228	2300	
5200	1RQ4 636-6JE	1194	540	97.2	97.0	0.87	0.85	41591	2.40	0.67	5.50	251	2600	
8-pole														
740	1RQ6 450-8JJ	892	81	95.1	95.4	0.84	0.82	7928	1.90	0.65	5.50	32	660	
820	1RQ6 452-8JJ	892	90	95.3	95.5	0.84	0.82	8781	2.00	0.65	5.50	36	770	
910	1RQ6 454-8JJ	893	100	95.1	95.5	0.84	0.81	9736	2.20	0.70	5.50	41	890	
1000	1RQ6 456-8JJ	894	108	95.6	95.7	0.84	0.80	10690	2.30	0.75	5.50	47	1080	
1250	1RQ6 500-8JJ	893	138	95.7	95.8	0.83	0.81	13368	1.95	0.52	4.90	69	1060	
1400	1RQ6 502-8JJ	893	154	95.9	96.0	0.83	0.81	14972	2.05	0.56	5.10	76	1180	
1550	1RQ6 504-8JJ	893	170	95.9	96.0	0.83	0.81	16576	2.10	0.58	5.30	85	1320	
1700	1RQ6 506-8JJ	893	184	96.0	96.1	0.84	0.81	18180	2.10	0.60	5.30	94	1460	
2000	1RQ6 560-8JJ	894	220	96.5	96.6	0.83	0.81	21365	2.65	0.66	5.50	128	2100	
2200	1RQ6 562-8JJ	894	235	96.6	96.8	0.84	0.82	23501	2.45	0.66	5.50	141	2350	
2400	1RQ6 564-8JJ	894	260	96.7	96.8	0.84	0.82	25638	2.60	0.67	5.50	156	2550	
2650	1RQ6 566-8JJ	894	285	96.8	96.9	0.84	0.82	28308	2.50	0.64	5.50	173	2850	

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current I_{rated} at 6.6 kV A	Efficiency		Power factor		Torque Nm	Break- down torque $T_{\text{B}}/$ T_{rated} [-]	Locked- rotor torque $T_{\text{LR}}/$ T_{rated} [-]	Locked- rotor current $I_{\text{LR}}/$ I_{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \varphi$	3/4 load $\cos \varphi$					Motor	External, max. 1)
4.0 ... 6.6 kV, 60 Hz													
10-pole													
540	1RQ6 450-3JJ	711	63	93.9	93.8	0.80	0.75	7253	2.20	0.88	5.30	39	700
600	1RQ6 452-3JJ	712	71	94.2	94.1	0.79	0.73	8048	2.30	0.90	5.50	43	900
670	1RQ6 454-3JJ	712	80	94.3	94.2	0.78	0.73	8987	2.40	1.00	5.50	48	950
730	1RQ6 456-3JJ	713	88	94.5	94.3	0.77	0.72	9778	2.40	0.90	5.50	54	1100
900	1RQ4 500-3JE	713	104	94.9	94.7	0.80	0.76	12055	2.10	0.78	5.20	74	1400
1000	1RQ4 502-3JE	713	114	95.1	94.9	0.80	0.75	13394	2.20	0.82	5.30	84	1700
1100	1RQ4 504-3JE	713	126	95.1	94.9	0.80	0.76	14734	2.20	0.82	5.30	92	1700
1250	1RQ4 506-3JE	713	144	95.4	95.1	0.80	0.75	16743	2.30	0.88	5.50	103	2250
1460	1RQ4 560-3JE	714	172	95.4	95.2	0.78	0.72	19528	2.40	0.85	5.40	128	2400
1680	1RQ4 562-3JE	714	196	95.7	95.5	0.78	0.72	22471	2.40	0.85	5.50	146	2800
1820	1RQ4 564-3JE	714	210	95.7	95.6	0.80	0.76	24343	2.30	0.80	5.40	163	3200
1930	1RQ4 566-3JE	715	225	95.9	95.6	0.79	0.73	25778	2.40	0.80	5.50	178	3600
12-pole													
370	1RQ6 450-5JJ	592	48.0	93.1	92.9	0.72	0.66	5969	2.00	0.68	4.60	39	700
425	1RQ6 452-5JJ	593	57	93.5	93.0	0.70	0.63	6844	2.20	0.72	4.80	43	1000
480	1RQ6 454-5JJ	593	63	94.0	93.7	0.71	0.65	7730	2.10	0.72	4.80	48	1300
540	1RQ6 456-5JJ	593	69	94.1	93.9	0.73	0.68	8696	2.00	0.68	4.70	54	1500
650	1RQ4 500-5JE	593	84	94.3	94.1	0.72	0.66	10468	2.20	0.70	4.80	74	1600
730	1RQ4 502-5JE	593	91	94.5	94.3	0.74	0.70	11756	2.10	0.65	4.70	84	1800
820	1RQ4 504-5JE	593	104	94.7	94.4	0.73	0.68	13206	2.20	0.70	4.80	91	2100
900	1RQ4 506-5JE	593	116	94.8	94.5	0.72	0.66	14494	2.30	0.75	5.20	102	2400
1100	1RQ4 560-5JE	594	138	95.0	94.9	0.73	0.67	17685	2.00	0.62	4.50	128	2400
1220	1RQ4 562-5JE	594	152	95.2	95.1	0.74	0.68	19614	2.10	0.65	4.50	146	3000
1320	1RQ4 564-5JE	595	166	95.3	95.1	0.73	0.67	21187	2.20	0.68	4.60	163	3300
1450	1RQ4 566-5JE	595	180	95.4	95.3	0.74	0.68	23273	2.20	0.68	4.60	178	3800

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

The following data also apply to explosion-protected motors 1SB4/1SB6 (Ex px) and 1SG4/1SG6 (Ex nA).

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6.6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. 1) kgm ²	
4.0 ... 6.6 kV, 60 Hz														
2-pole														
6100 ²⁾	1RQ6 710-2HJ ■0	3591	610	96.6	96.2	0.90	0.88	16226	2.40	0.48	5.50	134	61	
7700 ²⁾	1RQ6 712-2HJ ■0	3590	760	96.9	96.6	0.91	0.90	20485	2.30	0.48	5.50	148	62	
9500 ²⁾	1RQ6 714-2HJ ■0	3590	940	97.2	96.9	0.91	0.91	25277	2.20	0.46	5.30	163	57	
10800 ²⁾	1RQ6 716-2HJ ■0	3590	1060	97.3	97.0	0.92	0.91	28734	2.40	0.52	5.50	180	60	
4-pole														
6900 ²⁾	1RQ6 710-4JJ ■0	1794	690	97.1	97.0	0.90	0.88	36736	2.50	0.57	5.50	278	372	
8400 ²⁾	1RQ6 712-4JJ ■0	1793	830	97.4	97.3	0.91	0.90	44743	2.30	0.60	5.50	305	395	
9200 ²⁾	1RQ6 714-4JJ ■0	1793	900	97.4	97.3	0.92	0.91	49006	2.30	0.61	5.50	341	469	
10200 ²⁾	1RQ6 716-4JJ ■0	1793	990	97.5	97.4	0.92	0.91	54328	2.30	0.62	5.50	374	526	
6-pole														
5700	1RQ6 710-6JJ ■■	1194	590	97.1	97.1	0.87	0.85	45593	2.20	0.71	5.50	338	1024	
6400	1RQ6 712-6JJ ■■	1194	660	97.2	97.2	0.87	0.85	51190	2.20	0.69	5.50	375	1190	
6800	1RQ6 714-6JJ ■■	1195	710	97.3	97.3	0.86	0.84	54356	2.30	0.72	5.50	427	1496	
7500	1RQ6 716-6JJ ■■	1195	770	97.3	97.3	0.87	0.85	59959	2.30	0.75	5.50	476	1848	
8-pole														
4400	1RQ6 710-8JJ ■■	895	475	96.9	97.1	0.84	0.82	46939	2.10	0.82	5.50	426	3174	
4900	1RQ6 712-8JJ ■■	895	520	96.9	97.1	0.85	0.83	52270	2.10	0.84	5.50	476	3624	
5400	1RQ6 714-8JJ ■■	896	580	97.1	97.2	0.84	0.82	57577	2.20	0.85	5.50	542	4358	
6000	1RQ6 716-8JJ ■■	896	650	97.2	97.2	0.83	0.80	63953	2.20	0.82	5.50	608	5192	
10-pole														
3000	1RQ6 710-3JJ ■■	716	340	96.6	96.8	0.80	0.75	40008	2.40	0.77	5.50	426	5774	
3350	1RQ6 712-3JJ ■■	716	375	96.8	96.9	0.81	0.77	44683	2.30	0.74	5.50	476	6424	
3750	1RQ6 714-3JJ ■■	716	425	96.9	97.0	0.80	0.76	49999	2.40	0.80	5.50	542	7758	
4200	1RQ6 716-3JJ ■■	717	475	96.9	97.0	0.80	0.76	55987	2.40	0.79	5.50	609	9041	

Voltage code:

4 kV, 60 Hz
4.16 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
3
1
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ $V_{rated} < 6$ kV on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 13.2 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
12.5 ... 13.8 kV, 60 Hz														
2-pole														
5200	1RQ6 710-2HJ	3591	260	96.2	95.7	0.91	0.89	13830	2.50	0.49	5.50	134	76	
6400	1RQ6 712-2HJ	3591	320	96.4	96.1	0.91	0.90	17024	2.40	0.48	5.50	148	87	
7100	1RQ6 714-2HJ	3591	350	96.4	96.1	0.92	0.92	18888	2.30	0.48	5.50	163	92	
8100	1RQ6 716-2HJ	3590	395	96.7	96.3	0.93	0.93	21552	2.30	0.50	5.50	180	105	
4-pole														
5400	1RQ6 710-4JJ	1794	270	96.6	96.5	0.91	0.90	28752	2.40	0.57	5.50	278	452	
6200	1RQ6 712-4JJ	1794	310	96.8	96.7	0.91	0.90	33007	2.40	0.57	5.50	305	515	
6600	1RQ6 714-4JJ	1794	325	96.8	96.7	0.92	0.91	35144	2.40	0.60	5.50	341	619	
7300	1RQ6 716-4JJ	1794	360	96.9	96.8	0.92	0.91	38870	2.40	0.60	5.50	374	706	
6-pole														
4600	1RQ6 710-6JJ	1195	240	96.7	96.7	0.86	0.83	36768	2.40	0.70	5.50	338	1602	
5000	1RQ6 712-6JJ	1195	260	96.9	96.8	0.87	0.85	39972	2.30	0.71	5.50	375	1825	
5400	1RQ6 714-6JJ	1195	285	96.9	96.9	0.86	0.84	43153	2.40	0.69	5.50	427	2273	
5900	1RQ6 716-6JJ	1195	305	97.0	96.9	0.87	0.84	47144	2.40	0.69	5.50	476	2674	
8-pole														
3250	1RQ6 710-8JJ	896	174	96.4	96.5	0.85	0.82	34652	2.30	0.82	5.50	426	3574	
3600	1RQ6 712-8JJ	896	192	96.5	96.6	0.85	0.83	38384	2.30	0.83	5.50	476	4124	
3950	1RQ6 714-8JJ	896	210	96.6	96.7	0.86	0.84	42116	2.20	0.83	5.50	542	5008	
4400	1RQ6 716-8JJ	896	235	96.6	96.8	0.85	0.82	46894	2.30	0.79	5.50	608	5392	
10-pole														
2500	1RQ6 710-3JJ	717	142	96.2	96.3	0.80	0.76	33330	2.40	0.76	5.50	426	4374	
2750	1RQ6 712-3JJ	716	154	96.3	96.5	0.81	0.78	36668	2.30	0.73	5.50	476	5174	
3100	1RQ6 714-3JJ	717	176	96.5	96.5	0.80	0.75	41311	2.50	0.75	5.50	542	5658	
3400	1RQ6 716-3JJ	717	192	96.6	96.6	0.80	0.76	45308	2.50	0.74	5.50	609	6791	

Voltage code:

13.2 kV, 60 Hz
Other voltage

2
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

NEMA version

Rated power NEMA hp	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked- rotor torque T_{LR}/T_{rated} [-]	Locked- rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6.6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					Exter- nal, max. 1) kgm ²	
4.0 ... 6.6 kV, 60 Hz														
2-pole														
8000	1RQ6 710-2BM ■ 0	3588	603	96.1	95.7	0.90	0.88	15881	2.50	0.60	5.70	134	41	
9000	1RQ6 712-2BM ■ 0	3587	664	96.1	95.8	0.92	0.91	17868	2.40	0.60	5.60	148	43	
10000	1RQ6 712-2BN ■ 0	3588	742	96.3	96.0	0.91	0.90	19852	2.60	0.62	6.10	148	44	
11000	1RQ6 714-2BM ■ 0	3587	807	96.4	96.0	0.92	0.91	21841	2.50	0.60	5.80	163	46	
12000	1RQ6 714-2BN ■ 0	3587	883	96.5	96.2	0.92	0.91	23827	2.40	0.60	5.70	163	47	
13000	1RQ6 716-2BM ■ 0	3587	948	96.5	96.3	0.92	0.92	25815	2.40	0.60	5.80	180	48	
14000	1RQ6 716-2BN ■ 0	3587	1021	96.6	96.4	0.92	0.92	27801	2.50	0.65	6.00	180	49	
4-pole														
10000	1RQ6 710-4CJ ■ 0	1794	745	97.0	96.9	0.90	0.88	39707	2.40	0.60	6.30	278	555	
11000	1RQ6 712-4CJ ■ 0	1793	805	97.1	97.0	0.91	0.90	43690	2.40	0.61	6.20	305	661	
12000	1RQ6 714-4CJ ■ 0	1793	873	97.1	97.0	0.92	0.91	47659	2.40	0.63	6.30	341	679	
13000	1RQ6 716-4CJ ■ 0	1794	948	97.2	97.1	0.91	0.91	51626	2.30	0.60	6.10	374	695	
6-pole														
8000	1RQ6 710-6CJ ■ ■	1194	626	96.9	96.9	0.86	0.83	47715	2.20	0.71	5.70	338	1847	
9000	1RQ6 714-6CJ ■ ■	1195	703	97.0	97.0	0.86	0.83	53642	2.30	0.73	6.00	427	1954	
10000	1RQ6 716-6CJ ■ ■	1195	770	97.1	97.1	0.87	0.85	59613	2.30	0.76	6.00	476	2043	
8-pole														
5500	1RQ6 710-8CJ ■ ■	896	440	96.7	96.8	0.84	0.81	43733	2.30	0.86	6.00	426	3235	
6000	1RQ6 712-8CJ ■ ■	896	481	96.7	96.8	0.84	0.81	47703	2.20	0.83	6.00	476	3437	
7000	1RQ6 714-8CJ ■ ■	896	561	96.9	96.9	0.84	0.81	55649	2.20	0.83	6.00	542	3817	
8000	1RQ6 716-8CJ ■ ■	896	645	96.9	97.0	0.83	0.80	63590	2.20	0.80	6.00	608	4154	
10-pole														
4000	1RQ6 710-3CJ ■ ■	716	339	96.5	96.5	0.80	0.75	39780	2.40	0.77	5.80	426	4563	
4500	1RQ6 712-3CJ ■ ■	716	375	96.6	96.7	0.81	0.77	44763	2.30	0.73	5.60	476	5006	
5000	1RQ6 714-3CJ ■ ■	716	418	96.7	96.7	0.80	0.76	49717	2.40	0.80	6.00	542	5428	
5500	1RQ6 716-3CJ ■ ■	717	464	96.7	96.7	0.80	0.75	54660	2.50	0.79	6.00	609	5833	

Voltage code:

4 kV, 60 Hz
4.16 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
3
1
9

Note:

Higher pole numbers are available on request.

Type of construction:

IM B3
IM V1 (with canopy)

0
4

1) Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

NEMA version

Rated power NEMA hp	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current I _{rated} at 13.2 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T _B / T _{rated} [-]	Locked-rotor torque T _{LR} / T _{rated} [-]	Locked-rotor current I _{LR} / I _{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ					Motor kgm ²	External, max. ¹⁾ kgm ²
12.5 ... 13.8 kV, 60 Hz													
2-pole													
7000	1RQ6 710-2BM 0	3589	263	95.7	95.2	0.91	0.89	13894	2.50	0.60	5.70	134	40
8000	1RQ6 712-2BM 0	3589	298	95.8	95.3	0.91	0.90	15879	2.60	0.60	6.00	148	41
9000	1RQ6 714-2BM 0	3588	332	95.9	95.4	0.92	0.91	17865	2.50	0.60	5.80	163	43
10000	1RQ6 716-2BM 0	3588	365	95.9	95.6	0.93	0.93	19854	2.50	0.60	5.90	180	44
4-pole													
7000	1RQ6 710-4CJ 0	1794	258	96.4	96.2	0.91	0.90	27791	2.40	0.60	6.30	278	520
8000	1RQ6 714-4CJ 0	1794	291	96.5	96.4	0.92	0.92	31772	2.30	0.60	6.10	341	541
9000	1RQ6 714-4CK 0	1794	328	96.6	96.5	0.92	0.91	35738	2.40	0.60	6.20	341	552
10000	1RQ6 716-4CJ 0	1794	364	96.7	96.6	0.92	0.91	39707	2.40	0.60	6.30	374	555
6-pole													
6000	1RQ6 710-6CJ 0	1195	237	96.5	96.4	0.85	0.83	35757	2.40	0.69	6.00	338	1571
7000	1RQ6 714-6CJ 0	1195	274	96.7	96.6	0.86	0.83	41709	2.40	0.67	6.00	427	1720
8000	1RQ6 716-6CJ 0	1195	310	96.7	96.7	0.87	0.84	47674	2.40	0.68	6.00	476	1846
8-pole													
4000	1RQ6 710-8CJ 0	896	160	96.2	96.2	0.85	0.82	31800	2.30	0.79	6.00	426	2560
4500	1RQ6 712-8CJ 0	896	179	96.3	96.3	0.85	0.83	35780	2.20	0.79	5.90	476	2796
5000	1RQ6 714-8CJ 0	896	197	96.4	96.5	0.86	0.84	39760	2.20	0.79	5.90	542	3024
5500	1RQ6 716-8CJ 0	896	216	96.4	96.5	0.86	0.84	43719	2.20	0.81	6.00	608	3235
10-pole													
3000	1RQ6 710-3CJ 0	716	125	96.0	96.1	0.81	0.78	29829	2.30	0.70	5.70	426	3619
3500	1RQ6 712-3CJ 0	717	147	96.2	96.2	0.81	0.77	34792	2.50	0.77	6.00	476	4104
4000	1RQ6 714-3CJ 0	717	167	96.2	96.2	0.81	0.77	39763	2.40	0.76	6.00	542	4563
4500	1RQ6 716-3CJ 0	717	190	96.4	96.4	0.80	0.76	44718	2.50	0.74	6.00	609	5006

Voltage code:

13.2 kV, 60 Hz
Other voltage

2
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Higher pole numbers are available on request.

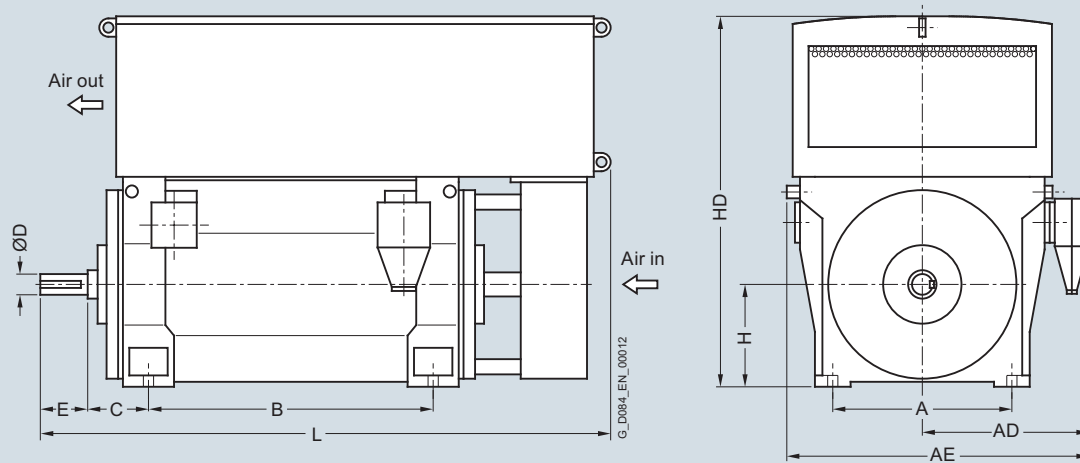
¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
Up to 6.6 kV, IM B3 type of construction, roller bearings – series 1RQ4, 1RQ6 ²⁾											
2-pole											
1RQ6 450-2JJ.0 ³⁾	4250	850	930	1620	1180	280	95	130	450	1842	2425 ⁴⁾
1RQ6 452-2JJ.0 ³⁾	4450	850	930	1620	1180	280	95	130	450	1842	2425 ⁴⁾
1RQ6 454-2JJ.0 ³⁾	4800	850	930	1620	1400	280	95	130	450	1842	2635 ⁴⁾
1RQ6 456-2JJ.0 ³⁾	5050	850	930	1620	1400	280	95	130	450	1842	2635 ⁴⁾
1RQ6 500-2JJ.0 ³⁾	6100	950	1135	1835	1320	315	110	165	500	2040	3450 ⁴⁾
1RQ6 502-2JJ.0 ³⁾	6250	950	1135	1835	1320	315	110	165	500	2040	3450 ⁴⁾
4-pole											
1RQ6 450-4JJ.0	4550	850	930	1620	1180	250	130	200	450	1842	2455
1RQ6 452-4JJ.0	4750	850	930	1620	1180	250	130	200	450	1842	2455
1RQ6 454-4JJ.0	5200	850	930	1620	1400	250	130	200	450	1842	2665
1RQ6 456-4JJ.0	5450	850	930	1620	1400	250	130	200	450	1842	2665
1RQ6 500-4JJ.0	6600	950	1135	1835	1320	280	150	200	500	2040	2900
1RQ6 502-4JJ.0	6800	950	1135	1835	1320	280	150	200	500	2040	2900
1RQ6 504-4JJ.0	7550	950	1135	1835	1500	280	150	200	500	2040	3050
1RQ6 506-4JJ.0	7850	950	1135	1835	1500	280	150	200	500	2040	3050
1RQ6 560-4JJ.0	8250	1060	1205	1975	1400	315	170	240	560	2300	3000
1RQ6 562-4JJ.0	8600	1060	1205	1975	1400	315	170	240	560	2300	3000
1RQ6 564-4JJ.0	9550	1060	1205	1975	1600	315	170	240	560	2300	3250
1RQ6 566-4JJ.0	10100	1060	1205	1975	1600	315	170	240	560	2300	3250
1RQ4 630-4JE.0 ³⁾	11100	1320	1330	2210	1600	335	190	280	630	2340	3140
1RQ4 632-4JE.0 ³⁾	11800	1320	1330	2210	1600	335	190	280	630	2340	3140
1RQ4 634-4JE.0 ³⁾	12900	1320	1330	2210	1800	335	200	280	630	2340	3380
1RQ4 636-4JE.0 ³⁾	13450	1320	1330	2210	1800	335	200	280	630	2340	3380

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

³⁾ Roller bearings only for 50 Hz operation.

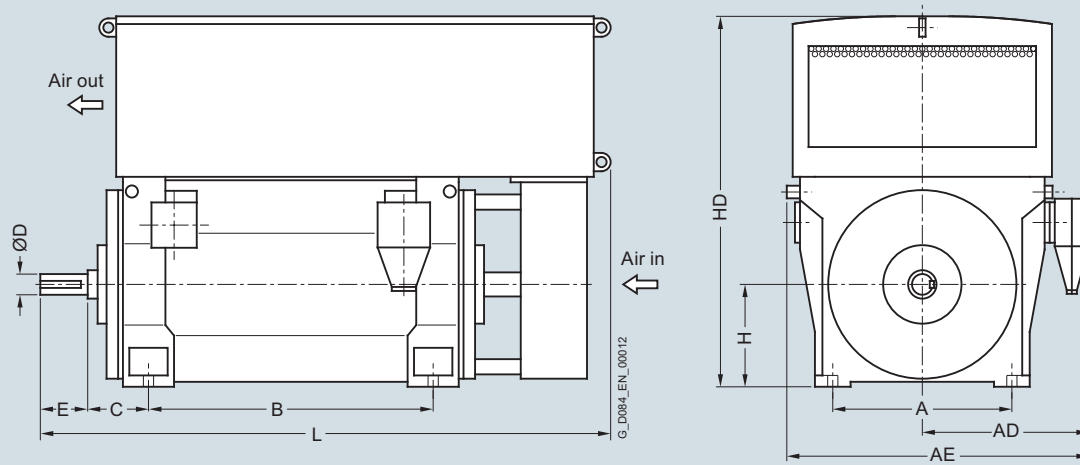
⁴⁾ Including air inlet silencer.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, IM B3 type of construction, roller bearings – series 1RQ4, 1RQ6²⁾

6-pole

1RQ6 450-6JJ.0	4650	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6 452-6JJ.0	4900	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6 454-6JJ.0	5300	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6 456-6JJ.0	5650	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6 500-6JJ.0	6750	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6 502-6JJ.0	7050	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6 504-6JJ.0	7700	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6 506-6JJ.0	8050	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6 560-6JJ.0	9100	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6 562-6JJ.0	9550	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6 564-6JJ.0	10450	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ6 566-6JJ.0	11000	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ4 630-6JE.0	11400	1320	1330	2210	1600	335	200	280	630	2340	3140
1RQ4 632-6JE.0	12000	1320	1330	2210	1600	335	200	280	630	2340	3140
1RQ4 634-6JE.0	12900	1320	1330	2210	1800	335	200	280	630	2340	3380
1RQ4 636-6JE.0	13750	1320	1330	2210	1800	335	200	280	630	2340	3380

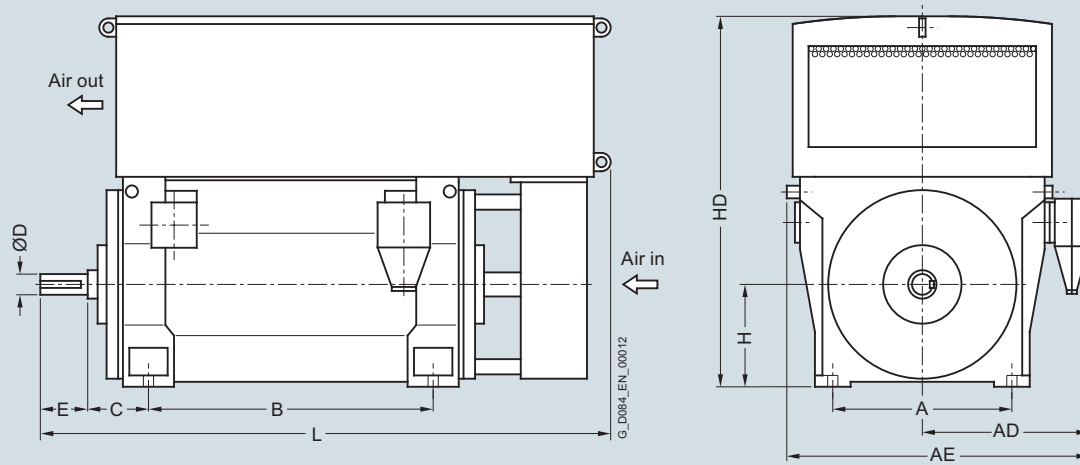
8-pole

1RQ6 450-8JJ.0	4650	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6 452-8JJ.0	4950	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6 454-8JJ.0	5350	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6 456-8JJ.0	5700	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6 500-8JJ.0	6750	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6 502-8JJ.0	7000	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6 504-8JJ.0	7650	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6 506-8JJ.0	8000	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6 560-8JJ.0	9050	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6 562-8JJ.0	9450	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6 564-8JJ.0	10400	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ6 566-8JJ.0	10900	1060	1205	1975	1600	315	180	240	560	2240	3250

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
mm											

Up to 6.6 kV, IM B3 type of construction, roller bearings – series 1RQ4, 1RQ6²⁾

8-pole

1RQ4 630-8JE.0 ³⁾	11200	1320	1180	2060	1600	335	200	280	630	2340	3140
1RQ4 632-8JE.0 ³⁾	11950	1320	1330	2210	1600	335	200	280	630	2340	3140
1RQ4 634-8JE.0 ³⁾	12900	1320	1330	2210	1800	335	200	280	630	2340	3380
1RQ4 636-8JE.0 ³⁾	13650	1320	1330	2210	1800	335	200	280	630	2340	3380

10-pole

1RQ6 450-3JJ.0	4650	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6 452-3JJ.0	4950	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6 454-3JJ.0	5350	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6 456-3JJ.0	5700	850	930	1620	1400	280	140	200	450	1842	2665
1RQ4 500-3JE.0	6000	950	1000	1760	1320	280	150	200	500	2000	2660
1RQ4 502-3JE.0	6300	950	1000	1760	1320	280	150	200	500	2000	2660
1RQ4 504-3JE.0	6900	950	1000	1760	1500	280	160	240	500	2000	2910
1RQ4 506-3JE.0	7300	950	1000	1760	1500	280	160	240	500	2000	2910
1RQ4 560-3JE.0	8000	1060	1070	1900	1400	315	170	240	560	2260	2950
1RQ4 562-3JE.0	8600	1060	1070	1900	1400	315	170	240	560	2260	2950
1RQ4 564-3JE.0	9450	1060	1070	1900	1600	315	180	240	560	2260	3180
1RQ4 566-3JE.0	9900	1060	1070	1900	1600	315	180	240	560	2260	3180
1RQ4 630-3JE.0 ³⁾	11200	1320	1180	2060	1600	335	200	280	630	2340	3140
1RQ4 632-3JE.0 ³⁾	11800	1320	1180	2060	1600	335	200	280	630	2340	3140
1RQ4 634-3JE.0 ³⁾	12900	1320	1180	2060	1800	335	200	280	630	2340	3380
1RQ4 636-3JE.0 ³⁾	13550	1320	1180	2060	1800	335	200	280	630	2340	3380

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

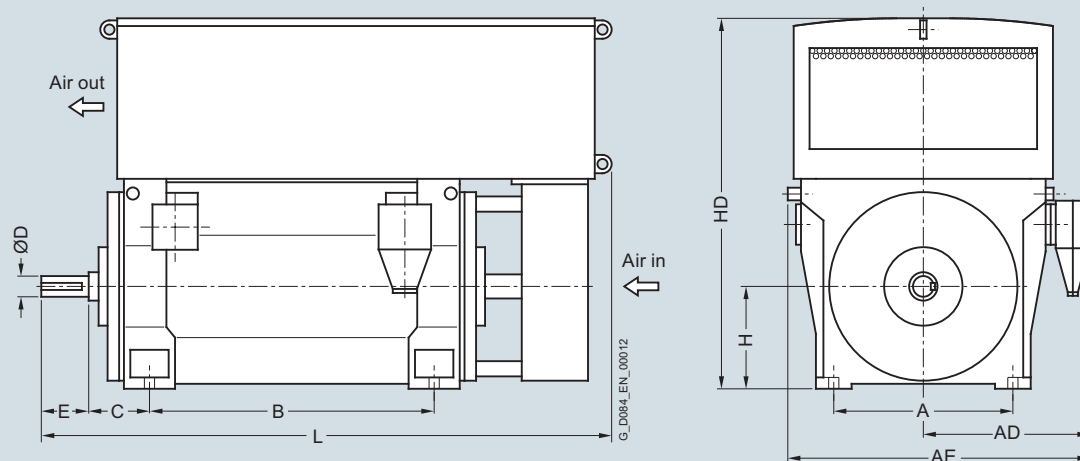
³⁾ Roller bearings only for 50 Hz operation.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L

Up to 6.6 kV, IM B3 type of construction, roller bearings – series 1RQ4, 1RQ6²⁾

12-pole

1RQ6 450-5JJ.0	4650	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6 452-5JJ.0	4950	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6 454-5JJ.0	5350	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6 456-5JJ.0	5700	850	930	1620	1400	280	140	200	450	1842	2665
1RQ4 500-5JE.0	6000	950	1000	1760	1320	280	150	200	500	2000	2660
1RQ4 502-5JE.0	6300	950	1000	1760	1320	280	150	200	500	2000	2660
1RQ4 504-5JE.0	6900	950	1000	1760	1500	280	160	240	500	2000	2910
1RQ4 506-5JE.0	7300	950	1000	1760	1500	280	160	240	500	2000	2910
1RQ4 560-5JE.0	8050	1060	1070	1900	1400	315	170	240	560	2260	2950
1RQ4 562-5JE.0	8600	1060	1070	1900	1400	315	170	240	560	2260	2950
1RQ4 564-5JE.0	9400	1060	1070	1900	1600	315	180	240	560	2260	3180
1RQ4 566-5JE.0	9900	1060	1070	1900	1600	315	180	240	560	2260	3180
1RQ4 630-5JE.0 ³⁾	11100	1320	1180	2060	1600	335	200	280	630	2340	3140
1RQ4 632-5JE.0 ³⁾	11750	1320	1180	2060	1600	335	200	280	630	2340	3140
1RQ4 634-5JE.0 ³⁾	12800	1320	1180	2060	1800	335	200	280	630	2340	3380
1RQ4 636-5JE.0 ³⁾	13500	1320	1180	2060	1800	335	200	280	630	2340	3380

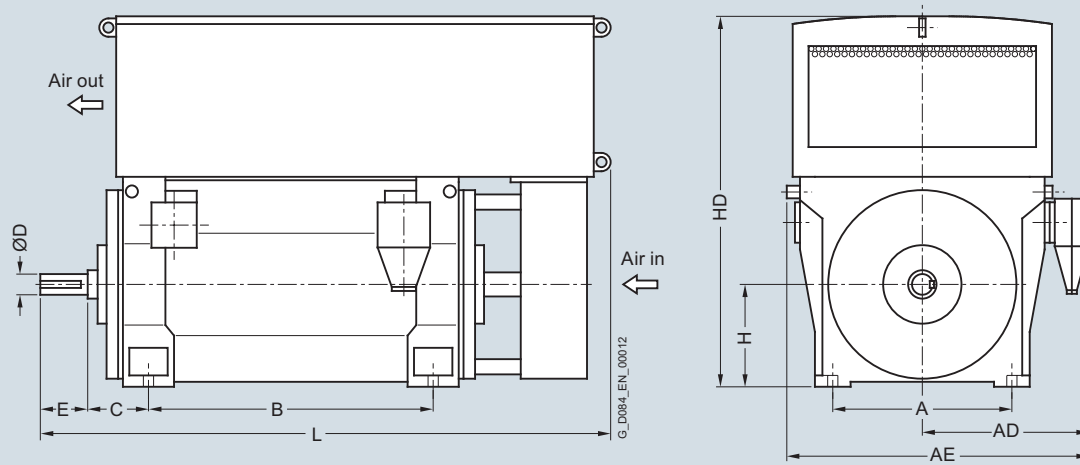
Note: Higher pole numbers are available on request.

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

³⁾ Roller bearings only for 50 Hz operation.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings – series 1RQ4, 1RQ6¹⁾											
2-pole											
1RQ6 450-2JJ.0 ²⁾	4250	850	1070	1840	1180	280	95	130	450	1842	2425 ³⁾
1RQ6 452-2JJ.0 ²⁾	4450	850	1070	1840	1180	280	95	130	450	1842	2425 ³⁾
1RQ6 454-2JJ.0 ²⁾	4800	850	1070	1840	1400	280	95	130	450	1842	2635 ³⁾
1RQ6 456-2JJ.0 ²⁾	5050	850	1070	1840	1400	280	95	130	450	1842	2635 ³⁾
1RQ6 500-2JJ.0 ²⁾	6100	950	1270	1970	1320	315	110	165	500	2040	3450 ³⁾
1RQ6 502-2JJ.0 ²⁾	6250	950	1270	1970	1320	315	110	165	500	2040	3450 ³⁾
4-pole											
1RQ6 450-4JJ.0	4550	850	1070	1840	1180	250	130	200	450	1842	2455
1RQ6 452-4JJ.0	4750	850	1070	1840	1180	250	130	200	450	1842	2455
1RQ6 454-4JJ.0	5200	850	1070	1840	1400	250	130	200	450	1842	2665
1RQ6 456-4JJ.0	5450	850	1070	1840	1400	250	130	200	450	1842	2665
1RQ6 500-4JJ.0	6600	950	1270	1970	1320	280	150	200	500	2040	2900
1RQ6 502-4JJ.0	6800	950	1270	1970	1320	280	150	200	500	2040	2900
1RQ6 504-4JJ.0	7550	950	1270	1970	1500	280	150	200	500	2040	3050
1RQ6 506-4JJ.0	7850	950	1270	1970	1500	280	150	200	500	2040	3050
1RQ6 560-4JJ.0	8250	1060	1340	2110	1400	315	170	240	560	2300	3000
1RQ6 562-4JJ.0	8600	1060	1340	2110	1400	315	170	240	560	2300	3000
1RQ6 564-4JJ.0	9550	1060	1340	2110	1600	315	170	240	560	2300	3250
1RQ6 566-4JJ.0	10100	1060	1340	2110	1600	315	170	240	560	2300	3250
1RQ4 630-4JE.0 ²⁾	11100	1320	1320	2200	1600	335	190	280	630	2340	3140
1RQ4 632-4JE.0 ²⁾	11800	1320	1320	2200	1600	335	190	280	630	2340	3140
1RQ4 634-4JE.0 ²⁾	12900	1320	1320	2200	1800	335	200	280	630	2340	3380
1RQ4 636-4JE.0 ²⁾	13450	1320	1330	2210	1800	335	200	280	630	2340	3380
6-pole											
1RQ6 450-6JJ.0	4650	850	1070	1840	1180	250	140	200	450	1842	2455
1RQ6 452-6JJ.0	4900	850	1070	1840	1180	250	140	200	450	1842	2455
1RQ6 454-6JJ.0	5300	850	1070	1840	1400	280	140	200	450	1842	2665
1RQ6 456-6JJ.0	5650	850	1070	1840	1400	280	140	200	450	1842	2665

1) The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

3) Including air inlet silencer.

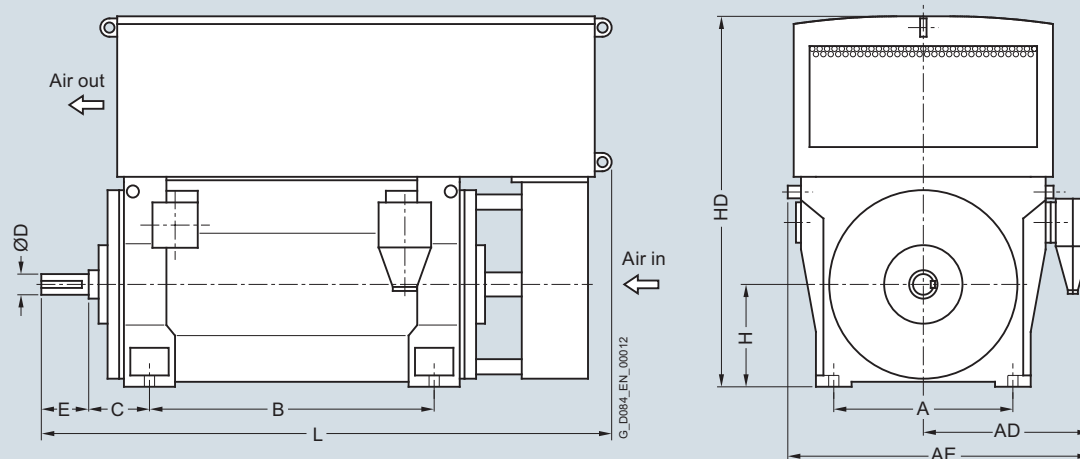
2) Roller bearings only for 50 Hz operation.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, roller bearings – series 1RQ4, 1RQ6¹⁾

6-pole

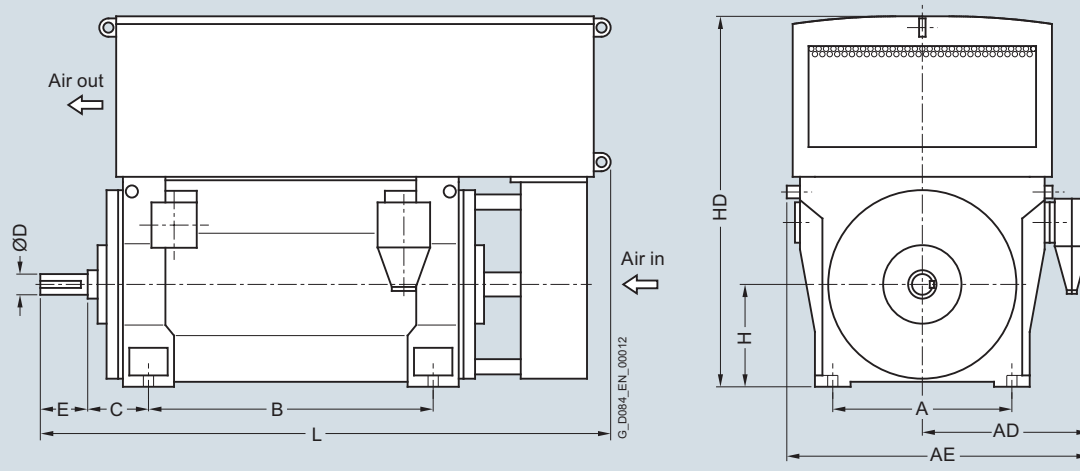
1RQ6 500-6JJ.0	6750	950	1270	1970	1320	315	160	240	500	1990	2850
1RQ6 502-6JJ.0	7050	950	1270	1970	1320	315	160	240	500	1990	2850
1RQ6 504-6JJ.0	7700	950	1270	1970	1500	315	160	240	500	1990	3300
1RQ6 506-6JJ.0	8050	950	1270	1970	1500	315	160	240	500	1990	3300
1RQ6 560-6JJ.0	9100	1060	1340	2110	1400	315	180	240	560	2240	3000
1RQ6 562-6JJ.0	9550	1060	1340	2110	1400	315	180	240	560	2240	3000
1RQ6 564-6JJ.0	10450	1060	1340	2110	1600	315	180	240	560	2240	3250
1RQ6 566-6JJ.0	11000	1060	1340	2110	1600	315	180	240	560	2240	3250
1RQ4 630-6JE.0	11400	1320	1320	2200	1600	335	200	280	630	2340	3140
1RQ4 632-6JE.0	12000	1320	1320	2200	1600	335	200	280	630	2340	3140
1RQ4 634-6JE.0	12900	1320	1320	2200	1800	335	200	280	630	2340	3380
1RQ4 636-6JE.0	13750	1320	1320	2200	1800	335	200	280	630	2340	3380

8-pole

1RQ6 450-8JJ.0	4650	850	1070	1840	1180	250	140	200	450	1842	2455
1RQ6 452-8JJ.0	4950	850	1070	1840	1180	250	140	200	450	1842	2455
1RQ6 454-8JJ.0	5350	850	1070	1840	1400	280	140	200	450	1842	2665
1RQ6 456-8JJ.0	5700	850	1070	1840	1400	280	140	200	450	1842	2665
1RQ6 500-8JJ.0	6750	950	1270	1970	1320	315	160	240	500	1990	2850
1RQ6 502-8JJ.0	7000	950	1270	1970	1320	315	160	240	500	1990	2850
1RQ6 504-8JJ.0	7650	950	1270	1970	1500	315	160	240	500	1990	3300
1RQ6-506-8JJ.0	8000	950	1270	1970	1500	315	160	240	500	1990	3300
1RQ6 560-8JJ.0	9050	1060	1340	2110	1400	315	180	240	560	2240	3000
1RQ6 562-8JJ.0	9450	1060	1340	2110	1400	315	180	240	560	2240	3000
1RQ6 564-8JJ.0	10400	1060	1340	2110	1600	315	180	240	560	2240	3250
1RQ6-566-8JJ.0	10900	1060	1340	2110	1600	315	180	240	560	2240	3250
1RQ4 630-8JE.0	11200	1320	1320	2200	1600	335	200	280	630	2340	3140
1RQ4 632-8JE.0	11950	1320	1320	2200	1600	335	200	280	630	2340	3140
1RQ4 634-8JE.0	12900	1320	1320	2200	1800	335	200	280	630	2340	3380
1RQ4 636-8JE.0	13650	1320	1320	2200	1800	335	200	280	630	2340	3380

¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings – 1RQ4 series¹⁾											
10-pole											
1RQ4 500-3JE.0	6000	950	1220	1980	1320	280	150	200	500	2000	2660
1RQ4 502-3JE.0	6300	950	1220	1980	1320	280	150	200	500	2000	2660
1RQ4 504-3JE.0	6850	950	1220	1980	1500	280	160	240	500	2000	2910
1RQ4 506-3JE.0	7250	950	1220	1980	1500	280	160	240	500	2000	2910
1RQ4 560-3JE.0	8200	1060	1210	2040	1400	315	170	240	560	2260	2950
1RQ4 562-3JE.0	8900	1060	1210	2040	1400	315	170	240	560	2260	2950
1RQ4 564-3JE.0	9700	1060	1210	2040	1600	315	180	240	560	2260	3180
1RQ4 566-3JE.0	10100	1060	1210	2040	1600	315	180	240	560	2260	3180
1RQ4 630-3JE.0	11200	1320	1320	2200	1600	335	200	280	630	2340	3140
1RQ4 632-3JE.0	11800	1320	1320	2200	1600	335	200	280	630	2340	3140
1RQ4 634-3JE.0	12900	1320	1320	2200	1800	335	200	280	630	2340	3380
1RQ4 636-3JE.0	13550	1320	1320	2200	1800	335	200	280	630	2340	3380
12-pole											
1RQ4 502-5JE.0	6350	950	1220	1980	1320	280	150	200	500	2000	2660
1RQ4 504-5JE.0	6850	950	1220	1980	1500	280	160	240	500	2000	2910
1RQ4 506-5JE.0	7250	950	1220	1980	1500	280	160	240	500	2000	2910
1RQ4 560-5JE.0	8000	1060	1210	2040	1400	315	170	240	560	2260	2950
1RQ4 562-5JE.0	8550	1060	1210	2040	1400	315	170	240	560	2260	2950
1RQ4 564-5JE.0	9400	1060	1210	2040	1600	315	180	240	560	2260	3180
1RQ4 566-5JE.0	9850	1060	1210	2040	1600	315	180	240	560	2260	3180
1RQ4 630-5JE.0	11100	1320	1320	2200	1600	335	200	280	630	2340	3140
1RQ4 632-5JE.0	11750	1320	1320	2200	1600	335	200	280	630	2340	3140
1RQ4 634-5JE.0	12800	1320	1320	2200	1800	335	200	280	630	2340	3380
1RQ4 636-5JE.0	13500	1320	1320	2200	1800	335	200	280	630	2340	3380

Note:

Higher pole numbers are available on request.

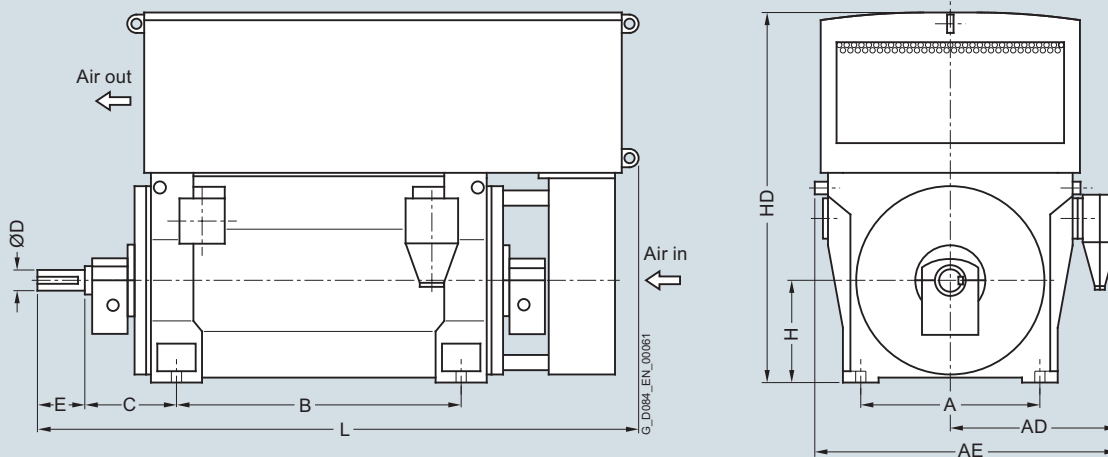
¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, IM B3 type of construction, sleeve bearings – series 1RQ4, 1RQ6²⁾

2-pole

1RQ6 450-2JJ.0-Z K96 ³⁾	4250	850	930	1620	1180	425	95	130	450	1842	2575 ⁴⁾
1RQ6 452-2JJ.0-Z K96 ³⁾	4500	850	930	1620	1180	425	95	130	450	1842	2575 ⁴⁾
1RQ6 454-2JJ.0-Z K96 ³⁾	4850	850	930	1620	1400	425	95	130	450	1842	2790 ⁴⁾
1RQ6 456-2JJ.0-Z K96 ³⁾	5100	850	930	1620	1400	425	95	130	450	1842	2790 ⁴⁾
1RQ6 500-2JJ.0-Z K96 ³⁾	6100	950	1135	1835	1320	450	110	165	500	2040	3550 ⁴⁾
1RQ6 502-2JJ.0-Z K96 ³⁾	6250	950	1135	1835	1320	450	110	165	500	2040	3550 ⁴⁾
1RQ6 504-2JJ.0	7100	950	1135	1835	1500	450	110	165	500	2040	3750 ⁴⁾
1RQ6 506-2JJ.0	7350	950	1135	1835	1500	450	110	165	500	2040	3750 ⁴⁾
1RQ6 560-2JJ.0	8150	1060	1205	1975	1400	600	130	200	560	2300	3900 ⁴⁾
1RQ6 562-2JJ.0	8550	1060	1205	1975	1400	600	130	200	560	2300	3900 ⁴⁾
1RQ6 564-2JJ.0	9500	1060	1205	1975	1600	600	130	200	560	2300	4130 ⁴⁾
1RQ6 566-2JJ.0	9950	1060	1205	1975	1600	600	130	200	560	2300	4130 ⁴⁾
1RQ4 630-2JE.0	10900	1320	1330	2210	1600	560	140	200	630	2340	3840 ⁴⁾
1RQ4 632-2JE.0	11550	1320	1330	2210	1600	560	140	200	630	2340	3840 ⁴⁾
1RQ4 634-2JE.0	12750	1320	1330	2210	1800	560	150	200	630	2340	4080 ⁴⁾
1RQ4 636-2JE.0	13600	1320	1330	2210	1800	560	150	200	630	2340	4080 ⁴⁾

4-pole

1RQ6 450-4JJ.0-Z K96	4650	850	930	1620	1180	500	130	200	450	1842	2705
1RQ6 452-4JJ.0-Z K96	4900	850	930	1620	1180	500	130	200	450	1842	2705
1RQ6 454-4JJ.0-Z K96	5300	850	930	1620	1400	500	130	200	450	1842	2915
1RQ6 456-4JJ.0-Z K96	5550	850	930	1620	1400	500	130	200	450	1842	2915
1RQ6 500-4JJ.0-Z K96	6900	950	1135	1835	1320	560	150	200	500	2040	3150
1RQ6 502-4JJ.0-Z K96	7100	950	1135	1835	1320	560	150	200	500	2040	3150
1RQ6 504-4JJ.0-Z K96	7800	950	1135	1835	1500	560	150	200	500	2040	3350
1RQ6 506-4JJ.0-Z K96	8100	950	1135	1835	1500	560	150	200	500	2040	3350

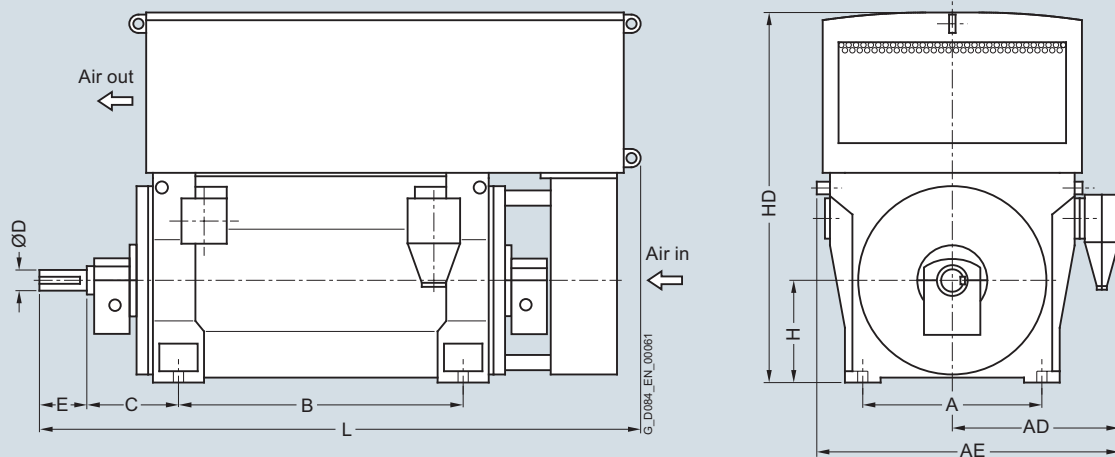
¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

³⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

⁴⁾ Including air inlet silencer.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

Up to 6.6 kV, IM B3 type of construction, sleeve bearings – series 1RQ4, 1RQ6²⁾

4-pole

1RQ6 560-4JJ.0-Z K96	8350	1060	1205	1975	1400	600	170	240	560	2300	3270
1RQ6 562-4JJ.0-Z K96	8750	1060	1205	1975	1400	600	170	240	560	2300	3270
1RQ6 564-4JJ.0-Z K96	9700	1060	1205	1975	1600	600	170	240	560	2300	3500
1RQ6 566-4JJ.0-Z K96	10200	1060	1205	1975	1600	600	170	240	560	2300	3500
1RQ4 630-4JE.0-Z K96 ³⁾	11350	1320	1330	2210	1600	600	190	280	630	2340	3400
1RQ4 632-4JE.0-Z K96 ³⁾	12050	1320	1330	2210	1600	600	190	280	630	2340	3400
1RQ4 634-4JE.0-Z K96 ³⁾	13150	1320	1330	2210	1800	600	200	280	630	2340	3640
1RQ4 636-4JE.0-Z K96 ³⁾	13700	1320	1330	2210	1800	600	200	280	630	2340	3640

6-pole

1RQ6 450-6JJ.0-Z K96	4800	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6 452-6JJ.0-Z K96	5050	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6 454-6JJ.0-Z K96	5450	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6 456-6JJ.0-Z K96	5800	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6 500-6JJ.0-Z K96	6900	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6 502-6JJ.0-Z K96	7200	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6 504-6JJ.0-Z K96	7850	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6 506-6JJ.0-Z K96	8200	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6 560-6JJ.0-Z K96	9300	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6 562-6JJ.0-Z K96	9750	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6 564-6JJ.0-Z K96	10650	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ6 566-6JJ.0-Z K96	11150	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ4 630-6JE.0-Z K96	11650	1320	1330	2210	1600	600	200	280	630	2340	3400
1RQ4 632-6JE.0-Z K96	12250	1320	1330	2210	1600	600	200	280	630	2340	3400
1RQ4 634-6JE.0-Z K96	13150	1320	1330	2210	1800	600	200	280	630	2340	3640
1RQ4 636-6JE.0-Z K96	14000	1320	1330	2210	1800	600	200	280	630	2340	3640

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

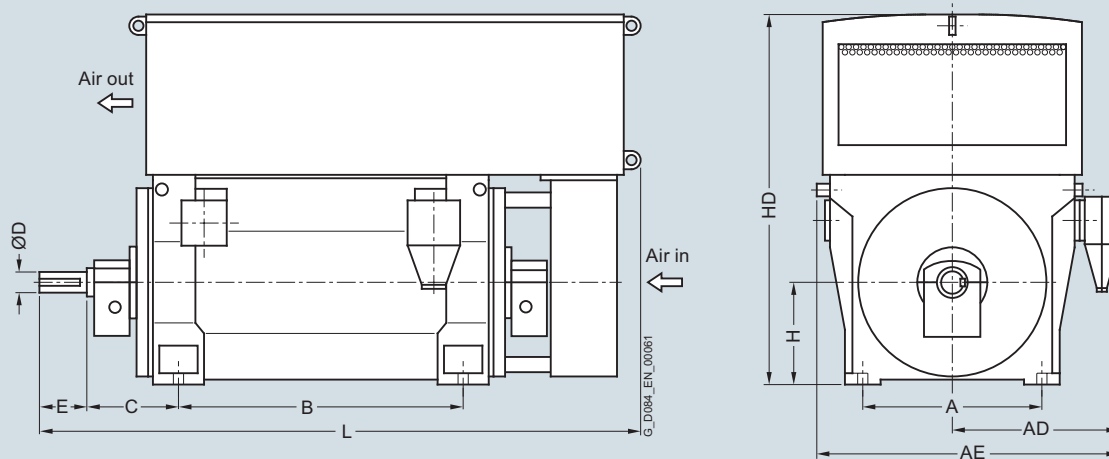
³⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, IM B3 type of construction, sleeve bearings – series 1RQ4, 1RQ6²⁾

8-pole

1RQ6 450-8JJ.0-Z K96	4800	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6 452-8JJ.0-Z K96	5100	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6 454-8JJ.0-Z K96	5500	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6 456-8JJ.0-Z K96	5850	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6 500-8JJ.0-Z K96	6900	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6 502-8JJ.0-Z K96	7150	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6 504-8JJ.0-Z K96	7800	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6 506-8JJ.0-Z K96	8150	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6 560-8JJ.0-Z K96	9250	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6 562-8JJ.0-Z K96	9650	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6 564-8JJ.0-Z K96	10550	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ6 566-8JJ.0-Z K96	11100	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ4 630-8JE.0-Z K96 ³⁾	11450	1320	1180	2060	1600	600	200	280	630	2340	3400
1RQ4 632-8JE.0-Z K96 ³⁾	12200	1320	1330	2210	1600	600	200	280	630	2340	3400
1RQ4 634-8JE.0-Z K96 ³⁾	13150	1320	1330	2210	1800	600	200	280	630	2340	3640
1RQ4 636-8JE.0-Z K96 ³⁾	13900	1320	1330	2210	1800	600	200	280	630	2340	3640

10-pole

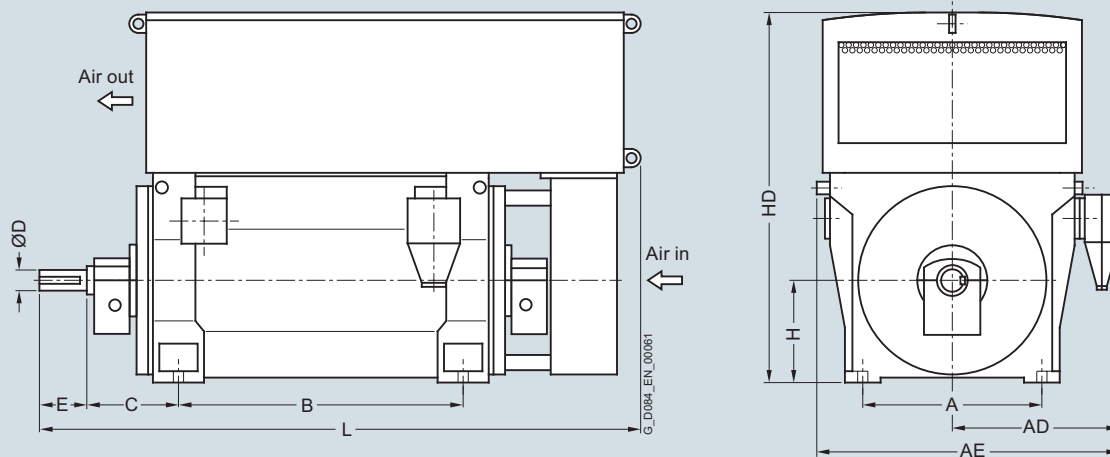
1RQ6 450-3JJ.0-Z K96	4800	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6 452-3JJ.0-Z K96	5100	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6 454-3JJ.0-Z K96	5500	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6 456-3JJ.0-Z K96	5850	850	930	1620	1400	500	140	200	450	1842	2915
1RQ4 500-3JE.0-Z K96	6100	950	1000	1760	1320	500	150	200	500	2000	2880
1RQ4 502-3JE.0-Z K96	6500	950	1000	1760	1320	500	150	200	500	2000	2880
1RQ4 504-3JE.0-Z K96	7050	950	1000	1760	1500	500	160	240	500	2000	3130
1RQ4 506-3JE.0-Z K96	7400	950	1000	1760	1500	500	160	240	500	2000	3130
1RQ4 560-3JE.0-Z K96	8150	1060	1070	1900	1400	530	170	240	560	2260	3170
1RQ4 562-3JE.0-Z K96	8750	1060	1070	1900	1400	530	170	240	560	2260	3170

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

³⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, IM B3 type of construction, sleeve bearings – series 1RQ4, 1RQ6²⁾

10-pole

1RQ4 564-3JE.0-Z K96	9600	1060	1070	1900	1600	530	180	240	560	2260	3400
1RQ4 566-3JE.0-Z K96	10050	1060	1070	1900	1600	530	180	240	560	2260	3400
1RQ4 630-3JE.0-Z K96 ³⁾	11450	1320	1180	2060	1600	600	200	280	630	2340	3400
1RQ4 632-3JE.0-Z K96 ³⁾	12050	1320	1180	2060	1600	600	200	280	630	2340	3400
1RQ4 634-3JE.0-Z K96 ³⁾	13150	1320	1180	2060	1800	600	200	280	630	2340	3640
1RQ4 636-3JE.0-Z K96 ³⁾	13800	1320	1180	2060	1800	600	200	280	630	2340	3640

12-pole

1RQ6 450-5JJ.0-Z K96	4800	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6 452-5JJ.0-Z K96	5100	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6 454-5JJ.0-Z K96	5500	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6 456-5JJ.0-Z K96	5850	850	930	1620	1400	500	140	200	450	1842	2915
1RQ4 500-5JE.0-Z K96	6100	950	1000	1760	1320	500	150	200	500	2000	2880
1RQ4 502-5JE.0-Z K96	6500	950	1000	1760	1320	500	150	200	500	2000	2880
1RQ4 504-5JE.0-Z K96	7050	950	1000	1760	1500	500	160	240	500	2000	3130
1RQ4 506-5JE.0-Z K96	7450	950	1000	1760	1500	500	160	240	500	2000	3130
1RQ4 560-5JE.0-Z K96	8200	1060	1070	1900	1400	530	170	240	560	2260	3170
1RQ4 562-5JE.0-Z K96	8750	1060	1070	1900	1400	530	170	240	560	2260	3170
1RQ4 564-5JE.0-Z K96	9550	1060	1070	1900	1600	530	180	240	560	2260	3400
1RQ4 566-5JE.0-Z K96	10050	1060	1070	1900	1600	530	180	240	560	2260	3400
1RQ4 630-5JE.0-Z K96 ³⁾	11350	1320	1180	2060	1600	600	200	280	630	2340	3400
1RQ4 632-5JE.0-Z K96 ³⁾	12000	1320	1180	2060	1600	600	200	280	630	2340	3400
1RQ4 634-5JE.0-Z K96 ³⁾	13050	1320	1180	2060	1800	600	200	280	630	2340	3640
1RQ4 636-5JE.0-Z K96 ³⁾	13750	1320	1180	2060	1800	600	200	280	630	2340	3640

Note:

Higher pole numbers are available on request.

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

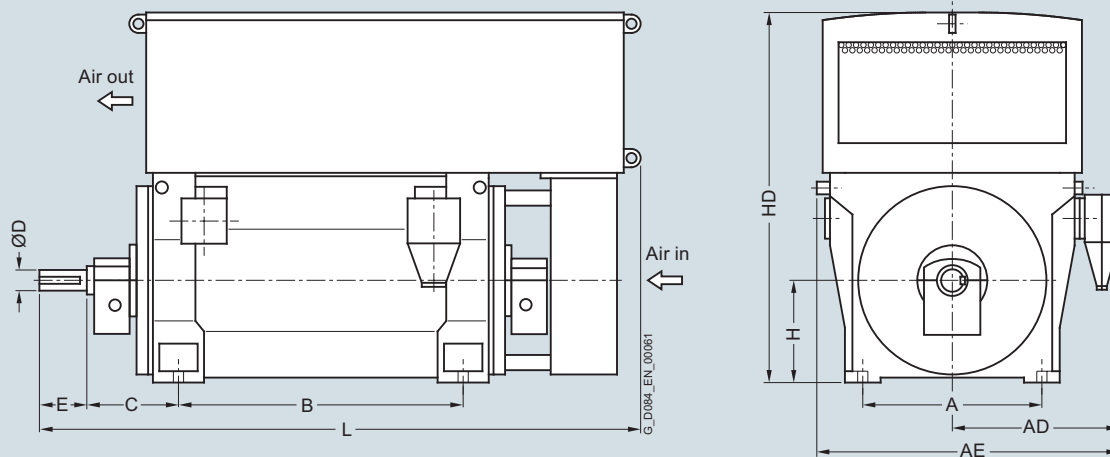
³⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



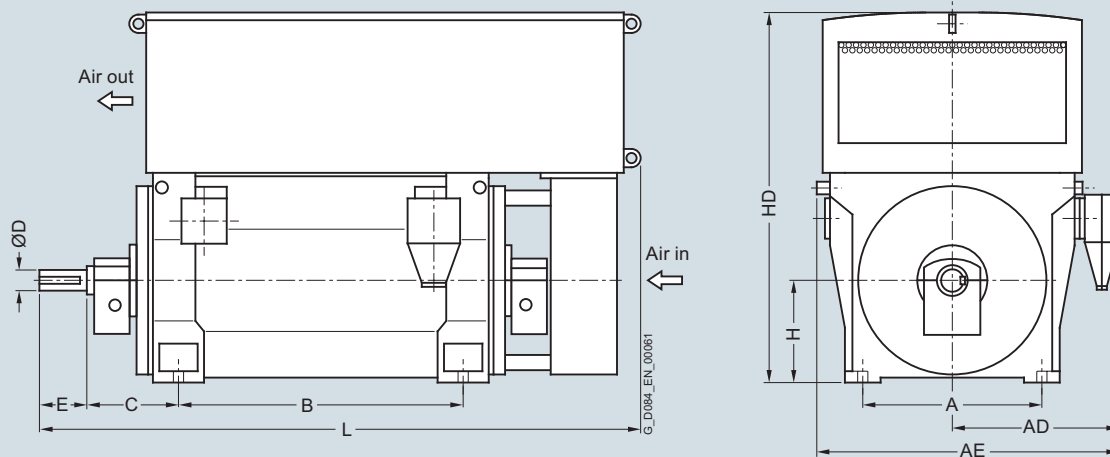
Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – series 1RQ4, 1RQ6¹⁾											
2-pole											
1RQ6 450-2JJ.0-Z K96 ²⁾	4250	850	1070	1840	1180	425	95	130	450	1842	2575 ³⁾
1RQ6 452-2JJ.0-Z K96 ²⁾	4500	850	1070	1840	1180	425	95	130	450	1842	2575 ³⁾
1RQ6 454-2JJ.0-Z K96 ²⁾	4850	850	1070	1840	1400	425	95	130	450	1842	2790 ³⁾
1RQ6 456-2JJ.0-Z K96 ²⁾	5100	850	1070	1840	1400	425	95	130	450	1842	2790 ³⁾
1RQ6 500-2JJ.0-Z K96 ²⁾	6100	950	1270	1970	1320	450	110	165	500	2040	3550 ³⁾
1RQ6 502-2JJ.0-Z K96 ²⁾	6250	950	1270	1970	1320	450	110	165	500	2040	3550 ³⁾
1RQ6 504-2JJ.0	7100	950	1270	1970	1500	450	110	165	500	2040	3750 ³⁾
1RQ6 506-2JJ.0	7350	950	1270	1970	1500	450	110	165	500	2040	3750 ³⁾
1RQ6 560-2JJ.0	8150	1060	1340	2110	1400	600	130	200	560	2300	3900 ³⁾
1RQ6 562-2JJ.0	8550	1060	1340	2110	1400	600	130	200	560	2300	3900 ³⁾
1RQ6 564-2JJ.0	9500	1060	1340	2110	1600	600	130	200	560	2300	4130 ³⁾
1RQ6 566-2JJ.0	9950	1060	1340	2110	1600	600	130	200	560	2300	4130 ³⁾
1RQ4 630-2JE.0	10800	1320	1320	2200	1600	560	140	200	630	2340	3840 ³⁾
1RQ4 632-2JE.0	11450	1320	1320	2200	1600	560	140	200	630	2340	3840 ³⁾
1RQ4 634-2JE.0	12600	1320	1320	2200	1800	560	150	200	630	2340	4080 ³⁾
1RQ4 636-2JE.0	13400	1320	1330	2210	1800	560	150	200	630	2340	4080 ³⁾
4-pole											
1RQ6 450-4JJ.0-Z K96	4650	850	1070	1840	1180	500	130	200	450	1842	2705
1RQ6 452-4JJ.0-Z K96	4850	850	1070	1840	1180	500	130	200	450	1842	2705
1RQ6 454-4JJ.0-Z K96	5300	850	1070	1840	1400	500	130	200	450	1842	2915
1RQ6 456-4JJ.0-Z K96	5550	850	1070	1840	1400	500	130	200	450	1842	2915
1RQ6 500-4JJ.0-Z K96	6900	950	1270	1970	1320	560	150	200	500	2040	3150
1RQ6 502-4JJ.0-Z K96	7100	950	1270	1970	1320	560	150	200	500	2040	3150
1RQ6 504-4JJ.0-Z K96	7800	950	1270	1970	1500	560	150	200	500	2040	3350
1RQ6 506-4JJ.0-Z K96	8100	950	1270	1970	1500	560	150	200	500	2040	3350
1RQ6 560-4JJ.0-Z K96	8350	1060	1340	2110	1400	600	170	240	560	2300	3270
1RQ6 562-4JJ.0-Z K96	8750	1060	1340	2110	1400	600	170	240	560	2300	3270
1RQ6 564-4JJ.0-Z K96	9700	1060	1340	2110	1600	600	170	240	560	2300	3500
1RQ6 566-4JJ.0-Z K96	10200	1060	1340	2110	1600	600	170	240	560	2300	3500

¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

³⁾ Including air inlet silencer.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, sleeve bearings – series 1RQ4, 1RQ6¹⁾

4-pole

1RQ4 630-4JE.0-Z K96 ²⁾	11250	1320	1320	2200	1600	600	190	280	630	2340	3400
1RQ4 632-4JE.0-Z K96 ²⁾	11950	1320	1320	2200	1600	600	190	280	630	2340	3400
1RQ4 634-4JE.0-Z K96 ²⁾	13000	1320	1320	2200	1800	600	200	280	630	2340	3640
1RQ4 636-4JE.0-Z K96 ²⁾	13600	1320	1330	2210	1800	600	200	280	630	2340	3640

6-pole

1RQ6 450-6JJ.0-Z K96	4800	850	1070	1840	1180	500	140	200	450	1842	2705
1RQ6 452-6JJ.0-Z K96	5050	850	1070	1840	1180	500	140	200	450	1842	2705
1RQ6 454-6JJ.0-Z K96	5450	850	1070	1840	1400	500	140	200	450	1842	2915
1RQ6 456-6JJ.0-Z K96	5800	850	1070	1840	1400	500	140	200	450	1842	2915
1RQ6 500-6JJ.0-Z K96	6900	950	1270	1970	1320	560	170	240	500	1990	2850
1RQ6 502-6JJ.0-Z K96	7200	950	1270	1970	1320	560	170	240	500	1990	2850
1RQ6 504-6JJ.0-Z K96	7850	950	1270	1970	1500	560	170	240	500	1990	3300
1RQ6 506-6JJ.0-Z K96	8200	950	1270	1970	1500	560	170	240	500	1990	3300
1RQ6 560-6JJ.0-Z K96	9300	1060	1340	2110	1400	600	170	240	560	2240	3300
1RQ6 562-6JJ.0-Z K96	9750	1060	1340	2110	1400	600	170	240	560	2240	3300
1RQ6 564-6JJ.0-Z K96	10650	1060	1340	2110	1600	600	170	240	560	2240	3500
1RQ6 566-6JJ.0-Z K96	11150	1060	1340	2110	1600	600	170	240	560	2240	3500
1RQ4 630-6JE.0-Z K96	11450	1320	1320	2200	1600	600	200	280	630	2340	3400
1RQ4 632-6JE.0-Z K96	12100	1320	1320	2200	1600	600	200	280	630	2340	3400
1RQ4 634-6JE.0-Z K96	13150	1320	1320	2200	1800	600	200	280	630	2340	3640
1RQ4 636-6JE.0-Z K96	13850	1320	1320	2200	1800	600	200	280	630	2340	3640

8-pole

1RQ6 450-8JJ.0-Z K96	4800	850	1070	1840	1180	500	140	200	450	1842	2705
1RQ6 452-8JJ.0-Z K96	5100	850	1070	1840	1180	500	140	200	450	1842	2705
1RQ6 454-8JJ.0-Z K96	5500	850	1070	1840	1400	500	140	200	450	1842	2915
1RQ6 456-8JJ.0-Z K96	5850	850	1070	1840	1400	500	140	200	450	1842	2915
1RQ6 500-8JJ.0-Z K96	6900	950	1270	1970	1320	560	170	240	500	1990	2850
1RQ6 502-8JJ.0-Z K96	7150	950	1270	1970	1320	560	170	240	500	1990	2850
1RQ6 504-8JJ.0-Z K96	7800	950	1270	1970	1500	560	170	240	500	1990	3300
1RQ6 506-8JJ.0-Z K96	8150	950	1270	1970	1500	560	170	240	500	1990	3300

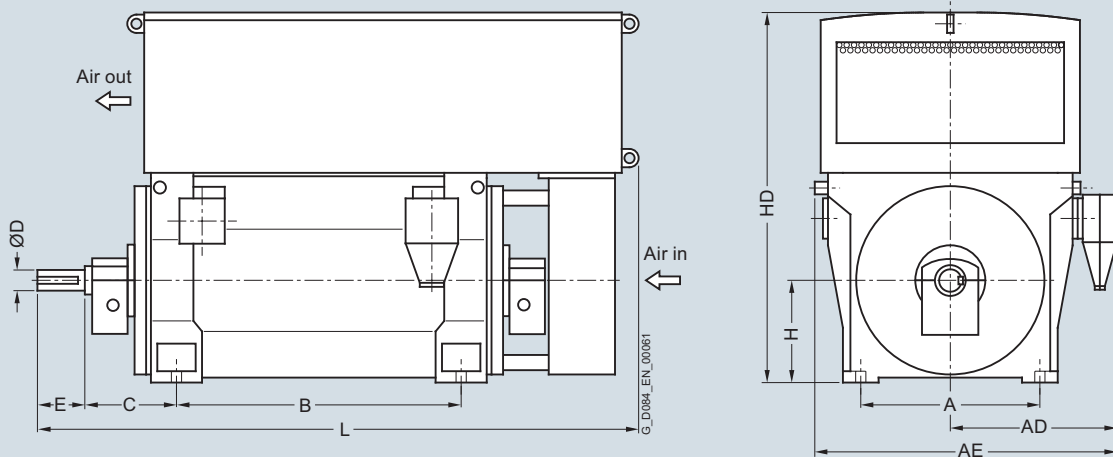
¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ4 series¹⁾

8-pole

1RQ6 560-8JJ.0-Z K96	9250	1060	1340	2110	1400	600	170	240	560	2240	3300
1RQ6 562-8JJ.0-Z K96	9650	1060	1340	2110	1400	600	170	240	560	2240	3300
1RQ6 564-8JJ.0-Z K96	10550	1060	1340	2110	1600	600	170	240	560	2240	3500
1RQ6 566-8JJ.0-Z K96	11100	1060	1340	2110	1600	600	170	240	560	2240	3500
1RQ4 630-8JE.0-Z K96	11450	1320	1320	2200	1600	600	200	280	630	2340	3400
1RQ4 632-8JE.0-Z K96	12000	1320	1320	2200	1600	600	200	280	630	2340	3400
1RQ4 634-8JE.0-Z K96	13050	1320	1320	2200	1800	600	200	280	630	2340	3640
1RQ4 636-8JE.0-Z K96	13800	1320	1320	2200	1800	600	200	280	630	2340	3640

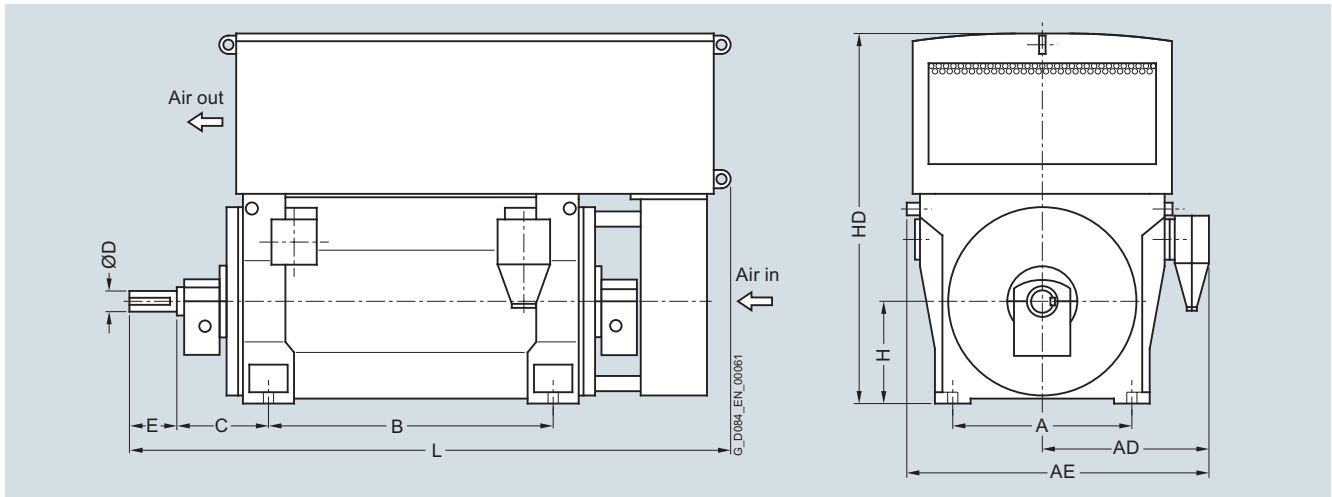
10-pole

1RQ4 500-3JE.0-Z K96	6100	950	1140	1980	1320	500	150	200	500	2000	2880
1RQ4 502-3JE.0-Z K96	6450	950	1140	1980	1320	500	150	200	500	2000	2880
1RQ4 504-3JE.0-Z K96	7050	950	1140	1980	1500	500	160	240	500	2000	3130
1RQ4 506-3JE.0-Z K96	7400	950	1140	1980	1500	500	160	240	500	2000	3130
1RQ4 560-3JE.0-Z K96	8400	1060	1210	2040	1400	530	170	240	560	2260	3170
1RQ4 562-3JE.0-Z K96	9400	1060	1210	2040	1400	530	170	240	560	2260	3170
1RQ4 564-3JE.0-Z K96	9900	1060	1210	2040	1600	530	180	240	560	2260	3400
1RQ4 566-3JE.0-Z K96	13000	1060	1210	2040	1600	530	180	240	560	2260	3400
1RQ4 630-3JE.0-Z K96	11400	1320	1320	2200	1600	600	200	280	630	2340	3400
1RQ4 632-3JE.0-Z K96	12000	1320	1320	2200	1600	600	200	280	630	2340	3400
1RQ4 634-3JE.0-Z K96	13000	1320	1320	2200	1800	600	200	280	630	2340	3640
1RQ4 636-3JE.0-Z K96	13750	1320	1320	2200	1800	600	200	280	630	2340	3640

¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ4 series¹⁾

12-pole

1RQ4 502-5JE.0-Z K96	6500	950	1140	1980	1320	500	150	200	500	2000	2880
1RQ4 504-5JE.0-Z K96	7050	950	1140	1980	1500	500	160	240	500	2000	3130
1RQ4 506-5JE.0-Z K96	7400	950	1140	1980	1500	500	160	240	500	2000	3130
1RQ4 560-5JE.0-Z K96	8150	1060	1210	2040	1400	530	170	240	560	2260	3170
1RQ4 562-5JE.0-Z K96	8700	1060	1210	2040	1400	530	170	240	560	2260	3170
1RQ4 564-5JE.0-Z K96	9550	1060	1210	2040	1600	530	180	240	560	2260	3400
1RQ4 566-5JE.0-Z K96	10000	1060	1210	2040	1600	530	180	240	560	2260	3400
1RQ4 630-5JE.0-Z K96	11350	1320	1320	2200	1600	600	200	280	630	2340	3400
1RQ4 632-5JE.0-Z K96	11900	1320	1320	2200	1600	600	200	280	630	2340	3400
1RQ4 634-5JE.0-Z K96	12950	1320	1320	2200	1800	600	200	280	630	2340	3640
1RQ4 636-5JE.0-Z K96	13650	1320	1320	2200	1800	600	200	280	630	2340	3640

Note:

Higher pole numbers are available on request.

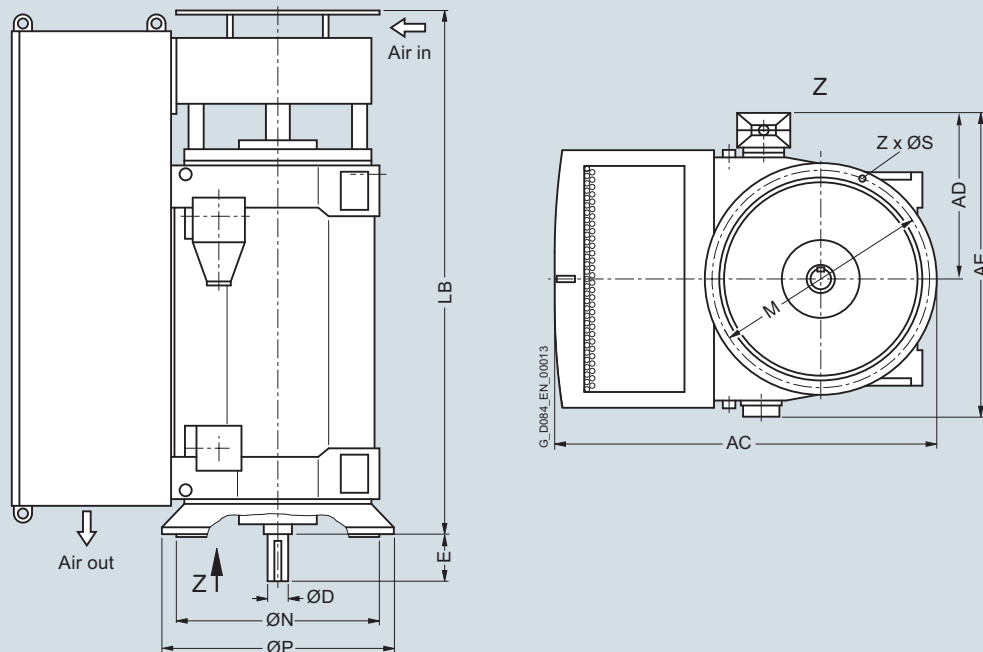
¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings – series 1RQ4, 1RQ6²⁾

4-pole

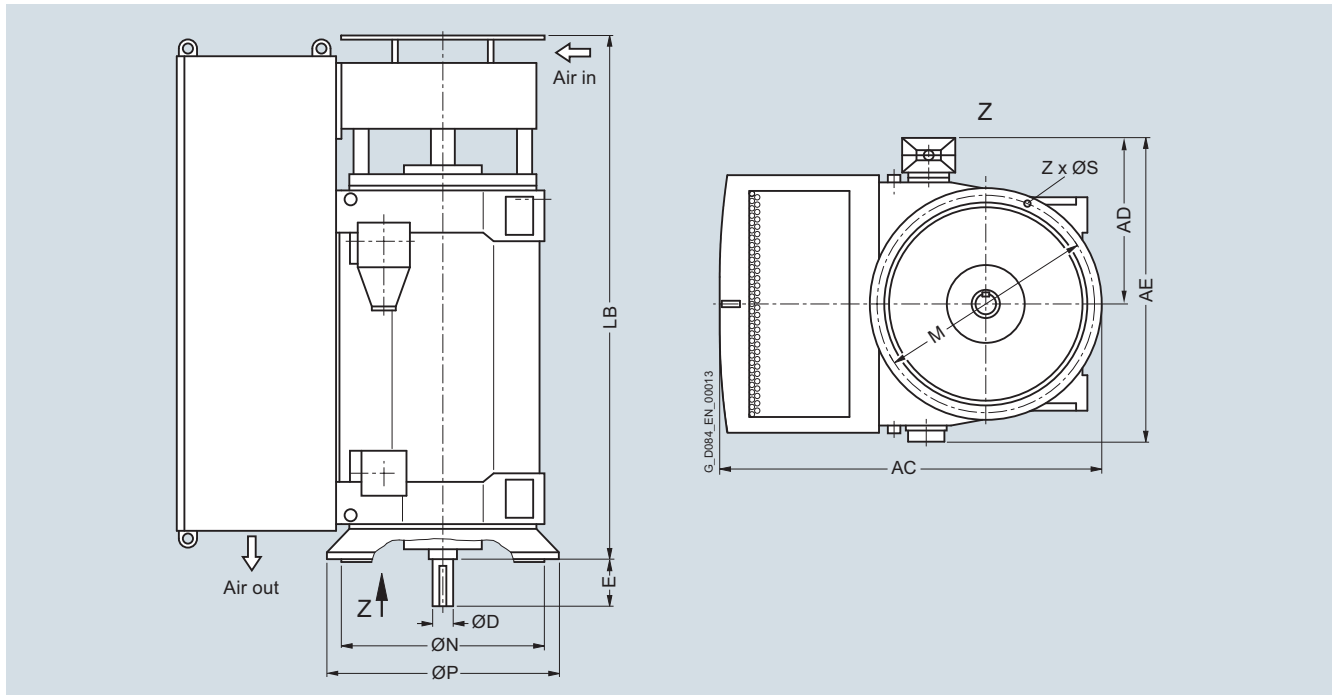
1RQ6 450-4JJ.4	4750	1967	930	1620	130	200	2730	1150	1000	1080	26	8
1RQ6 452-4JJ.4	5000	1967	930	1620	130	200	2730	1150	1000	1080	26	8
1RQ6 454-4JJ.4	5400	1967	930	1620	130	200	2940	1150	1000	1080	26	8
1RQ6 456-4JJ.4	5700	1967	930	1620	130	200	2940	1150	1000	1080	26	8
1RQ4 500-4JE.4	6050	2130	1000	1810	140	200	2560	1250	1120	1180	26	8
1RQ4 502-4JE.4	6250	2130	1000	1810	140	200	2560	1250	1120	1180	26	8
1RQ4 504-4JE.4	6950	2130	1000	1810	150	200	2770	1250	1120	1180	26	8
1RQ4 506-4JE.4	7300	2130	1000	1810	150	200	2770	1250	1120	1180	26	8
1RQ4 560-4JE.4	8200	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 562-4JE.4	8600	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 564-4JE.4 ³⁾	9500	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 566-4JE.4 ³⁾	9950	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 630-4JE.4 ³⁾	12750	2840	1330	2300	200	280	3170	2000	1800	1900	33	8
1RQ4 632-4JE.4 ³⁾	13450	2840	1330	2300	200	280	3170	2000	1800	1900	33	8
1RQ4 634-4JE.4 ³⁾	14550	2840	1330	2300	200	280	3410	2000	1800	1900	33	8
1RQ4 636-4JE.4 ³⁾	15100	2840	1330	2300	200	280	3410	2000	1800	1900	33	8

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

³⁾ Vertical type of construction, only in the 50 Hz version.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings – series 1RQ4, 1RQ6²⁾

6-pole												
1RQ6 450-6JJ.4	4850	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6 452-6JJ.4	5150	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6 454-6JJ.4	5500	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6 456-6JJ.4	5850	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ4 500-6JE.4	6200	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4 502-6JE.4	6550	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4 504-6JE.4	7100	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4 506-6JE.4	7500	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4 560-6JE.4	8300	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ4 562-6JE.4	8800	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ4 564-6JE.4	9750	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 566-6JE.4	10200	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 630-6JE.4	13050	2840	1330	2300	200	280	3170	2000	1800	1900	33	8
1RQ4 632-6JE.4	13650	2840	1330	2300	200	280	3170	2000	1800	1900	33	8
1RQ4 634-6JE.4	14550	2840	1330	2300	200	280	3410	2000	1800	1900	33	8
1RQ4 636-6JE.4	15400	2840	1330	2300	200	280	3410	2000	1800	1900	33	8
8-pole												
1RQ6 450-8JJ.4	4850	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6 452-8JJ.4	5150	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6 454-8JJ.4	5550	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6 456-8JJ.4	5900	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ4 500-8JE.4	6200	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4 502-8JE.4	6600	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4 504-8JE.4	7100	2130	1000	1810	160	240	2770	1250	1120	1180	26	8

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

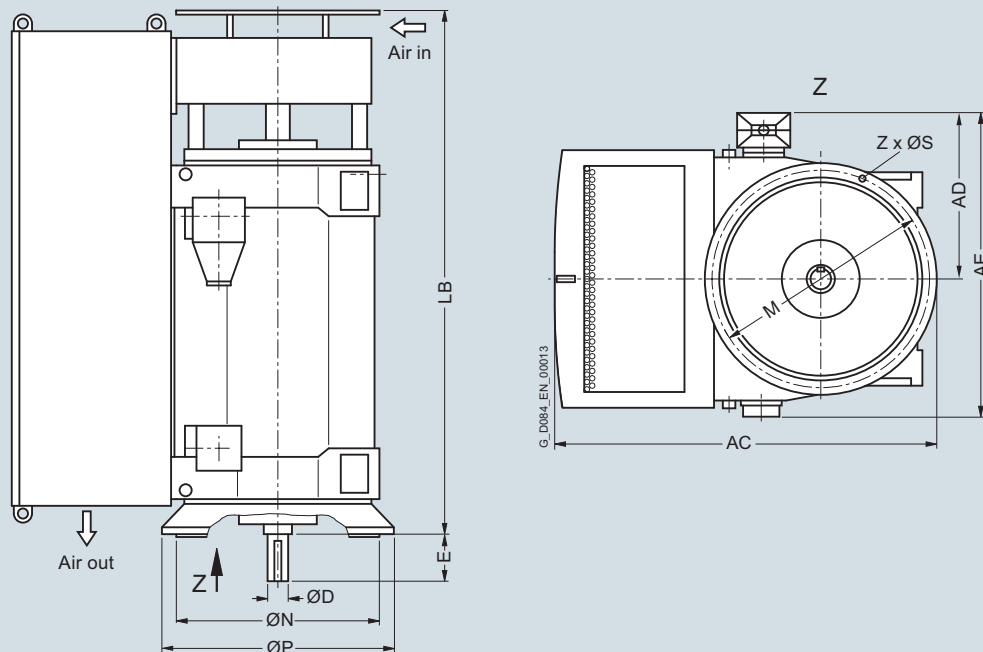
²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings – series 1RQ4, 1RQ6²⁾

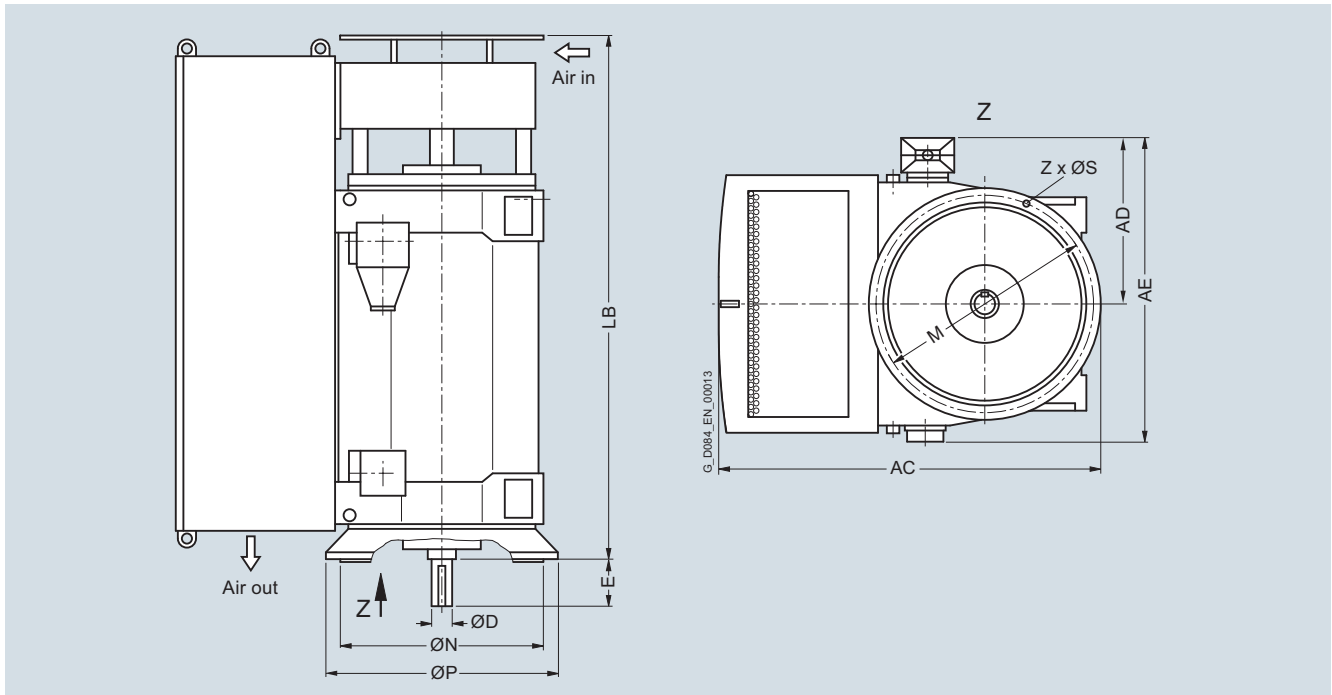
8-pole												
1RQ4 506-8JE.4	7500	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4 560-8JE.4	8250	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ4 562-8JE.4	8800	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ4 564-8JE.4	9650	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ4 566-8JE.4	10100	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ4 630-8JE.4 ³⁾	12850	2840	1180	2150	200	280	3170	2000	1800	1900	33	8
1RQ4 632-8JE.4 ³⁾	13600	2840	1330	2300	200	280	3170	2000	1800	1900	33	8
1RQ4 634-8JE.4 ³⁾	14550	2840	1330	2300	200	280	3410	2000	1800	1900	33	8
1RQ4 636-8JE.4 ³⁾	15300	2840	1330	2300	200	280	3410	2000	1800	1900	33	8
10-pole												
1RQ6 450-3JJ.4	4850	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6 452-3JJ.4	5150	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6 454-3JJ.4	5550	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6 456-3JJ.4	5900	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ4 500-3JE.4	6150	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4 502-3JE.4	6450	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4 504-3JE.4	7050	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4 506-3JE.4	7450	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4 560-3JE.4	8200	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ4 562-3JE.4	8750	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ4 564-3JE.4	9600	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ4 566-3JE.4	10050	2400	1070	1960	180	240	3030	1400	1250	1320	26	8

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

³⁾ Vertical type of construction, only in the 50 Hz version.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings – series 1RQ4, 1RQ6²⁾

10-pole												
1RQ4 630-3JE.4 ³⁾	12850	2840	1180	2150	200	280	3170	2000	1800	1900	33	8
1RQ4 632-3JE.4 ³⁾	13450	2840	1180	2150	200	280	3170	2000	1800	1900	33	8
1RQ4 634-3JE.4 ³⁾	14550	2840	1180	2150	200	280	3410	2000	1800	1900	33	8
1RQ4 636-3JE.4 ³⁾	15200	2840	1180	2150	200	280	3410	2000	1800	1900	33	8
12-pole												
1RQ6 450-5JJ.4	4850	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6 452-5JJ.4	5150	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6 454-5JJ.4	5550	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6 456-5JJ.4	5900	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ4 500-5JE.4	6150	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4 502-5JE.4	6500	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4 504-5JE.4	7050	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4 506-5JE.4	7500	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4 560-5JE.4	8200	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ4 562-5JE.4	8750	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ4 564-5JE.4	9550	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ4 566-5JE.4	10050	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ4 630-5JE.4 ³⁾	12750	2840	1180	2150	200	280	3170	2000	1800	1900	33	8
1RQ4 632-5JE.4 ³⁾	13400	2840	1180	2150	200	280	3170	2000	1800	1900	33	8
1RQ4 634-5JE.4 ³⁾	14450	2840	1180	2150	200	280	3410	2000	1800	1900	33	8
1RQ4 636-5JE.4 ³⁾	15150	2840	1180	2150	200	280	3410	2000	1800	1900	33	8

Note:

Higher pole numbers are available on request.

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

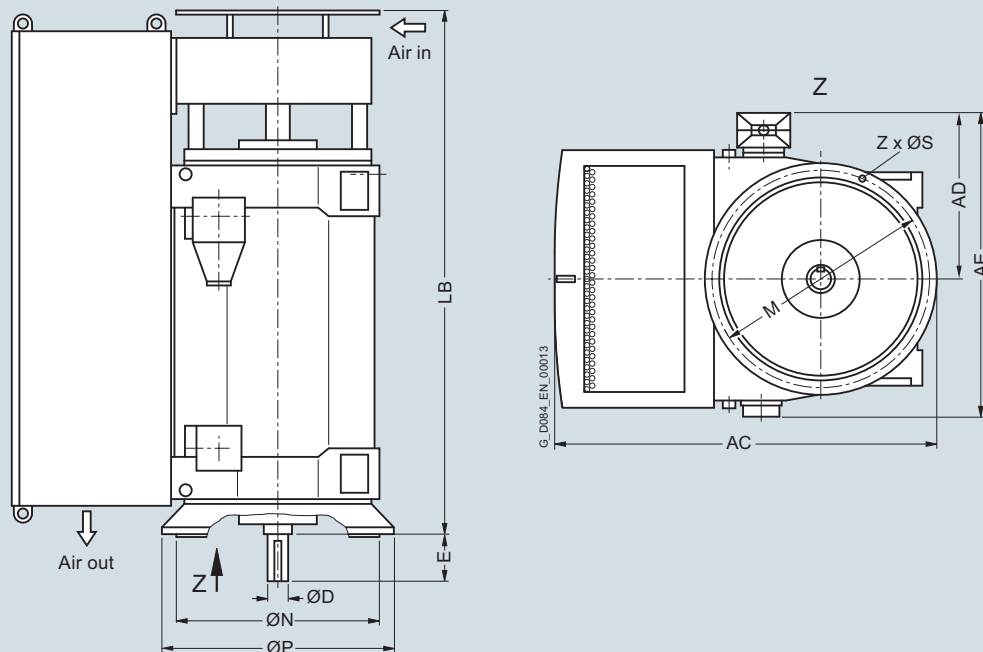
³⁾ Vertical type of construction, only in the 50 Hz version.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

9 ... 11 kV, IM V1 type of construction, roller bearings – series 1RQ4, 1RQ6¹⁾

4-pole

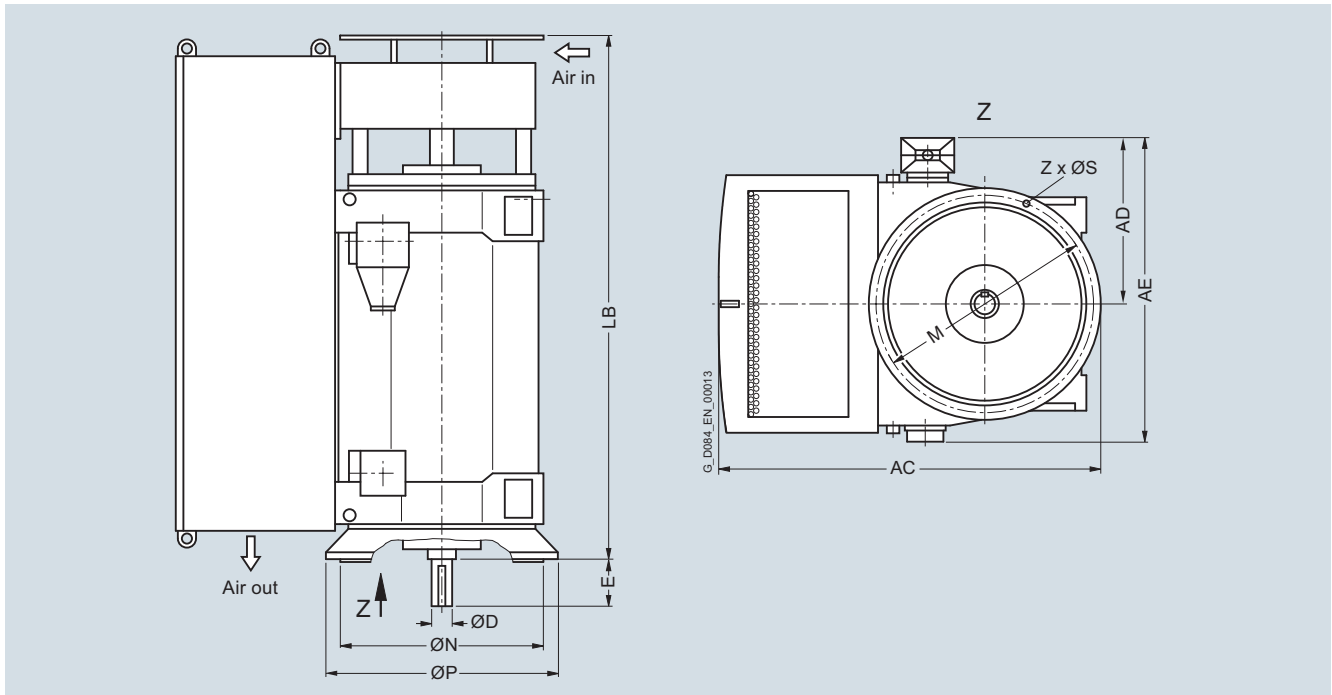
1RQ6 450-4JJ.4	4750	1967	1070	1840	130	200	2730	1150	1000	1080	26	8
1RQ6 452-4JJ.4	5000	1967	1070	1840	130	200	2730	1150	1000	1080	26	8
1RQ6 454-4JJ.4	5400	1967	1070	1840	130	200	2940	1150	1000	1080	26	8
1RQ6 456-4JJ.4	5700	1967	1070	1840	130	200	2940	1150	1000	1080	26	8
1RQ4 500-4JE.4	6050	2130	1140	1950	140	200	2560	1250	1120	1180	26	8
1RQ4 502-4JE.4	6250	2130	1140	1950	140	200	2560	1250	1120	1180	26	8
1RQ4 504-4JE.4	6950	2130	1140	1950	150	200	2770	1250	1120	1180	26	8
1RQ4 506-4JE.4	7300	2130	1140	1950	150	200	2770	1250	1120	1180	26	8
1RQ4 560-4JE.4	8050	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 562-4JE.4	8500	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 564-4JE.4	9400	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 566-4JE.4	9800	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 630-4JE.4	12750	2840	1320	2290	200	280	3170	2000	1800	1900	33	8
1RQ4 632-4JE.4	13450	2840	1320	2290	200	280	3170	2000	1800	1900	33	8
1RQ4 634-4JE.4	14550	2840	1320	2290	200	280	3410	2000	1800	1900	33	8
1RQ4 636-4JE.4	15100	2840	1330	2300	200	280	3410	2000	1800	1900	33	8

6-pole

1RQ6 450-6JJ.4	4850	1967	1070	1840	140	200	2730	1150	1000	1080	26	8
1RQ6 452-6JJ.4	5150	1967	1070	1840	140	200	2730	1150	1000	1080	26	8
1RQ6 454-6JJ.4	5500	1967	1070	1840	140	200	2940	1150	1000	1080	26	8
1RQ6 456-6JJ.4	5850	1967	1070	1840	140	200	2940	1150	1000	1080	26	8
1RQ4 500-6JE.4	6150	2130	1140	1950	150	200	2560	1250	1120	1180	26	8

¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

9 ... 11 kV, IM V1 type of construction, roller bearings – series 1RQ4, 1RQ6¹⁾

6-pole												
1RQ4 502-6JE.4	6550	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ4 504-6JE.4	7100	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ4 506-6JE.4	7500	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ4 560-6JE.4	8250	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 562-6JE.4	8750	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 564-6JE.4	9600	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 566-6JE.4	10050	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 630-6JE.4	13050	2840	1320	2290	200	280	3170	2000	1800	1900	33	8
1RQ4 632-6JE.4	13650	2840	1320	2290	200	280	3170	2000	1800	1900	33	8
1RQ4 634-6JE.4	14550	2840	1320	2290	200	280	3410	2000	1800	1900	33	8
1RQ4 636-6JE.4	15400	2840	1320	2290	200	280	3410	2000	1800	1900	33	8
8-pole												
1RQ6 450-8JJ.4	4850	1967	1070	1840	140	200	2730	1150	1000	1080	26	8
1RQ6 452-8JJ.4	5150	1967	1070	1840	140	200	2730	1150	1000	1080	26	8
1RQ6 454-8JJ.4	5550	1967	1070	1840	140	200	2940	1150	1000	1080	26	8
1RQ6 456-8JJ.4	5900	1967	1070	1840	140	200	2940	1150	1000	1080	26	8
1RQ4 500-8JE.4	6200	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ4 502-8JE.4	6550	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ4 504-8JE.4	7100	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ4 506-8JE.4	7500	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ4 560-8JE.4	8200	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 562-8JE.4	8750	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 564-8JE.4	9600	2400	1210	2100	180	240	3030	1400	1250	1320	26	8

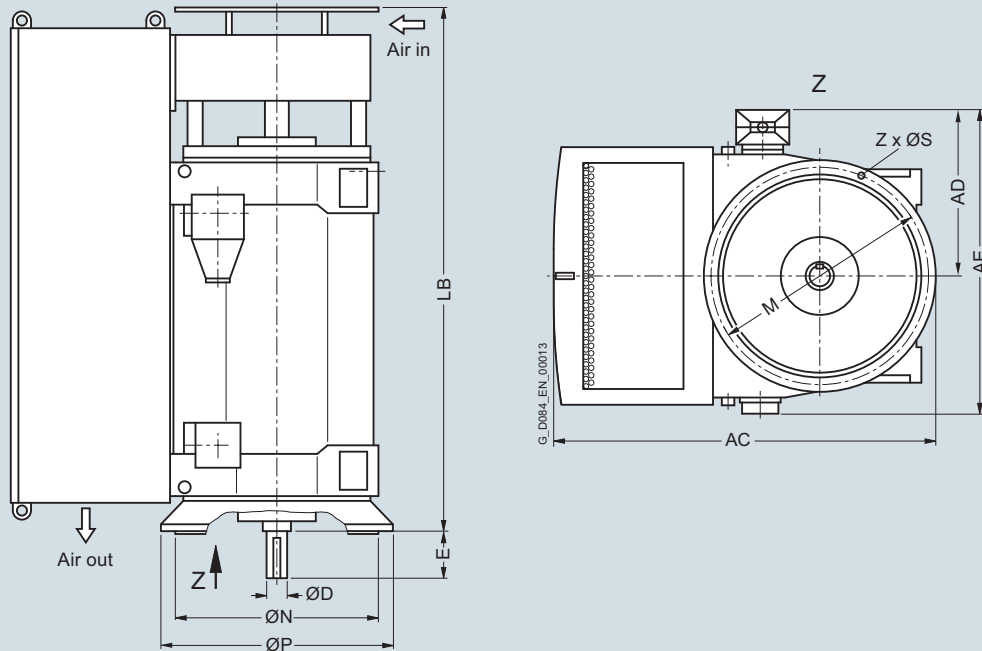
1) The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

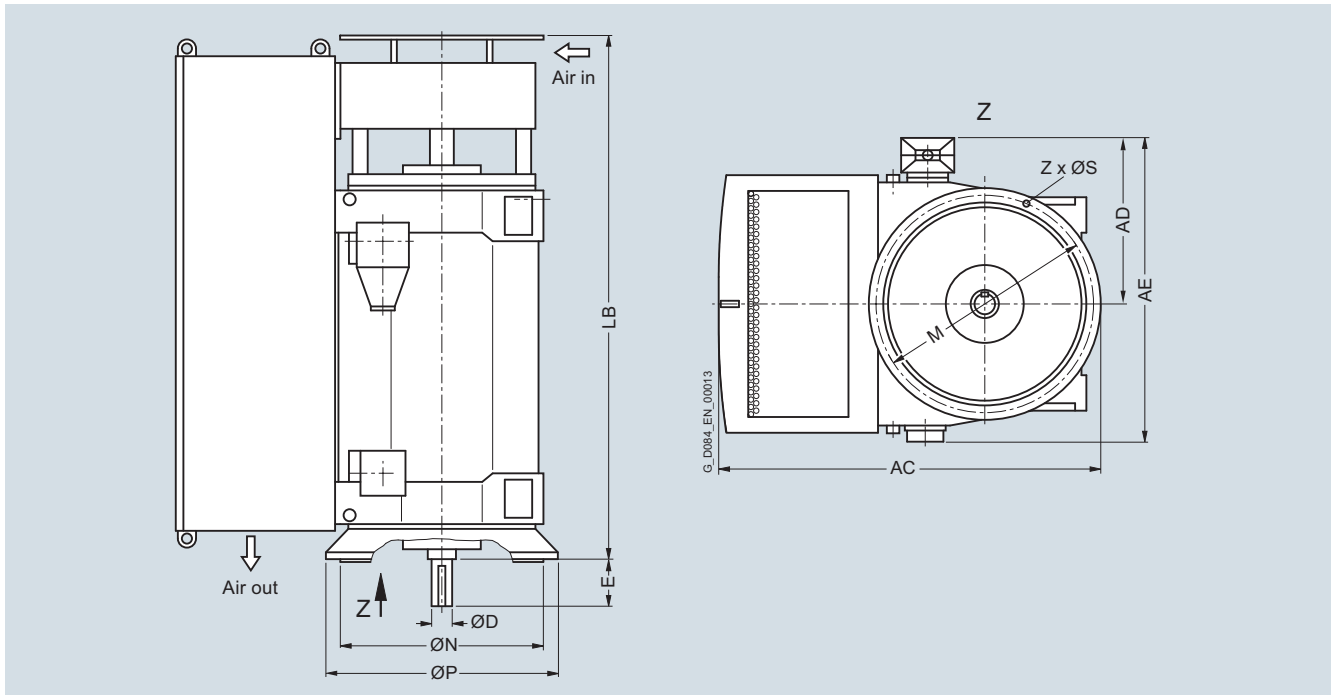
Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
9 ... 11 kV, IM V1 type of construction, roller bearings – 1RQ4 series¹⁾												
8-pole												
1RQ4 566-8JE.4	10000	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 630-8JE.4	12850	2840	1320	2290	200	280	3170	2000	1800	1900	33	8
1RQ4 632-8JE.4	13600	2840	1320	2290	200	280	3170	2000	1800	1900	33	8
1RQ4 634-8JE.4	14550	2840	1320	2290	200	280	3410	2000	1800	1900	33	8
1RQ4 636-8JE.4	15300	2840	1320	2290	200	280	3410	2000	1800	1900	33	8
10-pole												
1RQ4 500-3JE.4	6150	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ4 502-3JE.4	6450	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ4 504-3JE.4	7000	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ4 506-3JE.4	7450	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ4 560-3JE.4	8700	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 562-3JE.4	9350	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 564-3JE.4	10150	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 566-3JE.4	10600	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 630-3JE.4	12850	2840	1320	2290	200	280	3170	2000	1800	1900	33	8
1RQ4 632-3JE.4	13450	2840	1320	2290	200	280	3170	2000	1800	1900	33	8
1RQ4 634-3JE.4	14550	2840	1320	2290	200	280	3410	2000	1800	1900	33	8
1RQ4 636-3JE.4	15200	2840	1320	2290	200	280	3410	2000	1800	1900	33	8

¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
9 ... 11 kV, IM V1 type of construction, roller bearings – 1RQ4 series¹⁾												
12-pole												
1RQ4 502-5JE.4	6500	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ4 504-5JE.4	7000	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ4 506-5JE.4	7450	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ4 560-5JE.4	8200	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 562-5JE.4	8700	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ4 564-5JE.4	9550	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 566-5JE.4	10000	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ4 630-5JE.4	12750	2840	1320	2290	200	280	3170	2000	1800	1900	33	8
1RQ4 632-5JE.4	13400	2840	1320	2290	200	280	3170	2000	1800	1900	33	8
1RQ4 634-5JE.4	14450	2840	1320	2290	200	280	3410	2000	1800	1900	33	8
1RQ4 636-5JE.4	15150	2840	1320	2290	200	280	3410	2000	1800	1900	33	8

Note:

Higher pole numbers are available on request.

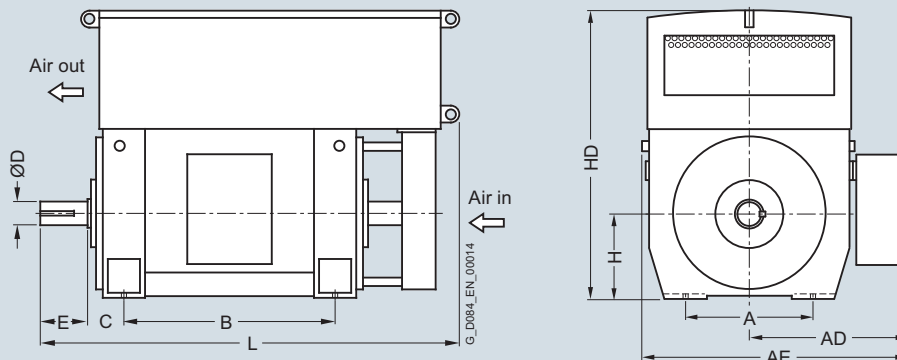
¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, roller bearings – 1RQ6 series¹⁾											
4-pole											
1RQ6 710-4JJ.0 ²⁾	21100	1500	1500	2530	2000	355	220	280	710	2820	4720
1RQ6 712-4JJ.0 ²⁾	21900	1500	1500	2530	2000	355	220	280	710	2820	4720
1RQ6 714-4JJ.0 ²⁾	23400	1500	1500	2530	2240	355	220	280	710	2820	4960
1RQ6 716-4JJ.0 ²⁾	24400	1500	1500	2530	2240	355	220	280	710	2820	4960
6-pole											
1RQ6 710-6JJ.0	20400	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 712-6JJ.0	21100	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 714-6JJ.0	22800	1500	1500	2530	2240	355	240	330	710	2810	4130
1RQ6 716-6JJ.0	24000	1500	1500	2530	2240	355	240	330	710	2810	4130
8-pole											
1RQ6 710-8JJ.0	20200	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 712-8JJ.0	21000	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 714-8JJ.0	22600	1500	1500	2530	2240	355	240	330	710	2810	4130
1RQ6 716-8JJ.0	23700	1500	1500	2530	2240	355	240	330	710	2810	4130
10-pole											
1RQ6 710-3JJ.0	20000	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 712-3JJ.0	20900	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 714-3JJ.0	22500	1500	1500	2530	2240	355	240	330	710	2810	4130
1RQ6 716-3JJ.0	23600	1500	1500	2530	2240	355	240	330	710	2810	4130

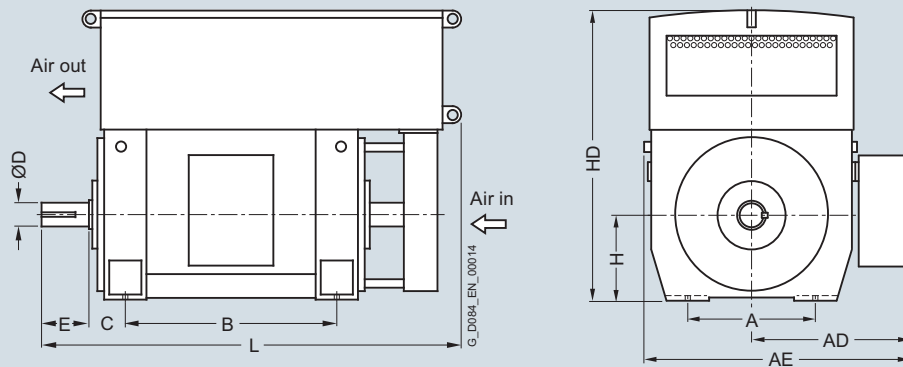
Note:

Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

²⁾ Roller bearings only for 50 Hz operation.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings – 1RQ6 series¹⁾											
4-pole											
1RQ6 710-4JJ.0 ²⁾	20800	1500	1500	2530	2000	355	220	280	710	2820	4720
1RQ6 712-4JJ.0 ²⁾	21600	1500	1500	2530	2000	355	220	280	710	2820	4720
1RQ6 714-4JJ.0 ²⁾	23100	1500	1500	2530	2240	355	220	280	710	2820	4960
1RQ6 716-4JJ.0 ²⁾	24000	1500	1500	2530	2240	355	220	280	710	2820	4960
6-pole											
1RQ6 710-6JJ.0	20200	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 712-6JJ.0	21000	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 714-6JJ.0	22600	1500	1500	2530	2240	355	240	330	710	2810	4130
1RQ6 716-6JJ.0	23700	1500	1500	2530	2240	355	240	330	710	2810	4130
8-pole											
1RQ6 710-8JJ.0	20100	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 712-8JJ.0	20800	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 714-8JJ.0	22400	1500	1500	2530	2240	355	240	330	710	2810	4130
1RQ6 716-8JJ.0	23600	1500	1500	2530	2240	355	240	330	710	2810	4130
10-pole											
1RQ6 710-3JJ.0	19900	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 712-3JJ.0	20700	1500	1500	2530	2000	355	240	330	710	2810	3890
1RQ6 714-3JJ.0	22400	1500	1500	2530	2240	355	240	330	710	2810	4130
1RQ6 716-3JJ.0	23500	1500	1500	2530	2240	355	240	330	710	2810	4130

Note:

Higher pole numbers are available on request.

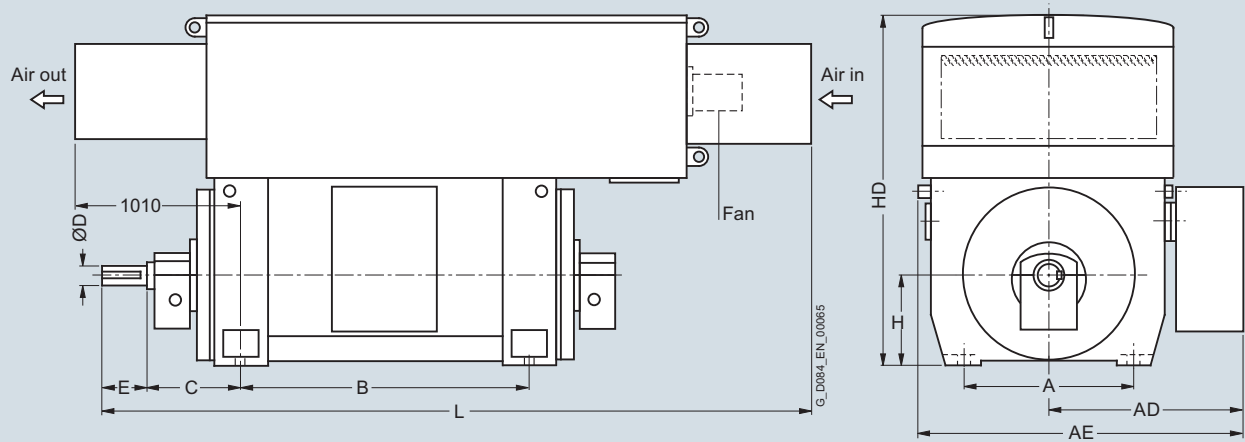
¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.²⁾ Roller bearings only for 50 Hz operation.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

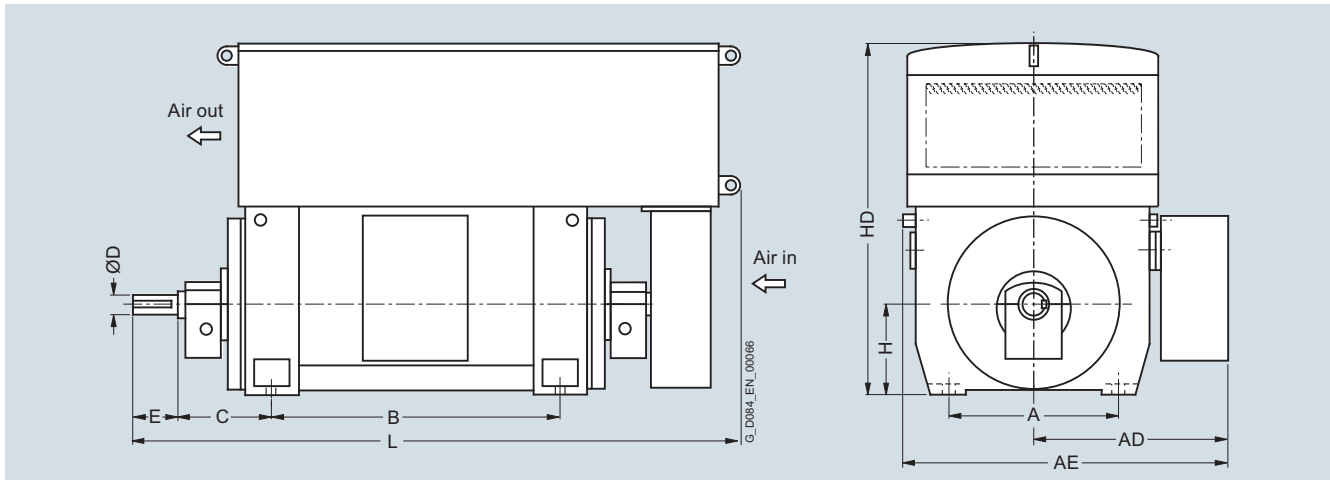
Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RQ6 series¹⁾											
2-pole											
1RQ6 710-2HJ.0	19300	1500	1500	2530	2000	600	180	240	710	2820	4940
1RQ6 712-2HJ.0	20100	1500	1500	2530	2000	600	180	240	710	2820	4940
1RQ6 714-2HJ.0	21400	1500	1500	2530	2240	600	180	240	710	2820	5180
1RQ6 716-2HJ.0	22400	1500	1500	2530	2240	600	180	240	710	2820	5180
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ6 series¹⁾											
2-pole											
1RQ6 710-2HJ.0	19100	1500	1500	2530	2000	600	180	240	710	2820	4940
1RQ6 712-2HJ.0	19900	1500	1500	2530	2000	600	180	240	710	2820	4940
1RQ6 714-2HJ.0	21200	1500	1500	2530	2240	600	180	240	710	2820	5180
1RQ6 716-2HJ.0	22200	1500	1500	2530	2240	600	180	240	710	2820	5180

¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RQ6 series¹⁾											
4-pole											
1RQ6 710-4JJ.0-Z K96 ²⁾	21100	1500	1500	2530	2000	530	220	280	710	2820	4890
1RQ6 712-4JJ.0-Z K96 ²⁾	21900	1500	1500	2530	2000	530	220	280	710	2820	4890
1RQ6 714-4JJ.0-Z K96 ²⁾	23400	1500	1500	2530	2240	530	220	280	710	2820	5130
1RQ6 716-4JJ.0-Z K96 ²⁾	24400	1500	1500	2530	2240	530	220	280	710	2820	5130
6-pole											
1RQ6 710-6JJ.0-Z K96	21300	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 712-6JJ.0-Z K96	22000	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 714-6JJ.0-Z K96	23700	1500	1500	2530	2240	670	240	330	710	2810	4440
1RQ6 716-6JJ.0-Z K96	24900	1500	1500	2530	2240	670	240	330	710	2810	4440
8-pole											
1RQ6 710-8JJ.0-Z K96	21100	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 712-8JJ.0-Z K96	21900	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 714-8JJ.0-Z K96	23500	1500	1500	2530	2240	670	240	330	710	2810	4440
1RQ6 716-8JJ.0-Z K96	24600	1500	1500	2530	2240	670	240	330	710	2810	4440
10-pole											
1RQ6 710-3JJ.0-Z K96	20900	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 712-3JJ.0-Z K96	21800	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 714-3JJ.0-Z K96	23400	1500	1500	2530	2240	670	240	330	710	2810	4440
1RQ6 716-3JJ.0-Z K96	24500	1500	1500	2530	2240	670	240	330	710	2810	4440

Note:

Higher pole numbers are available on request.

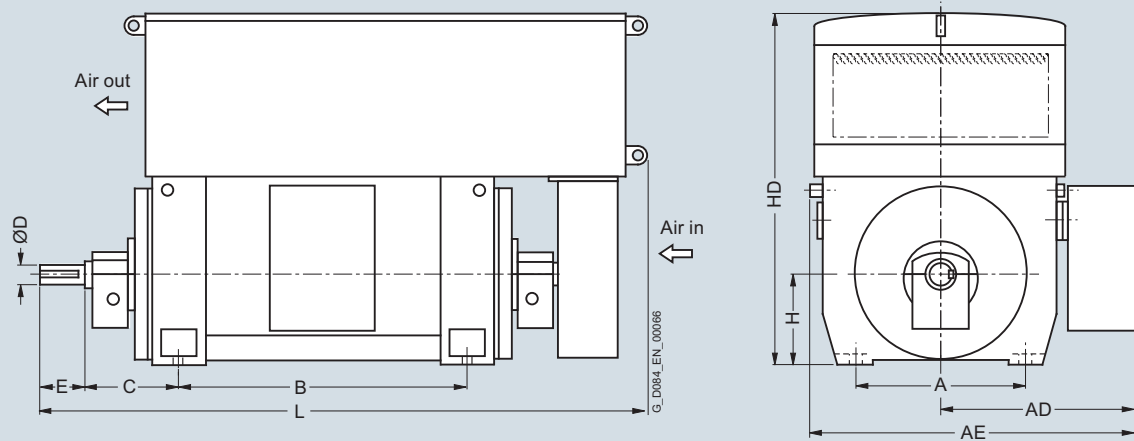
¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ6 series¹⁾											
4-pole											
1RQ6 710-4JJ.0-Z K96 ²⁾	20800	1500	1500	2530	2000	530	220	280	710	2820	4890
1RQ6 712-4JJ.0-Z K96 ²⁾	21600	1500	1500	2530	2000	530	220	280	710	2820	4890
1RQ6 714-4JJ.0-Z K96 ²⁾	23100	1500	1500	2530	2240	530	220	280	710	2820	5130
1RQ6 716-4JJ.0-Z K96 ²⁾	24000	1500	1500	2530	2240	530	220	280	710	2820	5130
6-pole											
1RQ6 710-6JJ.0-Z K96	21100	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 712-6JJ.0-Z K96	21900	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 714-6JJ.0-Z K96	23500	1500	1500	2530	2240	670	240	330	710	2810	4440
1RQ6 716-6JJ.0-Z K96	24600	1500	1500	2530	2240	670	240	330	710	2810	4440
8-pole											
1RQ6 710-8JJ.0-Z K96	21000	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 712-8JJ.0-Z K96	21700	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 714-8JJ.0-Z K96	23300	1500	1500	2530	2240	670	240	330	710	2810	4440
1RQ6 716-8JJ.0-Z K96	24500	1500	1500	2530	2240	670	240	330	710	2810	4440
10-pole											
1RQ6 710-3JJ.0-Z K96	20800	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 712-3JJ.0-Z K96	21600	1500	1500	2530	2000	670	240	330	710	2810	4200
1RQ6 714-3JJ.0-Z K96	23300	1500	1500	2530	2240	670	240	330	710	2810	4440
1RQ6 716-3JJ.0-Z K96	24400	1500	1500	2530	2240	670	240	330	710	2810	4440

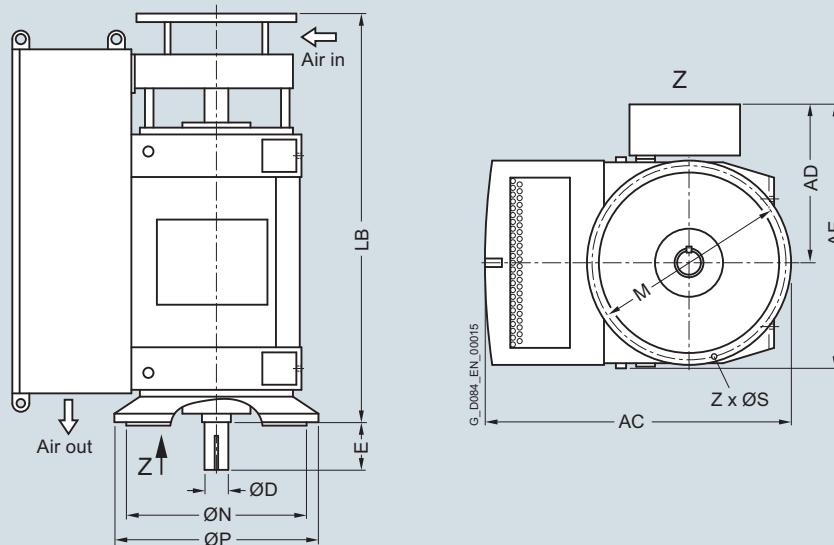
Note:

Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC	AD	AE	D	E	LB	P	N	M	S	Z
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings – 1RQ6 series¹⁾

6-pole												
1RQ6 710-6JJ.4	22500	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 712-6JJ.4	23200	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 714-6JJ.4	24900	3100	1500	2530	240	330	4160	2000	1800	1900	33	24
1RQ6 716-6JJ.4	26100	3100	1500	2530	240	330	4160	2000	1800	1900	33	24
8-pole												
1RQ6 710-8JJ.4	22300	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 712-8JJ.4	23100	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 714-8JJ.4	24700	3100	1500	2530	240	330	4160	2000	1800	1900	33	24
1RQ6 716-8JJ.4	25800	3100	1500	2530	240	330	4160	2000	1800	1900	33	24
10-pole												
1RQ6 710-3JJ.4	22100	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 712-3JJ.4	23000	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 714-3JJ.4	24600	3100	1500	2530	240	330	4160	2000	1800	1900	33	24
1RQ6 716-3JJ.4	25700	3100	1500	2530	240	330	4160	2000	1800	1900	33	24

Note:

Higher pole numbers are available on request.

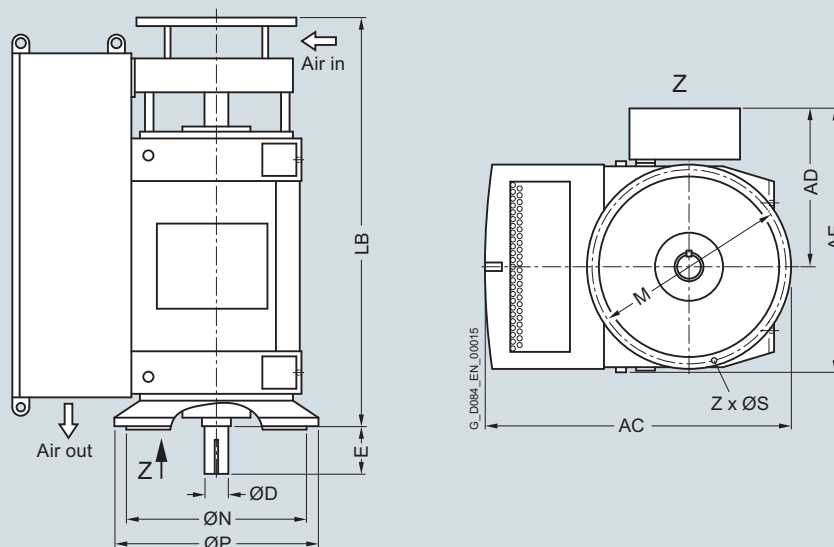
¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
9 ... 11 kV, IM V1 type of construction, roller bearings – 1RQ6 series¹⁾												
6-pole												
1RQ6 710-6JJ.4	22300	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 712-6JJ.4	23100	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 714-6JJ.4	24700	3100	1500	2530	240	330	4160	2000	1800	1900	33	24
1RQ6 716-6JJ.4	25800	3100	1500	2530	240	330	4160	2000	1800	1900	33	24
8-pole												
1RQ6 710-8JJ.4	22200	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 712-8JJ.4	23000	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 714-8JJ.4	24500	3100	1500	2530	240	330	4160	2000	1800	1900	33	24
1RQ6 716-8JJ.4	25700	3100	1500	2530	240	330	4160	2000	1800	1900	33	24
10-pole												
1RQ6 710-3JJ.4	22000	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 712-3JJ.4	22800	3100	1500	2530	240	330	3920	2000	1800	1900	33	24
1RQ6 714-3JJ.4	24500	3100	1500	2530	240	330	4160	2000	1800	1900	33	24
1RQ6 716-3JJ.4	25600	3100	1500	2530	240	330	4160	2000	1800	1900	33	24

Note:

Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SB4/1SB6 and 1SG4/1SG6 series.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Overview



Technical data

Overview of technical data

H-compact PLUS 1RA4/1RA6/1RP6	
Rated voltage	3.3 ... 13.8 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP23/IP24W
Cooling method	IC01
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	450 ... 710 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN, NEMA
Frame design for shaft heights 450 ... 560 mm	Frame: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 710 mm	Frame: Steel Cooling enclosure: Steel

Technical data (continued)

Power ranges for IEC motors for line operation

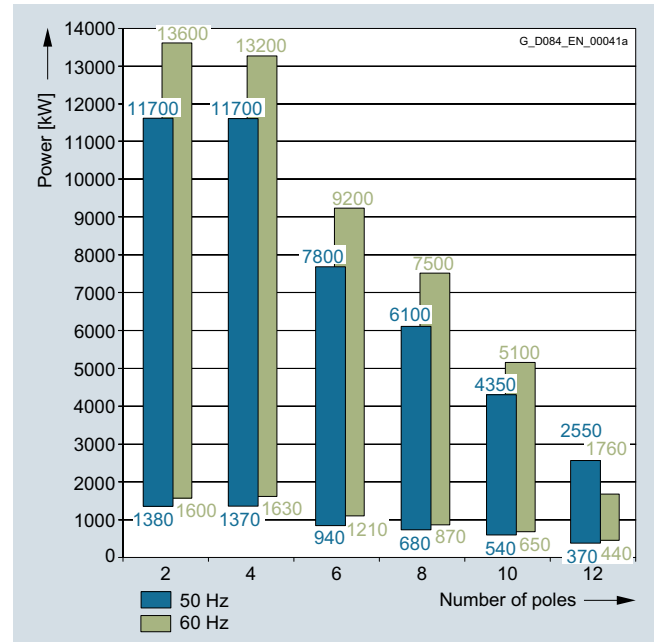
1RA4, 1RA6, 1RP6 series

Insulation system, thermal class 155 (F), utilized to 130 (B).

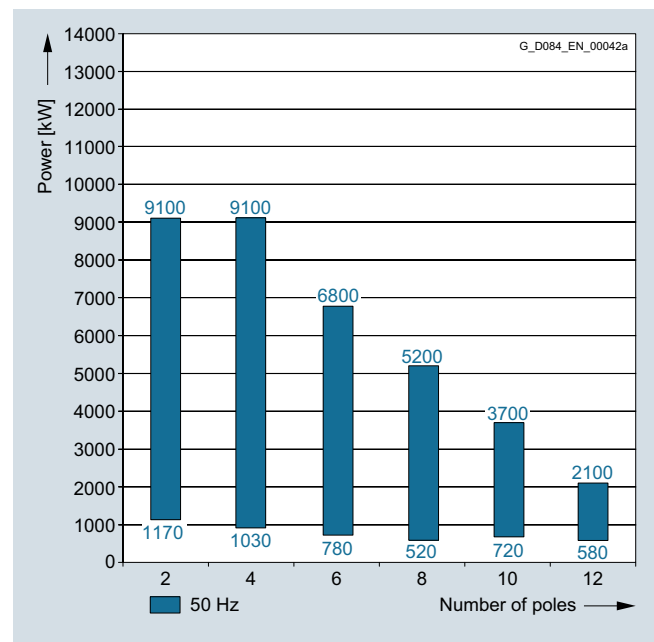
Ambient temperature up to 40 °C, installation altitude up to 1000 m.

3.3 to 6.6 kV; 50 Hz

4.0 to 6.6 kV; 60 Hz



9 to 11 kV; 50 Hz



Motors for line operation

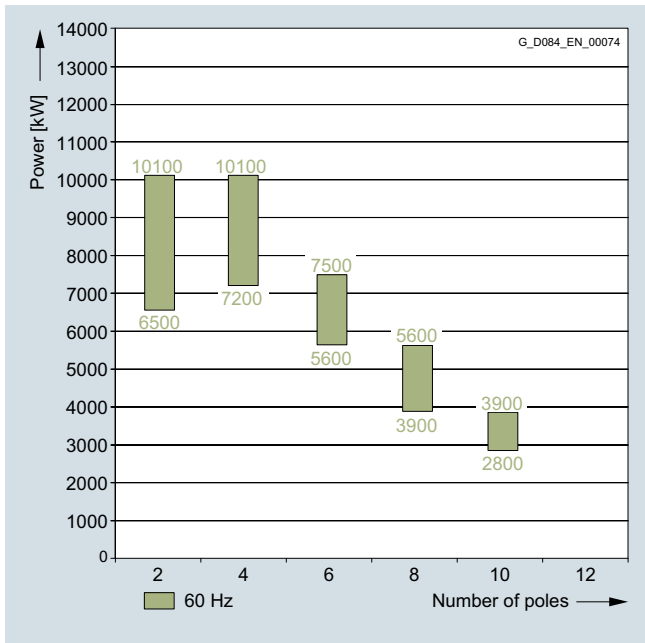
Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Technical data (continued)

Power ranges for IEC motors for line operation
(continued)

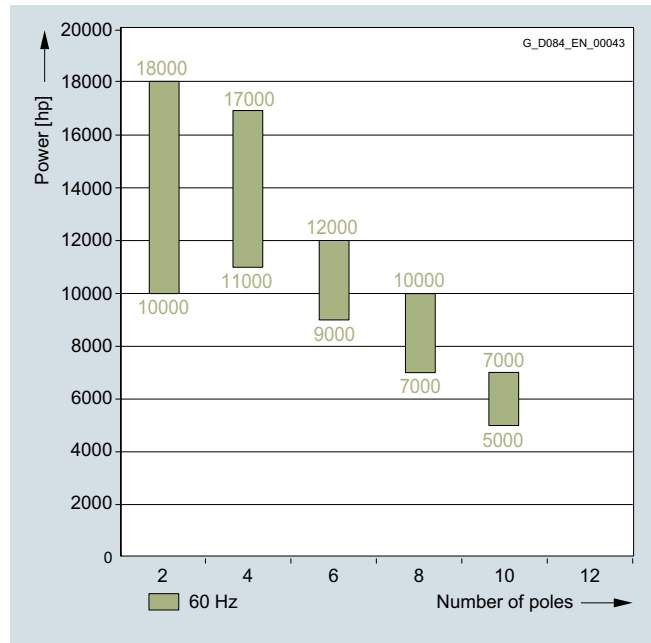
12.5 to 13.8 kV; 60 Hz



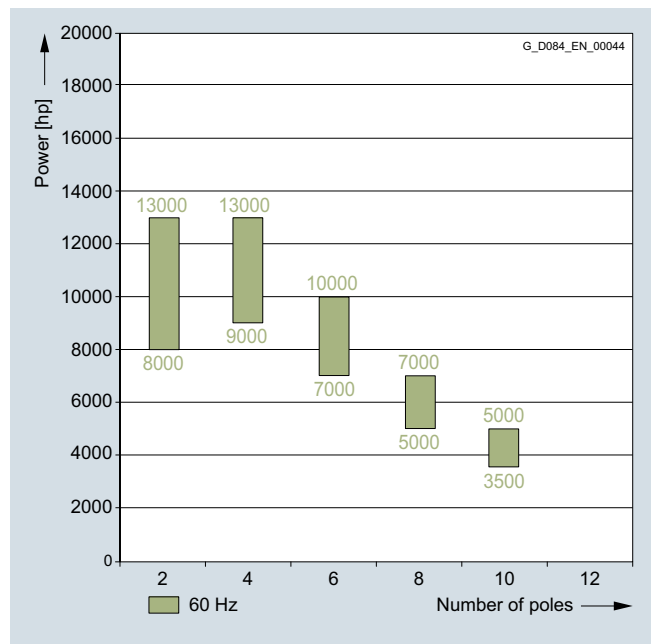
Power ranges for NEMA motors for line operation

Insulation system, thermal class 155 (F), utilized to 130 (B)

4 to 6.6 kV; 60 Hz



12.5 to 13.8 kV; 60 Hz



2

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated}	Locked-rotor torque T_{LR}/T_{rated}	Locked-rotor current I_{LR}/I_{rated}	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
3.3 ... 6.6 kV, 50 Hz														
2-pole														
1380	1RA6 450-2HJ	2972	156	95.9	96.3	0.89	0.90	4436	1.90	0.50	4.80	13	64	
1570	1RA6 452-2HJ	2973	174	96.1	96.6	0.90	0.91	5043	2.00	0.55	5.20	14	70	
1750	1RA6 454-2HJ	2977	192	96.3	96.7	0.91	0.91	5618	2.30	0.60	5.50	16	74	
1950	1RA6 456-2HJ	2980	215	96.5	96.9	0.91	0.91	6252	2.40	0.60	5.50	17	81	
2350	1RA6 500-2HJ	2975	260	96.6	96.9	0.90	0.89	7543	2.10	0.60	5.10	19	83	
2500	1RA6 502-2HJ	2976	275	96.5	96.9	0.90	0.90	8022	2.25	0.55	5.30	21	93	
3050	1RA6 504-2HJ	2979	330	96.9	97.2	0.92	0.91	9777	2.45	0.65	5.50	25	103	
3250	1RA6 506-2HJ	2977	350	97.0	97.3	0.92	0.92	10425	2.30	0.65	5.50	26	115	
3700	1RA6 560-2HJ	2977	410	96.8	97.1	0.90	0.90	11868	1.90	0.55	4.30	39	160	
4300	1RA6 562-2HJ	2978	470	97.0	97.3	0.91	0.91	13788	1.95	0.55	4.40	43	180	
4900	1RA6 564-2HJ	2980	530	97.2	97.5	0.92	0.92	15702	2.10	0.60	4.80	49	200	
5400	1RA6 566-2HJ	2982	580	97.3	97.5	0.92	0.92	17292	2.30	0.60	5.30	54	220	
4900	1RA4 630-2HE	2982	550	96.9	97.1	0.88	0.88	15692	2.10	0.31	4.00	60	110	
5700	1RA4 632-2HE	2983	630	97.3	97.3	0.89	0.89	18248	2.20	0.34	4.30	67	150	
6500	1RA4 634-2HE	2985	710	97.5	97.6	0.90	0.89	20796	2.50	0.41	5.00	77	190	
7500	1RA4 636-2HE	2986	820	97.7	97.8	0.90	0.89	23987	2.60	0.46	5.40	86	240	
4-pole														
1370	1RA6 450-4HJ	1483	154	95.6	96.1	0.89	0.88	8822	2.00	0.70	5.50	20	340	
1500	1RA6 452-4HJ	1485	170	95.8	96.2	0.89	0.88	9650	2.60	0.70	5.50	22	385	
1640	1RA6 454-4HJ	1486	184	96.0	96.3	0.89	0.88	10544	2.20	0.70	5.50	25	440	
1860	1RA6 456-4HJ	1487	210	96.2	96.5	0.89	0.87	11948	2.30	0.70	5.50	28	500	
2100 ²⁾	1RA6 500-4HJ	1486	230	96.6	97.0	0.91	0.90	13495	2.30	0.60	5.00	43	410	
2300 ²⁾	1RA6 502-4HJ	1487	250	96.8	97.1	0.91	0.90	14770	2.45	0.65	5.30	46	460	
2650 ²⁾	1RA6 504-4HJ	1487	290	96.9	97.2	0.91	0.90	17018	2.30	0.60	5.00	52	510	
3000 ²⁾	1RA6 506-4HJ	1488	325	96.9	97.2	0.91	0.90	19253	2.40	0.65	5.20	56	560	
3600 ²⁾	1RA6 560-4HJ	1490	390	97.0	97.3	0.91	0.90	23072	2.25	0.70	5.00	84	730	
4000 ²⁾	1RA6 562-4HJ	1490	435	97.1	97.5	0.91	0.90	25636	2.25	0.70	4.90	94	800	
4500 ²⁾	1RA6 564-4HJ	1491	490	97.3	97.6	0.91	0.91	28821	2.25	0.70	5.00	105	880	
4900 ²⁾	1RA6 566-4HJ	1492	530	97.4	97.6	0.91	0.90	31362	2.30	0.65	5.20	115	970	
5300	1RA4 630-4HE	1489	590	97.1	97.3	0.89	0.89	33993	2.00	0.54	4.60	134	780	
6000	1RA4 632-4HE	1490	670	97.3	97.4	0.89	0.89	38456	2.15	0.60	4.90	150	1050	
6600	1RA4 634-4HE	1490	720	97.4	97.6	0.90	0.90	42302	2.20	0.63	5.10	168	1200	
7100	1RA4 636-4HE	1491	780	97.6	97.6	0.90	0.89	45476	2.40	0.70	5.50	197	1100	

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements. NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives. For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Data of vertical motors (IM V1) on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. 1) kgm ²	
3.3 ... 6.6 kV, 50 Hz														
6-pole														
940	1RA6 450-6HJ	989	110	95.3	95.9	0.86	0.85	9088	2.10	0.90	5.50	26	660	
1040	1RA6 452-6HJ	990	122	95.6	96.1	0.86	0.84	10044	2.10	0.90	5.50	29	770	
1180	1RA6 454-6HJ	990	136	95.7	96.3	0.87	0.85	11394	2.20	0.95	5.50	33	870	
1330	1RA6 456-6HJ	990	156	96.0	96.5	0.86	0.84	12832	2.20	0.90	5.50	37	1040	
1700	1RA6 500-6HJ	989	200	96.1	96.6	0.85	0.85	16416	2.00	0.79	5.00	56	1280	
1920	1RA6 502-6HJ	989	225	96.2	96.7	0.86	0.85	18540	2.00	0.78	4.90	62	1420	
2150	1RA6 504-6HJ	990	250	96.3	96.7	0.86	0.85	20740	2.10	0.84	5.30	69	1560	
2350	1RA6 506-6HJ	990	270	96.5	96.8	0.87	0.85	22669	2.10	0.88	5.30	77	1760	
2750	1RA6 560-6HJ	991	315	96.6	97.0	0.87	0.87	26501	2.30	0.68	4.80	108	1640	
3100	1RA6 562-6HJ	991	350	96.7	97.1	0.88	0.87	29874	2.30	0.69	4.80	119	1820	
3450	1RA6 564-6HJ	991	390	96.8	97.2	0.88	0.88	33247	2.30	0.69	4.70	132	2000	
3750	1RA6 566-6HJ	991	425	96.9	97.3	0.88	0.88	36138	2.35	0.70	4.80	146	2250	
4200	1RA4 630-6HE	992	490	96.8	97.2	0.85	0.84	40433	2.00	0.57	4.50	183	2000	
4700	1RA4 632-6HE	993	540	97.0	97.3	0.86	0.85	45201	2.10	0.62	4.80	202	2100	
5100	1RA4 634-6HE	993	590	97.2	97.4	0.86	0.84	49048	2.25	0.69	5.20	223	2800	
5600	1RA4 636-6HE	994	640	97.3	97.4	0.86	0.84	53803	2.30	0.70	5.30	246	3300	
8-pole														
680	1RA6 450-8HJ	742	82	94.7	95.3	0.84	0.82	8758	2.10	0.70	5.50	32	730	
750	1RA6 452-8HJ	742	91	94.9	95.5	0.84	0.81	9657	2.10	0.70	5.50	36	890	
880	1RA6 454-8HJ	743	108	95.1	95.6	0.83	0.80	11314	2.10	0.75	5.50	41	1040	
970	1RA6 456-8HJ	743	116	95.3	95.7	0.84	0.81	12475	2.20	0.80	5.50	47	1300	
1250	1RA6 500-8HJ	743	152	95.7	96.0	0.83	0.80	16067	2.00	0.61	5.10	69	1420	
1400	1RA6 502-8HJ	743	170	95.8	96.1	0.83	0.81	17995	2.05	0.67	5.10	76	1560	
1550	1RA6 504-8HJ	743	188	96.0	96.3	0.83	0.80	19923	2.20	0.69	5.30	85	1740	
1700	1RA6 506-8HJ	743	205	96.1	96.4	0.83	0.81	21851	2.20	0.71	5.50	94	1920	
1950	1RA6 560-8HJ	744	230	96.5	96.8	0.84	0.82	25030	2.45	0.71	5.30	128	2700	
2200	1RA6 562-8HJ	744	260	96.6	96.9	0.84	0.82	28239	2.45	0.71	5.40	141	2950	
2400	1RA6 564-8HJ	744	285	96.7	97.0	0.84	0.81	30806	2.50	0.76	5.50	156	3300	
2600	1RA6 566-8HJ	744	310	96.8	97.1	0.84	0.82	33374	2.55	0.71	5.50	173	3650	
3200	1RA4 630-8HE	743	375	96.5	96.7	0.85	0.83	41131	1.90	0.60	4.30	239	3100	
3500	1RA4 632-8HE	743	410	96.7	96.8	0.85	0.82	44987	2.10	0.67	4.60	265	3400	
3750	1RA4 634-8HE	743	440	96.7	96.9	0.85	0.84	48200	2.00	0.65	4.60	293	3600	
4100	1RA4 636-8HE	744	485	96.9	96.9	0.84	0.81	52628	2.30	0.76	5.30	324	3800	

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data (continued)

Rated power kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated}	Locked-rotor torque T_{LR}/T_{rated}	Locked-rotor current I_{LR}/I_{rated}	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
3.3 ... 6.6 kV, 50 Hz														
10-pole														
540	1RA6 450-3HJ	590	70	93.4	93.7	0.80	0.76	8741	2.00	0.80	4.60	37	1150	
600	1RA6 452-3HJ	590	76	93.7	93.9	0.81	0.76	9712	2.00	0.80	4.70	41	1350	
670	1RA6 454-3HJ	591	86	93.9	94.1	0.80	0.75	10827	2.10	0.82	4.90	46	1450	
760	1RA6 456-3HJ	591	97	94.1	94.2	0.80	0.75	12281	2.20	0.90	5.20	52	1800	
900	1RA4 500-3HE	591	112	94.4	94.7	0.82	0.80	14543	1.90	0.68	4.30	70	1400	
1000	1RA4 502-3HE	592	122	95.7	94.9	0.83	0.80	16132	1.90	0.70	4.50	80	1700	
1100	1RA4 504-3HE	592	134	94.8	95.0	0.83	0.80	17745	1.90	0.72	4.60	88	2200	
1250	1RA4 506-3HE	592	152	95.0	95.1	0.83	0.80	20165	1.90	0.75	4.70	99	2600	
1480	1RA4 560-3HE	593	184	95.1	95.4	0.81	0.77	23835	2.00	0.70	4.50	123	2700	
1700	1RA4 562-3HE	593	210	95.4	95.7	0.82	0.78	27378	2.00	0.70	4.50	141	4100	
1880	1RA4 564-3HE	593	230	95.6	95.7	0.82	0.78	30277	2.00	0.72	4.70	158	4400	
2050	1RA4 566-3HE	593	255	95.7	95.8	0.81	0.76	33014	2.10	0.78	5.00	173	5200	
2400	1RA4 630-3HE	592	285	95.8	96.4	0.84	0.83	38716	1.80	0.62	4.00	239	4700	
2650	1RA4 632-3HE	592	315	96.0	96.5	0.84	0.83	42749	1.80	0.65	4.20	265	5300	
2900	1RA4 634-3HE	593	345	96.2	96.6	0.84	0.82	46703	2.00	0.70	4.50	293	6300	
3150	1RA4 636-3HE	593	375	96.4	96.7	0.84	0.82	50729	2.00	0.73	4.60	324	7500	
12-pole														
370	1RA6 450-5HJ	491	53	92.4	92.7	0.73	0.68	7197	1.80	0.60	4.00	37	1100	
425	1RA6 452-5HJ	492	60	92.8	93.0	0.73	0.67	8249	1.80	0.63	4.20	41	1400	
475	1RA6 454-5HJ	491	66	93.1	93.3	0.74	0.69	9239	1.80	0.60	4.00	46	1600	
540	1RA6 456-5HJ	492	77	93.5	93.5	0.72	0.65	10482	2.00	0.68	4.40	52	2000	
680	1RA4 500-5HE	491	94	93.9	94.0	0.74	0.69	13226	1.90	0.62	4.10	70	2350	
760	1RA4 502-5HE	491	102	94.1	94.2	0.76	0.71	14782	1.80	0.60	4.00	79	2600	
840	1RA4 504-5HE	491	112	94.3	94.4	0.76	0.71	16338	1.90	0.62	4.10	87	3100	
930	1RA4 506-5HE	492	128	94.5	94.6	0.74	0.69	18052	1.90	0.62	4.30	98	3700	
1100	1RA4 560-5HE	493	150	94.5	94.8	0.75	0.71	21308	1.80	0.57	3.90	123	3600	
1230	1RA4 562-5HE	493	168	94.9	95.0	0.74	0.68	23827	1.80	0.60	4.00	141	4100	
1350	1RA4 564-5HE	494	184	95.0	95.1	0.74	0.68	26098	2.00	0.63	4.30	158	4700	
1470	1RA4 566-5HE	494	198	95.1	95.2	0.75	0.69	28418	2.00	0.65	4.30	173	5200	
1900	1RA4 630-5HE	493	245	95.4	95.8	0.79	0.76	36805	1.90	0.70	4.30	239	5500	
2150	1RA4 632-5HE	493	270	95.6	96.0	0.80	0.76	41648	1.90	0.71	4.30	265	7000	
2350	1RA4 634-5HE	493	295	95.8	96.3	0.80	0.77	45522	1.90	0.72	4.40	293	8300	
2550	1RA4 636-5HE	493	320	95.9	96.4	0.80	0.77	49397	2.00	0.74	4.50	324	9800	

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements. NEMA version on request.

Higher pole numbers are available on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives. For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. 1) kgm ²	
3.3 ... 6.6 kV, 50 Hz														
2-pole														
6700 ²⁾	1RP6 710-2HJ ■ ■ 0	2989	740	97.0	96.8	0.90	0.90	21414	2.00	0.43	4.60	132	108	
8700 ²⁾	1RP6 712-2HJ ■ ■ 0	2987	960	97.2	97.1	0.90	0.91	27818	1.80	0.42	4.30	147	158	
10100 ²⁾	1RP6 714-2HJ ■ ■ 0	2988	1100	97.4	97.2	0.91	0.91	32286	2.00	0.46	4.70	162	158	
11700 ²⁾	1RP6 716-2HJ ■ ■ 0	2988	1260	97.5	97.3	0.91	0.91	37396	2.00	0.49	4.90	179	171	
4-pole														
7600 ²⁾	1RP6 710-4HJ ■ ■ 0	1493	840	97.7	97.9	0.89	0.87	48609	2.30	0.60	5.50	273	627	
8900 ²⁾	1RP6 712-4HJ ■ ■ 0	1493	970	97.8	98.0	0.90	0.89	56954	2.10	0.59	5.50	300	700	
10100 ²⁾	1RP6 714-4HJ ■ ■ 0	1493	1100	97.8	98.0	0.91	0.90	64636	2.10	0.62	5.50	337	803	
11700 ²⁾	1RP6 716-4HJ ■ ■ 0	1492	1260	97.9	98.0	0.91	0.91	74886	2.10	0.63	5.50	369	881	
6-pole														
5700	1RP6 710-6HJ ■ ■ ■	994	660	97.3	97.6	0.86	0.84	54792	2.00	0.68	5.10	330	1720	
6400	1RP6 712-6HJ ■ ■ ■	994	730	97.4	97.6	0.87	0.85	61526	2.00	0.72	5.20	367	1933	
7100	1RP6 714-6HJ ■ ■ ■	994	810	97.5	97.7	0.87	0.85	68225	2.10	0.79	5.50	419	2361	
7800	1RP6 716-6HJ ■ ■ ■	994	880	97.5	97.7	0.87	0.85	74930	2.20	0.82	5.50	468	3032	
8-pole														
4550	1RP6 710-8HJ ■ ■ ■	745	540	96.9	97.3	0.84	0.82	58354	1.90	0.76	5.00	415	4735	
5000	1RP6 712-8HJ ■ ■ ■	745	590	97.1	97.4	0.84	0.82	64111	1.90	0.79	5.20	465	5335	
5500	1RP6 714-8HJ ■ ■ ■	745	640	97.1	97.4	0.85	0.83	70512	1.90	0.80	5.20	531	6469	
6100	1RP6 716-8HJ ■ ■ ■	745	710	97.3	97.5	0.85	0.83	78174	2.00	0.85	5.50	597	7503	
10-pole														
3050	1RP6 710-3HJ ■ ■ ■	596	380	96.4	96.9	0.80	0.77	48916	2.10	0.72	5.00	415	8485	
3450	1RP6 712-3HJ ■ ■ ■	596	430	96.7	97.0	0.80	0.77	55318	2.10	0.73	5.10	465	10335	
3850	1RP6 714-3HJ ■ ■ ■	596	480	96.8	97.1	0.80	0.77	61707	2.20	0.78	5.40	531	11469	
4350	1RP6 716-3HJ ■ ■ ■	596	530	96.6	97.2	0.81	0.77	69716	2.20	0.80	5.50	598	13202	

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ $V_{rated} < 6$ kV on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. 1) kgm ²	
9 ... 11 kV, 50 Hz														
2-pole														
1170	1RA6 450-2HJ ■ 0	2976	79	95.6	96.1	0.90	0.90	3755	2.10	0.55	5.50	13	31	
1330	1RA6 452-2HJ ■ 0	2978	88	95.9	96.3	0.91	0.91	4268	2.30	0.60	5.50	14	33	
1450	1RA6 454-2HJ ■ 0	2980	96	96.1	96.4	0.91	0.91	4649	2.30	0.55	5.50	15	36	
1630	1RA6 456-2HJ ■ 0	2981	106	96.3	96.7	0.92	0.92	5224	2.40	0.55	5.50	17	39	
2050	1RA6 500-2HJ ■ 0	2979	136	96.3	96.6	0.90	0.89	6571	2.35	0.65	5.50	19	37	
2250	1RA6 502-2HJ ■ 0	2978	148	96.5	96.8	0.91	0.90	7215	2.30	0.65	5.50	21	41	
2550	1RA6 504-2HJ ■ 0	2979	166	96.6	97.0	0.92	0.92	8174	2.40	0.55	5.50	25	45	
2650	1RA6 506-2HJ ■ 0	2980	170	96.8	97.1	0.93	0.92	8492	2.40	0.65	5.50	26	51	
3300	1RA6 560-2HJ ■ 0	2979	220	96.7	97.0	0.90	0.90	10578	1.90	0.55	4.40	39	115	
3700	1RA6 562-2HJ ■ 0	2983	240	96.9	97.1	0.91	0.90	11845	2.30	0.65	5.30	43	130	
4300	1RA6 564-2HJ ■ 0	2982	280	97.0	97.3	0.92	0.92	13770	2.20	0.60	5.10	49	145	
5100	1RA6 566-2HJ ■ 0	2984	330	97.3	97.4	0.92	0.91	16321	2.40	0.60	5.50	54	160	
4300	1RA4 630-2HE ■ 0	2984	290	96.8	96.9	0.89	0.88	13762	2.30	0.34	4.50	60	75	
5000	1RA4 632-2HE ■ 0	2985	330	97.3	97.3	0.9	0.89	15997	2.50	0.39	4.90	67	100	
5700	1RA4 634-2HE ■ 0	2986	375	97.4	97.4	0.90	0.89	18230	2.60	0.42	5.20	77	110	
6700	1RA4 636-2HE ■ 0	2987	440	97.6	97.7	0.90	0.89	21421	2.60	0.45	5.50	86	160	
4-pole														
1030	1RA6 450-4HJ ■ ■	1485	69	95.2	95.7	0.90	0.89	6627	2.10	0.75	5.50	20	170	
1190	1RA6 452-4HJ ■ ■	1484	80	95.4	95.9	0.90	0.90	7658	2.10	0.70	5.50	22	194	
1340	1RA6 454-4HJ ■ ■	1486	90	95.6	96.1	0.90	0.90	8619	2.10	0.70	5.50	25	225	
1520	1RA6 456-4HJ ■ ■	1487	102	95.9	96.2	0.90	0.89	9764	2.20	0.70	5.50	28	260	
1900 ²⁾	1RA6 500-4HJ ■ 0	1487	124	96.4	96.8	0.92	0.91	12202	2.40	0.70	5.30	43	200	
2100 ²⁾	1RA6 502-4HJ ■ 0	1487	136	96.5	96.9	0.92	0.91	13486	2.40	0.65	5.30	46	220	
2350 ²⁾	1RA6 504-4HJ ■ 0	1488	154	96.6	97.0	0.91	0.91	15081	2.40	0.60	5.30	52	250	
2550 ²⁾	1RA6 506-4HJ ■ 0	1488	166	96.7	97.1	0.92	0.91	16365	2.40	0.60	5.30	56	280	
3000 ²⁾	1RA6 560-4HJ ■ 0	1491	196	96.9	97.2	0.91	0.90	19214	2.30	0.70	5.20	84	420	
3400 ²⁾	1RA6 562-4HJ ■ 0	1491	220	97.0	97.3	0.92	0.91	21776	2.30	0.70	5.20	94	460	
3800 ²⁾	1RA6 564-4HJ ■ 0	1492	250	97.2	97.4	0.91	0.90	24321	2.35	0.60	5.30	104	510	
4200 ²⁾	1RA6 566-4HJ ■ 0	1493	275	97.2	97.4	0.91	0.90	26863	2.35	0.60	5.40	115	560	
4500	1RA4 630-4HE ■ ■	1490	300	96.9	97.1	0.89	0.89	28842	2.10	0.57	4.90	134	550	
5000	1RA4 632-4HE ■ ■	1490	330	97.1	97.2	0.90	0.90	32047	2.15	0.59	5.00	150	650	
5600	1RA4 634-4HE ■ ■	1490	370	97.3	97.4	0.90	0.90	35893	2.20	0.63	5.30	168	750	
6200	1RA4 636-4HE ■ ■	1491	410	97.4	97.5	0.90	0.90	39712	2.40	0.68	5.50	197	780	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Data of vertical motors (IM V1) on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. 1) kgm ²	
9 ... 11 kV, 50 Hz														
6-pole														
780	1RA6 450-6HJ	990	55	95.0	95.5	0.86	0.83	7528	2.10	0.90	5.50	26	340	
850	1RA6 452-6HJ	990	59	95.1	95.7	0.87	0.85	8205	2.20	0.95	5.50	29	400	
930	1RA6 454-6HJ	990	65	95.3	95.9	0.87	0.86	8977	2.10	0.95	5.50	32	460	
1080	1RA6 456-6HJ	992	75	95.6	96.1	0.87	0.85	10403	2.20	0.83	5.50	37	560	
1350	1RA6 500-6HJ	990	95	95.9	96.4	0.86	0.86	13023	2.10	0.86	5.20	56	830	
1520	1RA6 502-6HJ	990	106	96.0	96.5	0.87	0.86	14663	2.05	0.85	5.30	62	910	
1700	1RA6 504-6HJ	991	118	96.1	96.6	0.87	0.86	16382	2.05	0.86	5.50	69	1020	
1900	1RA6 506-6HJ	991	132	96.2	96.7	0.87	0.86	18310	2.10	0.81	5.30	77	1140	
2400	1RA6 560-6HJ	992	164	96.4	96.8	0.88	0.87	23105	2.45	0.73	5.30	108	1060	
2650	1RA6 562-6HJ	993	182	96.6	96.9	0.87	0.86	25486	2.60	0.73	5.50	119	1160	
2950	1RA6 564-6HJ	992	200	96.7	97.0	0.88	0.87	28400	2.55	0.72	5.30	132	1280	
3200	1RA6 566-6HJ	993	215	96.8	97.1	0.88	0.87	30775	2.75	0.83	5.50	146	1420	
3600	1RA4 630-6HE	993	250	96.7	96.9	0.86	0.84	34622	2.20	0.63	5.00	183	1200	
4000	1RA4 632-6HE	993	275	96.8	97.0	0.87	0.85	38469	2.10	0.64	5.00	202	1500	
4400	1RA4 634-6HE	993	300	97.0	97.1	0.87	0.86	42316	2.20	0.66	5.20	223	1750	
4800	1RA4 636-6HE	994	330	97.1	97.2	0.87	0.86	46117	2.30	0.71	5.50	246	2000	
8-pole														
520	1RA6 450-8HJ	742	37.5	94.0	94.6	0.85	0.82	6688	2.10	0.75	5.50	32	215	
560	1RA6 452-8HJ	742	40.5	94.1	94.9	0.85	0.84	7206	2.10	0.65	5.50	36	290	
580	1RA6 454-8HJ	742	41.5	94.1	94.9	0.86	0.83	7463	2.20	0.75	5.50	41	365	
750	1RA6 456-8HJ	743	55	94.7	95.1	0.83	0.79	9649	2.30	0.80	5.50	47	485	
1000	1RA6 500-8HJ	744	72	95.3	95.7	0.84	0.81	12836	2.10	0.67	5.40	69	830	
1160	1RA6 502-8HJ	744	83	95.5	95.9	0.84	0.81	14890	2.15	0.66	5.40	76	910	
1280	1RA6 504-8HJ	744	92	95.6	96.0	0.84	0.81	16430	2.20	0.68	5.50	85	1020	
1400	1RA6 506-8HJ	744	100	95.8	96.1	0.84	0.81	17970	2.15	0.66	5.50	94	1120	
1650	1RA6 560-8HJ	744	116	96.2	96.6	0.85	0.83	21179	2.40	0.69	5.40	128	1540	
1900	1RA6 562-8HJ	744	134	96.2	96.7	0.85	0.83	24388	2.35	0.69	5.40	141	1700	
2050	1RA6 564-8HJ	744	144	96.4	96.8	0.85	0.83	26314	2.45	0.69	5.50	156	1880	
2250	1RA6 566-8HJ	744	158	96.5	96.8	0.85	0.83	28881	2.50	0.70	5.50	173	2100	
2600	1RA4 630-8HE	744	186	96.3	96.4	0.84	0.81	33374	2.40	0.75	5.20	239	1800	
2900	1RA4 632-8HE	744	205	96.4	96.5	0.84	0.81	37224	2.30	0.75	5.20	265	2000	
3200	1RA4 634-8HE	744	225	96.6	96.7	0.85	0.82	41075	2.30	0.74	5.10	293	2200	
3500	1RA4 636-8HE	744	245	96.7	96.8	0.86	0.83	44926	2.30	0.75	5.20	324	2600	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. 1) kgm ²	
9 ... 11 kV, 50 Hz														
10-pole														
720	1RA4 500-3HE	593	55	93.8	93.9	0.80	0.76	11595	2.20	0.82	5.20	70	900	
830	1RA4 502-3HE	594	64	94.2	94.2	0.79	0.74	13344	2.20	0.82	5.30	80	1100	
920	1RA4 504-3HE	594	71	94.3	94.3	0.79	0.74	14791	2.20	0.82	5.30	88	1200	
1020	1RA4 506-3HE	594	79	94.5	94.5	0.79	0.75	16399	2.20	0.80	5.30	99	1400	
1250	1RA4 560-3HE	593	94	94.8	94.9	0.81	0.77	20131	2.10	0.72	4.70	123	1650	
1420	1RA4 562-3HE	593	106	94.9	95.2	0.82	0.78	22868	2.00	0.70	4.70	141	2050	
1570	1RA4 564-3HE	593	116	95.1	95.4	0.82	0.78	25284	2.00	0.72	5.00	158	2500	
1700	1RA4 566-3HE	595	128	95.3	95.4	0.80	0.75	27286	2.40	0.85	5.50	173	2700	
2100	1RA4 630-3HE	593	152	95.8	96.1	0.83	0.80	33820	2.10	0.73	4.70	239	2500	
2350	1RA4 632-3HE	594	172	96.0	96.2	0.82	0.78	37782	2.30	0.82	5.10	265	2900	
2550	1RA4 634-3HE	594	184	96.0	96.3	0.83	0.79	40997	2.30	0.80	5.10	293	3000	
2750	1RA4 636-3HE	594	196	96.2	96.5	0.84	0.80	44213	2.30	0.83	5.20	324	3500	
12-pole														
580	1RA4 502-5HE	493	48.0	93.3	93.3	0.74	0.68	11235	2.00	0.70	4.70	79	1350	
640	1RA4 504-5HE	493	53	93.5	93.6	0.74	0.68	12398	2.00	0.70	4.80	87	1500	
700	1RA4 506-5HE	493	58	93.6	93.7	0.75	0.69	13560	2.10	0.70	4.80	98	1600	
850	1RA4 560-5HE	494	69	93.8	94.1	0.76	0.71	16432	1.85	0.60	4.20	123	1750	
1000	1RA4 562-5HE	494	82	94.4	94.6	0.75	0.69	19332	1.95	0.65	4.50	141	2200	
1100	1RA4 564-5HE	494	88	94.5	94.7	0.76	0.71	21265	1.95	0.63	4.40	158	2500	
1200	1RA4 566-5HE	494	96	94.8	94.8	0.76	0.71	23198	1.95	0.63	4.40	173	2900	
1650	1RA4 630-5HE	494	126	95.1	95.5	0.79	0.74	31898	2.10	0.75	4.60	239	3000	
1800	1RA4 632-5HE	494	142	95.4	95.7	0.77	0.71	34798	2.40	0.88	5.20	265	3500	
1950	1RA4 634-5HE	494	152	95.5	95.7	0.78	0.73	37697	2.30	0.85	5.10	293	3400	
2100	1RA4 636-5HE	495	162	95.7	95.9	0.78	0.73	40515	2.35	0.88	5.30	324	4000	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load $\cos \varphi$	3/4 load $\cos \varphi$	Motor kgm ²					External, max. 1) kgm ²	
9 ... 11 kV, 50 Hz														
2-pole														
6400	1RP6 710-2HJ	2989	425	96.9	96.8	0.90	0.89	20451	2.10	0.45	4.80	132	138	
7500	1RP6 712-2HJ	2990	495	97.0	96.9	0.90	0.89	23961	2.20	0.48	5.10	147	163	
8200	1RP6 714-2HJ	2990	540	97.2	97.0	0.91	0.91	26197	2.20	0.51	5.30	162	188	
9100	1RP6 716-2HJ	2990	590	97.2	97.1	0.92	0.92	29072	2.30	0.53	5.40	179	221	
4-pole														
6700	1RP6 710-4HJ	1493	440	97.5	97.7	0.90	0.88	42853	2.30	0.61	5.50	273	697	
7500	1RP6 712-4HJ	1493	485	97.6	97.8	0.91	0.90	47979	2.20	0.59	5.50	300	800	
8200	1RP6 714-4HJ	1493	530	97.7	97.8	0.91	0.90	52456	2.20	0.61	5.50	337	933	
9100	1RP6 716-4HJ	1493	590	97.7	97.8	0.91	0.90	58205	2.20	0.62	5.50	369	1031	
6-pole														
5000	1RP6 710-6HJ	994	345	97.2	97.4	0.86	0.85	48051	2.10	0.69	5.30	330	2520	
5500	1RP6 712-6HJ	994	375	97.3	97.5	0.87	0.85	52847	2.10	0.74	5.50	367	2133	
6100	1RP6 714-6HJ	994	415	97.4	97.6	0.87	0.85	58591	2.20	0.78	5.50	419	2561	
6800	1RP6 716-6HJ	995	465	97.4	97.6	0.87	0.86	65303	2.30	0.82	5.50	468	2982	
8-pole														
3850	1RP6 710-8HJ	745	270	96.7	97.2	0.85	0.83	49372	1.90	0.71	4.90	415	5185	
4200	1RP6 712-8HJ	745	295	96.8	97.2	0.85	0.83	53835	2.00	0.78	5.30	465	5935	
4650	1RP6 714-8HJ	746	325	97.0	97.3	0.85	0.82	59562	2.20	0.93	5.50	531	7019	
5200	1RP6 716-8HJ	746	365	97.1	97.3	0.85	0.82	66595	2.20	0.93	5.50	597	8203	
10-pole														
2800	1RP6 710-3HJ	596	210	96.4	96.8	0.80	0.77	44889	2.10	0.72	5.20	415	8485	
3100	1RP6 712-3HJ	596	230	96.6	96.9	0.81	0.78	49700	2.10	0.71	5.10	465	10335	
3400	1RP6 714-3HJ	596	250	96.7	97.0	0.81	0.77	54475	2.30	0.78	5.50	531	11369	
3700	1RP6 716-3HJ	596	275	96.7	97.0	0.81	0.77	59266	2.30	0.82	5.50	598	12702	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated}	Locked-rotor torque T_{LR}/T_{rated}	Locked-rotor current I_{LR}/I_{rated}	Moment of inertia	
			I_{rated} at 6.6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
4 ... 6.6 kV, 60 Hz														
2-pole														
1600	1RA6 450-2HJ ■ 0	3572	162	96.0	96.2	0.90	0.90	4279	2.00	0.55	5.10	13	34	
1850	1RA6 452-2HJ ■ 0	3573	184	96.2	96.5	0.91	0.91	4946	2.10	0.55	5.40	14	40	
2060	1RA6 454-2HJ ■ 0	3577	205	96.4	96.6	0.91	0.91	5504	2.20	0.55	5.50	16	45	
2300	1RA6 456-2HJ ■ 0	3580	230	96.6	96.8	0.91	0.91	6137	2.40	0.55	5.50	17	52	
2800	1RA6 500-2HJ ■ 0	3575	280	96.6	96.9	0.90	0.90	7479	2.10	0.50	5.10	20	64	
3000	1RA6 502-2HJ ■ 0	3577	300	96.8	96.9	0.91	0.90	8009	2.20	0.50	5.40	22	72	
3650	1RA6 504-2HJ ■ 0	3580	355	97.1	97.2	0.92	0.91	9736	2.50	0.55	5.50	26	80	
3900	1RA6 506-2HJ ■ 0	3580	375	97.2	97.3	0.93	0.92	10403	2.50	0.70	5.50	27	88	
4400	1RA6 560-2HJ ■ 0	3578	440	96.8	97.0	0.90	0.90	11743	1.90	0.50	4.40	39	145	
5000	1RA6 562-2HJ ■ 0	3579	495	97.0	97.2	0.91	0.91	13341	2.10	0.55	4.80	43	160	
5700	1RA6 564-2HJ ■ 0	3580	560	97.2	97.3	0.92	0.92	15204	2.10	0.60	4.90	49	180	
6500	1RA6 566-2HJ ■ 0	3582	630	97.4	97.4	0.92	0.92	17328	2.30	0.60	5.40	54	200	
5700	1RA4 630-2HE ■ 0	3583	580	97.0	96.9	0.88	0.87	15193	2.10	0.30	4.20	60	95	
6500	1RA4 632-2HE ■ 0	3584	660	97.2	97.2	0.89	0.89	17320	2.30	0.34	4.60	67	140	
7500	1RA4 634-2HE ■ 0	3585	750	97.5	97.5	0.90	0.89	19979	2.60	0.41	5.30	77	150	
8200	1RA4 636-2HE ■ 0	3585	820	97.6	97.6	0.90	0.90	21844	2.60	0.42	5.40	86	110	
4-pole														
1630	1RA6 450-4HJ ■ ■	1783	168	95.8	96.1	0.89	0.88	8733	2.10	0.70	5.50	20	178	
1750	1RA6 452-4HJ ■ ■	1785	180	95.9	96.1	0.89	0.88	9362	2.20	0.70	5.50	22	225	
2070	1RA6 454-4HJ ■ ■	1785	210	96.1	96.3	0.90	0.89	11078	2.20	0.70	5.50	25	285	
2310	1RA6 456-4HJ ■ ■	1787	235	96.3	96.4	0.89	0.88	12350	2.20	0.70	5.50	28	355	
2500 ²⁾	1RA6 500-4HJ ■ 0	1787	245	96.9	97.1	0.92	0.90	13359	2.45	0.65	5.40	43	250	
2750 ²⁾	1RA6 502-4HJ ■ 0	1788	270	96.9	97.1	0.92	0.90	14687	2.55	0.70	5.60	46	280	
3200 ²⁾	1RA6 504-4HJ ■ 0	1788	315	97.0	97.2	0.92	0.90	17090	2.35	0.60	5.20	52	310	
3600 ²⁾	1RA6 506-4HJ ■ 0	1787	355	97.1	97.4	0.92	0.91	19238	2.40	0.65	5.20	56	350	
4300 ²⁾	1RA6 560-4HJ ■ 0	1791	425	97.2	97.3	0.91	0.90	22927	2.30	0.70	5.10	84	550	
4800 ²⁾	1RA6 562-4HJ ■ 0	1791	475	97.3	97.5	0.91	0.90	25593	2.30	0.65	5.10	94	610	
5400 ²⁾	1RA6 564-4HJ ■ 0	1791	530	97.4	97.5	0.91	0.90	28792	2.25	0.60	5.10	105	670	
5600 ²⁾	1RA6 566-4HJ ■ 0	1792	550	97.5	97.6	0.91	0.90	29842	2.30	0.60	5.20	115	740	
6500	1RA4 630-4HE ■ 0	1789	660	97.2	97.3	0.88	0.88	34698	2.10	0.52	4.80	134	600	
7300	1RA4 632-4HE ■ 0	1789	740	97.3	97.5	0.89	0.89	38969	2.10	0.54	4.80	150	650	
8000	1RA4 634-4HE ■ 0	1790	810	97.5	97.6	0.89	0.89	42682	2.20	0.59	5.20	168	680	
8600	1RA4 636-4HE ■ 0	1791	870	97.7	97.7	0.89	0.88	45857	2.40	0.61	5.50	197	800	

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements. NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives. For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Data of vertical motors (IM V1) on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6.6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
4 ... 6.6 kV, 60 Hz														
6-pole														
1210	1RA6 450-6HJ	1188	128	95.7	96.2	0.86	0.85	9734	1.90	0.80	5.50	26	550	
1350	1RA6 452-6HJ	1188	144	95.9	96.3	0.86	0.85	10858	2.00	0.75	5.50	29	610	
1480	1RA6 454-6HJ	1189	156	96.0	96.5	0.86	0.85	11894	2.00	0.85	5.50	33	660	
1620	1RA6 456-6HJ	1190	170	96.3	96.6	0.87	0.85	13006	2.20	0.95	5.50	38	730	
2050	1RA6 500-6HJ	1190	220	96.3	96.7	0.85	0.85	16452	2.00	0.79	5.10	56	970	
2300	1RA6 502-6HJ	1190	240	96.5	96.8	0.86	0.85	18458	2.00	0.81	5.10	62	1060	
2600	1RA6 504-6HJ	1190	275	96.6	96.9	0.86	0.85	20866	2.00	0.75	5.20	69	1200	
2850	1RA6 506-6HJ	1190	295	96.7	97.0	0.87	0.86	22872	2.05	0.81	5.20	77	1320	
3300	1RA6 560-6HJ	1191	345	96.8	97.1	0.87	0.87	26461	2.35	0.65	4.90	108	1380	
3750	1RA6 562-6HJ	1191	385	96.9	97.1	0.88	0.87	30069	2.35	0.66	4.90	119	1520	
4150	1RA6 564-6HJ	1192	430	97.0	97.2	0.87	0.87	33249	2.50	0.66	5.20	132	1680	
4500	1RA6 566-6HJ	1192	460	97.2	97.3	0.88	0.87	36053	2.55	0.72	5.30	146	1860	
5100	1RA4 630-6HE	1192	530	97.1	97.2	0.86	0.85	40860	1.90	0.51	4.30	183	1700	
5700	1RA4 632-6HE	1193	600	97.2	97.2	0.85	0.84	45629	2.00	0.56	4.70	202	2100	
6200	1RA4 634-6HE	1193	650	97.3	97.3	0.86	0.85	49631	2.10	0.61	4.90	223	2000	
6700	1RA4 636-6HE	1193	700	97.4	97.4	0.86	0.84	53634	2.30	0.64	5.20	246	2600	
8-pole														
870	1RA6 450-8HJ	890	95	95.1	95.6	0.84	0.82	9333	1.80	0.60	5.30	32	475	
960	1RA6 452-8HJ	892	106	95.2	95.6	0.84	0.81	10285	1.90	0.65	5.40	36	570	
1050	1RA6 454-8HJ	892	114	95.3	95.7	0.84	0.82	11254	2.00	0.65	5.50	41	670	
1180	1RA6 456-8HJ	892	128	95.6	95.9	0.85	0.83	12637	1.90	0.65	5.50	47	820	
1500	1RA6 500-8HJ	893	166	95.9	96.1	0.82	0.78	16041	2.10	0.63	5.40	69	1080	
1700	1RA6 502-8HJ	893	186	96.0	96.3	0.83	0.81	18180	2.00	0.61	5.00	76	1200	
1860	1RA6 504-8HJ	893	200	96.2	96.4	0.84	0.82	19891	2.05	0.60	5.10	85	1340	
2050	1RA6 506-8HJ	893	220	96.3	96.4	0.84	0.81	21923	2.05	0.66	5.40	94	1480	
2350	1RA6 560-8HJ	893	255	96.8	97.0	0.84	0.82	25132	2.30	0.58	5.30	128	1960	
2700	1RA6 562-8HJ	893	290	96.8	97.1	0.84	0.82	28875	2.35	0.60	5.20	141	2150	
2900	1RA6 564-8HJ	894	310	96.8	97.0	0.84	0.82	30979	2.50	0.66	5.50	156	2400	
3100	1RA6 566-8HJ	894	335	96.9	97.2	0.84	0.82	33115	2.30	0.63	5.50	173	2650	

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6.6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. 1) kgm ²	
4 ... 6.6 kV, 60 Hz														
10-pole														
650	1RA6 450-3HJ	710	74	93.7	94.0	0.82	0.78	8743	1.90	0.72	4.50	37	650	
720	1RA6 452-3HJ	710	83	94.1	94.3	0.81	0.77	9685	2.00	0.75	4.70	41	850	
800	1RA6 454-3HJ	711	92	94.3	94.4	0.81	0.76	10745	2.10	0.80	4.90	46	900	
910	1RA6 456-3HJ	711	104	94.5	94.6	0.81	0.77	12223	2.10	0.80	5.00	52	1100	
1080	1RA4 500-3HE	711	122	94.8	95.0	0.82	0.80	14506	1.80	0.65	4.40	70	1200	
1200	1RA4 502-3HE	712	134	95.2	95.2	0.82	0.80	16096	1.90	0.68	4.70	80	1500	
1320	1RA4 504-3HE	712	146	95.1	95.2	0.83	0.80	17705	1.90	0.70	4.70	88	1450	
1500	1RA4 506-3HE	712	166	95.4	95.5	0.83	0.79	20119	2.00	0.72	4.90	99	1900	
1780	1RA4 560-3HE	713	205	95.5	95.6	0.80	0.76	23842	2.00	0.70	4.60	123	2100	
2040	1RA4 562-3HE	713	235	95.8	95.8	0.80	0.76	27324	2.00	0.70	4.80	141	2600	
2200	1RA4 564-3HE	713	245	95.9	95.8	0.82	0.79	29467	2.00	0.68	4.60	158	2800	
2400	1RA4 566-3HE	713	270	96.0	96.0	0.81	0.77	32146	2.10	0.75	5.00	173	3300	
12-pole														
440	1RA6 450-5HJ	591	56	92.9	93.1	0.74	0.71	7110	1.80	0.56	4.00	37	630	
510	1RA6 452-5HJ	591	65	93.3	93.3	0.73	0.68	8241	1.80	0.60	4.20	41	850	
570	1RA6 454-5HJ	592	73	93.9	93.9	0.73	0.68	9195	1.80	0.60	4.20	46	1150	
650	1RA6 456-5HJ	592	82	94.0	93.9	0.74	0.68	10486	1.90	0.60	4.30	52	1300	
820	1RA4 500-5HE	592	102	94.4	94.3	0.74	0.68	13228	2.00	0.62	4.50	70	1650	
920	1RA4 502-5HE	592	114	94.6	94.6	0.75	0.70	14841	1.90	0.62	4.40	79	2000	
1020	1RA4 504-5HE	592	128	94.8	94.7	0.74	0.68	16454	2.00	0.65	4.70	87	2400	
1120	1RA4 506-5HE	592	136	94.8	94.8	0.76	0.71	18068	1.90	0.60	4.40	98	2200	
1300	1RA4 560-5HE	593	160	95.0	95.1	0.75	0.70	20936	1.80	0.53	3.90	123	2050	
1470	1RA4 562-5HE	593	182	95.2	95.3	0.74	0.69	23674	1.80	0.55	4.00	141	2500	
1620	1RA4 564-5HE	594	205	95.4	95.4	0.73	0.67	26045	2.00	0.63	4.30	158	3500	
1760	1RA4 566-5HE	594	220	95.5	95.5	0.73	0.68	28296	2.00	0.63	4.40	173	3900	

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

1) Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6.6 kV A	4/4 load %	3/4 load %	4/4 load $\cos \varphi$	3/4 load $\cos \varphi$	Motor kgm ²					External, max. 1) kgm ²	
4 ... 6.6 kV, 60 Hz														
2-pole														
7600 ²⁾	1RP6 710-2HJ	3589	760	96.8	96.6	0.90	0.90	20229	2.00	0.40	4.60	132	48	
9700 ²⁾	1RP6 712-2HJ	3589	970	97.1	96.9	0.90	0.89	25813	2.20	0.47	5.20	147	43	
11900 ²⁾	1RP6 714-2HJ	3589	1180	97.3	97.1	0.91	0.91	31672	2.20	0.49	5.20	162	38	
13600 ²⁾	1RP6 716-2HJ	3590	1340	97.4	97.2	0.91	0.91	36190	2.30	0.52	5.50	179	41	
4-pole														
8700 ²⁾	1RP6 710-4HJ	1793	860	97.8	97.8	0.90	0.88	46340	2.30	0.59	5.50	273	297	
10400 ²⁾	1RP6 712-4HJ	1793	1040	97.9	97.9	0.90	0.89	55399	2.30	0.60	5.50	300	310	
11900 ²⁾	1RP6 714-4HJ	1793	1160	97.9	98.0	0.91	0.90	63396	2.20	0.61	5.50	337	353	
13200 ²⁾	1RP6 716-4HJ	1793	1300	98.0	98.0	0.91	0.89	70311	2.30	0.62	5.50	369	406	
6-pole														
6900	1RP6 710-6HJ	1194	720	97.4	97.6	0.86	0.84	55212	2.10	0.69	5.40	330	970	
7600	1RP6 712-6HJ	1194	790	97.5	97.6	0.86	0.84	60797	2.10	0.70	5.50	367	1083	
8400	1RP6 714-6HJ	1194	860	97.7	97.7	0.87	0.85	67196	2.10	0.73	5.50	419	1311	
9200	1RP6 716-6HJ	1194	940	97.7	97.7	0.88	0.87	73603	2.10	0.74	5.50	468	1572	
8-pole														
5400	1RP6 710-8HJ	895	590	97.2	97.4	0.83	0.81	57627	2.00	0.76	5.30	415	2835	
6100	1RP6 712-8HJ	895	660	97.2	97.4	0.83	0.81	65089	2.00	0.78	5.40	465	3185	
6800	1RP6 714-8HJ	895	730	97.3	97.5	0.84	0.81	72542	2.10	0.82	5.50	531	3769	
7500	1RP6 716-8HJ	896	810	97.4	97.5	0.83	0.80	79967	2.20	0.88	5.50	597	4453	
10-pole														
3700	1RP6 710-3HJ	716	425	96.8	97.0	0.79	0.75	49369	2.20	0.73	5.40	415	5185	
4050	1RP6 712-3HJ	716	455	96.9	97.1	0.80	0.76	54035	2.20	0.73	5.40	465	5935	
4500	1RP6 714-3HJ	716	510	96.9	97.1	0.80	0.77	60031	2.20	0.74	5.50	531	7119	
5100	1RP6 716-3HJ	716	570	97.1	97.2	0.80	0.77	68021	2.30	0.79	5.50	598	8202	

Voltage code:

4 kV, 60 Hz
4.16 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
3
1
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ $V_{rated} < 6$ kV on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 13.2 kV A	4/4 load %	3/4 load %	4/4 load $\cos \varphi$	3/4 load $\cos \varphi$	Motor kgm ²					External, max. 1) kgm ²	
12.5 ... 13.8 kV, 60 Hz														
2-pole														
6500	1RP6 710-2HJ ■ 0	3590	330	96.4	96.1	0.90	0.89	17293	2.30	0.44	5.20	132	58	
8000	1RP6 712-2HJ ■ 0	3591	405	96.8	96.4	0.89	0.88	21278	2.50	0.50	5.50	147	53	
8800	1RP6 714-2HJ ■ 0	3591	435	96.8	96.4	0.91	0.89	23406	2.50	0.53	5.50	162	78	
10100	1RP6 716-2HJ ■ 0	3591	495	96.9	96.6	0.92	0.91	26867	2.40	0.53	5.50	179	111	
4-pole														
7200	1RP6 710-4HJ ■ 0	1794	365	97.4	97.5	0.89	0.88	38335	2.40	0.58	5.50	273	367	
8000	1RP6 712-4HJ ■ 0	1794	395	97.5	97.6	0.91	0.90	42606	2.30	0.59	5.50	300	427	
8800	1RP6 714-4HJ ■ 0	1793	435	97.6	97.6	0.91	0.91	46869	2.30	0.59	5.50	337	503	
10100	1RP6 716-4HJ ■ 0	1793	490	97.6	97.7	0.92	0.91	53794	2.30	0.61	5.50	369	546	
6-pole														
5600	1RP6 710-6HJ ■ ■	1195	295	97.2	97.3	0.85	0.83	44775	2.30	0.70	5.50	330	1105	
6200	1RP6 712-6HJ ■ ■	1195	325	97.3	97.4	0.86	0.83	49566	2.30	0.73	5.50	367	1253	
6800	1RP6 714-6HJ ■ ■	1195	355	97.3	97.4	0.86	0.84	54357	2.30	0.72	5.50	419	1535	
7500	1RP6 716-6HJ ■ ■	1195	390	97.4	97.5	0.86	0.84	59945	2.30	0.72	5.50	468	1782	
8-pole														
3900	1RP6 710-8HJ ■ ■	896	210	96.6	96.8	0.84	0.80	41582	2.20	0.79	5.50	415	3485	
4400	1RP6 712-8HJ ■ ■	896	235	96.7	97.0	0.84	0.81	46912	2.20	0.81	5.50	465	3935	
5000	1RP6 714-8HJ ■ ■	896	270	96.9	97.0	0.83	0.80	53295	2.20	0.78	5.50	531	4669	
5600	1RP6 716-8HJ ■ ■	896	305	97.0	97.0	0.83	0.79	59674	2.30	0.76	5.50	597	5303	
10-pole														
2800	1RP6 710-3HJ ■ ■	716	160	96.2	96.5	0.80	0.75	37334	2.40	0.76	5.50	415	3985	
3200	1RP6 712-3HJ ■ ■	716	182	96.5	96.6	0.80	0.75	42664	2.40	0.78	5.50	465	4785	
3550	1RP6 714-3HJ ■ ■	716	198	96.6	96.8	0.81	0.78	47340	2.30	0.74	5.50	531	5569	
3900	1RP6 716-3HJ ■ ■	716	215	96.7	96.9	0.82	0.79	52006	2.30	0.75	5.50	598	6552	

Voltage code:

13.2 kV, 60 Hz
Other voltage

2
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements.

Higher pole numbers are available on request.

1) Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

NEMA version

Rated power NEMA hp	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current I_{rated} at 6.6 kV A	Efficiency		Power factor		Torque Nm	Break-down torque $T_{\text{B}}/$ T_{rated} [-]	Locked-rotor torque $T_{\text{LR}}/$ T_{rated} [-]	Locked-rotor current $I_{\text{LR}}/$ I_{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
2-pole													
10000 ²⁾	1RP6 710-2BM ■ 0	3586	747	96.4	96.2	0.90	0.89	19861	2.20	0.60	5.20	132	56
11000 ²⁾	1RP6 712-2BM ■ 0	3588	828	96.5	96.2	0.89	0.88	21837	2.50	0.60	5.80	147	55
12000 ²⁾	1RP6 712-2BN ■ 0	3587	898	96.6	96.4	0.90	0.89	23827	2.30	0.60	5.40	147	54
13000 ²⁾	1RP6 714-2BM ■ 0	3587	956	96.6	96.4	0.92	0.91	25814	2.50	0.64	6.00	162	54
14000 ²⁾	1RP6 714-2BN ■ 0	3587	1036	96.7	96.5	0.91	0.90	27801	2.40	0.60	5.70	162	53
16000 ²⁾	1RP6 716-2BM ■ 0	3586	1166	96.8	96.7	0.92	0.92	31777	2.40	0.62	5.80	179	51
17000 ²⁾	1RP6 716-2BN ■ 0	3587	1251	96.9	96.8	0.91	0.90	33759	2.40	0.60	5.80	179	49
4-pole													
11000 ²⁾	1RP6 710-4BJ ■ 0	1793	815	97.4	97.6	0.90	0.89	43695	2.30	0.60	5.90	273	603
12000 ²⁾	1RP6 712-4BJ ■ 0	1793	880	97.5	97.6	0.91	0.90	47668	2.20	0.60	5.90	300	637
13000 ²⁾	1RP6 712-4BK ■ 0	1793	962	97.5	97.6	0.90	0.89	51635	2.30	0.60	5.90	300	620
14000 ²⁾	1RP6 714-4BJ ■ 0	1793	1021	97.4	97.6	0.91	0.91	55625	2.20	0.60	5.80	337	651
15000 ²⁾	1RP6 714-4BK ■ 0	1793	1104	97.5	97.7	0.91	0.89	59583	2.30	0.60	6.00	337	665
16000 ²⁾	1RP6 716-4BJ ■ 0	1793	1161	97.5	97.7	0.92	0.91	63575	2.20	0.61	5.80	369	678
17000 ²⁾	1RP6 716-4BK ■ 0	1792	1238	97.5	97.7	0.92	0.91	67557	2.10	0.60	5.60	369	691
18000 ²⁾	1RP6 716-4BL ■ 0	1793	1324	97.6	97.7	0.91	0.90	71504	2.20	0.61	5.90	369	702
6-pole													
9000	1RP6 710-6BJ ■ ■	1194	702	97.1	97.3	0.86	0.84	53690	2.10	0.71	5.50	330	1954
10000	1RP6 712-6BJ ■ ■	1194	781	97.2	97.4	0.86	0.83	59647	2.20	0.71	5.60	367	2043
11000	1RP6 714-6BJ ■ ■	1194	846	97.3	97.4	0.87	0.85	65612	2.20	0.75	5.70	419	2113
12000	1RP6 716-6BJ ■ ■	1194	915	97.2	97.3	0.88	0.86	71577	2.20	0.77	5.70	468	2168
8-pole													
7000	1RP6 710-8BJ ■ ■	895	566	96.9	97.1	0.83	0.80	55695	2.10	0.79	5.50	415	3817
8000	1RP6 712-8BJ ■ ■	895	646	97.0	97.1	0.83	0.81	63651	2.00	0.80	5.50	465	4154
9000	1RP6 714-8BJ ■ ■	895	721	97.1	97.2	0.84	0.81	71587	2.10	0.83	5.70	531	4458
10000	1RP6 716-8BJ ■ ■	896	810	97.1	97.2	0.83	0.80	79506	2.20	0.87	6.00	597	4732
10-pole													
5000	1RP6 710-3BJ ■ ■	716	427	96.6	96.7	0.79	0.75	49758	2.20	0.73	5.30	415	5006
5500	1RP6 712-3BJ ■ ■	716	464	96.7	96.9	0.80	0.76	54720	2.20	0.72	5.30	465	5428
6000	1RP6 714-3BJ ■ ■	716	502	96.8	96.9	0.80	0.77	59682	2.20	0.74	5.50	531	6221
7000	1RP6 716-3BJ ■ ■	716	584	96.9	97.0	0.80	0.77	69631	2.20	0.77	5.60	598	6955

Voltage code:

4 kV, 60 Hz
4.16 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
3
1
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ $V_{\text{rated}} < 6$ kV on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

NEMA version

Rated power NEMA hp	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked- rotor torque T_{LR}/T_{rated} [-]	Locked- rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 13.2 kV A	4/4 load %	3/4 load %	4/4 load cos ϕ	3/4 load cos ϕ	Motor kgm ²					External, max. ¹⁾ kgm ²	
12.5 ... 13.8 kV, 60 Hz														
2-pole														
8000	1RP6 710-2BM 0	3588	301	96.0	95.6	0.90	0.89	15881	2.50	0.60	5.60	132	52	
9000	1RP6 712-2BM 0	3588	334	96.0	95.6	0.91	0.90	17864	2.60	0.60	6.00	147	51	
10000	1RP6 712-2BN 0	3588	375	96.2	95.9	0.90	0.89	19849	2.60	0.60	6.00	147	49	
11000	1RP6 714-2BM 0	3588	407	96.2	95.9	0.91	0.90	21837	2.50	0.60	6.00	162	48	
12000	1RP6 716-2BM 0	3587	437	96.3	96.0	0.93	0.92	23827	2.40	0.60	5.80	179	47	
13000	1RP6 716-2BN 0	3588	478	96.4	96.2	0.92	0.91	25806	2.50	0.60	6.00	179	45	
4-pole														
9000	1RP6 710-4BJ 0	1794	337	97.1	97.2	0.89	0.88	35727	2.40	0.60	6.20	273	553	
10000	1RP6 712-4BJ 0	1794	368	97.1	97.3	0.91	0.90	39708	2.30	0.60	6.20	300	555	
11000	1RP6 714-4BJ 0	1794	403	97.2	97.3	0.91	0.90	43682	2.30	0.60	6.20	337	603	
12000	1RP6 716-4BJ 0	1793	436	97.2	97.3	0.92	0.92	47662	2.30	0.63	6.20	369	620	
13000	1RP6 716-4BK 0	1794	475	97.2	97.4	0.91	0.91	51625	2.30	0.60	6.10	369	637	
6-pole														
7000	1RP6 710-6BJ 0	1195	278	96.9	97.0	0.85	0.82	41723	2.40	0.72	6.00	330	1722	
8000	1RP6 712-6BJ 0	1195	315	97.0	97.1	0.85	0.82	47688	2.40	0.73	6.00	367	1849	
9000	1RP6 714-6BJ 0	1195	350	97.0	97.1	0.86	0.84	53642	2.30	0.73	6.00	419	1954	
10000	1RP6 716-6BJ 0	1195	388	97.1	97.2	0.86	0.84	59600	2.30	0.72	6.00	468	2042	
8-pole														
5000	1RP6 710-8BJ 0	896	201	96.5	96.6	0.84	0.81	39760	2.20	0.79	5.90	415	3024	
5500	1RP6 712-8BJ 0	896	220	96.6	96.7	0.84	0.81	43721	2.20	0.80	6.00	465	3235	
6000	1RP6 714-8BJ 0	896	239	96.6	96.7	0.84	0.82	47691	2.30	0.80	6.00	531	3438	
7000	1RP6 716-8BJ 0	896	279	96.7	96.8	0.85	0.82	55642	2.20	0.79	6.00	597	3817	
10-pole														
3500	1RP6 710-3BJ 0	717	151	96.2	96.2	0.79	0.74	34788	2.50	0.78	6.00	415	4104	
4000	1RP6 712-3BJ 0	717	172	96.3	96.3	0.79	0.74	39757	2.50	0.78	6.00	465	4564	
4500	1RP6 714-3BJ 0	717	188	96.4	96.5	0.81	0.77	44739	2.40	0.79	6.00	531	5006	
5000	1RP6 716-3BJ 0	717	207	96.5	96.6	0.82	0.78	49713	2.40	0.78	6.00	598	5428	

Voltage code:

13.2 kV, 60 Hz
Other voltage

2
9

Type of construction:

IM B3
IM V1 (with canopy)

0
4

Note:

Higher pole numbers are available on request.

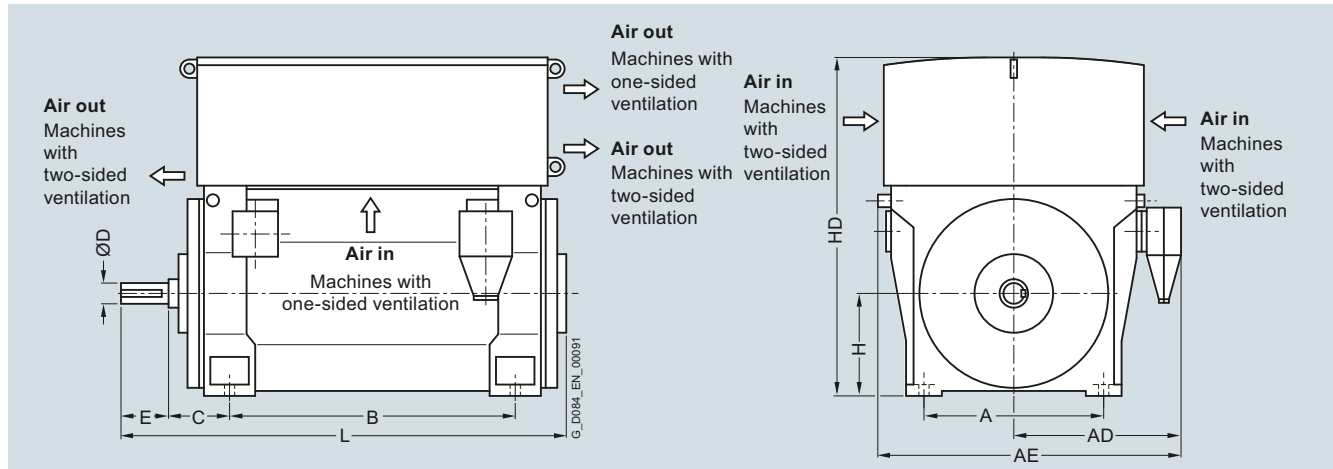
¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings



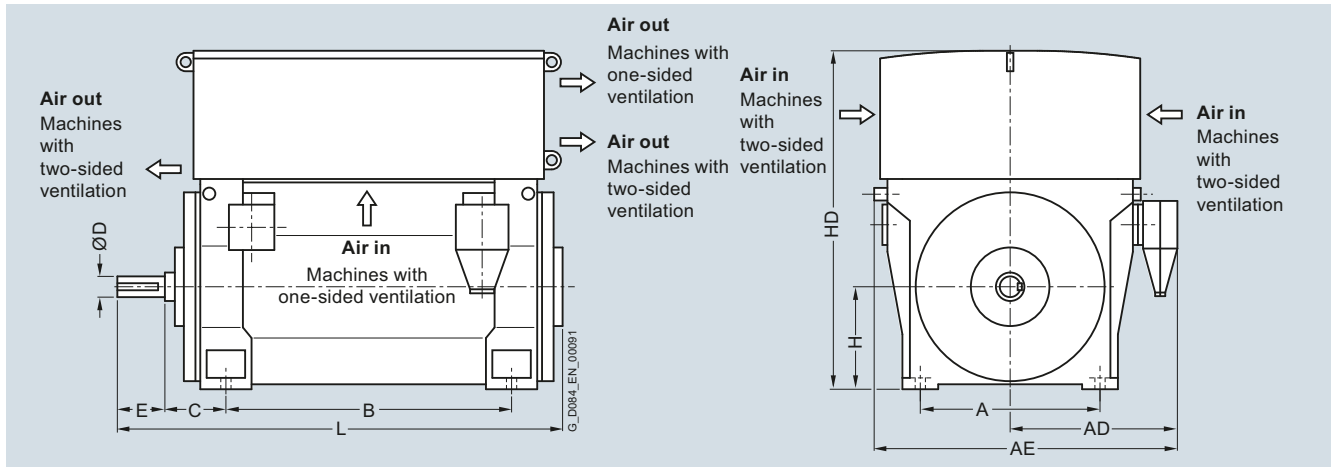
Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ³⁾	L
Up to 6.6 kV, IM B3 type of construction, roller bearings – 1RA4, 1RA6 series											
2-pole											
1RA6 450-2HJ.0 ²⁾	3700	850	930	1620	1180	280	95	130	450	1628	1843
1RA6 452-2HJ.0 ²⁾	3900	850	930	1620	1180	280	95	130	450	1628	1843
1RA6 454-2HJ.0 ²⁾	4300	850	930	1620	1400	280	95	130	450	1628	2053
1RA6 456-2HJ.0 ²⁾	4550	850	930	1620	1400	280	95	130	450	1628	2053
1RA6 500-2HJ.0 ²⁾	5450	950	1135	1835	1320	315	110	165	500	1850	2150
1RA6 502-2HJ.0 ²⁾	5600	950	1135	1835	1320	315	110	165	500	1850	2150
4-pole											
1RA6 450-4HJ.0	4050	850	930	1620	1180	250	130	200	450	1408	1896
1RA6 452-4HJ.0	4250	850	930	1620	1180	250	130	200	450	1408	1896
1RA6 454-4HJ.0	4650	850	930	1620	1400	250	130	200	450	1408	2106
1RA6 456-4HJ.0	4950	850	930	1620	1400	250	130	200	450	1408	2106
1RA6 500-4HJ.0	5950	950	1135	1835	1320	280	150	200	500	1850	2150
1RA6 502-4HJ.0	6150	950	1135	1835	1320	280	150	200	500	1850	2150
1RA6 504-4HJ.0	6800	950	1135	1835	1500	280	150	200	500	1850	2300
1RA6 506-4HJ.0	7150	950	1135	1835	1500	280	150	200	500	1850	2300
1RA6 560-4HJ.0	7450	1060	1205	1975	1400	315	170	240	560	2100	2300
1RA6 562-4HJ.0	7850	1060	1205	1975	1400	315	170	240	560	2100	2300
1RA6 564-4HJ.0	8700	1060	1205	1975	1600	315	170	240	560	2100	2550
1RA6 566-4HJ.0	9250	1060	1205	1975	1600	315	170	240	560	2100	2550
1RA4 630-4HE.0 ²⁾	9950	1320	1330	2210	1600	335	200	280	630	2400	2500
1RA4 632-4HE.0 ²⁾	10650	1320	1330	2210	1600	335	200	280	630	2400	2500
1RA4 634-4HE.0 ²⁾	11700	1320	1330	2210	1800	335	220	280	630	2400	2740
1RA4 636-4HE.0 ²⁾	12250	1320	1330	2210	1800	335	220	280	630	2400	2740

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ Roller bearings only for 50 Hz operation.

³⁾ Dimension HD for 1RP6 on request.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ³⁾	L
Up to 6.6 kV, IM B3 type of construction, roller bearings – 1RA4, 1RA6 series											
6-pole											
1RA6 450-6HJ.0	4150	850	930	1620	1180	250	140	200	450	1408	1896
1RA6 452-6HJ.0	4400	850	930	1620	1180	250	140	200	450	1408	1896
1RA6 454-6HJ.0	4750	850	930	1620	1400	280	140	200	450	1408	2136
1RA6 456-6HJ.0	5100	850	930	1620	1400	280	140	200	450	1408	2136
1RA6 500-6HJ.0	6050	950	1135	1835	1320	315	160	240	500	1610	2150
1RA6 502-6HJ.0	6350	950	1135	1835	1320	315	160	240	500	1610	2150
1RA6 504-6HJ.0	6900	950	1135	1835	1500	315	160	240	500	1610	2360
1RA6 506-6HJ.0	7300	950	1135	1835	1500	315	160	240	500	1610	2360
1RA6 560-6HJ.0	8200	1060	1205	1975	1400	315	180	240	560	1760	2300
1RA6 562-6HJ.0	8600	1060	1205	1975	1400	315	180	240	560	1760	2300
1RA6 564-6HJ.0	9450	1060	1205	1975	1600	315	180	240	560	1760	2550
1RA6 566-6HJ.0	10000	1060	1205	1975	1600	315	180	240	560	1760	2550
1RA4 630-6HE.0	10250	1320	1330	2210	1600	335	220	280	630	2400	2500
1RA4 632-6HE.0	10800	1320	1330	2210	1600	335	220	280	630	2400	2500
1RA4 634-6HE.0	11800	1320	1330	2210	1800	335	220	280	630	2400	2740
1RA4 636-6HE.0	12550	1320	1330	2210	1800	335	220	280	630	2400	2740
8-pole											
1RA6 450-8HJ.0	4150	850	930	1620	1180	250	140	200	450	1408	1896
1RA6 452-8HJ.0	4450	850	930	1620	1180	250	140	200	450	1408	1896
1RA6 454-8HJ.0	4800	850	930	1620	1400	280	140	200	450	1408	2136
1RA6 456-8HJ.0	5150	850	930	1620	1400	280	140	200	450	1408	2136
1RA6 500-8HJ.0	6000	950	1135	1835	1320	315	160	240	500	1610	2150
1RA6 502-8HJ.0	6300	950	1135	1835	1320	315	160	240	500	1610	2150
1RA6 504-8HJ.0	6900	950	1135	1835	1500	315	160	240	500	1610	2360
1RA6 506-8HJ.0	7250	950	1135	1835	1500	315	160	240	500	1610	2360
1RA6 560-8HJ.0	8150	1060	1205	1975	1400	315	180	240	560	1760	2300
1RA6 562-8HJ.0	8600	1060	1205	1975	1400	315	180	240	560	1760	2300
1RA6 564-8HJ.0	9400	1060	1205	1975	1600	315	180	240	560	1760	2550
1RA6 566-8HJ.0	9950	1060	1205	1975	1600	315	180	240	560	1760	2550

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ Roller bearings only for 50 Hz operation.

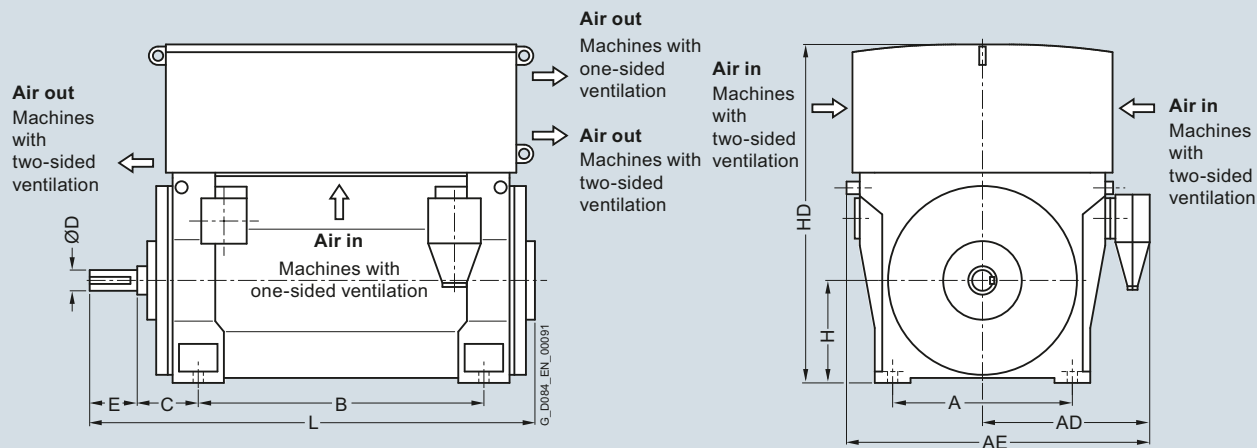
³⁾ Dimension HD for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD ³⁾ mm	L mm

Up to 6.6 kV, IM B3 type of construction, roller bearings – 1RA4, 1RA6 series

8-pole

1RA4 630-8HE.0 ²⁾	10150	1320	1330	2210	1600	335	220	280	630	2400	2500
1RA4 632-8HE.0 ²⁾	10800	1320	1330	2210	1600	335	220	280	630	2400	2500
1RA4 634-8HE.0 ²⁾	11700	1320	1330	2210	1800	335	220	280	630	2400	2740
1RA4 636-8HE.0 ²⁾	12450	1320	1330	2210	1800	335	220	280	630	2400	2740

10-pole

1RA6 450-3HJ.0	4150	850	930	1620	1180	250	140	200	450	1408	1896
1RA6 452-3HJ.0	4450	850	930	1620	1180	250	140	200	450	1408	1896
1RA6 454-3HJ.0	4800	850	930	1620	1400	280	140	200	450	1408	2136
1RA6 456-3HJ.0	5150	850	930	1620	1400	280	140	200	450	1408	2136
1RA4 500-3HE.0	5250	950	1000	1760	1320	280	160	240	500	1520	2270
1RA4 502-3HE.0	5600	950	1000	1760	1320	280	160	240	500	1520	2270
1RA4 504-3HE.0	6150	950	1000	1760	1500	280	170	240	500	1520	2480
1RA4 506-3HE.0	6550	950	1000	1760	1500	280	170	240	500	1520	2480
1RA4 560-3HE.0	7100	1060	1070	1900	1400	315	180	240	560	1750	2300
1RA4 562-3HE.0	7700	1060	1070	1900	1400	315	180	240	560	1750	2300
1RA4 564-3HE.0	8500	1060	1070	1900	1600	315	190	280	560	1750	2570
1RA4 566-3HE.0	8950	1060	1070	1900	1600	315	190	280	560	1750	2570
1RA4 630-3HE.0 ²⁾	10050	1320	1180	2060	1600	335	220	280	630	2400	2500
1RA4 632-3HE.0 ²⁾	10750	1320	1330	2210	1600	335	220	280	630	2400	2500
1RA4 634-3HE.0 ²⁾	11750	1320	1330	2210	1800	335	220	280	630	2400	2740
1RA4 636-3HE.0 ²⁾	12450	1320	1330	2210	1800	335	220	280	630	2400	2740

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ Roller bearings only for 50 Hz operation.

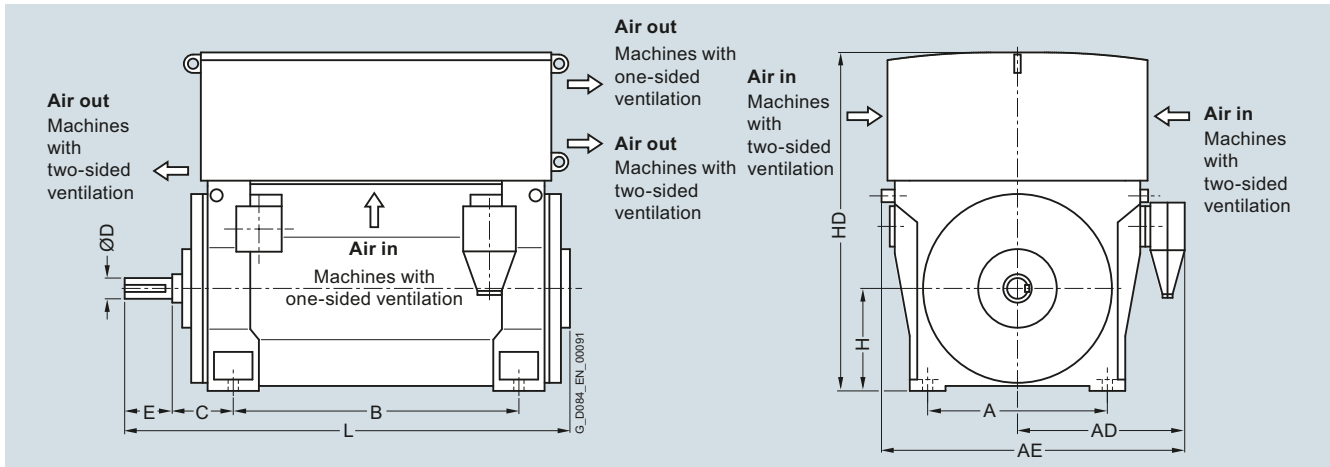
³⁾ Dimension HD for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ³⁾	L
Up to 6.6 kV, IM B3 type of construction, roller bearings – 1RA4, 1RA6 series											
12-pole											
1RA6 450-5HJ.0	4150	850	930	1620	1180	250	140	200	450	1408	1896
1RA6 452-5HJ.0	4450	850	930	1620	1180	250	140	200	450	1408	1896
1RA6 454-5HJ.0	4800	850	930	1620	1400	280	140	200	450	1408	2136
1RA6 456-5HJ.0	5150	850	930	1620	1400	280	140	200	450	1408	2136
1RA4 500-5HE.0	5250	950	1000	1760	1320	280	160	240	500	1520	2270
1RA4 502-5HE.0	5650	950	1000	1760	1320	280	160	240	500	1520	2270
1RA4 504-5HE.0	6100	950	1000	1760	1500	280	170	240	500	1520	2480
1RA4 506-5HE.0	6550	950	1000	1760	1500	280	170	240	500	1520	2480
1RA4 560-5HE.0	7150	1060	1070	1900	1400	315	180	240	560	1750	2300
1RA4 562-5HE.0	7700	1060	1070	1900	1400	315	180	240	560	1750	2300
1RA4 564-5HE.0	8500	1060	1070	1900	1600	315	190	280	560	1750	2570
1RA4 566-5HE.0	8950	1060	1070	1900	1600	315	190	280	560	1750	2570
1RA4 630-5HE.0 ²⁾	9950	1320	1180	2060	1600	335	220	280	630	2400	2500
1RA4 632-5HE.0 ²⁾	10600	1320	1180	2060	1600	335	220	280	630	2400	2500
1RA4 634-5HE.0 ²⁾	11600	1320	1180	2060	1800	335	220	280	630	2400	2740
1RA4 636-5HE.0 ²⁾	12400	1320	1330	2210	1800	335	220	280	630	2400	2740

Note: Higher pole numbers are available on request.

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ Roller bearings only for 50 Hz operation.

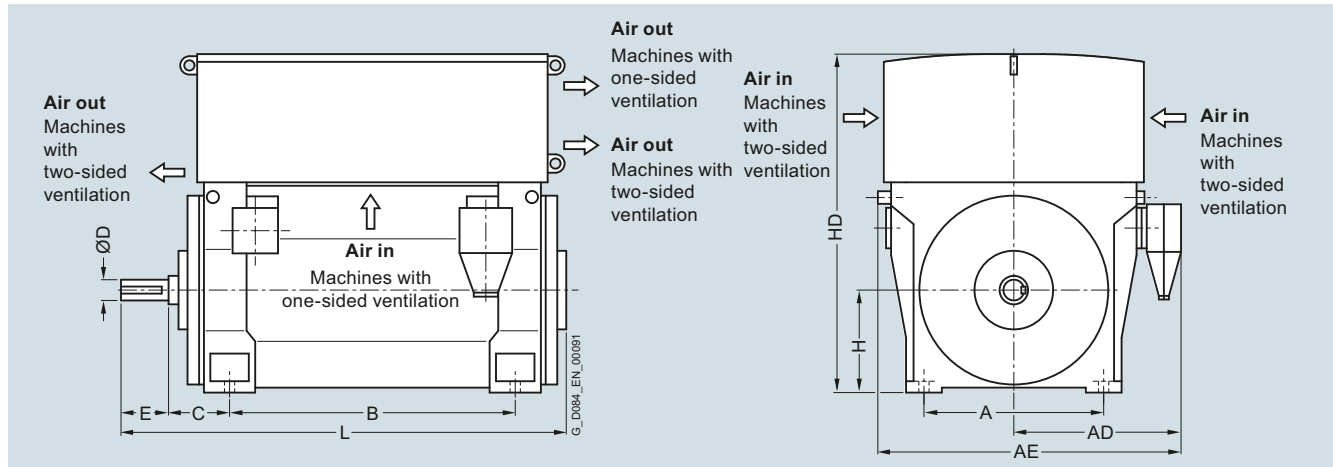
³⁾ Dimension HD for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings

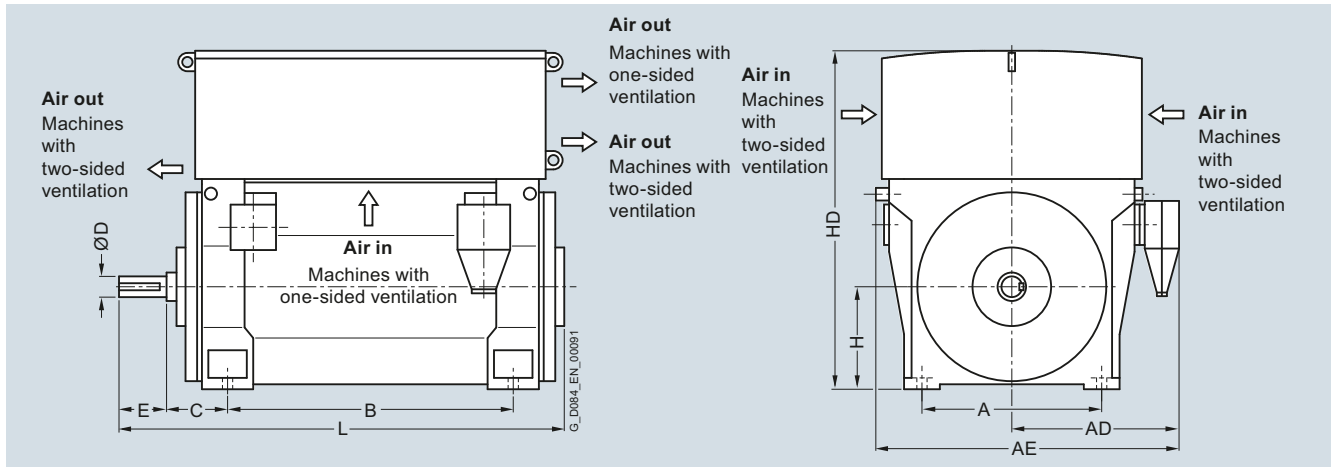


Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD ²⁾ mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings – 1RA4, 1RA6 series											
2-pole											
1RA6 450-2HJ.0 ¹⁾	3700	850	1070	1840	1180	280	95	130	450	1628	1875
1RA6 452-2HJ.0 ¹⁾	3900	850	1070	1840	1180	280	95	130	450	1628	1875
1RA6 454-2HJ.0 ¹⁾	4300	850	1070	1840	1400	280	95	130	450	1628	2085
1RA6 456-2HJ.0 ¹⁾	4550	850	1070	1840	1400	280	95	130	450	1628	2085
1RA6 500-2HJ.0 ¹⁾	5450	950	1270	1970	1320	315	110	165	500	1850	2150
1RA6 502-2HJ.0 ¹⁾	5600	950	1270	1970	1320	315	110	165	500	1850	2150
4-pole											
1RA6 450-4HJ.0	4050	850	1070	1840	1180	250	130	200	450	1408	1896
1RA6 452-4HJ.0	4250	850	1070	1840	1180	250	130	200	450	1408	1896
1RA6 454-4HJ.0	4650	850	1070	1840	1400	250	130	200	450	1408	2106
1RA6 456-4HJ.0	4950	850	1070	1840	1400	250	130	200	450	1408	2106
1RA6 500-4HJ.0	5950	950	1270	1970	1320	280	150	200	500	1850	2150
1RA6 502-4HJ.0	6150	950	1270	1970	1320	280	150	200	500	1850	2150
1RA6 504-4HJ.0	6800	950	1270	1970	1500	280	150	200	500	1850	2300
1RA6 506-4HJ.0	7150	950	1270	1970	1500	280	150	200	500	1850	2300
1RA6 560-4HJ.0	7450	1060	1340	2110	1400	315	170	240	560	2100	2300
1RA6 562-4HJ.0	7850	1060	1340	2110	1400	315	170	240	560	2100	2300
1RA6 564-4HJ.0	8700	1060	1340	2110	1600	315	170	240	560	2100	2550
1RA6 566-4HJ.0	9250	1060	1340	2110	1600	315	170	240	560	2100	2550
1RA4 630-4HE.0 ¹⁾	9850	1320	1320	2200	1600	335	200	280	630	2400	2500
1RA4 632-4HE.0 ¹⁾	10500	1320	1330	2210	1600	335	200	280	630	2400	2500
1RA4 634-4HE.0 ¹⁾	11550	1320	1330	2210	1800	335	220	280	630	2400	2740
1RA4 636-4HE.0 ¹⁾	12150	1320	1330	2210	1800	335	220	280	630	2400	2740

¹⁾ Roller bearings only for 50 Hz operation.

²⁾ Dimension HD for 1RP6 on request.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD ¹⁾ mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings – 1RA4, 1RA6 series											
6-pole											
1RA6 450-6HJ.0	4150	850	1070	1840	1180	250	140	200	450	1408	1896
1RA6 452-6HJ.0	4400	850	1070	1840	1180	250	140	200	450	1408	1896
1RA6 454-6HJ.0	4750	850	1070	1840	1400	280	140	200	450	1408	2136
1RA6 456-6HJ.0	5100	850	1070	1840	1400	280	140	200	450	1408	2136
1RA6 500-6HJ.0	6050	950	1270	1970	1320	315	160	240	500	1610	2150
1RA6 502-6HJ.0	6350	950	1270	1970	1320	315	160	240	500	1610	2150
1RA6 504-6HJ.0	6900	950	1270	1970	1500	315	160	240	500	1610	2360
1RA6 506-6HJ.0	7300	950	1270	1970	1500	315	160	240	500	1610	2360
1RA6 560-6HJ.0	8200	1060	1340	2110	1400	315	180	240	560	1760	2300
1RA6 562-6HJ.0	8600	1060	1340	2110	1400	315	180	240	560	1760	2300
1RA6 564-6HJ.0	9450	1060	1340	2110	1600	315	180	240	560	1760	2550
1RA6 566-6HJ.0	10000	1060	1340	2110	1600	315	180	240	560	1760	2550
1RA4 630-6HE.0	10200	1320	1320	2200	1600	335	220	280	630	2400	2500
1RA4 632-6HE.0	10750	1320	1320	2200	1600	335	220	280	630	2400	2500
1RA4 634-6HE.0	11800	1320	1320	2200	1800	335	220	280	630	2400	2740
1RA4 636-6HE.0	12550	1320	1330	2210	1800	335	220	280	630	2400	2740
8-pole											
1RA6 450-8HJ.0	4150	850	1070	1840	1180	250	140	200	450	1408	1896
1RA6 452-8HJ.0	4450	850	1070	1840	1180	250	140	200	450	1408	1896
1RA6 454-8HJ.0	4800	850	1070	1840	1400	280	140	200	450	1408	2136
1RA6 456-8HJ.0	5150	850	1070	1840	1400	280	140	200	450	1408	2136
1RA6 500-8HJ.0	6000	950	1270	1970	1320	315	160	240	500	1610	2150
1RA6 502-8HJ.0	6300	950	1270	1970	1320	315	160	240	500	1610	2150
1RA6 504-8HJ.0	6900	950	1270	1970	1500	315	160	240	500	1610	2360
1RA6 506-8HJ.0	7250	950	1270	1970	1500	315	160	240	500	1610	2360
1RA6 560-8HJ.0	8150	1060	1340	2110	1400	315	180	240	560	1760	2300
1RA6 562-8HJ.0	8600	1060	1340	2110	1400	315	180	240	560	1760	2300
1RA6 564-8HJ.0	9400	1060	1340	2110	1600	315	180	240	560	1760	2550
1RA6 566-8HJ.0	9950	1060	1340	2110	1600	315	180	240	560	1760	2550
1RA4 630-8HE.0	10050	1320	1320	2200	1600	335	220	280	630	2400	2500
1RA4 632-8HE.0	10600	1320	1320	2200	1600	335	220	280	630	2400	2500
1RA4 634-8HE.0	11600	1320	1320	2200	1800	335	220	280	630	2400	2740
1RA4 636-8HE.0	12350	1320	1320	2200	1800	335	220	280	630	2400	2740

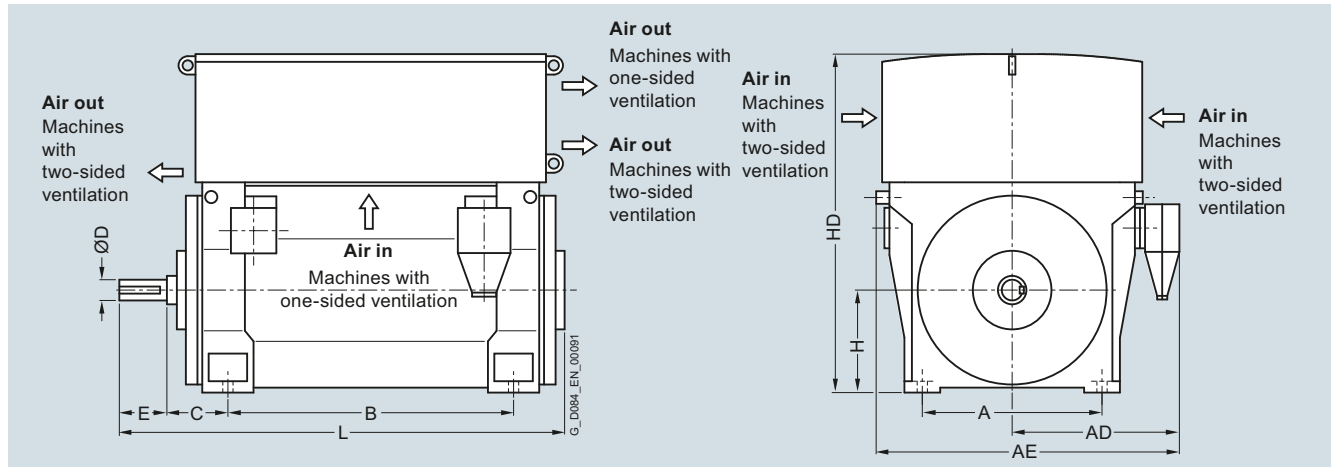
1) Dimension HD for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



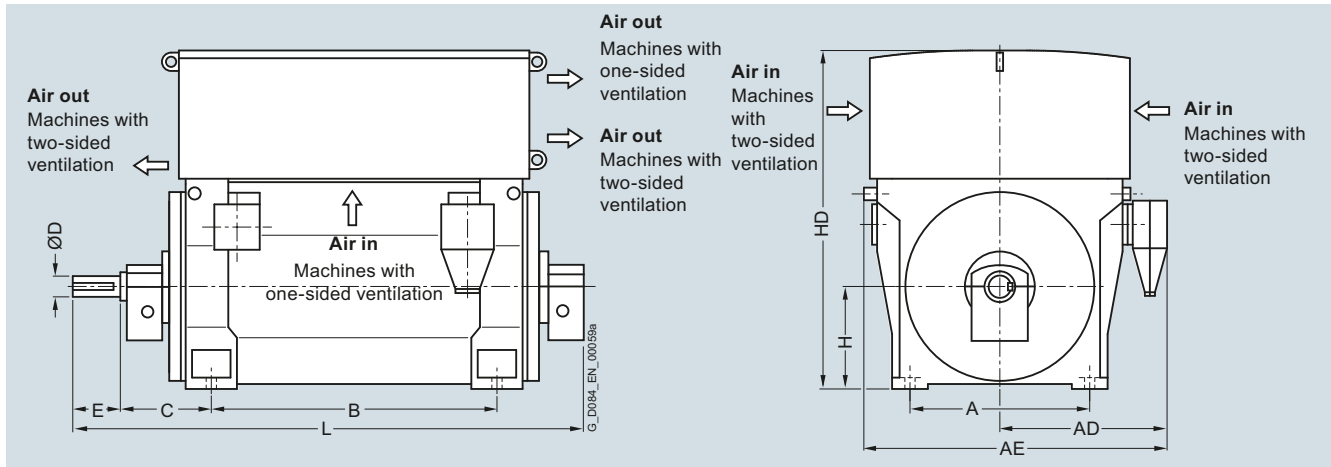
Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD ¹⁾ mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings – 1RA4 series											
10-pole											
1RA4 500-3HE.0	5250	950	1220	1980	1320	280	160	240	500	1520	2270
1RA4 502-3HE.0	5600	950	1220	1980	1320	280	160	240	500	1520	2270
1RA4 504-3HE.0	6150	950	1220	1980	1500	280	170	240	500	1520	2480
1RA4 506-3HE.0	6500	950	1220	1980	1500	280	170	240	500	1520	2480
1RA4 560-3HE.0	7350	1060	1210	2040	1400	315	180	240	560	1750	2300
1RA4 562-3HE.0	7950	1060	1210	2040	1400	315	180	240	560	1750	2300
1RA4 564-3HE.0	8750	1060	1210	2040	1600	315	190	280	560	1750	2570
1RA4 566-3HE.0	9200	1060	1210	2040	1600	315	190	280	560	1750	2570
1RA4 630-3HE.0	10000	1320	1320	2200	1600	335	220	280	630	2400	2500
1RA4 632-3HE.0	10600	1320	1320	2200	1600	335	220	280	630	2400	2500
1RA4 634-3HE.0	11550	1320	1320	2200	1800	335	220	280	630	2400	2740
1RA4 636-3HE.0	12300	1320	1320	2200	1800	335	220	280	630	2400	2740
12-pole											
1RA4 502-5HE.0	5650	950	1220	1980	1320	280	160	240	500	1520	2270
1RA4 504-5HE.0	6100	950	1220	1980	1500	280	170	240	500	1520	2480
1RA4 506-5HE.0	6500	950	1220	1980	1500	280	170	240	500	1520	2480
1RA4 560-5HE.0	7100	1060	1210	2040	1400	315	180	240	560	1750	2300
1RA4 562-5HE.0	7650	1060	1210	2040	1400	315	180	240	560	1750	2300
1RA4 564-5HE.0	8450	1060	1210	2040	1600	315	190	280	560	1750	2570
1RA4 566-5HE.0	8900	1060	1210	2040	1600	315	190	280	560	1750	2570
1RA4 630-5HE.0	10050	1320	1320	2200	1600	335	220	280	630	2400	2500
1RA4 632-5HE.0	10650	1320	1320	2200	1600	335	220	280	630	2400	2500
1RA4 634-5HE.0	11650	1320	1320	2200	1800	335	220	280	630	2400	2740
1RA4 636-5HE.0	12400	1320	1320	2200	1800	335	220	280	630	2400	2740

Note:

Higher pole numbers are available on request.

¹⁾ Dimension HD for 1RP6 on request.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ²⁾	L
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RA4, 1RA6 series											
2-pole											
1RA6 450-2HJ.0-Z K96 ³⁾	3750	850	930	1620	1180	425	95	130	450	1628	2218
1RA6 452-2HJ.0-Z K96 ³⁾	3950	850	930	1620	1180	425	95	130	450	1628	2218
1RA6 454-2HJ.0-Z K96 ³⁾	4300	850	930	1620	1400	425	95	130	450	1628	2428
1RA6 456-2HJ.0-Z K96 ³⁾	4550	850	930	1620	1400	425	95	130	450	1628	2428
1RA6 500-2HJ.0-Z K96 ³⁾	5500	950	1135	1835	1320	450	110	165	500	1850	2500
1RA6 502-2HJ.0-Z K96 ³⁾	5650	950	1135	1835	1320	450	110	165	500	1850	2500
1RA6 504-2HJ.0	6450	950	1135	1835	1500	450	110	165	500	1850	2650
1RA6 506-2HJ.0	6700	950	1135	1835	1500	450	110	165	500	1850	2650
1RA6 560-2HJ.0	7450	1060	1205	1975	1400	600	130	200	560	2100	2850
1RA6 562-2HJ.0	7850	1060	1205	1975	1400	600	130	200	560	2100	2850
1RA6 564-2HJ.0	8750	1060	1205	1975	1600	600	130	200	560	2100	3100
1RA6 566-2HJ.0	9200	1060	1205	1975	1600	600	130	200	560	2100	3100
1RA4 630-2HE.0	9700	1320	1330	2210	1600	560	150	200	630	2400	2820
1RA4 632-2HE.0	10350	1320	1330	2210	1600	560	150	200	630	2400	2820
1RA4 634-2HE.0	11450	1320	1330	2210	1800	560	160	240	630	2400	3100
1RA4 636-2HE.0	12250	1320	1330	2210	1800	560	160	240	630	2400	3100
4-pole											
1RA6 450-4HJ.0-Z K96	4100	850	930	1620	1180	500	130	200	450	1408	2438
1RA6 452-4HJ.0-Z K96	4350	850	930	1620	1180	500	130	200	450	1408	2438
1RA6 454-4HJ.0-Z K96	4750	850	930	1620	1400	500	130	200	450	1408	2648
1RA6 456-4HJ.0-Z K96	5000	850	930	1620	1400	500	130	200	450	1408	2648
1RA6 500-4HJ.0-Z K96	6250	950	1135	1835	1320	560	150	200	500	1850	2700
1RA6 502-4HJ.0-Z K96	6500	950	1135	1835	1320	560	150	200	500	1850	2700
1RA6 504-4HJ.0-Z K96	7150	950	1135	1835	1500	560	150	200	500	1850	2880
1RA6 506-4HJ.0-Z K96	7450	950	1135	1835	1500	560	150	200	500	1850	2880
1RA6 560-4HJ.0-Z K96	7650	1060	1205	1975	1400	600	170	240	560	2100	2900
1RA6 562-4HJ.0-Z K96	8000	1060	1205	1975	1400	600	170	240	560	2100	2900
1RA6 564-4HJ.0-Z K96	8900	1060	1205	1975	1600	600	170	240	560	2100	3100
1RA6 566-4HJ.0-Z K96	9400	1060	1205	1975	1600	600	170	240	560	2100	3100

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ Dimension HD for 1RP6 on request.

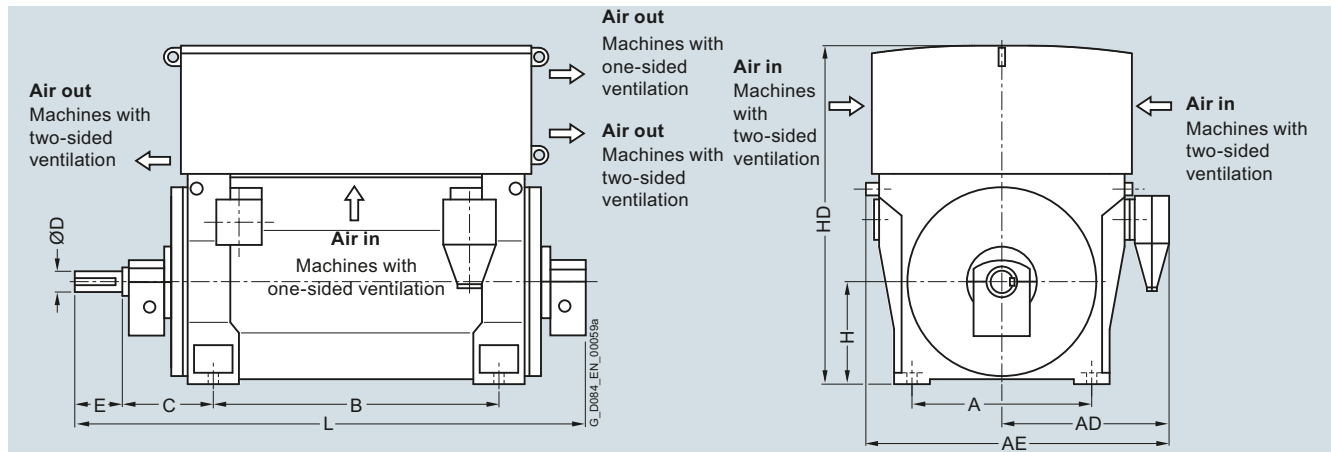
³⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD ³⁾ mm	L mm

Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RA4, 1RA6 series

4-pole

1RA4 630-4HE.0-Z K96 ²⁾	10250	1320	1330	2210	1600	600	200	280	630	2400	2970
1RA4 632-4HE.0-Z K96 ²⁾	10950	1320	1330	2210	1600	600	200	280	630	2400	2970
1RA4 634-4HE.0-Z K96 ²⁾	11950	1320	1330	2210	1800	600	220	280	630	2400	3210
1RA4 636-4HE.0-Z K96 ²⁾	12500	1320	1330	2210	1800	600	220	280	630	2400	3210

6-pole

1RA6 450-6HJ.0-Z K96	4200	850	930	1620	1180	500	140	200	450	1408	2438
1RA6 452-6HJ.0-Z K96	4500	850	930	1620	1180	500	140	200	450	1408	2438
1RA6 454-6HJ.0-Z K96	4850	850	930	1620	1400	500	140	200	450	1408	2648
1RA6 456-6HJ.0-Z K96	5200	850	930	1620	1400	500	140	200	450	1408	2648
1RA6 500-6HJ.0-Z K96	6250	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6 502-6HJ.0-Z K96	6500	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6 504-6HJ.0-Z K96	7100	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6 506-6HJ.0-Z K96	7500	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6 560-6HJ.0-Z K96	8450	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6 562-6HJ.0-Z K96	8850	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6 564-6HJ.0-Z K96	9700	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA6 566-6HJ.0-Z K96	10250	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA4 630-6HE.0-Z K96	10500	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4 632-6HE.0-Z K96	11050	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4 634-6HE.0-Z K96	12100	1320	1330	2210	1800	600	220	280	630	2400	3210
1RA4 636-6HE.0-Z K96	12850	1320	1330	2210	1800	600	220	280	630	2400	3210

8-pole

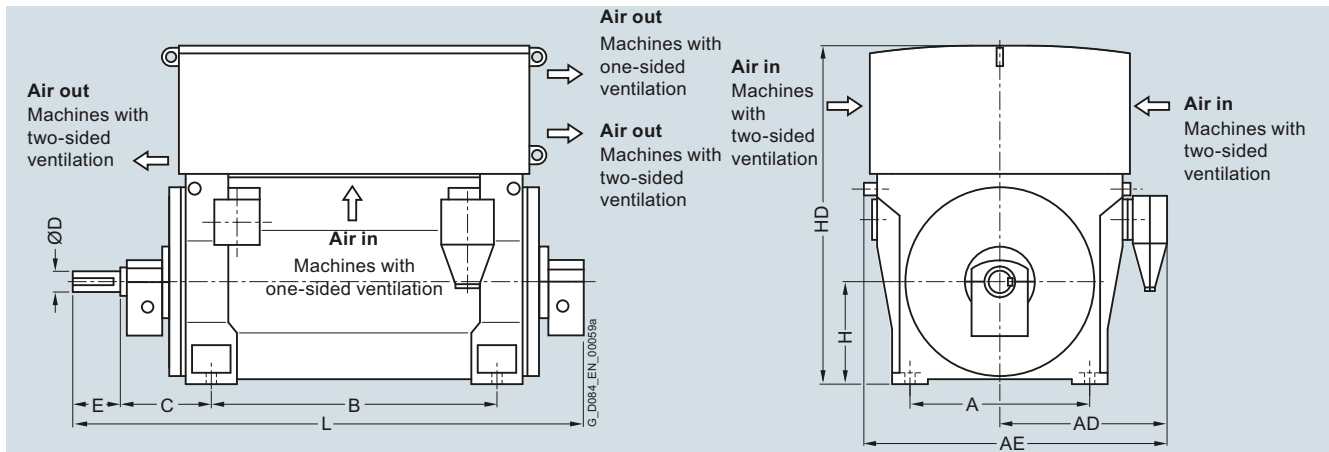
1RA6 450-8HJ.0-Z K96	4250	850	930	1620	1180	500	140	200	450	1408	2438
1RA6 452-8HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1408	2438
1RA6 454-8HJ.0-Z K96	4900	850	930	1620	1400	500	140	200	450	1408	2648
1RA6 456-8HJ.0-Z K96	5250	850	930	1620	1400	500	140	200	450	1408	2648

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

³⁾ Dimension HD for 1RP6 on request.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ³⁾	L

Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RA4, 1RA6 series

8-pole											
1RA6 500-8HJ.0-Z K96	6200	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6 502-8HJ.0-Z K96	6450	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6 504-8HJ.0-Z K96	7100	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6 506-8HJ.0-Z K96	7450	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6 560-8HJ.0-Z K96	8400	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6 562-8HJ.0-Z K96	8800	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6 564-8HJ.0-Z K96	9650	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA6 566-8HJ.0-Z K96	10150	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA4 630-8HE.0-Z K96 ²⁾	10400	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4 632-8HE.0-Z K96 ²⁾	11050	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4 634-8HE.0-Z K96 ²⁾	12000	1320	1330	2210	1800	600	220	280	630	2400	3210
1RA4 636-8HE.0-Z K96 ²⁾	12700	1320	1330	2210	1800	600	220	280	630	2400	3210
10-pole											
1RA6 450-3HJ.0-Z K96	4250	850	930	1620	1180	500	140	200	450	1408	2438
1RA6 452-3HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1408	2438
1RA6 454-3HJ.0-Z K96	4900	850	930	1620	1400	500	140	200	450	1408	2648
1RA6 456-3HJ.0-Z K96	5250	850	930	1620	1400	500	140	200	450	1408	2648
1RA4 500-3HE.0-Z K96	5400	950	1000	1760	1320	500	160	240	500	1520	2620
1RA4 502-3HE.0-Z K96	5800	950	1000	1760	1320	500	160	240	500	1520	2620
1RA4 504-3HE.0-Z K96	6350	950	1000	1760	1500	500	170	240	500	1520	2830
1RA4 506-3HE.0-Z K96	6700	950	1000	1760	1500	500	170	240	500	1520	2830
1RA4 560-3HE.0-Z K96	7350	1060	1070	1900	1400	530	180	240	560	1750	2670
1RA4 562-3HE.0-Z K96	7900	1060	1070	1900	1400	530	180	240	560	1750	2670
1RA4 564-3HE.0-Z K96	8700	1060	1070	1900	1600	530	190	280	560	1750	2940
1RA4 566-3HE.0-Z K96	9200	1060	1070	1900	1600	530	190	280	560	1750	2940
1RA4 630-3HE.0-Z K96 ²⁾	10350	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4 632-3HE.0-Z K96 ²⁾	11000	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4 634-3HE.0-Z K96 ²⁾	12050	1320	1330	2210	1800	600	220	280	630	2400	3210
1RA4 636-3HE.0-Z K96 ²⁾	12750	1320	1330	2210	1800	600	220	280	630	2400	3210

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

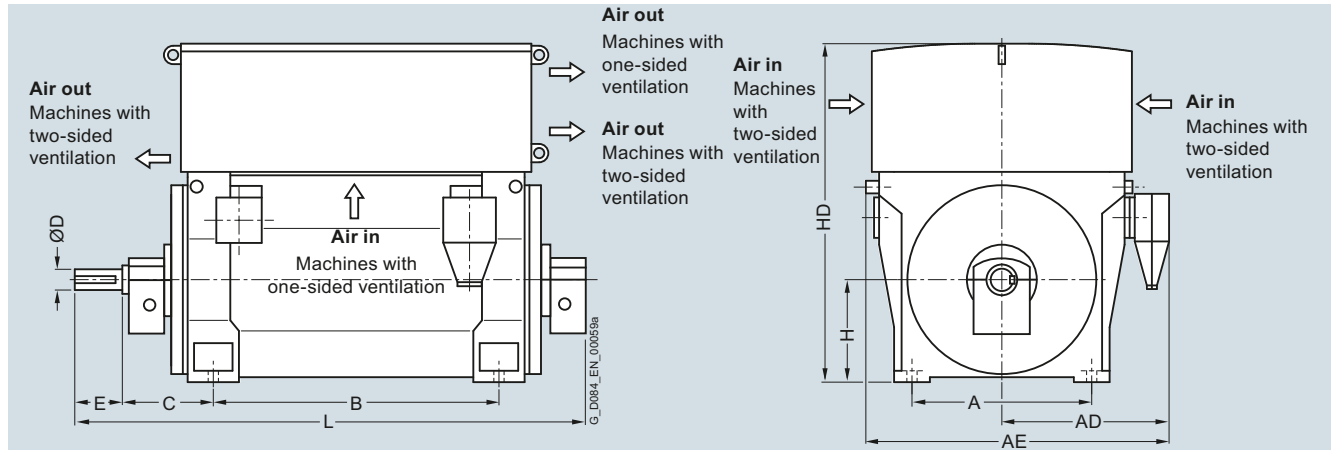
³⁾ Dimension HD for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD ³⁾ mm	L mm
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RA4, 1RA6 series											
12-pole											
1RA6 450-5HJ.0-Z K96	4250	850	930	1620	1180	500	140	200	450	1408	2438
1RA6 452-5HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1408	2438
1RA6 454-5HJ.0-Z K96	4900	850	930	1620	1400	500	140	200	450	1408	2648
1RA6 456-5HJ.0-Z K96	5250	850	930	1620	1400	500	140	200	450	1408	2648
1RA4 500-5HE.0-Z K96	5450	950	1000	1760	1320	500	160	240	500	1520	2620
1RA4 502-5HE.0-Z K96	5800	950	1000	1760	1320	500	160	240	500	1520	2620
1RA4 504-5HE.0-Z K96	6250	950	1000	1760	1500	500	170	240	500	1520	2830
1RA4 506-5HE.0-Z K96	6700	950	1000	1760	1500	500	170	240	500	1520	2830
1RA4 560-5HE.0-Z K96	7350	1060	1070	1900	1400	530	180	240	560	1750	2670
1RA4 562-5HE.0-Z K96	7950	1060	1070	1900	1400	530	180	240	560	1750	2670
1RA4 564-5HE.0-Z K96	8700	1060	1070	1900	1600	530	190	280	560	1750	2940
1RA4 566-5HE.0-Z K96	9150	1060	1070	1900	1600	530	190	280	560	1750	2940
1RA4 630-5HE.0-Z K96 ²⁾	10250	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4 632-5HE.0-Z K96 ²⁾	10850	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4 634-5HE.0-Z K96 ²⁾	11850	1320	1330	2210	1800	600	220	280	630	2400	3210
1RA4 636-5HE.0-Z K96 ²⁾	12700	1320	1330	2210	1800	600	220	280	630	2400	3210

Note:

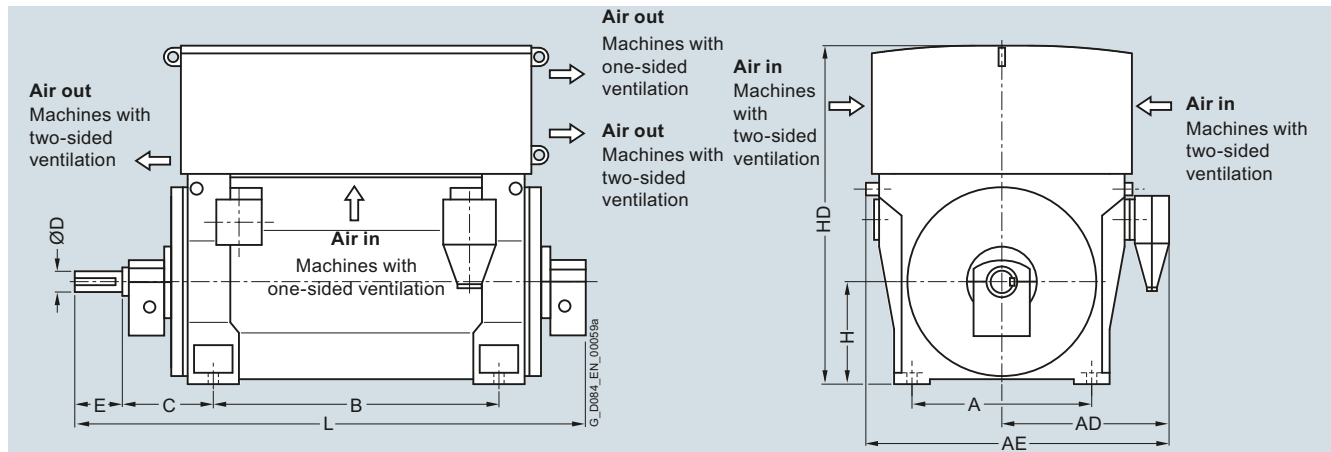
Higher pole numbers are available on request.

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

³⁾ Dimension HD for 1RP6 on request.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD ¹⁾ mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RA4, 1RA6 series											
2-pole											
1RA6 450-2HJ.0-Z K96 ²⁾	3750	850	1070	1840	1180	425	95	130	450	1628	2218
1RA6 452-2HJ.0-Z K96 ²⁾	3950	850	1070	1840	1180	425	95	130	450	1628	2218
1RA6 454-2HJ.0-Z K96 ²⁾	4300	850	1070	1840	1400	425	95	130	450	1628	2428
1RA6 456-2HJ.0-Z K96 ²⁾	4550	850	1070	1840	1400	425	95	130	450	1628	2428
1RA6 500-2HJ.0-Z K96 ²⁾	5500	950	1270	1970	1320	450	110	165	500	1850	2500
1RA6 502-2HJ.0-Z K96 ²⁾	5650	950	1270	1970	1320	450	110	165	500	1850	2500
1RA6 504-2HJ.0	6450	950	1270	1970	1500	450	110	165	500	1850	2650
1RA6 506-2HJ.0	6700	950	1270	1970	1500	450	110	165	500	1850	2650
1RA6 560-2HJ.0	7450	1060	1340	2110	1400	600	130	200	560	2100	2850
1RA6 562-2HJ.0	7850	1060	1340	2110	1400	600	130	200	560	2100	2850
1RA6 564-2HJ.0	8750	1060	1340	2110	1600	600	130	200	560	2100	3100
1RA6 566-2HJ.0	9200	1060	1340	2110	1600	600	130	200	560	2100	3100
1RA4 630-2HE.0	9600	1320	1330	2200	1600	560	150	200	630	2400	2820
1RA4 632-2HE.0	10250	1320	1330	2210	1600	560	150	200	630	2400	2820
1RA4 634-2HE.0	11300	1320	1330	2210	1800	560	160	240	630	2400	3100
1RA4 636-2HE.0	12150	1320	1330	2210	1800	560	160	240	630	2400	3100
4-pole											
1RA6 450-4HJ.0-Z K96	4100	850	1070	1840	1180	500	130	200	450	1408	2438
1RA6 452-4HJ.0-Z K96	4350	850	1070	1840	1180	500	130	200	450	1408	2438
1RA6 454-4HJ.0-Z K96	4750	850	1070	1840	1400	500	130	200	450	1408	2645
1RA6 456-4HJ.0-Z K96	5000	850	1070	1840	1400	500	130	200	450	1408	2645
1RA6 500-4HJ.0-Z K96	6250	950	1270	1970	1320	560	150	200	500	1850	2700
1RA6 502-4HJ.0-Z K96	6500	950	1270	1970	1320	560	150	200	500	1850	2700
1RA6 504-4HJ.0-Z K96	7150	950	1270	1970	1500	560	150	200	500	1850	2880
1RA6 506-4HJ.0-Z K96	7450	950	1270	1970	1500	560	150	200	500	1850	2880
1RA6 560-4HJ.0-Z K96	7650	1060	1340	2110	1400	600	170	240	560	2100	2900
1RA6 562-4HJ.0-Z K96	8000	1060	1340	2110	1400	600	170	240	560	2100	2900
1RA6 564-4HJ.0-Z K96	8900	1060	1340	2110	1600	600	170	240	560	2100	3100
1RA6 566-4HJ.0-Z K96	9400	1060	1340	2110	1600	600	170	240	560	2100	3100

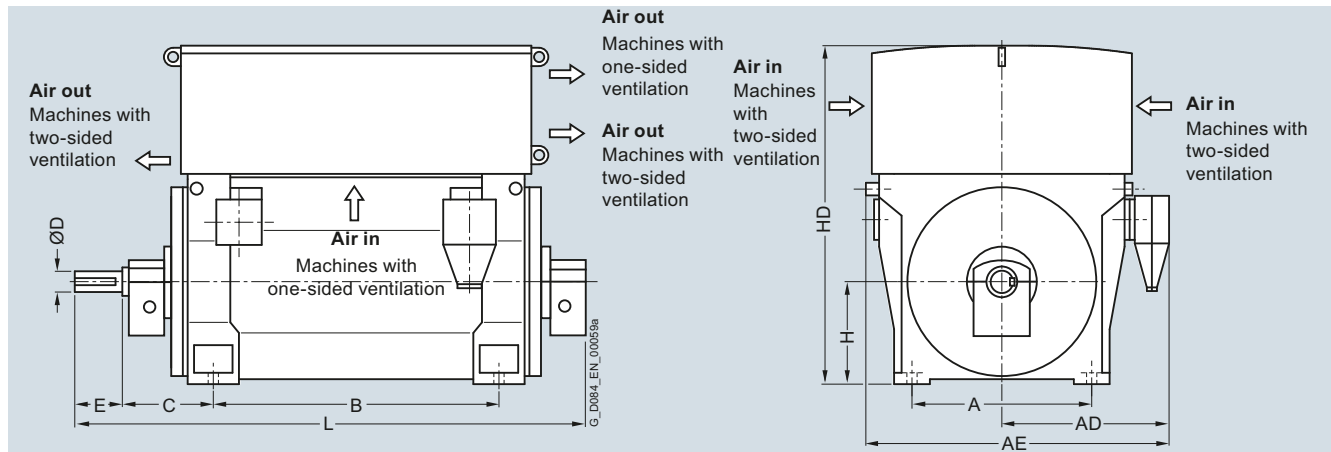
¹⁾ Dimension HD for 1RP6 on request.²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)

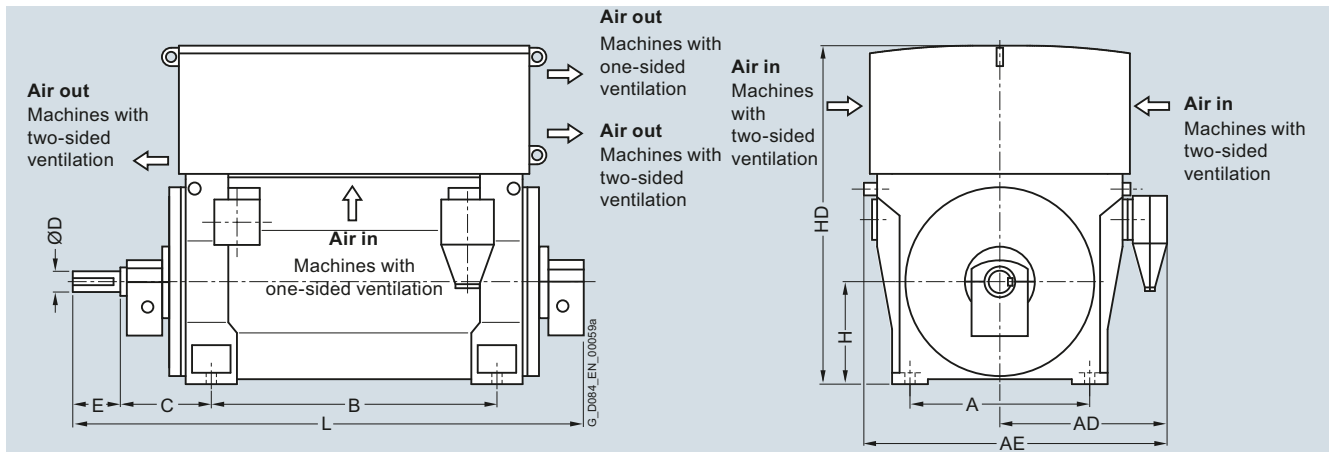


Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD ²⁾ mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RA4, 1RA6 series											
4-pole											
1RA4 630-4HE.0-Z K96 ¹⁾	10150	1320	1320	2200	1600	600	200	280	630	2400	2970
1RA4 632-4HE.0-Z K96 ¹⁾	10800	1320	1330	2210	1600	600	200	280	630	2400	2970
1RA4 634-4HE.0-Z K96 ¹⁾	11800	1320	1330	2210	1800	600	220	280	630	2400	3210
1RA4 636-4HE.0-Z K96 ¹⁾	12400	1320	1330	2210	1800	600	220	280	630	2400	3210
6-pole											
1RA6 450-6HJ.0-Z K96	4200	850	1070	1840	1180	500	140	200	450	1408	2438
1RA6 452-6HJ.0-Z K96	4500	850	1070	1840	1180	500	140	200	450	1408	2438
1RA6 454-6HJ.0-Z K96	4850	850	1070	1840	1400	500	140	200	450	1408	2648
1RA6 456-6HJ.0-Z K96	5200	850	1070	1840	1400	500	140	200	450	1408	2648
1RA6 500-6HJ.0-Z K96	6250	950	1270	1970	1320	560	170	240	500	1610	2700
1RA6 502-6HJ.0-Z K96	6500	950	1270	1970	1320	560	170	240	500	1610	2700
1RA6 504-6HJ.0-Z K96	7100	950	1270	1970	1500	560	170	240	500	1610	2900
1RA6 506-6HJ.0-Z K96	7500	950	1270	1970	1500	560	170	240	500	1610	2900
1RA6 560-6HJ.0-Z K96	8450	1060	1340	2110	1400	600	170	240	560	1760	2950
1RA6 562-6HJ.0-Z K96	8850	1060	1340	2110	1400	600	170	240	560	1760	2950
1RA6 564-6HJ.0-Z K96	9700	1060	1340	2110	1600	600	170	240	560	1760	3150
1RA6 566-6HJ.0-Z K96	10250	1060	1340	2110	1600	600	170	240	560	1760	3150
1RA4 630-6HE.0-Z K96	10500	1320	1320	2200	1600	600	220	280	630	2400	2970
1RA4 632-6HE.0-Z K96	11050	1320	1320	2200	1600	600	220	280	630	2400	2970
1RA4 634-6HE.0-Z K96	12100	1320	1320	2200	1800	600	220	280	630	2400	3210
1RA4 636-6HE.0-Z K96	12850	1320	1330	2210	1800	600	220	280	630	2400	3210

¹⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

²⁾ Dimension HD for 1RP6 on request.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD ¹⁾ mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RA4, 1RA6 series											
8-pole											
1RA6 450-8HJ.0-Z K96	4250	850	1070	1840	1180	500	140	200	450	1408	2438
1RA6 452-8HJ.0-Z K96	4550	850	1070	1840	1180	500	140	200	450	1408	2438
1RA6 454-8HJ.0-Z K96	4900	850	1070	1840	1400	500	140	200	450	1408	2648
1RA6 456-8HJ.0-Z K96	5250	850	1070	1840	1400	500	140	200	450	1408	2648
1RA6 500-8HJ.0-Z K96	6200	950	1270	1970	1320	560	170	240	500	1610	2700
1RA6 502-8HJ.0-Z K96	6450	950	1270	1970	1320	560	170	240	500	1610	2700
1RA6 504-8HJ.0-Z K96	7100	950	1270	1970	1500	560	170	240	500	1610	2900
1RA6 506-8HJ.0-Z K96	7450	950	1270	1970	1500	560	170	240	500	1610	2900
1RA6 560-8HJ.0-Z K96	8400	1060	1340	2110	1400	600	170	240	560	1760	2950
1RA6 562-8HJ.0-Z K96	8800	1060	1340	2110	1400	600	170	240	560	1760	2950
1RA6 564-8HJ.0-Z K96	9650	1060	1340	2110	1600	600	170	240	560	1760	3150
1RA6 566-8HJ.0-Z K96	10150	1060	1340	2110	1600	600	170	240	560	1760	3150
1RA4 630-8HE.0-Z K96	10300	1320	1320	2200	1600	600	220	280	630	2400	2970
1RA4 632-8HE.0-Z K96	10900	1320	1320	2200	1600	600	220	280	630	2400	2970
1RA4 634-8HE.0-Z K96	11900	1320	1320	2200	1800	600	220	280	630	2400	3210
1RA4 636-8HE.0-Z K96	12600	1320	1320	2200	1800	600	220	280	630	2400	3210
10-pole											
1RA4 500-3HE.0-Z K96	5400	950	1150	1980	1320	500	160	240	500	1520	2430
1RA4 502-3HE.0-Z K96	5800	950	1150	1980	1320	500	160	240	500	1520	2430
1RA4 504-3HE.0-Z K96	6300	950	1150	1980	1500	500	170	240	500	1520	2680
1RA4 506-3HE.0-Z K96	6650	950	1150	1980	1500	500	170	240	500	1520	2680
1RA4 560-3HE.0-Z K96	7550	1060	1220	2040	1400	530	180	240	560	1750	2670
1RA4 562-3HE.0-Z K96	8150	1060	1220	2040	1400	530	180	240	560	1750	2670
1RA4 564-3HE.0-Z K96	8950	1060	1220	2040	1600	530	190	280	560	1750	2960
1RA4 566-3HE.0-Z K96	9400	1060	1220	2040	1600	530	190	280	560	1750	2960
1RA4 630-3HE.0-Z K96	10300	1320	1320	2200	1600	600	220	280	630	2400	2970
1RA4 632-3HE.0-Z K96	10900	1320	1320	2200	1600	600	220	280	630	2400	2970
1RA4 634-3HE.0-Z K96	11850	1320	1320	2200	1800	600	220	280	630	2400	3210
1RA4 636-3HE.0-Z K96	12550	1320	1320	2200	1800	600	220	280	630	2400	3210

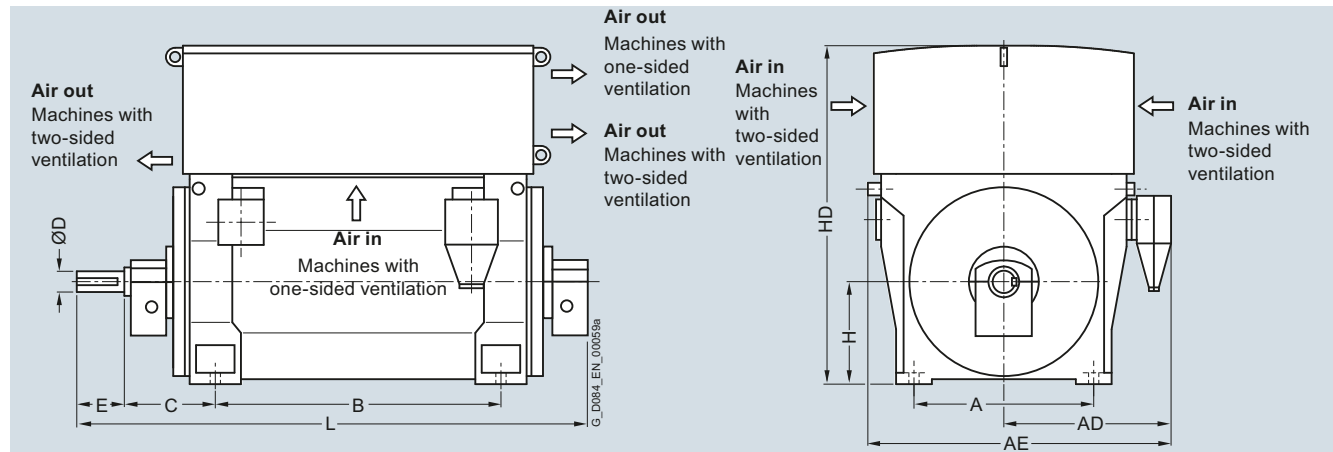
1) Dimension HD for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD ¹⁾ mm	L mm

9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RA4 series

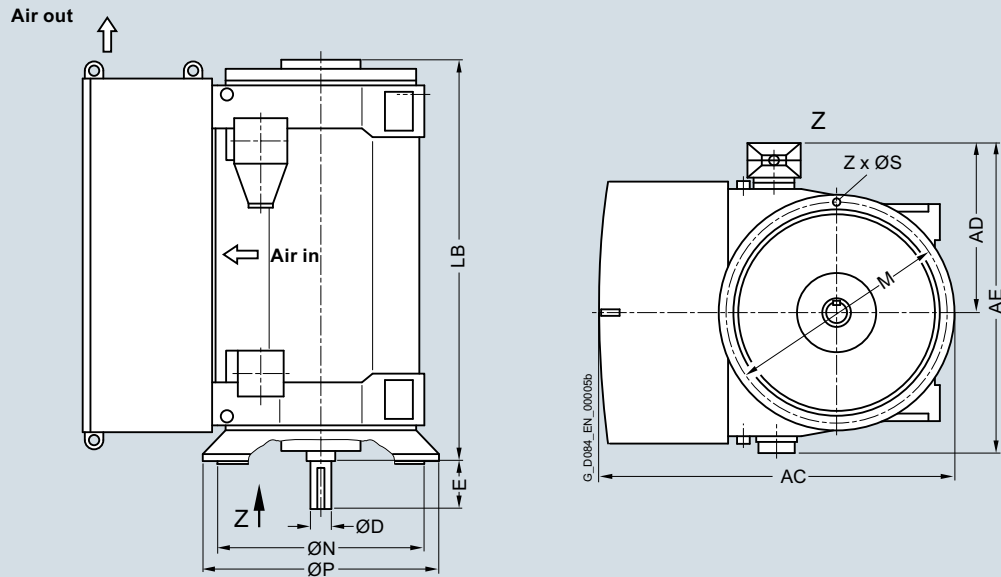
12-pole											
1RA4 502-5HE.0-Z K96	5800	950	1150	1980	1320	500	160	240	500	1520	2430
1RA4 504-5HE.0-Z K96	6250	950	1150	1980	1500	500	170	240	500	1520	2680
1RA4 506-5HE.0-Z K96	6650	950	1150	1980	1500	500	170	240	500	1520	2680
1RA4 560-5HE.0-Z K96	7350	1060	1220	2040	1400	530	180	240	560	1750	2670
1RA4 562-5HE.0-Z K96	7850	1060	1220	2040	1400	530	180	240	560	1750	2670
1RA4 564-5HE.0-Z K96	8650	1060	1220	2040	1600	530	190	280	560	1750	2960
1RA4 566-5HE.0-Z K96	9150	1060	1220	2040	1600	530	190	280	560	1750	2960
1RA4 630-5HE.0-Z K96	10300	1320	1320	2200	1600	600	220	280	630	2400	2970
1RA4 632-5HE.0-Z K96	10950	1320	1320	2200	1600	600	220	280	630	2400	2970
1RA4 634-5HE.0-Z K96	11950	1320	1320	2200	1800	600	220	280	630	2400	3210
1RA4 636-5HE.0-Z K96	12650	1320	1320	2200	1800	600	220	280	630	2400	3210

Note:

Higher pole numbers are available on request.

¹⁾ Dimension HD for 1RP6 on request.

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC ³⁾ mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings – 1RA4, 1RA6 series

4-pole

1RA6 450-4HJ.8	4250	1533	930	1620	130	200	1720	1150	1000	1080	26	8
1RA6 452-4HJ.8	4450	1533	930	1620	130	200	1720	1150	1000	1080	26	8
1RA6 454-4HJ.8	4850	1533	930	1620	130	200	1930	1150	1000	1080	26	8
1RA6 456-4HJ.8	5150	1533	930	1620	130	200	1930	1150	1000	1080	26	8
1RA4 500-4HE.8	5250	1640	1000	1810	150	200	1910	1250	1120	1180	26	16
1RA4 502-4HE.8	5450	1640	1000	1810	150	200	1910	1250	1120	1180	26	16
1RA4 504-4HE.8	6150	1640	1000	1810	160	240	2120	1250	1120	1180	26	16
1RA4 506-4HE.8	6550	1640	1000	1810	160	240	2120	1250	1120	1180	26	16
1RA4 560-4HE.8	7250	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 562-4HE.8 ²⁾	7700	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 564-4HE.8 ²⁾	8600	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 566-4HE.8 ²⁾	9050	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 630-4HE.8 ²⁾	11600	2430	1330	2300	200	280	2470	2000	1800	1900	33	16
1RA4 632-4HE.8 ²⁾	12300	2430	1330	2300	200	280	2470	2000	1800	1900	33	16
1RA4 634-4HE.8 ²⁾	13350	2430	1330	2300	220	280	2710	2000	1800	1900	33	16
1RA4 636-4HE.8 ²⁾	13900	2430	1330	2300	220	280	2710	2000	1800	1900	33	16

6-pole

1RA6 450-6HJ.8	4350	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6 452-6HJ.8	4600	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6 454-6HJ.8	4950	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6 456-6HJ.8	5300	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA4 500-6HE.8	5400	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA4 502-6HE.8	5750	1640	1000	1810	160	240	1910	1250	1120	1180	26	16

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ Vertical type of construction, only in the 50 Hz version.

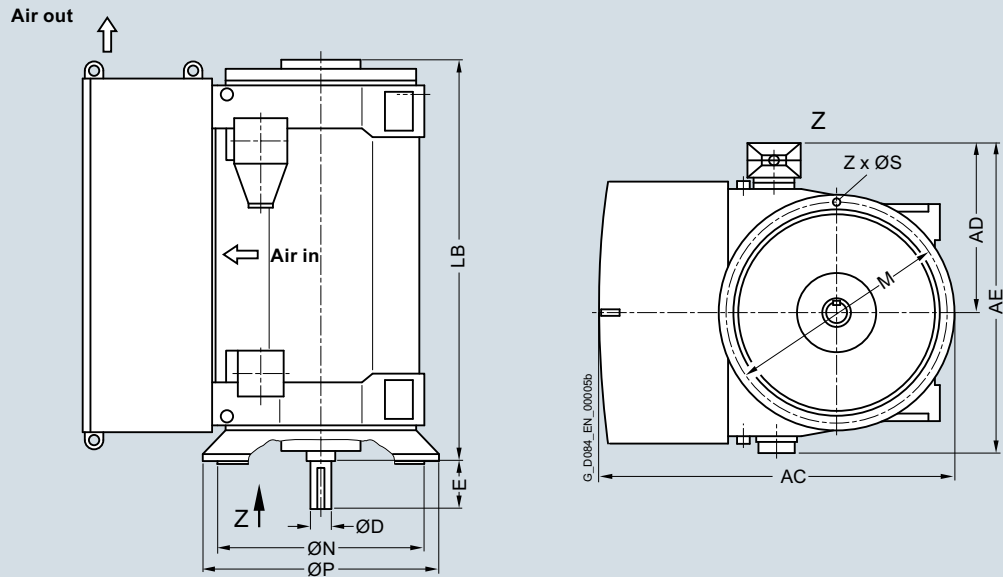
³⁾ Dimension AC for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC ²⁾ mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings – 1RA4, 1RA6 series

6-pole

1RA4 504-6HE.8	6300	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA4 506-6HE.8	6700	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA4 560-6HE.8	7400	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 562-6HE.8	8000	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 564-6HE.8	8800	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 566-6HE.8	9300	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 630-6HE.8	11900	2430	1330	2300	220	280	2470	2000	1800	1900	33	16
1RA4 632-6HE.8	12450	2430	1330	2300	220	280	2470	2000	1800	1900	33	16
1RA4 634-6HE.8	13450	2430	1330	2300	220	280	2710	2000	1800	1900	33	16
1RA4 636-6HE.8	14200	2430	1330	2300	220	280	2710	2000	1800	1900	33	16

8-pole

1RA6 450-8HJ.8	4350	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6 452-8HJ.8	4650	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6 454-8HJ.8	5000	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6 456-8HJ.8	5350	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA4 500-8HE.8	5450	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA4 502-8HE.8	5800	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA4 504-8HE.8	6300	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA4 506-8HE.8	6700	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA4 560-8HE.8	7350	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA4 562-8HE.8	7900	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA4 564-8HE.8	8700	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA4 566-8HE.8	9200	1890	1070	1960	190	280	2320	1400	1250	1320	26	16

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

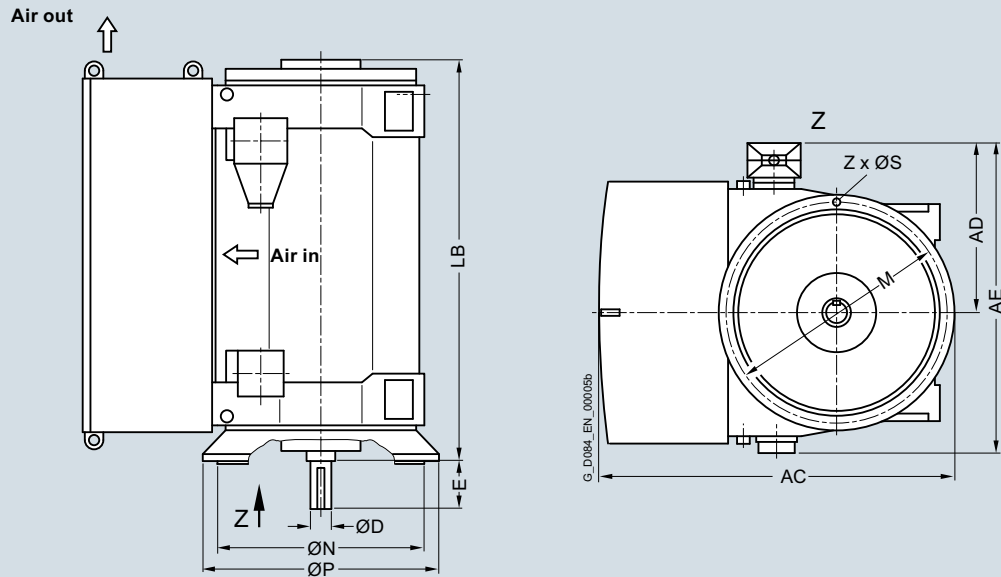
²⁾ Dimension AC for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC ³⁾ mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings – 1RA4, 1RA6 series

8-pole

1RA4 630-8HE.8 ²⁾	11800	2430	1330	2300	220	280	2470	2000	1800	1900	33	16
1RA4 632-8HE.8 ²⁾	12450	2430	1330	2300	220	280	2470	2000	1800	1900	33	16
1RA4 634-8HE.8 ²⁾	13350	2430	1330	2300	220	280	2710	2000	1800	1900	33	16
1RA4 636-8HE.8 ²⁾	14100	2430	1330	2300	220	280	2710	2000	1800	1900	33	16

10-pole

1RA6 450-3HJ.8	4350	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6 452-3HJ.8	4650	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6 454-3HJ.8	5000	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6 456-3HJ.8	5350	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA4 500-3HE.8	5350	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA4 502-3HE.8	5750	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA4 504-3HE.8	6300	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA4 506-3HE.8	6650	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA4 560-3HE.8	7300	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA4 562-3HE.8	7900	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA4 564-3HE.8	8700	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA4 566-3HE.8	9150	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA4 630-3HE.8 ²⁾	11700	2430	1330	2300	220	280	2470	2000	1800	1900	33	16
1RA4 632-3HE.8 ²⁾	12400	2430	1330	2300	220	280	2470	2000	1800	1900	33	16
1RA4 634-3HE.8 ²⁾	13400	2430	1330	2300	220	280	2710	2000	1800	1900	33	16
1RA4 636-3HE.8 ²⁾	14100	2430	1330	2300	220	280	2710	2000	1800	1900	33	16

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ Vertical type of construction, only in the 50 Hz version.

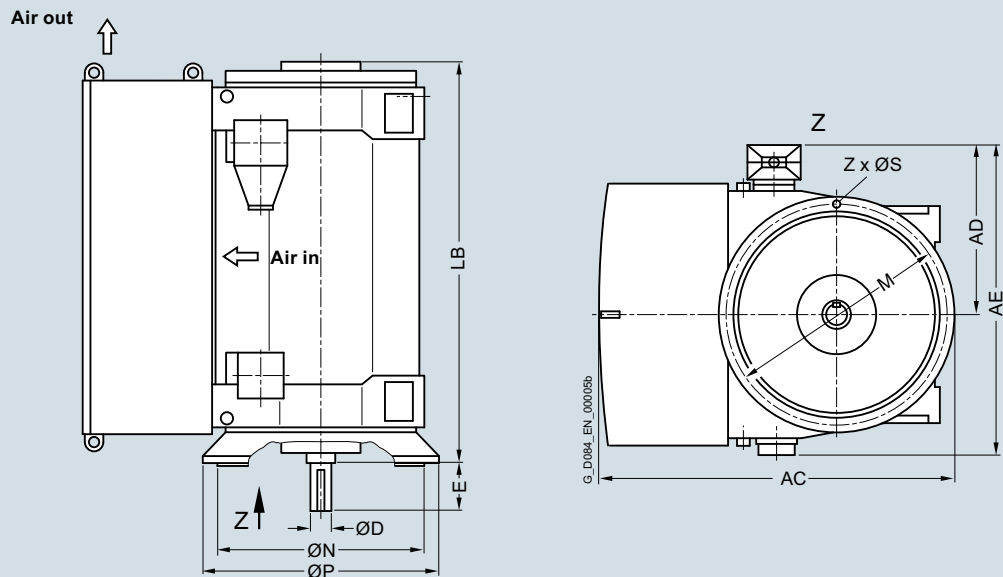
³⁾ Dimension AC for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC ³⁾ mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings – 1RA4, 1RA6 series

12-pole

1RA6 450-5HJ.8	4350	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6 452-5HJ.8	4650	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6 454-5HJ.8	5000	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6 456-5HJ.8	5350	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA4 500-5HE.8	5400	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA4 502-5HE.8	5750	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA4 504-5HE.8	6250	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA4 506-5HE.8	6650	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA4 560-5HE.8	7350	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA4 562-5HE.8	7900	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA4 564-5HE.8	8650	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA4 566-5HE.8	9150	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA4 630-5HE.8 ²⁾	11600	2430	1180	2150	220	280	2470	2000	1800	1900	33	16
1RA4 632-5HE.8 ²⁾	12250	2430	1180	2150	220	280	2470	2000	1800	1900	33	16
1RA4 634-5HE.8 ²⁾	13250	2430	1180	2150	220	280	2710	2000	1800	1900	33	16
1RA4 636-5HE.8 ²⁾	14050	2430	1180	2150	220	280	2710	2000	1800	1900	33	16

Note:

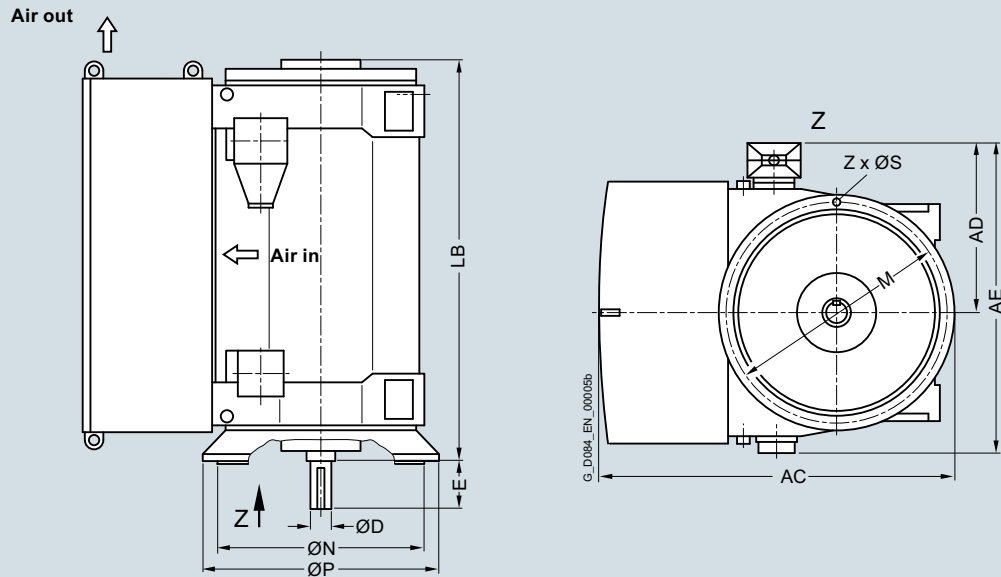
Higher pole numbers are available on request.

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ Vertical type of construction, only in the 50 Hz version.

³⁾ Dimension AC for 1RP6 on request.

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC ¹⁾ mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

9 ... 11 kV, IM V1 type of construction, roller bearings – 1RA4, 1RA6 series

4-pole

1RA6 450-4HJ.8	4250	1533	1070	1840	130	200	1720	1150	1000	1080	26	8
1RA6 452-4HJ.8	4450	1533	1070	1840	130	200	1720	1150	1000	1080	26	8
1RA6 454-4HJ.8	4850	1533	1070	1840	130	200	1930	1150	1000	1080	26	8
1RA6 456-4HJ.8	5150	1533	1070	1840	130	200	1930	1150	1000	1080	26	8
1RA4 500-4HE.8	5250	1640	1140	1950	150	200	1910	1250	1120	1180	26	16
1RA4 502-4HE.8	5450	1640	1140	1950	150	200	1910	1250	1120	1180	26	16
1RA4 504-4HE.8	6100	1640	1140	1950	160	240	2120	1250	1120	1180	26	16
1RA4 506-4HE.8	6450	1640	1140	1950	160	240	2120	1250	1120	1180	26	16
1RA4 560-4HE.8	7150	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 562-4HE.8	7600	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 564-4HE.8	8450	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 566-4HE.8	8900	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 630-4HE.8	11500	2430	1320	2290	200	280	2470	2000	1800	1900	33	16
1RA4 632-4HE.8	12150	2430	1330	2300	200	280	2470	2000	1800	1900	33	16
1RA4 634-4HE.8	13200	2430	1330	2300	220	280	2710	2000	1800	1900	33	16
1RA4 636-4HE.8	13800	2430	1330	2300	220	280	2710	2000	1800	1900	33	16

6-pole

1RA6 450-6HJ.8	4350	1533	1070	1840	140	200	1720	1150	1000	1080	26	8
1RA6 452-6HJ.8	4600	1533	1070	1840	140	200	1720	1150	1000	1080	26	8
1RA6 454-6HJ.8	4950	1533	1070	1840	140	200	1930	1150	1000	1080	26	8
1RA6 456-6HJ.8	5300	1533	1070	1840	140	200	1930	1150	1000	1080	26	8
1RA4 500-6HE.8	5400	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA4 502-6HE.8	5800	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA4 504-6HE.8	6250	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA4 506-6HE.8	6650	1640	1140	1950	170	240	2120	1250	1120	1180	26	16

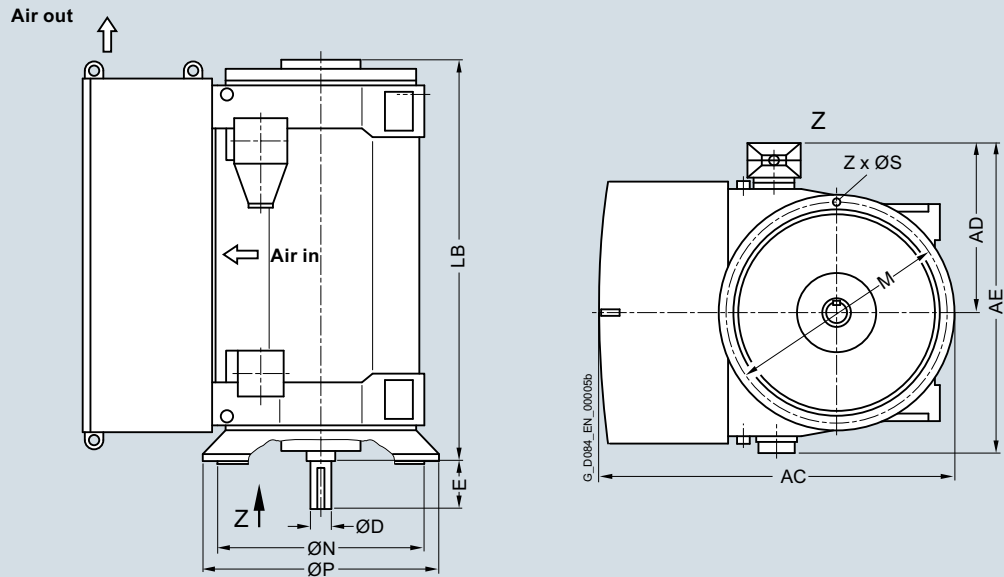
1) Dimension AC for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC ¹⁾ mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

9 ... 11 kV, IM V1 type of construction, roller bearings – 1RA4, 1RA6 series

6-pole

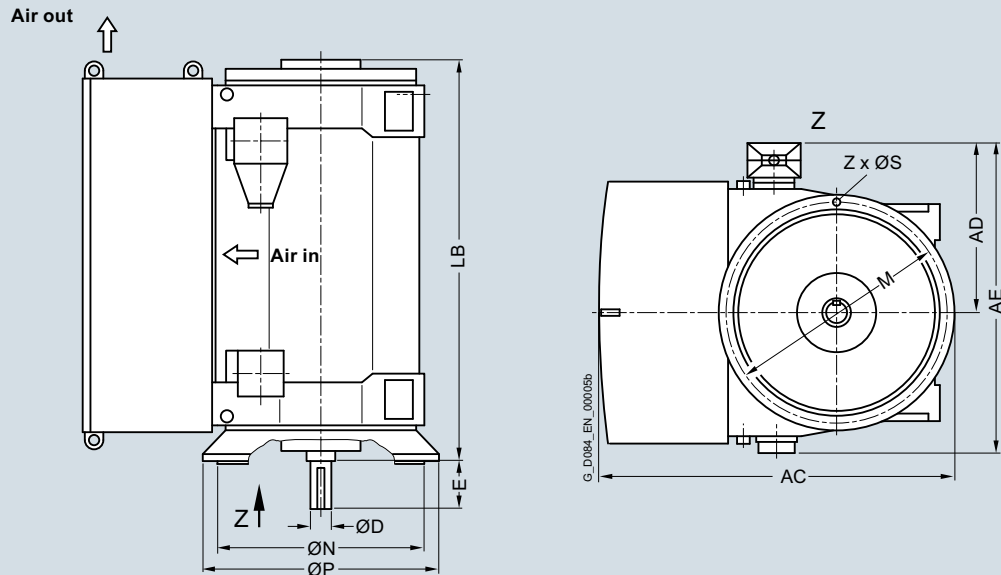
1RA4 560-6HE.8	7400	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 562-6HE.8	7850	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 564-6HE.8	8700	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 566-6HE.8	9150	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 630-6HE.8	11850	2430	1320	2290	220	280	2470	2000	1800	1900	33	16
1RA4 632-6HE.8	12400	2430	1320	2290	220	280	2470	2000	1800	1900	33	16
1RA4 634-6HE.8	13450	2430	1320	2290	220	280	2710	2000	1800	1900	33	16
1RA4 636-6HE.8	14200	2430	1330	2300	220	280	2710	2000	1800	1900	33	16

8-pole

1RA6 450-8HJ.8	4350	1533	1070	1840	140	200	1720	1150	1000	1080	26	8
1RA6 452-8HJ.8	4650	1533	1070	1840	140	200	1720	1150	1000	1080	26	8
1RA6 454-8HJ.8	5000	1533	1070	1840	140	200	1930	1150	1000	1080	26	8
1RA6 456-8HJ.8	5350	1533	1070	1840	140	200	1930	1150	1000	1080	26	8
1RA4 500-8HE.8	5400	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA4 502-8HE.8	5800	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA4 504-8HE.8	6300	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA4 506-8HE.8	6650	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA4 560-8HE.8	7350	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 562-8HE.8	7900	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 564-8HE.8	8700	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 566-8HE.8	9100	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 630-8HE.8	11700	2430	1320	2290	220	280	2470	2000	1800	1900	33	16
1RA4 632-8HE.8	12250	2430	1320	2290	220	280	2470	2000	1800	1900	33	16
1RA4 634-8HE.8	13250	2430	1320	2290	220	280	2710	2000	1800	1900	33	16
1RA4 636-8HE.8	14000	2430	1320	2290	220	280	2710	2000	1800	1900	33	16

¹⁾ Dimension AC for 1RP6 on request.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC ¹⁾ mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

9 ... 11 kV, IM V1 type of construction, roller bearings – 1RA4 series

10-pole

1RA4 500-3HE.8	5350	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA4 502-3HE.8	5750	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA4 504-3HE.8	6250	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA4 506-3HE.8	6600	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA4 560-3HE.8	7450	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 562-3HE.8	8000	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 564-3HE.8	8750	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 566-3HE.8	9250	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 630-3HE.8	11650	2430	1320	2290	220	280	2470	2000	1800	1900	33	16
1RA4 632-3HE.8	12250	2430	1320	2290	220	280	2470	2000	1800	1900	33	16
1RA4 634-3HE.8	13200	2430	1320	2290	220	280	2710	2000	1800	1900	33	16
1RA4 636-3HE.8	13950	2430	1320	2290	220	280	2710	2000	1800	1900	33	16

12-pole

1RA4 502-5HE.8	5750	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA4 504-5HE.8	6200	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA4 506-5HE.8	6600	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA4 560-5HE.8	7300	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 562-5HE.8	7850	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4 564-5HE.8	8650	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 566-5HE.8	9100	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4 630-5HE.8	11700	2430	1320	2290	220	280	2470	2000	1800	1900	33	16
1RA4 632-5HE.8	12300	2430	1320	2290	220	280	2470	2000	1800	1900	33	16
1RA4 634-5HE.8	13300	2430	1320	2290	220	280	2710	2000	1800	1900	33	16
1RA4 636-5HE.8	14050	2430	1320	2290	220	280	2710	2000	1800	1900	33	16

Note:

Higher pole numbers are available on request.

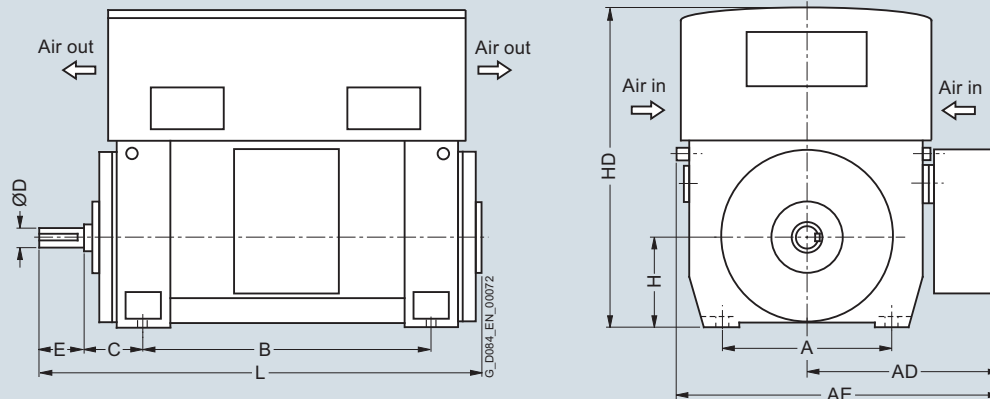
¹⁾ Dimension AC for 1RP6 on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings

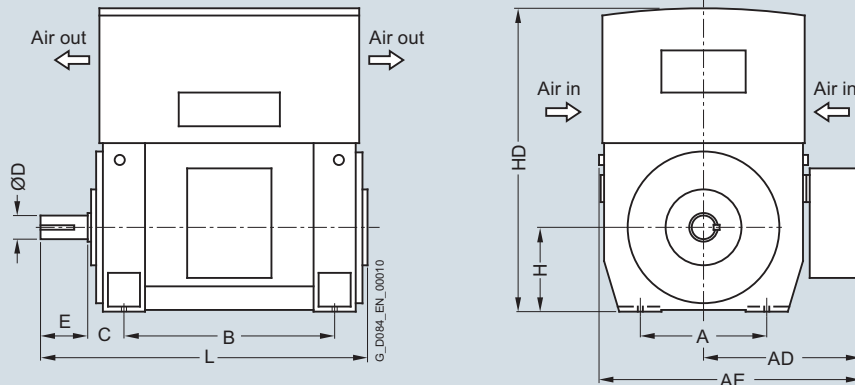


Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, roller bearings, X ventilation – 1RP6 series											
4-pole											
1RP6 710-4HJ.0 ¹⁾	18100	1500	1500	2530	2000	355	220	280	710	3030	2980
1RP6 712-4HJ.0 ¹⁾	18900	1500	1500	2530	2000	355	220	280	710	3030	2980
1RP6 714-4HJ.0 ¹⁾	20300	1500	1500	2530	2240	355	220	280	710	3030	3220
1RP6 716-4HJ.0 ¹⁾	21300	1500	1500	2530	2240	355	220	280	710	3030	3220

Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings, X ventilation – 1RP6 series											
4-pole											
1RP6 710-4HJ.0 ¹⁾	17800	1500	1500	2530	2000	355	220	280	710	3030	2980
1RP6 712-4HJ.0 ¹⁾	18600	1500	1500	2530	2000	355	220	280	710	3030	2980
1RP6 714-4HJ.0 ¹⁾	20100	1500	1500	2530	2240	355	220	280	710	3030	3220
1RP6 716-4HJ.0 ¹⁾	21000	1500	1500	2530	2240	355	220	280	710	3030	3220

¹⁾ Roller bearings only for 50 Hz operation.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, roller bearings, Z ventilation – 1RP6 series											
6-pole											
1RP6 710-6HJ.0	17200	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 712-6HJ.0	17900	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 714-6HJ.0	19600	1500	1500	2530	2240	355	240	330	710	3040	3270
1RP6 716-6HJ.0	20800	1500	1500	2530	2240	355	240	330	710	3040	3270
8-pole											
1RP6 710-8HJ.0	17000	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 712-8HJ.0	17800	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 714-8HJ.0	19400	1500	1500	2530	2240	355	240	330	710	3040	3270
1RP6 716-8HJ.0	20500	1500	1500	2530	2240	355	240	330	710	3040	3270
10-pole											
1RP6 710-3HJ.0	16800	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 712-3HJ.0	17600	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 714-3HJ.0	19300	1500	1500	2530	2240	355	240	330	710	3040	3270
1RP6 716-3HJ.0	20400	1500	1500	2530	2240	355	240	330	710	3040	3270

Note:

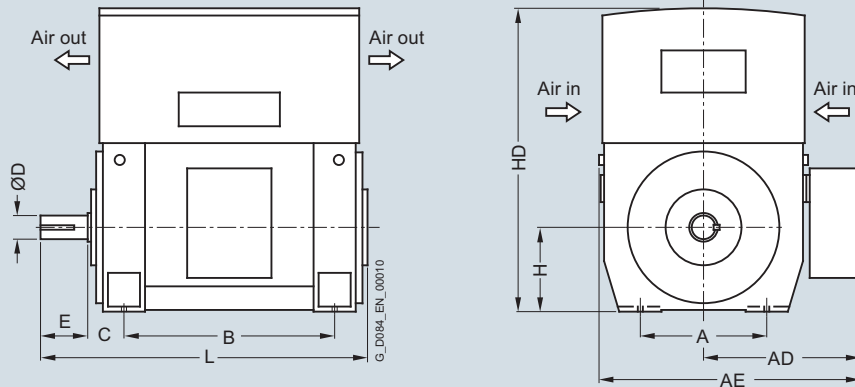
Higher pole numbers are available on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings

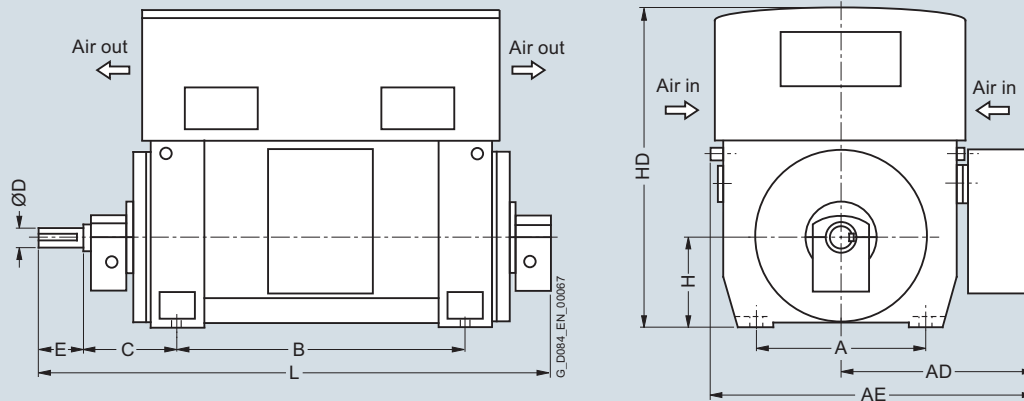


Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings, Z ventilation – 1RP6 series											
6-pole											
1RP6 710-6HJ.0	17000	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 712-6HJ.0	17700	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 714-6HJ.0	19500	1500	1500	2530	2240	355	240	330	710	3040	3270
1RP6 716-6HJ.0	20500	1500	1500	2530	2240	355	240	330	710	3040	3270
8-pole											
1RP6 710-8HJ.0	16900	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 712-8HJ.0	17600	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 714-8HJ.0	19300	1500	1500	2530	2240	355	240	330	710	3040	3270
1RP6 716-8HJ.0	20300	1500	1500	2530	2240	355	240	330	710	3040	3270
10-pole											
1RP6 710-3HJ.0	16800	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 712-3HJ.0	17500	1500	1500	2530	2000	355	240	330	710	3040	3030
1RP6 714-3HJ.0	19200	1500	1500	2530	2240	355	240	330	710	3040	3270
1RP6 716-3HJ.0	20300	1500	1500	2530	2240	355	240	330	710	3040	3270

Note:

Higher pole numbers are available on request.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, IM B3 type of construction, sleeve bearings, X ventilation – 1RP6 series

2-pole

1RP6 710-2HJ.0	16300	1500	1500	2530	2000	600	180	240	710	3030	3370
1RP6 712-2HJ.0	17100	1500	1500	2530	2000	600	180	240	710	3030	3370
1RP6 714-2HJ.0	18400	1500	1500	2530	2240	600	180	240	710	3030	3610
1RP6 716-2HJ.0	19400	1500	1500	2530	2240	600	180	240	710	3030	3610

4-pole

1RP6 710-4HJ.0-Z K96 ¹⁾	18100	1500	1500	2530	2000	530	220	280	710	3030	3260
1RP6 712-4HJ.0-Z K96 ¹⁾	18900	1500	1500	2530	2000	530	220	280	710	3030	3260
1RP6 714-4HJ.0-Z K96 ¹⁾	20300	1500	1500	2530	2240	530	220	280	710	3030	3500
1RP6 716-4HJ.0-Z K96 ¹⁾	21300	1500	1500	2530	2240	530	220	280	710	3030	3500

Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, sleeve bearings, X ventilation – 1RP6 series

2-pole

1RP6 710-2HJ.0	16200	1500	1500	2530	2000	600	180	240	710	3030	3370
1RP6 712-2HJ.0	17000	1500	1500	2530	2000	600	180	240	710	3030	3370
1RP6 714-2HJ.0	18200	1500	1500	2530	2240	600	180	240	710	3030	3610
1RP6 716-2HJ.0	19200	1500	1500	2530	2240	600	180	240	710	3030	3610

4-pole

1RP6 710-4HJ.0-Z K96 ¹⁾	17800	1500	1500	2530	2000	530	220	280	710	3030	3260
1RP6 712-4HJ.0-Z K96 ¹⁾	18600	1500	1500	2530	2000	530	220	280	710	3030	3260
1RP6 714-4HJ.0-Z K96 ¹⁾	20100	1500	1500	2530	2240	530	220	280	710	3030	3500
1RP6 716-4HJ.0-Z K96 ¹⁾	21000	1500	1500	2530	2240	530	220	280	710	3030	3500

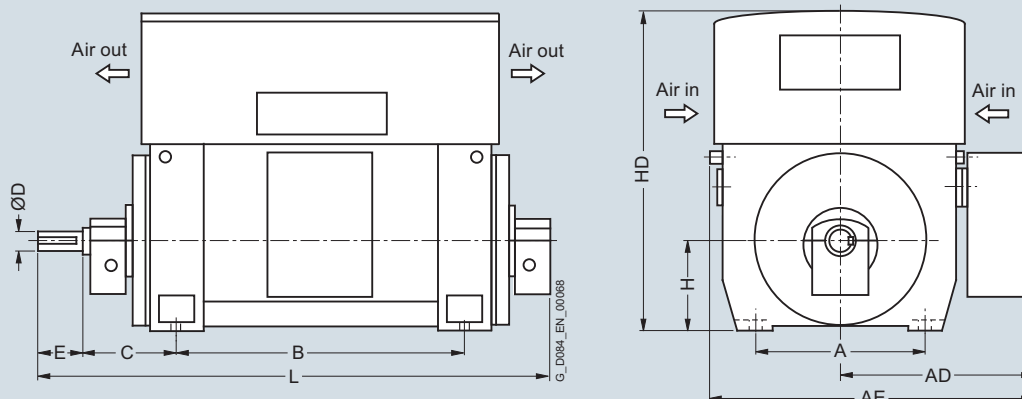
¹⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, IM B3 type of construction, sleeve bearings, Z ventilation – 1RP6 series

6-pole

1RP6 710-6HJ.0-Z K96	18200	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 712-6HJ.0-Z K96	18900	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 714-6HJ.0-Z K96	20700	1500	1500	2530	2240	670	240	330	710	3040	3840
1RP6 716-6HJ.0-Z K96	21800	1500	1500	2530	2240	670	240	330	710	3040	3840

8-pole

1RP6 710-8HJ.0-Z K96	18000	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 712-8HJ.0-Z K96	18800	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 714-8HJ.0-Z K96	20500	1500	1500	2530	2240	670	240	330	710	3040	3840
1RP6 716-8HJ.0-Z K96	21600	1500	1500	2530	2240	670	240	330	710	3040	3840

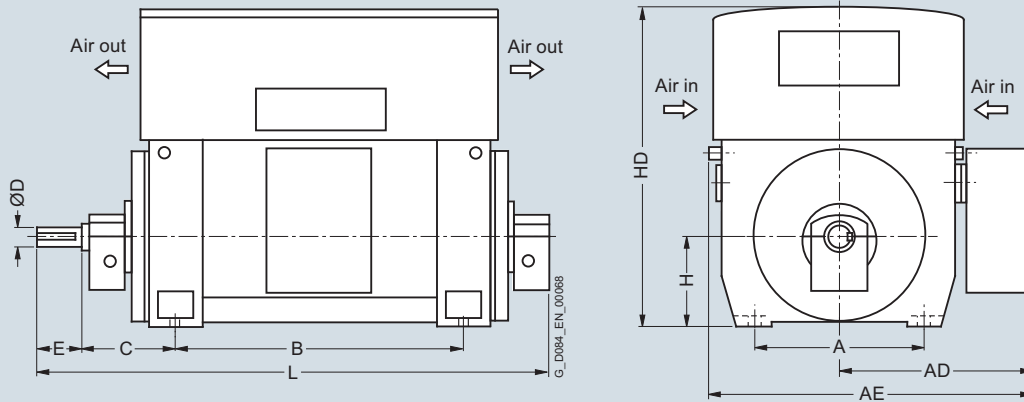
10-pole

1RP6 710-3HJ.0-Z K96	17800	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 712-3HJ.0-Z K96	18700	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 714-3HJ.0-Z K96	20300	1500	1500	2530	2240	670	240	330	710	3040	3840
1RP6 716-3HJ.0-Z K96	21500	1500	1500	2530	2240	670	240	330	710	3040	3840

Note:

Higher pole numbers are available on request.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings, Z ventilation – 1RP6 series											
6-pole											
1RP6 710-6HJ.0-Z K96	18000	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 712-6HJ.0-Z K96	18800	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 714-6HJ.0-Z K96	20500	1500	1500	2530	2240	670	240	330	710	3040	3840
1RP6 716-6HJ.0-Z K96	21600	1500	1500	2530	2240	670	240	330	710	3040	3840
8-pole											
1RP6 710-8HJ.0-Z K96	17900	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 712-8HJ.0-Z K96	18700	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 714-8HJ.0-Z K96	20300	1500	1500	2530	2240	670	240	330	710	3040	3840
1RP6 716-8HJ.0-Z K96	21400	1500	1500	2530	2240	670	240	330	710	3040	3840
10-pole											
1RP6 710-3HJ.0-Z K96	17800	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 712-3HJ.0-Z K96	18600	1500	1500	2530	2000	670	240	330	710	3040	3600
1RP6 714-3HJ.0-Z K96	20200	1500	1500	2530	2240	670	240	330	710	3040	3840
1RP6 716-3HJ.0-Z K96	21300	1500	1500	2530	2240	670	240	330	710	3040	3840

Note:

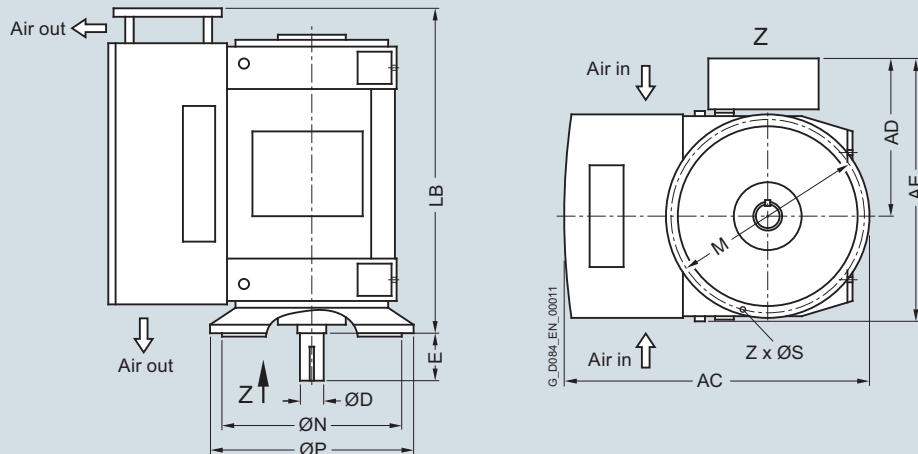
Higher pole numbers are available on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, IM V1 type of construction, roller bearings, Z ventilation – 1RP6 series												
6-pole												
1RP6 710-6HE.4	18400	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 712-6HE.4	19100	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 714-6HE.4	20800	3330	1500	2530	240	330	3305	2000	1800	1900	33	24
1RP6 716-6HE.4	22000	3330	1500	2530	240	330	3305	2000	1800	1900	33	24
8-pole												
1RP6 710-8HE.4	18200	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 712-8HE.4	19000	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 714-8HE.4	20600	3330	1500	2530	240	330	3305	2000	1800	1900	33	24
1RP6 716-8HE.4	21800	3330	1500	2530	240	330	3305	2000	1800	1900	33	24
10-pole												
1RP6 710-3HE.4	18000	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 712-3HE.4	18900	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 714-3HE.4	20500	3330	1500	2530	240	330	3305	2000	1800	1900	33	24
1RP6 716-3HE.4	21600	3330	1500	2530	240	330	3305	2000	1800	1900	33	24

Note:

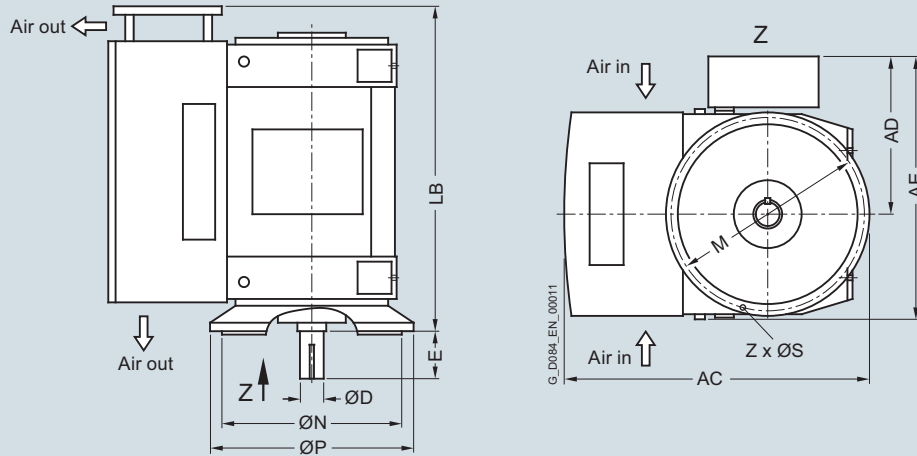
Higher pole numbers are available on request.

Motors for line operation

Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
9 ... 11 kV, IM V1 type of construction, roller bearings, Z ventilation – 1RP6 series												
6-pole												
1RP6 710-6HE.4	18200	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 712-6HE.4	19000	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 714-6HE.4	20700	3330	1500	2530	240	330	3305	2000	1800	1900	33	24
1RP6 716-6HE.4	21800	3330	1500	2530	240	330	3305	2000	1800	1900	33	24
8-pole												
1RP6 710-8HE.4	18100	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 712-8HE.4	18900	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 714-8HE.4	20500	3330	1500	2530	240	330	3305	2000	1800	1900	33	24
1RP6 716-8HE.4	21600	3330	1500	2530	240	330	3305	2000	1800	1900	33	24
10-pole												
1RP6 710-3HE.4	18000	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 712-3HE.4	18800	3330	1500	2530	240	330	3065	2000	1800	1900	33	24
1RP6 714-3HE.4	20400	3330	1500	2530	240	330	3305	2000	1800	1900	33	24
1RP6 716-3HE.4	21500	3330	1500	2530	240	330	3305	2000	1800	1900	33	24

Note:

Higher pole numbers are available on request.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Overview



Technical data

Overview of technical data

H-compact PLUS 1RN4/1RN6	
Rated voltage	3.3 ... 13.8 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Cooling method	IC81W
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	450 ... 710 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN, NEMA
Frame design for shaft heights 450 ... 560 mm	Frame: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 710 mm	Frame: Steel Cooling enclosure: Steel

Technical data (continued)

Power ranges for IEC motors for line operation

1RN4, 1SL4 (Ex nA), 1SQ4 (Ex px) series

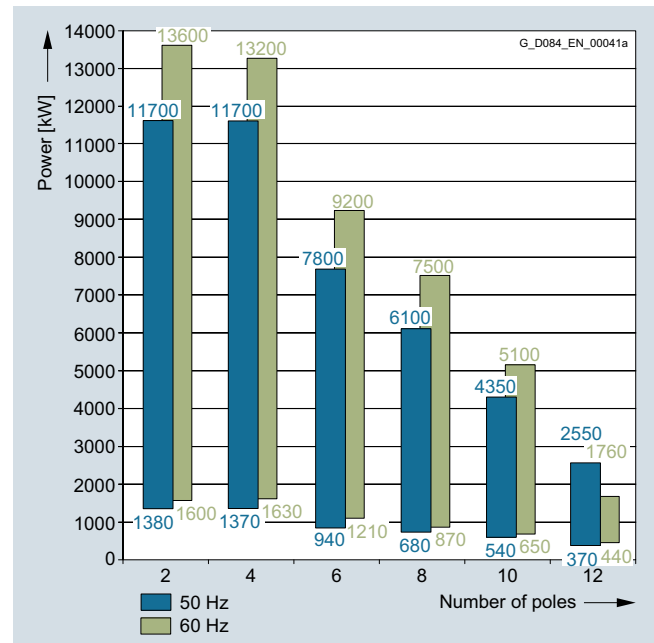
1RN6, 1SL6 (Ex nA), 1SQ6 (Ex px) series

Insulation system, thermal class 155 (F), utilized to 130 (B).

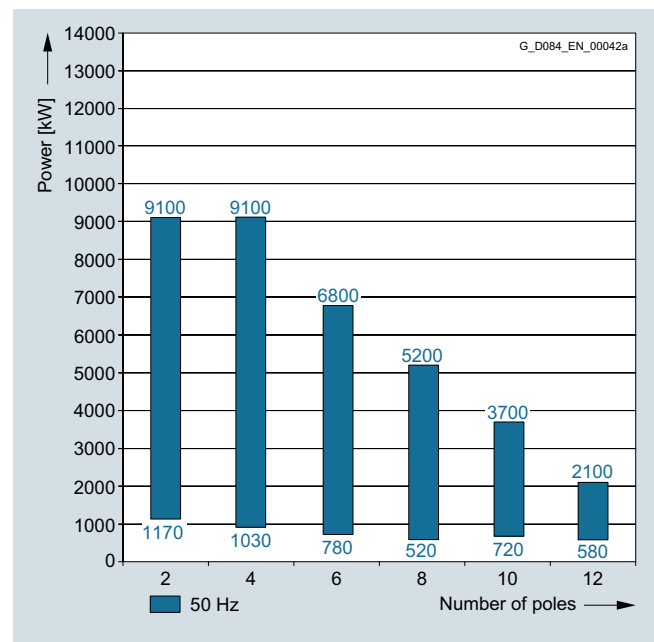
Coolant temperature up to 25 °C, installation altitude up to 1000 m.

3.3 to 6.6 kV; 50 Hz

4.0 to 6.6 kV; 60 Hz



9 to 11 kV; 50 Hz



Motors for line operation

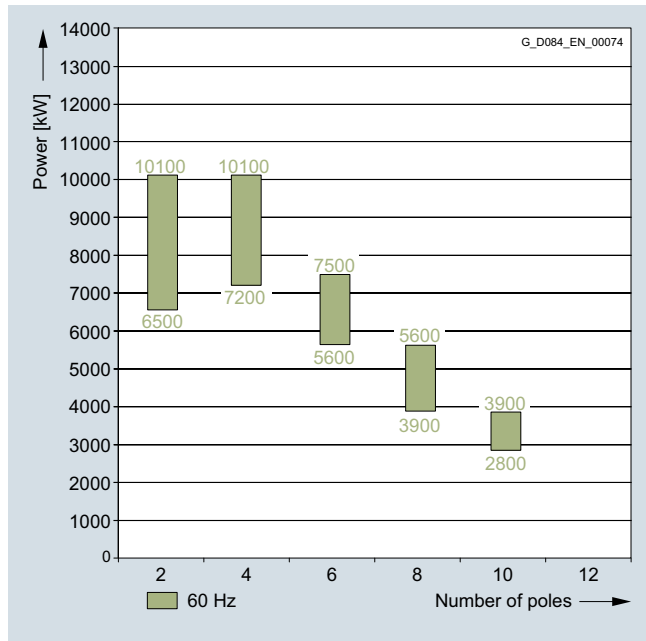
Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Technical data (continued)

Power ranges for IEC motors for line operation
(continued)

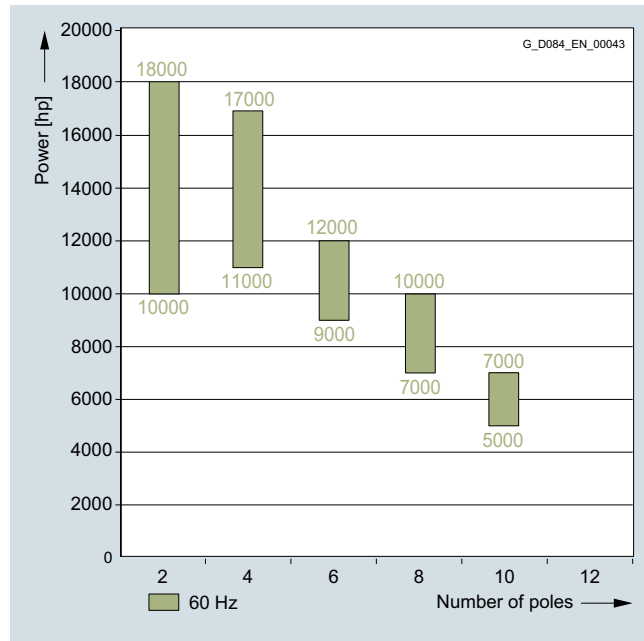
12.5 to 13.8 kV; 60 Hz



Power ranges for NEMA motors for line operation

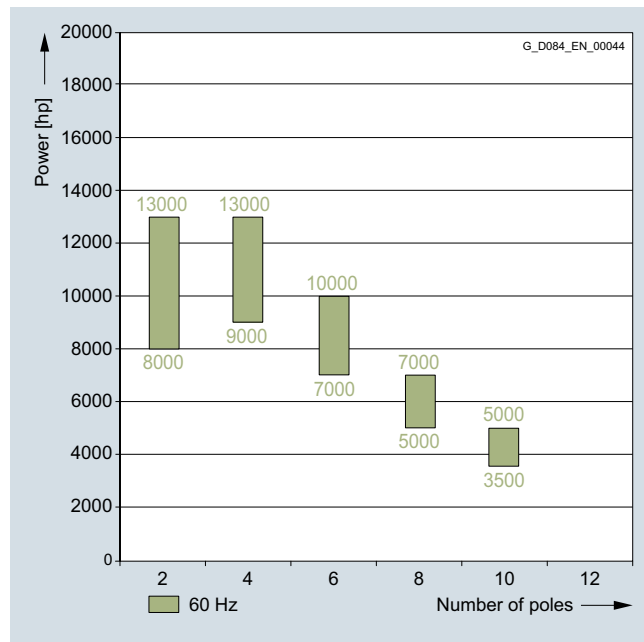
Insulation system, thermal class 155 (F), utilized to 130 (B)

4 to 6.6 kV; 60 Hz



2

12.5 to 13.8 kV; 60 Hz



Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

IEC version

The following data also apply to explosion-protected motors 1SL4/1SL6 (Ex nA) and 1SQ4/1SQ6 (Ex px).

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. 1) kgm ²	
3.3 ... 6.6 kV, 50 Hz														
2-pole														
1380	1RN6 450-2HJ	2972	156	95.9	96.3	0.89	0.90	4436	1.90	0.50	4.80	13	64	
1570	1RN6 452-2HJ	2973	174	96.1	96.6	0.90	0.91	5043	2.00	0.55	5.20	14	70	
1750	1RN6 454-2HJ	2977	192	96.3	96.7	0.91	0.91	5618	2.30	0.60	5.50	16	74	
1950	1RN6 456-2HJ	2980	215	96.5	96.9	0.91	0.91	6252	2.40	0.60	5.50	17	81	
2350	1RN6 500-2HJ	2975	260	96.6	96.9	0.90	0.89	7543	2.10	0.60	5.10	19	83	
2500	1RN6 502-2HJ	2976	275	96.5	96.9	0.90	0.90	8022	2.25	0.55	5.30	21	93	
3050	1RN6 504-2HJ	2979	330	96.9	97.2	0.92	0.91	9777	2.45	0.65	5.50	25	103	
3250	1RN6 506-2HJ	2977	350	97.0	97.3	0.92	0.92	10425	2.30	0.65	5.50	26	115	
3700	1RN6 560-2HJ	2977	410	96.8	97.1	0.90	0.90	11868	1.90	0.55	4.30	39	160	
4300	1RN6 562-2HJ	2978	470	97.0	97.3	0.91	0.91	13788	1.95	0.55	4.40	43	180	
4900	1RN6 564-2HJ	2980	530	97.2	97.5	0.92	0.92	15702	2.10	0.60	4.80	49	200	
5400	1RN6 566-2HJ	2982	580	97.3	97.5	0.92	0.92	17292	2.30	0.60	5.30	54	220	
4900	1RN4 630-2HE	2982	550	96.9	97.1	0.88	0.88	15692	2.10	0.31	4.00	75	110	
5700	1RN4 632-2HE	2983	630	97.3	97.3	0.89	0.89	18248	2.20	0.34	4.30	85	150	
6500	1RN4 634-2HE	2985	710	97.5	97.6	0.90	0.89	20796	2.50	0.41	5.00	90	190	
7500	1RN4 636-2HE	2986	820	97.7	97.8	0.90	0.89	23987	2.60	0.46	5.40	100	240	
4-pole														
1370	1RN6 450-4HJ	1483	154	95.6	96.1	0.89	0.88	8822	2.00	0.70	5.50	20	340	
1500	1RN6 452-4HJ	1485	170	95.8	96.2	0.89	0.88	9650	2.60	0.70	5.50	22	385	
1640	1RN6 454-4HJ	1486	184	96.0	96.3	0.89	0.88	10544	2.20	0.70	5.50	25	440	
1860	1RN6 456-4HJ	1487	210	96.2	96.5	0.89	0.87	11948	2.30	0.70	5.50	28	500	
2100 ²⁾	1RN6 500-4HJ	1486	230	96.6	97.0	0.91	0.90	13495	2.30	0.60	5.00	43	410	
2300 ²⁾	1RN6 502-4HJ	1487	250	96.8	97.1	0.91	0.90	14770	2.45	0.65	5.30	46	460	
2650 ²⁾	1RN6 504-4HJ	1487	290	96.9	97.2	0.91	0.90	17018	2.30	0.60	5.00	52	510	
3000 ²⁾	1RN6 506-4HJ	1488	325	96.9	97.2	0.91	0.90	19253	2.40	0.65	5.20	56	560	
3600 ²⁾	1RN6 560-4HJ	1490	390	97.0	97.3	0.91	0.90	23072	2.25	0.70	5.00	84	730	
4000 ²⁾	1RN6 562-4HJ	1490	435	97.1	97.5	0.91	0.90	25636	2.25	0.70	4.90	94	800	
4500 ²⁾	1RN6 564-4HJ	1491	490	97.3	97.6	0.91	0.91	28821	2.25	0.70	5.00	105	880	
4900 ²⁾	1RN6 566-4HJ	1492	530	97.4	97.6	0.91	0.90	31362	2.30	0.65	5.20	115	970	
5300	1RN4 630-4HE	1489	590	97.1	97.3	0.89	0.89	33993	2.00	0.54	4.60	150	780	
6000	1RN4 632-4HE	1490	670	97.3	97.4	0.89	0.89	38456	2.15	0.60	4.90	165	1050	
6600	1RN4 634-4HE	1490	720	97.4	97.6	0.90	0.90	42302	2.20	0.63	5.10	180	1200	
7100	1RN4 636-4HE	1491	780	97.6	97.6	0.90	0.89	45476	2.40	0.70	5.50	195	1100	

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Data of vertical motors (IM V1) on request.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
3.3 ... 6.6 kV, 50 Hz														
6-pole														
940	1RN6 450-6HJ	989	110	95.3	95.9	0.86	0.85	9088	2.10	0.90	5.50	26	660	
1040	1RN6 452-6HJ	990	122	95.6	96.1	0.86	0.84	10044	2.10	0.90	5.50	29	770	
1180	1RN6 454-6HJ	990	136	95.7	96.3	0.87	0.85	11394	2.20	0.95	5.50	33	870	
1330	1RN6 456-6HJ	990	156	96.0	96.5	0.86	0.84	12832	2.20	0.90	5.50	37	1040	
1700	1RN6 500-6HJ	989	200	96.1	96.6	0.85	0.85	16416	2.00	0.79	5.00	56	1280	
1920	1RN6 502-6HJ	989	225	96.2	96.7	0.86	0.85	18540	2.00	0.78	4.90	62	1420	
2150	1RN6 504-6HJ	990	250	96.3	96.7	0.86	0.85	20740	2.10	0.84	5.30	69	1560	
2350	1RN6 506-6HJ	990	270	96.5	96.8	0.87	0.85	22669	2.10	0.88	5.30	77	1760	
2750	1RN6 560-6HJ	991	315	96.6	97.0	0.87	0.87	26501	2.30	0.68	4.80	108	1640	
3100	1RN6 562-6HJ	991	350	96.7	97.1	0.88	0.87	29874	2.30	0.69	4.80	119	1820	
3450	1RN6 564-6HJ	991	390	96.8	97.2	0.88	0.88	33247	2.30	0.69	4.70	132	2000	
3750	1RN6 566-6HJ	991	425	96.9	97.3	0.88	0.88	36138	2.35	0.70	4.80	146	2250	
4200	1RN4 630-6HE	992	490	96.8	97.2	0.85	0.84	40433	2.00	0.57	4.50	190	2000	
4700	1RN4 632-6HE	993	540	97.0	97.3	0.86	0.85	45201	2.10	0.62	4.80	210	2100	
5100	1RN4 634-6HE	993	590	97.2	97.4	0.86	0.84	49048	2.25	0.69	5.20	230	2800	
5600	1RN4 636-6HE	994	640	97.3	97.4	0.86	0.84	53803	2.30	0.70	5.30	255	3300	
8-pole														
680	1RN6 450-8HJ	742	82	94.7	95.3	0.84	0.82	8758	2.10	0.70	5.50	32	730	
750	1RN6 452-8HJ	742	91	94.9	95.5	0.84	0.81	9657	2.10	0.70	5.50	36	890	
880	1RN6 454-8HJ	743	108	95.1	95.6	0.83	0.80	11314	2.10	0.75	5.50	41	1040	
970	1RN6 456-8HJ	743	116	95.3	95.7	0.84	0.81	12475	2.20	0.80	5.50	47	1300	
1250	1RN6 500-8HJ	743	152	95.7	96.0	0.83	0.80	16067	2.00	0.61	5.10	69	1420	
1400	1RN6 502-8HJ	743	170	95.8	96.1	0.83	0.81	17995	2.05	0.67	5.10	76	1560	
1550	1RN6 504-8HJ	743	188	96.0	96.3	0.83	0.80	19923	2.20	0.69	5.30	85	1740	
1700	1RN6 506-8HJ	743	205	96.1	96.4	0.83	0.81	21851	2.20	0.71	5.50	94	1920	
1950	1RN6 560-8HJ	744	230	96.5	96.8	0.84	0.82	25030	2.45	0.71	5.30	128	2700	
2200	1RN6 562-8HJ	744	260	96.6	96.9	0.84	0.82	28239	2.45	0.71	5.40	141	2950	
2400	1RN6 564-8HJ	744	285	96.7	97.0	0.84	0.81	30806	2.50	0.76	5.50	156	3300	
2600	1RA6 566-8HJ	744	310	96.8	97.1	0.84	0.82	33374	2.55	0.71	5.50	173	3650	
3200	1RN4 630-8HE	743	375	96.5	96.7	0.85	0.83	41131	1.90	0.60	4.30	255	3100	
3500	1RN4 632-8HE	743	410	96.7	96.8	0.85	0.82	44987	2.10	0.67	4.60	280	3400	
3750	1RN4 634-8HE	743	440	96.7	96.9	0.85	0.84	48200	2.00	0.65	4.60	310	3600	
4100	1RN4 636-8HE	744	485	96.9	96.9	0.84	0.81	52628	2.30	0.76	5.30	340	3800	

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements. NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives. For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
3.3 ... 6.6 kV, 50 Hz														
10-pole														
540	1RN6 450-3HJ	590	70	93.4	93.7	0.80	0.76	8741	2.00	0.80	4.60	37	1150	
600	1RN6 452-3HJ	590	76	93.7	93.9	0.81	0.76	9712	2.00	0.80	4.70	41	1350	
670	1RN6 454-3HJ	591	86	93.9	94.1	0.80	0.75	10827	2.10	0.82	4.90	46	1450	
760	1RN6 456-3HJ	591	97	94.1	94.2	0.80	0.75	12281	2.20	0.90	5.20	52	1800	
900	1RN4 500-3HE	591	112	94.4	94.7	0.82	0.80	14543	1.90	0.68	4.30	70	1400	
1000	1RN4 502-3HE	592	122	95.7	94.9	0.83	0.80	16132	1.90	0.70	4.50	80	1700	
1100	1RN4 504-3HE	592	134	94.8	95.0	0.83	0.80	17745	1.90	0.72	4.60	88	2200	
1250	1RN4 506-3HE	592	152	95.0	95.1	0.83	0.80	20165	1.90	0.75	4.70	99	2600	
1480	1RN4 560-3HE	593	184	95.1	95.4	0.81	0.77	23835	2.00	0.70	4.50	123	2700	
1700	1RN4 562-3HE	593	210	95.4	95.7	0.82	0.78	27378	2.00	0.70	4.50	141	4100	
1880	1RN4 564-3HE	593	230	95.6	95.7	0.82	0.78	30277	2.00	0.72	4.70	158	4400	
2050	1RN4 566-3HE	593	255	95.7	95.8	0.81	0.76	33014	2.10	0.78	5.00	173	5200	
2400	1RN4 630-3HE	592	285	95.8	96.4	0.84	0.83	38716	1.80	0.62	4.00	250	4700	
2650	1RN4 632-3HE	592	315	96.0	96.5	0.84	0.83	42749	1.80	0.65	4.20	280	5300	
2900	1RN4 634-3HE	593	345	96.2	96.6	0.84	0.82	46703	2.00	0.70	4.50	305	6300	
3150	1RN4 636-3HE	593	375	96.4	96.7	0.84	0.82	50729	2.00	0.73	4.60	335	7500	
12-pole														
370	1RN6 450-5HJ	491	53	92.4	92.7	0.73	0.68	7197	1.80	0.60	4.00	37	1100	
425	1RN6 452-5HJ	492	60	92.8	93.0	0.73	0.67	8249	1.80	0.63	4.20	41	1400	
475	1RN6 454-5HJ	491	66	93.1	93.3	0.74	0.69	9239	1.80	0.60	4.00	46	1600	
540	1RN6 456-5HJ	492	77	93.5	93.5	0.72	0.65	10482	2.00	0.68	4.40	52	2000	
680	1RN4 500-5HE	491	94	93.9	94.0	0.74	0.69	13226	1.90	0.62	4.10	70	2350	
760	1RN4 502-5HE	491	102	94.1	94.2	0.76	0.71	14782	1.80	0.60	4.00	79	2600	
840	1RN4 504-5HE	491	112	94.3	94.4	0.76	0.71	16338	1.90	0.62	4.10	87	3100	
930	1RN4 506-5HE	492	128	94.5	94.6	0.74	0.69	18052	1.90	0.62	4.30	98	3700	
1100	1RN4 560-5HE	493	150	94.5	94.8	0.75	0.71	21308	1.80	0.57	3.90	123	3600	
1230	1RN4 562-5HE	493	168	94.9	95.0	0.74	0.68	23827	1.80	0.60	4.00	141	4100	
1350	1RN4 564-5HE	494	184	95.0	95.1	0.74	0.68	26098	2.00	0.63	4.30	158	4700	
1470	1RN4 566-5HE	494	198	95.1	95.2	0.75	0.69	28418	2.00	0.65	4.30	173	5200	
1900	1RN4 630-5HE	493	245	95.4	95.8	0.79	0.76	36805	1.90	0.70	4.30	250	5500	
2150	1RN4 632-5HE	493	270	95.6	96.0	0.80	0.76	41648	1.90	0.71	4.30	275	7000	
2350	1RN4 634-5HE	493	295	95.8	96.3	0.80	0.77	45522	1.90	0.72	4.40	305	8300	
2550	1RN4 636-5HE	493	320	95.9	96.4	0.80	0.77	49397	2.00	0.74	4.50	335	9800	

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements. NEMA version on request.

Higher pole numbers are available on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives. For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

The following data also apply to explosion-protected motors 1SL4/1SL6 (Ex nA) and 1SQ4/1SQ6 (Ex px).

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current I _{rated} at 6 kV A	Efficiency		Power factor		Torque Nm	Break- down torque T _B / T _{rated} [-]	Locked- rotor torque T _{LR} / T _{rated} [-]	Locked- rotor current I _{LR} / I _{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ					Motor kgm ²	Exter- nal, max. 1) kgm ²
3.3 ... 6.6 kV, 50 Hz													
2-pole													
6700 ²⁾	1RN6 710-2HJ	2989	740	97.0	96.8	0.90	0.90	21414	2.00	0.43	4.60	132	108
8700 ²⁾	1RN6 712-2HJ	2987	960	97.2	97.1	0.90	0.91	27818	1.80	0.42	4.30	147	158
10100 ²⁾	1RN6 714-2HJ	2988	1100	97.4	97.2	0.91	0.91	32286	2.00	0.46	4.70	162	158
11700 ²⁾	1RN6 716-2HJ	2988	1260	97.5	97.3	0.91	0.91	37396	2.00	0.49	4.90	179	171
4-pole													
7600 ²⁾	1RN6 710-4HJ	1493	840	97.7	97.9	0.89	0.87	48609	2.30	0.60	5.50	273	627
8900 ²⁾	1RN6 712-4HJ	1493	970	97.8	98.0	0.90	0.89	56954	2.10	0.59	5.50	300	700
10100 ²⁾	1RN6 714-4HJ	1493	1100	97.8	98.0	0.91	0.90	64636	2.10	0.62	5.50	337	803
11700 ²⁾	1RN6 716-4HJ	1492	1260	97.9	98.0	0.91	0.91	74886	2.10	0.63	5.50	369	881
6-pole													
5700	1RN6 710-6HJ	994	660	97.3	97.6	0.86	0.84	54792	2.00	0.68	5.10	330	1720
6400	1RN6 712-6HJ	994	730	97.4	97.6	0.87	0.85	61526	2.00	0.72	5.20	367	1933
7100	1RN6 714-6HJ	994	810	97.5	97.7	0.87	0.85	68225	2.10	0.79	5.50	419	2361
7800	1RN6 716-6HJ	994	880	97.5	97.7	0.87	0.85	74930	2.20	0.82	5.50	468	3032
8-pole													
4550	1RN6 710-8HJ	745	540	96.9	97.3	0.84	0.82	58354	1.90	0.76	5.00	415	4735
5000	1RN6 712-8HJ	745	590	97.1	97.4	0.84	0.82	64111	1.90	0.79	5.20	465	5335
5500	1RN6 714-8HJ	745	640	97.1	97.4	0.85	0.83	70512	1.90	0.80	5.20	531	6469
6100	1RN6 716-8HJ	745	710	97.3	97.5	0.85	0.83	78174	2.00	0.85	5.50	597	7503
10-pole													
3050	1RN6 710-3HJ	596	380	96.4	96.9	0.80	0.77	48916	2.10	0.72	5.00	415	8485
3450	1RN6 712-3HJ	596	430	96.7	97.0	0.80	0.77	55318	2.10	0.73	5.10	465	10335
3850	1RN6 714-3HJ	596	480	96.8	97.1	0.80	0.77	61707	2.20	0.78	5.40	531	11469
4350	1RN6 716-3HJ	596	530	96.6	97.2	0.81	0.77	69716	2.20	0.80	5.50	598	13202

Voltage code:

3.3 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
6
7
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ V_{rated} < 6 kV on request.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
9 ... 11 kV, 50 Hz														
2-pole														
1170	1RN6 450-2HJ ■ 0	2976	79	95.6	96.1	0.90	0.90	3755	2.10	0.55	5.50	13	31	
1330	1RN6 452-2HJ ■ 0	2978	88	95.9	96.3	0.91	0.91	4268	2.30	0.60	5.50	14	33	
1450	1RN6 454-2HJ ■ 0	2980	96	96.1	96.4	0.91	0.91	4649	2.30	0.55	5.50	15	36	
1630	1RN6 456-2HJ ■ 0	2981	106	96.3	96.7	0.92	0.92	5224	2.40	0.55	5.50	17	39	
2050	1RN6 500-2HJ ■ 0	2979	136	96.3	96.6	0.90	0.89	6571	2.35	0.65	5.50	19	37	
2250	1RN6 502-2HJ ■ 0	2978	148	96.5	96.8	0.91	0.90	7215	2.30	0.65	5.50	21	41	
2550	1RN6 504-2HJ ■ 0	2979	166	96.6	97.0	0.92	0.92	8174	2.40	0.55	5.50	25	45	
2650	1RN6 506-2HJ ■ 0	2980	170	96.8	97.1	0.93	0.92	8492	2.40	0.65	5.50	26	51	
3300	1RN6 560-2HJ ■ 0	2979	220	96.7	97.0	0.90	0.90	10578	1.90	0.55	4.40	39	115	
3700	1RN6 562-2HJ ■ 0	2983	240	96.9	97.1	0.91	0.90	11845	2.30	0.65	5.30	43	130	
4300	1RN6 564-2HJ ■ 0	2982	280	97.0	97.3	0.92	0.92	13770	2.20	0.60	5.10	49	145	
5100	1RN6 566-2HJ ■ 0	2984	330	97.3	97.4	0.92	0.91	16321	2.40	0.60	5.50	54	160	
4300	1RN4 630-2HE ■ 0	2984	290	96.8	96.9	0.89	0.88	13762	2.30	0.34	4.50	75	75	
5000	1RN4 632-2HE ■ 0	2985	330	97.3	97.3	0.90	0.89	15997	2.50	0.39	4.90	85	100	
5700	1RN4 634-2HE ■ 0	2986	375	97.4	97.4	0.90	0.89	18230	2.60	0.42	5.20	90	110	
6700	1RN4 636-2HE ■ 0	2987	440	97.6	97.7	0.90	0.89	21421	2.60	0.45	5.50	100	160	
4-pole														
1030	1RN6 450-4HJ ■ ■	1485	69	95.2	95.7	0.90	0.89	6627	2.10	0.75	5.50	20	170	
1190	1RN6 452-4HJ ■ ■	1484	80	95.4	95.9	0.90	0.90	7658	2.10	0.70	5.50	22	194	
1340	1RN6 454-4HJ ■ ■	1486	90	95.6	96.1	0.90	0.90	8619	2.10	0.70	5.50	25	225	
1520	1RN6 456-4HJ ■ ■	1487	102	95.9	96.2	0.90	0.89	9764	2.20	0.70	5.50	28	260	
1900 ²⁾	1RN6 500-4HJ ■ 0	1487	124	96.4	96.8	0.92	0.91	12202	2.40	0.70	5.30	43	200	
2100 ²⁾	1RN6 502-4HJ ■ 0	1487	136	96.5	96.9	0.92	0.91	13486	2.40	0.65	5.30	46	220	
2350 ²⁾	1RN6 504-4HJ ■ 0	1488	154	96.6	97.0	0.91	0.91	15081	2.40	0.60	5.30	52	250	
2550 ²⁾	1RN6 506-4HJ ■ 0	1488	166	96.7	97.1	0.92	0.91	16365	2.40	0.60	5.30	56	280	
3000 ²⁾	1RN6 560-4HJ ■ 0	1491	196	96.9	97.2	0.91	0.90	19214	2.30	0.70	5.20	84	420	
3400 ²⁾	1RN6 562-4HJ ■ 0	1491	220	97.0	97.3	0.92	0.91	21776	2.30	0.70	5.20	94	460	
3800 ²⁾	1RN6 564-4HJ ■ 0	1492	250	97.2	97.4	0.91	0.90	24321	2.35	0.60	5.30	104	510	
4200 ²⁾	1RN6 566-4HJ ■ 0	1493	275	97.2	97.4	0.91	0.90	26863	2.35	0.60	5.40	115	560	
4500	1RN4 630-4HE ■ ■	1490	300	96.9	97.1	0.89	0.89	28842	2.10	0.57	4.90	150	550	
5000	1RN4 632-4HE ■ ■	1490	330	97.1	97.2	0.90	0.90	32047	2.15	0.59	5.00	165	650	
5600	1RN4 634-4HE ■ ■	1490	370	97.3	97.4	0.90	0.90	35893	2.20	0.63	5.30	180	750	
6200	1RN4 636-4HE ■ ■	1491	410	97.4	97.5	0.90	0.90	39712	2.40	0.68	5.50	195	780	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Data of vertical motors (IM V1) on request.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data (continued)

Rated power kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated}	Locked-rotor torque T_{LR}/T_{rated}	Locked-rotor current I_{LR}/I_{rated}	Moment of inertia	
			I_{rated} at 10 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. ¹⁾ kgm ²	
9 ... 11 kV, 50 Hz														
6-pole														
780	1RN6 450-6HJ	990	55	95.0	95.5	0.86	0.83	7528	2.10	0.90	5.50	26	340	
850	1RN6 452-6HJ	990	59	95.1	95.7	0.87	0.85	8205	2.20	0.95	5.50	29	400	
930	1RN6 454-6HJ	990	65	95.3	95.9	0.87	0.86	8977	2.10	0.95	5.50	32	460	
1080	1RN6 456-6HJ	992	75	95.6	96.1	0.87	0.85	10403	2.20	0.83	5.50	37	560	
1350	1RN6 500-6HJ	990	95	95.9	96.4	0.86	0.86	13023	2.10	0.86	5.20	56	830	
1520	1RN6 502-6HJ	990	106	96.0	96.5	0.87	0.86	14663	2.05	0.85	5.30	62	910	
1700	1RN6 504-6HJ	991	118	96.1	96.6	0.87	0.86	16382	2.05	0.86	5.50	69	1020	
1900	1RN6 506-6HJ	991	132	96.2	96.7	0.87	0.86	18310	2.10	0.81	5.30	77	1140	
2400	1RN6 560-6HJ	992	164	96.4	96.8	0.88	0.87	23105	2.45	0.73	5.30	108	1060	
2650	1RN6 562-6HJ	993	182	96.6	96.9	0.87	0.86	25486	2.60	0.73	5.50	119	1160	
2950	1RN6 564-6HJ	992	200	96.7	97.0	0.88	0.87	28400	2.55	0.72	5.30	132	1280	
3200	1RN6 566-6HJ	993	215	96.8	97.1	0.88	0.87	30775	2.75	0.83	5.50	146	1420	
3600	1RN4 630-6HE	993	250	96.7	96.9	0.86	0.84	34622	2.20	0.63	5.00	190	1200	
4000	1RN4 632-6HE	993	275	96.8	97.0	0.87	0.09	38469	2.10	0.64	5.00	210	1500	
4400	1RN4 634-6HE	993	300	97.0	97.1	0.87	0.86	42316	2.20	0.66	5.20	230	1750	
4800	1RN4 636-6HE	994	330	97.1	97.2	0.87	0.86	46117	2.30	0.71	5.50	255	2000	
8-pole														
520	1RN6 450-8HJ	742	37.5	94.0	94.6	0.85	0.82	6688	2.10	0.75	5.50	32	215	
560	1RN6 452-8HJ	742	40.5	94.1	94.9	0.85	0.84	7206	2.10	0.65	5.50	36	290	
580	1RN6 454-8HJ	742	41.5	94.1	94.9	0.86	0.83	7463	2.20	0.75	5.50	41	365	
750	1RN6 456-8HJ	743	55	94.7	95.1	0.83	0.79	9649	2.30	0.80	5.50	47	485	
1000	1RN6 500-8HJ	744	72	95.3	95.7	0.84	0.81	12836	2.10	0.67	5.40	69	830	
1160	1RN6 502-8HJ	744	83	95.5	95.9	0.84	0.81	14890	2.15	0.66	5.40	76	910	
1280	1RN6 504-8HJ	744	92	95.6	96.0	0.84	0.81	16430	2.20	0.68	5.50	85	1020	
1400	1RN6 506-8HJ	744	100	95.8	96.1	0.84	0.81	17970	2.15	0.66	5.50	94	1120	
1650	1RN6 560-8HJ	744	116	96.2	96.6	0.85	0.83	21179	2.40	0.69	5.40	128	1540	
1900	1RN6 562-8HJ	744	134	96.2	96.7	0.85	0.83	24388	2.35	0.69	5.40	141	1700	
2050	1RN6 564-8HJ	744	144	96.4	96.8	0.85	0.83	26314	2.45	0.69	5.50	156	1880	
2250	1RN6 566-8HJ	744	158	96.5	96.8	0.85	0.83	28881	2.50	0.70	5.50	173	2100	
2600	1RN4 630-8HE	744	186	96.3	96.4	0.84	0.81	33374	2.40	0.75	5.20	255	1800	
2900	1RN4 632-8HE	744	205	96.4	96.5	0.84	0.81	37224	2.30	0.75	5.20	280	2000	
3200	1RN4 634-8HE	744	225	96.6	96.7	0.85	0.82	41075	2.30	0.74	5.10	310	2200	
3500	1RN4 636-8HE	744	245	96.7	96.8	0.86	0.83	44926	2.30	0.75	5.20	340	2600	

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current I _{rated} at 10 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T _B / T _{rated} [-]	Locked-rotor torque T _{LR} / T _{rated} [-]	Locked-rotor current I _{LR} / I _{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ					Motor kgm ²	External, max. 1) kgm ²
9 ... 11 kV, 50 Hz													
10-pole													
720	1RN4 500-3HE	593	55	93.8	93.9	0.80	0.76	11595	2.20	0.82	5.20	70	900
830	1RN4 502-3HE	594	64	94.2	94.2	0.79	0.74	13344	2.20	0.82	5.30	80	1100
920	1RN4 504-3HE	594	71	94.3	94.3	0.79	0.74	14791	2.20	0.82	5.30	88	1200
1020	1RN4 506-3HE	594	79	94.5	94.5	0.79	0.75	16399	2.20	0.80	5.30	99	1400
1250	1RN4 560-3HE	593	94	94.8	94.9	0.81	0.77	20131	2.10	0.72	4.70	123	1650
1420	1RN4 562-3HE	593	106	94.9	95.2	0.82	0.78	22868	2.00	0.70	4.70	141	2050
1570	1RN4 564-3HE	593	116	95.1	95.4	0.82	0.78	25284	2.00	0.72	5.00	158	2500
1700	1RN4 566-3HE	595	128	95.3	95.4	0.80	0.75	27286	2.40	0.85	5.50	173	2700
2100	1RN4 630-3HE	593	152	95.8	96.1	0.83	0.80	33820	2.10	0.73	4.70	250	2500
2350	1RN4 632-3HE	594	172	96.0	96.2	0.82	0.78	37782	2.30	0.82	5.10	280	2900
2550	1RN4 634-3HE	594	184	96.0	96.3	0.83	0.79	40997	2.30	0.80	5.10	305	3000
2750	1RN4 636-3HE	594	196	96.2	96.5	0.84	0.80	44213	2.30	0.83	5.20	335	3500
12-pole													
580	1RN4 502-5HE	493	48.0	93.3	93.3	0.74	0.68	11235	2.00	0.70	4.70	79	1350
640	1RN4 504-5HE	493	53	93.5	93.6	0.74	0.68	12398	2.00	0.70	4.80	87	1500
700	1RN4 506-5HE	493	58	93.6	93.7	0.75	0.69	13560	2.10	0.70	4.80	98	1600
850	1RN4 560-5HE	494	69	93.8	94.1	0.76	0.71	16432	1.85	0.60	4.20	123	1750
1000	1RN4 562-5HE	494	82	94.4	94.6	0.75	0.69	19332	1.95	0.65	4.50	141	2200
1100	1RN4 564-5HE	494	88	94.5	94.7	0.76	0.71	21265	1.95	0.63	4.40	158	2500
1200	1RN4 566-5HE	494	96	94.8	94.8	0.76	0.71	23198	1.95	0.63	4.40	173	2900
1650	1RN4 630-5HE	494	126	95.1	95.5	0.79	0.74	31898	2.10	0.75	4.60	250	3000
1800	1RN4 632-5HE	494	142	95.4	95.7	0.77	0.71	34798	2.40	0.88	5.20	275	3500
1950	1RN4 634-5HE	494	152	95.5	95.7	0.78	0.73	37697	2.30	0.85	5.10	305	3400
2100	1RN4 636-5HE	495	162	95.7	95.9	0.78	0.73	40515	2.35	0.88	5.30	335	4000

Voltage code:

10 kV, 50 Hz
Other voltage

8

9

Type of construction:

IM B3
IM V1 (without canopy)

0

8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current I _{rated} at 10 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T _B / T _{rated} [-]	Locked-rotor torque T _{LR} / T _{rated} [-]	Locked-rotor current I _{LR} / I _{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ					Motor kgm ²	External, max. 1) kgm ²
9 ... 11 kV, 50 Hz													
2-pole													
6400	1RN6 710-2HJ ■ 0	2989	425	96.9	96.8	0.90	0.89	20451	2.10	0.45	4.80	132	138
7500	1RN6 712-2HJ ■ 0	2990	495	97.0	96.9	0.90	0.89	23961	2.20	0.48	5.10	147	163
8200	1RN6 714-2HJ ■ 0	2990	540	97.2	97.0	0.91	0.91	26197	2.20	0.51	5.30	162	188
9100	1RN6 716-2HJ ■ 0	2990	590	97.2	97.1	0.92	0.92	29072	2.30	0.53	5.40	179	221
4-pole													
6700	1RN6 710-4HJ ■ 0	1493	440	97.5	97.7	0.90	0.88	42853	2.30	0.61	5.50	273	697
7500	1RN6 712-4HJ ■ 0	1493	485	97.6	97.8	0.91	0.90	47979	2.20	0.59	5.50	300	800
8200	1RN6 714-4HJ ■ 0	1493	530	97.7	97.8	0.91	0.90	52456	2.20	0.61	5.50	337	933
9100	1RN6 716-4HJ ■ 0	1493	590	97.7	97.8	0.91	0.90	58205	2.20	0.62	5.50	369	1031
6-pole													
5000	1RN6 710-6HJ ■ ■	994	345	97.2	97.4	0.86	0.85	48051	2.10	0.69	5.30	330	2520
5500	1RN6 712-6HJ ■ ■	994	375	97.3	97.5	0.87	0.85	52847	2.10	0.74	5.50	367	2133
6100	1RN6 714-6HJ ■ ■	994	415	97.4	97.6	0.87	0.85	58591	2.20	0.78	5.50	419	2561
6800	1RN6 716-6HJ ■ ■	995	465	97.4	97.6	0.87	0.86	65303	2.30	0.82	5.50	468	2982
8-pole													
3850	1RN6 710-8HJ ■ ■	745	270	96.7	97.2	0.85	0.83	49372	1.90	0.71	4.90	415	5185
4200	1RN6 712-8HJ ■ ■	745	295	96.8	97.2	0.85	0.83	53835	2.00	0.78	5.30	465	5935
4650	1RN6 714-8HJ ■ ■	746	325	97.0	97.3	0.85	0.82	59562	2.20	0.93	5.50	531	7019
5200	1RN6 716-8HJ ■ ■	746	365	97.1	97.3	0.85	0.82	66595	2.20	0.93	5.50	597	8203
10-pole													
2800	1RN6 710-3HJ ■ ■	596	210	96.4	96.8	0.80	0.77	44889	2.10	0.72	5.20	415	8485
3100	1RN6 712-3HJ ■ ■	596	230	96.6	96.9	0.81	0.78	49700	2.10	0.71	5.10	465	10335
3400	1RN6 714-3HJ ■ ■	596	250	96.7	97.0	0.81	0.77	54475	2.30	0.78	5.50	531	11369
3700	1RN6 716-3HJ ■ ■	596	275	96.7	97.0	0.81	0.77	59266	2.30	0.82	5.50	598	12702

Voltage code:

10 kV, 50 Hz
Other voltage

8
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

The following data also apply to explosion-protected motors 1SL4/1SL6 (Ex nA) and 1SQ4/1SQ6 (Ex px).

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current A	Efficiency		Power factor		Torque Nm	Break- down torque $T_B/$ T_{rated}	Locked- rotor torque $T_{LR}/$ T_{rated}	Locked- rotor current $I_{LR}/$ I_{rated}	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
2-pole													
1600	1RN6 450-2HJ ■ 0	3572	162	96.0	96.2	0.90	0.90	4279	2.00	0.55	5.10	13	34
1850	1RN6 452-2HJ ■ 0	3573	184	96.2	96.5	0.91	0.91	4946	2.10	0.55	5.40	14	40
2060	1RN6 454-2HJ ■ 0	3577	205	96.4	96.6	0.91	0.91	5504	2.20	0.55	5.50	16	45
2300	1RN6 456-2HJ ■ 0	3580	230	96.6	96.8	0.91	0.91	6137	2.40	0.55	5.50	17	52
2800	1RN6 500-2HJ ■ 0	3575	280	96.6	96.9	0.90	0.90	7479	2.10	0.50	5.10	20	64
3000	1RN6 502-2HJ ■ 0	3577	300	96.8	96.9	0.91	0.90	8009	2.20	0.50	5.40	22	72
3650	1RN6 504-2HJ ■ 0	3580	355	97.1	97.2	0.92	0.91	9736	2.50	0.55	5.50	26	80
3900	1RN6 506-2HJ ■ 0	3580	375	97.2	97.3	0.93	0.92	10403	2.50	0.70	5.50	27	88
4400	1RN6 560-2HJ ■ 0	3578	440	96.8	97.0	0.90	0.90	11743	1.90	0.50	4.40	39	145
5000	1RN6 562-2HJ ■ 0	3579	495	97.0	97.2	0.91	0.91	13341	2.10	0.55	4.80	43	160
5700	1RN6 564-2HJ ■ 0	3580	560	97.2	97.3	0.92	0.92	15204	2.10	0.60	4.90	49	180
6500	1RN6 566-2HJ ■ 0	3582	630	97.4	97.4	0.92	0.92	17328	2.30	0.60	5.40	54	200
5700	1RN4 630-2HE ■ 0	3583	580	97.0	96.9	0.88	0.87	15193	2.10	0.30	4.20	75	95
6500	1RN4 632-2HE ■ 0	3584	660	97.2	97.2	0.89	0.89	17320	2.30	0.34	4.60	85	140
7500	1RN4 634-2HE ■ 0	3585	750	97.5	97.5	0.90	0.89	19979	2.60	0.41	5.30	90	150
8200	1RN4 636-2HE ■ 0	3585	820	97.6	97.6	0.90	0.90	21844	2.60	0.42	5.40	100	110
4-pole													
1630	1RN6 450-4HJ ■ ■	1783	168	95.8	96.1	0.89	0.88	8733	2.10	0.70	5.50	20	178
1750	1RN6 452-4HJ ■ ■	1785	180	95.9	96.1	0.89	0.88	9362	2.20	0.70	5.50	22	225
2070	1RN6 454-4HJ ■ ■	1785	210	96.1	96.3	0.90	0.89	11078	2.20	0.70	5.50	25	285
2310	1RN6 456-4HJ ■ ■	1787	235	96.3	96.4	0.89	0.88	12350	2.20	0.70	5.50	28	355
2500 ²⁾	1RN6 500-4HJ ■ 0	1787	245	96.9	97.1	0.92	0.90	13359	2.45	0.65	5.40	43	250
2750 ²⁾	1RN6 502-4HJ ■ 0	1788	270	96.9	97.1	0.92	0.90	14687	2.55	0.70	5.60	46	280
3200 ²⁾	1RN6 504-4HJ ■ 0	1788	315	97.0	97.2	0.92	0.90	17090	2.35	0.60	5.20	52	310
3600 ²⁾	1RN6 506-4HJ ■ 0	1787	355	97.1	97.4	0.92	0.91	19238	2.40	0.65	5.20	56	350
4300 ²⁾	1RN6 560-4HJ ■ 0	1791	425	97.2	97.3	0.91	0.90	22927	2.30	0.70	5.10	84	550
4800 ²⁾	1RN6 562-4HJ ■ 0	1791	475	97.3	97.5	0.91	0.90	25593	2.30	0.65	5.10	94	610
5400 ²⁾	1RN6 564-4HJ ■ 0	1791	530	97.4	97.5	0.91	0.90	28792	2.25	0.60	5.10	105	670
5600 ²⁾	1RN6 566-4HJ ■ 0	1792	550	97.5	97.6	0.91	0.90	29842	2.30	0.60	5.20	115	740
6500	1RN4 630-4HE ■ 0	1789	660	97.2	97.3	0.88	0.88	34698	2.10	0.52	4.80	150	600
7300	1RN4 632-4HE ■ 0	1789	740	97.3	97.5	0.89	0.89	38969	2.10	0.54	4.80	165	650
8000	1RN4 634-4HE ■ 0	1790	810	97.5	97.6	0.89	0.89	42682	2.20	0.59	5.20	180	680
8600	1RN4 636-4HE ■ 0	1791	870	97.7	97.7	0.89	0.88	45857	2.40	0.61	5.50	195	800

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ Data of vertical motors (IM V1) on request.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current I _{rated} at 6.6 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T _B / T _{rated} [-]	Locked-rotor torque T _{LR} / T _{rated} [-]	Locked-rotor current I _{LR} / I _{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ					Motor kgm ²	External, max. 1) kgm ²
4 ... 6.6 kV, 60 Hz													
6-pole													
1210	1RN6 450-6HJ	1188	128	95.7	96.2	0.86	0.85	9734	1.90	0.80	5.50	26	550
1350	1RN6 452-6HJ	1188	144	95.9	96.3	0.86	0.85	10858	2.00	0.75	5.50	29	610
1480	1RN6 454-6HJ	1189	156	96.0	96.5	0.86	0.85	11894	2.00	0.85	5.50	33	660
1620	1RN6 456-6HJ	1190	170	96.3	96.6	0.87	0.85	13006	2.20	0.95	5.50	38	730
2050	1RN6 500-6HJ	1190	220	96.3	96.7	0.85	0.85	16452	2.00	0.79	5.10	56	970
2300	1RN6 502-6HJ	1190	240	96.5	96.8	0.86	0.85	18458	2.00	0.81	5.10	62	1060
2600	1RN6 504-6HJ	1190	275	96.6	96.9	0.86	0.85	20866	2.00	0.75	5.20	69	1200
2850	1RN6 506-6HJ	1190	295	96.7	97.0	0.87	0.86	22872	2.05	0.81	5.20	77	1320
3300	1RN6 560-6HJ	1191	345	96.8	97.1	0.87	0.87	26461	2.35	0.65	4.90	108	1380
3750	1RN6 562-6HJ	1191	385	96.9	97.1	0.88	0.87	30069	2.35	0.66	4.90	119	1520
4150	1RN6 564-6HJ	1192	430	97.0	97.2	0.87	0.87	33249	2.50	0.66	5.20	132	1680
4500	1RN6 566-6HJ	1192	460	97.2	97.3	0.88	0.87	36053	2.55	0.72	5.30	146	1860
5100	1RN4 630-6HE	1192	530	97.1	97.2	0.86	0.85	40860	1.90	0.51	4.30	190	1700
5700	1RN4 632-6HE	1193	600	97.2	97.2	0.85	0.84	45629	2.00	0.56	4.70	210	2100
6200	1RN4 634-6HE	1193	650	97.3	97.3	0.86	0.85	49631	2.10	0.61	4.90	230	2000
6700	1RN4 636-6HE	1193	700	97.4	97.4	0.86	0.84	53634	2.30	0.64	5.20	255	2600
8-pole													
870	1RN6 450-8HJ	890	95	95.1	95.6	0.84	0.82	9333	1.80	0.60	5.30	32	475
960	1RN6 452-8HJ	892	106	95.2	95.6	0.84	0.81	10285	1.90	0.65	5.40	36	570
1050	1RN6 454-8HJ	892	114	95.3	95.7	0.84	0.82	11254	2.00	0.65	5.50	41	670
1180	1RN6 456-8HJ	892	128	95.6	95.9	0.85	0.83	12637	1.90	0.65	5.50	47	820
1500	1RN6 500-8HJ	893	166	95.9	96.1	0.82	0.78	16041	2.10	0.63	5.40	69	1080
1700	1RN6 502-8HJ	893	186	96.0	96.3	0.83	0.81	18180	2.00	0.61	5.00	76	1200
1860	1RN6 504-8HJ	893	200	96.2	96.4	0.84	0.82	19891	2.05	0.60	5.10	85	1340
2050	1RN6 506-8HJ	893	220	96.3	96.4	0.84	0.81	21923	2.05	0.66	5.40	94	1480
2350	1RN6 560-8HJ	893	255	96.8	97.0	0.84	0.82	25132	2.30	0.58	5.30	128	1960
2700	1RN6 562-8HJ	893	290	96.8	97.1	0.84	0.82	28875	2.35	0.60	5.20	141	2150
2900	1RN6 564-8HJ	894	310	96.8	97.0	0.84	0.82	30979	2.50	0.66	5.50	156	2400
3100	1RN6 566-8HJ	894	335	96.9	97.2	0.84	0.82	33115	2.30	0.63	5.50	173	2650

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.
NEMA version on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives.
For ordering, please note the 10th and 11th position of the article number code.

1) Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on Page 2/2.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current		Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
			I_{rated} at 6.6 kV A	4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ	Motor kgm ²					External, max. 1) kgm ²	
4 ... 6.6 kV, 60 Hz														
10-pole														
650	1RN6 450-3HJ	710	74	93.7	94.0	0.82	0.78	8743	1.90	0.72	4.50	37	650	
720	1RN6 452-3HJ	710	83	94.1	94.3	0.81	0.77	9685	2.00	0.75	4.70	41	850	
800	1RN6 454-3HJ	711	92	94.3	94.4	0.81	0.76	10745	2.10	0.80	4.90	46	900	
910	1RN6 456-3HJ	711	104	94.5	94.6	0.81	0.77	12223	2.10	0.80	5.00	52	1100	
1080	1RN4 500-3HE	711	122	94.8	95.0	0.82	0.80	14506	1.80	0.65	4.40	70	1200	
1200	1RN4 502-3HE	712	134	95.2	95.2	0.82	0.80	16096	1.90	0.68	4.70	80	1500	
1320	1RN4 504-3HE	712	146	95.1	95.2	0.83	0.80	17705	1.90	0.70	4.70	88	1450	
1500	1RN4 506-3HE	712	166	95.4	95.5	0.83	0.79	20119	2.00	0.72	4.90	99	1900	
1780	1RN4 560-3HE	713	205	95.5	95.6	0.80	0.76	23842	2.00	0.70	4.60	123	2100	
2040	1RN4 562-3HE	713	235	95.8	95.8	0.80	0.76	27324	2.00	0.70	4.80	141	2600	
2200	1RN4 564-3HE	713	245	95.9	95.8	0.82	0.79	29467	2.00	0.68	4.60	158	2800	
2400	1RN4 566-3HE	713	270	96.0	96.0	0.81	0.77	32146	2.10	0.75	5.00	173	3300	
12-pole														
440	1RN6 450-5HJ	591	56	92.9	93.1	0.74	0.71	7110	1.80	0.56	4.00	37	630	
510	1RN6 452-5HJ	591	65	93.3	93.3	0.73	0.68	8241	1.80	0.60	4.20	41	850	
570	1RN6 454-5HJ	592	73	93.9	93.9	0.73	0.68	9195	1.80	0.60	4.20	46	1150	
650	1RN6 456-5HJ	592	82	94.0	93.9	0.74	0.68	10486	1.90	0.60	4.30	52	1300	
820	1RN4 500-5HE	592	102	94.4	94.3	0.74	0.68	13228	2.00	0.62	4.50	70	1650	
920	1RN4 502-5HE	592	114	94.6	94.6	0.75	0.70	14841	1.90	0.62	4.40	79	2000	
1020	1RN4 504-5HE	592	128	94.8	94.7	0.74	0.68	16454	2.00	0.65	4.70	87	2400	
1120	1RN4 506-5HE	592	136	94.8	94.8	0.76	0.71	18068	1.90	0.60	4.40	98	2200	
1300	1RN4 560-5HE	593	160	95.0	95.1	0.75	0.70	20936	1.80	0.53	3.90	123	2050	
1470	1RN4 562-5HE	593	182	95.2	95.3	0.74	0.69	23674	1.80	0.55	4.00	141	2500	
1620	1RN4 564-5HE	594	205	95.4	95.4	0.73	0.67	26045	2.00	0.63	4.30	158	3500	
1760	1RN4 566-5HE	594	220	95.5	95.5	0.73	0.68	28296	2.00	0.63	4.40	173	3900	

Voltage code:

4 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
1
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements. NEMA version on request.

Higher pole numbers are available on request.

Electrical data is also valid for operation with SINAMICS PERFECT HARMONY drives. For ordering, please note the 10th and 11th position of the article number code.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

The following data also apply to explosion-protected motors 1SL4/1SL6 (Ex nA) and 1SQ4/1SQ6 (Ex px).

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current A	Efficiency		Power factor		Torque Nm	Break- down torque T_B/T_{rated} [-]	Locked- rotor torque T_{LR}/T_{rated} [-]	Locked- rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ					Motor kgm ²	External, max. 1) kgm ²
4 ... 6.6 kV, 60 Hz													
2-pole													
7600 ²⁾	1RN6 710-2HJ	3589	760	96.8	96.6	0.90	0.90	20229	2.00	0.40	4.60	132	48
9700 ²⁾	1RN6 712-2HJ	3589	970	97.1	96.9	0.90	0.89	25813	2.20	0.47	5.20	147	43
11900 ²⁾	1RN6 714-2HJ	3589	1180	97.3	97.1	0.91	0.91	31672	2.20	0.49	5.20	162	38
13600 ²⁾	1RN6 716-2HJ	3590	1340	97.4	97.2	0.91	0.91	36190	2.30	0.52	5.50	179	41
4-pole													
8700 ²⁾	1RN6 710-4HJ	1793	860	97.8	97.8	0.90	0.88	46340	2.30	0.59	5.50	273	297
10400 ²⁾	1RN6 712-4HJ	1793	1040	97.9	97.9	0.90	0.89	55399	2.30	0.60	5.50	300	310
11900 ²⁾	1RN6 714-4HJ	1793	1160	97.9	98.0	0.91	0.90	63396	2.20	0.61	5.50	337	353
13200 ²⁾	1RN6 716-4HJ	1793	1300	98.0	98.0	0.91	0.89	70311	2.30	0.62	5.50	369	406
6-pole													
6900	1RN6 710-6HJ	1194	720	97.4	97.6	0.86	0.84	55212	2.10	0.69	5.40	330	970
7600	1RN6 712-6HJ	1194	790	97.5	97.6	0.86	0.84	60797	2.10	0.70	5.50	367	1083
8400	1RN6 714-6HJ	1194	860	97.7	97.7	0.87	0.85	67196	2.10	0.73	5.50	419	1311
9200	1RN6 716-6HJ	1194	940	97.7	97.7	0.88	0.87	73603	2.10	0.74	5.50	468	1572
8-pole													
5400	1RN6 710-8HJ	895	590	97.2	97.4	0.83	0.81	57627	2.00	0.76	5.30	415	2835
6100	1RN6 712-8HJ	895	660	97.2	97.4	0.83	0.81	65089	2.00	0.78	5.40	465	3185
6800	1RN6 714-8HJ	895	730	97.3	97.5	0.84	0.81	72542	2.10	0.82	5.50	531	3769
7500	1RN6 716-8HJ	896	810	97.4	97.5	0.83	0.80	79967	2.20	0.88	5.50	597	4453
10-pole													
3700	1RN6 710-3HJ	716	425	96.8	97.0	0.79	0.75	49369	2.20	0.73	5.40	415	5185
4050	1RN6 712-3HJ	716	455	96.9	97.1	0.80	0.76	54035	2.20	0.73	5.40	465	5935
4500	1RN6 714-3HJ	716	510	96.9	97.1	0.80	0.77	60031	2.20	0.74	5.50	531	7119
5100	1RN6 716-3HJ	716	570	97.1	97.2	0.80	0.77	68021	2.30	0.79	5.50	598	8202

Voltage code:

4 kV, 60 Hz
4.16 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
3
1
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007;
stray load losses determined by statistical evaluation of measurements.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

²⁾ $V_{rated} < 6$ kV on request.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

Rated power IEC kW	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current I_{rated} at 13.2 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
12.5 ... 13.8 kV, 60 Hz													
2-pole													
6500	1RN6 710-2HJ ■ 0	3590	330	96.4	96.1	0.90	0.89	17293	2.30	0.44	5.20	132	58
8000	1RN6 712-2HJ ■ 0	3591	405	96.8	96.4	0.89	0.88	21278	2.50	0.50	5.50	147	53
8800	1RN6 714-2HJ ■ 0	3591	435	96.8	96.4	0.91	0.89	23406	2.50	0.53	5.50	162	78
10100	1RN6 716-2HJ ■ 0	3591	495	96.9	96.6	0.92	0.91	26867	2.40	0.53	5.50	179	111
4-pole													
7200	1RN6 710-4HJ ■ 0	1794	365	97.4	97.5	0.89	0.88	38335	2.40	0.58	5.50	273	367
8000	1RN6 712-4HJ ■ 0	1794	395	97.5	97.6	0.91	0.90	42606	2.30	0.59	5.50	300	427
8800	1RN6 714-4HJ ■ 0	1793	435	97.6	97.6	0.91	0.91	46869	2.30	0.59	5.50	337	503
10100	1RN6 716-4HJ ■ 0	1793	490	97.6	97.7	0.92	0.91	53794	2.30	0.61	5.50	369	546
6-pole													
5600	1RN6 710-6HJ ■ ■	1195	295	97.2	97.3	0.85	0.83	44775	2.30	0.70	5.50	330	1105
6200	1RN6 712-6HJ ■ ■	1195	325	97.3	97.4	0.86	0.83	49566	2.30	0.73	5.50	367	1253
6800	1RN6 714-6HJ ■ ■	1195	355	97.3	97.4	0.86	0.84	54357	2.30	0.72	5.50	419	1535
7500	1RN6 716-6HJ ■ ■	1195	390	97.4	97.5	0.86	0.84	59945	2.30	0.72	5.50	468	1782
8-pole													
3900	1RN6 710-8HJ ■ ■	896	210	96.6	96.8	0.84	0.80	41582	2.20	0.79	5.50	415	3485
4400	1RN6 712-8HJ ■ ■	896	235	96.7	97.0	0.84	0.81	46912	2.20	0.81	5.50	465	3935
5000	1RN6 714-8HJ ■ ■	896	270	96.9	97.0	0.83	0.80	53295	2.20	0.78	5.50	531	4669
5600	1RN6 716-8HJ ■ ■	896	305	97.0	97.0	0.83	0.79	59674	2.30	0.76	5.50	597	5303
10-pole													
2800	1RN6 710-3HJ ■ ■	716	160	96.2	96.5	0.80	0.75	37334	2.40	0.76	5.50	415	3985
3200	1RN6 712-3HJ ■ ■	716	182	96.5	96.6	0.80	0.75	42664	2.40	0.78	5.50	465	4785
3550	1RN6 714-3HJ ■ ■	716	198	96.6	96.8	0.81	0.78	47340	2.30	0.74	5.50	531	5569
3900	1RN6 716-3HJ ■ ■	716	215	96.7	96.9	0.82	0.79	52006	2.30	0.75	5.50	598	6552

Voltage code:

13.2 kV, 60 Hz
Other voltage

2
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Efficiencies according to IEC 60034-2-1:2007; stray load losses determined by statistical evaluation of measurements.

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

NEMA version

Rated power NEMA hp	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current A	Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ					Motor kgm ²	External, max. 1) kgm ²
4 ... 6.6 kV, 60 Hz													
2-pole													
10000	1RN6 710-2BM 0	3586	747	96.4	96.2	0.90	0.89	19861	2.20	0.60	5.20	132	56
11000	1RN6 712-2BM 0	3588	828	96.5	96.2	0.89	0.88	21837	2.50	0.60	5.80	147	55
12000	1RN6 712-2BN 0	3587	898	96.6	96.4	0.90	0.89	23827	2.30	0.60	5.40	147	54
13000	1RN6 714-2BM 0	3587	956	96.6	96.4	0.92	0.91	25814	2.50	0.64	6.00	162	54
14000	1RN6 714-2BN 0	3587	1036	96.7	96.5	0.91	0.90	27801	2.40	0.60	5.70	162	53
16000	1RN6 716-2BM 0	3586	1166	96.8	96.7	0.92	0.92	31777	2.40	0.62	5.80	179	51
17000	1RN6 716-2BN 0	3587	1251	96.9	96.8	0.91	0.90	33759	2.40	0.60	5.80	179	49
4-pole													
11000	1RN6 710-4BJ 0	1793	815	97.4	97.6	0.90	0.89	43695	2.30	0.60	5.90	273	603
12000	1RN6 712-4BJ 0	1793	880	97.5	97.6	0.91	0.90	47668	2.20	0.60	5.90	300	637
13000	1RN6 712-4BK 0	1793	962	97.5	97.6	0.90	0.89	51635	2.30	0.60	5.90	300	620
14000	1RN6 714-4BJ 0	1793	1021	97.4	97.6	0.91	0.91	55625	2.20	0.60	5.80	337	651
15000	1RN6 714-4BK 0	1793	1104	97.5	97.7	0.91	0.89	59583	2.30	0.60	6.00	337	665
16000	1RN6 716-4BJ 0	1793	1161	97.5	97.7	0.92	0.91	63575	2.20	0.61	5.80	369	678
17000	1RN6 716-4BK 0	1792	1238	97.5	97.7	0.92	0.91	67557	2.10	0.60	5.60	369	691
18000	1RN6 716-4BL 0	1793	1324	97.6	97.7	0.91	0.90	71504	2.20	0.61	5.90	369	702
6-pole													
9000	1RN6 710-6BJ 0	1194	702	97.1	97.3	0.86	0.84	53690	2.10	0.71	5.50	330	1954
10000	1RN6 712-6BJ 0	1194	781	97.2	97.4	0.86	0.83	59647	2.20	0.71	5.60	367	2043
11000	1RN6 714-6BJ 0	1194	846	97.3	97.4	0.87	0.85	65612	2.20	0.75	5.70	419	2113
12000	1RN6 716-6BJ 0	1194	915	97.2	97.3	0.88	0.86	71577	2.20	0.77	5.70	468	2168
8-pole													
7000	1RN6 710-8BJ 0	895	566	96.9	97.1	0.83	0.80	55695	2.10	0.79	5.50	415	3817
8000	1RN6 712-8BJ 0	895	646	97.0	97.1	0.83	0.81	63651	2.00	0.80	5.50	465	4154
9000	1RN6 714-8BJ 0	895	721	97.1	97.2	0.84	0.81	71587	2.10	0.83	5.70	531	4458
10000	1RN6 716-8BJ 0	896	810	97.1	97.2	0.83	0.80	79506	2.20	0.87	6.00	597	4732
10-pole													
5000	1RN6 710-3BJ 0	716	427	96.6	96.7	0.79	0.75	49758	2.20	0.73	5.30	415	5006
5500	1RN6 712-3BJ 0	716	464	96.7	96.9	0.80	0.76	54720	2.20	0.72	5.30	465	5428
6000	1RN6 714-3BJ 0	716	502	96.8	96.9	0.80	0.77	59682	2.20	0.74	5.50	531	6221
7000	1RN6 716-3BJ 0	716	584	96.9	97.0	0.80	0.77	69631	2.20	0.77	5.60	598	6955

Voltage code:

4 kV, 60 Hz
4.16 kV, 60 Hz
6.6 kV, 60 Hz
Other voltage

4
3
1
9

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

Higher pole numbers are available on request.

1) Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

NEMA version

Rated power NEMA hp	High voltage motor H-compact PLUS Article No.	Speed rpm	Rated current I_{rated} at 13.2 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T_B/T_{rated} [-]	Locked-rotor torque T_{LR}/T_{rated} [-]	Locked-rotor current I_{LR}/I_{rated} [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
12.5 ... 13.8 kV, 60 Hz													
2-pole													
8000	1RN6 710-2BM ■ 0	3588	301	96.0	95.6	0.90	0.89	15881	2.50	0.60	5.60	132	52
9000	1RN6 712-2BM ■ 0	3588	334	96.0	95.6	0.91	0.90	17864	2.60	0.60	6.00	147	51
10000	1RN6 712-2BN ■ 0	3588	375	96.2	95.9	0.90	0.89	19849	2.60	0.60	6.00	147	49
11000	1RN6 714-2BM ■ 0	3588	407	96.2	95.9	0.91	0.90	21837	2.50	0.60	6.00	162	48
12000	1RN6 716-2BM ■ 0	3587	437	96.3	96.0	0.93	0.92	23827	2.40	0.60	5.80	179	47
13000	1RN6 716-2BN ■ 0	3588	478	96.4	96.2	0.92	0.91	25806	2.50	0.60	6.00	179	45
4-pole													
9000	1RN6 710-4BJ ■ 0	1794	337	97.1	97.2	0.89	0.88	35727	2.40	0.60	6.20	273	553
10000	1RN6 712-4BJ ■ 0	1794	368	97.1	97.3	0.91	0.90	39708	2.30	0.60	6.20	300	555
11000	1RN6 714-4BJ ■ 0	1794	403	97.2	97.3	0.91	0.90	43682	2.30	0.60	6.20	337	603
12000	1RN6 716-4BJ ■ 0	1793	436	97.2	97.3	0.92	0.92	47662	2.30	0.63	6.20	369	620
13000	1RN6 716-4BK ■ 0	1794	475	97.2	97.4	0.91	0.91	51625	2.30	0.60	6.10	369	637
6-pole													
7000	1RN6 710-6BJ ■ ■	1195	278	96.9	97.0	0.85	0.82	41723	2.40	0.72	6.00	330	1722
8000	1RN6 712-6BJ ■ ■	1195	315	97.0	97.1	0.85	0.82	47688	2.40	0.73	6.00	367	1849
9000	1RN6 714-6BJ ■ ■	1195	350	97.0	97.1	0.86	0.84	53642	2.30	0.73	6.00	419	1954
10000	1RN6 716-6BJ ■ ■	1195	388	97.1	97.2	0.86	0.84	59600	2.30	0.72	6.00	468	2042
8-pole													
5000	1RN6 710-8BJ ■ ■	896	201	96.5	96.6	0.84	0.81	39760	2.20	0.79	5.90	415	3024
5500	1RN6 712-8BJ ■ ■	896	220	96.6	96.7	0.84	0.81	43721	2.20	0.80	6.00	465	3235
6000	1RN6 714-8BJ ■ ■	896	239	96.6	96.7	0.84	0.82	47691	2.30	0.80	6.00	531	3438
7000	1RN6 716-8BJ ■ ■	896	279	96.7	96.8	0.85	0.82	55642	2.20	0.79	6.00	597	3817
10-pole													
3500	1RN6 710-3BJ ■ ■	717	151	96.2	96.2	0.79	0.74	34788	2.50	0.78	6.00	415	4104
4000	1RN6 712-3BJ ■ ■	717	172	96.3	96.3	0.79	0.74	39757	2.50	0.78	6.00	465	4564
4500	1RN6 714-3BJ ■ ■	717	188	96.4	96.5	0.81	0.77	44739	2.40	0.79	6.00	531	5006
5000	1RN6 716-3BJ ■ ■	717	207	96.5	96.6	0.82	0.78	49713	2.40	0.78	6.00	598	5428

Voltage code:

13.2 kV, 60 Hz
Other voltage

2
9

Type of construction:

IM B3
IM V1 (without canopy)

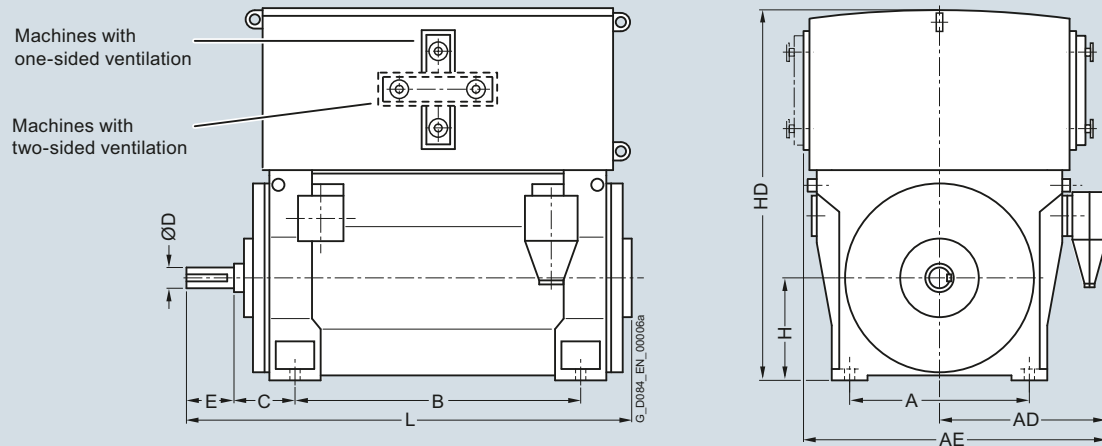
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Note:

Higher pole numbers are available on request.

¹⁾ Max. permissible external moment of inertia for three starts from cold or two starts from warm under the conditions described on [Page 2/2](#).

Dimension drawings



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
Up to 6.6 kV, IM B3 type of construction, roller bearings – series 1RN4, 1RN6 ²⁾											
2-pole											
1RN6 450-2HJ.0 ³⁾	4050	850	930	1620	1180	280	95	130	450	1725	1843
1RN6 452-2HJ.0 ³⁾	4250	850	930	1620	1180	280	95	130	450	1725	1843
1RN6 454-2HJ.0 ³⁾	4550	850	930	1620	1400	280	95	130	450	1725	2053
1RN6 456-2HJ.0 ³⁾	4850	850	930	1620	1400	280	95	130	450	1725	2053
1RN6 500-2HJ.0 ³⁾	5850	950	1135	1835	1320	315	110	165	500	1980	2150
1RN6 502-2HJ.0 ³⁾	6000	950	1135	1835	1320	315	110	165	500	1980	2150
4-pole											
1RN6 450-4HJ.0	4350	850	930	1620	1180	250	130	200	450	1715	1896
1RN6 452-4HJ.0	4250	850	930	1620	1180	250	130	200	450	1715	1896
1RN6 454-4HJ.0	4950	850	930	1620	1400	250	130	200	450	1715	2106
1RN6 456-4HJ.0	5250	850	930	1620	1400	250	130	200	450	1715	2106
1RN6 500-4HJ.0	6350	950	1135	1835	1320	280	150	200	500	1980	2150
1RN6 502-4HJ.0	6550	950	1135	1835	1320	280	150	200	500	1980	2150
1RN6 504-4HJ.0	7200	950	1135	1835	1500	280	150	200	500	1980	2300
1RN6 506-4HJ.0	7500	950	1135	1835	1500	280	150	200	500	1980	2300
1RN6 560-4HJ.0	7600	1060	1205	1975	1400	315	170	240	560	2150	2300
1RN6 562-4HJ.0	8000	1060	1205	1975	1400	315	170	240	560	2150	2300
1RN6 564-4HJ.0	8900	1060	1205	1975	1600	315	170	240	560	2150	2550
1RN6 566-4HJ.0	9400	1060	1205	1975	1600	315	170	240	560	2150	2550
1RN4 630-4HE.0 ³⁾	10400	1320	1330	2290	1600	335	200	280	630	2400	2500
1RN4 632-4HE.0 ³⁾	11100	1320	1330	2290	1600	335	200	280	630	2400	2500
1RN4 634-4HE.0 ³⁾	12150	1320	1330	2290	1800	335	220	280	630	2400	2740
1RN4 636-4HE.0 ³⁾	12700	1320	1330	2290	1800	335	220	280	630	2400	2740

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

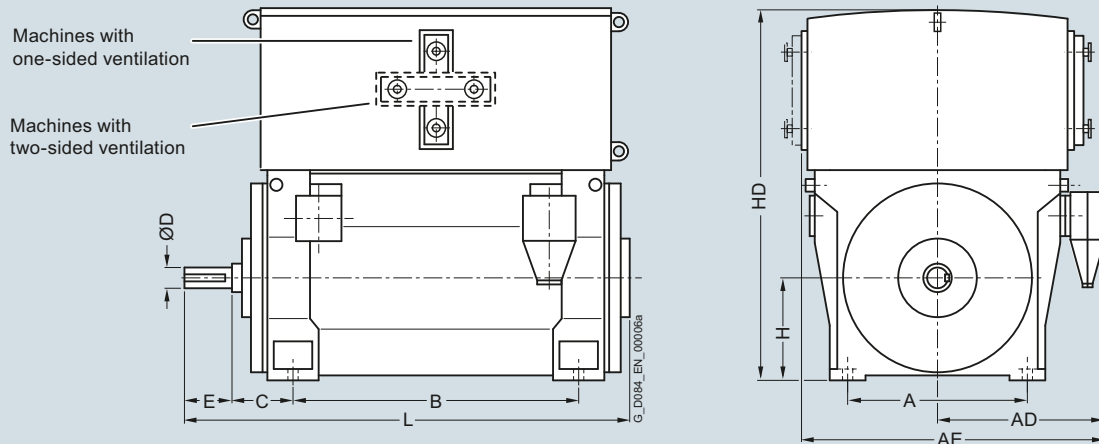
³⁾ Roller bearings only for 50 Hz version.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)

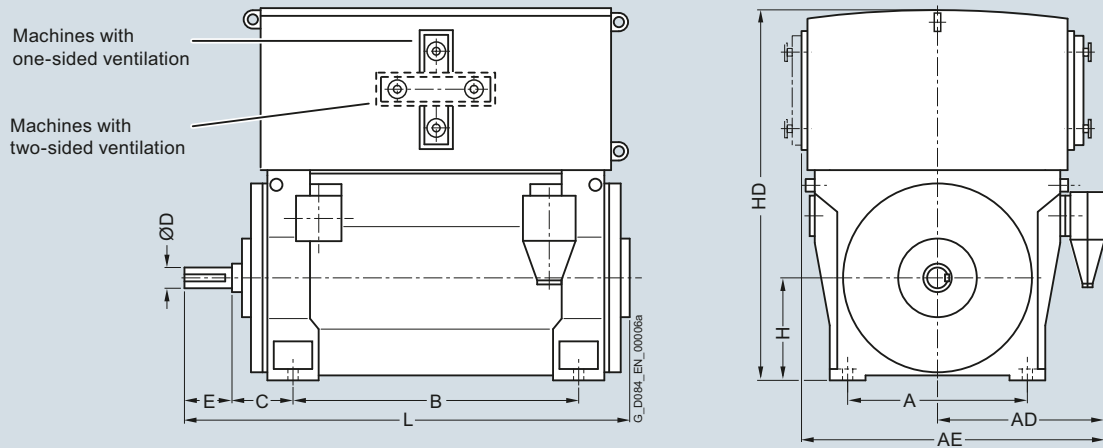


Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, roller bearings – series 1RN4, 1RN6²⁾											
6-pole											
1RN6 450-6HJ.0	4450	850	930	1620	1180	250	140	200	450	1715	1896
1RN6 452-6HJ.0	4750	850	930	1620	1180	250	140	200	450	1715	1896
1RN6 454-6HJ.0	5100	850	930	1620	1400	280	140	200	450	1715	2136
1RN6 456-6HJ.0	5450	850	930	1620	1400	280	140	200	450	1715	2136
1RN6 500-6HJ.0	6400	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6 502-6HJ.0	6650	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6 504-6HJ.0	7250	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6 506-6HJ.0	7650	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6 560-6HJ.0	8600	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6 562-6HJ.0	9000	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6 564-6HJ.0	9850	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN6 566-6HJ.0	10400	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN4 630-6HE.0	10650	1320	1330	2290	1600	335	220	280	630	2400	2500
1RN4 632-6HE.0	11200	1320	1330	2290	1600	335	220	280	630	2400	2500
1RN4 634-6HE.0	12300	1320	1330	2290	1800	335	220	280	630	2400	2740
1RN4 636-6HE.0	13000	1320	1330	2290	1800	335	220	280	630	2400	2740
8-pole											
1RN6 450-8HJ.0	4450	850	930	1620	1180	250	140	200	450	1715	1896
1RN6 452-8HJ.0	4750	850	930	1620	1180	250	140	200	450	1715	1896
1RN6 454-8HJ.0	5150	850	930	1620	1400	280	140	200	450	1715	2136
1RN6 456-8HJ.0	5450	850	930	1620	1400	280	140	200	450	1715	2136
1RN6 500-8HJ.0	6350	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6 502-8HJ.0	6600	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6 504-8HJ.0	7250	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6 506-8HJ.0	7600	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6 560-8HJ.0	8550	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6 562-8HJ.0	9000	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6 564-8HJ.0	9800	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN6 566-8HJ.0	10350	1060	1205	1975	1600	315	180	240	560	2180	2550

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
Up to 6.6 kV, IM B3 type of construction, roller bearings – series 1RN4, 1RN6 ²⁾											
8-pole											
1RN4 630-8HE.0 ³⁾	10600	1320	1330	2290	1600	335	220	280	630	2400	2500
1RN4 632-8HE.0 ³⁾	11200	1320	1330	2290	1600	335	220	280	630	2400	2500
1RN4 634-8HE.0 ³⁾	12150	1320	1330	2290	1800	335	220	280	630	2400	2740
1RN4 636-8HE.0 ³⁾	12900	1320	1330	2290	1800	335	220	280	630	2400	2740
10-pole											
1RN6 450-3HJ.0	4450	850	930	1620	1180	250	140	200	450	1715	1896
1RN6 452-3HJ.0	4750	850	930	1620	1180	250	140	200	450	1715	1896
1RN6 454-3HJ.0	5150	850	930	1620	1400	280	140	200	450	1715	2136
1RN6 456-3HJ.0	5450	850	930	1620	1400	280	140	200	450	1715	2136
1RN4 500-3HE.0	5500	950	1000	1790	1320	280	160	240	500	1830	2270
1RN4 502-3HE.0	5850	950	1000	1790	1320	280	160	240	500	1830	2270
1RN4 504-3HE.0	6450	950	1000	1790	1500	280	170	240	500	1830	2480
1RN4 506-3HE.0	6800	950	1000	1790	1500	280	170	240	500	1830	2480
1RN4 560-3HE.0	7450	1060	1070	1920	1400	315	180	240	560	2040	2300
1RN4 562-3HE.0	8000	1060	1070	1920	1400	315	180	240	560	2040	2300
1RN4 564-3HE.0	8800	1060	1070	1920	1600	315	190	280	560	2040	2570
1RN4 566-3HE.0	9300	1060	1070	1920	1600	315	190	280	560	2040	2570
1RN4 630-3HE.0 ³⁾	10500	1320	1180	2290	1600	335	220	280	630	2400	2500
1RN4 632-3HE.0 ³⁾	11200	1320	1330	2290	1600	335	220	280	630	2400	2500
1RN4 634-3HE.0 ³⁾	12200	1320	1330	2290	1800	335	220	280	630	2400	2740
1RN4 636-3HE.0 ³⁾	12900	1320	1330	2290	1800	335	220	280	630	2400	2740

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

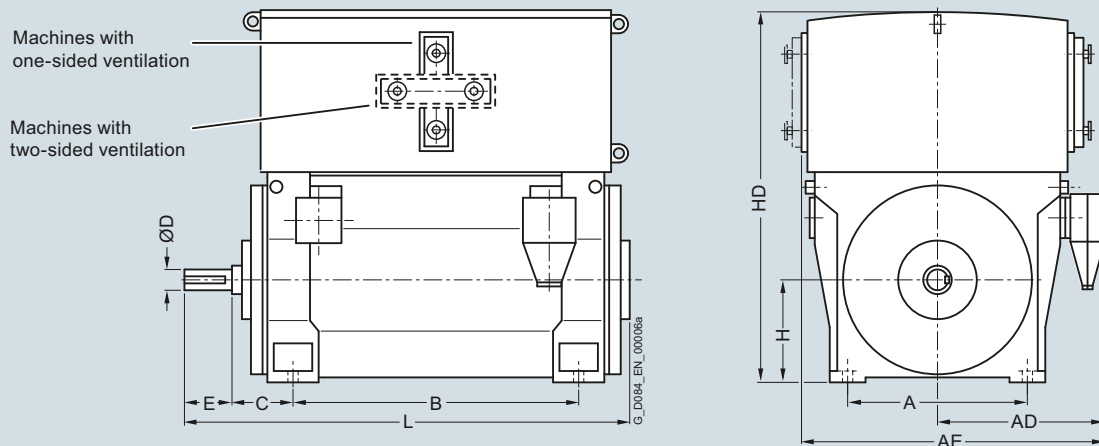
³⁾ Roller bearings only for 50 Hz version.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
Up to 6.6 kV, IM B3 type of construction, roller bearings – series 1RN4, 1RN6 ²⁾											
12-pole											
1RN6 450-5HJ.0	4450	850	930	1620	1180	250	140	200	450	1715	1896
1RN6 452-5HJ.0	4750	850	930	1620	1180	250	140	200	450	1715	1896
1RN6 454-5HJ.0	5150	850	930	1620	1400	280	140	200	450	1715	2136
1RN6 456-5HJ.0	5450	850	930	1620	1400	280	140	200	450	1715	2136
1RN4 500-5HE.0	5550	950	1000	1790	1320	280	160	240	500	1830	2270
1RN4 502-5HE.0	5900	950	1000	1790	1320	280	160	240	500	1830	2270
1RN4 504-5HE.0	6350	950	1000	1790	1500	280	170	240	500	1830	2480
1RN4 506-5HE.0	6800	950	1000	1790	1500	280	170	240	500	1830	2480
1RN4 560-5HE.0	7450	1060	1070	1920	1400	315	180	240	560	2040	2300
1RN4 562-5HE.0	8000	1060	1070	1920	1400	315	180	240	560	2040	2300
1RN4 564-5HE.0	8800	1060	1070	1920	1600	315	190	280	560	2040	2570
1RN4 566-5HE.0	9250	1060	1070	1920	1600	315	190	280	560	2040	2570
1RN4 630-5HE.0 ³⁾	10400	1320	1180	2140	1600	335	220	280	630	2400	2500
1RN4 632-5HE.0 ³⁾	11000	1320	1180	2140	1600	335	220	280	630	2400	2500
1RN4 634-5HE.0 ³⁾	12050	1320	1180	2140	1800	335	220	280	630	2400	2740
1RN4 636-5HE.0 ³⁾	12850	1320	1180	2140	1800	335	220	280	630	2400	2740

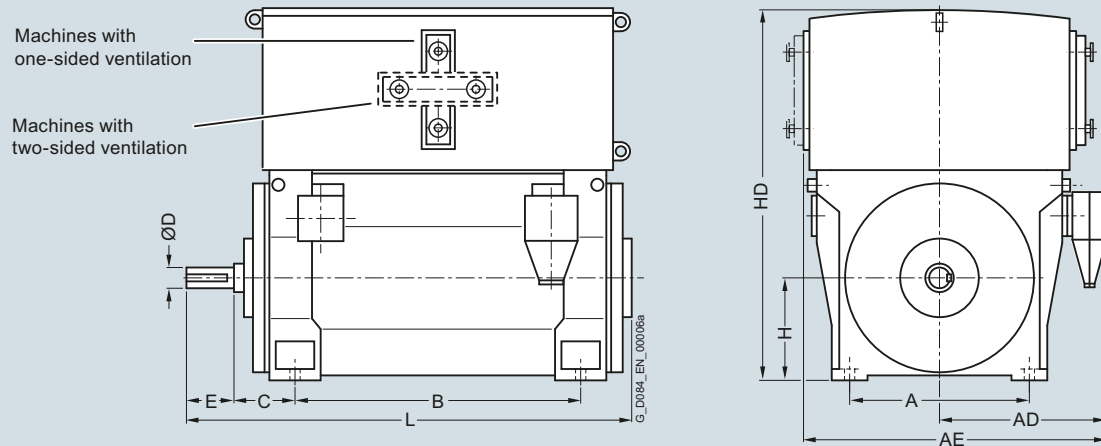
Note: Higher pole numbers are available on request.

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

³⁾ Roller bearings only for 50 Hz version.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings – series 1RN4, 1RN6¹⁾											
2-pole											
1RN6 450-2HJ.0 ²⁾	4050	850	1070	1840	1180	280	95	130	450	1725	1875
1RN6 452-2HJ.0 ²⁾	4250	850	1070	1840	1180	280	95	130	450	1725	1875
1RN6 454-2HJ.0 ²⁾	4550	850	1070	1840	1400	280	95	130	450	1725	2085
1RN6 456-2HJ.0 ²⁾	4850	850	1070	1840	1400	280	95	130	450	1725	2085
1RN6 500-2HJ.0 ²⁾	5850	950	1270	1970	1320	315	110	165	500	1980	2150
1RN6 502-2HJ.0 ²⁾	6000	950	1270	1970	1320	315	110	165	500	1980	2150
4-pole											
1RN6 450-4HJ.0	4350	850	1070	1840	1180	250	130	200	450	1715	1896
1RN6 452-4HJ.0	4250	850	1070	1840	1180	250	130	200	450	1715	1896
1RN6 454-4HJ.0	4950	850	1070	1840	1400	250	130	200	450	1715	2106
1RN6 456-4HJ.0	5250	850	1070	1840	1400	250	130	200	450	1715	2106
1RN6 500-4HJ.0	6350	950	1270	1970	1320	280	150	200	500	1980	2150
1RN6 502-4HJ.0	6550	950	1270	1970	1320	280	150	200	500	1980	2150
1RN6 504-4HJ.0	7200	950	1270	1970	1500	280	150	200	500	1980	2300
1RN6 506-4HJ.0	7500	950	1270	1970	1500	280	150	200	500	1980	2300
1RN6 560-4HJ.0	7600	1060	1340	2110	1400	315	170	240	560	2150	2300
1RN6 562-4HJ.0	8000	1060	1340	2110	1400	315	170	240	560	2150	2300
1RN6 564-4HJ.0	8900	1060	1340	2110	1600	315	170	240	560	2150	2550
1RN6 566-4HJ.0	9400	1060	1340	2110	1600	315	170	240	560	2150	2550
1RN4 630-4HE.0	10300	1320	1320	2280	1600	335	200	280	630	2400	2500
1RN4 632-4HE.0	10950	1320	1330	2290	1600	335	200	280	630	2400	2500
1RN4 634-4HE.0	12000	1320	1330	2290	1800	335	220	280	630	2400	2740
1RN4 636-4HE.0	12600	1320	1330	2290	1800	335	220	280	630	2400	2740
6-pole											
1RN6 450-6HJ.0	4450	850	1070	1840	1180	250	140	200	450	1715	1896
1RN6 452-6HJ.0	4750	850	1070	1840	1180	250	140	200	450	1715	1896
1RN6 454-6HJ.0	5100	850	1070	1840	1400	280	140	200	450	1715	2136
1RN6 456-6HJ.0	5450	850	1070	1840	1400	280	140	200	450	1715	2136

¹⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

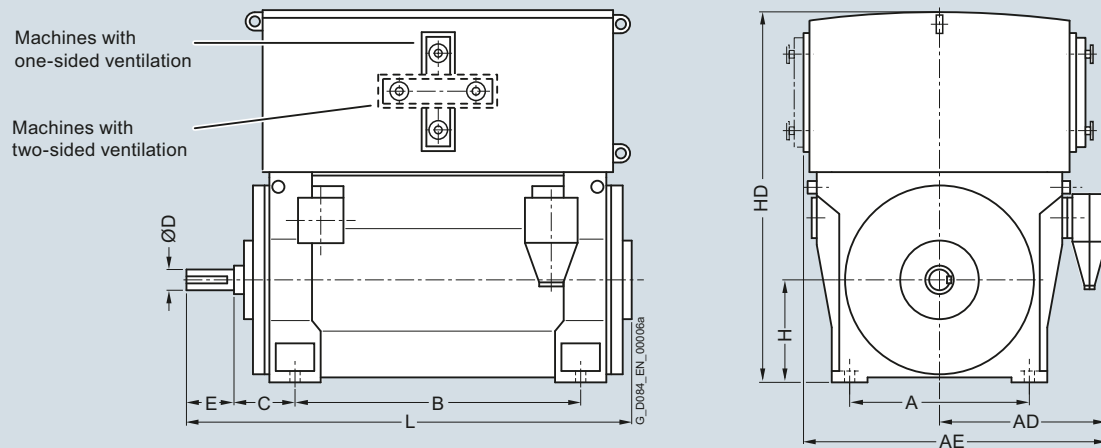
²⁾ Roller bearings only for 50 Hz version.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

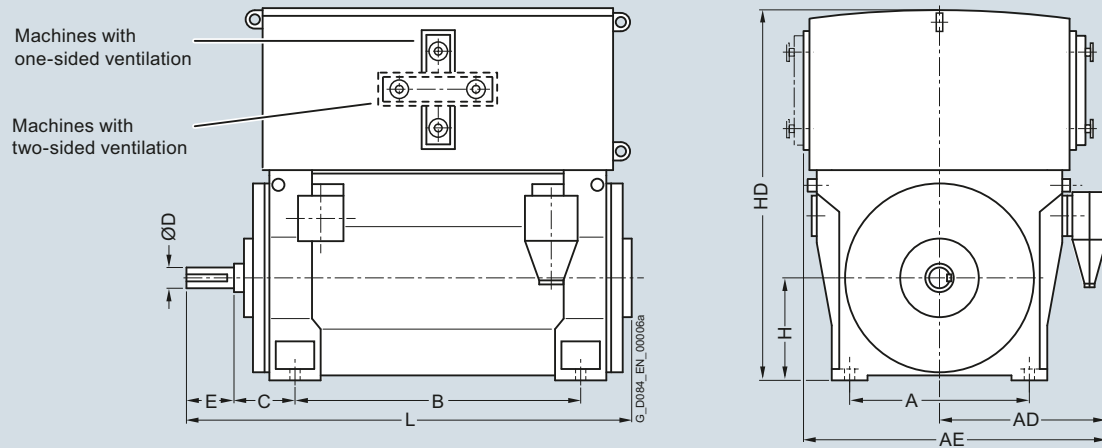
Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings – series 1RN4, 1RN6¹⁾											
6-pole											
1RN6 500-6HJ.0	6400	950	1270	1970	1320	315	160	240	500	1960	2150
1RN6 502-6HJ.0	6650	950	1270	1970	1320	315	160	240	500	1960	2150
1RN6 504-6HJ.0	7250	950	1270	1970	1500	315	160	240	500	1960	2360
1RN6 506-6HJ.0	7650	950	1270	1970	1500	315	160	240	500	1960	2360
1RN6 560-6HJ.0	8600	1060	1340	2110	1400	315	180	240	560	2200	2300
1RN6 562-6HJ.0	9000	1060	1340	2110	1400	315	180	240	560	2200	2300
1RN6 564-6HJ.0	9850	1060	1340	2110	1600	315	180	240	560	2200	2550
1RN6 566-6HJ.0	10400	1060	1340	2110	1600	315	180	240	560	2200	2550
1RN4 630-6HE.0	10650	1320	1320	2280	1600	335	220	280	630	2400	2500
1RN4 632-6HE.0	11200	1320	1320	2280	1600	335	220	280	630	2400	2500
1RN4 634-6HE.0	12250	1320	1320	2280	1800	335	220	280	630	2400	2740
1RN4 636-6HE.0	13000	1320	1330	2290	1800	335	220	280	630	2400	2740
8-pole											
1RN6 450-8HJ.0	4450	850	1070	1840	1180	250	140	200	450	1715	1896
1RN6 452-8HJ.0	4750	850	1070	1840	1180	250	140	200	450	1715	1896
1RN6 454-8HJ.0	5150	850	1070	1840	1400	280	140	200	450	1715	2136
1RN6 456-8HJ.0	5450	850	1070	1840	1400	280	140	200	450	1715	2136
1RN6 500-8HJ.0	6350	950	1270	1970	1320	315	160	240	500	1960	2150
1RN6 502-8HJ.0	6600	950	1270	1970	1320	315	160	240	500	1960	2150
1RN6 504-8HJ.0	7250	950	1270	1970	1500	315	160	240	500	1960	2360
1RN6-506-8HJ.0	7600	950	1270	1970	1500	315	160	240	500	1960	2360
1RN6 560-8HJ.0	8550	1060	1340	2110	1400	315	180	240	560	2200	2300
1RN6 562-8HJ.0	9000	1060	1340	2110	1400	315	180	240	560	2200	2300
1RN6 564-8HJ.0	9800	1060	1340	2110	1600	315	180	240	560	2200	2550
1RN6-566-8HJ.0	10350	1060	1340	2110	1600	315	180	240	560	2200	2550
1RN4 630-8HE.0	10450	1320	1320	2280	1600	335	220	280	630	2400	2500
1RN4 632-8HE.0	11050	1320	1320	2280	1600	335	220	280	630	2400	2500
1RN4 634-8HE.0	12050	1320	1320	2280	1800	335	220	280	630	2400	2740
1RN4 636-8HE.0	12800	1320	1320	2280	1800	335	220	280	630	2400	2740

¹⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings – 1RN4 series¹⁾											
10-pole											
1RN4 500-3HE.0	5500	950	1220	2010	1320	280	160	240	500	1830	2270
1RN4 502-3HE.0	5850	950	1220	2010	1320	280	160	240	500	1830	2270
1RN4 504-3HE.0	6400	950	1220	2010	1500	280	170	240	500	1830	2480
1RN4 506-3HE.0	6750	950	1220	2010	1500	280	170	240	500	1830	2480
1RN4 560-3HE.0	7850	1060	1210	2060	1400	315	180	240	560	2040	2300
1RN4 562-3HE.0	8350	1060	1210	2060	1400	315	180	240	560	2040	2300
1RN4 564-3HE.0	8950	1060	1210	2060	1600	315	190	280	560	2040	2570
1RN4 566-3HE.0	9350	1060	1210	2060	1600	315	190	280	560	2040	2570
1RN4 630-3HE.0	10450	1320	1320	2280	1600	335	220	280	630	2400	2500
1RN4 632-3HE.0	11050	1320	1320	2280	1600	335	220	280	630	2400	2500
1RN4 634-3HE.0	12000	1320	1320	2280	1800	335	220	280	630	2400	2740
1RN4 636-3HE.0	12750	1320	1320	2280	1800	335	220	280	630	2400	2740
12-pole											
1RN4 502-5HE.0	5900	950	1220	2010	1320	280	160	240	500	1830	2270
1RN4 504-5HE.0	6350	950	1220	2010	1500	280	170	240	500	1830	2480
1RN4 506-5HE.0	6750	950	1220	2010	1500	280	170	240	500	1830	2480
1RN4 560-5HE.0	7450	1060	1210	2060	1400	315	180	240	560	2040	2300
1RN4 562-5HE.0	7950	1060	1210	2060	1400	315	180	240	560	2040	2300
1RN4 564-5HE.0	8800	1060	1210	2060	1600	315	190	280	560	2040	2570
1RN4 566-5HE.0	9250	1060	1210	2060	1600	315	190	280	560	2040	2570
1RN4 630-5HE.0	10450	1320	1320	2280	1600	335	220	280	630	2400	2500
1RN4 632-5HE.0	11100	1320	1320	2280	1600	335	220	280	630	2400	2500
1RN4 634-5HE.0	12100	1320	1320	2280	1800	335	220	280	630	2400	2740
1RN4 636-5HE.0	12850	1320	1320	2280	1800	335	220	280	630	2400	2740

Note:

Higher pole numbers are available on request.

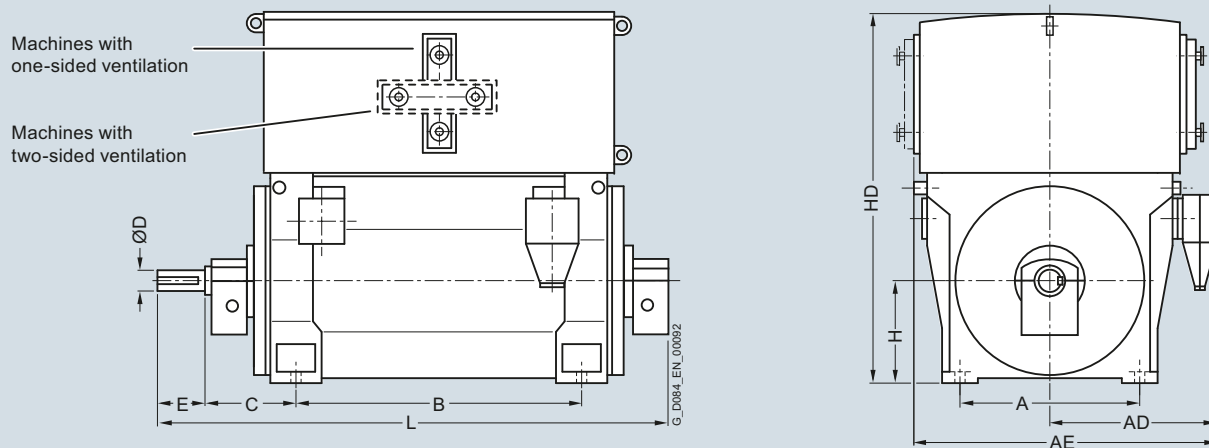
¹⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings



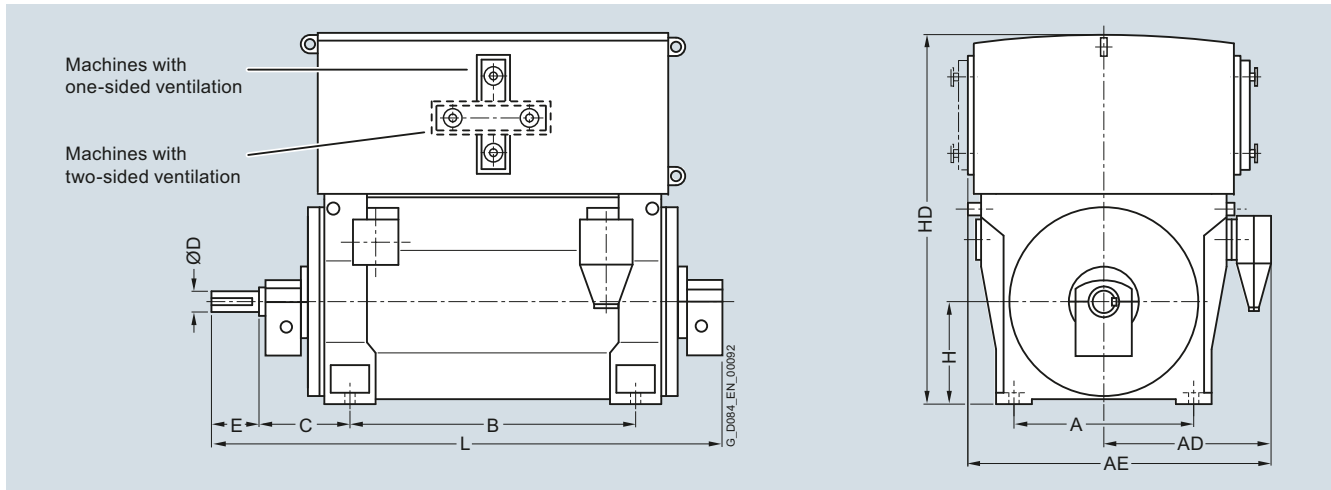
Motor type	Weight kg	Dimensions mm									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – series 1RN4, 1RN6²⁾											
2-pole											
1RN6 450-2HJ.0-Z K96 ³⁾	4050	850	930	1620	1180	425	95	130	450	1725	2218
1RN6 452-2HJ.0-Z K96 ³⁾	4300	850	930	1620	1180	425	95	130	450	1725	2218
1RN6 454-2HJ.0-Z K96 ³⁾	4600	850	930	1620	1400	425	95	130	450	1725	2428
1RN6 456-2HJ.0-Z K96 ³⁾	4900	850	930	1620	1400	425	95	130	450	1725	2428
1RN6 500-2HJ.0-Z K96 ³⁾	5900	950	1135	1835	1320	450	110	165	500	1980	2500
1RN6 502-2HJ.0-Z K96 ³⁾	6050	950	1135	1835	1320	450	110	165	500	1980	2500
1RN6 504-2HJ.0	6850	950	1135	1835	1500	450	110	165	500	1980	2650
1RN6 506-2HJ.0	7100	950	1135	1835	1500	450	110	165	500	1980	2650
1RN6 560-2HJ.0	7600	1060	1205	1975	1400	600	130	200	560	2150	2850
1RN6 562-2HJ.0	8000	1060	1205	1975	1400	600	130	200	560	2150	2850
1RN6 564-2HJ.0	8900	1060	1205	1975	1600	600	130	200	560	2150	3100
1RN6 566-2HJ.0	9350	1060	1205	1975	1600	600	130	200	560	2150	3100
1RN4 630-2HE.0	10150	1320	1330	2290	1600	560	150	200	630	2400	2820
1RN4 632-2HE.0	10800	1320	1330	2290	1600	560	150	200	630	2400	2820
1RN4 634-2HE.0	11900	1320	1330	2290	1800	560	160	240	630	2400	3100
1RN4 636-2HE.0	12750	1320	1330	2290	1800	560	160	240	630	2400	3100
4-pole											
1RN6 450-4HJ.0-Z K96	4400	850	930	1620	1180	500	130	200	450	1715	2438
1RN6 452-4HJ.0-Z K96	4650	850	930	1620	1180	500	130	200	450	1715	2438
1RN6 454-4HJ.0-Z K96	5050	850	930	1620	1400	500	130	200	450	1715	2648
1RN6 456-4HJ.0-Z K96	5350	850	930	1620	1400	500	130	200	450	1715	2648
1RN6 500-4HJ.0-Z K96	6650	950	1135	1835	1320	560	150	200	500	1980	2700
1RN6 502-4HJ.0-Z K96	6850	950	1135	1835	1320	560	150	200	500	1980	2700
1RN6 504-4HJ.0-Z K96	7550	950	1135	1835	1500	560	150	200	500	1980	2880
1RN6 506-4HJ.0-Z K96	7850	950	1135	1835	1500	560	150	200	500	1980	2880
1RN6 560-4HJ.0-Z K96	7800	1060	1205	1975	1400	600	170	240	560	2150	2900
1RN6 562-4HJ.0-Z K96	8200	1060	1205	1975	1400	600	170	240	560	2150	2900
1RN6 564-4HJ.0-Z K96	9050	1060	1205	1975	1600	600	170	240	560	2150	3100
1RN6 566-4HJ.0-Z K96	9600	1060	1205	1975	1600	600	170	240	560	2150	3100

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

³⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – series 1RN4, 1RN6 ²⁾											
4-pole											
1RN4 630-4HE.0-Z K96 ³⁾	10650	1320	1330	2290	1600	600	200	280	630	2400	2970
1RN4 632-4HE.0-Z K96 ³⁾	11350	1320	1330	2290	1600	600	200	280	630	2400	2970
1RN4 634-4HE.0-Z K96 ³⁾	12400	1320	1330	2290	1800	600	220	280	630	2400	3210
1RN4 636-4HE.0-Z K96 ³⁾	13000	1320	1330	2290	1800	600	220	280	630	2400	3210
6-pole											
1RN6 450-6HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1715	2438
1RN6 452-6HJ.0-Z K96	4800	850	930	1620	1180	500	140	200	450	1715	2438
1RN6 454-6HJ.0-Z K96	5150	850	930	1620	1400	500	140	200	450	1715	2648
1RN6 456-6HJ.0-Z K96	5500	850	930	1620	1400	500	140	200	450	1715	2648
1RN6 500-6HJ.0-Z K96	6550	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6 502-6HJ.0-Z K96	6850	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6 504-6HJ.0-Z K96	7450	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6 506-6HJ.0-Z K96	7850	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6 560-6HJ.0-Z K96	8850	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6 562-6HJ.0-Z K96	9250	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6 564-6HJ.0-Z K96	10100	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN6 566-6HJ.0-Z K96	10650	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN4 630-6HE.0-Z K96	10950	1320	1330	2290	1600	600	220	280	630	2400	2970
1RN4 632-6HE.0-Z K96	11500	1320	1330	2290	1600	600	220	280	630	2400	2970
1RN4 634-6HE.0-Z K96	12550	1320	1330	2290	1800	600	220	280	630	2400	3210
1RN4 636-6HE.0-Z K96	13300	1320	1330	2290	1800	600	220	280	630	2400	3210
8-pole											
1RN6 450-8HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1715	2438
1RN6 452-8HJ.0-Z K96	4850	850	930	1620	1180	500	140	200	450	1715	2438
1RN6 454-8HJ.0-Z K96	5200	850	930	1620	1400	500	140	200	450	1715	2648
1RN6 456-8HJ.0-Z K96	5550	850	930	1620	1400	500	140	200	450	1715	2648

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

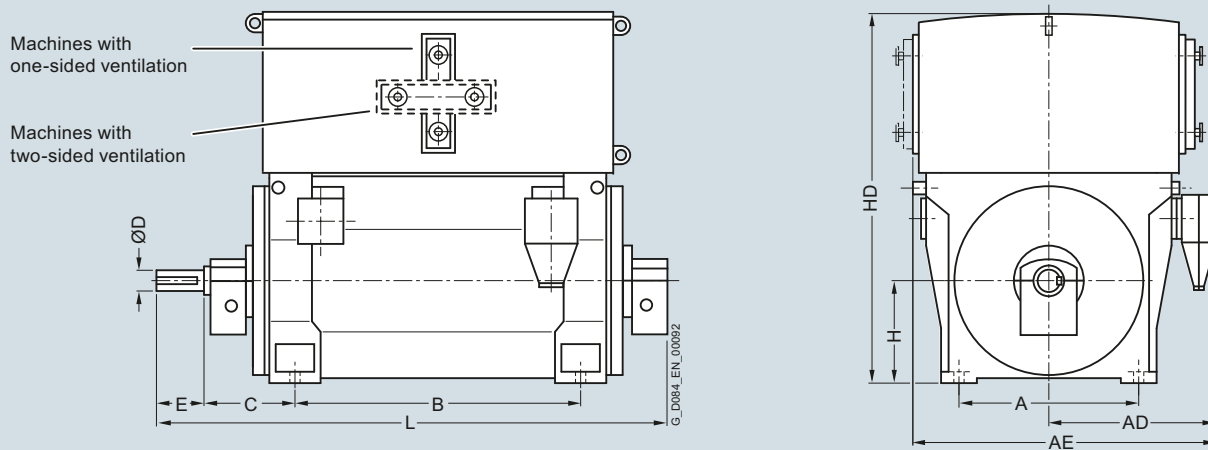
³⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – series 1RN4, 1RN6 ²⁾											

8-pole

1RN6 500-8HJ.0-Z K96	6500	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6 502-8HJ.0-Z K96	6800	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6 504-8HJ.0-Z K96	7400	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6 506-8HJ.0-Z K96	7800	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6 560-8HJ.0-Z K96	8800	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6 562-8HJ.0-Z K96	9250	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6 564-8HJ.0-Z K96	10050	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN6 566-8HJ.0-Z K96	10600	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN4 630-8HE.0-Z K96 ³⁾	10850	1320	1330	2290	1600	600	220	280	630	2400	2970
1RN4 632-8HE.0-Z K96 ³⁾	11500	1320	1330	2290	1600	600	220	280	630	2400	2970
1RN4 634-8HE.0-Z K96 ³⁾	12450	1320	1330	2290	1800	600	220	280	630	2400	3210
1RN4 636-8HE.0-Z K96 ³⁾	13150	1320	1330	2290	1800	600	220	280	630	2400	3210

10-pole

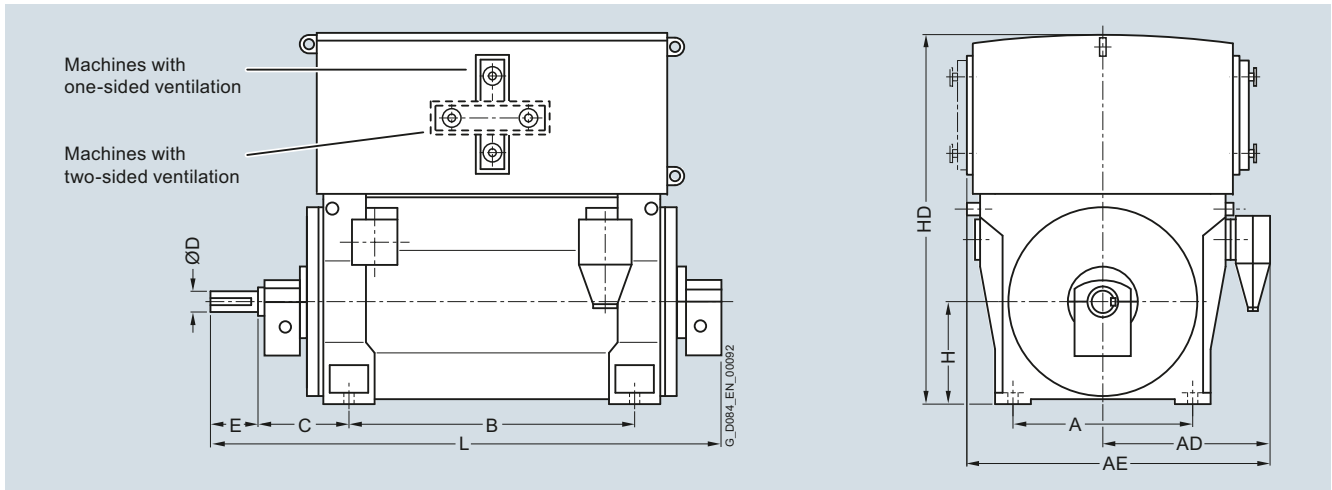
1RN6 450-3HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1715	2438
1RN6 452-3HJ.0-Z K96	4850	850	930	1620	1180	500	140	200	450	1715	2438
1RN6 454-3HJ.0-Z K96	5200	850	930	1620	1400	500	140	200	450	1715	2648
1RN6 456-3HJ.0-Z K96	5550	850	930	1620	1400	500	140	200	450	1715	2648
1RN4 500-3HE.0-Z K96	5700	950	1000	1790	1320	500	160	240	500	1830	2620
1RN4 502-3HE.0-Z K96	6050	950	1000	1790	1320	500	160	240	500	1830	2620
1RN4 504-3HE.0-Z K96	6600	950	1000	1790	1500	500	170	240	500	1830	2830
1RN4 506-3HE.0-Z K96	6950	950	1000	1790	1500	500	170	240	500	1830	2830
1RN4 560-3HE.0-Z K96	7650	1060	1070	1920	1400	530	180	240	560	2040	2670
1RN4 562-3HE.0-Z K96	8200	1060	1070	1920	1400	530	180	240	560	2040	2670
1RN4 564-3HE.0-Z K96	9050	1060	1070	1920	1600	530	190	280	560	2040	2940
1RN4 566-3HE.0-Z K96	9500	1060	1070	1920	1600	530	190	280	560	2040	2940
1RN4 630-3HE.0-Z K96 ³⁾	10750	1320	1180	2140	1600	600	220	280	630	2400	2970
1RN4 632-3HE.0-Z K96 ³⁾	11450	1320	1330	2290	1600	600	220	280	630	2400	2970
1RN4 634-3HE.0-Z K96 ³⁾	12500	1320	1330	2290	1800	600	220	280	630	2400	3210
1RN4 636-3HE.0-Z K96 ³⁾	13200	1320	1330	2290	1800	600	220	280	630	2400	3210

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

³⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L

Up to 6.6 kV, IM B3 type of construction, sleeve bearings – series 1RN4, 1RN6²⁾

12-pole											
1RN6 450-5HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1715	2438
1RN6 452-5HJ.0-Z K96	4850	850	930	1620	1180	500	140	200	450	1715	2438
1RN6 454-5HJ.0-Z K96	5200	850	930	1620	1400	500	140	200	450	1715	2648
1RN6 456-5HJ.0-Z K96	5550	850	930	1620	1400	500	140	200	450	1715	2648
1RN4 500-5HE.0-Z K96	5700	950	1000	1790	1320	500	160	240	500	1830	2620
1RN4 502-5HE.0-Z K96	6050	950	1000	1790	1320	500	160	240	500	1830	2620
1RN4 504-5HE.0-Z K96	6550	950	1000	1790	1500	500	170	240	500	1830	2830
1RN4 506-5HE.0-Z K96	6950	950	1000	1790	1500	500	170	240	500	1830	2830
1RN4 560-5HE.0-Z K96	7650	1060	1070	1920	1400	530	180	240	560	2040	2670
1RN4 562-5HE.0-Z K96	8250	1060	1070	1920	1400	530	180	240	560	2040	2670
1RN4 564-5HE.0-Z K96	9000	1060	1070	1920	1600	530	190	280	560	2040	2940
1RN4 566-5HE.0-Z K96	9500	1060	1070	1920	1600	530	190	280	560	2040	2940
1RN4 630-5HE.0-Z K96 ³⁾	10650	1320	1180	2140	1600	600	220	280	630	2400	2970
1RN4 632-5HE.0-Z K96 ³⁾	11300	1320	1180	2140	1600	600	220	280	630	2400	2970
1RN4 634-5HE.0-Z K96 ³⁾	12300	1320	1180	2140	1800	600	220	280	630	2400	3210
1RN4 636-5HE.0-Z K96 ³⁾	13150	1320	1330	2290	1800	600	220	280	630	2400	3210

Note:

Higher pole numbers are available on request.

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

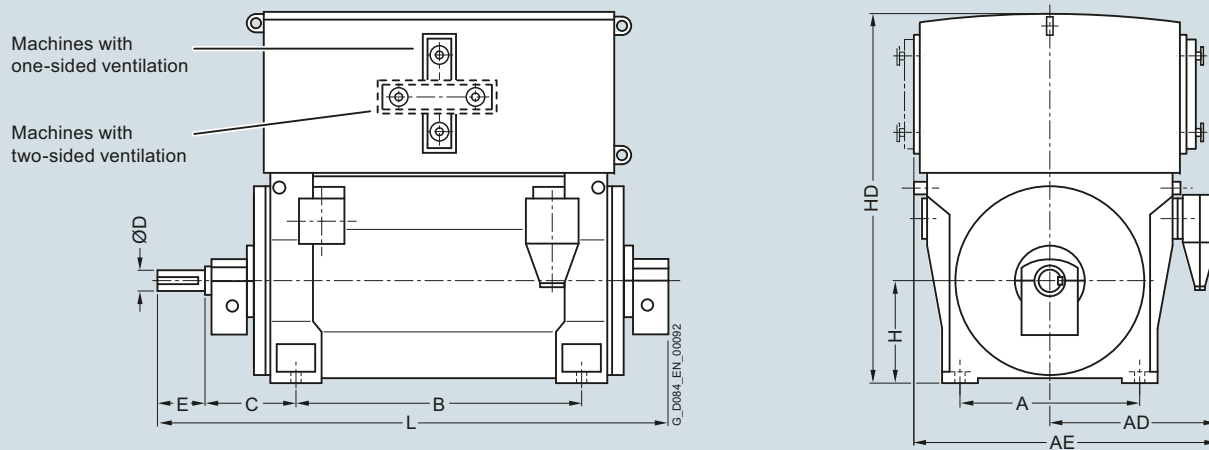
³⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings

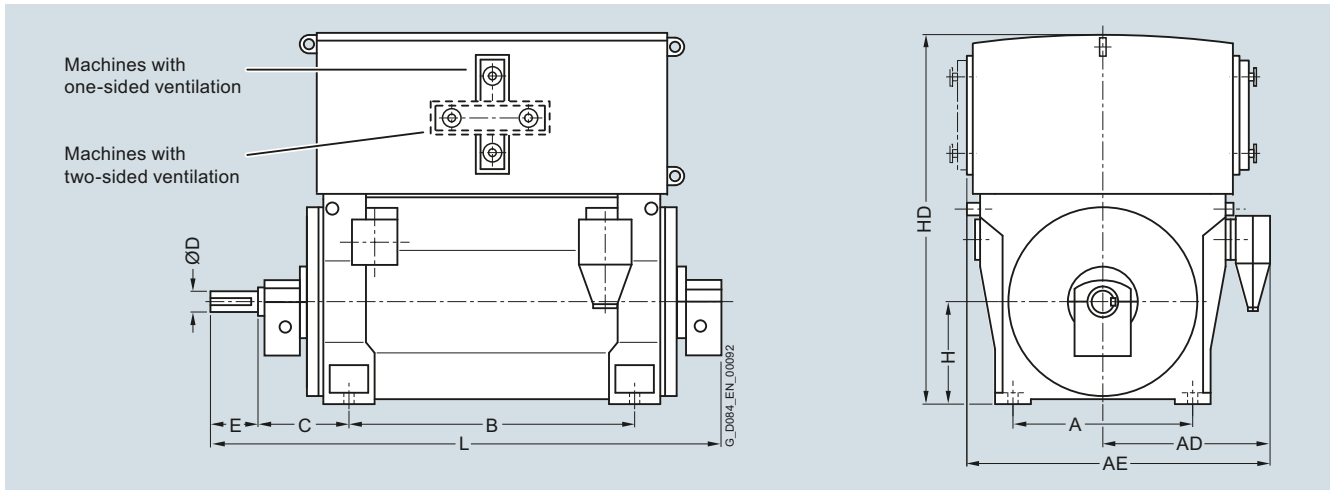


Motor type	Weight kg	Dimensions mm									
		A	AD	AE	B	C	D	E	H	HD	L
9 ... 11 kV, IM B3 type of construction, sleeve bearings – series 1RN4, 1RN6¹⁾											
2-pole											
1RN6 450-2HJ.0-Z K96 ²⁾	4050	850	1070	1840	1180	425	95	130	450	1725	2218
1RN6 452-2HJ.0-Z K96 ²⁾	4300	850	1070	1840	1180	425	95	130	450	1725	2218
1RN6 454-2HJ.0-Z K96 ²⁾	4600	850	1070	1840	1400	425	95	130	450	1725	2428
1RN6 456-2HJ.0-Z K96 ²⁾	4900	850	1070	1840	1400	425	95	130	450	1725	2428
1RN6 500-2HJ.0-Z K96 ²⁾	5900	950	1270	1970	1320	450	110	165	500	1980	2500
1RN6 502-2HJ.0-Z K96 ²⁾	6050	950	1270	1970	1320	450	110	165	500	1980	2500
1RN6 504-2HJ.0	6850	950	1270	1970	1500	450	110	165	500	1980	2650
1RN6 506-2HJ.0	7100	950	1270	1970	1500	450	110	165	500	1980	2650
1RN6 560-2HJ.0	7600	1060	1340	2110	1400	600	130	200	560	2150	2850
1RN6 562-2HJ.0	8000	1060	1340	2110	1400	600	130	200	560	2150	2850
1RN6 564-2HJ.0	8900	1060	1340	2110	1600	600	130	200	560	2150	3100
1RN6 566-2HJ.0	9350	1060	1340	2110	1600	600	130	200	560	2150	3100
1RN4 630-2HE.0	10050	1320	1320	2280	1600	560	150	200	630	2400	2820
1RN4 632-2HE.0	10700	1320	1330	2290	1600	560	150	200	630	2400	2820
1RN4 634-2HE.0	11750	1320	1330	2290	1800	560	160	240	630	2400	3100
1RN4 636-2HE.0	12600	1320	1330	2290	1800	560	160	240	630	2400	3100
4-pole											
1RN6 450-4HJ.0-Z K96	4400	850	1070	1840	1180	500	130	200	450	1715	2438
1RN6 452-4HJ.0-Z K96	4650	850	1070	1840	1180	500	130	200	450	1715	2438
1RN6 454-4HJ.0-Z K96	5050	850	1070	1840	1400	500	130	200	450	1715	2645
1RN6 456-4HJ.0-Z K96	5350	850	1070	1840	1400	500	130	200	450	1715	2645
1RN6 500-4HJ.0-Z K96	6650	950	1270	1970	1320	560	150	200	500	1980	2700
1RN6 502-4HJ.0-Z K96	6850	950	1270	1970	1320	560	150	200	500	1980	2700
1RN6 504-4HJ.0-Z K96	7550	950	1270	1970	1500	560	150	200	500	1980	2880
1RN6 506-4HJ.0-Z K96	7850	950	1270	1970	1500	560	150	200	500	1980	2880
1RN6 560-4HJ.0-Z K96	7800	1060	1340	2110	1400	600	170	240	560	2150	2900
1RN6 562-4HJ.0-Z K96	8200	1060	1340	2110	1400	600	170	240	560	2150	2900
1RN6 564-4HJ.0-Z K96	9050	1060	1340	2110	1600	600	170	240	560	2150	3100
1RN6 566-4HJ.0-Z K96	9600	1060	1340	2110	1600	600	170	240	560	2150	3100

¹⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions mm									
		A	AD	AE	B	C	D	E	H	HD	L
9 ... 11 kV, IM B3 type of construction, sleeve bearings – series 1RN4, 1RN6¹⁾											
4-pole											
1RN4 630-4HE.0-Z K96	10550	1320	1320	2280	1600	600	200	280	630	2400	2970
1RN4 632-4HE.0-Z K96	11250	1320	1330	2290	1600	600	200	280	630	2400	2970
1RN4 634-4HE.0-Z K96	12250	1320	1330	2290	1800	600	220	280	630	2400	3210
1RN4 636-4HE.0-Z K96	12900	1320	1330	2290	1800	600	220	280	630	2400	3210
6-pole											
1RN6 450-6HJ.0-Z K96	4550	850	1070	1840	1180	500	140	200	450	1715	2438
1RN6 452-6HJ.0-Z K96	4800	850	1070	1840	1180	500	140	200	450	1715	2438
1RN6 454-6HJ.0-Z K96	5150	850	1070	1840	1400	500	140	200	450	1715	2648
1RN6 456-6HJ.0-Z K96	5500	850	1070	1840	1400	500	140	200	450	1715	2648
1RN6 500-6HJ.0-Z K96	6550	950	1270	1970	1320	560	170	240	500	1960	2700
1RN6 502-6HJ.0-Z K96	6850	950	1270	1970	1320	560	170	240	500	1960	2700
1RN6 504-6HJ.0-Z K96	7450	950	1270	1970	1500	560	170	240	500	1960	2900
1RN6 506-6HJ.0-Z K96	7850	950	1270	1970	1500	560	170	240	500	1960	2900
1RN6 560-6HJ.0-Z K96	8850	1060	1340	2110	1400	600	170	240	560	2200	2950
1RN6 562-6HJ.0-Z K96	9250	1060	1340	2110	1400	600	170	240	560	2200	2950
1RN6 564-6HJ.0-Z K96	10100	1060	1340	2110	1600	600	170	240	560	2200	3150
1RN6 566-6HJ.0-Z K96	10650	1060	1340	2110	1600	600	170	240	560	2200	3150
1RN4 630-6HE.0-Z K96	10900	1320	1320	2280	1600	600	220	280	630	2400	2970
1RN4 632-6HE.0-Z K96	11500	1320	1320	2280	1600	600	220	280	630	2400	2970
1RN4 634-6HE.0-Z K96	12550	1320	1320	2280	1800	600	220	280	630	2400	3210
1RN4 636-6HE.0-Z K96	13300	1320	1330	2290	1800	600	220	280	630	2400	3210
8-pole											
1RN6 450-8HJ.0-Z K96	4550	850	1070	1840	1180	500	140	200	450	1715	2438
1RN6 452-8HJ.0-Z K96	4850	850	1070	1840	1180	500	140	200	450	1715	2438
1RN6 454-8HJ.0-Z K96	5200	850	1070	1840	1400	500	140	200	450	1715	2648
1RN6 456-8HJ.0-Z K96	5550	850	1070	1840	1400	500	140	200	450	1715	2648
1RN6 500-8HJ.0-Z K96	6500	950	1270	1970	1320	560	170	240	500	1960	2700
1RN6 502-8HJ.0-Z K96	6800	950	1270	1970	1320	560	170	240	500	1960	2700
1RN6 504-8HJ.0-Z K96	7400	950	1270	1970	1500	560	170	240	500	1960	2900
1RN6 506-8HJ.0-Z K96	7800	950	1270	1970	1500	560	170	240	500	1960	2900

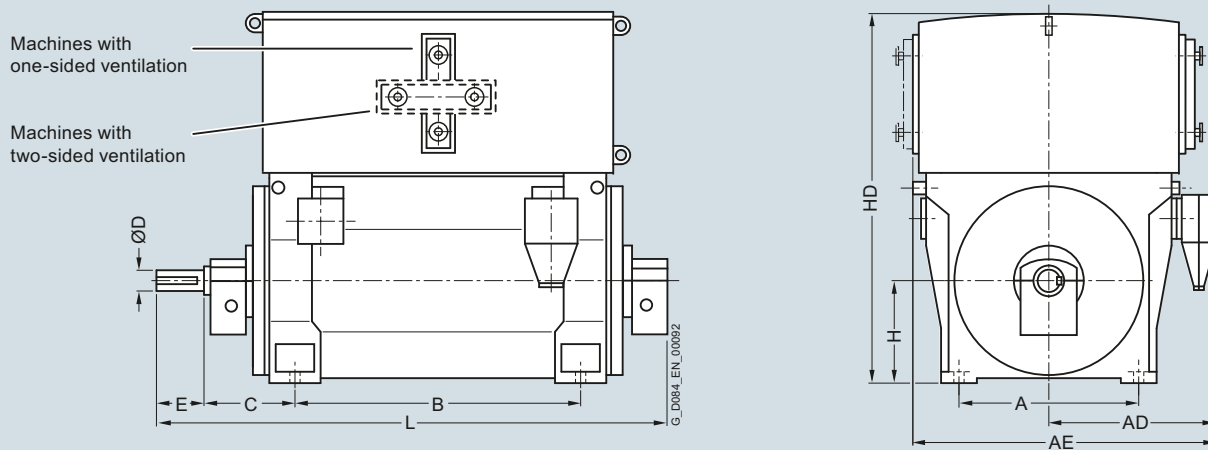
¹⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions mm									
		A	AD	AE	B	C	D	E	H	HD	L
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RN4 series¹⁾											
8-pole											
1RN6 560-8HJ.0-Z K96	8800	1060	1340	2110	1400	600	170	240	560	2200	2950
1RN6 562-8HJ.0-Z K96	9250	1060	1340	2110	1400	600	170	240	560	2200	2950
1RN6 564-8HJ.0-Z K96	10050	1060	1340	2110	1600	600	170	240	560	2200	3150
1RN6 566-8HJ.0-Z K96	10600	1060	1340	2110	1600	600	170	240	560	2200	3150
1RN4 630-8HE.0-Z K96	10750	1320	1320	2280	1600	600	220	280	630	2400	2970
1RN4 632-8HE.0-Z K96	11350	1320	1320	2280	1600	600	220	280	630	2400	2970
1RN4 634-8HE.0-Z K96	12350	1320	1320	2280	1800	600	220	280	630	2400	3210
1RN4 636-8HE.0-Z K96	13050	1320	1320	2280	1800	600	220	280	630	2400	3210
10-pole											
1RN4 500-3HE.0-Z K96	5700	950	1220	2010	1320	500	160	240	500	1830	2620
1RN4 502-3HE.0-Z K96	6050	950	1220	2010	1320	500	160	240	500	1830	2620
1RN4 504-3HE.0-Z K96	6550	950	1220	2010	1500	500	170	240	500	1830	2830
1RN4 506-3HE.0-Z K96	6900	950	1220	2010	1500	500	170	240	500	1830	2830
1RN4 560-3HE.0-Z K96	8050	1060	1210	2060	1400	530	180	240	560	2040	2670
1RN4 562-3HE.0-Z K96	8550	1060	1210	2060	1400	530	180	240	560	2040	2670
1RN4 564-3HE.0-Z K96	9150	1060	1210	2060	1600	530	190	280	560	2040	2940
1RN4 566-3HE.0-Z K96	9550	1060	1210	2060	1600	530	190	280	560	2040	2940
1RN4 630-3HE.0-Z K96	10700	1320	1320	2280	1600	600	220	280	630	2400	2970
1RN4 632-3HE.0-Z K96	11350	1320	1320	2280	1600	600	220	280	630	2400	2970
1RN4 634-3HE.0-Z K96	12300	1320	1320	2280	1800	600	220	280	630	2400	3210
1RN4 636-3HE.0-Z K96	13000	1320	1320	2280	1800	600	220	280	630	2400	3210
12-pole											
1RN4 502-5HE.0-Z K96	6050	950	1220	2010	1320	500	160	240	500	1830	2620
1RN4 504-5HE.0-Z K96	6500	950	1220	2010	1500	500	170	240	500	1830	2830
1RN4 506-5HE.0-Z K96	6900	950	1220	2010	1500	500	170	240	500	1830	2830
1RN4 560-5HE.0-Z K96	7650	1060	1210	2060	1400	530	180	240	560	2040	2670
1RN4 562-5HE.0-Z K96	8200	1060	1210	2060	1400	530	180	240	560	2040	2670
1RN4 564-5HE.0-Z K96	9000	1060	1210	2060	1600	530	190	280	560	2040	2940
1RN4 566-5HE.0-Z K96	9450	1060	1210	2060	1600	530	190	280	560	2040	2940
1RN4 630-5HE.0-Z K96	10750	1320	1320	2280	1600	600	220	280	630	2400	2970
1RN4 632-5HE.0-Z K96	11350	1320	1320	2280	1600	600	220	280	630	2400	2970
1RN4 634-5HE.0-Z K96	12400	1320	1320	2280	1800	600	220	280	630	2400	3210
1RN4 636-5HE.0-Z K96	13100	1320	1320	2280	1800	600	220	280	630	2400	3210

Note: Higher pole numbers are available on request.

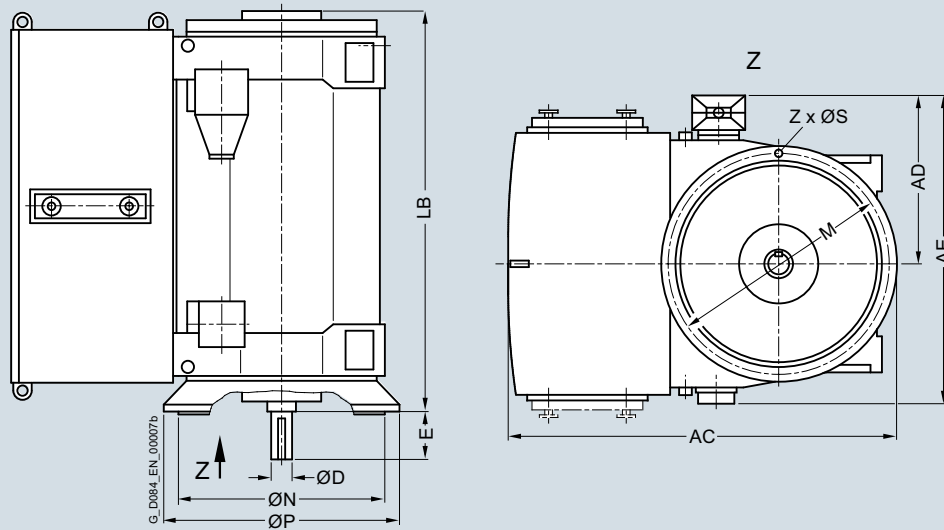
¹⁾ The dimensions are also valid for the 1SN4/1SN6, 1SL4/1SL6 and 1SQ4/1SQ6 series.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, IM V1 type of construction, roller bearings – series 1RN4, 1RN6²⁾												
4-pole												
1RN6 450-4HJ.8	4550	1840	930	1620	130	200	1720	1150	1000	1080	26	8
1RN6 452-4HJ.8	4750	1840	930	1620	130	200	1720	1150	1000	1080	26	8
1RN6 454-4HJ.8	5150	1840	930	1620	130	200	1930	1150	1000	1080	26	8
1RN6 456-4HJ.8	5450	1840	930	1620	130	200	1930	1150	1000	1080	26	8
1RN4 500-4HE.8	5500	1960	1000	1810	150	200	1910	1250	1120	1180	26	8
1RN4 502-4HE.8	5700	1960	1000	1810	150	200	1910	1250	1120	1180	26	8
1RN4 504-4HE.8	6400	1960	1000	1810	160	240	2120	1250	1120	1180	26	8
1RN4 506-4HE.8	6800	1960	1000	1810	160	240	2120	1250	1120	1180	26	8
1RN4 560-4HE.8	7550	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 562-4HE.8	8000	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 564-4HE.8 ³⁾	8900	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 566-4HE.8 ³⁾	9350	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 630-4HE.8 ³⁾	12050	2875	1330	2300	200	280	2400	2000	1800	1900	33	8
1RN4 632-4HE.8 ³⁾	12750	2875	1330	2300	200	280	2400	2000	1800	1900	33	8
1RN4 634-4HE.8 ³⁾	13800	2875	1330	2300	220	280	2640	2000	1800	1900	33	8
1RN4 636-4HE.8 ³⁾	14350	2875	1330	2300	220	280	2640	2000	1800	1900	33	8
6-pole												
1RN6 450-6HJ.8	4650	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6 452-6HJ.8	4950	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6 454-6HJ.8	5300	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6 456-6HJ.8	5650	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN4 500-6HE.8	5650	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4 502-6HE.8	6050	1960	1000	1810	160	240	1910	1250	1120	1180	26	8

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

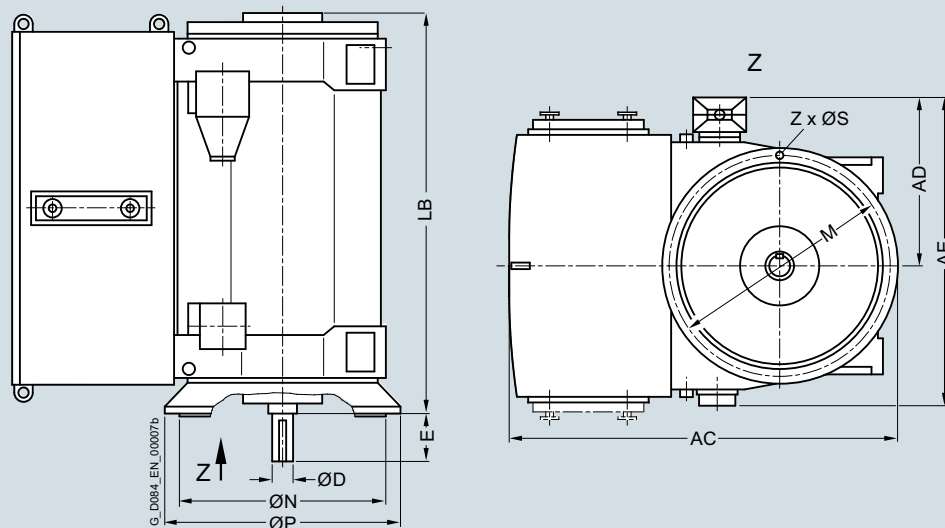
³⁾ Vertical type of construction, only in the 50 Hz version.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC	AD ¹⁾	AE ¹⁾	D	E	LB	P	N	M	S	Z

Up to 6.6 kV, IM V1 type of construction, roller bearings – series 1RN4, 1RN6²⁾

6-pole												
1RN4 504-6HE.8	6550	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4 506-6HE.8	6950	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4 560-6HE.8	7650	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 562-6HE.8	8250	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 564-6HE.8	9100	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 566-6HE.8	9550	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 630-6HE.8	12300	2875	1330	2300	220	280	2400	2000	1800	1900	33	8
1RN4 632-6HE.8	12850	2875	1330	2300	220	280	2400	2000	1800	1900	33	8
1RN4 634-6HE.8	13950	2875	1330	2300	220	280	2640	2000	1800	1900	33	8
1RN4 636-6HE.8	14650	2875	1330	2300	220	280	2640	2000	1800	1900	33	8
8-pole												
1RN6 450-8HJ.8	4650	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6 452-8HJ.8	4950	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6 454-8HJ.8	5350	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6 456-8HJ.8	5650	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN4 500-8HE.8	5700	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4 502-8HE.8	6050	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4 504-8HE.8	6550	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4 506-8HE.8	6950	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4 560-8HE.8	7650	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN4 562-8HE.8	8150	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN4 564-8HE.8	9000	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN4 566-8HE.8	9450	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN4 630-8HE.8 ³⁾	12250	2875	1330	2300	220	280	2400	2000	1800	1900	33	8
1RN4 632-8HE.8 ³⁾	12850	2875	1330	2300	220	280	2400	2000	1800	1900	33	8
1RN4 634-8HE.8 ³⁾	13800	2875	1330	2300	220	280	2640	2000	1800	1900	33	8
1RN4 636-8HE.8 ³⁾	14550	2875	1330	2300	220	280	2640	2000	1800	1900	33	8

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

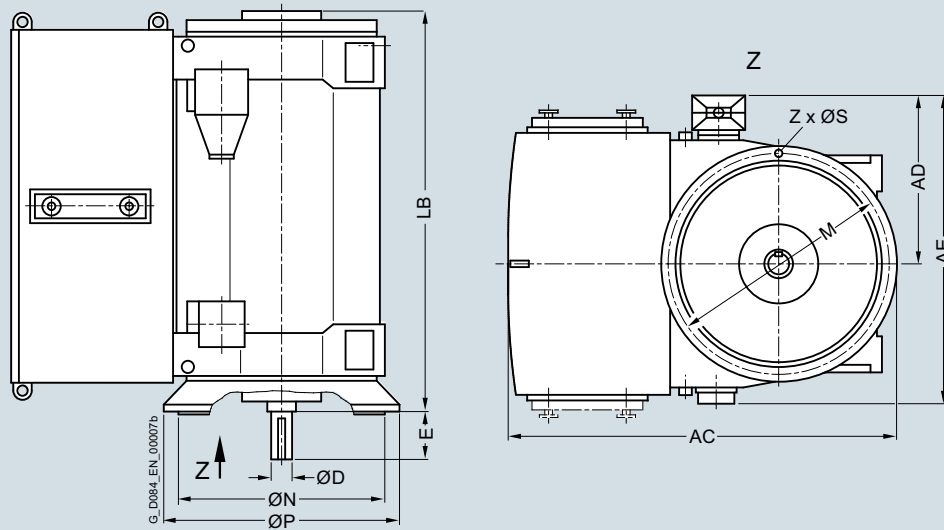
³⁾ Vertical type of construction, only in the 50 Hz version.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, IM V1 type of construction, roller bearings – series 1RN4, 1RN6²⁾												
10-pole												
1RN6 450-3HJ.8	4650	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6 452-3HJ.8	4950	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6 454-3HJ.8	5350	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6 456-3HJ.8	5650	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN4 500-3HE.8	5650	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4 502-3HE.8	6000	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4 504-3HE.8	6550	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4 506-3HE.8	6900	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4 560-3HE.8	7550	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN4 562-3HE.8	8150	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN4 564-3HE.8	8950	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN4 566-3HE.8	9400	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN4 630-3HE.8 ³⁾	12150	2875	1180	2150	220	280	2400	2000	1800	1900	33	8
1RN4 632-3HE.8 ³⁾	12850	2875	1330	2300	220	280	2400	2000	1800	1900	33	8
1RN4 634-3HE.8 ³⁾	13850	2875	1330	2300	220	280	2640	2000	1800	1900	33	8
1RN4 636-3HE.8 ³⁾	14550	2875	1330	2300	220	280	2640	2000	1800	1900	33	8

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

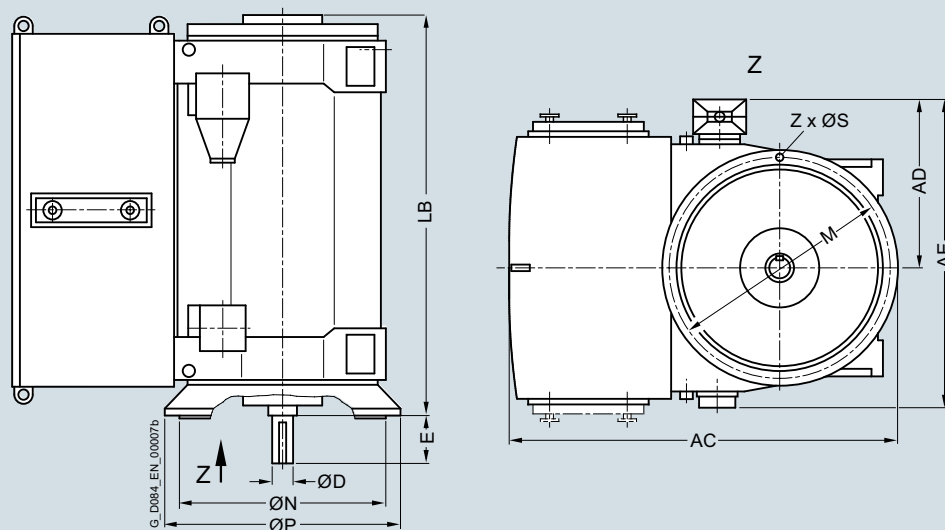
³⁾ Vertical type of construction, only in the 50 Hz version.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, IM V1 type of construction, roller bearings – series 1RN4, 1RN6²⁾												
12-pole												
1RN6 450-5HJ.8	4650	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6 452-5HJ.8	4950	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6 454-5HJ.8	5350	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6 456-5HJ.8	5650	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN4 500-5HE.8	5650	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4 502-5HE.8	6000	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4 504-5HE.8	6500	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4 506-5HE.8	6950	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4 560-5HE.8	7600	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN4 562-5HE.8	8150	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN4 564-5HE.8	8950	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN4 566-5HE.8	9400	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN4 630-5HE.8 ³⁾	12050	2875	1180	2150	220	280	2400	2000	1800	1900	33	8
1RN4 632-5HE.8 ³⁾	12650	2875	1180	2150	220	280	2400	2000	1800	1900	33	8
1RN4 634-5HE.8 ³⁾	13700	2875	1180	2150	220	280	2640	2000	1800	1900	33	8
1RN4 636-5HE.8 ³⁾	14500	2875	1330	2300	220	280	2640	2000	1800	1900	33	8

Note:

Higher pole numbers are available on request.

¹⁾ The value applies for 6 kV. When a lower voltage is selected, the rated current increases. For rated currents above 315 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

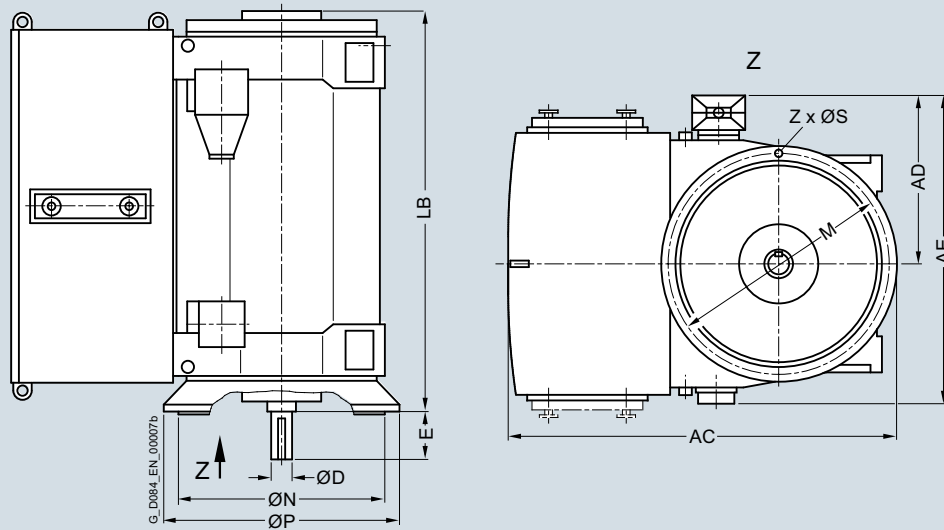
³⁾ Vertical type of construction, only in the 50 Hz version.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
9 ... 11 kV, IM V1 type of construction, roller bearings – series 1RN4, 1RN6¹⁾												
4-pole												
1RN6 450-4HJ.8	4550	1840	1070	1840	130	200	1720	1150	1000	1080	26	8
1RN6 452-4HJ.8	4750	1840	1070	1840	130	200	1720	1150	1000	1080	26	8
1RN6 454-4HJ.8	5150	1840	1070	1840	130	200	1930	1150	1000	1080	26	8
1RN6 456-4HJ.8	5450	1840	1070	1840	130	200	1930	1150	1000	1080	26	8
1RN4 500-4HE.8	5550	1960	1140	1950	150	200	1910	1250	1120	1180	26	8
1RN4 502-4HE.8	5700	1960	1140	1950	150	200	1910	1250	1120	1180	26	8
1RN4 504-4HE.8	6350	1960	1140	1950	160	240	2120	1250	1120	1180	26	8
1RN4 506-4HE.8	6700	1960	1140	1950	160	240	2120	1250	1120	1180	26	8
1RN4 560-4HE.8	7400	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 562-4HE.8	7900	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 564-4HE.8	8750	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 566-4HE.8	9200	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 630-4HE.8 ²⁾	11950	2875	1320	2290	200	280	2400	2000	1800	1900	33	8
1RN4 632-4HE.8 ²⁾	12600	2875	1330	2300	200	280	2400	2000	1800	1900	33	8
1RN4 634-4HE.8 ²⁾	13650	2875	1330	2300	220	280	2640	2000	1800	1900	33	8
1RN4 636-4HE.8 ²⁾	14250	2875	1330	2300	220	280	2640	2000	1800	1900	33	8
6-pole												
1RN6 450-6HJ.8	4650	1840	1070	1840	140	200	1720	1150	1000	1080	26	8
1RN6 452-6HJ.8	4950	1840	1070	1840	140	200	1720	1150	1000	1080	26	8
1RN6 454-6HJ.8	5300	1840	1070	1840	140	200	1930	1150	1000	1080	26	8
1RN6 456-6HJ.8	5650	1840	1070	1840	140	200	1930	1150	1000	1080	26	8
1RN4 500-6HE.8	5650	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN4 502-6HE.8	6050	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN4 504-6HE.8	6550	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN4 506-6HE.8	6950	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN4 560-6HE.8	7650	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 562-6HE.8	8150	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 564-6HE.8	8950	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 566-6HE.8	9400	2180	1210	2100	190	280	2320	1400	1250	1320	26	8

¹⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

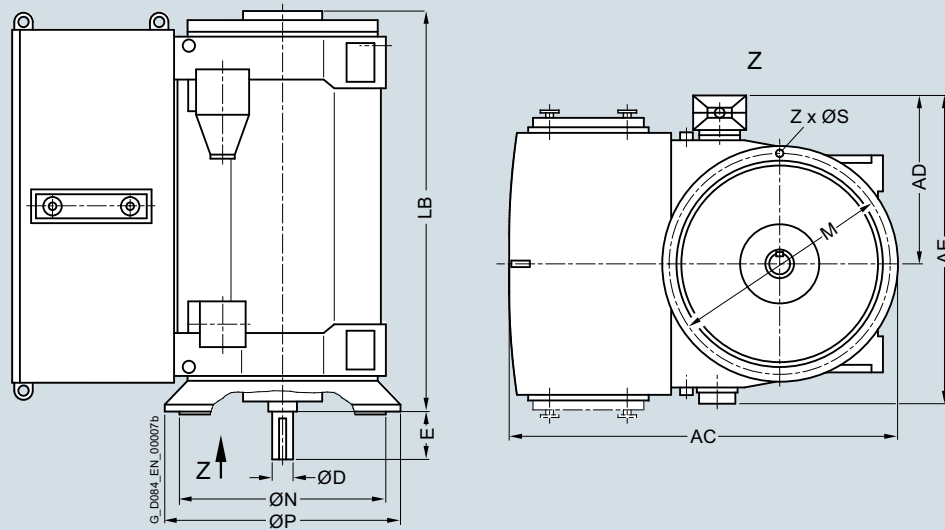
²⁾ Vertical type of construction, only in the 50 Hz version.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
9 ... 11 kV, IM V1 type of construction, roller bearings – series 1RN4, 1RN6¹⁾												
6-pole												
1RN4 630-6HE.8	12300	2875	1320	2290	220	280	2400	2000	1800	1900	33	8
1RN4 632-6HE.8	12850	2875	1320	2290	220	280	2400	2000	1800	1900	33	8
1RN4 634-6HE.8	13900	2875	1320	2290	220	280	2640	2000	1800	1900	33	8
1RN4 636-6HE.8	14650	2875	1330	2300	220	280	2640	2000	1800	1900	33	8
8-pole												
1RN6 450-8HJ.8	4650	1840	1070	1840	140	200	1720	1150	1000	1080	26	8
1RN6 452-8HJ.8	4950	1840	1070	1840	140	200	1720	1150	1000	1080	26	8
1RN6 454-8HJ.8	5350	1840	1070	1840	140	200	1930	1150	1000	1080	26	8
1RN6 456-8HJ.8	5650	1840	1070	1840	140	200	1930	1150	1000	1080	26	8
1RN4 500-8HE.8	5700	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN4 502-8HE.8	6050	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN4 504-8HE.8	6550	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN4 506-8HE.8	6950	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN4 560-8HE.8	7600	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 562-8HE.8	8150	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 564-8HE.8	9000	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 566-8HE.8	9400	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 630-8HE.8	12100	2875	1320	2290	220	280	2400	2000	1800	1900	33	8
1RN4 632-8HE.8	12700	2875	1320	2290	220	280	2400	2000	1800	1900	33	8
1RN4 634-8HE.8	13700	2875	1320	2290	220	280	2640	2000	1800	1900	33	8
1RN4 636-8HE.8	14450	2875	1320	2290	220	280	2640	2000	1800	1900	33	8

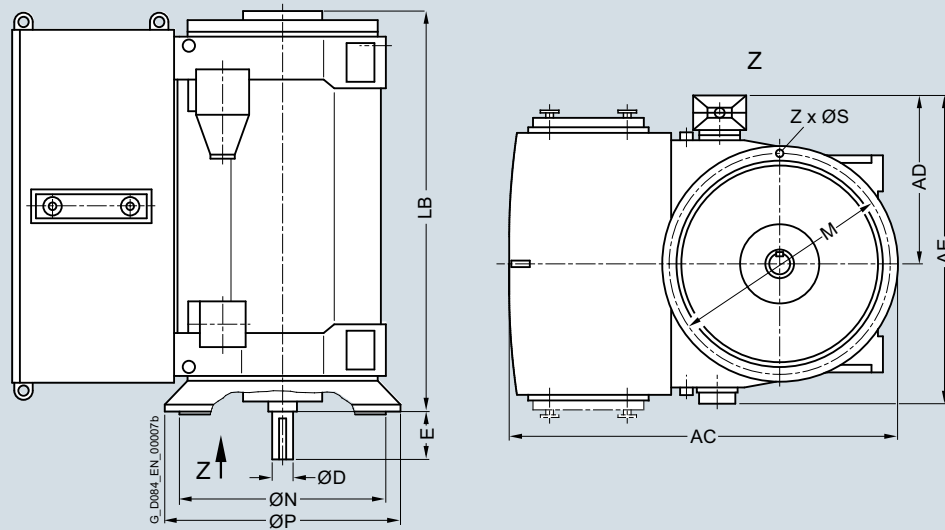
¹⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
9 ... 11 kV, IM V1 type of construction, roller bearings – 1RN4 series¹⁾												
10-pole												
1RN4 500-3HE.8	5650	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN4 502-3HE.8	6000	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN4 504-3HE.8	6500	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN4 506-3HE.8	6900	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN4 560-3HE.8	7900	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 562-3HE.8	8550	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 564-3HE.8	9400	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 566-3HE.8	10000	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 630-3HE.8	12100	2875	1320	2290	220	280	2400	2000	1800	1900	33	8
1RN4 632-3HE.8	12700	2875	1320	2290	220	280	2400	2000	1800	1900	33	8
1RN4 634-3HE.8	13650	2875	1320	2290	220	280	2640	2000	1800	1900	33	8
1RN4 636-3HE.8	14400	2875	1320	2290	220	280	2640	2000	1800	1900	33	8
12-pole												
1RN4 502-5HE.8	6050	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN4 504-5HE.8	6450	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN4 506-5HE.8	6900	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN4 560-5HE.8	7550	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 562-5HE.8	8100	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN4 564-5HE.8	8900	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 566-5HE.8	9350	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN4 630-5HE.8	12100	2875	1320	2290	220	280	2400	2000	1800	1900	33	8
1RN4 632-5HE.8	12750	2875	1320	2290	220	280	2400	2000	1800	1900	33	8
1RN4 634-5HE.8	13750	2875	1320	2290	220	280	2640	2000	1800	1900	33	8
1RN4 636-5HE.8	14500	2875	1320	2290	220	280	2640	2000	1800	1900	33	8

Note:

Higher pole numbers are available on request.

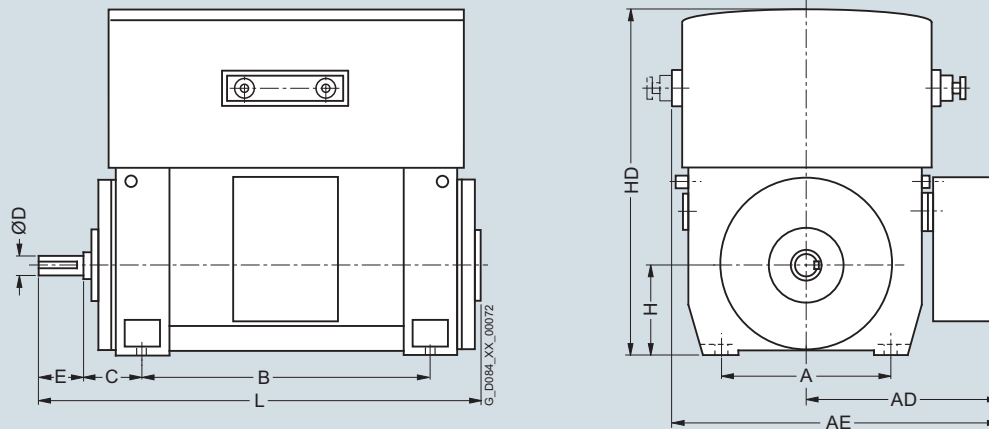
¹⁾ The dimensions are also valid for the 1SN4/1SN6 and 1SL4/1SL6 series.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, IM B3 type of construction, roller bearings, X ventilation – 1RN6 series¹⁾

4-pole

1RN6 710-4HJ.0 ²⁾	17700	1500	1500	2560	2000	355	220	280	710	2510	2980
1RN6 712-4HJ.0 ²⁾	18500	1500	1500	2560	2000	355	220	280	710	2510	2980
1RN6 714-4HJ.0 ²⁾	19900	1500	1500	2560	2240	355	220	280	710	2510	3220
1RN6 716-4HJ.0 ²⁾	20900	1500	1500	2560	2240	355	220	280	710	2510	3220

Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, roller bearings, X ventilation – 1RN6 series¹⁾

4-pole

1RN6 710-4HJ.0 ²⁾	17400	1500	1500	2560	2000	355	220	280	710	2510	2980
1RN6 712-4HJ.0 ²⁾	18200	1500	1500	2560	2000	355	220	280	710	2510	2980
1RN6 714-4HJ.0 ²⁾	19700	1500	1500	2560	2240	355	220	280	710	2510	3220
1RN6 716-4HJ.0 ²⁾	20600	1500	1500	2560	2240	355	220	280	710	2510	3220

¹⁾ The dimensions are also valid for the 1SN6 and 1SL6 series.

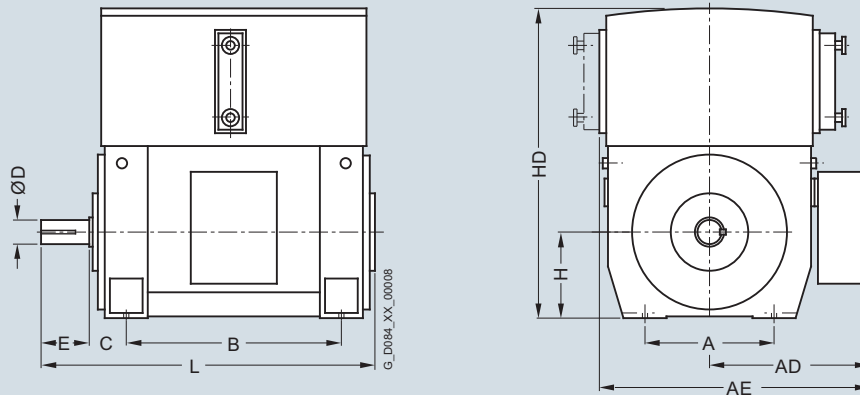
²⁾ Roller bearings only for 50 Hz version.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, roller bearings, Z ventilation – 1RN6 series¹⁾											
6-pole											
1RN6 710-6HJ.0	16700	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 712-6HJ.0	17400	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 714-6HJ.0	19100	1500	1500	2560	2240	355	240	330	710	2600	3270
1RN6 716-6HJ.0	20200	1500	1500	2560	2240	355	240	330	710	2600	3270
8-pole											
1RN6 710-8HJ.0	16500	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 712-8HJ.0	17300	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 714-8HJ.0	18900	1500	1500	2560	2240	355	240	330	710	2600	3270
1RN6 716-8HJ.0	20000	1500	1500	2560	2240	355	240	330	710	2600	3270
10-pole											
1RN6 710-3HJ.0	16300	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 712-3HJ.0	17100	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 714-3HJ.0	18700	1500	1500	2560	2240	355	240	330	710	2600	3270
1RN6 716-3HJ.0	19900	1500	1500	2560	2240	355	240	330	710	2600	3270

Note:

Higher pole numbers are available on request.

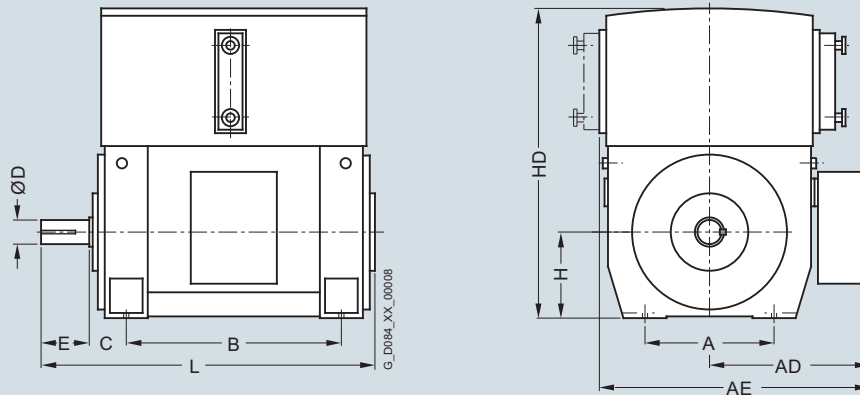
¹⁾ The dimensions are also valid for the 1SN6 and 1SL6 series.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings



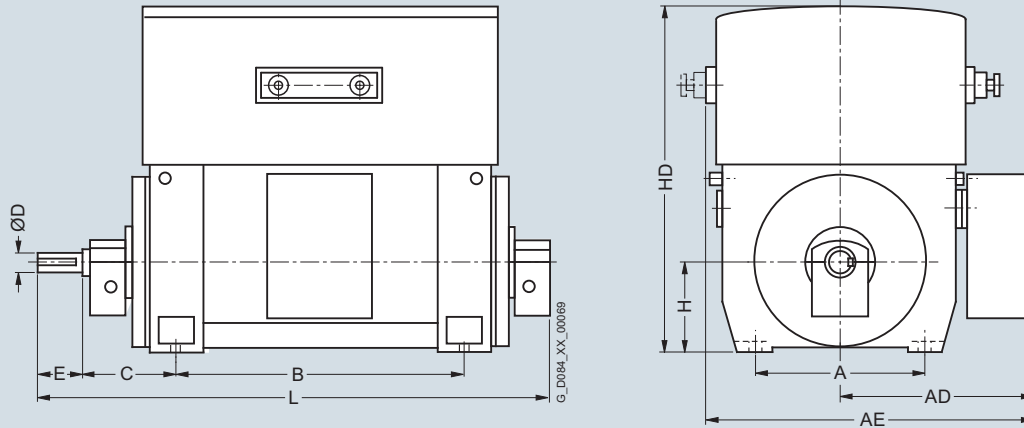
Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, roller bearings, Z ventilation – 1RN6 series¹⁾											
6-pole											
1RN6 710-6HJ.0	16500	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 712-6HJ.0	17200	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 714-6HJ.0	18900	1500	1500	2560	2240	355	240	330	710	2600	3270
1RN6 716-6HJ.0	20000	1500	1500	2560	2240	355	240	330	710	2600	3270
8-pole											
1RN6 710-8HJ.0	16400	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 712-8HJ.0	17100	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 714-8HJ.0	18800	1500	1500	2560	2240	355	240	330	710	2600	3270
1RN6 716-8HJ.0	19800	1500	1500	2560	2240	355	240	330	710	2600	3270
10-pole											
1RN6 710-3HJ.0	16200	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 712-3HJ.0	17000	1500	1500	2560	2000	355	240	330	710	2600	3030
1RN6 714-3HJ.0	18700	1500	1500	2560	2240	355	240	330	710	2600	3270
1RN6 716-3HJ.0	19800	1500	1500	2560	2240	355	240	330	710	2600	3270

Note:

Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SN6 and 1SL6 series.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, IM B3 type of construction, sleeve bearings, X ventilation – 1RN6 series¹⁾

2-pole											
1RN6 710-2HJ.0	15900	1500	1500	2560	2000	600	180	240	710	2510	3370
1RN6 712-2HJ.0	16800	1500	1500	2560	2000	600	180	240	710	2510	3370
1RN6 714-2HJ.0	18000	1500	1500	2560	2240	600	180	240	710	2510	3610
1RN6 716-2HJ.0	19000	1500	1500	2560	2240	600	180	240	710	2510	3610
4-pole											
1RN6 710-4HJ.0-Z K96 ²⁾	17700	1500	1500	2560	2000	530	220	280	710	2510	3260
1RN6 712-4HJ.0-Z K96 ²⁾	18500	1500	1500	2560	2000	530	220	280	710	2510	3260
1RN6 714-4HJ.0-Z K96 ²⁾	19900	1500	1500	2560	2240	530	220	280	710	2510	3500
1RN6 716-4HJ.0-Z K96 ²⁾	20900	1500	1500	2560	2240	530	220	280	710	2510	3500

Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, sleeve bearings, X ventilation – 1RN6 series¹⁾

2-pole											
1RN6 710-2HJ.0	15800	1500	1500	2560	2000	600	180	240	710	2510	3370
1RN6 712-2HJ.0	16600	1500	1500	2560	2000	600	180	240	710	2510	3370
1RN6 714-2HJ.0	17800	1500	1500	2560	2240	600	180	240	710	2510	3610
1RN6 716-2HJ.0	18800	1500	1500	2560	2240	600	180	240	710	2510	3610
4-pole											
1RN6 710-4HJ.0-Z K96 ²⁾	17400	1500	1500	2560	2000	530	220	280	710	2510	3260
1RN6 712-4HJ.0-Z K96 ²⁾	18200	1500	1500	2560	2000	530	220	280	710	2510	3260
1RN6 714-4HJ.0-Z K96 ²⁾	19700	1500	1500	2560	2240	530	220	280	710	2510	3500
1RN6 716-4HJ.0-Z K96 ²⁾	20600	1500	1500	2560	2240	530	220	280	710	2510	3500

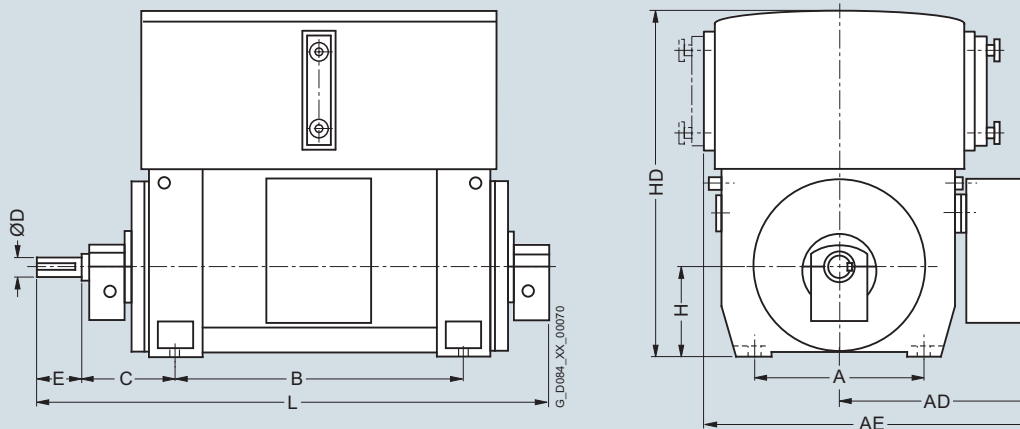
¹⁾ The dimensions are also valid for the 1SN6 and 1SL6 series.²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, IM B3 type of construction, sleeve bearings, Z ventilation – 1RN6 series¹⁾

6-pole

1RN6 710-6HJ.0-Z K96	17700	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 712-6HJ.0-Z K96	18400	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 714-6HJ.0-Z K96	20200	1500	1500	2560	2240	670	240	330	710	2600	3840
1RN6 716-6HJ.0-Z K96	21300	1500	1500	2560	2240	670	240	330	710	2600	3840

8-pole

1RN6 710-8HJ.0-Z K96	17500	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 712-8HJ.0-Z K96	18300	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 714-8HJ.0-Z K96	20000	1500	1500	2560	2240	670	240	330	710	2600	3840
1RN6 716-8HJ.0-Z K96	21100	1500	1500	2560	2240	670	240	330	710	2600	3840

10-pole

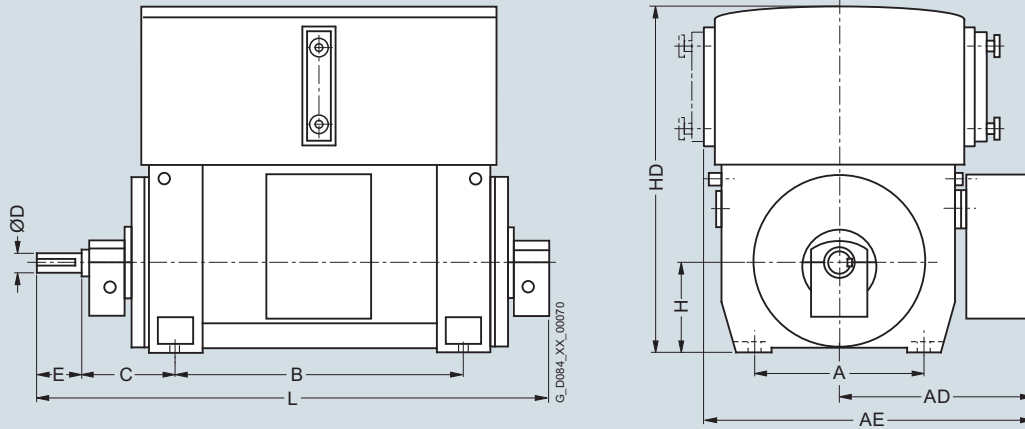
1RN6 710-3HJ.0-Z K96	17300	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 712-3HJ.0-Z K96	18200	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 714-3HJ.0-Z K96	19800	1500	1500	2560	2240	670	240	330	710	2600	3840
1RN6 716-3HJ.0-Z K96	21000	1500	1500	2560	2240	670	240	330	710	2600	3840

Note:

Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SN6 and 1SL6 series.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings, Z ventilation – 1RN6 series¹⁾											
6-pole											
1RN6 710-6HJ.0-Z K96	17500	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 712-6HJ.0-Z K96	18300	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 714-6HJ.0-Z K96	20000	1500	1500	2560	2240	670	240	330	710	2600	3840
1RN6 716-6HJ.0-Z K96	21100	1500	1500	2560	2240	670	240	330	710	2600	3840
8-pole											
1RN6 710-8HJ.0-Z K96	17400	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 712-8HJ.0-Z K96	18200	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 714-8HJ.0-Z K96	19800	1500	1500	2560	2240	670	240	330	710	2600	3840
1RN6 716-8HJ.0-Z K96	20900	1500	1500	2560	2240	670	240	330	710	2600	3840
10-pole											
1RN6 710-3HJ.0-Z K96	17300	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 712-3HJ.0-Z K96	18100	1500	1500	2560	2000	670	240	330	710	2600	3600
1RN6 714-3HJ.0-Z K96	19700	1500	1500	2560	2240	670	240	330	710	2600	3840
1RN6 716-3HJ.0-Z K96	20800	1500	1500	2560	2240	670	240	330	710	2600	3840

Note:

Higher pole numbers are available on request.

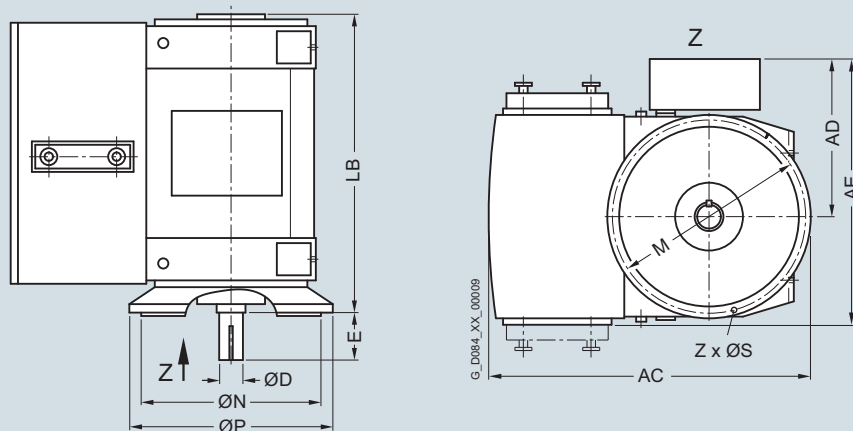
1) The dimensions are also valid for the 1SN6 and 1SL6 series.

Motors for line operation

Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Dimension drawings



Motor type	Weight kg	Dimensions											
		AC	AD	AE	D	E	LB	P	N	M	S	Z	
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Quantity

Up to 6.6 kV, IM V1 type of construction, roller bearings – 1RN6 series¹⁾

6-pole

1RN6 710-6HJ.8	17800	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 712-6HJ.8	18700	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 714-6HJ.8	20400	2890	1500	2560	240	330	3110	2000	1800	1900	33	24
1RN6 716-6HJ.8	21400	2890	1500	2560	240	330	3110	2000	1800	1900	33	24

8-pole

1RN6 710-8HJ.8	17700	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 712-8HJ.8	18500	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 714-8HJ.8	20100	2890	1500	2560	240	330	3110	2000	1800	1900	33	24
1RN6 716-8HJ.8	21200	2890	1500	2560	240	330	3110	2000	1800	1900	33	24

10-pole

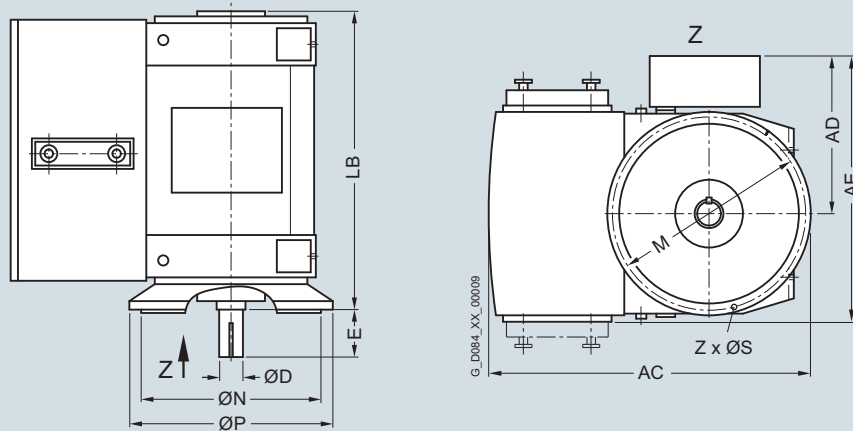
1RN6 710-3HJ.8	17500	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 712-3HJ.8	18300	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 714-3HJ.8	20000	2890	1500	2560	240	330	3110	2000	1800	1900	33	24
1RN6 716-3HJ.8	21100	2890	1500	2560	240	330	3110	2000	1800	1900	33	24

Note:

Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SN6 and 1SL6 series.

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
9 ... 11 kV, IM V1 type of construction, roller bearings – 1RN6 series¹⁾												
6-pole												
1RN6 710-6HJ.8	17800	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 712-6HJ.8	18700	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 714-6HJ.8	20400	2890	1500	2560	240	330	3110	2000	1800	1900	33	24
1RN6 716-6HJ.8	21400	2890	1500	2560	240	330	3110	2000	1800	1900	33	24
8-pole												
1RN6 710-8HJ.8	17700	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 712-8HJ.8	18400	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 714-8HJ.8	20100	2890	1500	2560	240	330	3110	2000	1800	1900	33	24
1RN6 716-8HJ.8	21200	2890	1500	2560	240	330	3110	2000	1800	1900	33	24
10-pole												
1RN6 710-3HJ.8	17500	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 712-3HJ.8	18300	2890	1500	2560	240	330	2870	2000	1800	1900	33	24
1RN6 714-3HJ.8	20000	2890	1500	2560	240	330	3110	2000	1800	1900	33	24
1RN6 716-3HJ.8	21100	2890	1500	2560	240	330	3110	2000	1800	1900	33	24

Note:

Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SN6 and 1SL6 series.

Motors for line operation

Options and tests

Description of options

Overview

Using the following options, H-compact and H-compact PLUS can be adapted to order-specific requirements. The Article No. is supplemented with a "-Z" and with either one or several order codes.

Other options can be addressed on request with the LOHER VARIO (rib-cooled) or LOHER VARIO PLUS (modular design) motor series.

Example:

1LA4354-4AN60-Z H05 + K16 + L20

As standard, 6x PT 100 slot resistance thermometers without surge arrester for 3-wire or 4-wire circuit from the terminal box are integrated in the stator winding.

The motors are prepared as standard with SPM nipples to monitor the roller bearings.

Order code	Option description	Remark
	Paint finish	
K26	Special paint finish in the standard color RAL 7030	
Y53	Normal paint finish not in the standard color	
Y54	Special paint finish not in the standard color	
	Documentation	
B00	No motor manual	
B21	Motor manual on CD instead of paper (PDF format)	
B22	Motor manual as e-mail (PDF format) instead of paper	
B23	Motor manual printed on paper, 3x	
B27	Run out protocol	
B28	Protocol air gap calculation	
B34	Document standard inspection and test plan	
B35	Document balance report	
B36	Document test and inspection description	
B37	Document load characteristics	
B38	Document recommended spare parts	
B41	Document instrumentation list	
B43	Document production schedule: Generated once	
B44	Document production schedule: Updated biweekly	
B45	Document production schedule: Updated monthly	
B48	Document order-specific inspection and test plan	
	Document language	
D00	Documentation in German	
D54	Documentation in Czech	
D55	Dokumentation in Polnisch	
D56	Documentation in Russian	
D72	Documentation in Italian	
D73	Documentation in Finnish	
D74	Documentation in Dutch	
D75	Documentation in Turkish	
D76	Documentation in English	Standard
D77	Documentation in French	
D78	Documentation in Spanish	
D79	Documentation in Portuguese	
D80	Documentation in Bulgarian	
D81	Documentation in Norwegian	
D82	Documentation in Hungarian	
D83	Documentation in Swedish	
D84	Documentation in Chinese	

Overview (continued)

Order code	Option description	Remark
	Speed monitoring	
A03	Speed monitoring using an inductive proximity switch, Pepperl + Fuchs, incl. terminal box, without evaluation unit	
H70	Rotary pulse encoder LL 861 900 220 (Leine+Linde)	
H73	Rotary pulse encoder HOG 10 D1024 I (16 mm)	
H88	Rotary pulse encoder HOG 11 DN 1024 I (16 mm) with special anti-corrosion protection	For marine applications
H89	Rotary pulse encoder HOG 11 DN 1024 I (16 mm) with integrated shaft grounding and special anti-corrosion protection	For marine applications
	Direction of rotation	
K97	Clockwise rotation	
K98	Anticlockwise rotation	
	Noise reduction	
L20	Silencer for air inlet	
L21	Noise reduction: Silencer for air outlet	Only for H-compact PLUS
L22	Noise reduction: Lining of interior space	Only for H-compact PLUS
L23	External metal fan, unidirectional	Only for H-compact
L25	Rustless grid at inlet silencer	Only for H-compact
	Terminal box mounting position	
K09	Terminal box on right-hand side, view from DE	
K10	Terminal box on left-hand side, view from DE	
K83	Terminal box rotated through 90°, cable from DE	
K84	Terminal box rotated through 90°, cable from NDE	
K85	Terminal box rotated through 180°	
N81	Cable entry from NDE side with rotated terminal box bracket 180°	Only for H-compact
N82	Cable entry from DE side with rotated terminal box bracket 180°	Only for H-compact
N83	Cable entry from above	
N84	Rotation of the terminal box bracket 180°	
N85	Terminal box on NDE	Only for H-compact
	Terminal box, main and auxiliary terminal box	
L54	Terminal box 1XB8 751, 6 terminals with 2 cable entries for connection to power supply, rated current > 315 A	
L55	Star-point terminal box 1XA8 711, up to 6 kV, 3 terminals	
L56	Star-point terminal box 1XB8 911, up to 10 kV, 3 terminals	
L57	Star-point terminal box 1XB8 751, up to 6 kV, 6 terminals	
L58	Star-point terminal box 1XB9 011, for installing current transformer (without current transformer)	
L59	Terminal box 1XB8 911 for 1 cable entry for power supply	
M50	Auxiliary terminal box material: Cast iron	
M51	Auxiliary terminal box material: Stainless steel	
M52	Separate auxiliary terminal box for anti-condensation heater	Standard for H-compact PLUS
	Terminal box – accessories/equipping	
K59	Cable plug connection, rated voltage 2 to 6.6 kV	
L79	Gland plate for 3 winding ends to connect to the line supply via separately mounted terminal box, 3 m free cable length from the frame	
L80	Gland plate for 6 winding ends to connect to the line supply via separately mounted terminal box, 3 m free cable length from the frame	
L83	Cable plug connection, rated voltage 9 to 11 kV	

Motors for line operation

Options and tests

Description of options

Overview (continued)

Order code	Option description	Remark
	Cooling air monitoring	
A44	1 resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box for cold air temperature	
A45	1 resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box for hot air temperature	
A46	1 double resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box, for cold air temperature	
A47	1 double resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box, for hot air temperature	
A86	1 dial-type thermometer with 2 NO-Contacts for cold air temperature incl. terminal box	
A87	1 dial-type thermometer with 2 NO-Contacts for hot air temperature incl. terminal box	
	Bearing version/instrumentation	
H09 + H11	DIN flange type for forced oil lubrication for oil inlet with flowmeter, manometer and throttle valve (incl. counter flange) + DIN flange type forced oil lubrication for oil outlet with sight glass (incl. counter flange)	
H10 + H12	ANSI flange type for forced oil lubrication for oil inlet with flowmeter, manometer and throttle valve (incl. counter flange) + ANSI flange type for forced oil lubrication for oil outlet with sight glass (incl. counter flange)	
H43	DIN flange type for forced oil lubrication for in- and outlet without instruments (with counter flanges)	
H44	ANSI flange type for forced oil lubrication for in- and outlet without instruments (with counter flanges)	
K20	Bearing design on DE for increased forces (reinforced)	H-compact SH 315 and SH 355 only
K96	Sleeve bearing instead of roller bearing	
L18	DE insulation	
L27	NDE insulation	Standard for H-compact PLUS
L60	Forced-circulation oil lubrication (with oil cooling) instead of oil-ring lubrication	
L66	Air cooling, but prepared for future conversion to forced-circulation oil lubrication	
P44	Oil manifold; connections with counter flange; flange flush with the axial shaft face	
	Bearing monitoring – sleeve bearings	
A02	Shaft vibration monitoring for sleeve bearings, Bently Nevada system	
A39	Prepared for shaft vibration monitoring for sleeve bearings (without monitoring system)	
A41	2 resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminals for sleeve bearing	
A43	2 double resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminals for sleeve bearing	
A70	2 dial-type thermometers without contacts	
A71	2 dial-type thermometers with contacts	

Overview (continued)

Order code	Option description	Remark
	Bearing monitoring – roller bearings	
A40	2 resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminal box for rolling-contact bearings	
A42	2 double resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminals for rolling-contact bearing	
G50	Shock pulse measuring nipple (SPM) at DE and NDE	Standard
H05	Shock pulse measurement (SPM), fixed sensors and distributor box	
H07	Shock pulse measurement (SPM), complete alarm box	
	Mechanical versions	
K16	Second shaft extension up to 50 % rated torque	
L81	Vibration severity grade B according to IEC/ EN 60034-14	Not available for 2-pole motors with roller bearings.
Y55	Non-standard cylindrical shaft extension (an inquiry must be sent to the factory)	
Y85	Oil shrink fit for cylindrical, single-stage shaft extension instead of a key connection	
	Certified for pump drives	
E88	Construction supervision for motors for seawater desalination plants where Siemens AG commissions the acceptance authority	
E89	Construction supervision for motors for seawater desalination plants where a third party commissions the acceptance authority	
E90	Pump drive for seawater desalination plants certified according to Lloyds Register	
	Marine applications	Options and tests for marine and offshore applications: see Chapter 5.
	Others/additional options	
H08	Leakage water detection	
K52	Degree of protection IP56 non-heavy-sea	
L15	Supporting ring for coupling guard	
L17	Mounting a coupling provided (finish machined and balanced)	
L31	Motor mounting materials for mounting on a steel foundation: Bolts, shims and taper dowels	
L32	Motor mounting materials for mounting on a concrete foundation or concrete base: Threaded bolts, armature plates, sole plates, shims and taper dowels	
L33	Motor mounting materials to mount on a concrete foundation or concrete base: T-head bolts, foundation bolt sleeves, sole plates, shims and taper dowels	
L91	Higher number of starts, > 1000 ... 10000 starts per year, for Cu rotors	
L92	Higher number of starts, > 5000 ... 10000 starts per year, for Al rotors	
P45	External screws made of stainless steel	

Motors for line operation

Options and tests

Description of options

Overview (continued)

Order code	Option description	Remark
	Anti-condensation heating	
L08	Anti-condensation heater, rated voltage 400 V	
L09	Anti-condensation heater, rated voltage 500 V	
M12	Anti-condensation heater 110 to 120 V (min. 100 V, max. 132 V)	
M13	Anti-condensation heater 220 to 240 V (min. 200 V, max. 264 V)	Standard for H-compact PLUS
Y83	Anti-condensation heater with other rated voltages, V = additional text required)	
	Ambient conditions	
D02	Operation at ambient temperatures up to –50 °C, transport up to –50 °C	
D03	Operation at ambient temperatures up to –40 °C, transport up to –40 °C	
D04	Operation at ambient temperatures up to –30 °C, transport up to –40 °C	
E81	Outdoor use with high salinity or offshore applications (corrosivity grade C5-M/ C5-I)	
E82	Outdoor use with moderate salinity (corrosivity grade C4)	
E83	Outdoor use with low salinity (corrosivity grade C3)	
M06	For use in sulfurous or hydrogenous atmosphere	
	Winding and motor protection	
A12	6 PTC thermistors without lightning arresters	
A23	1 temperature sensor KTY 84-130	
A65	6 embedded resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminal box without lightning arresters	Standard
A66	6 embedded resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminal box with lightning arresters	
	Tests with acceptance	
F01	All standard tests (routine test), with acceptance	
F15	Recording of no-load characteristic and determination of core and friction losses, with acceptance	
F17	Recording of short-circuit characteristic and determination of short-circuit losses, with acceptance	
F19	Recording of load characteristic, with acceptance	
F23	Dissipation factor test (tan delta) on 2 (test) coils, with acceptance	
F29	No-load noise measurement, without noise analysis, with acceptance	
F31	Cooling air flow and pressure drop measurement, with acceptance	
F35	Recording of current and torque characteristics during acceleration, with acceptance	
F37	Determination of moment of inertia by retardation method, with acceptance	
F39	Overspeed test, with acceptance	
F41	Recording of residual voltage curve, with acceptance	
F53	Locked-rotor torque and current measurement, with acceptance	
F55	Polarization index measurement, with acceptance	
F61	Impulse or AC voltage test on 2 (test) coils, with acceptance	In addition, specify order code F90
F63	Noise analysis, with acceptance	
F83	Type test for horizontal motors with temperature rise test, with acceptance	
F90	2 test coils	
F93	Type test for vertical motors with temperature rise test, with acceptance	

Overview (continued)

Order code	Option description	Remark
	Tests without acceptance	
F14	Recording of no-load characteristic and determination of core and friction losses, without acceptance	
F16	Recording of short-circuit characteristic and determination of short-circuit losses, without acceptance	
F18	Recording of load characteristic, without acceptance	
F22	Dissipation factor test (tan delta) on 2 (test) coils, without acceptance	In addition, specify order code F90
F28	No-load noise measurement, without noise analysis, without acceptance	
F30	Cooling air flow and pressure drop measurement, without acceptance	
F34	Recording of current and torque characteristics during acceleration, without acceptance	
F36	Determination of moment of inertia by retardation method, without acceptance	
F38	Overspeed test, without acceptance	
F42	"Conformance Test (Wet Test)" to NEMA Standard, without acceptance	
F52	Locked-rotor torque and current measurement, without acceptance	
F54	Polarization index measurement, without acceptance	
F60	Impulse or AC voltage test on 2 (test) coils, without acceptance	In addition, specify order code F90
F62	Noise analysis, without acceptance	
F82	Type test for horizontal motors with temperature rise test, without acceptance	
F90	2 test coils	
F92	Type test for vertical motors with temperature rise test, without acceptance	
	Extension of liability for defects	Article number for reorder
Q80	Extension of liability for defects, by 12 months to a total of 24 months (2 years) from delivery	9LD1720-0AA24
Q81	Extension of liability for defects, by 18 months to a total of 30 months (2.5 years) from delivery	9LD1720-0AA30
Q82	Extension of liability for defects, by 24 months to a total of 36 months (3 years) from delivery	9LD1720-0AA36
Q83	Extension of liability for defects, by 30 months to a total of 42 months (3.5 years) from delivery	9LD1720-0AA42
Q84	Extension of liability for defects, by 36 months to a total of 48 months (4 years) from delivery	9LD1720-0AA48
Q85	Extension of liability for defects, by 48 months to a total of 60 months (5 years) from delivery	9LD1720-0AA60

Conditions for an extension of liability for defects

You will find the currently valid conditions for an extension of liability for defects under:

<http://support.automation.siemens.com/WW/view/en/56715113>

Motors for line operation

Options and tests

Notes

2

Motors for converter operation



3/2 General

3/2 Sinusoidal and non-sinusoidal converter output

3/3 Converter with non-sinusoidal output

3/3 Air-cooled motors

H-compact 1LA4

Selection and ordering data

3/6 690 V, 50 Hz
(square-law torque drive)

3/8 690 V, 50 Hz
(constant-torque drive)

3/10 2.3 kV, 50 Hz
(square-law torque drive)

3/12 3.4 to 4.16 kV, 50 Hz
(square-law torque drive)

3/14 2.3 kV, 60 Hz
(square-law torque drive)

3/16 3.4 to 4.16 kV, 60 Hz
(square-law torque drive)

3/18 2.3 kV, 50 Hz
(constant-torque drive)

3/20 3.4 to 4.16 kV, 50 Hz
(constant-torque drive)

3/22 2.3 kV, 60 Hz
(constant-torque drive)

3/24 3.4 to 4.16 kV, 60 Hz
(constant-torque drive)

Dimension drawings

3/26 IM B3 type of construction, roller bearings

3/27 IM B3 type of construction, sleeve bearings

3/29 IM V1 type of construction, roller bearings

3/31 Air-cooled motors

H-compact 1PQ4

Selection and ordering data

3/34 690 V, 50 Hz
(constant-torque drive)

3/36 2.3 kV, 50 Hz
(constant-torque drive)

3/38 3.4 to 4.16 kV, 50 Hz
(constant-torque drive)

3/40 6 to 6.6 kV, 50 Hz
(constant-torque drive)

3/42 2.3 kV, 60 Hz
(constant-torque drive)

3/44 3.4 to 4.16 kV, 60 Hz
(constant-torque drive)

Dimension drawings

3/46 IM B3 type of construction, roller bearings

3/47 IM B3 type of construction, sleeve bearings

3/48 IM V1 type of construction, roller bearings

3/49 Air-cooled motors

H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

3/50 690 V, 50 Hz
(square-law torque drive)

3/54 3.4 to 4.16 kV, 50 Hz
(square-law torque drive)

3/58 690 V, 60 Hz
(square-law torque drive)

3/62 3.4 to 4.16 kV, 60 Hz
(square-law torque drive)

Dimension drawings

3/66 IM B3 type of construction, roller bearings

3/68 IM B3 type of construction, sleeve bearings

3/72 IM V1 type of construction, roller bearings

3/75 Air-cooled motors

H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

3/76 690 V, 50 Hz
(square-law torque drive)

3/80 3.4 to 4.16 kV, 50 Hz
(square-law torque drive)

3/84 690 V, 60 Hz
(square-law torque drive)

3/88 3.4 to 4.16 kV, 60 Hz
(square-law torque drive)

Dimension drawings

3/92 IM B3 type of construction, roller bearings

3/94 IM B3 type of construction, sleeve bearings

3/98 IM V1 type of construction, roller bearings

3/101 Water-cooled motors

H-compact 1LH4

Selection and ordering data

3/102 690 V, 50 Hz

3/102 2.3 to 4.16 kV, 50 Hz

Dimension drawings

3/103 IM B3 type of construction, roller bearings

3/104 IM V1 type of construction, roller bearings

3/105 Water-cooled motors

H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

3/106 690 V, 50 Hz
(square-law torque drive)

3/110 3.4 to 4.16 kV, 50 Hz
(square-law torque drive)

3/114 690 V, 60 Hz
(square-law torque drive)

3/118 3.4 to 4.16 kV, 60 Hz
(square-law torque drive)

Dimension drawings

3/122 IM B3 type of construction, roller bearings

3/124 IM B3 type of construction, sleeve bearings

3/128 IM V1 type of construction, roller bearings

3/130 Options and tests

Description of options

Motors for converter operation

General

Sinusoidal and non-sinusoidal converter output

Overview

By using variable speed drives, cost savings can be achieved in many applications compared to fixed-speed operation.

H-compact and H-compact PLUS motors have proven themselves many times in variable-speed applications.

They are designed for an optimized drive system with the appropriate SINAMICS converters, couplings and gear units to achieve a reliable drive train with high availability and long lifetime, which results in low lifecycle costs. The integrated drive system also features engineering tools that allow the configuration of the entire drive train and the automation environment with optimized parameters. A tailor-made service concept secures the effective operation of the whole drive train application over a long time.

Sinusoidal output

For operation with medium-voltage converters SINAMICS PERFECT HARMONY or SINAMICS GM150 and SINAMICS SM150 with sine-wave filter, as a result of the sinusoidal output, line motors for applications with square-law load characteristic are suitable. For converter operation, these motors must be equipped with electrically-isolated bearings at the NDE. The technical data can be taken from the tables in Chapter 2.

The insulation system of these motors corresponds to thermal class 155 (F) – and they are generally utilized to thermal class 130 (B).

Non-sinusoidal output

For the H-compact and H-compact PLUS motor series, special versions have been designed for operation with medium-voltage SINAMICS GM150 and SINAMICS SM150 drive converters or low-voltage SINAMICS G and SINAMICS S drive converters.

These motors have, as standard, a reinforced stator winding insulation so that they can be fed from the specified drive converters without requiring a sine-wave filter. Further, for the medium-voltage version of the motors, both bearings are electrically insulated and the shaft is equipped with a grounding system.

The technical data can be taken from the tables in Chapter 3. The insulation system of these motors corresponds to thermal class 155 (F) – and they are generally utilized to thermal class 155 (F).

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Overview



Technical data

Overview of technical data

H-compact 1LA4	
Rated voltage	690 V ... 6.6 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Cooling method	IC411
Stator winding insulation	Insulation system, thermal class 155 (F), utilized to 155 (F)
Shaft height	450 ... 630 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Die-cast aluminum or copper (dependent on the shaft height and number of poles)
Standards	IEC, EN
Frame design	Cast iron with cooling ribs

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Technical data (continued)

Power ranges for IEC motors with reinforced insulation for SINAMICS converters without sine-wave filter

1LA4, 1MS4 (Ex nA), 1MG4 (Ex px) series

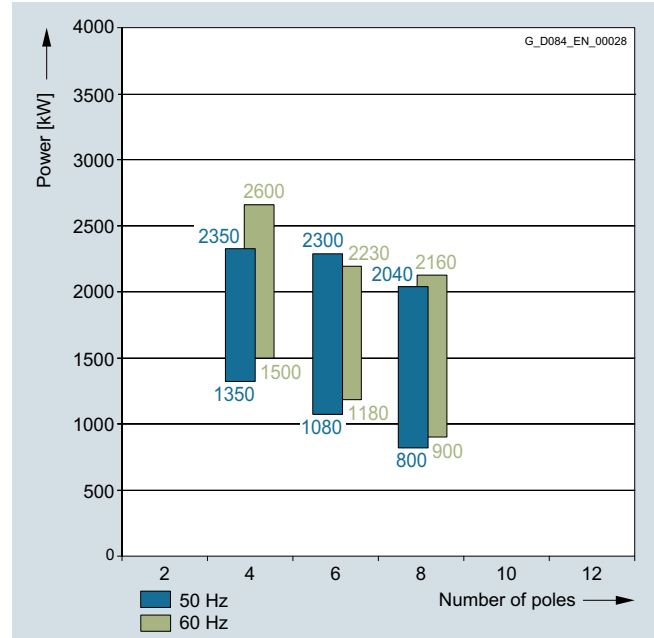
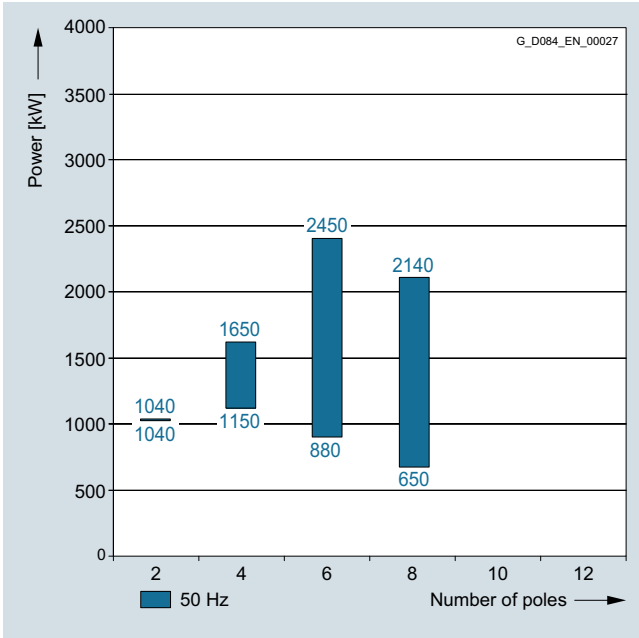
Insulation system, thermal class 155 (F), utilized to 155 (F)

The power data listed here apply for an ambient temperature of 40 °C and an installation altitude ≤ 1000 m.

690 V; 50 Hz

2.3 kV; 50 and 60 Hz

3



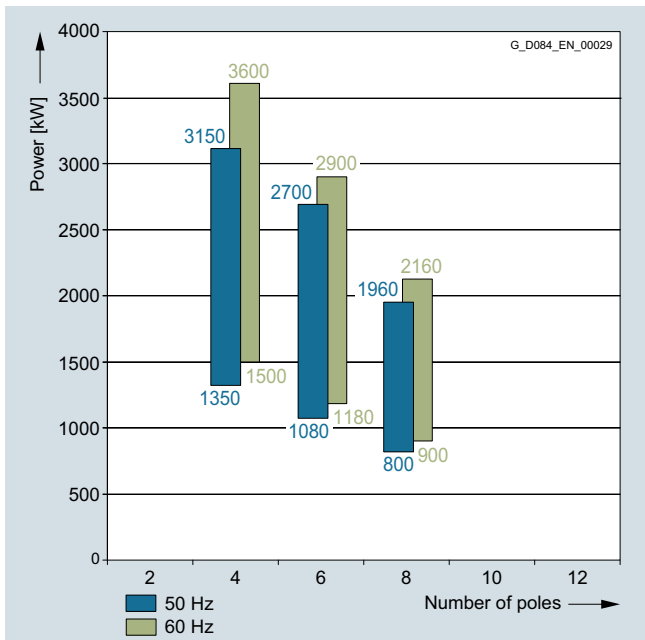
Motors for converter operation

Converter with non-sinusoidal output

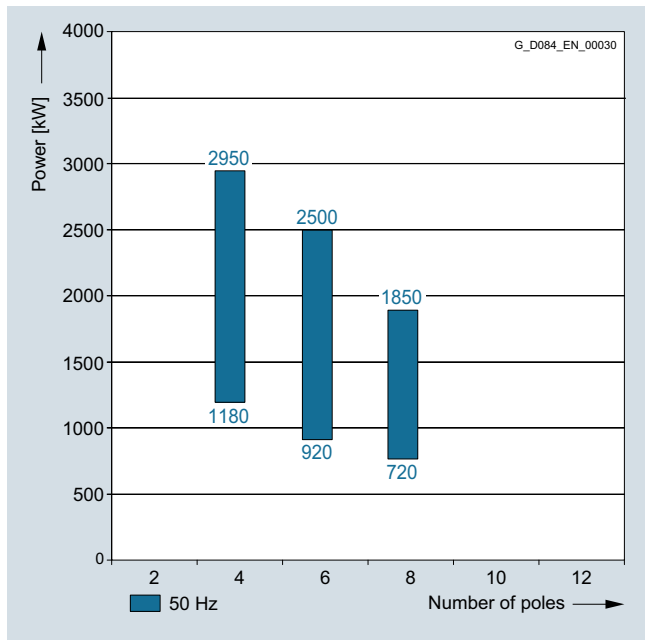
Air-cooled motors
H-compact 1LA4

Technical data (continued)

3.4 to 4.16 kV; 50 and 60 Hz



6 to 6.6 kV; 50 Hz



3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Selection and ordering data

Rated power P_{rated} 155 (F) kW	Low-voltage motor H-compact Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current at 690 V	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm
690 V, 50 Hz									
2-pole									
1040	1LA4 454-2CM00	2981	97.2	0.92	970	3331	2.70	22.2	3000
4-pole									
1150	1LA4 454-4AM0	1491	97.2	0.89	1120	7365	2.50	33.9	2400
1300	1LA4 500-4CM0	1491	96.9	0.88	1280	8326	2.10	44.3	2200
1500	1LA4 502-4CM0	1492	97.2	0.87	1480	9600	2.30	49.0	2200
1650	1LA4 504-4CM0	1491	97.2	0.89	1600	10567	2.10	56.2	2200
6-pole									
880	1LA4 454-6AM0	993	97.1	0.86	880	8462	2.50	53.5	2200
1250	1LA4 500-6CM0	995	97.1	0.85	1260	11996	2.35	82.1	2100
1350	1LA4 502-6CM0	995	97.1	0.86	1360	12956	2.35	92.4	2100
1500	1LA4 504-6CM0	995	97.2	0.86	1500	14395	2.35	102.6	2100
1750	1LA4 560-6CM0	995	97.4	0.86	1740	16795	2.60	141.5	2000
1950	1LA4 562-6CM0	995	97.5	0.86	1940	18714	2.60	162.1	2000
2150	1LA4 564-6CM0	995	97.6	0.86	2150	20634	2.60	188.5	2000
2300	1LA4 634-6CM0	997	97.3	0.88	2250	22030	2.70	297.0	O. R. ²⁾
2450	1LA4 636-6CM0	997	97.3	0.89	2350	23495	2.70	323.0	O. R. ²⁾
8-pole									
650	1LA4 454-8AM0	745	96.6	0.80	700	8331	2.40	52.8	2200
900	1LA4 500-8CM0	746	96.6	0.80	970	11520	2.20	81.7	2100
970	1LA4 502-8CM0	746	96.7	0.80	1040	12416	2.30	91.9	2100
1080	1LA4 504-8CM0	746	96.8	0.80	1160	13824	2.30	102.2	2100
1250	1LA4 560-8CM0	746	96.9	0.80	1340	16000	2.60	141.6	2000
1400	1LA4 562-8CM0	746	97.0	0.80	1500	17920	2.60	162.3	2000
1630	1LA4 564-8CM0	746	97.1	0.81	1740	20864	2.60	188.8	2000
1900	1LA4 634-8CM0	746	96.8	0.86	1900	24321	2.65	294.0	O. R. ²⁾
2140	1LA4 636-8CM0	746	97.0	0.85	2150	27357	2.60	320.0	O. R. ²⁾

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ On request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
2-pole												
1LA4 454-2...	780	2709	97.2	0.92	520	2366	97.1	0.90	260	1878	96.6	0.83
4-pole												
1LA4 454-4...	863	1355	97.2	0.89	575	1183	97.2	0.86	288	939	96.7	0.76
1LA4 500-4...	975	1355	97.0	0.88	650	1183	96.9	0.86	325	939	96.3	0.77
1LA4 502-4...	1125	1356	97.2	0.86	750	1184	97.0	0.84	375	940	96.4	0.73
1LA4 504-4...	1238	1355	97.3	0.89	825	1183	97.2	0.87	413	939	96.7	0.79
6-pole												
1LA4 454-6...	660	902	96.9	0.85	440	788	96.8	0.81	220	626	96.0	0.69
1LA4 500-6...	938	904	97.1	0.85	625	790	96.9	0.81	313	627	96.0	0.69
1LA4 502-6...	1013	904	97.1	0.86	675	790	97.0	0.82	338	627	96.1	0.70
1LA4 504-6...	1125	904	97.2	0.86	750	790	97.0	0.83	375	627	96.2	0.72
1LA4 560-6...	1313	904	97.4	0.86	875	790	97.1	0.81	438	627	96.3	0.70
1LA4 562-6...	1463	904	97.5	0.86	975	790	97.1	0.81	488	627	96.2	0.69
1LA4 564-6...	1613	904	97.6	0.86	1075	790	97.2	0.82	538	627	96.3	0.70
1LA4 634-6...	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾
1LA4 636-6...	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾
8-pole												
1LA4 454-8...	488	677	96.5	0.77	325	591	96.2	0.72	163	469	95.1	0.58
1LA4 500-8...	675	678	96.6	0.78	450	592	96.2	0.73	225	470	95.0	0.60
1LA4 502-8...	728	678	96.7	0.79	485	592	96.3	0.74	243	470	95.1	0.61
1LA4 504-8...	810	678	96.8	0.79	540	592	96.3	0.74	270	470	95.2	0.60
1LA4 560-8...	938	678	96.8	0.78	625	592	96.4	0.73	313	470	95.1	0.58
1LA4 562-8...	1050	678	96.9	0.78	700	592	96.4	0.73	350	470	95.1	0.58
1LA4 564-8...	1223	678	97.0	0.79	815	592	96.4	0.73	408	470	95.2	0.59
1LA4 634-8...	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾
1LA4 636-8...	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾	O. R. ²⁾

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Selection and ordering data

Rated power P_{rated} 155 (F) kW	Low-voltage motor H-compact Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current at 690 V	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	$T_{\text{B}}/T_{\text{rated}}$ [-]	J kgm ²	n_{max} rpm
690 V, 50 Hz									
2-pole									
1040	1LA4 454-2CM00	2981	97.2	0.92	970	3331	2.70	22.2	3000
4-pole									
1150	1LA4 454-4AM0	1491	97.2	0.89	1120	7365	2.50	33.9	2400
1300	1LA4 500-4CM0	1491	96.9	0.88	1280	8326	2.10	44.3	2200
1500	1LA4 502-4CM0	1492	97.2	0.87	1480	9600	2.30	49.0	2200
1650	1LA4 504-4CM0	1491	97.2	0.89	1600	10567	2.10	56.2	2200
6-pole									
880	1LA4 454-6AM0	993	96.9	0.86	880	8462	2.50	53.5	2200
1250	1LA4 500-6CM0	995	97.1	0.85	1260	11996	2.35	82.1	2100
1350	1LA4 502-6CM0	995	97.1	0.86	1360	12956	2.35	92.4	2100
1500	1LA4 504-6CM0	995	97.2	0.86	1500	14395	2.35	102.6	2100
1750	1LA4 560-6CM0	995	97.4	0.86	1740	16795	2.60	141.5	2000
1950	1LA4 562-6CM0	995	97.5	0.86	1940	18714	2.60	162.1	2000
2150	1LA4 564-6CM0	995	97.6	0.86	2150	20634	2.60	188.5	2000
2300	1LA4 634-6CM0	997	97.3	0.88	2250	22030	2.70	297.0	1200
2450	1LA4 636-6CM0	997	97.3	0.89	2350	23495	2.70	323.0	1200
8-pole									
650	1LA4 454-8AM0	745	96.6	0.80	700	8331	2.40	52.8	2200
900	1LA4 500-8CM0	746	96.6	0.80	970	11520	2.20	81.7	2100
970	1LA4 502-8CM0	746	96.7	0.80	1040	12416	2.30	91.9	2100
1080	1LA4 504-8CM0	760	96.8	0.80	1160	13570	2.30	102.2	2100
1250	1LA4 560-8CM0	746	96.9	0.80	1340	16000	2.60	141.6	2000
1400	1LA4 562-8CM0	746	97.0	0.80	1500	17920	2.60	162.3	2000
1630	1LA4 564-8CM0	746	97.1	0.81	1740	20864	2.60	188.8	2000
1900	1LA4 634-8CM0	746	96.8	0.86	1900	24321	2.65	294.0	1200
2140	1LA4 636-8CM0	746	97.0	0.85	2150	27357	2.60	320.0	1200

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{\max} kW	T_{\max} rpm	η %	$\cos \varphi$ [-]	P_{\max} kW	T_{\max} rpm	η %	$\cos \varphi$ [-]	P_{\max} kW	T_{\max} rpm	η %	$\cos \varphi$ [-]
	Constant-torque drive											
2-pole												
1LA4 454-2...	970	3107	96.9	0.91	800	2563	97.1	0.91	750	2402	97.1	0.91
4-pole												
1LA4 454-4...	1060	6789	97.1	0.88	940	6020	97.3	0.88	900	5764	97.3	0.88
1LA4 500-4...	1200	7685	96.7	0.87	1000	6404	96.9	0.87	940	6020	96.9	0.87
1LA4 502-4...	1400	8960	96.9	0.85	1170	7488	97.1	0.85	1100	7040	97.1	0.85
1LA4 504-4...	1500	9607	97.0	0.88	1250	8006	97.2	0.88	1200	7685	97.2	0.88
6-pole												
1LA4 454-6...	820	7885	97.0	0.85	700	6731	97.2	0.84	660	6347	97.2	0.84
1LA4 500-6...	1180	11324	96.8	0.84	1020	9789	97.0	0.83	960	9213	97.1	0.83
1LA4 502-6...	1280	12284	97.0	0.84	1120	10749	97.1	0.84	1040	9981	97.2	0.84
1LA4 504-6...	1430	13724	97.1	0.84	1260	12092	97.2	0.84	1180	11324	97.3	0.84
1LA4 560-6...	1650	15835	97.1	0.82	1450	13916	97.3	0.83	1350	12956	97.4	0.83
1LA4 562-6...	1850	17754	97.2	0.83	1650	15835	97.3	0.83	1550	14875	97.4	0.83
1LA4 564-6...	2100	20154	97.1	0.83	1850	17754	97.4	0.84	1800	17275	97.4	0.84
1LA4 634-6...	2180	20880	97.2	0.88	1960	18773	97.2	0.87	1875	17959	97.1	0.87
1LA4 636-6...	2325	22269	97.3	0.89	2080	19922	97.2	0.89	1985	19012	97.2	0.89
8-pole												
1LA4 454-8...	580	7434	96.4	0.79	490	6281	96.6	0.76	450	5768	96.6	0.74
1LA4 500-8...	900	11520	96.5	0.81	770	9856	96.5	0.79	710	9088	96.5	0.78
1LA4 502-8...	970	12416	96.6	0.81	850	10880	96.6	0.79	780	9984	96.6	0.78
1LA4 504-8...	1080	13570	96.7	0.81	940	11811	96.7	0.79	880	11057	96.7	0.78
1LA4 560-8...	1150	14720	96.8	0.79	980	12544	96.8	0.77	930	11904	96.8	0.76
1LA4 562-8...	1290	16512	96.9	0.79	1100	14080	96.9	0.78	1050	13440	96.9	0.77
1LA4 564-8...	1500	19200	96.9	0.80	1280	16384	97.0	0.79	1250	16000	97.0	0.78
1LA4 634-8...	1725	22081	96.8	0.85	1560	19969	96.7	0.84	1460	18689	96.7	0.83
1LA4 636-8...	1950	24961	97.0	0.85	1760	22529	96.9	0.84	1670	21377	96.9	0.83

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current 2.3 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
$P_{\text{rated}}^{155 (F)}$ kW	$P_{\text{rated}}^{130 (B)}$ kW		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm
2.3 kV, 50 Hz										
4-pole										
1350	1180	1LA4 500-4CV0	1493	97.0	0.87	400	8634	2.50	42	2200
1500	1280	1LA4 502-4CV0	1493	97.2	0.87	445	9594	2.60	47	2200
1650	1420	1LA4 504-4CV0	1493	97.3	0.88	485	10553	2.60	54	2200
1850	1550	1LA4 560-4CV0	1494	97.5	0.87	550	11824	2.40	79	2000
2100	1750	1LA4 562-4CV0	1494	97.5	0.87	620	13422	2.40	92	2000
2350	1900	1LA4 564-4CV0	1494	97.5	0.87	700	15020	2.40	104	2000
6-pole										
1080	940	1LA4 500-6CV0	995	97.0	0.86	325	10365	2.40	82	2100
1180	1030	1LA4 502-6CV0	995	97.0	0.87	350	11324	2.40	92	2100
1280	1130	1LA4 504-6CV0	995	97.1	0.87	380	12284	2.40	103	2100
1500	1320	1LA4 560-6CV0	995	97.3	0.86	450	14395	2.60	142	2000
1750	1500	1LA4 562-6CV0	995	97.4	0.86	520	16795	2.70	162	2000
1950	1700	1LA4 564-6CV0	995	97.5	0.87	580	18714	2.50	189	2000
2300	⁻²⁾	1LA4 632-6CV0	995	97.1	0.89	670	22075	2.40	269	1500
8-pole										
800	690	1LA4 500-8CV0	745	96.5	0.81	255	10254	2.10	82	2100
850	750	1LA4 502-8CV0	745	96.5	0.81	275	10895	2.10	92	2100
950	800	1LA4 504-8CV0	745	96.5	0.81	305	12177	2.10	102	2100
1120	980	1LA4 560-8CV0	745	96.8	0.83	350	14356	2.20	142	2000
1250	1090	1LA4 562-8CV0	745	96.9	0.83	390	16022	2.20	162	2000
1450	1270	1LA4 564-8CV0	745	97.0	0.83	450	18585	2.20	189	2000
1650	⁻²⁾	1LA4 632-8CV0	745	96.7	0.84	510	21151	2.20	265	1500
1850	⁻²⁾	1LA4 634-8CV0	746	96.8	0.84	570	23683	2.40	294	1500
2040	⁻²⁾	1LA4 636-8CV0	745	96.9	0.85	620	26150	2.10	320	1500

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
4-pole												
1LA4 500-4...	1013	1357	97.0	0.87	675	1185	96.9	0.84	338	941	96.5	0.73
1LA4 502-4...	1125	1357	97.1	0.87	750	1185	97.0	0.84	375	941	96.5	0.73
1LA4 504-4...	1238	1357	97.2	0.88	825	1185	97.1	0.86	413	941	96.8	0.77
1LA4 560-4...	1388	1357	97.4	0.85	925	1186	97.2	0.81	463	941	96.8	0.68
1LA4 562-4...	1575	1357	97.5	0.86	1050	1186	97.4	0.83	525	941	97.0	0.71
1LA4 564-4...	1763	1357	97.5	0.86	1175	1186	97.4	0.83	588	941	97.0	0.72
6-pole												
1LA4 500-6...	810	904	96.9	0.86	540	790	96.7	0.83	270	627	96.2	0.72
1LA4 502-6...	885	904	97.0	0.86	590	790	97.0	0.84	295	627	96.4	0.73
1LA4 504-6...	960	904	97.1	0.87	640	790	97.0	0.84	320	627	96.5	0.74
1LA4 560-6...	1125	904	97.3	0.85	750	790	97.2	0.81	375	627	96.7	0.70
1LA4 562-6...	1313	904	97.4	0.85	875	790	97.2	0.82	438	627	96.7	0.70
1LA4 564-6...	1463	904	97.5	0.86	975	790	97.3	0.84	488	627	96.9	0.73
1LA4 632-6...	1725	904	97.2	0.89	1150	789	97.0	0.86	575	626	96.7	0.77
8-pole												
1LA4 500-8...	600	677	96.3	0.80	400	591	96.1	0.75	200	469	95.2	0.62
1LA4 502-8...	638	677	96.4	0.80	425	591	96.1	0.75	213	469	95.2	0.62
1LA4 504-8...	713	677	96.4	0.80	475	591	96.2	0.75	238	469	95.2	0.62
1LA4 560-8...	840	677	96.8	0.82	560	591	96.6	0.78	280	469	96.1	0.66
1LA4 562-8...	938	677	96.9	0.82	625	591	96.7	0.78	313	469	96.1	0.66
1LA4 564-8...	1088	677	97.0	0.82	725	591	96.8	0.78	363	469	96.1	0.66
1LA4 632-8...	1240	677	96.6	0.83	825	592	96.4	0.79	415	470	95.8	0.68
1LA4 634-8...	1390	678	96.7	0.82	925	592	96.4	0.78	465	470	95.7	0.66
1LA4 636-8...	1530	677	96.8	0.84	1020	592	96.7	0.80	510	470	96.1	0.70

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 3.4 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
$P_{155(F)}^{\text{rated}}$ kW	$P_{130(B)}^{\text{rated}}$ kW		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm
3.4 ... 4.16 kV, 50 Hz										
4-pole										
1350	1180	1LA4 500-4CV	1493	97.0	0.87	280	8634	2.50	42	2200
1500	1280	1LA4 502-4CV	1493	97.2	0.87	310	9594	2.60	47	2200
1650	1420	1LA4 504-4CV	1493	97.3	0.88	335	10553	2.60	54	2200
1850	1550	1LA4 560-4CV	1494	97.5	0.87	380	11824	2.40	79	2000
2100	1750	1LA4 562-4CV	1494	97.5	0.87	435	13422	2.40	92	2000
2350	1900	1LA4 564-4CV	1494	97.5	0.87	485	15020	2.40	104	2000
2600	⁻²⁾	1LA4 632-4CV	1494	97.5	0.88	530	16620	2.20	157	1500
2900	⁻²⁾	1LA4 634-4CV	1494	97.6	0.88	590	18537	2.20	171	1500
3150	⁻²⁾	1LA4 636-4CV	1494	97.7	0.88	640	20136	2.20	186	1500
6-pole										
1080	940	1LA4 500-6CV	995	97.0	0.86	225	10365	2.40	82	2100
1180	1030	1LA4 502-6CV	995	97.0	0.87	245	11324	2.40	92	2100
1280	1130	1LA4 504-6CV	995	97.1	0.87	265	12284	2.40	103	2100
1500	1320	1LA4 560-6CV	995	97.3	0.86	315	14395	2.60	142	2000
1750	1500	1LA4 562-6CV	995	97.4	0.86	365	16795	2.70	162	2000
1950	1700	1LA4 564-6CV	995	97.5	0.87	400	18714	2.50	189	2000
2220	⁻²⁾	1LA4 632-6CV	995	97.1	0.89	450	21308	2.30	269	1500
2480	⁻²⁾	1LA4 634-6CV	995	97.2	0.89	500	23803	2.20	297	1500
2700	⁻²⁾	1LA4 636-6CV	995	97.3	0.89	550	25915	2.20	323	1500
8-pole										
800	690	1LA4 500-8CV	745	96.5	0.81	180	10254	2.10	82	2100
850	750	1LA4 502-8CV	745	96.5	0.81	190	10895	2.10	92	2100
950	800	1LA4 504-8CV	745	96.5	0.81	215	12177	2.10	102	2100
1120	980	1LA4 560-8CV	745	96.8	0.83	245	14356	2.20	142	2000
1250	1090	1LA4 562-8CV	745	96.9	0.83	270	16022	2.20	162	2000
1450	1270	1LA4 564-8CV	745	97.0	0.83	315	18585	2.20	189	2000
1570	⁻²⁾	1LA4 632-8CV 0	745	96.6	0.84	340	20126	2.30	265	1500
1780	⁻²⁾	1LA4 634-8CV 0	745	96.7	0.84	385	22817	2.30	294	1500
1960	⁻²⁾	1LA4 636-8CV 0	745	96.8	0.85	415	25125	2.20	320	1500

Voltage code:

4.16 kV, 50 Hz
Other voltage

4
9

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)

0
4
8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
4-pole												
1LA4 500-4...	1013	1357	97.0	0.87	675	1185	96.9	0.84	338	941	96.5	0.73
1LA4 502-4...	1125	1357	97.1	0.87	750	1185	97.0	0.84	375	941	96.5	0.73
1LA4 504-4...	1238	1357	97.2	0.88	825	1185	97.1	0.86	413	941	96.8	0.77
1LA4 560-4...	1388	1357	97.4	0.85	925	1186	97.2	0.81	463	941	96.8	0.68
1LA4 562-4...	1575	1357	97.5	0.86	1050	1186	97.4	0.83	525	941	97.0	0.71
1LA4 564-4...	1763	1357	97.5	0.86	1175	1186	97.4	0.83	588	941	97.0	0.72
1LA4 632-4...	1950	1357	97.5	0.87	1300	1185	97.5	0.85	650	940	97.2	0.76
1LA4 634-4...	2175	1357	97.6	0.87	1450	1185	97.6	0.85	725	940	97.3	0.76
1LA4 636-4...	2363	1357	97.6	0.87	1575	1185	97.6	0.85	788	940	97.4	0.77
6-pole												
1LA4 500-6...	810	904	96.9	0.86	540	790	96.7	0.83	270	627	96.2	0.72
1LA4 502-6...	885	904	97.0	0.86	590	790	97.0	0.84	295	627	96.4	0.73
1LA4 504-6...	960	904	97.1	0.87	640	790	97.0	0.84	320	627	96.5	0.74
1LA4 560-6...	1125	904	97.3	0.85	750	790	97.2	0.81	375	627	96.7	0.70
1LA4 562-6...	1313	904	97.4	0.85	875	790	97.2	0.82	438	627	96.7	0.70
1LA4 564-6...	1463	904	97.5	0.86	975	790	97.3	0.84	488	627	96.9	0.73
1LA4 632-6...	1665	904	97.1	0.89	1110	789	97.1	0.87	555	626	96.7	0.79
1LA4 634-6...	1860	904	97.2	0.89	1240	789	97.2	0.87	620	626	96.9	0.80
1LA4 636-6...	2025	905	97.3	0.89	1350	789	97.3	0.87	675	627	96.9	0.80
8-pole												
1LA4 500-8...	600	677	96.3	0.80	400	591	96.1	0.75	200	469	95.2	0.62
1LA4 502-8...	638	677	96.4	0.80	425	591	96.1	0.75	213	469	95.2	0.62
1LA4 504-8...	713	677	96.4	0.80	475	591	96.2	0.75	238	469	95.2	0.62
1LA4 560-8...	840	677	96.8	0.82	560	591	96.6	0.78	280	469	96.1	0.66
1LA4 562-8...	938	677	96.9	0.82	625	591	96.7	0.78	313	469	96.1	0.66
1LA4 564-8...	1088	677	97.0	0.82	725	591	96.8	0.78	363	469	96.1	0.66
1LA4 632-8...	1180	678	96.6	0.82	785	592	96.5	0.78	395	470	95.9	0.66
1LA4 634-8...	1335	678	96.7	0.83	890	592	96.5	0.79	445	470	95.9	0.68
1LA4 636-8...	1470	677	96.8	0.84	980	592	96.7	0.80	490	470	96.1	0.70

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current 2.3 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
P_{rated} 155 (F)	P_{rated} 130 (B)		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	$T_{\text{B}}/T_{\text{rated}}$	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
2.3 kV, 60 Hz										
4-pole										
1500	1260	1LA4 500-4CV1	1793	96.8	0.87	445	7989	2.50	42	2200
1650	1350	1LA4 502-4CV1	1793	96.8	0.87	490	8787	2.50	47	2200
1800	1450	1LA4 504-4CV1	1793	96.8	0.87	540	9586	2.50	54	2200
2000	1600	1LA4 560-4CV1	1794	97.3	0.87	590	10645	2.40	79	2000
2300	1850	1LA4 562-4CV1	1794	97.3	0.87	680	12242	2.40	92	2000
2600	2100	1LA4 564-4CV1	1794	97.3	0.87	770	13839	2.40	104	2000
6-pole										
1180	1020	1LA4 500-6CV1	1195	96.8	0.87	350	9429	2.40	82	2100
1320	1150	1LA4 502-6CV1	1195	97.0	0.87	395	10548	2.40	92	2100
1450	1250	1LA4 504-6CV1	1195	97.1	0.87	430	11587	2.50	103	2100
1650	1400	1LA4 560-6CV1	1195	97.2	0.86	495	13185	2.60	142	2000
1900	1550	1LA4 562-6CV1	1195	97.4	0.86	570	15183	2.60	162	2000
2150	1750	1LA4 564-6CV1	1195	97.5	0.87	640	17180	2.60	189	2000
2230	— ²⁾	1LA4 632-6CV1	1195	96.7	0.89	650	17825	2.40	234	1500
8-pole										
900	750	1LA4 500-8CV1	896	96.4	0.79	295	9592	2.30	82	2100
950	780	1LA4 502-8CV1	896	96.4	0.79	315	10124	2.30	92	2100
1050	850	1LA4 504-8CV1	896	96.4	0.79	345	11190	2.30	102	2100
1200	1030	1LA4 560-8CV1	895	96.8	0.83	375	12803	2.20	142	2000
1380	1190	1LA4 562-8CV1	895	96.8	0.83	430	14724	2.30	162	2000
1580	1280	1LA4 564-8CV1	895	96.9	0.83	495	16857	2.40	189	2000
1800	— ²⁾	1LA4 632-8CV1	895	96.6	0.85	550	19205	2.10	265	1500
2000	— ²⁾	1LA4 634-8CV1	895	96.7	0.86	600	21339	2.00	294	1500
2160	— ²⁾	1LA4 636-8CV1	895	96.8	0.86	650	23046	2.10	320	1500

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
4-pole												
1LA4 500-4...	1125	1629	96.5	0.86	750	1423	96.2	0.82	375	1130	95.5	0.71
1LA4 502-4...	1238	1629	96.7	0.86	825	1423	96.4	0.83	413	1130	95.7	0.73
1LA4 504-4...	1350	1629	96.8	0.87	900	1423	96.5	0.84	450	1130	95.9	0.75
1LA4 560-4...	1500	1630	97.1	0.86	1000	1424	96.9	0.82	500	1130	96.4	0.72
1LA4 562-4...	1725	1630	97.2	0.86	1150	1424	97.2	0.83	575	1130	96.8	0.74
1LA4 564-4...	1950	1630	97.3	0.87	1300	1424	97.3	0.84	650	1130	96.9	0.74
6-pole												
1LA4 500-6...	885	1086	96.8	0.86	590	949	96.6	0.83	295	753	96.0	0.74
1LA4 502-6...	990	1086	96.9	0.86	660	949	96.7	0.83	330	753	96.0	0.74
1LA4 504-6...	1088	1086	97.0	0.86	725	949	96.7	0.83	363	753	96.0	0.73
1LA4 560-6...	1238	1086	97.2	0.85	825	949	97.0	0.82	413	753	96.3	0.72
1LA4 562-6...	1425	1086	97.3	0.85	950	949	97.0	0.82	475	753	96.4	0.72
1LA4 564-6...	1613	1086	97.4	0.86	1075	949	97.1	0.83	538	753	96.5	0.73
1LA4 632-6...	1675	1086	96.6	0.88	1115	945	96.4	0.85	560	755	95.8	0.77
8-pole												
1LA4 500-8...	675	814	96.3	0.79	450	711	95.8	0.74	225	564	94.8	0.62
1LA4 502-8...	713	814	96.3	0.78	475	711	95.8	0.73	238	564	94.8	0.60
1LA4 504-8...	788	814	96.3	0.78	525	711	95.9	0.73	263	564	94.9	0.61
1LA4 560-8...	900	813	96.7	0.82	600	710	96.4	0.78	300	564	95.7	0.66
1LA4 562-8...	1035	813	96.8	0.82	690	710	96.4	0.77	345	564	95.7	0.66
1LA4 564-8...	1185	813	96.8	0.81	790	710	96.4	0.76	395	564	95.7	0.65
1LA4 632-8...	1350	814	96.4	0.84	900	708	96.1	0.81	450	566	95.5	0.71
1LA4 634-8...	1500	814	96.6	0.85	1000	708	96.4	0.82	500	565	95.8	0.73
1LA4 636-8...	1620	814	96.7	0.84	1080	708	96.5	0.82	540	565	95.9	0.72

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
$P_{155(F)}^{\text{rated}}$ kW	$P_{130(B)}^{\text{rated}}$ kW		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm

3.4 ... 4.16 kV, 60 Hz

4-pole

1500	1260	1LA4 500-4CV5	1793	96.8	0.87	245	7989	2.50	42	2200
1650	1350	1LA4 502-4CV5	1793	96.8	0.87	270	8787	2.50	47	2200
1800	1450	1LA4 504-4CV5	1793	96.8	0.87	295	9586	2.50	54	2200
2000	1600	1LA4 560-4CV5	1794	97.3	0.87	330	10645	2.40	79	2000
2300	1850	1LA4 562-4CV5	1794	97.3	0.87	375	12242	2.40	92	2000
2600	2100	1LA4 564-4CV5	1794	97.3	0.87	425	13839	2.40	104	2000
2950	⁻²⁾	1LA4 632-4CV5 0	1794	97.2	0.87	485	15702	2.40	157	1500
3320	⁻²⁾	1LA4 634-4CV5 0	1794	97.3	0.87	540	17672	2.20	171	1500
3600	⁻²⁾	1LA4 636-4CV5 0	1795	97.5	0.87	590	19161	2.40	186	1500

6-pole

1180	1020	1LA4 500-6CV5	1195	96.8	0.87	194	9429	2.40	82	2100
1320	1150	1LA4 502-6CV5	1195	97.0	0.87	215	10548	2.40	92	2100
1450	1250	1LA4 504-6CV5	1195	97.1	0.87	240	11587	2.50	103	2100
1650	1400	1LA4 560-6CV5	1195	97.2	0.86	275	13185	2.60	142	2000
1900	1550	1LA4 562-6CV5	1195	97.4	0.86	315	15183	2.60	162	2000
2150	1750	1LA4 564-6CV5	1195	97.5	0.87	350	17180	2.60	189	2000
2400	⁻²⁾	1LA4 632-6CV5	1195	96.8	0.89	385	19183	2.40	269	1500
2700	⁻²⁾	1LA4 634-6CV5	1195	96.9	0.89	435	21587	2.20	297	1500
2900	⁻²⁾	1LA4 636-6CV5	1195	97.0	0.89	465	23181	2.20	323	1500

8-pole

900	750	1LA4 500-8CV5	896	96.4	0.79	164	9592	2.30	82	2100
950	780	1LA4 502-8CV5	896	96.4	0.79	174	10124	2.30	92	2100
1050	850	1LA4 504-8CV5	896	96.4	0.79	192	11190	2.30	102	2100
1200	1030	1LA4 560-8CV5	895	96.8	0.83	205	12803	2.20	142	2000
1380	1190	1LA4 562-8CV5	895	96.8	0.83	240	14724	2.30	162	2000
1580	1280	1LA4 564-8CV5	895	96.9	0.83	275	16857	2.40	189	2000
1800	⁻²⁾	1LA4 632-8CV5	895	96.6	0.85	305	19205	2.20	265	1500
1960	⁻²⁾	1LA4 634-8CV5	895	96.7	0.86	325	20912	2.00	294	1500
2160	⁻²⁾	1LA4 636-8CV5	895	96.8	0.86	360	23046	2.10	320	1500

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
4-pole												
1LA4 500-4...	1125	1629	96.5	0.86	750	1423	96.2	0.82	375	1130	95.5	0.71
1LA4 502-4...	1238	1629	96.7	0.86	825	1423	96.4	0.83	413	1130	95.7	0.73
1LA4 504-4...	1350	1629	96.8	0.87	900	1423	96.5	0.84	450	1130	95.9	0.75
1LA4 560-4...	1500	1630	97.1	0.86	1000	1424	96.9	0.82	500	1130	96.4	0.72
1LA4 562-4...	1725	1630	97.2	0.86	1150	1424	97.2	0.83	575	1130	96.8	0.74
1LA4 564-4...	1950	1630	97.3	0.87	1300	1424	97.3	0.84	650	1130	96.9	0.74
1LA4 632-4...	2215	1630	97.2	0.86	1475	1419	97.0	0.83	740	1132	96.6	0.73
1LA4 634-4...	2490	1631	97.3	0.86	1660	1419	97.2	0.83	830	1132	96.8	0.74
1LA4 636-4...	2700	1631	97.4	0.87	1800	1419	97.2	0.83	900	1132	96.8	0.74
6-pole												
1LA4 500-6...	885	1086	96.8	0.86	590	949	96.6	0.83	295	753	96.0	0.74
1LA4 502-6...	990	1086	96.9	0.86	660	949	96.7	0.83	330	753	96.0	0.74
1LA4 504-6...	1088	1086	97.0	0.86	725	949	96.7	0.83	363	753	96.0	0.73
1LA4 560-6...	1238	1086	97.2	0.85	825	949	97.0	0.82	413	753	96.3	0.72
1LA4 562-6...	1425	1086	97.3	0.85	950	949	97.0	0.82	475	753	96.4	0.72
1LA4 564-6...	1613	1086	97.4	0.86	1075	949	97.1	0.83	538	753	96.5	0.73
1LA4 632-6...	1800	1086	96.7	0.88	1200	945	96.5	0.86	600	755	95.9	0.78
1LA4 634-6...	2025	1086	97.0	0.89	1350	945	96.8	0.87	675	755	96.4	0.80
1LA4 636-6...	2175	1086	97.0	0.89	1450	945	96.9	0.87	725	755	96.4	0.80
8-pole												
1LA4 500-8...	675	814	96.3	0.79	450	711	95.8	0.74	225	564	94.8	0.62
1LA4 502-8...	713	814	96.3	0.78	475	711	95.8	0.73	238	564	94.8	0.60
1LA4 504-8...	788	814	96.3	0.78	525	711	95.9	0.73	263	564	94.9	0.61
1LA4 560-8...	900	813	96.7	0.82	600	710	96.4	0.78	300	564	95.7	0.66
1LA4 562-8...	1035	813	96.8	0.82	690	710	96.4	0.77	345	564	95.7	0.66
1LA4 564-8...	1185	813	96.8	0.81	790	710	96.4	0.76	395	564	95.7	0.65
1LA4 632-8...	1350	814	96.3	0.83	900	709	95.9	0.79	450	566	95.1	0.67
1LA4 634-8...	1470	814	96.5	0.84	980	708	96.3	0.82	490	566	95.8	0.72
1LA4 636-8...	1620	814	96.6	0.84	1080	708	96.4	0.81	540	566	95.8	0.72

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current 2.3 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
P_{rated} 155 (F)	P_{rated} 130 (B)		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	$T_{\text{B}}/T_{\text{rated}}$	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
2.3 kV, 50 Hz										
4-pole										
1350	1180	1LA4 500-4CV0	1493	97.0	0.87	400	8634	2.50	42	2200
1500	1280	1LA4 502-4CV0	1493	97.2	0.87	445	9594	2.60	47	2200
1650	1420	1LA4 504-4CV0	1493	97.3	0.88	485	10553	2.60	54	2200
1850	1550	1LA4 560-4CV0	1494	97.5	0.87	550	11824	2.40	79	2000
2100	1750	1LA4 562-4CV0	1494	97.5	0.87	620	13422	2.40	92	2000
2350	1900	1LA4 564-4CV0	1494	97.5	0.87	700	15020	2.40	104	2000
6-pole										
1080	940	1LA4 500-6CV0	995	97.0	0.86	325	10365	2.40	82	2100
1180	1030	1LA4 502-6CV0	995	97.0	0.87	350	11324	2.40	92	2100
1280	1130	1LA4 504-6CV0	995	97.1	0.87	380	12284	2.40	103	2100
1500	1320	1LA4 560-6CV0	995	97.3	0.86	450	14395	2.60	142	2000
1750	1500	1LA4 562-6CV0	995	97.4	0.86	520	16795	2.70	162	2000
1950	1700	1LA4 564-6CV0	995	97.5	0.87	580	18714	2.50	189	2000
2300	⁻²⁾	1LA4 632-6CV0	995	97.1	0.89	670	22075	2.40	269	1500
8-pole										
800	690	1LA4 500-8CV0	745	96.5	0.81	255	10254	2.10	82	2100
850	750	1LA4 502-8CV0	745	96.5	0.81	275	10895	2.10	92	2100
950	800	1LA4 504-8CV0	745	96.5	0.81	305	12177	2.10	102	2100
1120	980	1LA4 560-8CV0	745	96.8	0.83	350	14356	2.20	142	2000
1250	1090	1LA4 562-8CV0	745	96.9	0.83	390	16022	2.20	162	2000
1450	1270	1LA4 564-8CV0	745	97.0	0.83	450	18585	2.20	189	2000
1650	⁻²⁾	1LA4 632-8CV0	745	96.7	0.84	510	21151	2.20	265	1500
1850	⁻²⁾	1LA4 634-8CV0	746	96.8	0.84	570	23683	2.40	294	1500
2040	⁻²⁾	1LA4 636-8CV0	745	96.9	0.85	620	26150	2.10	320	1500

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$
	kW	Nm	%	[-]	kW	Nm	%	[-]	kW	Nm	%	[-]
	Constant-torque drive											
4-pole												
1LA4 500-4...	1300	8315	96.8	0.85	1050	6716	96.9	0.85	940	6012	96.9	0.84
1LA4 502-4...	1450	9274	97.0	0.85	1180	7547	97.1	0.85	1060	6780	97.1	0.85
1LA4 504-4...	1600	10233	97.1	0.86	1320	8443	97.2	0.86	1180	7547	97.2	0.86
1LA4 560-4...	1760	11249	97.3	0.85	1450	9268	97.4	0.84	1320	8437	97.4	0.83
1LA4 562-4...	2040	13039	97.3	0.85	1680	10738	97.4	0.85	1550	9907	97.4	0.84
1LA4 564-4...	2300	14701	97.3	0.85	1900	12144	97.4	0.85	1750	11185	97.4	0.84
6-pole												
1LA4 500-6...	1060	10173	96.6	0.85	880	8445	96.8	0.84	800	7678	96.9	0.84
1LA4 502-6...	1160	11133	96.8	0.86	970	9309	97.0	0.86	880	8445	97.0	0.85
1LA4 504-6...	1260	12092	96.8	0.86	1060	10173	97.0	0.86	960	9213	97.1	0.86
1LA4 560-6...	1480	14204	97.0	0.84	1250	11996	97.2	0.84	1120	10749	97.2	0.83
1LA4 562-6...	1720	16507	97.1	0.84	1450	13916	97.3	0.83	1250	11996	97.3	0.83
1LA4 564-6...	1930	18522	97.3	0.85	1650	15835	97.4	0.85	1400	13436	97.5	0.85
1LA4 632-6...	2210	21190	97.1	0.89	1795	17720	97.0	0.88	1680	16115	97.0	0.87
8-pole												
1LA4 500-8...	790	10126	96.1	0.79	650	8331	96.3	0.78	580	7434	96.3	0.76
1LA4 502-8...	850	10895	96.1	0.80	730	9357	96.2	0.79	650	8331	96.3	0.77
1LA4 504-8...	950	12177	96.1	0.80	800	10254	96.2	0.78	710	9100	96.3	0.77
1LA4 560-8...	1090	13971	96.6	0.82	890	11408	96.8	0.81	800	10254	96.8	0.79
1LA4 562-8...	1240	15894	96.7	0.82	1020	13074	96.9	0.81	920	11792	96.9	0.80
1LA4 564-8...	1440	18457	96.8	0.82	1200	15381	97.0	0.81	1100	14099	97.0	0.80
1LA4 632-8...	1585	20305	96.6	0.84	1285	16495	96.5	0.82	1205	15440	96.4	0.81
1LA4 634-8...	1775	22735	96.7	0.83	1445	18470	96.6	0.81	1350	17285	96.5	0.80
1LA4 636-8...	1960	25100	96.8	0.85	1590	20395	96.8	0.83	1490	19090	96.7	0.82

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 3.4 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
$P_{155(F)}^{\text{rated}}$ kW	$P_{130(B)}^{\text{rated}}$ kW		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm
3.4 ... 4.16 kV, 50 Hz										
4-pole										
1350	1180	1LA4 500-4CV	1493	97.0	0.87	280	8634	2.50	42	2200
1500	1280	1LA4 502-4CV	1493	97.2	0.87	310	9594	2.60	47	2200
1650	1420	1LA4 504-4CV	1493	97.3	0.88	335	10553	2.60	54	2200
1850	1550	1LA4 560-4CV	1494	97.5	0.87	380	11824	2.40	79	2000
2100	1750	1LA4 562-4CV	1494	97.5	0.87	435	13422	2.40	92	2000
2350	1900	1LA4 564-4CV	1494	97.5	0.87	485	15020	2.40	104	2000
2600	⁻²⁾	1LA4 632-4CV 0	1494	97.5	0.88	530	16620	2.20	157	1500
2900	⁻²⁾	1LA4 634-4CV 0	1494	97.6	0.88	590	18537	2.20	171	1500
3150	⁻²⁾	1LA4 636-4CV 0	1494	97.7	0.88	640	20136	2.20	186	1500
6-pole										
1080	940	1LA4 500-6CV	995	97.0	0.86	225	10365	2.40	82	2100
1180	1030	1LA4 502-6CV	995	97.0	0.87	245	11324	2.40	92	2100
1280	1130	1LA4 504-6CV	995	97.1	0.87	265	12284	2.40	103	2100
1500	1320	1LA4 560-6CV	995	97.3	0.86	315	14395	2.60	142	2000
1750	1500	1LA4 562-6CV	995	97.4	0.86	365	16795	2.70	162	2000
1950	1700	1LA4 564-6CV	995	97.5	0.87	400	18714	2.50	189	2000
2220	⁻²⁾	1LA4 632-6CV	995	97.1	0.89	450	21308	2.30	269	1500
2480	⁻²⁾	1LA4 634-6CV	995	97.2	0.89	500	23803	2.20	297	1500
2700	⁻²⁾	1LA4 636-6CV	995	97.3	0.89	550	25915	2.20	323	1500
8-pole										
800	690	1LA4 500-8CV	745	96.5	0.81	180	10254	2.10	82	2100
850	750	1LA4 502-8CV	745	96.5	0.81	190	10895	2.10	92	2100
950	800	1LA4 504-8CV	745	96.5	0.81	215	12177	2.10	102	2100
1120	980	1LA4 560-8CV	745	96.8	0.83	245	14356	2.20	142	2000
1250	1090	1LA4 562-8CV	745	96.9	0.83	270	16022	2.20	162	2000
1450	1270	1LA4 564-8CV	745	97.0	0.83	315	18585	2.20	189	2000
1570	⁻²⁾	1LA4 632-8CV	745	96.6	0.84	340	20126	2.30	265	1500
1780	⁻²⁾	1LA4 634-8CV	745	96.7	0.84	385	22817	2.30	294	1500
1960	⁻²⁾	1LA4 636-8CV	745	96.8	0.85	415	25125	2.20	320	1500

Voltage code:

4.16 kV, 50 Hz
Other voltage

4
9

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)

0
4
8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details [see Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{max}	T_{max}	η	$\cos \varphi$	P_{max}	T_{max}	η	$\cos \varphi$	P_{max}	T_{max}	η	$\cos \varphi$
	kW	Nm	%	[-]	kW	Nm	%	[-]	kW	Nm	%	[-]
	Constant-torque drive											
4-pole												
1LA4 500-4...	1300	8315	96.8	0.85	1050	6716	96.9	0.85	940	6012	96.9	0.84
1LA4 502-4...	1450	9274	97.0	0.85	1180	7547	97.1	0.85	1060	6780	97.1	0.85
1LA4 504-4...	1600	10233	97.1	0.86	1320	8443	97.2	0.86	1180	7547	97.2	0.86
1LA4 560-4...	1760	11249	97.3	0.85	1450	9268	97.4	0.84	1320	8437	97.4	0.83
1LA4 562-4...	2040	13039	97.3	0.85	1680	10738	97.4	0.85	1550	9907	97.4	0.84
1LA4 564-4...	2300	14701	97.3	0.85	1900	12144	97.4	0.85	1750	11185	97.4	0.84
1LA4 632-4...	2495	15950	97.4	0.88	2030	12960	97.4	0.87	1900	12130	97.4	0.87
1LA4 634-4...	2780	17790	97.5	0.88	2260	14460	97.5	0.87	2110	13530	97.4	0.87
1LA4 636-4...	3020	19330	97.6	0.88	2460	15700	97.6	0.87	2300	14700	97.5	0.87
6-pole												
1LA4 500-6...	1060	10173	96.6	0.85	880	8445	96.8	0.84	800	7678	96.9	0.84
1LA4 502-6...	1160	11133	96.8	0.86	970	9309	97.0	0.86	880	8445	97.0	0.85
1LA4 504-6...	1260	12092	96.8	0.86	1060	10173	97.0	0.86	960	9213	97.1	0.86
1LA4 560-6...	1480	14204	97.0	0.84	1250	11996	97.2	0.84	1120	10749	97.2	0.83
1LA4 562-6...	1720	16507	97.1	0.84	1450	13916	97.3	0.83	1250	11996	97.3	0.83
1LA4 564-6...	1930	18522	97.3	0.85	1650	15835	97.4	0.85	1400	13436	97.5	0.85
1LA4 632-6...	2130	20456	97.0	0.89	1730	16620	97.0	0.88	1620	15555	97.0	0.88
1LA4 634-6...	2380	22839	97.1	0.89	1935	18545	97.2	0.89	1810	17342	97.1	0.88
1LA4 636-6...	2590	24880	97.3	0.89	2100	20215	97.3	0.89	1970	18920	97.2	0.88
8-pole												
1LA4 500-8...	790	10126	96.1	0.79	650	8331	96.3	0.78	580	7434	96.3	0.76
1LA4 502-8...	850	10895	96.1	0.80	730	9357	96.2	0.79	650	8331	96.3	0.77
1LA4 504-8...	950	12177	96.1	0.80	800	10254	96.2	0.78	710	9100	96.3	0.77
1LA4 560-8...	1090	13971	96.6	0.82	890	11408	96.8	0.81	800	10254	96.8	0.79
1LA4 562-8...	1240	15894	96.7	0.82	1020	13074	96.9	0.81	920	11792	96.9	0.80
1LA4 564-8...	1440	18457	96.8	0.82	1200	15381	97.0	0.81	1100	14099	97.0	0.80
1LA4 632-8...	1510	19310	96.5	0.84	1225	15697	96.4	0.82	1145	14690	96.3	0.81
1LA4 634-8...	1710	21903	96.7	0.84	1390	17796	96.6	0.82	1300	16666	96.5	0.81
1LA4 636-8...	1880	24118	96.8	0.85	1530	19596	96.7	0.83	1430	18340	96.7	0.82

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current 2.3 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
P_{rated} 155 (F)	P_{rated} 130 (B)		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	$T_{\text{B}}/T_{\text{rated}}$	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
2.3 kV, 60 Hz										
4-pole										
1500	1260	1LA4 500-4CV1	1793	96.8	0.87	445	7989	2.50	42	2200
1650	1350	1LA4 502-4CV1	1793	96.8	0.87	490	8787	2.50	47	2200
1800	1450	1LA4 504-4CV1	1793	96.8	0.87	540	9586	2.50	54	2200
2000	1600	1LA4 560-4CV1	1794	97.3	0.87	590	10645	2.40	79	2000
2300	1850	1LA4 562-4CV1	1794	97.3	0.87	680	12242	2.40	92	2000
2600	2100	1LA4 564-4CV1	1794	97.3	0.87	770	13839	2.40	104	2000
6-pole										
1180	1020	1LA4 500-6CV1	1195	96.8	0.87	350	9429	2.40	82	2100
1320	1150	1LA4 502-6CV1	1195	97.0	0.87	395	10548	2.40	92	2100
1450	1250	1LA4 504-6CV1	1195	97.1	0.87	430	11587	2.50	103	2100
1650	1400	1LA4 560-6CV1	1195	97.2	0.86	495	13185	2.60	142	2000
1900	1550	1LA4 562-6CV1	1195	97.4	0.86	570	15183	2.60	162	2000
2150	1750	1LA4 564-6CV1	1195	97.5	0.87	640	17180	2.60	189	2000
2230	- ²⁾	1LA4 632-6CV1	1195	96.7	0.89	650	17825	2.40	234	1500
8-pole										
900	750	1LA4 500-8CV1	896	96.4	0.79	295	9592	2.30	82	2100
950	780	1LA4 502-8CV1	896	96.4	0.79	315	10124	2.30	92	2100
1050	850	1LA4 504-8CV1	896	96.4	0.79	345	11190	2.30	102	2100
1200	1030	1LA4 560-8CV1	895	96.8	0.83	375	12803	2.20	142	2000
1380	1190	1LA4 562-8CV1	895	96.8	0.83	430	14724	2.30	162	2000
1580	1280	1LA4 564-8CV1	895	96.9	0.83	495	16857	2.40	189	2000
1800	- ²⁾	1LA4 632-8CV1	895	96.6	0.85	550	19205	2.10	265	1500
2000	- ²⁾	1LA4 634-8CV1	895	96.7	0.86	600	21339	2.00	294	1500
2160	- ²⁾	1LA4 636-8CV1	895	96.8	0.86	650	23046	2.10	320	1500

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$
	kW	Nm	%	[-]	kW	Nm	%	[-]	kW	Nm	%	[-]
	Constant-torque drive											
4-pole												
1LA4 500-4...	1470	7829	96.5	0.86	1270	6764	96.5	0.86	1150	6125	96.5	0.85
1LA4 502-4...	1600	8521	96.5	0.86	1320	7030	96.5	0.85	1200	6391	96.5	0.85
1LA4 504-4...	1750	9320	96.5	0.86	1500	7989	96.5	0.86	1350	7190	96.5	0.85
1LA4 560-4...	1920	10220	97.1	0.87	1610	8570	97.2	0.86	1500	7984	97.2	0.85
1LA4 562-4...	2250	11976	97.1	0.87	1880	10007	97.2	0.86	1750	9315	97.2	0.85
1LA4 564-4...	2580	13733	97.1	0.87	2250	11976	97.2	0.86	2100	11178	97.2	0.86
6-pole												
1LA4 500-6...	1160	9269	96.6	0.86	980	7831	96.7	0.86	880	7032	96.7	0.85
1LA4 502-6...	1300	10388	96.7	0.85	1120	8950	96.8	0.85	1020	8151	96.8	0.85
1LA4 504-6...	1430	11427	96.9	0.86	1250	9988	97.0	0.86	1150	9189	97.0	0.85
1LA4 560-6...	1630	13025	97.0	0.84	1450	11587	97.1	0.84	1350	10788	97.1	0.84
1LA4 562-6...	1880	15023	97.1	0.85	1650	13185	97.1	0.85	1520	12146	97.2	0.84
1LA4 564-6...	2130	17020	97.3	0.86	1930	15422	97.3	0.86	1800	14383	97.4	0.86
1LA4 632-6...	2165	17297	96.6	0.89	1760	14048	96.4	0.88	1650	13166	96.3	0.87
8-pole												
1LA4 500-8...	880	9378	96.0	0.79	780	8313	96.0	0.77	710	7567	96.0	0.76
1LA4 502-8...	950	10124	96.0	0.79	870	9272	96.0	0.78	780	8313	96.0	0.77
1LA4 504-8...	1050	11190	96.0	0.79	970	10338	96.0	0.78	880	9378	96.0	0.77
1LA4 560-8...	1200	12803	96.6	0.83	1010	10776	96.7	0.82	930	9922	96.7	0.81
1LA4 562-8...	1380	14724	96.6	0.82	1190	12696	96.7	0.81	1100	11736	96.8	0.81
1LA4 564-8...	1580	16857	96.8	0.82	1420	15150	96.9	0.81	1320	14083	96.9	0.81
1LA4 632-8...	1746	18629	96.4	0.85	1422	15172	96.2	0.84	1332	14212	96.3	0.83
1LA4 634-8...	1940	20699	96.6	0.85	1580	16858	96.4	0.84	1480	15791	96.4	0.84
1LA4 636-8...	2095	22355	96.6	0.85	1705	18206	96.5	0.84	1598	17054	96.4	0.84

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1LA4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
$P_{155(F)}^{\text{rated}}$ kW	$P_{130(B)}^{\text{rated}}$ kW		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm

3.4 ... 4.16 kV, 60 Hz

4-pole

1500	1260	1LA4 500-4CV5	1793	96.8	0.87	245	7989	2.50	42	2200
1650	1350	1LA4 502-4CV5	1793	96.8	0.87	270	8787	2.50	47	2200
1800	1450	1LA4 504-4CV5	1793	96.8	0.87	295	9586	2.50	54	2200
2000	1600	1LA4 560-4CV5	1794	97.3	0.87	330	10645	2.40	79	2000
2300	1850	1LA4 562-4CV5	1794	97.3	0.87	375	12242	2.40	92	2000
2600	2100	1LA4 564-4CV5	1794	97.3	0.87	425	13839	2.40	104	2000
2950	⁻²⁾	1LA4 632-4CV5 0	1794	97.2	0.87	485	15702	2.40	157	1500
3320	⁻²⁾	1LA4 634-4CV5 0	1794	97.3	0.87	540	17672	2.20	171	1500
3600	⁻²⁾	1LA4 636-4CV5 0	1795	97.5	0.87	590	19161	2.40	186	1500

6-pole

1180	1020	1LA4 500-6CV5	1195	96.8	0.87	194	9429	2.40	82	2100
1320	1150	1LA4 502-6CV5	1195	97.0	0.87	215	10548	2.40	92	2100
1450	1250	1LA4 504-6CV5	1195	97.1	0.87	240	11587	2.50	103	2100
1650	1400	1LA4 560-6CV5	1195	97.2	0.86	275	13185	2.60	142	2000
1900	1550	1LA4 562-6CV5	1195	97.4	0.86	315	15183	2.60	162	2000
2150	1750	1LA4 564-6CV5	1195	97.5	0.87	350	17180	2.60	189	2000
2400	⁻²⁾	1LA4 632-6CV5	1195	96.8	0.89	385	19183	2.40	269	1500
2700	⁻²⁾	1LA4 634-6CV5	1195	96.9	0.89	435	21587	2.20	297	1500
2900	⁻²⁾	1LA4 636-6CV5	1195	97.0	0.89	465	23181	2.20	323	1500

8-pole

900	750	1LA4 500-8CV5	896	96.4	0.79	164	9592	2.30	82	2100
950	780	1LA4 502-8CV5	896	96.4	0.79	174	10124	2.30	92	2100
1050	850	1LA4 504-8CV5	896	96.4	0.79	192	11190	2.30	102	2100
1200	1030	1LA4 560-8CV5	895	96.8	0.83	205	12803	2.20	142	2000
1380	1190	1LA4 562-8CV5	895	96.8	0.83	240	14724	2.30	162	2000
1580	1280	1LA4 564-8CV5	895	96.9	0.83	275	16857	2.40	189	2000
1800	⁻²⁾	1LA4 632-8CV5	895	96.6	0.85	305	19205	2.20	265	1500
1960	⁻²⁾	1LA4 634-8CV5	895	96.7	0.86	325	20912	2.00	294	1500
2160	⁻²⁾	1LA4 636-8CV5	895	96.8	0.86	360	23046	2.10	320	1500

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

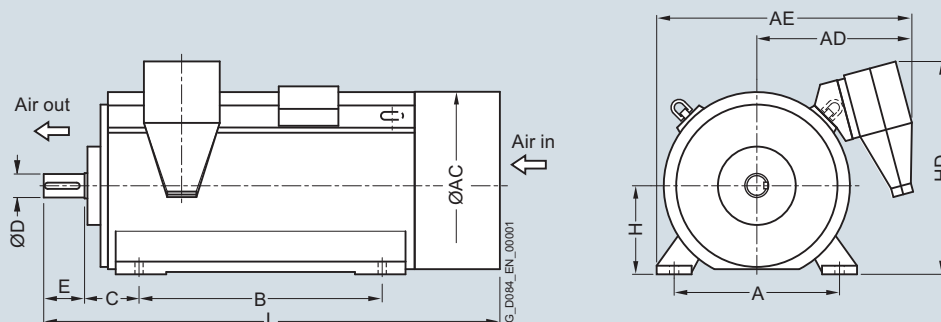
Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$
	kW	Nm	%	[-]	kW	Nm	%	[-]	kW	Nm	%	[-]
	Constant-torque drive											
4-pole												
1LA4 500-4...	1470	7829	96.5	0.86	1270	6764	96.5	0.86	1150	6125	96.5	0.85
1LA4 502-4...	1600	8521	96.5	0.86	1320	7030	96.5	0.85	1200	6391	96.5	0.85
1LA4 504-4...	1750	9320	96.5	0.86	1500	7989	96.5	0.86	1350	7190	96.5	0.85
1LA4 560-4...	1920	10220	97.1	0.87	1610	8570	97.2	0.86	1500	7984	97.2	0.85
1LA4 562-4...	2250	11976	97.1	0.87	1880	10007	97.2	0.86	1750	9315	97.2	0.85
1LA4 564-4...	2580	13733	97.1	0.87	2250	11976	97.2	0.86	2100	11178	97.2	0.86
1LA4 632-4...	2860	15219	97.2	0.87	2330	12389	97.0	0.86	2185	11616	96.9	0.85
1LA4 634-4...	3220	17135	97.3	0.87	2625	13957	97.1	0.86	2455	13052	97.1	0.85
1LA4 636-4...	3490	18567	97.4	0.87	2845	15125	97.2	0.86	2665	14166	97.2	0.85
6-pole												
1LA4 500-6...	1160	9269	96.6	0.86	980	7831	96.7	0.86	880	7032	96.7	0.85
1LA4 502-6...	1300	10388	96.7	0.85	1120	8950	96.8	0.85	1020	8151	96.8	0.85
1LA4 504-6...	1430	11427	96.9	0.86	1250	9988	97.0	0.86	1150	9189	97.0	0.85
1LA4 560-6...	1630	13025	97.0	0.84	1450	11587	97.1	0.84	1350	10788	97.1	0.84
1LA4 562-6...	1880	15023	97.1	0.85	1650	13185	97.1	0.85	1520	12146	97.2	0.84
1LA4 564-6...	2130	17020	97.3	0.86	1930	15422	97.3	0.86	1800	14383	97.4	0.86
1LA4 632-6...	2330	18613	96.7	0.89	1895	15124	96.5	0.88	1775	14163	96.4	0.88
1LA4 634-6...	2620	20937	96.9	0.89	2135	17042	96.8	0.89	2000	15960	96.7	0.88
1LA4 636-6...	2815	22489	97.0	0.89	2290	18276	96.9	0.89	2145	17115	96.8	0.88
8-pole												
1LA4 500-8...	880	9378	96.0	0.79	780	8313	96.0	0.77	710	7567	96.0	0.76
1LA4 502-8...	950	10124	96.0	0.79	870	9272	96.0	0.78	780	8313	96.0	0.77
1LA4 504-8...	1050	11190	96.0	0.79	970	10338	96.0	0.78	880	9378	96.0	0.77
1LA4 560-8...	1200	12803	96.6	0.83	1010	10776	96.7	0.82	930	9922	96.7	0.81
1LA4 562-8...	1380	14724	96.6	0.82	1190	12696	96.7	0.81	1100	11736	96.8	0.81
1LA4 564-8...	1580	16857	96.8	0.82	1420	15150	96.9	0.81	1320	14083	96.9	0.81
1LA4 632-8...	1746	18629	96.3	0.84	1422	15172	96.1	0.82	1332	14212	95.9	0.81
1LA4 634-8...	1901	20285	96.5	0.85	1548	16520	96.4	0.84	1450	15475	96.3	0.83
1LA4 636-8...	2095	22355	96.6	0.85	1706	18206	96.5	0.84	1598	17054	96.4	0.83

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Dimension drawings



Motor type	Weight kg	Dimensions										
		A mm	AC mm	AD ¹⁾³⁾ mm	AE ¹⁾²⁾³⁾ mm	B mm	C mm	D mm	E mm	H mm	HD ⁴⁾ mm	L mm
Up to 6.6 kV, roller bearings, IM B3 type of construction												
2-pole												
1LA4454-2CM00	5200	850	960	825	1340	1250	280	95	130	450	1100	2320
4-pole												
1LA4454-4A..0	5300	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4500-4C..0	6200	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4502-4C..0	6500	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4504-4C..0	7000	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4560-4C..0	8200	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4562-4C..0	8900	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4564-4C..0	9700	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4632-4C..0	12200	1120	1350	945	1560	1600	335	170	240	630	1410	3015
1LA4634-4C..0	12800	1120	1350	945	1560	1600	335	170	240	630	1410	3015
1LA4636-4C..0	13600	1120	1350	945	1560	1600	335	170	240	630	1410	3015
6-pole												
1LA4454-6AM00	5200	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4500-6C..0	6400	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4502-6C..0	6800	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4504-6C..0	7300	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4560-6C..0	8500	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4562-6C..0	9300	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4564-6C..0	10100	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4632-6C..0	12700	1120	1350	945	1560	1600	335	180	240	630	1410	3015
1LA4634-6C..0	13400	1120	1350	945	1560	1600	335	180	240	630	1410	3015
1LA4636-6C..0	14100	1120	1350	945	1560	1600	335	180	240	630	1410	3015
8-pole												
1LA4454-8AM00	5200	850	960	825	1340	1250	280	130	200	450	1100	2390
1LA4500-8C..0	6400	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4502-8C..0	6700	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4504-8C..0	7200	950	1070	875	1440	1320	315	140	200	500	1200	2525
1LA4560-8C..0	8500	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4562-8C..0	9200	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4564-8C..0	10000	1060	1210	925	1560	1400	335	160	240	560	1310	2775
1LA4632-8C..0	12500	1120	1350	945	1560	1600	335	180	240	630	1410	3015
1LA4634-8C..0	13300	1120	1350	945	1560	1600	335	180	240	630	1410	3015
1LA4636-8C..0	14000	1120	1350	945	1560	1600	335	180	240	630	1410	3015

Note: Higher pole numbers are available on request.

¹⁾ For $V_{\text{rated}} = 690$ V, the dimension changes by + 100 mm.

²⁾ For $V_{\text{rated}} = 690$ V and $I_{\text{rated}} > 1230$ A, the dimension changes by + 475 mm (a second main terminal box is required).

³⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

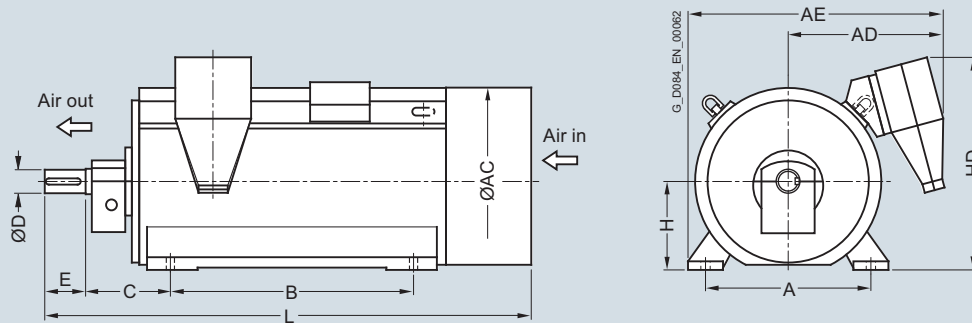
⁴⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 70 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Dimension drawings



Motor type	Weight kg	Dimensions										
		A mm	AC mm	AD ¹⁾³⁾ mm	AE ¹⁾²⁾³⁾ mm	B mm	C mm	D mm	E mm	H mm	HD ⁴⁾ mm	L mm
Up to 6.6 kV, sleeve bearings, IM B3 type of construction												
2-pole												
1LA4454-2CM00-Z K96	5200	850	960	825	1340	1250	475	95	130	450	1100	2515
4-pole												
1LA4454-4A..0-Z K96	5400	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4500-4C..0-Z K96	6300	950	1070	875	1440	1320	500	140	200	500	1200	2870
1LA4502-4C..0-Z K96	6700	950	1070	875	1440	1320	500	140	200	500	1200	2870
1LA4504-4C..0-Z K96	7200	950	1070	875	1440	1320	500	140	200	500	1200	2870
1LA4560-4C..0-Z K96	8500	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4562-4C..0-Z K96	9200	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4564-4C..0-Z K96	10000	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4632-4C..0-Z K96	12500	1120	1350	945	1560	1600	560	170	240	630	1410	3450
1LA4634-4C..0-Z K96	13100	1120	1350	945	1560	1600	560	170	240	630	1410	3450
1LA4636-4C..0-Z K96	13900	1120	1350	945	1560	1600	560	170	240	630	1410	3450
6-pole												
1LA4454-6AM00-Z K96	5300	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4500-6C..0-Z K96	6600	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4502-6C..0-Z K96	7000	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4504-6C..0-Z K96	7500	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4560-6C..0-Z K96	8800	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4562-6C..0-Z K96	9500	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4564-6C..0-Z K96	10400	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4632-6C..0-Z K96	13000	1120	1350	945	1560	1600	560	180	240	630	1410	3450
1LA4634-6C..0-Z K96	13700	1120	1350	945	1560	1600	560	180	240	630	1410	3450
1LA4636-6C..0-Z K96	14500	1120	1350	945	1560	1600	560	180	240	630	1410	3450

¹⁾ For $V_{\text{rated}} = 690$ V, the dimension changes by + 100 mm.

²⁾ For $V_{\text{rated}} = 690$ V and $I_{\text{rated}} > 1230$ A, the dimension changes by + 475 mm (a second main terminal box is required).

³⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

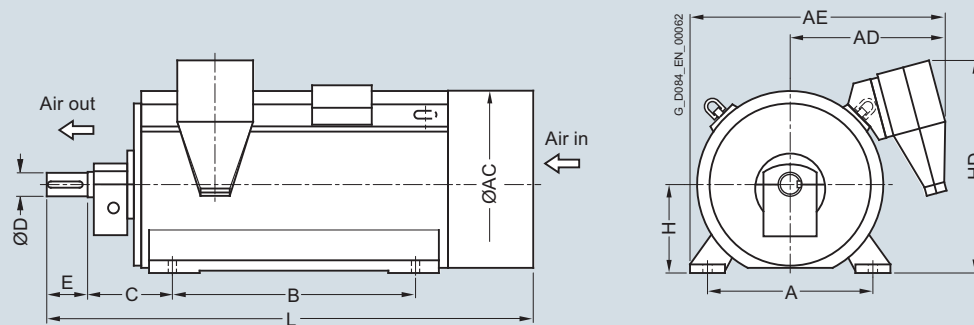
⁴⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 70 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		A	AC	AD ¹⁾³⁾	AE ¹⁾²⁾³⁾	B	C	D	E	H	HD ⁴⁾	L

Up to 6.6 kV, sleeve bearings, IM B3 type of construction

8-pole

1LA4454-8AM00-Z K96	5300	850	960	825	1340	1250	475	130	200	450	1100	2745
1LA4500-8C..0-Z K96	6600	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4502-8C..0-Z K96	6900	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4504-8C..0-Z K96	7400	950	1070	875	1440	1320	530	140	200	500	1200	2900
1LA4560-8C..0-Z K96	8800	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4562-8C..0-Z K96	9500	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4564-8C..0-Z K96	10300	1060	1210	925	1560	1400	560	160	240	560	1310	3170
1LA4632-8C..0-Z K96	12800	1120	1350	945	1560	1600	560	180	240	630	1410	3450
1LA4634-8C..0-Z K96	13600	1120	1350	945	1560	1600	560	180	240	630	1410	3450
1LA4636-8C..0-Z K96	14400	1120	1350	945	1560	1600	560	180	240	630	1410	3450

Note:

Higher pole numbers are available on request.

¹⁾ For $V_{\text{rated}} = 690$ V, the dimension changes by + 100 mm.

²⁾ For $V_{\text{rated}} = 690$ V and $I_{\text{rated}} > 1230$ A, the dimension changes by + 475 mm (a second main terminal box is required).

³⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

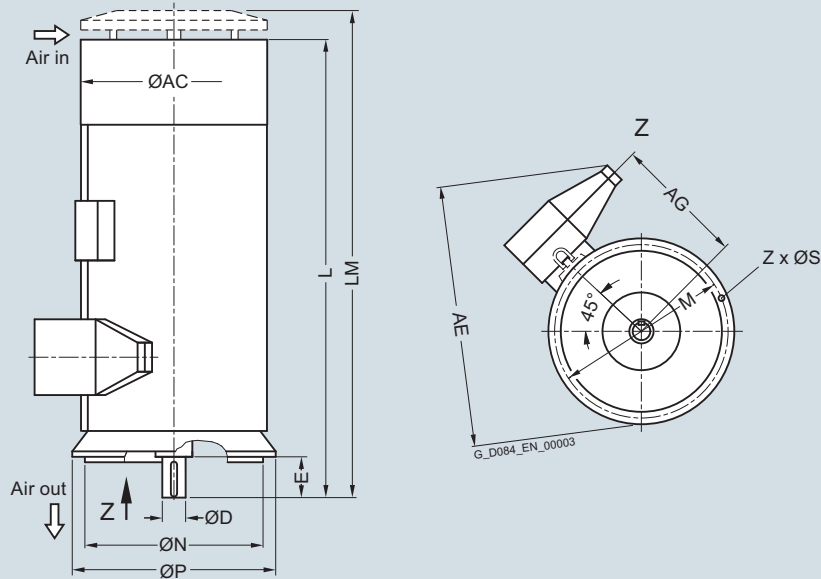
⁴⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 70 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Dimension drawings



Motor type	Weight kg	Dimensions											
		AC	AG ¹⁾²⁾	AE ³⁾	D	E	L	LM	P	N	M	S	Z
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Quantity

Up to 6.6 kV, roller bearings, IM V1 type of construction

4-pole

1LA4454-4AM0.	5200	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4500-4C...	6100	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4502-4C...	6500	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4504-4C...	7000	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4560-4C...	8300	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4562-4C...	9000	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4564-4C...	9700	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16

6-pole

1LA4454-6AM0.	5200	960	770	1550	130	200	2390	2550	1150	1000	1080	26	8
1LA4500-6C...	6400	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4502-6C...	6800	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4504-6C...	7300	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4560-6C...	8500	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4562-6C...	9300	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4564-6C...	10100	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4632-6C...	12700	1350	980	1820	180	240	3115	3305	1400	1250	1320	26	16
1LA4634-6C...	13400	1350	980	1820	180	240	3115	3305	1400	1250	1320	26	16
1LA4636-6C...	14100	1350	980	1820	180	240	3115	3305	1400	1250	1320	26	16

¹⁾ For $V_{rated} = 690$ V, the dimension changes by -50 mm.

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by $+45$ mm.

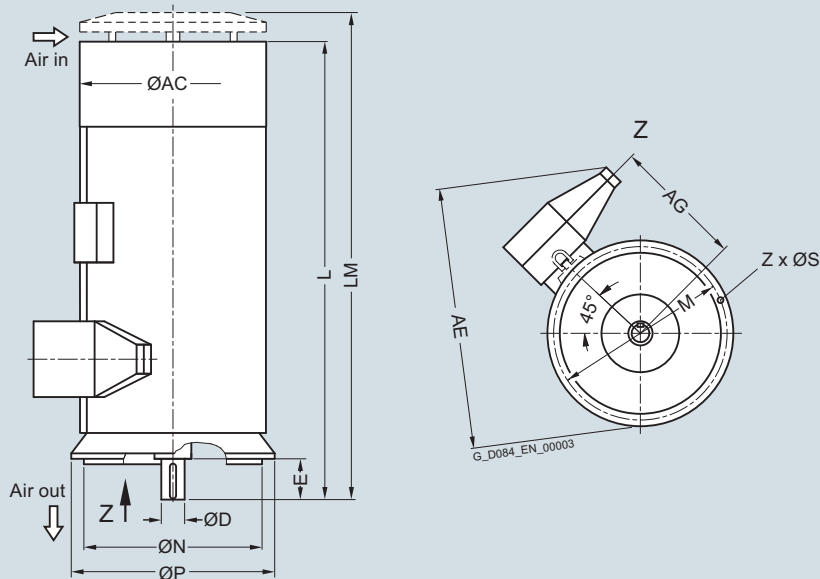
³⁾ For currents $I_{rated} > 315$ A, the dimension changes by $+180$ mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1LA4

Dimension drawings (continued)



Motor type	Weight kg	Dimensions											
		AC mm	AG ¹⁾²⁾ mm	AE ³⁾ mm	D mm	E mm	L mm	LM mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, roller bearings, IM V1 type of construction

8-pole

1LA4454-8AM0.	5200	960	770	1550	130	200	2390	2550	1000	1150	1080	26	8
1LA4500-8C...	6400	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4502-8C...	6800	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4504-8C...	7200	1070	840	1660	140	200	2525	2695	1250	1120	1180	26	16
1LA4560-8C...	8500	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4562-8C...	9200	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4564-8C...	10000	1210	910	1800	160	240	2775	2955	1400	1250	1320	26	16
1LA4632-8C...	12500	1350	980	1820	180	240	3115	3305	1400	1250	1320	26	16
1LA4634-8C...	13300	1350	980	1820	180	240	3115	3305	1400	1250	1320	26	16
1LA4636-8C...	14000	1350	980	1820	180	240	3115	3305	1400	1250	1320	26	16

Note:

Higher pole numbers are available on request.

¹⁾ For $V_{rated} = 690$ V, the dimension changes by $- 50$ mm.

²⁾ For currents $I_{rated} > 315$ A, the dimension changes by $+ 45$ mm.

³⁾ For currents $I_{rated} > 315$ A, the dimension changes by $+ 180$ mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Overview



Technical data

Overview of technical data

H-compact 1PQ4	
Rated voltage	690 V ... 6.6 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Cooling method	IC416
Stator winding insulation	Insulation system, thermal class 155 (F), utilized to 155 (F)
Shaft height	450 ... 630 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Die-cast aluminum or copper (dependent on the shaft height and number of poles)
Standards	IEC, EN
Frame design	Cast iron with cooling ribs

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1PQ4

Technical data (continued)

Power ranges for IEC motors with reinforced insulation for SINAMICS drive converters without sine-wave filter

1PQ4 series

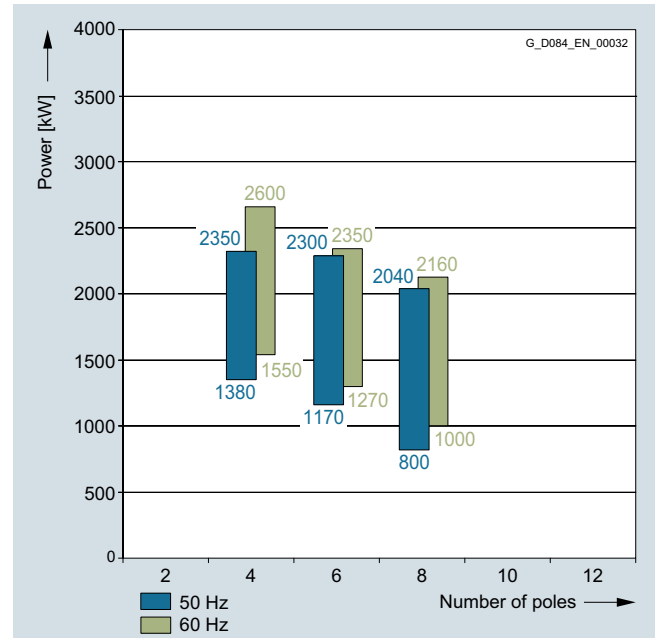
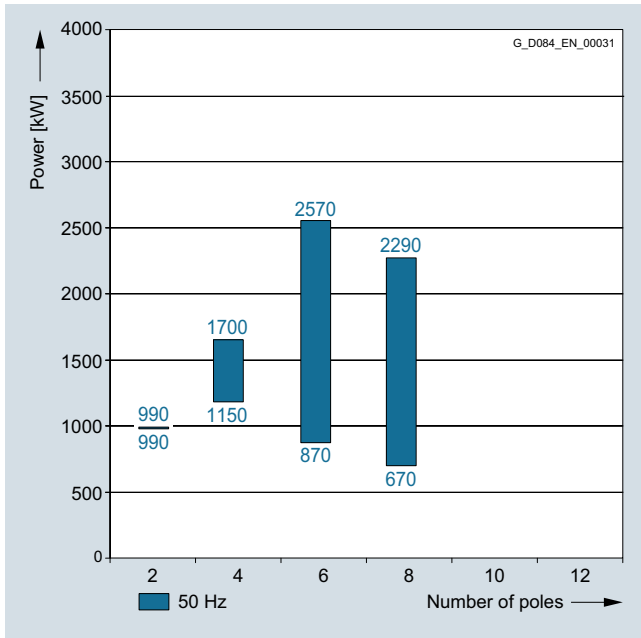
Insulation system, thermal class 155 (F), utilized to 155 (F)

The power data listed here apply for an ambient temperature of 40 °C and an installation altitude ≤ 1000 m.

690 V; 50 Hz

2.3 kV; 50 and 60 Hz

3



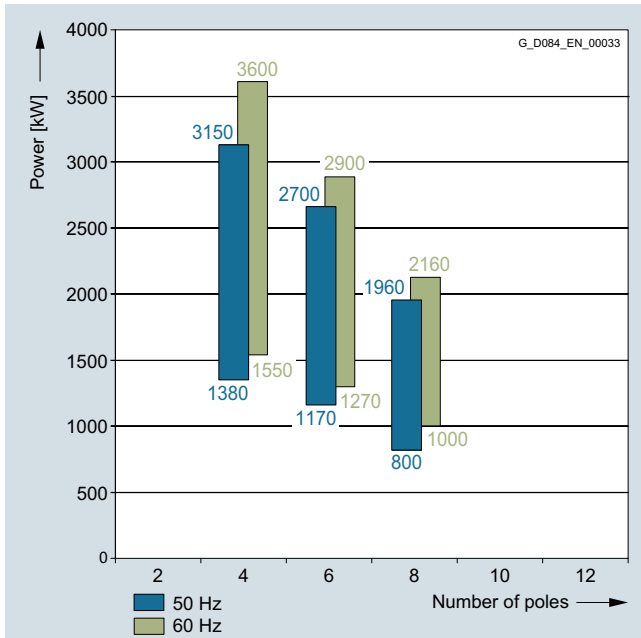
Motors for converter operation

Converter with non-sinusoidal output

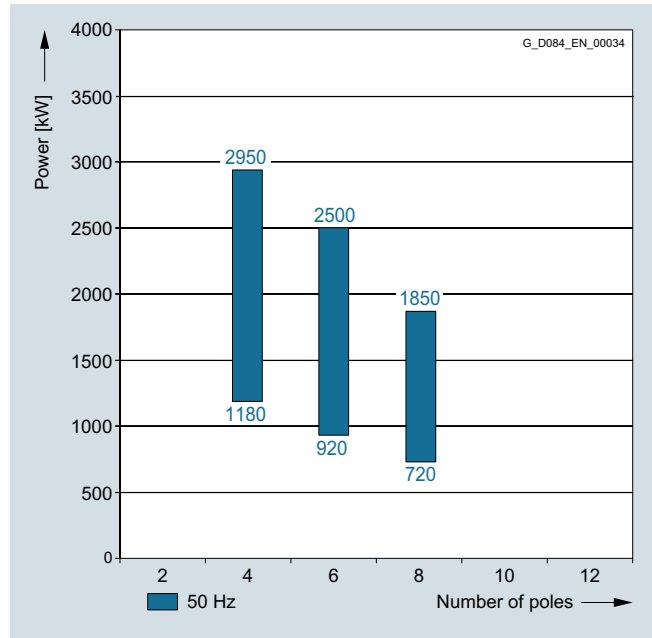
Air-cooled motors
H-compact 1PQ4

Technical data (continued)

3.4 to 4.16 kV; 50 and 60 Hz



6 to 6.6 kV; 50 Hz



3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Selection and ordering data

Rated power P_{rated} 155 (F) kW	Low-voltage motor H-compact Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current at 690 V	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	$T_{\text{B}}/T_{\text{rated}}$ [-]	J kgm ²	n_{max} rpm
690 V, 50 Hz									
2-pole									
990	1PQ4 454-2CM0	2983	97.3	0.92	930	3169	2.80	22.2	3000
4-pole									
1150	1PQ4 454-4AM0	1491	97.5	0.89	1100	7365	2.50	33.9	2400
1340	1PQ4 500-4CM0	1490	97.3	0.88	1300	8588	2.00	44.3	2400
1550	1PQ4 502-4CM0	1492	97.5	0.87	1520	9920	2.20	49.0	2400
1700	1PQ4 504-4CM0	1490	97.4	0.89	1640	10895	2.00	56.2	2400
6-pole									
870	1PQ4 454-6AM0	993	97.3	0.86	870	8366	2.50	53.5	2200
1350	1PQ4 500-6CM0	995	97.2	0.86	1360	12956	2.20	82.1	2200
1480	1PQ4 502-6CM0	995	97.2	0.86	1480	14204	2.15	92.4	2200
1630	1PQ4 504-6CM0	995	97.3	0.87	1620	15643	2.15	102.6	2200
1900	1PQ4 560-6CM0	995	97.5	0.86	1900	18234	2.30	141.5	2000
2100	1PQ4 562-6CM0	995	97.5	0.86	2100	20154	2.40	162.1	2000
2300	1PQ4 564-6CM0	995	97.6	0.87	2250	22073	2.40	188.5	2000
2455	1PQ4 634-6CM0	996	97.4	0.88	2400	23538	3.00	331.5	1200
2570	1PQ4 636-6CM0	996	97.4	0.89	2500	24640	3.00	361.5	1200
8-pole									
670	1PQ4 454-8AM0	745	96.7	0.80	720	8588	2.40	52.8	2200
950	1PQ4 500-8CM0	746	96.7	0.80	1020	12160	2.10	81.7	2200
1050	1PQ4 502-8CM0	746	96.8	0.81	1120	13440	2.10	91.9	2200
1150	1PQ4 504-8CM0	746	96.9	0.81	1220	14720	2.10	102.2	2200
1400	1PQ4 560-8CM0	745	97.0	0.81	1500	17944	2.30	141.6	2000
1600	1PQ4 562-8CM0	746	97.1	0.82	1680	20480	2.30	162.3	2000
1850	1PQ4 564-8CM0	746	97.1	0.82	1940	23680	2.30	188.8	2000
2030	1PQ4 634-8CM0	746	97.0	0.86	2050	25985	2.40	330.0	1200
2290	1PQ4 636-8CM0	746	97.1	0.86	2300	29314	2.40	360.0	1200

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{max} kW	T_{max} rpm	η %	$\cos \varphi$ [-]	P_{max} kW	T_{max} rpm	η %	$\cos \varphi$ [-]	P_{max} kW	T_{max} rpm	η %	$\cos \varphi$ [-]
	Constant-torque drive											
2-pole												
1PQ4 454-2...	990	3169	97.3	0.92	880	2817	97.3	0.92	850	2721	97.3	0.92
4-pole												
1PQ4 454-4...	1130	7237	97.5	0.89	1060	6789	97.6	0.89	1020	6533	97.6	0.88
1PQ4 500-4...	1320	8460	97.2	0.88	1230	7883	97.3	0.88	1200	7690	97.3	0.88
1PQ4 502-4...	1530	9792	97.5	0.87	1420	9088	97.6	0.87	1390	8896	97.6	0.87
1PQ4 504-4...	1680	10767	97.4	0.89	1540	9869	97.5	0.89	1510	9677	97.5	0.89
6-pole												
1PQ4 454-6...	870	8366	97.3	0.86	770	7405	97.4	0.85	740	7116	97.4	0.85
1PQ4 500-6...	1350	12956	97.2	0.85	1320	12668	97.2	0.85	1300	12476	97.2	0.85
1PQ4 502-6...	1480	14204	97.2	0.86	1430	13724	97.2	0.86	1420	13628	97.2	0.86
1PQ4 504-6...	1630	15643	97.3	0.87	1580	15163	97.3	0.87	1570	15067	97.3	0.87
1PQ4 560-6...	1900	18234	97.5	0.86	1750	16795	97.5	0.86	1700	16315	97.5	0.85
1PQ4 562-6...	2100	20154	97.5	0.86	2000	19194	97.5	0.86	1950	18714	97.6	0.86
1PQ4 564-6...	2300	22073	97.6	0.87	2250	21593	97.6	0.87	2200	21113	97.6	0.87
1PQ4 634-6...	2455	23538	97.4	0.88	2455	23538	97.4	0.88	2455	23538	97.4	0.88
1PQ4 636-6...	2570	24640	97.4	0.89	2570	24640	97.4	0.89	2570	24640	97.4	0.89
8-pole												
1PQ4 454-8...	670	8588	96.7	0.80	640	8203	96.7	0.80	610	7819	96.8	0.79
1PQ4 500-8...	950	12160	96.7	0.80	950	12160	96.7	0.80	950	12160	96.7	0.80
1PQ4 502-8...	1050	13440	96.8	0.81	1050	13440	96.8	0.81	1050	13440	96.8	0.81
1PQ4 504-8...	1150	14720	96.9	0.81	1150	14720	96.9	0.81	1150	14720	96.9	0.81
1PQ4 560-8...	1400	17944	97.0	0.81	1300	16663	97.0	0.80	1300	16663	97.0	0.80
1PQ4 562-8...	1600	20480	97.1	0.82	1500	19200	97.1	0.82	1500	19200	97.1	0.82
1PQ4 564-8...	1850	23680	97.1	0.82	1700	21760	97.1	0.81	1700	21760	97.1	0.81
1PQ4 634-8...	2030	25985	97.0	0.86	2030	25985	97.0	0.86	2030	25985	97.0	0.86
1PQ4 636-8...	2290	29314	97.1	0.86	2290	29314	97.1	0.86	2290	29314	97.1	0.86

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1PQ4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current 2.3 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
P_{rated} 155 (F)	P_{rated} 130 (B)		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	$T_{\text{B}}/T_{\text{rated}}$	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
2.3 kV, 50 Hz										
4-pole										
1380	1200	1PQ4 500-4CV0	1492	97.4	0.87	410	8833	2.35	42.3	2400
1530	1320	1PQ4 502-4CV0	1492	97.5	0.87	455	9793	2.35	47.0	2400
1680	1470	1PQ4 504-4CV0	1492	97.6	0.88	490	10753	2.35	54.2	2400
1850	1550	1PQ4 560-4CV0	1494	97.8	0.87	550	11826	2.45	79.0	2200
2100	1750	1PQ4 562-4CV0	1494	97.8	0.87	620	13424	2.45	92.0	2200
2350	1900	1PQ4 564-4CV0	1494	97.8	0.87	690	15022	2.45	104.0	2200
6-pole										
1170	1050	1PQ4 500-6CV0	994	97.2	0.87	345	11241	2.20	82.1	2200
1280	1150	1PQ4 502-6CV0	994	97.2	0.87	380	12298	2.20	92.4	2200
1380	1250	1PQ4 504-6CV0	994	97.2	0.87	410	13259	2.20	102.6	2200
1700	1480	1PQ4 560-6CV0	995	97.4	0.86	510	16317	2.25	141.5	2000
1900	1680	1PQ4 562-6CV0	995	97.5	0.87	560	18236	2.40	162.1	2000
2150	1900	1PQ4 564-6CV0	995	97.6	0.87	640	20636	2.25	188.5	2000
2300	⁻³⁾	1PQ4 632-6CV0	995	97.1	0.89	670	22075	2.40	269.0	O. R. ²⁾
8-pole										
800	800	1PQ4 500-8CV0	746	96.6	0.81	255	10241	2.20	81.7	2200
850	850	1PQ4 502-8CV0	746	96.6	0.81	275	10881	2.20	91.9	2200
950	950	1PQ4 504-8CV0	746	96.6	0.81	305	12162	2.20	102.2	2200
1300	1140	1PQ4 560-8CV0	744	96.8	0.84	400	16687	1.90	141.6	2000
1450	1270	1PQ4 562-8CV0	744	96.9	0.84	445	18612	1.90	162.3	2000
1700	1500	1PQ4 564-8CV0	744	97.0	0.84	520	21821	1.90	188.8	2000
1850	⁻³⁾	1PQ4 634-8CV0	746	96.8	0.84	570	23683	2.40	294.0	O. R. ²⁾
2040	⁻³⁾	1PQ4 636-8CV0	745	96.9	0.85	620	26150	2.10	320.0	O. R. ²⁾
Type of construction:										
IM B3			0							
IM V1 (with canopy)			4							
IM V1 (without canopy)			8							

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ On request.

³⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$
	kW	Nm	%	[-]	kW	Nm	%	[-]	kW	Nm	%	[-]
	Constant-torque drive											
4-pole												
1PQ4 500-4...	1350	8641	97.4	0.87	1280	8193	97.4	0.87	1230	7873	97.4	0.86
1PQ4 502-4...	1500	9601	97.5	0.87	1430	9153	97.5	0.87	1380	8833	97.5	0.87
1PQ4 504-4...	1650	10561	97.6	0.88	1560	9985	97.6	0.88	1500	9601	97.6	0.88
1PQ4 560-4...	1850	11826	97.8	0.87	1780	11378	97.8	0.87	1730	11059	97.8	0.87
1PQ4 562-4...	2100	13424	97.8	0.87	2030	12976	97.8	0.87	1980	12657	97.8	0.87
1PQ4 564-4...	2350	15022	97.8	0.87	2300	14702	97.8	0.87	2250	14383	97.8	0.87
6-pole												
1PQ4 500-6...	1170	11241	97.2	0.87	1170	11241	97.2	0.87	1120	10761	97.2	0.87
1PQ4 502-6...	1280	12298	97.2	0.87	1280	12298	97.2	0.87	1220	11721	97.2	0.87
1PQ4 504-6...	1380	13259	97.2	0.87	1380	13259	97.2	0.87	1320	12682	97.3	0.87
1PQ4 560-6...	1700	16317	97.4	0.86	1700	16317	97.4	0.86	1600	15357	97.4	0.86
1PQ4 562-6...	1900	18236	97.5	0.87	1900	18236	97.5	0.87	1800	17276	97.5	0.87
1PQ4 564-6...	2150	20636	97.6	0.87	2150	20636	97.6	0.87	2050	19676	97.6	0.87
1PQ4 632-6...	2210	21212	97.1	0.89	1795	17228	97.0	0.88	1680	16125	97.0	0.87
8-pole												
1PQ4 500-8...	800	10241	96.6	0.81	800	10241	96.6	0.81	760	9729	96.6	0.81
1PQ4 502-8...	850	10881	96.6	0.81	850	10881	96.6	0.81	810	10369	96.6	0.81
1PQ4 504-8...	980	12546	96.6	0.81	980	12546	96.6	0.81	930	11905	96.6	0.81
1PQ4 560-8...	1300	16687	96.8	0.84	1260	16173	96.8	0.84	1230	15788	96.8	0.84
1PQ4 562-8...	1450	18612	96.9	0.84	1440	18484	96.9	0.84	1400	17970	96.9	0.84
1PQ4 564-8...	1700	21821	97.0	0.84	1690	21693	97.0	0.84	1650	21179	97.0	0.84
1PQ4 634-8...	1775	22723	96.7	0.83	1445	18498	96.6	0.81	1350	17282	96.5	0.80
1PQ4 636-8...	1960	25125	96.8	0.85	1590	20382	96.8	0.83	1490	19100	96.7	0.82

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1PQ4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 3.4 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
$P_{155(F)}^{\text{rated}}$	$P_{130(B)}^{\text{rated}}$		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	T_B/T_{rated}	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm

3.4 ... 4.16 kV, 50 Hz

4-pole

1380	1200	1PQ4 500-4CV	1492	97.4	0.87	285	8833	2.35	42.3	2400
1530	1320	1PQ4 502-4CV	1492	97.5	0.87	315	9793	2.35	47.0	2400
1680	1470	1PQ4 504-4CV	1492	97.6	0.88	340	10753	2.35	54.2	2400
1850	1550	1PQ4 560-4CV	1494	97.8	0.87	380	11826	2.45	79.0	2200
2100	1750	1PQ4 562-4CV	1494	97.8	0.87	430	13424	2.45	92.0	2200
2350	1900	1PQ4 564-4CV	1494	97.8	0.87	485	15022	2.45	104.0	2200
2600	— ³⁾	1PQ4 632-4CV 0	1494	97.5	0.88	530	16620	2.20	157.0	O. R. ²⁾
2900	— ³⁾	1PQ4 634-4CV 0	1494	97.6	0.88	590	18537	2.20	171.0	O. R. ²⁾
3150	— ³⁾	1PQ4 636-4CV 0	1494	97.7	0.88	640	20136	2.20	186.0	O. R. ²⁾

6-pole

1170	1050	1PQ4 500-6CV	994	97.2	0.87	240	11241	2.20	82.1	2200
1280	1150	1PQ4 502-6CV	994	97.2	0.87	265	12298	2.20	92.4	2200
1380	1250	1PQ4 504-6CV	994	97.2	0.87	285	13259	2.20	102.6	2200
1700	1480	1PQ4 560-6CV	995	97.4	0.86	355	16317	2.25	141.5	2000
1900	1680	1PQ4 562-6CV	995	97.5	0.87	390	18236	2.40	162.1	2000
2150	1900	1PQ4 564-6CV	995	97.6	0.87	445	20636	2.25	188.5	2000
2220	— ³⁾	1PQ4 632-6CV	995	97.1	0.89	450	21308	2.30	269.0	O. R. ²⁾
2480	— ³⁾	1PQ4 634-6CV	995	97.2	0.89	500	23803	2.20	297.0	O. R. ²⁾
2700	— ³⁾	1PQ4 636-6CV	995	97.3	0.89	550	25915	2.20	323.0	O. R. ²⁾

8-pole

800	800	1PQ4 500-8CV	746	96.6	0.81	178	10241	2.20	81.7	2200
850	850	1PQ4 502-8CV	746	96.6	0.81	190	10881	2.20	91.9	2200
950	950	1PQ4 504-8CV	746	96.6	0.81	210	12162	2.20	102.2	2200
1300	1140	1PQ4 560-8CV	744	96.8	0.84	280	16687	1.90	141.6	2000
1450	1270	1PQ4 562-8CV	744	96.9	0.84	310	18612	1.90	162.3	2000
1700	1500	1PQ4 564-8CV	744	97.0	0.84	365	21821	1.90	188.8	2000
1780	— ³⁾	1PQ4 634-8CV	745	96.7	0.84	385	22817	2.30	294.0	O. R. ²⁾
1960	— ³⁾	1PQ4 636-8CV	745	96.8	0.85	415	25125	2.20	320.0	O. R. ²⁾

Voltage code:

4.16 kV, 50 Hz	4
Other voltage	9

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ On request.

³⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$
	kW	Nm	%	[-]	kW	Nm	%	[-]	kW	Nm	%	[-]
	Constant-torque drive											
4-pole												
1PQ4 500-4...	1350	8641	97.4	0.87	1280	8193	97.4	0.87	1230	7873	97.4	0.86
1PQ4 502-4...	1500	9601	97.5	0.87	1430	9153	97.5	0.87	1380	8833	97.5	0.87
1PQ4 504-4...	1650	10561	97.6	0.88	1560	9985	97.6	0.88	1500	9601	97.6	0.88
1PQ4 560-4...	1850	11826	97.8	0.87	1780	11378	97.8	0.87	1730	11059	97.8	0.87
1PQ4 562-4...	2100	13424	97.8	0.87	2030	12976	97.8	0.87	1980	12657	97.8	0.87
1PQ4 564-4...	2350	15022	97.3	0.85	1900	12145	97.8	0.87	2250	14383	97.8	0.87
1PQ4 632-4...	2495	15949	97.4	0.88	2030	12976	97.4	0.87	1900	12145	97.4	0.87
1PQ4 634-4...	2780	17770	97.5	0.88	2260	14446	97.5	0.87	2110	13488	97.4	0.87
1PQ4 636-4...	3020	19305	97.6	0.88	2460	15725	97.6	0.87	2300	14702	97.5	0.87
6-pole												
1PQ4 500-6...	1170	11241	97.2	0.87	1170	11241	97.1	0.87	1120	11529	97.2	0.87
1PQ4 502-6...	1280	12298	97.2	0.87	1280	12298	96.9	0.87	1220	12970	97.2	0.87
1PQ4 504-6...	1380	13259	97.2	0.87	1380	13259	97.4	0.87	1320	14700	97.3	0.87
1PQ4 560-6...	1700	16317	97.4	0.86	1700	16317	97.5	0.87	1600	16796	97.4	0.86
1PQ4 562-6...	1900	18236	97.5	0.87	1900	18236	97.5	0.87	1800	18716	97.5	0.87
1PQ4 564-6...	2150	20636	97.6	0.87	2150	20636	97.6	0.87	2050	21595	97.6	0.87
1PQ4 632-6...	2130	20444	97.0	0.89	1730	16605	97.0	0.88	1620	15549	97.0	0.88
1PQ4 634-6...	2380	22843	97.1	0.89	1935	18572	97.2	0.89	1810	17372	97.1	0.88
1PQ4 636-6...	2590	24859	97.3	0.89	2100	20156	97.3	0.89	1970	18908	97.2	0.88
8-pole												
1PQ4 500-8...	800	10241	96.6	0.81	800	10241	96.6	0.81	760	9729	96.6	0.81
1PQ4 502-8...	850	10881	96.6	0.81	850	10881	96.6	0.81	810	10369	96.6	0.81
1PQ4 504-8...	980	12546	96.6	0.81	980	12546	96.6	0.81	930	11905	96.6	0.81
1PQ4 560-8...	1300	16687	96.8	0.84	1260	16173	96.8	0.84	1230	15788	96.8	0.84
1PQ4 562-8...	1450	18612	96.9	0.84	1440	18484	96.9	0.84	1400	17970	96.9	0.84
1PQ4 564-8...	1700	21821	97.0	0.84	1690	21693	97.0	0.84	1650	21179	97.0	0.84
1PQ4 634-8...	1710	21920	96.7	0.84	1390	17818	96.6	0.82	1300	16664	96.5	0.81
1PQ4 636-8...	1880	24099	96.8	0.85	1530	19613	96.7	0.83	1430	18331	96.7	0.82

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Selection and ordering data

Rated power P_{rated} 155 (F) kW	High voltage motor H-compact Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current at 6.6 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm
6 ... 6.6 kV, 50 Hz									
4-pole									
1180	1PQ4 500-4CV	1493	96.8	0.87	122	7548	2.60	42.0	2400
1300	1PQ4 502-4CV	1493	96.9	0.87	134	8315	2.60	47.0	2400
1450	1PQ4 504-4CV	1493	97.1	0.88	148	9275	2.50	54.0	2400
1600	1PQ4 560-4CV	1494	97.2	0.86	168	10228	2.60	79.0	2200
1850	1PQ4 562-4CV	1494	97.4	0.87	190	11826	2.60	92.0	2200
2100	1PQ4 564-4CV	1494	97.5	0.87	215	13424	2.60	104.0	2200
2400	1PQ4 632-4CV 0	1494	97.3	0.88	245	15341	2.40	157.0	O. R. ²⁾
2700	1PQ4 634-4CV 0	1494	97.4	0.87	280	17259	2.40	171.0	O. R. ²⁾
2950	1PQ4 636-4CV 0	1494	97.5	0.87	305	18857	2.40	186.0	O. R. ²⁾
6-pole									
920	1PQ4 500-6CV	995	96.6	0.86	97	8830	2.50	82.0	2200
1030	1PQ4 502-6CV	995	96.7	0.87	108	9886	2.40	92.0	2200
1120	1PQ4 504-6CV	995	96.8	0.87	116	10750	2.40	103.0	2200
1400	1PQ4 560-6CV	996	97.1	0.86	146	13424	2.70	142.0	2000
1550	1PQ4 562-6CV	996	97.2	0.86	162	14862	2.70	162.0	2000
1700	1PQ4 564-6CV	996	97.3	0.87	176	16300	2.50	189.0	2000
2050	1PQ4 632-6CV	995	97.0	0.88	210	19676	2.40	269.0	O. R. ²⁾
2300	1PQ4 634-6CV	995	97.1	0.89	235	22075	2.40	297.0	O. R. ²⁾
2500	1PQ4 636-6CV	995	97.1	0.88	255	23995	2.40	323.0	O. R. ²⁾
8-pole									
720	1PQ4 500-8CV	746	96.0	0.80	82	9217	2.30	82.0	2200
760	1PQ4 502-8CV	746	96.2	0.81	85	9729	2.30	92.0	2200
820	1PQ4 504-8CV	746	96.3	0.81	92	10497	2.30	102.0	2200
1050	1PQ4 560-8CV	745	96.6	0.82	116	13460	2.40	142.0	2000
1180	1PQ4 562-8CV	745	96.7	0.82	130	15126	2.40	162.0	2000
1350	1PQ4 564-8CV	745	96.8	0.83	146	17305	2.40	189.0	2000
1500	1PQ4 632-8CV	746	96.5	0.83	164	19202	2.50	265.0	O. R. ²⁾
1700	1PQ4 634-8CV	746	96.6	0.83	186	21763	2.50	294.0	O. R. ²⁾
1850	1PQ4 636-8CV	746	96.7	0.83	200	23683	2.50	320.0	O. R. ²⁾

Voltage code:

6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

6
7
9

Type of construction:

IM B3
IM V1 (with canopy)
IM V1 (without canopy)

0
4
8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ On request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{\max} kW	T_{\max} Nm	η %	$\cos \varphi$ [-]	P_{\max} kW	T_{\max} Nm	η %	$\cos \varphi$ [-]	P_{\max} kW	T_{\max} Nm	η %	$\cos \varphi$ [-]
	Constant-torque drive											
4-pole												
1PQ4 500-4...	1180	7548	96.8	0.87	1180	7548	96.8	0.87	1070	6844	96.7	0.86
1PQ4 502-4...	1300	8315	96.9	0.87	1300	8315	96.9	0.87	1200	7676	96.8	0.87
1PQ4 504-4...	1450	9275	97.1	0.88	1450	9275	97.1	0.88	1370	8763	97.0	0.88
1PQ4 560-4...	1600	10228	97.2	0.86	1600	10228	97.2	0.86	1450	9269	97.1	0.84
1PQ4 562-4...	1850	11826	97.4	0.87	1850	11826	97.4	0.87	1700	10867	97.3	0.86
1PQ4 564-4...	2100	13424	97.5	0.87	2100	13424	97.5	0.87	1950	12465	97.4	0.87
1PQ4 632-4...	2400	15341	97.3	0.88	2400	15341	97.3	0.88	2100	13424	97.3	0.87
1PQ4 634-4...	2700	17259	97.4	0.87	2700	17259	97.4	0.87	2450	15661	97.4	0.86
1PQ4 636-4...	2950	18857	97.5	0.87	2950	18857	97.5	0.87	2750	17579	97.5	0.86
6-pole												
1PQ4 500-6...	920	8830	96.6	0.86	920	8830	96.6	0.86	920	8830	96.6	0.86
1PQ4 502-6...	1030	9886	96.7	0.87	1030	9886	96.7	0.87	1030	9886	96.7	0.87
1PQ4 504-6...	1120	10750	96.8	0.87	1120	10750	96.8	0.87	1120	10750	96.8	0.87
1PQ4 560-6...	1400	13424	97.1	0.86	1400	13424	97.1	0.86	1400	13424	97.2	0.86
1PQ4 562-6...	1550	14862	97.2	0.86	1550	14862	97.2	0.86	1550	14862	97.3	0.86
1PQ4 564-6...	1700	16300	97.3	0.87	1700	16300	97.3	0.87	1700	16300	97.4	0.87
1PQ4 632-6...	2050	19676	97.0	0.88	2050	19676	97.0	0.88	2050	19676	97.0	0.88
1PQ4 634-6...	2300	22075	97.1	0.89	2300	22075	97.1	0.89	2300	22075	97.0	0.89
1PQ4 636-6...	2500	23995	97.1	0.88	2500	23995	97.1	0.88	2500	23995	97.1	0.88
8-pole												
1PQ4 500-8...	720	9217	96.0	0.80	720	9217	96.0	0.80	720	9217	96.1	0.81
1PQ4 502-8...	760	9729	96.2	0.81	760	9729	96.2	0.81	760	9729	96.2	0.81
1PQ4 504-8...	820	10497	96.3	0.81	820	10497	96.3	0.81	820	10497	96.3	0.81
1PQ4 560-8...	1050	13460	96.6	0.82	1050	13460	96.6	0.82	1050	13460	96.6	0.82
1PQ4 562-8...	1180	15126	96.7	0.82	1180	15126	96.7	0.82	1180	15126	96.8	0.82
1PQ4 564-8...	1350	17305	96.8	0.83	1350	17305	96.8	0.83	1350	17305	96.8	0.82
1PQ4 632-8...	1500	19202	96.5	0.83	1500	19202	96.5	0.83	1500	19202	96.5	0.83
1PQ4 634-8...	1700	21763	96.6	0.83	1700	21763	96.6	0.83	1700	21763	96.6	0.83
1PQ4 636-8...	1850	23683	96.7	0.83	1850	23683	96.7	0.83	1850	23683	96.7	0.83

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1PQ4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current 2.3 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
P_{rated} 155 (F)	P_{rated} 130 (B)		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	$T_{\text{B}}/T_{\text{rated}}$	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
2.3 kV, 60 Hz										
4-pole										
1550	1320	1PQ4 500-4CV1	1793	97.5	0.88	455	8256	2.50	42.3	2400
1700	1400	1PQ4 502-4CV1	1793	97.5	0.88	495	9055	2.50	47.0	2400
1850	1550	1PQ4 504-4CV1	1793	97.5	0.88	540	9854	2.50	54.2	2400
2000	1600	1PQ4 560-4CV1	1794	97.7	0.87	590	10647	2.40	79.0	2200
2300	1850	1PQ4 562-4CV1	1794	97.7	0.87	680	12244	2.40	92.0	2200
2600	2100	1PQ4 564-4CV1	1794	97.7	0.87	770	13841	2.40	104.0	2200
6-pole										
1270	1120	1PQ4 500-6CV1	1195	97.1	0.87	375	10149	2.25	82.1	2200
1420	1250	1PQ4 502-6CV1	1196	97.3	0.87	420	11339	2.25	92.4	2200
1600	1400	1PQ4 504-6CV1	1195	97.4	0.87	475	12787	2.25	102.6	2200
1850	1600	1PQ4 560-6CV1	1195	97.5	0.87	550	14785	2.40	141.5	2000
2050	1780	1PQ4 562-6CV1	1195	97.5	0.87	610	16383	2.40	162.1	2000
2350	2000	1PQ4 564-6CV1	1195	97.6	0.87	690	18780	2.40	188.5	2000
8-pole										
1000	900	1PQ4 500-8CV1	895	96.7	0.81	320	10670	2.10	81.7	2200
1100	1000	1PQ4 502-8CV1	895	96.7	0.81	355	11737	2.10	91.9	2200
1200	1100	1PQ4 504-8CV1	895	96.7	0.81	385	12804	2.10	102.2	2200
1400	1220	1PQ4 560-8CV1	894	96.9	0.84	430	14955	1.90	141.6	2000
1630	1420	1PQ4 562-8CV1	894	97.0	0.84	500	17412	1.90	162.3	2000
1860	1600	1PQ4 564-8CV1	894	97.1	0.84	570	19869	2.10	188.8	2000
2000	⁻³⁾	1PQ4 634-8CV1	895	96.7	0.86	600	21341	2.00	294.0	O. R. ²⁾
2160	⁻³⁾	1PQ4 636-8CV1	895	96.8	0.86	650	23048	2.10	320.0	O. R. ²⁾

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ On request.

³⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$	P_{\max}	T_{\max}	η	$\cos \varphi$
	kW	Nm	%	[-]	kW	Nm	%	[-]	kW	Nm	%	[-]
Constant-torque drive												
4-pole												
1PQ4 500-4...	1550	8256	97.5	0.88	1550	8256	97.5	0.88	1480	7883	97.5	0.88
1PQ4 502-4...	1700	9055	97.5	0.88	1700	9055	97.5	0.88	1620	8629	97.5	0.88
1PQ4.504-4...	1850	9854	97.5	0.88	1850	9854	97.5	0.88	1780	9481	97.5	0.88
1PQ4 560-4...	2000	10647	97.7	0.87	1940	10327	97.7	0.87	1900	10114	97.7	0.87
1PQ4 562-4...	2300	12244	97.7	0.87	2300	12244	97.7	0.87	2250	11977	97.7	0.87
1PQ4 564-4...	2600	13841	97.7	0.87	2600	13841	97.7	0.87	2550	13574	97.7	0.87
6-pole												
1PQ4 500-6...	1270	10149	97.1	0.87	1270	10149	97.1	0.87	1200	9590	97.1	0.87
1PQ4 502-6...	1420	11339	96.9	0.87	1420	11339	96.9	0.87	1350	10780	96.9	0.87
1PQ4 504-6...	1600	12787	97.4	0.87	1600	12787	97.4	0.87	1530	12227	97.4	0.87
1PQ4 560-6...	1850	14785	97.5	0.87	1850	14785	97.5	0.87	1750	13985	97.5	0.87
1PQ4 562-6...	2050	16383	97.5	0.87	2050	16383	97.5	0.87	1950	15584	97.5	0.87
1PQ4 564-6...	2350	18780	97.6	0.87	2350	18780	97.6	0.87	2250	17981	97.6	0.87
8-pole												
1PQ4 500-8...	1000	10670	96.7	0.81	1000	10670	96.7	0.81	950	10137	96.7	0.81
1PQ4 502-8...	1100	11737	96.7	0.81	1100	11737	96.7	0.81	1050	11204	96.7	0.81
1PQ4 504-8...	1200	12804	96.7	0.81	1200	12804	96.7	0.81	1150	12271	96.7	0.81
1PQ4 560-8...	1400	14955	96.9	0.84	1400	14955	96.9	0.84	1350	14421	96.9	0.84
1PQ4 562-8...	1630	17412	97.0	0.84	1630	17412	97.0	0.84	1580	16878	97.0	0.84
1PQ4 564-8...	1860	19869	97.1	0.84	1860	19869	97.1	0.84	1800	19228	97.1	0.84
1PQ4 634-8...	1940	20701	96.6	0.85	1580	16859	96.4	0.84	1480	15792	96.4	0.84
1PQ4 636-8...	2095	22354	96.6	0.85	1705	18193	96.5	0.84	1598	17051	96.4	0.84

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact 1PQ4

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
$P_{155(F)}^{\text{rated}}$ kW	$P_{130(B)}^{\text{rated}}$ kW		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm

3.4 ... 4.16 kV, 60 Hz

4-pole

1550	1320	1PQ4 500-4CV5	1793	97.5	0.88	250	8256	2.50	42.3	2400
1700	1400	1PQ4 502-4CV5	1793	97.5	0.88	275	9055	2.50	47.0	2400
1850	1550	1PQ4 504-4CV5	1793	97.5	0.88	300	9854	2.50	54.2	2400
2000	1600	1PQ4 560-4CV5	1794	97.7	0.87	325	10647	2.40	79.0	2200
2300	1850	1PQ4 562-4CV5	1794	97.7	0.87	375	12244	2.40	92.0	2200
2600	2100	1PQ4 564-4CV5	1794	97.7	0.87	425	13841	2.40	104.0	2200
2950	– ³⁾	1PQ4 632-4CV5 0	1794	97.2	0.87	485	15704	2.40	157.0	O. R. ²⁾
3320	– ³⁾	1PQ4 634-4CV5 0	1794	97.3	0.87	540	17673	2.20	171.0	O. R. ²⁾
3600	– ³⁾	1PQ4 636-4CV5 0	1795	97.5	0.87	590	19153	2.40	186.0	O. R. ²⁾

6-pole

1270	1120	1PQ4 500-6CV5	1195	97.1	0.87	210	10149	2.25	82.1	2200
1420	1250	1PQ4 502-6CV5	1196	97.3	0.87	235	11339	2.25	92.4	2200
1600	1400	1PQ4 504-6CV5	1195	97.4	0.87	260	12787	2.25	102.6	2200
1850	1600	1PQ4 560-6CV5	1195	97.5	0.87	305	14785	2.40	141.5	2000
2050	1780	1PQ4 562-6CV5	1195	97.5	0.87	335	16383	2.40	162.1	2000
2350	2000	1PQ4 564-6CV5	1195	97.6	0.87	385	18780	2.40	188.5	2000
2400	– ³⁾	1PQ4 632-6CV5	1195	96.8	0.89	385	19180	2.40	269.0	O. R. ²⁾
2700	– ³⁾	1PQ4 634-6CV5	1195	96.9	0.89	435	21577	2.20	297.0	O. R. ²⁾
2900	– ³⁾	1PQ4 636-6CV5	1195	97.0	0.89	465	23176	2.20	323.0	O. R. ²⁾

8-pole

1000	900	1PQ4 500-8CV5	895	96.7	0.81	178	10670	2.10	81.7	2200
1100	1000	1PQ4 502-8CV5	895	96.7	0.81	194	11737	2.10	91.9	2200
1200	1100	1PQ4 504-8CV5	895	96.7	0.81	215	12804	2.10	102.2	2200
1400	1220	1PQ4 560-8CV5	894	96.9	0.84	240	14955	1.90	141.6	2000
1630	1420	1PQ4 562-8CV5	894	97.0	0.84	280	17412	1.90	162.3	2000
1860	1600	1PQ4 564-8CV5	894	97.1	0.84	315	19869	2.10	188.8	2000
1960	– ³⁾	1PQ4 634-8CV5	895	96.7	0.86	325	20914	2.00	294.0	O. R. ²⁾
2160	– ³⁾	1PQ4 636-8CV5	895	96.8	0.86	360	23048	2.10	320.0	O. R. ²⁾

Type of construction:

IM B3	0
IM V1 (with canopy)	4
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ On request.

³⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

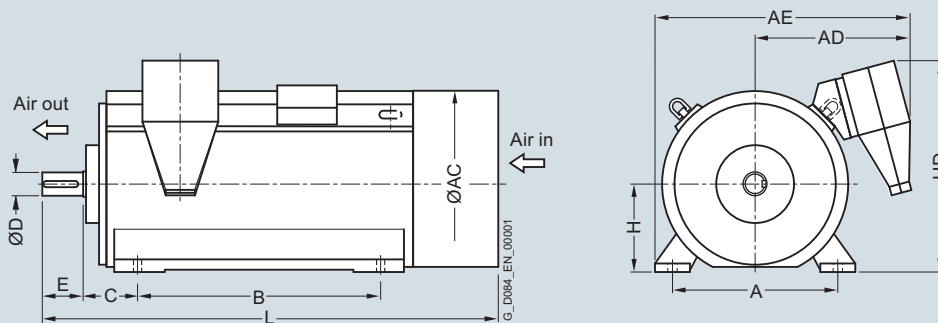
Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:5				1:10			
	P_{max}	T_{max}	η	$\cos \varphi$	P_{max}	T_{max}	η	$\cos \varphi$	P_{max}	T_{max}	η	$\cos \varphi$
	kW	Nm	%	[-]	kW	Nm	%	[-]	kW	Nm	%	[-]
	Constant-torque drive											
4-pole												
1PQ4 500-4...	1550	8256	97.5	0.88	1550	8256	97.5	0.88	1480	7883	97.5	0.88
1PQ4 502-4...	1700	9055	97.5	0.88	1700	9055	97.5	0.88	1620	8629	97.5	0.88
1PQ4 504-4...	1850	9854	97.5	0.88	1850	9854	97.5	0.88	1780	9481	97.5	0.88
1PQ4 560-4...	2000	10647	97.7	0.87	1940	10327	97.7	0.87	1900	10114	97.7	0.87
1PQ4 562-4...	2300	12244	97.7	0.87	2300	12244	97.7	0.87	2250	11977	97.7	0.87
1PQ4 564-4...	2600	13841	97.7	0.87	2600	13841	97.7	0.87	2550	13574	97.7	0.87
1PQ4 632-4...	2860	15225	97.2	0.87	2330	12403	97.0	0.86	2185	11631	96.9	0.85
1PQ4 634-4...	3220	17141	97.3	0.87	2625	13974	97.1	0.86	2455	13069	97.1	0.85
1PQ4 636-4...	3490	18568	97.4	0.87	2845	15136	97.2	0.86	2665	14179	97.2	0.85
6-pole												
1PQ4 500-6...	1270	10149	97.1	0.87	1270	10149	97.1	0.87	1200	9590	97.1	0.87
1PQ4 502-6...	1420	11339	96.9	0.87	1420	11339	96.9	0.87	1350	10780	96.9	0.87
1PQ4 504-6...	1600	12787	97.4	0.87	1600	12787	97.4	0.87	1530	12227	97.4	0.87
1PQ4 560-6...	1850	14785	97.5	0.87	1850	14785	97.5	0.87	1750	13985	97.5	0.87
1PQ4 562-6...	2050	16383	97.5	0.87	2050	16383	97.5	0.87	1950	15584	97.5	0.87
1PQ4 564-6...	2350	18780	97.6	0.87	2350	18780	97.6	0.87	2250	17981	97.6	0.87
1PQ4 632-6...	2330	18621	96.7	0.89	1895	15144	96.5	0.88	1775	14185	96.4	0.88
1PQ4 634-6...	2620	20938	96.9	0.89	2135	17062	96.8	0.89	2000	15983	96.7	0.88
1PQ4 636-6...	2815	22496	97.0	0.89	2290	18301	96.9	0.89	2145	17142	96.8	0.88
8-pole												
1PQ4 500-8...	1000	10670	96.7	0.81	1000	10670	96.7	0.81	950	10137	96.7	0.81
1PQ4 502-8...	1100	11737	96.7	0.81	1100	11737	96.7	0.81	1050	11204	96.7	0.81
1PQ4 504-8...	1200	12804	96.7	0.81	1200	12804	96.7	0.81	1150	12271	96.7	0.81
1PQ4 560-8...	1400	14955	96.9	0.84	1400	14955	96.9	0.84	1350	14421	96.9	0.84
1PQ4 562-8...	1630	17412	97.0	0.84	1630	17412	97.0	0.84	1580	16878	97.0	0.84
1PQ4 564-8...	1860	19869	97.1	0.84	1860	19869	97.1	0.84	1800	19228	97.1	0.84
1PQ4 634-8...	1901	20284	96.5	0.85	1548	16518	96.4	0.84	1450	15472	96.3	0.83
1PQ4 636-8...	2095	22354	96.6	0.85	1706	18204	96.5	0.84	1598	17051	96.4	0.83

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Dimension drawings



Motor type	Weight kg	Dimensions										
		A mm	AC mm	AD ¹⁾³⁾ mm	AE ¹⁾²⁾³⁾ mm	B mm	C mm	D mm	E mm	H mm	HD ⁴⁾ mm	L mm

Up to 6.6 kV, roller bearings, IM B3 type of construction

2-pole

1PQ4454-2CM00	5350	850	960	920	1440	1250	280	95	130	450	1100	2766
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4-pole

1PQ4454-4AM00	5300	850	960	920	1440	1250	280	130	200	450	1100	2836
1PQ4500-4C..0	6400	950	1070	875	1440	1320	315	140	200	500	1200	3005
1PQ4502-4C..0	6800	950	1070	875	1440	1320	315	140	200	500	1200	3005
1PQ4504-4C..0	7300	950	1070	875	1440	1320	315	140	200	500	1200	3005
1PQ4560-4C..0	8600	1060	1210	925	1560	1400	335	160	240	560	1310	3291
1PQ4562-4C..0	9300	1060	1210	925	1560	1400	335	160	240	560	1310	3291
1PQ4564-4C..0	10100	1060	1210	925	1560	1400	335	160	240	560	1310	3291
1PQ4632-4C..0	12700	1120	1350	945	1560	1600	335	170	240	630	1410	3359
1PQ4634-4C..0	13300	1120	1350	945	1560	1600	335	170	240	630	1410	3359
1PQ4636-4C..0	14200	1120	1350	945	1560	1600	335	170	240	630	1410	3359

6-pole

1PQ4454-6AM00	5400	850	960	920	1440	1250	280	130	200	450	1100	2836
1PQ4500-6C..0	6700	950	1070	875	1440	1320	315	140	200	500	1200	3005
1PQ4502-6C..0	7100	950	1070	875	1440	1320	315	140	200	500	1200	3005
1PQ4504-6C..0	7600	950	1070	875	1440	1320	315	140	200	500	1200	3005
1PQ4560-6C..0	8900	1060	1210	925	1560	1400	335	160	240	560	1310	3291
1PQ4562-6C..0	9600	1060	1210	925	1560	1400	335	160	240	560	1310	3291
1PQ4564-6C..0	10500	1060	1210	925	1560	1400	335	160	240	560	1310	3291
1PQ4632-6C..0	12800	1120	1350	960	1630	1600	335	180	240	630	1410	3359
1PQ4634-6C..0	13800	1120	1350	960	1630	1600	335	180	240	630	1410	3359
1PQ4636-6C..0	14600	1120	1350	960	1630	1600	335	180	240	630	1410	3359

8-pole

1PQ4454-8AM00	5400	850	960	920	1630	1250	280	130	200	450	1100	2836
1PQ4500-8C..0	6700	950	1070	875	1440	1320	315	140	200	500	1200	3005
1PQ4502-8C..0	7000	950	1070	875	1440	1320	315	140	200	500	1200	3005
1PQ4504-8C..0	7500	950	1070	875	1440	1320	315	140	200	500	1200	3005
1PQ4560-8C..0	8900	1060	1210	925	1560	1400	335	160	240	560	1310	3291
1PQ4562-8C..0	9600	1060	1210	925	1560	1400	335	160	240	560	1310	3291
1PQ4564-8C..0	10400	1060	1210	925	1560	1400	335	160	240	560	1310	3291
1PQ4632-8C..0	12800	1120	1350	960	1630	1600	335	180	240	630	1410	3359
1PQ4634-8C..0	13400	1120	1350	960	1630	1600	335	180	240	630	1410	3359
1PQ4636-8C..0	14300	1120	1350	960	1630	1600	335	180	240	630	1410	3359

Note: Higher pole numbers are available on request.

¹⁾ For $V_{\text{rated}} = 690$ V, the dimension changes by + 100 mm.

²⁾ For $V_{\text{rated}} = 690$ V and $I_{\text{rated}} > 1230$ A, the dimension changes by + 475 mm (a second main terminal box is required).

³⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

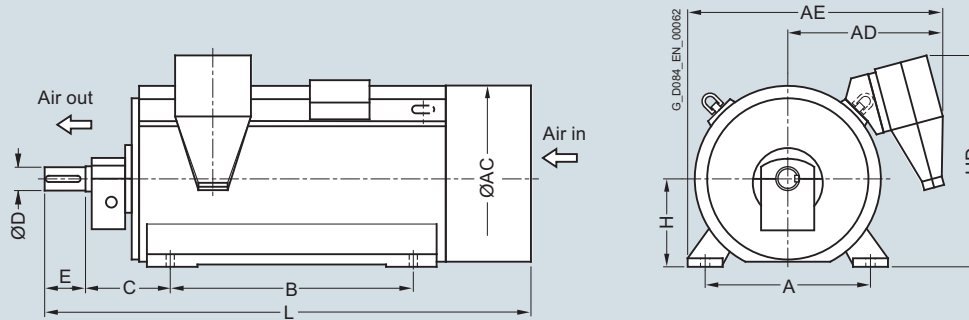
⁴⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 70 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Dimension drawings



Motor type	Weight kg	Dimensions										
		A mm	AC mm	AD ¹⁾³⁾ mm	AE ¹⁾²⁾³⁾ mm	B mm	C mm	D mm	E mm	H mm	HD ⁴⁾ mm	L mm
Up to 6.6 kV, sleeve bearings, IM B3 type of construction												
2-pole												
1PQ4454-2AM00-Z K96	5400	850	960	920	1440	1250	475	95	130	450	1100	2961
4-pole												
1PQ4454-4AM00-Z K96	5300	850	960	920	1440	1250	475	130	200	450	1100	3031
1PQ4500-4C..0-Z K96	6400	950	1070	875	1440	1320	500	140	200	500	1200	3190
1PQ4502-4C..0-Z K96	6800	950	1070	875	1440	1320	500	140	200	500	1200	3190
1PQ4504-4C..0-Z K96	7300	950	1070	875	1440	1320	500	140	200	500	1200	3190
1PQ4560-4C..0-Z K96	8600	1060	1210	925	1560	1400	560	160	240	560	1310	3710
1PQ4562-4C..0-Z K96	9300	1060	1210	925	1560	1400	560	160	240	560	1310	3710
1PQ4564-4C..0-Z K96	10100	1060	1210	925	1560	1400	560	160	240	560	1310	3710
1PQ4632-4C..0-Z K96	12700	1120	1350	945	1560	1600	560	170	240	630	1410	3814
1PQ4634-4C..0-Z K96	13300	1120	1350	945	1560	1600	560	170	240	630	1410	3814
1PQ4636-4C..0-Z K96	14200	1120	1350	945	1560	1600	560	170	240	630	1410	3814
6-pole												
1PQ4454-6AM00-Z K96	5400	850	960	920	1440	1250	475	130	200	450	1100	3031
1PQ4500-6C..0-Z K96	6700	950	1070	875	1440	1320	530	140	200	500	1200	3190
1PQ4502-6C..0-Z K96	7100	950	1070	875	1440	1320	530	140	200	500	1200	3190
1PQ4504-6C..0-Z K96	7600	950	1070	875	1440	1320	530	140	200	500	1200	3190
1PQ4560-6C..0-Z K96	8900	1060	1210	925	1560	1400	560	160	240	560	1310	3710
1PQ4562-6C..0-Z K96	9600	1060	1210	925	1560	1400	560	160	240	560	1310	3710
1PQ4564-6C..0-Z K96	10500	1060	1210	925	1560	1400	560	160	240	560	1310	3710
1PQ4632-6C..0-Z K96	12800	1120	1350	960	1630	1600	560	180	240	630	1410	3814
1PQ4634-6C..0-Z K96	13800	1120	1350	960	1630	1600	560	180	240	630	1410	3814
1PQ4636-6C..0-Z K96	14600	1120	1350	960	1630	1600	560	180	240	630	1410	3814
8-pole												
1PQ4454-8AM00-Z K96	5400	850	960	920	1630	1250	475	130	200	450	1100	3031
1PQ4500-8C..0-Z K96	6700	950	1070	875	1440	1320	530	140	200	500	1200	3190
1PQ4502-8C..0-Z K96	7000	950	1070	875	1440	1320	530	140	200	500	1200	3190
1PQ4504-8C..0-Z K96	7500	950	1070	875	1440	1320	530	140	200	500	1200	3190
1PQ4560-8C..0-Z K96	8900	1060	1210	925	1560	1400	560	160	240	560	1310	3710
1PQ4562-8C..0-Z K96	9600	1060	1210	925	1560	1400	560	160	240	560	1310	3710
1PQ4564-8C..0-Z K96	10400	1060	1210	925	1560	1400	560	160	240	560	1310	3710
1PQ4632-8C..0-Z K96	12800	1120	1350	960	1630	1600	560	180	240	630	1410	3814
1PQ4634-8C..0-Z K96	13400	1120	1350	960	1630	1600	560	180	240	630	1410	3814
1PQ4636-8C..0-Z K96	14300	1120	1350	960	1630	1600	560	180	240	630	1410	3814

Note: Higher pole numbers are available on request.

¹⁾ For $V_{\text{rated}} = 690$ V, the dimension changes by + 100 mm.

²⁾ For $V_{\text{rated}} = 690$ V and $I_{\text{rated}} > 1230$ A, the dimension changes by + 475 mm (a second main terminal box is required).

³⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

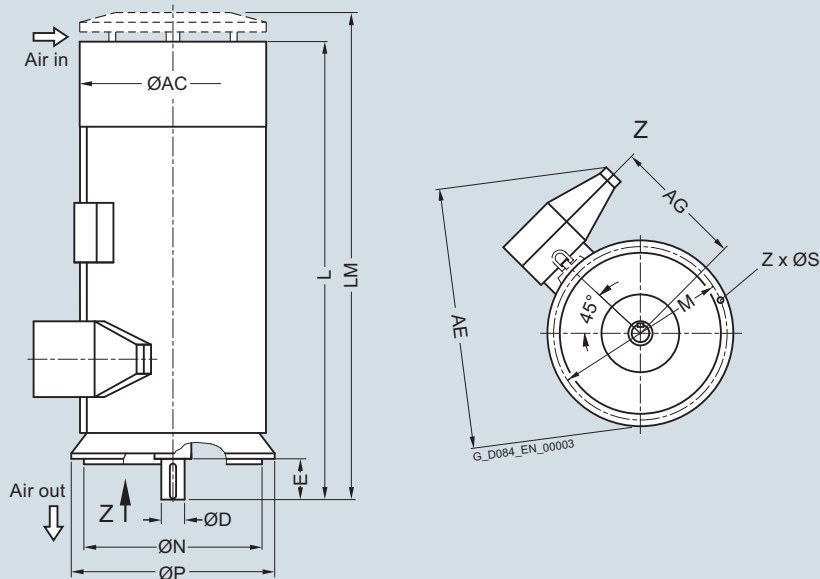
⁴⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 70 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact 1PQ4

Dimension drawings



Motor type	Weight kg	Dimensions											
		AC mm	AG ¹⁾²⁾ mm	AE ³⁾ mm	D mm	E mm	L mm	LM mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, roller bearings, IM V1 type of construction													
4-pole													
1PQ4454-4AM04	5200	960	770	1550	130	200	3062	3212	1150	1000	1080	26	8
1PQ4500-4C..4	6200	1070	840	1660	140	200	3205	3255	1250	1120	1180	26	16
1PQ4502-4C..4	6600	1070	840	1660	140	200	3205	3255	1250	1120	1180	26	16
1PQ4504-4C..4	7100	1070	840	1660	140	200	3205	3255	1250	1120	1180	26	16
1PQ4560-4C..4	8400	1210	910	1800	160	240	3496	3546	1400	1250	1320	26	16
1PQ4562-4C..4	9100	1210	910	1800	160	240	3496	3546	1400	1250	1320	26	16
1PQ4564-4C..4	9800	1210	910	1800	160	240	3496	3546	1400	1250	1320	26	16
6-pole													
1PQ4454-6AM04	5500	960	770	1550	130	200	3062	3212	1150	1000	1080	26	8
1PQ4500-6C..4	6500	1070	840	1660	140	200	3205	3255	1250	1120	1180	26	16
1PQ4502-6C..4	6900	1070	840	1660	140	200	3205	3255	1250	1120	1180	26	16
1PQ4504-6C..4	7400	1070	840	1660	140	200	3205	3255	1250	1120	1180	26	16
1PQ4560-6C..4	8600	1210	910	1800	160	240	3496	3546	1400	1250	1320	26	16
1PQ4562-6C..4	9400	1210	910	1800	160	240	3496	3546	1400	1250	1320	26	16
1PQ4564-6C..4	10200	1210	910	1800	160	240	3496	3546	1400	1250	1320	26	16
1PQ4632-6C..4	13100	1350	980	1820	180	240	3564	3614	1400	1250	1320	26	16
1PQ4634-6C..4	13800	1350	980	1820	180	240	3564	3614	1400	1250	1320	26	16
1PQ4636-6C..4	14600	1350	980	1820	180	240	3564	3614	1400	1250	1320	26	16
8-pole													
1PQ4454-8AM04	5500	960	770	1550	130	200	3062	3212	1000	1150	1080	26	8
1PQ4500-8C..4	6500	1070	840	1660	140	200	3205	3255	1250	1120	1180	26	16
1PQ4502-8C..4	6900	1070	840	1660	140	200	3205	3255	1250	1120	1180	26	16
1PQ4504-8C..4	7300	1070	840	1660	140	200	3205	3255	1250	1120	1180	26	16
1PQ4560-8C..4	8600	1210	910	1800	160	240	3496	3546	1400	1250	1320	26	16
1PQ4562-8C..4	9300	1210	910	1800	160	240	3496	3546	1400	1250	1320	26	16
1PQ4564-8C..4	10100	1210	910	1800	160	240	3496	3546	1400	1250	1320	26	16
1PQ4632-8C..4	13100	1350	980	1820	180	240	3564	3614	1400	1250	1320	26	16
1PQ4634-8C..4	13800	1350	980	1820	180	240	3564	3614	1400	1250	1320	26	16
1PQ4636-8C..4	14600	1350	980	1820	180	240	3564	3614	1400	1250	1320	26	16

Note: Higher pole numbers are available on request.

¹⁾ For $V_{\text{rated}} = 690$ V, the dimension changes by $- 50$ mm.

²⁾ For currents $I_{\text{rated}} > 315$ A, the dimension changes by $+ 45$ mm.

³⁾ For currents $I_{\text{rated}} > 315$ A, the dimension changes by $+ 180$ mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Overview



Technical data

Overview of technical data

H-compact PLUS 1RA4, 1RA6 and 1RP6	
Rated voltage	690 V ... 4.16 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP23
Cooling method	IC01
Stator winding insulation	Insulation system, thermal class 155 (F), utilized to 155 (F)
Shaft height	450 ... 630 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN
Frame design for shaft heights 450 ... 560 mm	Frame: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 mm	Frame: Steel Cooling enclosure: Steel

The following versions can be offered on request:

- 2-pole up to 75 Hz
- 4-pole up to 100 Hz
- 6-pole up to 90 Hz

For individual motor types, it must be ensured that the motor does not run-through any critical speed in the required speed control range and that the maximum speed does not exceed the mechanical speed limit of the motor! Please contact your Siemens sales person regarding this check. The motor types are marked with footnotes in the following data tables.

¹⁾ Maximum and minimum power ratings can be different for specific voltage levels.

Technical data (continued)

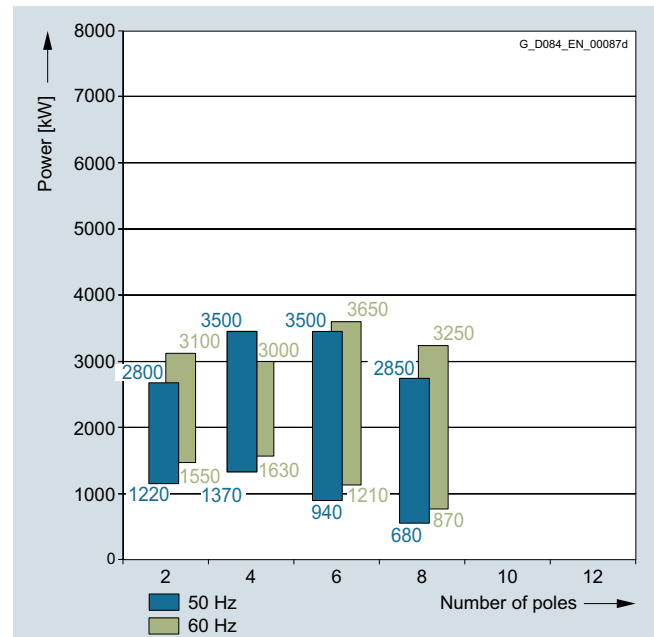
Power ranges for IEC motors with reinforced insulation for SINAMICS drive converters without sine-wave filter

1RA4/1RA6 and 1RP6 series

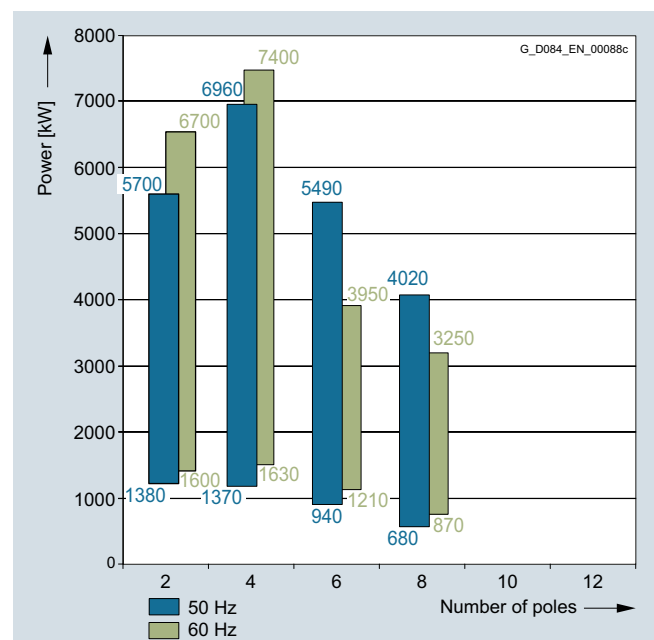
Insulation system, thermal class 155 (F), utilized to 155 (F)

The power data listed here apply for an ambient temperature of 40 °C and an installation altitude ≤ 1000 m.

690 V; 50 Hz and 60 Hz



3.4 kV to 4.16 kV; 50 Hz and 60 Hz¹⁾



Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power IEC P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current 690 V	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	$T_{\text{B}}/T_{\text{rated}}$ [-]	J kgm ²	n_{max} rpm
690 V, 50 Hz									
2-pole									
1220	1RA6 450-2HP00	2980	95.5	0.90	1180	3913	2.20	13	3000
1520	1RA6 452-2HP00	2980	96.0	0.90	2x740	4875	2.10	14	3000
1600	1RA6 454-2HP00	2983	96.2	0.92	2x760	5129	2.30	16	3000
1700	1RA6 456-2HP00	2983	96.2	0.92	2x800	5445	2.30	18	3000
2250	1RA6 500-2HP00	2975	96.4	0.90	2x1080	7222	2.30	19	3000
2550	1RA6 502-2HP00	2974	96.6	0.90	2x1220	8188	2.10	20	3000
2800	1RA6 504-2HP00	2977	96.7	0.92	4x660	8982	2.50	24	3000 ³⁾
4-pole									
1370	1RA6 450-4HP00	1484	95.6	0.89	2x670	8833	2.40	20	1800
1500	1RA6 452-4HP00	1484	95.6	0.90	2x730	9671	2.40	22	1800
1640	1RA6 454-4HP00	1484	96.0	0.90	2x790	10568	2.40	25	1800
1860	1RA6 456-4HP00	1485	96.2	0.90	2x900	11977	2.30	29	1800
2300 ²⁾	1RA6 500-4HP00	1486	96.6	0.90	2x1100	14780	2.35	42	1800
2350 ²⁾	1RA6 502-4HP00	1486	96.6	0.92	2x1100	15102	2.50	46	1800
2800 ²⁾	1RA6 504-4HP00	1488	96.9	0.90	4x670	17969	2.60	52	1800
3200 ²⁾	1RA6 560-4HP00	1486	96.8	0.92	4x750	20564	2.15	82	1800
3500 ²⁾	1RA6 562-4HP00	1487	96.9	0.92	4x820	22476	2.15	93	1800

Type of construction:

IM B3	0
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Data of vertical motors (IM V1) on request.

³⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
2-pole												
1RA6 450-2HP0.	916	2709	95.8	0.91	610	2371	96.0	0.90	305	1883	96.0	0.85
1RA6 452-2HP0.	1141	2708	96.4	0.91	760	2371	96.6	0.91	380	1883	96.5	0.87
1RA6 454-2HP0.	1201	2710	96.5	0.92	800	2372	96.6	0.91	400	1884	96.6	0.87
1RA6 456-2HP0.	1276	2711	96.5	0.92	850	2373	96.7	0.92	425	1884	96.6	0.88
1RA6 500-2HP0.	1688	2708	96.6	0.89	1125	2369	96.7	0.87	563	1883	96.7	0.79
1RA6 502-2HP0.	1913	2707	96.8	0.89	1275	2368	96.9	0.87	638	1882	96.9	0.81
1RA6 504-2HP0.	2101	2710	96.9	0.91	1400	2370	97.0	0.90	701	1883	97.0	0.84
4-pole												
1RA6 450-4HP0.	1028	1350	95.9	0.88	685	1182	96.1	0.86	343	940	95.9	0.79
1RA6 452-4HP0.	1125	1350	96.0	0.90	750	1182	96.2	0.88	375	940	96.2	0.83
1RA6 454-4HP0.	1230	1350	96.3	0.90	820	1183	96.5	0.89	410	940	96.4	0.84
1RA6 456-4HP0.	1395	1351	96.5	0.89	930	1183	96.6	0.88	465	941	96.5	0.82
1RA6 500-4HP0.	1726	1353	96.7	0.89	1150	1183	96.9	0.86	575	941	96.8	0.77
1RA6 502-4HP0.	1763	1353	96.8	0.91	1175	1184	96.9	0.88	588	941	96.9	0.80
1RA6 504-4HP0.	2100	1354	97.0	0.89	1400	1184	97.1	0.86	700	941	96.9	0.74
1RA6 560-4HP0.	2401	1353	97.0	0.91	1600	1184	97.2	0.90	801	941	97.3	0.85
1RA6 562-4HP0.	2626	1354	97.1	0.91	1750	1184	97.3	0.90	876	941	97.3	0.85

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed n_{rated} rpm	Efficiency η %	Power factor $\cos \varphi$ [-]	Rated current 690 V I_{rated} A	Rated torque T_{rated} Nm	Break-down torque $T_{\text{B}}/T_{\text{rated}}$ [-]	Moment of inertia J kgm ²	Mechanical speed limit ¹⁾ n_{max} rpm
690 V, 50 Hz									
6-pole									
940	1RA6 450-6HP0	990	95.8	0.86	950	9079	2.30	26	1200
1040	1RA6 452-6HP0	991	95.9	0.86	1060	10039	2.30	29	1200
1180	1RA6 454-6HP0	991	96.0	0.86	1200	11394	2.30	32	1200
1330	1RA6 456-6HP0	992	96.2	0.86	2x670	12823	2.30	37	1200
1800	1RA6 500-6HP0	988	96.0	0.85	2x920	17399	1.75	56	1500
2000	1RA6 502-6HP0	988	96.2	0.86	2x1020	19332	1.80	62	1500
2300	1RA6 504-6HP0	989	96.4	0.85	2x1180	22209	1.95	69	1500
2400	1RA6 506-6HP0	990	96.4	0.86	2x1220	23152	1.95	77	1500
2850	1RA6 560-6HP0	990	96.6	0.87	3x950	27492	2.25	108	1500
3200	1RA6 562-6HP0	991	96.9	0.86	3x1080	30838	2.45	119	1500
3500	1RA6 564-6HP0	990	96.8	0.88	3x1140	33763	2.20	132	1500
8-pole									
680	1RA6 450-8HP0	743	94.9	0.83	720	8750	2.30	32	1200
750	1RA6 452-8HP0	743	95.2	0.84	780	9651	2.40	36	1200
880	1RA6 454-8HP0	743	95.2	0.84	920	11324	2.40	40	1200
970	1RA6 456-8HP0	744	95.4	0.84	1020	12476	2.40	46	1200
1400	1RA6 500-8HP0	741	95.8	0.83	2x740	18043	1.85	69	1125
1560	1RA6 502-8HP0	742	95.9	0.83	2x820	20078	1.85	76	1125
1720	1RA6 504-8HP0	742	96.0	0.83	2x900	22137	1.95	85	1125
1900	1RA6 506-8HP0	743	96.2	0.83	2x1000	24421	2.10	94	1125
1960	1RA6 560-8HP0	743	96.6	0.84	2x1020	25192	2.15	128	1125
2300	1RA6 562-8HP0	743	96.6	0.84	2x1180	29563	2.20	141	1125
2600	1RA6 564-8HP0	743	96.7	0.84	4x670	33419	2.45	156	1125
2850	1RA6 566-8HP0	743	96.7	0.85	4x730	36632	2.25	173	1125

Type of construction:

IM B3	0
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Data of vertical motors (IM V1) on request.

³⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
6-pole												
1RA6 450-6HP0.	705	900	96.1	0.85	470	789	96.3	0.82	235	627	96.2	0.73
1RA6 452-6HP0.	780	901	96.3	0.85	520	789	96.4	0.82	260	627	96.3	0.73
1RA6 454-6HP0.	885	901	96.3	0.85	590	789	96.4	0.83	295	627	96.4	0.74
1RA6 456-6HP0.	998	902	96.5	0.84	665	789	96.6	0.81	333	627	96.3	0.71
1RA6 500-6HP0.	1350	898	96.3	0.85	900	787	96.4	0.84	450	626	96.3	0.78
1RA6 502-6HP0.	1500	898	96.4	0.86	1000	787	96.6	0.84	500	626	96.4	0.78
1RA6 504-6HP0.	1725	899	96.5	0.85	1150	787	96.6	0.83	575	626	96.4	0.75
1RA6 506-6HP0.	1800	900	96.6	0.86	1200	788	96.7	0.84	600	626	96.5	0.77
1RA6 560-6HP0.	2138	900	96.7	0.87	1425	788	96.8	0.86	713	627	96.7	0.80
1RA6 562-6HP0.	2400	901	97.0	0.86	1600	789	97.0	0.84	800	627	96.7	0.76
1RA6 564-6HP0.	2625	900	97.0	0.88	1750	788	97.1	0.87	875	626	97.0	0.82
8-pole												
1RA6 450-8HP0.	510	676	95.1	0.80	340	592	95.0	0.75	170	470	94.4	0.63
1RA6 452-8HP0.	563	676	95.4	0.81	375	592	95.4	0.77	188	470	94.9	0.65
1RA6 454-8HP0.	660	676	95.4	0.82	440	592	95.4	0.77	220	470	94.8	0.65
1RA6 456-8HP0.	728	676	95.6	0.82	485	592	95.6	0.77	243	470	95.1	0.65
1RA6 500-8HP0.	1050	674	95.9	0.82	700	590	95.9	0.80	350	469	95.5	0.70
1RA6 502-8HP0.	1170	674	96.0	0.82	780	591	96.1	0.80	390	469	95.6	0.70
1RA6 504-8HP0.	1290	675	96.1	0.82	860	591	96.1	0.79	430	470	95.7	0.70
1RA6 506-8HP0.	1425	675	96.3	0.82	950	591	96.2	0.78	475	470	95.6	0.67
1RA6 560-8HP0.	1470	675	96.7	0.84	980	591	96.8	0.82	490	470	96.6	0.73
1RA6 562-8HP0.	1725	675	96.7	0.84	1150	591	96.8	0.81	575	470	96.5	0.72
1RA6 564-8HP0.	1950	676	96.8	0.83	1300	592	96.8	0.79	650	470	96.4	0.69
1RA6 566-8HP0.	2138	675	96.8	0.84	1425	591	96.9	0.82	713	470	96.6	0.74

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power IEC	High voltage motor H-compact PLUS		Operating values at rated output for utilization 155 (F)							
			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ²⁾
P_{rated} 155 (F)	P_{rated} 130 (B)	Article No.	n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	T_B/T_{rated}	J	n_{max}
kW	kW		rpm	%	[-]	A	Nm	[-]	kgm ²	rpm

3.4 ... 4.16 kV, 50 Hz

2-pole

1380	— ⁶⁾	1RA6 450-2HS40	2973	95.9	0.90	220	4433	2.00	13	3000
1570	— ⁶⁾	1RA6 452-2HS40	2977	96.2	0.90	250	5040	2.20	14	3000
1750	— ⁶⁾	1RA6 454-2HS40	2978	96.4	0.91	275	5616	2.30	16	3000
1950	— ⁶⁾	1RA6 456-2HS40	2981	96.6	0.92	305	6252	2.30	18	3000
2550	2244	1RA6 500-2HS40	2967	96.2	0.88	420	8207	1.85	19	3000
2700	2376	1RA6 502-2HS40	2969	96.3	0.90	430	8684	2.05	20	3000
3200	2816	1RA6 504-2HS40	2974	96.6	0.91	510	10275	2.35	24	3000 ⁵⁾
3550	3124	1RA6 506-2HS40	2975	96.9	0.92	550	11395	2.40	26	3000 ⁵⁾
3700	3367	1RA6 560-2HS40	2977	96.7	0.90	590	11868	1.90	39	3000 ⁵⁾
4300	3913	1RA6 562-2HS40	2979	97.0	0.91	680	13784	2.05	43	3000 ⁵⁾
5000	4550	1RA6 564-2HS40	2981	97.1	0.92	780	16017	2.25	49	3000 ⁵⁾
5700	5187	1RA6 566-2HS40	2982	97.3	0.93	2x435	18253	2.45	54	3000 ⁵⁾

4-pole

1370	— ⁶⁾	1RA6 450-4HS4	1484	95.6	0.88	225	8824	2.60	20	1800
1500	— ⁶⁾	1RA6 452-4HS4	1485	95.8	0.88	245	9649	2.50	22	1800
1640	— ⁶⁾	1RA6 454-4HS4	1485	96.0	0.89	265	10549	2.50	25	1800
1860	— ⁶⁾	1RA6 456-4HS4	1485	96.1	0.90	300	11966	2.50	29	1800
2500 ⁴⁾	2200	1RA6 500-4HS40	1485	96.4	0.90	400	16076	2.25	42	1800
2800 ⁴⁾	2464	1RA6 502-4HS40	1485	96.5	0.90	445	18005	2.25	46	1800
3150 ⁴⁾	2772	1RA6 504-4HS40	1485	96.6	0.91	495	20256	2.25	52	1800
3450 ¹⁾⁴⁾	3036	1RA6 506-4HS40	1486	96.8	0.91	540	22170	2.35	56	1800
3900 ⁴⁾	3549	1RA6 560-4HS40	1489	97.0	0.89	630	25012	1.95	84	1800
4500 ⁴⁾	4095	1RA6 562-4HS40	1489	97.1	0.90	710	28860	2.00	94	1800
5000 ⁴⁾	4550	1RA6 564-4HS40	1490	97.2	0.91	780	32045	2.10	105	1800
5500 ⁴⁾	5005	1RA6 566-4HS40	1490	97.4	0.91	2x430	35249	2.20	115	1800
5880 ¹⁾	— ⁶⁾	1RA4 632-4HV	1490	97.2	0.89	940	37687	2.20	150	1800
6470 ¹⁾	— ⁶⁾	1RA4 634-4HV	1490	97.3	0.90	1020	41469	2.20	168	1800
6960 ¹⁾	— ⁶⁾	1RA4 636-4HV	1491	97.4	0.90	1100	44579	2.40	197	1800

Voltage code:

4.16 kV, 50 Hz

Other voltage

4
9

Type of construction:

IM B3

IM V1 (without canopy)

0
8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

¹⁾ Rated voltage less than 4.16 kV on request.

²⁾ For IM B3, roller bearings.

³⁾ On request.

⁴⁾ Data of vertical motors (IM V1) on request.

⁵⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

⁶⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
2-pole												
1RA6 450-2...	1035	2704	96.1	0.91	690	2368	96.3	0.91	345	1882	96.4	0.87
1RA6 452-2...	1178	2707	96.4	0.91	785	2370	96.5	0.90	393	1883	96.4	0.87
1RA6 454-2...	1313	2707	96.6	0.92	875	2370	96.7	0.91	438	1883	96.6	0.88
1RA6 456-2...	1464	2709	96.8	0.92	975	2371	96.9	0.91	488	1884	96.8	0.88
1RA6 500-2...	1914	2704	96.5	0.88	1276	2366	96.6	0.87	638	1881	96.7	0.81
1RA6 502-2...	2026	2705	96.5	0.90	1350	2367	96.7	0.88	675	1882	96.7	0.83
1RA6 504-2...	2401	2708	96.8	0.90	1600	2369	96.9	0.89	801	1883	96.8	0.81
1RA6 506-2...	2663	2708	97.0	0.91	1775	2369	97.1	0.90	888	1883	97.1	0.83
1RA6 560-2...	2777	2709	96.9	0.90	1851	2370	97.0	0.89	925	1883	97.0	0.84
1RA6 562-2...	3226	2711	97.1	0.90	2151	2371	97.2	0.89	1076	1884	97.2	0.84
1RA6 564-2...	3751	2712	97.3	0.91	2500	2371	97.3	0.90	1251	1884	97.3	0.85
1RA6 566-2...	4276	2713	97.4	0.92	2850	2372	97.5	0.91	1426	1885	97.4	0.85
4-pole												
1RA6 450-4...	1028	1350	95.8	0.87	685	1183	96.0	0.85	343	940	95.8	0.78
1RA6 452-4...	1125	1351	96.0	0.87	750	1183	96.1	0.85	375	941	95.9	0.77
1RA6 454-4...	1230	1351	96.2	0.89	820	1183	96.3	0.87	410	941	96.2	0.80
1RA6 456-4...	1395	1351	96.3	0.90	930	1183	96.5	0.88	465	941	96.4	0.83
1RA6 500-4...	1876	1352	96.6	0.89	1250	1183	96.7	0.86	625	941	96.5	0.77
1RA6 502-4...	2101	1352	96.7	0.89	1400	1183	96.8	0.86	700	941	96.6	0.77
1RA6 504-4...	2363	1353	96.8	0.90	1575	1183	96.9	0.88	788	941	96.8	0.79
1RA6 506-4...	2588	1353	96.9	0.90	1725	1184	97.0	0.88	863	941	96.9	0.79
1RA6 560-4...	2927	1355	97.1	0.89	1950	1185	97.2	0.87	976	942	97.1	0.80
1RA6 562-4...	3377	1355	97.2	0.90	2250	1185	97.4	0.88	1126	942	97.3	0.82
1RA6 564-4...	3752	1356	97.4	0.90	2500	1185	97.5	0.89	1251	942	97.4	0.82
1RA6 566-4...	4126	1356	97.5	0.90	2750	1186	97.6	0.88	1376	942	97.4	0.81
1RA4 632-4...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RA4 634-4...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RA4 636-4...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power IEC	High voltage motor H-compact PLUS		Operating values at rated output for utilization 155 (F)							
			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ²⁾
P_{rated} 155 (F)	P_{rated} 130 (B)	Article No.	n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	T_B/T_{rated}	J	n_{max}
kW	kW		rpm	%	[-]	A	Nm	[-]	kgm ²	rpm

3.4 ... 4.16 kV, 50 Hz

6-pole

940	— ⁴⁾	1RA6 450-6HS4	990	95.7	0.85	160	9071	2.40	26	1200
1040	— ⁴⁾	1RA6 452-6HS4	991	95.9	0.85	178	10026	2.50	29	1200
1180	— ⁴⁾	1RA6 454-6HS4	991	96.1	0.86	198	11381	2.50	32	1200
1330	— ⁴⁾	1RA6 456-6HS4	992	96.2	0.85	225	12811	2.50	37	1200
2000	1800	1RA6 500-6HS4	987	95.8	0.84	345	19352	1.75	56	1500
2200	2000	1RA6 502-6HS4	986	95.8	0.85	375	21308	1.65	62	1500
2450	2200	1RA6 504-6HS4	987	96.0	0.85	415	23706	1.70	69	1500
2650	2400	1RA6 506-6HS4	988	96.2	0.86	445	25615	1.80	77	1500
3150	2750	1RA6 560-6HS4	989	96.5	0.86	530	30417	2.05	108	1500
3500	3100	1RA6 562-6HS4	989	96.5	0.87	580	33797	2.05	119	1500
3900	3450	1RA6 564-6HS4	989	96.6	0.87	640	37659	2.10	132	1500
4250	3750	1RA6 566-6HS4	989	96.7	0.87	700	41039	2.05	146	1500
4610 ¹⁾	— ⁴⁾	1RA4 632-6HV	993	97.0	0.86	770	44336	2.10	202	1200
5000 ¹⁾	— ⁴⁾	1RA4 634-6HV	993	97.1	0.86	830	48087	2.30	223	1200
5490 ¹⁾	— ⁴⁾	1RA4 636-6HV	994	97.2	0.86	910	52746	2.30	246	1200

8-pole

680	— ⁴⁾	1RA6 450-8HS4	743	94.7	0.82	122	8743	2.50	32	1200
750	— ⁴⁾	1RA6 452-8HS4	744	95.0	0.82	134	9638	2.50	36	1200
880	— ⁴⁾	1RA6 454-8HS4	743	95.1	0.83	154	11318	2.50	40	1200
970	— ⁴⁾	1RA6 456-8HS4	743	95.3	0.85	166	12477	2.40	46	1200
1360	1220	1RA6 500-8HS4	741	95.4	0.83	240	17528	1.75	69	1125
1540	1380	1RA6 502-8HS4	741	95.6	0.83	270	19848	1.80	76	1125
1740	1560	1RA6 504-8HS4	742	95.8	0.83	305	22395	1.90	85	1125
1880	1700	1RA6 506-8HS4	743	95.8	0.84	325	24164	2.00	94	1125
2200	1940	1RA6 560-8HS4	741	96.1	0.84	380	28354	1.90	128	1125
2500	2200	1RA6 562-8HS4	741	96.2	0.84	430	32220	1.95	141	1125
2750	2400	1RA6 564-8HS4	742	96.4	0.84	470	35394	2.05	156	1125
3000	2640	1RA6 566-8HS4	742	96.5	0.85	510	38612	2.10	173	1125
3140 ¹⁾	— ⁴⁾	1RA4 630-8HV	743	96.5	0.85	530	40359	1.90	239	1200
3430 ¹⁾	— ⁴⁾	1RA4 632-8HV	743	96.7	0.85	580	44087	2.10	265	1200
3680 ¹⁾	— ⁴⁾	1RA4 634-8HV	743	96.7	0.85	620	47300	2.00	293	1200
4020 ¹⁾	— ⁴⁾	1RA4 636-8HV	744	96.9	0.84	690	51601	2.30	324	1200

Voltage code:

4.16 kV, 50 Hz	4
Other voltage	9

Type of construction:

IM B3	0
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ Rated voltage less than 4.16 kV on request.

²⁾ For IM B3, roller bearings.

³⁾ On request.

⁴⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
6-pole												
1RA6 450-6...	705	901	96.0	0.84	470	789	96.1	0.81	235	627	96.0	0.71
1RA6 452-6...	780	901	96.1	0.84	520	789	96.2	0.80	260	627	96.0	0.70
1RA6 454-6...	885	901	96.3	0.85	590	789	96.4	0.82	295	627	96.3	0.73
1RA6 456-6...	998	902	96.4	0.83	665	790	96.5	0.80	333	627	96.2	0.69
1RA6 500-6...	1500	898	96.1	0.84	1000	786	96.2	0.83	500	625	96.1	0.75
1RA6 502-6...	1650	897	96.1	0.85	1100	786	96.3	0.84	550	625	96.3	0.78
1RA6 504-6...	1838	897	96.3	0.85	1225	786	96.5	0.85	613	625	96.4	0.79
1RA6 506-6...	1988	898	96.4	0.86	1325	787	96.6	0.85	663	626	96.5	0.78
1RA6 560-6...	2363	899	96.7	0.87	1575	788	96.8	0.86	788	626	96.8	0.81
1RA6 562-6...	2625	899	96.7	0.87	1750	788	96.9	0.87	875	626	96.8	0.82
1RA6 564-6...	2925	900	96.8	0.87	1950	788	97.0	0.86	975	626	96.9	0.81
1RA6 566-6...	3188	899	96.9	0.88	2125	788	97.1	0.87	1063	626	97.0	0.82
1RA4 632-6...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RA4 634-6...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RA4 636-6...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
8-pole												
1RA6 450-8...	510	676	94.8	0.80	340	592	94.7	0.75	170	470	94.0	0.63
1RA6 452-8...	563	676	95.1	0.80	375	592	95.1	0.75	188	470	94.4	0.62
1RA6 454-8...	660	676	95.3	0.82	440	592	95.3	0.78	220	470	94.8	0.66
1RA6 456-8...	728	676	95.5	0.83	485	592	95.5	0.80	243	470	95.1	0.69
1RA6 500-8...	1020	674	95.7	0.83	680	590	95.8	0.81	340	469	95.4	0.72
1RA6 502-8...	1155	674	95.8	0.83	770	590	95.9	0.81	385	469	95.5	0.72
1RA6 504-8...	1305	674	96.0	0.83	870	591	96.0	0.80	435	470	95.6	0.71
1RA6 506-8...	1410	675	95.9	0.82	940	591	95.9	0.79	470	470	95.4	0.69
1RA6 560-8...	1650	674	96.3	0.84	1100	590	96.5	0.83	550	469	96.5	0.76
1RA6 562-8...	1875	674	96.4	0.84	1250	590	96.6	0.83	625	469	96.5	0.76
1RA6 564-8...	2063	674	96.6	0.84	1375	591	96.7	0.82	688	470	96.6	0.75
1RA6 566-8...	2250	675	96.7	0.85	1500	591	96.8	0.83	750	470	96.7	0.75
1RA4 630-8...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RA4 632-8...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RA4 634-8...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RA4 636-8...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current 690 V	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	$T_{\text{B}}/T_{\text{rated}}$ [-]	J kgm ²	n_{max} rpm
690 V, 60 Hz									
2-pole									
1550	1RA6 450-2HP10	3578	95.9	0.90	2x750	4140	1.90	13	3600 ²⁾
1650	1RA6 452-2HP10	3581	96.0	0.91	2x790	4403	2.20	14	3600 ²⁾
1720	1RA6 454-2HP10	3584	96.1	0.91	2x820	4586	2.40	16	3600 ²⁾
2180	1RA6 456-2HP10	3584	96.7	0.92	2x1020	5814	2.40	18	3600 ²⁾
2500	1RA6 500-2HP10	3579	96.7	0.90	2x1200	6670	2.55	20	3600 ²⁾
2750	1RA6 502-2HP10	3577	96.6	0.91	4x650	7342	2.35	22	3600 ²⁾
3100	1RA6 504-2HP10	3581	97.0	0.92	4x730	8267	2.55	25	3600 ²⁾
4-pole									
1630	1RA6 450-4HP1 ■	1784	95.9	0.88	2x810	8740	2.30	20	1800
1750	1RA6 452-4HP1 ■	1783	96.0	0.90	2x850	9385	2.30	22	1800
2070	1RA6 454-4HP1 ■	1783	96.2	0.90	2x1000	11104	2.30	25	1800
2310	1RA6 456-4HP1 ■	1786	96.4	0.89	2x1120	12364	2.50	29	1800
2700 ⁴⁾	1RA6 500-4HP10	1788	96.9	0.90	4x650	14420	2.80	42	1800 ³⁾
2850 ⁴⁾	1RA6 502-4HP10	1786	96.9	0.91	4x680	15238	2.50	46	1800 ³⁾
3000 ⁴⁾	1RA6 504-4HP10	1786	97.0	0.92	4x700	16040	2.40	52	1800 ³⁾

Type of construction:

IM B3	0
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

³⁾ Higher speed limit on request.

⁴⁾ Data of vertical motors (IM V1) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
2-pole												
1RA6 450-2HP1.	1164	3253	96.2	0.90	775	2844	96.3	0.90	388	2261	96.2	0.86
1RA6 452-2HP1.	1239	3255	96.3	0.92	825	2845	96.4	0.91	413	2262	96.3	0.87
1RA6 454-2HP1.	1291	3257	96.3	0.92	860	2847	96.4	0.91	430	2262	96.2	0.86
1RA6 456-2HP1.	1636	3258	96.9	0.92	1090	2847	96.9	0.91	545	2263	96.7	0.87
1RA6 500-2HP1.	1876	3256	96.8	0.89	1250	2846	96.8	0.87	626	2261	96.6	0.77
1RA6 502-2HP1.	2064	3254	96.8	0.90	1375	2846	96.9	0.89	688	2261	96.8	0.82
1RA6 504-2HP1.	2325	3257	97.1	0.91	1550	2847	97.1	0.89	776	2262	97.0	0.82
4-pole												
1RA6 450-4HP1.	1223	1623	96.1	0.88	815	1420	96.2	0.86	408	1129	95.9	0.78
1RA6 452-4HP1.	1313	1623	96.3	0.90	875	1419	96.4	0.89	438	1129	96.3	0.84
1RA6 454-4HP1.	1553	1623	96.5	0.90	1035	1419	96.6	0.89	518	1129	96.5	0.85
1RA6 456-4HP1.	1733	1625	96.6	0.89	1155	1421	96.6	0.87	578	1130	96.3	0.79
1RA6 500-4HP1.	2025	1627	97.0	0.88	1351	1422	97.0	0.83	675	1130	96.6	0.70
1RA6 502-4HP1.	2138	1626	97.0	0.90	1425	1422	97.1	0.87	713	1130	96.9	0.78
1RA6 504-4HP1.	2251	1625	97.1	0.91	1500	1421	97.2	0.90	750	1130	97.2	0.83

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed n_{rated} rpm	Efficiency η %	Power factor $\cos \varphi$ [-]	Rated current 690 V I_{rated} A	Rated torque T_{rated} Nm	Break-down torque $T_{\text{B}}/T_{\text{rated}}$ [-]	Moment of inertia J kgm ²	Mechanical speed limit ¹⁾ n_{max} rpm
690 V, 60 Hz									
6-pole									
1210	1RA6 450-6HP1	1191	96.1	0.85	2x620	9718	2.40	26	1200
1350	1RA6 452-6HP1	1191	96.3	0.84	2x700	10837	2.40	29	1200
1480	1RA6 454-6HP1	1191	96.3	0.86	2x750	11883	2.30	32	1200
1620	1RA6 456-6HP1	1192	96.6	0.86	2x820	12995	2.40	37	1200
2150	1RA6 500-6HP1	1190	96.5	0.84	2x1100	17254	2.10	56	1500
2400	1RA6 502-6HP1	1188	96.5	0.85	2x1220	19293	1.85	62	1500
2700	1RA6 504-6HP1	1190	96.7	0.84	3x930	21668	2.15	69	1500
2950	1RA6 506-6HP1	1189	96.7	0.86	3x990	23694	1.90	77	1500
3300	1RA6 560-6HP1	1191	96.9	0.87	3x1100	26461	2.30	108	1500
3650	1RA6 562-6HP1	1190	96.8	0.87	3x1200	29292	2.10	119	1500
8-pole									
870	1RA6 450-8HP1	893	95.3	0.84	910	9323	2.30	32	1200
960	1RA6 452-8HP1	892	95.4	0.84	1000	10290	2.20	36	1200
1050	1RA6 454-8HP1	893	95.5	0.84	1100	11239	2.40	40	1200
1180	1RA6 456-8HP1	893	95.7	0.85	1220	12636	2.30	46	1200
1600	1RA6 500-8HP1	892	96.0	0.83	2x840	17130	1.85	69	1125
1800	1RA6 502-8HP1	892	96.1	0.83	2x940	19271	1.90	76	1125
2000	1RA6 504-8HP1	893	96.3	0.83	2x1040	21389	2.05	85	1125
2200	1RA6 506-8HP1	893	96.4	0.83	2x1160	23527	2.05	94	1125
2250	1RA6 560-8HP1	893	96.7	0.84	2x1160	24062	2.30	128	1125
2600	1RA6 562-8HP1	893	96.8	0.84	4x670	27805	2.25	141	1125
2900	1RA6 564-8HP1	894	96.9	0.83	4x750	30979	2.65	156	1125
3250	1RA6 566-8HP1	893	97.0	0.85	4x820	34756	2.35	173	1125
Type of construction:									
IM B3		0							
IM V1 (without canopy)		8							

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
6-pole												
1RA6 450-6HP1.	908	1083	96.3	0.82	605	947	96.4	0.79	303	753	96.0	0.67
1RA6 452-6HP1.	1013	1083	96.5	0.82	675	947	96.5	0.78	338	753	96.2	0.67
1RA6 454-6HP1.	1110	1083	96.5	0.84	740	947	96.6	0.81	370	753	96.3	0.71
1RA6 456-6HP1.	1215	1084	96.8	0.84	810	947	96.8	0.81	405	753	96.5	0.71
1RA6 500-6HP1.	1613	1082	96.5	0.83	1075	946	96.5	0.79	538	752	96.0	0.69
1RA6 502-6HP1.	1800	1081	96.6	0.86	1200	945	96.7	0.84	600	752	96.5	0.78
1RA6 504-6HP1.	2025	1082	96.7	0.83	1350	946	96.7	0.80	675	752	96.2	0.69
1RA6 506-6HP1.	2213	1081	96.8	0.86	1475	946	96.9	0.85	738	752	96.7	0.78
1RA6 560-6HP1.	2475	1083	97.0	0.87	1650	947	97.0	0.86	825	753	96.7	0.79
1RA6 562-6HP1.	2738	1082	97.0	0.88	1825	946	97.1	0.87	913	752	97.0	0.83
8-pole												
1RA6 450-8HP1.	653	812	95.5	0.81	435	710	95.4	0.77	218	565	94.9	0.66
1RA6 452-8HP1.	720	812	95.7	0.83	480	710	95.6	0.79	240	565	95.2	0.68
1RA6 454-8HP1.	788	812	95.6	0.81	525	710	95.6	0.77	263	565	95.0	0.65
1RA6 456-8HP1.	885	812	95.9	0.83	590	710	95.8	0.79	295	565	95.3	0.69
1RA6 500-8HP1.	1200	811	96.1	0.83	800	709	96.1	0.80	400	564	95.7	0.71
1RA6 502-8HP1.	1350	811	96.2	0.83	900	709	96.2	0.80	450	564	95.7	0.71
1RA6 504-8HP1.	1500	812	96.3	0.82	1000	710	96.3	0.79	500	564	95.7	0.69
1RA6 506-8HP1.	1650	812	96.4	0.82	1100	710	96.3	0.79	550	564	95.7	0.69
1RA6 560-8HP1.	1688	812	96.8	0.84	1125	710	96.8	0.81	563	564	96.5	0.72
1RA6 562-8HP1.	1950	812	96.9	0.84	1300	710	96.9	0.82	650	564	96.6	0.73
1RA6 564-8HP1.	2175	813	96.9	0.82	1450	710	96.8	0.78	725	565	96.3	0.67
1RA6 566-8HP1.	2438	812	97.1	0.84	1625	710	97.0	0.81	813	565	96.7	0.72

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power		High voltage motor H-compact PLUS	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
$P_{\text{rated}}^{155 (F)}$	$P_{\text{rated}}^{130 (B)}$	Article No.	n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	T_B/T_{rated}	J	n_{max}
kW	kW		rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
3.4 ... 4.16 kV, 60 Hz										
2-pole										
1600	– ⁵⁾	1RA6 450-2HS30	3576	96.0	0.89	260	4274	2.10	13	3600 ³⁾
1850	– ⁵⁾	1RA6 452-2HS30	3578	96.3	0.91	295	4941	2.30	14	3600 ³⁾
2060	– ⁵⁾	1RA6 454-2HS30	3579	96.6	0.91	325	5500	2.30	16	3600 ³⁾
2300	– ⁵⁾	1RA6 456-2HS30	3581	96.8	0.92	360	6137	2.40	18	3600 ³⁾
3000	2640	1RA6 500-2HS30	3572	96.5	0.89	485	8020	2.05	20	3600 ³⁾
3250	2860	1RA6 502-2HS30	3570	96.5	0.89	530	8693	1.95	22	3600 ³⁾
3700	3256	1RA6 504-2HS30	3576	96.8	0.91	580	9880	2.30	25	3600 ³⁾
4200	3696	1RA6 506-2HS30	3577	97.1	0.92	650	11212	2.45	27	3600 ³⁾
4600	4186	1RA6 560-2HS30	3577	96.8	0.90	730	12280	1.90	39	3600 ³⁾
5100	4641	1RA6 562-2HS30	3579	96.9	0.91	2x400	13608	2.05	43	3600 ³⁾
5900	5369	1RA6 564-2HS30	3580	97.1	0.92	2x460	15738	2.15	49	3600 ³⁾
6700	6097	1RA6 566-2HS30	3582	97.3	0.92	2x520	17862	2.45	54	3600 ³⁾
4-pole										
1630	– ⁵⁾	1RA6 450-4HS3	1782	95.7	0.89	265	8742	2.30	20	1800
1750	– ⁵⁾	1RA6 452-4HS3	1783	95.9	0.89	285	9375	2.40	22	1800
2070	– ⁵⁾	1RA6 454-4HS3	1784	96.1	0.90	330	11088	2.50	25	1800
2310	– ⁵⁾	1RA6 456-4HS3	1786	96.3	0.89	375	12358	2.50	29	1800
3100 ⁴⁾	2728	1RA6 500-4HS30	1785	96.7	0.90	495	16584	2.30	42	1800
3450 ⁴⁾	3036	1RA6 502-4HS30	1785	96.8	0.90	550	18457	2.20	46	1800
3800 ⁴⁾	3344	1RA6 504-4HS30	1786	97.0	0.91	600	20318	2.35	52	1800
4100 ⁴⁾	3608	1RA6 506-4HS30	1787	97.0	0.91	640	21909	2.40	56	1800
4700 ⁴⁾	4277	1RA6 560-4HS30	1789	97.2	0.90	750	25088	1.95	84	1800
5400 ⁴⁾	4914	1RA6 562-4HS30	1789	97.3	0.90	2x430	28824	1.95	94	1800
6000 ⁴⁾	5460	1RA6 564-4HS30	1789	97.4	0.91	2x470	32027	2.05	105	1800
6600 ⁴⁾	6006	1RA6 566-4HS30	1790	97.5	0.91	2x520	35210	2.10	115	1800
7400 ²⁾	– ⁵⁾	1RA4 632-4HV5	1790	97.3	0.89	1180	39480	1.90	150	1800

Type of construction:

IM B3	0
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

¹⁾ For IM B3, roller bearings.

²⁾ Rated voltage less than 4.16 kV on request.

³⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

⁴⁾ Data of vertical motors (IM V1) on request.

⁵⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
2-pole												
1RA6 450-2...	1201	3251	96.1	0.90	800	2843	96.2	0.90	400	2260	96.1	0.85
1RA6 452-2...	1389	3253	96.4	0.91	925	2844	96.5	0.91	463	2261	96.3	0.87
1RA6 454-2...	1545	3254	96.7	0.91	1030	2845	96.7	0.90	515	2261	96.5	0.86
1RA6 456-2...	1725	3256	96.9	0.92	1150	2846	96.9	0.91	575	2262	96.7	0.87
1RA6 500-2...	2251	3251	96.7	0.89	1500	2844	96.8	0.87	750	2260	96.6	0.79
1RA6 502-2...	2439	3250	96.7	0.89	1626	2843	96.8	0.88	813	2259	96.8	0.83
1RA6 504-2...	2776	3254	97.0	0.91	1850	2845	97.0	0.89	926	2261	96.9	0.83
1RA6 506-2...	3151	3254	97.2	0.91	2100	2846	97.2	0.89	1051	2261	97.1	0.83
1RA6 560-2...	3452	3255	96.9	0.90	2301	2846	97.0	0.88	1150	2262	96.9	0.83
1RA6 562-2...	3827	3256	97.0	0.90	2551	2847	97.1	0.89	1275	2262	97.0	0.84
1RA6 564-2...	4427	3257	97.3	0.91	2951	2848	97.3	0.90	1476	2262	97.2	0.85
1RA6 566-2...	5026	3258	97.4	0.92	3350	2849	97.4	0.90	1676	2263	97.2	0.83
4-pole												
1RA6 450-4...	1224	1622	96.0	0.89	815	1419	96.1	0.88	408	1129	96.0	0.83
1RA6 452-4...	1313	1623	96.1	0.89	875	1420	96.2	0.88	438	1129	96.1	0.82
1RA6 454-4...	1553	1623	96.3	0.90	1035	1420	96.4	0.89	518	1129	96.3	0.83
1RA6 456-4...	1733	1624	96.5	0.89	1155	1421	96.5	0.87	578	1130	96.2	0.80
1RA6 500-4...	2326	1625	96.8	0.89	1550	1421	96.8	0.86	775	1130	96.6	0.75
1RA6 502-4...	2589	1625	96.9	0.89	1725	1421	96.9	0.86	863	1130	96.8	0.77
1RA6 504-4...	2851	1626	97.1	0.90	1900	1422	97.1	0.87	950	1130	96.8	0.78
1RA6 506-4...	3076	1626	97.1	0.90	2050	1422	97.1	0.87	1025	1130	96.8	0.77
1RA6 560-4...	3527	1628	97.3	0.89	2350	1423	97.3	0.87	1176	1131	97.2	0.80
1RA6 562-4...	4052	1628	97.4	0.90	2701	1423	97.5	0.89	1351	1131	97.4	0.83
1RA6 564-4...	4502	1628	97.5	0.90	3000	1423	97.5	0.89	1501	1131	97.4	0.82
1RA6 566-4...	4952	1628	97.6	0.91	3300	1423	97.7	0.90	1651	1131	97.5	0.84
1RA4 632-4...	5550	1626	97.5	0.90	3700	1421	97.1	0.87	1850	1128	96.5	0.75

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Selection and ordering data

Rated power		High voltage motor H-compact PLUS	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
P_{rated} 155 (F)	P_{rated} 130 (B)		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	T_B/T_{rated}	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
3.4 ... 4.16 kV, 60 Hz										
6-pole										
1210	— ²⁾	1RA6 450-6HS3	1190	96.0	0.84	210	9715	2.40	26	1200
1350	— ²⁾	1RA6 452-6HS3	1191	96.2	0.85	230	10833	2.40	29	1200
1480	— ²⁾	1RA6 454-6HS3	1191	96.3	0.85	250	11875	2.50	32	1200
1620	— ²⁾	1RA6 456-6HS3	1191	96.4	0.87	270	12995	2.50	37	1200
2350	2100	1RA6 500-6HS3	1187	96.0	0.85	400	18907	1.65	56	1500
2600	2350	1RA6 502-6HS3	1188	96.4	0.84	445	20901	1.85	62	1500
2900	2600	1RA6 504-6HS3	1187	96.3	0.85	490	23332	1.70	69	1500
3100	2800	1RA6 506-6HS3	1188	96.4	0.86	520	24920	1.75	77	1500
3750	3300	1RA6 560-6HS3	1189	96.6	0.86	630	30120	2.00	108	1500
4250	3750	1RA6 562-6HS3	1189	96.8	0.86	710	34136	2.05	119	1500
4700	4150	1RA6 564-6HS3	1190	96.9	0.87	770	37718	2.15	132	1500
5100	4500	1RA6 566-6HS3	1190	97.0	0.87	840	40929	2.20	146	1500
8-pole										
870	— ²⁾	1RA6 450-8HS3	893	95.2	0.81	156	9308	2.50	32	1200
960	— ²⁾	1RA6 452-8HS3	893	95.3	0.82	170	10269	2.50	36	1200
1050	— ²⁾	1RA6 454-8HS3	893	95.4	0.84	182	11239	2.40	40	1200
1180	— ²⁾	1RA6 456-8HS3	894	95.6	0.82	210	12613	2.50	46	1200
1640	1480	1RA6 500-8HS3	891	95.7	0.83	285	17578	1.75	69	1125
1840	1660	1RA6 502-8HS3	892	96.0	0.83	320	19700	1.90	76	1125
2050	1860	1RA6 504-8HS3	892	96.0	0.84	355	21948	1.80	85	1125
2300	2050	1RA6 506-8HS3	892	96.1	0.84	395	24624	1.95	94	1125
2650	2350	1RA6 560-8HS3	892	96.4	0.84	455	28372	1.95	128	1125
3000	2650	1RA6 562-8HS3	891	96.5	0.84	510	32155	1.90	141	1125
3300	2900	1RA6 564-8HS3	891	96.6	0.84	560	35370	1.90	156	1125
3500	3100	1RA6 566-8HS3	892	96.8	0.85	590	37472	2.05	173	1125

Type of construction:

IM B3 **0**
IM V1 (without canopy) **8**

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

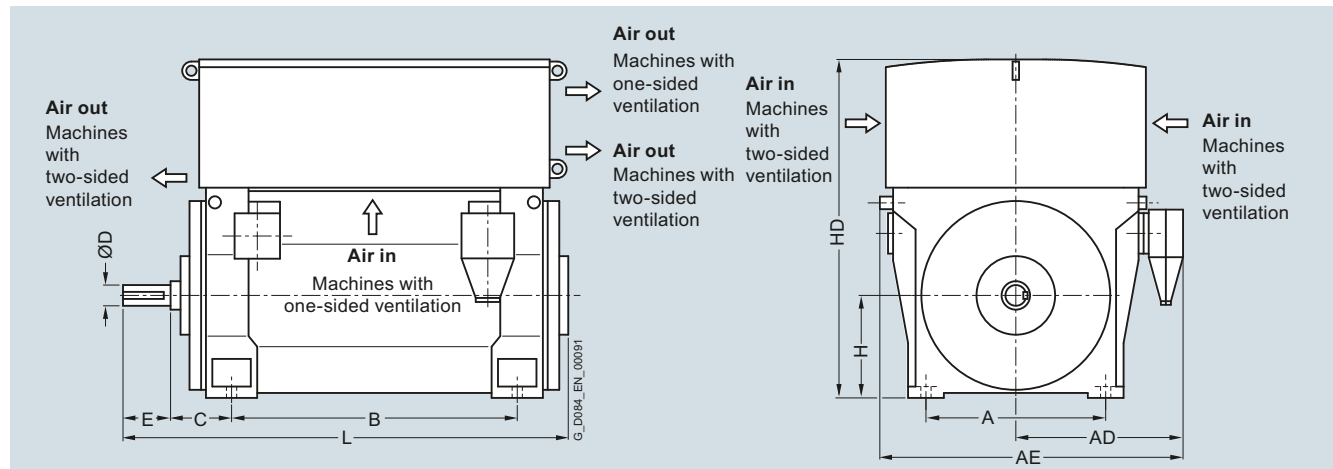
Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
6-pole												
1RA6 450-6...	908	1083	96.2	0.83	605	947	96.2	0.80	303	753	96.0	0.69
1RA6 452-6...	1013	1083	96.3	0.84	675	947	96.4	0.80	338	753	96.1	0.70
1RA6 454-6...	1110	1083	96.5	0.84	740	947	96.5	0.81	370	753	96.3	0.71
1RA6 456-6...	1215	1083	96.6	0.86	810	947	96.7	0.83	405	753	96.5	0.74
1RA6 500-6...	1763	1079	96.3	0.85	1175	944	96.4	0.84	588	751	96.3	0.78
1RA6 502-6...	1950	1081	96.5	0.84	1300	945	96.6	0.82	650	752	96.3	0.74
1RA6 504-6...	2175	1080	96.5	0.85	1450	945	96.6	0.85	725	751	96.5	0.79
1RA6 506-6...	2325	1081	96.6	0.86	1550	945	96.7	0.85	775	752	96.6	0.79
1RA6 560-6...	2813	1081	96.8	0.87	1875	946	96.9	0.87	938	752	96.8	0.82
1RA6 562-6...	3188	1082	97.0	0.87	2125	946	97.0	0.86	1063	752	96.9	0.81
1RA6 564-6...	3525	1082	97.0	0.87	2350	946	97.1	0.86	1175	752	96.9	0.80
1RA6 566-6...	3825	1082	97.1	0.88	2550	946	97.2	0.87	1275	753	97.0	0.81
8-pole												
1RA6 450-8...	653	812	95.2	0.79	435	710	95.1	0.74	218	565	94.3	0.61
1RA6 452-8...	720	812	95.4	0.80	480	710	95.3	0.75	240	565	94.5	0.62
1RA6 454-8...	788	812	95.5	0.83	525	710	95.5	0.79	263	565	95.0	0.69
1RA6 456-8...	885	813	95.6	0.79	590	711	95.5	0.75	295	565	94.8	0.62
1RA6 500-8...	1230	810	95.9	0.83	820	709	95.9	0.81	410	564	95.5	0.72
1RA6 502-8...	1380	811	96.0	0.82	920	709	96.0	0.79	460	564	95.5	0.70
1RA6 504-8...	1538	811	96.1	0.83	1025	709	96.1	0.81	513	564	95.7	0.72
1RA6 506-8...	1725	811	96.2	0.83	1150	709	96.1	0.80	575	564	95.6	0.71
1RA6 560-8...	1988	811	96.6	0.84	1325	709	96.7	0.83	663	564	96.5	0.75
1RA6 562-8...	2250	810	96.7	0.85	1500	709	96.8	0.83	750	564	96.7	0.77
1RA6 564-8...	2475	811	96.8	0.85	1650	709	96.9	0.84	825	564	96.8	0.77
1RA6 566-8...	2625	811	96.9	0.85	1750	709	97.0	0.83	875	564	96.8	0.76

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ³⁾	L

Up to 6.6 kV, roller bearings, IM B3 type of construction

2-pole											
1RA6450-2H..0 ²⁾	3700	850	930	1620	1180	280	95	130	450	1628	1843
1RA6452-2H..0 ²⁾	3900	850	930	1620	1180	280	95	130	450	1628	1843
1RA6454-2H..0 ²⁾	4300	850	930	1620	1400	280	95	130	450	1628	2053
1RA6456-2H..0 ²⁾	4550	850	930	1620	1400	280	95	130	450	1628	2053
1RA6500-2H..0 ²⁾	5450	950	1135	1835	1320	315	110	165	500	1850	2150
1RA6502-2H..0 ²⁾	5600	950	1135	1835	1320	315	110	165	500	1850	2150
4-pole											
1RA6450-4H..0	4050	850	930	1620	1180	250	130	200	450	1408	1896
1RA6452-4H..0	4250	850	930	1620	1180	250	130	200	450	1408	1896
1RA6454-4H..0	4650	850	930	1620	1400	250	130	200	450	1408	2106
1RA6456-4H..0	4950	850	930	1620	1400	250	130	200	450	1408	2106
1RA6500-4H..0	5950	950	1135	1835	1320	280	150	200	500	1850	2150
1RA6502-4H..0	6150	950	1135	1835	1320	280	150	200	500	1850	2150
1RA6504-4H..0	6800	950	1135	1835	1500	280	150	200	500	1850	2300
1RA6506-4H..0	7150	950	1135	1835	1500	280	150	200	500	1850	2300
1RA6560-4H..0	7450	1060	1205	1975	1400	315	170	240	560	2100	2300
1RA6562-4H..0	7850	1060	1205	1975	1400	315	170	240	560	2100	2300
1RA6564-4H..0	8700	1060	1205	1975	1600	315	170	240	560	2100	2550
1RA6566-4H..0	9250	1060	1205	1975	1600	315	170	240	560	2100	2550
1RA4630-4H..0 ²⁾	9950	1320	1330	2210	1600	335	200	280	630	2400	2500
1RA4632-4H..0 ²⁾	10650	1320	1330	2210	1600	335	200	280	630	2400	2500
1RA4634-4H..0 ²⁾	11700	1320	1330	2210	1800	335	220	280	630	2400	2740
1RA4636-4H..0 ²⁾	12250	1320	1330	2210	1800	335	220	280	630	2400	2740
6-pole											
1RA6450-6H..0	4150	850	930	1620	1180	250	140	200	450	1408	1896
1RA6452-6H..0	4400	850	930	1620	1180	250	140	200	450	1408	1896
1RA6454-6H..0	4750	850	930	1620	1400	280	140	200	450	1408	2136
1RA6456-6H..0	5100	850	930	1620	1400	280	140	200	450	1408	2136

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

²⁾ Roller bearings only for 50 Hz version.

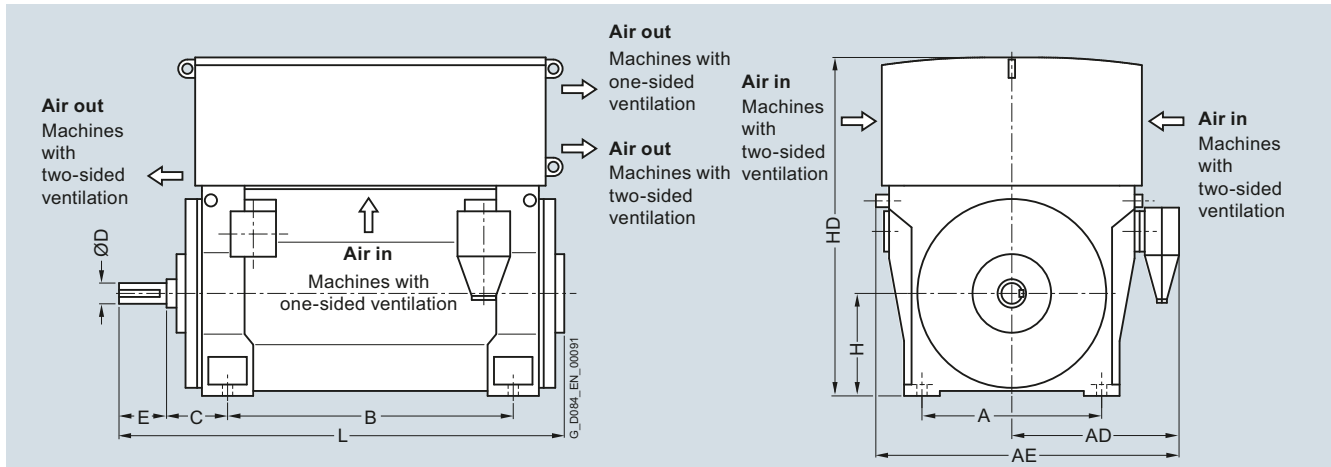
³⁾ Dimension HD for 1RP6 on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ³⁾	L
Up to 6.6 kV, roller bearings, IM B3 type of construction											
6-pole											
1RA6500-6H..0	6050	950	1135	1835	1320	315	160	240	500	1610	2150
1RA6502-6H..0	6350	950	1135	1835	1320	315	160	240	500	1610	2150
1RA6504-6H..0	6900	950	1135	1835	1500	315	160	240	500	1610	2360
1RA6506-6H..0	7300	950	1135	1835	1500	315	160	240	500	1610	2360
1RA6560-6H..0	8200	1060	1205	1975	1400	315	180	240	560	1760	2300
1RA6562-6H..0	8600	1060	1205	1975	1400	315	180	240	560	1760	2300
1RA6564-6H..0	9450	1060	1205	1975	1600	315	180	240	560	1760	2550
1RA6566-6H..0	10000	1060	1205	1975	1600	315	180	240	560	1760	2550
1RA4630-6H..0	10250	1320	1330	2210	1600	335	220	280	630	2400	2500
1RA4632-6H..0	10800	1320	1330	2210	1600	335	220	280	630	2400	2500
1RA4634-6H..0	11800	1320	1330	2210	1800	335	220	280	630	2400	2740
1RA4636-6H..0	12550	1320	1330	2210	1800	335	220	280	630	2400	2740
8-pole											
1RA6450-8H..0	4150	850	930	1620	1180	250	140	200	450	1408	1896
1RA6452-8H..0	4450	850	930	1620	1180	250	140	200	450	1408	1896
1RA6454-8H..0	4800	850	930	1620	1400	280	140	200	450	1408	2136
1RA6456-8H..0	5150	850	930	1620	1400	280	140	200	450	1408	2136
1RA6500-8HJ.0	6000	950	1135	1835	1320	315	160	240	500	1610	2150
1RA6502-8HJ.0	6300	950	1135	1835	1320	315	160	240	500	1610	2150
1RA6504-8HJ.0	6900	950	1135	1835	1500	315	160	240	500	1610	2360
1RA6506-8HJ.0	7250	950	1135	1835	1500	315	160	240	500	1610	2360
1RA6560-8HJ.0	8150	1060	1205	1975	1400	315	180	240	560	1760	2300
1RA6562-8HJ.0	8600	1060	1205	1975	1400	315	180	240	560	1760	2300
1RA6564-8HJ.0	9400	1060	1205	1975	1600	315	180	240	560	1760	2550
1RA6566-8HJ.0	9950	1060	1205	1975	1600	315	180	240	560	1760	2550
1RA4630-8H..0 ²⁾	10150	1320	1330	2210	1600	335	220	280	630	2400	2500
1RA4632-8H..0 ²⁾	10800	1320	1330	2210	1600	335	220	280	630	2400	2500
1RA4634-8H..0 ²⁾	11700	1320	1330	2210	1800	335	220	280	630	2400	2740
1RA4636-8H..0 ²⁾	12450	1320	1330	2210	1800	335	220	280	630	2400	2740

Note:

Higher pole numbers are available on request.

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

²⁾ Roller bearings only for 50 Hz version.

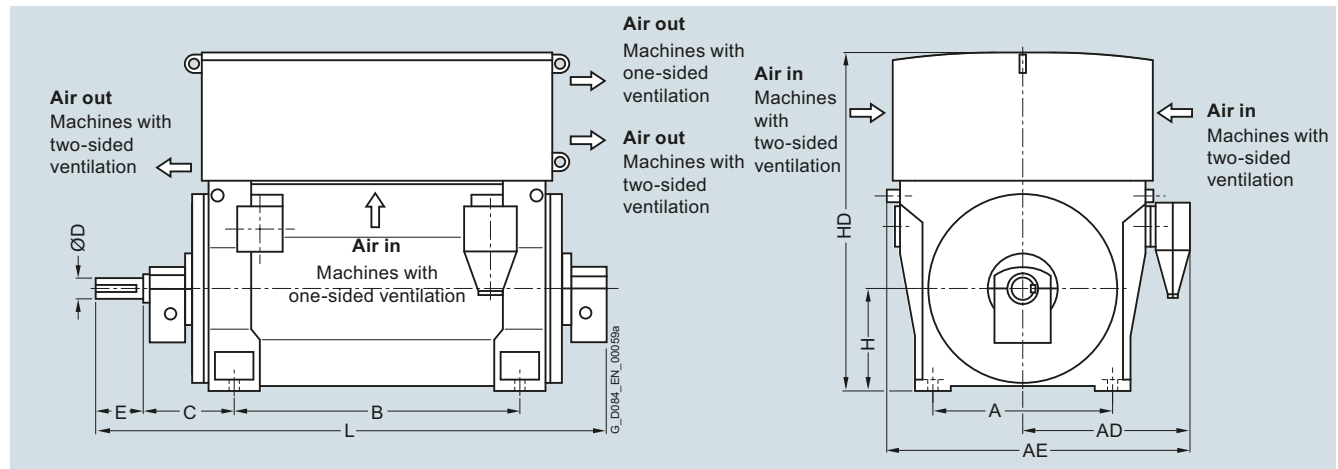
³⁾ Dimension HD for 1RP6 on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ³⁾	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

Up to 6.6 kV, sleeve bearings, IM B3 type of construction

2-pole

1RA6450-2H..0-Z K96	3750	850	930	1620	1180	425	95	130	450	1628	2218
1RA6452-2H..0-Z K96	3950	850	930	1620	1180	425	95	130	450	1628	2218
1RA6454-2H..0-Z K96	4300	850	930	1620	1400	425	95	130	450	1628	2428
1RA6456-2H..0-Z K96	4550	850	930	1620	1400	425	95	130	450	1628	2428
1RA6500-2H..0-Z K96 ²⁾	5500	950	1135	1835	1320	450	110	165	500	1850	2500
1RA6502-2H..0-Z K96 ²⁾	5650	950	1135	1835	1320	450	110	165	500	1850	2500
1RA6504-2H..0	6450	950	1135	1835	1500	450	110	165	500	1850	2650
1RA6506-2H..0	6700	950	1135	1835	1500	450	110	165	500	1850	2650
1RA6560-2H..0	7450	1060	1205	1975	1400	600	130	200	560	2100	2850
1RA6562-2H..0	7850	1060	1205	1975	1400	600	130	200	560	2100	2850
1RA6564-2H..0	8750	1060	1205	1975	1600	600	130	200	560	2100	3100
1RA6566-2H..0	9200	1060	1205	1975	1600	600	130	200	560	2100	3100

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

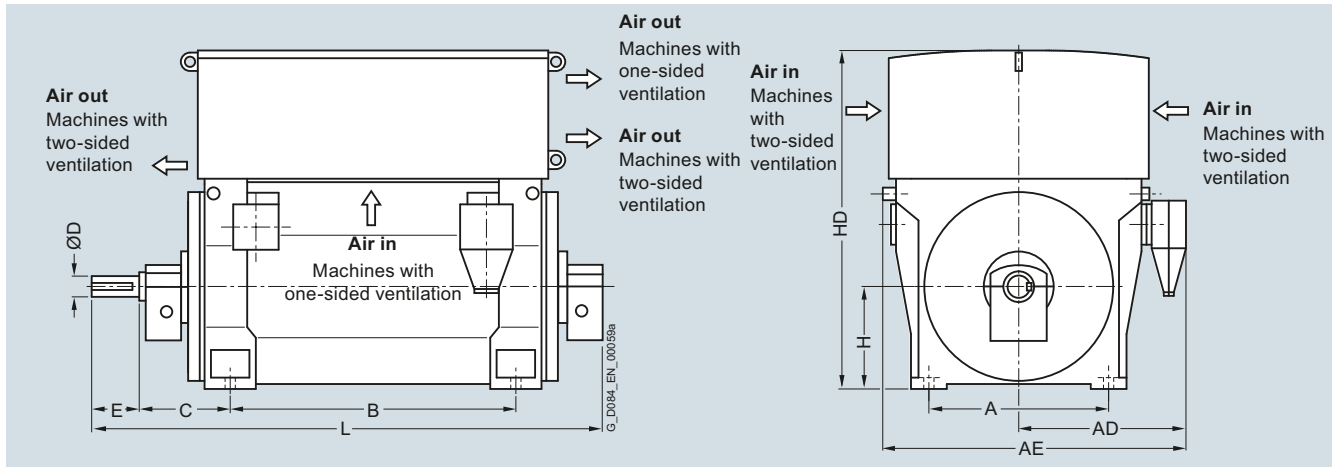
³⁾ Dimension HD for 1RP6 on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ³⁾	L
Up to 6.6 kV, sleeve bearings, IM B3 type of construction											
4-pole											
1RA6450-4H..0-Z K96	4100	850	930	1620	1180	500	130	200	450	1408	2438
1RA6452-4H..0-Z K96	4350	850	930	1620	1180	500	130	200	450	1408	2438
1RA6454-4H..0-Z K96	4750	850	930	1620	1400	500	130	200	450	1408	2648
1RA6456-4H..0-Z K96	5000	850	930	1620	1400	500	130	200	450	1408	2648
1RA6500-4H..0-Z K96	6250	950	1135	1835	1320	560	150	200	500	1850	2700
1RA6502-4H..0-Z K96	6500	950	1135	1835	1320	560	150	200	500	1850	2700
1RA6504-4H..0-Z K96	7150	950	1135	1835	1500	560	150	200	500	1850	2880
1RA6506-4H..0-Z K96	7450	950	1135	1835	1500	560	150	200	500	1850	2880
1RA6560-4H..0-Z K96	7650	1060	1205	1975	1400	600	170	240	560	2100	2900
1RA6562-4H..0-Z K96	8000	1060	1205	1975	1400	600	170	240	560	2100	2900
1RA6564-4H..0-Z K96	8900	1060	1205	1975	1600	600	170	240	560	2100	3100
1RA6566-4H..0-Z K96	9400	1060	1205	1975	1600	600	170	240	560	2100	3100
1RA4630-4H..0-Z K96 ²⁾	10250	1320	1330	2210	1600	600	200	280	630	2400	2970
1RA4632-4H..0-Z K96 ²⁾	10950	1320	1330	2210	1600	600	200	280	630	2400	2970
1RA4634-4H..0-Z K96 ²⁾	11950	1320	1330	2210	1800	600	220	280	630	2400	3210
1RA4636-4H..0-Z K96 ²⁾	12500	1320	1330	2210	1800	600	220	280	630	2400	3210

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

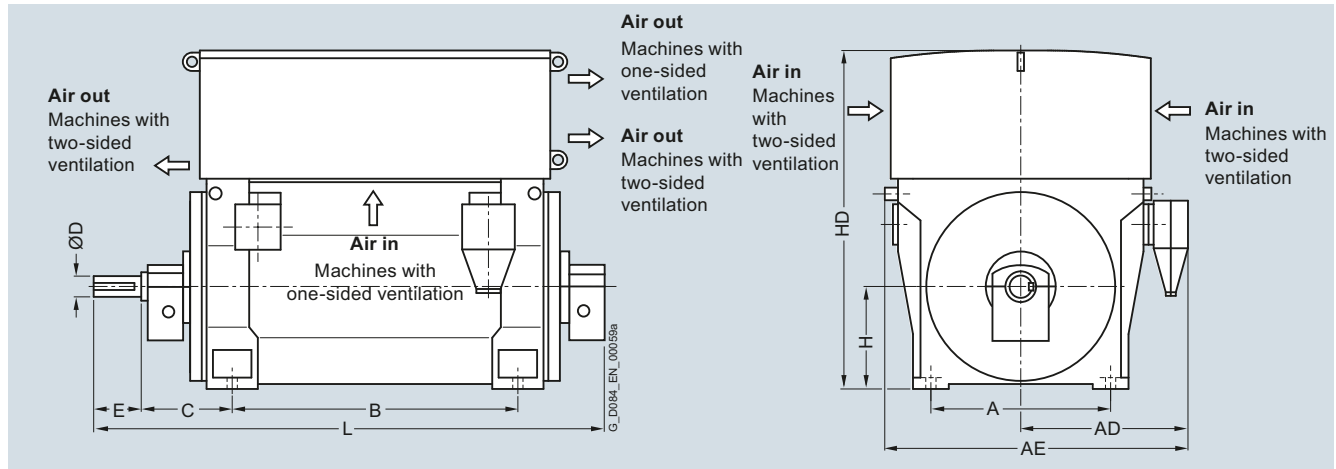
³⁾ Dimension HD for 1RP6 on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ²⁾	L

Up to 6.6 kV, sleeve bearings, IM B3 type of construction

6-pole

1RA6450-6H..0-Z K96	4200	850	930	1620	1180	500	140	200	450	1408	2438
1RA6452-6H..0-Z K96	4500	850	930	1620	1180	500	140	200	450	1408	2438
1RA6454-6H..0-Z K96	4850	850	930	1620	1400	500	140	200	450	1408	2648
1RA6456-6H..0-Z K96	5200	850	930	1620	1400	500	140	200	450	1408	2648
1RA6500-6H..0-Z K96	6250	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6502-6H..0-Z K96	6500	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6504-6H..0-Z K96	7100	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6506-6H..0-Z K96	7500	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6560-6H..0-Z K96	8450	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6562-6H..0-Z K96	8850	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6564-6H..0-Z K96	9700	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA6566-6H..0-Z K96	10250	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA4630-6H..0-Z K96	10500	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4632-6H..0-Z K96	11050	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4634-6H..0-Z K96	12100	1320	1330	2210	1800	600	220	280	630	2400	3210
1RA4636-6H..0-Z K96	12850	1320	1330	2210	1800	600	220	280	630	2400	3210

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

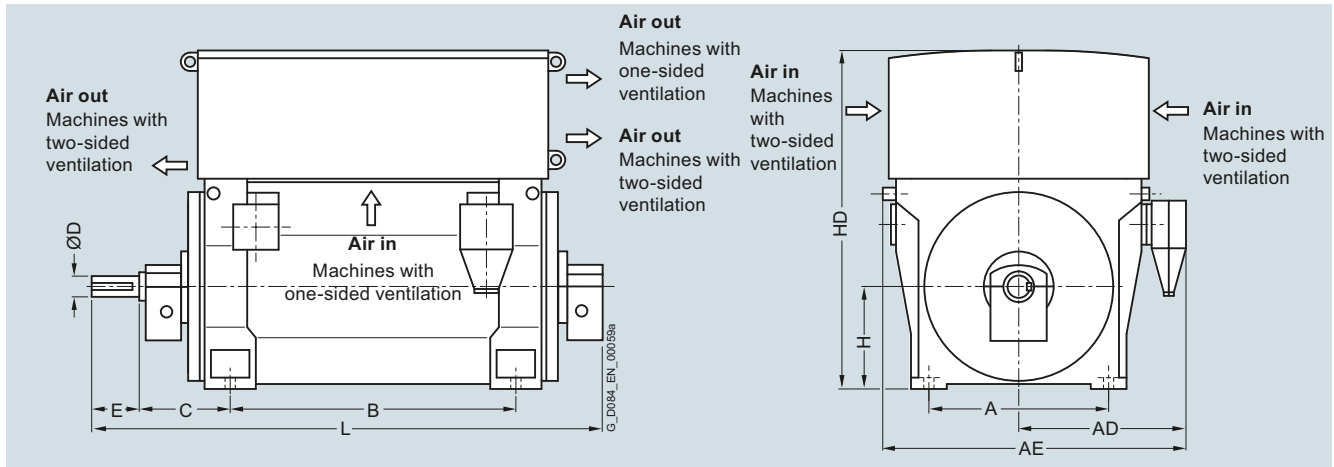
²⁾ Dimension HD for 1RP6 on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD ²⁾	L

Up to 6.6 kV, sleeve bearings, IM B3 type of construction

8-pole

1RA6450-8H..0-Z K96	4250	850	930	1620	1180	500	140	200	450	1408	2438
1RA6452-8H..0-Z K96	4550	850	930	1620	1180	500	140	200	450	1408	2438
1RA6454-8H..0-Z K96	4900	850	930	1620	1400	500	140	200	450	1408	2648
1RA6456-8H..0-Z K96	5250	850	930	1620	1400	500	140	200	450	1408	2648
1RA6500-8H..0-Z K96	6200	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6502-8H..0-Z K96	6450	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6504-8H..0-Z K96	7100	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6506-8H..0-Z K96	7450	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6560-8H..0-Z K96	8400	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6562-8H..0-Z K96	8800	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6564-8H..0-Z K96	9650	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA6566-8H..0-Z K96	10150	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA4630-8H..0-Z K96	10400	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4632-8H..0-Z K96	11050	1320	1330	2210	1600	600	220	280	630	2400	2970
1RA4634-8H..0-Z K96	12000	1320	1330	2210	1800	600	220	280	630	2400	3210
1RA4636-8H..0-Z K96	12700	1320	1330	2210	1800	600	220	280	630	2400	3210

Note:

Higher pole numbers are available on request.

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

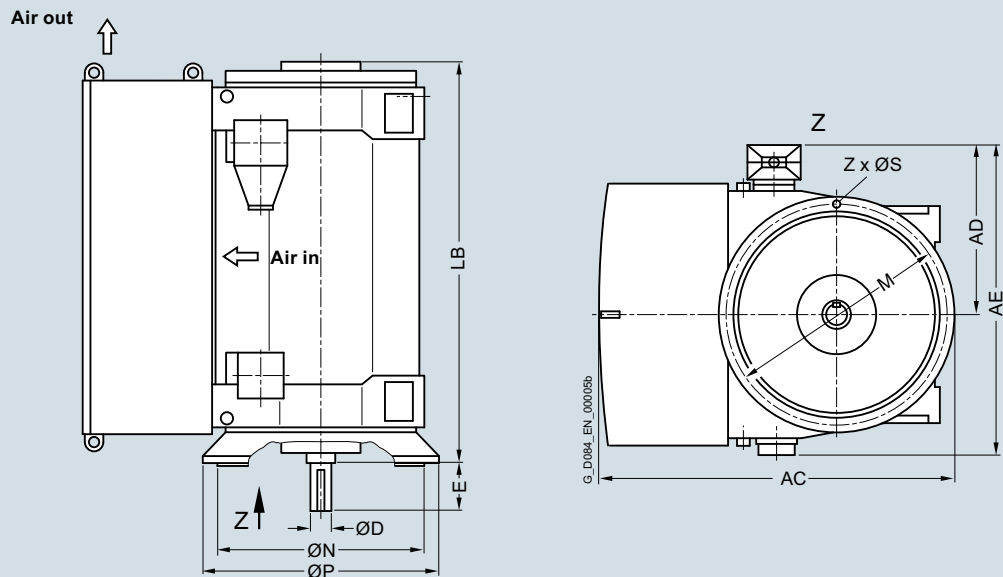
²⁾ Dimension HD for 1RP6 on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC ³⁾ mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, roller bearings, IM V1 type of construction

4-pole

1RA6450-4H..8	4250	1533	930	1620	130	200	1720	1150	1000	1080	26	8
1RA6452-4H..8	4450	1533	930	1620	130	200	1720	1150	1000	1080	26	8
1RA6454-4H..8	4850	1533	930	1620	130	200	1930	1150	1000	1080	26	8
1RA6456-4H..8	5150	1533	930	1620	130	200	1930	1150	1000	1080	26	8
1RA4500-4H..8	5250	1640	1000	1810	150	200	1910	1250	1120	1180	26	8
1RA4502-4H..8	5450	1640	1000	1810	150	200	1910	1250	1120	1180	26	8
1RA4504-4H..8	6150	1640	1000	1810	160	240	2120	1250	1120	1180	26	8
1RA4506-4H..8	6550	1640	1000	1810	160	240	2120	1250	1120	1180	26	8
1RA4560-4H..8	7250	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4562-4H..8 ²⁾	7700	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4564-4H..8 ²⁾	8600	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4566-4H..8 ²⁾	9050	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4630-4H..8 ²⁾	11600	2430	1330	2300	200	280	2470	2000	1800	1900	33	16
1RA4632-4H..8 ²⁾	12300	2430	1330	2300	200	280	2470	2000	1800	1900	33	16
1RA4634-4H..8 ²⁾	13350	2430	1330	2300	220	280	2710	2000	1800	1900	33	16
1RA4636-4H..8 ²⁾	13900	2430	1330	2300	220	280	2710	2000	1800	1900	33	16

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

²⁾ Only in the 50 Hz version.

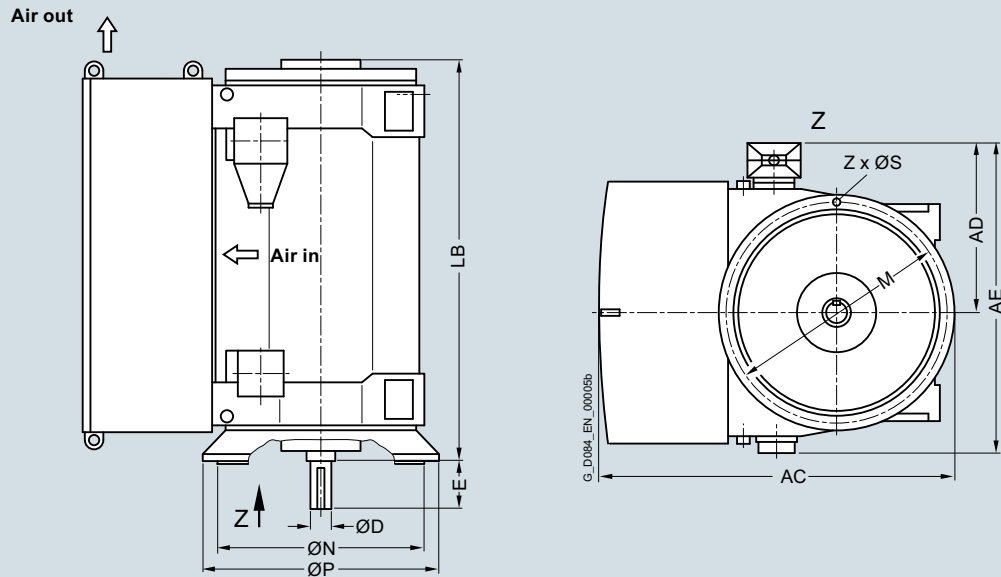
³⁾ Dimension AC for 1RP6 on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC ²⁾ mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, roller bearings, IM V1 type of construction												
6-pole												
1RA6450-6H..8	4350	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6452-6H..8	4600	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6454-6H..8	4950	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6456-6H..8	5300	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA4500-6H..8	5400	1640	1000	1810	160	240	1910	1250	1120	1180	26	8
1RA4502-6H..8	5750	1640	1000	1810	160	240	1910	1250	1120	1180	26	8
1RA4504-6H..8	6300	1640	1000	1810	170	240	2120	1250	1120	1180	26	8
1RA4506-6H..8	6700	1640	1000	1810	170	240	2120	1250	1120	1180	26	8
1RA4560-6H..8	7400	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4562-6H..8	8000	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA4564-6H..8	8800	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4566-6H..8	9300	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA4630-6H..8	11900	2430	1330	2300	220	280	2470	2000	1800	1900	33	16
1RA4632-6H..8	12450	2430	1330	2300	220	280	2470	2000	1800	1900	33	16
1RA4634-6H..8	13450	2430	1330	2300	220	280	2710	2000	1800	1900	33	16
1RA4636-6H..8	14200	2430	1330	2300	220	280	2710	2000	1800	1900	33	16

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

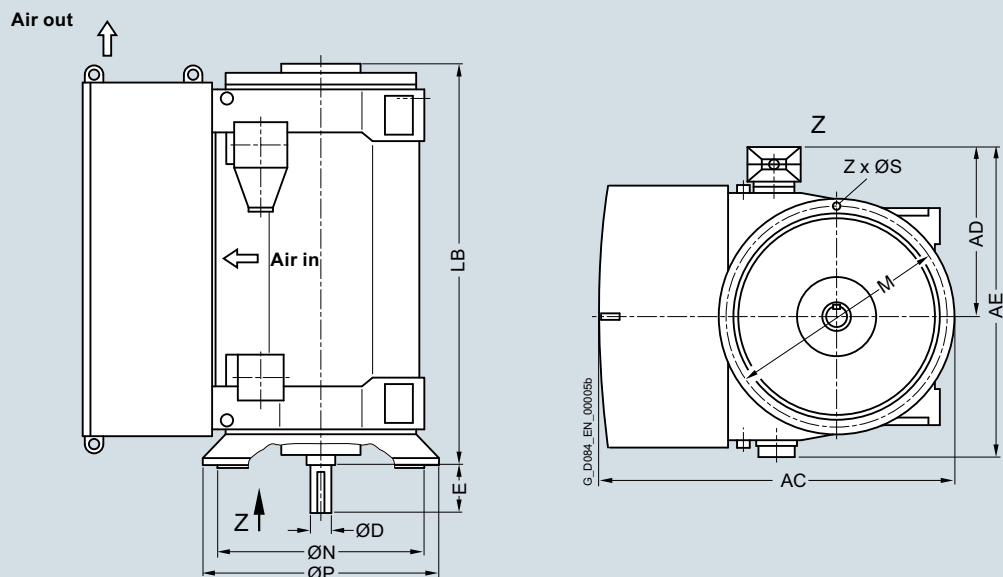
²⁾ Dimension AC for 1RP6 on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RA4, 1RA6 and 1RP6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC ²⁾ mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, roller bearings, IM V1 type of construction

8-pole

1RA6450-8H..8	4350	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6452-8H..8	4650	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6454-8H..8	5000	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6456-8H..8	5350	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA4500-8H..8	5450	1640	1000	1810	160	240	1910	1250	1120	1180	26	8
1RA4502-8H..8	5800	1640	1000	1810	160	240	1910	1250	1120	1180	26	8
1RA4504-8H..8	6300	1640	1000	1810	170	240	2120	1250	1120	1180	26	8
1RA4506-8H..8	6700	1640	1000	1810	170	240	2120	1250	1120	1180	26	8
1RA4560-8H..8	7350	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA4562-8H..8	7900	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA4564-8H..8	8700	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA4566-8H..8	9200	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA4630-8H..8	11800	2430	1330	2300	220	280	2470	2000	1800	1900	33	16
1RA4632-8H..8	12450	2430	1330	2300	220	280	2470	2000	1800	1900	33	16
1RA4634-8H..8	13350	2430	1330	2300	220	280	2710	2000	1800	1900	33	16
1RA4636-8H..8	14100	2430	1330	2300	220	280	2710	2000	1800	1900	33	16

Note:

Higher pole numbers are available on request.

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

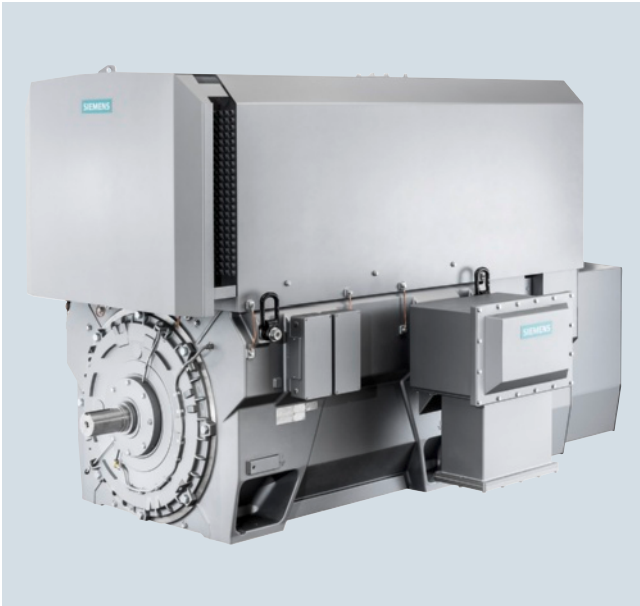
²⁾ Dimension AC for 1RP6 on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Overview



Technical data

Overview of technical data

H-compact PLUS 1RQ4 and 1RQ6

Rated voltage	690 V ... 4.16 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Cooling method	IC611/IC616
Stator winding insulation	Insulation system, thermal class 155 (F), utilized to 155 (F)
Shaft height	450 ... 630 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN
Frame design for shaft heights 450 ... 560 mm	Frame: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 mm	Frame: Steel Cooling enclosure: Steel

The following versions can be offered on request:

- 2-pole up to 75 Hz
- 4-pole up to 100 Hz
- 6-pole up to 90 Hz

For individual motor types, it must be ensured that the motor does not run-through any critical speed in the required speed control range and that the maximum speed does not exceed the mechanical speed limit of the motor! Please contact your Siemens sales person regarding this check. The motor types are marked with footnotes in the following data tables.

¹⁾ Maximum and minimum power ratings can be different for specific voltage levels.

Technical data (continued)

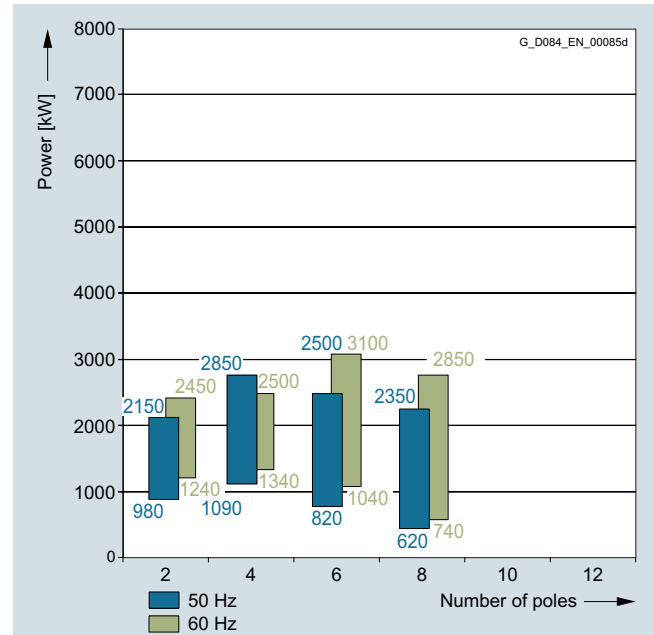
Power ranges for IEC motors with reinforced insulation for SINAMICS drive converters without sine-wave filter

1RQ4/1RQ6, 1SG4/1SG6 (Ex nA) and 1SB4/1SB6 (Ex px) series

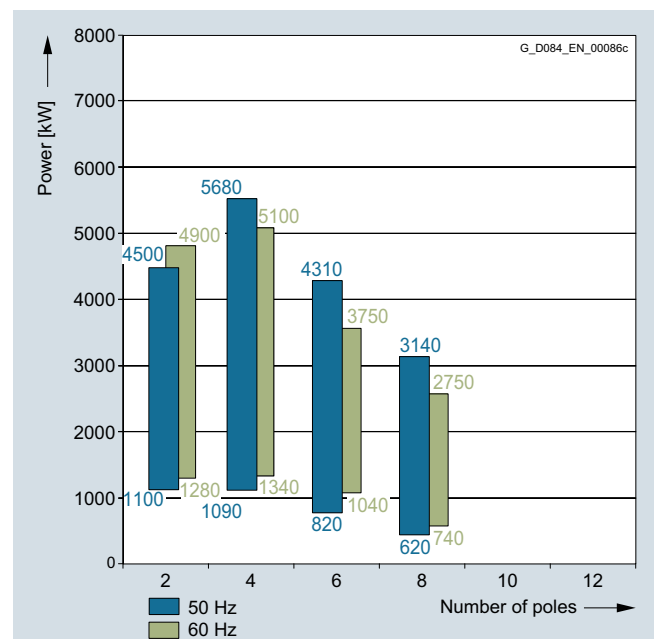
Insulation system, thermal class 155 (F), utilized to 155 (F)

The power data listed here apply for an ambient temperature of 40 °C and an installation altitude ≤ 1000 m.

690 V; 50 and 60 Hz



3.4 kV to 4.16 kV; 50 and 60 Hz¹⁾



Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

Rated power IEC P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current 690 V	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	$T_{\text{B}}/T_{\text{rated}}$ [-]	J kgm ²	n_{max} rpm
690 V, 50 Hz									
2-pole									
980	1RQ6 450-2JP00	2983	95.1	0.91	950	3141	2.40	13	3000
1040	1RQ6 452-2JP00	2984	95.2	0.91	1000	3331	2.40	14	3000
1320	1RQ6 454-2JP00	2983	95.9	0.92	2x630	4232	2.30	16	3000
1370	1RQ6 456-2JP00	2982	95.9	0.93	2x640	4394	2.40	18	3000
1740	1RQ6 500-2JP00	2980	96.1	0.91	2x830	5576	2.70	19	3000
1880	1RQ6 502-2JP00	2978	96.2	0.91	2x900	6028	2.60	20	3000
2150	1RQ6 504-2JP00	2980	96.6	0.92	2x1020	6890	2.60	24	3000 ³⁾
4-pole									
1090	1RQ6 450-4JP00	1487	95.4	0.87	1100	7008	2.60	20	1800
1200	1RQ6 452-4JP00	1486	95.5	0.90	1160	7724	2.50	22	1800
1290	1RQ6 454-4JP00	1488	95.9	0.89	2x630	8289	2.60	25	1800
1420	1RQ6 456-4JP00	1490	96.1	0.89	2x690	9113	2.90	29	1800
1950 ²⁾	1RQ6 500-4JP00	1487	96.1	0.91	2x930	12523	2.55	42	1800
2000 ²⁾	1RQ6 502-4JP00	1487	96.2	0.91	2x960	12844	2.55	46	1800
2100 ²⁾	1RQ6 504-4JP00	1486	96.2	0.92	2x990	13495	2.45	52	1800
2400 ²⁾	1RQ6 506-4JP00	1489	96.6	0.91	2x1140	15392	2.70	56	1800
2700 ²⁾	1RQ6 560-4JP00	1486	96.5	0.91	4x640	17351	2.10	82	1800
2850 ²⁾	1RQ6 562-4JP00	1490	96.7	0.92	4x670	18265	2.65	93	1800

Type of construction:

IM B3	0
IM V1 (with canopy)	4

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Data of vertical motors (IM V1) on request.

³⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
2-pole												
1RQ6 450-2JPO.	735	2711	95.4	0.91	490	2372	95.5	0.90	245	1884	95.3	0.84
1RQ6 452-2JPO	780	2712	95.5	0.91	520	2373	95.6	0.90	260	1885	95.4	0.85
1RQ6 454-2JPO.	991	2711	96.1	0.92	660	2372	96.2	0.91	330	1884	96.1	0.87
1RQ6 456-2JPO.	1028	2710	96.2	0.94	685	2372	96.3	0.93	343	1884	96.4	0.90
1RQ6 500-2JPO.	1305	2711	96.2	0.89	870	2371	96.3	0.86	435	1884	96.1	0.76
1RQ6 502-2JPO.	1411	2710	96.4	0.90	940	2370	96.4	0.88	470	1884	96.3	0.81
1RQ6 504-2JPO.	1613	2712	96.7	0.91	1075	2371	96.8	0.90	538	1884	96.7	0.83
4-pole												
1RQ6 450-4JPO.	818	1352	95.6	0.85	545	1184	95.6	0.82	273	941	95.1	0.72
1RQ6 452-4JPO.	900	1351	95.8	0.89	600	1184	95.9	0.87	300	941	95.7	0.81
1RQ6 454-4JPO.	968	1353	96.1	0.88	645	1185	96.1	0.86	323	941	95.8	0.78
1RQ6 456-4JPO.	1065	1354	96.2	0.88	711	1185	96.2	0.85	355	941	95.8	0.76
1RQ6 500-4JPO.	1463	1353	96.3	0.90	975	1184	96.3	0.87	488	941	96.2	0.77
1RQ6 502-4JPO.	1500	1354	96.3	0.90	1000	1184	96.4	0.88	500	941	96.3	0.79
1RQ6 504-4JPO.	1575	1353	96.4	0.92	1050	1184	96.5	0.90	526	941	96.5	0.84
1RQ6 506-4JPO.	1800	1355	96.7	0.90	1200	1185	96.7	0.87	600	942	96.5	0.76
1RQ6 560-4JPO.	2026	1353	96.7	0.91	1350	1184	96.8	0.90	675	941	96.9	0.85
1RQ6 562-4JPO.	2138	1355	96.8	0.91	1425	1185	96.9	0.89	713	942	96.8	0.81

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

Rated power P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed n_{rated} rpm	Efficiency η %	Power factor $\cos \varphi$ [-]	Rated current 690 V I_{rated} A	Rated torque T_{rated} Nm	Break-down torque T_B/T_{rated} [-]	Moment of inertia J kgm ²	Mechanical speed limit ¹⁾ n_{max} rpm
690 V, 50 Hz									
6-pole									
820	1RQ6 450-6JP0	991	95.6	0.85	840	7915	2.30	26	1200
910	1RQ6 452-6JP0	992	95.9	0.85	930	8775	2.40	29	1200
1020	1RQ6 454-6JP0	992	95.9	0.85	1040	9835	2.40	32	1200
1130	1RQ6 456-6JP0	991	95.8	0.87	1140	10906	2.30	37	1200
1560	1RQ6 500-6JP0	988	96.0	0.86	2x790	15079	1.85	56	1500
1700	1RQ6 502-6JP0	989	96.2	0.86	2x860	16416	2.00	62	1500
1820	1RQ6 504-6JP0	989	96.2	0.87	2x910	17574	1.95	69	1500
1960	1RQ6 506-6JP0	991	96.5	0.87	2x980	18888	2.20	77	1500
2250	1RQ6 560-6JP0	991	96.5	0.87	2x1120	21683	2.40	108	1500
2500	1RQ6 562-6JP0	991	96.5	0.88	3x820	24092	2.30	119	1500
8-pole									
620	1RQ6 450-8JP0	744	94.9	0.82	670	7967	2.70	32	1200
675	1RQ6 452-8JP0	744	95.1	0.82	720	8679	2.40	36	1200
750	1RQ6 454-8JP0	744	95.1	0.82	800	9635	2.50	40	1200
810	1RQ6 456-8JP0	745	95.4	0.82	870	10398	2.70	46	1200
1160	1RQ6 500-8JP0	741	95.6	0.84	1200	14950	1.80	69	1125
1280	1RQ6 502-8JP0	741	95.7	0.84	2x670	16497	1.85	76	1125
1440	1RQ6 504-8JP0	741	95.8	0.84	2x750	18559	1.85	85	1125
1600	1RQ6 506-8JP0	742	96.0	0.84	2x830	20593	1.90	94	1125
1700	1RQ6 560-8JP0	742	96.3	0.85	2x870	21880	2.20	128	1125
1960	1RQ6 562-8JP0	742	96.5	0.85	2x1000	25226	2.20	141	1125
2150	1RQ6 564-8JP0	743	96.6	0.85	2x1100	27635	2.35	156	1125
2350	1RQ6 566-8JP0	743	96.7	0.85	2x1200	30205	2.45	173	1125

Type of construction:

IM B3	0
IM V1 (with canopy)	4

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Data of vertical motors (IM V1) on request.

³⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Motor type
(repeated)

Partial load values for square-law torque drive

P/P_{rated} 155 (F) = 75 %

P/P_{rated} 155 (F) = 50 %

P/P_{rated} 155 (F) = 25 %

P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]

Square-law torque drive

6-pole

1RQ6 450-6JPO.	615	901	96.0	0.84	410	789	96.0	0.81	205	627	95.8	0.71
1RQ6 452-6JPO.	683	902	96.1	0.83	455	789	96.1	0.80	228	627	95.8	0.69
1RQ6 454-6JPO.	765	902	96.2	0.84	510	789	96.2	0.80	255	627	95.9	0.70
1RQ6 456-6JPO.	848	901	96.2	0.87	565	789	96.3	0.84	283	627	96.2	0.76
1RQ6 500-6JPO.	1170	898	96.2	0.86	780	787	96.3	0.85	390	626	96.2	0.78
1RQ6 502-6JPO.	1275	899	96.3	0.85	850	788	96.4	0.84	425	626	96.2	0.76
1RQ6 504-6JPO.	1365	899	96.4	0.87	910	788	96.5	0.85	455	626	96.3	0.79
1RQ6 506-6JPO.	1470	901	96.6	0.86	980	788	96.6	0.84	490	627	96.3	0.76
1RQ6 560-6JPO.	1688	901	96.6	0.87	1125	789	96.7	0.86	563	627	96.4	0.79
1RQ6 562-6JPO.	1875	901	96.7	0.88	1250	789	96.7	0.87	625	627	96.6	0.82

8-pole

1RQ6 450-8JPO.	465	676	95.0	0.77	310	592	94.8	0.71	155	471	93.8	0.57
1RQ6 452-8JPO.	506	676	95.2	0.79	338	592	95.1	0.74	169	470	94.4	0.61
1RQ6 454-8JPO.	563	677	95.2	0.79	375	592	95.0	0.73	188	471	94.2	0.60
1RQ6 456-8JPO.	608	677	95.5	0.79	405	592	95.3	0.73	203	471	94.5	0.59
1RQ6 500-8JPO.	870	674	95.8	0.83	580	590	95.8	0.81	290	469	95.5	0.73
1RQ6 502-8JPO.	960	674	95.9	0.84	640	590	95.9	0.82	320	469	95.6	0.74
1RQ6 504-8JPO.	1080	674	96.0	0.84	720	590	96.1	0.82	360	469	95.8	0.74
1RQ6 506-8JPO.	1200	674	96.1	0.84	800	591	96.2	0.82	400	470	95.8	0.74
1RQ6 560-8JPO.	1275	675	96.5	0.84	850	591	96.6	0.82	425	470	96.4	0.75
1RQ6 562-8JPO.	1470	675	96.6	0.85	980	591	96.7	0.83	490	470	96.5	0.75
1RQ6 564-8JPO.	1613	676	96.7	0.84	1075	591	96.7	0.82	538	470	96.4	0.73
1RQ6 566-8JPO.	1763	676	96.8	0.84	1175	592	96.8	0.81	588	470	96.5	0.72

3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC	Article No.		Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ²⁾
$P_{155(F)}^{\text{rated}}$ kW	$P_{130(B)}^{\text{rated}}$ kW		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm

3.4 ... 4.16 kV, 50 Hz

2-pole

1100	– ⁶⁾	1RQ6 450-2JS40	2979	95.4	0.90	178	3529	2.30	13	3000
1220	– ⁶⁾	1RQ6 452-2JS40	2981	95.8	0.91	194	3910	2.60	14	3000
1350	– ⁶⁾	1RQ6 454-2JS40	2982	96.0	0.91	215	4325	2.60	16	3000
1490	– ⁶⁾	1RQ6 456-2JS40	2984	96.3	0.92	235	4771	2.70	18	3000
2000	1760	1RQ6 500-2JS40	2973	96.2	0.91	315	6424	2.30	19	3000
2100	1848	1RQ6 502-2JS40	2972	96.2	0.91	335	6747	2.20	20	3000
2450	2156	1RQ6 504-2JS40	2976	96.5	0.92	385	7861	2.45	24	3000 ⁵⁾
2550	2244	1RQ6 506-2JS40	2977	96.6	0.92	400	8180	2.55	26	3000 ⁵⁾
3100	2790	1RQ6 560-2JS40	2978	96.5	0.90	495	9941	1.95	39	3000 ⁵⁾
3500	3150	1RQ6 562-2JS40	2982	96.8	0.91	550	11208	2.30	43	3000 ⁵⁾
4000	3600	1RQ6 564-2JS40	2983	97.0	0.92	620	12805	2.40	49	3000 ⁵⁾
4500	4050	1RQ6 566-2JS40	2984	97.1	0.93	690	14401	2.65	54	3000 ⁵⁾

4-pole

1090	– ⁶⁾	1RQ6 450-4JS4	1486	95.3	0.88	180	7007	2.70	20	1800
1200	– ⁶⁾	1RQ6 452-4JS4	1486	95.5	0.89	196	7716	2.60	22	1800
1290	– ⁶⁾	1RQ6 454-4JS4	1488	95.8	0.89	210	8281	2.80	25	1800
1420	– ⁶⁾	1RQ6 456-4JS4	1489	96.0	0.89	230	9114	2.90	29	1800
2100 ⁴⁾	1848	1RQ6 500-4JS40	1486	96.0	0.91	335	13495	2.50	42	1800
2300 ⁴⁾	2024	1RQ6 502-4JS40	1487	96.2	0.90	370	14770	2.55	46	1800
2600 ⁴⁾	2288	1RQ6 504-4JS40	1487	96.4	0.91	410	16697	2.45	52	1800
2800 ⁴⁾	2464	1RQ6 506-4JS40	1487	96.5	0.91	445	17981	2.55	56	1800
3200 ⁴⁾	2880	1RQ6 560-4JS40	1491	96.8	0.90	510	20495	2.40	84	1800
3500 ⁴⁾	3150	1RQ6 562-4JS40	1492	96.9	0.91	550	22401	2.55	94	1800
4000 ⁴⁾	3600	1RQ6 564-4JS40	1491	97.1	0.91	630	25619	2.45	105	1800
4400 ⁴⁾	3960	1RQ6 566-4JS40	1492	97.2	0.91	690	28161	2.75	115	1800
4800 ¹⁾	– ⁶⁾	1RQ4 632-4JV	1491	97.0	0.89	770	30744	2.50	154	1800
5190 ¹⁾	– ⁶⁾	1RQ4 634-4JV	1492	97.2	0.89	830	33220	2.40	174	1800
5680 ¹⁾	– ⁶⁾	1RQ4 636-4JV	1492	97.2	0.88	920	36357	2.40	186	1800

Voltage code:

4.16 kV, 50 Hz	4
Other voltage	9

Type of construction:

IM B3	0
IM V1 (with canopy)	4

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

¹⁾ Rated voltage less than 4.16 kV on request.

²⁾ For IM B3, roller bearings.

³⁾ On request.

⁴⁾ Data of vertical motors (IM V1) on request.

⁵⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

⁶⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Motor type (repeated)	Partial load values for square-law torque drive											
	$P/P_{\text{rated}} 155 (F) = 75 \%$				$P/P_{\text{rated}} 155 (F) = 50 \%$				$P/P_{\text{rated}} 155 (F) = 25 \%$			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
2-pole												
1RQ6 450-2...	825	2708	95.6	0.90	550	2371	95.6	0.89	275	1883	95.4	0.84
1RQ6 452-2...	915	2709	95.9	0.92	610	2372	96.0	0.91	305	1884	95.7	0.86
1RQ6 454-2...	1013	2710	96.1	0.91	675	2372	96.2	0.90	338	1884	95.9	0.85
1RQ6 456-2...	1118	2711	96.4	0.92	745	2373	96.4	0.91	373	1885	96.2	0.87
1RQ6 500-2...	1500	2707	96.3	0.90	1000	2368	96.4	0.88	500	1883	96.3	0.81
1RQ6 502-2...	1576	2707	96.3	0.90	1050	2368	96.4	0.89	525	1882	96.4	0.84
1RQ6 504-2...	1838	2709	96.7	0.92	1225	2369	96.8	0.90	613	1883	96.7	0.85
1RQ6 506-2...	1913	2710	96.7	0.92	1275	2370	96.8	0.90	638	1883	96.7	0.85
1RQ6 560-2...	2326	2710	96.6	0.90	1550	2370	96.7	0.89	775	1884	96.7	0.85
1RQ6 562-2...	2626	2713	96.8	0.90	1750	2372	96.9	0.89	875	1885	96.7	0.82
1RQ6 564-2...	3001	2713	97.1	0.91	2000	2372	97.1	0.90	1001	1885	97.0	0.84
1RQ6 566-2...	3375	2714	97.2	0.92	2250	2373	97.2	0.91	1126	1885	97.1	0.84
4-pole												
1RQ6 450-4...	818	1352	95.5	0.87	545	1184	95.6	0.85	273	941	95.3	0.76
1RQ6 452-4...	900	1352	95.7	0.89	600	1184	95.8	0.87	300	941	95.6	0.80
1RQ6 454-4...	968	1353	95.9	0.88	645	1185	96.0	0.85	323	941	95.6	0.77
1RQ6 456-4...	1065	1353	96.1	0.89	711	1185	96.2	0.87	355	941	95.8	0.79
1RQ6 500-4...	1575	1353	96.1	0.89	1050	1184	96.2	0.86	525	941	95.9	0.76
1RQ6 502-4...	1725	1354	96.3	0.88	1150	1184	96.3	0.85	575	941	95.9	0.73
1RQ6 504-4...	1951	1353	96.5	0.90	1300	1184	96.5	0.88	650	941	96.3	0.79
1RQ6 506-4...	2100	1354	96.6	0.90	1400	1184	96.6	0.87	700	941	96.4	0.78
1RQ6 560-4...	2401	1357	96.9	0.89	1600	1186	96.8	0.86	801	942	96.6	0.76
1RQ6 562-4...	2626	1357	97.0	0.89	1750	1186	97.0	0.86	875	943	96.7	0.76
1RQ6 564-4...	3001	1357	97.2	0.90	2000	1186	97.2	0.88	1001	942	96.9	0.80
1RQ6 566-4...	3300	1357	97.3	0.90	2202	1187	97.2	0.86	1100	943	96.9	0.75
1RQ4 632-4...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RQ4 634-4...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RQ4 636-4...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data (continued)

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ²⁾
$P_{155(F)}^{\text{rated}}$	$P_{130(B)}^{\text{rated}}$		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	T_B/T_{rated}	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
3.4 ... 4.16 kV, 50 Hz										
6-pole										
820	— ³⁾	1RQ6 450-6JS4	991	95.5	0.85	140	7905	2.50	26	1200
910	— ³⁾	1RQ6 452-6JS4	990	95.6	0.87	152	8783	2.40	29	1200
1020	— ³⁾	1RQ6 454-6JS4	990	95.7	0.87	170	9845	2.40	32	1200
1130	— ³⁾	1RQ6 456-6JS4	992	96.0	0.86	190	10890	2.50	37	1200
1560	1400	1RQ6 500-6JS4	989	95.8	0.86	265	15064	1.90	56	1500
1780	1600	1RQ6 502-6JS4	990	96.1	0.85	300	17171	2.05	62	1500
1980	1780	1RQ6 504-6JS4	990	96.2	0.85	335	19100	2.10	69	1500
2150	1940	1RQ6 506-6JS4	991	96.4	0.86	360	20719	2.20	77	1500
2550	2250	1RQ6 560-6JS4	988	96.2	0.87	425	24648	2.00	108	1500
2900	2550	1RQ6 562-6JS4	990	96.4	0.87	480	27975	2.20	119	1500
3200	2800	1RQ6 564-6JS4	991	96.6	0.88	520	30838	2.35	132	1500
3500	3100	1RQ6 566-6JS4	992	96.8	0.88	570	33695	2.50	146	1500
3480 ¹⁾	— ³⁾	1RQ4 630-6JV	993	96.8	0.86	580	33468	2.20	188	1200
3770 ¹⁾	— ³⁾	1RQ4 632-6JV	993	96.9	0.87	620	36257	2.20	207	1200
4020 ¹⁾	— ³⁾	1RQ4 634-6JV	994	96.9	0.86	670	38623	2.30	228	1200
4310 ¹⁾	— ³⁾	1RQ4 636-6JV	994	97.1	0.86	720	41409	2.40	251	1200
8-pole										
620	— ³⁾	1RQ6 450-8JS4	743	94.6	0.83	110	7976	2.40	32	1200
675	— ³⁾	1RQ6 452-8JS4	744	94.8	0.82	120	8674	2.50	36	1200
750	— ³⁾	1RQ6 454-8JS4	743	95.0	0.83	132	9640	2.50	40	1200
810	— ³⁾	1RQ6 456-8JS4	744	95.2	0.83	142	10399	2.70	46	1200
1160	1040	1RQ6 500-8JS4	741	95.3	0.84	200	14950	1.80	69	1125
1280	1160	1RQ6 502-8JS4	743	95.7	0.83	225	16452	2.15	76	1125
1400	1260	1RQ6 504-8JS4	742	95.6	0.84	240	18019	1.95	85	1125
1540	1380	1RQ6 506-8JS4	742	95.8	0.85	260	19821	1.90	94	1125
1880	1660	1RQ6 560-8JS4	743	96.3	0.84	325	24164	2.20	128	1125
2100	1860	1RQ6 562-8JS4	742	96.3	0.85	355	27028	2.10	141	1125
2250	2000	1RQ6 564-8JS4	742	96.3	0.85	380	28959	2.10	156	1125
2500	2200	1RQ6 566-8JS4	742	96.4	0.85	425	32177	2.05	173	1125
2600 ¹⁾	— ³⁾	1RQ4 630-8JV	744	96.5	0.84	445	33374	2.40	246	1200
2790 ¹⁾	— ³⁾	1RQ4 632-8JV	745	96.6	0.83	485	35764	2.50	272	1200
2940 ¹⁾	— ³⁾	1RQ4 634-8JV	745	96.6	0.84	500	37687	2.50	300	1200
3140 ¹⁾	— ³⁾	1RQ4 636-8JV	745	96.7	0.85	530	40251	2.50	331	1200

Voltage code:

4.16 kV, 50 Hz

Other voltage

4
9

Type of construction:

IM B3

IM V1 (with canopy)

0
4

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007. The ratings for converter operation depend on the converter and its settings and cannot be predetermined. Higher pole numbers are available on request.

¹⁾ Rated voltage less than 4.16 kV on request.

²⁾ For IM B3, roller bearings.

³⁾ Utilization 130 (B) on request.

⁴⁾ On request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Motor type
(repeated)

Partial load values for square-law torque drive

P/P_{rated} 155 (F) = 75 %

P/P_{rated} 155 (F) = 50 %

P/P_{rated} 155 (F) = 25 %

P

n

η

$\cos \varphi$

P

n

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$\cos \varphi$

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kW

rpm

%

[-]

kW

rpm

%

[-]

kW

rpm

%

[-]

Square-law torque drive

6-pole

1RQ6 450-6...	615	901	95.7	0.84	410	789	95.8	0.80	205	627	95.5	0.70
1RQ6 452-6...	683	900	95.8	0.86	455	789	96.0	0.84	228	627	95.9	0.76
1RQ6 454-6...	765	901	95.9	0.87	510	789	96.1	0.84	255	627	96.1	0.76
1RQ6 456-6...	848	902	96.2	0.85	565	789	96.3	0.83	283	627	96.1	0.73
1RQ6 500-6...	1170	899	96.0	0.86	780	787	96.1	0.84	390	626	95.9	0.77
1RQ6 502-6...	1335	900	96.2	0.85	890	788	96.2	0.82	445	626	95.9	0.74
1RQ6 504-6...	1485	900	96.3	0.85	990	788	96.4	0.83	495	626	96.1	0.74
1RQ6 506-6...	1613	901	96.5	0.85	1075	788	96.5	0.82	538	627	96.1	0.73
1RQ6 560-6...	1913	899	96.4	0.87	1275	787	96.6	0.87	638	626	96.6	0.83
1RQ6 562-6...	2175	900	96.6	0.88	1450	788	96.7	0.87	725	626	96.7	0.82
1RQ6 564-6...	2400	901	96.7	0.88	1600	789	96.8	0.87	800	627	96.6	0.81
1RQ6 566-6...	2625	901	96.9	0.87	1750	789	96.9	0.86	875	627	96.7	0.79
1RQ4 630-6...	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾
1RQ4 632-6...	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾
1RQ4 634-6...	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾
1RQ4 636-6...	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾

8-pole

1RQ6 450-8...	465	676	94.8	0.81	310	592	94.7	0.77	155	470	94.1	0.65
1RQ6 452-8...	506	676	94.9	0.80	338	592	94.8	0.76	169	470	94.1	0.63
1RQ6 454-8...	563	676	95.1	0.82	375	592	95.1	0.77	188	470	94.5	0.66
1RQ6 456-8...	608	677	95.3	0.81	405	592	95.2	0.76	203	471	94.5	0.63
1RQ6 500-8...	870	674	95.5	0.84	580	590	95.6	0.81	290	469	95.2	0.73
1RQ6 502-8...	960	675	95.7	0.82	640	591	95.6	0.78	320	470	95.0	0.67
1RQ6 504-8...	1050	675	95.8	0.84	700	591	95.8	0.81	350	470	95.4	0.72
1RQ6 506-8...	1155	675	96.0	0.84	770	591	96.0	0.82	385	470	95.7	0.73
1RQ6 560-8...	1410	675	96.4	0.84	940	591	96.5	0.81	470	470	96.2	0.73
1RQ6 562-8...	1575	675	96.4	0.84	1050	591	96.6	0.83	525	470	96.4	0.75
1RQ6 564-8...	1688	675	96.5	0.85	1125	591	96.6	0.83	563	470	96.5	0.76
1RQ6 566-8...	1875	674	96.6	0.85	1250	591	96.7	0.84	625	470	96.6	0.77
1RQ4 630-8...	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾
1RQ4 632-8...	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾
1RQ4 634-8...	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾
1RQ4 636-8...	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾	O. R. ⁴⁾

3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

Rated power IEC P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current 690 V	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	$T_{\text{B}}/T_{\text{rated}}$ [-]	J kgm ²	n_{max} rpm
690 V, 60 Hz									
2-pole									
1240	1RQ6 450-2JP10	3583	95.2	0.90	1220	3309	2.40	13	3600 ²⁾
1300	1RQ6 452-2JP10	3582	95.4	0.92	2x620	3470	2.40	14	3600 ²⁾
1400	1RQ6 454-2JP10	3582	95.4	0.92	2x670	3734	2.40	16	3600 ²⁾
1700	1RQ6 456-2JP10	3587	96.1	0.92	2x800	4530	2.60	18	3600 ²⁾
1940	1RQ6 500-2JP10	3581	96.1	0.91	2x930	5173	2.65	20	3600 ²⁾
2050	1RQ6 502-2JP10	3581	96.2	0.92	2x970	5467	2.65	22	3600 ²⁾
2450	1RQ6 504-2JP10	3583	96.5	0.92	2x1160	6530	2.75	25	3600 ²⁾
4-pole									
1340	1RQ6 450-4JP1 ■	1786	95.5	0.88	2x670	7174	2.40	20	1800
1410	1RQ6 452-4JP1 ■	1785	95.6	0.89	2x690	7553	2.30	22	1800
1590	1RQ6 454-4JP1 ■	1787	95.9	0.89	2x780	8509	2.40	25	1800
1740	1RQ6 456-4JP1 ■	1784	95.9	0.90	2x840	9329	2.10	29	1800
2000 ³⁾	1RQ6 500-4JP10	1787	95.9	0.92	2x950	10688	2.60	42	1800
2100 ³⁾	1RQ6 502-4JP10	1785	95.9	0.92	2x1000	11234	2.30	46	1800
2500 ³⁾	1RQ6 504-4JP10	1787	96.3	0.92	2x1180	13359	2.55	52	1800

Type of construction:

IM B3	0
IM V1 (with canopy)	4

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

³⁾ Data of vertical motors (IM V1) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Motor type
(repeated)

Partial load values for square-law torque drive

P/P_{rated} 155 (F) = 75 %

P/P_{rated} 155 (F) = 50 %

P/P_{rated} 155 (F) = 25 %

P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]

Square-law torque drive

2-pole

1RQ6 450-2JP1.	930	3257	95.4	0.90	620	2846	95.3	0.89	310	2262	95.0	0.83
1RQ6 452-2JP1.	975	3256	95.6	0.92	650	2846	95.6	0.92	325	2262	95.4	0.88
1RQ6 454-2JP1.	1050	3257	95.7	0.92	700	2846	95.7	0.92	350	2262	95.5	0.88
1RQ6 456-2JP1.	1275	3260	96.2	0.91	850	2848	96.1	0.90	425	2263	95.8	0.83
1RQ6 500-2JP1.	1455	3257	96.1	0.89	970	2847	96.1	0.87	485	2262	95.8	0.77
1RQ6 502-2JP1.	1538	3257	96.2	0.91	1025	2847	96.2	0.89	513	2262	96.0	0.81
1RQ6 504-2JP1.	1838	3258	96.6	0.91	1225	2848	96.5	0.88	613	2262	96.3	0.80

4-pole

1RQ6 450-4JP1.	1005	1624	95.6	0.86	670	1421	95.6	0.84	335	1130	95.2	0.75
1RQ6 452-4JP1.	1058	1624	95.9	0.89	705	1420	95.9	0.88	353	1129	95.6	0.82
1RQ6 454-4JP1.	1193	1625	96.1	0.89	795	1421	96.0	0.87	398	1130	95.7	0.81
1RQ6 456-4JP1.	1306	1624	96.2	0.90	870	1420	96.3	0.90	435	1129	96.2	0.86
1RQ6 500-4JP1.	1500	1626	96.0	0.91	1000	1422	96.1	0.89	500	1130	95.9	0.81
1RQ6 502-4JP1.	1576	1625	96.0	0.91	1050	1421	96.1	0.90	525	1129	96.1	0.84
1RQ6 504-4JP1.	1876	1626	96.4	0.91	1250	1422	96.5	0.89	625	1130	96.3	0.82

3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

Rated power P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed n_{rated} rpm	Efficiency η %	Power factor $\cos \varphi$ [-]	Rated current 690 V I_{rated} A	Rated torque T_{rated} Nm	Break-down torque $T_{\text{B}}/T_{\text{rated}}$ [-]	Moment of inertia J kgm ²	Mechanical speed limit ¹⁾ n_{max} rpm
690 V, 60 Hz									
6-pole									
1040	1RQ6 450-6JP1	1190	95.7	0.86	1060	8350	2.30	26	1200
1130	1RQ6 452-6JP1	1191	95.9	0.85	1160	9070	2.20	29	1200
1270	1RQ6 454-6JP1	1191	96.1	0.86	2x640	10192	2.30	32	1200
1360	1RQ6 456-6JP1	1193	96.3	0.84	2x700	10905	2.30	37	1200
1800	1RQ6 500-6JP1	1188	96.1	0.86	2x910	14470	1.85	56	1500
2000	1RQ6 502-6JP1	1190	96.3	0.86	2x1020	16050	2.05	62	1500
2100	1RQ6 504-6JP1	1190	96.4	0.87	2x1040	16853	2.05	69	1500
2350	1RQ6 506-6JP1	1191	96.6	0.86	2x1180	18843	2.25	77	1500
2850	1RQ6 560-6JP1	1192	96.6	0.87	3x950	22833	2.50	108	1500
3100	1RQ6 562-6JP1	1190	96.6	0.88	3x1020	24878	2.25	119	1500
8-pole									
740	1RQ6 450-8JP1	893	95.1	0.83	780	7922	2.30	32	1200
820	1RQ6 452-8JP1	893	95.2	0.84	860	8783	2.30	36	1200
910	1RQ6 454-8JP1	893	95.5	0.84	950	9739	2.40	40	1200
1000	1RQ6 456-8JP1	893	95.6	0.85	1020	10704	2.30	46	1200
1300	1RQ6 500-8JP1	892	95.7	0.84	2x680	13918	1.80	69	1125
1440	1RQ6 502-8JP1	892	95.9	0.84	2x750	15417	1.85	76	1125
1600	1RQ6 504-8JP1	892	96.0	0.84	2x830	17130	1.90	85	1125
1800	1RQ6 506-8JP1	893	96.2	0.85	2x920	19250	2.05	94	1125
2000	1RQ6 560-8JP1	893	96.6	0.84	2x1040	21389	2.30	128	1125
2350	1RQ6 562-8JP1	893	96.7	0.84	2x1220	25132	2.45	141	1125
2600	1RQ6 564-8JP1	893	96.7	0.85	4x660	27805	2.25	156	1125
2850	1RQ6 566-8JP1	893	96.8	0.85	4x720	30479	2.45	173	1125

Type of construction:

IM B3	0
IM V1 (with canopy)	4

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

³⁾ Data of vertical motors (IM V1) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Motor type (repeated)	Partial load values for square-law torque drive											
	$P/P_{\text{rated}} 155 (F) = 75 \%$				$P/P_{\text{rated}} 155 (F) = 50 \%$				$P/P_{\text{rated}} 155 (F) = 25 \%$			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
6-pole												
1RQ6 450-6JP1.	780	1083	96.0	0.85	520	947	96.1	0.82	260	753	95.8	0.72
1RQ6 452-6JP1.	848	1083	96.1	0.84	565	947	96.1	0.80	283	753	95.8	0.70
1RQ6 454-6JP1.	953	1083	96.3	0.85	635	947	96.4	0.83	318	753	96.1	0.73
1RQ6 456-6JP1.	1020	1084	96.5	0.82	680	948	96.4	0.79	340	754	96.1	0.68
1RQ6 500-6JP1.	1350	1080	96.3	0.86	900	945	96.3	0.85	450	752	96.1	0.79
1RQ6 502-6JP1.	1500	1082	96.4	0.85	1000	946	96.4	0.83	500	752	96.1	0.76
1RQ6 504-6JP1.	1575	1082	96.5	0.86	1050	946	96.5	0.85	525	752	96.2	0.78
1RQ6 506-6JP1.	1763	1083	96.6	0.86	1175	947	96.6	0.83	588	753	96.2	0.75
1RQ6 560-6JP1.	2138	1083	96.7	0.87	1425	947	96.6	0.85	713	753	96.3	0.78
1RQ6 562-6JP1.	2325	1082	96.7	0.88	1550	946	96.8	0.87	775	753	96.6	0.82
8-pole												
1RQ6 450-8JP1.	555	812	95.2	0.80	370	710	95.1	0.76	185	565	94.4	0.63
1RQ6 452-8JP1.	615	812	95.4	0.82	410	710	95.4	0.79	205	565	94.8	0.67
1RQ6 454-8JP1.	683	813	95.5	0.81	455	710	95.5	0.77	228	565	94.8	0.65
1RQ6 456-8JP1.	750	813	95.8	0.83	500	710	95.7	0.79	250	565	95.1	0.68
1RQ6 500-8JP1.	975	811	95.9	0.84	650	709	95.9	0.82	325	564	95.5	0.74
1RQ6 502-8JP1.	1080	811	96.0	0.84	720	709	96.0	0.82	360	564	95.6	0.74
1RQ6 504-8JP1.	1200	811	96.1	0.84	800	709	96.1	0.82	400	564	95.7	0.74
1RQ6 506-8JP1.	1350	812	96.3	0.84	900	710	96.2	0.81	450	564	95.7	0.72
1RQ6 560-8JP1.	1500	812	96.6	0.84	1000	710	96.6	0.81	500	564	96.3	0.72
1RQ6 562-8JP1.	1763	812	96.8	0.83	1175	710	96.7	0.80	588	565	96.3	0.70
1RQ6 564-8JP1.	1950	812	96.8	0.85	1300	710	96.8	0.83	650	564	96.5	0.75
1RQ6 566-8JP1.	2138	812	96.9	0.84	1425	710	96.9	0.81	713	565	96.5	0.72

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data

Rated power		High voltage motor H-compact PLUS	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
$P_{155(F)}^{\text{rated}}$	$P_{130(B)}^{\text{rated}}$	Article No.	n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	T_B/T_{rated}	J	n_{max}
kW	kW		rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
3.4 ... 4.16 kV, 60 Hz										
2-pole										
1280	— ⁴⁾	1RQ6 450-2JS30	3579	95.1	0.90	210	3418	2.50	13	3600 ²⁾
1420	— ⁴⁾	1RQ6 452-2JS30	3581	95.6	0.91	225	3788	2.60	14	3600 ²⁾
1580	— ⁴⁾	1RQ6 454-2JS30	3580	95.8	0.93	245	4217	2.60	16	3600 ²⁾
1740	— ⁴⁾	1RQ6 456-2JS30	3586	96.0	0.92	275	4634	3.50	18	3600 ²⁾
2250	1980	1RQ6 500-2JS30	3578	96.1	0.90	360	6005	2.50	20	3600 ²⁾
2400	2112	1RQ6 502-2JS30	3578	96.2	0.91	380	6405	2.45	22	3600 ²⁾
2800	2464	1RQ6 504-2JS30	3577	96.5	0.92	440	7475	2.40	25	3600 ²⁾
2950	2596	1RQ6 506-2JS30	3578	96.6	0.92	460	7873	2.50	27	3600 ²⁾
3500	3150	1RQ6 560-2JS30	3579	96.3	0.90	560	9339	1.95	39	3600 ²⁾
3900	3510	1RQ6 562-2JS30	3581	96.5	0.91	620	10400	2.15	43	3600 ²⁾
4400	3960	1RQ6 564-2JS30	3583	96.7	0.92	690	11727	2.35	49	3600 ²⁾
4900	4410	1RQ6 566-2JS30	3585	96.9	0.93	750	13052	2.75	54	3600 ²⁾
4-pole										
1340	— ⁴⁾	1RQ6 450-4JS30	1784	95.4	0.88	220	7177	2.40	20	1800
1410	— ⁴⁾	1RQ6 452-4JS30	1785	95.6	0.89	230	7546	2.40	22	1800
1590	— ⁴⁾	1RQ6 454-4JS30	1785	95.8	0.90	255	8509	2.50	25	1800
1740	— ⁴⁾	1RQ6 456-4JS30	1785	95.9	0.91	275	9313	2.70	29	1800
2600 ³⁾	2288	1RQ6 500-4JS30	1786	96.1	0.90	415	13902	2.40	42	1800
2700 ³⁾	2376	1RQ6 502-4JS30	1786	96.2	0.91	430	14436	2.45	46	1800
3000 ³⁾	2640	1RQ6 504-4JS30	1788	96.4	0.91	475	16022	2.60	52	1800
3200 ³⁾	2816	1RQ6 506-4JS30	1787	96.4	0.92	500	17100	2.40	56	1800
3700 ³⁾	3330	1RQ6 560-4JS30	1791	96.7	0.91	580	19728	2.50	84	1800
4100 ³⁾	3690	1RQ6 562-4JS30	1792	96.9	0.91	650	21848	2.50	94	1800
4600 ³⁾	4140	1RQ6 564-4JS30	1791	97.0	0.91	720	24526	2.35	105	1800
5100 ³⁾	4590	1RQ6 566-4JS30	1791	97.2	0.92	790	27192	2.40	115	1800

Type of construction:

IM B3	0
IM V1 (with canopy)	4

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

¹⁾ For IM B3, roller bearings.

²⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

³⁾ Data of vertical motors (IM V1) on request.

⁴⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
2-pole												
1RQ6 450-2...	960	3254	95.2	0.90	640	2845	95.1	0.89	320	2261	94.8	0.83
1RQ6 452-2...	1065	3256	95.6	0.91	710	2846	95.6	0.90	355	2262	95.2	0.85
1RQ6 454-2...	1185	3255	95.9	0.93	790	2845	95.9	0.92	395	2261	95.7	0.89
1RQ6 456-2...	1305	3259	96.0	0.91	871	2848	95.8	0.89	435	2263	95.3	0.81
1RQ6 500-2...	1688	3255	96.1	0.89	1125	2846	96.1	0.87	563	2261	95.8	0.78
1RQ6 502-2...	1801	3255	96.3	0.90	1200	2846	96.3	0.88	600	2261	96.0	0.81
1RQ6 504-2...	2101	3254	96.6	0.91	1400	2846	96.6	0.91	700	2261	96.5	0.86
1RQ6 506-2...	2213	3255	96.7	0.92	1475	2846	96.7	0.91	738	2261	96.5	0.85
1RQ6 560-2...	2627	3256	96.4	0.90	1751	2847	96.4	0.89	875	2262	96.2	0.84
1RQ6 562-2...	2926	3258	96.6	0.91	1951	2848	96.6	0.90	975	2263	96.4	0.85
1RQ6 564-2...	3301	3259	96.8	0.92	2200	2849	96.8	0.91	1100	2263	96.6	0.86
1RQ6 566-2...	3676	3260	97.0	0.92	2450	2850	96.9	0.91	1226	2263	96.7	0.84
4-pole												
1RQ6 450-4...	1005	1623	95.6	0.88	670	1420	95.6	0.87	335	1129	95.4	0.80
1RQ6 452-4...	1058	1624	95.7	0.88	705	1420	95.8	0.87	353	1130	95.5	0.81
1RQ6 454-4...	1193	1624	96.0	0.90	795	1420	96.0	0.89	398	1130	95.8	0.83
1RQ6 456-4...	1305	1624	96.1	0.91	870	1420	96.2	0.91	435	1130	96.1	0.86
1RQ6 500-4...	1951	1626	96.1	0.89	1300	1422	96.1	0.86	650	1130	95.8	0.75
1RQ6 502-4...	2025	1626	96.2	0.90	1350	1422	96.2	0.87	676	1130	95.9	0.78
1RQ6 504-4...	2250	1627	96.4	0.90	1500	1423	96.4	0.86	751	1130	96.0	0.76
1RQ6 506-4...	2401	1626	96.5	0.91	1600	1422	96.5	0.89	801	1130	96.3	0.82
1RQ6 560-4...	2776	1629	96.7	0.89	1850	1424	96.7	0.87	926	1131	96.3	0.77
1RQ6 562-4...	3076	1629	96.9	0.90	2050	1424	96.9	0.87	1026	1131	96.5	0.78
1RQ6 564-4...	3451	1629	97.1	0.91	2300	1424	97.1	0.89	1151	1131	96.8	0.81
1RQ6 566-4...	3826	1629	97.2	0.91	2550	1424	97.2	0.89	1276	1131	97.0	0.82

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Selection and ordering data (continued)

Rated power		High voltage motor H-compact PLUS	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
$P_{155(F)}^{\text{rated}}$ kW	$P_{130(B)}^{\text{rated}}$ kW		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm
3.4 ... 4.16 kV, 60 Hz										
6-pole										
1040	— ²⁾	1RQ6 450-6JS3	1190	95.7	0.86	176	8354	2.40	26	1200
1130	— ²⁾	1RQ6 452-6JS3	1191	95.9	0.86	190	9071	2.40	29	1200
1270	— ²⁾	1RQ6 454-6JS3	1191	96.1	0.86	215	10187	2.50	32	1200
1360	— ²⁾	1RQ6 456-6JS3	1192	96.2	0.85	230	10902	2.50	37	1200
1780	1600	1RQ6 500-6JS3	1190	96.1	0.86	300	14285	2.00	56.0	1500
2000	1800	1RQ6 502-6JS3	1190	96.2	0.86	335	16050	2.05	62.0	1500
2200	2000	1RQ6 504-6JS3	1190	96.4	0.86	370	17655	2.10	69.0	1500
2450	2200	1RQ6 506-6JS3	1191	96.4	0.86	410	19645	2.25	77.0	1500
3050	2700	1RQ6 560-6JS3	1189	96.3	0.87	510	24497	2.00	108.0	1500
3450	3050	1RQ6 562-6JS3	1190	96.6	0.87	570	27687	2.15	119.0	1500
3800	3350	1RQ6 564-6JS3	1190	96.7	0.88	620	30496	2.25	132.0	1500
4100	3600	1RQ6 566-6JS3	1192	96.9	0.88	670	32848	2.55	146.0	1500
8-pole										
740	— ²⁾	1RQ6 450-8JS3	892	94.9	0.84	128	7927	2.30	32	1200
820	— ²⁾	1RQ6 452-8JS3	893	95.2	0.84	142	8778	2.40	36	1200
910	— ²⁾	1RQ6 454-8JS3	893	95.3	0.84	158	9739	2.40	40	1200
1000	— ²⁾	1RQ6 456-8JS3	893	95.5	0.84	174	10702	2.30	46	1200
1380	1240	1RQ6 500-8JS3	892	95.6	0.84	240	14775	1.80	69	1125
1540	1380	1RQ6 502-8JS3	892	95.6	0.84	265	16488	1.85	76	1125
1720	1540	1RQ6 504-8JS3	892	95.8	0.84	295	18415	1.85	85	1125
1820	1640	1RQ6 506-8JS3	893	95.9	0.84	315	19464	2.05	94	1125
2250	2000	1RQ6 560-8JS3	891	96.3	0.84	385	24116	1.95	128	1125
2500	2200	1RQ6 562-8JS3	892	96.5	0.84	430	26766	2.05	141	1125
2750	2400	1RQ6 564-8JS3	893	96.6	0.85	465	29409	2.30	156	1125
3000	2650	1RQ6 566-8JS3	892	96.7	0.85	510	32119	2.15	173	1125

Type of construction:

IM B3	0
IM V1 (with canopy)	4

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

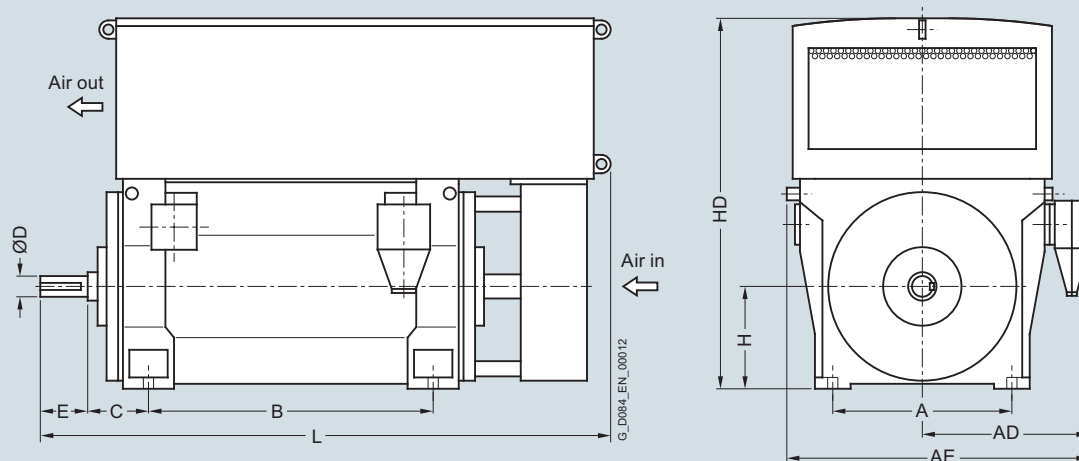
Motor type (repeated)	Partial load values for square-law torque drive											
	$P/P_{\text{rated}} 155 (F) = 75 \%$				$P/P_{\text{rated}} 155 (F) = 50 \%$				$P/P_{\text{rated}} 155 (F) = 25 \%$			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
6-pole												
1RQ6 450-6...	780	1082	95.9	0.85	520	947	96.0	0.83	260	753	95.8	0.74
1RQ6 452-6...	848	1083	96.1	0.85	565	947	96.2	0.82	283	753	96.0	0.73
1RQ6 454-6...	953	1083	96.2	0.85	635	947	96.3	0.82	318	753	96.0	0.72
1RQ6 456-6...	1020	1084	96.4	0.84	680	948	96.4	0.81	340	753	96.1	0.71
1RQ6 500-6...	1335	1082	96.2	0.85	890	946	96.2	0.84	445	752	95.9	0.76
1RQ6 502-6...	1500	1082	96.3	0.86	1000	946	96.3	0.84	500	752	96.0	0.77
1RQ6 504-6...	1650	1082	96.4	0.86	1100	946	96.4	0.84	550	752	96.1	0.76
1RQ6 506-6...	1838	1083	96.5	0.85	1225	947	96.4	0.83	613	753	96.0	0.74
1RQ6 560-6...	2288	1081	96.5	0.87	1525	945	96.6	0.87	763	752	96.5	0.83
1RQ6 562-6...	2588	1082	96.7	0.87	1725	946	96.8	0.87	863	752	96.6	0.82
1RQ6 564-6...	2850	1082	96.8	0.88	1900	946	96.9	0.87	950	753	96.7	0.82
1RQ6 566-6...	3075	1084	97.0	0.87	2050	947	96.9	0.86	1025	753	96.6	0.78
8-pole												
1RQ6 450-8...	555	812	95.0	0.83	370	710	95.1	0.80	185	565	94.6	0.69
1RQ6 452-8...	615	812	95.3	0.82	410	710	95.3	0.79	205	565	94.7	0.68
1RQ6 454-8...	683	812	95.4	0.83	455	710	95.4	0.79	228	565	94.9	0.68
1RQ6 456-8...	750	812	95.6	0.83	500	710	95.6	0.80	250	565	95.2	0.70
1RQ6 500-8...	1035	811	95.7	0.83	690	709	95.8	0.81	345	564	95.3	0.73
1RQ6 502-8...	1155	811	95.7	0.84	770	709	95.7	0.81	385	564	95.3	0.73
1RQ6 504-8...	1290	811	96.0	0.84	860	709	96.0	0.82	430	564	95.6	0.74
1RQ6 506-8...	1365	812	96.0	0.84	910	710	96.0	0.81	455	564	95.4	0.72
1RQ6 560-8...	1688	811	96.5	0.85	1125	709	96.6	0.83	563	564	96.4	0.77
1RQ6 562-8...	1875	811	96.6	0.85	1250	709	96.7	0.83	625	564	96.5	0.76
1RQ6 564-8...	2063	812	96.7	0.84	1375	710	96.7	0.82	688	564	96.4	0.73
1RQ6 566-8...	2250	811	96.8	0.85	1500	709	96.9	0.83	750	564	96.7	0.76

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, roller bearings, IM B3 type of construction

2-pole

1RQ6450-2J..0 ²⁾	4250	850	930	1620	1180	280	95	130	450	1842	2425 ³⁾
1RQ6452-2J..0 ²⁾	4450	850	930	1620	1180	280	95	130	450	1842	2425 ³⁾
1RQ6454-2J..0 ²⁾	4800	850	930	1620	1400	280	95	130	450	1842	2635 ³⁾
1RQ6456-2J..0 ²⁾	5050	850	930	1620	1400	280	95	130	450	1842	2635 ³⁾
1RQ6500-2J..0 ²⁾	6100	950	1135	1835	1320	315	110	165	500	2040	3450 ³⁾
1RQ6502-2J..0 ²⁾	6250	950	1135	1835	1320	315	110	165	500	2040	3450 ³⁾

4-pole

1RQ6450-4J..0	4550	850	930	1620	1180	250	130	200	450	1842	2455
1RQ6452-4J..0	4750	850	930	1620	1180	250	130	200	450	1842	2455
1RQ6454-4J..0	5200	850	930	1620	1400	250	130	200	450	1842	2665
1RQ6456-4J..0	5450	850	930	1620	1400	250	130	200	450	1842	2665
1RQ6500-4J..0	6600	950	1135	1835	1320	280	150	200	500	2040	2900
1RQ6502-4J..0	6800	950	1135	1835	1320	280	150	200	500	2040	2900
1RQ6504-4J..0	7550	950	1135	1835	1500	280	150	200	500	2040	3050
1RQ6506-4J..0	7850	950	1135	1835	1500	280	150	200	500	2040	3050
1RQ6560-4J..0	8250	1060	1205	1975	1400	315	170	240	560	2300	3000
1RQ6562-4J..0	8600	1060	1205	1975	1400	315	170	240	560	2300	3000
1RQ6564-4J..0	9550	1060	1205	1975	1600	315	170	240	560	2300	3250
1RQ6566-4J..0	10100	1060	1205	1975	1600	315	170	240	560	2300	3250
1RQ4630-4J..0 ²⁾	11100	1320	1330	2210	1600	335	190	280	630	2340	3140
1RQ4632-4J..0 ²⁾	11800	1320	1330	2210	1600	335	190	280	630	2340	3140
1RQ4634-4J..0 ²⁾	12900	1320	1330	2210	1800	335	200	280	630	2340	3380
1RQ4636-4J..0 ²⁾	13450	1320	1330	2210	1800	335	200	280	630	2340	3380

6-pole

1RQ6450-6J..0	4650	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6452-6J..0	4900	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6454-6J..0	5300	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6456-6J..0	5650	850	930	1620	1400	280	140	200	450	1842	2665

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

²⁾ Roller bearings only for 50 Hz version.

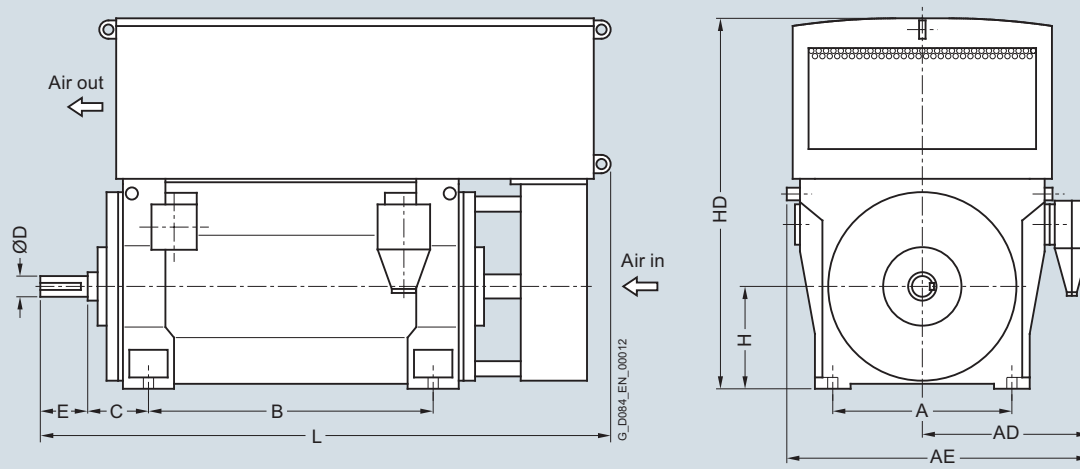
³⁾ Including air inlet silencer.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
Up to 6.6 kV, roller bearings, IM B3 type of construction											

Up to 6.6 kV, roller bearings, IM B3 type of construction											
6-pole											
1RQ6500-6J..0	6750	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6502-6J..0	7050	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6504-6J..0	7700	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6506-6J..0	8050	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6560-6J..0	9100	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6562-6J..0	9550	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6564-6J..0	10450	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ6566-6J..0	11000	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ4630-6J..0	11400	1320	1330	2210	1600	335	200	280	630	2340	3140
1RQ4632-6J..0	12000	1320	1330	2210	1600	335	200	280	630	2340	3140
1RQ4634-6J..0	12900	1320	1330	2210	1800	335	200	280	630	2340	3380
1RQ4636-6J..0	13750	1320	1330	2210	1800	335	200	280	630	2340	3380
8-pole											
1RQ6450-8J..0	4650	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6452-8J..0	4950	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6454-8J..0	5350	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6456-8J..0	5700	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6500-8J..0	6750	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6502-8J..0	7000	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6504-8J..0	7650	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6506-8J..0	8000	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6560-8J..0	9050	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6562-8J..0	9450	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6564-8J..0	10400	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ6566-8J..0	10900	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ4630-8J..0	11200	1320	1180	2060	1600	335	200	280	630	2340	3140
1RQ4632-8J..0	11950	1320	1330	2210	1600	335	200	280	630	2340	3140
1RQ4634-8J..0	12900	1320	1330	2210	1800	335	200	280	630	2340	3380
1RQ4636-8J..0	13650	1320	1330	2210	1800	335	200	280	630	2340	3380

Note:

Higher pole numbers are available on request.

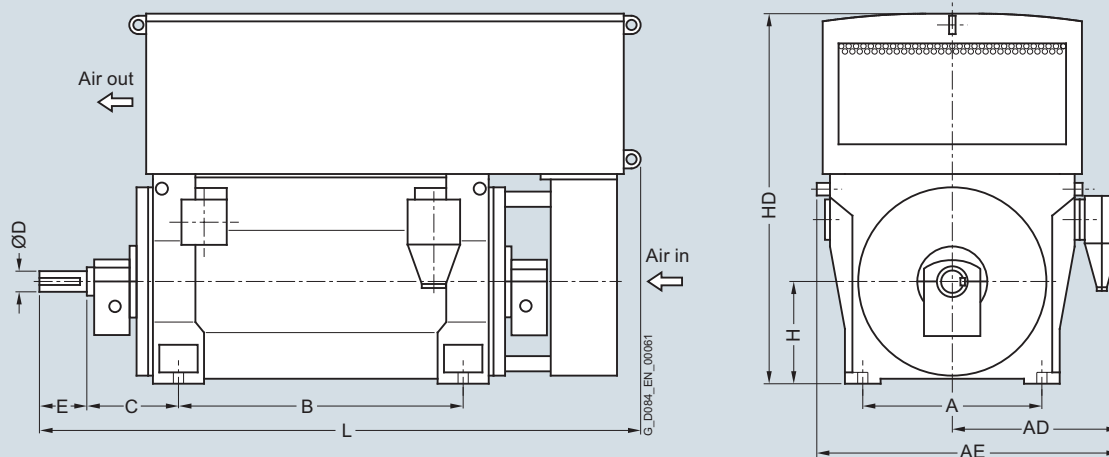
¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, sleeve bearings, IM B3 type of construction											
2-pole											
1RQ6450-2J..0-Z K96	4250	850	930	1620	1180	425	95	130	450	1842	2575 ³⁾
1RQ6452-2J..0-Z K96	4500	850	930	1620	1180	425	95	130	450	1842	2575 ³⁾
1RQ6454-2J..0-Z K96	4850	850	930	1620	1400	425	95	130	450	1842	2790 ³⁾
1RQ6456-2J..0-Z K96	5100	850	930	1620	1400	425	95	130	450	1842	2790 ³⁾
1RQ6500-2J..0-Z K96 ²⁾	6100	950	1135	1835	1320	450	110	165	500	2040	3550 ³⁾
1RQ6502-2J..0-Z K96 ²⁾	6250	950	1135	1835	1320	450	110	165	500	2040	3550 ³⁾
1RQ6504-2J..0	7100	950	1135	1835	1500	450	110	165	500	2040	3750 ³⁾
1RQ6506-2J..0	7350	950	1135	1835	1500	450	110	165	500	2040	3750 ³⁾
1RQ6560-2J..0	8150	1060	1205	1975	1400	600	130	200	560	2300	3900 ³⁾
1RQ6562-2J..0	8550	1060	1205	1975	1400	600	130	200	560	2300	3900 ³⁾
1RQ6564-2J..0	9500	1060	1205	1975	1600	600	130	200	560	2300	4130 ³⁾
1RQ6566-2J..0	9950	1060	1205	1975	1600	600	130	200	560	2300	4130 ³⁾

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

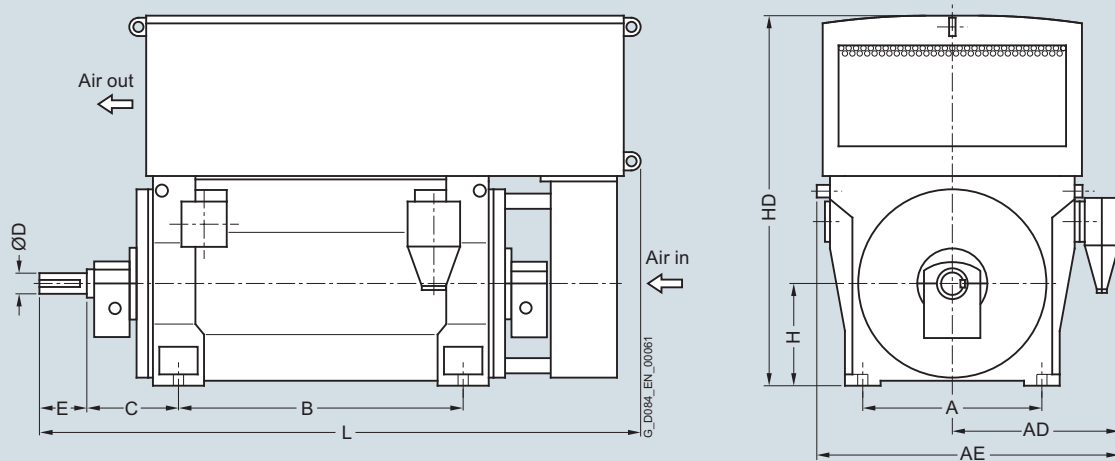
³⁾ Including air inlet silencer.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, sleeve bearings, IM B3 type of construction											
4-pole											
1RQ6450-4J..0-Z K96	4650	850	930	1620	1180	500	130	200	450	1842	2705
1RQ6452-4J..0-Z K96	4850	850	930	1620	1180	500	130	200	450	1842	2705
1RQ6454-4J..0-Z K96	5300	850	930	1620	1400	500	130	200	450	1842	2915
1RQ6456-4J..0-Z K96	5550	850	930	1620	1400	500	130	200	450	1842	2915
1RQ6500-4J..0-Z K96	6900	950	1135	1835	1320	560	150	200	500	2040	3150
1RQ6502-4J..0-Z K96	7100	950	1135	1835	1320	560	150	200	500	2040	3150
1RQ6504-4J..0-Z K96	7800	950	1135	1835	1500	560	150	200	500	2040	3350
1RQ6506-4J..0-Z K96	8100	950	1135	1835	1500	560	150	200	500	2040	3350
1RQ6560-4J..0-Z K96	8350	1060	1205	1975	1400	600	170	240	560	2300	3270
1RQ6562-4J..0-Z K96	8750	1060	1205	1975	1400	600	170	240	560	2300	3270
1RQ6564-4J..0-Z K96	9700	1060	1205	1975	1600	600	170	240	560	2300	3500
1RQ6566-4J..0-Z K96	10200	1060	1205	1975	1600	600	170	240	560	2300	3500
1RQ4630-4J..0-Z K96 ²⁾	11350	1320	1330	2210	1600	600	190	280	630	2340	3400
1RQ4632-4J..0-Z K96 ²⁾	12050	1320	1330	2210	1600	600	190	280	630	2340	3400
1RQ4634-4J..0-Z K96 ²⁾	13150	1320	1330	2210	1800	600	200	280	630	2340	3640
1RQ4636-4J..0-Z K96 ²⁾	13700	1320	1330	2210	1800	600	200	280	630	2340	3640

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

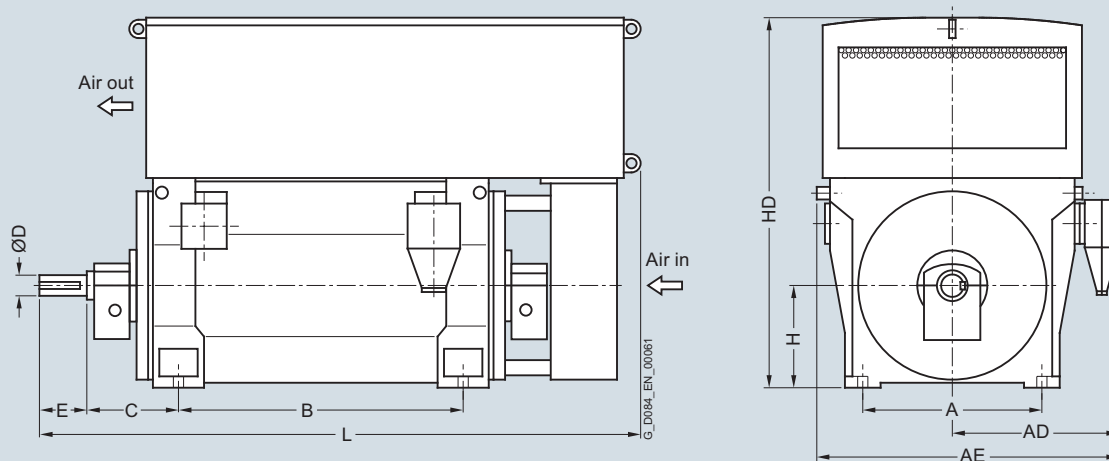
²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

Up to 6.6 kV, sleeve bearings, IM B3 type of construction

6-pole

1RQ6450-6J..0-Z K96	4800	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6452-6J..0-Z K96	5050	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6454-6J..0-Z K96	5450	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6456-6J..0-Z K96	5800	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6500-6J..0-Z K96	6900	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6502-6J..0-Z K96	7200	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6504-6J..0-Z K96	7850	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6506-6J..0-Z K96	8200	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6560-6J..0-Z K96	9300	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6562-6J..0-Z K96	9750	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6564-6J..0-Z K96	10650	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ6566-6J..0-Z K96	11150	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ4630-6J..0-Z K96	11650	1320	1330	2210	1600	600	200	280	630	2340	3400
1RQ4632-6J..0-Z K96	12250	1320	1330	2210	1600	600	200	280	630	2340	3400
1RQ4634-6J..0-Z K96	13150	1320	1330	2210	1800	600	200	280	630	2340	3640
1RQ4636-6J..0-Z K96	14000	1320	1330	2210	1800	600	200	280	630	2340	3640

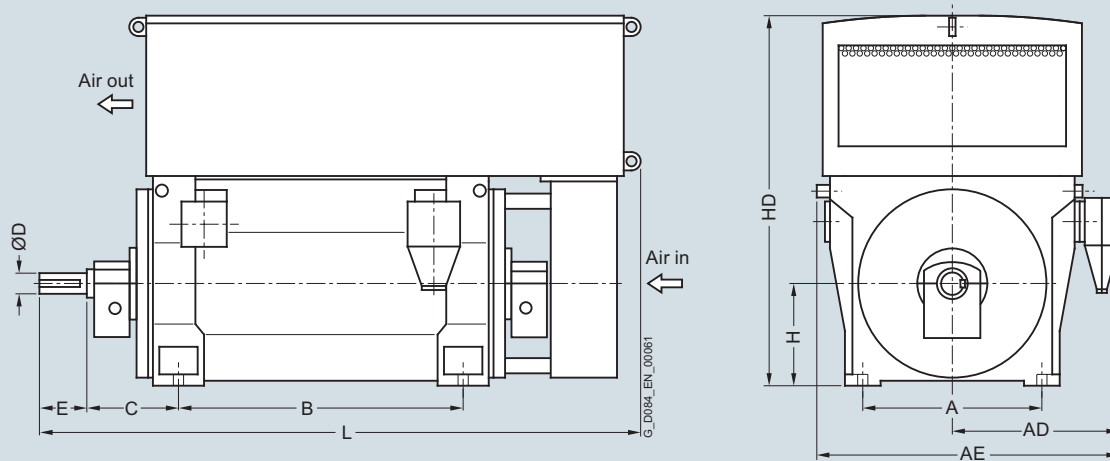
¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, sleeve bearings, IM B3 type of construction											
8-pole											
1RQ6450-8J..0-Z K96	4800	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6452-8J..0-Z K96	5100	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6454-8J..0-Z K96	5500	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6456-8J..0-Z K96	5850	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6500-8J..0-Z K96	6900	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6502-8J..0-Z K96	7150	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6504-8J..0-Z K96	7800	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6506-8J..0-Z K96	8150	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6560-8J..0-Z K96	9250	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6562-8J..0-Z K96	9650	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6564-8J..0-Z K96	10550	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ6566-8J..0-Z K96	11100	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ4630-8J..0-Z K96	11450	1320	1180	2060	1600	600	200	280	630	2340	3400
1RQ4632-8J..0-Z K96	12200	1320	1330	2210	1600	600	200	280	630	2340	3400
1RQ4634-8J..0-Z K96	13150	1320	1330	2210	1800	600	200	280	630	2340	3640
1RQ4636-8J..0-Z K96	13900	1320	1330	2210	1800	600	200	280	630	2340	3640

Note:
Higher pole numbers are available on request.

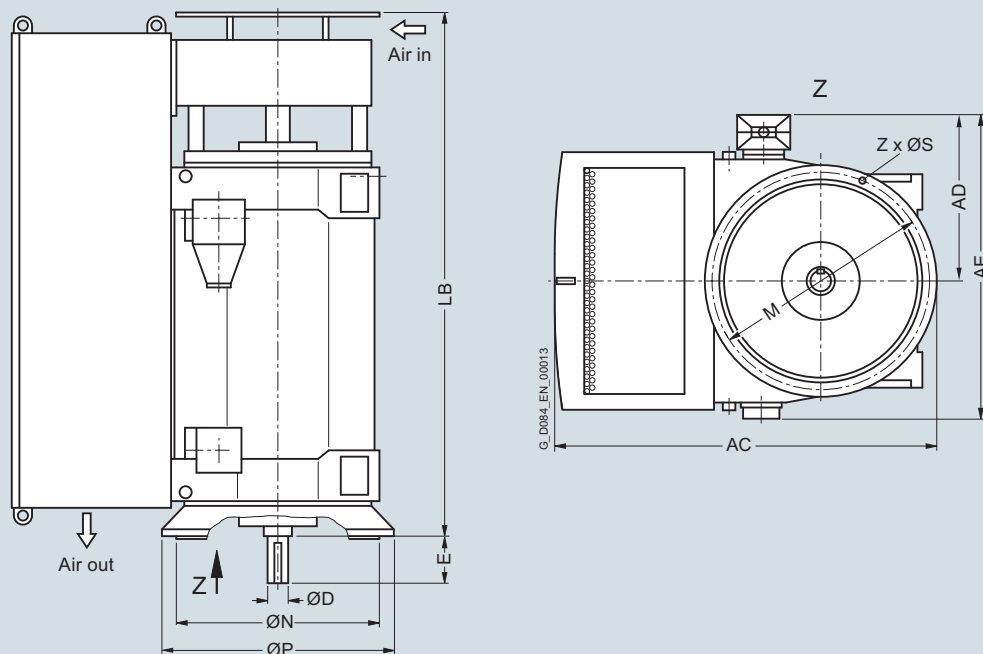
¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, roller bearings, IM V1 type of construction

4-pole

1RQ6450-4J..4	4750	1967	930	1620	130	200	2730	1150	1000	1080	26	8
1RQ6452-4J..4	5000	1967	930	1620	130	200	2730	1150	1000	1080	26	8
1RQ6454-4J..4	5400	1967	930	1620	130	200	2940	1150	1000	1080	26	8
1RQ6456-4J..4	5700	1967	930	1620	130	200	2940	1150	1000	1080	26	8
1RQ4500-4J..4	6050	2130	1000	1810	140	200	2560	1250	1120	1180	26	8
1RQ4502-4J..4	6250	2130	1000	1810	140	200	2560	1250	1120	1180	26	8
1RQ4504-4J..4	6950	2130	1000	1810	150	200	2770	1250	1120	1180	26	8
1RQ4506-4J..4	7300	2130	1000	1810	150	200	2770	1250	1120	1180	26	8
1RQ4560-4J..4	8200	2400	1210	2100	170	240	2800	1400	1250	1320	26	16
1RQ4562-4J..4	8600	2400	1210	2100	170	240	2800	1400	1250	1320	26	16
1RQ4564-4J..4	9500	2400	1210	2100	180	240	3030	1400	1250	1320	26	16
1RQ4566-4J..4 ²⁾	9950	2400	1210	2100	180	240	3030	1400	1250	1320	26	16
1RQ4630-4J..4 ²⁾	12750	2840	1330	2300	200	280	3170	2000	1800	1900	33	16
1RQ4632-4J..4 ²⁾	13450	2840	1330	2300	200	280	3170	2000	1800	1900	33	16
1RQ4634-4J..4 ²⁾	14550	2840	1330	2300	200	280	3410	2000	1800	1900	33	16
1RQ4636-4J..4 ²⁾	15100	2840	1330	2300	200	280	3410	2000	1800	1900	33	16

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

²⁾ Only in the 50 Hz version.

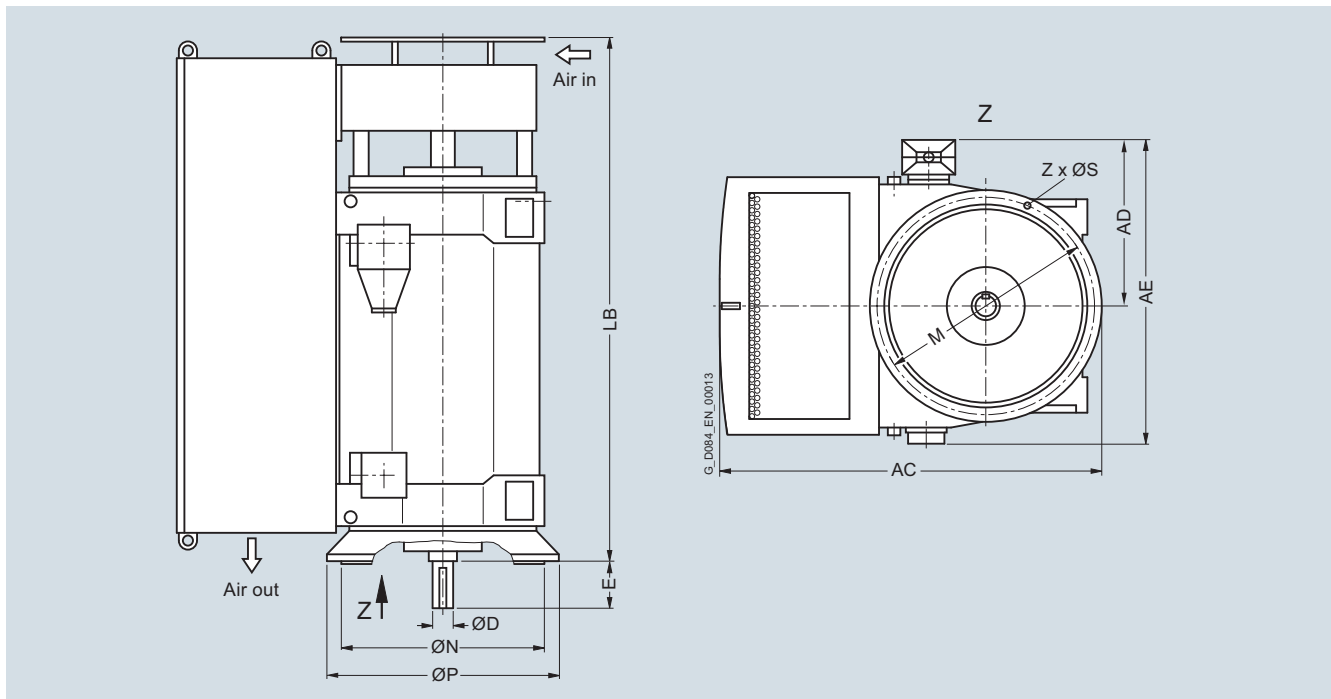
Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)

1RQ4, up to 6.6 kV 50/60 Hz, roller bearings, IM V1 type of construction



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, roller bearings, IM V1 type of construction												
6-pole												
1RQ6450-6J..4	4850	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6452-6J..4	5150	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6454-6J..4	5500	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6456-6J..4	5850	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ4500-6J..4	6200	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4502-6J..4	6550	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4504-6J..4	7100	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4506-6J..4	7500	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4560-6J..4	8300	2400	1070	1960	170	240	2800	1400	1250	1320	26	16
1RQ4562-6J..4	8800	2400	1070	1960	170	240	2800	1400	1250	1320	26	16
1RQ4564-6J..4	9750	2400	1210	2100	180	240	3030	1400	1250	1320	26	16
1RQ4566-6J..4	10200	2400	1210	2100	180	240	3030	1400	1250	1320	26	16
1RQ4630-6J..4	13050	2840	1330	2300	200	280	3170	2000	1800	1900	33	16
1RQ4632-6J..4	13650	2840	1330	2300	200	280	3170	2000	1800	1900	33	16
1RQ4634-6J..4	14550	2840	1330	2300	200	280	3410	2000	1800	1900	33	16
1RQ4636-6J..4	15400	2840	1330	2300	200	280	3410	2000	1800	1900	33	16

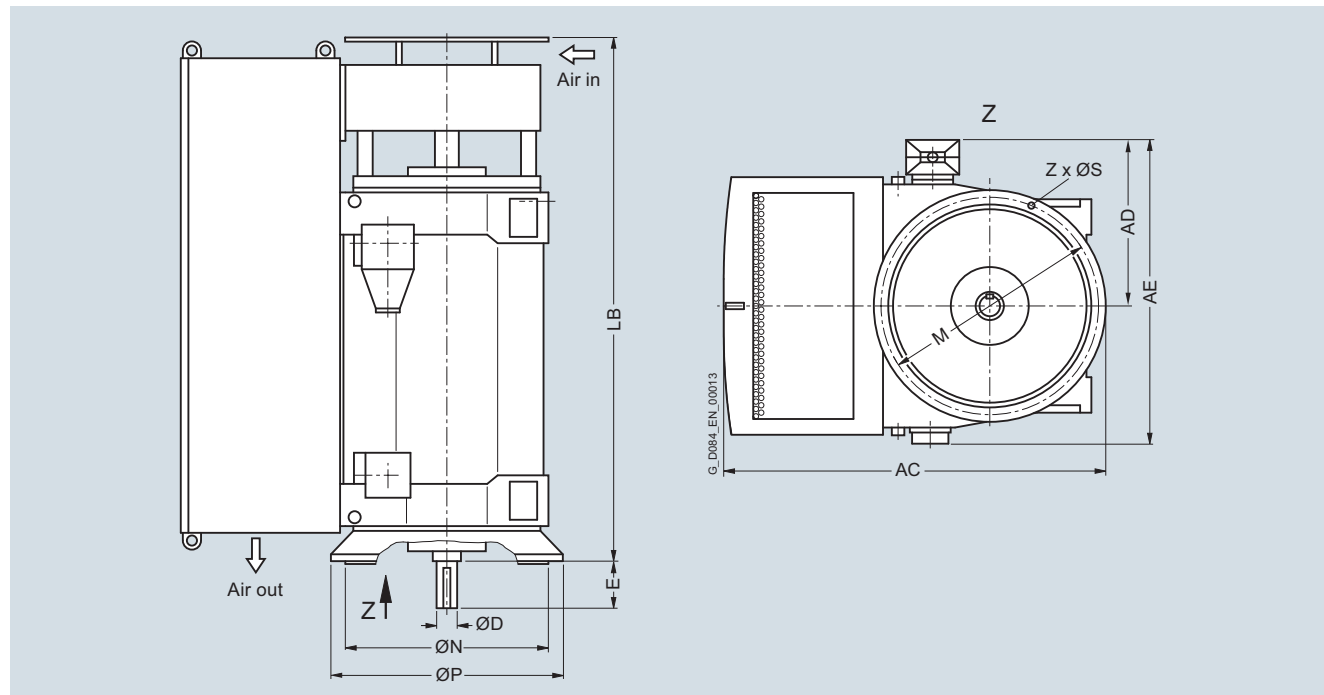
¹⁾ For $V_{rated} \geq 2.0$ kV and current $I_{rated} > 315$ A, the dimension changes by + 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors
H-compact PLUS 1RQ4 and 1RQ6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, roller bearings, IM V1 type of construction

8-pole

1RQ6450-8J..4	4850	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6452-8J..4	5150	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6454-8J..4	5550	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6456-8J..4	5900	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ4500-8J..4	6200	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4502-8J..4	6600	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ4504-8J..4	7100	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4506-8J..4	7500	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ4560-8J..4	8250	2400	1070	1960	170	240	2800	1400	1250	1320	26	16
1RQ4562-8J..4	8800	2400	1070	1960	170	240	2800	1400	1250	1320	26	16
1RQ4564-8J..4	9650	2400	1070	1960	180	240	3030	1400	1250	1320	26	16
1RQ4566-8J..4	10100	2400	1070	1960	180	240	3030	1400	1250	1320	26	16
1RQ4630-8J..4 ²⁾	12850	2840	1180	2150	200	280	3170	2000	1800	1900	33	16
1RQ4632-8J..4 ²⁾	13600	2840	1330	2300	200	280	3170	2000	1800	1900	33	16
1RQ4634-8J..4 ²⁾	14550	2840	1330	2300	200	280	3410	2000	1800	1900	33	16
1RQ4636-8J..4 ²⁾	15300	2840	1330	2300	200	280	3410	2000	1800	1900	33	16

Note:

Higher pole numbers are available on request.

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

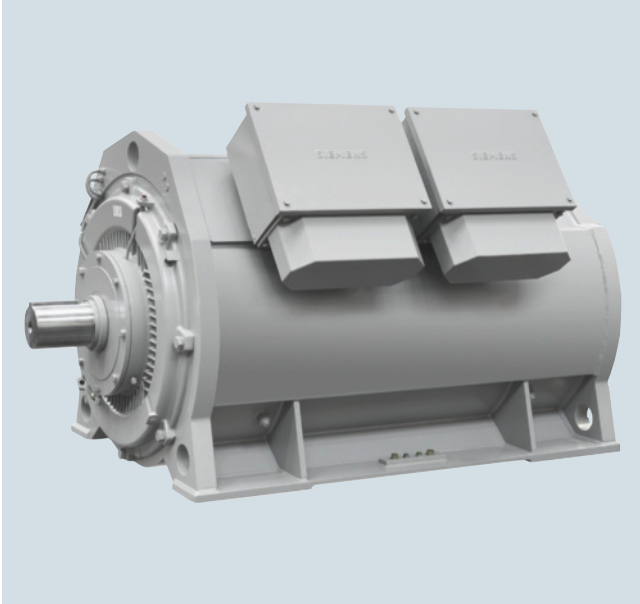
²⁾ Only in the 50 Hz version.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact 1LH4

Overview



Technical data (continued)

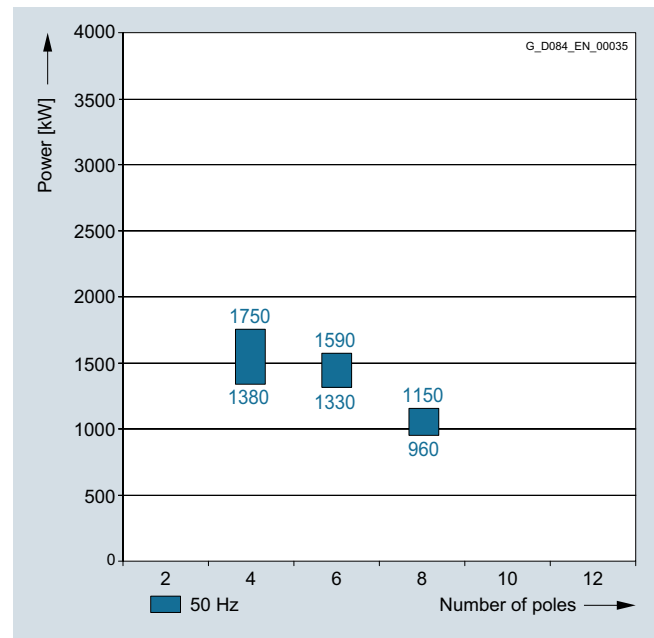
Power ranges for IEC motors with reinforced insulation for SINAMICS drive converters without sine-wave filter

1LH4 series (water-jacket-cooled)

Insulation system, thermal class 155 (F), utilized to 155 (F)

The power data listed here apply for a water inlet temperature of 38 °C and an installation altitude ≤ 1000 m.

690 V; 50 Hz

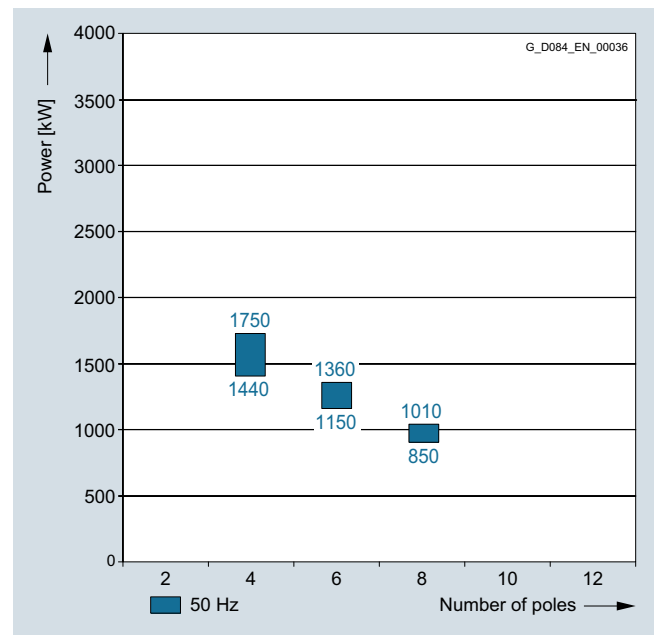


Technical data

Overview of technical data

H-compact 1LH4	
Rated voltage	690 V ... 4.16 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM B35 and IM V1
Degree of protection	IP55
Cooling method	IC71W
Stator winding insulation	Insulation system, thermal class 155 (F), utilized to 155 (F)
Shaft height	500 mm
Bearings	Roller bearings
Cage material	Copper
Standards	IEC, EN
Frame design	Steel frame with water jacket

2.3 to 4.16 kV; 50 Hz



Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors H-compact 1LH4

Selection and ordering data

Rated power	Low-voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC		Rated speed	Efficiency	Power factor	Rated current at 690 V	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
P_{rated} 155 (F) kW	Article No.	n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	$T_{\text{B}}/T_{\text{rated}}$ [-]	J kgm ²	n_{max} rpm
690 V, 50 Hz									
4-pole									
1380	1LH4 500-4CM0	1490	96.8	0.88	1360	8844	2.0	44	1800
1590	1LH4 502-4CM0	1491	97.1	0.87	1580	10183	2.2	49	1800
1750	1LH4 504-4CM0	1490	97.1	0.88	1720	11216	2.0	56	1800
6-pole									
1330	1LH4 500-6CM0	994	97.0	0.85	1350	12777	2.2	82	1800
1440	1LH4 502-6CM0	994	97.0	0.86	1450	13834	2.2	92	1800
1590	1LH4 504-6CM0	994	97.1	0.86	1600	15275	2.2	102	1800
8-pole									
960	1LH4 500-8CM0	745	96.5	0.80	1040	12305	2.0	82	1800
1030	1LH4 502-8CM0	745	96.6	0.80	1120	13202	2.1	92	1800
1150	1LH4 504-8CM0	745	96.7	0.80	1250	14741	2.1	102	1800

Type of construction:

IM B3
IM V1 (without canopy)

0
8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see [Page 3/2](#).
Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007. The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

Rated power	High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC		Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
P_{rated} 155 (F) kW	Article No.	n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	$T_{\text{B}}/T_{\text{rated}}$ [-]	J kgm ²	n_{max} rpm
2.3 ... 4.16 kV, 50 Hz									
4-pole									
1440	1LH4 500-4CV	1492	97.0	0.87	235	9216	2.3	42	1800
1590	1LH4 502-4CV	1492	97.1	0.87	260	10177	2.4	47	1800
1750	1LH4 504-4CV	1492	97.2	0.88	285	11201	2.4	54	1800
6-pole									
1150	1LH4 500-6CV	994	96.9	0.86	192	11048	2.2	82	1800
1250	1LH4 502-6CV	994	97.0	0.87	205	12009	2.2	92	1800
1360	1LH4 504-6CV	994	97.0	0.87	225	13065	2.2	102	1800
8-pole									
850	1LH4 500-8CV	745	96.3	0.80	154	10895	2.0	82	1800
910	1LH4 502-8CV	745	96.4	0.80	164	11664	2.1	92	1800
1010	1LH4 504-8CV	745	96.5	0.81	180	12946	2.1	102	1800

Voltage code:

3.3 kV, 50 Hz
4.16 kV, 50 Hz
Other voltage

2
4
9

Note:

Partial load values for H-compact 1LH4 are available on request.

Higher pole numbers are available on request.

Type of construction:

IM B3
IM V1 (without canopy)

0
8

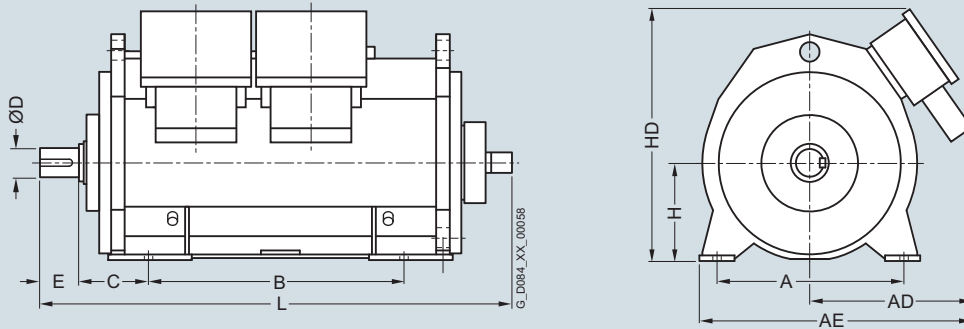
¹⁾ For IM B3, roller bearings.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact 1LH4

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, roller bearings, IM B3 type of construction											
4-pole											
1LH4500-4C..0	5910	950	820	1390	1320	355	150	200	500	1280	2250
1LH4502-4C..0	6310	950	820	1390	1320	355	150	200	500	1280	2250
1LH4504-4C..0	6810	950	820	1390	1320	355	150	200	500	1280	2250
6-pole											
1LH4500-6C..0	6210	950	820	1390	1320	355	150	200	500	1280	2250
1LH4502-6C..0	6610	950	820	1390	1320	355	150	200	500	1280	2250
1LH4504-6C..0	7110	950	820	1390	1320	355	150	200	500	1280	2250
8-pole											
1LH4500-8C..0	6210	950	820	1390	1320	355	150	200	500	1280	2250
1LH4502-8C..0	6510	950	820	1390	1320	355	150	200	500	1280	2250
1LH4504-8C..0	7010	950	820	1390	1320	355	150	200	500	1280	2250

Note:

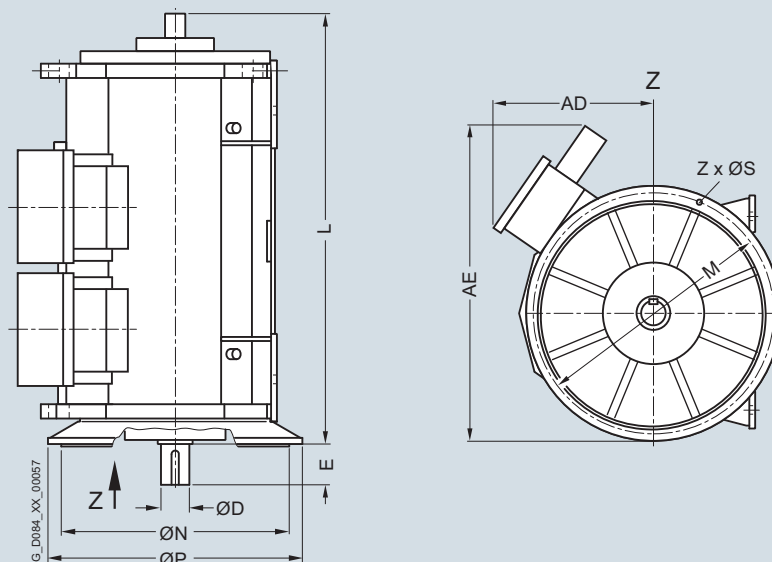
Higher pole numbers are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact 1LH4

Dimension drawings



Motor type	Weight kg	Dimensions									
		AD	AE	D	E	L	P	N	M	S	Z
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

Up to 6.6 kV, roller bearings, IM V1 type of construction

4-pole											
1LH4500-4C..8	5910	780	1450	150	200	2100	1250	1120	1180	26	16
1LH4502-4C..8	6310	780	1450	150	200	2100	1250	1120	1180	26	16
1LH4504-4C..8	6810	780	1450	150	200	2100	1250	1120	1180	26	16
6-pole											
1LH4500-6C..8	6210	780	1450	150	200	2100	1250	1120	1180	26	16
1LH4502-6C..8	6610	780	1450	150	200	2100	1250	1120	1180	26	16
1LH4504-6C..8	7110	780	1450	150	200	2100	1250	1120	1180	26	16
8-pole											
1LH4500-8C..8	6210	780	1450	150	200	2100	1250	1120	1180	26	16
1LH4502-8C..8	6510	780	1450	150	200	2100	1250	1120	1180	26	16
1LH4504-8C..8	7010	780	1450	150	200	2100	1250	1120	1180	26	16

Note:

Higher pole numbers are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Overview



Technical data

Overview of technical data

H-compact PLUS 1RN4 and 1RN6	
Rated voltage	690 V ... 4.16 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Cooling method	IC81W
Stator winding insulation	Insulation system, thermal class 155 (F), utilized to 155 (F)
Shaft height	450 ... 630 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN
Frame design for shaft heights 450 ... 560 mm	Frame: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 mm	Frame: Steel Cooling enclosure: Steel

The following versions can be offered on request:

- 2-pole up to 75 Hz
- 4-pole up to 100 Hz
- 6-pole up to 90 Hz

For individual motor types, it must be ensured that the motor does not run-through any critical speed in the required speed control range and that the maximum speed does not exceed the mechanical speed limit of the motor! Please contact your Siemens sales person regarding this check. The motor types are marked with footnotes in the following data tables.

¹⁾ Maximum and minimum power ratings can be different for specific voltage levels.

Technical data (continued)

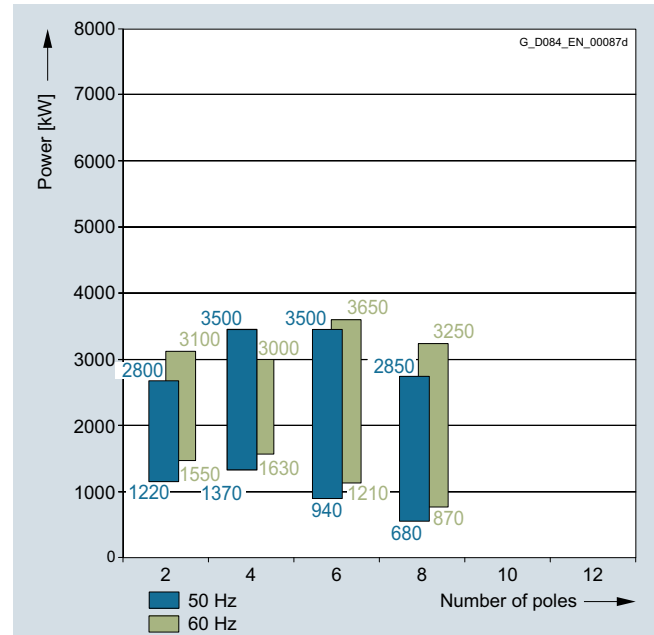
Power ranges for IEC motors with reinforced insulation for SINAMICS converters without sine-wave filter

1RN4/1RN6, 1SL4/1SL6 (Ex nA) and 1SQ4/1SQ6 (Ex px) series

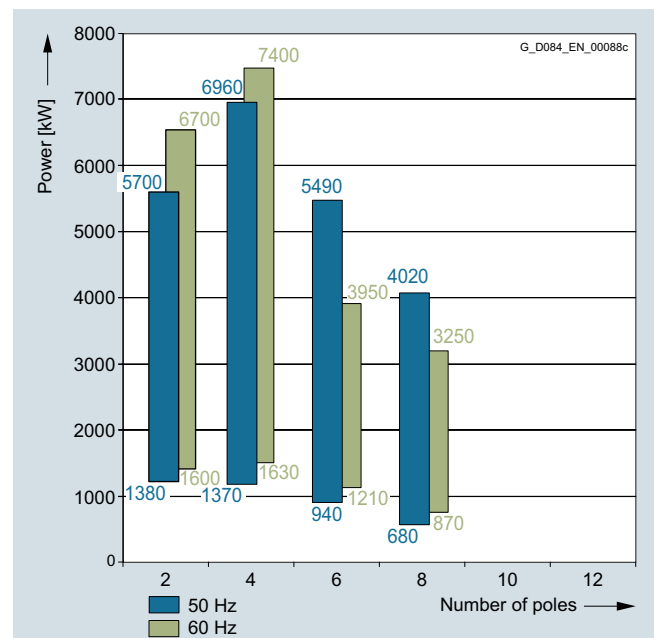
Insulation system, thermal class 155 (F), utilized to 155 (F)

The power data listed here apply for a water inlet temperature of 25 °C and an installation altitude ≤ 1000 m.

690 V; 50 Hz and 60 Hz



3.4 kV to 4.16 kV; 50 Hz and 60 Hz¹⁾



Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

Rated power IEC P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current 690 V	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	$T_{\text{B}}/T_{\text{rated}}$ [-]	J kgm ²	n_{max} rpm
690 V, 50 Hz									
2-pole									
1220	1RN6 450-2HP00	2980	95.5	0.90	1180	3913	2.20	13	3000
1520	1RN6 452-2HP00	2980	96.0	0.90	2x740	4875	2.10	14	3000
1600	1RN6 454-2HP00	2983	96.2	0.92	2x760	5129	2.30	16	3000
1700	1RN6 456-2HP00	2983	96.2	0.92	2x800	5445	2.30	18	3000
2250	1RN6 500-2HP00	2975	96.4	0.90	2x1080	7222	2.30	19	3000
2550	1RN6 502-2HP00	2974	96.6	0.90	2x1220	8188	2.10	20	3000
2800	1RN6 504-2HP00	2977	96.7	0.92	4x660	8982	2.50	24	3000 ³⁾
4-pole									
1370	1RN6 450-4HP0	1484	95.6	0.89	2x670	8833	2.40	20	1800
1500	1RN6 452-4HP0	1484	95.6	0.90	2x730	9671	2.40	22	1800
1640	1RN6 454-4HP0	1484	96.0	0.90	2x790	10568	2.40	25	1800
1860	1RN6 456-4HP0	1485	96.2	0.90	2x900	11977	2.30	29	1800
2300 ²⁾	1RN6 500-4HP00	1486	96.6	0.90	2x1100	14780	2.35	42	1800
2350 ²⁾	1RN6 502-4HP00	1486	96.6	0.92	2x1100	15102	2.50	46	1800
2800 ²⁾	1RN6 504-4HP00	1488	96.9	0.90	4x670	17969	2.60	52	1800
3200 ²⁾	1RN6 560-4HP00	1486	96.8	0.92	4x750	20564	2.15	82	1800
3500 ²⁾	1RN6 562-4HP00	1487	96.9	0.92	4x820	22476	2.15	93	1800

Type of construction:

IM B3	0
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Data of vertical motors (IM V1) on request.

³⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Motor type
(repeated)

Partial load values for square-law torque drive

P/P_{rated} 155 (F) = 75 %

P/P_{rated} 155 (F) = 50 %

P/P_{rated} 155 (F) = 25 %

P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]

Square-law torque drive

2-pole

1RN6 450-2...	916	2709	95.8	0.91	610	2371	96.0	0.90	305	1883	96.0	0.85
1RN6 452-2...	1141	2708	96.4	0.91	760	2371	96.6	0.91	380	1883	96.5	0.87
1RN6 454-2...	1201	2710	96.5	0.92	800	2372	96.6	0.91	400	1884	96.6	0.87
1RN6 456-2...	1276	2711	96.5	0.92	850	2373	96.7	0.92	425	1884	96.6	0.88
1RN6 500-2...	1688	2708	96.6	0.89	1125	2369	96.7	0.87	563	1883	96.7	0.79
1RN6 502-2...	1913	2707	96.8	0.89	1275	2368	96.9	0.87	638	1882	96.9	0.81
1RN6 504-2...	2101	2710	96.9	0.91	1400	2370	97.0	0.90	701	1883	97.0	0.84

4-pole

1RN6 450-4...	1028	1350	95.9	0.88	685	1182	96.1	0.86	343	940	95.9	0.79
1RN6 452-4...	1125	1350	96.0	0.90	750	1182	96.2	0.88	375	940	96.2	0.83
1RN6 454-4...	1230	1350	96.3	0.90	820	1183	96.5	0.89	410	940	96.4	0.84
1RN6 456-4...	1395	1351	96.5	0.89	930	1183	96.6	0.88	465	941	96.5	0.82
1RN6 500-4..	1726	1353	96.7	0.89	1150	1183	96.9	0.86	575	941	96.8	0.77
1RN6 502-4..	1763	1353	96.8	0.91	1175	1184	96.9	0.88	588	941	96.9	0.80
1RN6 504-4..	2100	1354	97.0	0.89	1400	1184	97.1	0.86	700	941	96.9	0.74
1RN6 560-4..	2401	1353	97.0	0.91	1600	1184	97.2	0.90	801	941	97.3	0.85
1RN6 562-4..	2626	1354	97.1	0.91	1750	1184	97.3	0.90	876	941	97.3	0.85

3

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

Rated power P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed n_{rated} rpm	Efficiency η %	Power factor $\cos \varphi$ [-]	Rated current 690 V I_{rated} A	Rated torque T_{rated} Nm	Break-down torque T_B/T_{rated} [-]	Moment of inertia J kgm ²	Mechanical speed limit ¹⁾ n_{max} rpm
690 V, 50 Hz									
6-pole									
940	1RN6 450-6HP0	990	95.8	0.86	950	9079	2.30	26	1200
1040	1RN6 452-6HP0	991	95.9	0.86	1060	10039	2.30	29	1200
1180	1RN6 454-6HP0	991	96.0	0.86	1200	11394	2.30	32	1200
1330	1RN6 456-6HP0	992	96.2	0.86	2x670	12823	2.30	37	1200
1800	1RN6 500-6HP0	988	96.0	0.85	2x920	17399	1.75	56	1500
2000	1RN6 502-6HP0	988	96.2	0.86	2x1020	19332	1.80	62	1500
2300	1RN6 504-6HP0	989	96.4	0.85	2x1180	22209	1.95	69	1500
2400	1RN6 506-6HP0	990	96.4	0.86	2x1220	23152	1.95	77	1500
2850	1RN6 560-6HP0	990	96.6	0.87	3x950	27492	2.25	108	1500
3200	1RN6 562-6HP0	991	96.9	0.86	3x1080	30838	2.45	119	1500
3500	1RN6 564-6HP0	990	96.8	0.88	3x1140	33763	2.20	132	1500
8-pole									
680	1RN6 450-8HP0	743	94.9	0.83	720	8750	2.30	32	1200
750	1RN6 452-8HP0	743	95.2	0.84	780	9651	2.40	36	1200
880	1RN6 454-8HP0	743	95.2	0.84	920	11324	2.40	40	1200
970	1RN6 456-8HP0	744	95.4	0.84	1020	12476	2.40	46	1200
1400	1RN6 500-8HP0	741	95.8	0.83	2x740	18043	1.85	69	1125
1560	1RN6 502-8HP0	742	95.9	0.83	2x820	20078	1.85	76	1125
1720	1RN6 504-8HP0	742	96.0	0.83	2x900	22137	1.95	85	1125
1900	1RN6 506-8HP0	743	96.2	0.83	2x1000	24421	2.10	94	1125
1960	1RN6 560-8HP0	743	96.6	0.84	2x1020	25192	2.15	128	1125
2300	1RN6 562-8HP0	743	96.6	0.84	2x1180	29563	2.20	141	1125
2600	1RN6 564-8HP0	743	96.7	0.84	4x670	33419	2.45	156	1125
2850	1RN6 566-8HP0	743	96.7	0.85	4x730	36632	2.25	173	1125

Type of construction:

IM B3	0
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ Data of vertical motors (IM V1) on request.

³⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
6-pole												
1RN6 450-6...	705	900	96.1	0.85	470	789	96.3	0.82	235	627	96.2	0.73
1RN6 452-6...	780	901	96.3	0.85	520	789	96.4	0.82	260	627	96.3	0.73
1RN6 454-6...	885	901	96.3	0.85	590	789	96.4	0.83	295	627	96.4	0.74
1RN6 456-6...	998	902	96.5	0.84	665	789	96.6	0.81	333	627	96.3	0.71
1RN6 500-6...	1350	898	96.3	0.85	900	787	96.4	0.84	450	626	96.3	0.78
1RN6 502-6...	1500	898	96.4	0.86	1000	787	96.6	0.84	500	626	96.4	0.78
1RN6 504-6...	1725	899	96.5	0.85	1150	787	96.6	0.83	575	626	96.4	0.75
1RN6 506-6...	1800	900	96.6	0.86	1200	788	96.7	0.84	600	626	96.5	0.77
1RN6 560-6...	2138	900	96.7	0.87	1425	788	96.8	0.86	713	627	96.7	0.80
1RN6 562-6...	2400	901	97.0	0.86	1600	789	97.0	0.84	800	627	96.7	0.76
1RN6 564-6...	2625	900	97.0	0.88	1750	788	97.1	0.87	875	626	97.0	0.82
8-pole												
1RN6 450-8...	510	676	95.1	0.80	340	592	95.0	0.75	170	470	94.4	0.63
1RN6 452-8...	563	676	95.4	0.81	375	592	95.4	0.77	188	470	94.9	0.65
1RN6 454-8...	660	676	95.4	0.82	440	592	95.4	0.77	220	470	94.8	0.65
1RN6 456-8...	728	676	95.6	0.82	485	592	95.6	0.77	243	470	95.1	0.65
1RN6 500-8...	1050	674	95.9	0.82	700	590	95.9	0.80	350	469	95.5	0.70
1RN6 502-8...	1170	674	96.0	0.82	780	591	96.1	0.80	390	469	95.6	0.70
1RN6 504-8...	1290	675	96.1	0.82	860	591	96.1	0.79	430	470	95.7	0.70
1RN6 506-8...	1425	675	96.3	0.82	950	591	96.2	0.78	475	470	95.6	0.67
1RN6 560-8...	1470	675	96.7	0.84	980	591	96.8	0.82	490	470	96.6	0.73
1RN6 562-8...	1725	675	96.7	0.84	1150	591	96.8	0.81	575	470	96.5	0.72
1RN6 564-8...	1950	676	96.8	0.83	1300	592	96.8	0.79	650	470	96.4	0.69
1RN6 566-8...	2138	675	96.8	0.84	1425	591	96.9	0.82	713	470	96.6	0.74

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC	Article No.		Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ²⁾
$P_{155(F)}^{\text{rated}}$	$P_{130(B)}^{\text{rated}}$		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	T_B/T_{rated}	J	n_{max}
kW	kW		rpm	%	[-]	A	Nm	[-]	kgm ²	rpm

3.4 ... 4.16 kV, 50 Hz

2-pole

1380	- ⁶⁾	1RN6 450-2HS40	2973	95.9	0.90	220	4433	2.00	13	3000
1570	- ⁶⁾	1RN6 452-2HS40	2977	96.2	0.90	250	5040	2.20	14	3000
1750	- ⁶⁾	1RN6 454-2HS40	2978	96.4	0.91	275	5616	2.30	16	3000
1950	- ⁶⁾	1RN6 456-2HS40	2981	96.6	0.92	305	6252	2.30	18	3000
2550	2244	1RN6 500-2HS40	2967	96.2	0.89	415	8207	1.90	19	3000
2700	2376	1RN6 502-2HS40	2969	96.3	0.90	430	8684	2.00	20	3000
3200	2816	1RN6 504-2HS40	2974	96.6	0.91	510	10275	2.40	24	3000 ⁵⁾
3550	3124	1RN6 506-2HS40	2975	96.9	0.92	550	11395	2.40	26	3000 ⁵⁾
3700	3367	1RN6 560-2HS40	2977	96.7	0.90	590	11868	1.90	39	3000 ⁵⁾
4300	3913	1RN6 562-2HS40	2979	97.0	0.90	680	13784	2.05	43	3000 ⁵⁾
5000	4550	1RN6 564-2HS40	2981	97.1	0.90	790	16017	2.25	49	3000 ⁵⁾
5700	5187	1RN6 566-2HS40	2982	97.3	0.90	2x450	18253	2.45	54	3000 ⁵⁾

4-pole

1370	- ⁶⁾	1RN6 450-4HS4	1484	95.6	0.88	225	8824	2.60	20	1800
1500	- ⁶⁾	1RN6 452-4HS4	1485	95.8	0.88	245	9649	2.50	22	1800
1640	- ⁶⁾	1RN6 454-4HS4	1485	96.0	0.89	265	10549	2.50	25	1800
1860	- ⁶⁾	1RN6 456-4HS4	1485	96.1	0.90	300	11966	2.50	29	1800
2500 ⁴⁾	2200	1RN6 500-4HS40	1485	96.4	0.90	400	16076	2.25	42	1800
2800 ⁴⁾	2464	1RN6 502-4HS40	1485	96.5	0.90	445	18005	2.25	46	1800
3150 ⁴⁾	2772	1RN6 504-4HS40	1485	96.6	0.91	495	20256	2.25	52	1800
3450 ¹⁾⁴⁾	3036	1RN6 506-4HS40	1486	96.8	0.91	540	22170	2.35	56	1800
3900 ⁴⁾	3549	1RN6 560-4HS40	1489	97.0	0.89	630	25012	1.95	84	1800
4500 ⁴⁾	4095	1RN6 562-4HS40	1489	97.1	0.90	710	28860	2.00	94	1800
5000 ⁴⁾	4550	1RN6 564-4HS40	1490	97.2	0.91	780	32045	2.10	105	1800
5500 ⁴⁾	5005	1RN6 566-4HS40	1490	97.4	0.91	2x430	35249	2.20	115	1800
5880 ¹⁾	- ⁶⁾	1RN4 632-4HV	1490	97.2	0.89	940	37687	2.20	150	1800
6470 ¹⁾	- ⁶⁾	1RN4 634-4HV	1490	97.3	0.90	1020	41469	2.20	168	1800
6960 ¹⁾	- ⁶⁾	1RN4 636-4HV	1491	97.4	0.90	1100	44579	2.40	197	1800

Voltage code:

4.16 kV, 50 Hz

Other voltage

4
9

Type of construction:

IM B3

IM V1 (without canopy)

0
8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

¹⁾ Rated voltage < 4.16 kV on request.

²⁾ For IM B3, roller bearings.

³⁾ On request.

⁴⁾ Data of vertical motors (IM V1) on request.

⁵⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

⁶⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
2-pole												
1RN6 450-2...	1035	2704	96.1	0.91	690	2368	96.3	0.91	345	1882	96.4	0.87
1RN6 452-2...	1178	2707	96.4	0.91	785	2370	96.5	0.90	393	1883	96.4	0.87
1RN6 454-2...	1313	2707	96.6	0.92	875	2370	96.7	0.91	438	1883	96.6	0.88
1RN6 456-2...	1464	2709	96.8	0.92	975	2371	96.9	0.91	488	1884	96.8	0.88
1RN6 500-2...	1914	2704	96.5	0.88	1276	2366	96.6	0.87	638	1881	96.7	0.81
1RN6 502-2...	2026	2705	96.5	0.90	1350	2367	96.7	0.88	675	1882	96.7	0.83
1RN6 504-2...	2401	2708	96.8	0.90	1600	2369	96.9	0.89	801	1883	96.8	0.81
1RN6 506-2...	2663	2708	97.0	0.91	1775	2369	97.1	0.90	888	1883	97.1	0.83
1RN6 560-2...	2777	2709	96.9	0.90	1851	2370	97.0	0.89	925	1883	97.0	0.84
1RN6 562-2...	3226	2711	97.1	0.90	2151	2371	97.2	0.89	1076	1884	97.2	0.84
1RN6 564-2...	3751	2712	97.3	0.91	2500	2371	97.3	0.90	1251	1884	97.3	0.85
1RN6 566-2...	4276	2713	97.4	0.92	2850	2372	97.5	0.91	1426	1885	97.4	0.85
4-pole												
1RN6 450-4...	1028	1350	95.8	0.87	685	1183	96.0	0.85	343	940	95.8	0.78
1RN6 452-4...	1125	1351	96.0	0.87	750	1183	96.1	0.85	375	941	95.9	0.77
1RN6 454-4...	1230	1351	96.2	0.89	820	1183	96.3	0.87	410	941	96.2	0.80
1RN6 456-4...	1395	1351	96.3	0.90	930	1183	96.5	0.88	465	941	96.4	0.83
1RN6 500-4...	1876	1352	96.6	0.89	1250	1183	96.7	0.86	625	941	96.5	0.77
1RN6 502-4...	2101	1352	96.7	0.89	1400	1183	96.8	0.86	700	941	96.6	0.77
1RN6 504-4...	2363	1353	96.8	0.90	1575	1183	96.9	0.88	788	941	96.8	0.79
1RN6 506-4...	2588	1353	96.9	0.90	1725	1184	97.0	0.88	863	941	96.9	0.79
1RN6 560-4...	2927	1355	97.1	0.89	1950	1185	97.2	0.87	976	942	97.1	0.80
1RN6 562-4...	3377	1355	97.2	0.90	2250	1185	97.4	0.88	1126	942	97.3	0.82
1RN6 564-4...	3752	1356	97.4	0.90	2500	1185	97.5	0.89	1251	942	97.4	0.82
1RN6 566-4...	4126	1356	97.5	0.90	2750	1186	97.6	0.88	1376	942	97.4	0.81
1RN4 632-4...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RN4 634-4...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RN4 636-4...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors H-compact PLUS 1RN4 and 1RN6

Selection and ordering data (continued)

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ²⁾
$P_{155(F)}$ kW	$P_{130(B)}$ kW	Article No.	n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm
3.4 ... 4.16 kV, 50 Hz										
6-pole										
940	- ⁴⁾	1RN6 450-6HS4	990	95.7	0.85	160	9071	2.40	26	1200
1040	- ⁴⁾	1RN6 452-6HS4	991	95.9	0.85	178	10026	2.50	29	1200
1180	- ⁴⁾	1RN6 454-6HS4	991	96.1	0.86	198	11381	2.50	32	1200
1330	- ⁴⁾	1RN6 456-6HS4	992	96.2	0.85	225	12811	2.50	37	1200
2000	1800	1RN6 500-6HS4	987	95.8	0.84	345	19352	1.75	56	1500
2200	2000	1RN6 502-6HS4	986	95.8	0.85	375	21308	1.65	62	1500
2450	2200	1RN6 504-6HS4	987	96.0	0.85	415	23706	1.70	69	1500
2650	2400	1RN6 506-6HS4	988	96.2	0.86	445	25615	1.80	77	1500
3150	2750	1RN6 560-6HS4	989	96.5	0.86	530	30417	2.05	108	1500
3500	3100	1RN6 562-6HS4	989	96.5	0.87	580	33797	2.05	119	1500
3900	3450	1RN6 564-6HS4	989	96.6	0.87	640	37659	2.10	132	1500
4250	3750	1RN6 566-6HS4	989	96.7	0.87	700	41039	2.05	146	1500
4610 ¹⁾	- ⁴⁾	1RN4 632-6HV	993	97.0	0.86	770	44336	2.10	202	1200
5000 ¹⁾	- ⁴⁾	1RN4 634-6HV	993	97.1	0.86	830	48087	2.30	223	1200
5490 ¹⁾	- ⁴⁾	1RN4 636-6HV	994	97.2	0.86	910	52746	2.30	246	1200
8-pole										
680	- ⁴⁾	1RN6 450-8HS4	743	94.7	0.82	122	8743	2.50	32	1200
750	- ⁴⁾	1RN6 452-8HS4	744	95.0	0.82	134	9638	2.50	36	1200
880	- ⁴⁾	1RN6 454-8HS4	743	95.1	0.83	154	11318	2.50	40	1200
970	- ⁴⁾	1RN6 456-8HS4	743	95.3	0.85	166	12477	2.40	46	1200
1360	1220	1RN6 500-8HS4	741	95.4	0.83	240	17528	1.75	69	1125
1540	1380	1RN6 502-8HS4	741	95.6	0.83	270	19848	1.80	76	1125
1740	1560	1RN6 504-8HS4	742	95.8	0.83	305	22395	1.90	85	1125
1880	1700	1RN6 506-8HS4	743	95.8	0.84	325	24164	2.00	94	1125
2200	1940	1RN6 560-8HS4	741	96.1	0.84	380	28354	1.90	128	1125
2500	2200	1RN6 562-8HS4	741	96.2	0.84	430	32220	1.95	141	1125
2750	2400	1RN6 564-8HS4	742	96.4	0.84	470	35394	2.05	156	1125
3000	2640	1RN6 566-8HS4	742	96.5	0.85	510	38612	2.10	173	1125
3140 ¹⁾	- ⁴⁾	1RN4 630-8HV	743	96.5	0.85	530	40359	1.90	239	1200
3430 ¹⁾	- ⁴⁾	1RN4 632-8HV	743	96.7	0.85	580	44087	2.10	265	1200
3680 ¹⁾	- ⁴⁾	1RN4 634-8HV	743	96.7	0.85	620	47300	2.00	293	1200
4020 ¹⁾	- ⁴⁾	1RN4 636-8HV	744	96.9	0.84	690	51601	2.30	324	1200

Voltage code:

4.16 kV, 50 Hz

Other voltage

4
9

Type of construction:

IM B3

IM V1 (without canopy)

0
8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ Rated voltage < 4.16 kV on request.

²⁾ For IM B3, roller bearings.

³⁾ On request.

⁴⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
6-pole												
1RN6 450-6...	705	901	96.0	0.84	470	789	96.1	0.81	235	627	96.0	0.71
1RN6 452-6...	780	901	96.1	0.84	520	789	96.2	0.80	260	627	96.0	0.70
1RN6 454-6...	885	901	96.3	0.85	590	789	96.4	0.82	295	627	96.3	0.73
1RN6 456-6...	998	902	96.4	0.83	665	790	96.5	0.80	333	627	96.2	0.69
1RN6 500-6...	1500	898	96.1	0.84	1000	786	96.2	0.83	500	625	96.1	0.75
1RN6 502-6...	1650	897	96.1	0.85	1100	786	96.3	0.84	550	625	96.3	0.78
1RN6 504-6...	1838	897	96.3	0.85	1225	786	96.5	0.85	613	625	96.4	0.79
1RN6 506-6...	1988	898	96.4	0.86	1325	787	96.6	0.85	663	626	96.5	0.78
1RN6 560-6...	2363	899	96.7	0.87	1575	788	96.8	0.86	788	626	96.8	0.81
1RN6 562-6...	2625	899	96.7	0.87	1750	788	96.9	0.87	875	626	96.8	0.82
1RN6 564-6...	2925	900	96.8	0.87	1950	788	97.0	0.86	975	626	96.9	0.81
1RN6 566-6...	3188	899	96.9	0.88	2125	788	97.1	0.87	1063	626	97.0	0.82
1RN4 632-6...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RN4 634-6...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RN4 636-6...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
8-pole												
1RN6 450-8...	510	676	94.8	0.80	340	592	94.7	0.75	170	470	94.0	0.63
1RN6 452-8...	563	676	95.1	0.80	375	592	95.1	0.75	188	470	94.4	0.62
1RN6 454-8...	660	676	95.3	0.82	440	592	95.3	0.78	220	470	94.8	0.66
1RN6 456-8...	728	676	95.5	0.83	485	592	95.5	0.80	243	470	95.1	0.69
1RN6 500-8...	1020	674	95.7	0.83	680	590	95.8	0.81	340	469	95.4	0.72
1RN6 502-8...	1155	674	95.8	0.83	770	590	95.9	0.81	385	469	95.5	0.72
1RN6 504-8...	1305	674	96.0	0.83	870	591	96.0	0.80	435	470	95.6	0.71
1RN6 506-8...	1410	675	95.9	0.82	940	591	95.9	0.79	470	470	95.4	0.69
1RN6 560-8...	1650	674	96.3	0.84	1100	590	96.5	0.83	550	469	96.5	0.76
1RN6 562-8...	1875	674	96.4	0.84	1250	590	96.6	0.83	625	469	96.5	0.76
1RN6 564-8...	2063	674	96.6	0.84	1375	591	96.7	0.82	688	470	96.6	0.75
1RN6 566-8...	2250	675	96.7	0.85	1500	591	96.8	0.83	750	470	96.7	0.75
1RN4 630-8...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RN4 632-8...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RN4 634-8...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾
1RN4 636-8...	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾	O. R. ⁽³⁾

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

Rated power IEC P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current 690 V	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	$T_{\text{B}}/T_{\text{rated}}$ [-]	J kgm ²	n_{max} rpm
690 V, 60 Hz									
2-pole									
1550	1RN6 450-2HP10	3578	95.9	0.90	2x750	4140	1.90	13	3600 ²⁾
1650	1RN6 452-2HP10	3581	96.0	0.91	2x790	4403	2.20	14	3600 ²⁾
1720	1RN6 454-2HP10	3584	96.1	0.91	2x820	4586	2.40	16	3600 ²⁾
2180	1RN6 456-2HP10	3584	96.7	0.92	2x1020	5814	2.40	18	3600 ²⁾
2500	1RN6 500-2HP10	3579	96.7	0.90	2x1200	6670	2.55	20	3600 ²⁾
2750	1RN6 502-2HP10	3577	96.6	0.91	4x650	7342	2.35	22	3600 ²⁾
3100	1RN6 504-2HP10	3581	97.0	0.92	4x730	8267	2.55	25	3600 ²⁾
4-pole									
1630	1RN6 450-4HP1 ■	1784	95.9	0.88	2x810	8740	2.30	20	1800
1750	1RN6 452-4HP1 ■	1783	96.0	0.90	2x850	9385	2.30	22	1800
2070	1RN6 454-4HP1 ■	1783	96.2	0.90	2x1000	11104	2.30	25	1800
2310	1RN6 456-4HP1 ■	1786	96.4	0.89	2x1120	12364	2.50	29	1800
2700 ⁴⁾	1RN6 500-4HP10	1788	96.9	0.90	4x650	14420	2.80	42	1800 ³⁾
2850 ⁴⁾	1RN6 502-4HP10	1786	96.9	0.91	4x680	15238	2.50	46	1800 ³⁾
3000 ⁴⁾	1RN6 504-4HP10	1786	97.0	0.92	4x700	16040	2.40	52	1800 ³⁾

Type of construction:

IM B3	0
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation. Additional details, [see Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

³⁾ Higher speed limit on request.

⁴⁾ Data of vertical motors (IM V1) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
2-pole												
1RN6 450-2...	1164	3253	96.2	0.90	775	2844	96.3	0.90	388	2261	96.2	0.86
1RN6 452-2...	1239	3255	96.3	0.92	825	2845	96.4	0.91	413	2262	96.3	0.87
1RN6 454-2...	1291	3257	96.3	0.92	860	2847	96.4	0.91	430	2262	96.2	0.86
1RN6 456-2...	1636	3258	96.9	0.92	1090	2847	96.9	0.91	545	2263	96.7	0.87
1RN6 500-2...	1876	3256	96.8	0.89	1250	2846	96.8	0.87	626	2261	96.6	0.77
1RN6 502-2...	2064	3254	96.8	0.90	1375	2846	96.9	0.89	688	2261	96.8	0.82
1RN6 504-2...	2325	3257	97.1	0.91	1550	2847	97.1	0.89	776	2262	97.0	0.82
4-pole												
1RN6 450-4...	1223	1623	96.1	0.88	815	1420	96.2	0.86	408	1129	95.9	0.78
1RN6 452-4...	1313	1623	96.3	0.90	875	1419	96.4	0.89	438	1129	96.3	0.84
1RN6 454-4...	1553	1623	96.5	0.90	1035	1419	96.6	0.89	518	1129	96.5	0.85
1RN6 456-4...	1733	1625	96.6	0.89	1155	1421	96.6	0.87	578	1130	96.3	0.79
1RN6 500-4...	2025	1627	97.0	0.88	1351	1422	97.0	0.83	675	1130	96.6	0.70
1RN6 502-4...	2138	1626	97.0	0.90	1425	1422	97.1	0.87	713	1130	96.9	0.78
1RN6 504-4...	2251	1625	97.1	0.91	1500	1421	97.2	0.90	750	1130	97.2	0.83

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

Rated power P_{rated} 155 (F) kW	High voltage motor H-compact PLUS Article No.	Operating values at rated output for utilization 155 (F)							
		Rated speed n_{rated} rpm	Efficiency η %	Power factor $\cos \varphi$ [-]	Rated current 690 V I_{rated} A	Rated torque T_{rated} Nm	Break-down torque $T_{\text{B}}/T_{\text{rated}}$ [-]	Moment of inertia J kgm ²	Mechanical speed limit ¹⁾ n_{max} rpm
690 V, 60 Hz									
6-pole									
1210	1RN6 450-6HP1	1191	96.1	0.85	2x620	9718	2.40	26	1200
1350	1RN6 452-6HP1	1191	96.3	0.84	2x700	10837	2.40	29	1200
1480	1RN6 454-6HP1	1191	96.3	0.86	2x750	11883	2.30	32	1200
1620	1RN6 456-6HP1	1192	96.6	0.86	2x820	12995	2.40	37	1200
2150	1RN6 500-6HP1	1190	96.5	0.84	2x1100	17254	2.10	56	1500
2400	1RN6 502-6HP1	1188	96.5	0.85	2x1220	19293	1.85	62	1500
2700	1RN6 504-6HP1	1190	96.7	0.84	3x930	21668	2.15	69	1500
2950	1RN6 506-6HP1	1189	96.7	0.86	3x990	23694	1.90	77	1500
3300	1RN6 560-6HP1	1191	96.9	0.87	3x1100	26461	2.30	108	1500
3650	1RN6 562-6HP1	1190	96.8	0.87	3x1200	29292	2.10	119	1500
8-pole									
870	1RN6 450-8HP1	893	95.3	0.84	910	9323	2.30	32	1200
960	1RN6 452-8HP1	892	95.4	0.84	1000	10290	2.20	36	1200
1050	1RN6 454-8HP1	893	95.5	0.84	1100	11239	2.40	40	1200
1180	1RN6 456-8HP1	893	95.7	0.85	1220	12636	2.30	46	1200
1600	1RN6 500-8HP1	892	96.0	0.83	2x840	17130	1.85	69	1125
1800	1RN6 502-8HP1	892	96.1	0.83	2x940	19271	1.90	76	1125
2000	1RN6 504-8HP1	893	96.3	0.83	2x1040	21389	2.05	85	1125
2200	1RN6 506-8HP1	893	96.4	0.83	2x1160	23527	2.05	94	1125
2250	1RN6 560-8HP1	893	96.7	0.84	2x1160	24062	2.30	128	1125
2600	1RN6 562-8HP1	893	96.8	0.84	4x670	27805	2.25	141	1125
2900	1RN6 564-8HP1	894	96.9	0.83	4x750	30979	2.65	156	1125
3250	1RN6 566-8HP1	893	97.0	0.85	4x820	34756	2.35	173	1125
Type of construction:									
IM B3 0									
IM V1 (without canopy) 8									

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details, [see Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ For IM B3, roller bearings.

²⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

³⁾ Higher speed limit on request.

⁴⁾ Data of vertical motors (IM V1) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
6-pole												
1RN6 450-6...	908	1083	96.3	0.82	605	947	96.4	0.79	303	753	96.0	0.67
1RN6 452-6...	1013	1083	96.5	0.82	675	947	96.5	0.78	338	753	96.2	0.67
1RN6 454-6...	1110	1083	96.5	0.84	740	947	96.6	0.81	370	753	96.3	0.71
1RN6 456-6...	1215	1084	96.8	0.84	810	947	96.8	0.81	405	753	96.5	0.71
1RN6 500-6...	1613	1082	96.5	0.83	1075	946	96.5	0.79	538	752	96.0	0.69
1RN6 502-6...	1800	1081	96.6	0.86	1200	945	96.7	0.84	600	752	96.5	0.78
1RN6 504-6...	2025	1082	96.7	0.83	1350	946	96.7	0.80	675	752	96.2	0.69
1RN6 506-6...	2213	1081	96.8	0.86	1475	946	96.9	0.85	738	752	96.7	0.78
1RN6 560-6...	2475	1083	97.0	0.87	1650	947	97.0	0.86	825	753	96.7	0.79
1RN6 562-6...	2738	1082	97.0	0.88	1825	946	97.1	0.87	913	752	97.0	0.83
8-pole												
1RN6 450-8...	653	812	95.5	0.81	435	710	95.4	0.77	218	565	94.9	0.66
1RN6 452-8...	720	812	95.7	0.83	480	710	95.6	0.79	240	565	95.2	0.68
1RN6 454-8...	788	812	95.6	0.81	525	710	95.6	0.77	263	565	95.0	0.65
1RN6 456-8...	885	812	95.9	0.83	590	710	95.8	0.79	295	565	95.3	0.69
1RN6 500-8...	1200	811	96.1	0.83	800	709	96.1	0.80	400	564	95.7	0.71
1RN6 502-8...	1350	811	96.2	0.83	900	709	96.2	0.80	450	564	95.7	0.71
1RN6 504-8...	1500	812	96.3	0.82	1000	710	96.3	0.79	500	564	95.7	0.69
1RN6 506-8...	1650	812	96.4	0.82	1100	710	96.3	0.79	550	564	95.7	0.69
1RN6 560-8...	1688	812	96.8	0.84	1125	710	96.8	0.81	563	564	96.5	0.72
1RN6 562-8...	1950	812	96.9	0.84	1300	710	96.9	0.82	650	564	96.6	0.73
1RN6 564-8...	2175	813	96.9	0.82	1450	710	96.8	0.78	725	565	96.3	0.67
1RN6 566-8...	2438	812	97.1	0.84	1625	710	97.0	0.81	813	565	96.7	0.72

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ²⁾
$P_{155(F)}^{\text{rated}}$	$P_{130(B)}^{\text{rated}}$		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	T_B/T_{rated}	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm

3.4 ... 4.16 kV, 60 Hz

2-pole

1600	⁵⁾	1RN6 450-2HS30	3576	96.0	0.89	260	4274	2.10	13	3600 ³⁾
1850	⁵⁾	1RN6 452-2HS30	3578	96.3	0.91	295	4941	2.30	14	3600 ³⁾
2060	⁵⁾	1RN6 454-2HS30	3579	96.6	0.91	325	5500	2.30	16	3600 ³⁾
2300	⁵⁾	1RN6 456-2HS30	3581	96.8	0.92	360	6137	2.40	18	3600 ³⁾
3000	2640	1RN6 500-2HS30	3572	96.5	0.89	485	8020	2.05	20	3600 ³⁾
3250	2860	1RN6 502-2HS30	3570	96.5	0.89	530	8693	1.95	22	3600 ³⁾
3700	3256	1RN6 504-2HS30	3576	96.8	0.91	580	9880	2.30	25	3600 ³⁾
4200	3696	1RN6 506-2HS30	3577	97.1	0.92	650	11212	2.45	27	3600 ³⁾
4600	4186	1RN6 560-2HS30	3577	96.8	0.90	730	12280	1.90	39	3600 ³⁾
5100	4641	1RN6 562-2HS30	3579	96.9	0.91	2x400	13608	2.05	43	3600 ³⁾
5900	5369	1RN6 564-2HS30	3580	97.1	0.92	2x460	15738	2.15	49	3600 ³⁾
6700	6097	1RN6 566-2HS30	3582	97.3	0.92	2x520	17862	2.45	54	3600 ³⁾

4-pole

1630	⁵⁾	1RN6 450-4HS3	1782	95.7	0.89	265	8742	2.30	20	1800
1750	⁵⁾	1RN6 452-4HS3	1783	95.9	0.89	285	9375	2.40	22	1800
2070	⁵⁾	1RN6 454-4HS3	1784	96.1	0.90	330	11088	2.50	25	1800
2310	⁵⁾	1RN6 456-4HS3	1786	96.3	0.89	375	12358	2.50	29	1800
3100 ⁴⁾	2728	1RN6 500-4HS30	1785	96.7	0.90	495	16584	2.30	42	1800
3450 ⁴⁾	3036	1RN6 502-4HS30	1785	96.8	0.90	550	18457	2.20	46	1800
3800 ⁴⁾	3344	1RN6 504-4HS30	1786	97.0	0.91	600	20318	2.35	52	1800
4100 ⁴⁾	3608	1RN6 506-4HS30	1787	97.0	0.91	640	21909	2.40	56	1800
4700 ⁴⁾	4277	1RN6 560-4HS30	1789	97.2	0.90	750	25088	1.95	84	1800
5400 ⁴⁾	4914	1RN6 562-4HS30	1789	97.3	0.90	2x430	28824	1.95	94	1800
6000 ⁴⁾	5460	1RN6 564-4HS30	1789	97.4	0.91	2x470	32027	2.05	105	1800
6600 ⁴⁾	6006	1RN6 566-4HS30	1790	97.5	0.91	2x520	35210	2.10	115	1800
7400 ¹⁾	⁵⁾	1RN4 632-4HV5	1790	97.3	0.89	1180	39480	1.90	150	1800

Type of construction:

IM B3	0
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see Page 3/2.

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

¹⁾ Rated voltage < 4.16 kV on request

²⁾ For IM B3, roller bearings.

³⁾ There are speed exclusion ranges for this type. It must be ensured that the motors are not continuously operated in these speed ranges. The exclusion ranges must be clarified in advance in the factory.

⁴⁾ Data of vertical motors (IM V1) on request.

⁵⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Motor type (repeated)	Partial load values for square-law torque drive											
	P/P_{rated} 155 (F) = 75 %				P/P_{rated} 155 (F) = 50 %				P/P_{rated} 155 (F) = 25 %			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
2-pole												
1RN6 450-2...	1201	3251	96.1	0.90	800	2843	96.2	0.90	400	2260	96.1	0.85
1RN6 452-2...	1389	3253	96.4	0.91	925	2844	96.5	0.91	463	2261	96.3	0.87
1RN6 454-2...	1545	3254	96.7	0.91	1030	2845	96.7	0.90	515	2261	96.5	0.86
1RN6 456-2...	1725	3256	96.9	0.92	1150	2846	96.9	0.91	575	2262	96.7	0.87
1RN6 500-2...	2251	3251	96.7	0.89	1500	2844	96.8	0.87	750	2260	96.6	0.79
1RN6 502-2...	2439	3250	96.7	0.89	1626	2843	96.8	0.88	813	2259	96.8	0.83
1RN6 504-2...	2776	3254	97.0	0.91	1850	2845	97.0	0.89	926	2261	96.9	0.83
1RN6 506-2...	3151	3254	97.2	0.91	2100	2846	97.2	0.89	1051	2261	97.1	0.83
1RN6 560-2...	3452	3255	96.9	0.90	2301	2846	97.0	0.88	1150	2262	96.9	0.83
1RN6 562-2...	3827	3256	97.0	0.90	2551	2847	97.1	0.89	1275	2262	97.0	0.84
1RN6 564-2...	4427	3257	97.3	0.91	2951	2848	97.3	0.90	1476	2262	97.2	0.85
1RN6 566-2...	5026	3258	97.4	0.92	3350	2849	97.4	0.90	1676	2263	97.2	0.83
4-pole												
1RN6 450-4...	1224	1622	96.0	0.89	815	1419	96.1	0.88	408	1129	96.0	0.83
1RN6 452-4...	1313	1623	96.1	0.89	875	1420	96.2	0.88	438	1129	96.1	0.82
1RN6 454-4...	1553	1623	96.3	0.90	1035	1420	96.4	0.89	518	1129	96.3	0.83
1RN6 456-4...	1733	1624	96.5	0.89	1155	1421	96.5	0.87	578	1130	96.2	0.80
1RN6 500-4...	2326	1625	96.8	0.89	1550	1421	96.8	0.86	775	1130	96.6	0.75
1RN6 502-4...	2589	1625	96.9	0.89	1725	1421	96.9	0.86	863	1130	96.8	0.77
1RN6 504-4...	2851	1626	97.1	0.90	1900	1422	97.1	0.87	950	1130	96.8	0.78
1RN6 506-4...	3076	1626	97.1	0.90	2050	1422	97.1	0.87	1025	1130	96.8	0.77
1RN6 560-4...	3527	1628	97.3	0.89	2350	1423	97.3	0.87	1176	1131	97.2	0.80
1RN6 562-4...	4052	1628	97.4	0.90	2701	1423	97.5	0.89	1351	1131	97.4	0.83
1RN6 564-4...	4502	1628	97.5	0.90	3000	1423	97.5	0.89	1501	1131	97.4	0.82
1RN6 566-4...	4952	1628	97.6	0.91	3300	1423	97.7	0.90	1651	1131	97.5	0.84
1RN4 632-4...	5550	1626	97.5	0.90	3700	1421	97.1	0.87	1850	1128	96.5	0.75

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Selection and ordering data

Rated power		High voltage motor H-compact	Operating values at rated output for utilization 155 (F)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ²⁾
$P_{155(F)}^{\text{rated}}$ kW	$P_{130(B)}^{\text{rated}}$ kW		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm

3.4 ... 4.16 kV, 60 Hz

6-pole

1210	— ³⁾	1RN6 450-6HS3	1190	96.0	0.84	210	9715	2.40	26	1200
1350	— ³⁾	1RN6 452-6HS3	1191	96.2	0.85	230	10833	2.40	29	1200
1480	— ³⁾	1RN6 454-6HS3	1191	96.3	0.85	250	11875	2.50	32	1200
1620	— ³⁾	1RN6 456-6HS3	1191	96.4	0.87	270	12995	2.50	37	1200
2350	2100	1RN6 500-6HS3	1187	96.0	0.85	400	18907	1.65	56	1500
2600	2350	1RN6 502-6HS3	1188	96.4	0.84	445	20901	1.85	62	1500
2900	2600	1RN6 504-6HS3	1187	96.3	0.85	490	23332	1.70	69	1500
3100	2800	1RN6 506-6HS3	1188	96.4	0.86	520	24920	1.75	77	1500
3750	3300	1RN6 560-6HS3	1189	96.6	0.86	630	30120	2.00	108	1500
4250	3750	1RN6 562-6HS3	1189	96.8	0.86	710	34136	2.05	119	1500
4700	4150	1RN6 564-6HS3	1190	96.9	0.87	770	37718	2.15	132	1500
5100	4500	1RN6 566-6HS3	1190	97.0	0.87	840	40929	2.20	146	1500

8-pole

870	— ³⁾	1RN6 450-8HS3	893	95.2	0.81	156	9308	2.50	32	1200
960	— ³⁾	1RN6 452-8HS3	893	95.3	0.82	170	10269	2.50	36	1200
1050	— ³⁾	1RN6 454-8HS3	893	95.4	0.84	182	11239	2.40	40	1200
1180	— ³⁾	1RN6 456-8HS3	894	95.6	0.82	210	12613	2.50	46	1200
1640	1480	1RN6 500-8HS3	891	95.7	0.83	285	17578	1.75	69	1125
1840	1660	1RN6 502-8HS3	892	96.0	0.83	320	19700	1.90	76	1125
2050	1860	1RN6 504-8HS3	892	96.0	0.84	355	21948	1.80	85	1125
2300	2050	1RN6 506-8HS3	892	96.1	0.84	395	24624	1.95	94	1125
2650	2350	1RN6 560-8HS3	892	96.4	0.84	455	28372	1.95	128	1125
3000	2650	1RN6 562-8HS3	891	96.5	0.84	510	32155	1.90	141	1125
3300	2900	1RN6 564-8HS3	891	96.6	0.84	560	35370	1.90	156	1125
3500	3100	1RN6 566-8HS3	892	96.8	0.85	590	37472	2.05	173	1125

Type of construction:

IM B3	0
IM V1 (without canopy)	8

Note:

The motors for converter operation with non-sinusoidal output have, among other things, a reinforced winding insulation.

Additional details see [Page 3/2](#).

Ratings are defined for sinusoidal supply, based on IEC 60034-2-1:2007.

The ratings for converter operation depend on the converter and its settings and cannot be predetermined.

Higher pole numbers are available on request.

¹⁾ Rated voltage < 4.16 kV on request.

²⁾ For IM B3, roller bearings.

³⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

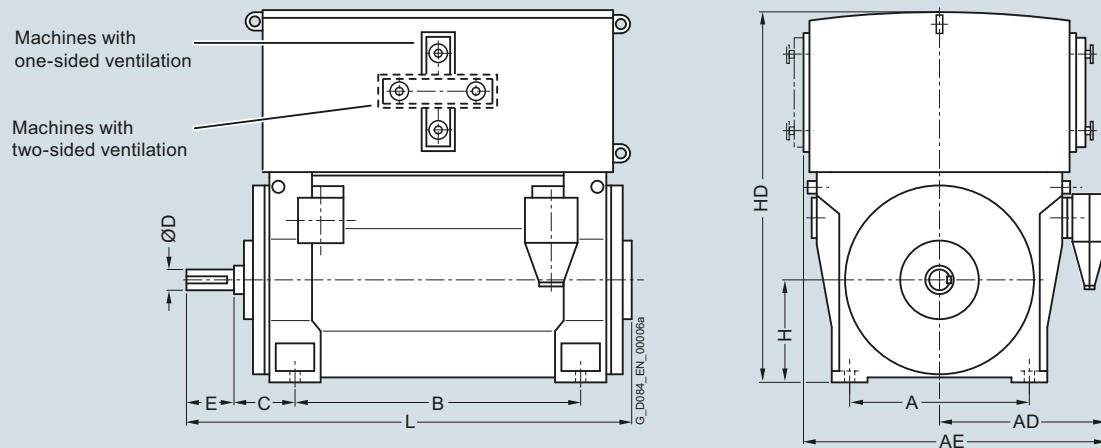
Motor type (repeated)	Partial load values for square-law torque drive											
	$P/P_{\text{rated}} 155 (F) = 75 \%$				$P/P_{\text{rated}} 155 (F) = 50 \%$				$P/P_{\text{rated}} 155 (F) = 25 \%$			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
Square-law torque drive												
6-pole												
1RN6 450-6...	908	1083	96.2	0.83	605	947	96.2	0.80	303	753	96.0	0.69
1RN6 452-6...	1013	1083	96.3	0.84	675	947	96.4	0.80	338	753	96.1	0.70
1RN6 454-6...	1110	1083	96.5	0.84	740	947	96.5	0.81	370	753	96.3	0.71
1RN6 456-6...	1215	1083	96.6	0.86	810	947	96.7	0.83	405	753	96.5	0.74
1RN6 500-6...	1763	1079	96.3	0.85	1175	944	96.4	0.84	588	751	96.3	0.78
1RN6 502-6...	1950	1081	96.5	0.84	1300	945	96.6	0.82	650	752	96.3	0.74
1RN6 504-6...	2175	1080	96.5	0.85	1450	945	96.6	0.85	725	751	96.5	0.79
1RN6 506-6...	2325	1081	96.6	0.86	1550	945	96.7	0.85	775	752	96.6	0.79
1RN6 560-6...	2813	1081	96.8	0.87	1875	946	96.9	0.87	938	752	96.8	0.82
1RN6 562-6...	3188	1082	97.0	0.87	2125	946	97.0	0.86	1063	752	96.9	0.81
1RN6 564-6...	3525	1082	97.0	0.87	2350	946	97.1	0.86	1175	752	96.9	0.80
1RN6 566-6...	3825	1082	97.1	0.88	2550	946	97.2	0.87	1275	753	97.0	0.81
8-pole												
1RN6 450-8...	653	812	95.2	0.79	435	710	95.1	0.74	218	565	94.3	0.61
1RN6 452-8...	720	812	95.4	0.80	480	710	95.3	0.75	240	565	94.5	0.62
1RN6 454-8...	788	812	95.5	0.83	525	710	95.5	0.79	263	565	95.0	0.69
1RN6 456-8...	885	813	95.6	0.79	590	711	95.5	0.75	295	565	94.8	0.62
1RN6 500-8...	1230	810	95.9	0.83	820	709	95.9	0.81	410	564	95.5	0.72
1RN6 502-8...	1380	811	96.0	0.82	920	709	96.0	0.79	460	564	95.5	0.70
1RN6 504-8...	1538	811	96.1	0.83	1025	709	96.1	0.81	513	564	95.7	0.72
1RN6 506-8...	1725	811	96.2	0.83	1150	709	96.1	0.80	575	564	95.6	0.71
1RN6 560-8...	1988	811	96.6	0.84	1325	709	96.7	0.83	663	564	96.5	0.75
1RN6 562-8...	2250	810	96.7	0.85	1500	709	96.8	0.83	750	564	96.7	0.77
1RN6 564-8...	2475	811	96.8	0.85	1650	709	96.9	0.84	825	564	96.8	0.77
1RN6 566-8...	2625	811	96.9	0.85	1750	709	97.0	0.83	875	564	96.8	0.76

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
Up to 6.6 kV, roller bearings, IM B3 type of construction											
2-pole											
1RN6450-2H..0 ²⁾	4050	850	930	1620	1180	280	95	130	450	1653	1843
1RN6452-2H..0 ²⁾	4250	850	930	1620	1180	280	95	130	450	1653	1843
1RN6454-2H..0 ²⁾	4550	850	930	1620	1400	280	95	130	450	1653	2053
1RN6456-2H..0 ²⁾	4850	850	930	1620	1400	280	95	130	450	1653	2053
1RN6500-2H..0 ²⁾	5850	950	1135	1835	1320	315	110	165	500	1980	2150
1RN6502-2H..0 ²⁾	6000	950	1135	1835	1320	315	110	165	500	1980	2150
4-pole											
1RN6450-4H..0	4350	850	930	1620	1180	250	130	200	450	1684	1896
1RN6452-4H..0	4250	850	930	1620	1180	250	130	200	450	1684	1896
1RN6454-4H..0	4950	850	930	1620	1400	250	130	200	450	1684	2106
1RN6456-4H..0	5250	850	930	1620	1400	250	130	200	450	1684	2106
1RN6500-4H..0	6350	950	1135	1835	1320	280	150	200	500	1980	2150
1RN6502-4H..0	6550	950	1135	1835	1320	280	150	200	500	1980	2150
1RN6504-4H..0	7200	950	1135	1835	1500	280	150	200	500	1980	2300
1RN6506-4H..0	7500	950	1135	1835	1500	280	150	200	500	1980	2300
1RN6560-4H..0	7600	1060	1205	1975	1400	315	170	240	560	2150	2300
1RN6562-4H..0	8000	1060	1205	1975	1400	315	170	240	560	2150	2300
1RN6564-4H..0	8900	1060	1205	1975	1600	315	170	240	560	2150	2550
1RN6566-4H..0	9400	1060	1205	1975	1600	315	170	240	560	2150	2550
1RN4630-4H..0 ²⁾	10400	1320	1330	2290	1600	335	200	280	630	2400	2500
1RN4632-4H..0 ²⁾	11100	1320	1330	2290	1600	335	200	280	630	2400	2500
1RN4634-4H..0 ²⁾	12150	1320	1330	2290	1800	335	220	280	630	2400	2740
1RN4636-4H..0 ²⁾	12700	1320	1330	2290	1800	335	220	280	630	2400	2740
6-pole											
1RN6450-6H..0	4450	850	930	1620	1180	250	140	200	450	1684	1896
1RN6452-6H..0	4750	850	930	1620	1180	250	140	200	450	1684	1896
1RN6454-6H..0	5100	850	930	1620	1400	280	140	200	450	1684	2136
1RN6456-6H..0	5450	850	930	1620	1400	280	140	200	450	1684	2136

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

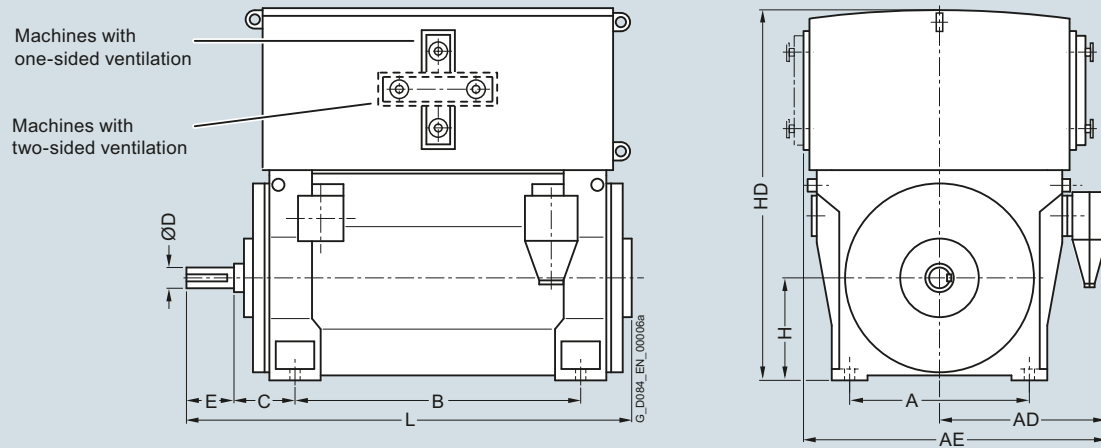
²⁾ Roller bearings only for 50 Hz version.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L

Up to 6.6 kV, roller bearings, IM B3 type of construction

6-pole

1RN6500-6H..0	6400	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6502-6H..0	6650	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6504-6H..0	7250	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6506-6H..0	7650	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6560-6H..0	8600	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6562-6H..0	9000	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6564-6H..0	9850	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN6566-6H..0	10400	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN4630-6H..0	10650	1320	1330	2290	1600	335	220	280	630	2400	2500
1RN4632-6H..0	11200	1320	1330	2290	1600	335	220	280	630	2400	2500
1RN4634-6H..0	12300	1320	1330	2290	1800	335	220	280	630	2400	2740
1RN4636-6H..0	13000	1320	1330	2290	1800	335	220	280	630	2400	2740

8-pole

1RN6450-8H..0	4450	850	930	1620	1180	250	140	200	450	1684	1896
1RN6452-8H..0	4750	850	930	1620	1180	250	140	200	450	1684	1896
1RN6454-8H..0	5150	850	930	1620	1400	280	140	200	450	1684	2136
1RN6456-8H..0	5450	850	930	1620	1400	280	140	200	450	1684	2136
1RN6500-8H..0	6350	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6502-8H..0	6600	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6504-8H..0	7250	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6506-8H..0	7600	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6560-8H..0	8550	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6562-8H..0	9000	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6564-8H..0	9800	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN6566-8H..0	10350	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN4630-8H..0	10600	1320	1330	2290	1600	335	220	280	630	2400	2500
1RN4632-8H..0	11200	1320	1330	2290	1600	335	220	280	630	2400	2500
1RN4634-8H..0	12150	1320	1330	2290	1800	335	220	280	630	2400	2740
1RN4636-8H..0	12900	1320	1330	2290	1800	335	220	280	630	2400	2740

Note:

Higher pole numbers are available on request.

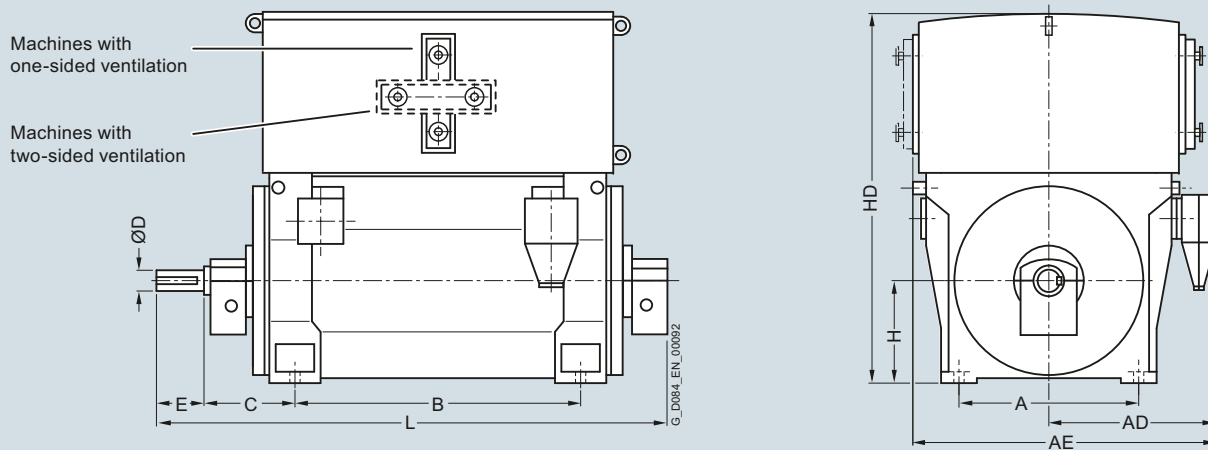
¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Dimension drawings



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L

Up to 6.6 kV, sleeve bearings, IM B3 type of construction

2-pole

1RN6450-2H..0-Z K96	4050	850	930	1620	1180	425	95	130	450	1653	2218
1RN6452-2H..0-Z K96	4300	850	930	1620	1180	425	95	130	450	1653	2218
1RN6454-2H..0-Z K96	4600	850	930	1620	1400	425	95	130	450	1653	2428
1RN6456-2H..0-Z K96	4900	850	930	1620	1400	425	95	130	450	1653	2428
1RN6500-2H..0-Z K96 ²⁾	5900	950	1135	1835	1320	450	110	165	500	1980	2500
1RN6502-2H..0-Z K96 ²⁾	6050	950	1135	1835	1320	450	110	165	500	1980	2500
1RN6504-2H..0	6850	950	1135	1835	1500	450	110	165	500	1980	2650
1RN6506-2H..0	7100	950	1135	1835	1500	450	110	165	500	1980	2650
1RN6560-2H..0	7600	1060	1205	1975	1400	600	130	200	560	2150	2850
1RN6562-2H..0	8000	1060	1205	1975	1400	600	130	200	560	2150	2850
1RN6564-2H..0	8900	1060	1205	1975	1600	600	130	200	560	2150	3100
1RN6566-2H..0	9350	1060	1205	1975	1600	600	130	200	560	2150	3100

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

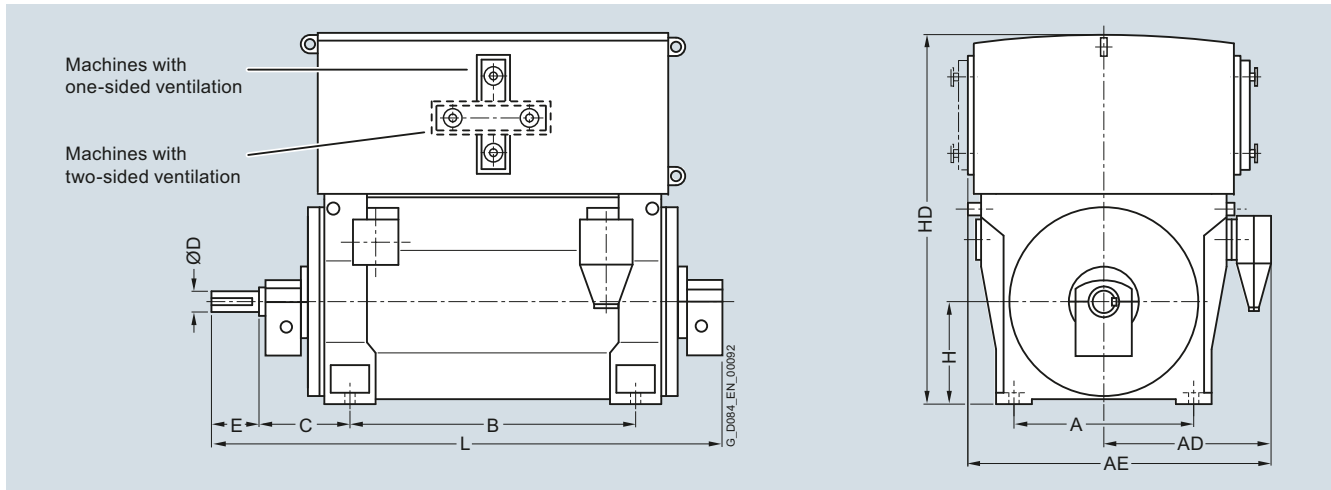
²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L

Up to 6.6 kV, sleeve bearings, IM B3 type of construction

4-pole

1RN6450-4H..0-Z K96	4400	850	930	1620	1180	500	130	200	450	1684	2438
1RN6452-4H..0-Z K96	4650	850	930	1620	1180	500	130	200	450	1684	2438
1RN6454-4H..0-Z K96	5050	850	930	1620	1400	500	130	200	450	1684	2648
1RN6456-4H..0-Z K96	5350	850	930	1620	1400	500	130	200	450	1684	2648
1RN6500-4H..0-Z K96	6650	950	1135	1835	1320	560	150	200	500	1980	2700
1RN6502-4H..0-Z K96	6850	950	1135	1835	1320	560	150	200	500	1980	2700
1RN6504-4H..0-Z K96	7550	950	1135	1835	1500	560	150	200	500	1980	2880
1RN6506-4H..0-Z K96	7850	950	1135	1835	1500	560	150	200	500	1980	2880
1RN6560-4H..0-Z K96	7800	1060	1205	1975	1400	600	170	240	560	2150	2900
1RN6562-4H..0-Z K96	8200	1060	1205	1975	1400	600	170	240	560	2150	2900
1RN6564-4H..0-Z K96	9050	1060	1205	1975	1600	600	170	240	560	2150	3100
1RN6566-4H..0-Z K96	9600	1060	1205	1975	1600	600	170	240	560	2150	3100
1RN4630-4H..0-Z K96 ²⁾	10650	1320	1330	2290	1600	600	200	280	630	2400	2970
1RN4632-4H..0-Z K96 ²⁾	11350	1320	1330	2290	1600	600	200	280	630	2400	2970
1RN4634-4H..0-Z K96 ²⁾	12400	1320	1330	2290	1800	600	220	280	630	2400	3210
1RN4636-4H..0-Z K96 ²⁾	13000	1320	1330	2290	1800	600	220	280	630	2400	3210

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

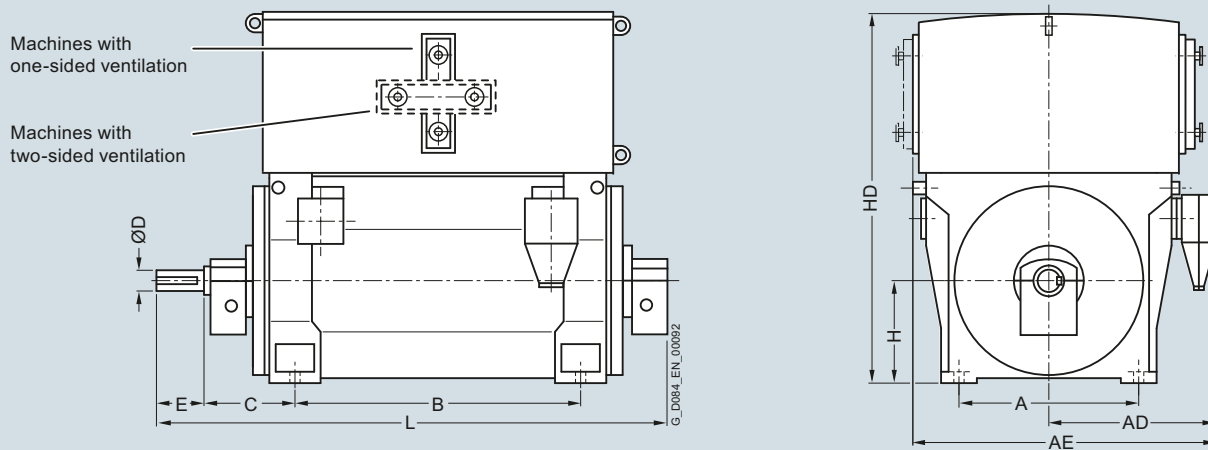
²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

Up to 6.6 kV, sleeve bearings, IM B3 type of construction

6-pole

1RN6450-6H..0-Z K96	4550	850	930	1620	1180	500	140	200	450	1684	2438
1RN6452-6H..0-Z K96	4800	850	930	1620	1180	500	140	200	450	1684	2438
1RN6454-6H..0-Z K96	5150	850	930	1620	1400	500	140	200	450	1684	2648
1RN6456-6H..0-Z K96	5500	850	930	1620	1400	500	140	200	450	1684	2648
1RN6500-6H..0-Z K96	6550	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6502-6H..0-Z K96	6850	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6504-6H..0-Z K96	7450	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6506-6H..0-Z K96	7850	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6560-6H..0-Z K96	8850	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6562-6H..0-Z K96	9250	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6564-6H..0-Z K96	10100	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN6566-6H..0-Z K96	10650	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN4630-6H..0-Z K96	10950	1320	1330	2290	1600	600	220	280	630	2400	2970
1RN4632-6H..0-Z K96	11500	1320	1330	2290	1600	600	220	280	630	2400	2970
1RN4634-6H..0-Z K96	12550	1320	1330	2290	1800	600	220	280	630	2400	3210
1RN4636-6H..0-Z K96	13300	1320	1330	2290	1800	600	220	280	630	2400	3210

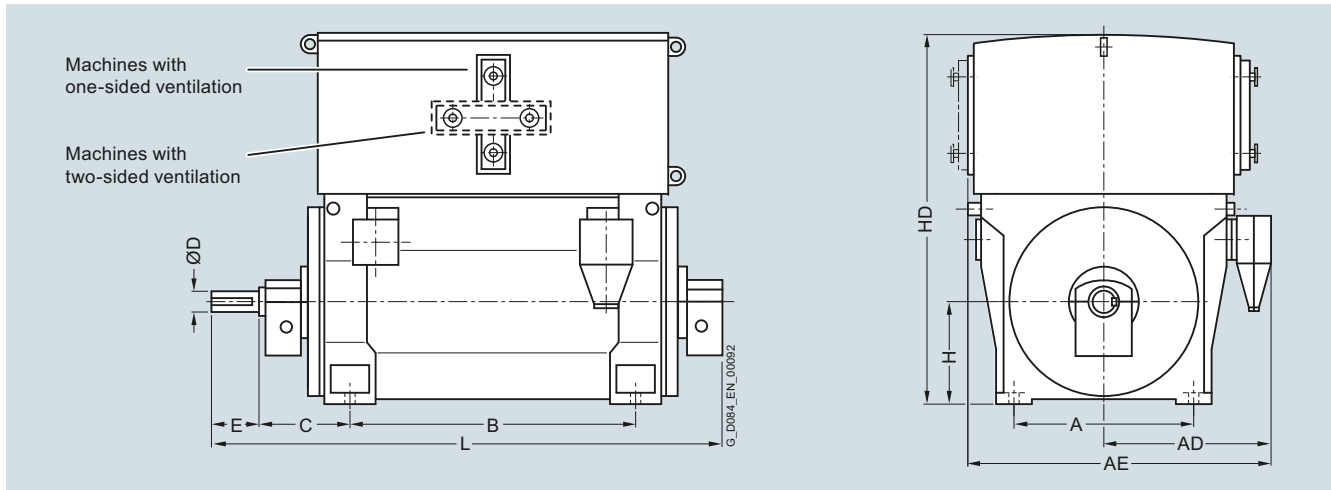
¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L

Up to 6.6 kV, sleeve bearings, IM B3 type of construction

8-pole

1RN6450-8H..0-Z K96	4550	850	930	1620	1180	500	140	200	450	1684	2438
1RN6452-8H..0-Z K96	4850	850	930	1620	1180	500	140	200	450	1684	2438
1RN6454-8H..0-Z K96	5200	850	930	1620	1400	500	140	200	450	1684	2648
1RN6456-8H..0-Z K96	5550	850	930	1620	1400	500	140	200	450	1684	2648
1RN6500-8H..0-Z K96	6500	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6502-8H..0-Z K96	6800	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6504-8H..0-Z K96	7400	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6506-8H..0-Z K96	7800	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6560-8H..0-Z K96	8800	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6562-8H..0-Z K96	9250	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6564-8H..0-Z K96	10050	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN6566-8H..0-Z K96	10600	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN4630-8H..0-Z K96	10850	1320	1330	2290	1600	600	220	280	630	2400	2970
1RN4632-8H..0-Z K96	11500	1320	1330	2290	1600	600	220	280	630	2400	2970
1RN4634-8H..0-Z K96	12450	1320	1330	2290	1800	600	220	280	630	2400	3210
1RN4636-8H..0-Z K96	13150	1320	1330	2290	1800	600	220	280	630	2400	3210

Note:

Higher pole numbers are available on request.

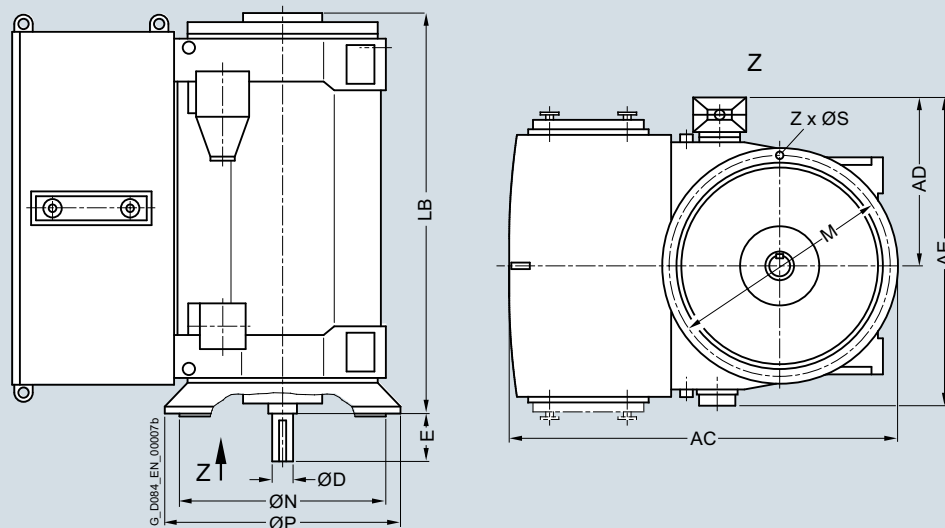
¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, roller bearings, IM V1 type of construction

4-pole

1RN6450-4H..8	4550	1809	930	1620	130	200	1720	1150	1000	1080	26	8
1RN6452-4H..8	4750	1809	930	1620	130	200	1720	1150	1000	1080	26	8
1RN6454-4H..8	5150	1809	930	1620	130	200	1930	1150	1000	1080	26	8
1RN6456-4H..8	5450	1809	930	1620	130	200	1930	1150	1000	1080	26	8
1RN4500-4H..8	5500	1960	1000	1810	150	200	1910	1250	1120	1180	26	8
1RN4502-4H..8	5700	1960	1000	1810	150	200	1910	1250	1120	1180	26	8
1RN4504-4H..8	6400	1960	1000	1810	160	240	2120	1250	1120	1180	26	8
1RN4506-4H..8	6800	1960	1000	1810	160	240	2120	1250	1120	1180	26	8
1RN4560-4H..8	7550	2180	1210	2100	180	240	2090	1400	1250	1320	26	16
1RN4562-4H..8 ²⁾	8000	2180	1210	2100	180	240	2090	1400	1250	1320	26	16
1RN4564-4H..8 ²⁾	8900	2180	1210	2100	190	280	2320	1400	1250	1320	26	16
1RN4566-4H..8 ²⁾	9350	2180	1210	2100	190	280	2320	1400	1250	1320	26	16
1RN4630-4H..8 ²⁾	12050	2875	1330	2300	200	280	2400	2000	1800	1900	33	16
1RN4632-4H..8 ²⁾	12750	2875	1330	2300	200	280	2400	2000	1800	1900	33	16
1RN4634-4H..8 ²⁾	13800	2875	1330	2300	220	280	2640	2000	1800	1900	33	16
1RN4636-4H..8 ²⁾	14350	2875	1330	2300	220	280	2640	2000	1800	1900	33	16

6-pole

1RN6450-6H..8	4650	1809	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6452-6H..8	4950	1809	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6454-6H..8	5300	1809	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6456-6H..8	5650	1809	930	1620	140	200	1930	1150	1000	1080	26	8
1RN4500-6H..8	5650	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4502-6H..8	6050	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4504-6H..8	6550	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4506-6H..8	6950	1960	1000	1810	170	240	2120	1250	1120	1180	26	8

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

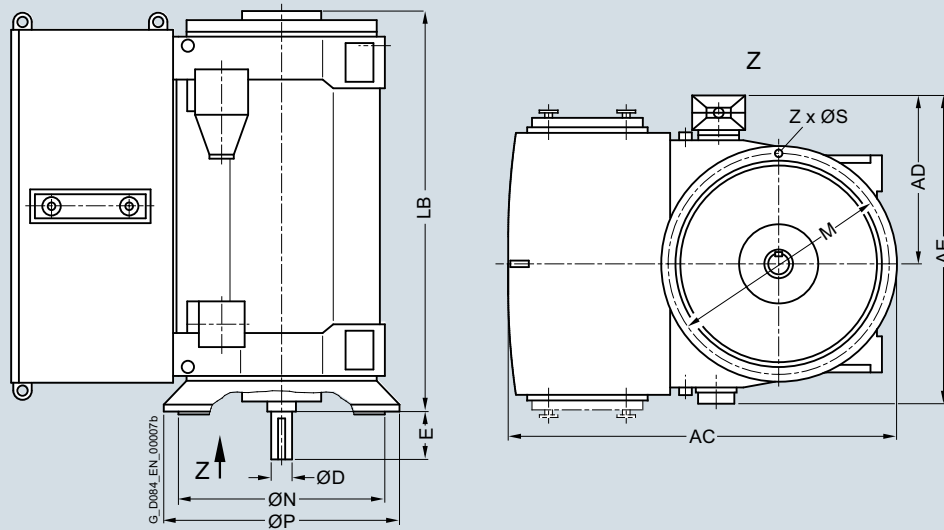
²⁾ Only in the 50 Hz version.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors
H-compact PLUS 1RN4 and 1RN6

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, roller bearings, IM V1 type of construction												
6-pole												
1RN4560-6H..8	7650	2180	1210	2100	180	240	2090	1400	1250	1320	26	16
1RN4562-6H..8	8250	2180	1210	2100	180	240	2090	1400	1250	1320	26	16
1RN4564-6H..8	9100	2180	1210	2100	190	280	2320	1400	1250	1320	26	16
1RN4566-6H..8	9550	2180	1210	2100	190	280	2320	1400	1250	1320	26	16
1RN4630-6H..8	12300	2875	1330	2300	220	280	2400	2000	1800	1900	33	16
1RN4632-6H..8	12850	2875	1330	2300	220	280	2400	2000	1800	1900	33	16
1RN4634-6H..8	13950	2875	1330	2300	220	280	2640	2000	1800	1900	33	16
1RN4636-6H..8	14650	2875	1330	2300	220	280	2640	2000	1800	1900	33	16
8-pole												
1RN6450-8H..8	4650	1809	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6452-8H..8	4950	1809	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6454-8H..8	5350	1809	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6456-8H..8	5650	1809	930	1620	140	200	1930	1150	1000	1080	26	8
1RN4500-8H..8	5700	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4502-8H..8	6050	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN4504-8H..8	6550	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4506-8H..8	6950	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN4560-8H..8	7650	2180	1070	1960	180	240	2090	1400	1250	1320	26	16
1RN4562-8H..8	8150	2180	1070	1960	180	240	2090	1400	1250	1320	26	16
1RN4564-8H..8	9000	2180	1070	1960	190	280	2320	1400	1250	1320	26	16
1RN4566-8H..8	9450	2180	1070	1960	190	280	2320	1400	1250	1320	26	16
1RN4630-8H..8	12250	2875	1330	2300	220	280	2400	2000	1800	1900	33	16
1RN4632-8H..8	12850	2875	1330	2300	220	280	2400	2000	1800	1900	33	16
1RN4634-8H..8	13800	2875	1330	2300	220	280	2640	2000	1800	1900	33	16
1RN4636-8H..8	14550	2875	1330	2300	220	280	2640	2000	1800	1900	33	16

Note:

Higher pole numbers are available on request.

¹⁾ For $V_{\text{rated}} \geq 2.0$ kV and current $I_{\text{rated}} > 315$ A, the dimension changes by + 140 mm.

Motors for converter operation

Options and tests

Description of options

Overview

Using the following options, H-compact and H-compact PLUS can be adapted to order-specific requirements. The Article No. is supplemented with a "-Z" and with either one or several order codes.

Other options can be addressed on request with the LOHER VARIO (rib-cooled) or LOHER VARIO PLUS (modular design) motor series.

Order code	Option description	Remark
Paint finish		
K26	Special paint finish in the standard color RAL 7030	
Y53	Normal paint finish not in the standard color	
Y54	Special paint finish not in the standard color	
Documentation		
B00	No motor manual	
B21	Motor manual on CD instead of paper (PDF format)	
B22	Motor manual as e-mail (PDF format) instead of paper	
B23	Motor manual printed on paper, 3x	
B27	Run out protocol	
B28	Protocol air gap calculation	
B34	Document standard inspection and test plan	
B35	Document balance report	
B36	Document test and inspection description	
B37	Document load characteristics	
B38	Document recommended spare parts	
B41	Document instrumentation list	
B43	Document production schedule: Generated once	
B44	Document production schedule: Updated biweekly	
B45	Document production schedule: Updated monthly	
B48	Document order-specific inspection and test plan	
Document language		
D00	Documentation in German	
D54	Documentation in Czech	
D55	Documentation in Polish	
D56	Documentation in Russian	
D72	Documentation in Italian	
D73	Documentation in Finnish	
D74	Documentation in Dutch	
D75	Documentation in Turkish	
D76	Documentation in English	Standard
D77	Documentation in French	
D78	Documentation in Spanish	
D79	Documentation in Portuguese	
D80	Documentation in Bulgarian	
D81	Documentation in Norwegian	
D82	Documentation in Hungarian	
D83	Documentation in Swedish	
D84	Documentation in Chinese	

Overview (continued)

Order code	Option description	Remark
	Speed monitoring	
A03	Speed monitoring using an inductive proximity switch, Pepperl + Fuchs, incl. terminal box, without evaluation unit	
H70	Rotary pulse encoder LL 861 900 220 (Leine+Linde)	
H73	Rotary pulse encoder HOG 10 D1024 I (16 mm)	
H76	Rotary pulse encoder HOG 10 D1024 I with integrated shaft grounding	
H88	Rotary pulse encoder HOG 11 DN 1024 I (16 mm) with special anti-corrosion protection	For marine applications
H89	Rotary pulse encoder HOG 11 DN 1024 I (16 mm) with integrated shaft grounding and special anti-corrosion protection	For marine applications
	Direction of rotation	
K97	Clockwise rotation	Standard
K98	Anticlockwise rotation	
	Noise reduction	
L20	Silencer for air inlet	
L21	Noise reduction: Silencer for air outlet	Only for H-compact PLUS
L22	Noise reduction: Lining of interior space	Only for H-compact PLUS
L23	External metal fan, unidirectional	Only for H-compact
L25	Rustless grid at inlet silencer	Only for H-compact
	Terminal box mounting position	
K09	Terminal box on right-hand side, view from DE	Standard
K10	Terminal box on left-hand side, view from DE	
K83	Terminal box rotated through 90°, cable from DE	
K84	Terminal box rotated through 90°, cable from NDE	
K85	Terminal box rotated through 180°	
N81	Cable entry from NDE side with rotated terminal box bracket 180°	Only for H-compact
N82	Cable entry from DE side with rotated terminal box bracket 180°	Only for H-compact
N83	Cable entry from above	
N84	Rotation of the terminal box bracket 180°	
N85	Terminal box on NDE	Only for H-compact
	Terminal box, main and auxiliary terminal box	
L54	Terminal box 1XB8 751, 6 terminals with 2 cable entries for connection to power supply, rated current > 315 A	
L59	Terminal box 1XB8 911 for 1 cable entry for power supply	
L55	Star-point terminal box 1XA8 711, up to 6 kV, 3 terminals	
L56	Star-point terminal box 1XB8 911, up to 10 kV, 3 terminals	
L57	Star-point terminal box 1XB8 751, up to 6 kV, 6 terminals	
L58	Star-point terminal box 1XB9 011, for installing current transformer (without current transformer)	
M50	Auxiliary terminal box material: Cast iron	
M51	Auxiliary terminal box material: Stainless steel	
M52	Separate auxiliary terminal box for anti-condensation heater	Standard for H-compact PLUS
	Terminal box – accessories/equipping	
K59	Cable plug connection, rated voltage 2 to 6.6 kV	
L79	Gland plate for 3 winding ends to connect to the line supply via separately mounted terminal box, 3 m free cable length from the frame	
L80	Gland plate for 6 winding ends to connect to the line supply via separately mounted terminal box, 3 m free cable length from the frame	
L83	Cable plug connection, rated voltage 9 to 11 kV	

Motors for converter operation

Options and tests

Description of options

Overview (continued)

Order code	Option description	Remark
	Cooling air monitoring	
A44	1 resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box for cold air temperature	
A45	1 resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box for hot air temperature	
A46	1 double resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box, for cold air temperature	
A47	1 double resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box, for hot air temperature	
A86	1 dial-type thermometer with 2 NO-Contacts for cold air temperature incl. terminal box	
A87	1 dial-type thermometer with 2 NO-Contacts for hot air temperature incl. terminal box	
	Bearing version/instrumentation	
H09 + H11	DIN flange type for forced oil lubrication for oil inlet with flowmeter, manometer and throttle valve (incl. counter flange) + DIN flange type forced oil lubrication for oil outlet with sight glass (incl. counter flange)	
H10 + H12	ANSI flange type for forced oil lubrication for oil inlet with flowmeter, manometer and throttle valve (incl. counter flange) + ANSI flange type for forced oil lubrication for oil outlet with sight glass (incl. counter flange)	
H43	DIN flange type for forced oil lubrication for in- and outlet without instruments (with counter flanges)	
H44	ANSI flange type for forced oil lubrication for in- and outlet without instruments (with counter flanges)	
K20	Bearing design on DE for increased forces (reinforced)	H-compact SH 315 and SH 355 only
K96	Sleeve bearing instead of roller bearing	
L18	DE insulation	
L27	NDE insulation	
L60	Forced-circulation oil lubrication (with oil cooling) instead of oil-ring lubrication	
L66	Air cooling, but prepared for future conversion to forced-circulation oil lubrication	
P44	Oil manifold; connections with counter flange; flange flush with the axial shaft face	
	Bearing monitoring – sleeve bearings	
A02	Shaft vibration monitoring for sleeve bearings, Bently Nevada system	
A39	Prepared for shaft vibration monitoring for sleeve bearings (without monitoring system)	
A41	2 resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminals for sleeve bearing	
A43	2 double resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminals for sleeve bearing	
A70	2 dial-type thermometers without contacts	
A71	2 dial-type thermometers with contacts	
	Bearing monitoring – roller bearings	
A40	2 resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminal box for rolling-contact bearings	
A42	2 double resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminals for rolling-contact bearing	
G50	Shock pulse measuring nipple (SPM) at DE and NDE	Standard
H05	Shock pulse measurement (SPM), fixed sensors and distributor box	
H07	Shock pulse measurement (SPM), complete alarm box	
	Mechanical versions	
K16	Second shaft extension up to 50 % rated torque	
L81	Vibration severity grade B according to IEC/ EN 60034-14	Not available for 2-pole motors with roller bearings.
Y55	Non-standard cylindrical shaft extension (an inquiry must be sent to the factory)	
Y85	Oil shrink fit for cylindrical, single-stage shaft extension instead of a key connection	

Overview (continued)

Order code	Option description	Remark
	Certified for pump drives	
E88	Construction supervision for motors for seawater desalination plants where Siemens AG commissions the acceptance authority	
E89	Construction supervision for motors for seawater desalination plants where a third party commissions the acceptance authority	
E90	Pump drive for seawater desalination plants certified according to Lloyds Register	
	Marine applications	Options and tests for marine and offshore applications: see Chapter 5 .
	Others/additional options	
H08	Leakage water detection	
K52	Degree of protection IP56 non-heavy-sea	
L15	Supporting ring for coupling guard	
L17	Mounting a coupling provided (finish machined and balanced)	
L31	Motor mounting materials for mounting on a steel foundation: Bolts, shims and taper dowels	
L32	Motor mounting materials for mounting on a concrete foundation or concrete base: Threaded bolts, armature plates, sole plates, shims and taper dowels	
L33	Motor mounting materials to mount on a concrete foundation or concrete base: T-head bolts, foundation bolt sleeves, sole plates, shims and taper dowels	
L91	Higher number of starts, > 1000 ... 10000 starts per year, for Cu rotors	
L92	Higher number of starts, > 5000 ... 10000 starts per year, for Al rotors	
P45	External screws made of stainless steel	
	Anti-condensation heating	
L08	Anti-condensation heater, rated voltage 400 V	
L09	Anti-condensation heater, rated voltage 500 V	
M12	Anti-condensation heater 110 to 120 V (min. 100 V, max. 132 V)	
M13	Anti-condensation heater 220 to 240 V (min. 200 V, max. 264 V)	Standard for H-compact PLUS
Y83	Anti-condensation heater with other rated voltages, V = additional text required)	
	Ambient conditions	
D02	Operation at ambient temperatures up to -50 °C, transport up to -50 °C	
D03	Operation at ambient temperatures up to -40 °C, transport up to -40 °C	
D04	Operation at ambient temperatures up to -30 °C, transport up to -40 °C	
E81	Outdoor use with high salinity or offshore applications (corrosivity grade C5-M/ C5-I)	
E82	Outdoor use with moderate salinity (corrosivity grade C4)	
E83	Outdoor use with low salinity (corrosivity grade C3)	
M06	For use in sulfurous or hydrogenous atmosphere	
	Winding and motor protection	
A12	6 PTC thermistors without lightning arresters	
A23	2 temperature sensors KTY 84-130	
A65	6 embedded resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminal box without lightning arresters	Standard
A66	6 embedded resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminal box with lightning arresters	

Motors for converter operation

Options and tests

Description of options

Overview (continued)

Order code	Option description	Remark
	Tests with acceptance	
F01	All standard tests (routine test), with acceptance	
F15	Recording of no-load characteristic and determination of core and friction losses, with acceptance	
F17	Recording of short-circuit characteristic and determination of short-circuit losses, with acceptance	
F19	Recording of load characteristic, with acceptance	
F23	Dissipation factor test (tan delta) on 2 (test) coils, with acceptance	In addition, specify order code F90
F29	No-load noise measurement, without noise analysis, with acceptance	
F31	Cooling air flow and pressure drop measurement, with acceptance	
F35	Recording of current and torque characteristics during acceleration, with acceptance	
F37	Determination of moment of inertia by retardation method, with acceptance	
F39	Overspeed test, with acceptance	
F41	Recording of residual voltage curve, with acceptance	
F53	Locked-rotor torque and current measurement, with acceptance	
F55	Polarization index measurement, with acceptance	
F61	Impulse or AC voltage test on 2 (test) coils, with acceptance	In addition, specify order code F90
F63	Noise analysis, with acceptance	
F83	Type test for horizontal motors with temperature rise test, with acceptance	
F90	2 test coils	
F93	Type test for vertical motors with temperature rise test, with acceptance	
	Tests without acceptance	
F14	Recording of no-load characteristic and determination of core and friction losses, without acceptance	
F16	Recording of short-circuit characteristic and determination of short-circuit losses, without acceptance	
F18	Recording of load characteristic, without acceptance	
F22	Dissipation factor test (tan delta) on 2 (test) coils, without acceptance	In addition, specify order code F90
F28	No-load noise measurement, without noise analysis, without acceptance	
F30	Cooling air flow and pressure drop measurement, without acceptance	
F34	Recording of current and torque characteristics during acceleration, without acceptance	
F36	Determination of moment of inertia by retardation method, without acceptance	
F38	Overspeed test, without acceptance	
F42	"Conformance Test (Wet Test)" to NEMA Standard, without acceptance	
F52	Locked-rotor torque and current measurement, without acceptance	
F54	Polarization index measurement, without acceptance	
F60	Impulse or AC voltage test on 2 (test) coils, without acceptance	In addition, specify order code F90
F62	Noise analysis, without acceptance	
F82	Type test for horizontal motors with temperature rise test, without acceptance	
F90	2 test coils	
F92	Type test for vertical motors with temperature rise test, without acceptance	

Overview (continued)

Order code	Option description	Remark
	Extension of liability for defects	Article number for reorder
Q80	Extension of liability for defects, by 12 months to a total of 24 months (2 years) from delivery	9LD1720-0AA24
Q81	Extension of liability for defects, by 18 months to a total of 30 months (2.5 years) from delivery	9LD1720-0AA30
Q82	Extension of liability for defects, by 24 months to a total of 36 months (3 years) from delivery	9LD1720-0AA36
Q83	Extension of liability for defects, by 30 months to a total of 42 months (3.5 years) from delivery	9LD1720-0AA42
Q84	Extension of liability for defects, by 36 months to a total of 48 months (4 years) from delivery	9LD1720-0AA48
Q85	Extension of liability for defects, by 48 months to a total of 60 months (5 years) from delivery	9LD1720-0AA60

Conditions for an extension of liability for defects

You will find the currently valid conditions for an extension of liability for defects under:

<http://support.automation.siemens.com/WW/view/en/56715113>

Motors for converter operation

Options and tests

Notes

3

Explosion-protected motors



4/2	Overview
4/2	Classification of zones
4/3	Types of protection
4/4	Certification
4/5	Type of protection Ex nA/Ex tc
4/5	Air-cooled motors H-compact 1MS4
4/6	Air-cooled motors H-compact PLUS 1SG4 and 1SG6
4/7	Water-cooled motors H-compact PLUS 1SL4 and 1SL6
4/8	Type of protection Ex px
4/8	Overview
4/9	Air-cooled motors H-compact 1MG4
4/10	Air-cooled motors H-compact PLUS 1SB4 and 1SB6
4/11	Water-cooled motors H-compact PLUS 1SQ4 and 1SQ6
4/12	Type of protection Ex e
4/12	Air-cooled motors H-compact 1MA4
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Explosion-protected motors

Overview

Classification of zones

Overview

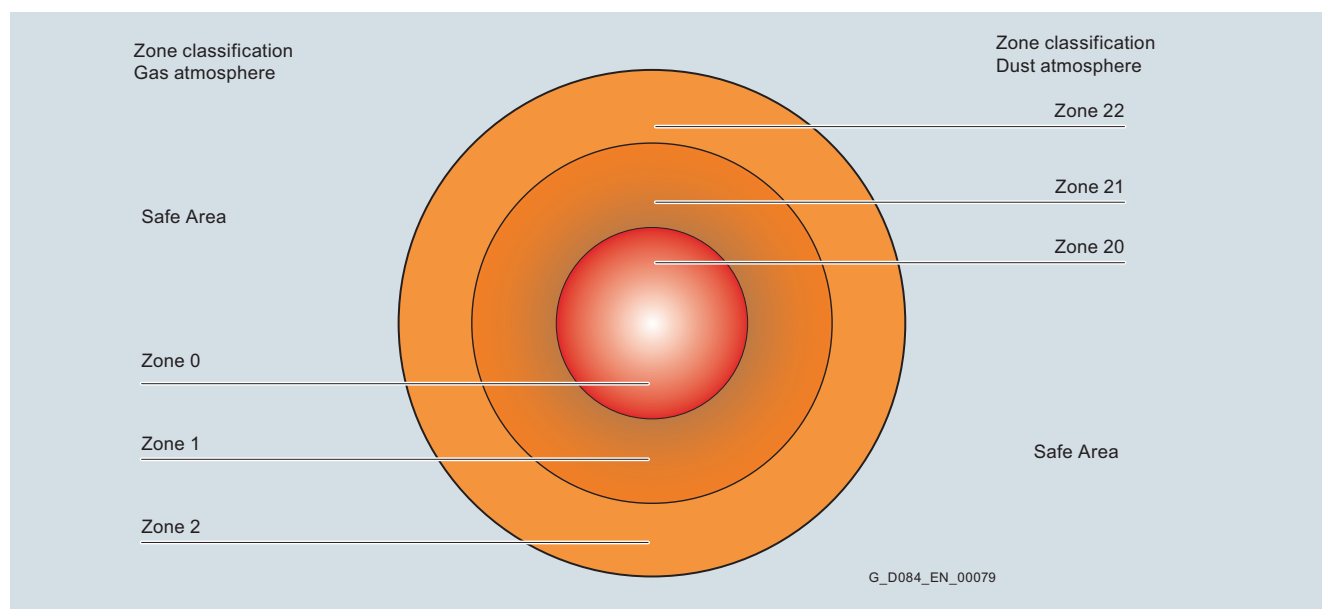
In many industries, the manufacture, processing, transport or storage of combustible materials results in the creation or release of gases, vapors or mist into the environment. Combustible dusts are created in other processes.

Explosive atmospheres are formed when gases, vapors, mist or dust come into contact with oxygen in the air. If ignited, this can result in an explosion. In the chemical and petrochemical industries in particular, when crude oil and natural gas are transported, or in mining, milling (e.g. grain and granular solids), this can result in serious injury to personnel and damage to equipment.

To ensure maximum safety in these areas, legislators in most countries have implemented appropriate stipulations in the form

of laws and regulations based on national and international standards.

Hazardous areas are classified in zones. Classification in zones depends on the probability of the presence of an explosive atmosphere, the duration and the location. Information and specifications regarding classification in zones are provided in IEC/EN 60079-10-1 for gas atmospheres and in IEC/EN 60079-10-2 for potentially explosive atmospheres as a result of dust. Further, a distinction is made between various explosion groups as well as temperature classes and these are included in the hazard assessment.



Depending on the particular zone and therefore the associated hazard, operating equipment must comply with defined minimum requirements regarding the type of protection. The different

types of protection require corresponding measures to prevent ignition that should be implemented at the motor in order to prevent that a surrounding explosive atmosphere is ignited.

Zone Dust ²⁾	Gas ¹⁾²⁾	Zone definition acc. to IEC/EN 60079-10-1 for Gas atmospheres IEC/EN 60079-10-2 for dust atmospheres	Assigned types of protection	Category according to 94/9/EC
22	–	An area in which in normal operation it is not expected that an explosive atmosphere in the form of a cloud of combustible dust in the air occurs, and if it does occur then only briefly.	Ex tc	3D
–	2	An area in which in normal operation it is not expected that an explosive gas atmosphere occurs and if so, only infrequently and only briefly.	Ex nA	3G
–	1	An area in which it is expected that an explosive gas atmosphere occurs during normal operation.	Ex e Ex px Ex d	2G
–	0	An area in which it is expected that a gas atmosphere is constantly present or for long periods of time	Motors are not permitted	

¹⁾ Motors for Zone 1 may also be used in Zone 2.

²⁾ Motors, which are marked for gas or dust protection, must not be used in hybrid mixtures! Hybrid mixtures: When explosive gas and dust atmospheres occur simultaneously.

Overview (continued)**Type of protection, pressurized enclosure Ex px acc. to IEC/EN 60079-2**

In the motor, protective gas is kept under pressure in relation to the surrounding atmosphere to prevent the penetration of explosive atmospheres. The inside of the motor must be flushed with a protective gas before it is switched on.

H-compact motors fulfill this type of protection (type series 1MG4) and H-compact PLUS (air-cooled, type series 1SB4/1SB6 and water-cooled, type series 1SQ4/1SQ6).

Type of protection, increased safety Ex e acc. to IEC/EN 60079-7

Additional measures are taken to prevent the possibility of high temperatures and to prevent sparks or arcs from occurring inside the motor and at external motor components.

Increased safety can be guaranteed by H-compact motors (type series 1MA4) and H-compact PLUS (air-cooled, type series 1SJ4/1SJ6 and water-cooled (type series 1SN4/1SN6) (an inquiry must be sent to the factory).

Type of protection, flameproof enclosure Ex d acc. to IEC/EN 60079-1

The components that can ignite an explosive atmosphere are located in an enclosure that is not damaged by an internal explosion and flameproof joints prevent flames from escaping to the explosive atmosphere on the outside.

The LOHER VARIO series is available in **Ex d**.

Type of protection, Ex nA acc. to IEC/EN 60079-15

The type of protection **Ex nA** ensures that a motor in normal operation as well as when operated under deviating conditions as specified in the standard is not in a position to ignite a surrounding explosive gas atmosphere.

The series of H-compact motors (type series 1MS4) and H-compact PLUS (air-cooled, type series 1SG4/1SG6) and water-cooled (type series 1SL4/1SL6) are available in **Ex nA**.

Type of protection Ex t acc. to IEC/EN 60079-31

This type of protection applies for electrical equipment protected using an enclosure and with limited surface temperature for use in areas in which combustible dust can occur in concentration levels that could cause a fire or an explosion.

The series of H-compact motors (type series 1MS4) and H-compact PLUS (air-cooled, 1SG4/1SG6 and water-cooled, 1SL4/1SL6) are available in **Ex tc**.

Explosion-protected motors for converter operation

Principally, explosion-protected motors can be fed from drive converters. As a result of the different design, system analyses, system tests etc. for the various types of protection, an inquiry is required to check whether these motors can be actually implemented.

Explosion-protected motors


Overview

Certification

Overview (continued)

Certification

Motors for use in hazardous areas are certified according to the EC Directive 94/9/EC (ATEX) or other regional certification schemes and are marked according to the following schematic.

Example, pressurized enclosure:	Acc. to Directive 94/9/EC (ATEX)						Acc. to Standards (IEC/EN)				
	CE	XXXX		II	2	G	Ex	px	II	T3	X
CE marking											
Number of the certifying "notified body"											
Ex symbol for explosion protected equipment											
Groups:											
• I = mining											
• II = other than mining											
Category:											
• 2 (Zone 1/21)											
• 3 (Zone 2/22)											
Explosive atmosphere											
• G = gas											
• D = dust											
Explosion protected equipment											
Type of protection nA, d, e, px or tc											
Note: Additional types of protection for accessories are alphabetically listed											
Explosion group, where relevant, restricted (Gas: IIA, IIB, IIC; Dust: IIIA, IIIB, IIIC)											
Temperature class with max. surface temperature											
• T1 ≤ 450 °C											
• T2 ≤ 300 °C											
• T3 ≤ 200 °C (standard for motors from Siemens I DT LD P)											
• T4 ≤ 135 °C											
Alternatively the maximum surface temperature may be marked: e.g. T125 °C (possible for gas, necessary for dust explosion protected machines)											
Special conditions according to the operating instructions or type examination certificate											

Additional information on the subject of explosion protection, types of protection and zones is provided in the Siemens brochure *Explosion Protection*.

Explosion-protected motors

Type of protection Ex nA/Ex tc

Air-cooled motors
H-compact 1MS4

Overview



Technical data

Overview of technical data

H-compact 1MS4	
Rated voltage	2.0 ... 11 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Type of protection	Ex nA/Ex tc
Operation in hazardous areas	Zone 2/Zone 22
Cooling method	IC411/IC416
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	315 ... 630 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Die-cast aluminum or copper (dependent on the shaft height and number of poles)
Standards	IEC, EN
Frame design	Cast iron with cooling ribs

The series of H-compact motors (IC411/IC416 cooling type), developed for Zone 2 in type of protection **Ex nA** or for Zone 22 in type of protection **Ex tc** are available as 1MS4 motors. The Article No. schematic is shown in Chapter 1.

These **Ex nA** or **Ex tc** measures do not affect the performance data or main dimensions with respect to H-compact motors (1LA4 type series). This is the reason that the values of the 1LA4 type series from Chapter 2 and Chapter 3 can also be used for 1MS4 motors.

An extensive range of options and tests are available for H-compact motors, type of protection **Ex nA** or **Ex tc** (→ Options and tests).

Explosion-protected motors

Type of protection Ex nA/Ex tc

Air-cooled motors
H-compact PLUS 1SG4 and 1SG6

Overview



Technical data

Overview of technical data

H-compact PLUS 1SG4/1SG6	
Rated voltage	3.3 ... 11 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Type of protection	Ex nA/Ex tc
Operation in hazardous areas	Zone 2/Zone 22
Cooling method	IC611/IC616/IC666
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	450 ... 710 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN
Frame design for shaft heights 450 ... 560 mm	Frame: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 710 mm	Frame: Steel Cooling enclosure: Steel

H-compact PLUS motors (type series 1SG4 and 1SG6) developed for Zone 2 in type of protection **Ex nA** or for Zone 22 in type of protection **Ex tc** are available as modular motors with air/air heat exchanger. The Article No. schematic is shown in Chapter 1.

These **Ex nA** or **Ex tc** measures do not affect the performance data or main dimensions with respect to H-compact PLUS motors. This is the reason that the values of the 1RQ4 or 1RQ6 type series from Chapter 2 can be used for 1SG4 and 1SG6 motors.

An extensive range of options and tests are available for H-compact PLUS motors, type of protection **Ex nA** or **Ex tc** (--> Options and tests).

Explosion-protected motors

Type of protection Ex nA/Ex tc

Water-cooled motors
H-compact PLUS 1SL4 and 1SL6

Overview



Technical data

Overview of technical data

H-compact PLUS 1SL4/1SL6	
Rated voltage	3.3 ... 11 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Type of protection	Ex nA/Ex tc
Operation in hazardous areas	Zone 2/Zone 22
Cooling method	IC81W/IC86W
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	450 ... 710 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN
Frame design for shaft heights 450 ... 560 mm	Frame: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 710 mm	Frame: Steel Cooling enclosure: Steel

H-compact PLUS motors (type series 1SL4 and 1SL6) developed for Zone 2 in type of protection **Ex nA** or for Zone 22 in type of protection **Ex tc** are available as modular motors with air/water heat exchanger (cooling type IC81W/IC86W). The Article No. schematic is shown in Chapter 1.

These **Ex nA** or **Ex tc** measures do not affect the performance data or main dimensions with respect to H-compact PLUS motors. This is the reason that the values of the 1RN4 or 1RN6 type series from Chapter 2 can be used for 1SL4 and 1SL6 motors.

An extensive range of options and tests are available for H-compact PLUS motors, type of protection **Ex nA** or **Ex tc** (-> Options and tests).

Explosion-protected motors

Type of protection Ex px

Overview

Overview

For motors with pressurized enclosure (type of protection **Ex px**) the terminal box is included in the pressurized enclosure or has increased safety (type of protection **Ex e**).

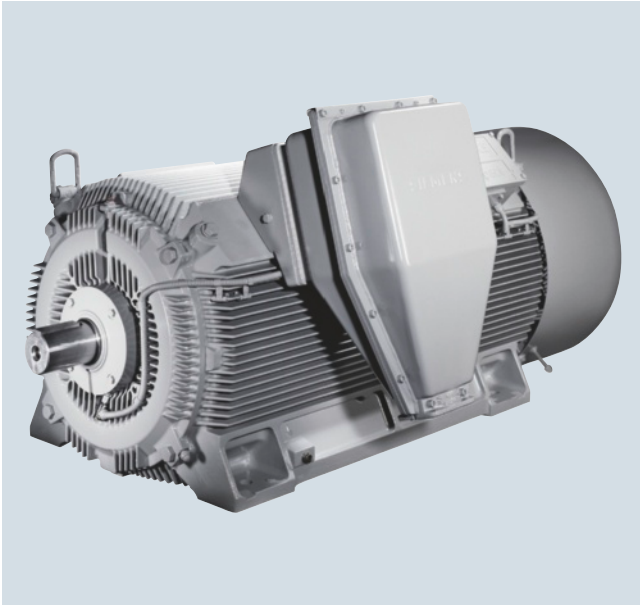
For motors > 11 kV, the terminal box is always included in the pressurized enclosure.

Explosion-protected motors

Type of protection Ex px

Air-cooled motors
H-compact 1MG4

Overview



Technical data

Overview of technical data

H-compact 1MG4	
Rated voltage	2.0 ... 11 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Type of protection	Ex px
Operation in hazardous areas	Zone 1 (may also be used in Zone 2)
Cooling method	IC411/IC416
Stator winding insulation	Thermal class 155 (F), utilized to 155 (F)
Shaft height	315 ... 560 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Die-cast aluminum or copper (dependent on the shaft height and number of poles)
Standards	IEC, EN
Frame design	Cast iron with cooling ribs

The H-compact motors (IC411/IC416 cooling type), developed for Zone 1 in type of protection **Ex px** are available as 1MG4 motors. The Article No. schematic is shown in Chapter 1.

The motors are shipped with a control unit to maintain the internal pressure and to carry out the purging process required each time before the motor is started.

These **Ex px** measures have no effect on the performance data with respect to H-compact motors of the 1LA4 type series. This is the reason that the values of the 1LA4 motors from Chapter 1 can be used for 1MG4 motors. Main dimensions on request.

A wide range of options and tests is available for H-compact motors, type of protection **Ex px**.

Explosion-protected motors

Type of protection Ex px

Air-cooled motors
H-compact PLUS 1SB4 and 1SB6

Overview



Technical data

Overview of technical data

H-compact PLUS 1SB4/1SB6	
Rated voltage	3.3 ... 13.8 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Type of protection	Ex px
Operation in hazardous areas	Zone 1 (may also be used in Zone 2)
Cooling method	IC611/IC616/IC666
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	450 ... 710 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN
Frame design for shaft heights 450 ... 560 mm	Frame: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 710 mm	Frame: Steel Cooling enclosure: Steel

This series of H-compact PLUS motors, developed for Zone 1 (type series 1SB4 and 1SB6) in type of protection **Ex px** are available as modular motors with air/air heat exchanger (IC611/IC616/IC666 cooling type). The Article No. schematic is shown in Chapter 1.

The motors are shipped with a control unit to maintain the internal pressure and to carry out the purging process required each time before the motor is started.

These **Ex px** measures have no effect on the performance data when compared to H-compact PLUS motors. This is the reason that the values of 1RQ4 or 1RQ6 motors from Chapter 2 can be used for 1SB4 and 1SB6 motors. Main dimensions on request.

A wide range of options and tests is available for H-compact PLUS motors, type of protection **Ex px**.

Explosion-protected motors

Type of protection Ex px

Water-cooled motors
H-compact PLUS 1SQ4 and 1SQ6

Overview



Technical data

Overview of technical data

H-compact PLUS 1SQ4/1SQ6	
Rated voltage	3.3 ... 13.8 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Type of protection	Ex px
Operation in hazardous areas	Zone 1 (may also be used in Zone 2)
Cooling method	IC81W/IC86W
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	450 ... 710 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN
Frame design for shaft heights 450 ... 560 mm	Frame: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 710 mm	Frame: Steel Cooling enclosure: Steel

This series of H-compact PLUS motors, developed for Zone 1 (type series 1SQ4 and 1SQ6) in type of protection **Ex px** is available as modular motors with air/water heat exchanger (IC81W/IC86W cooling type). The Article No. schematic is shown in Chapter 1.

The motors are shipped with a control unit to maintain the internal pressure and to carry out the purging process required each time before the motor is started.

These **Ex px** measures have no effect on the performance data when compared to H-compact PLUS motors. This is the reason that the values of 1RN4 or 1RN6 type series from Chapter 2 can be used for 1SQ4 and 1SQ6 motors. Main dimensions on request.

A wide range of options and tests is available for H-compact PLUS motors, type of protection **Ex px**.

Explosion-protected motors

Type of protection Ex e

Air-cooled motors
H-compact 1MA4

Overview



Technical data

Overview of technical data

H-compact 1MA4	
Rated voltage	3.0 ... 11 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Type of protection	Ex e
Operation in hazardous areas	Zone 1 (may also be used in Zone 2)
Cooling method	IC411/IC416
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	315 ... 560 mm
Bearings	Roller bearings, sleeve bearings
Cage material	Die-cast aluminum or copper (dependent on the shaft height and number of poles)
Standards	IEC, EN
Frame design	Cast iron with cooling ribs

The series of H-compact motors developed for Zone 1 in type of protection **Ex e** is available as 1MA4 motors (cooling type IC411/IC416). The Article No. code is shown in Chapter 1.

Versions of motors that deviate from those listed in this chapter are available request.

Explosion-protected motors

Type of protection Ex e

Air-cooled motors
H-compact 1MA4

Selection and ordering data

For H-compact in **Ex e**, the following power ratings are available as standard:

Rated power kW	High voltage motor H-compact Article No.	Speed rpm	Rated current at I_{rated} at 6 kV A	Efficiency		Power factor		Torque Nm	Break- down torque $T_{\text{B}}/T_{\text{rated}}$ [-]	Locked- rotor torque $T_{\text{LR}}/T_{\text{rated}}$ [-]	Locked- rotor current $I_{\text{LR}}/I_{\text{rated}}$ [-]	Moment of inertia kgm ²
				4/4 load %	3/4 load %	4/4 load cos φ	3/4 load cos φ					
2.0 ... 6.6 kV, 50 Hz												
2-pole												
185	1MA4 312-2AN	2974	22	95.2	95.1	0.86	0.85	594	2.3	0.85	5.1	2.2
230	1MA4 314-2AN	2977	26	95.6	95.6	0.88	0.86	738	2.3	0.9	5.5	2.7
280	1MA4 316-2AN	2977	32	96	96	0.89	0.88	898	2.2	0.85	5.3	3.1
315	1MA4 350-2CN	2982	35	96.2	96.2	0.9	0.88	1009	2.4	0.7	5.5	5.5
355	1MA4 352-2CN	2981	39	96.3	96.3	0.91	0.9	1137	2.3	0.7	5.5	6
400	1MA4 354-2CN	2981	44	96.6	96.7	0.91	0.9	1281	2.4	0.7	5.5	6.5
4-pole												
170	1MA4 310-4AN	1486	21	94.4	94.3	0.82	0.78	1093	2.3	0.8	5.5	2.8
220	1MA4 312-4AN	1485	26	95	95.1	0.85	0.82	1415	2.2	0.8	5.4	3.5
260	1MA4 314-4AN	1486	31	95.3	95.5	0.85	0.82	1671	2.2	0.8	5.5	4
310	1MA4 316-4AN	1486	36	95.6	95.8	0.86	0.84	1992	2.2	0.8	5.5	4.8
335	1MA4 350-4AN	1487	40	95.7	95.7	0.84	0.81	2151	2.2	0.75	5.4	6
375	1MA4 352-4AN	1487	44	95.9	95.9	0.86	0.84	2408	2.2	0.75	5.4	6.9
440	1MA4 354-4AN	1487	51	96.1	96.2	0.87	0.85	2826	2.2	0.8	5.5	8.1
500	1MA4 400-4AN	1490	60	96.2	96.1	0.84	0.82	3205	2.2	0.7	5.4	11.6
560	1MA4 402-4AN	1490	66	96.3	96.2	0.85	0.82	3589	2.15	0.7	5.3	12.9
630	1MA4 404-4AN	1490	73	96.6	96.5	0.86	0.84	4038	2.1	0.7	5.2	14.5

Voltage code:

3.3 kV, 50 Hz
3 kV, 50 Hz
5 kV, 50 Hz
6 kV, 50 Hz
6.6 kV, 50 Hz
Other voltage

0
3
5
6
7
9

Note:

Higher pole numbers are available on request.

Type of construction:

IM B3
IM V1 (with canopy)

0
4

The power/performance data of H-compact 1LA4 motors **CANNOT be used here**. On the other hand, the main dimensions correspond to those of the 1LA4 motors and can be taken from Chapter 2.

A wide range of options and tests is available for H-compact motors, type of protection **Ex e**.

Explosion-protected motors

Type of protection Ex e

Air-cooled motors
H-compact PLUS 1SJ4 and 1SJ6

Water-cooled motors
H-compact PLUS 1SN4 and 1SN6

Overview

Based on the series of H-compact PLUS motors, air/air-cooled motors, type **1SJ4** and **1SJ6** are available for Zone 1 in **Ex e**.

An inquiry must always be sent to the factory for these motors.

Overview

Based on the series of H-compact PLUS motors, air/water-cooled motors, type **1SN4** and **1SN6** are available for Zone 1 in **Ex e**.

An inquiry must always be sent to the factory for these motors.

Options

Using the following options, H-compact and H-compact PLUS can be adapted to order-specific requirements. The Article No. is supplemented with a "-Z" and with either one or several order codes.

Other options can be addressed on request with the VARIO (rib-cooled) or VARIO PLUS (modular design) motor series.

Order code	Option description	Remark
Paint finish		
K26	Special paint finish in the standard color RAL 7030	
Y53	Normal paint finish not in the standard color	
Y54	Special paint finish not in the standard color	
Documentation		
B00	No motor manual	
B21	Motor manual on CD instead of paper (PDF format)	
B22	Motor manual as e-mail (PDF format) instead of paper	
B23	Motor manual printed on paper, 3x	
B27	Run out protocol	
B28	Protocol air gap calculation	
B34	Document standard inspection and test plan	
B35	Document balance report	
B36	Document test and inspection description	
B37	Document load characteristics	
B38	Document recommended spare parts	
B41	Document instrumentation list	
B43	Document production schedule: Generated once	
B44	Document production schedule: Updated biweekly	
B45	Document production schedule: Updated monthly	
B48	Document order-specific inspection and test plan	
Document language		
D00	Documentation in German	
D54	Documentation in Czech	
D55	Documentation in Polish	
D56	Documentation in Russian	
D72	Documentation in Italian	
D73	Documentation in Finnish	
D74	Documentation in Dutch	
D75	Documentation in Turkish	
D76	Documentation in English	Standard
D77	Documentation in French	
D78	Documentation in Spanish	
D79	Documentation in Portuguese	
D80	Documentation in Bulgarian	
D81	Documentation in Norwegian	
D82	Documentation in Hungarian	
D83	Documentation in Swedish	
D84	Documentation in Chinese	
Direction of rotation		
K97	Clockwise rotation	
K98	Anticlockwise rotation	

Explosion-protected motors

Options and tests

Description of options

Options (continued)

Order code	Option description	Remark
	Noise reduction	
L20	Silencer for air inlet	
L21	Noise reduction: Silencer for air outlet	Only for H-compact PLUS
L22	Noise reduction: Lining of interior space	Only for H-compact PLUS
L23	External metal fan, unidirectional	Only for H-compact
L25	Rustless grid at inlet silencer	Only for H-compact
	Terminal box mounting position	
K09	Terminal box on right-hand side, view from DE	Standard
K10	Terminal box on left-hand side, view from DE	
K83	Terminal box rotated through 90°, cable from DE	
K84	Terminal box rotated through 90°, cable from NDE	
K85	Terminal box rotated through 180°	
N81	Cable entry from NDE side with rotated terminal box bracket 180°	Only for H-compact
N82	Cable entry from DE side with rotated terminal box bracket 180°	Only for H-compact
N83	Cable entry from above	
N84	Rotation of the terminal box bracket 180°	
N85	Terminal box on NDE	Only for H-compact
	Terminal box, main and auxiliary terminal box	
L54	Terminal box 1XB8 751, 6 terminals with 2 cable entries for connection to power supply, rated current > 315 A	
L59	Terminal box 1XB8 911 for 1 cable entry for power supply	
L55	Star-point terminal box 1XA8 711, up to 6 kV, 3 terminals	
L56	Star-point terminal box 1XB8 911, up to 10 kV, 3 terminals	
L57	Star-point terminal box 1XB8 751, up to 6 kV, 6 terminals	
M50	Auxiliary terminal box material: Cast iron	
M51	Auxiliary terminal box material: Stainless steel	
M52	Separate auxiliary terminal box for anti-condensation heater	
	Cooling air monitoring	
A44	1 resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box for cold air temperature	
A45	1 resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box for hot air temperature	
A46	1 double resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box, for cold air temperature	
A47	1 double resistance thermometer Pt 100 for 2-, 3- or 4-wire connection from terminal box, for hot air temperature	
A86	1 dial-type thermometer with 2 NO-Contacts for cold air temperature incl. terminal box	
A87	1 dial-type thermometer with 2 NO-Contacts for hot air temperature incl. terminal box	
	Speed monitoring	
A03	Speed monitoring using an inductive proximity switch, Pepperl + Fuchs, incl. terminal box, without evaluation unit	

Options (continued)

Order code	Option description	Remark
Bearing version/instrumentation		
H09 + H11	DIN flange type for forced oil lubrication for oil inlet with flowmeter, manometer and throttle valve (incl. counter flange) + DIN flange type forced oil lubrication for oil outlet with sight glass (incl. counter flange)	
H10 + H12	ANSI flange type for forced oil lubrication for oil inlet with flowmeter, manometer and throttle valve (incl. counter flange) + ANSI flange type for forced oil lubrication for oil outlet with sight glass (incl. counter flange)	
H43	DIN flange type for forced oil lubrication for in- and outlet without instruments (with counter flanges)	
H44	ANSI flange type for forced oil lubrication for in- and outlet without instruments (with counter flanges)	
K20	Bearing design on DE for increased forces (reinforced)	H-compact SH 315 and SH 355 only
K96	Sleeve bearing instead of roller bearing	
L18	DE insulation	
L27	NDE insulation	Standard for H-compact PLUS
L60	Forced-circulation oil lubrication (with oil cooling) instead of oil-ring lubrication	
L66	Air cooling, but prepared for future conversion to forced-circulation oil lubrication	
P44	Oil manifold; connections with counter flange; flange flush with the axial shaft face	
Bearing monitoring – sleeve bearings		
A02	Shaft vibration monitoring for sleeve bearings, Bently Nevada system	
A39	Prepared for shaft vibration monitoring for sleeve bearings (without monitoring system)	
A41	2 resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminals for sleeve bearing	
A43	2 double resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminals for sleeve bearing	
A70	2 dial-type thermometers without contacts	
A71	2 dial-type thermometers with contacts	
Bearing monitoring – roller bearings		
A40	2 resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminal box for rolling-contact bearings	
A42	2 double resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminals for rolling-contact bearing	
G50	Shock pulse measuring nipple (SPM) at DE and NDE	Standard
Mechanical versions		
K16	Second shaft extension up to 50 % rated torque	
L81	Vibration severity grade B according to IEC/ EN 60034-14	Not available for 2-pole motors with roller bearings.
Y55	Non-standard cylindrical shaft extension (an inquiry must be sent to the factory)	
Y85	Oil shrink fit for cylindrical, single-stage shaft extension instead of a key connection	

Explosion-protected motors

Options and tests

Description of options

Options (continued)

Order code	Option description	Remark
	Others/additional options	
H08	Leakage water detection	
K52	Degree of protection IP56 non-heavy-sea	
K35	External metal fan, bidirectional	Only for H-compact
L15	Supporting ring for coupling guard	
L17	Mounting a coupling provided (finish machined and balanced)	
L31	Motor mounting materials for mounting on a steel foundation: Bolts, shims and taper dowels	
L32	Motor mounting materials for mounting on a concrete foundation or concrete base: Threaded bolts, armature plates, sole plates, shims and taper dowels	
L33	Motor mounting materials to mount on a concrete foundation or concrete base: T-head bolts, foundation bolt sleeves, sole plates, shims and taper dowels	
L91	Higher number of starts, > 1000 ... 10000 starts per year, for Cu rotors	
L92	Higher number of starts, > 5000 ... 10000 starts per year, for Al rotors	
P45	External screws made of stainless steel	
	Anti-condensation heating	
M14	Anti-condensation heater Ex e II T3, rated voltage range 110 to 120 V	
M15	Anti-condensation heater Ex e II T3, rated voltage range 220 to 240 V	Standard for H-compact in type of protection Ex e (1MA4) and H-compact PLUS
	Ambient conditions	
D02	Operation at ambient temperatures up to -50 °C, transport up to -50 °C	
D03	Operation at ambient temperatures up to -40 °C, transport up to -40 °C	
D04	Operation at ambient temperatures up to -30 °C, transport up to -40 °C	
E81	Outdoor use with high salinity or offshore applications (corrosivity grade C5-M/ C5-I)	
E82	Outdoor use with moderate salinity (corrosivity grade C4)	
E83	Outdoor use with low salinity (corrosivity grade C3)	
	Winding and motor protection	
A12	6 PTC thermistors without lightning arresters	
A23	1 temperature sensor KTY 84-130	
A65	6 embedded resistance thermometers Pt 100 for 2-, 3- or 4-wire connection from terminal box without lightning arresters	Standard
A67	6 embedded screened resistance thermometers Pt 100 for 3- or 4-wire connection from terminal box without lightning arresters	
	Marine applications	Options and tests for marine and offshore applications: see Chapter 5 .

Options (continued)

Order code	Option description	Remark
	Tests with acceptance	
F01	All standard tests (routine test), with acceptance	
F15	Recording of no-load characteristic and determination of core and friction losses, with acceptance	
F17	Recording of short-circuit characteristic and determination of short-circuit losses, with acceptance	
F19	Recording of load characteristic, with acceptance	
F23	Dissipation factor test (tan delta) on 2 (test) coils, with acceptance	In addition, specify order code F90
F29	No-load noise measurement, without noise analysis, with acceptance	
F31	Cooling air flow and pressure drop measurement, with acceptance	
F35	Recording of current and torque characteristics during acceleration, with acceptance	
F37	Determination of moment of inertia by retardation method, with acceptance	
F39	Overspeed test, with acceptance	
F41	Recording of residual voltage curve, with acceptance	
F53	Locked-rotor torque and current measurement, with acceptance	
F55	Polarization index measurement, with acceptance	
F61	Impulse or AC voltage test on 2 (test) coils, with acceptance	In addition, specify order code F90
F63	Noise analysis, with acceptance	
F83	Type test for horizontal motors with temperature rise test, with acceptance	
F90	2 test coils	
F93	Type test for vertical motors with temperature rise test, with acceptance	
	Tests without acceptance	
F14	Recording of no-load characteristic and determination of core and friction losses, without acceptance	
F16	Recording of short-circuit characteristic and determination of short-circuit losses, without acceptance	
F18	Recording of load characteristic, without acceptance	
F22	Dissipation factor test (tan delta) on 2 (test) coils, without acceptance	In addition, specify order code F90
F28	No-load noise measurement, without noise analysis, without acceptance	
F30	Cooling air flow and pressure drop measurement, without acceptance	
F34	Recording of current and torque characteristics during acceleration, without acceptance	
F36	Determination of moment of inertia by retardation method, without acceptance	
F38	Overspeed test, without acceptance	
F42	"Conformance Test (Wet Test)" to NEMA Standard, without acceptance	
F52	Locked-rotor torque and current measurement, without acceptance	
F54	Polarization index measurement, without acceptance	
F60	Impulse or AC voltage test on 2 (test) coils, without acceptance	In addition, specify order code F90
F62	Noise analysis, without acceptance	
F82	Type test for horizontal motors with temperature rise test, without acceptance	
F90	2 test coils	
F92	Type test for vertical motors with temperature rise test, without acceptance	
	Certificates for explosion protection	
D32	Ex certification for China (CQST)	
D35	Ex certification for Russia (RosTechNadzor)	
D36	Conformity declaration acc. to 94/9/EG (ATEX) of an independent test body for Zone 2 motors (Ex nA)	
D37	IECEx certification	

Explosion-protected motors

Options and tests

Description of options

Overview (continued)

Order code	Option description	Remark
	Extension of liability for defects	Article number for reorder
Q80	Extension of liability for defects, by 12 months to a total of 24 months (2 years) from delivery	9LD1720-0AA24
Q81	Extension of liability for defects, by 18 months to a total of 30 months (2.5 years) from delivery	9LD1720-0AA30
Q82	Extension of liability for defects, by 24 months to a total of 36 months (3 years) from delivery	9LD1720-0AA36
Q83	Extension of liability for defects, by 30 months to a total of 42 months (3.5 years) from delivery	9LD1720-0AA42
Q84	Extension of liability for defects, by 36 months to a total of 48 months (4 years) from delivery	9LD1720-0AA48
Q85	Extension of liability for defects, by 48 months to a total of 60 months (5 years) from delivery	9LD1720-0AA60

Conditions for an extension of liability for defects

You will find the currently valid conditions for an extension of liability for defects under:

<http://support.automation.siemens.com/WW/view/en/56715113>

Options for marine and offshore applications

5

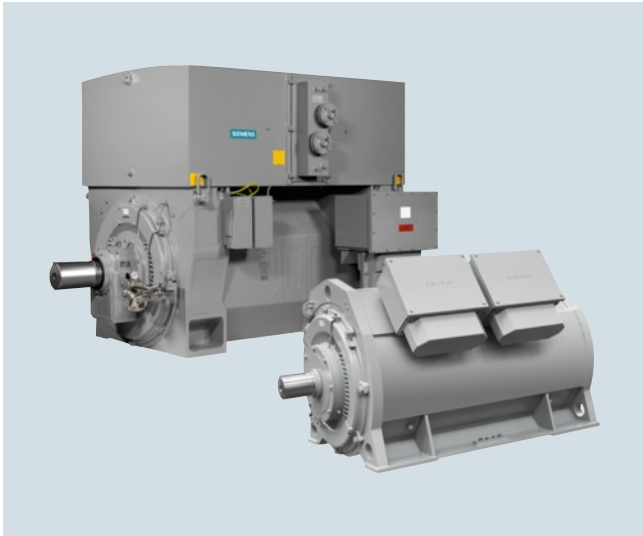


5/2	Orientation
5/7	Ordering examples
5/9	Options

Options for marine and offshore applications

Orientation

Overview



SIMOTICS HV/TN Series H-compact and H-compact PLUS in a marine design have been designed for below-deck operation on ships. If the motors are intended for on deck operation or for offshore applications, then these must be explicitly ordered using an additional order code. The reason

for this is that in these cases special measures are required. The thermal utilization of the motors is adapted to the generally higher ambient temperatures onboard ships. If the application demands compliance with additional regulations, such as explosion protection, the appropriate motor series must be chosen.

The motors onboard ships are subdivided into three importance categories by the marine classification societies in collaboration with customers, depending on the field of application:

- **Essential Service for Propulsion** or also Primary Essential Service
- **Essential Service** or also Secondary Essential Service or Important Service
- **Non-Essential Service** or also Non-Important Service

As the assignment of a drive to one of the importance categories has a direct impact on the scope of the marine options, this must be known when ordering the motor.

The following services of the motor manufacturer are associated with the categories:

	Importance category		
	Essential Service for Propulsion	Essential Service	Non-Essential Service
Typical applications	Propeller drive, thruster (if used as main drive/declared as propulsion)	Thrusters, lateral thrust units, anchor winches, bilge and ballast pumps, fire-fighting pumps	Pumps for service water
Version	In accordance with the regulations of the classification society		In accordance with ambient conditions of the classification society
Acceptance test certificate	Acceptance test certificate 3.2 according to EN10204		Acceptance test certificate 3.1 according to EN 10204 ¹⁾
Individual acceptance by classification society	Will be performed. Motor is assigned an individual certificate of the classification society.		Not necessary
Ordering several identical motors	Differentiation between the first motor and additional ones must be realized when ordering using an order code.		No distinction
Rating plate data	Information about ambient conditions of the classification society		
Stamp of the classification society	Stamp on the shaft ²⁾ and enclosure		No stamp

Classification authorities

Society	Abbreviation	Location
American Bureau Of Shipping	ABS	USA
Bureau Veritas	BV	France
China Classification Society	CCS	China
Det Norske Veritas	DNV	Norway
Germanischer Lloyd	GL	Germany
Korean Register	KR	Korea
Lloyds Register	LR	UK

¹⁾ Certificate is not stipulated by the classification society but it is issued according to the internal quality standards within the scope of a routine test.

²⁾ Provided that it is specified that the classification society supervises construction.

Benefits

The marine motors offer the user a number of advantages and benefits:

- Cast iron and steel versions can be supplied for corrosive atmospheres especially for high humidity levels and salt laden air
- Increased corrosion protection using specially designed paint finishes is available

- Certified marine motors can be supplied for use in areas to be protected against explosion
- In depth know-how regarding customer requirements
- Worldwide service network with 24-hour service hotline for motors and converters

Application

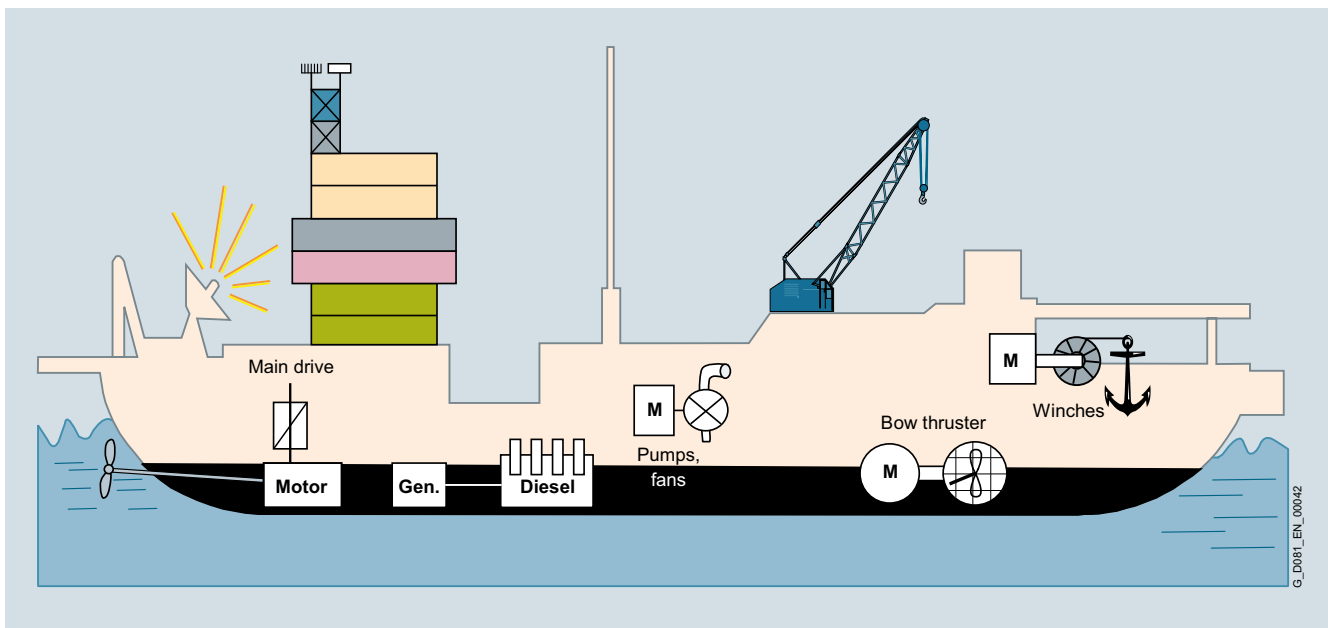
Our marine motors are designed for use onboard ships (installed below deck or on deck under a protective canopy):

- Applications onboard ships as main and auxiliary drives below deck, e.g.:
 - Fans (air conditioning, refrigeration plants)
 - Pumps (for fire-extinguishing water, fuels, oils)
 - Winches (anchor winches, warping winches, lifting gear)
 - Compressors
 - Bow thruster drives
 - Main propulsion drives
 - Ex motors for hazardous zones

If marine motors are to be used on deck in especially corrosive atmospheres or in offshore applications, then they must be additionally upgraded to meet these more stringent conditions. For this purpose, one of the options E81, E82 or E83 should be selected.

- Typical applications are:
 - Coastal areas, e.g. oil rigs, drilling ships
 - Dynamic positioning drives for platforms
 - Pumps

Offshore versions must be specifically ordered, as they require special measures.



Typical areas of application

Options for marine and offshore applications

Orientation

Technical data

Enclosure version

Depending on the motor series, motors are available in a corrosion-resistant steel enclosure or in a rugged low-vibration cast-iron version.

Motor connection

Cable glands are not included in the scope of delivery.

All marine motors generally have an external grounding terminal.

Regulations of the individual classifications societies for motors:

Classification society	Coolant temperature CT		Admissible temperature rise limit according to the classification society			Rated power limit for individual acceptance test kW	Construction supervision mandatory
	Water cooling °C	Air cooling °C	Temperature class 130 (B) K	155 (F), $P_{\text{rated}} < 5000 \text{ kW}$ K	155 (F), $P_{\text{rated}} \geq 5000 \text{ kW}$ K		
GL	32	45	75	100	100	≥ 50	All propulsions
LR	32	45	70	95	90	≥ 100	≥ 100 kW
BV	32	45	75	100	95	≥ 100	≥ 500 kW
DNV	32	45	75	100	100	≥ 300	–
ABS	32	50	70	95	90	≥ 100	–
KR	32	45	75	100	95	≥ 7.5	–
CCS	32	45	75	100	95	All power ratings	All power ratings

Technical data (continued)

Regulations of the individual classification societies with order codes when ordering H-compact and H-compact PLUS motors (low and high voltage versions) in a marine design

H-compact and H-compact PLUS in a marine design

	Motor type H-compact	Motor type H-compact PLUS
Water-cooled motors for line and converter operation	1LH4	1RN4, 1RN6
Air-cooled motors for line and converter operation (self-ventilated)	1LA4	1RQ4, 1RQ6
Air-cooled motors with externally mounted fan for converter operation	1PQ4	1RQ4, 1RQ6
Self-ventilated motors with open-circuit air cooling for line and converter operation	–	1RA4, 1RP6
Motors with the cooling types listed above with type of protection "nA" or "ID" (Zone 2 or Zone 22)	1MS4	1SL4, 1SL6 1SG4, 1SG6
Motors with the cooling types listed above with type of protection "e" (Zone 1)	1MA4	1SN4, 1SN6 1SJ4, 1SJ6
Motors with the cooling types listed above with type of protection "px" (Zone 1)	1MG4	1SQ4, 1SQ6 1SB4, 1SB6

H-compact and H-compact PLUS motors for marine applications must be ordered with the classification-specific options. This ensures that both the mechanical design of the motor, and the tests are performed exactly in accordance with the instructions provided by the respective classification society.

There are four categories of classification-specific options:

- 1) *Design options* define the marine-compatible technical design in accordance with the definitions of the classification society
- 2) *Certification options* define the scope of the test certificates
- 3) *Test options* define the scope of the individual tests
- 4) *Additional options* for deviations and special conditions: specify the customer's request for participation in the tests at the factory, or define coolant temperatures that differ from the requirements of the classification society (additional plain text required)

The options of the importance categories listed above are combined with each other depending on the class of importance, classification society and other conditions.

If motors are to be designed according to the specifications of several classification societies, a special inquiry is necessary.

Motors for Non-Essential Services

The technical design is in accordance with the ambient operating conditions specified by the classification society. One of the marine design options X00, X01, X12¹⁾, X03, X04, X05 or X06 must be specified depending on the classification society. Acceptance inspections are not required. There is no distinction between ordering an individual motor or several ones.

Non-Essential Service	Options according to the classification society						
	ABS	BV	CCS	DNV	GL	KR	LR
Technical version	X00	X01	¹⁾	X03	X04	X05	X06

Motors for Essential Services

The technical design is in accordance with regulations with regulations of the classification society: Options X10 to X16. An acceptance test certificate 3.2 according to EN 10204 and a product certificate of the classification society is provided with each motor. Depending on the classification society, the test steps are defined by options X30 to X42 for the first motor (even numbers) and X31 to X43 for the additional motors (uneven numbers). Options J70 to J82 or J71 to J83 define the expenditure for certifying the motor.

Essential Service	Options according to the classification society						
	ABS	BV	CCS	DNV	GL	KR	LR
Technical version	X10	X11	X12	X13	X14	X15	X16
Certification							
• First motor	J70	J72	J74	J76	J78	J80	J82
• Additional motors	J71	J73	J75	J77	J79	J81	J83
Scope of the tests and presence of representatives of the classification society							
• First motor	X30	X32	X34	X36	X38	X40	X42
• Additional motors	X31	X33	X35	X37	X39	X41	X43
Tests in presence of representatives of the customer (in addition to the inspector of the classification society)	X99						
Conditions deviating from classification requirements must be fulfilled	E80						

Motors for Essential Services for Propulsion

The technical design is in accordance with regulations of the classification society: Options X20 to X26. An acceptance test certificate 3.2 according to EN 10204 and a product certificate of the classification society is provided with each motor. Depending on the classification society, the test steps are defined by options X60 to X72 for the first motor (even numbers) and X61 to X73 for the additional motors (uneven numbers). Options N40 to N52, or N41 to N53 define the expenditure for certifying the motor.

Essential Service for Propulsion	Options according to the classification society						
	ABS	BV	CCS	DNV	GL	KR	LR
Technical version	X20	X21	X22	X23	X24	X25	X26
Certification							
• First motor	N40	N42	N44	N46	N48	N50	N52
• Additional motors	N41	N43	N45	N47	N49	N51	N53
Scope of the tests and presence of representatives of the classification society							
• First motor	X60	X62	X64	X66	X68	X70	X72
• Additional motors	X61	X63	X65	X67	X69	X71	X73
Tests in presence of representatives of the customer (in addition to the inspector of the classification society)	X99						
Conditions deviating from classification requirements must be fulfilled	E80						

Option E80 is used if a different coolant temperature CT is required. The CT must also be specified in plain text, e.g. CT55.

¹⁾ Non-Essential Service must be handled by CCS just like an Essential Service.

Options for marine and offshore applications

Orientation

Technical data (continued)

Scope of design options X00 to X26

All classification-specific technical measures are contained in the design options.

Temperature class and coolant temperature

Standard motors and explosion-protected motors up to shaft height 710 mm

In general, marine motors are designed for a coolant temperature CT 45 °C in temperature class 155 (F), used according to 155 (F). Motors according to the ABS classification that specify CT 50 °C are an exception. When motors are used according to temperature class 130 (B) derating is required.

Coolant temperatures that exceed CT 45 °C require derating in accordance with the following table:

	Coolant temperature CT			
	45 °C	50 °C	55 °C	60 °C
Temperature class 155 (F) according to 155 (F)				
Derating factor for line operation	1.00	0.95	0.90	0.85

More detailed information is available on request.

Rating plate and acceptance test certificate

The metal rating plate includes the data of the relevant classification society (exception: Non-Essential Services) and the associated coolant temperature.

SIEMENS											
3~ MOT. 1LA4 452-4CN16-Z NoN- X71267756010001 / 2009 IMB35 Th.Cl.155(F)											
V	Hz		A	kW	cosφ	1/min	I _a /I _N	T _E s	Certif.No.	IP	
6600 Y	60		93	880	0.86	1792				55	
										←	
										VUW	
Rotor SQU.CAGE KL IEC/EN 60034-1										Gew/Wt 5.4 t	
MARINE EQUIPMENT / CLASSIFICATION SOCIETY: ABS											
Ta:-20...+50°C											
MADE IN GERMANY D-90441 Nürnberg											

Degree of protection

The degrees of protection as specified in Catalog D 84.1 apply. For IP56 (non-heavy sea, order code K52) the formation of ice must be avoided.

Winding and motor protection

To monitor the winding – and if specified by the classification society – to monitor the bearings, the motors are equipped with PTC thermistors, temperature sensors and resistance thermometers. Marine motors are equipped with anti-condensation heating in order to prevent possible condensation forming on the windings.

Paint finish

The paint finish has an increased coating thickness (order code K26). This is suitable for indoor installations and outdoors under a roof or canopy.

A paint finish according to DIN EN ISO 12944-5 C5-M is used for unprotected installation on deck, especially aggressive atmospheres or offshore applications. This is part of order code E81, which upgrades a standard marine motor for these special ambient conditions.

Special paint colors and increased layer thicknesses are available on request.

Recommended special versions:

- Installation of 2 screw-in PT100 resistance thermometers in basic circuit for roller bearings – Order code A40
- IP56 degree of protection (non-heavy-sea) for protection against harmful dust deposits, protection against water jets from any direction – Order code K52
- Degree of protection IP65 on request.
- External screws and bolts manufactured out of stainless steel – Order code P45
- Upgrading a marine motor for unprotected installation on deck, use in especially aggressive atmospheres or offshore applications – Order code E81

Additional information

Order information

The fees of the classification societies for individual acceptance inspections are included in the order code.

Selection and ordering data

Ordering examples:

Selection criteria	Requirement	Structure of the Article No.
1st ordering example: 5 motors for Non-Essential Service according to GL (Germanischer Lloyd), Germany		
Motor type	Rib-cooled H-compact high voltage motor, low voltage version, self-ventilated, cooling type IC411, degree of protection IP55	1LA4■■■■-■■■■■
Shaft height	560 mm	1LA4560-6■■■■■
No. of poles/synchronous speed	6-pole/1000 rpm	
Type rating	1750 kW	
Rotor cage material	Copper	1LA4560-6C■■■■
Voltage and frequency	690 V, 50 Hz	1LA4560-6CM0■
Operating mode	Converter operation	
Type of construction	IM B3	1LA4560-6CM00
Special versions	Technical design in accordance with GL (Germanischer Lloyd), Germany	1LA4560-6CM00-Z X04
	Article No. for all 5 motors	1LA4560-6CM00-Z X04
2nd ordering example: 7 motors for Essential Service according to BV (Bureau Veritas), France		
Motor type	Water-cooled high voltage H-compact PLUS motor, cooling type IC81W, degree of protection IP55, type of protection Ex px	1SQ4■■■■-■■■■■
Shaft height	630 mm	1SQ4632-4■■■■■
No. of poles/synchronous speed	4-pole/1500 rpm	
Type rating	6000 kW	
Ventilation	Shaft-mounted fan (basic version)	1SQ4632-4H■■■■
Rotor version and operating mode	Copper (standard), line operation	1SQ4632-4HE■■■
Voltage and frequency	6 kV, 50 Hz	1SQ4632-4HE6■
Type of construction	IM V10 with canopy	1SQ4632-4HE64
Special versions		
1st motor	Technical design in accordance with BV (Bureau Veritas), France	1SQ4632-4HE64-Z X11
	Necessary certification for first motor ordered in accordance with BV (Bureau Veritas), France	1SQ4632-4HE64-Z X11+J72
	Necessary tests for first motor ordered in accordance with BV (Bureau Veritas), France	1SQ4632-4HE64-Z X11+J72+X32
	Article No. for 1st motor	1SQ4632-4HE64-Z X11+J72+X32
Additional 6 motors (additional motors)	Technical design in accordance with BV (Bureau Veritas), France	1SQ4632-4HE64-Z X11
	Necessary certification for additional motors ordered in accordance with BV (Bureau Veritas), France	1SQ4632-4HE64-Z X11+J73
	Necessary tests for additional motors ordered in accordance with BV (Bureau Veritas), France	1SQ4632-2HE64-Z X11+J73+X33
	Article No. for the additional 6 motors	1SQ4632-2HE64-Z X11+J73+X33

Options for marine and offshore applications

Ordering examples

Selection criteria	Requirement	Structure of the Article No.
3rd ordering example: 2 motors for Essential Service according to DNV (Det Norske Veritas), Norway (continued)		
Motor type	The same as for the 1st ordering example	1LA4560-6CM00
Special versions		
1st motor	Technical design in accordance with DNV (Det Norske Veritas), Norway	1LA4560-6CM00-Z X13
	Necessary certification for first motor ordered according to DNV (Det Norske Veritas), Norway	1LA4560-6CM00-Z X13+J76
	Necessary tests for first motor ordered according to DNV (Det Norske Veritas), Norway	1LA4560-6CM00-Z X13+X36
	Tests in presence of representatives of the customer (in addition to the inspector of the classification society)	1LA4560-6CM00-Z X13+J76+X36+X99
	Article No. for 1st motor	1LA4560-6CM00-Z X13+J76+X36+X99
Additional motor (additional motors)	Technical design in accordance with BV (Bureau Veritas), France	1LA4560-6CM00-Z X13
	Necessary certification for additional motors ordered according to DNV (Det Norske Veritas), Norway	1LA4560-6CM00-Z X13+J77
	Necessary tests for additional motors ordered according to DNV (Det Norske Veritas), Norway	1LA4560-6CM00-Z X13+J77+X37
	Article No. for additional motor	1LA4560-6CM00-Z X13+J77+X37
4th ordering example: 3 motors for Essential Service Propulsion according to ABS (American Bureau of Shipping), USA		
Motor type	The same as for the 2nd ordering example	1SQ4632-4HE64
Special versions		
1st motor	Technical design in accordance with ABS (American Bureau of Shipping), USA	1SQ4632-4HE64-Z X20
	Necessary certification for first motor ordered according to ABS (American Bureau of Shipping), USA	1SQ4632-4HE64-Z X20+N40
	Necessary tests for first motor ordered according to ABS (American Bureau of Shipping), USA	1SQ4632-4HE64-Z X20+N40+X60
	Article No. for 1st motor	1SQ4632-4HE64-Z X20+N40+X60
Additional 2 motors (additional motors)	Technical design in accordance with ABS (American Bureau of Shipping), USA	1SQ4632-4HE64-Z X20
	Necessary certification for additional motors ordered according to ABS (American Bureau of Shipping), USA	1SQ4632-4HE64-Z X20+N41
	Necessary tests for additional motors ordered according to ABS (American Bureau of Shipping), USA	1SQ4632-4HE64-Z X20+N41+X61
	Article No. for the additional 2 motors	1SQ4632-4HE64-Z X20+N41+X61
5th ordering example: 1 motor for Essential Service according to ABS (American Bureau of Shipping), USA, coolant temperature 60 °C:		
Motor type	The same as for the 1st ordering example	1LA4560-6CM00
Special versions		
	Technical design in accordance with ABS (American Bureau of Shipping), USA	1LA4560-6CM00-Z X10
	Necessary certification for first motor ordered according to ABS (American Bureau of Shipping), USA	1LA4560-6CM00-Z X10+J70
	Necessary tests for first motor ordered according to ABS (American Bureau of Shipping), USA	1LA4560-6CM00-Z X10+J70+X30
	Motor for marine application, higher ambient temperature and/or utilization to temperature class 155 (F) according to 130 (B) – Coolant temperature 60 °C	1LA4560-6CM00-Z X10+J70+X30+E80 Plain text: COOLANT TEMP CT60
	Article No. for the motor	1LA4560-6CM00-Z X10+J70+X30+E80 Plain text: COOLANT TEMP CT60

Options

Options for marine motors

Order code	Option description
	Non-Essential Service
	<i>Technical version</i>
X00	Version according to ABS for Non-Essential Service
X01	Version according to BV for Non-Essential Service
X12 ¹⁾	Version according to CCS for Essential Service
X03	Version according to DNV for Non-Essential Service
X04	Version according to GL for Non-Essential Service
X05	Version according to KR for Non-Essential Service
X06	Version according to LR for Non-Essential Service
	Essential Service
	<i>Technical version</i>
X10	Version according to ABS for Essential Service
X11	Version according to BV for Essential Service
X12	Version according to CCS for Essential Service
X13	Version according to DNV for Essential Service
X14	Version according to GL for Essential Service
X15	Version according to KR for Essential Service
X16	Version according to LR for Essential Service
	<i>Certification</i>
	for the first motor ordered
J70	Certification for the first motor ordered according to ABS for Essential Service
J72	Certification for the first motor ordered according to BV for Essential Service
J74	Certification for the first motor ordered according to CCS for Essential Service
J76	Certification for the first motor ordered according to DNV for Essential Service
J78	Certification for the first motor ordered according to GL for Essential Service
J80	Certification for the first motor ordered according to KR for Essential Service
J82	Certification for the first motor ordered according to LR for Essential Service
	for the second and additional motors ordered
J71	Certification for the second and additional motors ordered according to ABS for Essential Service
J73	Certification for the second and additional motors ordered according to BV for Essential Service
J75	Certification for the second and additional motors ordered according to CCS for Essential Service
J77	Certification for the second and additional motors ordered according to DNV for Essential Service
J79	Certification for the second and additional motors ordered according to GL for Essential Service
J81	Certification for the second and additional motors ordered according to KR for Essential Service
J83	Certification for the second and additional motors ordered according to LR for Essential Service
	<i>Tests</i>
	for the first motor ordered
X30	Tests for the first motor ordered according to ABS for Essential Service
X32	Tests for the first motor ordered according to BV for Essential Service
X34	Tests for the first motor ordered according to CCS for Essential Service
X36	Tests for the first motor ordered according to DNV for Essential Service
X38	Tests for the first motor ordered according to GL for Essential Service
X40	Tests for the first motor ordered according to KR for Essential Service
X42	Tests for the first motor ordered according to LR for Essential Service
	for the second and additional motors ordered
X31	Tests for the second and additional motors ordered according to ABS for Essential Service
X33	Tests for the second and additional motors ordered according to BV for Essential Service
X35	Tests for the second and additional motors ordered according to CCS for Essential Service
X37	Tests for the second and additional motors ordered according to DNV for Essential Service
X39	Tests for the second and additional motors ordered according to GL for Essential Service
X41	Tests for the second and additional motors ordered according to KR for Essential Service
X43	Tests for the second and additional motors ordered according to LR for Essential Service

1) CCS handles Non-Essential Service just the same as Essential Service

Options for marine and offshore applications

Options

Options (continued)

Order code	Option description
	Essential Service Propulsion
	<i>Technical version</i>
X20	Version according to ABS for Essential Service Propulsion
X21	Version according to BV for Essential Service Propulsion
X22	Version according to CCS for Essential Service Propulsion
X23	Version according to DNV for Essential Service Propulsion
X24	Version according to GL for Essential Service Propulsion
X25	Version according to KR for Essential Service Propulsion
X26	Version according to LR for Essential Service Propulsion
	<i>Certification</i>
	for the first motor ordered for essential service propulsion
N40	Certification for the first motor ordered according to ABS for Essential Service Propulsion
N42	Certification for the first motor ordered according to BV for Essential Service Propulsion
N44	Certification for the first motor ordered according to CCS for Essential Service Propulsion
N46	Certification for the first motor ordered according to DN for Essential Service Propulsion
N48	Certification for the first motor ordered according to GL for Essential Service Propulsion
N50	Certification for the first motor ordered according to KR for Essential Service Propulsion
N52	Certification for the first motor ordered according to LR for Essential Service Propulsion
	<i>Certification</i>
	for the second and additional motors ordered
N41	Certification for the second and additional motors ordered according to ABS for Essential Service Propulsion
N43	Certification for the second and additional motors ordered according to BV for Essential Service Propulsion
N45	Certification for the second and additional motors ordered according to CCS for Essential Service Propulsion
N47	Certification for the second and additional motors ordered according to DNV for Essential Service Propulsion
N49	Certification for the second and additional motors ordered according to GL for Essential Service Propulsion
N51	Certification for the second and additional motors ordered according to KR for Essential Service Propulsion
N53	Certification for the second and additional motors ordered according to LR for Essential Service Propulsion
	<i>Tests</i>
	for the first motor ordered
X60	Tests for the first motor ordered according to ABS for Essential Service Propulsion
X62	Tests for the first motor ordered according to BV for Essential Service Propulsion
X64	Tests for the first motor ordered according to CCS for Essential Service Propulsion
X66	Tests for the first motor ordered according to DNV for Essential Service Propulsion
X68	Tests for the first motor ordered according to GL for Essential Service Propulsion
X70	Tests for the first motor ordered according to KR for Essential Service Propulsion
X72	Tests for the first motor ordered according to LR for Essential Service Propulsion
	for the second and additional motors ordered
X61	Tests for the second and additional motors ordered according to ABS for Essential Service Propulsion
X63	Tests for the second and additional motors ordered according to BV for Essential Service Propulsion
X65	Tests for the second and additional motors ordered according to CCS for Essential Service Propulsion
X67	Tests for the second and additional motors ordered according to DNV for Essential Service Propulsion
X69	Tests for the second and additional motors ordered according to GL for Essential Service Propulsion
X71	Tests for the second and additional motors ordered according to KR for Essential Service Propulsion
X73	Tests for the second and additional motors ordered according to LR for Essential Service Propulsion

Supplementary options

Order code	Option description
X99 ¹⁾	Tests in the presence of representatives of the customer (together with the inspector of the classification society)
E80 ²⁾	Conditions deviating from the classification requirements
E81	Upgrading a marine motor for unprotected installation on deck, use in especially aggressive atmospheres or offshore applications

¹⁾ Only for Essential Service and Essential Service Propulsion.

²⁾ Additional plain text data explaining the deviation required.

Service & Support



6/2

Industry Services

Service & Support Industry Services

Your machines and plant can do more
– with Industry Services.

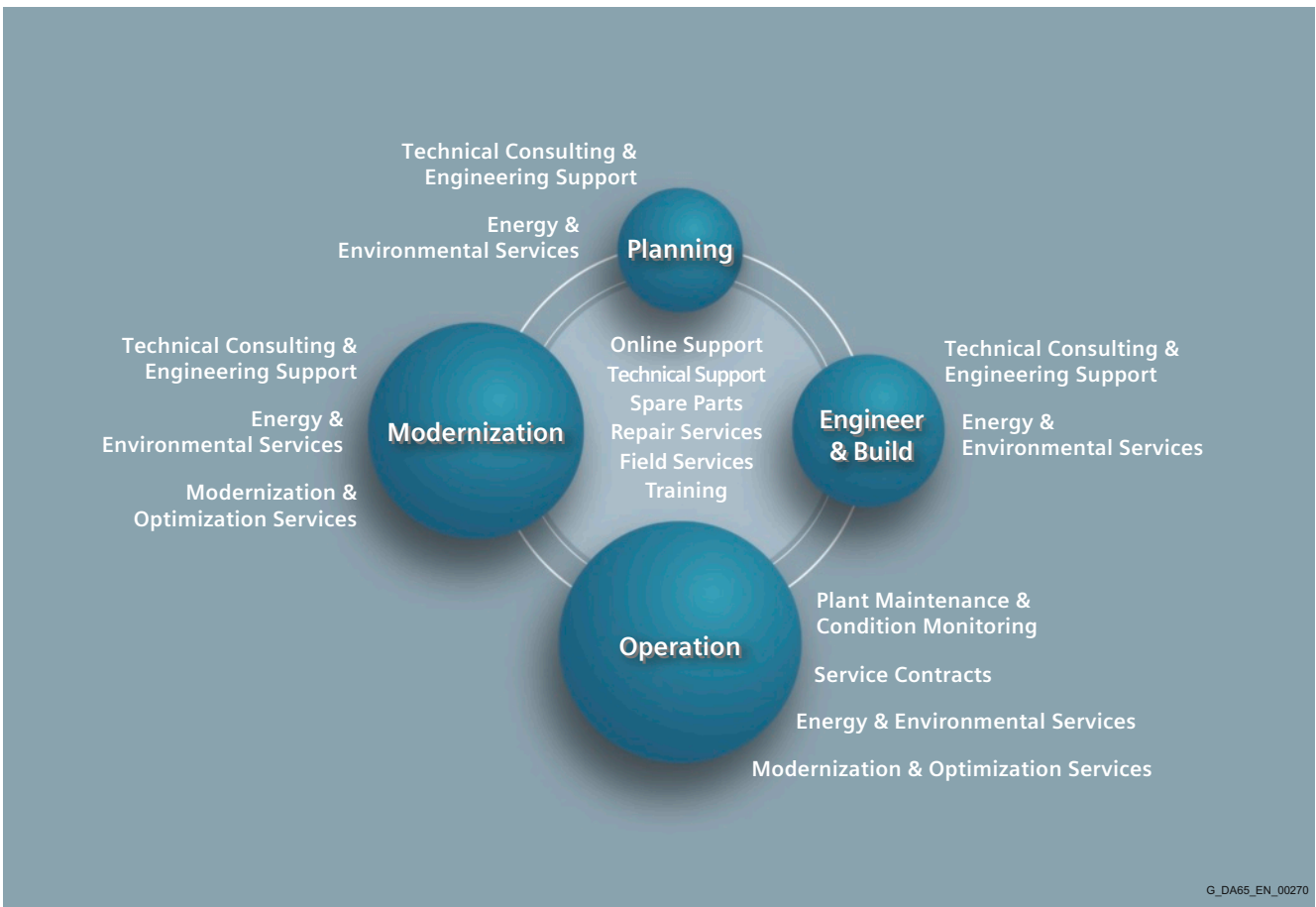


Whether it is production or process industry - in view of rising cost pressure, growing energy costs, and increasingly stringent environmental regulations, services for industry are a crucial competitive factor in manufacturing as well as in process industries.

All over the world Siemens supports its customers with product, system, and application-related services throughout the entire life cycle of a plant. Right from the earliest stages of planning, engineering, and building, all the way to operation and modernization. These services enable customers to benefit from the Siemens experts' unique technological and product knowledge and industry expertise.

Thus downtimes are reduced and the utilization of resources is optimized. The bottom line: increased plant productivity, flexibility, and efficiency, plus reduced overall costs.

Discover all advantages of our service portfolio:
www.siemens.com/industry-services



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Siemens supports its clients with technology based Services across a plants entire life cycle.

Online Support

Online support is a comprehensive information system for all questions relating to products, systems, and solutions that Siemens has developed for industry over time. With more than 300,000 documents, examples and tools, it offers users of automation and drive technology a way to quickly find up-to-date information. The 24-hour service enables direct, central access to detailed product information as well as numerous solution examples for programming, configuration and application.

The content, in six languages, is increasingly multimediated – and now also available as a mobile app. Online support's "Technical Forum" offers users the opportunity to share information with each other. The "Support Request" option can be used to contact Siemens' technical support experts. The latest content, software updates, and news via newsletters and Twitter ensure that industry users are always up to date.



www.siemens.com/industry/onlinesupport

Online Support App



Using the Online Support app, you can access over 300,000 documents covering all Siemens industrial products - anywhere, any time. Regardless of whether you need help implementing your project, fault-finding, expanding your system or are planning a new machine.

You have access to FAQs, manuals, certificates, characteristics curves, application examples, product notices (e.g. announcements of new products) and information on successor products in the event that a product is discontinued.

Just scan the product code printed on the product directly using the camera of your mobile device to immediately see all technical information available on this product at a glance. The graphical CAx information (3D model, circuit diagrams or EPLAN macros) is also displayed. You can forward this information to your workplace using the e-mail function.

The search function retrieves product information and articles and supports you with a personalized suggestion list. You can find your favorite pages – articles you need frequently – under "mySupport". You also receive selected news on new functions, important articles or events in the News section.

Scan the QR code
for information on
our Online Support
app.



The app is available free of charge from the Apple App Store (iOS) or from Google Play (Android).

www.siemens.com/industry/onlinesupportapp

Technical Support

The ability to quickly analyze system and error messages and take appropriate action are key factors in ensuring that plants run safely and efficiently. Questions can arise at any time and in any industry, whether it's an individual product or a complete automation solution. Siemens technical support offers individual technical assistance in matters related to functionality, how to operate, applications, and fault clearance in industrial products and systems – at any time and globally, over the phone, by e-mail, or via remote access. Experienced experts from Siemens answer incoming questions promptly. Depending on the requirements, they first consult specialists in the areas of development, on-site services, and sales. Technical support is also available for discontinued products that are no longer available. Using the support request number, any inquiry can be clearly identified and systematically tracked.



<http://support.automation.siemens.com/WW/view/en/16605032>

Service & Support

Industry Services

Industry Services for the entire life cycle

Spare Parts

Drive and automation systems must be available at all times. Even a single missing spare part can bring the entire plant to a standstill – and result in substantial financial losses for the operator. The spare parts services from Siemens protects against such losses – with the aid of quickly available, original spare parts that ensure smooth interaction with all other system components. Spare parts are kept on hand for up to ten years; defective parts can be returned. For many products and solutions, individual spare parts packages ensure a preventive stock of spare parts on-site. The spare parts services is available around the world and around the clock. Optimum supply chain logistics ensure that replacement components reach their destination as quickly as possible. Siemens' logistics experts take care of planning and management as well as procurement, transportation, customs handling, warehousing, and complete order management for spare parts.



<http://support.automation.siemens.com/WW/view/en/43502238>

Repair Services

Reliable electrical and electronic equipment is crucial for operating continuous processes. That is why it is essential that motors and converters always undergo highly specialized repair and maintenance. Siemens offers complete customer and repair services – on site and in repair centers – as well as technical emergency services worldwide. The repair services include all measures necessary to quickly restore the functionality of defective units. In addition, services such as spare parts logistics, spare parts storage and rapid manufacturing are available to plant operators in all verticals. With a global network of certified repair shops operated by Siemens as well as third parties, Siemens handles the maintenance and overhaul of motors, converters, and other devices as an authorized service partner.



<http://support.automation.siemens.com/WW/view/en/43512848>

Field Services

It's a top priority in all industries: the availability of plants and equipment. Siemens offers specialized maintenance services such as inspection and upkeep as well as rapid fault clearance in industrial plants – worldwide, continuously, and even with emergency services as needed. The services include startup as well as maintenance and fault clearance during operation. The startup service includes checking the installation, function tests, parameterization, integration tests for machines and plants, trial operation, final acceptance, and employee training. All services, including remote maintenance of drives, are also available as elements of customized service contracts.



<http://support.automation.siemens.com/WW/view/en/66012486>

Training

Increasingly, up-to-date knowledge is becoming a determining factor in success. One of the key resources of any company is well-trained staff that can make the right decision at the right moment and take full advantage of the potential. With SITRAIN – Training for Industry, Siemens offers comprehensive advanced training programs. The technical training courses convey expertise and practical knowledge directly from the manufacturer. SITRAIN covers Siemens' entire product and system portfolio in the field of automation and drives. Together with the customer, Siemens determines the company's individual training needs and then develops an advanced training program tailored to the desired requirements. Additional services guarantee that the knowledge of all Siemens partners and their employees is always up-to-date.



<http://support.automation.siemens.com/WW/view/en/43514324>

Technical Consulting & Engineering Support

The efficiency of plants and processes leads to sustainable economic success. Individual services from Siemens help save substantial time and money while also guaranteeing maximum safety. Technical consulting covers the selection of products and systems for efficient industrial plants. The services include planning, consulting, and conceptual design as well as product training, application support, and configuration verification – in all phases of a plant's lifecycle and in all questions related to product safety. Engineering support offers competent assistance throughout the entire project, from developing a precise structure for startup to product-specific preparation for implementation as well as support services in areas such as prototype development, testing and acceptance.



<http://support.automation.siemens.com/WW/view/en/16605680>

Energy & Environmental Services

Efficient energy use and resource conservation – these top sustainability concerns pay off – both for the environment and for companies. Siemens offers integrated solutions that unlock all technical and organizational potential for successful environmental management. Customized consulting services are aimed at sustainably lowering the cost of energy and environmental protection and thus increasing plant efficiency and availability. The experts provide support in the conceptual design and implementation of systematic solutions in energy and environmental management, enabling maximum energy efficiency and optimized water consumption throughout the entire company. Improved data transparency makes it possible to identify savings potential, reduce emissions, optimize production processes, and thereby noticeably cut costs.



<http://support.automation.siemens.com/WW/view/en/42350774>

Service & Support

Industry Services

Industry Services for the entire life cycle

Modernization & Optimization Services

High machine availability, expanded functionality and selective energy savings – in all industries, these are decisive factors for increasing productivity and lowering costs. Whether a company wants to modernize individual machines, optimize drive systems, or upgrade entire plants, Siemens' experts support the projects from planning to commissioning.

Expert consulting and project management with solution responsibility lead to security and make it possible to specifically identify savings potential in production. This secures investments over the long term and increases economic efficiency in operation.



<http://support.automation.siemens.com/WW/view/en/66005532>

Plant Maintenance & Condition Monitoring

Modern industrial plants are complex and highly automated. They must operate efficiently in order to ensure the company's competitive strength. In addition, the steadily increasing networking of machines and plants require consistent security concepts. Maintenance and status monitoring as well as the implementation of integrated security concepts by Siemens' experts support optimum plant use and avoid downtime. The services include maintenance management as well as consulting on maintenance concepts, including the complete handling and execution of the necessary measures. Complete solutions also cover remote services, including analysis, remote diagnosis, and remote monitoring. These are based on the Siemens Remote Services platform with certified IT security.



<http://support.automation.siemens.com/WW/view/en/59456862>

Service Contracts

Making maintenance costs calculable, reducing interfaces, speeding up response times, and unburdening the company's resources – the reduced downtimes that these measures achieve increase the productivity of a plant. Service contracts from Siemens make maintenance and repairs more cost-effective and efficient. The service packages include local and remote maintenance for a system or product group in automation and drive technology. Whether you need extended service periods, defined response times, or special maintenance intervals, the services are compiled individually and according to need. They can be adjusted flexibly at any time and used independently of each other. The expertise of Siemens' specialists and the capabilities of remote maintenance thus ensure reliable and fast maintenance processes throughout a plant's entire lifecycle.



<http://support.automation.siemens.com/WW/view/en/65961857>

Appendix



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Appendix

Partner at Industry



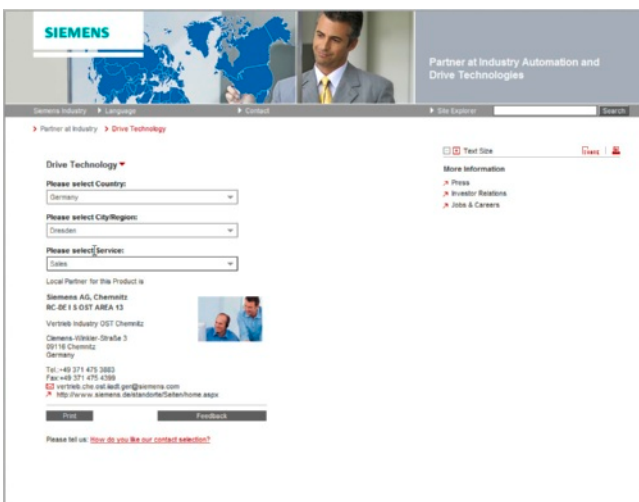
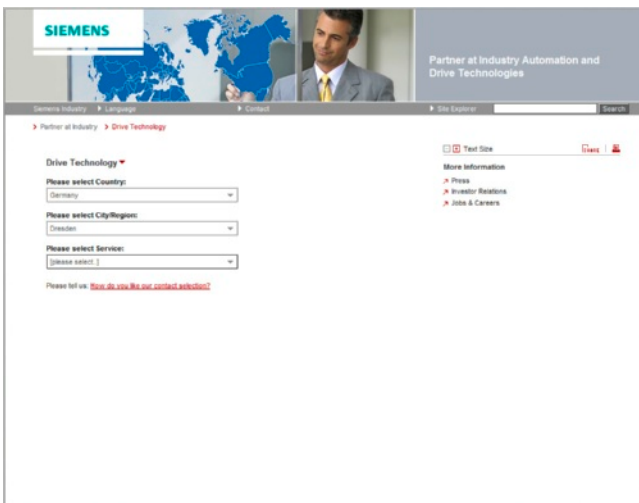
At Siemens Industry we are resolutely pursuing the same goal: long-term improvement of your competitive ability. We are committed to this goal. Thanks to our commitment, we continue to set new standards in automation and drive technology. In all industries – worldwide.

At your service locally, around the globe for consulting, sales, training, service, support, spare parts ... on the entire Industry Automation and Drive Technologies range.

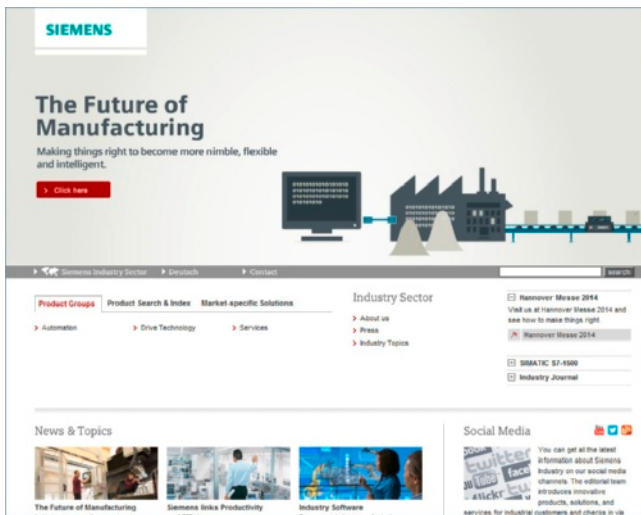
Your personal contact can be found in our Contacts Database at: www.siemens.com/automation/partner

You start by selecting a

- Product group,
- Country,
- City,
- Service.



Siemens Industry Automation and Drive Technologies in the WWW



A detailed knowledge of the range of products and services available is essential when planning and configuring automation systems. It goes without saying that this information must always be fully up-to-date.

Siemens Industry Automation and Drive Technologies has therefore built up a comprehensive range of information in the World Wide Web, which offers quick and easy access to all data required.

Under the address

www.siemens.com/industry

you will find everything you need to know about products, systems and services.

Product Selection Using the Interactive Catalog CA 01 of Industry



Detailed information together with convenient interactive functions:

The interactive catalog CA 01 covers more than 80 000 products and thus provides a full summary of the Siemens Industry Automation and Drive Technologies product base.

Here you will find everything that you need to solve tasks in the fields of automation, switchgear, installation and drives. All information is linked into a user interface which is easy to work with and intuitive.

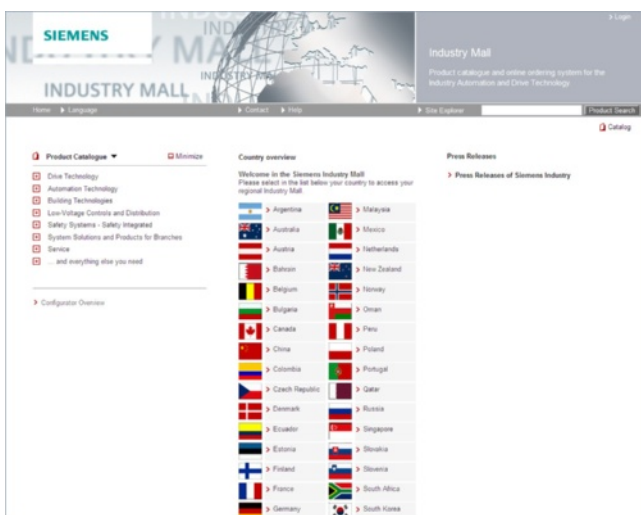
After selecting the product of your choice you can order at the press of a button, by fax or by online link.

Information on the interactive catalog CA 01 can be found in the Internet under

www.siemens.com/automation/ca01

or on DVD.

Easy Shopping with the Industry Mall



The Industry Mall is the electronic ordering platform of Siemens AG on the Internet. Here you have online access to a huge range of products presented in an informative and attractive way.

Data transfer via EDIFACT allows the whole procedure from selection through ordering to tracking and tracing of the order to be carried out. Availability checks, customer-specific discounts and preparation of quotes are also possible.

Numerous additional functions are available to support you.

For example, powerful search functions make it easy to select the required products. Configurators enable you to configure complex product and system components quickly and easily. CAx data types are also provided here.

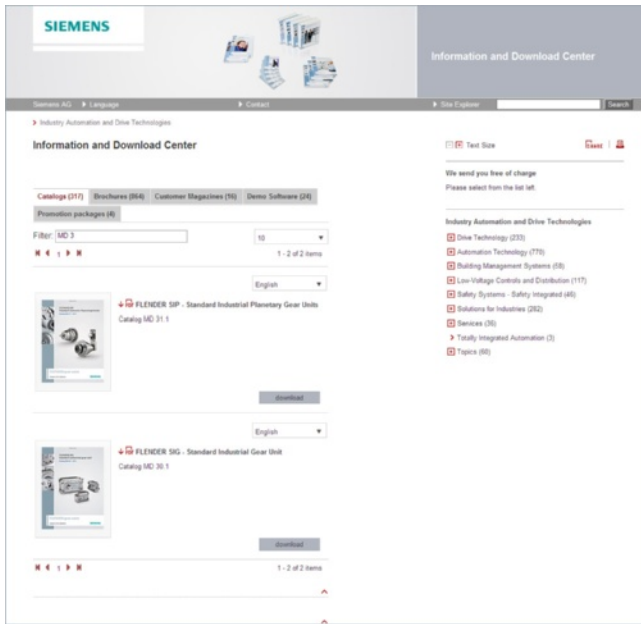
Please visit the Industry Mall on the Internet under:

www.siemens.com/industrymall

Appendix Online Services

Information and Download Center Social Media, Mobile Media

Downloading Catalogs



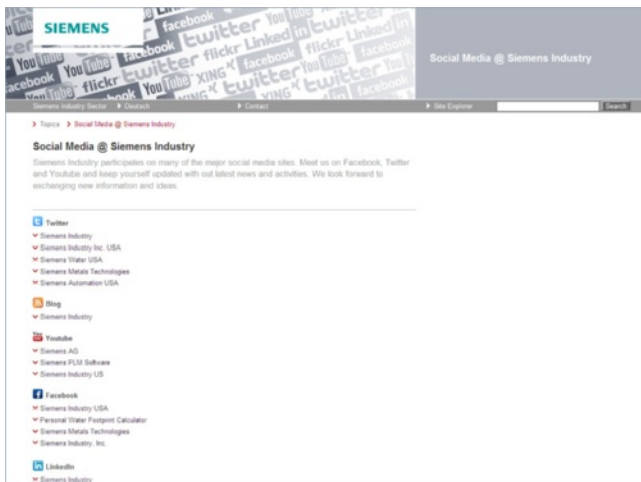
In addition to numerous other useful documents, you can also find the catalogs listed on the back inside cover of this catalog in the Information and Download Center. Without having to register, you can download these catalogs in PDF format or increasingly as digital page-turning e-books.

The filter dialog box above the first catalog displayed makes it possible to carry out targeted searches. If you enter “MD 3” for example, you will find both the MD 30.1 and MD 31.1 catalogs. If you enter “ST 70” both the ST 70 catalog and the associated news or add-ons are displayed.

Visit us on the web at:

www.siemens.com/industry/infocenter

Social Media



Connect with Siemens through social media: visit our social networking sites for a wealth of useful information, demos on products and services, the opportunity to provide feedback, to exchange information and ideas with customers and other Siemens employees, and much, much more. Stay in the know and follow us on the ever-expanding global network of social media.

Connect with Siemens Industry at our central access point:

www.siemens.com/industry/socialmedia

Or via our product pages at:

www.siemens.com/automation

or

www.siemens.com/drives

To find out more about Siemens' current social media activities visit us at:

www.siemens.com/socialmedia

Mobile Media



Discover the world of Siemens.

We are also constantly expanding our offering of cross-platform apps for smartphones and tablets. You will find the current Siemens apps at the app store (iOS) or at Google Play (Android).

The Siemens app, for example, tells you all about the history, latest developments and future plans of the company – with informative pictures, fascinating reports and the most recent press releases.

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