

SIEMENS



Motors

SIMOTICS HV M High Voltage Motors

Catalog
D 84.3

Edition
2021

[siemens.com/simotics-hv-m](https://www.siemens.com/simotics-hv-m)

Related catalogs

SIMOTICS HV, SIMOTICS TN Series H-compact

D 84.1

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High Voltage Motors
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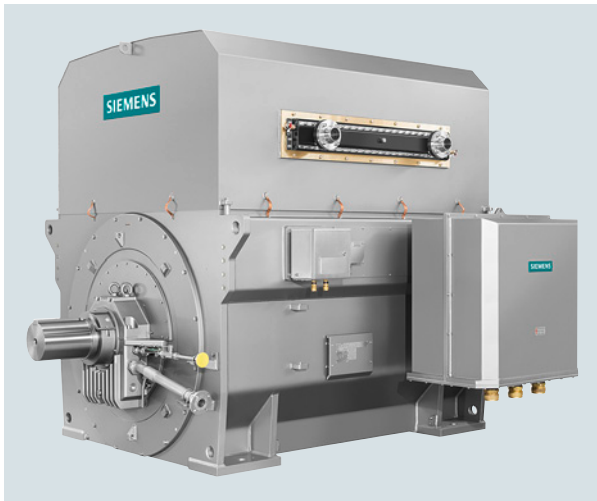
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SIMOTICS HV M High Voltage Motors

Motors



Catalog D 84.3 · 2021

Supersedes:
Catalog D 84.3 · 2018

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Introduction

Overview

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Overview

During the plant layout process, fast project execution and the highest degree of availability in operation are crucial factors. SIMOTICS HV M addresses both of these factors:

- Maximum reliability under extreme conditions – as well as preventive service concepts employing cloud-based status data analysis – ensure the high degree of availability.
- The fast, smooth project execution is based on short delivery times, user-friendly and efficient engineering tools, the highest degree of flexibility and simple integration into plants and systems as a result of the extremely low dimensions and weights referred to the particular power rating.

This is complemented by low operating costs based on minimum maintenance costs and high efficiency. SIMOTICS HV M motors are available in 2-, 4-, 6-, 8-, 10- and 12-pole versions (additional pole numbers available on request); they cover a speed control range up to 4800 rpm. The power spectrum of the series extends from 0.5 up to 29 MW at 50 Hz – and up to 31 MW at 60 Hz. As a consequence, users profit from the advantages of this modular high-voltage motor concept over a wide power range.

Note:

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

Application

SIMOTICS HV M is at home in the following industries:

- Oil & Gas
- Petrochemical & Chemical
- Steel
- Marine
- Cement
- Fiber
- Water/wastewater
- Power generation
- Mining

Typical applications are pumps, fans, compressors, mixers, mills, conveyor belts, rolling mills, ship's drives.

Benefits

- Short delivery period and high delivery reliability
- Very reliable, even under extreme conditions
- Long service life with low maintenance costs
- High efficiency of up to 98 %
- Flexible and precisely adaptable to a wide range of applications
- High power density due to low envelope dimensions and weight
- Simple selection and configuration with standard engineering tools
- Perfectly harmonized for operation with SINAMICS medium-voltage converters
- Motor dimension drawings and 3D motor data available from the PLM software (Product Lifecycle Management) or on request

Additional information

Article number code

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

Options can be added by using an additional hyphen and the letter Z. In addition, the order codes for the corresponding options need to be specified.

Example:

1RQ7 710-4JA60-0CG0-Z A65 + G50 + M13

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 Parts 2, 3 and 4 include the motors available as standard from this range.

Structure of the Article No., shaft heights 450 mm to 560 mm	Position:	1	2	3	4	5	6	7	-	8	9	10	11	12	-	Z	
1st to 3rd position: Motor version	Standard version	Degree of protection/cooling															
		IEC															
		NEMA															
		Open-circuit ventilated	IP23/IC01	–	1	R	A										
		Open-circuit ventilated	IP24W/IC01	WP11	1	R	P										
		Air/air cooling	IP55/IC611 or IC616	TEAAC	1	R	Q										
		Air/water cooling	IP55/IC81W or IC86W	TEWAC	1	R	N										
		Ex ec version															
		Air/air cooling	IP55/IC611 or IC616	–	1	S	G										
		Air/water cooling	IP55/IC81W or IC86W	–	1	S	L										
		Ex pxb version															
		Air/air cooling	IP55/IC611 or IC616	–	1	S	B										
		Air/water cooling	IP55/IC81W or IC86W	–	1	S	Q										
4th position: Motor version	SIMOTICS HV M				6												
5th to 6th position: Shaft height	• 450 mm					4	5										
	• 500 mm					5	0										
	• 560 mm					5	6										
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						
	• Other pole numbers			Additional text data required							9						
9th position: Cooling method for:	IEC version:			Cooling method:													
	• With shaft-mounted fan (basic version) or shaft-mounted fan for the inner and separately-driven fan for the outer cooling circuit			IC01/IC81W												H	
				IC616												H	
	• With shaft-mounted fan for the inner and outer cooling circuits			IC611												J	
	• With separately-driven fan for the inner or for the inner and outer cooling circuits			IC86W/IC666												F	

Introduction

SIMOTICS HV M

Article number code · SIMOTICS HV M in shaft heights 450, 500, 560

1

Overview (continued)

Structure of the Article No.:	Position:	1	2	3	4	5	6	7	-	8	9	10	11	12	-	Z		
10th position: Rotor version or drive converter type	Line operation																	
	• Standard rotor with E-Cu	power-dependent										J						
	• Standard rotor with E-Cu	power-dependent										K						
	• Standard rotor with E-Cu	power-dependent										L						
	• Standard rotor with CuSi	power-dependent										M						
	• Standard rotor with CuSi	power-dependent										N						
	Converter operation																	
	• LV drive converter; copper rotor	SINAMICS G/ SINAMCIS S										P						
	• LV drive converter; copper rotor	other converters										Q						
	• MV drive converter; copper rotor	SINAMICS GM/SINAMICS SM										S						
	• MV drive converter; copper rotor	SINAMICS PERFECT HARMONY GH150/GH180										T						
	• MV drive converter; copper rotor	other converters										U						
	Special rotor																	
	• With E-Cu											X						
• With CuSi											Y							
11th position: Voltage code	Line operation		Operation with MV drive converter				Line/converter operation											
	3.3 kV, 50 Hz		7.2 kV, 50 Hz			690 V, 60 Hz							0					
	6.6 kV, 60 Hz		11 kV, 50 Hz			690 V, 50 Hz							1					
	13.2 kV, 60 Hz		2.3 kV, 50 Hz			–							2					
	4.16 kV, 60 Hz		4.16 kV, 60 Hz			–							3					
	4 kV, 60 Hz		4.16 kV, 50 Hz			400 V							4					
	2.3 kV, 60 Hz		3.3 kV, 50 Hz			500 V							5					
	6.0 kV, 50 Hz		6 kV, 50 Hz			–							6					
	6.6 kV, 50 Hz		6.6 kV, 50 Hz			660 V							7					
	10 kV, 50 Hz		6.6 kV, 60 Hz			–							8					
	Other voltage/frequency										Additional text data required		9					
12th position: Type of construction	• IM B3																	
	• IM V1 with protective hood																	
	• IM V1 without protective hood																	
Z position	Options: Additional order code required. Refer to section Options and tests in Chapter 4.																	

Overview

The following overview explains the meaning of the individual positions of the Article No. The selection tables in Parts 2, 3 and 4 include the motors available as standard from this range.

Structure of the Article No., shaft heights 630 mm to 900 mm	Position:	1	2	3	4	5	6	7	-	8	9	10	11	12	-	13	14	15	16	Z		
1st to 3th position: Motor version, Ex-protection	Standard version Ex-protection																					
	Basic design, open-circuit ventilated	non Ex	1	R	A																	
	Weather protected design, open-circuit ventilated	non Ex	1	R	P																	
	Air/air cooling	non Ex	1	R	Q																	
	Air/water cooling	non Ex	1	R	N																	
	Ex ec																					
	Air/air cooling	Ex ec	1	S	G																	
	Air/water cooling	Ex ec	1	S	L																	
	Ex pxb																					
	Air/air cooling	Ex pxb	1	S	B																	
	Air/water cooling	Ex pxb	1	S	Q																	
	Ex eb																					
	Air/air cooling	Ex eb	1	S	J																	
	Air/water cooling	Ex eb	1	S	N																	
4th position: Motor series	SIMOTICS HV M				7																	
5th to 6th position: Shaft height	<ul style="list-style-type: none"> • 630 mm • 710 mm • 800 mm • 900 mm 					6	3															
						7	1															
						8	0															
						9	0															
7th position: Laminated core length	The laminated core length is coded in digits 0 to 9 (without fixed assignment)																					
8th position: Pole number	<ul style="list-style-type: none"> • 2-pole • 4-pole • 6-pole • 8-pole • 10-pole • 12-pole • Other pole numbers 																					
																						2
																						4
																						6
																						8
																						3
																						5
																						9
																						Additional text data required
9th position: Cooling method for:	Cooling method:																					
	• Open inner cooling air circuit	IC01																				F
	• Weather-protected design, open circuit	WP11																				H
	• Air/air cooling	TEAAC – IC611																				J
	• Air/air cooling with forced ventilation for outer air circuit	TEAAC – IC616																				K
	• Air/air cooling with forced ventilation for inner air circuit	TEAAC – IC661																				L
	• Air/air cooling with forced ventilation for inner and outer air circuit	TEAAC – IC666																				M
	• Air/water cooling	TEWAC – IC81W																				N
	• Air/water cooling with forced ventilation	TEWAC – IC86W																				P

Introduction

SIMOTICS HV M

Article number code · SIMOTICS HV M in shaft heights 630, 710, 800, 900

Overview (continued)

Structure of the Article No.:	Position:	1	2	3	4	5	6	7	-	8	9	10	11	12	-	13	14	15	16	Z			
10th position: Motor for line operation or for converter operation	For line operation with											A											
		• High voltage motor										B											
		• Low voltage motor																					
	For converter operation with	• SINAMICS G150										C											
		• SINAMICS S120										D											
		• SINAMICS S150										E											
		• SINAMICS G180										F											
		• SINAMICS GM150										R											
		• SINAMICS SM150										S											
		• SINAMICS GH180										T											
		• SINAMICS GH150										U											
		• Other converters (additional text data)										Z											
		11th position: Voltage code	Line operation	3.3 kV, 50 Hz																			
6.6 kV, 60 Hz																							
Operation with MV drive converter	7.2 kV, 50 Hz																						
	11 kV, 50 Hz																						
Line/converter operation	690 V, 60 Hz										0												
	690 V, 50 Hz										1												
13.8 kV, 60 Hz																							
4.16 kV, 60 Hz																							
4 kV, 60 Hz																							
2.3 kV, 60 Hz																							
6.0 kV, 50 Hz																							
6.6 kV, 50 Hz																							
10 kV, 50 Hz																							
Other voltage/frequency																							
12th position: Type of construction	• IM B3 (IM 1001)																						
	• IM V1, with protective hood (IM 3011)																						
	• IM V1, without protective hood (IM 3011)																						
	• Other mounting types																						
13th position: Temperature class (for explosion protection)	• Without temperature class																						
	• Temperature class T2																						
	• Temperature class T3																						
	• Temperature class T4																						
14th position: Rotor version	• Standard rotor – E-Cu																						
	• Special rotor – E-Cu																						
	• Standard rotor – CuSi																						
	• Special rotor – CuSi																						
	• Special rotor – with other material type																						
15th position: Housing and bearing version	• Steel fabricated housing / anti-friction bearings																						
	• Steel fabricated housing / sleeve bearing																						
16th position: Category	• Standard series																						
Z position:	Options: Additional order code required. Refer to section Options and tests in Chapter 5.																						

Overview

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 ec	Increased safety of the motor, Zone 2
Ex pxb	Pressurized motor, 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
WPII	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

Introduction

SIMOTICS HV M

Cooling concepts

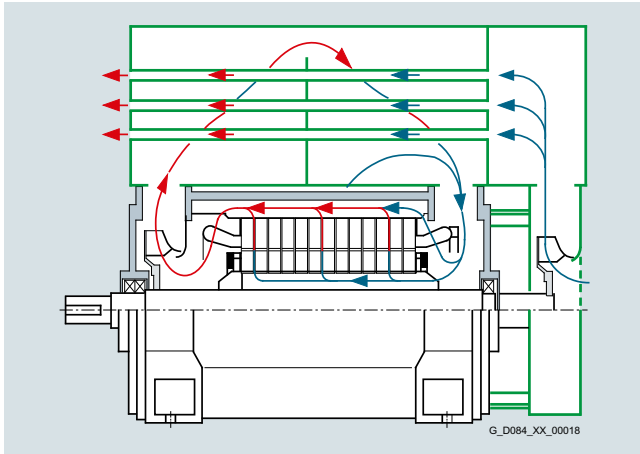
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Mode of operation

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

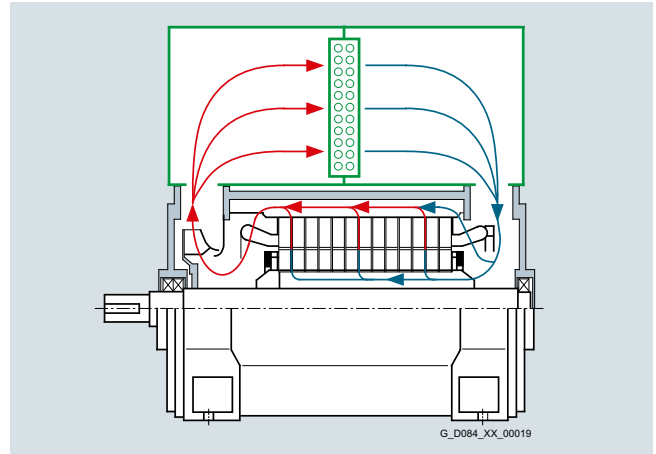
Air/air heat exchanger (IC611)

1RQ. series with one-sided ventilation

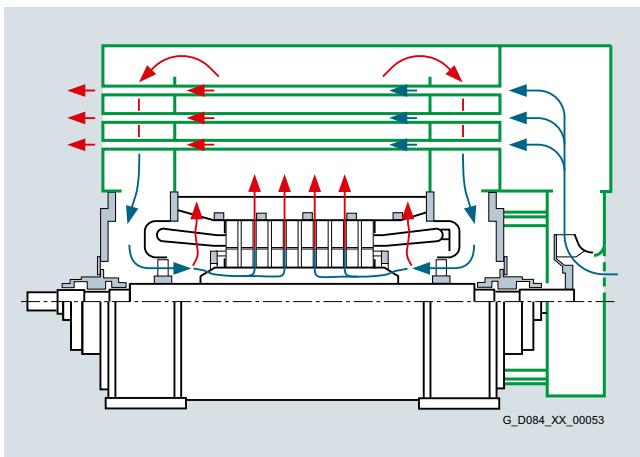


Air/water heat exchanger (IC81W)

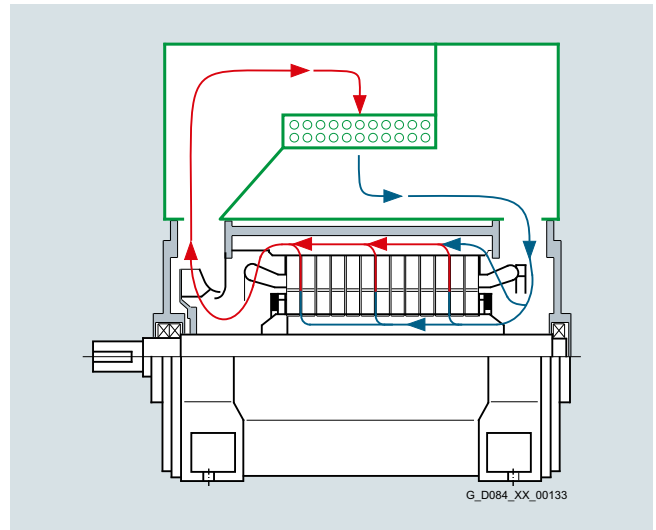
1RN6 series with one-sided ventilation



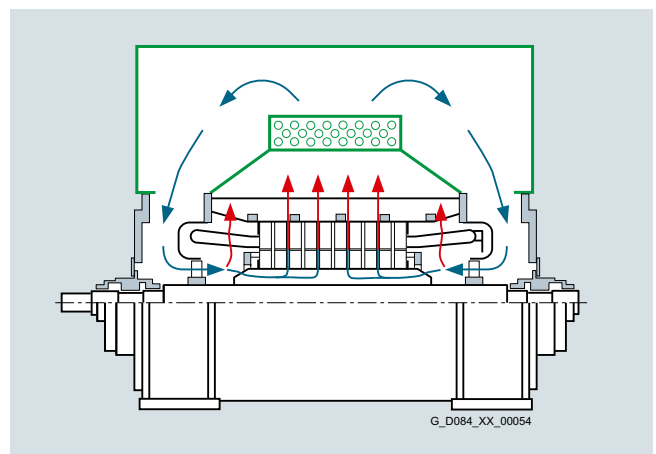
1RQ. series with two-sided ventilation



1RN7 series with one-sided ventilation



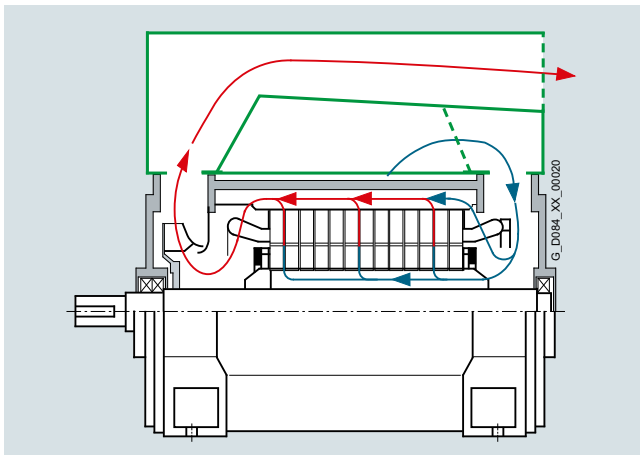
1RN. series with two-sided ventilation



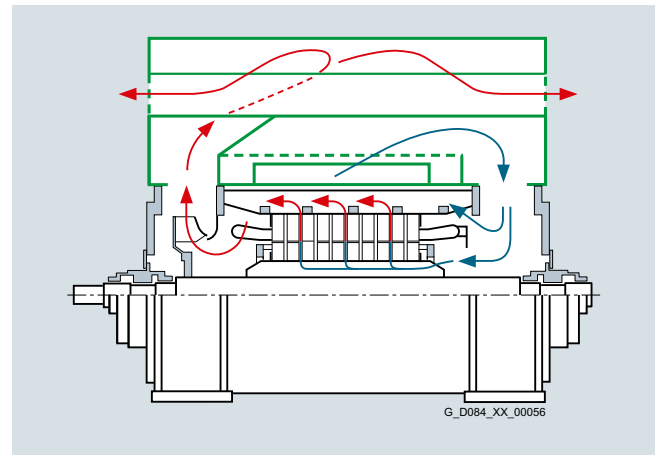
Mode of operation (continued)

Open-circuit ventilation (IC01)

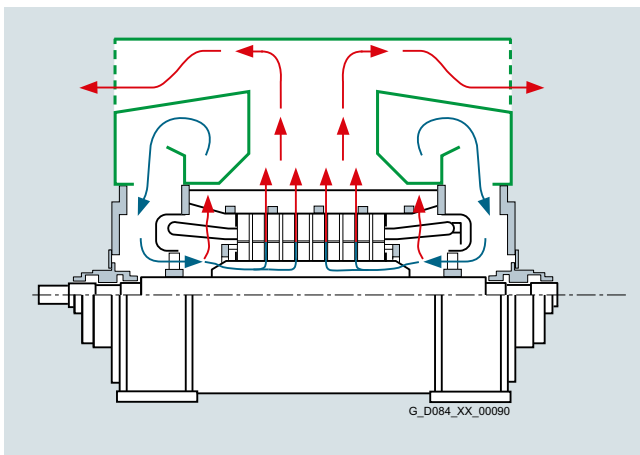
1RA. series with one-sided ventilation



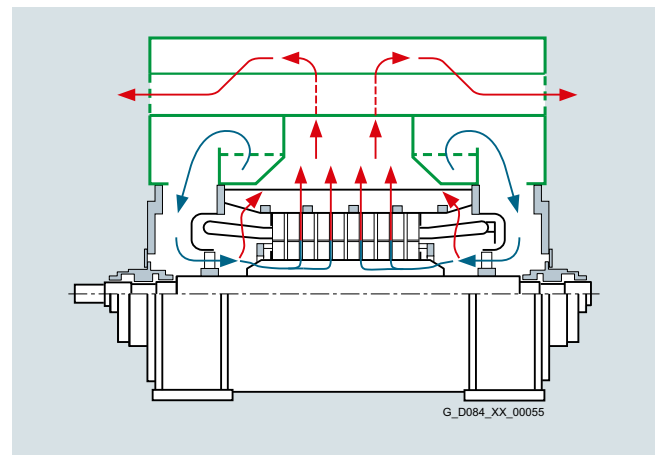
1RP. series with one-sided ventilation



1RA. series with two-sided ventilation



1RP. series with two-sided ventilation



Introduction

General technical versions

Overview

Overview

Motor protection

Series for both 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.
Anti-friction 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.
Leakage water monitoring	Optional using sensors in the cooler housing for water-cooled motors.
Starting and speed monitoring	Optional rotary pulse encoder for motors for converter operation.
Anti-condensation heating	Standard for SIMOTICS HV M motors.

Electrical design

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

SIMOTICS HV M motors are always carried out with 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. In the unlikely event of arcs occurring inside the terminal box the generated pressure will be immediately dissipated with the use of 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.

Protection for line-operated high voltage motors against switching overvoltages

The motor windings are dimensioned according to the requirements of IEC 60034-15. If higher overvoltages can occur, over-voltage protection is required at the supply side or can be offered as a motor option.

Overview

Overview of the generally used motor terminal boxes

Terminal box	Rated voltage kV	Current A
1XB1 631	1	1230
1XB7 740	1	1420
1XD10-6AA	1	2840
1XA8 711	6.6	315/400 ²⁾
1XB8 751	6.6	630/800 ²⁾ (for parallel connection)
1XB9 751	6.6	800
1XB8 911	11	315/400 ²⁾
1XB9 911	11	400
1XD1 545-3AA	11	1300
1XD1 566-3AA	11	2750
1XD1 645-3AA	13.8	2000

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 acc. to DIN EN 60529
1XB1 631	Cable lug	4 cables, 3-conductor	4 x 3 x 240	83	IP55
1XB7 740	Cable lug	4 cables, 3-conductor	4 x 3 x 240	85	IP55
1XD10-6AA	Cable lug on busbar	4 or 8 cables, 1-conductor	4 x 185 or 8 x 120	115	IP56
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
1XB9 751	Connecting terminal on M16 studs Connection with cable lug and two hexagon nuts	2 cables, 3-conductor	2 x 3 x 240	100	IP66
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
1XB9 911	Connecting terminal on M16 studs Connection with cable lug and two hexagon nuts	1 cable, 3-conductor	1 x 3 x 240	115	IP66
1XD1 545-3AA	Cable lug on busbar	6 cables, 1-conductor	6 x 300	230	IP55
1XD1 566-3AA	Cable lug on busbar	10 cables, 1-conductor	10 x 300	170	IP55 ¹⁾
1XD1 645-3AA	Cable lug on busbar	6 cables, 1-conductor	6 x 400	260	IP55

¹⁾ IP66 on request.

²⁾ Depending on rated motor current.

Introduction

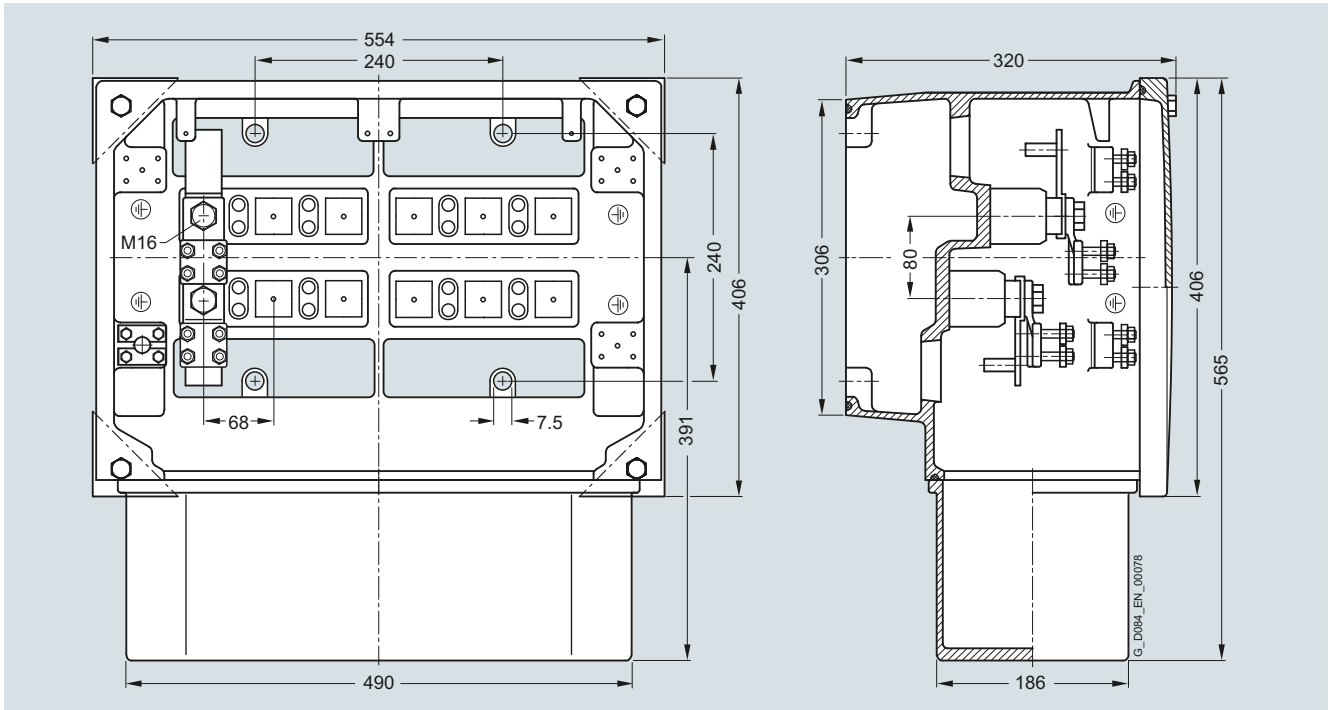
General technical versions

Motor terminal boxes

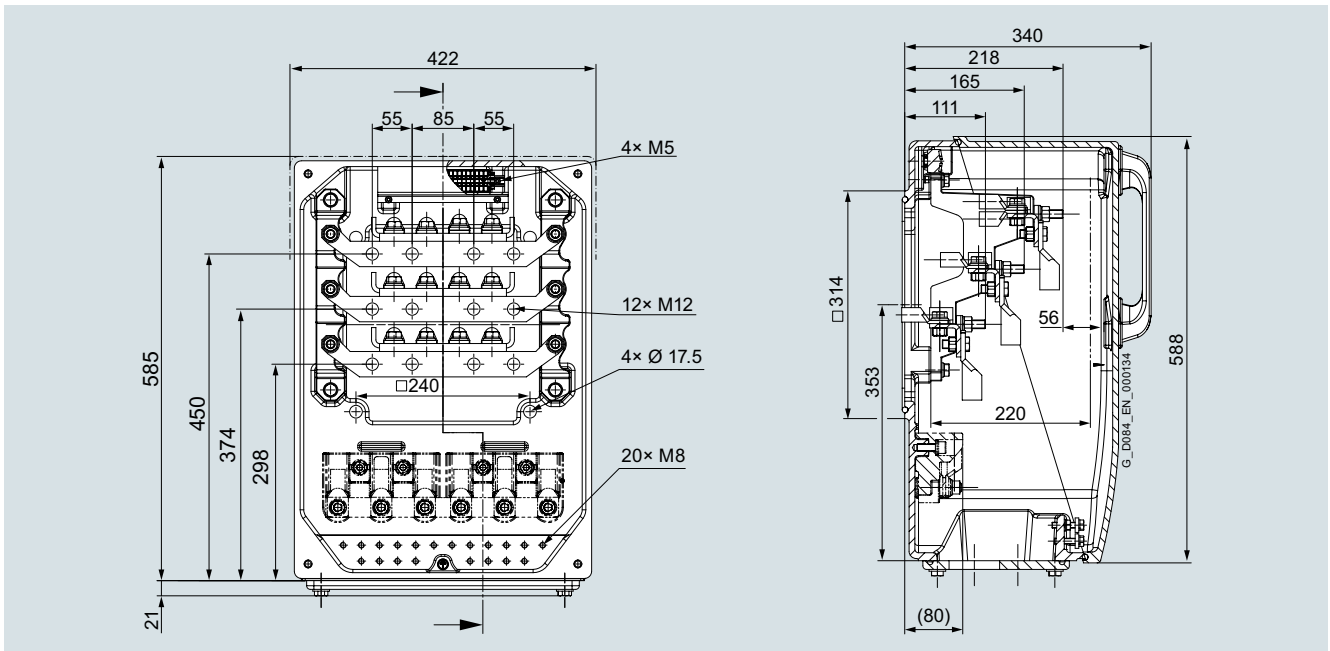
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Dimension drawings

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

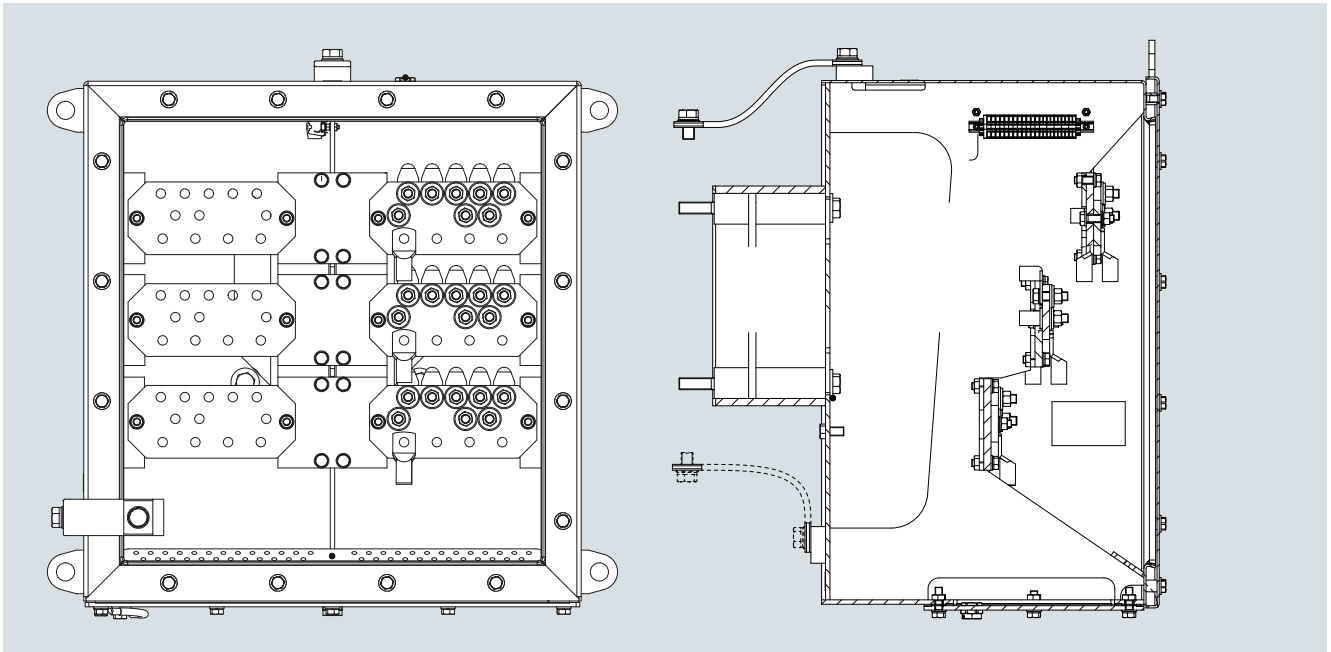


Terminal box type 1XB7 740 (up to 1 kV, 12 terminals)

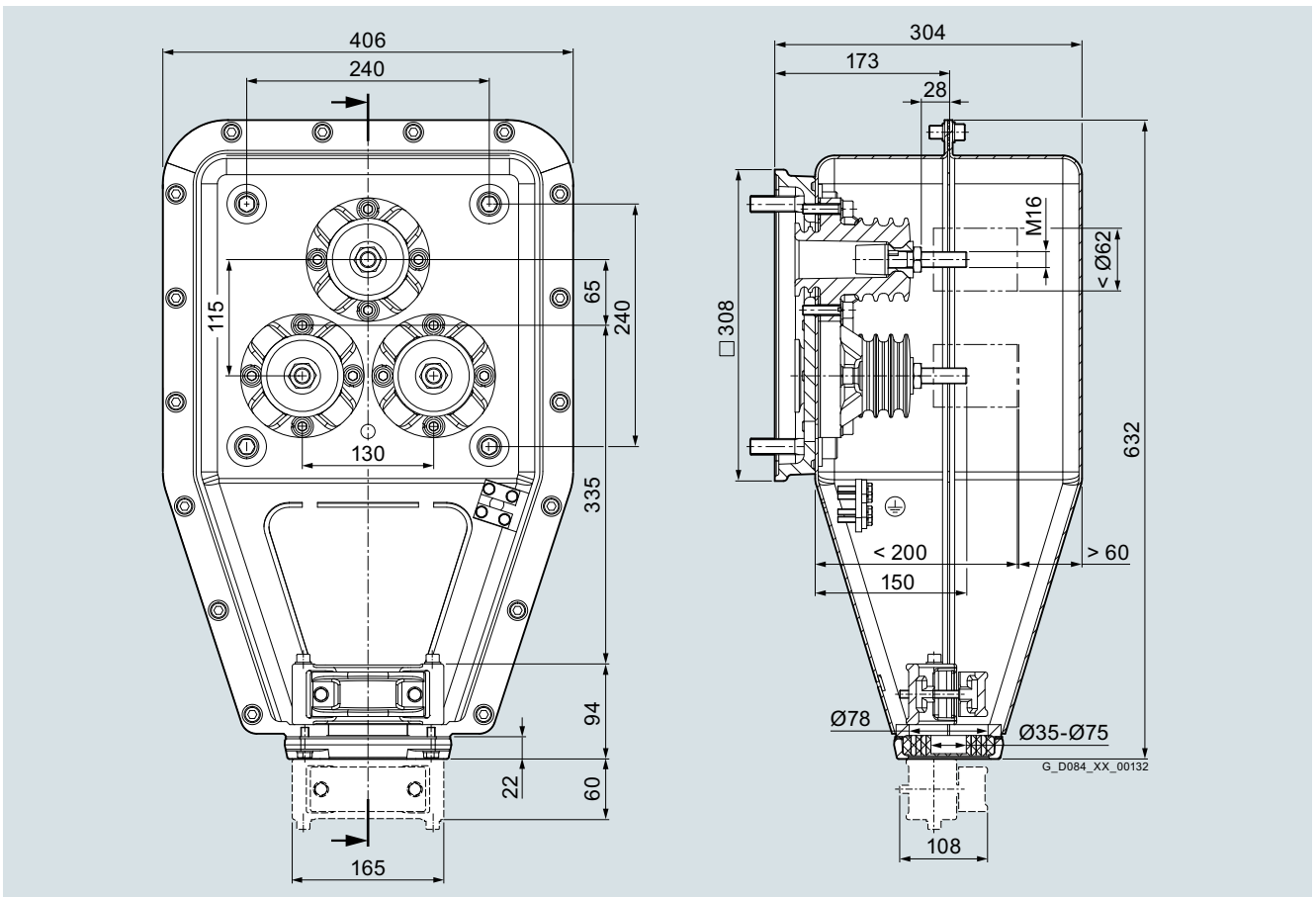


Dimension drawings (continued)

Terminal box type 1XD10-6AA (up to 1 kV, 4/8 terminals)



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



Introduction

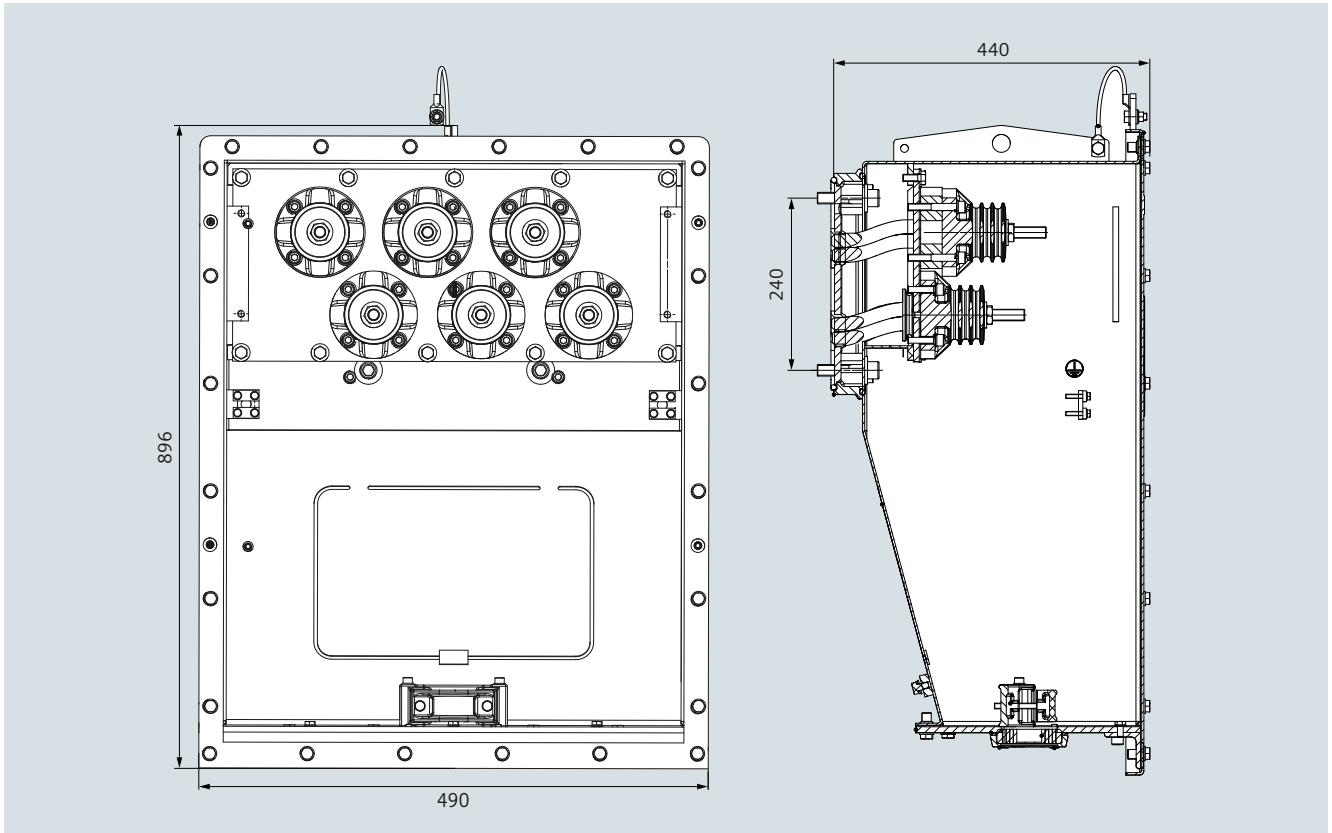
General technical versions

Motor terminal boxes

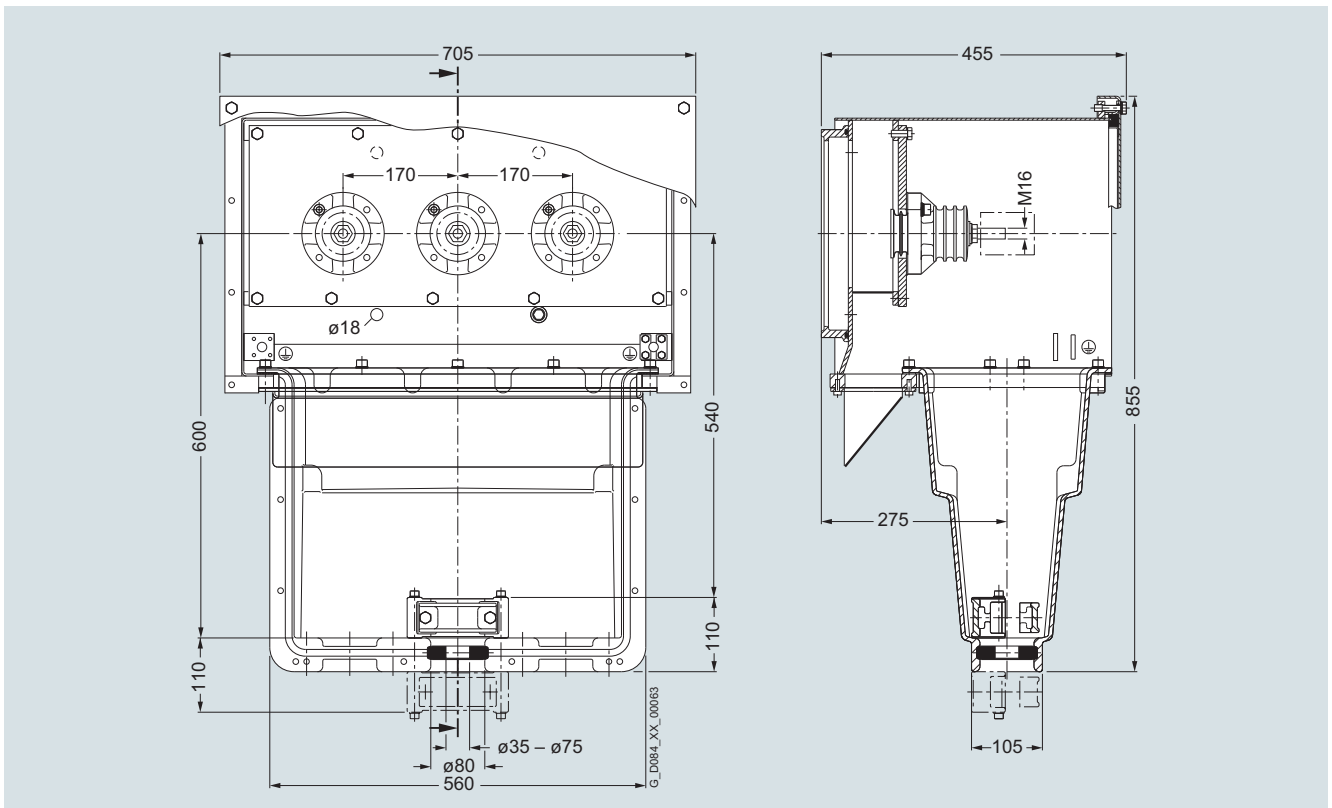
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Dimension drawings (continued)

Terminal box type 1XB8 751 (up to 6.6 kV, 6 terminals)

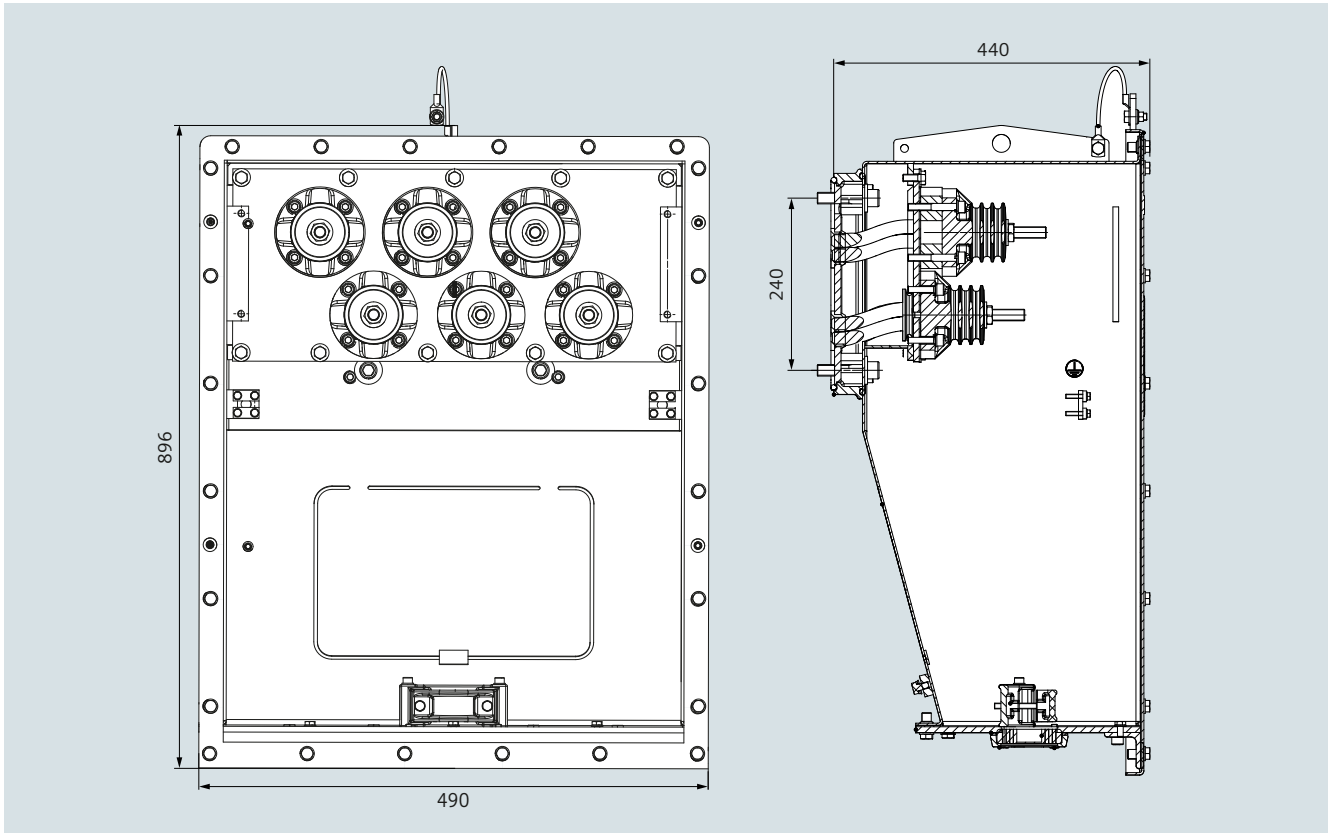


Terminal box type 1XB8 911 (up to 11 kV, 3 terminals)

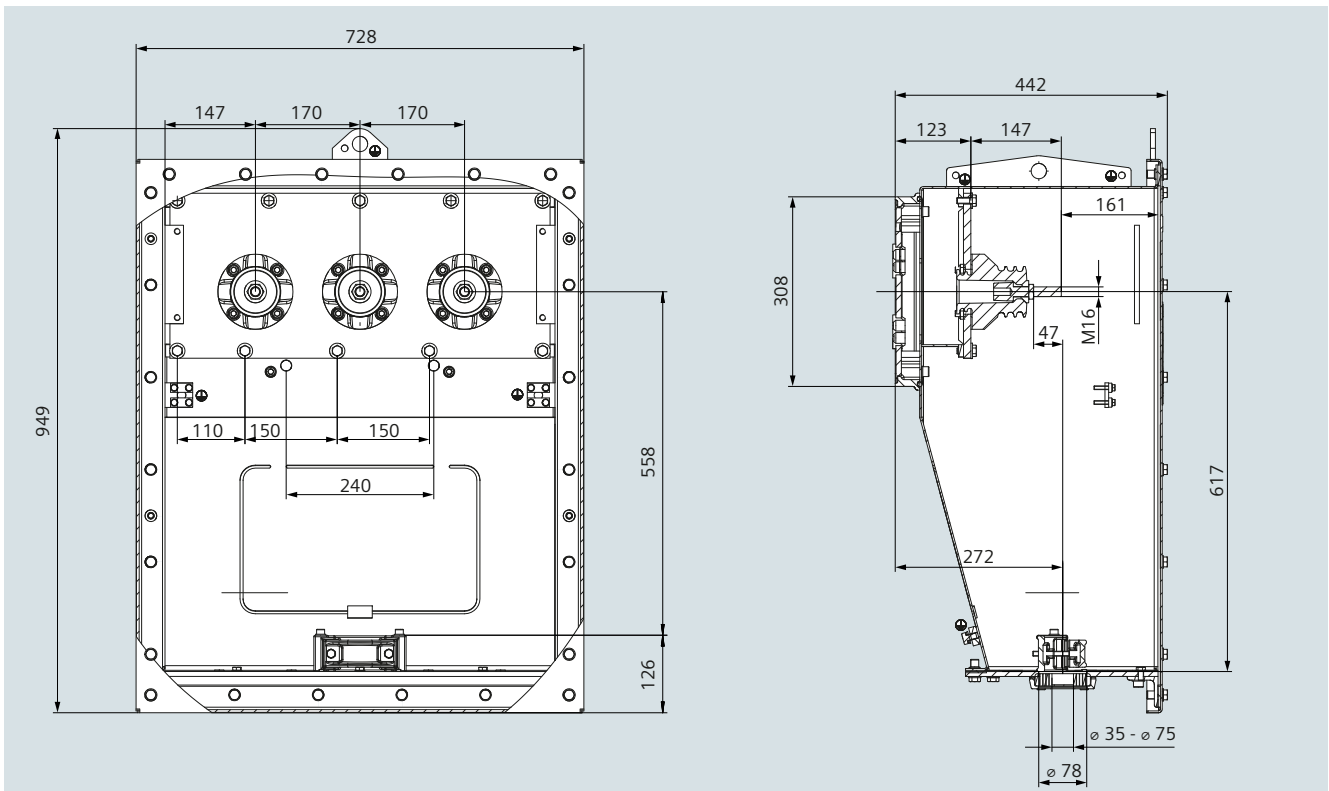


Dimension drawings (continued)

Terminal box type 1XB9 751 (up to 6.6 kV, 6 terminals)



Terminal box type 1XB9 911 (up to 11 kV, 3 terminals)



Introduction

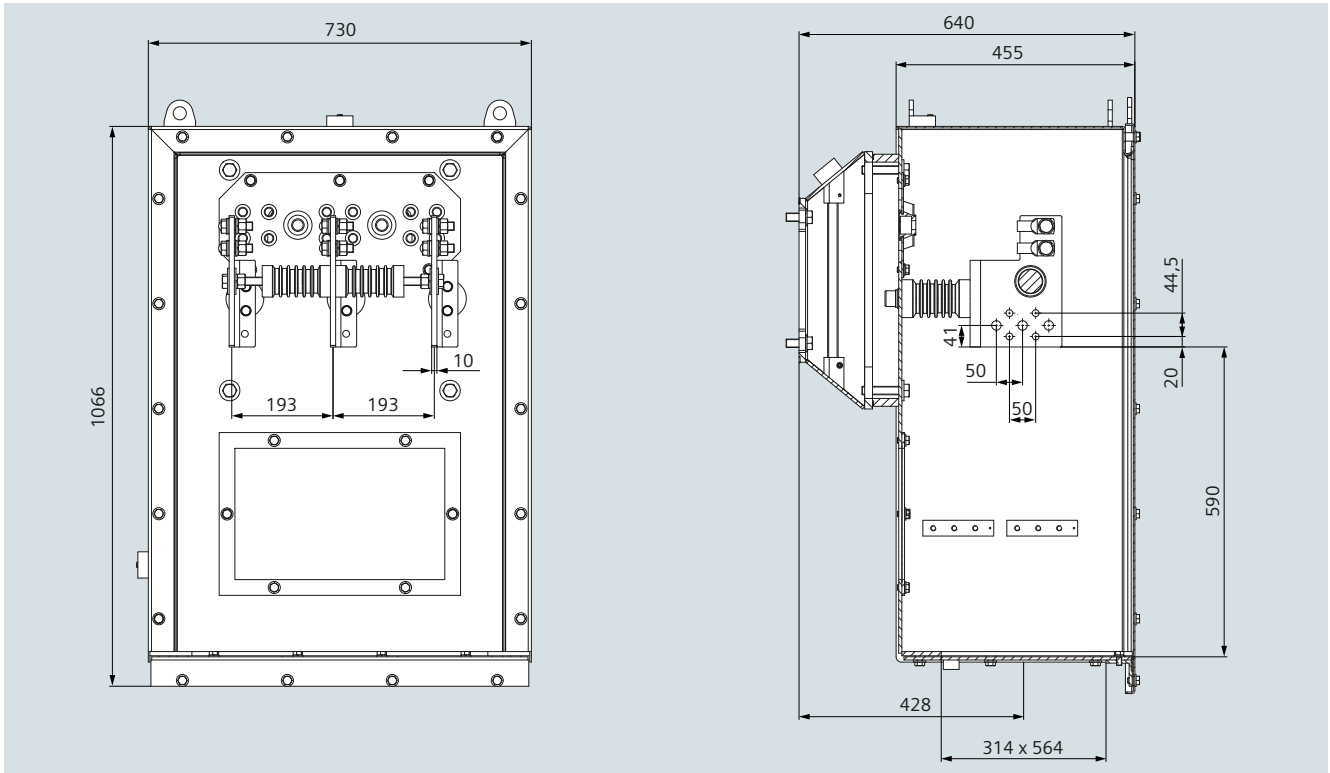
General technical versions

Motor terminal boxes

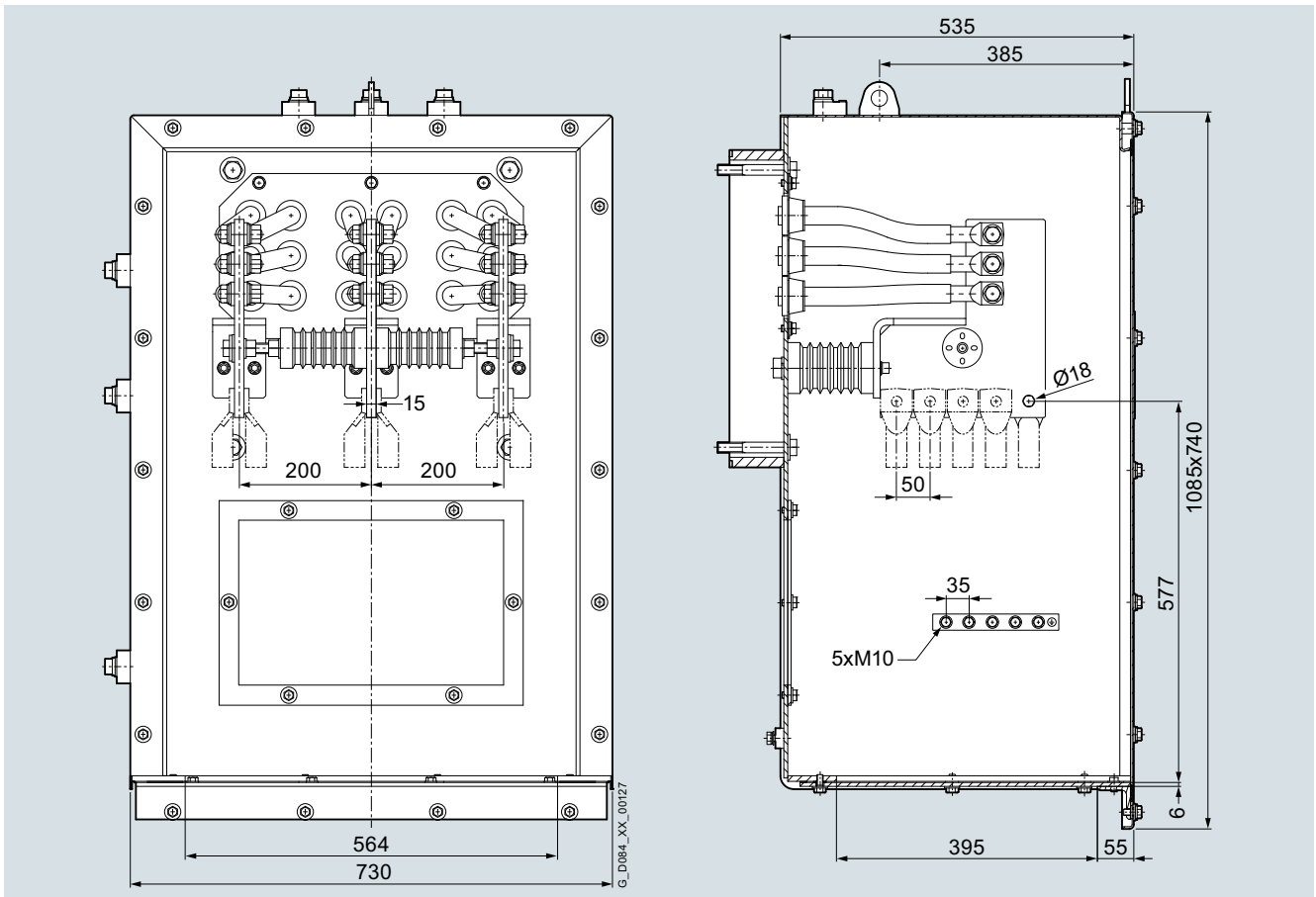
1

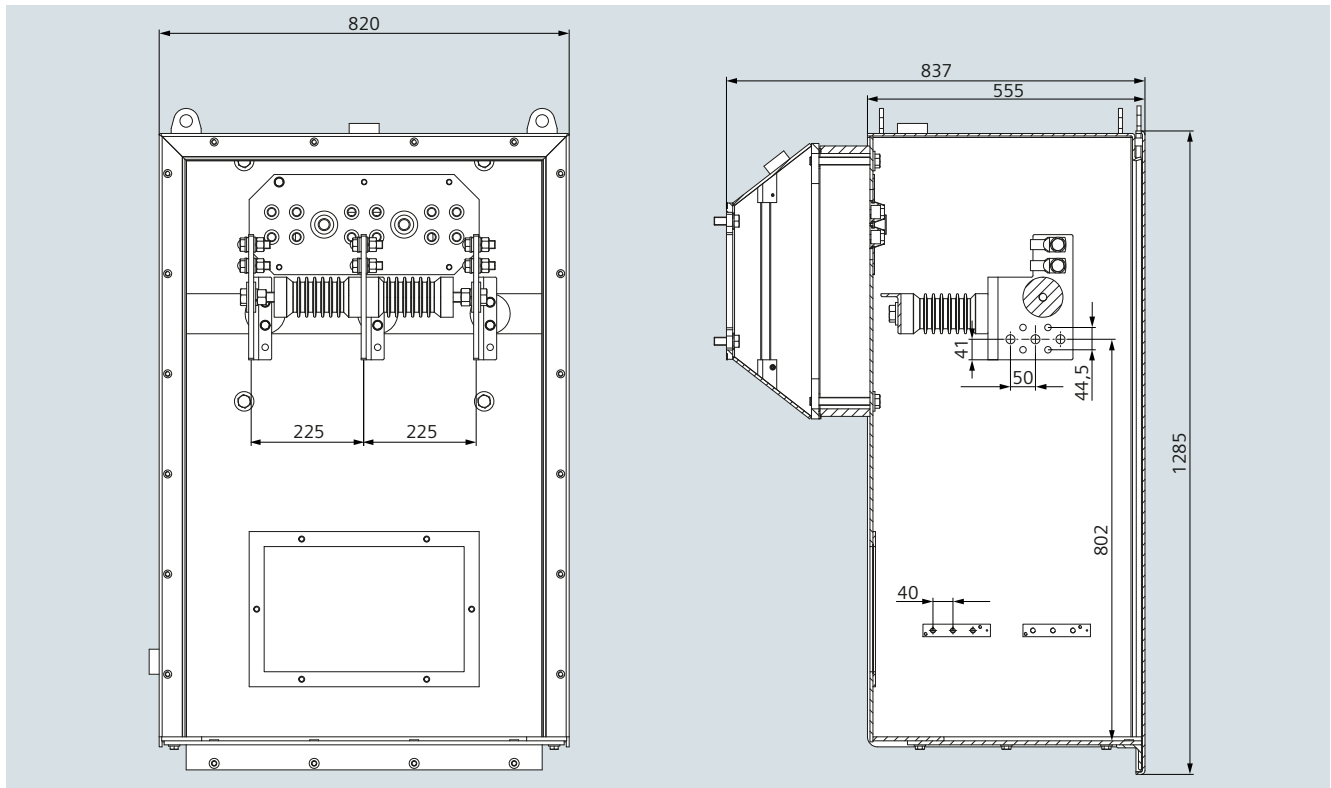
Dimension drawings (continued)

Terminal box type 1XD1 545-3AA (up to 11 kV IEC and 6.6 kV NEMA, 6 terminals)



Terminal box type 1XD1 566-3AA (up to 11 kV, 10 terminals)

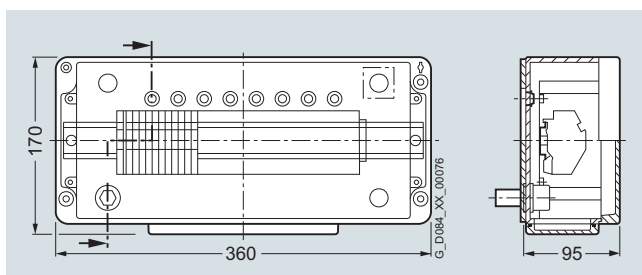


Dimension drawings (continued)**Terminal box type 1XD1 645-3AA (up to 13.8 kV, 6 terminals)****Neutral point terminal box**

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

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Bearing version

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

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

Overview, bearing versions

Motor type	Bearing version IM B3, IM B35		Number of poles 4		Number of poles ≥ 6		IM V1
	Number of poles 2 50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	
1R.6/1S.6 45.	Anti-friction bearings (sleeve bearings optional) ¹⁾	Sleeve bearings	Anti-friction bearings (sleeve bearings optional)	Anti-friction bearings (sleeve bearings optional)	Anti-friction bearings (sleeve bearings optional)	Anti-friction bearings (sleeve bearings optional)	Anti-friction bearings (sleeve bearings not available)
1R.6/1S.6 50.							
1R.6/1S.6 56.							
1R.7/1S.7 63.							
1R.7/1S.7 71.							
1R.7/1S.7 80.							
1R.7/1S.7 90.	N/A	N/A	Sleeve bearings	Sleeve bearings	Sleeve bearings (anti-friction bearings optional)	Sleeve bearings (anti-friction bearings optional)	N/A

Anti-friction bearings

Motor series	Type of construction	Shaft height mm	Drive end	Non-drive end
1R./1S.	IM B3	450	Deep-groove ball bearings (locating bearing)	Deep-groove ball bearings (floating bearing)
		500 ... 900	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)
		630 ... 710	Deep-groove ball bearings (floating bearing)	Pair of angular-contact ball bearings (thrust bearing)
		800	Deep-groove ball bearings (floating bearing)	Pair of angular-contact ball bearings (thrust bearing) and deep-groove ball bearings
		900	N/A	N/A

¹⁾ Motor types 1R.6/1S.6 504-... and 1R.6/1S.6 506-... only available with sleeve bearings.

Overview (continued)**Sleeve bearings**

Generally, the 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.

Assignment of oil-ring lubrication or circulating-oil lubrication to the shaft heights:

The DE bearing is not insulated, the NDE bearing is insulated. Type EM center flange bearings and also type EF lateral flange bearings are used. 2-pole motors of the shaft heights 450 and 500 as well as 4-, 6- and 8-pole motors of the shaft heights 710 and 800 are equipped with center flange bearings. All other motors have lateral flange bearings. When using four lobe bore sleeve bearings (e.g. shaft height 710, 2-pole) it is mandatory that a redundant oil supply is used.

Shaft height	No. of poles	Oil ISO VG	T _{ambient} [°C]	50 Hz				60 Hz			
				Core length				Core length			
				0	2	4	6	0	2	4	6
1R.6											
45.	2	22	40 ... 55	Oil ring				Oil ring			
	4	32	40 ... 55	Oil ring				Oil ring			
	≥ 6	46	40 ... 55	Oil ring				Oil ring			
50.	2	22	40 ... 50	Oil ring				Oil ring			
			55	Oil ring				Oil ring			
	4	32	40 ... 55	Oil ring				Oil ring			
			≥ 6	46	40 ... 55	Oil ring				Oil ring	
56.	2	22	40 ... 45	Oil ring				Circulating oil			
			50	Oil ring		Circulating oil					
			55	Circulating oil							
	4	32	40 ... 45	Oil ring				Oil ring			
			50 ... 55					Circulating oil			
	≥ 6	46	40 ... 50	Oil ring				Oil ring			
55							Oil ring				
1R.7											
63.	2	22	40 ... 60	Circulating oil				Circulating oil			
			4	32	40 ... 45	Oil ring				Circulating oil	
	6	46	50	Oil ring		Circulating oil		Oil ring			
			55 ... 60	Circulating oil				Circulating oil			
			40 ... 50	Oil ring				Oil ring			
	≥ 8	46	55	Oil ring				Oil ring			
			60	Oil ring				Circulating oil			
≥ 8	46	40 ... 55	Oil ring				Oil ring				
71.	2	22	40 ... 55	Circulating oil				Circulating oil			
			4	32	40 ... 45	Oil ring				Circulating oil	
	6	46	50 ... 55	Circulating oil				Circulating oil			
			40	Oil ring				Oil ring			
			40 ... 55	Oil ring				Circulating oil			
≥ 8	46	40 ... 45	Oil ring				Oil ring				
80.	2	32	40 ... 55	Circulating oil				Circulating oil			
	4	46	40 ... 55	Oil ring				Oil ring			
	≥ 6	46	40 ... 55	Circulating oil				Circulating oil			
90.	4	46	40 ... 55	Circulating oil				Circulating oil			
	6	46	40 ... 55	Circulating oil				Circulating oil			

¹⁾ Only 6-pole, with higher number of poles available with oil ring lubrication.

Introduction

General technical versions

Mechanical design

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Overview (continued)

Bearing insulation

NDE bearing insulation

Line operation (DOL):

For all direct online motors, NDE bearing is insulated.

Converter operation (VSD):

For operation with SINAMICS LV, SINAMICS PERFECT HARMONY and SINAMICS GM150/SM150 with sine-wave filter, NDE bearing is insulated.

DE and NDE bearing insulation

For all other than the above mentioned motor types or applications (e.g. operation with GM150/SM150 without sine-wave filter), both bearings are insulated as a standard and an earthing device is necessary.

When specified by the customer, insulated bearings can be provided at the DE and NDE for any motor type.

If both bearings are insulated, an additional detachable link is provided for this bearing insulation.

Vibration response

Horizontal motors up to 3600 rpm fulfill, as standard, vibration severity level A according to IEC 60034-14. Vibration severity level B as well as values for vertical motors are available 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, G 1.

Direction of rotation, fan

The direction of rotation must be specified in every order.

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

SIMOTICS HV M 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

Overview

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

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.

Maximum allowable coupling weight

Shaft end diameter mm	Max. weight of half coupling	
	2-pole kg	≥ 4-pole 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
215	290	580
220	310	620
225	330	660
230	350	700
235	370	740
240	400	790
245	420	830
250	440	880
255	470	930
260	500	990
265	520	1040
270	550	1100
280	610	1220
290	670	1340
300	740	1480

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Motors for line operation

2/2 **Overview**2/3 **Air-cooled motors**2/3 SIMOTICS HV M 1RA6 and 1RA7

Selection and ordering data

2/5 4 to 6.6 kV, 50 Hz

2/8 9 to 11 kV, 50 Hz

2/13 4 to 6.6 kV, 60 Hz

2/73 13.8 kV, 60 Hz

Dimension drawings

2/19 IM B3 type of construction,
anti-friction bearings2/31 IM B3 type of construction,
sleeve bearings2/43 IM V1 type of construction,
anti-friction bearings2/53 SIMOTICS HV M 1RQ6 and RQ7

Selection and ordering data

2/55 4 to 6.6 kV, 50 Hz

2/61 9 to 11 kV, 50 Hz

2/67 4 to 6.6 kV, 60 Hz

2/73 13.8 kV, 60 Hz

Dimension drawings

2/77 IM B3 type of construction,
anti-friction bearings, IC6112/88 IM B3 type of construction,
sleeve bearings, IC6112/102 IM V1 type of construction,
anti-friction bearings, IC6112/114 **Water-cooled motors**2/114 SIMOTICS HV M 1RN6 and 1RN7

Selection and ordering data

2/116 4 to 6.6 kV, 50 Hz

2/122 9 to 11 kV, 50 Hz

2/128 4 to 6.6 kV, 60 Hz

2/134 13.8 kV, 60 Hz

Dimension drawings

2/137 IM B3 type of construction,
anti-friction bearings, IC81W2/148 IM B3 type of construction,
sleeve bearings, IC81W2/161 IM V1 type of construction,
anti-friction bearings, IC81W

Motors for line operation

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 $f_{rated} \pm 2\%$

SIMOTICS HV M series is designed for direct-on-line starting under certain starting conditions.

Motor start up has not to be checked, if the following conditions are met:

- Voltage during start up is not below 0.9 x rated voltage
- Load characteristic complies with $T \sim n^2$
- Max. load torque at rated speed does not exceed value acc. table below

Shaft height [mm]	450		500		560		630		710		800		900	
Number of poles	2	4...	2	4...	2	4...	2	4...	2	4...	2	4...	4...	
SIMOTICS HV M														
max. load torque = $T_{rated} \times$	0.75	0.9	0.7	0.9	0.6	0.9	0.5	0.9	0.5	0.9	0.5	0.9	0.4	0.8

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.

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1RA6, 1RA7	
Rated voltage	4 ... 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	IP23/IP24W
Cooling method	IC01
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height	450 ... 900 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Technical data (continued)

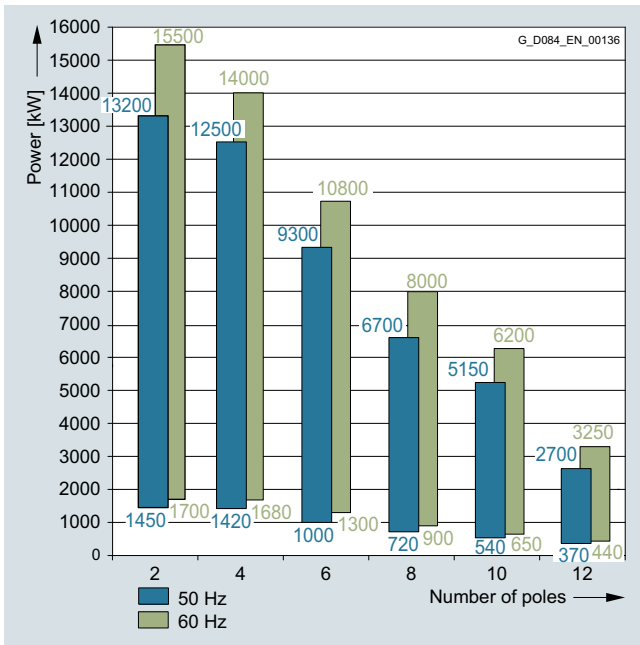
Power ranges for IEC motors for line operation

1RA6 and 1RA7 series

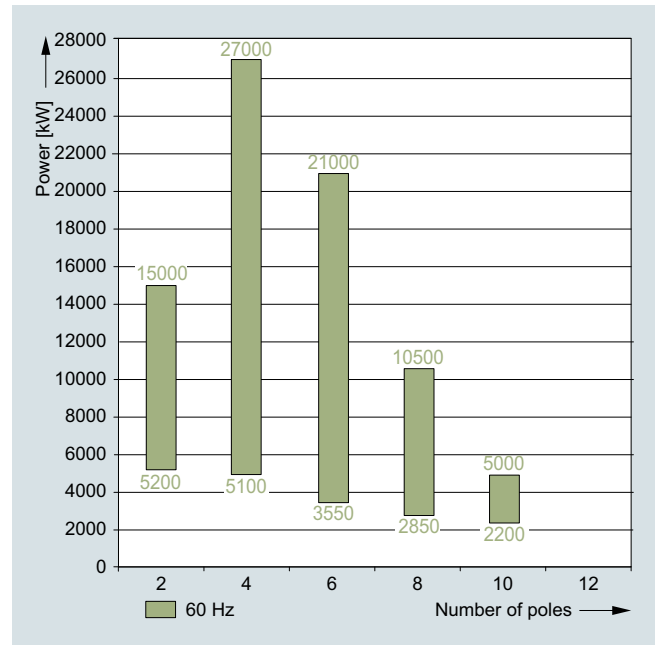
Insulation system, thermal class 155 (F), utilized to 130 (B).

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

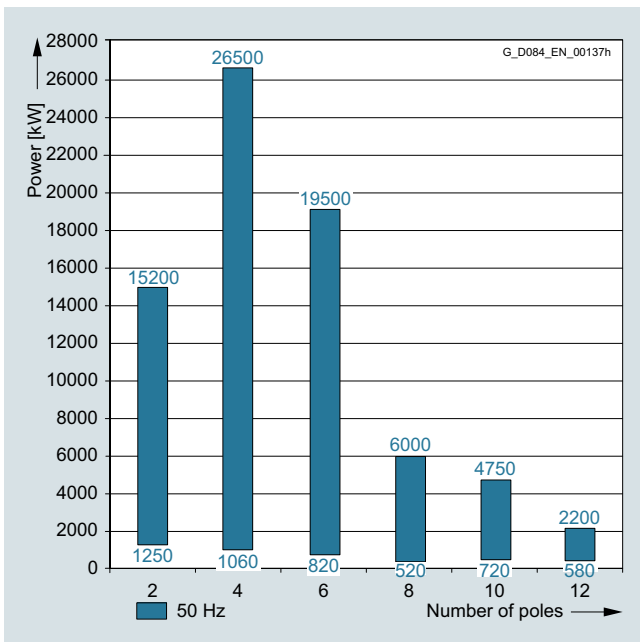
2



4 to 6.6 kV; 50 Hz and 60 Hz



13.8 kV; 60 Hz



9 to 11 kV; 50 Hz

Selection and ordering data

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
2-pole													
1450	1RA6450-2HJ ■ 0	2970	166	95.6	96.0	0.88	0.87	4662	2.00	0.60	4.35	12	64
1700	1RA6452-2HJ ■ 0	2971	192	95.9	96.3	0.89	0.89	5464	2.05	0.60	4.50	14	70
1900	1RA6454-2HJ ■ 0	2974	210	96.2	96.5	0.90	0.89	6100	2.30	0.70	5.15	15	74
2120	1RA6456-2HJ ■ 0	2978	235	96.5	96.6	0.90	0.89	6798	2.45	0.70	5.50	17	81
2500	1RA6500-2HJ ■ 0	2972	280	96.4	96.8	0.89	0.88	8032	1.95	0.55	4.30	19	83
2680	1RA6502-2HJ ■ 0	2974	300	96.3	96.7	0.90	0.89	8605	2.05	0.50	4.45	21	93
3150	1RA6504-2HJ ■ 0	2978	345	96.8	97.1	0.91	0.90	10100	2.30	0.55	5.20	25	103
3400	1RA6506-2HJ ■ 0	2975	370	96.8	97.2	0.91	0.91	10913	2.15	0.55	4.85	26	115
4000	1RA6560-2HJ ■ 0	2974	450	96.5	96.8	0.89	0.90	12843	1.95	0.50	4.05	39	160
4600	1RA6562-2HJ ■ 0	2977	520	96.7	97.0	0.89	0.90	14755	2.00	0.50	4.30	44	180
5140	1RA6564-2HJ ■ 0	2978	560	97.0	97.2	0.91	0.91	16481	2.25	0.60	4.75	49	200
5660	1RA6566-2HJ ■ 0	2980	620	97.1	97.3	0.91	0.91	18137	2.40	0.60	5.25	55	220
6300	1RA7630-2 ■ A ■ 0-0CJ0	2980	720	97.3	97.6	0.87	0.88	20188	1.95	0.65	4.20	74	206
7000	1RA7632-2 ■ A ■ 0-0CJ0	2982	780	97.5	97.7	0.89	0.89	22416	2.20	0.75	4.70	82	225
7800	1RA7634-2 ■ A ■ 0-0CJ0	2984	850	97.7	97.8	0.90	0.89	24961	2.45	0.75	5.30	91	243
8600	1RA7636-2 ■ A ■ 0-0CJ0	2984	940	97.8	97.9	0.90	0.90	27521	2.50	0.85	5.40	100	246
9500	1RA7710-2 ■ A ■ 0-0CJ0	2985	1040	97.4	97.4	0.91	0.91	30391	2.00	0.60	4.50	149	209
10600	1RA7712-2 ■ A ■ 0-0CJ0	2986	1140	97.5	97.5	0.91	0.91	33899	2.10	0.60	4.70	160	200
11800	1RA7714-2 ■ A ■ 0-0CJ0	2986	1260	97.7	97.6	0.92	0.92	37736	2.25	0.65	5.00	176	200
13200	1RA7716-2 ■ A ■ 0-0CJ0	2987	1420	97.8	97.7	0.92	0.92	42199	2.25	0.75	5.30	189	192
4-pole													
1420	1RA6450-4HJ ■ ■ ■	1482	160	95.6	96.1	0.89	0.88	9149	2.35	0.65	4.65	21	340
1560	1RA6452-4HJ ■ ■ ■	1483	176	95.9	96.3	0.89	0.88	10045	2.45	0.65	4.95	24	385
1730	1RA6454-4HJ ■ ■ ■	1484	194	96.0	96.4	0.89	0.88	11132	2.50	0.65	5.05	27	440
1950	1RA6456-4HJ ■ ■ ■	1486	220	96.2	96.5	0.89	0.87	12531	2.60	0.65	5.25	30	500
2240 ²⁾	1RA6500-4HJ ■ ■ ■	1485	250	96.2	96.9	0.89	0.88	14404	2.30	0.65	4.70	45	410
2500 ²⁾	1RA6502-4HJ ■ ■ ■	1485	280	96.3	96.9	0.89	0.88	16076	2.35	0.65	4.90	48	460
2800 ²⁾	1RA6504-4HJ ■ ■ ■	1486	315	96.4	97.0	0.89	0.88	17993	2.30	0.60	4.80	55	510
3080 ²⁾	1RA6506-4HJ ■ ■ ■	1485	345	96.4	97.1	0.89	0.87	19805	2.45	0.65	5.15	60	560
3800 ²⁾	1RA6560-4HJ ■ ■ ■	1489	420	96.9	97.3	0.90	0.90	24370	2.10	0.65	4.95	86	730
4300 ²⁾	1RA6562-4HJ ■ ■ ■	1489	470	97.1	97.5	0.91	0.91	27576	2.05	0.65	4.85	97	800
4800 ²⁾	1RA6564-4HJ ■ ■ ■	1490	520	97.2	97.6	0.91	0.91	30762	2.10	0.60	5.00	107	880
5260 ²⁾	1RA6566-4HJ ■ ■ ■	1490	580	97.3	97.6	0.90	0.90	33710	2.10	0.60	5.15	117	970
5900	1RA7630-4 ■ A ■ 0-0C ■ 0	1489	660	97.3	97.7	0.88	0.88	37838	2.15	0.70	4.60	145	928
6600	1RA7632-4 ■ A ■ 0-0C ■ 0	1489	740	97.4	97.7	0.88	0.88	42327	2.20	0.75	4.60	160	985
7400	1RA7634-4 ■ A ■ 0-0C ■ 0	1491	830	97.5	97.8	0.88	0.87	47394	2.35	0.70	5.00	178	1103
8200	1RA7636-4 ■ A ■ 0-0C ■ 0	1490	910	97.6	97.9	0.89	0.88	52553	2.40	0.75	5.00	195	1136
9000	1RA7710-4 ■ A ■ 0-0C ■ 0	1492	980	97.6	97.7	0.91	0.91	57602	2.35	0.65	4.90	262	786
10000	1RA7712-4 ■ A ■ 0-0C ■ 0	1492	1080	97.6	97.7	0.91	0.91	64003	2.35	0.65	5.00	288	837
11200	1RA7714-4 ■ A ■ 0-0C ■ 0	1492	1200	97.7	97.8	0.92	0.92	71683	2.40	0.70	5.10	323	959
12500	1RA7716-4 ■ A ■ 0-0C ■ 0	1493	1340	97.8	97.9	0.92	0.91	79950	2.45	0.65	5.30	362	1063

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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.

Note:

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

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.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 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 $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
6-pole													
1000	1RA6450-6HJ	988	118	95.5	96.1	0.85	0.84	9665	2.25	0.95	4.65	28	660
1120	1RA6452-6HJ	989	132	95.7	96.2	0.85	0.84	10814	2.35	0.85	4.80	32	770
1250	1RA6454-6HJ	989	148	95.8	96.3	0.85	0.84	12069	2.40	0.95	4.95	35	870
1400	1RA6456-6HJ	990	164	96.1	96.5	0.85	0.84	13504	2.45	0.90	5.05	41	1040
1850	1RA6500-6HJ	988	215	95.8	96.5	0.86	0.85	17880	2.05	0.65	4.35	56	1280
2090	1RA6502-6HJ	988	245	95.9	96.6	0.86	0.85	20200	2.00	0.65	4.15	61	1420
2300	1RA6504-6HJ	989	270	96.0	96.7	0.86	0.85	22207	2.20	0.70	4.60	68	1560
2500	1RA6506-6HJ	989	285	96.2	96.8	0.87	0.86	24138	2.20	0.75	4.65	76	1760
2900	1RA6560-6HJ	990	330	96.4	96.9	0.87	0.87	27972	1.95	0.70	4.40	107	1640
3250	1RA6562-6HJ	990	370	96.6	97.1	0.88	0.88	31348	1.95	0.70	4.40	118	1820
3640	1RA6564-6HJ	990	410	96.6	97.1	0.88	0.88	35110	1.90	0.70	4.25	131	2000
3930	1RA6566-6HJ	990	440	96.8	97.2	0.88	0.88	37907	1.95	0.70	4.45	145	2250
4350	1RA7630-6A-0C	992	510	97.1	97.4	0.84	0.84	41874	2.35	0.75	5.00	208	2967
4850	1RA7632-6A-0C	993	570	97.1	97.4	0.85	0.84	46641	2.35	0.75	5.00	230	3217
5400	1RA7634-6A-0C	992	630	97.2	97.5	0.85	0.85	51982	2.30	0.75	5.00	251	3381
6000	1RA7636-6A-0C	993	700	97.3	97.5	0.85	0.84	57700	2.35	0.75	5.00	272	3647
6700	1RA7710-6A-0C	994	770	97.3	97.4	0.86	0.86	64366	2.10	0.65	4.50	352	2141
7500	1RA7712-6A-0C	994	860	97.4	97.5	0.86	0.85	72052	2.20	0.65	4.60	398	2515
8300	1RA7714-6A-0C	995	950	97.5	97.5	0.86	0.85	79657	2.25	0.65	4.80	450	3043
9300	1RA7716-6A-0C	994	1060	97.6	97.6	0.86	0.86	89344	2.25	0.65	4.80	498	3277
8-pole													
720	1RA6450-8HJ	741	88	95.0	95.7	0.83	0.82	9278	2.10	0.75	4.30	35	730
780	1RA6452-8HJ	742	95	95.2	95.9	0.83	0.82	10038	2.15	0.75	4.40	39	890
900	1RA6454-8HJ	743	110	95.6	96.0	0.82	0.79	11567	2.55	0.85	5.20	44	1040
1030	1RA6456-8HJ	743	124	95.6	96.2	0.83	0.81	13237	2.40	0.80	4.90	51	1300
1320	1RA6500-8HJ	742	160	95.6	96.2	0.83	0.81	16987	2.15	0.55	4.55	68	1420
1480	1RA6502-8HJ	743	178	95.6	96.3	0.84	0.81	19021	2.15	0.60	4.50	75	1560
1680	1RA6504-8HJ	743	200	95.9	96.4	0.84	0.81	21591	2.25	0.60	4.60	84	1740
1850	1RA6506-8HJ	743	220	96.0	96.5	0.84	0.82	23776	2.25	0.65	4.75	93	1920
2120	1RA6560-8HJ	743	250	96.3	96.9	0.85	0.83	27246	2.10	0.65	4.50	127	2700
2400	1RA6562-8HJ	743	280	96.4	97.0	0.85	0.84	30845	2.05	0.65	4.50	140	2950
2640	1RA6564-8HJ	743	310	96.5	97.1	0.85	0.83	33930	2.10	0.65	4.75	155	3300
2850	1RA6566-8HJ	744	330	96.6	97.2	0.85	0.83	36579	2.15	0.60	4.75	171	3650
3200	1RA7630-8A-0C	744	390	96.5	96.7	0.82	0.80	41072	2.35	0.55	5.00	255	3256
3550	1RA7632-8A-0C	744	430	96.6	96.8	0.82	0.80	45565	2.35	0.55	5.10	281	4145
4000	1RA7634-8A-0C	744	480	96.7	96.9	0.83	0.81	51340	2.35	0.55	5.10	307	4428
4450	1RA7636-8A-0C	744	530	96.8	97.0	0.83	0.82	57116	2.35	0.55	5.10	334	3885
5000	1RA7710-8A-0C	744	580	96.8	97.1	0.85	0.84	64175	2.10	0.55	4.30	434	5826
5600	1RA7712-8A-0C	745	650	97.0	97.2	0.86	0.84	71779	2.25	0.70	4.60	494	7453
6100	1RA7714-8A-0C	745	710	97.1	97.3	0.85	0.84	78188	2.30	0.70	4.70	558	7863
6700	1RA7716-8A-0C	746	780	97.2	97.4	0.85	0.84	85764	2.35	0.65	4.80	617	9267

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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](#).

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
10-pole													
540	1RA6450-3HJ	590	70	93.4	93.7	0.80	0.76	8741	2.00	0.80	4.60	37	1150
600	1RA6452-3HJ	590	76	93.7	93.9	0.81	0.76	9712	2.00	0.80	4.70	41	1350
670	1RA6454-3HJ	591	86	93.9	94.1	0.80	0.75	10827	2.10	0.82	4.90	46	1450
760	1RA6456-3HJ	591	97	94.1	94.2	0.80	0.75	12281	2.20	0.90	5.20	52	1800
900	1RA6500-3HJ	591	112	94.4	94.7	0.82	0.80	14543	1.90	0.68	4.30	70	1400
1000	1RA6502-3HJ	592	122	95.7	94.9	0.83	0.80	16132	1.90	0.70	4.50	80	1700
1100	1RA6504-3HJ	592	134	94.8	95.0	0.83	0.80	17745	1.90	0.72	4.60	88	2200
1250	1RA6506-3HJ	592	152	95.0	95.1	0.83	0.80	20165	1.90	0.75	4.70	99	2600
1480	1RA6560-3HJ	593	184	95.1	95.4	0.81	0.77	23835	2.00	0.70	4.50	123	2700
1700	1RA6562-3HJ	593	210	95.4	95.7	0.82	0.78	27378	2.00	0.70	4.50	141	4100
1880	1RA6564-3HJ	593	230	95.6	95.7	0.82	0.78	30277	2.00	0.72	4.70	158	4400
2050	1RA6566-3HJ	593	255	95.7	95.8	0.81	0.76	33014	2.10	0.78	5.00	173	5200
2400	1RA7630-3A-OC	595	295	96.4	96.8	0.81	0.79	38518	2.20	0.55	4.50	257	5553
2680	1RA7632-3A-OC	595	325	96.5	96.9	0.82	0.79	43012	2.25	0.55	4.60	283	6418
3000	1RA7634-3A-OC	594	365	96.6	97.0	0.82	0.81	48229	2.20	0.55	4.60	310	7367
3350	1RA7636-3A-OC	595	405	96.6	97.0	0.82	0.80	53765	2.20	0.55	4.50	336	6708
3750	1RA7710-3A-OC	595	440	96.6	96.9	0.85	0.82	60184	2.50	0.60	4.40	432	11908
4200	1RA7712-3A-OC	595	490	96.8	96.9	0.85	0.82	67406	2.60	0.60	4.60	491	13643
4700	1RA7714-3A-OC	595	540	96.9	97.1	0.86	0.84	75431	2.50	0.65	4.50	558	15312
5150	1RA7716-3A-OC	595	590	96.9	97.2	0.86	0.85	82653	2.45	0.60	4.50	618	15777
12-pole													
370	1RA6450-5HJ	491	53	92.4	92.7	0.73	0.68	7197	1.80	0.60	4.00	37	1100
425	1RA6452-5HJ	492	60	92.8	93.0	0.73	0.67	8249	1.80	0.63	4.20	41	1400
475	1RA6454-5HJ	491	66	93.1	93.3	0.74	0.69	9239	1.80	0.60	4.00	46	1600
540	1RA6456-5HJ	492	77	93.5	93.5	0.72	0.65	10482	2.00	0.68	4.40	52	2000
680	1RA6500-5HJ	491	94	93.9	94.0	0.74	0.69	13226	1.90	0.62	4.10	70	2350
760	1RA6502-5HJ	491	102	94.1	94.2	0.76	0.71	14782	1.80	0.60	4.00	79	2600
840	1RA6504-5HJ	491	112	94.3	94.4	0.76	0.71	16338	1.90	0.62	4.10	87	3100
930	1RA6506-5HJ	492	128	94.5	94.6	0.74	0.69	18052	1.90	0.62	4.30	98	3700
1100	1RA6560-5HJ	493	150	94.5	94.8	0.75	0.71	21308	1.80	0.57	3.90	123	3600
1230	1RA6562-5HJ	493	168	94.9	95.0	0.74	0.68	23827	1.80	0.60	4.00	141	4100
1350	1RA6564-5HJ	494	184	95.0	95.1	0.74	0.68	26098	2.00	0.63	4.30	158	4700
1470	1RA6566-5HJ	494	198	95.1	95.2	0.75	0.69	28418	2.00	0.65	4.30	173	5200
2000	1RA7630-5A-OC	494	255	95.6	96.2	0.79	0.76	38661	1.95	0.55	3.90	264	5712
2250	1RA7632-5A-OC	494	290	95.8	96.3	0.78	0.75	43494	2.10	0.60	4.10	291	6888
2450	1RA7634-5A-OC	495	315	96.0	96.4	0.78	0.74	47264	2.25	0.60	4.30	318	9238
2700	1RA7636-5A-OC	494	345	96.1	96.5	0.78	0.74	52193	2.25	0.60	4.30	345	10053

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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.

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

SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
2-pole													
1250	1RA6450-2HJ 0	2974	86	95.5	95.8	0.88	0.88	4013	2.15	0.70	4.80	12	31
1400	1RA6452-2HJ 0	2977	94	95.8	96.1	0.90	0.89	4490	2.40	0.75	5.40	14	33
1550	1RA6454-2HJ 0	2979	104	95.9	96.2	0.89	0.89	4968	2.40	0.70	5.50	15	36
1750	1RA6456-2HJ 0	2980	116	96.2	96.5	0.90	0.90	5607	2.45	0.70	5.50	17	39
2180	1RA6500-2HJ 0	2977	146	96.1	96.6	0.90	0.89	6992	2.15	0.55	4.80	19	37
2420	1RA6502-2HJ 0	2976	162	96.3	96.7	0.90	0.90	7765	2.10	0.65	4.60	21	41
2660	1RA6504-2HJ 0	2978	174	96.5	97.0	0.91	0.91	8529	2.25	0.55	4.90	25	45
2900	1RA6506-2HJ 0	2976	190	96.6	97.1	0.91	0.91	9305	2.10	0.70	4.90	26	51
3550	1RA6560-2HJ 0	2978	240	96.5	96.8	0.89	0.90	11383	2.00	0.50	4.05	39	115
4050	1RA6562-2HJ 0	2982	270	96.7	96.8	0.90	0.90	12969	2.30	0.60	4.95	44	130
4630	1RA6564-2HJ 0	2981	305	96.9	97.1	0.91	0.91	14831	2.25	0.60	4.80	49	145
5290	1RA6566-2HJ 0	2984	345	97.1	97.1	0.91	0.91	16928	2.50	0.60	5.40	54	160
5800	1RA7630-2 A 0-0CJ0	2983	390	97.3	97.5	0.88	0.88	18567	2.20	0.70	4.70	74	243
6400	1RA7632-2 A 0-0CJ0	2985	425	97.4	97.6	0.89	0.89	20474	2.40	0.80	5.20	82	258
7000	1RA7634-2 A 0-0CJ0	2984	460	97.5	97.7	0.90	0.90	22401	2.40	0.75	5.20	91	259
7600	1RA7636-2 A 0-0CJ0	2985	500	97.6	97.8	0.90	0.90	24313	2.40	0.75	5.30	99	259
8300	1RA7710-2 A 0-0CJ0	2987	540	97.3	97.3	0.92	0.91	26534	2.15	0.60	4.90	149	266
9200	1RA7712-2 A 0-0CJ0	2987	590	97.4	97.4	0.92	0.92	29411	2.20	0.65	5.10	160	266
10000	1RA7714-2 A 0-0CJ0	2989	640	97.6	97.5	0.93	0.92	31948	2.35	0.70	5.50	174	291
11000	1RA7716-2 A 0-0CJ0	2988	700	97.6	97.6	0.93	0.92	35154	2.40	0.60	5.40	190	285
12200	1RA7800-2 A 0-0CJ0	2989	810	97.2	97.2	0.89	0.90	38977	1.80	0.40	4.60	246	510
13000	1RA7802-2 A 0-0CJ0	2989	860	97.3	97.3	0.90	0.91	41533	1.85	0.45	4.80	263	540
14000	1RA7804-2 A 0-0CJ0	2989	920	97.4	97.3	0.90	0.91	44727	1.90	0.40	4.80	285	570
15200	1RA7806-2 A 0-0CJ0	2990	1000	97.5	97.4	0.90	0.91	48545	2.00	0.40	5.00	301	600

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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 SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
4-pole													
1060	1RA6450-4HJ	1485	72	95.4	95.9	0.89	0.89	6816	2.50	0.70	5.15	21	170
1210	1RA6452-4HJ	1484	82	95.5	96.1	0.89	0.89	7786	2.45	0.65	5.00	24	194
1360	1RA6454-4HJ	1486	91	95.8	96.2	0.90	0.89	8739	2.55	0.65	5.30	27	225
1560	1RA6456-4HJ	1487	104	96.0	96.4	0.90	0.88	10018	2.60	0.65	5.35	30	260
1980 ²⁾	1RA6500-4HJ	1486	134	95.9	96.7	0.89	0.88	12723	2.45	0.75	5.15	45	200
2180 ²⁾	1RA6502-4HJ	1486	148	96.0	96.8	0.89	0.88	14009	2.40	0.70	5.20	48	220
2420 ²⁾	1RA6504-4HJ	1488	164	96.2	96.9	0.89	0.88	15530	2.50	0.65	5.20	55	250
2610 ²⁾	1RA6506-4HJ	1488	176	96.3	97.0	0.89	0.88	16749	2.55	0.70	5.40	60	280
3250 ²⁾	1RA6560-4HJ	1490	215	96.8	97.2	0.91	0.91	20829	2.15	0.60	5.00	86	420
3600 ²⁾	1RA6562-4HJ	1491	235	96.9	97.3	0.91	0.91	23056	2.15	0.65	5.05	97	460
4100 ²⁾	1RA6564-4HJ	1491	270	97.1	97.4	0.91	0.90	26258	2.15	0.55	5.10	107	510
4450 ²⁾	1RA6566-4HJ	1492	290	97.2	97.5	0.91	0.90	28481	2.25	0.55	5.20	116	560
4850	1RA7630-4A00-0C0	1492	325	97.3	97.5	0.88	0.87	31042	2.45	0.70	5.30	145	771
5300	1RA7632-4A00-0C0	1492	355	97.4	97.7	0.89	0.88	33922	2.50	0.70	5.40	159	902
5800	1RA7634-4A00-0C0	1492	385	97.5	97.7	0.89	0.88	37122	2.50	0.75	5.40	177	730
6400	1RA7636-4A00-0C0	1492	425	97.6	97.8	0.89	0.88	40962	2.45	0.65	5.20	193	1092
7100	1RA7710-4A00-0C0	1493	460	97.5	97.5	0.91	0.91	45411	2.45	0.60	5.30	262	1102
8000	1RA7712-4A00-0C0	1493	520	97.6	97.6	0.91	0.91	51168	2.45	0.65	5.30	288	1204
9000	1RA7714-4A00-0C0	1493	580	97.6	97.7	0.92	0.92	57564	2.45	0.65	5.30	322	1344
10000	1RA7716-4A00-0C0	1493	640	97.7	97.8	0.92	0.92	63960	2.45	0.65	5.30	362	1540
12000	1RA7800-4A00-0C0	1493	780	97.6	97.7	0.91	0.91	76753	2.25	0.45	5.30	518	2500
13500	1RA7802-4A00-0C0	1493	890	97.7	97.7	0.90	0.91	86347	2.25	0.50	5.30	573	2750
15000	1RA7804-4A00-0C0	1493	970	97.7	97.8	0.91	0.91	95941	2.25	0.50	5.30	628	3000
16500	1RA7806-4A00-0C0	1494	1080	97.8	97.8	0.90	0.91	105464	2.25	0.45	5.30	683	3250
20500	1RA7900-4A00-0C0	1496	1320	98.0	98.1	0.91	0.91	130856	2.20	0.45	5.00	1023	3300
22500	1RA7902-4A00-0C0	1496	1460	98.1	98.1	0.91	0.91	143622	2.20	0.45	5.00	1102	3600
23500	1RA7904-4A00-0C0	1496	1520	98.1	98.1	0.91	0.91	150006	2.20	0.45	5.00	1178	3900
26500	1RA7906-4A00-0C0	1496	1720	98.2	98.2	0.91	0.91	169155	2.20	0.45	5.00	1296	4300

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 10 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
9 ... 11 kV, 50 Hz													
6-pole													
820	1RA6450-6HJ	990	59	95.2	95.7	0.85	0.83	7909	2.45	0.90	5.15	28	340
920	1RA6452-6HJ	990	65	95.2	95.8	0.86	0.85	8874	2.40	0.95	5.10	32	400
1000	1RA6454-6HJ	990	70	95.4	96.0	0.86	0.85	9645	2.40	0.95	5.10	35	460
1150	1RA6456-6HJ	991	81	95.8	96.3	0.86	0.84	11081	2.45	0.85	5.15	41	560
1450	1RA6500-6HJ	990	102	95.5	96.3	0.86	0.86	13986	2.15	0.70	4.55	56	830
1650	1RA6502-6HJ	989	114	95.6	96.4	0.87	0.86	15931	2.10	0.70	4.50	61	910
1850	1RA6504-6HJ	989	128	95.7	96.5	0.87	0.87	17862	2.10	0.70	4.65	68	1020
2020	1RA6506-6HJ	990	140	95.9	96.6	0.87	0.86	19484	2.20	0.70	4.65	76	1140
2500	1RA6560-6HJ	991	170	96.2	96.7	0.88	0.87	24090	2.05	0.70	4.85	107	1060
2800	1RA6562-6HJ	992	190	96.5	96.9	0.88	0.87	26953	2.15	0.70	5.00	118	1160
3150	1RA6564-6HJ	992	215	96.6	97.0	0.88	0.88	30322	2.10	0.70	4.75	131	1280
3430	1RA6566-6HJ	992	230	96.7	97.1	0.89	0.88	33018	2.25	0.80	5.10	145	1420
3800	1RA7630-6A00-0C0	993	265	96.9	97.3	0.85	0.85	36543	2.30	0.70	5.10	208	1692
4200	1RA7632-6A00-0C0	993	295	97.1	97.4	0.85	0.85	40390	2.35	0.70	5.20	230	2278
4650	1RA7634-6A00-0C0	993	325	97.1	97.4	0.85	0.85	44717	2.40	0.75	5.20	250	2209
5100	1RA7636-6A00-0C0	993	350	97.2	97.4	0.86	0.85	49045	2.40	0.75	5.20	272	1995
5600	1RA7710-6A00-0C0	995	385	97.1	97.2	0.86	0.84	53744	2.45	0.75	5.20	350	2624
6300	1RA7712-6A00-0C0	995	435	97.3	97.3	0.86	0.85	60462	2.45	0.70	5.20	397	3227
7100	1RA7714-6A00-0C0	996	490	97.4	97.3	0.86	0.84	68072	2.50	0.70	5.20	448	3230
8000	1RA7716-6A00-0C0	995	550	97.4	97.5	0.87	0.85	76778	2.45	0.65	5.20	497	3951
14000	1RA7900-6A00-0C0	995	950	97.8	98.0	0.87	0.87	134362	2.00	0.45	4.20	1301	9000
16000	1RA7902-6A00-0C0	995	1080	97.9	98.1	0.87	0.87	153557	2.00	0.45	4.20	1464	10000
18000	1RA7904-6A00-0C0	995	1220	97.9	98.1	0.87	0.87	172751	2.00	0.45	4.20	1627	11000
19500	1RA7906-6A00-0C0	995	1320	98.0	98.2	0.87	0.87	187147	2.00	0.45	4.20	1789	12000

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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 SIMOTICS HV M 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 $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
8-pole													
520	1RA6450-8HJ	743	38.5	94.4	95.0	0.83	0.81	6683	2.35	0.80	4.95	35	215
560	1RA6452-8HJ	743	41	94.4	95.2	0.84	0.83	7197	2.25	0.75	4.80	39	290
590	1RA6454-8HJ	743	43	94.3	95.1	0.84	0.83	7582	2.20	0.70	4.70	44	365
750	1RA6456-8HJ	744	54	95.0	95.6	0.84	0.82	9626	2.45	0.80	5.15	51	485
1060	1RA6500-8HJ	743	77	95.1	95.8	0.84	0.82	13623	2.20	0.60	4.75	68	830
1180	1RA6502-8HJ	744	85	95.5	96.1	0.84	0.81	15145	2.35	0.65	4.95	75	910
1320	1RA6504-8HJ	744	95	95.6	96.2	0.84	0.82	16942	2.35	0.65	5.00	84	1020
1490	1RA6506-8HJ	744	108	95.7	96.3	0.84	0.82	19124	2.25	0.60	4.90	93	1120
1800	1RA6560-8HJ	743	128	95.9	96.6	0.85	0.84	23134	2.00	0.60	4.50	127	1540
1980	1RA6562-8HJ	744	140	96.0	96.7	0.85	0.84	25413	2.10	0.65	4.75	140	1700
2200	1RA6564-8HJ	744	154	96.2	96.8	0.86	0.84	28237	2.10	0.60	4.75	155	1880
2380	1RA6566-8HJ	744	166	96.3	96.9	0.86	0.84	30547	2.15	0.65	5.00	172	2100
2670	1RA7630-8A-OC	745	192	96.4	96.6	0.83	0.81	34224	2.35	0.50	5.10	255	2937
3000	1RA7632-8A-OC	744	215	96.5	96.8	0.84	0.82	38505	2.30	0.55	5.00	281	3318
3350	1RA7634-8A-OC	744	240	96.6	96.9	0.84	0.83	42998	2.30	0.55	5.10	308	3564
3750	1RA7636-8A-OC	744	265	96.7	97.0	0.84	0.83	48132	2.30	0.55	5.00	334	3438
4250	1RA7710-8A-OC	746	300	96.6	96.9	0.85	0.83	54402	2.35	0.60	4.90	434	4957
4750	1RA7712-8A-OC	746	335	96.8	97.0	0.85	0.83	60803	2.35	0.60	4.80	492	5790
5300	1RA7714-8A-OC	746	365	97.0	97.2	0.86	0.84	67843	2.45	0.70	5.00	559	6953
6000	1RA7716-8A-OC	746	420	97.0	97.2	0.85	0.83	76803	2.50	0.65	5.10	616	7040
10-pole													
720	1RA6500-3HJ	593	55	93.8	93.9	0.80	0.76	11595	2.20	0.82	5.20	70	900
830	1RA6502-3HJ	594	64	94.2	94.2	0.79	0.74	13344	2.20	0.82	5.30	80	1100
920	1RA6504-3HJ	594	71	94.3	94.3	0.79	0.74	14791	2.20	0.82	5.30	88	1200
1020	1RA6506-3HJ	594	79	94.5	94.5	0.79	0.75	16399	2.20	0.80	5.30	99	1400
1250	1RA6560-3HJ	593	94	94.8	94.9	0.81	0.77	20131	2.10	0.72	4.70	123	1650
1420	1RA6562-3HJ	593	106	94.9	95.2	0.82	0.78	22868	2.00	0.70	4.70	141	2050
1570	1RA6564-3HJ	593	116	95.1	95.4	0.82	0.78	25284	2.00	0.72	5.00	158	2500
1700	1RA6566-3HJ	595	128	95.3	95.4	0.80	0.75	27286	2.40	0.85	5.50	173	2700
2350	1RA7630-3A-OC	595	174	96.3	96.6	0.81	0.78	37716	2.30	0.55	4.70	257	3067
2600	1RA7632-3A-OC	595	192	96.3	96.7	0.81	0.79	41728	2.30	0.55	4.70	283	3415
2850	1RA7634-3A-OC	595	210	96.4	96.8	0.82	0.79	45740	2.30	0.55	4.70	310	3895
3150	1RA7636-3A-OC	595	230	96.5	96.8	0.82	0.79	50555	2.30	0.60	4.80	336	3224
3500	1RA7710-3A-OC	595	245	96.6	96.7	0.85	0.82	56172	2.70	0.65	4.80	433	11007
3900	1RA7712-3A-OC	595	275	96.7	96.9	0.85	0.83	62592	2.65	0.65	4.70	493	12939
4300	1RA7714-3A-OC	595	300	96.8	97.0	0.85	0.83	69011	2.60	0.65	4.70	557	13823
4750	1RA7716-3A-OC	596	335	96.8	97.0	0.85	0.83	76105	2.65	0.65	4.80	615	10030

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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](#).

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
12-pole													
580	1RA6502-5HJ	493	48.0	93.3	93.3	0.74	0.68	11235	2.00	0.70	4.70	79	1350
640	1RA6504-5HJ	493	53	93.5	93.6	0.74	0.68	12398	2.00	0.70	4.80	87	1500
700	1RA6506-5HJ	493	58	93.6	93.7	0.75	0.69	13560	2.10	0.70	4.80	98	1600
850	1RA6560-5HJ	494	69	93.8	94.1	0.76	0.71	16432	1.85	0.60	4.20	123	1750
1000	1RA6562-5HJ	494	82	94.4	94.6	0.75	0.69	19332	1.95	0.65	4.50	141	2200
1100	1RA6564-5HJ	494	88	94.5	94.7	0.76	0.71	21265	1.95	0.63	4.40	158	2500
1200	1RA6566-5HJ	494	96	94.8	94.8	0.76	0.71	23198	1.95	0.63	4.40	173	2900
1700	1RA7630-5A-0C0	495	132	95.4	95.9	0.78	0.75	32796	2.15	0.55	4.30	264	3991
1850	1RA7632-5A-0C0	495	142	95.5	95.9	0.79	0.76	35689	2.15	0.55	4.30	291	3901
2000	1RA7634-5A-0C0	495	152	95.6	96.0	0.79	0.76	38583	2.20	0.60	4.40	318	4371
2200	1RA7636-5A-0C0	495	168	95.7	96.1	0.79	0.75	42441	2.25	0.60	4.50	345	4806

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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](#).

Selection and ordering data

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
2-pole													
1700	1RA6450-2HJ0	3573	174	95.9	96.1	0.89	0.89	4543	2.05	0.60	4.60	13	34
2000	1RA6452-2HJ0	3573	200	96.1	96.4	0.90	0.90	5345	2.10	0.65	4.75	15	40
2240	1RA6454-2HJ0	3576	225	96.3	96.4	0.90	0.89	5981	2.25	0.65	5.10	16	45
2500	1RA6456-2HJ0	3580	250	96.5	96.6	0.90	0.89	6668	2.40	0.60	5.50	18	52
3000	1RA6500-2HJ0	3574	305	96.5	96.8	0.89	0.89	8015	1.95	0.45	4.15	20	64
3300	1RA6502-2HJ0	3575	330	96.6	96.9	0.90	0.89	8814	1.95	0.45	4.35	22	72
3880	1RA6504-2HJ0	3579	385	96.9	97.1	0.91	0.90	10352	2.30	0.55	5.05	26	80
4250	1RA6506-2HJ0	3578	420	97.1	97.3	0.91	0.91	11342	2.20	0.65	4.95	27	88
4750	1RA6560-2HJ0	3576	480	96.6	96.8	0.89	0.90	12684	1.90	0.50	4.15	39	145
5400	1RA6562-2HJ0	3578	540	96.8	96.9	0.90	0.91	14412	2.15	0.55	4.45	44	160
6100	1RA6564-2HJ0	3578	600	97.0	97.1	0.91	0.91	16280	2.15	0.55	4.70	49	180
6900	1RA6566-2HJ0	3581	680	97.2	97.2	0.91	0.91	18399	2.35	0.60	5.15	55	200
7600	1RA7630-2A00-0CJ0	3580	780	97.4	97.5	0.87	0.87	20272	1.95	0.65	4.20	74	122
8400	1RA7632-2A00-0CJ0	3583	850	97.6	97.6	0.89	0.89	22387	2.20	0.70	4.80	82	137
9200	1RA7634-2A00-0CJ0	3585	920	97.7	97.7	0.90	0.89	24506	2.45	0.75	5.40	91	142
10200	1RA7636-2A00-0CJ0	3585	1020	97.8	97.8	0.90	0.89	27170	2.45	0.75	5.40	99	148
11200	1RA7710-2A00-0CJ0	3586	1100	97.3	97.2	0.91	0.91	29824	2.05	0.60	4.70	148	102
12500	1RA7712-2A00-0CJ0	3586	1220	97.5	97.3	0.92	0.91	33286	2.05	0.55	4.70	159	91
14000	1RA7714-2A00-0CJ0	3587	1340	97.6	97.4	0.93	0.92	37270	2.30	0.70	5.40	174	84
15500	1RA7716-2A00-0CJ0	3587	1500	97.6	97.5	0.93	0.92	41264	2.30	0.70	5.40	188	72
4-pole													
1680	1RA6450-4HJ0	1782	172	95.9	96.1	0.89	0.88	9002	2.40	0.65	4.90	21	178
1820	1RA6452-4HJ0	1784	186	96.0	96.2	0.89	0.88	9741	2.55	0.65	5.15	23	225
2120	1RA6454-4HJ0	1784	215	96.2	96.5	0.89	0.89	11347	2.55	0.65	5.20	27	285
2400	1RA6456-4HJ0	1785	245	96.4	96.6	0.89	0.87	12839	2.60	0.65	5.30	30	355
2700 ²⁾	1RA6500-4HJ0	1785	275	96.4	97.0	0.89	0.88	14444	2.40	0.70	5.00	45	250
3000 ²⁾	1RA6502-4HJ0	1786	305	96.5	97.0	0.89	0.88	16040	2.45	0.70	5.15	48	280
3400 ²⁾	1RA6504-4HJ0	1786	345	96.5	97.1	0.89	0.88	18178	2.35	0.65	4.95	55	310
3820 ²⁾	1RA6506-4HJ0	1786	390	96.7	97.2	0.89	0.88	20424	2.35	0.65	5.00	60	350
4500 ²⁾	1RA6560-4HJ0	1790	450	97.2	97.4	0.91	0.90	24006	2.20	0.65	5.10	86	550
5000 ²⁾	1RA6562-4HJ0	1790	490	97.3	97.5	0.91	0.91	26674	2.20	0.60	5.10	97	610
5600 ²⁾	1RA6564-4HJ0	1791	550	97.4	97.6	0.91	0.90	29858	2.20	0.55	5.15	107	670
6150 ²⁾	1RA6566-4HJ0	1790	610	97.4	97.6	0.91	0.91	32809	2.10	0.55	4.95	117	740
6800	1RA7630-4A00-0CJ0	1790	690	97.5	97.7	0.88	0.88	36277	2.30	0.70	4.90	145	571
7500	1RA7632-4A00-0CJ0	1791	760	97.6	97.7	0.88	0.88	39989	2.30	0.70	5.00	159	633
8200	1RA7634-4A00-0CJ0	1791	820	97.7	97.9	0.89	0.88	43721	2.35	0.70	5.10	178	703
9000	1RA7636-4A00-0CJ0	1791	900	97.8	97.9	0.89	0.88	47986	2.40	0.65	5.10	195	765
10000	1RA7710-4A00-0CJ0	1793	980	97.6	97.5	0.91	0.90	53258	2.50	0.65	5.50	262	483
11200	1RA7712-4A00-0CJ0	1793	1100	97.7	97.6	0.91	0.91	59649	2.50	0.65	5.40	288	513
12500	1RA7714-4A00-0CJ0	1793	1220	97.8	97.7	0.91	0.91	66573	2.50	0.65	5.40	321	585
14000	1RA7716-4A00-0CJ0	1793	1360	97.9	97.8	0.92	0.92	74562	2.50	0.60	5.40	363	672

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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.

Note:

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

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.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
6-pole													
1300	1RA6450-6HJ	1186	140	95.8	96.3	0.85	0.84	10467	2.10	0.80	4.35	28	550
1450	1RA6452-6HJ	1187	156	96.0	96.4	0.85	0.84	11665	2.15	0.75	4.50	32	610
1600	1RA6454-6HJ	1188	172	96.1	96.5	0.85	0.85	12861	2.30	0.85	4.75	35	660
1730	1RA6456-6HJ	1189	182	96.4	96.7	0.86	0.85	13894	2.45	0.95	5.10	41	730
2240	1RA6500-6HJ	1188	240	96.2	96.8	0.85	0.85	18005	2.05	0.65	4.35	56	970
2500	1RA6502-6HJ	1188	265	96.3	96.9	0.86	0.85	20095	2.05	0.65	4.45	61	1060
2800	1RA6504-6HJ	1188	295	96.4	97.0	0.86	0.85	22506	2.05	0.60	4.55	68	1200
3100	1RA6506-6HJ	1189	325	96.5	97.1	0.87	0.86	24897	2.10	0.70	4.45	76	1320
3500	1RA6560-6HJ	1190	360	96.9	97.2	0.88	0.87	28086	1.95	0.65	4.50	107	1380
4000	1RA6562-6HJ	1190	420	96.9	97.3	0.87	0.87	32098	1.95	0.65	4.40	118	1520
4500	1RA6564-6HJ	1191	470	97.0	97.4	0.87	0.87	36080	2.00	0.65	4.65	131	1680
4950	1RA6566-6HJ	1191	510	97.2	97.5	0.88	0.88	39688	2.05	0.70	4.65	145	1860
5400	1RA7630-6A-0C	1192	580	97.2	97.4	0.84	0.83	43260	2.30	0.70	5.00	208	1697
5900	1RA7632-6A-0C	1192	620	97.3	97.5	0.85	0.84	47266	2.30	0.70	5.00	230	1851
6500	1RA7634-6A-0C	1193	690	97.4	97.5	0.85	0.84	52029	2.35	0.70	5.10	250	2035
7200	1RA7636-6A-0C	1193	760	97.5	97.6	0.85	0.84	57632	2.35	0.65	5.10	272	2095
7800	1RA7710-6A-0C	1194	820	97.3	97.3	0.86	0.84	62382	2.35	0.70	5.00	351	1277
8700	1RA7712-6A-0C	1194	900	97.5	97.5	0.87	0.86	69580	2.30	0.65	4.90	399	1500
9700	1RA7714-6A-0C	1195	1000	97.6	97.5	0.87	0.86	77513	2.35	0.70	5.00	451	1823
10800	1RA7716-6A-0C	1195	1120	97.6	97.6	0.87	0.86	86303	2.30	0.60	4.90	498	1899
8-pole													
900	1RA6450-8HJ	890	100	95.3	95.9	0.83	0.82	9656	1.90	0.55	3.90	35	475
1000	1RA6452-8HJ	892	110	95.5	96.0	0.83	0.81	10705	2.20	0.65	4.50	39	570
1120	1RA6454-8HJ	891	124	95.7	96.2	0.83	0.82	12003	2.10	0.65	4.35	44	670
1220	1RA6456-8HJ	892	132	95.9	96.3	0.84	0.82	13060	2.30	0.70	4.80	51	820
1600	1RA6500-8HJ	893	178	96.0	96.4	0.82	0.79	17109	2.20	0.55	4.80	68	1080
1800	1RA6502-8HJ	892	196	96.1	96.6	0.84	0.82	19269	2.10	0.55	4.40	75	1200
2000	1RA6504-8HJ	892	215	96.2	96.7	0.84	0.82	21410	2.10	0.55	4.40	84	1340
2200	1RA6506-8HJ	893	240	96.3	96.7	0.84	0.82	23525	2.15	0.60	4.75	93	1480
2500	1RA6560-8HJ	893	270	96.7	97.2	0.84	0.83	26733	2.00	0.50	4.60	127	1960
2800	1RA6562-8HJ	893	300	96.8	97.3	0.85	0.83	29941	2.10	0.55	4.60	140	2150
3150	1RA6564-8HJ	893	330	96.8	97.3	0.85	0.84	33684	2.10	0.55	4.65	155	2400
3400	1RA6566-8HJ	893	360	96.8	97.3	0.85	0.84	36357	1.95	0.55	4.65	171	2650
3750	1RA7630-8A-0C	894	415	96.6	96.7	0.82	0.80	40056	2.30	0.50	5.10	255	2418
4150	1RA7632-8A-0C	894	450	96.8	96.9	0.83	0.82	44328	2.30	0.55	5.10	281	2942
4600	1RA7634-8A-0C	894	495	96.9	97.0	0.84	0.83	49135	2.30	0.55	5.10	308	3080
5050	1RA7636-8A-0C	894	540	96.9	97.0	0.84	0.83	53942	2.30	0.55	5.10	334	2905
5600	1RA7710-8A-0C	895	590	97.0	97.1	0.85	0.84	59749	2.25	0.60	4.70	434	4711
6300	1RA7712-8A-0C	895	670	97.1	97.2	0.85	0.84	67218	2.25	0.60	4.60	493	5371
7100	1RA7714-8A-0C	895	740	97.3	97.3	0.86	0.85	75754	2.35	0.65	4.90	559	6065
8000	1RA7716-8A-0C	896	850	97.3	97.4	0.85	0.84	85261	2.30	0.55	4.70	616	6690

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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](#).

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
10-pole													
650	1RA6450-3HJ	710	74	93.7	94.0	0.82	0.78	8743	1.90	0.72	4.50	37	650
720	1RA6452-3HJ	710	83	94.1	94.3	0.81	0.77	9685	2.00	0.75	4.70	41	850
800	1RA6454-3HJ	711	92	94.3	94.4	0.81	0.76	10745	2.10	0.80	4.90	46	900
910	1RA6456-3HJ	711	104	94.5	94.6	0.81	0.77	12223	2.10	0.80	5.00	52	1100
1080	1RA6500-3HJ	711	122	94.8	95.0	0.82	0.80	14506	1.80	0.65	4.40	70	1200
1200	1RA6502-3HJ	712	134	95.2	95.2	0.82	0.80	16096	1.90	0.68	4.70	80	1500
1320	1RA6504-3HJ	712	146	95.1	95.2	0.83	0.80	17705	1.90	0.70	4.70	88	1450
1500	1RA6506-3HJ	712	166	95.4	95.5	0.83	0.79	20119	2.00	0.72	4.90	99	1900
1780	1RA6560-3HJ	713	205	95.5	95.6	0.80	0.76	23842	2.00	0.70	4.60	123	2100
2040	1RA6562-3HJ	713	235	95.8	95.8	0.80	0.76	27324	2.00	0.70	4.80	141	2600
2200	1RA6564-3HJ	713	245	95.9	95.8	0.82	0.79	29467	2.00	0.68	4.60	158	2800
2400	1RA6566-3HJ	713	270	96.0	96.0	0.81	0.77	32146	2.10	0.75	5.00	173	3300
3050	1RA7630-3A-0C	715	340	96.7	97.0	0.81	0.79	40735	2.35	0.50	4.80	258	5264
3350	1RA7632-3A-0C	715	375	96.7	97.0	0.81	0.78	44741	2.35	0.55	4.80	284	4576
3700	1RA7634-3A-0C	715	405	96.9	97.1	0.82	0.79	49416	2.40	0.55	4.90	310	6492
4100	1RA7636-3A-0C	715	450	97.0	97.2	0.82	0.80	54758	2.35	0.55	4.80	337	6696
4500	1RA7710-3A-0C	715	485	96.7	96.8	0.84	0.81	60100	2.70	0.65	4.80	433	7545
5000	1RA7712-3A-0C	715	530	97.0	97.0	0.85	0.82	66778	2.70	0.60	4.80	493	8660
5600	1RA7714-3A-0C	716	590	97.0	97.0	0.85	0.82	74687	2.75	0.65	4.90	557	10086
6200	1RA7716-3A-0C	715	660	97.1	97.1	0.85	0.83	82805	2.75	0.70	5.00	618	10760
12-pole													
440	1RA6450-5HJ	591	56	92.9	93.1	0.74	0.71	7110	1.80	0.56	4.00	37	630
510	1RA6452-5HJ	591	65	93.3	93.3	0.73	0.68	8241	1.80	0.60	4.20	41	850
570	1RA6454-5HJ	592	73	93.9	93.9	0.73	0.68	9195	1.80	0.60	4.20	46	1150
650	1RA6456-5HJ	592	82	94.0	93.9	0.74	0.68	10486	1.90	0.60	4.30	52	1300
820	1RA6500-5HJ	592	102	94.4	94.3	0.74	0.68	13228	2.00	0.62	4.50	70	1650
920	1RA6502-5HJ	592	114	94.6	94.6	0.75	0.70	14841	1.90	0.62	4.40	79	2000
1020	1RA6504-5HJ	592	128	94.8	94.7	0.74	0.68	16454	2.00	0.65	4.70	87	2400
1120	1RA6506-5HJ	592	136	94.8	94.8	0.76	0.71	18068	1.90	0.60	4.40	98	2200
1300	1RA6560-5HJ	593	160	95.0	95.1	0.75	0.70	20936	1.80	0.53	3.90	123	2050
1470	1RA6562-5HJ	593	182	95.2	95.3	0.74	0.69	23674	1.80	0.55	4.00	141	2500
1620	1RA6564-5HJ	594	205	95.4	95.4	0.73	0.67	26045	2.00	0.63	4.30	158	3500
1760	1RA6566-5HJ	594	220	95.5	95.5	0.73	0.68	28296	2.00	0.63	4.40	173	3900
2400	1RA7630-5A-0C	595	285	96.1	96.4	0.77	0.73	38518	2.20	0.60	4.30	264	5485
2700	1RA7632-5A-0C	595	320	96.3	96.5	0.77	0.73	43333	2.25	0.55	4.40	291	6860
2950	1RA7634-5A-0C	595	350	96.4	96.6	0.77	0.74	47345	2.20	0.55	4.30	317	7561
3250	1RA7636-5A-0C	594	380	96.4	96.6	0.78	0.74	52248	2.20	0.60	4.30	345	6521

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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.

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

SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 13.8 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 $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
13.8 kV, 60 Hz													
2-pole													
5200	1RA7630-2A00-0C0	3586	250	97.0	97.1	0.89	0.89	13847	2.40	0.65	5.35	74	137
5800	1RA7632-2A00-0C0	3587	275	97.2	97.2	0.90	0.89	15441	2.40	0.55	5.30	82	138
6500	1RA7634-2A00-0C0	3587	305	97.4	97.5	0.91	0.90	17304	2.40	0.60	5.30	91	170
7300	1RA7636-2A00-0C0	3586	345	97.4	97.5	0.91	0.91	19439	2.45	0.55	5.25	101	103
8200	1RA7710-2A00-0CJ0	3589	385	96.9	96.7	0.92	0.91	21818	2.40	0.65	5.65	149	137
9200	1RA7712-2A00-0CJ0	3589	425	97.1	96.9	0.93	0.92	24479	2.35	0.70	5.65	160	167
10300	1RA7714-2A00-0CJ0	3589	475	97.3	97.1	0.93	0.92	27405	2.40	0.65	5.60	174	122
11600	1RA7716-2A00-0CJ0	3588	530	97.4	97.3	0.94	0.93	30873	2.40	0.75	5.70	190	192
12400	1RA7800-2A00-0CJ0	3591	600	96.8	96.5	0.90	0.91	32974	2.10	0.40	5.40	246	200
13200	1RA7802-2A00-0CJ0	3590	630	96.9	96.6	0.90	0.91	35112	2.05	0.40	5.30	266	208
14000	1RA7804-2A00-0CJ0	3591	670	97.0	96.7	0.90	0.91	37229	2.15	0.40	5.50	283	233
15000	1RA7806-2A00-0CJ0	3591	710	97.0	96.8	0.91	0.92	39888	2.15	0.40	5.50	305	178
4-pole													
5100	1RA7630-4A00-0C0	1792	245	97.2	97.4	0.89	0.88	27177	2.50	0.65	5.40	146	293
5700	1RA7632-4A00-0C0	1792	275	97.4	97.5	0.89	0.88	30374	2.45	0.65	5.30	160	337
6400	1RA7634-4A00-0C0	1792	310	97.5	97.7	0.89	0.88	34105	2.45	0.65	5.35	178	338
7200	1RA7636-4A00-0C0	1793	345	97.5	97.7	0.89	0.88	38346	2.50	0.65	5.40	194	308
8100	1RA7710-4A00-0CJ0	1794	380	97.4	97.4	0.91	0.91	43116	2.60	0.65	5.70	262	378
9100	1RA7712-4A00-0CJ0	1793	425	97.5	97.5	0.92	0.92	48465	2.55	0.65	5.60	288	306
10200	1RA7714-4A00-0CJ0	1793	475	97.6	97.6	0.92	0.92	54324	2.50	0.70	5.50	322	382
11500	1RA7716-4A00-0CJ0	1793	540	97.7	97.8	0.92	0.93	61248	2.45	0.70	5.40	362	386
13000	1RA7800-4A00-0C0	1794	610	97.4	97.4	0.91	0.92	69198	2.30	0.45	5.30	520	683
14400	1RA7802-4A00-0C0	1794	680	97.5	97.5	0.91	0.92	76650	2.30	0.40	5.40	571	1160
15800	1RA7804-4A00-0C0	1794	740	97.5	97.6	0.92	0.92	84102	2.30	0.45	5.40	627	1124
17200	1RA7806-4A00-0C0	1793	800	97.6	97.7	0.92	0.92	91605	2.35	0.45	5.50	688	1341
21000	1RA7900-4A00-0C0	1796	990	97.8	97.6	0.91	0.91	111657	2.20	0.40	5.00	1016	2250
23000	1RA7902-4A00-0C0	1796	1080	97.8	97.7	0.91	0.91	122291	2.20	0.40	5.00	1086	2550
24500	1RA7904-4A00-0C0	1796	1160	97.9	97.8	0.91	0.91	130266	2.20	0.40	5.00	1177	2700
27000	1RA7906-4A00-0C0	1796	1260	98.0	97.9	0.91	0.91	143558	2.20	0.40	5.00	1292	3000

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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](#).

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 13.8 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
13.8 kV, 60 Hz													
6-pole													
3550	1RA7630-6A-0C0	1194	180	97.0	97.2	0.85	0.84	28392	2.50	0.65	5.60	208	1080
4000	1RA7632-6A-0C0	1194	200	97.1	97.3	0.86	0.85	31991	2.50	0.70	5.60	230	1183
4500	1RA7634-6A-0C0	1194	230	97.2	97.3	0.85	0.84	35990	2.55	0.70	5.60	250	1042
5100	1RA7636-6A-0C0	1194	255	97.2	97.4	0.86	0.84	40788	2.50	0.70	5.55	271	1084
5700	1RA7710-6A-0C0	1195	280	97.1	97.1	0.87	0.85	45549	2.50	0.70	5.35	350	1331
6400	1RA7712-6A-0C0	1195	315	97.3	97.3	0.87	0.86	51143	2.45	0.70	5.35	397	1817
7200	1RA7714-6A-0C0	1195	355	97.4	97.4	0.87	0.86	57536	2.45	0.65	5.35	448	2534
8100	1RA7716-6A-0C0	1195	395	97.5	97.6	0.88	0.87	64727	2.45	0.65	5.35	497	2334
9400	1RA7800-6A-0C0	1195	465	97.4	97.4	0.87	0.87	75116	2.15	0.60	4.90	688	3330
10700	1RA7802-6A-0C0	1195	530	97.5	97.5	0.87	0.88	85504	2.00	0.50	4.80	763	3662
12200	1RA7804-6A-0C0	1195	590	97.5	97.6	0.88	0.88	97491	2.05	0.55	5.60	846	4016
14000	1RA7806-6A-0C0	1196	690	97.6	97.5	0.87	0.85	111781	2.35	0.55	5.40	925	4291
15500	1RA7900-6A-0C0	1196	750	97.8	97.9	0.88	0.88	123758	2.10	0.45	4.20	1301	6000
17000	1RA7902-6A-0C0	1196	830	97.9	97.9	0.88	0.88	135734	2.10	0.45	4.50	1464	6500
19000	1RA7904-6A-0C0	1196	920	97.9	98.0	0.88	0.88	151703	2.10	0.45	5.00	1627	7000
21000	1RA7906-6A-0C0	1196	1020	98.0	98.0	0.88	0.88	167672	2.10	0.45	5.00	1789	7500

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

Note:

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

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

SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 13.8 kV A	Efficiency		Power factor		Torque Nm	Break-down torque $\frac{T_B}{T_{rated}}$ [-]	Locked-rotor torque $\frac{T_{LR}}{T_{rated}}$ [-]	Locked-rotor current $\frac{I_{LR}}{I_{rated}}$ [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
13.8 kV, 60 Hz													
8-pole													
2850	1RA7630-8■A■-0C■0	895	150	96.2	96.3	0.83	0.81	30408	2.45	0.50	5.40	255	790
3150	1RA7632-8■A■-0C■0	895	164	96.4	96.6	0.83	0.81	33609	2.45	0.50	5.45	282	1251
3500	1RA7634-8■A■-0C■0	895	180	96.5	96.7	0.84	0.82	37344	2.40	0.50	5.40	308	1170
3900	1RA7636-8■A■-0C■0	895	200	96.6	96.8	0.84	0.83	41611	2.45	0.50	5.40	334	1273
4350	1RA7710-8■A■-0C■0	896	220	96.6	96.7	0.85	0.82	46361	2.70	0.75	5.55	434	2634
4850	1RA7712-8■A■-0C■0	896	245	96.8	96.9	0.85	0.83	51690	2.70	0.70	5.55	492	2294
5400	1RA7714-8■A■-0C■0	896	270	96.8	96.9	0.86	0.84	57552	2.65	0.75	5.55	559	2751
6000	1RA7716-8■A■-0C■0	896	300	97.0	97.1	0.86	0.84	63946	2.65	0.70	5.55	616	3470
7000	1RA7800-8■A■-0C■0	896	350	97.4	97.6	0.86	0.85	74604	1.90	0.45	5.00	861	6937
8000	1RA7802-8■A■-0C■0	896	400	97.4	97.6	0.86	0.86	85262	1.90	0.45	4.70	954	5876
9100	1RA7804-8■A■-0C■0	896	455	97.5	97.7	0.86	0.86	96985	1.80	0.40	4.40	1058	6686
10500	1RA7806-8■A■-0C■0	896	520	97.6	97.8	0.86	0.85	111906	1.95	0.50	5.10	1164	7038
10-pole													
2200	1RA7630-3■A■-0C■0	715	116	96.1	96.4	0.82	0.80	29382	2.45	0.50	5.00	258	1452
2500	1RA7632-3■A■-0C■0	716	132	96.3	96.5	0.82	0.79	33343	2.50	0.50	5.10	284	1642
2800	1RA7634-3■A■-0C■0	715	148	96.4	96.6	0.82	0.80	37396	2.40	0.50	5.00	311	1832
3150	1RA7636-3■A■-0C■0	715	164	96.4	96.7	0.83	0.81	42070	2.40	0.50	5.00	337	1577
3550	1RA7710-3■A■-0C■0	716	182	96.5	96.6	0.85	0.81	47346	2.85	0.65	5.15	433	4455
4000	1RA7712-3■A■-0C■0	716	205	96.6	96.7	0.85	0.81	53348	2.90	0.70	5.25	493	4341
4500	1RA7714-3■A■-0C■0	716	225	96.7	96.8	0.86	0.83	60017	2.80	0.70	5.15	557	3910
5000	1RA7716-3■A■-0C■0	716	260	96.7	96.7	0.83	0.79	66685	3.05	0.65	5.35	615	4678

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

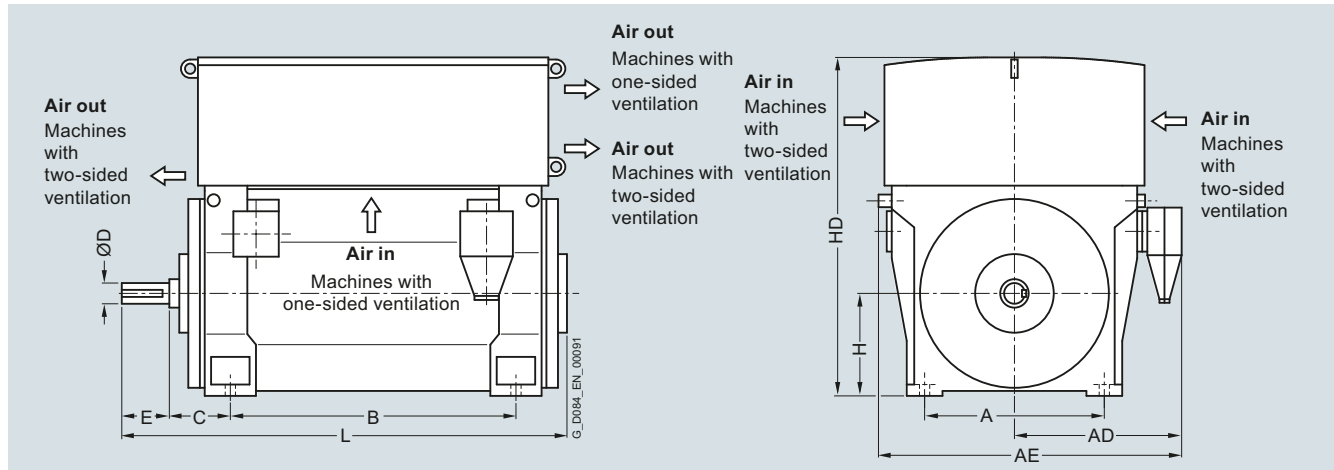
Higher pole numbers are available on request.

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](#).

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, anti-friction bearings – 1RA6, 1RA7 series											
2-pole											
1RA6450-2HJ.0 ²⁾	3700	850	930	1620	1180	280	95	130	450	1628	1843
1RA6452-2HJ.0 ²⁾	3900	850	930	1620	1180	280	95	130	450	1628	1843
1RA6454-2HJ.0 ²⁾	4300	850	930	1620	1400	280	95	130	450	1628	2053
1RA6456-2HJ.0 ²⁾	4550	850	930	1620	1400	280	95	130	450	1628	2053
1RA6500-2HJ.0 ²⁾	5450	950	1135	1835	1320	315	110	165	500	1850	2150
1RA6502-2HJ.0 ²⁾	5600	950	1135	1835	1320	315	110	165	500	1850	2150
4-pole											
1RA6450-4HJ.0	4050	850	930	1620	1180	250	130	200	450	1408	1896
1RA6452-4HJ.0	4250	850	930	1620	1180	250	130	200	450	1408	1896
1RA6454-4HJ.0	4650	850	930	1620	1400	250	130	200	450	1408	2106
1RA6456-4HJ.0	4950	850	930	1620	1400	250	130	200	450	1408	2106
1RA6500-4HJ.0	5950	950	1135	1835	1320	280	150	200	500	1850	2150
1RA6502-4HJ.0	6150	950	1135	1835	1320	280	150	200	500	1850	2150
1RA6504-4HJ.0	6800	950	1135	1835	1500	280	150	200	500	1850	2300
1RA6506-4HJ.0	7150	950	1135	1835	1500	280	150	200	500	1850	2300
1RA6560-4HJ.0	7450	1060	1205	1975	1400	315	170	240	560	2100	2300
1RA6562-4HJ.0	7850	1060	1205	1975	1400	315	170	240	560	2100	2300
1RA6564-4HJ.0	8700	1060	1205	1975	1600	315	170	240	560	2100	2550
1RA6566-4HJ.0	9250	1060	1205	1975	1600	315	170	240	560	2100	2550
1RA7630-4FA.0-OCG0	10800	1320	1490	2490	1600	375	200	280	630	O.R.	2610
1RA7632-4FA.0-OCG0	11300	1320	1490	2490	1600	375	200	280	630	O.R.	2610
1RA7634-4FA.0-OCG0	12200	1320	1490	2490	1800	375	200	280	630	O.R.	2810
1RA7636-4FA.0-OCG0	12800	1320	1490	2490	1800	375	200	280	630	O.R.	2810
1RA7710-4FA.0-OCG0	15700	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7712-4FA.0-OCG0	16500	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7714-4FA.0-OCG0	17900	1500	1800	2900	2240	375	220	710	350	O.R.	3310
1RA7716-4FA.0-OCG0	19100	1500	1800	2900	2240	375	220	710	350	O.R.	3310

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

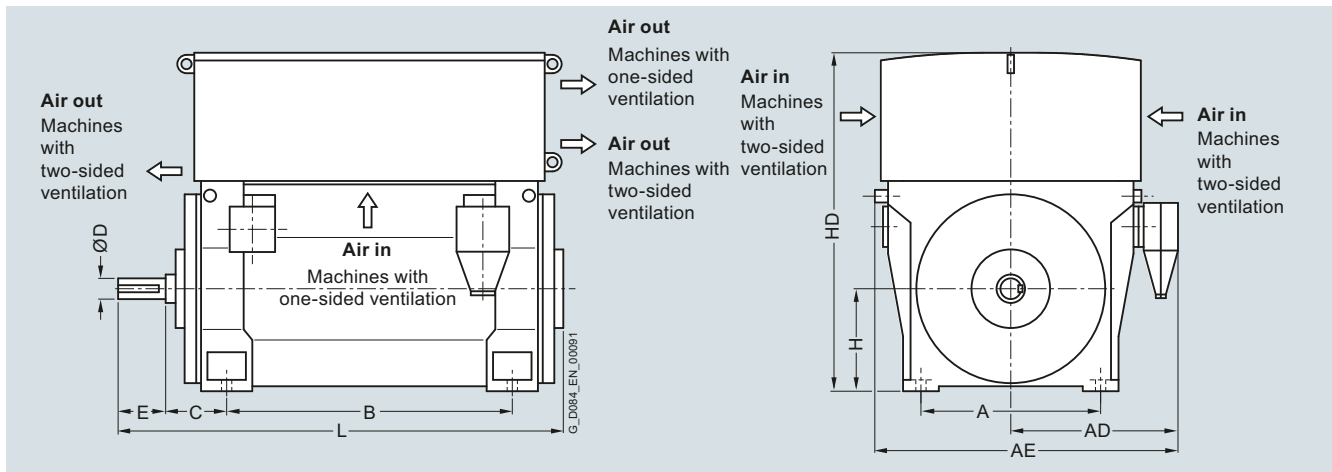
²⁾ Anti-friction bearings only for 50 Hz operation.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

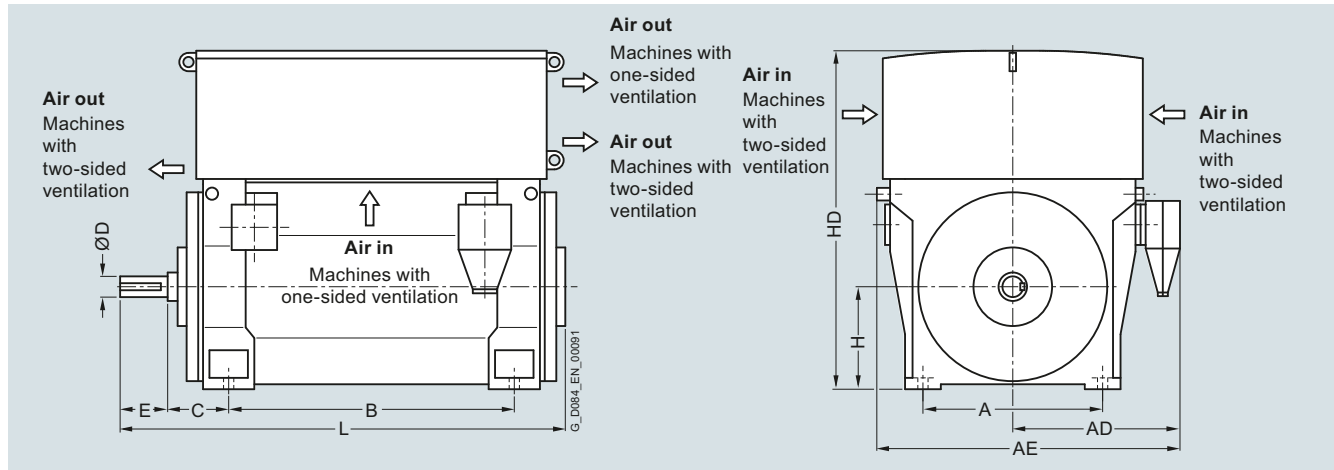
Dimension drawings (continued)



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, anti-friction bearings – 1RA6, 1RA7 series											
6-pole											
1RA6450-6HJ.0	4150	850	930	1620	1180	250	140	200	450	1408	1896
1RA6452-6HJ.0	4400	850	930	1620	1180	250	140	200	450	1408	1896
1RA6454-6HJ.0	4750	850	930	1620	1400	280	140	200	450	1408	2136
1RA6456-6HJ.0	5100	850	930	1620	1400	280	140	200	450	1408	2136
1RA6500-6HJ.0	6050	950	1135	1835	1320	315	160	240	500	1610	2150
1RA6502-6HJ.0	6350	950	1135	1835	1320	315	160	240	500	1610	2150
1RA6504-6HJ.0	6900	950	1135	1835	1500	315	160	240	500	1610	2360
1RA6506-6HJ.0	7300	950	1135	1835	1500	315	160	240	500	1610	2360
1RA6560-6HJ.0	8200	1060	1205	1975	1400	315	180	240	560	1760	2300
1RA6562-6HJ.0	8600	1060	1205	1975	1400	315	180	240	560	1760	2300
1RA6564-6HJ.0	9450	1060	1205	1975	1600	315	180	240	560	1760	2550
1RA6566-6HJ.0	10000	1060	1205	1975	1600	315	180	240	560	1760	2550
1RA7630-6FA.0-OCG0	11300	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7632-6FA.0-OCG0	11900	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7634-6FA.0-OCG0	12700	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7636-6FA.0-OCG0	13300	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7710-6FA.0-OCG0	16000	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7712-6FA.0-OCG0	17200	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7714-6FA.0-OCG0	18700	1500	1800	2900	2240	375	220	710	350	O.R.	3310
1RA7716-6FA.0-OCG0	19700	1500	1800	2900	2240	375	220	710	350	O.R.	3310

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

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, anti-friction bearings – 1RA6, 1RA7 series											
8-pole											
1RA6450-8HJ.0	4150	850	930	1620	1180	250	140	200	450	1408	1896
1RA6452-8HJ.0	4450	850	930	1620	1180	250	140	200	450	1408	1896
1RA6454-8HJ.0	4800	850	930	1620	1400	280	140	200	450	1408	2136
1RA6456-8HJ.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
1RA7630-8FA.0-OCG0	10800	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7632-8FA.0-OCG0	11400	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7634-8FA.0-OCG0	12200	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7636-8FA.0-OCG0	12700	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7710-8FA.0-OCG0	15900	1500	1800	2660	2000	670	220	710	350	O.R.	3570
1RA7712-8FA.0-OCG0	16700	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7714-8FA.0-OCG0	18200	1500	1800	2900	2240	375	220	710	350	O.R.	3310
1RA7716-8FA.0-OCG0	19200	1500	1800	2900	2240	375	220	710	350	O.R.	3310

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

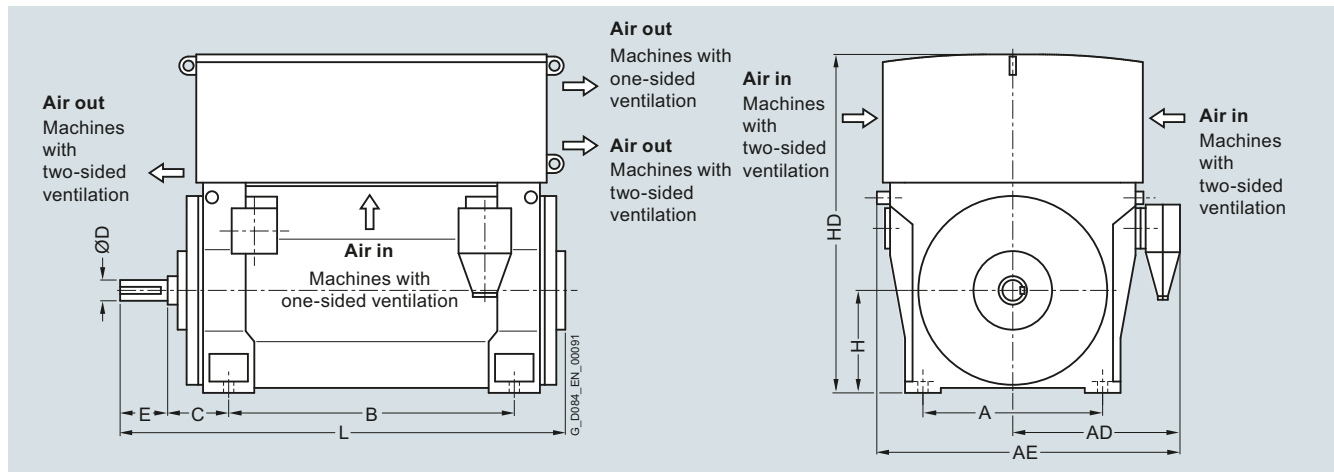
²⁾ Anti-friction bearings only for 50 Hz operation.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

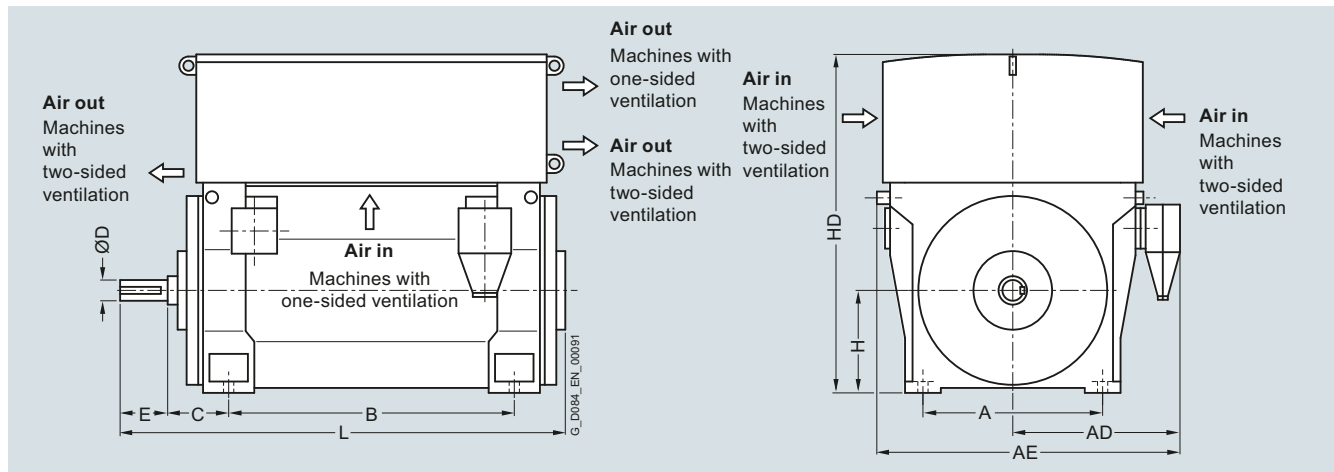
Dimension drawings (continued)



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, anti-friction bearings – 1RA6, 1RA7 series											
10-pole											
1RA6450-3HJ.0	4150	850	930	1620	1180	250	140	200	450	1408	1896
1RA6452-3HJ.0	4450	850	930	1620	1180	250	140	200	450	1408	1896
1RA6454-3HJ.0	4800	850	930	1620	1400	280	140	200	450	1408	2136
1RA6456-3HJ.0	5150	850	930	1620	1400	280	140	200	450	1408	2136
1RA6500-3HJ.0	5250	950	1000	1760	1320	280	160	240	500	1520	2270
1RA6502-3HJ.0	5600	950	1000	1760	1320	280	160	240	500	1520	2270
1RA6504-3HJ.0	6150	950	1000	1760	1500	280	170	240	500	1520	2480
1RA6506-3HJ.0	6550	950	1000	1760	1500	280	170	240	500	1520	2480
1RA6560-3HJ.0	7100	1060	1070	1900	1400	315	180	240	560	1750	2300
1RA6562-3HJ.0	7700	1060	1070	1900	1400	315	180	240	560	1750	2300
1RA6564-3HJ.0	8500	1060	1070	1900	1600	315	190	280	560	1750	2570
1RA6566-3HJ.0	8950	1060	1070	1900	1600	315	190	280	560	1750	2570
1RA7630-3FA.0-OCG0	10700	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7632-3FA.0-OCG0	11300	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7634-3FA.0-OCG0	12100	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7636-3FA.0-OCG0	12700	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7710-3FA.0-OCG0	16000	1500	1800	3120	2000	670	220	710	350	O.R.	3570
1RA7712-3FA.0-OCG0	16700	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7714-3FA.0-OCG0	17000	1500	1800	3120	2000	670	220	710	350	O.R.	3570
1RA7716-3FA.0-OCG0	18100	1500	1800	2900	2240	375	220	710	350	O.R.	3310

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

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, anti-friction bearings – 1RA6, 1RA7 series											
12-pole											
1RA6450-5HJ.0	4150	850	930	1620	1180	250	140	200	450	1408	1896
1RA6452-5HJ.0	4450	850	930	1620	1180	250	140	200	450	1408	1896
1RA6454-5HJ.0	4800	850	930	1620	1400	280	140	200	450	1408	2136
1RA6456-5HJ.0	5150	850	930	1620	1400	280	140	200	450	1408	2136
1RA6500-5HJ.0	5250	950	1000	1760	1320	280	160	240	500	1520	2270
1RA6502-5HJ.0	5650	950	1000	1760	1320	280	160	240	500	1520	2270
1RA6504-5HJ.0	6100	950	1000	1760	1500	280	170	240	500	1520	2480
1RA6506-5HJ.0	6550	950	1000	1760	1500	280	170	240	500	1520	2480
1RA6560-5HJ.0	7150	1060	1070	1900	1400	315	180	240	560	1750	2300
1RA6562-5HJ.0	7700	1060	1070	1900	1400	315	180	240	560	1750	2300
1RA6564-5HJ.0	8500	1060	1070	1900	1600	315	190	280	560	1750	2570
1RA6566-5HJ.0	8950	1060	1070	1900	1600	315	190	280	560	1750	2570
1RA7630-5FA.0-OCG0	10700	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7632-5FA.0-OCG0	11300	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7634-5FA.0-OCG0	12100	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7636-5FA.0-OCG0	12600	1320	1340	2340	1800	375	200	280	630	O.R.	2810

Note: Higher pole numbers are available on request.

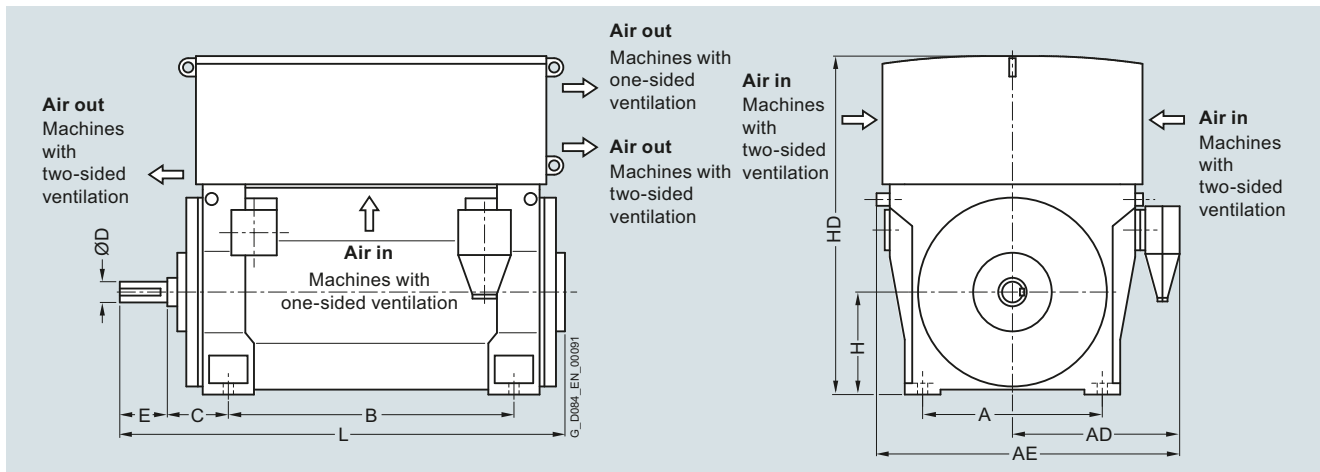
¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

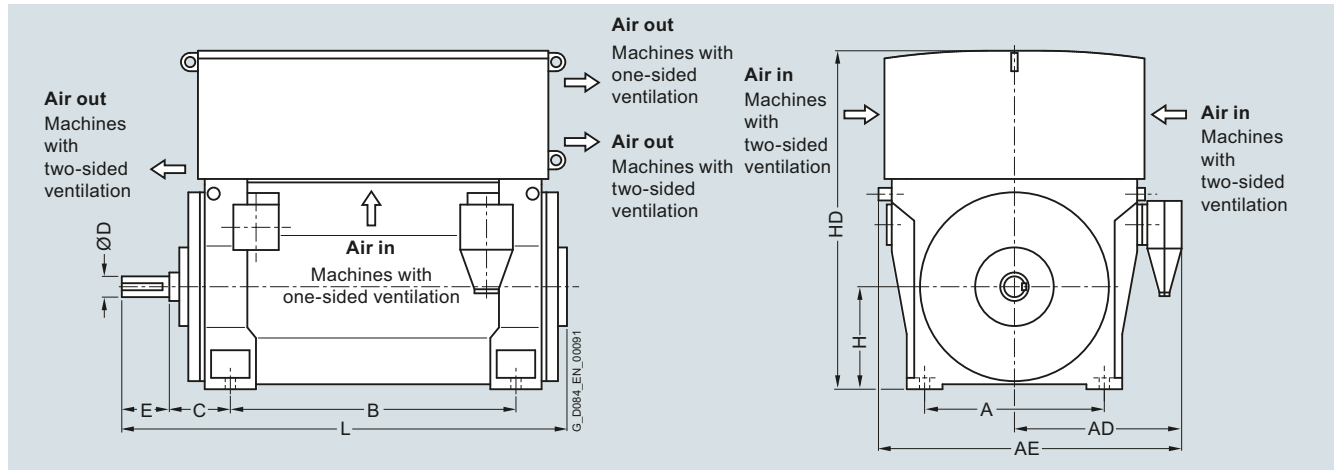
Dimension drawings



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, anti-friction bearings – 1RA6, 1RA7 series											
2-pole											
1RA6450-2HJ.0 ¹⁾	3700	850	1070	1840	1180	280	95	130	450	1628	1875
1RA6452-2HJ.0 ¹⁾	3900	850	1070	1840	1180	280	95	130	450	1628	1875
1RA6454-2HJ.0 ¹⁾	4300	850	1070	1840	1400	280	95	130	450	1628	2085
1RA6456-2HJ.0 ¹⁾	4550	850	1070	1840	1400	280	95	130	450	1628	2085
1RA6500-2HJ.0 ¹⁾	5450	950	1270	1970	1320	315	110	165	500	1850	2150
1RA6502-2HJ.0 ¹⁾	5600	950	1270	1970	1320	315	110	165	500	1850	2150
4-pole											
1RA6450-4HJ.0	4050	850	1070	1840	1180	250	130	200	450	1408	1896
1RA6452-4HJ.0	4250	850	1070	1840	1180	250	130	200	450	1408	1896
1RA6454-4HJ.0	4650	850	1070	1840	1400	250	130	200	450	1408	2106
1RA6456-4HJ.0	4950	850	1070	1840	1400	250	130	200	450	1408	2106
1RA6500-4HJ.0	5950	950	1270	1970	1320	280	150	200	500	1850	2150
1RA6502-4HJ.0	6150	950	1270	1970	1320	280	150	200	500	1850	2150
1RA6504-4HJ.0	6800	950	1270	1970	1500	280	150	200	500	1850	2300
1RA6506-4HJ.0	7150	950	1270	1970	1500	280	150	200	500	1850	2300
1RA6560-4HJ.0	7450	1060	1340	2110	1400	315	170	240	560	2100	2300
1RA6562-4HJ.0	7850	1060	1340	2110	1400	315	170	240	560	2100	2300
1RA6564-4HJ.0	8700	1060	1340	2110	1600	315	170	240	560	2100	2550
1RA6566-4HJ.0	9250	1060	1340	2110	1600	315	170	240	560	2100	2550
1RA7630-4FA80-0CG0	10600	1320	1490	2490	1600	375	200	280	630	O.R.	2610
1RA7632-4FA80-0CG0	11200	1320	1490	2490	1600	375	200	280	630	O.R.	2610
1RA7634-4FA80-0CG0	12000	1320	1490	2490	1800	375	200	280	630	O.R.	2810
1RA7636-4FA80-0CG0	12600	1320	1490	2490	1800	375	200	280	630	O.R.	2810
1RA7710-4FA80-0CG0	16200	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7712-4FA80-0CG0	16900	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7714-4FA80-0CG0	18200	1500	1800	2900	2240	375	220	710	350	O.R.	3310
1RA7716-4FA80-0CG0	19400	1500	1800	2900	2240	375	220	710	350	O.R.	3310

¹⁾ Anti-friction bearings only for 50 Hz operation.

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, anti-friction bearings – 1RA6, 1RA7 series

6-pole

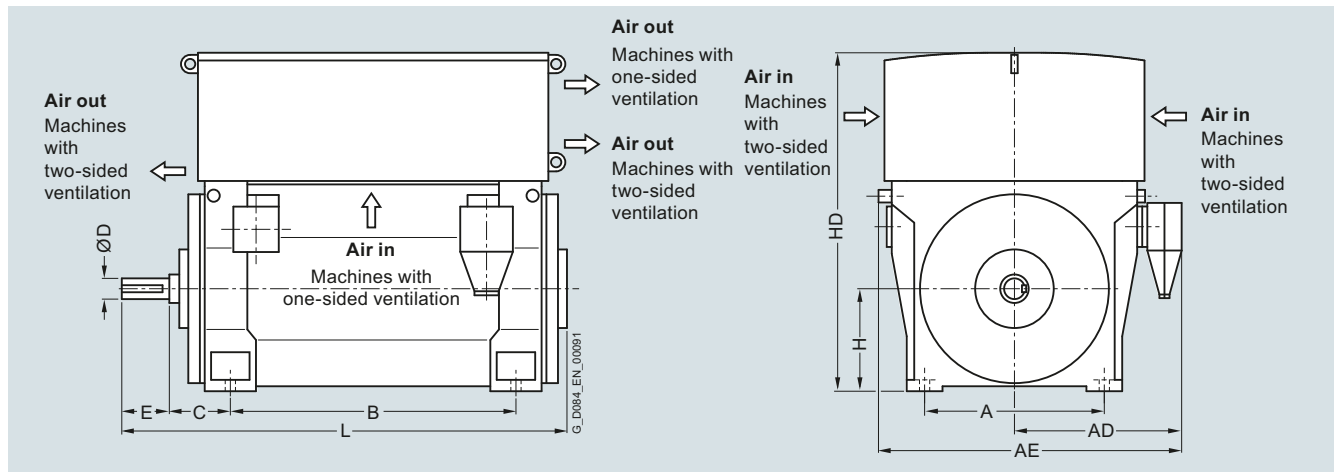
1RA6450-6HJ.0	4150	850	1070	1840	1180	250	140	200	450	1408	1896
1RA6452-6HJ.0	4400	850	1070	1840	1180	250	140	200	450	1408	1896
1RA6454-6HJ.0	4750	850	1070	1840	1400	280	140	200	450	1408	2136
1RA6456-6HJ.0	5100	850	1070	1840	1400	280	140	200	450	1408	2136
1RA6500-6HJ.0	6050	950	1270	1970	1320	315	160	240	500	1610	2150
1RA6502-6HJ.0	6350	950	1270	1970	1320	315	160	240	500	1610	2150
1RA6504-6HJ.0	6900	950	1270	1970	1500	315	160	240	500	1610	2360
1RA6506-6HJ.0	7300	950	1270	1970	1500	315	160	240	500	1610	2360
1RA6560-6HJ.0	8200	1060	1340	2110	1400	315	180	240	560	1760	2300
1RA6562-6HJ.0	8600	1060	1340	2110	1400	315	180	240	560	1760	2300
1RA6564-6HJ.0	9450	1060	1340	2110	1600	315	180	240	560	1760	2550
1RA6566-6HJ.0	10000	1060	1340	2110	1600	315	180	240	560	1760	2550
1RA7900-6.A80-0CG0	5043	1800	1620	2900	2500	475	280	470	900	3080	3670
1RA7902-6.A80-0CG0	5043	1800	1620	2900	2500	475	280	470	900	3080	3670
1RA7904-6.A80-0CG0	5340	1800	1620	2900	2800	475	280	470	900	3080	3970
1RA7906-6.A80-0CG0	5340	1800	1620	2900	2800	475	280	470	900	3080	3970
1RA7630-6FA80-0CG0	11100	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7632-6FA80-0CG0	11700	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7634-6FA80-0CG0	12500	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7636-6FA80-0CG0	13100	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7710-6FA80-0CG0	16600	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7712-6FA80-0CG0	17600	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7714-6FA80-0CG0	19100	1500	1800	2900	2240	375	220	710	350	O.R.	3310
1RA7716-6FA80-0CG0	20200	1500	1800	2900	2240	375	220	710	350	O.R.	3310

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Dimension drawings (continued)



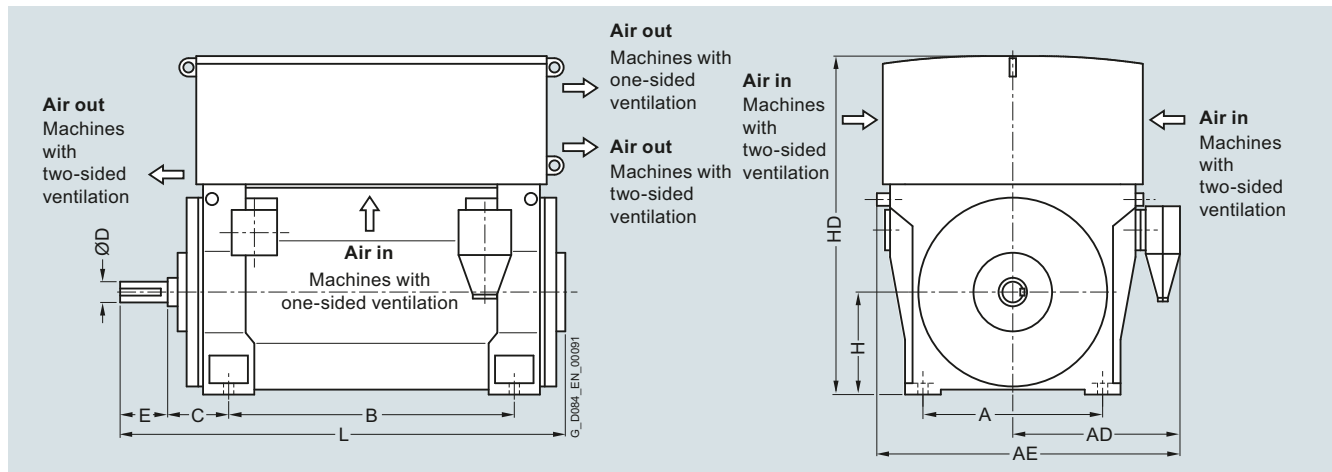
Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, anti-friction bearings – 1RA6, 1RA7 series

8-pole

1RA6450-8HJ.0	4150	850	1070	1840	1180	250	140	200	450	1408	1896
1RA6452-8HJ.0	4450	850	1070	1840	1180	250	140	200	450	1408	1896
1RA6454-8HJ.0	4800	850	1070	1840	1400	280	140	200	450	1408	2136
1RA6456-8HJ.0	5150	850	1070	1840	1400	280	140	200	450	1408	2136
1RA6500-8HJ.0	6000	950	1270	1970	1320	315	160	240	500	1610	2150
1RA6502-8HJ.0	6300	950	1270	1970	1320	315	160	240	500	1610	2150
1RA6504-8HJ.0	6900	950	1270	1970	1500	315	160	240	500	1610	2360
1RA6506-8HJ.0	7250	950	1270	1970	1500	315	160	240	500	1610	2360
1RA6560-8HJ.0	8150	1060	1340	2110	1400	315	180	240	560	1760	2300
1RA6562-8HJ.0	8600	1060	1340	2110	1400	315	180	240	560	1760	2300
1RA6564-8HJ.0	9400	1060	1340	2110	1600	315	180	240	560	1760	2550
1RA6566-8HJ.0	9950	1060	1340	2110	1600	315	180	240	560	1760	2550
1RA7630-8FA80-OCG0	10700	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7632-8FA80-OCG0	11300	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7634-8FA80-OCG0	12100	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7636-8FA80-OCG0	12600	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7710-8FA80-OCG0	16200	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7712-8FA80-OCG0	17100	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7714-8FA80-OCG0	18600	1500	1800	2900	2240	375	220	710	350	O.R.	3310
1RA7716-8FA80-OCG0	19600	1500	1800	2900	2240	375	220	710	350	O.R.	3310

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, anti-friction bearings – 1RA6, 1RA7 series											
10-pole											
1RA6500-3HJ.0	5250	950	1220	1980	1320	280	160	240	500	1520	2270
1RA6502-3HJ.0	5600	950	1220	1980	1320	280	160	240	500	1520	2270
1RA6504-3HJ.0	6150	950	1220	1980	1500	280	170	240	500	1520	2480
1RA6506-3HJ.0	6500	950	1220	1980	1500	280	170	240	500	1520	2480
1RA6560-3HJ.0	7350	1060	1210	2040	1400	315	180	240	560	1750	2300
1RA6562-3HJ.0	7950	1060	1210	2040	1400	315	180	240	560	1750	2300
1RA6564-3HJ.0	8750	1060	1210	2040	1600	315	190	280	560	1750	2570
1RA6566-3HJ.0	9200	1060	1210	2040	1600	315	190	280	560	1750	2570
1RA7630-3FA80-OCGO	10600	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7632-3FA80-OCGO	11200	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7634-3FA80-OCGO	12000	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7636-3FA80-OCGO	12500	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7710-3FA80-OCGO	16300	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7712-3FA80-OCGO	17200	1500	1800	2900	2000	375	220	710	350	O.R.	3070
1RA7714-3FA80-OCGO	18700	1500	1800	2900	2240	375	220	710	350	O.R.	3310
1RA7716-3FA80-OCGO	19600	1500	1800	2900	2240	375	220	710	350	O.R.	3310
12-pole											
1RA6502-5HJ.0	5650	950	1220	1980	1320	280	160	240	500	1520	2270
1RA6504-5HJ.0	6100	950	1220	1980	1500	280	170	240	500	1520	2480
1RA6506-5HJ.0	6500	950	1220	1980	1500	280	170	240	500	1520	2480
1RA6560-5HJ.0	7100	1060	1210	2040	1400	315	180	240	560	1750	2300
1RA6562-5HJ.0	7650	1060	1210	2040	1400	315	180	240	560	1750	2300
1RA6564-5HJ.0	8450	1060	1210	2040	1600	315	190	280	560	1750	2570
1RA6566-5HJ.0	8900	1060	1210	2040	1600	315	190	280	560	1750	2570
1RA7630-5FA80-OCGO	10600	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7632-5FA80-OCGO	11100	1320	1340	2340	1600	375	200	280	630	O.R.	2610
1RA7634-5FA80-OCGO	11900	1320	1340	2340	1800	375	200	280	630	O.R.	2810
1RA7636-5FA80-OCGO	12500	1320	1340	2340	1800	375	200	280	630	O.R.	2810

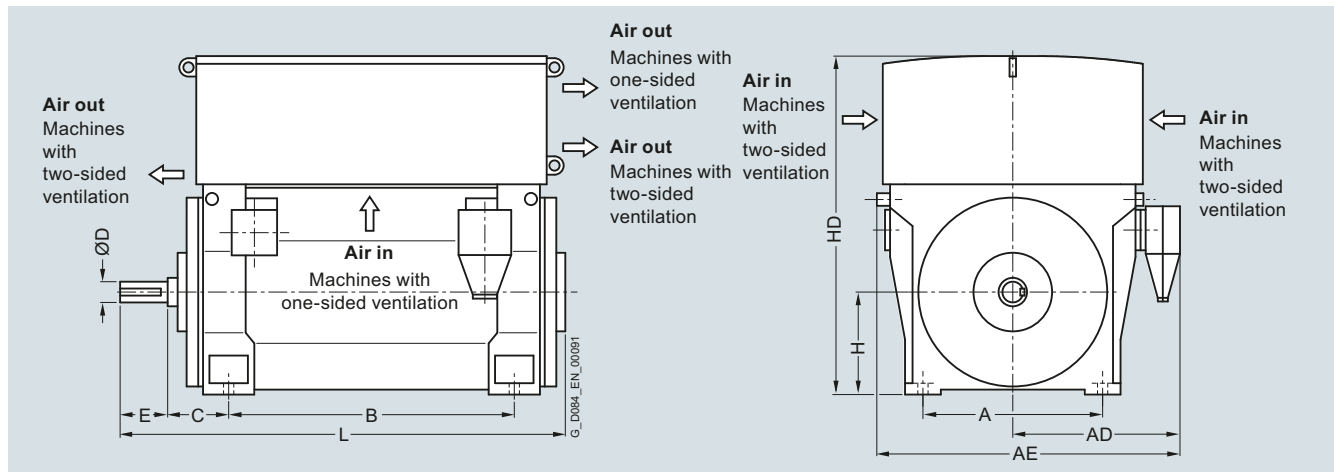
Note: Higher pole numbers are available on request.

Motors for line operation

Air-cooled motors

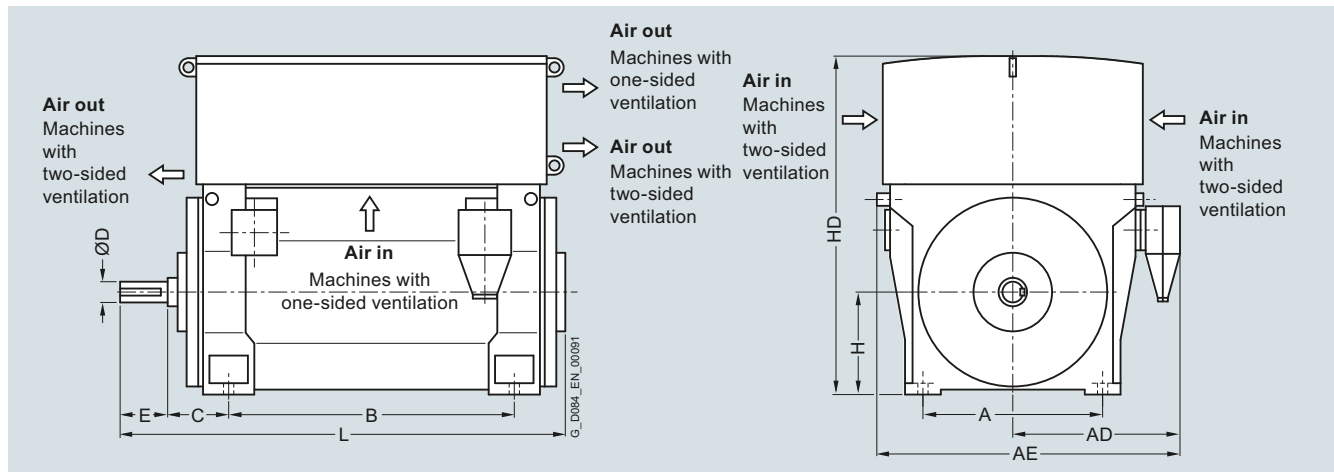
SIMOTICS HV M 1RA6, 1RA7

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
13.8 kV, IM B3 type of construction, anti-friction bearings – 1RA7 series											
4-pole											
1RA7630-4FA20-0CG0	10600	1320	1520	2520	1600	375	200	280	630	O. R.	2610
1RA7632-4FA20-0CG0	11200	1320	1520	2520	1600	375	200	280	630	O. R.	2610
1RA7634-4FA20-0CG0	12000	1320	1520	2520	1800	375	200	280	630	O. R.	2810
1RA7636-4FA20-0CG0	12600	1320	1520	2520	1800	375	200	280	630	O. R.	2810
1RA7710-4FA20-0CG0	16200	1500	1800	2900	2000	375	220	350	710	O. R.	3070
1RA7712-4FA20-0CG0	16900	1500	1800	2900	2000	375	220	350	710	O. R.	3070
1RA7714-4FA20-0CG0	18200	1500	1800	2900	2240	375	220	350	710	O. R.	3310
1RA7716-4FA20-0CG0	19400	1500	1800	2900	2240	375	220	350	710	O. R.	3310
6-pole											
1RA7630-6FA20-0CG0	11100	1320	1520	2520	1600	375	200	280	630	O. R.	2610
1RA7632-6FA20-0CG0	11700	1320	1520	2520	1600	375	200	280	630	O. R.	2610
1RA7634-6FA20-0CG0	12500	1320	1520	2520	1800	375	200	280	630	O. R.	2810
1RA7636-6FA20-0CG0	13100	1320	1520	2520	1800	375	200	280	630	O. R.	2810
1RA7710-6FA20-0CG0	16600	1500	1800	2900	2000	375	220	350	710	O. R.	3070
1RA7712-6FA20-0CG0	17600	1500	1800	2900	2000	375	220	350	710	O. R.	3070
1RA7714-6FA20-0CG0	19100	1500	1800	2900	2240	375	220	350	710	O. R.	3310
1RA7716-6FA20-0CG0	20200	1500	1800	2900	2240	375	220	350	710	O. R.	3310

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

13.8 kV, IM B3 type of construction, anti-friction bearings – 1RA7 series

8-pole

1RA7630-8FA20-0CG0	10700	1320	1520	2520	1600	375	200	280	630	O. R.	2610
1RA7632-8FA20-0CG0	11300	1320	1520	2520	1600	375	200	280	630	O. R.	2610
1RA7634-8FA20-0CG0	12100	1320	1520	2520	1800	375	200	280	630	O. R.	2810
1RA7636-8FA20-0CG0	12600	1320	1520	2520	1800	375	200	280	630	O. R.	2810
1RA7710-8FA20-0CG0	16200	1500	1800	2900	2000	375	220	350	710	O. R.	3070
1RA7712-8FA20-0CG0	17100	1500	1800	2900	2000	375	220	350	710	O. R.	3070
1RA7714-8FA20-0CG0	18600	1500	1800	2900	2240	375	220	350	710	O. R.	3310
1RA7716-8FA20-0CG0	19600	1500	1800	2900	2240	375	220	350	710	O. R.	3310

10-pole

1RA7630-3FA20-0CG0	10600	1320	1520	2520	1600	375	200	280	630	O. R.	2610
1RA7632-3FA20-0CG0	11200	1320	1520	2520	1600	375	200	280	630	O. R.	2610
1RA7634-3FA20-0CG0	12000	1320	1520	2520	1800	375	200	280	630	O. R.	2810
1RA7636-3FA20-0CG0	12500	1320	1520	2520	1800	375	200	280	630	O. R.	2810
1RA7710-3FA20-0CG0	16300	1500	1800	2900	2000	375	220	350	710	O. R.	3070
1RA7712-3FA20-0CG0	17200	1500	1800	2900	2000	375	220	350	710	O. R.	3070
1RA7714-3FA20-0CG0	18700	1500	1800	2900	2240	375	220	350	710	O. R.	3310
1RA7716-3FA20-0CG0	19600	1500	1800	2900	2240	375	220	350	710	O. R.	3310

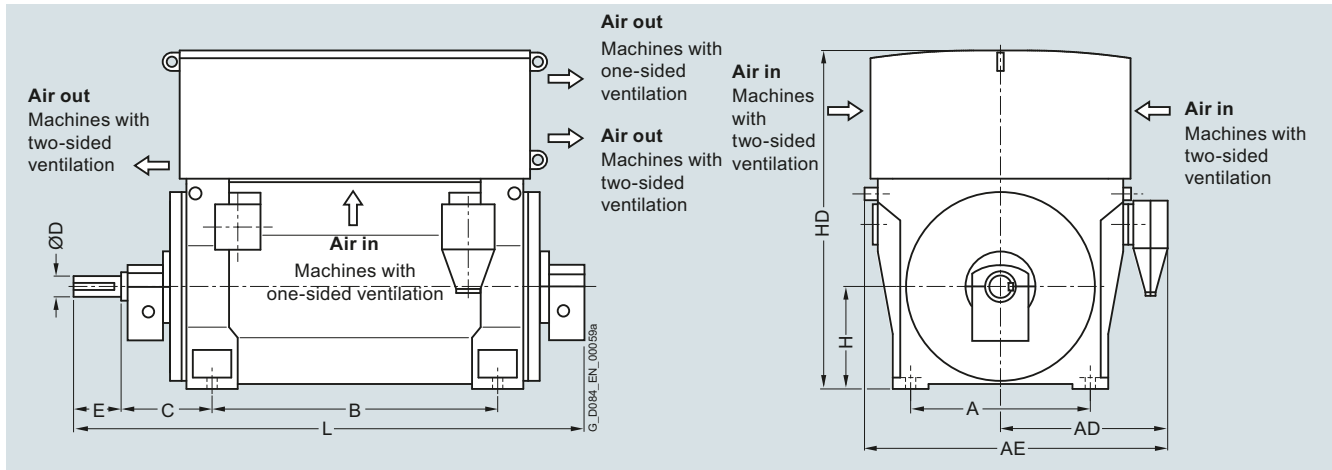
Note: Higher pole numbers are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Dimension drawings

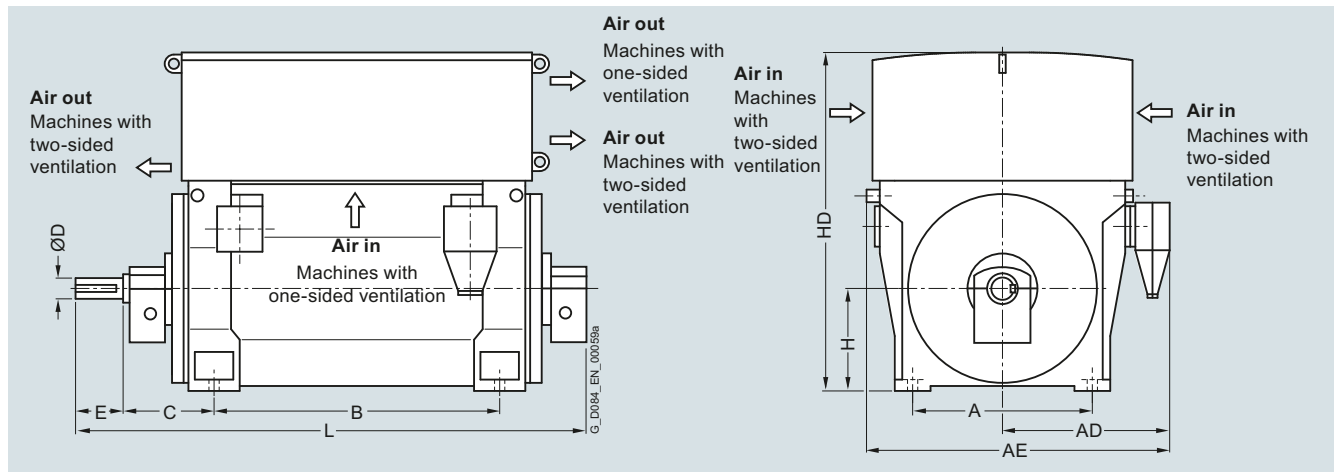


Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RA6, 1RA7 series											
2-pole ²⁾											
1RA6450-2HJ.0-Z K96	3750	850	930	1620	1180	425	95	130	450	1628	2218
1RA6452-2HJ.0-Z K96	3950	850	930	1620	1180	425	95	130	450	1628	2218
1RA6454-2HJ.0-Z K96	4300	850	930	1620	1400	425	95	130	450	1628	2428
1RA6456-2HJ.0-Z K96	4550	850	930	1620	1400	425	95	130	450	1628	2428
1RA6500-2HJ.0-Z K96	5500	950	1135	1835	1320	450	110	165	500	1850	2500
1RA6502-2HJ.0-Z K96	5650	950	1135	1835	1320	450	110	165	500	1850	2500
1RA6504-2HJ.0	6450	950	1135	1835	1500	450	110	165	500	1850	2650
1RA6506-2HJ.0	6700	950	1135	1835	1500	450	110	165	500	1850	2650
1RA6560-2HJ.0	7450	1060	1205	1975	1400	600	130	200	560	2100	2850
1RA6562-2HJ.0	7850	1060	1205	1975	1400	600	130	200	560	2100	2850
1RA6564-2HJ.0	8750	1060	1205	1975	1600	600	130	200	560	2100	3100
1RA6566-2HJ.0	9200	1060	1205	1975	1600	600	130	200	560	2100	3100
1RA7630-2FA.0-0CJ0	10200	1320	1490	2490	1600	600	180	240	630	O.R.	3020
1RA7631-2FA.0-0CJ0	9400	1320	1340	2340	1600	475	150	200	630	O.R.	2630
1RA7632-2FA.0-0CJ0	10800	1320	1490	2490	1600	600	180	240	630	O.R.	3020
1RA7633-2FA.0-0CJ0	9700	1320	1340	2340	1600	475	150	200	630	O.R.	2630
1RA7634-2FA.0-0CJ0	11700	1320	1490	2490	1800	600	180	240	630	O.R.	3220
1RA7636-2FA.0-0CJ0	12300	1320	1490	2490	1800	600	180	240	630	O.R.	3220
1RA7710-2FA.0-0CJ0	15000	1500	1800	2900	2000	560	200	710	280	O.R.	3320
1RA7712-2FA.0-0CJ0	15600	1500	1800	2900	2000	560	200	710	280	O.R.	3320
1RA7714-2FA.0-0CJ0	16800	1500	1800	2900	2240	560	200	710	280	O.R.	3560
1RA7716-2FA.0-0CJ0	17500	1500	1800	2900	2240	560	200	710	280	O.R.	3560

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

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 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 – 1RA6, 1RA7 series											
4-pole ²⁾											
1RA6450-4HJ.0-Z K96	4100	850	930	1620	1180	500	130	200	450	1408	2438
1RA6452-4HJ.0-Z K96	4350	850	930	1620	1180	500	130	200	450	1408	2438
1RA6454-4HJ.0-Z K96	4750	850	930	1620	1400	500	130	200	450	1408	2648
1RA6456-4HJ.0-Z K96	5000	850	930	1620	1400	500	130	200	450	1408	2648
1RA6500-4HJ.0-Z K96	6250	950	1135	1835	1320	560	150	200	500	1850	2700
1RA6502-4HJ.0-Z K96	6500	950	1135	1835	1320	560	150	200	500	1850	2700
1RA6504-4HJ.0-Z K96	7150	950	1135	1835	1500	560	150	200	500	1850	2880
1RA6506-4HJ.0-Z K96	7450	950	1135	1835	1500	560	150	200	500	1850	2880
1RA6560-4HJ.0-Z K96	7650	1060	1205	1975	1400	600	170	240	560	2100	2900
1RA6562-4HJ.0-Z K96	8000	1060	1205	1975	1400	600	170	240	560	2100	2900
1RA6564-4HJ.0-Z K96	8900	1060	1205	1975	1600	600	170	240	560	2100	3100
1RA6566-4HJ.0-Z K96	9400	1060	1205	1975	1600	600	170	240	560	2100	3100
1RA7630-4FA.0-0CJ0	10900	1320	1490	2490	1600	630	200	280	630	O.R.	3090
1RA7632-4FA.0-0CJ0	11400	1320	1490	2490	1600	630	200	280	630	O.R.	3090
1RA7634-4FA.0-0CJ0	12400	1320	1490	2490	1800	630	200	280	630	O.R.	3290
1RA7636-4FA.0-0CJ0	12900	1320	1490	2490	1800	630	200	280	630	O.R.	3290
1RA7710-4FA.0-0CJ0	16100	1500	1800	2900	2000	710	220	710	350	O.R.	3650
1RA7712-4FA.0-0CJ0	16800	1500	1800	2900	2000	710	220	710	350	O.R.	3650
1RA7714-4FA.0-0CJ0	18200	1500	1800	2900	2240	710	220	710	350	O.R.	3890
1RA7716-4FA.0-0CJ0	19400	1500	1800	2900	2240	710	220	710	350	O.R.	3890

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

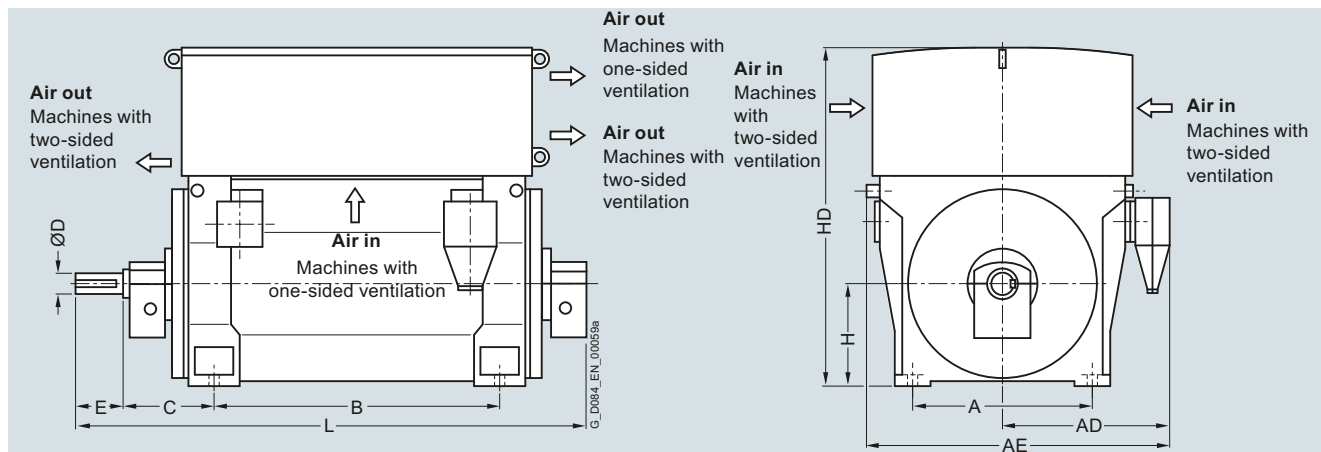
²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Dimension drawings (continued)



Motor type ²⁾	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L

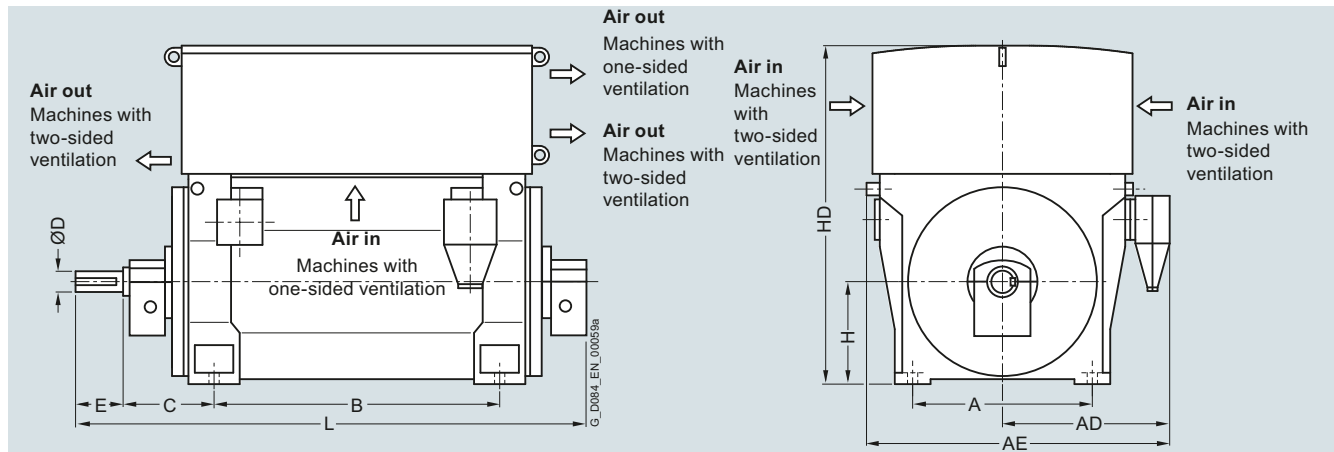
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RA6, 1RA7 series

6-pole ²⁾											
1RA6450-6HJ.0-Z K96	4200	850	930	1620	1180	500	140	200	450	1408	2438
1RA6452-6HJ.0-Z K96	4500	850	930	1620	1180	500	140	200	450	1408	2438
1RA6454-6HJ.0-Z K96	4850	850	930	1620	1400	500	140	200	450	1408	2648
1RA6456-6HJ.0-Z K96	5200	850	930	1620	1400	500	140	200	450	1408	2648
1RA6500-6HJ.0-Z K96	6250	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6502-6HJ.0-Z K96	6500	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6504-6HJ.0-Z K96	7100	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6506-6HJ.0-Z K96	7500	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6560-6HJ.0-Z K96	8450	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6562-6HJ.0-Z K96	8850	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6564-6HJ.0-Z K96	9700	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA6566-6HJ.0-Z K96	10250	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA7630-6FA.0-0CJ0	11300	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7632-6FA.0-0CJ0	11900	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7634-6FA.0-0CJ0	12800	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7636-6FA.0-0CJ0	13400	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7710-6FA.0-0CJ0	16100	1500	1800	2900	2000	670	220	710	350	O.R.	3570
1RA7712-6FA.0-0CJ0	17200	1500	1800	2900	2000	670	220	710	350	O.R.	3570
1RA7714-6FA.0-0CJ0	18700	1500	1800	2900	2240	670	220	710	350	O.R.	3810
1RA7716-6FA.0-0CJ0	19700	1500	1800	2900	2240	670	220	710	350	O.R.	3810

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

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

Dimension drawings (continued)



Motor type ²⁾	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 – 1RA6, 1RA7 series

8-pole²⁾

1RA6450-8HJ.0-Z K96	4250	850	930	1620	1180	500	140	200	450	1408	2438
1RA6452-8HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1408	2438
1RA6454-8HJ.0-Z K96	4900	850	930	1620	1400	500	140	200	450	1408	2648
1RA6456-8HJ.0-Z K96	5250	850	930	1620	1400	500	140	200	450	1408	2648
1RA6500-8HJ.0-Z K96	6200	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6502-8HJ.0-Z K96	6450	950	1135	1835	1320	560	170	240	500	1610	2700
1RA6504-8HJ.0-Z K96	7100	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6506-8HJ.0-Z K96	7450	950	1135	1835	1500	560	170	240	500	1610	2900
1RA6560-8HJ.0-Z K96	8400	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6562-8HJ.0-Z K96	8800	1060	1205	1975	1400	600	170	240	560	1760	2950
1RA6564-8HJ.0-Z K96	9650	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA6566-8HJ.0-Z K96	10150	1060	1205	1975	1600	600	170	240	560	1760	3150
1RA7630-8FA.0-0CJ0	10900	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7632-8FA.0-0CJ0	11500	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7634-8FA.0-0CJ0	12300	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7636-8FA.0-0CJ0	12800	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7710-8FA.0-0CJ0	15900	1500	1800	2900	2000	670	220	710	350	O.R.	3570
1RA7712-8FA.0-0CJ0	16800	1500	1800	2900	2000	670	220	710	350	O.R.	3570
1RA7714-8FA.0-0CJ0	18200	1500	1800	2900	2240	670	220	710	350	O.R.	3810
1RA7716-8FA.0-0CJ0	19200	1500	1800	2900	2240	670	220	710	350	O.R.	3810

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

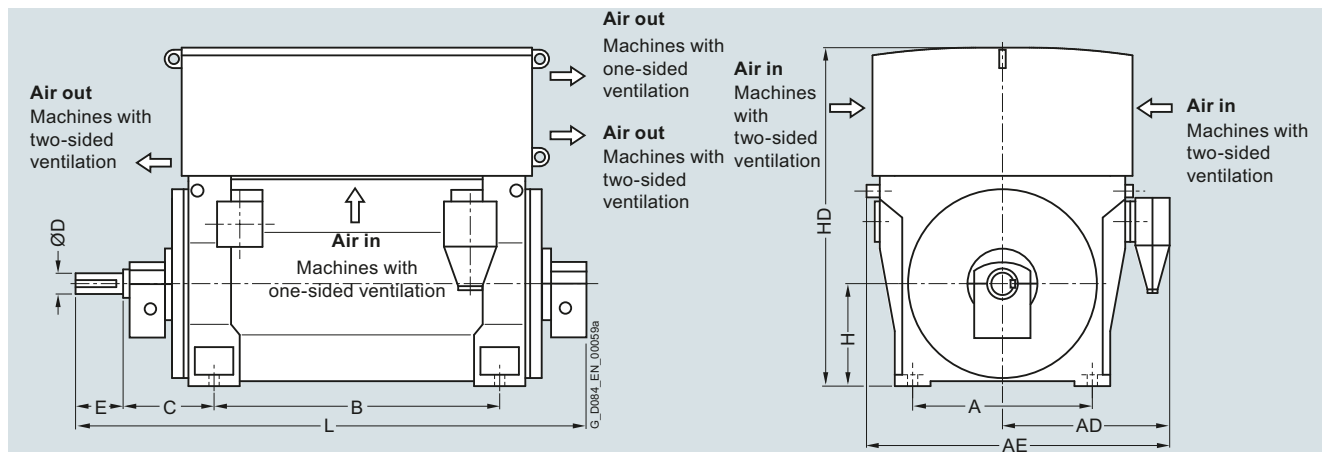
²⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Dimension drawings (continued)



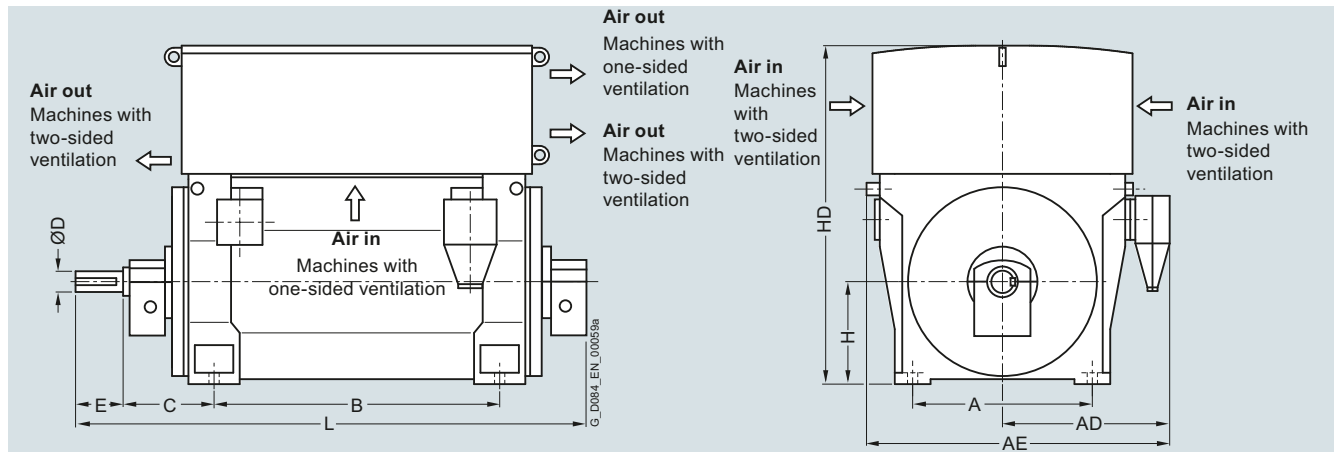
Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L

Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RA6, 1RA7 series

10-pole											
1RA6450-3HJ.0-Z K96	4250	850	930	1620	1180	500	140	200	450	1408	2438
1RA6452-3HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1408	2438
1RA6454-3HJ.0-Z K96	4900	850	930	1620	1400	500	140	200	450	1408	2648
1RA6456-3HJ.0-Z K96	5250	850	930	1620	1400	500	140	200	450	1408	2648
1RA6500-3HJ.0-Z K96	5400	950	1000	1760	1320	500	160	240	500	1520	2620
1RA6502-3HJ.0-Z K96	5800	950	1000	1760	1320	500	160	240	500	1520	2620
1RA6504-3HJ.0-Z K96	6350	950	1000	1760	1500	500	170	240	500	1520	2830
1RA6506-3HJ.0-Z K96	6700	950	1000	1760	1500	500	170	240	500	1520	2830
1RA6560-3HJ.0-Z K96	7350	1060	1070	1900	1400	530	180	240	560	1750	2670
1RA6562-3HJ.0-Z K96	7900	1060	1070	1900	1400	530	180	240	560	1750	2670
1RA6564-3HJ.0-Z K96	8700	1060	1070	1900	1600	530	190	280	560	1750	2940
1RA6566-3HJ.0-Z K96	9200	1060	1070	1900	1600	530	190	280	560	1750	2940
1RA7630-3FA.0-0CJ0	10900	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7632-3FA.0-0CJ0	11400	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7634-3FA.0-0CJ0	12200	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7636-3FA.0-0CJ0	12700	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7710-3FA.0-0CJ0	16000	1500	1800	3120	2000	670	220	710	350	O.R.	3570
1RA7712-3FA.0-0CJ0	17000	1500	1800	3120	2000	670	220	710	350	O.R.	3570
1RA7714-3FA.0-0CJ0	18500	1500	1800	3120	2240	670	220	710	350	O.R.	3810
1RA7716-3FA.0-0CJ0	19100	1500	1800	2900	2240	670	220	710	350	O.R.	3810

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

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 – 1RA6, 1RA7 series

12-pole

1RA6450-5HJ.0-Z K96	4250	850	930	1620	1180	500	140	200	450	1408	2438
1RA6452-5HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1408	2438
1RA6454-5HJ.0-Z K96	4900	850	930	1620	1400	500	140	200	450	1408	2648
1RA6456-5HJ.0-Z K96	5250	850	930	1620	1400	500	140	200	450	1408	2648
1RA6500-5HJ.0-Z K96	5450	950	1000	1760	1320	500	160	240	500	1520	2620
1RA6502-5HJ.0-Z K96	5800	950	1000	1760	1320	500	160	240	500	1520	2620
1RA6504-5HJ.0-Z K96	6250	950	1000	1760	1500	500	170	240	500	1520	2830
1RA6506-5HJ.0-Z K96	6700	950	1000	1760	1500	500	170	240	500	1520	2830
1RA6560-5HJ.0-Z K96	7350	1060	1070	1900	1400	530	180	240	560	1750	2670
1RA6562-5HJ.0-Z K96	7950	1060	1070	1900	1400	530	180	240	560	1750	2670
1RA6564-5HJ.0-Z K96	8700	1060	1070	1900	1600	530	190	280	560	1750	2940
1RA6566-5HJ.0-Z K96	9150	1060	1070	1900	1600	530	190	280	560	1750	2940
1RA7630-5FA.0-0CJ0	10800	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7632-5FA.0-0CJ0	11400	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7634-5FA.0-0CJ0	12200	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7636-5FA.0-0CJ0	12700	1320	1340	2340	1800	630	200	280	630	O.R.	3290

Note: Higher pole numbers are available on request.

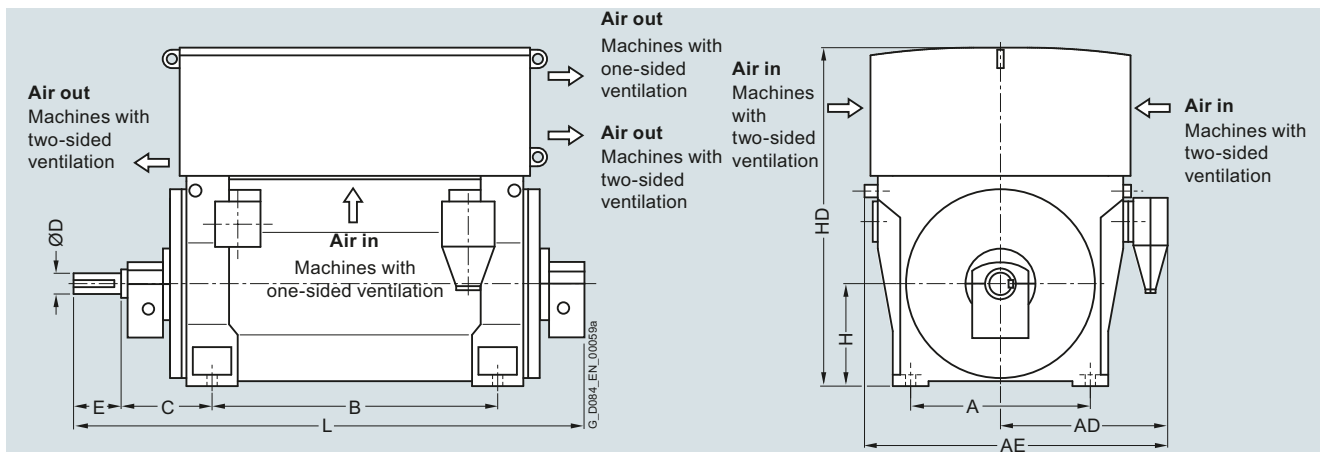
¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

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

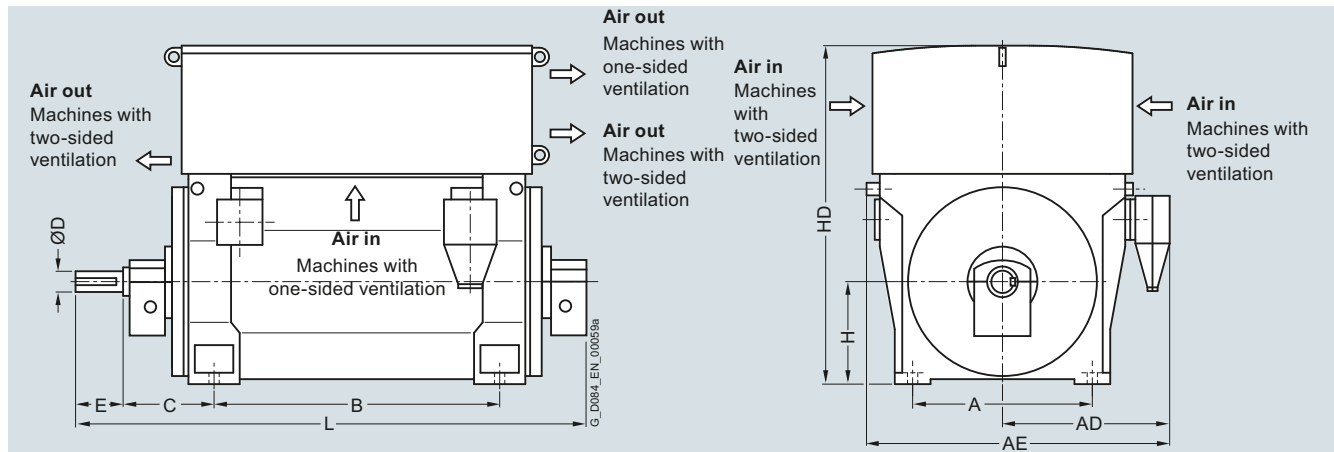
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RA6 and 1RA7 series

2-pole

1RA6450-2HJ.0-Z K96 ¹⁾	3750	850	1070	1840	1180	425	95	130	450	1628	2218
1RA6452-2HJ.0-Z K96 ¹⁾	3950	850	1070	1840	1180	425	95	130	450	1628	2218
1RA6454-2HJ.0-Z K96 ¹⁾	4300	850	1070	1840	1400	425	95	130	450	1628	2428
1RA6456-2HJ.0-Z K96 ¹⁾	4550	850	1070	1840	1400	425	95	130	450	1628	2428
1RA6500-2HJ.0-Z K96 ¹⁾	5500	950	1270	1970	1320	450	110	165	500	1850	2500
1RA6502-2HJ.0-Z K96 ¹⁾	5650	950	1270	1970	1320	450	110	165	500	1850	2500
1RA6504-2HJ.0	6450	950	1270	1970	1500	450	110	165	500	1850	2650
1RA6506-2HJ.0	6700	950	1270	1970	1500	450	110	165	500	1850	2650
1RA6560-2HJ.0	7450	1060	1340	2110	1400	600	130	200	560	2100	2850
1RA6562-2HJ.0	7850	1060	1340	2110	1400	600	130	200	560	2100	2850
1RA6564-2HJ.0	8750	1060	1340	2110	1600	600	130	200	560	2100	3100
1RA6566-2HJ.0	9200	1060	1340	2110	1600	600	130	200	560	2100	3100
1RA7630-2FA80-0CJ0	10100	1320	1490	2490	1600	600	180	240	630	O.R.	3020
1RA7631-2FA80-0CJ0	9300	1320	1340	2340	1600	475	150	200	630	O.R.	2630
1RA7632-2FA80-0CJ0	10600	1320	1490	2490	1600	600	180	240	630	O.R.	3020
1RA7633-2FA80-0CJ0	9600	1320	1340	2340	1600	475	150	200	630	O.R.	2630
1RA7634-2FA80-0CJ0	11400	1320	1490	2490	1800	600	180	240	630	O.R.	3220
1RA7636-2FA80-0CJ0	12000	1320	1490	2490	1800	600	180	240	630	O.R.	3220
1RA7710-2FA80-0CJ0	15300	1500	1800	2900	2000	560	200	710	280	O.R.	3320
1RA7712-2FA80-0CJ0	16000	1500	1800	2900	2000	560	200	710	280	O.R.	3320
1RA7714-2FA80-0CJ0	17200	1500	1800	2900	2240	560	200	710	280	O.R.	3560
1RA7716-2FA80-0CJ0	17900	1500	1800	2900	2240	560	200	710	280	O.R.	3560

¹⁾ 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 – 1RA6 and 1RA7 series

4-pole

1RA6450-4HJ.0-Z K96	4100	850	1070	1840	1180	500	130	200	450	1408	2438
1RA6452-4HJ.0-Z K96	4350	850	1070	1840	1180	500	130	200	450	1408	2438
1RA6454-4HJ.0-Z K96	4750	850	1070	1840	1400	500	130	200	450	1408	2645
1RA6456-4HJ.0-Z K96	5000	850	1070	1840	1400	500	130	200	450	1408	2645
1RA6500-4HJ.0-Z K96	6250	950	1270	1970	1320	560	150	200	500	1850	2700
1RA6502-4HJ.0-Z K96	6500	950	1270	1970	1320	560	150	200	500	1850	2700
1RA6504-4HJ.0-Z K96	7150	950	1270	1970	1500	560	150	200	500	1850	2880
1RA6506-4HJ.0-Z K96	7450	950	1270	1970	1500	560	150	200	500	1850	2880
1RA6560-4HJ.0-Z K96	7650	1060	1340	2110	1400	600	170	240	560	2100	2900
1RA6562-4HJ.0-Z K96	8000	1060	1340	2110	1400	600	170	240	560	2100	2900
1RA6564-4HJ.0-Z K96	8900	1060	1340	2110	1600	600	170	240	560	2100	3100
1RA6566-4HJ.0-Z K96	9400	1060	1340	2110	1600	600	170	240	560	2100	3100
1RA7900-4.A80-0CJ0	5043	1800	1620	2900	2500	670	320	470	900	3080	3900
1RA7902-4.A80-0CJ0	5043	1800	1620	2900	2500	670	320	470	900	3080	3900
1RA7904-4.A80-0CJ0	5340	1800	1620	2900	2800	670	320	470	900	3080	4200
1RA7906-4.A80-0CJ0	5340	1800	1620	2900	2800	670	320	470	900	3080	4200
1RA7630-4FA80-0CJ0	10700	1320	1490	2490	1600	630	200	280	630	O.R.	3090
1RA7632-4FA80-0CJ0	11300	1320	1490	2490	1600	630	200	280	630	O.R.	3090
1RA7634-4FA80-0CJ0	12100	1320	1490	2490	1800	630	200	280	630	O.R.	3290
1RA7636-4FA80-0CJ0	12800	1320	1490	2490	1800	630	200	280	630	O.R.	3290
1RA7710-4FA80-0CJ0	16600	1500	1800	2900	2000	710	220	710	350	O.R.	3650
1RA7712-4FA80-0CJ0	17300	1500	1800	2900	2000	710	220	710	350	O.R.	3650
1RA7714-4FA80-0CJ0	18600	1500	1800	2900	2240	710	220	710	350	O.R.	3890
1RA7716-4FA80-0CJ0	19800	1500	1800	2900	2240	710	220	710	350	O.R.	3890

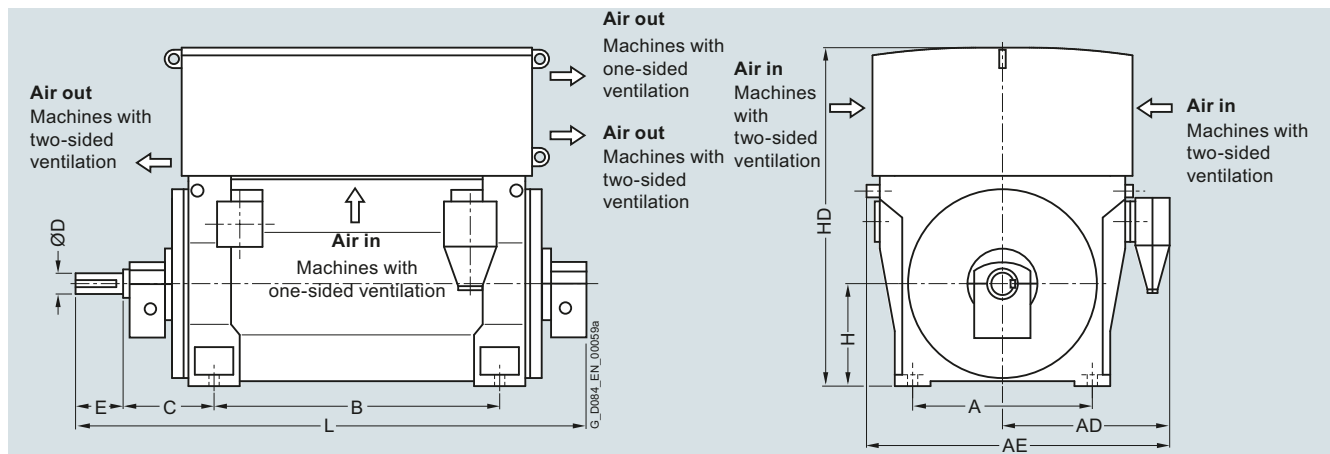
1) For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Dimension drawings (continued)



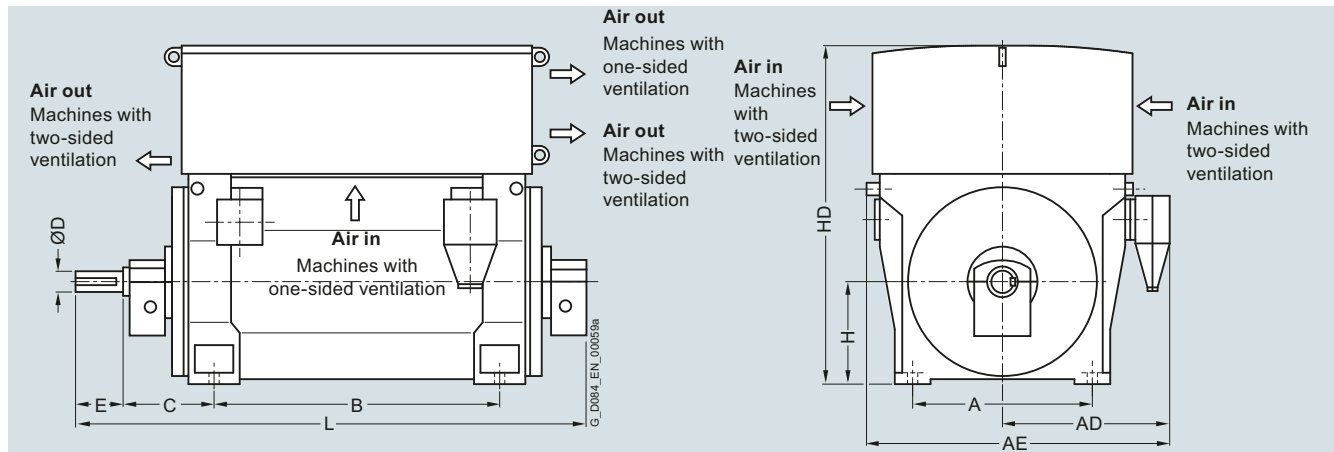
Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RA6 and 1RA7 series

6-pole

1RA6450-6HJ.0-Z K96	4200	850	1070	1840	1180	500	140	200	450	1408	2438
1RA6452-6HJ.0-Z K96	4500	850	1070	1840	1180	500	140	200	450	1408	2438
1RA6454-6HJ.0-Z K96	4850	850	1070	1840	1400	500	140	200	450	1408	2648
1RA6456-6HJ.0-Z K96	5200	850	1070	1840	1400	500	140	200	450	1408	2648
1RA6500-6HJ.0-Z K96	6250	950	1270	1970	1320	560	170	240	500	1610	2700
1RA6502-6HJ.0-Z K96	6500	950	1270	1970	1320	560	170	240	500	1610	2700
1RA6504-6HJ.0-Z K96	7100	950	1270	1970	1500	560	170	240	500	1610	2900
1RA6506-6HJ.0-Z K96	7500	950	1270	1970	1500	560	170	240	500	1610	2900
1RA6560-6HJ.0-Z K96	8450	1060	1340	2110	1400	600	170	240	560	1760	2950
1RA6562-6HJ.0-Z K96	8850	1060	1340	2110	1400	600	170	240	560	1760	2950
1RA6564-6HJ.0-Z K96	9700	1060	1340	2110	1600	600	170	240	560	1760	3150
1RA6566-6HJ.0-Z K96	10250	1060	1340	2110	1600	600	170	240	560	1760	3150
1RA7900-6.A80-0CJ0	5043	1800	1620	2900	2500	710	320	470	900	3080	3900
1RA7902-6.A80-0CJ0	5043	1800	1620	2900	2500	710	320	470	900	3080	3900
1RA7904-6.A80-0CJ0	5340	1800	1620	2900	2800	710	320	470	900	3080	4200
1RA7906-6.A80-0CJ0	5340	1800	1620	2900	2800	710	320	470	900	3080	4200
1RA7630-6FA80-0CJ0	11200	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7632-6FA80-0CJ0	11800	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7634-6FA80-0CJ0	12600	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7636-6FA80-0CJ0	13200	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7710-6FA80-0CJ0	16500	1500	1800	2900	2000	670	220	710	350	O.R.	3570
1RA7712-6FA80-0CJ0	17600	1500	1800	2900	2000	670	220	710	350	O.R.	3570
1RA7714-6FA80-0CJ0	19100	1500	1800	2900	2240	670	220	710	350	O.R.	3810
1RA7716-6FA80-0CJ0	20200	1500	1800	2900	2240	670	220	710	350	O.R.	3810

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 – 1RA6 and 1RA7 series

8-pole

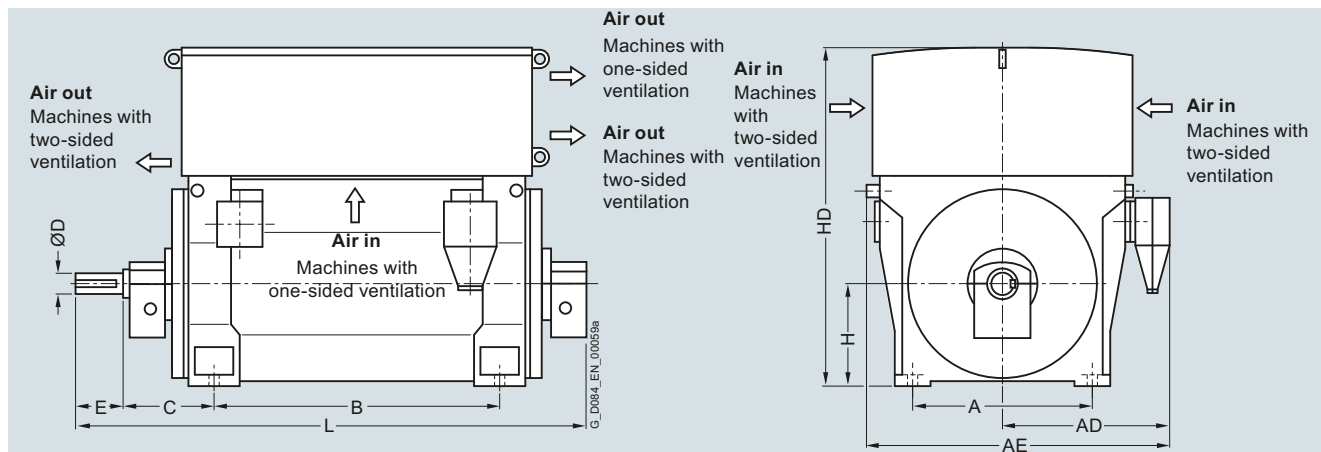
1RA6450-8HJ.0-Z K96	4250	850	1070	1840	1180	500	140	200	450	1408	2438
1RA6452-8HJ.0-Z K96	4550	850	1070	1840	1180	500	140	200	450	1408	2438
1RA6454-8HJ.0-Z K96	4900	850	1070	1840	1400	500	140	200	450	1408	2648
1RA6456-8HJ.0-Z K96	5250	850	1070	1840	1400	500	140	200	450	1408	2648
1RA6500-8HJ.0-Z K96	6200	950	1270	1970	1320	560	170	240	500	1610	2700
1RA6502-8HJ.0-Z K96	6450	950	1270	1970	1320	560	170	240	500	1610	2700
1RA6504-8HJ.0-Z K96	7100	950	1270	1970	1500	560	170	240	500	1610	2900
1RA6506-8HJ.0-Z K96	7450	950	1270	1970	1500	560	170	240	500	1610	2900
1RA6560-8HJ.0-Z K96	8400	1060	1340	2110	1400	600	170	240	560	1760	2950
1RA6562-8HJ.0-Z K96	8800	1060	1340	2110	1400	600	170	240	560	1760	2950
1RA6564-8HJ.0-Z K96	9650	1060	1340	2110	1600	600	170	240	560	1760	3150
1RA6566-8HJ.0-Z K96	10150	1060	1340	2110	1600	600	170	240	560	1760	3150
1RA7630-8FA80-0CJ0	10800	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7632-8FA80-0CJ0	11400	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7634-8FA80-0CJ0	12200	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7636-8FA80-0CJ0	12700	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7710-8FA80-0CJ0	16200	1500	1800	2900	2000	670	220	710	350	O.R.	3570
1RA7712-8FA80-0CJ0	17100	1500	1800	2900	2000	670	220	710	350	O.R.	3570
1RA7714-8FA80-0CJ0	18600	1500	1800	2900	2240	670	220	710	350	O.R.	3810
1RA7716-8FA80-0CJ0	19600	1500	1800	2900	2240	670	220	710	350	O.R.	3810

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

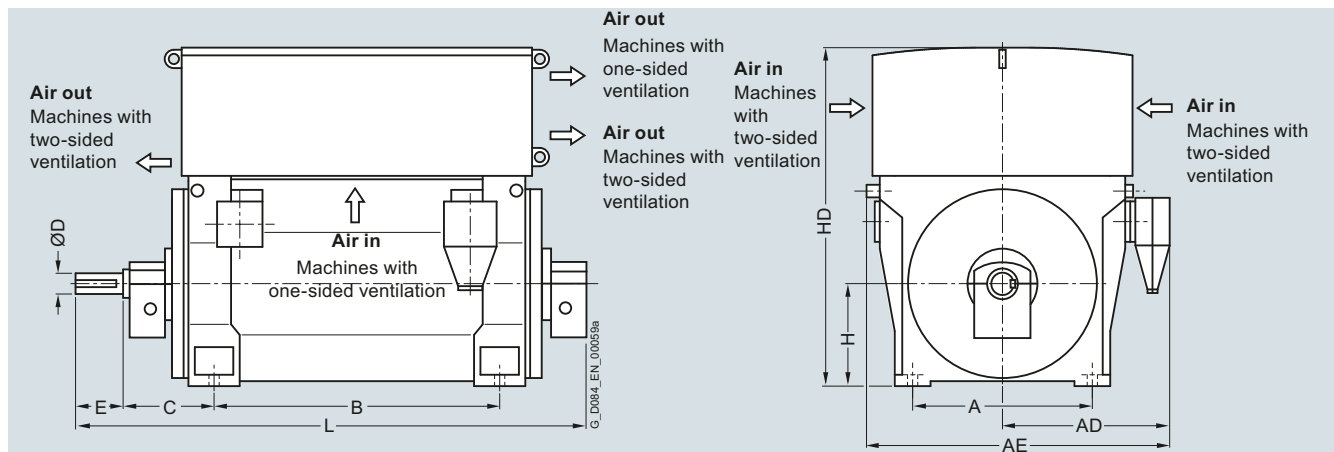
Dimension drawings (continued)



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 – 1RA6 and 1RA7 series											
10-pole											
1RA6500-3HJ.0-Z K96	5400	950	1150	1980	1320	500	160	240	500	1520	2430
1RA6502-3HJ.0-Z K96	5800	950	1150	1980	1320	500	160	240	500	1520	2430
1RA6504-3HJ.0-Z K96	6300	950	1150	1980	1500	500	170	240	500	1520	2680
1RA6506-3HJ.0-Z K96	6650	950	1150	1980	1500	500	170	240	500	1520	2680
1RA6560-3HJ.0-Z K96	7550	1060	1220	2040	1400	530	180	240	560	1750	2670
1RA6562-3HJ.0-Z K96	8150	1060	1220	2040	1400	530	180	240	560	1750	2670
1RA6564-3HJ.0-Z K96	8950	1060	1220	2040	1600	530	190	280	560	1750	2960
1RA6566-3HJ.0-Z K96	9400	1060	1220	2040	1600	530	190	280	560	1750	2960
1RA7630-3FA80-0CJ0	10800	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7632-3FA80-0CJ0	11300	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7634-3FA80-0CJ0	12100	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7636-3FA80-0CJ0	12600	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7710-3FA80-0CJ0	16300	1500	1800	2900	2000	670	220	710	350	O.R.	3570
1RA7712-3FA80-0CJ0	17300	1500	1800	2900	2000	670	220	710	350	O.R.	3570
1RA7714-3FA80-0CJ0	18700	1500	1800	2900	2240	670	220	710	350	O.R.	3810
1RA7716-3FA80-0CJ0	19600	1500	1800	2900	2240	670	220	710	350	O.R.	3810
12-pole											
1RA6502-5HJ.0-Z K96	5800	950	1150	1980	1320	500	160	240	500	1520	2430
1RA6504-5HJ.0-Z K96	6250	950	1150	1980	1500	500	170	240	500	1520	2680
1RA6506-5HJ.0-Z K96	6650	950	1150	1980	1500	500	170	240	500	1520	2680
1RA6560-5HJ.0-Z K96	7350	1060	1220	2040	1400	530	180	240	560	1750	2670
1RA6562-5HJ.0-Z K96	7850	1060	1220	2040	1400	530	180	240	560	1750	2670
1RA6564-5HJ.0-Z K96	8650	1060	1220	2040	1600	530	190	280	560	1750	2960
1RA6566-5HJ.0-Z K96	9150	1060	1220	2040	1600	530	190	280	560	1750	2960
1RA7630-5FA80-0CJ0	10700	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7632-5FA80-0CJ0	11200	1320	1340	2340	1600	630	200	280	630	O.R.	3090
1RA7634-5FA80-0CJ0	12000	1320	1340	2340	1800	630	200	280	630	O.R.	3290
1RA7636-5FA80-0CJ0	12600	1320	1340	2340	1800	630	200	280	630	O.R.	3290

Note: Higher pole numbers are available 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 mm	L mm

13.8 kV, IM B3 type of construction, sleeve bearings – 1RA7 series

2-pole

1RA7630-2FA20-0CJ0	10100	1320	1520	2520	1600	600	180	240	630	O. R.	3020
1RA7632-2FA20-0CJ0	10600	1320	1520	2520	1600	600	180	240	630	O. R.	3020
1RA7634-2FA20-0CJ0	11400	1320	1520	2520	1800	600	180	240	630	O. R.	3220
1RA7636-2FA20-0CJ0	12000	1320	1520	2520	1800	600	180	240	630	O. R.	3220
1RA7710-2FA20-0CJ0	15300	1500	1800	2900	2000	560	200	280	710	O. R.	3320
1RA7712-2FA20-0CJ0	16000	1500	1800	2900	2000	560	200	280	710	O. R.	3320
1RA7714-2FA20-0CJ0	17200	1500	1800	2900	2240	560	200	280	710	O. R.	3560
1RA7716-2FA20-0CJ0	17900	1500	1800	2900	2240	560	200	280	710	O. R.	3560

4-pole

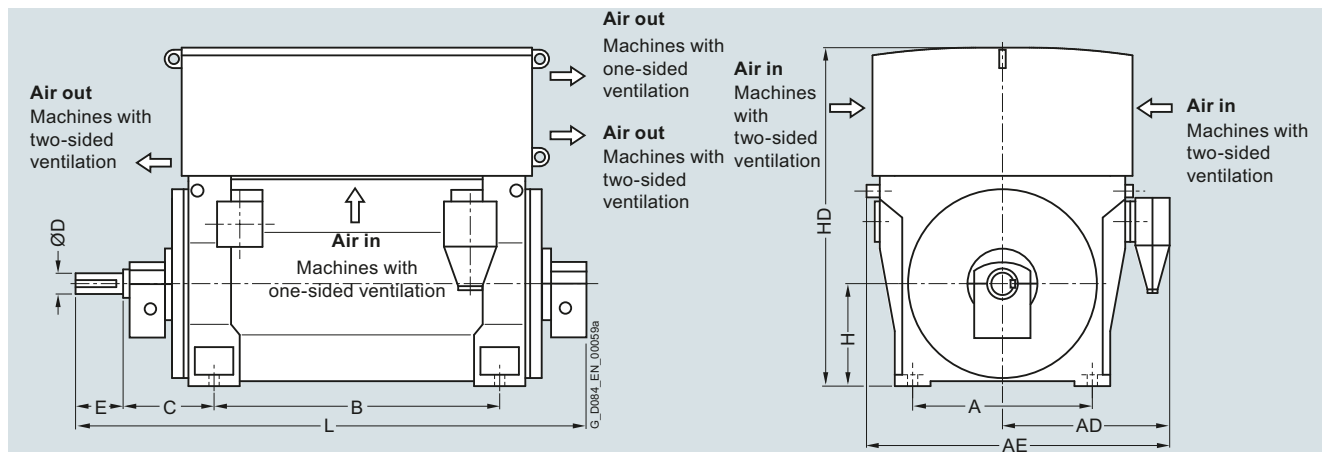
1RA7630-4FA20-0CJ0	10700	1320	1520	2520	1600	630	200	280	630	O. R.	3090
1RA7632-4FA20-0CJ0	11300	1320	1520	2520	1600	630	200	280	630	O. R.	3090
1RA7634-4FA20-0CJ0	12100	1320	1520	2520	1800	630	200	280	630	O. R.	3290
1RA7636-4FA20-0CJ0	12800	1320	1520	2520	1800	630	200	280	630	O. R.	3290
1RA7710-4FA20-0CJ0	16600	1500	1800	2900	2000	710	220	350	710	O. R.	3650
1RA7712-4FA20-0CJ0	17300	1500	1800	2900	2000	710	220	350	710	O. R.	3650
1RA7714-4FA20-0CJ0	18600	1500	1800	2900	2240	710	220	350	710	O. R.	3890
1RA7716-4FA20-0CJ0	19800	1500	1800	2900	2240	710	220	350	710	O. R.	3890

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

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

13.8 kV, IM B3 type of construction, sleeve bearings – 1RA7 series

6-pole

1RA7630-6FA20-0CJ0	11200	1320	1520	2520	1600	630	200	280	630	O. R.	3090
1RA7632-6FA20-0CJ0	11800	1320	1520	2520	1600	630	200	280	630	O. R.	3090
1RA7634-6FA20-0CJ0	12600	1320	1520	2520	1800	630	200	280	630	O. R.	3290
1RA7636-6FA20-0CJ0	13200	1320	1520	2520	1800	630	200	280	630	O. R.	3290
1RA7710-6FA20-0CJ0	16500	1500	1800	2900	2000	670	220	350	710	O. R.	3570
1RA7712-6FA20-0CJ0	17600	1500	1800	2900	2000	670	220	350	710	O. R.	3570
1RA7714-6FA20-0CJ0	19100	1500	1800	2900	2240	670	220	350	710	O. R.	3810
1RA7716-6FA20-0CJ0	20200	1500	1800	2900	2240	670	220	350	710	O. R.	3810

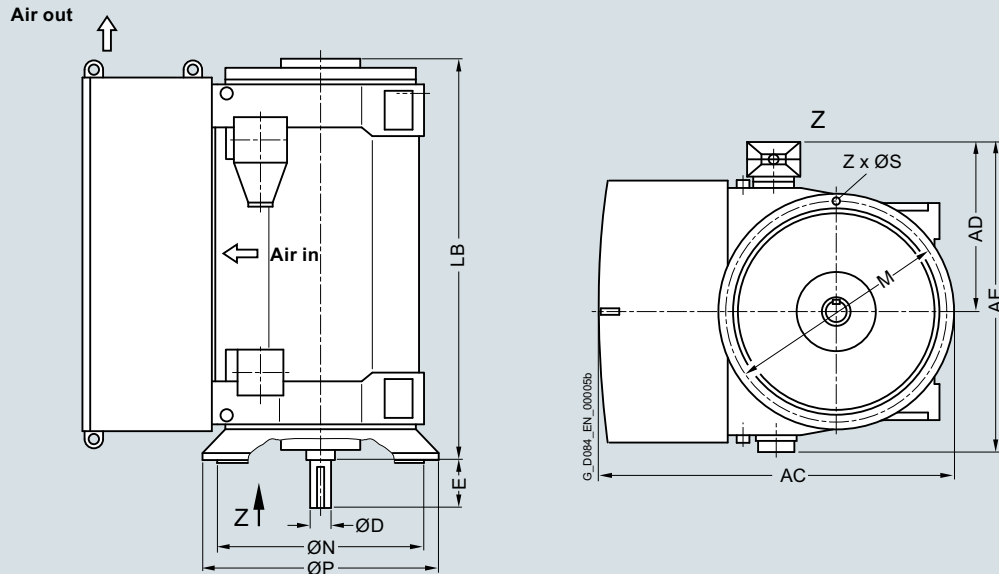
8-pole

1RA7630-8FA20-0CJ0	10800	1320	1520	2520	1600	630	200	280	630	O. R.	3090
1RA7632-8FA20-0CJ0	11400	1320	1520	2520	1600	630	200	280	630	O. R.	3090
1RA7634-8FA20-0CJ0	12200	1320	1520	2520	1800	630	200	280	630	O. R.	3290
1RA7636-8FA20-0CJ0	12700	1320	1520	2520	1800	630	200	280	630	O. R.	3290
1RA7710-8FA20-0CJ0	16200	1500	1800	2900	2000	670	220	350	710	O. R.	3570
1RA7712-8FA20-0CJ0	17100	1500	1800	2900	2000	670	220	350	710	O. R.	3570
1RA7714-8FA20-0CJ0	18600	1500	1800	2900	2240	670	220	350	710	O. R.	3810
1RA7716-8FA20-0CJ0	19600	1500	1800	2900	2240	670	220	350	710	O. R.	3810

10-pole

1RA7630-3FA20-0CJ0	10800	1320	1520	2520	1600	630	200	280	630	O. R.	3090
1RA7632-3FA20-0CJ0	11300	1320	1520	2520	1600	630	200	280	630	O. R.	3090
1RA7634-3FA20-0CJ0	12100	1320	1520	2520	1800	630	200	280	630	O. R.	3290
1RA7636-3FA20-0CJ0	12600	1320	1520	2520	1800	630	200	280	630	O. R.	3290
1RA7710-3FA20-0CJ0	16300	1500	1800	2900	2000	670	220	350	710	O. R.	3570
1RA7712-3FA20-0CJ0	17300	1500	1800	2900	2000	670	220	350	710	O. R.	3570
1RA7714-3FA20-0CJ0	18700	1500	1800	2900	2240	670	220	350	710	O. R.	3810
1RA7716-3FA20-0CJ0	19600	1500	1800	2900	2240	670	220	350	710	O. R.	3810

Dimension drawings



Motor type	Weight kg	Dimensions											
		AC	AD ¹⁾	AE ¹⁾	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, anti-friction bearings – 1RA6 series

4-pole

1RA6450-4HJ.8	4250	1533	930	1620	130	200	1720	1150	1000	1080	26	8
1RA6452-4HJ.8	4450	1533	930	1620	130	200	1720	1150	1000	1080	26	8
1RA6454-4HJ.8	4850	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6456-4HJ.8	5150	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6500-4HJ.8	5250	1640	1000	1810	150	200	1910	1250	1120	1180	26	16
1RA6502-4HJ.8	5450	1640	1000	1810	150	200	1910	1250	1120	1180	26	16
1RA6504-4HJ.8	6150	1640	1000	1810	160	240	2120	1250	1120	1180	26	16
1RA6506-4HJ.8	6550	1640	1000	1810	160	240	2120	1250	1120	1180	26	16
1RA6560-4HJ.8	7250	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6562-4HJ.8 ²⁾	7700	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6564-4HJ.8 ²⁾	8600	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA6566-4HJ.8 ²⁾	9050	1890	1210	2100	190	280	2320	1400	1250	1320	26	16

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

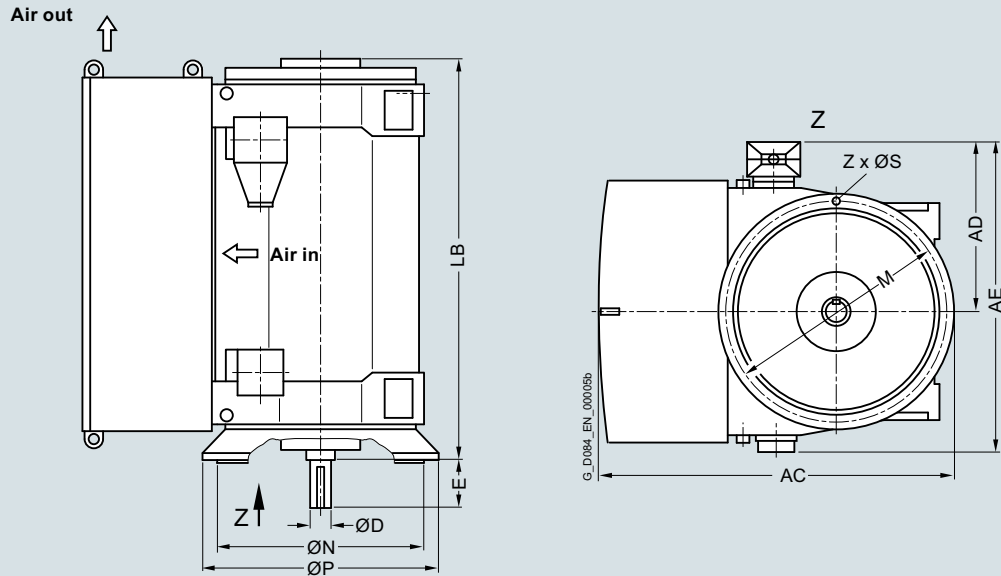
²⁾ Vertical type of construction, only in the 50 Hz version.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Dimension drawings (continued)



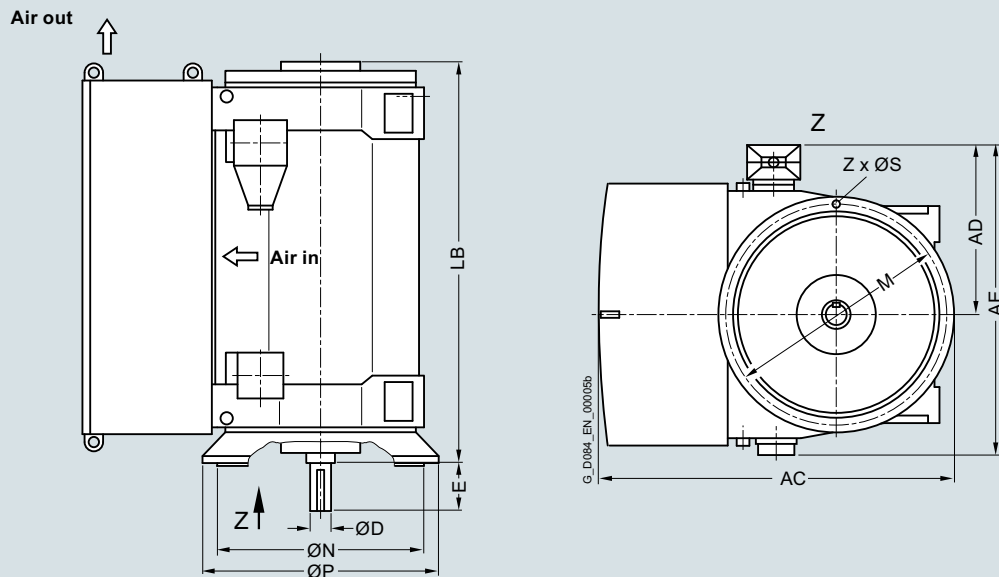
Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RA6, RA7 series

6-pole												
1RA6450-6HJ.8	4350	1533	930	1620	130	200	1720	1150	1000	1080	26	8
1RA6452-6HJ.8	4600	1533	930	1620	130	200	1720	1150	1000	1080	26	8
1RA6454-6HJ.8	4950	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6456-6HJ.8	5300	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6500-6HJ.8	5400	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA6502-6HJ.8	5750	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA6504-6HJ.8	6300	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA6506-6HJ.8	6700	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA6560-6HJ.8	7400	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6562-6HJ.8	8000	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6564-6HJ.8	8800	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA6566-6HJ.8	9300	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA7630-6FA...OCG0	12000	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7632-6FA...OCG0	12600	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7634-6FA...OCG0	13500	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7636-6FA...OCG0	14100	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7710-6FA...OCG0	16900	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7712-6FA...OCG0	18100	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7714-6FA...OCG0	19600	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24
1RA7716-6FA...OCG0	20600	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

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, anti-friction bearings – 1RA6, RA7 series

8-pole												
1RA6450-8HJ.8	4350	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6452-8HJ.8	4650	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6454-8HJ.8	5000	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6456-8HJ.8	5350	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6500-8HJ.8	5450	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA6502-8HJ.8	5800	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA6504-8HJ.8	6300	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA6506-8HJ.8	6700	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA6560-8HJ.8	7350	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA6562-8HJ.8	7900	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA6564-8HJ.8	8700	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA6566-8HJ.8	9200	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA7630-8FA...OCG0	11500	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7632-8FA...OCG0	12100	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7634-8FA...OCG0	12900	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7636-8FA...OCG0	13500	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7710-8FA...OCG0	16400	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7712-8FA...OCG0	17400	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7714-8FA...OCG0	18900	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24
1RA7716-8FA...OCG0	19900	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24

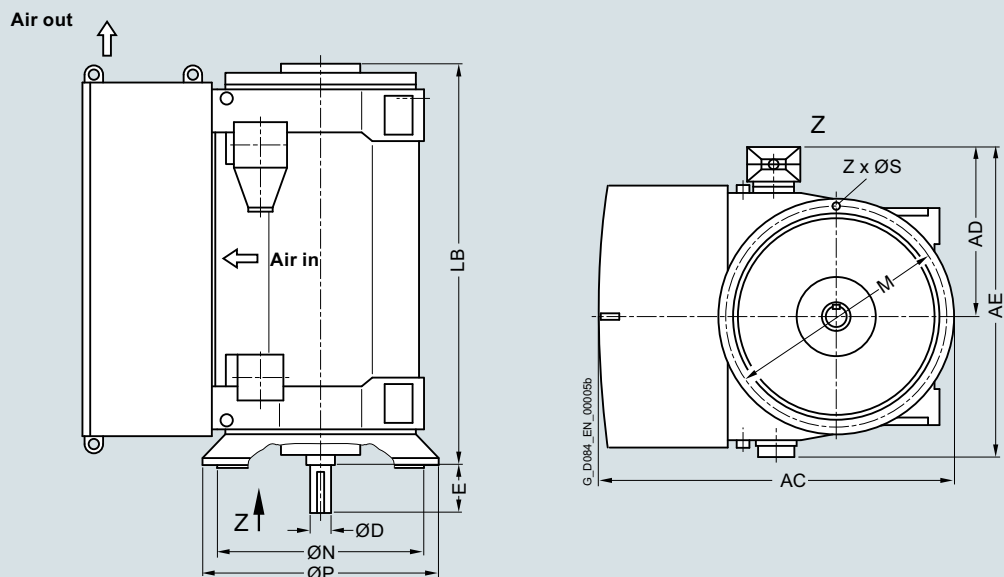
¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Dimension drawings (continued)



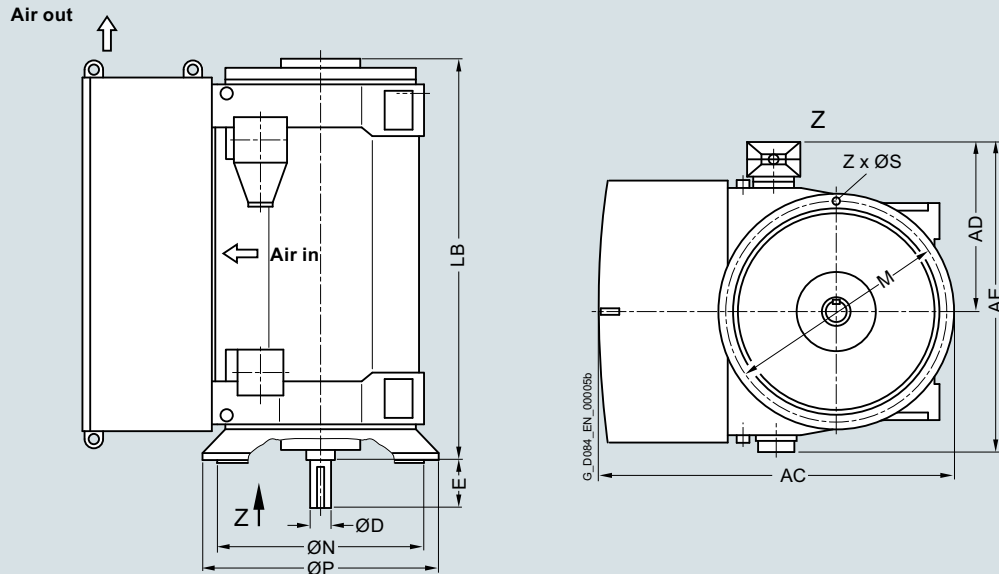
Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RA6, RA7 series

10-pole												
1RA6450-3HJ.8	4350	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6452-3HJ.8	4650	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6454-3HJ.8	5000	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6456-3HJ.8	5350	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6500-3HJ.8	5350	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA6502-3HJ.8	5750	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA6504-3HJ.8	6300	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA6506-3HJ.8	6650	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA6560-3HJ.8	7300	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA6562-3HJ.8	7900	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA6564-3HJ.8	8700	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA6566-3HJ.8	9150	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA7630-3FA...OCG0	11400	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7632-3FA...OCG0	12000	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7634-3FA...OCG0	12800	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7636-3FA...OCG0	13400	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7710-8FA...OCG0	16400	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7712-8FA...OCG0	17400	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7714-8FA...OCG0	18800	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24
1RA7716-8FA...OCG0	19800	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

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, anti-friction bearings – 1RA6, RA7 series

12-pole												
1RA6450-5HJ.8	4350	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6452-5HJ.8	4650	1533	930	1620	140	200	1720	1150	1000	1080	26	8
1RA6454-5HJ.8	5000	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6456-5HJ.8	5350	1533	930	1620	140	200	1930	1150	1000	1080	26	8
1RA6500-5HJ.8	5400	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA6502-5HJ.8	5750	1640	1000	1810	160	240	1910	1250	1120	1180	26	16
1RA6504-5HJ.8	6250	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA6506-5HJ.8	6650	1640	1000	1810	170	240	2120	1250	1120	1180	26	16
1RA6560-5HJ.8	7350	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA6562-5HJ.8	7900	1890	1070	1960	180	240	2090	1400	1250	1320	26	16
1RA6564-5HJ.8	8650	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA6566-5HJ.8	9150	1890	1070	1960	190	280	2320	1400	1250	1320	26	16
1RA7630-5FA.4-0CG0	11400	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7632-5FA.4-0CG0	12000	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7634-5FA.4-0CG0	12800	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7636-5FA.4-0CG0	13400	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24

Note: Higher pole numbers are available on request.

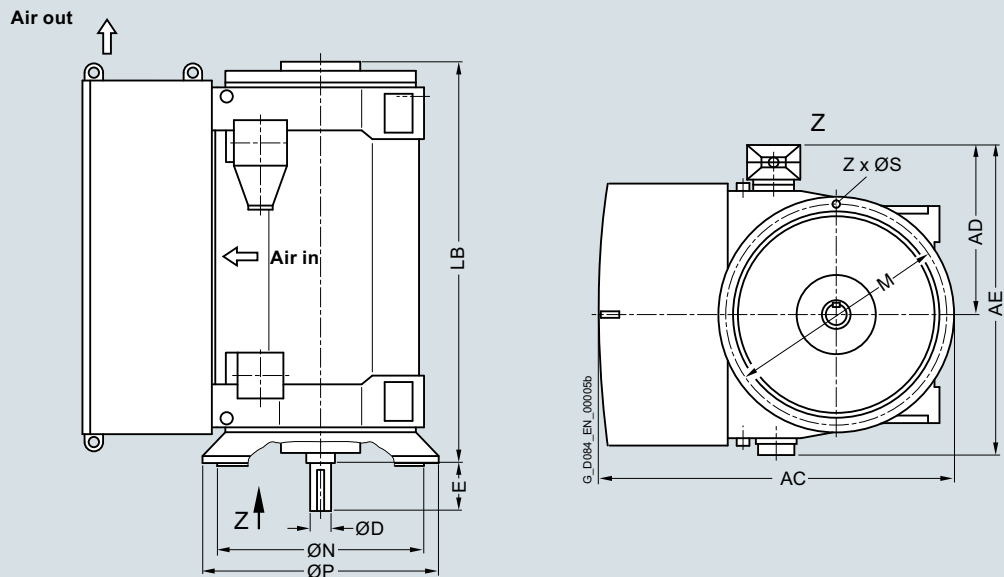
¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Dimension drawings



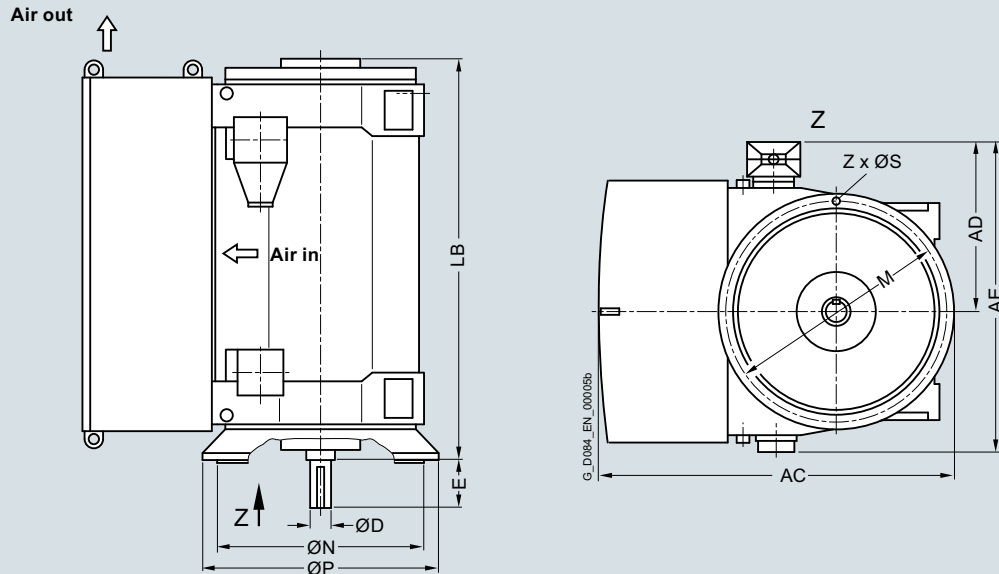
Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

9 ... 11 kV, IM V1 type of construction, anti-friction bearings – 1RA6 series

4-pole

1RA6450-4HJ.8	4250	1533	1070	1840	130	200	1720	1150	1000	1080	26	8
1RA6452-4HJ.8	4450	1533	1070	1840	130	200	1720	1150	1000	1080	26	8
1RA6454-4HJ.8	4850	1533	1070	1840	130	200	1930	1150	1000	1080	26	8
1RA6456-4HJ.8	5150	1533	1070	1840	130	200	1930	1150	1000	1080	26	8
1RA6500-4HJ.8	5250	1640	1140	1950	150	200	1910	1250	1120	1180	26	16
1RA6502-4HJ.8	5450	1640	1140	1950	150	200	1910	1250	1120	1180	26	16
1RA6504-4HJ.8	6100	1640	1140	1950	160	240	2120	1250	1120	1180	26	16
1RA6506-4HJ.8	6450	1640	1140	1950	160	240	2120	1250	1120	1180	26	16
1RA6560-4HJ.8	7150	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6562-4HJ.8	7600	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6564-4HJ.8	8450	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA6566-4HJ.8	8900	1890	1210	2100	190	280	2320	1400	1250	1320	26	16

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, anti-friction bearings – 1RA6, RA7 series

6-pole

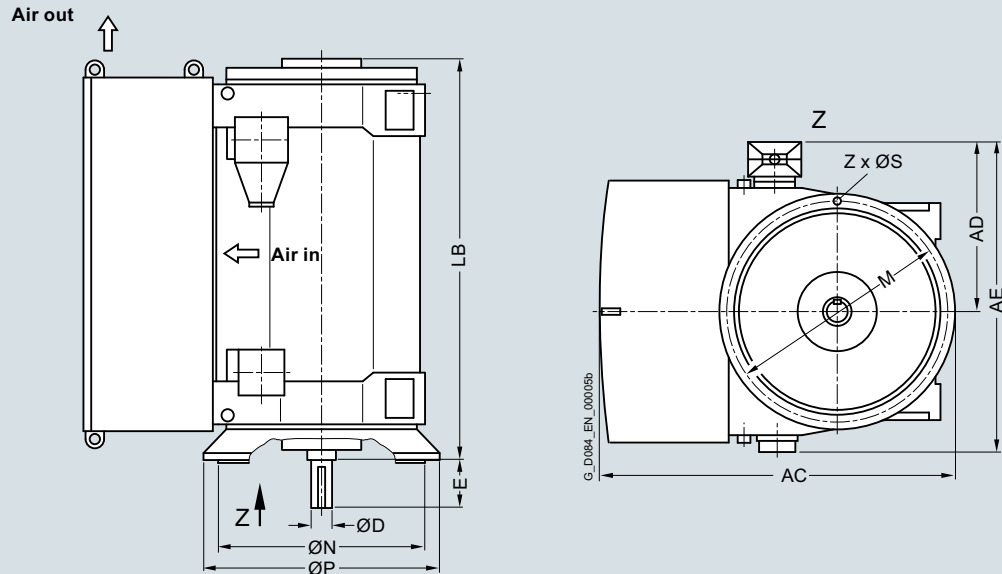
1RA6450-6HJ.8	4350	1533	1070	1840	140	200	1720	1150	1000	1080	26	8
1RA6452-6HJ.8	4600	1533	1070	1840	140	200	1720	1150	1000	1080	26	8
1RA6454-6HJ.8	4950	1533	1070	1840	140	200	1930	1150	1000	1080	26	8
1RA6456-6HJ.8	5300	1533	1070	1840	140	200	1930	1150	1000	1080	26	8
1RA6500-6HJ.8	5400	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA6502-6HJ.8	5800	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA6504-6HJ.8	6250	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA6506-6HJ.8	6650	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA6560-6HJ.8	7400	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6562-6HJ.8	7850	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6564-6HJ.8	8700	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA6566-6HJ.8	9150	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA7630-6FA8.-OCG0	11800	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7632-6FA8.-OCG0	12400	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7634-6FA8.-OCG0	13300	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7636-6FA8.-OCG0	13900	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7710-6FA8.-OCG0	17000	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7712-6FA8.-OCG0	18100	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7714-6FA8.-OCG0	19600	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24
1RA7716-6FA8.-OCG0	20700	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

Dimension drawings (continued)



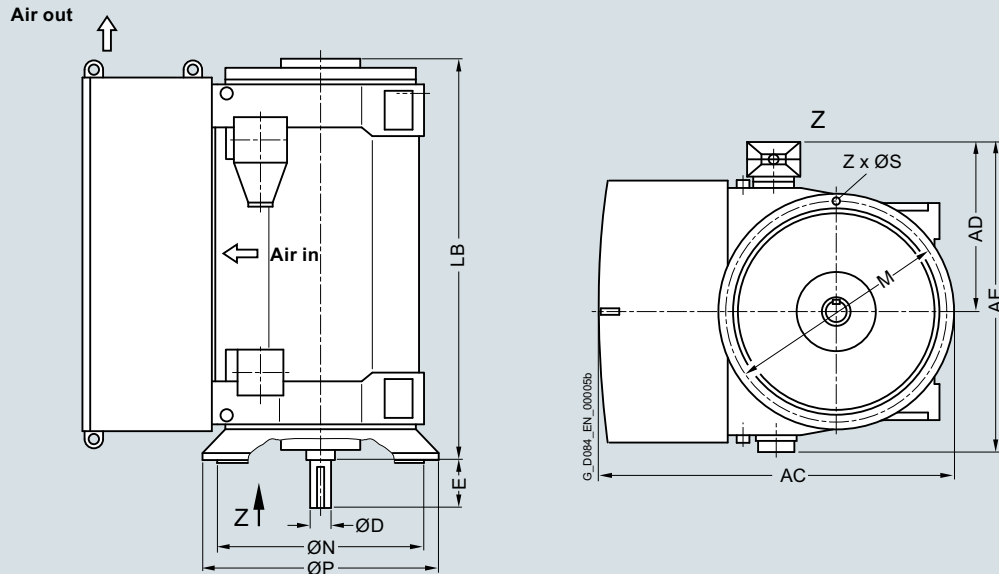
Motor type	Weight kg	Dimensions										
		AC mm	AD mm	AE mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity

9 ... 11 kV, IM V1 type of construction, anti-friction bearings – 1RA6, RA7 series

8-pole

1RA6450-8HJ.8	4350	1533	1070	1840	140	200	1720	1150	1000	1080	26	8
1RA6452-8HJ.8	4650	1533	1070	1840	140	200	1720	1150	1000	1080	26	8
1RA6454-8HJ.8	5000	1533	1070	1840	140	200	1930	1150	1000	1080	26	8
1RA6456-8HJ.8	5350	1533	1070	1840	140	200	1930	1150	1000	1080	26	8
1RA6500-8HJ.8	5400	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA6502-8HJ.8	5800	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA6504-8HJ.8	6300	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA6506-8HJ.8	6650	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA6560-8HJ.8	7350	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6562-8HJ.8	7900	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6564-8HJ.8	8700	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA6566-8HJ.8	9100	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA7630-8FA8.-OCG0	11400	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7632-8FA8.-OCG0	12000	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7634-8FA8.-OCG0	12800	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7636-8FA8.-OCG0	13300	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7710-8FA8.-OCG0	16200	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7712-8FA8.-OCG0	17200	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7714-8FA8.-OCG0	18600	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24
1RA7716-8FA8.-OCG0	19600	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24

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, anti-friction bearings – 1RA6, RA7 series												
10-pole												
1RA6500-3HJ.8	5350	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA6502-3HJ.8	5750	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA6504-3HJ.8	6250	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA6506-3HJ.8	6600	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA6560-3HJ.8	7450	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6562-3HJ.8	8000	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6564-3HJ.8	8750	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA6566-3HJ.8	9250	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA7630-3FA8.-OCGO	11300	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7632-3FA8.-OCGO	11900	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7634-3FA8.-OCGO	12700	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7636-3FA8.-OCGO	13200	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7710-3FA8.-OCGO	16400	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7712-3FA8.-OCGO	17400	O.R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7714-3FA8.-OCGO	18800	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24
1RA7716-3FA8.-OCGO	19700	O.R.	1800	2900	220	350	3380	2000	1800	1900	35	24
12-pole												
1RA6502-5HJ.8	5750	1640	1140	1950	160	240	1910	1250	1120	1180	26	16
1RA6504-5HJ.8	6200	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA6506-5HJ.8	6600	1640	1140	1950	170	240	2120	1250	1120	1180	26	16
1RA6560-5HJ.8	7300	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6562-5HJ.8	7850	1890	1210	2100	180	240	2090	1400	1250	1320	26	16
1RA6564-5HJ.8	8650	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA6566-5HJ.8	9100	1890	1210	2100	190	280	2320	1400	1250	1320	26	16
1RA7630-5FA8.-OCGO	11300	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7632-5FA8.-OCGO	11800	O.R.	1250	2130	200	280	2410	1800	1600	1700	28	24
1RA7634-5FA8.-OCGO	12600	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24
1RA7636-5FA8.-OCGO	13200	O.R.	1250	2130	200	280	2610	1800	1600	1700	28	24

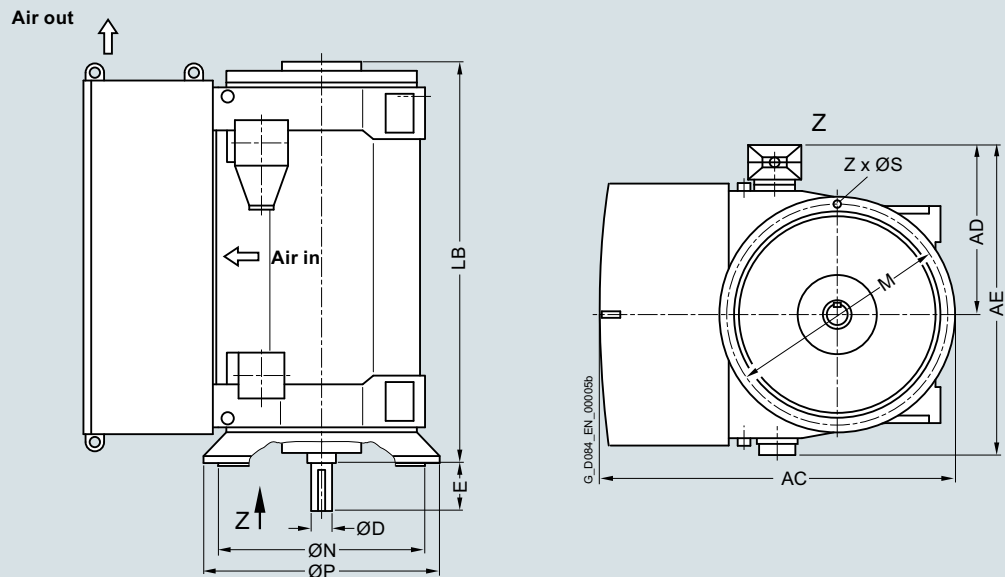
Note: Higher pole numbers are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RA6, 1RA7

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

13.8 kV, IM V1 type of construction, anti-friction bearings – 1RA7 series

6-pole

1RA7630-6FA24-0CG0	11800	O. R.	1440	2320	200	280	2410	1800	1600	1700	28	24
1RA7632-6FA24-0CG0	12400	O. R.	1440	2320	200	280	2410	1800	1600	1700	28	24
1RA7634-6FA24-0CG0	13300	O. R.	1440	2320	200	280	2610	1800	1600	1700	28	24
1RA7636-6FA24-0CG0	13900	O. R.	1440	2320	200	280	2610	1800	1600	1700	28	24
1RA7710-6FA24-0CG0	17000	O. R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7712-6FA24-0CG0	18100	O. R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7714-6FA24-0CG0	19600	O. R.	1800	2900	220	350	3380	2000	1800	1900	35	24
1RA7716-6FA24-0CG0	20700	O. R.	1800	2900	220	350	3380	2000	1800	1900	35	24

8-pole

1RA7630-8FA24-0CG0	11400	O. R.	1440	2320	200	280	2410	1800	1600	1700	28	24
1RA7632-8FA24-0CG0	12000	O. R.	1440	2320	200	280	2410	1800	1600	1700	28	24
1RA7634-8FA24-0CG0	12800	O. R.	1440	2320	200	280	2610	1800	1600	1700	28	24
1RA7636-8FA24-0CG0	13300	O. R.	1440	2320	200	280	2610	1800	1600	1700	28	24
1RA7710-8FA24-0CG0	16200	O. R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7712-8FA24-0CG0	17200	O. R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7714-8FA24-0CG0	18600	O. R.	1800	2900	220	350	3380	2000	1800	1900	35	24
1RA7716-8FA24-0CG0	19600	O. R.	1800	2900	220	350	3380	2000	1800	1900	35	24

10-pole

1RA7630-3FA24-0CG0	11300	O. R.	1440	2320	200	280	2410	1800	1600	1700	28	24
1RA7632-3FA24-0CG0	11900	O. R.	1440	2320	200	280	2410	1800	1600	1700	28	24
1RA7634-3FA24-0CG0	12700	O. R.	1440	2320	200	280	2610	1800	1600	1700	28	24
1RA7636-3FA24-0CG0	13200	O. R.	1440	2320	200	280	2610	1800	1600	1700	28	24
1RA7710-3FA24-0CG0	16400	O. R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7712-3FA24-0CG0	17400	O. R.	1800	2900	220	350	3140	2000	1800	1900	35	24
1RA7714-3FA24-0CG0	18800	O. R.	1800	2900	220	350	3380	2000	1800	1900	35	24
1RA7716-3FA24-0CG0	19700	O. R.	1800	2900	220	350	3380	2000	1800	1900	35	24

Note: Higher pole numbers are available on request.

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1RQ6, RQ7	
Rated voltage	4 ... 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	IC611/IC616/IC666
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height ¹⁾	450 ... 900 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 710 mm	Housing: Steel Cooling enclosure: Steel

¹⁾ For shaft height 800 motor data, refer to Chapter 3, section "Converter with non-sinusoidal output". The locked-rotor torque and locked-rotor current data are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Technical data (continued)

Power ranges for IEC motors for line operation

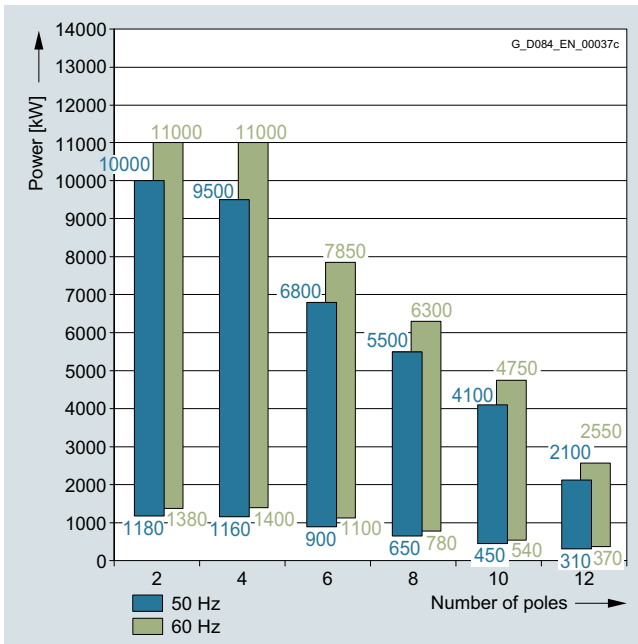
1RQ6, 1SG6 (Ex ec), 1SB6 (Ex pxb) series

1RQ7, 1SG7 (Ex ec), 1SB7 (Ex pxb) series

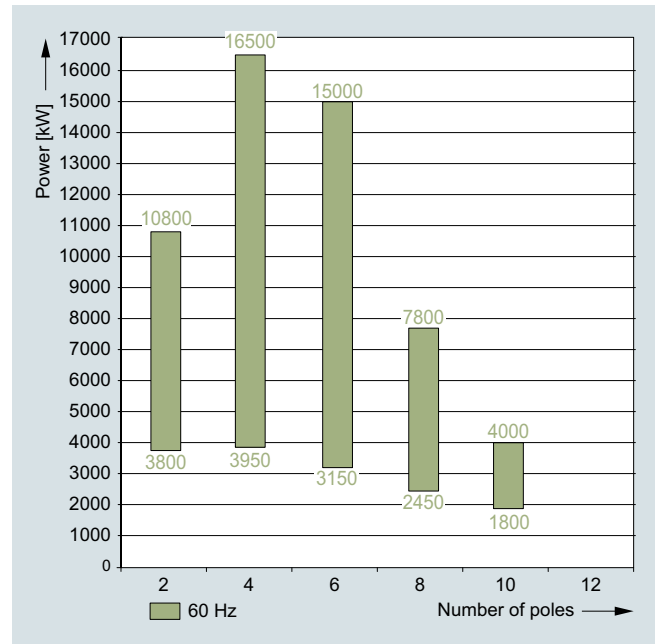
Insulation system, thermal class 155 (F), utilized to 130 (B).

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

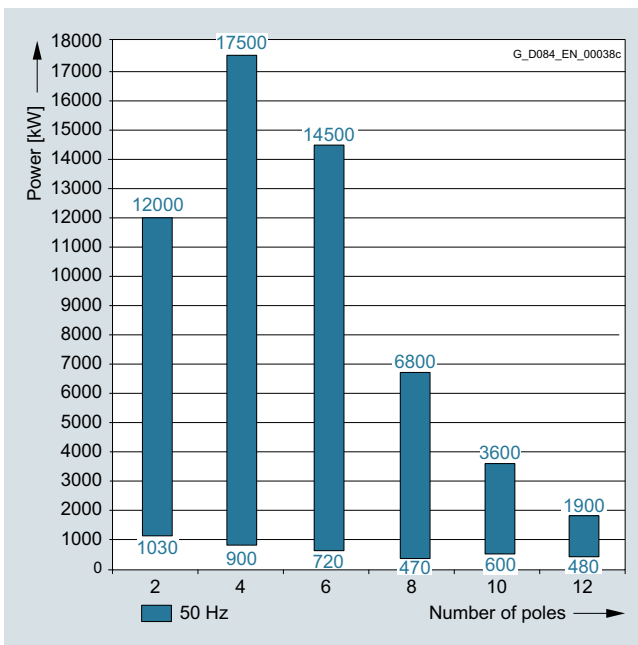
2



4 to 6.6 kV; 50 Hz and 60 Hz



13.8 kV; 60 Hz



9 to 11 kV; 50 Hz

Selection and ordering data

The following data also apply to explosion-protected motors 1SB6/1SB7 (Ex pxb) and 1SG6/1SG7 (Ex ec).

Rated power IEC kW	High voltage motor SIMOTICS HV M 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, 50 Hz													
2-pole													
1180	1RQ6450-2JJ ■ 0	2977	136	95.4	95.4	0.88	0.87	3785	2.45	0.75	5.40	12	74
1320	1RQ6452-2JJ ■ 0	2978	150	95.7	95.8	0.89	0.88	4232	2.45	0.70	5.50	14	76
1480	1RQ6454-2JJ ■ 0	2980	166	95.9	95.9	0.89	0.87	4742	2.50	0.65	5.50	15	78
1620	1RQ6456-2JJ ■ 0	2980	180	96.2	96.2	0.90	0.89	5191	2.45	0.60	5.50	17	81
1920	1RQ6500-2JJ ■ 0	2978	215	96.1	96.2	0.90	0.89	6156	2.25	0.65	5.25	19	71
2180	1RQ6502-2JJ ■ 0	2975	240	96.3	96.6	0.90	0.90	6997	2.15	0.65	4.80	21	79
2380	1RQ6504-2JJ ■ 0	2976	260	96.5	96.8	0.91	0.91	7636	2.20	0.60	5.20	25	88
2620	1RQ6506-2JJ ■ 0	2977	285	96.6	96.9	0.91	0.90	8404	2.25	0.60	5.00	26	98
3100	1RQ6560-2JJ ■ 0	2979	340	96.3	96.5	0.90	0.90	9937	2.10	0.55	4.60	39	170
3450	1RQ6562-2JJ ■ 0	2981	380	96.5	96.5	0.90	0.91	11051	2.25	0.55	4.85	43	190
3850	1RQ6564-2JJ ■ 0	2982	420	96.8	96.8	0.91	0.91	12328	2.35	0.60	5.15	49	210
4170	1RQ6566-2JJ ■ 0	2982	460	96.9	96.9	0.91	0.92	13353	2.35	0.55	5.25	54	230
4600 ²⁾	1RQ7630-2 ■ A ■ 0-0C ■ 0	2985	510	96.9	96.8	0.89	0.89	14716	2.40	0.80	5.20	74	269
5100 ²⁾	1RQ7632-2 ■ A ■ 0-0C ■ 0	2986	560	97.0	97.0	0.90	0.89	16310	2.50	0.75	5.50	82	294
5700 ²⁾	1RQ7634-2 ■ A ■ 0-0C ■ 0	2985	620	97.2	97.3	0.91	0.90	18235	2.55	0.85	5.50	91	290
6400 ²⁾	1RQ7636-2 ■ A ■ 0-0C ■ 0	2986	690	97.4	97.4	0.91	0.90	20467	2.50	0.75	5.50	99	301
7100 ²⁾	1RQ7710-2 ■ A ■ 0-0C ■ 0	2988	770	96.8	96.5	0.92	0.91	22690	2.30	0.85	5.30	149	263
8000 ²⁾	1RQ7712-2 ■ A ■ 0-0C ■ 0	2987	850	97.0	96.7	0.93	0.92	25575	2.35	0.80	5.30	160	248
9000 ²⁾	1RQ7714-2 ■ A ■ 0-0C ■ 0	2988	960	97.2	97.0	0.93	0.92	28762	2.35	0.80	5.30	175	251
10000 ²⁾	1RQ7716-2 ■ A ■ 0-0C ■ 0	2987	1060	97.3	97.1	0.93	0.93	31969	2.35	0.80	5.30	189	240

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 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, 50 Hz													
4-pole													
1160	1RQ6450-4JJ	1486	134	95.6	95.8	0.87	0.86	7454	2.60	0.65	5.15	21	315
1270	1RQ6452-4JJ	1486	146	95.8	95.9	0.87	0.85	8161	2.65	0.60	5.20	23	350
1350	1RQ6454-4JJ	1486	152	95.9	96.1	0.89	0.88	8675	2.55	0.65	5.20	26	390
1480	1RQ6456-4JJ	1487	164	96.1	96.3	0.90	0.89	9504	2.75	0.75	5.50	30	435
1880 ²⁾	1RQ6500-4JJ 0	1485	215	95.6	96.1	0.89	0.88	12089	2.40	0.70	4.95	45	400
2100 ²⁾	1RQ6502-4JJ 0	1486	235	95.8	96.3	0.89	0.89	13494	2.45	0.70	5.00	48	450
2320 ²⁾	1RQ6504-4JJ 0	1486	260	96.0	96.5	0.89	0.89	14908	2.45	0.70	5.10	55	500
2500 ²⁾	1RQ6506-4JJ 0	1487	280	96.2	96.6	0.90	0.89	16054	2.55	0.70	5.35	59	550
3150 ²⁾	1RQ6560-4JJ 0	1490	350	96.7	96.9	0.90	0.90	20188	2.25	0.65	5.20	86	790
3440 ²⁾	1RQ6562-4JJ 0	1491	380	96.9	97.1	0.90	0.90	22031	2.15	0.55	5.20	96	870
3900 ²⁾	1RQ6564-4JJ 0	1491	430	97.0	97.2	0.91	0.91	24978	2.15	0.60	5.15	107	960
4230 ²⁾	1RQ6566-4JJ 0	1491	460	97.2	97.4	0.91	0.91	27091	2.20	0.60	5.20	117	1060
4700 ^{2) 3)}	1RQ7630-4 A 0-0C 0	1491	530	97.3	97.5	0.88	0.87	30102	2.45	0.70	5.20	145	1117
5200 ^{2) 3)}	1RQ7632-4 A 0-0C 0	1491	580	97.4	97.6	0.89	0.88	33304	2.45	0.75	5.20	159	1218
5700 ^{2) 3)}	1RQ7634-4 A 0-0C 0	1491	630	97.5	97.7	0.89	0.88	36506	2.35	0.65	5.00	178	1351
6200 ^{2) 3)}	1RQ7636-4 A 0-0C 0	1492	690	97.6	97.7	0.89	0.88	39682	2.60	0.75	5.50	193	1472
7000 ^{2) 3)}	1RQ7710-4 A 0-0C 0	1492	760	97.4	97.4	0.91	0.91	44802	2.45	0.70	5.20	262	910
7800 ^{2) 3)}	1RQ7712-4 A 0-0C 0	1493	850	97.5	97.5	0.91	0.91	49889	2.50	0.60	5.40	286	1014
8600 ^{2) 3)}	1RQ7714-4 A 0-0C 0	1493	930	97.6	97.5	0.91	0.91	55005	2.55	0.60	5.40	320	1175
9500 ^{2) 3)}	1RQ7716-4 A 0-0C 0	1493	1020	97.7	97.7	0.92	0.91	60762	2.55	0.60	5.50	361	1385

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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.

³⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 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, 50 Hz													
6-pole													
900	1RQ6450-6JJ	988	106	95.4	95.9	0.85	0.84	8698	2.30	0.90	4.70	28	780
990	1RQ6452-6JJ	989	118	95.7	96.1	0.85	0.84	9558	2.45	0.95	5.10	32	880
1120	1RQ6454-6JJ	989	132	95.9	96.2	0.85	0.84	10814	2.45	0.90	5.00	35	990
1240	1RQ6456-6JJ	991	148	96.2	96.4	0.84	0.82	11948	2.55	0.80	5.10	40	1160
1500	1RQ6500-6JJ	989	176	95.7	96.3	0.86	0.85	14483	2.15	0.70	4.75	56	1280
1700	1RQ6502-6JJ	990	198	95.9	96.5	0.86	0.84	16397	2.25	0.70	4.95	61	1420
1890	1RQ6504-6JJ	990	220	96.1	96.6	0.86	0.85	18230	2.25	0.70	4.80	68	1580
2040	1RQ6506-6JJ	990	235	96.2	96.6	0.86	0.84	19677	2.20	0.65	4.90	76	1780
2400	1RQ6560-6JJ	991	270	96.4	96.7	0.88	0.87	23126	2.10	0.70	4.85	107	1920
2700	1RQ6562-6JJ	992	310	96.6	96.9	0.88	0.87	25991	2.15	0.70	4.85	118	2100
3000	1RQ6564-6JJ	992	340	96.6	97.0	0.88	0.88	28878	2.15	0.70	4.75	131	2350
3270	1RQ6566-6JJ	992	370	96.8	97.1	0.88	0.88	31478	2.20	0.70	4.95	145	2600
3550 ²⁾	1RQ7630-6 A -0C	994	420	96.9	97.0	0.84	0.83	34105	2.55	0.70	5.50	208	3459
3950 ²⁾	1RQ7632-6 A -0C	994	465	97.0	97.1	0.84	0.82	37947	2.60	0.70	5.50	228	3802
4400 ²⁾	1RQ7634-6 A -0C	994	520	97.1	97.1	0.84	0.83	42271	2.60	0.75	5.50	249	4067
4800 ²⁾	1RQ7636-6 A -0C	994	560	97.1	97.2	0.85	0.83	46113	2.55	0.75	5.50	270	4285
5450 ²⁾	1RQ7710-6 A -0C	995	630	97.1	97.1	0.86	0.84	52305	2.55	0.75	5.40	351	2438
5900 ²⁾	1RQ7712-6 A -0C	996	690	97.2	97.1	0.85	0.83	56567	2.60	0.70	5.40	396	3069
6350 ²⁾	1RQ7714-6 A -0C	996	740	97.3	97.1	0.85	0.83	60881	2.60	0.65	5.40	445	3901
6800 ²⁾	1RQ7716-6 A -0C	996	780	97.3	97.2	0.86	0.84	65196	2.60	0.65	5.40	493	4326

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
8-pole													
650	1RQ6450-8JJ	743	81	95.3	95.7	0.81	0.78	8354	2.60	0.85	5.20	35	960
710	1RQ6452-8JJ	744	88	95.6	95.9	0.81	0.77	9112	2.65	0.85	5.35	39	1060
780	1RQ6454-8JJ	742	94	95.4	96.0	0.84	0.82	10038	2.25	0.75	4.65	44	1160
870	1RQ6456-8JJ	744	106	95.7	96.0	0.82	0.78	11166	2.60	0.80	5.20	51	1300
1120	1RQ6500-8JJ	743	136	95.5	96.0	0.83	0.80	14394	2.15	0.55	4.55	68	1400
1250	1RQ6502-8JJ	743	152	95.6	96.1	0.83	0.80	16065	2.15	0.55	4.85	75	1540
1380	1RQ6504-8JJ	744	168	95.8	96.2	0.83	0.80	17712	2.35	0.65	4.85	83	1720
1500	1RQ6506-8JJ	744	180	95.9	96.3	0.84	0.81	19252	2.35	0.65	4.85	93	1900
1750	1RQ6560-8JJ	743	205	96.1	96.7	0.85	0.84	22491	2.05	0.60	4.45	127	2600
1950	1RQ6562-8JJ	743	230	96.2	96.8	0.85	0.85	25062	2.00	0.60	4.35	140	2900
2140	1RQ6564-8JJ	743	250	96.3	96.9	0.86	0.85	27504	2.05	0.65	4.50	155	3200
2300	1RQ6566-8JJ	744	270	96.5	97.0	0.86	0.84	29520	2.15	0.65	4.85	171	3550
2650 ²⁾	1RQ7630-8 A -0C	744	320	96.4	96.6	0.83	0.82	34013	2.30	0.55	5.00	255	3254
3000 ²⁾	1RQ7632-8 A -0C	744	355	96.5	96.7	0.84	0.82	38505	2.30	0.60	5.10	281	3109
3350 ²⁾	1RQ7634-8 A -0C	744	395	96.7	96.8	0.84	0.82	42998	2.30	0.55	5.10	307	3900
3700 ²⁾	1RQ7636-8 A -0C	744	440	96.7	96.9	0.84	0.83	47490	2.30	0.55	5.00	333	3768
4000 ²⁾	1RQ7710-8 A -0C	745	465	96.9	97.0	0.85	0.84	51271	2.40	0.65	4.90	434	8043
4500 ²⁾	1RQ7712-8 A -0C	746	520	96.9	97.1	0.86	0.84	57602	2.40	0.70	4.90	493	6260
5000 ²⁾	1RQ7714-8 A -0C	746	580	97.1	97.2	0.86	0.85	64003	2.40	0.70	5.00	557	7869
5500 ²⁾	1RQ7716-8 A -0C	746	630	97.2	97.3	0.86	0.84	70403	2.40	0.60	4.90	616	9358

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 6 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T_{TB}/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
4 ... 6.6 kV, 50 Hz													
10-pole													
450	1RQ6450-3JJ	592	59	93.7	93.6	0.78	0.72	7259	2.30	1.00	5.40	39	1250
500	1RQ6452-3JJ	592	66	93.9	93.8	0.78	0.72	8066	2.40	1.00	5.50	43	1500
560	1RQ6454-3JJ	592	74	94.1	94.0	0.77	0.71	9034	2.40	1.00	5.50	48	1650
610	1RQ6456-3JJ	593	82	94.2	94.0	0.76	0.69	9824	2.50	1.00	5.50	54	1950
740	1RQ6500-3JJ	593	94	94.6	94.6	0.80	0.76	11917	2.20	0.83	5.20	74	1600
820	1RQ6502-3JJ	593	104	94.8	94.8	0.80	0.76	13206	2.30	0.85	5.40	84	1950
900	1RQ6504-3JJ	593	114	94.9	94.9	0.80	0.76	14494	2.30	0.90	5.40	92	2500
1020	1RQ6506-3JJ	593	128	95.1	95.1	0.80	0.74	16427	2.30	0.90	5.50	103	3100
1220	1RQ6560-3JJ	594	156	95.2	95.1	0.79	0.74	19614	2.30	0.85	5.20	128	3000
1400	1RQ6562-3JJ	594	176	95.5	95.4	0.80	0.75	22508	2.30	0.85	5.40	146	4600
1550	1RQ6564-3JJ	594	194	95.6	95.6	0.80	0.75	24920	2.40	0.85	5.50	163	5100
1660	1RQ6566-3JJ	595	215	95.7	95.7	0.78	0.72	26644	2.40	0.85	5.50	178	5700
2000 ²⁾	1RQ7630-3 A -0C	595	245	96.4	96.7	0.81	0.79	32098	2.40	0.55	4.80	257	6826
2200 ²⁾	1RQ7632-3 A -0C	595	265	96.3	96.7	0.83	0.81	35308	2.30	0.60	4.70	284	5774
2420 ²⁾	1RQ7634-3 A -0C	595	290	96.4	96.8	0.83	0.81	38839	2.25	0.55	4.70	310	6475
2650 ²⁾	1RQ7636-3 A -0C	595	320	96.5	96.9	0.83	0.81	42530	2.25	0.55	4.70	336	7242
2950 ²⁾	1RQ7710-3 A -0C	595	345	96.5	96.7	0.85	0.83	47345	2.60	0.65	4.70	431	9428
3300 ²⁾	1RQ7712-3 A -0C	596	385	96.7	96.8	0.85	0.83	52873	2.65	0.65	4.80	490	11082
3700 ²⁾	1RQ7714-3 A -0C	595	430	96.8	96.9	0.86	0.84	59382	2.60	0.60	4.70	556	14542
4100 ²⁾	1RQ7716-3 A -0C	595	470	96.8	97.0	0.87	0.85	65801	2.55	0.65	4.70	618	15981

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
12-pole													
310	1RQ6450-5JJ	493	46.0	92.7	92.5	0.71	0.64	6005	2.00	0.72	4.60	39	1250
350	1RQ6452-5JJ	493	52	93.1	92.7	0.70	0.62	6780	2.20	0.78	4.90	43	1600
400	1RQ6454-5JJ	493	58	93.4	93.2	0.71	0.66	7748	2.00	0.72	4.60	48	1800
450	1RQ6456-5JJ	493	64	93.6	93.4	0.72	0.66	8717	2.10	0.75	4.80	54	1950
540	1RQ6500-5JJ	492	76	94.0	93.9	0.73	0.67	10482	2.10	0.70	4.60	74	2200
610	1RQ6502-5JJ	493	85	94.3	94.2	0.73	0.67	11816	2.20	0.75	4.80	84	3000
670	1RQ6504-5JJ	493	95	94.4	94.3	0.72	0.65	12979	2.30	0.78	5.00	91	3700
740	1RQ6506-5JJ	493	104	94.6	94.4	0.72	0.65	14335	2.30	0.78	5.20	102	4400
920	1RQ6560-5JJ	494	128	94.7	94.8	0.73	0.67	17785	2.00	0.67	4.50	128	4100
1020	1RQ6562-5JJ	495	144	94.9	94.9	0.72	0.65	19679	2.10	0.72	4.60	146	4700
1120	1RQ6564-5JJ	495	158	95.0	95.0	0.72	0.65	21608	2.20	0.72	4.80	163	5300
1220	1RQ6566-5JJ	495	172	95.2	95.1	0.72	0.65	23537	2.30	0.75	4.80	178	5900
1600 ²⁾	1RQ7630-5 A -0C 0	495	205	95.8	96.1	0.78	0.75	30866	2.20	0.55	4.30	263	7967
1800 ²⁾	1RQ7632-5 A -0C 0	495	235	95.9	96.2	0.77	0.73	34725	2.25	0.55	4.30	290	8683
1950 ²⁾	1RQ7634-5 A -0C 0	495	250	96.0	96.3	0.78	0.74	37618	2.30	0.60	4.40	317	8900
2100 ²⁾	1RQ7636-5 A -0C 0	495	270	96.1	96.3	0.78	0.74	40512	2.40	0.65	4.70	345	10218

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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.

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Selection and ordering data

The following data also apply to explosion-protected motors 1SB6/1SB7 (Ex pxb) and 1SG6/1SG7 (Ex ec).

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 10 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
9 ... 11 kV, 50 Hz													
2-pole													
1030	1RQ6450-2JJ0	2978	71	95.1	95.2	0.88	0.87	3302	2.20	0.60	5.00	12	32
1130	1RQ6452-2JJ0	2980	77	95.5	95.5	0.89	0.88	3621	2.40	0.65	5.50	14	34
1230	1RQ6454-2JJ0	2980	83	95.6	95.8	0.89	0.89	3941	2.40	0.60	5.50	15	35
1330	1RQ6456-2JJ0	2981	88	95.9	96.1	0.91	0.90	4260	2.45	0.60	5.50	17	38
1690	1RQ6500-2JJ0	2979	114	95.9	96.1	0.90	0.90	5417	2.30	0.60	5.15	19	53
1800	1RQ6502-2JJ0	2979	118	96.0	96.3	0.91	0.90	5769	2.35	0.70	5.20	21	59
1990	1RQ6504-2JJ0	2979	130	96.2	96.4	0.92	0.91	6379	2.35	0.70	5.15	25	66
2130	1RQ6506-2JJ0	2979	138	96.3	96.6	0.92	0.92	6827	2.35	0.75	5.20	26	73
2740	1RQ6560-2JJ0	2983	182	96.1	96.1	0.90	0.90	8771	2.45	0.55	5.25	39	105
3000	1RQ6562-2JJ0	2982	200	96.3	96.4	0.90	0.91	9606	2.20	0.55	4.65	43	115
3340	1RQ6564-2JJ0	2982	220	96.5	96.5	0.91	0.91	10695	2.30	0.55	4.90	49	130
3550	1RQ6566-2JJ0	2983	230	96.6	96.7	0.92	0.92	11364	2.35	0.55	5.20	54	145
3900	1RQ7630-2A0-0C0	2987	260	96.7	96.6	0.89	0.88	12468	2.50	0.80	5.50	73	339
4300	1RQ7632-2A0-0C0	2986	285	96.8	96.8	0.90	0.90	13751	2.50	0.75	5.50	82	305
4750	1RQ7634-2A0-0C0	2986	310	97.0	96.9	0.91	0.91	15191	2.50	0.80	5.50	91	348
5300	1RQ7636-2A0-0C0	2986	345	97.1	97.1	0.91	0.91	16950	2.45	0.75	5.40	99	327
6000	1RQ7710-2A0-0C0	2988	385	96.4	96.1	0.93	0.92	19175	2.30	0.65	5.10	148	289
6700	1RQ7712-2A0-0C0	2988	430	96.6	96.3	0.93	0.92	21412	2.25	0.65	5.10	160	312
7500	1RQ7714-2A0-0C0	2988	480	96.9	96.6	0.93	0.93	23969	2.35	0.75	5.40	175	325
8500	1RQ7716-2A0-0C0	2988	540	97.1	96.9	0.93	0.93	27165	2.35	0.80	5.40	189	320
9500	1RQ7800-2JA0-0C0	2990	630	97.0	96.8	0.90	0.91	30341	2.05	0.45	5.20	246	570
10200	1RQ7802-2JA0-0C0	2991	670	97.1	96.9	0.91	0.91	32565	2.25	0.45	5.60	266	600
11000	1RQ7804-2JA0-0C0	2991	720	97.2	97.0	0.91	0.91	35119	2.20	0.45	5.60	284	630
12000	1RQ7806-2JA0-0C0	2990	780	97.3	97.2	0.91	0.92	38325	2.15	0.55	5.60	301	660

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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](#).

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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													
4-pole													
900	1RQ6450-4JJ	1484	61	95.1	95.4	0.89	0.89	5791	2.45	0.65	5.05	21	154
1000	1RQ6452-4JJ	1485	68	95.4	95.7	0.89	0.89	6430	2.50	0.65	5.10	23	194
1120	1RQ6454-4JJ	1486	75	95.5	95.8	0.90	0.89	7197	2.55	0.65	5.25	27	250
1250	1RQ6456-4JJ	1485	84	95.7	96.0	0.90	0.90	8038	2.45	0.65	5.05	30	310
1570 ²⁾	1RQ6500-4JJ	1487	106	95.2	95.8	0.89	0.89	10082	2.50	0.75	5.20	45	200
1670 ²⁾	1RQ6502-4JJ	1486	114	95.3	95.8	0.89	0.88	10731	2.40	0.65	5.00	48	220
1860 ²⁾	1RQ6504-4JJ	1487	126	95.6	96.1	0.89	0.89	11944	2.35	0.60	4.90	55	250
2060 ²⁾	1RQ6506-4JJ	1488	140	95.8	96.3	0.89	0.88	13220	2.55	0.65	5.50	59	280
2650 ²⁾	1RQ6560-4JJ	1492	176	96.5	96.7	0.90	0.90	16960	2.25	0.60	5.35	86	460
2930 ²⁾	1RQ6562-4JJ	1492	192	96.7	96.9	0.91	0.90	18752	2.25	0.55	5.20	96	510
3300 ²⁾	1RQ6564-4JJ	1491	215	96.8	97.0	0.91	0.91	21135	2.20	0.60	5.10	107	560
3550 ²⁾	1RQ6566-4JJ	1492	230	96.9	97.1	0.91	0.91	22721	2.30	0.60	5.35	116	620
3950 ²⁾	1RQ7630-4 A 0-0C	1492	265	97.1	97.4	0.89	0.88	25281	2.50	0.75	5.40	145	793
4350 ²⁾	1RQ7632-4 A 0-0C	1492	290	97.2	97.4	0.89	0.88	27841	2.50	0.70	5.30	159	656
4800 ²⁾	1RQ7634-4 A 0-0C	1492	320	97.3	97.5	0.89	0.88	30722	2.50	0.70	5.40	176	674
5300 ²⁾	1RQ7636-4 A 0-0C	1493	355	97.4	97.6	0.89	0.88	33899	2.50	0.65	5.40	193	794
6000 ²⁾	1RQ7710-4 A 0-0C	1493	390	97.2	97.2	0.91	0.91	38376	2.50	0.65	5.40	262	1014
6700 ²⁾	1RQ7712-4 A 0-0C	1493	430	97.3	97.3	0.92	0.92	42853	2.50	0.65	5.30	287	1157
7500 ²⁾	1RQ7714-4 A 0-0C	1493	485	97.4	97.4	0.92	0.92	47970	2.50	0.70	5.30	322	1337
8400 ²⁾	1RQ7716-4 A 0-0C	1493	540	97.5	97.5	0.92	0.93	53726	2.50	0.70	5.30	363	1369
9000	1RQ7800-4KA 0-0CJ0	1493	590	97.3	97.3	0.90	0.91	54564	2.35	0.50	5.40	518	2700
9800	1RQ7802-4KA 0-0CJ0	1494	650	97.4	97.4	0.90	0.90	62639	2.35	0.45	5.40	569	3000
10800	1RQ7804-4JA 0-0C	1494	700	97.5	97.4	0.91	0.91	69031	2.35	0.45	5.40	625	3300
11600	1RQ7806-4JA 0-0C	1494	750	97.6	97.5	0.91	0.91	74144	2.35	0.50	5.60	683	3600
14500	1RQ7900-4KA 0-0C	1496	930	97.8	97.7	0.92	0.92	92557	2.20	0.45	5.00	1023	4600
15500	1RQ7902-4KA 0-0C	1496	990	97.9	97.8	0.92	0.92	98940	2.20	0.45	5.00	1097	5200
16000	1RQ7904-4KA 0-0C	1496	1020	97.9	97.8	0.92	0.92	102132	2.20	0.45	5.00	1180	5800
17500	1RQ7906-4KA 0-0C	1496	1120	97.9	97.9	0.92	0.92	111706	2.20	0.45	5.00	1298	6400

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
6-pole													
720	1RQ6450-6JJ	991	52	95.1	95.5	0.84	0.82	6937	2.55	0.85	5.25	28	380
800	1RQ6452-6JJ	990	57	95.2	95.6	0.85	0.84	7716	2.50	0.90	5.25	31	435
890	1RQ6454-6JJ	990	63	95.3	95.8	0.85	0.85	8584	2.40	0.85	5.05	35	490
1030	1RQ6456-6JJ	992	73	95.7	96.0	0.85	0.83	9915	2.55	0.80	5.20	40	570
1180	1RQ6500-6JJ	991	82	95.3	95.9	0.87	0.86	11370	2.30	0.75	4.90	55	740
1320	1RQ6502-6JJ	991	93	95.7	96.2	0.86	0.85	12719	2.35	0.70	5.00	61	820
1470	1RQ6504-6JJ	991	102	95.6	96.2	0.87	0.86	14164	2.25	0.70	4.95	68	910
1570	1RQ6506-6JJ	991	108	95.7	96.3	0.87	0.86	15128	2.30	0.75	5.10	76	1020
2050	1RQ6560-6JJ	992	140	96.0	96.4	0.88	0.87	19733	2.10	0.70	4.80	107	1180
2230	1RQ6562-6JJ	992	152	96.2	96.5	0.88	0.87	21466	2.20	0.70	5.10	118	1300
2500	1RQ6564-6JJ	992	170	96.3	96.7	0.88	0.88	24065	2.15	0.70	5.00	131	1460
2710	1RQ6566-6JJ	993	182	96.5	96.8	0.89	0.88	26061	2.30	0.80	5.30	145	1600
3100	1RQ7630-6 A -0C	994	220	96.7	96.8	0.85	0.84	29782	2.50	0.70	5.50	207	1867
3500	1RQ7632-6 A -0C	994	245	96.8	97.0	0.85	0.84	33624	2.50	0.75	5.40	229	1938
3900	1RQ7634-6 A -0C	994	275	96.9	97.1	0.85	0.84	37467	2.55	0.70	5.50	249	2237
4250	1RQ7636-6 A -0C	994	300	97.0	97.1	0.85	0.84	40829	2.50	0.70	5.40	270	2059
4750	1RQ7710-6 A -0C	995	330	96.9	96.9	0.86	0.84	45587	2.50	0.70	5.30	348	2769
5200	1RQ7712-6 A -0C	996	365	97.1	96.9	0.85	0.83	49855	2.50	0.60	5.20	393	3162
5700	1RQ7714-6 A -0C	996	395	97.1	97.0	0.86	0.84	54649	2.50	0.60	5.30	446	3132
6200	1RQ7716-6 A -0C	996	430	97.2	97.1	0.86	0.84	59443	2.60	0.65	5.50	493	3895
10500	1RQ7900-6KA 0-0C	995	710	97.7	97.8	0.88	0.88	100771	2.00	0.45	4.20	1301	11500
12000	1RQ7902-6KA 0-0C	995	810	97.8	97.9	0.88	0.88	115167	2.00	0.45	4.20	1464	12500
13000	1RQ7904-6KA 0-0C	995	870	97.9	98.0	0.88	0.88	124765	2.00	0.50	5.10	1627	13500
14500	1RQ7906-6KA 0-0C	995	970	98.0	98.0	0.88	0.88	139161	2.00	0.50	5.10	1789	14500

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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](#).

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
8-pole													
470	1RQ6450-8JJ	743	34	94.4	95.0	0.84	0.82	6040	2.35	0.75	4.95	35	250
500	1RQ6452-8JJ	744	36.5	94.5	95.1	0.84	0.81	6417	2.55	0.80	5.35	39	320
530	1RQ6454-8JJ	744	38.5	94.4	95.0	0.84	0.82	6802	2.45	0.80	5.20	44	390
590	1RQ6456-8JJ	745	44	95.1	95.4	0.81	0.78	7562	2.55	0.70	5.10	50	495
880	1RQ6500-8JJ	744	64	94.9	95.5	0.84	0.81	11294	2.20	0.55	4.65	68	780
1000	1RQ6502-8JJ	744	72	95.1	95.7	0.84	0.82	12835	2.20	0.55	4.60	75	860
1120	1RQ6504-8JJ	743	81	95.2	95.8	0.84	0.83	14394	2.15	0.55	4.45	83	960
1200	1RQ6506-8JJ	744	85	95.4	96.0	0.85	0.83	15402	2.20	0.60	4.65	93	1060
1480	1RQ6560-8JJ	744	104	95.9	96.4	0.85	0.83	18995	2.15	0.55	4.75	127	1600
1650	1RQ6562-8JJ	744	116	96.0	96.6	0.85	0.83	21177	2.20	0.60	4.95	140	1760
1830	1RQ6564-8JJ	744	130	96.1	96.6	0.85	0.83	23488	2.20	0.60	4.90	154	1960
1960	1RQ6566-8JJ	745	138	96.2	96.7	0.85	0.83	25122	2.30	0.65	5.05	171	2150
2200	1RQ7630-8 A -0C	745	158	96.2	96.4	0.84	0.82	28199	2.35	0.55	5.10	255	2417
2450	1RQ7632-8 A -0C	745	174	96.4	96.6	0.84	0.82	31404	2.35	0.55	5.10	281	3023
2700	1RQ7634-8 A -0C	744	192	96.5	96.7	0.84	0.83	34655	2.35	0.55	5.20	307	3540
3000	1RQ7636-8 A -0C	744	215	96.6	96.8	0.84	0.83	38505	2.35	0.55	5.20	334	3594
3350	1RQ7710-8 A -0C	746	235	96.6	96.7	0.85	0.83	42882	2.65	0.70	5.50	434	6479
3750	1RQ7712-8 A -0C	746	260	96.8	96.9	0.86	0.83	48002	2.70	0.70	5.50	493	7440
4200	1RQ7714-8 A -0C	746	295	96.9	96.9	0.85	0.83	53762	2.70	0.65	5.50	556	8648
4700	1RQ7716-8 A -0C	746	325	97.0	97.1	0.86	0.84	60163	2.65	0.70	5.40	616	7484
5000	1RQ7800-8JA -0C	746	335	97.3	97.5	0.88	0.86	64003	2.40	0.60	5.50	866	12000
5600	1RQ7802-8JA -0C	746	375	97.4	97.6	0.88	0.87	71684	2.35	0.60	5.40	963	12500
6200	1RQ7804-8JA -0C	747	420	97.4	97.6	0.87	0.85	79258	2.45	0.55	5.50	1052	13000
6800	1RQ7806-8JA -0C	747	465	97.5	97.6	0.87	0.84	86928	2.45	0.55	5.50	1154	13500

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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 SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
10-pole													
600	1RQ6500-3JJ	595	48.0	93.8	93.6	0.77	0.71	9630	2.40	0.85	5.50	74	900
680	1RQ6502-3JJ	594	51	94.2	94.2	0.81	0.76	10933	2.30	0.90	5.50	84	1150
750	1RQ6504-3JJ	594	57	94.3	94.3	0.81	0.76	12058	2.30	0.90	5.50	92	1300
820	1RQ6506-3JJ	594	61	94.5	94.5	0.82	0.77	13184	2.30	0.90	5.50	103	1600
1050	1RQ6560-3JJ	594	81	94.7	94.7	0.79	0.73	16881	2.40	0.85	5.50	128	1850
1180	1RQ6562-3JJ	594	90	95.0	95.0	0.80	0.75	18971	2.30	0.85	5.50	146	2300
1300	1RQ6564-3JJ	595	100	95.2	95.1	0.79	0.74	20866	2.40	0.82	5.50	163	2600
1400	1RQ6566-3JJ	595	112	95.3	95.0	0.76	0.69	22471	2.60	0.82	5.50	178	2750
1900	1RQ7630-3 A -0C 0	595	140	96.2	96.5	0.81	0.78	30494	2.35	0.55	4.80	256	3430
2100	1RQ7632-3 A -0C 0	595	154	96.2	96.5	0.82	0.79	33703	2.30	0.55	4.70	283	3228
2350	1RQ7634-3 A -0C 0	595	174	96.4	96.7	0.81	0.78	37716	2.40	0.55	4.90	309	4808
2600	1RQ7636-3 A -0C 0	595	192	96.5	96.7	0.81	0.78	41728	2.40	0.55	4.90	335	4029
2850	1RQ7710-3 A -0C 0	596	198	96.5	96.7	0.86	0.83	45663	2.70	0.65	4.90	433	10480
3100	1RQ7712-3 A -0C 0	596	220	96.6	96.7	0.85	0.82	49669	2.80	0.70	5.00	490	10104
3350	1RQ7714-3 A -0C 0	596	235	96.6	96.8	0.85	0.83	53674	2.80	0.70	5.00	554	12016
3600	1RQ7716-3 A -0C 0	596	255	96.7	96.7	0.85	0.82	57680	2.85	0.70	5.10	612	10744

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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](#).

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
12-pole													
480	1RQ6502-5JJ	494	42.0	93.4	93.4	0.70	0.62	9279	2.40	0.85	5.40	84	1500
530	1RQ6504-5JJ	494	46.0	93.5	93.5	0.70	0.62	10246	2.40	0.85	5.40	91	1650
580	1RQ6506-5JJ	494	50	93.7	93.9	0.72	0.64	11213	2.50	0.85	5.40	102	1800
720	1RQ6560-5JJ	495	60	94.0	94.4	0.74	0.67	13891	2.10	0.70	4.80	128	1950
840	1RQ6562-5JJ	495	71	94.4	94.7	0.72	0.65	16206	2.30	0.78	5.00	146	2500
920	1RQ6564-5JJ	495	77	94.6	94.9	0.73	0.66	17749	2.30	0.75	5.00	163	2950
1000	1RQ6566-5JJ	495	83	94.8	95.1	0.73	0.67	19293	2.30	0.75	5.00	178	3400
1400	1RQ7630-5 A -0C 0	495	108	95.3	95.7	0.79	0.75	27008	2.25	0.60	4.50	264	3757
1550	1RQ7632-5 A -0C 0	495	120	95.4	95.8	0.78	0.74	29902	2.30	0.60	4.50	290	3473
1700	1RQ7634-5 A -0C 0	496	134	95.6	95.9	0.77	0.73	32729	2.55	0.65	4.90	317	4727
1900	1RQ7636-5 A -0C 0	496	148	95.8	96.0	0.77	0.73	36580	2.60	0.70	5.10	345	5052

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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](#).

Selection and ordering data

The following data also apply to explosion-protected motors 1SB6/1SB7 (Ex pxb) and 1SG6/1SG7 (Ex ec).

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 ... 6.6 kV, 60 Hz													
2-pole													
1380	1RQ6450-2JJ ■ 0	3575	144	95.3	95.3	0.88	0.88	3686	2.05	0.60	4.65	13	44
1500	1RQ6452-2JJ ■ 0	3578	152	95.7	95.6	0.90	0.89	4003	2.30	0.65	5.25	15	46
1700	1RQ6454-2JJ ■ 0	3579	172	95.9	95.8	0.90	0.89	4535	2.35	0.60	5.50	16	48
1850	1RQ6456-2JJ ■ 0	3582	188	96.1	96.0	0.90	0.89	4931	2.45	0.55	5.50	18	51
2240	1RQ6500-2JJ ■ 0	3580	225	96.2	96.1	0.90	0.89	5974	2.30	0.55	5.25	20	63
2500	1RQ6502-2JJ ■ 0	3579	250	96.3	96.3	0.91	0.90	6670	2.20	0.65	5.00	22	70
2800	1RQ6504-2JJ ■ 0	3578	275	96.5	96.6	0.92	0.91	7472	2.25	0.55	5.00	26	78
3150	1RQ6506-2JJ ■ 0	3576	315	96.6	96.8	0.91	0.91	8411	2.10	0.65	4.85	27	86
3550	1RQ6560-2JJ ■ 0	3581	360	96.2	96.0	0.89	0.90	9466	2.15	0.55	4.65	39	130
4000	1RQ6562-2JJ ■ 0	3582	400	96.4	96.2	0.90	0.90	10663	2.30	0.55	4.85	43	145
4500	1RQ6564-2JJ ■ 0	3581	450	96.6	96.5	0.91	0.92	11999	2.25	0.55	4.75	49	160
4900	1RQ6566-2JJ ■ 0	3581	490	96.7	96.6	0.91	0.92	13066	2.25	0.50	4.80	54	180
5400 ²⁾	1RQ7630-2 ■ A ■ 0-0C ■ 0	3585	550	96.5	96.3	0.89	0.89	14384	2.45	0.80	5.40	74	161
5900 ²⁾	1RQ7632-2 ■ A ■ 0-0C ■ 0	3586	600	96.7	96.5	0.89	0.89	15711	2.40	0.70	5.30	82	178
6500 ²⁾	1RQ7634-2 ■ A ■ 0-0C ■ 0	3586	650	97.0	96.8	0.90	0.90	17309	2.40	0.70	5.30	90	188
7200 ²⁾	1RQ7636-2 ■ A ■ 0-0C ■ 0	3585	710	97.1	96.9	0.91	0.91	19179	2.45	0.65	5.40	99	183
8000 ²⁾	1RQ7710-2 ■ A ■ 0-0C ■ 0	3588	790	96.3	95.7	0.92	0.92	21291	2.30	0.75	5.30	147	147
9000 ²⁾	1RQ7712-2 ■ A ■ 0-0C ■ 0	3587	880	96.5	96.0	0.93	0.92	23959	2.30	0.75	5.30	159	135
10000 ²⁾	1RQ7714-2 ■ A ■ 0-0C ■ 0	3588	970	96.7	96.2	0.93	0.92	26614	2.35	0.65	5.30	175	139
11000 ²⁾	1RQ7716-2 ■ A ■ 0-0C ■ 0	3588	1060	96.9	96.4	0.93	0.93	29275	2.40	0.60	5.40	189	135

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC	High voltage motor SIMOTICS HV M	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_B/T_{rated}
kW	Article No.	rpm	A	%	%	cos ϕ	cos ϕ	Nm	[-]	[-]	[-]	kgm ²	kgm ²
4 ... 6.6 kV, 60 Hz													
4-pole													
1400	1RQ6450-4JJ	1785	146	95.6	95.7	0.88	0.87	7489	2.55	0.60	5.20	21	200
1470	1RQ6452-4JJ	1787	152	95.7	95.7	0.88	0.86	7855	2.60	0.55	5.25	23	240
1680	1RQ6454-4JJ	1785	172	96.0	96.1	0.89	0.88	8987	2.50	0.60	5.15	27	295
1850	1RQ6456-4JJ	1785	186	96.2	96.3	0.90	0.89	9897	2.50	0.60	5.15	30	355
2240 ²⁾	1RQ6500-4JJ	1785	230	95.6	95.9	0.89	0.88	11983	2.30	0.60	4.85	45	250
2500 ²⁾	1RQ6502-4JJ	1786	255	95.8	96.1	0.89	0.88	13366	2.40	0.65	5.05	48	290
2800 ²⁾	1RQ6504-4JJ	1787	285	96.1	96.4	0.89	0.88	14962	2.45	0.65	5.15	55	320
3120 ²⁾	1RQ6506-4JJ	1787	320	96.2	96.5	0.89	0.88	16672	2.45	0.60	5.25	59	360
3670 ²⁾	1RQ6560-4JJ	1791	370	96.7	96.7	0.90	0.90	19567	2.20	0.55	5.10	86	660
4200 ²⁾	1RQ6562-4JJ	1792	420	96.9	96.8	0.90	0.89	22381	2.25	0.55	5.30	96	730
4750 ²⁾	1RQ6564-4JJ	1791	480	97.1	97.1	0.90	0.90	25326	2.15	0.50	5.05	106	800
5100 ²⁾	1RQ6566-4JJ	1792	510	97.1	97.1	0.90	0.90	27177	2.30	0.55	5.50	116	880
5500 ^{2) 3)}	1RQ7630-4 A 0-0C 0	1792	560	97.3	97.3	0.88	0.87	29309	2.50	0.70	5.40	144	663
6000 ^{2) 3)}	1RQ7632-4 A 0-0C 0	1792	610	97.4	97.4	0.88	0.87	31973	2.45	0.65	5.30	159	732
6600 ^{2) 3)}	1RQ7634-4 A 0-0C 0	1792	670	97.5	97.6	0.89	0.88	35170	2.50	0.60	5.30	177	825
7250 ^{2) 3)}	1RQ7636-4 A 0-0C 0	1792	730	97.6	97.6	0.89	0.88	38634	2.50	0.65	5.40	192	889
8000 ^{2) 3)}	1RQ7710-4 A 0-0C 0	1793	790	97.3	97.1	0.91	0.91	42607	2.55	0.65	5.50	262	529
9000 ^{2) 3)}	1RQ7712-4 A 0-0C 0	1793	880	97.4	97.3	0.92	0.92	47932	2.50	0.65	5.40	288	553
10000 ^{2) 3)}	1RQ7714-4 A 0-0C 0	1793	980	97.5	97.4	0.92	0.92	53258	2.50	0.65	5.40	322	659
11000 ^{2) 3)}	1RQ7716-4 A 0-0C 0	1793	1080	97.6	97.5	0.92	0.92	58584	2.50	0.65	5.50	363	744

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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.

³⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
6-pole													
1100	1RQ6450-6JJ	1188	120	95.7	96.0	0.84	0.84	8841	2.30	0.80	4.80	28	530
1210	1RQ6452-6JJ	1190	132	95.9	96.1	0.84	0.83	9709	2.40	0.80	4.95	31	600
1350	1RQ6454-6JJ	1189	144	96.0	96.2	0.85	0.84	10842	2.40	0.80	4.95	35	660
1460	1RQ6456-6JJ	1190	156	96.3	96.5	0.85	0.84	11715	2.45	0.85	5.15	41	770
1800	1RQ6500-6JJ	1190	190	96.2	96.6	0.86	0.85	14444	2.30	0.70	4.80	56	1000
2000	1RQ6502-6JJ	1190	210	96.4	96.8	0.86	0.84	16049	2.30	0.70	5.00	61	1120
2240	1RQ6504-6JJ	1189	235	96.1	96.5	0.86	0.86	17990	2.10	0.60	4.60	68	1240
2500	1RQ6506-6JJ	1190	265	96.6	96.9	0.86	0.85	20061	2.25	0.60	4.70	76	1380
2850	1RQ6560-6JJ	1191	295	96.7	97.0	0.88	0.88	22850	2.00	0.65	4.60	107	1440
3200	1RQ6562-6JJ	1190	330	96.8	97.1	0.88	0.87	25678	1.95	0.65	4.65	118	1580
3500	1RQ6564-6JJ	1192	360	96.9	97.2	0.88	0.88	28039	2.15	0.70	4.90	131	1740
3830	1RQ6566-6JJ	1192	390	97.0	97.3	0.89	0.88	30682	2.15	0.70	5.00	145	1940
4250 ²⁾	1RQ7630-6A-OC	1194	455	96.9	96.8	0.84	0.83	33990	2.50	0.65	5.40	207	2090
4700 ²⁾	1RQ7632-6A-OC	1194	500	97.0	97.0	0.84	0.83	37589	2.50	0.65	5.50	228	2236
5200 ²⁾	1RQ7634-6A-OC	1194	550	97.1	97.1	0.85	0.83	41588	2.55	0.70	5.50	249	2404
5650 ²⁾	1RQ7636-6A-OC	1194	600	97.2	97.1	0.85	0.84	45187	2.55	0.70	5.50	270	2564
6300 ²⁾	1RQ7710-6A-OC	1195	660	97.0	96.8	0.86	0.84	50343	2.55	0.70	5.40	350	1502
6800 ²⁾	1RQ7712-6A-OC	1195	710	97.2	96.9	0.86	0.84	54339	2.50	0.65	5.40	396	1828
7350 ²⁾	1RQ7714-6A-OC	1196	770	97.2	97.0	0.86	0.84	58685	2.55	0.65	5.40	446	2267
7850 ²⁾	1RQ7716-6A-OC	1196	820	97.3	97.1	0.86	0.85	62677	2.55	0.60	5.40	493	2557

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
8-pole													
780	1RQ6450-8JJ	892	86	95.4	95.8	0.83	0.81	8350	2.20	0.65	4.50	35	660
880	1RQ6452-8JJ	892	97	95.6	96.0	0.83	0.82	9420	2.25	0.70	4.60	39	770
980	1RQ6454-8JJ	892	108	95.7	96.1	0.83	0.81	10491	2.40	0.75	4.95	44	890
1090	1RQ6456-8JJ	893	120	96.0	96.2	0.83	0.81	11655	2.50	0.80	5.20	51	1080
1320	1RQ6500-8JJ	893	146	95.9	96.3	0.83	0.81	14115	2.05	0.45	4.40	68	1060
1500	1RQ6502-8JJ	893	164	96.1	96.5	0.83	0.81	16040	2.15	0.50	4.50	75	1180
1700	1RQ6504-8JJ	893	184	96.1	96.5	0.84	0.82	18178	2.10	0.50	4.50	83	1320
1800	1RQ6506-8JJ	893	194	96.2	96.6	0.84	0.82	19248	2.20	0.55	4.65	93	1460
2120	1RQ6560-8JJ	894	230	96.6	97.0	0.84	0.82	22644	2.30	0.60	5.00	127	2100
2360	1RQ6562-8JJ	893	250	96.7	97.1	0.85	0.83	25236	2.10	0.60	4.85	140	2350
2630	1RQ6564-8JJ	894	280	96.6	97.0	0.85	0.83	28092	2.20	0.55	4.80	155	2550
2900	1RQ6566-8JJ	893	310	96.7	97.0	0.85	0.84	31011	2.10	0.55	4.85	171	2850
3180 ²⁾	1RQ7630-8 A -0C	895	350	96.4	96.4	0.83	0.81	33929	2.35	0.50	5.20	255	2273
3460 ²⁾	1RQ7632-8 A -0C	894	375	96.6	96.6	0.84	0.82	36958	2.35	0.55	5.20	281	2385
3760 ²⁾	1RQ7634-8 A -0C	894	405	96.7	96.8	0.84	0.83	40163	2.30	0.55	5.10	307	2810
4100 ²⁾	1RQ7636-8 A -0C	894	440	96.8	96.9	0.84	0.83	43794	2.35	0.55	5.20	334	2948
4500 ²⁾	1RQ7710-8 A -0C	896	475	96.8	96.8	0.86	0.84	47959	2.50	0.70	5.20	434	5154
5000 ²⁾	1RQ7712-8 A -0C	896	520	97.0	97.0	0.86	0.85	53288	2.55	0.75	5.30	494	6049
5600 ²⁾	1RQ7714-8 A -0C	896	590	97.1	97.1	0.86	0.85	59683	2.45	0.65	5.10	560	7048
6300 ²⁾	1RQ7716-8 A -0C	896	650	97.2	97.3	0.87	0.86	67143	2.45	0.70	5.20	619	7357

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 6.6 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T_{TB}/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
4 ... 6.6 kV, 60 Hz													
10-pole													
540	1RQ6450-3JJ	711	63	93.9	93.8	0.80	0.75	7253	2.20	0.88	5.30	39	700
600	1RQ6452-3JJ	712	71	94.2	94.1	0.79	0.73	8048	2.30	0.90	5.50	43	900
670	1RQ6454-3JJ	712	80	94.3	94.2	0.78	0.73	8987	2.40	1.00	5.50	48	950
730	1RQ6456-3JJ	713	88	94.5	94.3	0.77	0.72	9778	2.40	0.90	5.50	54	1100
900	1RQ6500-3JJ	713	104	94.9	94.7	0.80	0.76	12055	2.10	0.78	5.20	74	1400
1000	1RQ6502-3JJ	713	114	95.1	94.9	0.80	0.75	13394	2.20	0.82	5.30	84	1700
1100	1RQ6504-3JJ	713	126	95.1	94.9	0.80	0.76	14734	2.20	0.82	5.30	92	1700
1250	1RQ6506-3JJ	713	144	95.4	95.1	0.80	0.75	16743	2.30	0.88	5.50	103	2250
1460	1RQ6560-3JJ	714	172	95.4	95.2	0.78	0.72	19528	2.40	0.85	5.40	128	2400
1680	1RQ6562-3JJ	714	196	95.7	95.5	0.78	0.72	22471	2.40	0.85	5.50	146	2800
1820	1RQ6564-3JJ	714	210	95.7	95.6	0.80	0.76	24343	2.30	0.80	5.40	163	3200
1930	1RQ6566-3JJ	715	225	95.9	95.6	0.79	0.73	25778	2.40	0.80	5.50	178	3600
2420 ²⁾	1RQ7630-3 A -0C	715	265	96.5	96.7	0.83	0.81	32321	2.30	0.55	4.80	258	4130
2660 ²⁾	1RQ7632-3 A -0C	715	290	96.6	96.8	0.83	0.81	35526	2.40	0.55	4.90	284	4922
2930 ²⁾	1RQ7634-3 A -0C	715	325	96.7	96.8	0.82	0.79	39132	2.40	0.55	5.00	310	4780
3220 ²⁾	1RQ7636-3 A -0C	715	350	96.7	96.9	0.83	0.81	43005	2.35	0.55	4.90	336	5345
3550 ²⁾	1RQ7710-3 A -0C	716	380	96.7	96.6	0.85	0.81	47346	2.95	0.70	5.30	433	8421
3900 ²⁾	1RQ7712-3 A -0C	716	415	96.8	96.8	0.85	0.83	52014	2.90	0.65	5.30	493	9676
4300 ²⁾	1RQ7714-3 A -0C	716	455	96.9	96.8	0.85	0.82	57349	2.95	0.70	5.30	557	11529
4750 ²⁾	1RQ7716-3 A -0C	716	510	97.0	96.9	0.84	0.80	63350	3.00	0.65	5.30	612	13189

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
12-pole													
370	1RQ6450-5JJ	592	48.0	93.1	92.9	0.72	0.66	5969	2.00	0.68	4.60	39	700
425	1RQ6452-5JJ	593	57	93.5	93.0	0.70	0.63	6844	2.20	0.72	4.80	43	1000
480	1RQ6454-5JJ	593	63	94.0	93.7	0.71	0.65	7730	2.10	0.72	4.80	48	1300
540	1RQ6456-5JJ	593	69	94.1	93.9	0.73	0.68	8696	2.00	0.68	4.70	54	1500
650	1RQ6500-5JJ	593	84	94.3	94.1	0.72	0.66	10468	2.20	0.70	4.80	74	1600
730	1RQ6502-5JJ	593	91	94.5	94.3	0.74	0.70	11756	2.10	0.65	4.70	84	1800
820	1RQ6504-5JJ	593	104	94.7	94.4	0.73	0.68	13206	2.20	0.70	4.80	91	2100
900	1RQ6506-5JJ	593	116	94.8	94.5	0.72	0.66	14494	2.30	0.75	5.20	102	2400
1100	1RQ6560-5JJ	594	138	95.0	94.9	0.73	0.67	17685	2.00	0.62	4.50	128	2400
1220	1RQ6562-5JJ	594	152	95.2	95.1	0.74	0.68	19614	2.10	0.65	4.50	146	3000
1320	1RQ6564-5JJ	595	166	95.3	95.1	0.73	0.67	21187	2.20	0.68	4.60	163	3300
1450	1RQ6566-5JJ	595	180	95.4	95.3	0.74	0.68	23273	2.20	0.68	4.60	178	3800
1950 ²⁾	1RQ7630-5 A -0C	594	225	96.0	96.2	0.79	0.76	31349	2.15	0.50	4.20	264	5556
2150 ²⁾	1RQ7632-5 A -0C	595	250	96.0	96.3	0.78	0.75	34506	2.20	0.55	4.30	290	5356
2350 ²⁾	1RQ7634-5 A -0C	594	270	96.1	96.3	0.79	0.76	37779	2.20	0.60	4.40	318	5356
2550 ²⁾	1RQ7636-5 A -0C	595	295	96.3	96.5	0.78	0.74	40926	2.40	0.60	4.70	345	8267

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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.

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 13.8 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
13.8 kV, 60 Hz													
2-pole													
3800	1RQ7630-2JA 0-0C 0	3586	184	95.6	95.3	0.90	0.90	10119	2.45	0.60	5.25	74	100
4250	1RQ7632-2JA 0-0C 0	3587	205	95.9	95.6	0.90	0.90	11314	2.45	0.60	5.25	83	119
4750	1RQ7634-2JA 0-0C 0	3586	225	96.2	95.9	0.91	0.91	12649	2.45	0.60	5.35	92	106
5300	1RQ7636-2JA 0-0C 0	3586	255	96.4	96.1	0.91	0.91	14114	2.45	0.55	5.25	100	115
5900	1RQ7710-2JA 0-0C J0	3590	275	95.8	95.2	0.93	0.92	15694	2.35	0.70	5.65	149	165
6600	1RQ7712-2JA 0-0C J0	3589	310	96.0	95.5	0.93	0.92	17561	2.45	0.65	5.65	160	103
7400	1RQ7714-2JA 0-0C J0	3589	345	96.3	95.8	0.93	0.93	16989	2.40	0.65	5.65	176	120
8300	1RQ7716-2JA 0-0C J0	3589	385	96.5	96.1	0.94	0.93	22084	2.45	0.75	5.75	190	171
9000	1RQ7800-2KA 0-0C J0	3590	435	96.2	95.7	0.90	0.91	23940	2.05	0.50	5.40	246	250
9600	1RQ7802-2KA 0-0C J0	3592	460	96.3	95.8	0.91	0.91	25522	2.30	0.45	5.80	263	274
10200	1RQ7804-2KA 0-0C J0	3592	490	96.4	95.9	0.90	0.91	27117	2.30	0.40	5.80	279	316
10800	1RQ7806-2KA 0-0C J0	3592	510	96.5	96.0	0.91	0.92	28712	2.40	0.40	5.90	301	295

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 13.8 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
13.8 kV, 60 Hz													
4-pole													
3950	1RQ7630-4JA 0-0C 0	1792	192	96.9	96.9	0.89	0.88	21049	2.45	0.60	5.30	145	324
4400	1RQ7632-4JA 0-0C 0	1793	215	97.0	97.0	0.89	0.88	23434	2.50	0.60	5.40	159	256
4900	1RQ7634-4JA 0-0C 0	1792	235	97.1	97.2	0.89	0.89	26111	2.50	0.65	5.35	178	338
5500	1RQ7636-4JA 0-0C 0	1793	265	97.3	97.3	0.89	0.89	29292	2.75	0.65	5.40	193	296
6100	1RQ7710-4JA 0-0C J0	1794	285	96.6	96.3	0.92	0.91	32470	2.75	0.65	6.05	262	436
6900	1RQ7712-4JA 0-0C J0	1794	325	96.8	96.6	0.92	0.92	36728	2.70	0.65	5.95	288	481
7800	1RQ7714-4JA 0-0C J0	1793	365	96.9	96.8	0.92	0.92	41542	2.60	0.70	5.70	322	409
8800	1RQ7716-4JA 0-0C J0	1793	410	97.1	97.0	0.93	0.93	46868	2.55	0.65	5.55	362	419
9400	1RQ7800-4JA 0-0C 0	1794	445	96.8	96.6	0.91	0.91	50035	2.45	0.40	5.50	514	971
9900	1RQ7802-4JA 0-0C 0	1795	470	96.9	96.7	0.91	0.91	52667	2.40	0.40	5.40	565	1090
10500	1RQ7804-4JA 0-0C 0	1794	485	96.9	96.8	0.93	0.92	55891	2.45	0.40	5.40	623	1122
11000	1RQ7806-4JA 0-0C 0	1794	520	97.1	96.9	0.92	0.92	58552	2.40	0.40	5.40	680	1343
13500	1RQ7900-4KA 0-0C 0	1796	630	97.2	96.8	0.92	0.92	71779	2.10	0.40	5.00	1023	3550
14500	1RQ7902-4KA 0-0C 0	1796	680	97.3	96.9	0.92	0.92	77096	2.10	0.40	5.00	1095	3750
15500	1RQ7904-4KA 0-0C 0	1796	720	97.3	97.0	0.92	0.92	82413	2.10	0.40	5.00	1183	3950
16500	1RQ7906-4KA 0-0C 0	1796	770	97.4	97.1	0.92	0.92	87730	2.10	0.40	5.10	1294	4300

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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](#).

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 13.8 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
13.8 kV, 60 Hz													
6-pole													
3150	1RQ7630-6JA ■■-0C ■■0	1194	160	96.5	96.5	0.85	0.85	25193	2.45	0.65	5.35	208	949
3550	1RQ7632-6JA ■■-0C ■■0	1193	178	96.6	96.7	0.86	0.85	28416	2.40	0.70	5.35	230	848
4000	1RQ7634-6JA ■■-0C ■■0	1194	200	96.7	96.8	0.86	0.85	31991	2.40	0.70	5.35	251	704
4500	1RQ7636-6JA ■■-0C ■■0	1194	230	96.9	96.9	0.85	0.84	35990	2.50	0.60	5.40	270	1031
5000	1RQ7710-6JA ■■-0C ■■0	1195	250	96.9	96.8	0.87	0.86	39955	2.35	0.65	5.15	350	1613
5600	1RQ7712-6JA ■■-0C ■■0	1195	280	97.0	96.9	0.87	0.87	44750	2.45	0.70	5.30	397	727
6300	1RQ7714-6JA ■■-0C ■■0	1195	310	97.1	97.1	0.88	0.87	50344	2.40	0.65	5.30	448	1798
7000	1RQ7716-6JA ■■-0C ■■0	1195	340	97.2	97.2	0.88	0.87	55937	2.45	0.70	5.30	497	1752
7600	1RQ7800-6JA ■■-0C ■■0	1195	375	97.2	97.1	0.87	0.87	60732	2.05	0.60	5.40	688	3617
8200	1RQ7802-6JA ■■-0C ■■0	1196	405	97.2	97.1	0.87	0.86	65472	2.05	0.55	5.80	759	4220
8700	1RQ7804-6JA ■■-0C ■■0	1196	425	97.3	97.2	0.88	0.88	69464	2.15	0.60	5.70	846	4657
9300	1RQ7806-6JA ■■-0C ■■0	1196	455	97.4	97.3	0.88	0.87	74255	2.20	0.55	5.80	928	5327
12000	1RQ7900-6KA ■■-0C ■■0	1196	580	97.5	97.5	0.89	0.89	95812	2.10	0.45	4.50	1301	7000
13000	1RQ7902-6KA ■■-0C ■■0	1196	630	97.6	97.6	0.89	0.89	103797	2.10	0.45	4.80	1464	8000
14000	1RQ7904-6KA ■■-0C ■■0	1196	670	97.7	97.7	0.89	0.89	111781	2.10	0.45	5.00	1627	9000
15000	1RQ7906-6KA ■■-0C ■■0	1196	720	97.8	97.7	0.89	0.89	119765	2.10	0.45	5.00	1781	10500

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

Note:

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

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

SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 13.8 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
13.8 kV, 60 Hz													
8-pole													
2450	1RQ7630-8JA ■■-0C ■■0	895	128	96.0	95.9	0.83	0.81	26141	2.50	0.45	5.50	255	979
2700	1RQ7632-8JA ■■-0C ■■0	895	140	96.1	96.2	0.84	0.82	28808	2.50	0.50	5.50	282	1024
3000	1RQ7634-8JA ■■-0C ■■0	895	156	96.3	96.4	0.84	0.83	32009	2.45	0.55	5.50	308	1234
3350	1RQ7636-8JA ■■-0C ■■0	896	176	96.4	96.4	0.83	0.81	35703	2.55	0.50	5.55	333	1160
3750	1RQ7710-8JA ■■-0C ■■0	896	190	96.4	96.5	0.86	0.84	39966	2.60	0.70	5.40	434	2157
4150	1RQ7712-8JA ■■-0C ■■0	896	210	96.6	96.7	0.86	0.84	44229	2.60	0.65	5.45	492	2892
4600	1RQ7714-8JA ■■-0C ■■0	896	230	96.8	96.8	0.86	0.84	49025	2.65	0.65	5.50	559	3410
5100	1RQ7716-8JA ■■-0C ■■0	896	255	96.8	97.0	0.87	0.85	54354	2.60	0.70	5.45	616	2905
5700	1RQ7800-8JA ■■-0C ■■0	896	285	97.2	97.3	0.86	0.85	60749	2.00	0.50	5.30	861	5791
6400	1RQ7802-8JA ■■-0C ■■0	897	320	97.3	97.4	0.86	0.84	68133	2.30	0.50	5.50	950	5900
7100	1RQ7804-8JA ■■-0C ■■0	897	350	97.4	97.4	0.87	0.85	75585	2.35	0.55	5.80	1060	7755
7800	1RQ7806-8JA ■■-0C ■■0	897	395	97.5	97.5	0.85	0.83	83037	2.25	0.50	5.80	1154	8499
10-pole													
1800	1RQ7630-3JA ■■-0C ■■0	1800	96	95.8	96.0	0.82	0.79	24007	2.50	0.50	5.15	258	1522
2000	1RQ7632-3JA ■■-0C ■■0	2000	106	95.9	96.1	0.83	0.81	26711	2.45	0.50	5.05	284	1553
2250	1RQ7634-3JA ■■-0C ■■0	2250	118	96.0	96.2	0.83	0.81	30008	2.45	0.55	5.05	311	1221
2500	1RQ7636-3JA ■■-0C ■■0	2500	132	96.0	96.3	0.83	0.82	33389	2.40	0.55	5.00	337	1259
2800	1RQ7710-3JA ■■-0C ■■0	2800	144	96.3	96.3	0.85	0.82	37344	3.00	0.65	5.40	433	4876
3150	1RQ7712-3JA ■■-0C ■■0	3150	160	96.4	96.4	0.85	0.82	42012	3.05	0.70	5.45	493	4097
3550	1RQ7714-3JA ■■-0C ■■0	3550	178	96.5	96.5	0.86	0.84	47346	2.95	0.70	5.40	557	5000
4000	1RQ7716-3JA ■■-0C ■■0	4000	205	96.6	96.6	0.85	0.82	53348	3.05	0.65	5.45	615	5193

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

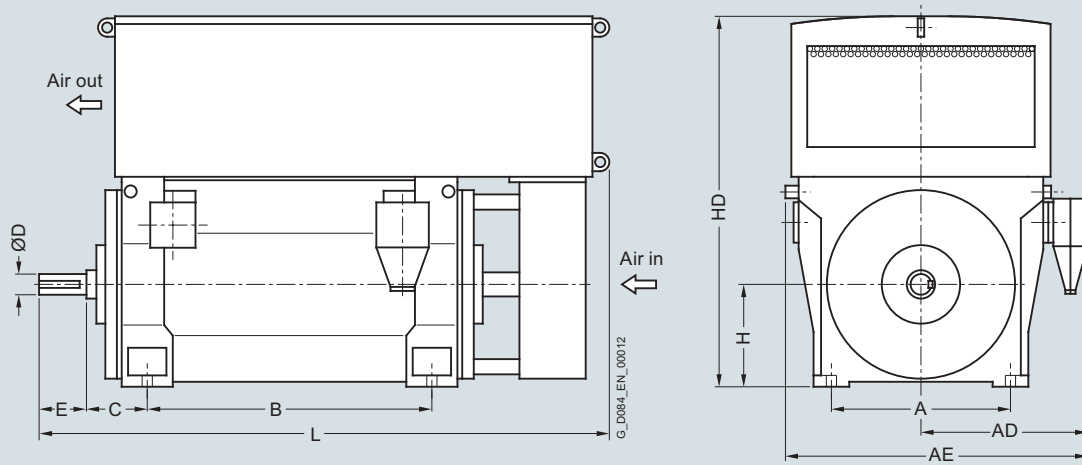
Higher pole numbers are available on request.

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](#).

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, anti-friction bearings – RQ6²⁾, 1RQ7²⁾ series – IC611											
2-pole											
1RQ6450-2JJ.0 ³⁾	4250	850	930	1620	1180	280	95	130	450	1842	2425 ⁴⁾
1RQ6452-2JJ.0 ³⁾	4450	850	930	1620	1180	280	95	130	450	1842	2425 ⁴⁾
1RQ6454-2JJ.0 ³⁾	4800	850	930	1620	1400	280	95	130	450	1842	2635 ⁴⁾
1RQ6456-2JJ.0 ³⁾	5050	850	930	1620	1400	280	95	130	450	1842	2635 ⁴⁾
1RQ6500-2JJ.0 ³⁾	6100	950	1135	1835	1320	315	110	165	500	2040	3450 ⁴⁾
1RQ6502-2JJ.0 ³⁾	6250	950	1135	1835	1320	315	110	165	500	2040	3450 ⁴⁾
4-pole											
1RQ6450-4JJ.0	4550	850	930	1620	1180	250	130	200	450	1842	2455
1RQ6452-4JJ.0	4750	850	930	1620	1180	250	130	200	450	1842	2455
1RQ6454-4JJ.0	5200	850	930	1620	1400	250	130	200	450	1842	2665
1RQ6456-4JJ.0	5450	850	930	1620	1400	250	130	200	450	1842	2665
1RQ6500-4JJ.0	6600	950	1135	1835	1320	280	150	200	500	2040	2900
1RQ6502-4JJ.0	6800	950	1135	1835	1320	280	150	200	500	2040	2900
1RQ6504-4JJ.0	7550	950	1135	1835	1500	280	150	200	500	2040	3050
1RQ6506-4JJ.0	7850	950	1135	1835	1500	280	150	200	500	2040	3050
1RQ6560-4JJ.0	8250	1060	1205	1975	1400	315	170	240	560	2300	3000
1RQ6562-4JJ.0	8600	1060	1205	1975	1400	315	170	240	560	2300	3000
1RQ6564-4JJ.0	9550	1060	1205	1975	1600	315	170	240	560	2300	3250
1RQ6566-4JJ.0	10100	1060	1205	1975	1600	315	170	240	560	2300	3250
1RQ7630-4J..0-OCG0	12200	1320	1340	2340	1600	375	200	280	630	2710	3950 ⁴⁾
1RQ7632-4J..0-OCG0	12800	1320	1340	2340	1600	375	200	280	630	2710	3950 ⁴⁾
1RQ7634-4J..0-OCG0	13800	1320	1340	2340	1800	375	200	280	630	2710	4150 ⁴⁾
1RQ7636-4J..0-OCG0	14300	1320	1340	2340	1800	375	200	280	630	2710	4150 ⁴⁾
1RQ7710-4J..0-OCG0	17100	1500	1800	2900	2000	375	220	350	710	3080	4500 ⁴⁾
1RQ7712-4J..0-OCG0	17800	1500	1800	2900	2000	375	220	350	710	3080	4500 ⁴⁾
1RQ7714-4J..0-OCG0	19200	1500	1800	2900	2240	375	220	350	710	3080	4740 ⁴⁾
1RQ7716-4J..0-OCG0	20500	1500	1800	2900	2240	375	220	350	710	3080	4740 ⁴⁾

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

³⁾ Anti-friction bearings only for 50 Hz operation.

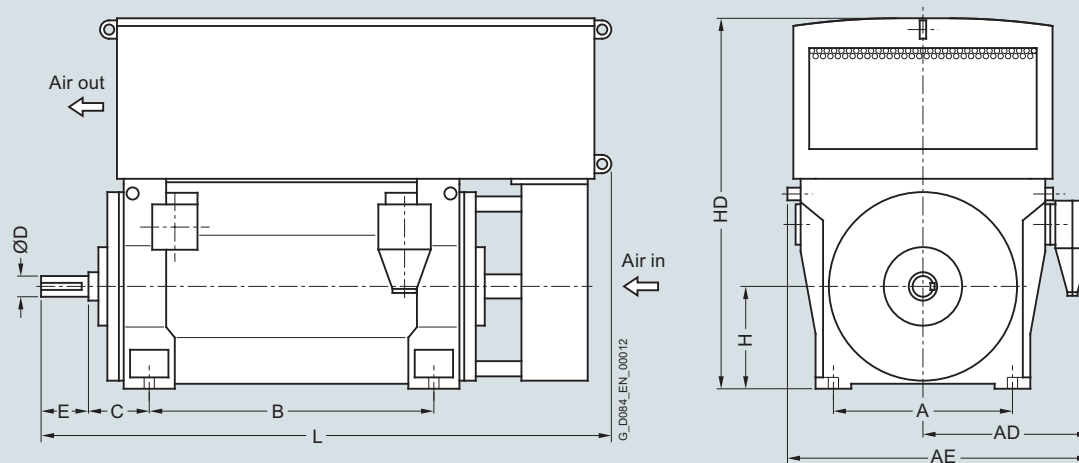
⁴⁾ Including air inlet silencer.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

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, anti-friction bearings – 1RQ6²⁾, 1RQ7²⁾ series – IC611

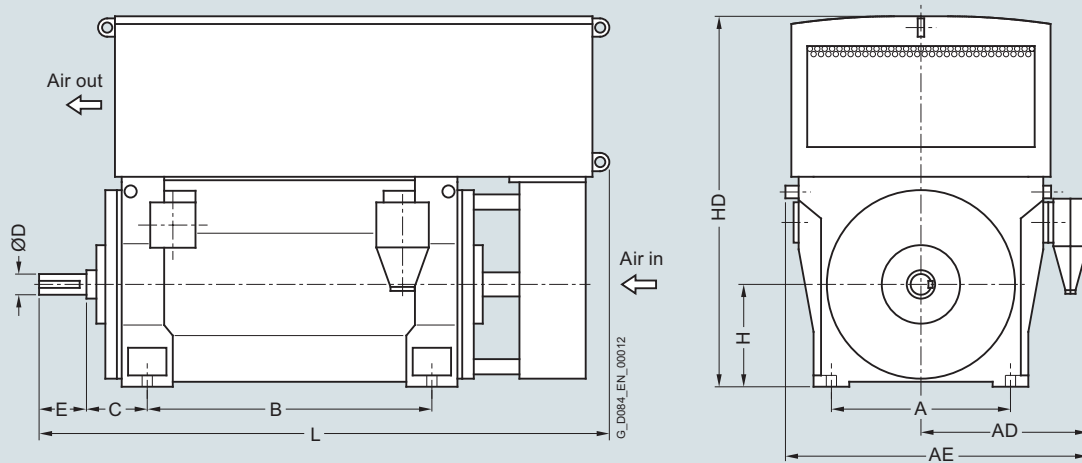
6-pole

1RQ6450-6JJ.0	4650	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6452-6JJ.0	4900	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6454-6JJ.0	5300	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6456-6JJ.0	5650	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6500-6JJ.0	6750	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6502-6JJ.0	7050	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6504-6JJ.0	7700	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6506-6JJ.0	8050	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6560-6JJ.0	9100	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6562-6JJ.0	9550	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6564-6JJ.0	10450	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ6566-6JJ.0	11000	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ7630-6J..0-0CG0	12700	1320	1340	2340	1600	375	200	280	630	2710	3410
1RQ7632-6J..0-0CG0	13300	1320	1340	2340	1600	375	200	280	630	2710	3410
1RQ7634-6J..0-0CG0	14100	1320	1340	2340	1800	375	200	280	630	2710	3610
1RQ7636-6J..0-0CG0	14800	1320	1340	2340	1800	375	200	280	630	2710	3610
1RQ7710-6J..0-0CG0	17200	1500	1800	2900	2000	375	220	350	710	3080	3960
1RQ7712-6J..0-0CG0	18300	1500	1800	2900	2000	375	220	350	710	3080	3960
1RQ7714-6J..0-0CG0	19800	1500	1800	2900	2240	375	220	350	710	3080	4200
1RQ7716-6J..0-0CG0	20800	1500	1800	2900	2240	375	220	350	710	3080	4200

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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, anti-friction bearings – 1RQ6²⁾, 1RQ7²⁾ series – IC611

8-pole

1RQ6450-8JJ.0	4650	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6452-8JJ.0	4950	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6454-8JJ.0	5350	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6456-8JJ.0	5700	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6500-8JJ.0	6750	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6502-8JJ.0	7000	950	1135	1835	1320	315	160	240	500	1990	2850
1RQ6504-8JJ.0	7650	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6506-8JJ.0	8000	950	1135	1835	1500	315	160	240	500	1990	3300
1RQ6560-8JJ.0	9050	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6562-8JJ.0	9450	1060	1205	1975	1400	315	180	240	560	2240	3000
1RQ6564-8JJ.0	10400	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ6566-8JJ.0	10900	1060	1205	1975	1600	315	180	240	560	2240	3250
1RQ7630-8J..0-0CG0	12400	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7632-8J..0-0CG0	13000	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7634-8J..0-0CG0	13800	1320	1340	2340	1800	375	200	280	630	2570	3610
1RQ7636-8J..0-0CG0	14400	1320	1340	2340	1800	375	200	280	630	2570	3610
1RQ7710-8J..0-0CG0	16500	1500	1800	2900	2000	375	220	350	710	2710	3960
1RQ7712-8J..0-0CG0	17400	1500	1800	2900	2000	375	220	350	710	2710	3960
1RQ7714-8J..0-0CG0	18900	1500	1800	2900	2240	375	220	350	710	2710	4200
1RQ7716-8J..0-0CG0	19900	1500	1800	2900	2240	375	220	350	710	2710	4200

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

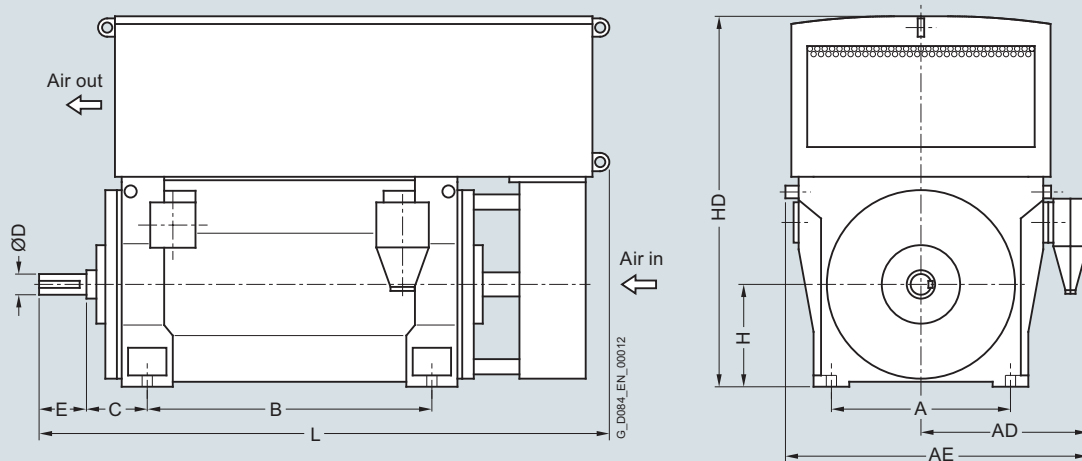
²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

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, anti-friction bearings – 1RQ6²⁾, 1RQ7²⁾ series – IC611

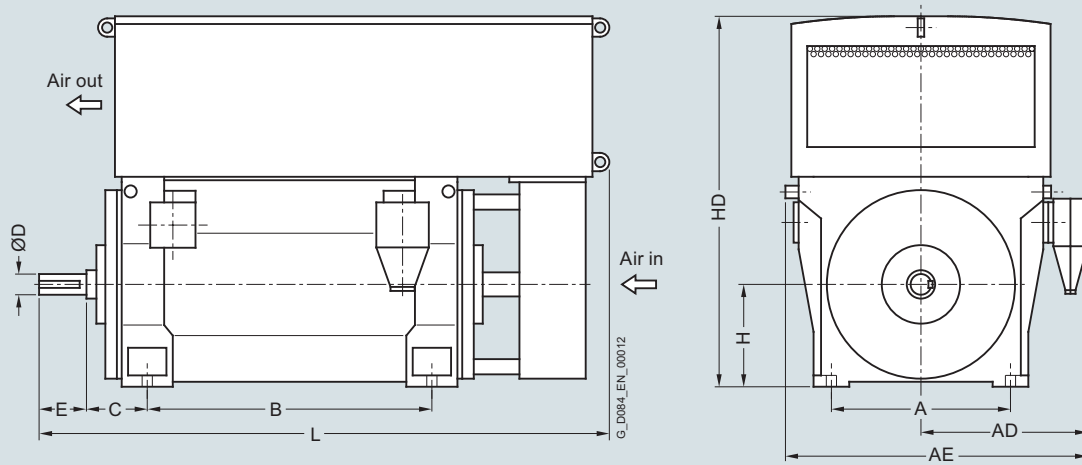
10-pole

1RQ6450-3JJ.0	4650	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6452-3JJ.0	4950	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6454-3JJ.0	5350	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6456-3JJ.0	5700	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6500-3JJ.0	6000	950	1000	1760	1320	280	150	200	500	2000	2660
1RQ6502-3JJ.0	6300	950	1000	1760	1320	280	150	200	500	2000	2660
1RQ6504-3JJ.0	6900	950	1000	1760	1500	280	160	240	500	2000	2910
1RQ6506-3JJ.0	7300	950	1000	1760	1500	280	160	240	500	2000	2910
1RQ6560-3JJ.0	8000	1060	1070	1900	1400	315	170	240	560	2260	2950
1RQ6562-3JJ.0	8600	1060	1070	1900	1400	315	170	240	560	2260	2950
1RQ6564-3JJ.0	9450	1060	1070	1900	1600	315	180	240	560	2260	3180
1RQ6566-3JJ.0	9900	1060	1070	1900	1600	315	180	240	560	2260	3180
1RQ7630-3J..0-0CG0	12400	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7632-3J..0-0CG0	12900	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7634-3J..0-0CG0	13700	1320	1340	2340	1800	375	200	280	630	2570	3610
1RQ7636-3J..0-0CG0	14300	1320	1340	2340	1800	375	200	280	630	2570	3610
1RQ7710-3J..0-0CG0	16400	1500	1800	2900	2000	375	220	350	710	2710	3960
1RQ7712-3J..0-0CG0	17400	1500	1800	2900	2000	375	220	350	710	2710	3960
1RQ7714-3J..0-0CG0	18900	1500	1800	2900	2240	375	220	350	710	2710	4200
1RQ7716-3J..0-0CG0	20000	1500	1800	2900	2240	375	220	350	710	2710	4200

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request

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, anti-friction bearings – 1RQ6²⁾, 1RQ7²⁾ series – IC611											
12-pole											
1RQ6450-5JJ.0	4650	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6452-5JJ.0	4950	850	930	1620	1180	250	140	200	450	1842	2455
1RQ6454-5JJ.0	5350	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6456-5JJ.0	5700	850	930	1620	1400	280	140	200	450	1842	2665
1RQ6500-5JJ.0	6000	950	1000	1760	1320	280	150	200	500	2000	2660
1RQ6502-5JJ.0	6300	950	1000	1760	1320	280	150	200	500	2000	2660
1RQ6504-5JJ.0	6900	950	1000	1760	1500	280	160	240	500	2000	2910
1RQ6506-5JJ.0	7300	950	1000	1760	1500	280	160	240	500	2000	2910
1RQ6560-5JJ.0	8050	1060	1070	1900	1400	315	170	240	560	2260	2950
1RQ6562-5JJ.0	8600	1060	1070	1900	1400	315	170	240	560	2260	2950
1RQ6564-5JJ.0	9400	1060	1070	1900	1600	315	180	240	560	2260	3180
1RQ6566-5JJ.0	9900	1060	1070	1900	1600	315	180	240	560	2260	3180
1RQ7630-5J..0-OCG0	12300	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7632-5J..0-OCG0	12900	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7634-5J..0-OCG0	13700	1320	1340	2340	1800	375	200	280	630	2570	3610
1RQ7636-5J..0-OCG0	14300	1320	1340	2340	1800	375	200	280	630	2570	3610

Note: Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

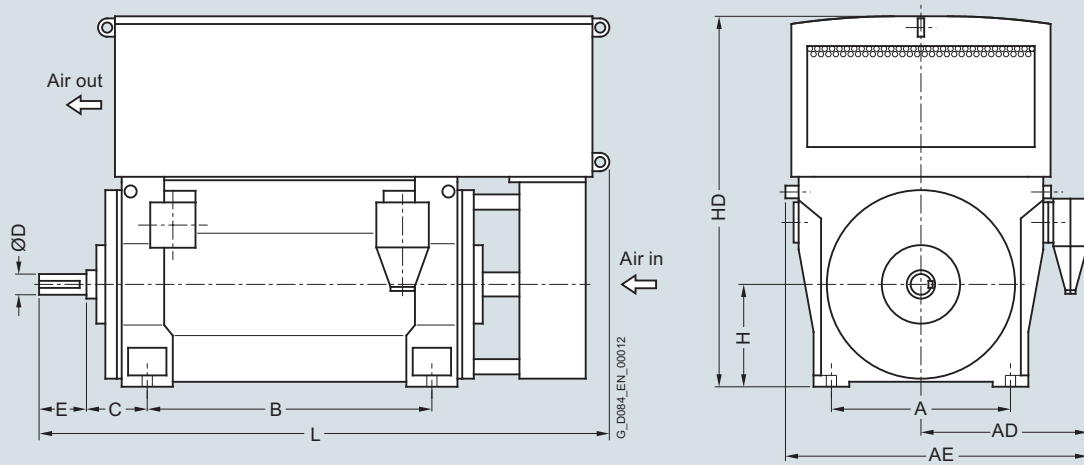
²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings



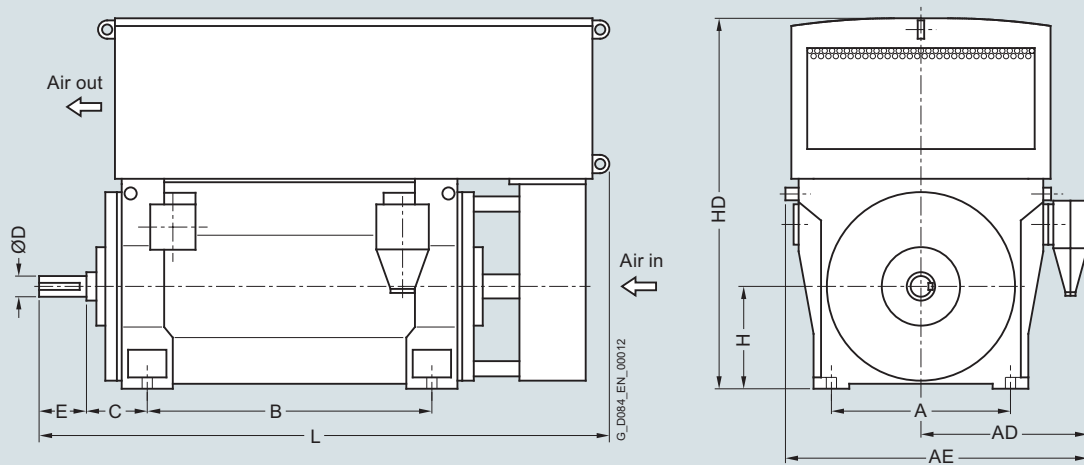
Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611											
2-pole											
1RQ6450-2JJ.0 ²⁾	4250	850	1070	1840	1180	280	95	130	450	1842	2425 ³⁾
1RQ6452-2JJ.0 ²⁾	4450	850	1070	1840	1180	280	95	130	450	1842	2425 ³⁾
1RQ6454-2JJ.0 ²⁾	4800	850	1070	1840	1400	280	95	130	450	1842	2635 ³⁾
1RQ6456-2JJ.0 ²⁾	5050	850	1070	1840	1400	280	95	130	450	1842	2635 ³⁾
1RQ6500-2JJ.0 ²⁾	6100	950	1270	1970	1320	315	110	165	500	2040	3450 ³⁾
1RQ6502-2JJ.0 ²⁾	6250	950	1270	1970	1320	315	110	165	500	2040	3450 ³⁾
4-pole											
1RQ6450-4JJ.0	4550	850	1070	1840	1180	250	130	200	450	1842	2455
1RQ6452-4JJ.0	4750	850	1070	1840	1180	250	130	200	450	1842	2455
1RQ6454-4JJ.0	5200	850	1070	1840	1400	250	130	200	450	1842	2665
1RQ6456-4JJ.0	5450	850	1070	1840	1400	250	130	200	450	1842	2665
1RQ6500-4JJ.0	6600	950	1270	1970	1320	280	150	200	500	2040	2900
1RQ6502-4JJ.0	6800	950	1270	1970	1320	280	150	200	500	2040	2900
1RQ6504-4JJ.0	7550	950	1270	1970	1500	280	150	200	500	2040	3050
1RQ6506-4JJ.0	7850	950	1270	1970	1500	280	150	200	500	2040	3050
1RQ6560-4JJ.0	8250	1060	1340	2110	1400	315	170	240	560	2300	3000
1RQ6562-4JJ.0	8600	1060	1340	2110	1400	315	170	240	560	2300	3000
1RQ6564-4JJ.0	9550	1060	1340	2110	1600	315	170	240	560	2300	3250
1RQ6566-4JJ.0	10100	1060	1340	2110	1600	315	170	240	560	2300	3250
1RQ7630-4J..0-OCG0	12100	1320	1340	2340	1600	375	200	280	630	2710	3950 ³⁾
1RQ7632-4J..0-OCG0	12600	1320	1340	2340	1600	375	200	280	630	2710	3950 ³⁾
1RQ7634-4J..0-OCG0	13500	1320	1340	2340	1800	375	200	280	630	2710	4150 ³⁾
1RQ7636-4J..0-OCG0	14100	1320	1340	2340	1800	375	200	280	630	2710	4150 ³⁾
1RQ7710-4J..0-OCG0	17600	1500	1800	2900	2000	375	220	350	710	3080	4500 ³⁾
1RQ7712-4J..0-OCG0	18400	1500	1800	2900	2000	375	220	350	710	3080	4500 ³⁾
1RQ7714-4J..0-OCG0	19800	1500	1800	2900	2240	375	220	350	710	3080	4740 ³⁾
1RQ7716-4J..0-OCG0	21000	1500	1800	2900	2240	375	220	350	710	3080	4740 ³⁾

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

²⁾ Anti-friction bearings only for 50 Hz operation.

³⁾ Including air inlet silencer.

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, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611

6-pole												
1RQ6450-6JJ.0	4650	850	1070	1840	1180	250	140	200	450	1842	2455	
1RQ6452-6JJ.0	4900	850	1070	1840	1180	250	140	200	450	1842	2455	
1RQ6454-6JJ.0	5300	850	1070	1840	1400	280	140	200	450	1842	2665	
1RQ6456-6JJ.0	5650	850	1070	1840	1400	280	140	200	450	1842	2665	
1RQ6500-6JJ.0	6750	950	1270	1970	1320	315	160	240	500	1990	2850	
1RQ6502-6JJ.0	7050	950	1270	1970	1320	315	160	240	500	1990	2850	
1RQ6504-6JJ.0	7700	950	1270	1970	1500	315	160	240	500	1990	3300	
1RQ6506-6JJ.0	8050	950	1270	1970	1500	315	160	240	500	1990	3300	
1RQ6560-6JJ.0	9100	1060	1340	2110	1400	315	180	240	560	2240	3000	
1RQ6562-6JJ.0	9550	1060	1340	2110	1400	315	180	240	560	2240	3000	
1RQ6564-6JJ.0	10450	1060	1340	2110	1600	315	180	240	560	2240	3250	
1RQ6566-6JJ.0	11000	1060	1340	2110	1600	315	180	240	560	2240	3250	
1RQ7630-6J..0-0CG0	12600	1320	1340	2340	1600	375	200	280	630	2710	3410	
1RQ7632-6J..0-0CG0	13100	1320	1340	2340	1600	375	200	280	630	2710	3410	
1RQ7634-6J..0-0CG0	14000	1320	1340	2340	1800	375	200	280	630	2710	3610	
1RQ7636-6J..0-0CG0	14600	1320	1340	2340	1800	375	200	280	630	2710	3610	
1RQ7710-6J..0-0CG0	17800	1500	1800	2900	2000	375	220	350	710	3080	3960	
1RQ7712-6J..0-0CG0	18800	1500	1800	2900	2000	375	220	350	710	3080	3960	
1RQ7714-6J..0-0CG0	20300	1500	1800	2900	2240	375	220	350	710	3080	4200	
1RQ7716-6J..0-0CG0	21400	1500	1800	2900	2240	375	220	350	710	3080	4200	
1RQ7900-6QA80-0CG0	34300	1800	1620	2900	2500	475	280	470	900	4370	6250	
1RQ7902-6QA80-0CG0	36200	1800	1620	2900	2500	475	280	470	900	4370	6250	
1RQ7904-6QA80-0CG0	39100	1800	1620	2900	2800	475	280	470	900	4370	6550	
1RQ7906-6QA80-0CG0	41200	1800	1620	2900	2800	475	280	470	900	4370	6550	

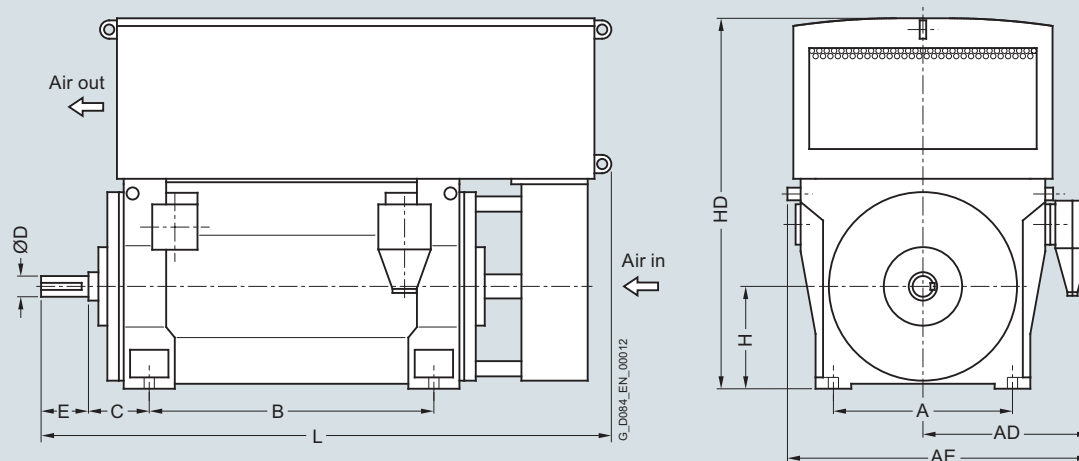
¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

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

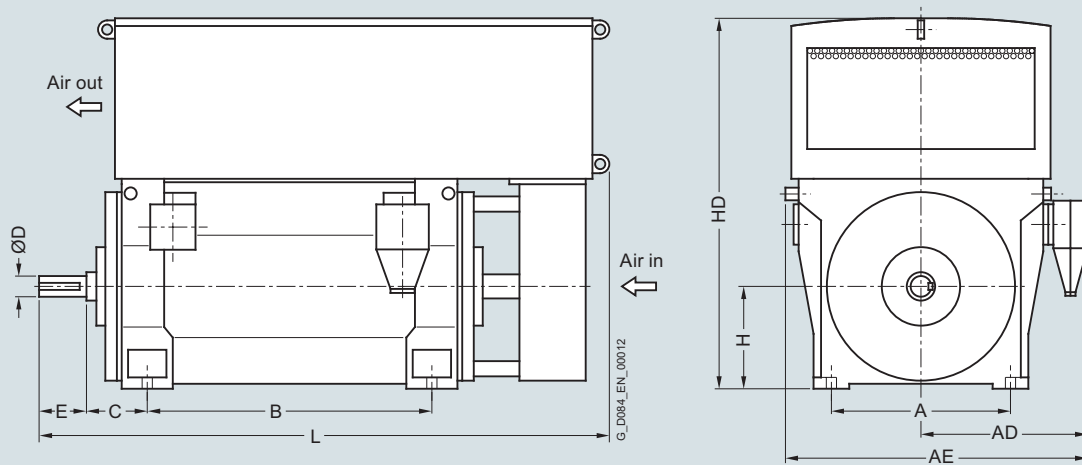
9 ... 11 kV, IM B3 type of construction, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611

8-pole

1RQ6450-8JJ.0	4650	850	1070	1840	1180	250	140	200	450	1842	2455
1RQ6452-8JJ.0	4950	850	1070	1840	1180	250	140	200	450	1842	2455
1RQ6454-8JJ.0	5350	850	1070	1840	1400	280	140	200	450	1842	2665
1RQ6456-8JJ.0	5700	850	1070	1840	1400	280	140	200	450	1842	2665
1RQ6500-8JJ.0	6750	950	1270	1970	1320	315	160	240	500	1990	2850
1RQ6502-8JJ.0	7000	950	1270	1970	1320	315	160	240	500	1990	2850
1RQ6504-8JJ.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
1RQ6560-8JJ.0	9050	1060	1340	2110	1400	315	180	240	560	2240	3000
1RQ6562-8JJ.0	9450	1060	1340	2110	1400	315	180	240	560	2240	3000
1RQ6564-8JJ.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
1RQ7630-8J..0-0CG0	12300	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7632-8J..0-0CG0	12800	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7634-8J..0-0CG0	13700	1320	1340	2340	1800	375	200	280	630	2570	3610
1RQ7636-8J..0-0CG0	14300	1320	1340	2340	1800	375	200	280	630	2570	3610
1RQ7710-8J..0-0CG0	16200	1500	1800	2900	2000	375	220	350	710	2710	3960
1RQ7712-8J..0-0CG0	17200	1500	1800	2900	2000	375	220	350	710	2710	3960
1RQ7714-8J..0-0CG0	19400	1500	1800	2900	2240	375	220	350	710	2710	4200
1RQ7716-8J..0-0CG0	20400	1500	1800	2900	2240	375	220	350	710	2710	4200

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available 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 mm	L mm
9 ... 11 kV, IM B3 type of construction, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611											
10-pole											
1RQ6500-3JJ.0	6000	950	1220	1980	1320	280	150	200	500	2000	2660
1RQ6502-3JJ.0	6300	950	1220	1980	1320	280	150	200	500	2000	2660
1RQ6504-3JJ.0	6850	950	1220	1980	1500	280	160	240	500	2000	2910
1RQ6506-3JJ.0	7250	950	1220	1980	1500	280	160	240	500	2000	2910
1RQ6560-3JJ.0	8200	1060	1210	2040	1400	315	170	240	560	2260	2950
1RQ6562-3JJ.0	8900	1060	1210	2040	1400	315	170	240	560	2260	2950
1RQ6564-3JJ.0	9700	1060	1210	2040	1600	315	180	240	560	2260	3180
1RQ6566-3JJ.0	10100	1060	1210	2040	1600	315	180	240	560	2260	3180
1RQ7630-3J..0-OCG0	12300	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7632-3J..0-OCG0	12800	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7634-3J..0-OCG0	13700	1320	1340	2340	1800	375	200	280	630	2570	3610
1RQ7636-3J..0-OCG0	14200	1320	1340	2340	1800	375	200	280	630	2570	3610
1RQ7710-3J..0-OCG0	16400	1500	1800	2900	2000	375	220	350	710	2710	3960
1RQ7712-3J..0-OCG0	17300	1500	1800	2900	2000	375	220	350	710	2710	3960
1RQ7714-3J..0-OCG0	19500	1500	1800	2900	2240	375	220	350	710	2710	4200
1RQ7716-3J..0-OCG0	20400	1500	1800	2900	2240	375	220	350	710	2710	4200
12-pole											
1RQ6502-5JJ.0	6350	950	1220	1980	1320	280	150	200	500	2000	2660
1RQ6504-5JJ.0	6850	950	1220	1980	1500	280	160	240	500	2000	2910
1RQ6506-5JJ.0	7250	950	1220	1980	1500	280	160	240	500	2000	2910
1RQ6560-5JJ.0	8000	1060	1210	2040	1400	315	170	240	560	2260	2950
1RQ6562-5JJ.0	8550	1060	1210	2040	1400	315	170	240	560	2260	2950
1RQ6564-5JJ.0	9400	1060	1210	2040	1600	315	180	240	560	2260	3180
1RQ6566-5JJ.0	9850	1060	1210	2040	1600	315	180	240	560	2260	3180
1RQ7630-5J..0-OCG0	12200	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7632-5J..0-OCG0	12700	1320	1340	2340	1600	375	200	280	630	2570	3410
1RQ7634-5J..0-OCG0	13600	1320	1340	2340	1800	375	200	280	630	2570	3610
1RQ7636-5J..0-OCG0	14100	1320	1340	2340	1800	375	200	280	630	2570	3610

Note: Higher pole numbers are available on request.

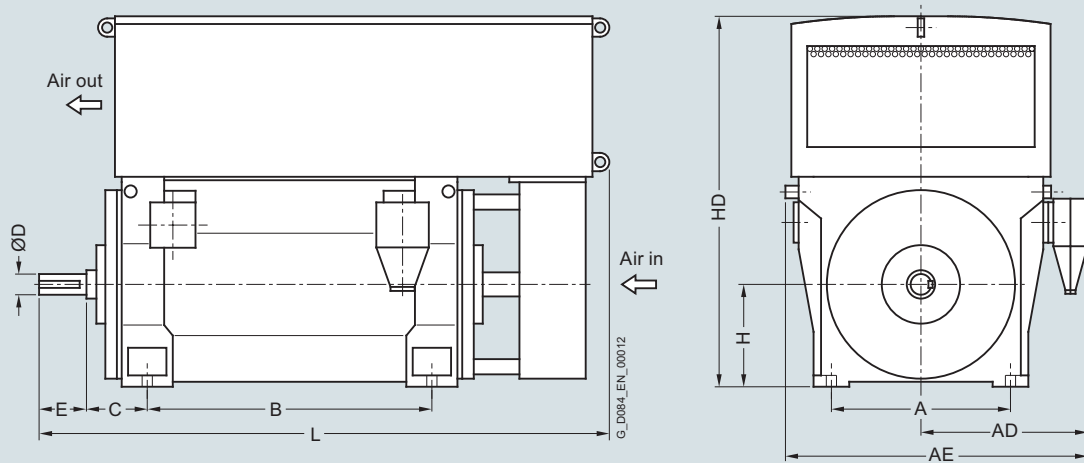
¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

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

13.8 kV, IM B3 type of construction, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611

4-pole

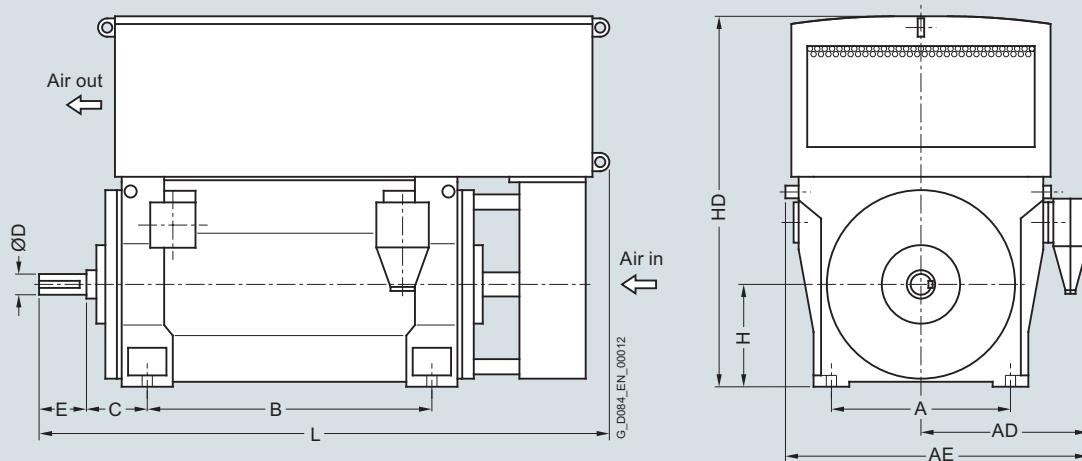
1RQ7630-4JA20-0CG0	12100	1320	1520	2520	1600	375	200	280	630	2710	3950
1RQ7632-4JA20-0CG0	12600	1320	1520	2520	1600	375	200	280	630	2710	3950
1RQ7634-4JA20-0CG0	13500	1320	1520	2520	1800	375	200	280	630	2710	4150
1RQ7636-4JA20-0CG0	14100	1320	1520	2520	1800	375	200	280	630	2710	4150
1RQ7710-4JA20-0CG0	17600	1500	1800	2900	2000	375	220	710	350	3080	4500
1RQ7712-4JA20-0CG0	18400	1500	1800	2900	2000	375	220	710	350	3080	4500
1RQ7714-4JA20-0CG0	19800	1500	1800	2900	2240	375	220	710	350	3080	4740
1RQ7716-4JA20-0CG0	21000	1500	1800	2900	2240	375	220	710	350	3080	4740

6-pole

1RQ7630-6JA20-0CG0	12600	1320	1520	2520	1600	375	200	280	630	2710	3410
1RQ7632-6JA20-0CG0	13100	1320	1520	2520	1600	375	200	280	630	2710	3410
1RQ7634-6JA20-0CG0	14000	1320	1520	2520	1800	375	200	280	630	2710	3610
1RQ7636-6JA20-0CG0	14600	1320	1520	2520	1800	375	200	280	630	2710	3610
1RQ7710-6JA20-0CG0	17800	1500	1800	2900	2000	375	220	710	350	3080	3960
1RQ7712-6JA20-0CG0	18800	1500	1800	2900	2000	375	220	710	350	3080	3960
1RQ7714-6JA20-0CG0	20300	1500	1800	2900	2240	375	220	710	350	3080	4200
1RQ7716-6JA20-0CG0	21400	1500	1800	2900	2240	375	220	710	350	3080	4200

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available 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 mm	L mm
13.8 kV, IM B3 type of construction, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611											
8-pole											
1RQ7630-8JA20-0CG0	12300	1320	1520	2520	1600	375	200	280	630	2570	3410
1RQ7632-8JA20-0CG0	12800	1320	1520	2520	1600	375	200	280	630	2570	3410
1RQ7634-8JA20-0CG0	13700	1320	1520	2520	1800	375	200	280	630	2570	3610
1RQ7636-8JA20-0CG0	14300	1320	1520	2520	1800	375	200	280	630	2570	3610
1RQ7710-8JA20-0CG0	16200	1500	1800	2900	2000	375	220	710	350	2710	3960
1RQ7712-8JA20-0CG0	17200	1500	1800	2900	2000	375	220	710	350	2710	3960
1RQ7714-8JA20-0CG0	19400	1500	1800	2900	2240	375	220	710	350	2710	4200
1RQ7716-8JA20-0CG0	20400	1500	1800	2900	2240	375	220	710	350	2710	4200
10-pole											
1RQ7630-3JA20-0CG0	12300	1320	1520	2520	1600	375	200	280	630	2570	3410
1RQ7632-3JA20-0CG0	12800	1320	1520	2520	1600	375	200	280	630	2570	3410
1RQ7634-3JA20-0CG0	13700	1320	1520	2520	1800	375	200	280	630	2570	3610
1RQ7636-3JA20-0CG0	14200	1320	1520	2520	1800	375	200	280	630	2570	3610
1RQ7710-3JA20-0CG0	16400	1500	1800	2900	2000	375	220	710	350	2710	3960
1RQ7712-3JA20-0CG0	17300	1500	1800	2900	2000	375	220	710	350	2710	3960
1RQ7714-3JA20-0CG0	19500	1500	1800	2900	2240	375	220	710	350	2710	4200
1RQ7716-3JA20-0CG0	20400	1500	1800	2900	2240	375	220	710	350	2710	4200

Note: Higher pole numbers are available on request.

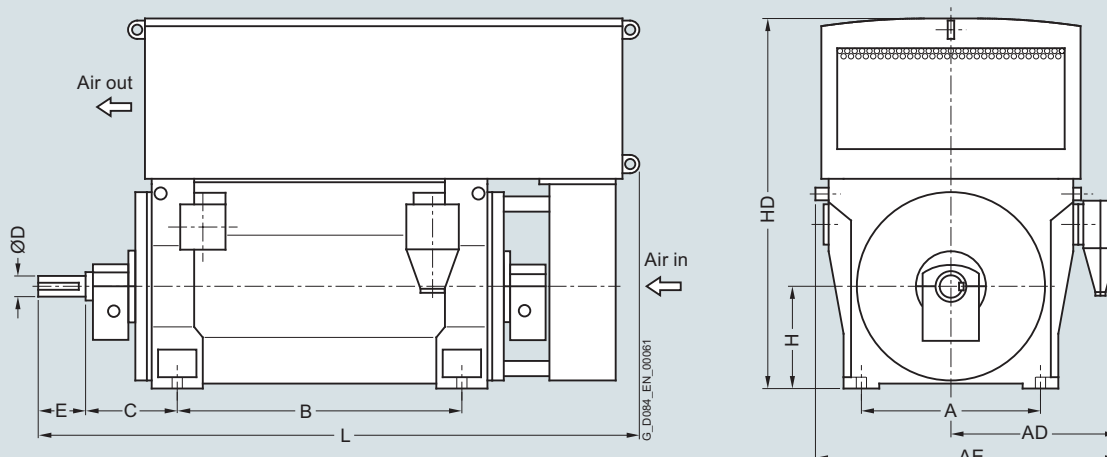
¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

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 – 1RQ6²⁾, 1RQ7²⁾ series – IC611

2-pole											
1RQ6450-2JJ.0-Z K96 ³⁾	4250	850	930	1620	1180	425	95	130	450	1842	2575 ⁴⁾
1RQ6452-2JJ.0-Z K96 ³⁾	4500	850	930	1620	1180	425	95	130	450	1842	2575 ⁴⁾
1RQ6454-2JJ.0-Z K96 ³⁾	4850	850	930	1620	1400	425	95	130	450	1842	2790 ⁴⁾
1RQ6456-2JJ.0-Z K96 ³⁾	5100	850	930	1620	1400	425	95	130	450	1842	2790 ⁴⁾
1RQ6500-2JJ.0-Z K96 ³⁾	6100	950	1135	1835	1320	450	110	165	500	2040	3550 ⁴⁾
1RQ6502-2JJ.0-Z K96 ³⁾	6250	950	1135	1835	1320	450	110	165	500	2040	3550 ⁴⁾
1RQ6504-2JJ.0	7100	950	1135	1835	1500	450	110	165	500	2040	3750 ⁴⁾
1RQ6506-2JJ.0	7350	950	1135	1835	1500	450	110	165	500	2040	3750 ⁴⁾
1RQ6560-2JJ.0	8150	1060	1205	1975	1400	600	130	200	560	2300	3900 ⁴⁾
1RQ6562-2JJ.0	8550	1060	1205	1975	1400	600	130	200	560	2300	3900 ⁴⁾
1RQ6564-2JJ.0	9500	1060	1205	1975	1600	600	130	200	560	2300	4130 ⁴⁾
1RQ6566-2JJ.0	9950	1060	1205	1975	1600	600	130	200	560	2300	4130 ⁴⁾
1RQ7630-2J..0-0CJ0	11800	1320	1340	2340	1600	600	180	240	630	2710	4920 ⁴⁾
1RQ7632-2J..0-0CJ0	12400	1320	1340	2340	1600	600	180	240	630	2710	4920 ⁴⁾
1RQ7634-2J..0-0CJ0	13300	1320	1340	2340	1800	600	180	240	630	2710	5120 ⁴⁾
1RQ7636-2J..0-0CJ0	13900	1320	1340	2340	1800	600	180	240	630	2710	5120 ⁴⁾
1RQ7710-2J..0-0CJ0	16500	1500	1800	2900	2000	560	200	280	710	3080	4630 ⁴⁾
1RQ7712-2J..0-0CJ0	17000	1500	1800	2900	2000	560	200	280	710	3080	4630 ⁴⁾
1RQ7714-2J..0-0CJ0	18400	1500	1800	2900	2240	560	200	280	710	3080	4870 ⁴⁾
1RQ7716-2J..0-0CJ0	19100	1500	1800	2900	2240	560	200	280	710	3080	4870 ⁴⁾

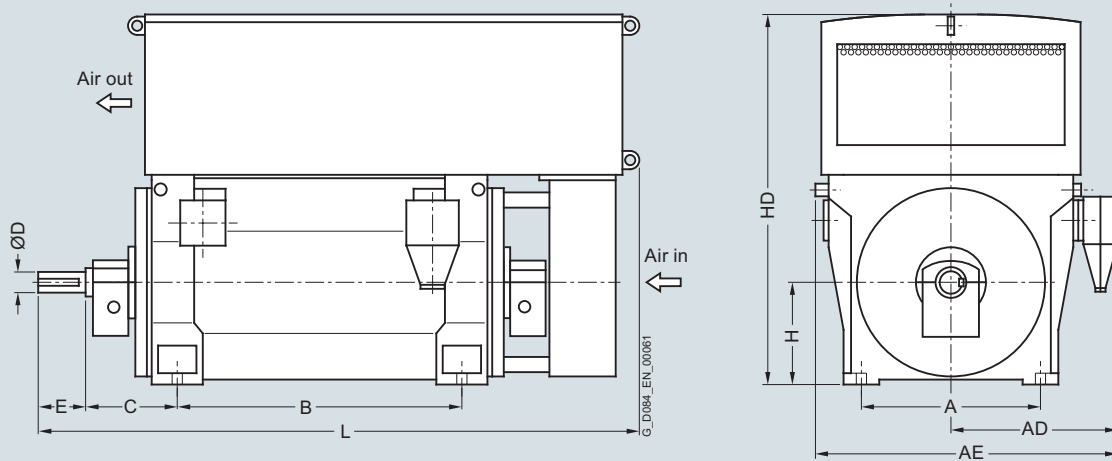
¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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

⁴⁾ Including air inlet silencer.

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 – 1RQ6²⁾, 1RQ7²⁾ series – IC611

4-pole

1RQ6450-4JJ.0-Z K96	4650	850	930	1620	1180	500	130	200	450	1842	2705
1RQ6452-4JJ.0-Z K96	4900	850	930	1620	1180	500	130	200	450	1842	2705
1RQ6454-4JJ.0-Z K96	5300	850	930	1620	1400	500	130	200	450	1842	2915
1RQ6456-4JJ.0-Z K96	5550	850	930	1620	1400	500	130	200	450	1842	2915
1RQ6500-4JJ.0-Z K96	6900	950	1135	1835	1320	560	150	200	500	2040	3150
1RQ6502-4JJ.0-Z K96	7100	950	1135	1835	1320	560	150	200	500	2040	3150
1RQ6504-4JJ.0-Z K96	7800	950	1135	1835	1500	560	150	200	500	2040	3350
1RQ6506-4JJ.0-Z K96	8100	950	1135	1835	1500	560	150	200	500	2040	3350
1RQ6560-4JJ.0-Z K96	8350	1060	1205	1975	1400	600	170	240	560	2300	3270
1RQ6562-4JJ.0-Z K96	8750	1060	1205	1975	1400	600	170	240	560	2300	3270
1RQ6564-4JJ.0-Z K96	9700	1060	1205	1975	1600	600	170	240	560	2300	3500
1RQ6566-4JJ.0-Z K96	10200	1060	1205	1975	1600	600	170	240	560	2300	3500
1RQ7630-4J..0-0CJ0	12300	1320	1340	2340	1600	630	200	280	630	2710	4210 ³⁾
1RQ7632-4J..0-0CJ0	12800	1320	1340	2340	1600	630	200	280	630	2710	4210 ³⁾
1RQ7634-4J..0-0CJ0	13800	1320	1340	2340	1800	630	200	280	630	2710	4410 ³⁾
1RQ7636-4J..0-0CJ0	14400	1320	1340	2340	1800	630	200	280	630	2710	4410 ³⁾
1RQ7710-4J..0-0CJ0	17500	1500	1800	2900	2000	710	220	350	710	3080	4840 ³⁾
1RQ7712-4J..0-0CJ0	18200	1500	1800	2900	2000	710	220	350	710	3080	4840 ³⁾
1RQ7714-4J..0-0CJ0	19500	1500	1800	2900	2240	710	220	350	710	3080	5080 ³⁾
1RQ7716-4J..0-0CJ0	20800	1500	1800	2900	2240	710	220	350	710	3080	5080 ³⁾

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

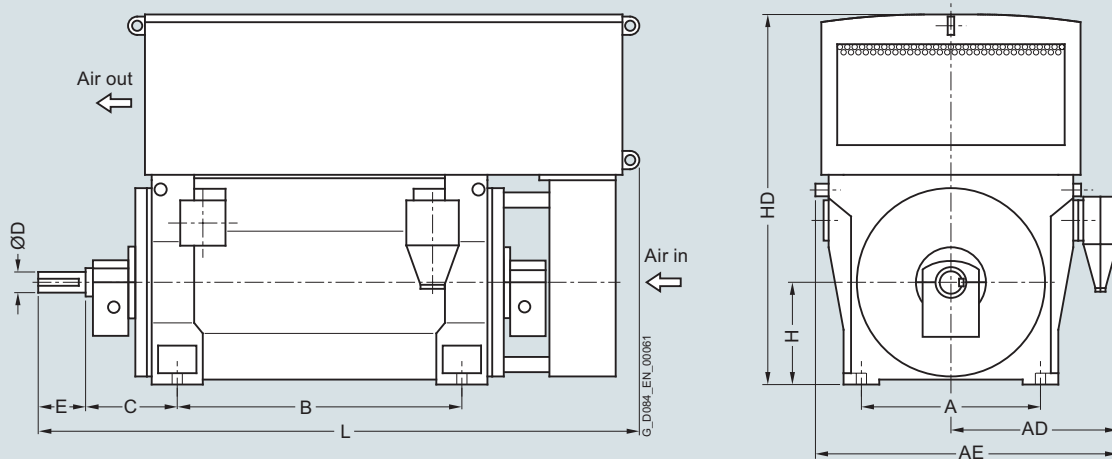
³⁾ Including air inlet silencer.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

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 – 1RQ6²⁾, 1RQ7²⁾ series – IC611

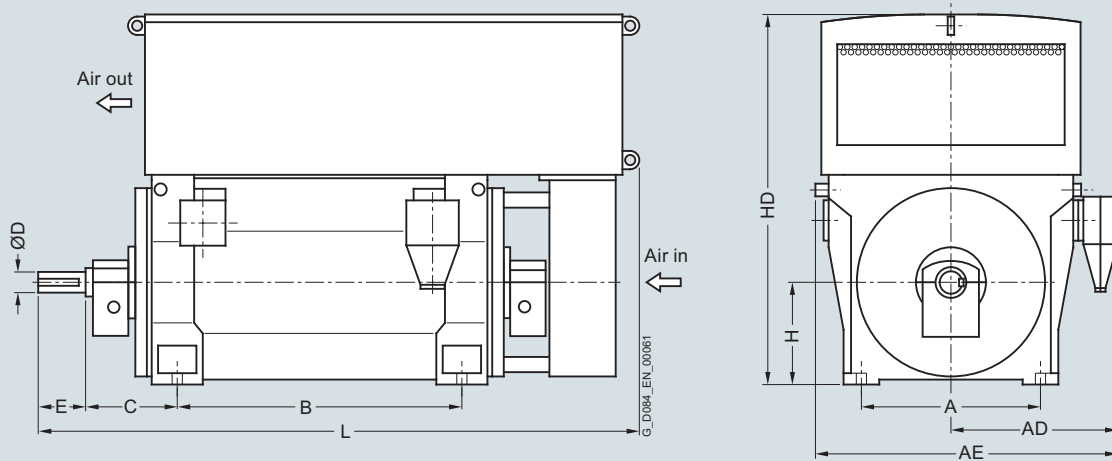
6-pole

1RQ6450-6JJ.0-Z K96	4800	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6452-6JJ.0-Z K96	5050	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6454-6JJ.0-Z K96	5450	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6456-6JJ.0-Z K96	5800	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6500-6JJ.0-Z K96	6900	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6502-6JJ.0-Z K96	7200	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6504-6JJ.0-Z K96	7850	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6506-6JJ.0-Z K96	8200	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6560-6JJ.0-Z K96	9300	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6562-6JJ.0-Z K96	9750	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6564-6JJ.0-Z K96	10650	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ6566-6JJ.0-Z K96	11150	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ7630-6J..0-0CJ0	12800	1320	1340	2340	1600	630	200	280	630	2710	3670
1RQ7632-6J..0-0CJ0	13400	1320	1340	2340	1600	630	200	280	630	2710	3670
1RQ7634-6J..0-0CJ0	14200	1320	1340	2340	1800	630	200	280	630	2710	3870
1RQ7636-6J..0-0CJ0	14800	1320	1340	2340	1800	630	200	280	630	2710	3870
1RQ7710-6J..0-0CJ0	17300	1500	1800	2900	2000	670	220	350	710	3080	4250
1RQ7712-6J..0-0CJ0	18400	1500	1800	2900	2000	670	220	350	710	3080	4250
1RQ7714-6J..0-0CJ0	19900	1500	1800	2900	2240	670	220	350	710	3080	4490
1RQ7716-6J..0-0CJ0	20900	1500	1800	2900	2240	670	220	350	710	3080	4490

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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 – 1RQ6²⁾, 1RQ7²⁾ series – IC611

8-pole

1RQ6450-8JJ.0-Z K96	4800	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6452-8JJ.0-Z K96	5100	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6454-8JJ.0-Z K96	5500	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6456-8JJ.0-Z K96	5850	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6500-8JJ.0-Z K96	6900	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6502-8JJ.0-Z K96	7150	950	1135	1835	1320	560	170	240	500	1990	2850
1RQ6504-8JJ.0-Z K96	7800	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6506-8JJ.0-Z K96	8150	950	1135	1835	1500	560	170	240	500	1990	3300
1RQ6560-8JJ.0-Z K96	9250	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6562-8JJ.0-Z K96	9650	1060	1205	1975	1400	600	170	240	560	2240	3300
1RQ6564-8JJ.0-Z K96	10550	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ6566-8JJ.0-Z K96	11100	1060	1205	1975	1600	600	170	240	560	2240	3500
1RQ7630-8J..0-0CJ0	12400	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7632-8J..0-0CJ0	13000	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7634-8J..0-0CJ0	13900	1320	1340	2340	1800	630	200	280	630	2570	3870
1RQ7636-8J..0-0CJ0	14400	1320	1340	2340	1800	630	200	280	630	2570	3870
1RQ7710-8J..0-0CJ0	16500	1500	1800	2900	2000	670	220	350	710	2710	4250
1RQ7712-8J..0-0CJ0	17400	1500	1800	2900	2000	670	220	350	710	2710	4250
1RQ7714-8J..0-0CJ0	18900	1500	1800	2900	2240	670	220	350	710	2710	4490
1RQ7716-8J..0-0CJ0	20000	1500	1800	2900	2240	670	220	350	710	2710	4490

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

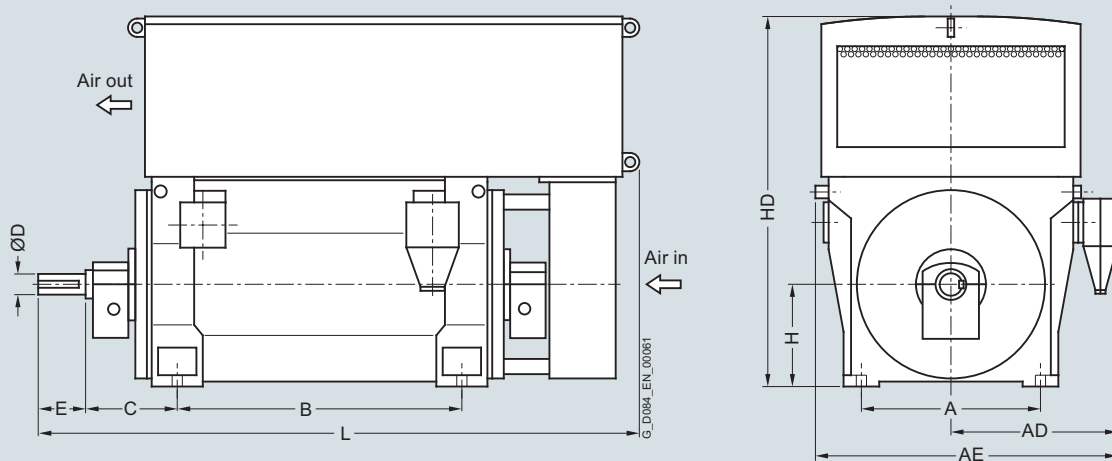
²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)

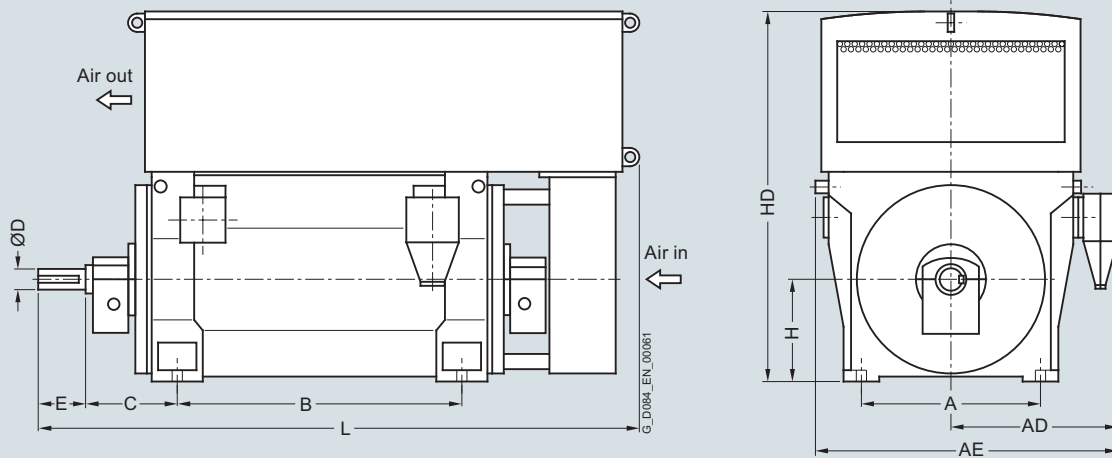


Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RQ6²⁾, 1RQ7²⁾ series – IC611											
10-pole											
1RQ6450-3JJ.0-Z K96	4800	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6452-3JJ.0-Z K96	5100	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6454-3JJ.0-Z K96	5500	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6456-3JJ.0-Z K96	5850	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6500-3JJ.0-Z K96	6100	950	1000	1760	1320	500	150	200	500	2000	2880
1RQ6502-3JJ.0-Z K96	6500	950	1000	1760	1320	500	150	200	500	2000	2880
1RQ6504-3JJ.0-Z K96	7050	950	1000	1760	1500	500	160	240	500	2000	3130
1RQ6506-3JJ.0-Z K96	7400	950	1000	1760	1500	500	160	240	500	2000	3130
1RQ6560-3JJ.0-Z K96	8150	1060	1070	1900	1400	530	170	240	560	2260	3170
1RQ6562-3JJ.0-Z K96	8750	1060	1070	1900	1400	530	170	240	560	2260	3170
1RQ6564-3JJ.0-Z K96	9600	1060	1070	1900	1600	530	180	240	560	2260	3400
1RQ6566-3JJ.0-Z K96	10050	1060	1070	1900	1600	530	180	240	560	2260	3400
1RQ7630-3J..0-0CJ0	12400	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7632-3J..0-0CJ0	12900	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7634-3J..0-0CJ0	13800	1320	1340	2340	1800	630	200	280	630	2570	3870
1RQ7636-3J..0-0CJ0	14300	1320	1340	2340	1800	630	200	280	630	2570	3870
1RQ7710-3J..0-0CJ0	16400	1500	1800	2900	2000	670	220	350	710	2710	4250
1RQ7712-3J..0-0CJ0	17400	1500	1800	2900	2000	670	220	350	710	2710	4250
1RQ7714-3J..0-0CJ0	19000	1500	1800	2900	2240	670	220	350	710	2710	4490
1RQ7716-3J..0-0CJ0	20000	1500	1800	2900	2240	670	220	350	710	2710	4490

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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 – 1RQ6²⁾, 1RQ7²⁾ series – IC611											
12-pole											
1RQ6450-5JJ.0-Z K96	4800	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6452-5JJ.0-Z K96	5100	850	930	1620	1180	500	140	200	450	1842	2705
1RQ6454-5JJ.0-Z K96	5500	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6456-5JJ.0-Z K96	5850	850	930	1620	1400	500	140	200	450	1842	2915
1RQ6500-5JJ.0-Z K96	6100	950	1000	1760	1320	500	150	200	500	2000	2880
1RQ6502-5JJ.0-Z K96	6500	950	1000	1760	1320	500	150	200	500	2000	2880
1RQ6504-5JJ.0-Z K96	7050	950	1000	1760	1500	500	160	240	500	2000	3130
1RQ6506-5JJ.0-Z K96	7450	950	1000	1760	1500	500	160	240	500	2000	3130
1RQ6560-5JJ.0-Z K96	8200	1060	1070	1900	1400	530	170	240	560	2260	3170
1RQ6562-5JJ.0-Z K96	8750	1060	1070	1900	1400	530	170	240	560	2260	3170
1RQ6564-5JJ.0-Z K96	9550	1060	1070	1900	1600	530	180	240	560	2260	3400
1RQ6566-5JJ.0-Z K96	10050	1060	1070	1900	1600	530	180	240	560	2260	3400
1RQ7630-5J..0-0CJ0	12300	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7632-5J..0-0CJ0	12900	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7634-5J..0-0CJ0	13700	1320	1340	2340	1800	630	200	280	630	2570	3870
1RQ7636-5J..0-0CJ0	14300	1320	1340	2340	1800	630	200	280	630	2570	3870

Note: Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

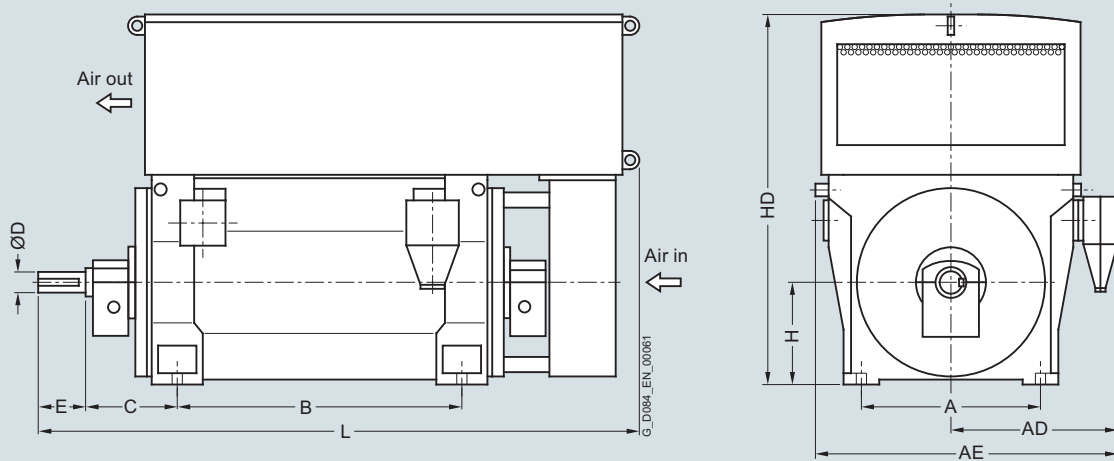
²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings



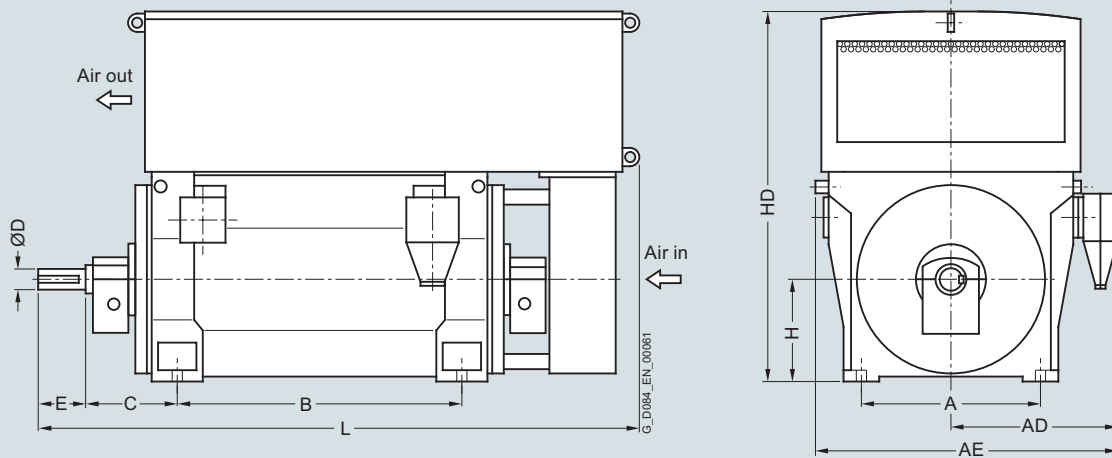
Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611											
2-pole											
1RQ6450-2JJ.0-Z K96 ²⁾	4250	850	1070	1840	1180	425	95	130	450	1842	2575 ³⁾
1RQ6452-2JJ.0-Z K96 ²⁾	4500	850	1070	1840	1180	425	95	130	450	1842	2575 ³⁾
1RQ6454-2JJ.0-Z K96 ²⁾	4850	850	1070	1840	1400	425	95	130	450	1842	2790 ³⁾
1RQ6456-2JJ.0-Z K96 ²⁾	5100	850	1070	1840	1400	425	95	130	450	1842	2790 ³⁾
1RQ6500-2JJ.0-Z K96 ²⁾	6100	950	1270	1970	1320	450	110	165	500	2040	3550 ³⁾
1RQ6502-2JJ.0-Z K96 ²⁾	6250	950	1270	1970	1320	450	110	165	500	2040	3550 ³⁾
1RQ6504-2JJ.0	7100	950	1270	1970	1500	450	110	165	500	2040	3750 ³⁾
1RQ6506-2JJ.0	7350	950	1270	1970	1500	450	110	165	500	2040	3750 ³⁾
1RQ6560-2JJ.0	8150	1060	1340	2110	1400	600	130	200	560	2300	3900 ³⁾
1RQ6562-2JJ.0	8550	1060	1340	2110	1400	600	130	200	560	2300	3900 ³⁾
1RQ6564-2JJ.0	9500	1060	1340	2110	1600	600	130	200	560	2300	4130 ³⁾
1RQ6566-2JJ.0	9950	1060	1340	2110	1600	600	130	200	560	2300	4130 ³⁾
1RQ7630-2J..0-0CJ0	11600	1320	1340	2340	1600	600	180	240	630	2710	4920 ³⁾
1RQ7632-2J..0-0CJ0	12200	1320	1340	2340	1600	600	180	240	630	2710	4920 ³⁾
1RQ7634-2J..0-0CJ0	13100	1320	1340	2340	1800	600	180	240	630	2710	5120 ³⁾
1RQ7636-2J..0-0CJ0	13700	1320	1340	2340	1800	600	180	240	630	2710	5120 ³⁾
1RQ7710-2J..0-0CJ0	16900	1500	1800	2900	2000	560	200	280	710	3080	4630 ³⁾
1RQ7712-2J..0-0CJ0	17500	1500	1800	2900	2000	560	200	280	710	3080	4630 ³⁾
1RQ7714-2J..0-0CJ0	18700	1500	1800	2900	2240	560	200	280	710	3080	4870 ³⁾
1RQ7716-2J..0-0CJ0	19600	1500	1800	2900	2240	560	200	280	710	3080	4870 ³⁾

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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

³⁾ Including air inlet silencer.

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 – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611											
4-pole											
1RQ6450-4JJ.0-Z K96	4650	850	1070	1840	1180	500	130	200	450	1842	2705
1RQ6452-4JJ.0-Z K96	4850	850	1070	1840	1180	500	130	200	450	1842	2705
1RQ6454-4JJ.0-Z K96	5300	850	1070	1840	1400	500	130	200	450	1842	2915
1RQ6456-4JJ.0-Z K96	5550	850	1070	1840	1400	500	130	200	450	1842	2915
1RQ6500-4JJ.0-Z K96	6900	950	1270	1970	1320	560	150	200	500	2040	3150
1RQ6502-4JJ.0-Z K96	7100	950	1270	1970	1320	560	150	200	500	2040	3150
1RQ6504-4JJ.0-Z K96	7800	950	1270	1970	1500	560	150	200	500	2040	3350
1RQ6506-4JJ.0-Z K96	8100	950	1270	1970	1500	560	150	200	500	2040	3350
1RQ6560-4JJ.0-Z K96	8350	1060	1340	2110	1400	600	170	240	560	2300	3270
1RQ6562-4JJ.0-Z K96	8750	1060	1340	2110	1400	600	170	240	560	2300	3270
1RQ6564-4JJ.0-Z K96	9700	1060	1340	2110	1600	600	170	240	560	2300	3500
1RQ6566-4JJ.0-Z K96	10200	1060	1340	2110	1600	600	170	240	560	2300	3500
1RQ7630-4J..0-OCJ0	12100	1320	1340	2340	1600	630	200	280	630	2710	4210 ²⁾
1RQ7632-4J..0-OCJ0	12600	1320	1340	2340	1600	630	200	280	630	2710	4210 ²⁾
1RQ7634-4J..0-OCJ0	13500	1320	1340	2340	1800	630	200	280	630	2710	4410 ²⁾
1RQ7636-4J..0-OCJ0	14200	1320	1340	2340	1800	630	200	280	630	2710	4410 ²⁾
1RQ7710-4J..0-OCJ0	17900	1500	1800	2900	2000	710	220	350	710	3080	4840 ²⁾
1RQ7712-4J..0-OCJ0	18700	1500	1800	2900	2000	710	220	350	710	3080	4840 ²⁾
1RQ7714-4J..0-OCJ0	20100	1500	1800	2900	2240	710	220	350	710	3080	5080 ²⁾
1RQ7716-4J..0-OCJ0	21300	1500	1800	2900	2240	710	220	350	710	3080	5080 ²⁾
1RQ7900-4QA80-OCJ0	34900	1800	1620	2900	2500	670	280	470	900	4370	6440
1RQ7902-4QA80-OCJ0	36300	1800	1620	2900	2500	670	280	470	900	4370	6440
1RQ7904-4QA80-OCJ0	38500	1800	1620	2900	2800	670	280	470	900	4370	6740
1RQ7906-4QA80-OCJ0	40500	1800	1620	2900	2800	670	280	470	900	4370	6740

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

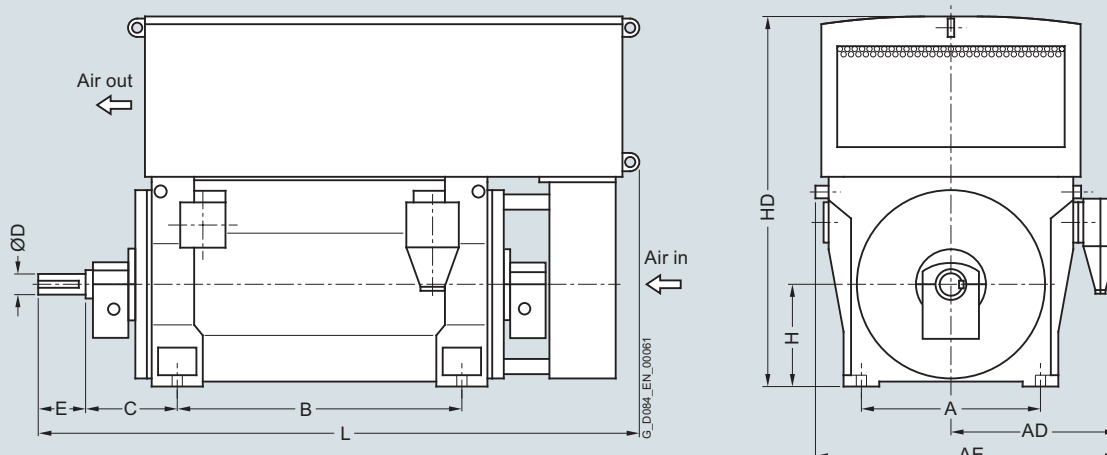
²⁾ Including air inlet silencer.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



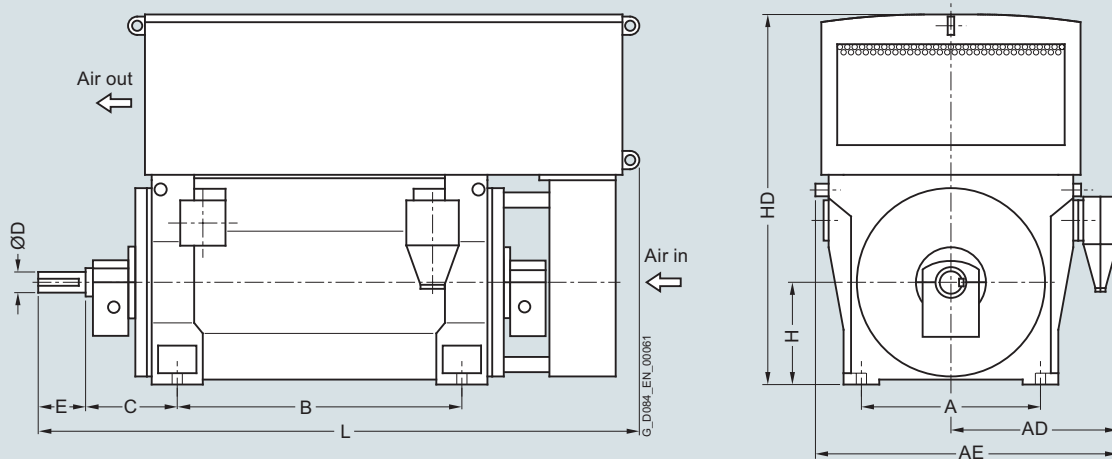
Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm

9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611

6-pole											
1RQ6450-6JJ.0-Z K96	4800	850	1070	1840	1180	500	140	200	450	1842	2705
1RQ6452-6JJ.0-Z K96	5050	850	1070	1840	1180	500	140	200	450	1842	2705
1RQ6454-6JJ.0-Z K96	5450	850	1070	1840	1400	500	140	200	450	1842	2915
1RQ6456-6JJ.0-Z K96	5800	850	1070	1840	1400	500	140	200	450	1842	2915
1RQ6500-6JJ.0-Z K96	6900	950	1270	1970	1320	560	170	240	500	1990	2850
1RQ6502-6JJ.0-Z K96	7200	950	1270	1970	1320	560	170	240	500	1990	2850
1RQ6504-6JJ.0-Z K96	7850	950	1270	1970	1500	560	170	240	500	1990	3300
1RQ6506-6JJ.0-Z K96	8200	950	1270	1970	1500	560	170	240	500	1990	3300
1RQ6560-6JJ.0-Z K96	9300	1060	1340	2110	1400	600	170	240	560	2240	3300
1RQ6562-6JJ.0-Z K96	9750	1060	1340	2110	1400	600	170	240	560	2240	3300
1RQ6564-6JJ.0-Z K96	10650	1060	1340	2110	1600	600	170	240	560	2240	3500
1RQ6566-6JJ.0-Z K96	11150	1060	1340	2110	1600	600	170	240	560	2240	3500
1RQ7630-6J..0-0CJ0	12600	1320	1340	2340	1600	630	200	280	630	2710	3670
1RQ7632-6J..0-0CJ0	13200	1320	1340	2340	1600	630	200	280	630	2710	3670
1RQ7634-6J..0-0CJ0	14100	1320	1340	2340	1800	630	200	280	630	2710	3870
1RQ7636-6J..0-0CJ0	14600	1320	1340	2340	1800	630	200	280	630	2710	3870
1RQ7710-6J..0-0CJ0	17800	1500	1800	2900	2000	670	220	350	710	3080	4250
1RQ7712-6J..0-0CJ0	18900	1500	1800	2900	2000	670	220	350	710	3080	4250
1RQ7714-6J..0-0CJ0	20400	1500	1800	2900	2240	670	220	350	710	3080	4490
1RQ7716-6J..0-0CJ0	21500	1500	1800	2900	2240	670	220	350	710	3080	4490
1RQ7900-6QA80-0CJ0	34600	1800	1620	2900	2500	710	280	470	900	4370	6480
1RQ7902-6QA80-0CJ0	36500	1800	1620	2900	2500	710	280	470	900	4370	6480
1RQ7904-6QA80-0CJ0	39500	1800	1620	2900	2800	710	280	470	900	4370	6780
1RQ7906-6QA80-0CJ0	41500	1800	1620	2900	2800	710	280	470	900	4370	6780

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available 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 mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611											
8-pole											
1RQ6450-8JJ.0-Z K96	4800	850	1070	1840	1180	500	140	200	450	1842	2705
1RQ6452-8JJ.0-Z K96	5100	850	1070	1840	1180	500	140	200	450	1842	2705
1RQ6454-8JJ.0-Z K96	5500	850	1070	1840	1400	500	140	200	450	1842	2915
1RQ6456-8JJ.0-Z K96	5850	850	1070	1840	1400	500	140	200	450	1842	2915
1RQ6500-8JJ.0-Z K96	6900	950	1270	1970	1320	560	170	240	500	1990	2850
1RQ6502-8JJ.0-Z K96	7150	950	1270	1970	1320	560	170	240	500	1990	2850
1RQ6504-8JJ.0-Z K96	7800	950	1270	1970	1500	560	170	240	500	1990	3300
1RQ6506-8JJ.0-Z K96	8150	950	1270	1970	1500	560	170	240	500	1990	3300
1RQ6560-8JJ.0-Z K96	9250	1060	1340	2110	1400	600	170	240	560	2240	3300
1RQ6562-8JJ.0-Z K96	9650	1060	1340	2110	1400	600	170	240	560	2240	3300
1RQ6564-8JJ.0-Z K96	10550	1060	1340	2110	1600	600	170	240	560	2240	3500
1RQ6566-8JJ.0-Z K96	11100	1060	1340	2110	1600	600	170	240	560	2240	3500
1RQ7630-8J..0-0CJ0	12300	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7632-8J..0-0CJ0	12900	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7634-8J..0-0CJ0	13700	1320	1340	2340	1800	630	200	280	630	2570	3870
1RQ7636-8J..0-0CJ0	14300	1320	1340	2340	1800	630	200	280	630	2570	3870
1RQ7710-8J..0-0CJ0	16300	1500	1800	2900	2000	670	220	350	710	2710	4250
1RQ7712-8J..0-0CJ0	17300	1500	1800	2900	2000	670	220	350	710	2710	4250
1RQ7714-8J..0-0CJ0	19500	1500	1800	2900	2240	670	220	350	710	2710	4490
1RQ7716-8J..0-0CJ0	20400	1500	1800	2900	2240	670	220	350	710	2710	4490

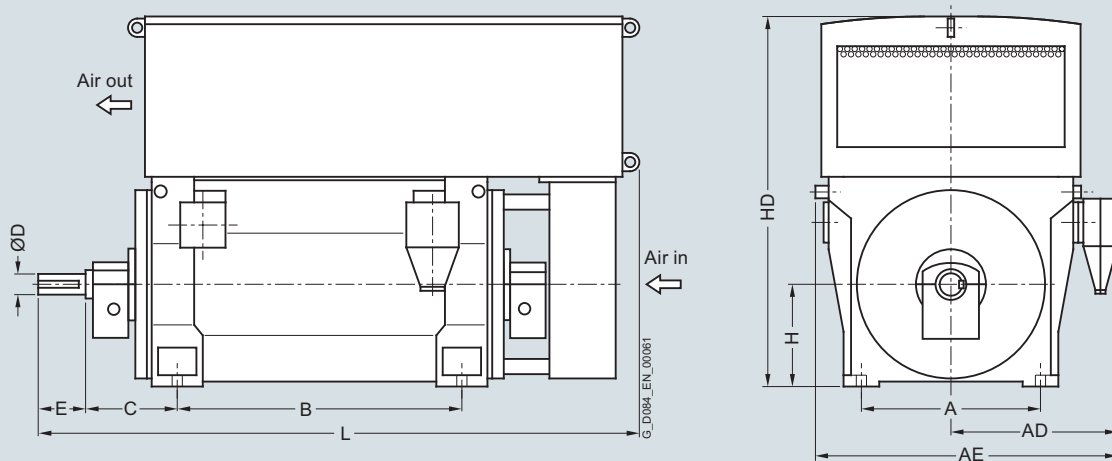
¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

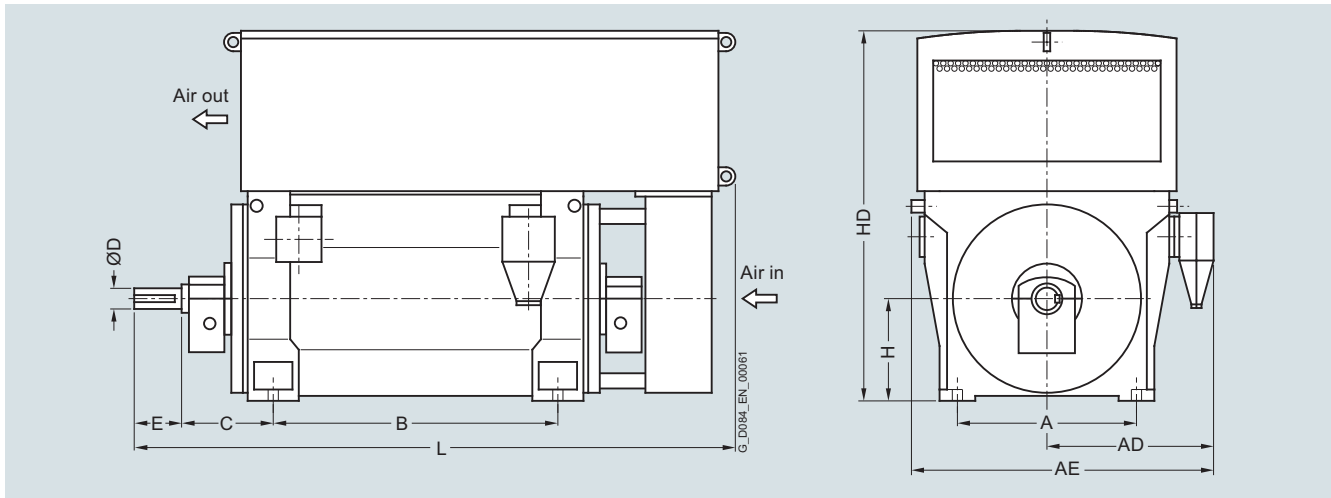
Dimension drawings (continued)



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 – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611											
10-pole											
1RQ6500-3JJ.0-Z K96	6100	950	1140	1980	1320	500	150	200	500	2000	2880
1RQ6502-3JJ.0-Z K96	6450	950	1140	1980	1320	500	150	200	500	2000	2880
1RQ6504-3JJ.0-Z K96	7050	950	1140	1980	1500	500	160	240	500	2000	3130
1RQ6506-3JJ.0-Z K96	7400	950	1140	1980	1500	500	160	240	500	2000	3130
1RQ6560-3JJ.0-Z K96	8400	1060	1210	2040	1400	530	170	240	560	2260	3170
1RQ6562-3JJ.0-Z K96	9400	1060	1210	2040	1400	530	170	240	560	2260	3170
1RQ6564-3JJ.0-Z K96	9900	1060	1210	2040	1600	530	180	240	560	2260	3400
1RQ6566-3JJ.0-Z K96	13000	1060	1210	2040	1600	530	180	240	560	2260	3400
1RQ7630-3J..0-0CJ0	12300	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7632-3J..0-0CJ0	12800	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7634-3J..0-0CJ0	13700	1320	1340	2340	1800	630	200	280	630	2570	3870
1RQ7636-3J..0-0CJ0	14200	1320	1340	2340	1800	630	200	280	630	2570	3870
1RQ7710-3J..0-0CJ0	16400	1500	1800	2900	2000	670	220	350	710	2710	4250
1RQ7712-3J..0-0CJ0	17400	1500	1800	2900	2000	670	220	350	710	2710	4250
1RQ7714-3J..0-0CJ0	19600	1500	1800	2900	2240	670	220	350	710	2710	4490
1RQ7716-3J..0-0CJ0	20500	1500	1800	2900	2240	670	220	350	710	2710	4490

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available 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 mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611											
12-pole											
1RQ6502-5JJ.0-Z K96	6500	950	1140	1980	1320	500	150	200	500	2000	2880
1RQ6504-5JJ.0-Z K96	7050	950	1140	1980	1500	500	160	240	500	2000	3130
1RQ6506-5JJ.0-Z K96	7400	950	1140	1980	1500	500	160	240	500	2000	3130
1RQ6560-5JJ.0-Z K96	8150	1060	1210	2040	1400	530	170	240	560	2260	3170
1RQ6562-5JJ.0-Z K96	8700	1060	1210	2040	1400	530	170	240	560	2260	3170
1RQ6564-5JJ.0-Z K96	9550	1060	1210	2040	1600	530	180	240	560	2260	3400
1RQ6566-5JJ.0-Z K96	10000	1060	1210	2040	1600	530	180	240	560	2260	3400
1RQ7630-5J..0-0CJ0	12200	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7632-5J..0-0CJ0	12700	1320	1340	2340	1600	630	200	280	630	2570	3670
1RQ7634-5J..0-0CJ0	13600	1320	1340	2340	1800	630	200	280	630	2570	3870
1RQ7636-5J..0-0CJ0	14100	1320	1340	2340	1800	630	200	280	630	2570	3870

Note: Higher pole numbers are available on request.

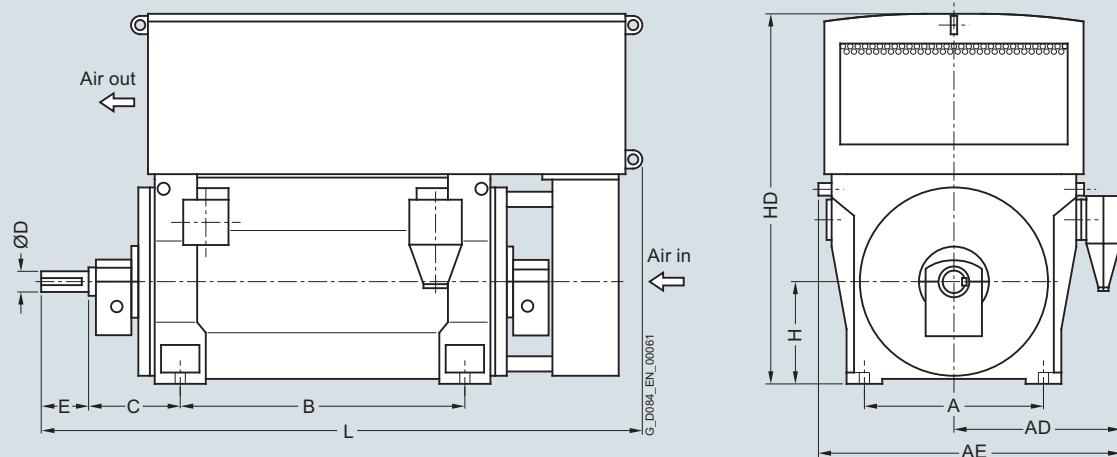
¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

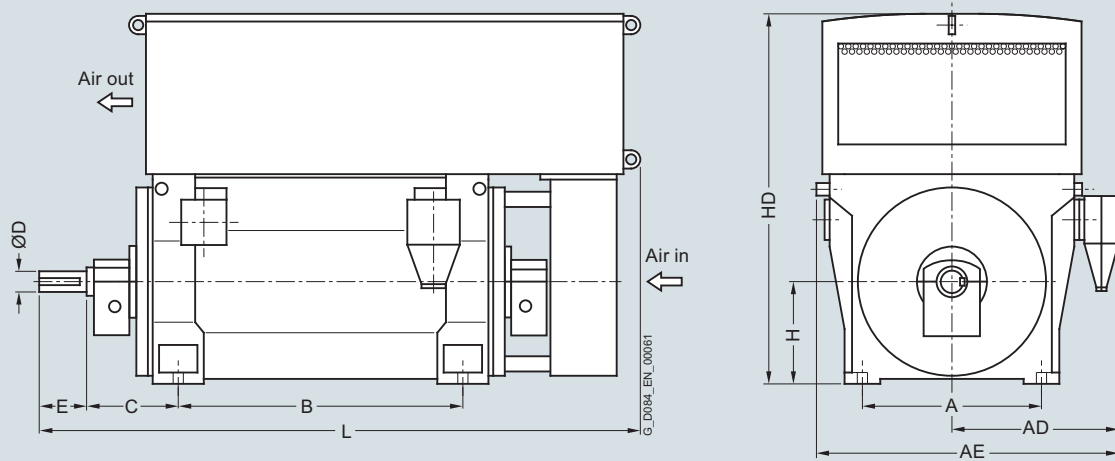
Dimension drawings



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
13.8 kV, IM B3 type of construction, sleeve bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611											
2-pole											
1RQ7630-2JA20-0CJ0	11600	1320	1520	2520	1600	600	180	240	630	2710	4920
1RQ7632-2JA20-0CJ0	12200	1320	1520	2520	1600	600	180	240	630	2710	4920
1RQ7634-2JA20-0CJ0	13100	1320	1520	2520	1800	600	180	240	630	2710	5120
1RQ7636-2JA20-0CJ0	13700	1320	1520	2520	1800	600	180	240	630	2710	5120
1RQ7710-2JA20-0CJ0	16900	1500	1800	2900	2000	560	200	710	280	3080	4630
1RQ7712-2JA20-0CJ0	17500	1500	1800	2900	2000	560	200	710	280	3080	4630
1RQ7714-2JA20-0CJ0	18700	1500	1800	2900	2240	560	200	710	280	3080	4870
1RQ7716-2JA20-0CJ0	19600	1500	1800	2900	2240	560	200	710	280	3080	4870
4-pole											
1RQ7630-4JA20-0CJ0	12100	1320	1520	2520	1600	630	200	280	630	2710	4210
1RQ7632-4JA20-0CJ0	12600	1320	1520	2520	1600	630	200	280	630	2710	4210
1RQ7634-4JA20-0CJ0	13500	1320	1520	2520	1800	630	200	280	630	2710	4410
1RQ7636-4JA20-0CJ0	14200	1320	1520	2520	1800	630	200	280	630	2710	4410
1RQ7710-4JA20-0CJ0	17900	1500	1800	2900	2000	710	220	710	350	3080	4840
1RQ7712-4JA20-0CJ0	18700	1500	1800	2900	2000	710	220	710	350	3080	4840
1RQ7714-4JA20-0CJ0	20100	1500	1800	2900	2240	710	220	710	350	3080	5080
1RQ7716-4JA20-0CJ0	21300	1500	1800	2900	2240	710	220	710	350	3080	5080

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available 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 mm	L mm
13.8 kV, IM B3 type of construction, sleeve bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611											
6-pole											
1RQ7630-6JA20-0CJ0	12600	1320	1520	2520	1600	630	200	280	630	2710	3670
1RQ7632-6JA20-0CJ0	13200	1320	1520	2520	1600	630	200	280	630	2710	3670
1RQ7634-6JA20-0CJ0	14100	1320	1520	2520	1800	630	200	280	630	2710	3870
1RQ7636-6JA20-0CJ0	14600	1320	1520	2520	1800	630	200	280	630	2710	3870
1RQ7710-6JA20-0CJ0	17800	1500	1800	2900	2000	670	220	710	350	3080	4250
1RQ7712-6JA20-0CJ0	18900	1500	1800	2900	2000	670	220	710	350	3080	4250
1RQ7714-6JA20-0CJ0	20400	1500	1800	2900	2240	670	220	710	350	3080	4490
1RQ7716-6JA20-0CJ0	21500	1500	1800	2900	2240	670	220	710	350	3080	4490
8-pole											
1RQ7630-8JA20-0CJ0	12300	1320	1520	2520	1600	630	200	280	630	2570	3670
1RQ7632-8JA20-0CJ0	12900	1320	1520	2520	1600	630	200	280	630	2570	3670
1RQ7634-8JA20-0CJ0	13700	1320	1520	2520	1800	630	200	280	630	2570	3870
1RQ7636-8JA20-0CJ0	14300	1320	1520	2520	1800	630	200	280	630	2570	3870
1RQ7710-8JA20-0CJ0	16300	1500	1800	2900	2000	670	220	710	350	2710	4250
1RQ7712-8JA20-0CJ0	17300	1500	1800	2900	2000	670	220	710	350	2710	4250
1RQ7714-8JA20-0CJ0	19500	1500	1800	2900	2240	670	220	710	350	2710	4490
1RQ7716-8JA20-0CJ0	20400	1500	1800	2900	2240	670	220	710	350	2710	4490
10-pole											
1RQ7630-3JA20-0CJ0	12300	1320	1520	2520	1600	630	200	280	630	2570	3670
1RQ7632-3JA20-0CJ0	12800	1320	1520	2520	1600	630	200	280	630	2570	3670
1RQ7634-3JA20-0CJ0	13700	1320	1520	2520	1800	630	200	280	630	2570	3870
1RQ7636-3JA20-0CJ0	14200	1320	1520	2520	1800	630	200	280	630	2570	3870
1RQ7710-3JA20-0CJ0	16400	1500	1800	2900	2000	670	220	710	350	2710	4250
1RQ7712-3JA20-0CJ0	17400	1500	1800	2900	2000	670	220	710	350	2710	4250
1RQ7714-3JA20-0CJ0	19600	1500	1800	2900	2240	670	220	710	350	2710	4490
1RQ7716-3JA20-0CJ0	20500	1500	1800	2900	2240	670	220	710	350	2710	4490

Note: Higher pole numbers are available on request.

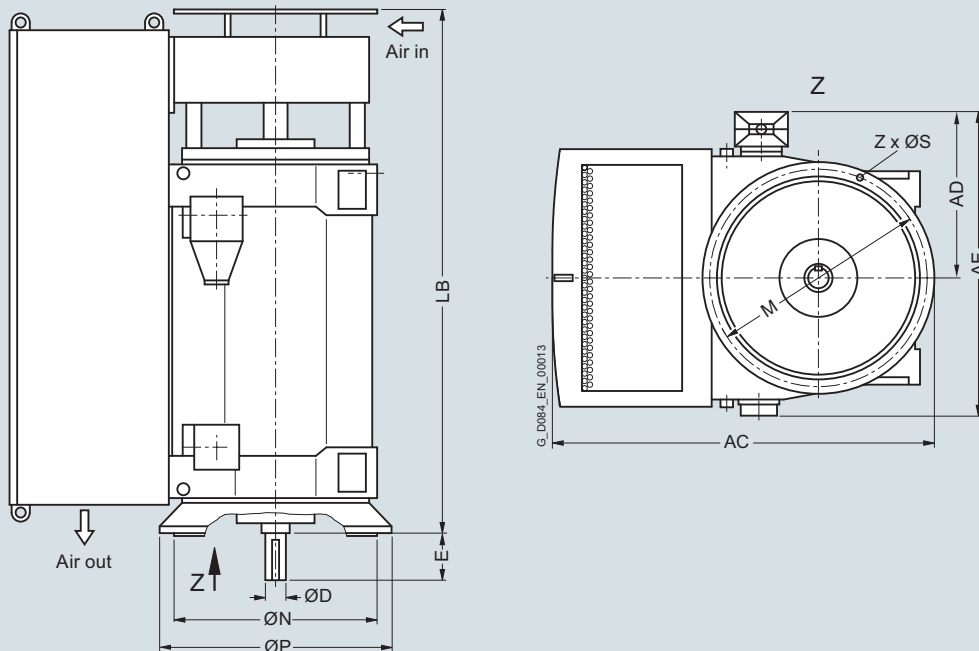
¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings



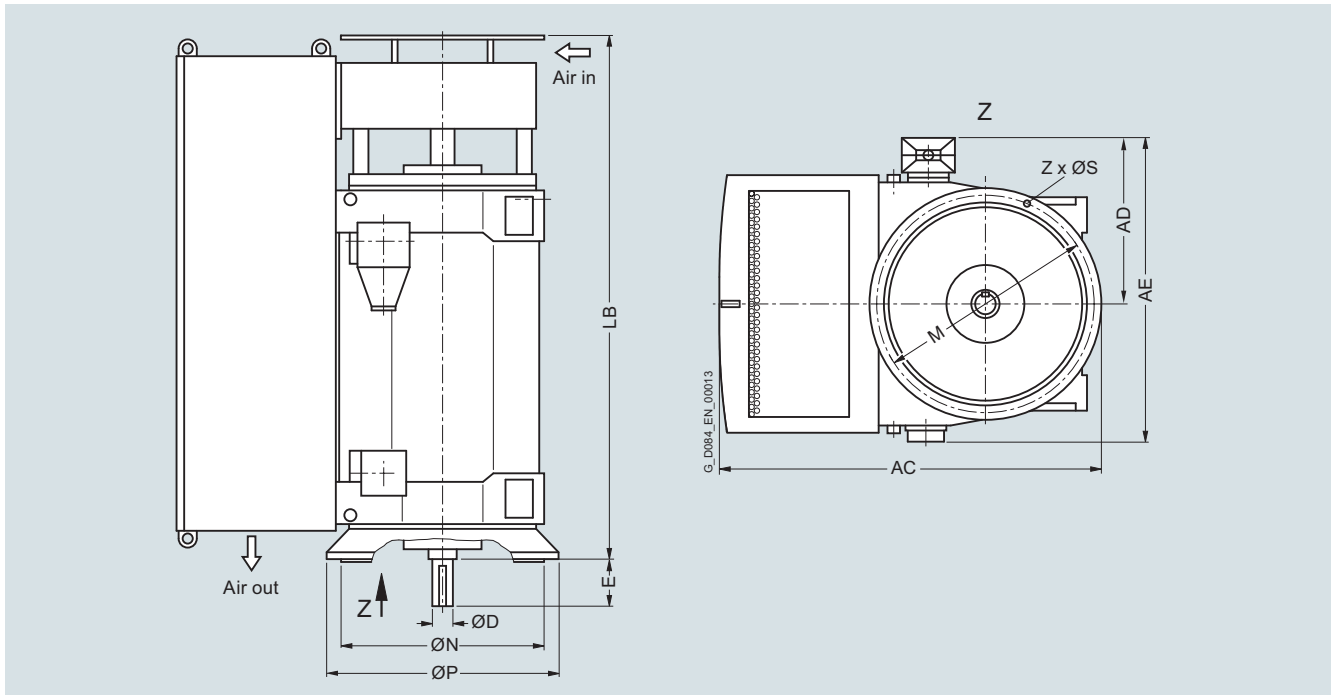
Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RQ6²⁾, 1RQ7²⁾ series – IC611												
4-pole												
1RQ6450-4JJ.4	4750	1967	930	1620	130	200	2730	1150	1000	1080	26	8
1RQ6452-4JJ.4	5000	1967	930	1620	130	200	2730	1150	1000	1080	26	8
1RQ6454-4JJ.4	5400	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6456-4JJ.4	5700	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6500-4JJ.4	6050	2130	1000	1810	140	200	2560	1250	1120	1180	26	8
1RQ6502-4JJ.4	6250	2130	1000	1810	140	200	2560	1250	1120	1180	26	8
1RQ6504-4JJ.4	6950	2130	1000	1810	150	200	2770	1250	1120	1180	26	8
1RQ6506-4JJ.4	7300	2130	1000	1810	150	200	2770	1250	1120	1180	26	8
1RQ6560-4JJ.4	8200	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6562-4JJ.4	8600	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6564-4JE.4 ³⁾	9500	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ6566-4JE.4 ³⁾	9950	2400	1210	2100	180	240	3030	1400	1250	1320	26	8

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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, anti-friction bearings – 1RQ6²⁾, 1RQ7²⁾ series – IC611												
6-pole												
1RQ6450-6JJ.4	4850	1967	930	1620	130	200	2730	1150	1000	1080	26	8
1RQ6452-6JJ.4	5150	1967	930	1620	130	200	2730	1150	1000	1080	26	8
1RQ6454-6JJ.4	5500	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6456-6JJ.4	5850	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6500-6JJ.4	6200	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ6502-6JJ.4	6550	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ6504-6JJ.4	7100	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ6506-6JJ.4	7500	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ6560-6JJ.4	8300	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ6562-6JJ.4	8800	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ6564-6JJ.4	9750	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ6566-6JJ.4	10200	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ7630-6J..8-OCG0	13400	3020	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7632-6J..8-OCG0	14000	3020	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7634-6J..8-OCG0	14900	3020	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7636-6J..8-OCG0	15500	3020	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7710-6J..8-OCG0	18100	3420	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7712-6J..8-OCG0	19200	3420	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7714-6J..8-OCG0	20700	3420	1800	2900	220	350	4260	2000	1800	1900	35	24
1RQ7716-6J..8-OCG0	21700	3420	1800	2900	220	350	4260	2000	1800	1900	35	24

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

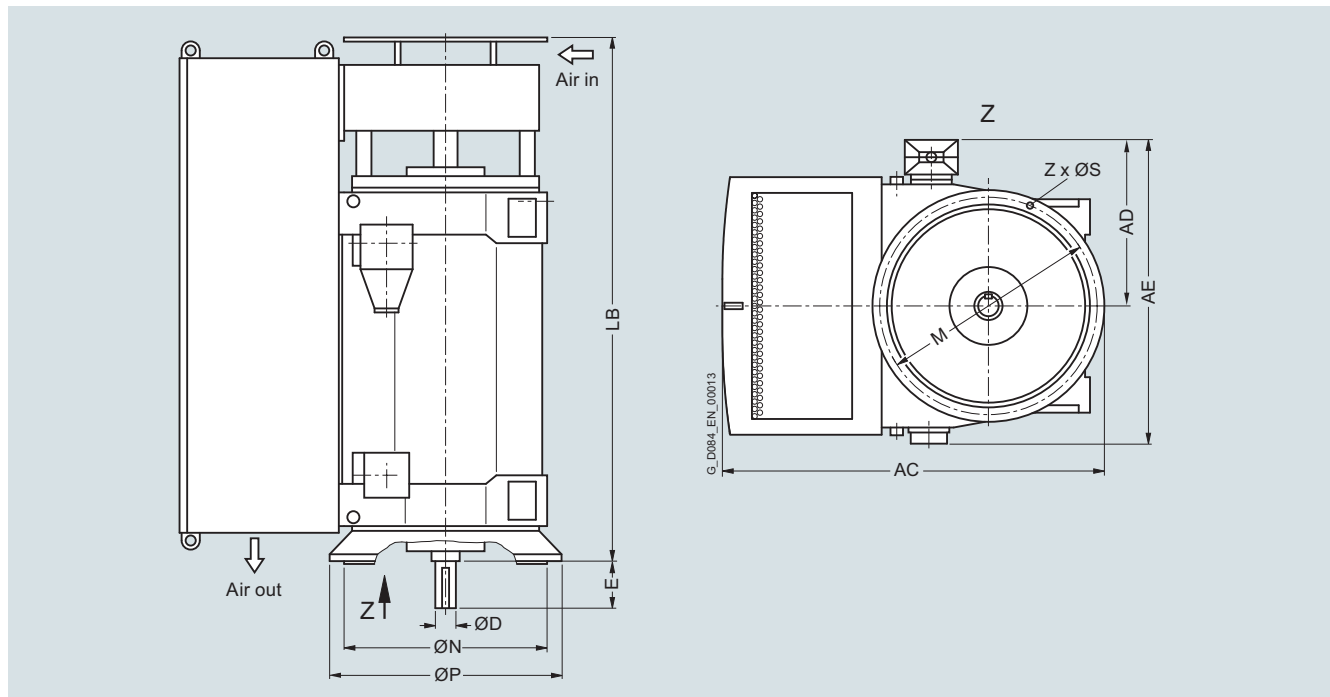
²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)

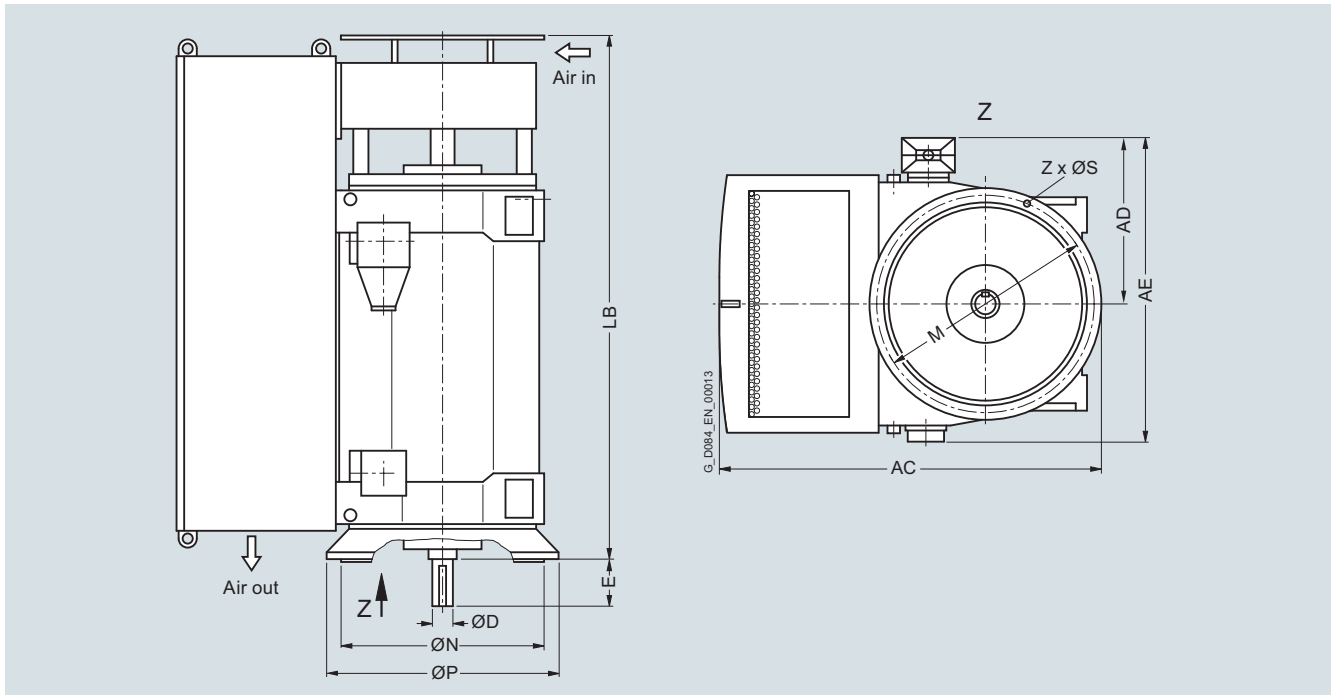


Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RQ6²⁾, 1RQ7²⁾ series – IC611												
8-pole												
1RQ6450-8JJ.4	4850	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6452-8JJ.4	5150	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6454-8JJ.4	5550	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6456-8JJ.4	5900	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6500-8JJ.4	6200	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ6502-8JJ.4	6600	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ6504-8JJ.4	7100	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ6506-8JJ.4	7500	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ6560-8JJ.4	8250	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ6562-8JJ.4	8800	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ6564-8JJ.4	9650	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ6566-8JJ.4	10100	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ7630-8J..8-OCG0	13000	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7632-8J..8-OCG0	13600	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7634-8J..8-OCG0	14500	2890	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7636-8J..8-OCG0	15100	2890	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7710-8J..8-OCG0	16900	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7712-8J..8-OCG0	17800	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7714-8J..8-OCG0	19400	3050	1800	2900	220	350	4260	2000	1800	1900	35	24
1RQ7716-8J..8-OCG0	20400	3050	1800	2900	220	350	4260	2000	1800	1900	35	24

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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, anti-friction bearings – 1RQ6²⁾, 1RQ7²⁾ series – IC611												
10-pole												
1RQ6450-3JJ.4	4850	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6452-3JJ.4	5150	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6454-3JJ.4	5550	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6456-3JJ.4	5900	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6500-3JJ.4	6150	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ6502-3JJ.4	6450	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ6504-3JJ.4	7050	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ6506-3JJ.4	7450	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ6560-3JJ.4	8200	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ6562-3JJ.4	8750	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ6564-3JJ.4	9600	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ6566-3JJ.4	10050	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ7630-3J..8-OCG0	13000	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7632-3J..8-OCG0	13500	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7634-3J..8-OCG0	14400	2890	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7636-3J..8-OCG0	14900	2890	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7710-3J..8-OCG0	16700	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7712-3J..8-OCG0	17700	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7714-3J..8-OCG0	19300	3050	1800	2900	220	350	4260	2000	1800	1900	35	24
1RQ7716-3J..8-OCG0	20400	3050	1800	2900	220	350	4260	2000	1800	1900	35	24

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

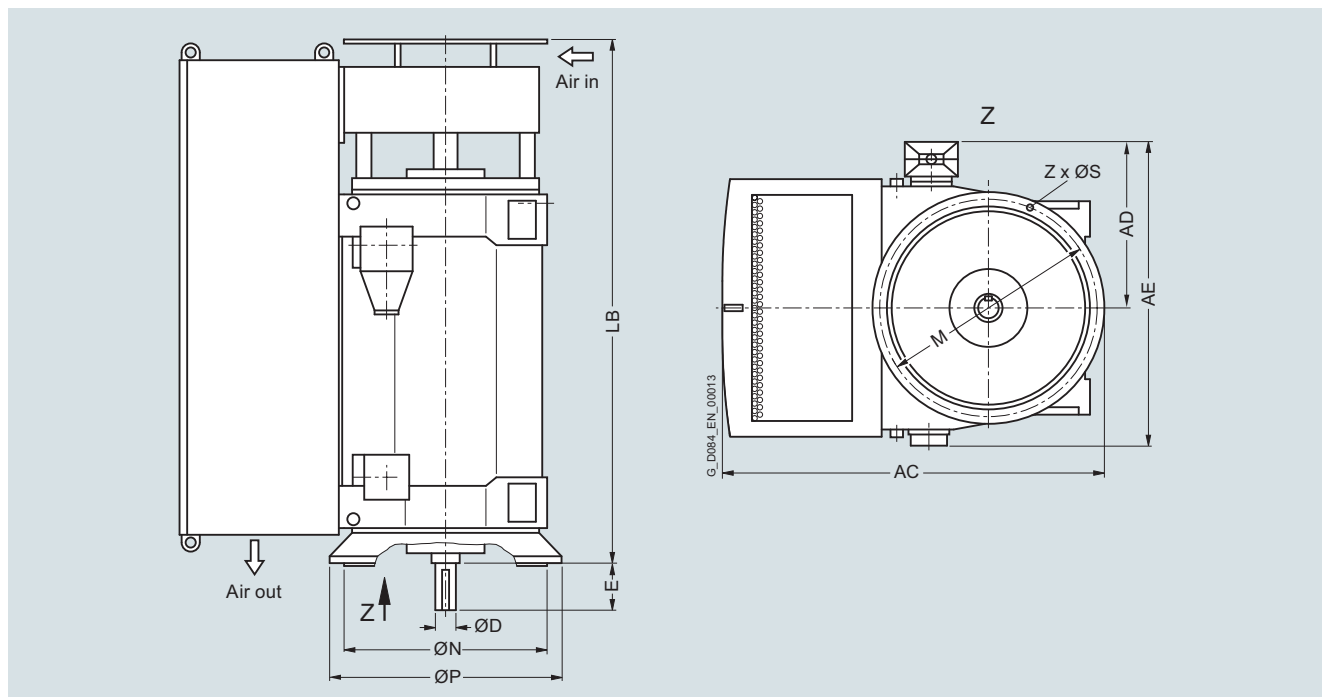
²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



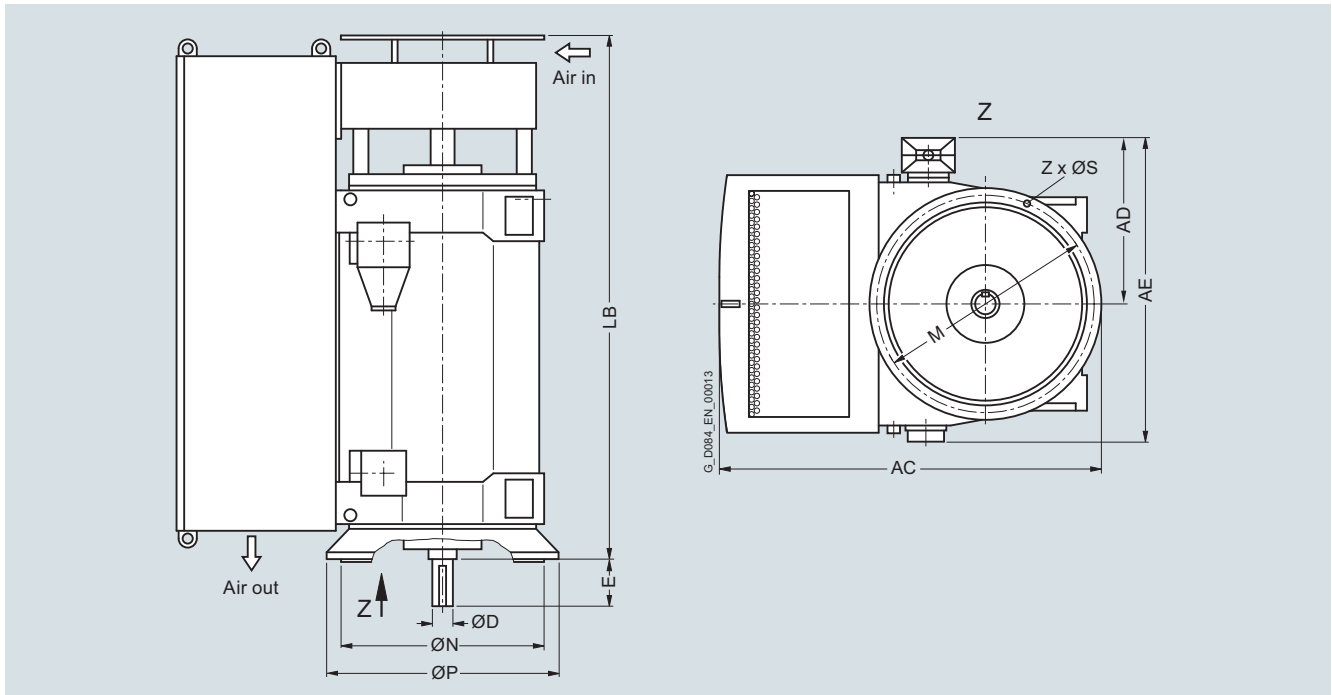
Motor type	Weight kg	Dimensions										
		AC mm	AD ¹⁾ mm	AE ¹⁾ mm	D mm	E mm	LB mm	P mm	N mm	M mm	S mm	Z Quantity
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RQ6²⁾, 1RQ7²⁾ series – IC611												
12-pole												
1RQ6450-5JJ.4	4850	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6452-5JJ.4	5150	1967	930	1620	140	200	2730	1150	1000	1080	26	8
1RQ6454-5JJ.4	5550	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6456-5JJ.4	5900	1967	930	1620	140	200	2940	1150	1000	1080	26	8
1RQ6500-5JJ.4	6150	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ6502-5JJ.4	6500	2130	1000	1810	150	200	2560	1250	1120	1180	26	8
1RQ6504-5JJ.4	7050	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ6506-5JJ.4	7500	2130	1000	1810	160	240	2770	1250	1120	1180	26	8
1RQ6560-5JJ.4	8200	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ6562-5JJ.4	8750	2400	1070	1960	170	240	2800	1400	1250	1320	26	8
1RQ6564-5JJ.4	9550	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ6566-5JJ.4	10050	2400	1070	1960	180	240	3030	1400	1250	1320	26	8
1RQ7630-5J..8-OCG0	12900	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7632-5J..8-OCG0	13500	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7634-5J..8-OCG0	14400	2890	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7636-5J..8-OCG0	14900	2890	1250	2130	200	280	3650	1800	1600	1700	28	24

Note: Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611												
4-pole												
1RQ6450-4JJ.4	4750	1967	1070	1840	130	200	2730	1150	1000	1080	26	8
1RQ6452-4JJ.4	5000	1967	1070	1840	130	200	2730	1150	1000	1080	26	8
1RQ6454-4JJ.4	5400	1967	1070	1840	130	200	2940	1150	1000	1080	26	8
1RQ6456-4JJ.4	5700	1967	1070	1840	130	200	2940	1150	1000	1080	26	8
1RQ6500-4JJ.4	6050	2130	1140	1950	140	200	2560	1250	1120	1180	26	8
1RQ6502-4JJ.4	6250	2130	1140	1950	140	200	2560	1250	1120	1180	26	8
1RQ6504-4JJ.4	6950	2130	1140	1950	150	200	2770	1250	1120	1180	26	8
1RQ6506-4JJ.4	7300	2130	1140	1950	150	200	2770	1250	1120	1180	26	8
1RQ6560-4JJ.4	8050	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6562-4JJ.4	8500	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6564-4JJ.4	9400	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ6566-4JJ.4	9800	2400	1210	2100	180	240	3030	1400	1250	1320	26	8

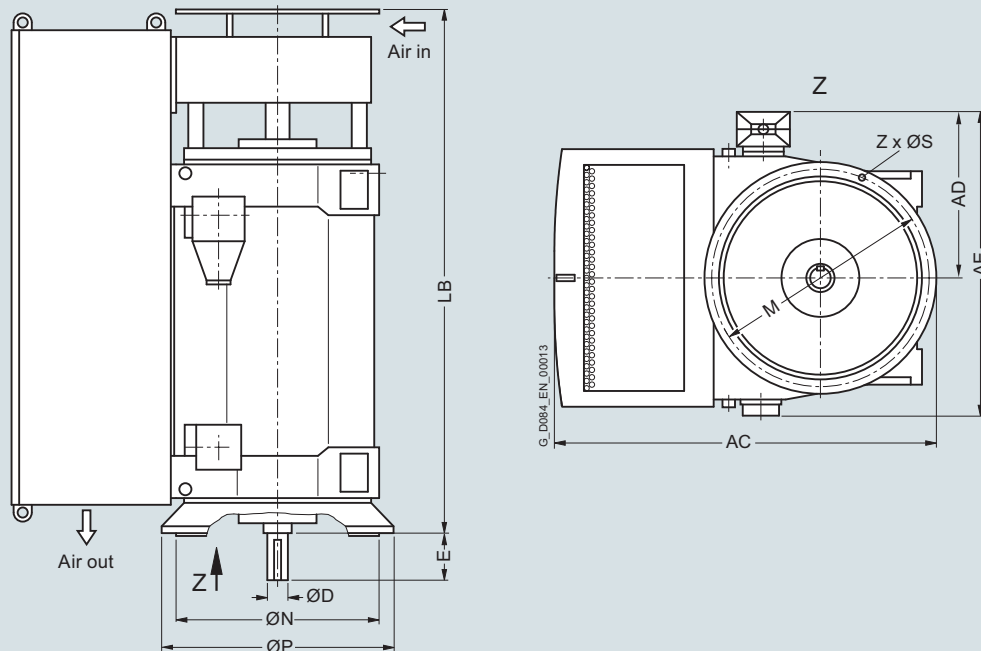
¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

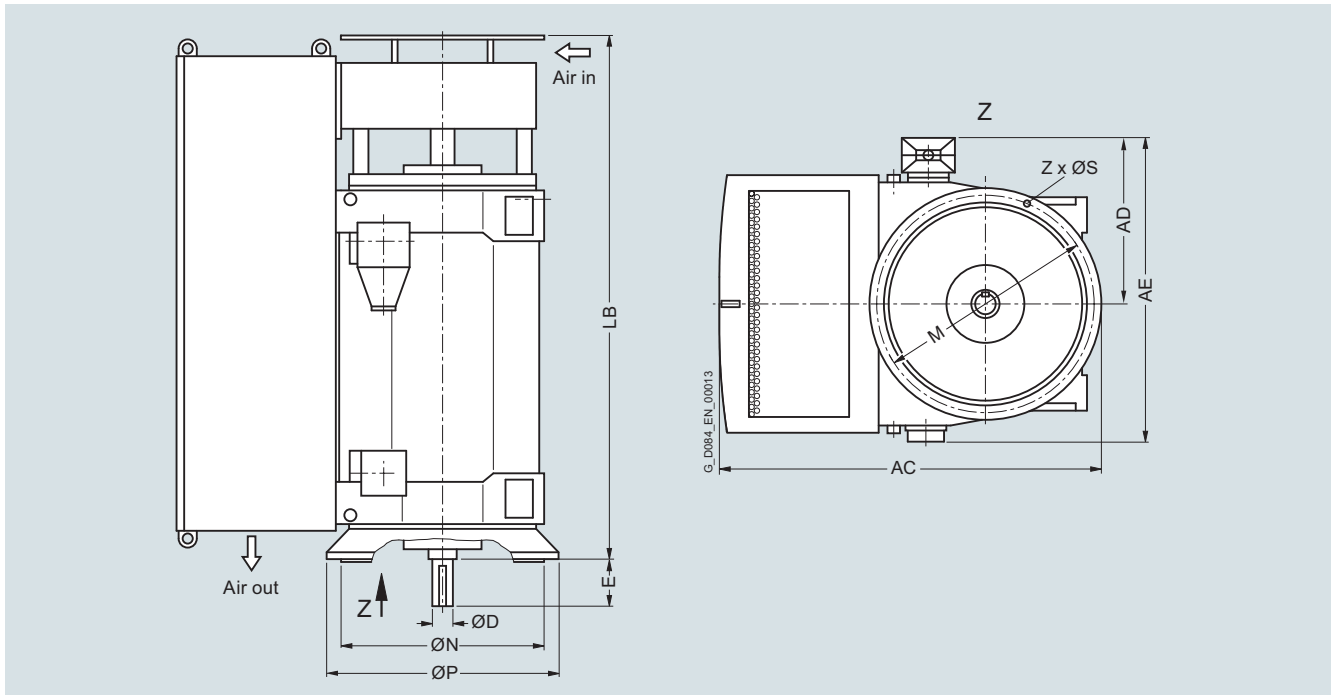
Dimension drawings (continued)



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, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611												
6-pole												
1RQ6450-6JJ.4	4850	1967	1070	1840	140	200	2730	1150	1000	1080	26	8
1RQ6452-6JJ.4	5150	1967	1070	1840	140	200	2730	1150	1000	1080	26	8
1RQ6454-6JJ.4	5500	1967	1070	1840	140	200	2940	1150	1000	1080	26	8
1RQ6456-6JJ.4	5850	1967	1070	1840	140	200	2940	1150	1000	1080	26	8
1RQ6500-6JJ.4	6150	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ6502-6JJ.4	6550	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ6504-6JJ.4	7100	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ6506-6JJ.4	7500	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ6560-6JJ.4	8250	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6562-6JJ.4	8750	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6564-6JJ.4	9600	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ6566-6JJ.4	10050	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ7630-6J..8-OCG0	13200	3020	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7632-6J..8-OCG0	13800	3020	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7634-6J..8-OCG0	14700	3020	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7636-6J..8-OCG0	15300	3020	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7710-6J..8-OCG0	17900	3420	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7712-6J..8-OCG0	19000	3420	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7714-6J..8-OCG0	20500	3420	1800	2900	220	350	4260	2000	1800	1900	35	24
1RQ7716-6J..8-OCG0	21600	3420	1800	2900	220	350	4260	2000	1800	1900	35	24

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611												
8-pole												
1RQ6450-8JJ.4	4850	1967	1070	1840	140	200	2730	1150	1000	1080	26	8
1RQ6452-8JJ.4	5150	1967	1070	1840	140	200	2730	1150	1000	1080	26	8
1RQ6454-8JJ.4	5550	1967	1070	1840	140	200	2940	1150	1000	1080	26	8
1RQ6456-8JJ.4	5900	1967	1070	1840	140	200	2940	1150	1000	1080	26	8
1RQ6500-8JJ.4	6200	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ6502-8JJ.4	6550	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ6504-8JJ.4	7100	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ6506-8JJ.4	7500	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ6560-8JJ.4	8200	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6562-8JJ.4	8750	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6564-8JJ.4	9600	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ6566-8JE.4	10000	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ7630-8J..8-OCG0	12900	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7632-8J..8-OCG0	13500	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7634-8J..8-OCG0	14400	2890	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7636-8J..8-OCG0	14900	2890	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7710-8J..8-OCG0	16600	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7712-8J..8-OCG0	17600	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7714-8J..8-OCG0	19100	3050	1800	2900	220	350	4260	2000	1800	1900	35	24
1RQ7716-8J..8-OCG0	20000	3050	1800	2900	220	350	4260	2000	1800	1900	35	24

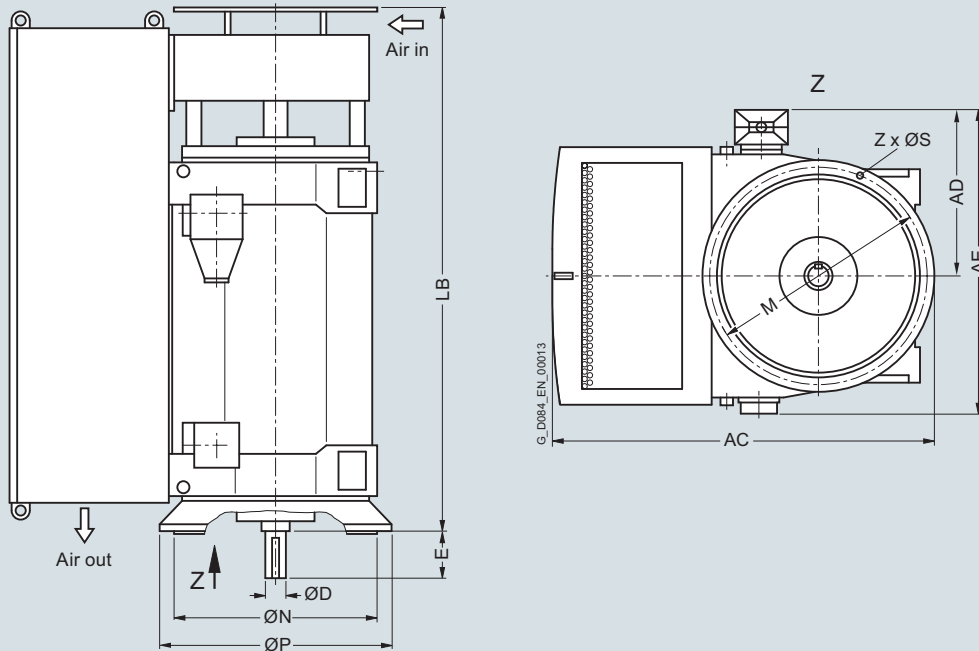
¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

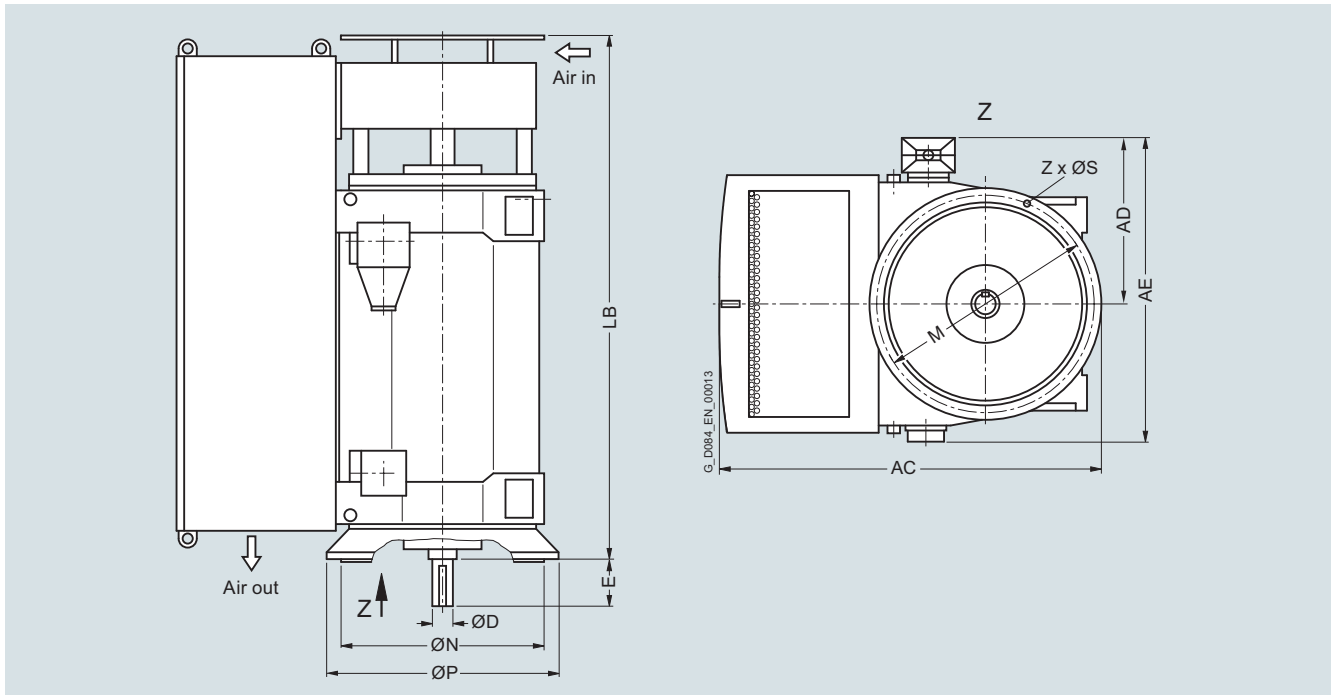
Dimension drawings (continued)



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, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611												
10-pole												
1RQ6500-3JJ.4	6150	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ6502-3JJ.4	6450	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ6504-3JJ.4	7000	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ6506-3JJ.4	7450	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ6560-3JJ.4	8700	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6562-3JJ.4	9350	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6564-3JJ.4	10150	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ6566-3JJ.4	10600	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ7630-3J..8-OCG0	12900	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7632-3J..8-OCG0	13400	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7634-3J..8-OCG0	14300	2890	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7636-3J..8-OCG0	14800	2890	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7710-3J..8-OCG0	16800	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7712-3J..8-OCG0	17700	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7714-3J..8-OCG0	19200	3050	1800	2900	220	350	4260	2000	1800	1900	35	24
1RQ7716-3J..8-OCG0	20100	3050	1800	2900	220	350	4260	2000	1800	1900	35	24

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611												
12-pole												
1RQ6502-5JJ.4	6500	2130	1140	1950	150	200	2560	1250	1120	1180	26	8
1RQ6504-5JJ.4	7000	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ6506-5JJ.4	7450	2130	1140	1950	160	240	2770	1250	1120	1180	26	8
1RQ6560-5JJ.4	8200	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6562-5JJ.4	8700	2400	1210	2100	170	240	2800	1400	1250	1320	26	8
1RQ6564-5JJ.4	9550	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ6566-5JJ.4	10000	2400	1210	2100	180	240	3030	1400	1250	1320	26	8
1RQ7630-5J..8-0CG0	12800	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7632-5J..8-0CG0	13300	2890	1250	2130	200	280	3450	1800	1600	1700	28	24
1RQ7634-5J..8-0CG0	14200	2890	1250	2130	200	280	3650	1800	1600	1700	28	24
1RQ7636-5J..8-0CG0	14800	2890	1250	2130	200	280	3650	1800	1600	1700	28	24

Note: Higher pole numbers are available on request.

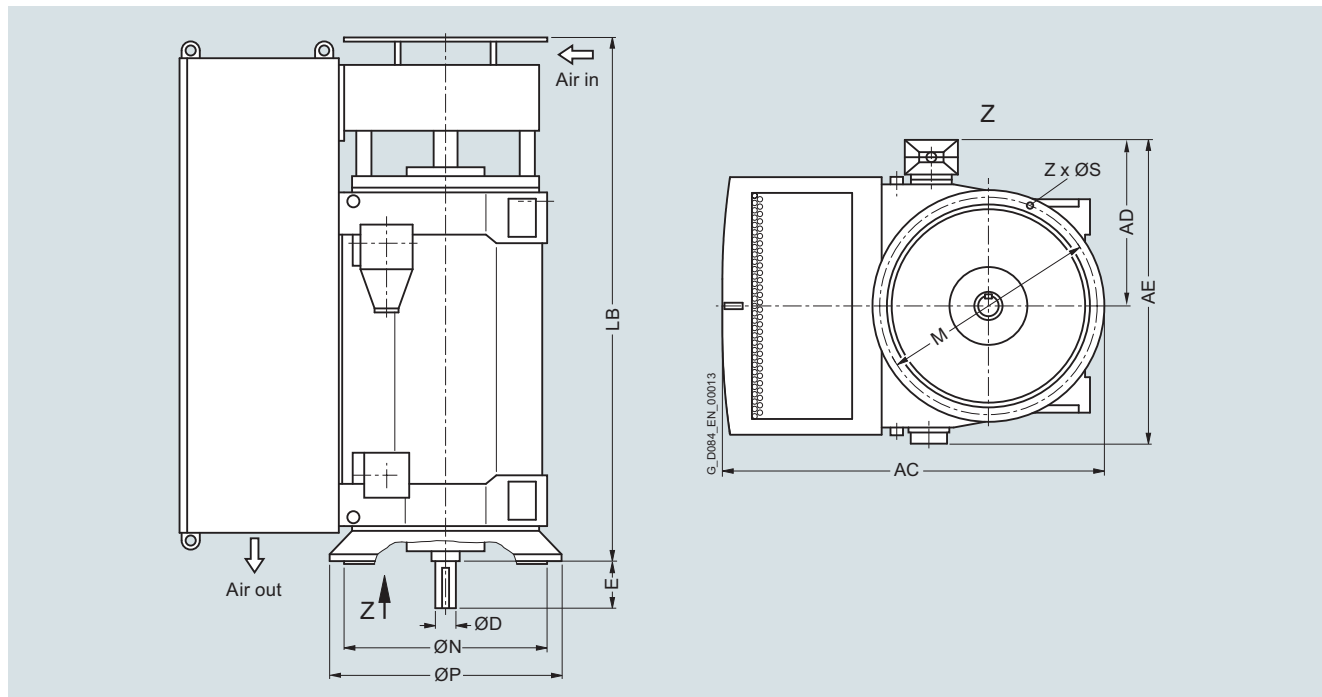
¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Air-cooled motors

SIMOTICS HV M 1RQ6, 1RQ7

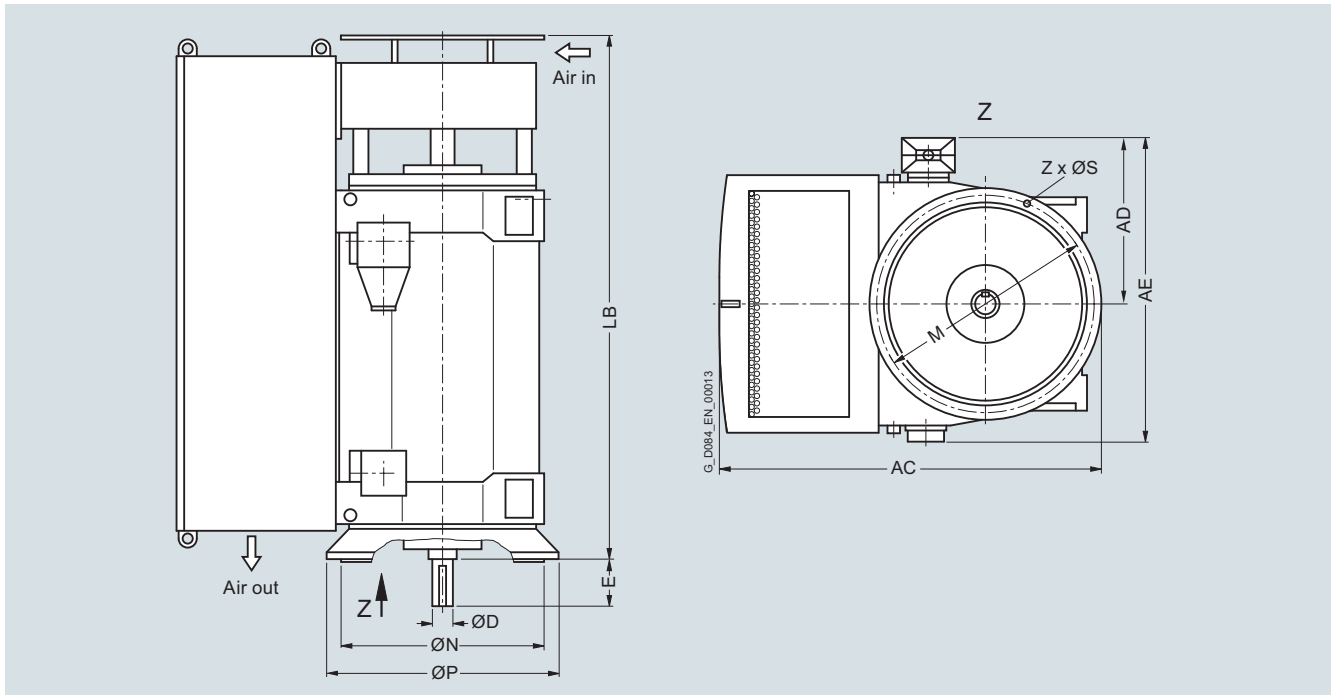
Dimension drawings



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
13.8 kV, IM V1 type of construction, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611												
6-pole												
1RQ7630-6JA24-0CG0	13200	3020	1440	2320	200	280	3450	1800	1600	1700	28	24
1RQ7632-6JA24-0CG0	13800	3020	1440	2320	200	280	3450	1800	1600	1700	28	24
1RQ7634-6JA24-0CG0	14700	3020	1440	2320	200	280	3650	1800	1600	1700	28	24
1RQ7636-6JA24-0CG0	15300	3020	1440	2320	200	280	3650	1800	1600	1700	28	24
1RQ7710-6JA24-0CG0	17900	3420	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7712-6JA24-0CG0	19000	3420	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7714-6JA24-0CG0	20500	3420	1800	2900	220	350	4260	2000	1800	1900	35	24
1RQ7716-6JA24-0CG0	21600	3420	1800	2900	220	350	4260	2000	1800	1900	35	24
8-pole												
1RQ7630-8JA24-0CG0	12900	2890	1440	2320	200	280	3450	1800	1600	1700	28	24
1RQ7632-8JA24-0CG0	13500	2890	1440	2320	200	280	3450	1800	1600	1700	28	24
1RQ7634-8JA24-0CG0	14400	2890	1440	2320	200	280	3650	1800	1600	1700	28	24
1RQ7636-8JA24-0CG0	14900	2890	1440	2320	200	280	3650	1800	1600	1700	28	24
1RQ7710-8JA24-0CG0	16600	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7712-8JA24-0CG0	17600	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7714-8JA24-0CG0	19100	3050	1800	2900	220	350	4260	2000	1800	1900	35	24
1RQ7716-8JA24-0CG0	20000	3050	1800	2900	220	350	4260	2000	1800	1900	35	24

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

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
13.8 kV, IM V1 type of construction, anti-friction bearings – 1RQ6¹⁾, 1RQ7¹⁾ series – IC611												
10-pole												
1RQ7630-3JA24-0CG0	12900	2890	1440	2320	200	280	3450	1800	1600	1700	28	24
1RQ7632-3JA24-0CG0	13400	2890	1440	2320	200	280	3450	1800	1600	1700	28	24
1RQ7634-3JA24-0CG0	14300	2890	1440	2320	200	280	3650	1800	1600	1700	28	24
1RQ7636-3JA24-0CG0	14800	2890	1440	2320	200	280	3650	1800	1600	1700	28	24
1RQ7710-3JA24-0CG0	16800	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7712-3JA24-0CG0	17700	3050	1800	2900	220	350	4020	2000	1800	1900	35	24
1RQ7714-3JA24-0CG0	19200	3050	1800	2900	220	350	4260	2000	1800	1900	35	24
1RQ7716-3JA24-0CG0	20100	3050	1800	2900	220	350	4260	2000	1800	1900	35	24

Note: Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SG6 and 1SG7 series. For the 1SB6 and 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1RN6, 1RN7	
Rated voltage	4 ... 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	IC81W/IC86W
Stator winding insulation	Thermal class 155 (F), utilized to 130 (B)
Shaft height¹⁾	450 ... 900 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 710 mm	Housing: Steel Cooling enclosure: Steel

¹⁾ For shaft height 800 motor data, refer to Chapter 3, section "Converter with non-sinusoidal output". The locked-rotor torque and locked-rotor current data are available on request.

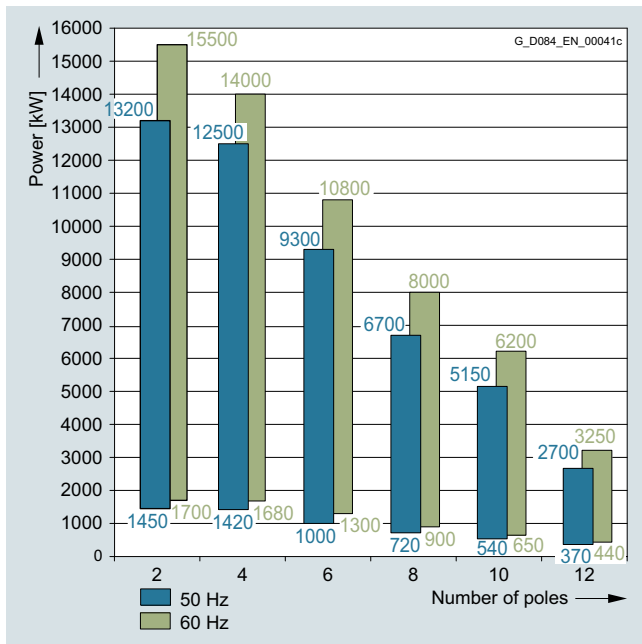
Technical data (continued)

Power ranges for IEC motors for line operation

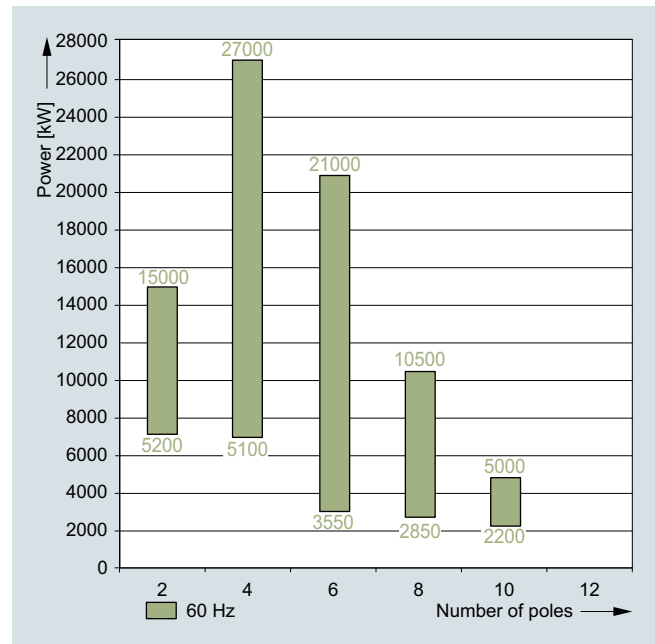
1RN6, 1SL6 (Ex ec), 1SQ6 (Ex pxb) series

1RN7, 1SL7 (Ex ec), 1SQ7 (Ex pxb) series

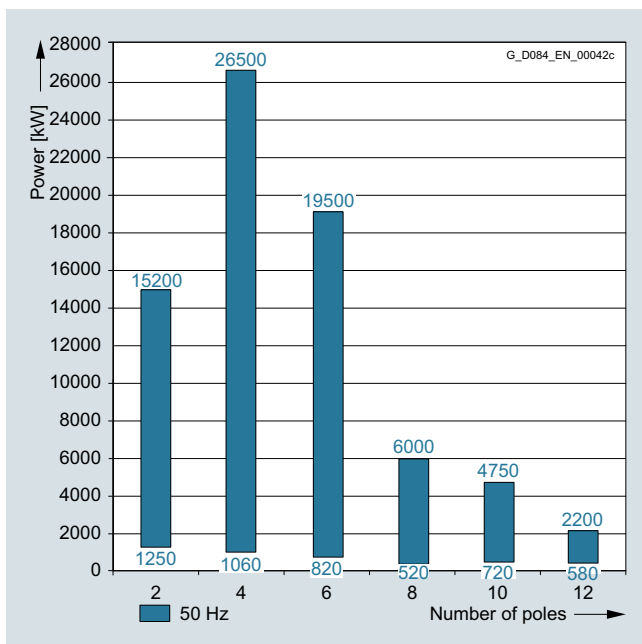
Insulation system, thermal class 155 (F), utilized to 130 (B).
Coolant temperature up to 25 °C, installation altitude up to 1000 m.



4 to 6.6 kV; 50 Hz and 60 Hz



13.8 kV; 60 Hz



9 to 11 kV; 50 Hz

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

IEC version

The following data also apply to explosion-protected motors 1SL6/1SL7 (Ex ec) and 1SQ6/1SQ7 (Ex pxb).

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
2-pole													
1450	1RN6450-2HJ ■ 0	2970	166	95.6	96.0	0.88	0.87	4662	2.00	0.60	4.35	12	64
1700	1RN6452-2HJ ■ 0	2971	192	95.9	96.3	0.89	0.89	5464	2.05	0.60	4.50	14	70
1900	1RN6454-2HJ ■ 0	2974	210	96.2	96.5	0.90	0.89	6100	2.30	0.70	5.15	15	74
2120	1RN6456-2HJ ■ 0	2978	235	96.5	96.6	0.90	0.89	6798	2.45	0.70	5.50	17	81
2500	1RN6500-2HJ ■ 0	2972	280	96.4	96.8	0.89	0.88	8032	1.95	0.55	4.30	19	83
2680	1RN6502-2HJ ■ 0	2974	300	96.3	96.7	0.90	0.89	8605	2.05	0.50	4.45	21	93
3150	1RN6504-2HJ ■ 0	2978	345	96.8	97.1	0.91	0.90	10100	2.30	0.55	5.20	25	103
3400	1RN6506-2HJ ■ 0	2975	370	96.8	97.2	0.91	0.91	10913	2.15	0.55	4.85	26	115
4000	1RN6560-2HJ ■ 0	2974	450	96.5	96.8	0.89	0.90	12843	1.95	0.50	4.05	39	160
4600	1RN6562-2HJ ■ 0	2977	520	96.7	97.0	0.89	0.90	14755	2.00	0.50	4.30	44	180
5140	1RN6564-2HJ ■ 0	2978	560	97.0	97.2	0.91	0.91	16481	2.25	0.60	4.75	49	200
5660	1RN6566-2HJ ■ 0	2980	620	97.1	97.3	0.91	0.91	18137	2.40	0.60	5.25	55	220
6300 ²⁾	1RN7630-2 ■ A ■ 0-0C ■ 0	2980	720	97.3	97.6	0.87	0.88	20188	1.95	0.65	4.20	74	206
7000 ²⁾	1RN7632-2 ■ A ■ 0-0C ■ 0	2982	780	97.5	97.7	0.89	0.89	22416	2.20	0.75	4.70	82	225
7800 ²⁾	1RN7634-2 ■ A ■ 0-0C ■ 0	2984	850	97.7	97.8	0.90	0.89	24961	2.45	0.75	5.30	91	243
8600 ²⁾	1RN7636-2 ■ A ■ 0-0C ■ 0	2984	940	97.8	97.9	0.90	0.90	27521	2.50	0.85	5.40	100	246
9500 ²⁾	1RN7710-2 ■ A ■ 0-0C ■ 0	2985	1040	97.4	97.4	0.91	0.91	30391	2.00	0.60	4.50	149	209
10600 ²⁾	1RN7712-2 ■ A ■ 0-0C ■ 0	2986	1140	97.5	97.5	0.91	0.91	33899	2.10	0.60	4.70	160	200
11800 ²⁾	1RN7714-2 ■ A ■ 0-0C ■ 0	2986	1260	97.7	97.6	0.92	0.92	37736	2.25	0.65	5.00	176	200
13200 ²⁾	1RN7716-2 ■ A ■ 0-0C ■ 0	2987	1420	97.8	97.7	0.92	0.92	42199	2.25	0.75	5.30	189	192

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RQ7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 6 kV A	Efficiency		Power factor		Torque Nm	Break-down torque $\frac{T_B}{T_{rated}}$ [-]	Locked-rotor torque $\frac{T_{LR}}{T_{rated}}$ [-]	Locked-rotor current $\frac{I_{LR}}{I_{rated}}$ [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
4-pole													
1420	1RN6450-4HJ	1482	160	95.6	96.1	0.89	0.88	9149	2.35	0.65	4.65	21	340
1560	1RN6452-4HJ	1483	176	95.9	96.3	0.89	0.88	10045	2.45	0.65	4.95	24	385
1730	1RN6454-4HJ	1484	194	96.0	96.4	0.89	0.88	11132	2.50	0.65	5.05	27	440
1950	1RN6456-4HJ	1486	220	96.2	96.5	0.89	0.87	12531	2.60	0.65	5.25	30	500
2240 ²⁾	1RN6500-4HJ 0	1485	250	96.2	96.9	0.89	0.88	14404	2.30	0.65	4.70	45	410
2500 ²⁾	1RN6502-4HJ 0	1485	280	96.3	96.9	0.89	0.88	16076	2.35	0.65	4.90	48	460
2800 ²⁾	1RN6504-4HJ 0	1486	315	96.4	97.0	0.89	0.88	17993	2.30	0.60	4.80	55	510
3080 ²⁾	1RN6506-4HJ 0	1485	345	96.4	97.1	0.89	0.87	19805	2.45	0.65	5.15	60	560
3800 ²⁾	1RN6560-4HJ 0	1489	420	96.9	97.3	0.90	0.90	24370	2.10	0.65	4.95	86	730
4300 ²⁾	1RN6562-4HJ 0	1489	470	97.1	97.5	0.91	0.91	27576	2.05	0.65	4.85	97	800
4800 ²⁾	1RN6564-4HJ 0	1490	520	97.2	97.6	0.91	0.91	30762	2.10	0.60	5.00	107	880
5260 ²⁾	1RN6566-4HJ 0	1490	580	97.3	97.6	0.90	0.90	33710	2.10	0.60	5.15	117	970
5900 ^{2) 3)}	1RN7630-4 A 0-0C 0	1489	660	97.3	97.7	0.88	0.88	37838	2.15	0.70	4.60	145	928
6600 ^{2) 3)}	1RN7632-4 A 0-0C 0	1489	740	97.4	97.7	0.88	0.88	42327	2.20	0.75	4.60	160	985
7400 ^{2) 3)}	1RN7634-4 A 0-0C 0	1491	830	97.5	97.8	0.88	0.87	47394	2.35	0.70	5.00	178	1103
8200 ^{2) 3)}	1RN7636-4 A 0-0C 0	1490	910	97.6	97.9	0.89	0.88	52553	2.40	0.75	5.00	195	1136
9000 ^{2) 3)}	1RN7710-4 A 0-0C 0	1492	980	97.6	97.7	0.91	0.91	57602	2.35	0.65	4.90	262	786
10000 ^{2) 3)}	1RN7712-4 A 0-0C 0	1492	1080	97.6	97.7	0.91	0.91	64003	2.35	0.65	5.00	288	837
11200 ^{2) 3)}	1RN7714-4 A 0-0C 0	1492	1200	97.7	97.8	0.92	0.92	71683	2.40	0.70	5.10	323	959
12500 ^{2) 3)}	1RN7716-4 A 0-0C 0	1493	1340	97.8	97.9	0.92	0.91	79950	2.45	0.65	5.30	362	1063

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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.

³⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 6 kV A	Efficiency		Power factor		Torque Nm	Break-down torque $\frac{T_B}{T_{rated}}$ [-]	Locked-rotor torque $\frac{T_{LR}}{T_{rated}}$ [-]	Locked-rotor current $\frac{I_{LR}}{I_{rated}}$ [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
6-pole													
1000	1RN6450-6HJ	988	118	95.5	96.1	0.85	0.84	9665	2.25	0.95	4.65	28	660
1120	1RN6452-6HJ	989	132	95.7	96.2	0.85	0.84	10814	2.35	0.85	4.80	32	770
1250	1RN6454-6HJ	989	148	95.8	96.3	0.85	0.84	12069	2.40	0.95	4.95	35	870
1400	1RN6456-6HJ	990	164	96.1	96.5	0.85	0.84	13504	2.45	0.90	5.05	41	1040
1850	1RN6500-6HJ	988	215	95.8	96.5	0.86	0.85	17880	2.05	0.65	4.35	56	1280
2090	1RN6502-6HJ	988	245	95.9	96.6	0.86	0.85	20200	2.00	0.65	4.15	61	1420
2300	1RN6504-6HJ	989	270	96.0	96.7	0.86	0.85	22207	2.20	0.70	4.60	68	1560
2500	1RN6506-6HJ	989	285	96.2	96.8	0.87	0.86	24138	2.20	0.75	4.65	76	1760
2900	1RN6560-6HJ	990	330	96.4	96.9	0.87	0.87	27972	1.95	0.70	4.40	107	1640
3250	1RN6562-6HJ	990	370	96.6	97.1	0.88	0.88	31348	1.95	0.70	4.40	118	1820
3640	1RN6564-6HJ	990	410	96.6	97.1	0.88	0.88	35110	1.90	0.70	4.25	131	2000
3930	1RN6566-6HJ	990	440	96.8	97.2	0.88	0.88	37907	1.95	0.70	4.45	145	2250
4350 ²⁾	1RN7630-6A-OC	992	510	97.1	97.4	0.84	0.84	41874	2.35	0.75	5.00	208	2967
4850 ²⁾	1RN7632-6A-OC	993	570	97.1	97.4	0.85	0.84	46641	2.35	0.75	5.00	230	3217
5400 ²⁾	1RN7634-6A-OC	992	630	97.2	97.5	0.85	0.85	51982	2.30	0.75	5.00	251	3381
6000 ²⁾	1RN7636-6A-OC	993	700	97.3	97.5	0.85	0.84	57700	2.35	0.75	5.00	272	3647
6700 ²⁾	1RN7710-6A-OC	994	770	97.3	97.4	0.86	0.86	64366	2.10	0.65	4.50	352	2141
7500 ²⁾	1RN7712-6A-OC	994	860	97.4	97.5	0.86	0.85	72052	2.20	0.65	4.60	398	2515
8300 ²⁾	1RN7714-6A-OC	995	950	97.5	97.5	0.86	0.85	79657	2.25	0.65	4.80	450	3043
9300 ²⁾	1RN7716-6A-OC	994	1060	97.6	97.6	0.86	0.86	89344	2.25	0.65	4.80	498	3277

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 6 kV A	Efficiency		Power factor		Torque Nm	Break-down torque $\frac{T_B}{T_{rated}}$ [-]	Locked-rotor torque $\frac{T_{LR}}{T_{rated}}$ [-]	Locked-rotor current $\frac{I_{LR}}{I_{rated}}$ [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
8-pole													
720	1RN6450-8HJ	741	88	95.0	95.7	0.83	0.82	9278	2.10	0.75	4.30	35	730
780	1RN6452-8HJ	742	95	95.2	95.9	0.83	0.82	10038	2.15	0.75	4.40	39	890
900	1RN6454-8HJ	743	110	95.6	96.0	0.82	0.79	11567	2.55	0.85	5.20	44	1040
1030	1RN6456-8HJ	743	124	95.6	96.2	0.83	0.81	13237	2.40	0.80	4.90	51	1300
1320	1RN6500-8HJ	742	160	95.6	96.2	0.83	0.81	16987	2.15	0.55	4.55	68	1420
1480	1RN6502-8HJ	743	178	95.6	96.3	0.84	0.81	19021	2.15	0.60	4.50	75	1560
1680	1RN6504-8HJ	743	200	95.9	96.4	0.84	0.81	21591	2.25	0.60	4.60	84	1740
1850	1RN6506-8HJ	743	220	96.0	96.5	0.84	0.82	23776	2.25	0.65	4.75	93	1920
2120	1RN6560-8HJ	743	250	96.3	96.9	0.85	0.83	27246	2.10	0.65	4.50	127	2700
2400	1RN6562-8HJ	743	280	96.4	97.0	0.85	0.84	30845	2.05	0.65	4.50	140	2950
2640	1RN6564-8HJ	743	310	96.5	97.1	0.85	0.83	33930	2.10	0.65	4.75	155	3300
2850	1RN6566-8HJ	744	330	96.6	97.2	0.85	0.83	36579	2.15	0.60	4.75	171	3650
3200 ²⁾	1RN7630-8A-OC	744	390	96.5	96.7	0.82	0.80	41072	2.35	0.55	5.00	255	3256
3550 ²⁾	1RN7632-8A-OC	744	430	96.6	96.8	0.82	0.80	45565	2.35	0.55	5.10	281	4145
4000 ²⁾	1RN7634-8A-OC	744	480	96.7	96.9	0.83	0.81	51340	2.35	0.55	5.10	307	4428
4450 ²⁾	1RN7636-8A-OC	744	530	96.8	97.0	0.83	0.82	57116	2.35	0.55	5.10	334	3885
5000 ²⁾	1RN7710-8A-OC	744	580	96.8	97.1	0.85	0.84	64175	2.10	0.55	4.30	434	5826
5600 ²⁾	1RN7712-8A-OC	745	650	97.0	97.2	0.86	0.84	71779	2.25	0.70	4.60	494	7453
6100 ²⁾	1RN7714-8A-OC	745	710	97.1	97.3	0.85	0.84	78188	2.30	0.70	4.70	558	7863
6700 ²⁾	1RN7716-8A-OC	746	780	97.2	97.4	0.85	0.84	85764	2.35	0.65	4.80	617	9267

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
10-pole													
540	1RN6450-3HJ	590	70	93.4	93.7	0.80	0.76	8741	2.00	0.80	4.60	37	1150
600	1RN6452-3HJ	590	76	93.7	93.9	0.81	0.76	9712	2.00	0.80	4.70	41	1350
670	1RN6454-3HJ	591	86	93.9	94.1	0.80	0.75	10827	2.10	0.82	4.90	46	1450
760	1RN6456-3HJ	591	97	94.1	94.2	0.80	0.75	12281	2.20	0.90	5.20	52	1800
900	1RN6500-3HJ	591	112	94.4	94.7	0.82	0.80	14543	1.90	0.68	4.30	70	1400
1000	1RN6502-3HJ	592	122	95.7	94.9	0.83	0.80	16132	1.90	0.70	4.50	80	1700
1100	1RN6504-3HJ	592	134	94.8	95.0	0.83	0.80	17745	1.90	0.72	4.60	88	2200
1250	1RN6506-3HJ	592	152	95.0	95.1	0.83	0.80	20165	1.90	0.75	4.70	99	2600
1480	1RN6560-3HJ	593	184	95.1	95.4	0.81	0.77	23835	2.00	0.70	4.50	123	2700
1700	1RN6562-3HJ	593	210	95.4	95.7	0.82	0.78	27378	2.00	0.70	4.50	141	4100
1880	1RN6564-3HJ	593	230	95.6	95.7	0.82	0.78	30277	2.00	0.72	4.70	158	4400
2050	1RN6566-3HJ	593	255	95.7	95.8	0.81	0.76	33014	2.10	0.78	5.00	173	5200
2400 ²⁾	1RN7630-3A-OC	595	295	96.4	96.8	0.81	0.79	38518	2.20	0.55	4.50	257	5553
2680 ²⁾	1RN7632-3A-OC	595	325	96.5	96.9	0.82	0.79	43012	2.25	0.55	4.60	283	6418
3000 ²⁾	1RN7634-3A-OC	594	365	96.6	97.0	0.82	0.81	48229	2.20	0.55	4.60	310	7367
3350 ²⁾	1RN7636-3A-OC	595	405	96.6	97.0	0.82	0.80	53765	2.20	0.55	4.50	336	6708
3750 ²⁾	1RN7710-3A-OC	595	440	96.6	96.9	0.85	0.82	60184	2.50	0.60	4.40	432	11908
4200 ²⁾	1RN7712-3A-OC	595	490	96.8	96.9	0.85	0.82	67406	2.60	0.60	4.60	491	13643
4700 ²⁾	1RN7714-3A-OC	595	540	96.9	97.1	0.86	0.84	75431	2.50	0.65	4.50	558	15312
5150 ²⁾	1RN7716-3A-OC	595	590	96.9	97.2	0.86	0.85	82653	2.45	0.60	4.50	618	15777

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 6 kV A	Efficiency		Power factor		Torque Nm	Break-down torque $\frac{T_B}{T_{rated}}$ [-]	Locked-rotor torque $\frac{T_{LR}}{T_{rated}}$ [-]	Locked-rotor current $\frac{I_{LR}}{I_{rated}}$ [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 50 Hz													
12-pole													
370	1RN6450-5HJ	491	53	92.4	92.7	0.73	0.68	7197	1.80	0.60	4.00	37	1100
425	1RN6452-5HJ	492	60	92.8	93.0	0.73	0.67	8249	1.80	0.63	4.20	41	1400
475	1RN6454-5HJ	491	66	93.1	93.3	0.74	0.69	9239	1.80	0.60	4.00	46	1600
540	1RN6456-5HJ	492	77	93.5	93.5	0.72	0.65	10482	2.00	0.68	4.40	52	2000
680	1RN6500-5HJ	491	94	93.9	94.0	0.74	0.69	13226	1.90	0.62	4.10	70	2350
760	1RN6502-5HJ	491	102	94.1	94.2	0.76	0.71	14782	1.80	0.60	4.00	79	2600
840	1RN6504-5HJ	491	112	94.3	94.4	0.76	0.71	16338	1.90	0.62	4.10	87	3100
930	1RN6506-5HJ	492	128	94.5	94.6	0.74	0.69	18052	1.90	0.62	4.30	98	3700
1100	1RN6560-5HJ	493	150	94.5	94.8	0.75	0.71	21308	1.80	0.57	3.90	123	3600
1230	1RN6562-5HJ	493	168	94.9	95.0	0.74	0.68	23827	1.80	0.60	4.00	141	4100
1350	1RN6564-5HJ	494	184	95.0	95.1	0.74	0.68	26098	2.00	0.63	4.30	158	4700
1470	1RN6566-5HJ	494	198	95.1	95.2	0.75	0.69	28418	2.00	0.65	4.30	173	5200
2000 ²⁾	1RN7630-5A-OC	494	255	95.6	96.2	0.79	0.76	38661	1.95	0.55	3.90	264	5712
2250 ²⁾	1RN7632-5A-OC	494	290	95.8	96.3	0.78	0.75	43494	2.10	0.60	4.10	291	6888
2450 ²⁾	1RN7634-5A-OC	495	315	96.0	96.4	0.78	0.74	47264	2.25	0.60	4.30	318	9238
2700 ²⁾	1RN7636-5A-OC	494	345	96.1	96.5	0.78	0.74	52193	2.25	0.60	4.30	345	10053

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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.

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⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL6/1SL7 (Ex ec) and 1SQ6/1Q7 (Ex pxb).

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 10 kV A	Efficiency		Power factor		Torque Nm	Break-down torque $\frac{T_B}{T_{\text{rated}}}$ [-]	Locked- rotor torque $\frac{T_{LR}}{T_{\text{rated}}}$ [-]	Locked- rotor current $\frac{I_{LR}}{I_{\text{rated}}}$ [-]	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
9 ... 11 kV, 50 Hz													
2-pole													
1250	1RN6450-2HJ ■ 0	2974	86	95.5	95.8	0.88	0.88	4013	2.15	0.70	4.80	12	31
1400	1RN6452-2HJ ■ 0	2977	94	95.8	96.1	0.90	0.89	4490	2.40	0.75	5.40	14	33
1550	1RN6454-2HJ ■ 0	2979	104	95.9	96.2	0.89	0.89	4968	2.40	0.70	5.50	15	36
1750	1RN6456-2HJ ■ 0	2980	116	96.2	96.5	0.90	0.90	5607	2.45	0.70	5.50	17	39
2180	1RN6500-2HJ ■ 0	2977	146	96.1	96.6	0.90	0.89	6992	2.15	0.55	4.80	19	37
2420	1RN6502-2HJ ■ 0	2976	162	96.3	96.7	0.90	0.90	7765	2.10	0.65	4.60	21	41
2660	1RN6504-2HJ ■ 0	2978	174	96.5	97.0	0.91	0.91	8529	2.25	0.55	4.90	25	45
2900	1RN6506-2HJ ■ 0	2976	190	96.6	97.1	0.91	0.91	9305	2.10	0.70	4.90	26	51
3550	1RN6560-2HJ ■ 0	2978	240	96.5	96.8	0.89	0.90	11383	2.00	0.50	4.05	39	115
4050	1RN6562-2HJ ■ 0	2982	270	96.7	96.8	0.90	0.90	12969	2.30	0.60	4.95	44	130
4630	1RN6564-2HJ ■ 0	2981	305	96.9	97.1	0.91	0.91	14831	2.25	0.60	4.80	49	145
5290	1RN6566-2HJ ■ 0	2984	345	97.1	97.1	0.91	0.91	16928	2.50	0.60	5.40	54	160
5800	1RN7630-2 ■ A ■ 0-0C ■ 0	2983	390	97.3	97.5	0.88	0.88	18567	2.20	0.70	4.70	74	243
6400	1RN7632-2 ■ A ■ 0-0C ■ 0	2985	425	97.4	97.6	0.89	0.89	20474	2.40	0.80	5.20	82	258
7000	1RN7634-2 ■ A ■ 0-0C ■ 0	2984	460	97.5	97.7	0.90	0.90	22401	2.40	0.75	5.20	91	259
7600	1RN7636-2 ■ A ■ 0-0C ■ 0	2985	500	97.6	97.8	0.90	0.90	24313	2.40	0.75	5.30	99	259
8300	1RN7710-2 ■ A ■ 0-0C ■ 0	2987	540	97.3	97.3	0.92	0.91	26534	2.15	0.60	4.90	149	266
9200	1RN7712-2 ■ A ■ 0-0C ■ 0	2987	590	97.4	97.4	0.92	0.92	29411	2.20	0.65	5.10	160	266
10000	1RN7714-2 ■ A ■ 0-0C ■ 0	2989	640	97.6	97.5	0.93	0.92	31948	2.35	0.70	5.50	174	291
11000	1RN7716-2 ■ A ■ 0-0C ■ 0	2988	700	97.6	97.6	0.93	0.92	35154	2.40	0.60	5.40	190	285
12200	1RN7800-2NA ■ 0-0CJ0	2989	810	97.2	97.2	0.89	0.90	38977	1,80	0,40	4,60	246	510
13000	1RN7802-2NA ■ 0-0CJ0	2989	860	97.3	97.3	0.90	0.91	41533	1,85	0,45	4,80	263	540
14000	1RN7804-2NA ■ 0-0CJ0	2989	920	97.4	97.3	0.90	0.91	44727	1,90	0,40	4,80	285	570
15200	1RN7806-2NA ■ 0-0CJ0	2990	1000	97.5	97.4	0.90	0.91	48545	2,00	0,40	5,00	301	600

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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 SIMOTICS HV M 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 $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
4-pole													
1060	1RN6450-4HJ	1485	72	95.4	95.9	0.89	0.89	6816	2.50	0.70	5.15	21	170
1210	1RN6452-4HJ	1484	82	95.5	96.1	0.89	0.89	7786	2.45	0.65	5.00	24	194
1360	1RN6454-4HJ	1486	91	95.8	96.2	0.90	0.89	8739	2.55	0.65	5.30	27	225
1560	1RN6456-4HJ	1487	104	96.0	96.4	0.90	0.88	10018	2.60	0.65	5.35	30	260
1980 ²⁾	1RN6500-4HJ	1486	134	95.9	96.7	0.89	0.88	12723	2.45	0.75	5.15	45	200
2180 ²⁾	1RN6502-4HJ	1486	148	96.0	96.8	0.89	0.88	14009	2.40	0.70	5.20	48	220
2420 ²⁾	1RN6504-4HJ	1488	164	96.2	96.9	0.89	0.88	15530	2.50	0.65	5.20	55	250
2610 ²⁾	1RN6506-4HJ	1488	176	96.3	97.0	0.89	0.88	16749	2.55	0.70	5.40	60	280
3250 ²⁾	1RN6560-4HJ	1490	215	96.8	97.2	0.91	0.91	20829	2.15	0.60	5.00	86	420
3600 ²⁾	1RN6562-4HJ	1491	235	96.9	97.3	0.91	0.91	23056	2.15	0.65	5.05	97	460
4100 ²⁾	1RN6564-4HJ	1491	270	97.1	97.4	0.91	0.90	26258	2.15	0.55	5.10	107	510
4450 ²⁾	1RN6566-4HJ	1492	290	97.2	97.5	0.91	0.90	28481	2.25	0.55	5.20	116	560
4850 ²⁾	1RN7630-4NA 0-0C	1492	325	97.3	97.5	0.88	0.87	31042	2.45	0.70	5.30	145	771
5300 ²⁾	1RN7632-4NA 0-0C	1492	355	97.4	97.7	0.89	0.88	33922	2.50	0.70	5.40	159	902
5800 ²⁾	1RN7634-4NA 0-0C	1492	385	97.5	97.7	0.89	0.88	37122	2.50	0.75	5.40	177	730
6400 ²⁾	1RN7636-4NA 0-0C	1492	425	97.6	97.8	0.89	0.88	40962	2.45	0.65	5.20	193	1092
7100 ²⁾	1RN7710-4NA 0-0C	1493	460	97.5	97.5	0.91	0.91	45411	2.45	0.60	5.30	262	1102
8000 ²⁾	1RN7712-4NA 0-0C	1493	520	97.6	97.6	0.91	0.91	51168	2.45	0.65	5.30	288	1204
9000 ²⁾	1RN7714-4NA 0-0C	1493	580	97.6	97.7	0.92	0.92	57564	2.45	0.65	5.30	322	1344
10000 ²⁾	1RN7716-4NA 0-0C	1493	640	97.7	97.8	0.92	0.92	63960	2.45	0.65	5.30	362	1540
12000	1RN7800-4NA -0C	1493	780	97.6	97.7	0.91	0.91	76753	2.25	0.45	5.30	518	2500
13500	1RN7802-4NA -0C	1493	890	97.7	97.7	0.90	0.91	86347	2.25	0.50	5.30	573	2750
15000	1RN7804-4NA -0C	1493	970	97.7	97.8	0.91	0.91	95941	2.25	0.50	5.30	628	3000
16500	1RN7806-4NA -0C	1494	1080	97.8	97.8	0.90	0.91	105464	2.25	0.45	5.30	683	3250
20500	1RN7900-4NA 0-0C	1496	1320	98.0	98.1	0.91	0.91	130856	2.20	0.45	5.00	1023	3300
22500	1RN7902-4NA 0-0C	1496	1460	98.1	98.1	0.91	0.91	143622	2.20	0.45	5.00	1102	3600
23500	1RN7904-4NA 0-0C	1496	1520	98.1	98.1	0.91	0.91	150006	2.20	0.45	5.00	1178	3900
26500	1RN7906-4NA 0-0C	1496	1720	98.2	98.2	0.91	0.91	169155	2.20	0.45	5.00	1296	4300

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
6-pole													
820	1RN6450-6HJ	990	59	95.2	95.7	0.85	0.83	7909	2.45	0.90	5.15	28	340
920	1RN6452-6HJ	990	65	95.2	95.8	0.86	0.85	8874	2.40	0.95	5.10	32	400
1000	1RN6454-6HJ	990	70	95.4	96.0	0.86	0.85	9645	2.40	0.95	5.10	35	460
1150	1RN6456-6HJ	991	81	95.8	96.3	0.86	0.84	11081	2.45	0.85	5.15	41	560
1450	1RN6500-6HJ	990	102	95.5	96.3	0.86	0.86	13986	2.15	0.70	4.55	56	830
1650	1RN6502-6HJ	989	114	95.6	96.4	0.87	0.86	15931	2.10	0.70	4.50	61	910
1850	1RN6504-6HJ	989	128	95.7	96.5	0.87	0.87	17862	2.10	0.70	4.65	68	1020
2020	1RN6506-6HJ	990	140	95.9	96.6	0.87	0.86	19484	2.20	0.70	4.65	76	1140
2500	1RN6560-6HJ	991	170	96.2	96.7	0.88	0.87	24090	2.05	0.70	4.85	107	1060
2800	1RN6562-6HJ	992	190	96.5	96.9	0.88	0.87	26953	2.15	0.70	5.00	118	1160
3150	1RN6564-6HJ	992	215	96.6	97.0	0.88	0.88	30322	2.10	0.70	4.75	131	1280
3430	1RN6566-6HJ	992	230	96.7	97.1	0.89	0.88	33018	2.25	0.80	5.10	145	1420
3800	1RN7630-6A-0C	993	265	96.9	97.3	0.85	0.85	36543	2.30	0.70	5.10	208	1692
4200	1RN7632-6A-0C	993	295	97.1	97.4	0.85	0.85	40390	2.35	0.70	5.20	230	2278
4650	1RN7634-6A-0C	993	325	97.1	97.4	0.85	0.85	44717	2.40	0.75	5.20	250	2209
5100	1RN7636-6A-0C	993	350	97.2	97.4	0.86	0.85	49045	2.40	0.75	5.20	272	1995
5600	1RN7710-6A-0C	995	385	97.1	97.2	0.86	0.84	53744	2.45	0.75	5.20	350	2624
6300	1RN7712-6A-0C	995	435	97.3	97.3	0.86	0.85	60462	2.45	0.70	5.20	397	3227
7100	1RN7714-6A-0C	996	490	97.4	97.3	0.86	0.84	68072	2.50	0.70	5.20	448	3230
8000	1RN7716-6A-0C	995	550	97.4	97.5	0.87	0.85	76778	2.45	0.65	5.20	497	3951
14000	1RN7900-6NA-0C	995	950	97.8	98.0	0.87	0.87	134362	2.00	0.45	4.20	1301	9000
16000	1RN7902-6NA-0C	995	1080	97.9	98.1	0.87	0.87	153557	2.00	0.45	4.20	1464	10000
18000	1RN7904-6NA-0C	995	1220	97.9	98.1	0.87	0.87	172751	2.00	0.45	4.20	1627	11000
19500	1RN7906-6NA-0C	995	1320	98.0	98.2	0.87	0.87	187147	2.00	0.45	4.20	1789	12000

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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 SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 10 kV A	Efficiency		Power factor		Torque Nm	Break-down torque $\frac{T_B}{T_{rated}}$ [-]	Locked-rotor torque $\frac{T_{LR}}{T_{rated}}$ [-]	Locked-rotor current $\frac{I_{LR}}{I_{rated}}$ [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
8-pole													
520	1RN6450-8HJ	743	38.5	94.4	95.0	0.83	0.81	6683	2.35	0.80	4.95	35	215
560	1RN6452-8HJ	743	41	94.4	95.2	0.84	0.83	7197	2.25	0.75	4.80	39	290
590	1RN6454-8HJ	743	43	94.3	95.1	0.84	0.83	7582	2.20	0.70	4.70	44	365
750	1RN6456-8HJ	744	54	95.0	95.6	0.84	0.82	9626	2.45	0.80	5.15	51	485
1060	1RN6500-8HJ	743	77	95.1	95.8	0.84	0.82	13623	2.20	0.60	4.75	68	830
1180	1RN6502-8HJ	744	85	95.5	96.1	0.84	0.81	15145	2.35	0.65	4.95	75	910
1320	1RN6504-8HJ	744	95	95.6	96.2	0.84	0.82	16942	2.35	0.65	5.00	84	1020
1490	1RN6506-8HJ	744	108	95.7	96.3	0.84	0.82	19124	2.25	0.60	4.90	93	1120
1800	1RN6560-8HJ	743	128	95.9	96.6	0.85	0.84	23134	2.00	0.60	4.50	127	1540
1980	1RN6562-8HJ	744	140	96.0	96.7	0.85	0.84	25413	2.10	0.65	4.75	140	1700
2200	1RN6564-8HJ	744	154	96.2	96.8	0.86	0.84	28237	2.10	0.60	4.75	155	1880
2380	1RN6566-8HJ	744	166	96.3	96.9	0.86	0.84	30547	2.15	0.65	5.00	172	2100
2670	1RN7630-8A-OC	745	192	96.4	96.6	0.83	0.81	34224	2.35	0.50	5.10	255	2937
3000	1RN7632-8A-OC	744	215	96.5	96.8	0.84	0.82	38505	2.30	0.55	5.00	281	3318
3350	1RN7634-8A-OC	744	240	96.6	96.9	0.84	0.83	42998	2.30	0.55	5.10	308	3564
3750	1RN7636-8A-OC	744	265	96.7	97.0	0.84	0.83	48132	2.30	0.55	5.00	334	3438
4250	1RN7710-8A-OC	746	300	96.6	96.9	0.85	0.83	54402	2.35	0.60	4.90	434	4957
4750	1RN7712-8A-OC	746	335	96.8	97.0	0.85	0.83	60803	2.35	0.60	4.80	492	5790
5300	1RN7714-8A-OC	746	365	97.0	97.2	0.86	0.84	67843	2.45	0.70	5.00	559	6953
6000	1RN7716-8A-OC	746	420	97.0	97.2	0.85	0.83	76803	2.50	0.65	5.10	616	7040

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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](#).

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 10 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T_{TB}/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
9 ... 11 kV, 50 Hz													
10-pole													
720	1RN6500-3HJ	593	55	93.8	93.9	0.80	0.76	11595	2.20	0.82	5.20	70	900
830	1RN6502-3HJ	594	64	94.2	94.2	0.79	0.74	13344	2.20	0.82	5.30	80	1100
920	1RN6504-3HJ	594	71	94.3	94.3	0.79	0.74	14791	2.20	0.82	5.30	88	1200
1020	1RN6506-3HJ	594	79	94.5	94.5	0.79	0.75	16399	2.20	0.80	5.30	99	1400
1250	1RN6560-3HJ	593	94	94.8	94.9	0.81	0.77	20131	2.10	0.72	4.70	123	1650
1420	1RN6562-3HJ	593	106	94.9	95.2	0.82	0.78	22868	2.00	0.70	4.70	141	2050
1570	1RN6564-3HJ	593	116	95.1	95.4	0.82	0.78	25284	2.00	0.72	5.00	158	2500
1700	1RN6566-3HJ	595	128	95.3	95.4	0.80	0.75	27286	2.40	0.85	5.50	173	2700
2350	1RN7630-3A-OC	595	174	96.3	96.6	0.81	0.78	37716	2.30	0.55	4.70	257	3067
2600	1RN7632-3A-OC	595	192	96.3	96.7	0.81	0.79	41728	2.30	0.55	4.70	283	3415
2850	1RN7634-3A-OC	595	210	96.4	96.8	0.82	0.79	45740	2.30	0.55	4.70	310	3895
3150	1RN7636-3A-OC	595	230	96.5	96.8	0.82	0.79	50555	2.30	0.60	4.80	336	3224
3500	1RN7710-3A-OC	595	245	96.6	96.7	0.85	0.82	56172	2.70	0.65	4.80	433	11007
3900	1RN7712-3A-OC	595	275	96.7	96.9	0.85	0.83	62592	2.65	0.65	4.70	493	12939
4300	1RN7714-3A-OC	595	300	96.8	97.0	0.85	0.83	69011	2.60	0.65	4.70	557	13823
4750	1RN7716-3A-OC	596	335	96.8	97.0	0.85	0.83	76105	2.65	0.65	4.80	615	10030

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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 SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External, max. ¹⁾ kgm ²
9 ... 11 kV, 50 Hz													
12-pole													
580	1RN6502-5HJ	493	48.0	93.3	93.3	0.74	0.68	11235	2.00	0.70	4.70	79	1350
640	1RN6504-5HJ	493	53	93.5	93.6	0.74	0.68	12398	2.00	0.70	4.80	87	1500
700	1RN6506-5HJ	493	58	93.6	93.7	0.75	0.69	13560	2.10	0.70	4.80	98	1600
850	1RN6560-5HJ	494	69	93.8	94.1	0.76	0.71	16432	1.85	0.60	4.20	123	1750
1000	1RN6562-5HJ	494	82	94.4	94.6	0.75	0.69	19332	1.95	0.65	4.50	141	2200
1100	1RN6564-5HJ	494	88	94.5	94.7	0.76	0.71	21265	1.95	0.63	4.40	158	2500
1200	1RN6566-5HJ	494	96	94.8	94.8	0.76	0.71	23198	1.95	0.63	4.40	173	2900
1700	1RN7630-5A-OC	495	132	95.4	95.9	0.78	0.75	32796	2.15	0.55	4.30	264	3991
1850	1RN7632-5A-OC	495	142	95.5	95.9	0.79	0.76	35689	2.15	0.55	4.30	291	3901
2000	1RN7634-5A-OC	495	152	95.6	96.0	0.79	0.76	38583	2.20	0.60	4.40	318	4371
2200	1RN7636-5A-OC	495	168	95.7	96.1	0.79	0.75	42441	2.25	0.60	4.50	345	4806

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL6/1SL7 (Ex ec) and 1SQ6/1SQ7 (Ex pxb).

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
2-pole													
1700	1RN6450-2HJ ■ 0	3573	174	95.9	96.1	0.89	0.89	4543	2.05	0.60	4.60	13	34
2000	1RN6452-2HJ ■ 0	3573	200	96.1	96.4	0.90	0.90	5345	2.10	0.65	4.75	15	40
2240	1RN6454-2HJ ■ 0	3576	225	96.3	96.4	0.90	0.89	5981	2.25	0.65	5.10	16	45
2500	1RN6456-2HJ ■ 0	3580	250	96.5	96.6	0.90	0.89	6668	2.40	0.60	5.50	18	52
3000	1RN6500-2HJ ■ 0	3574	305	96.5	96.8	0.89	0.89	8015	1.95	0.45	4.15	20	64
3300	1RN6502-2HJ ■ 0	3575	330	96.6	96.9	0.90	0.89	8814	1.95	0.45	4.35	22	72
3880	1RN6504-2HJ ■ 0	3579	385	96.9	97.1	0.91	0.90	10352	2.30	0.55	5.05	26	80
4250	1RN6506-2HJ ■ 0	3578	420	97.1	97.3	0.91	0.91	11342	2.20	0.65	4.95	27	88
4750	1RN6560-2HJ ■ 0	3576	480	96.6	96.8	0.89	0.90	12684	1.90	0.50	4.15	39	145
5400	1RN6562-2HJ ■ 0	3578	540	96.8	96.9	0.90	0.91	14412	2.15	0.55	4.45	44	160
6100	1RN6564-2HJ ■ 0	3578	600	97.0	97.1	0.91	0.91	16280	2.15	0.55	4.70	49	180
6900	1RN6566-2HJ ■ 0	3581	680	97.2	97.2	0.91	0.91	18399	2.35	0.60	5.15	55	200
7600 ²⁾	1RN7630-2 ■ A ■ 0-0C ■ 0	3580	780	97.4	97.5	0.87	0.87	20272	1.95	0.65	4.20	74	122
8400 ²⁾	1RN7632-2 ■ A ■ 0-0C ■ 0	3583	850	97.6	97.6	0.89	0.89	22387	2.20	0.70	4.80	82	137
9200 ²⁾	1RN7634-2 ■ A ■ 0-0C ■ 0	3585	920	97.7	97.7	0.90	0.89	24506	2.45	0.75	5.40	91	142
10200 ²⁾	1RN7636-2 ■ A ■ 0-0C ■ 0	3585	1020	97.8	97.8	0.90	0.89	27170	2.45	0.75	5.40	99	148
11200 ²⁾	1RN7710-2 ■ A ■ 0-0C ■ 0	3586	1100	97.3	97.2	0.91	0.91	29824	2.05	0.60	4.70	148	102
12500 ²⁾	1RN7712-2 ■ A ■ 0-0C ■ 0	3586	1220	97.5	97.3	0.92	0.91	33286	2.05	0.55	4.70	159	91
14000 ²⁾	1RN7714-2 ■ A ■ 0-0C ■ 0	3587	1340	97.6	97.4	0.93	0.92	37270	2.30	0.70	5.40	174	84
15500 ²⁾	1RN7716-2 ■ A ■ 0-0C ■ 0	3587	1500	97.6	97.5	0.93	0.92	41264	2.30	0.70	5.40	188	72

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 6.6 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T_{TB}/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
4 ... 6.6 kV, 60 Hz													
4-pole													
1680	1RN6450-4HJ	1782	172	95.9	96.1	0.89	0.88	9002	2.40	0.65	4.90	21	178
1820	1RN6452-4HJ	1784	186	96.0	96.2	0.89	0.88	9741	2.55	0.65	5.15	23	225
2120	1RN6454-4HJ	1784	215	96.2	96.5	0.89	0.89	11347	2.55	0.65	5.20	27	285
2400	1RN6456-4HJ	1785	245	96.4	96.6	0.89	0.87	12839	2.60	0.65	5.30	30	355
2700 ²⁾	1RN6500-4HJ	1785	275	96.4	97.0	0.89	0.88	14444	2.40	0.70	5.00	45	250
3000 ²⁾	1RN6502-4HJ	1786	305	96.5	97.0	0.89	0.88	16040	2.45	0.70	5.15	48	280
3400 ²⁾	1RN6504-4HJ	1786	345	96.5	97.1	0.89	0.88	18178	2.35	0.65	4.95	55	310
3820 ²⁾	1RN6506-4HJ	1786	390	96.7	97.2	0.89	0.88	20424	2.35	0.65	5.00	60	350
4500 ²⁾	1RN6560-4HJ	1790	450	97.2	97.4	0.91	0.90	24006	2.20	0.65	5.10	86	550
5000 ²⁾	1RN6562-4HJ	1790	490	97.3	97.5	0.91	0.91	26674	2.20	0.60	5.10	97	610
5600 ²⁾	1RN6564-4HJ	1791	550	97.4	97.6	0.91	0.90	29858	2.20	0.55	5.15	107	670
6150 ²⁾	1RN6566-4HJ	1790	610	97.4	97.6	0.91	0.91	32809	2.10	0.55	4.95	117	740
6800 ^{2) 3)}	1RN7630-4A0-0C	1790	690	97.5	97.7	0.88	0.88	36277	2.30	0.70	4.90	145	571
7500 ^{2) 3)}	1RN7632-4A0-0C	1791	760	97.6	97.7	0.88	0.88	39989	2.30	0.70	5.00	159	633
8200 ^{2) 3)}	1RN7634-4A0-0C	1791	820	97.7	97.9	0.89	0.88	43721	2.35	0.70	5.10	178	703
9000 ^{2) 3)}	1RN7636-4A0-0C	1791	900	97.8	97.9	0.89	0.88	47986	2.40	0.65	5.10	195	765
10000 ^{2) 3)}	1RN7710-4A0-0C	1793	980	97.6	97.5	0.91	0.90	53258	2.50	0.65	5.50	262	483
11200 ^{2) 3)}	1RN7712-4A0-0C	1793	1100	97.7	97.6	0.91	0.91	59649	2.50	0.65	5.40	288	513
12500 ^{2) 3)}	1RN7714-4A0-0C	1793	1220	97.8	97.7	0.91	0.91	66573	2.50	0.65	5.40	321	585
14000 ^{2) 3)}	1RN7716-4A0-0C	1793	1360	97.9	97.8	0.92	0.92	74562	2.50	0.60	5.40	363	672

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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.

³⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
6-pole													
1300	1RN6450-6HJ	1186	140	95.8	96.3	0.85	0.84	10467	2.10	0.80	4.35	28	550
1450	1RN6452-6HJ	1187	156	96.0	96.4	0.85	0.84	11665	2.15	0.75	4.50	32	610
1600	1RN6454-6HJ	1188	172	96.1	96.5	0.85	0.85	12861	2.30	0.85	4.75	35	660
1730	1RN6456-6HJ	1189	182	96.4	96.7	0.86	0.85	13894	2.45	0.95	5.10	41	730
2240	1RN6500-6HJ	1188	240	96.2	96.8	0.85	0.85	18005	2.05	0.65	4.35	56	970
2500	1RN6502-6HJ	1188	265	96.3	96.9	0.86	0.85	20095	2.05	0.65	4.45	61	1060
2800	1RN6504-6HJ	1188	295	96.4	97.0	0.86	0.85	22506	2.05	0.60	4.55	68	1200
3100	1RN6506-6HJ	1189	325	96.5	97.1	0.87	0.86	24897	2.10	0.70	4.45	76	1320
3500	1RN6560-6HJ	1190	360	96.9	97.2	0.88	0.87	28086	1.95	0.65	4.50	107	1380
4000	1RN6562-6HJ	1190	420	96.9	97.3	0.87	0.87	32098	1.95	0.65	4.40	118	1520
4500	1RN6564-6HJ	1191	470	97.0	97.4	0.87	0.87	36080	2.00	0.65	4.65	131	1680
4950	1RN6566-6HJ	1191	510	97.2	97.5	0.88	0.88	39688	2.05	0.70	4.65	145	1860
5400 ²⁾	1RN7630-6A-OC	1192	580	97.2	97.4	0.84	0.83	43260	2.30	0.70	5.00	208	1697
5900 ²⁾	1RN7632-6A-OC	1192	620	97.3	97.5	0.85	0.84	47266	2.30	0.70	5.00	230	1851
6500 ²⁾	1RN7634-6A-OC	1193	690	97.4	97.5	0.85	0.84	52029	2.35	0.70	5.10	250	2035
7200 ²⁾	1RN7636-6A-OC	1193	760	97.5	97.6	0.85	0.84	57632	2.35	0.65	5.10	272	2095
7800 ²⁾	1RN7710-6A-OC	1194	820	97.3	97.3	0.86	0.84	62382	2.35	0.70	5.00	351	1277
8700 ²⁾	1RN7712-6A-OC	1194	900	97.5	97.5	0.87	0.86	69580	2.30	0.65	4.90	399	1500
9700 ²⁾	1RN7714-6A-OC	1195	1000	97.6	97.5	0.87	0.86	77513	2.35	0.70	5.00	451	1823
10800 ²⁾	1RN7716-6A-OC	1195	1120	97.6	97.6	0.87	0.86	86303	2.30	0.60	4.90	498	1899

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 6.6 kV A	Efficiency		Power factor		Torque Nm	Break-down torque T_{TB}/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
4 ... 6.6 kV, 60 Hz													
8-pole													
900	1RN6450-8HJ	890	100	95.3	95.9	0.83	0.82	9656	1.90	0.55	3.90	35	475
1000	1RN6452-8HJ	892	110	95.5	96.0	0.83	0.81	10705	2.20	0.65	4.50	39	570
1120	1RN6454-8HJ	891	124	95.7	96.2	0.83	0.82	12003	2.10	0.65	4.35	44	670
1220	1RN6456-8HJ	892	132	95.9	96.3	0.84	0.82	13060	2.30	0.70	4.80	51	820
1600	1RN6500-8HJ	893	178	96.0	96.4	0.82	0.79	17109	2.20	0.55	4.80	68	1080
1800	1RN6502-8HJ	892	196	96.1	96.6	0.84	0.82	19269	2.10	0.55	4.40	75	1200
2000	1RN6504-8HJ	892	215	96.2	96.7	0.84	0.82	21410	2.10	0.55	4.40	84	1340
2200	1RN6506-8HJ	893	240	96.3	96.7	0.84	0.82	23525	2.15	0.60	4.75	93	1480
2500	1RN6560-8HJ	893	270	96.7	97.2	0.84	0.83	26733	2.00	0.50	4.60	127	1960
2800	1RN6562-8HJ	893	300	96.8	97.3	0.85	0.83	29941	2.10	0.55	4.60	140	2150
3150	1RN6564-8HJ	893	330	96.8	97.3	0.85	0.84	33684	2.10	0.55	4.65	155	2400
3400	1RN6566-8HJ	893	360	96.8	97.3	0.85	0.84	36357	1.95	0.55	4.65	171	2650
3750 ²⁾	1RN7630-8A-OC	894	415	96.6	96.7	0.82	0.80	40056	2.30	0.50	5.10	255	2418
4150 ²⁾	1RN7632-8A-OC	894	450	96.8	96.9	0.83	0.82	44328	2.30	0.55	5.10	281	2942
4600 ²⁾	1RN7634-8A-OC	894	495	96.9	97.0	0.84	0.83	49135	2.30	0.55	5.10	308	3080
5050 ²⁾	1RN7636-8A-OC	894	540	96.9	97.0	0.84	0.83	53942	2.30	0.55	5.10	334	2905
5600 ²⁾	1RN7710-8A-OC	895	590	97.0	97.1	0.85	0.84	59749	2.25	0.60	4.70	434	4711
6300 ²⁾	1RN7712-8A-OC	895	670	97.1	97.2	0.85	0.84	67218	2.25	0.60	4.60	493	5371
7100 ²⁾	1RN7714-8A-OC	895	740	97.3	97.3	0.86	0.85	75754	2.35	0.65	4.90	559	6065
8000 ²⁾	1RN7716-8A-OC	896	850	97.3	97.4	0.85	0.84	85261	2.30	0.55	4.70	616	6690

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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													
10-pole													
650	1RN6450-3HJ	710	74	93.7	94.0	0.82	0.78	8743	1.90	0.72	4.50	37	650
720	1RN6452-3HJ	710	83	94.1	94.3	0.81	0.77	9685	2.00	0.75	4.70	41	850
800	1RN6454-3HJ	711	92	94.3	94.4	0.81	0.76	10745	2.10	0.80	4.90	46	900
910	1RN6456-3HJ	711	104	94.5	94.6	0.81	0.77	12223	2.10	0.80	5.00	52	1100
1080	1RN6500-3HJ	711	122	94.8	95.0	0.82	0.80	14506	1.80	0.65	4.40	70	1200
1200	1RN6502-3HJ	712	134	95.2	95.2	0.82	0.80	16096	1.90	0.68	4.70	80	1500
1320	1RN6504-3HJ	712	146	95.1	95.2	0.83	0.80	17705	1.90	0.70	4.70	88	1450
1500	1RN6506-3HJ	712	166	95.4	95.5	0.83	0.79	20119	2.00	0.72	4.90	99	1900
1780	1RN6560-3HJ	713	205	95.5	95.6	0.80	0.76	23842	2.00	0.70	4.60	123	2100
2040	1RN6562-3HJ	713	235	95.8	95.8	0.80	0.76	27324	2.00	0.70	4.80	141	2600
2200	1RN6564-3HJ	713	245	95.9	95.8	0.82	0.79	29467	2.00	0.68	4.60	158	2800
2400	1RN6566-3HJ	713	270	96.0	96.0	0.81	0.77	32146	2.10	0.75	5.00	173	3300
3050 ²⁾	1RN7630-3A-OC	715	340	96.7	97.0	0.81	0.79	40735	2.35	0.50	4.80	258	5264
3350 ²⁾	1RN7632-3A-OC	715	375	96.7	97.0	0.81	0.78	44741	2.35	0.55	4.80	284	4576
3700 ²⁾	1RN7634-3A-OC	715	405	96.9	97.1	0.82	0.79	49416	2.40	0.55	4.90	310	6492
4100 ²⁾	1RN7636-3A-OC	715	450	97.0	97.2	0.82	0.80	54758	2.35	0.55	4.80	337	6696
4500 ²⁾	1RN7710-3A-OC	715	485	96.7	96.8	0.84	0.81	60100	2.70	0.65	4.80	433	7545
5000 ²⁾	1RN7712-3A-OC	715	530	97.0	97.0	0.85	0.82	66778	2.70	0.60	4.80	493	8660
5600 ²⁾	1RN7714-3A-OC	716	590	97.0	97.0	0.85	0.82	74687	2.75	0.65	4.90	557	10086
6200 ²⁾	1RN7716-3A-OC	715	660	97.1	97.1	0.85	0.83	82805	2.75	0.70	5.00	618	10760

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M 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 $\cos \varphi$	3/4 load $\cos \varphi$					Motor kgm ²	External max. ¹⁾ kgm ²
4 ... 6.6 kV, 60 Hz													
12-pole													
440	1RN6450-5HJ	591	56	92.9	93.1	0.74	0.71	7110	1.80	0.56	4.00	37	630
510	1RN6452-5HJ	591	65	93.3	93.3	0.73	0.68	8241	1.80	0.60	4.20	41	850
570	1RN6454-5HJ	592	73	93.9	93.9	0.73	0.68	9195	1.80	0.60	4.20	46	1150
650	1RN6456-5HJ	592	82	94.0	93.9	0.74	0.68	10486	1.90	0.60	4.30	52	1300
820	1RN6500-5HJ	592	102	94.4	94.3	0.74	0.68	13228	2.00	0.62	4.50	70	1650
920	1RN6502-5HJ	592	114	94.6	94.6	0.75	0.70	14841	1.90	0.62	4.40	79	2000
1020	1RN6504-5HJ	592	128	94.8	94.7	0.74	0.68	16454	2.00	0.65	4.70	87	2400
1120	1RN6506-5HJ	592	136	94.8	94.8	0.76	0.71	18068	1.90	0.60	4.40	98	2200
1300	1RN6560-5HJ	593	160	95.0	95.1	0.75	0.70	20936	1.80	0.53	3.90	123	2050
1470	1RN6562-5HJ	593	182	95.2	95.3	0.74	0.69	23674	1.80	0.55	4.00	141	2500
1620	1RN6564-5HJ	594	205	95.4	95.4	0.73	0.67	26045	2.00	0.63	4.30	158	3500
1760	1RN6566-5HJ	594	220	95.5	95.5	0.73	0.68	28296	2.00	0.63	4.40	173	3900
2400 ²⁾	1RN7630-5A-OC	595	285	96.1	96.4	0.77	0.73	38518	2.20	0.60	4.30	264	5485
2700 ²⁾	1RN7632-5A-OC	595	320	96.3	96.5	0.77	0.73	43333	2.25	0.55	4.40	291	6860
2950 ²⁾	1RN7634-5A-OC	595	350	96.4	96.6	0.77	0.74	47345	2.20	0.55	4.30	317	7561
3250 ²⁾	1RN7636-5A-OC	594	380	96.4	96.6	0.78	0.74	52248	2.20	0.60	4.30	345	6521

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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.

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⁾ 1RN7 types with rated voltage below 4.16 kV on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 13.8 kV A	Efficiency		Power factor		Torque Nm	Break-down torque $\frac{T_B}{T_{rated}}$ [-]	Locked-rotor torque $\frac{T_{LR}}{T_{rated}}$ [-]	Locked-rotor current $\frac{I_{LR}}{I_{rated}}$ [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
13.8 kV, 60 Hz													
2-pole													
5200	1RN7630-2■A■0-0C■0	3586	250	97.0	97.1	0.89	0.89	13847	2.40	0.65	5.35	74	137
5800	1RN7632-2■A■0-0C■0	3587	275	97.2	97.2	0.90	0.89	15441	2.40	0.55	5.30	82	138
6500	1RN7634-2■A■0-0C■0	3587	305	97.4	97.5	0.91	0.90	17304	2.40	0.60	5.30	91	170
7300	1RN7636-2■A■0-0C■0	3586	345	97.4	97.5	0.91	0.91	19439	2.45	0.55	5.25	101	103
8200	1RN7710-2■A■0-0CJ0	3589	385	96.9	96.7	0.92	0.91	21818	2.40	0.65	5.65	149	137
9200	1RN7712-2■A■0-0CJ0	3589	425	97.1	96.9	0.93	0.92	24479	2.35	0.70	5.65	160	167
10300	1RN7714-2■A■0-0CJ0	3589	475	97.3	97.1	0.93	0.92	27405	2.40	0.65	5.60	174	122
11600	1RN7716-2■A■0-0CJ0	3588	530	97.4	97.3	0.94	0.93	30873	2.40	0.75	5.70	190	192
12400	1RN7800-2■A■0-0CJ0	3591	600	96.8	96.5	0.90	0.91	32974	2.10	0.40	5.40	246	200
13200	1RN7802-2■A■0-0CJ0	3590	630	96.9	96.6	0.90	0.91	35112	2.05	0.40	5.30	266	208
14000	1RN7804-2■A■0-0CJ0	3591	670	97.0	96.7	0.90	0.91	37229	2.15	0.40	5.50	283	233
15000	1RN7806-2■A■0-0CJ0	3591	710	97.0	96.8	0.91	0.92	39888	2.15	0.40	5.50	305	178
4-pole													
5100	1RN7630-4■A■0-0C■0	1792	245	97.2	97.4	0.89	0.88	27177	2.50	0.65	5.40	146	293
5700	1RN7632-4■A■0-0C■0	1792	275	97.4	97.5	0.89	0.88	30374	2.45	0.65	5.30	160	337
6400	1RN7634-4■A■0-0C■0	1792	310	97.5	97.7	0.89	0.88	34105	2.45	0.65	5.35	178	338
7200	1RN7636-4■A■0-0C■0	1793	345	97.5	97.7	0.89	0.88	38346	2.50	0.65	5.40	194	308
8100	1RN7710-4■A■0-0CJ0	1794	380	97.4	97.4	0.91	0.91	43116	2.60	0.65	5.70	262	378
9100	1RN7712-4■A■0-0CJ0	1793	425	97.5	97.5	0.92	0.92	48465	2.55	0.65	5.60	288	306
10200	1RN7714-4■A■0-0CJ0	1793	475	97.6	97.6	0.92	0.92	54324	2.50	0.70	5.50	322	382
11500	1RN7716-4■A■0-0CJ0	1793	540	97.7	97.8	0.92	0.93	61248	2.45	0.70	5.40	362	386
13000	1RN7800-4■A■0-0C■0	1794	610	97.4	97.4	0.91	0.92	69198	2.30	0.45	5.30	520	683
14400	1RN7802-4■A■0-0C■0	1794	680	97.5	97.5	0.91	0.92	76650	2.30	0.40	5.40	571	1160
15800	1RN7804-4■A■0-0C■0	1794	740	97.5	97.6	0.92	0.92	84102	2.30	0.45	5.40	627	1124
17200	1RN7806-4■A■0-0C■0	1793	800	97.6	97.7	0.92	0.92	91605	2.35	0.45	5.50	688	1341
21000	1RN7900-4NA■0-0C■0	1796	990	97.8	97.6	0.91	0.91	111657	2.20	0.40	5.00	1016	2250
23000	1RN7902-4NA■0-0C■0	1796	1080	97.8	97.7	0.91	0.91	122291	2.20	0.40	5.00	1086	2550
24500	1RN7904-4NA■0-0C■0	1796	1160	97.9	97.8	0.91	0.91	130266	2.20	0.40	5.00	1177	2700
27000	1RN7906-4NA■0-0C■0	1796	1260	98.0	97.9	0.91	0.91	143558	2.20	0.40	5.00	1292	3000

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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](#).

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 13.8 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 $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
13.8 kV, 60 Hz													
6-pole													
3550	1RN7630-6A-0C0	1194	180	97.0	97.2	0.85	0.84	28392	2.50	0.65	5.60	208	1080
4000	1RN7632-6A-0C0	1194	200	97.1	97.3	0.86	0.85	31991	2.50	0.70	5.60	230	1183
4500	1RN7634-6A-0C0	1194	230	97.2	97.3	0.85	0.84	35990	2.55	0.70	5.60	250	1042
5100	1RN7636-6A-0C0	1194	255	97.2	97.4	0.86	0.84	40788	2.50	0.70	5.55	271	1084
5700	1RN7710-6A-0C0	1195	280	97.1	97.1	0.87	0.85	45549	2.50	0.70	5.35	350	1331
6400	1RN7712-6A-0C0	1195	315	97.3	97.3	0.87	0.86	51143	2.45	0.70	5.35	397	1817
7200	1RN7714-6A-0C0	1195	355	97.4	97.4	0.87	0.86	57536	2.45	0.65	5.35	448	2534
8100	1RN7716-6A-0C0	1195	395	97.5	97.6	0.88	0.87	64727	2.45	0.65	5.35	497	2334
9400	1RN7800-6A-0C0	1195	465	97.4	97.4	0.87	0.87	75116	2.15	0.60	4.90	688	3330
10700	1RN7802-6A-0C0	1195	530	97.5	97.5	0.87	0.88	85504	2.00	0.50	4.80	763	3662
12200	1RN7804-6A-0C0	1195	590	97.5	97.6	0.88	0.88	97491	2.05	0.55	5.60	846	4016
14000	1RN7806-6A-0C0	1196	690	97.6	97.5	0.87	0.85	111781	2.35	0.55	5.40	925	4291
15500	1RN7900-6NA-0C0	1196	750	97.8	97.9	0.88	0.88	123758	2.10	0.45	4.20	1301	6000
17000	1RN7902-6NA-0C0	1196	830	97.9	97.9	0.88	0.88	135734	2.10	0.45	4.50	1464	6500
19000	1RN7904-6NA-0C0	1196	920	97.9	98.0	0.88	0.88	151703	2.10	0.45	5.00	1627	7000
21000	1RN7906-6NA-0C0	1196	1020	98.0	98.0	0.88	0.88	167672	2.10	0.45	5.00	1789	7500

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

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

SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power IEC kW	High voltage motor SIMOTICS HV M Article No.	Speed rpm	Rated current I_{rated} at 13.8 kV A	Efficiency		Power factor		Torque Nm	Break-down torque $\frac{T_B}{T_{rated}}$ [-]	Locked-rotor torque $\frac{T_{LR}}{T_{rated}}$ [-]	Locked-rotor current $\frac{I_{LR}}{I_{rated}}$ [-]	Moment of inertia	
				4/4 load %	3/4 load %	4/4 load $\cos \phi$	3/4 load $\cos \phi$					Motor kgm ²	External, max. ¹⁾ kgm ²
13.8 kV, 60 Hz													
8-pole													
2850	1RN7630-8■A■-0C■0	895	150	96.2	96.3	0.83	0.81	30408	2.45	0.50	5.40	255	790
3150	1RN7632-8■A■-0C■0	895	164	96.4	96.6	0.83	0.81	33609	2.45	0.50	5.45	282	1251
3500	1RN7634-8■A■-0C■0	895	180	96.5	96.7	0.84	0.82	37344	2.40	0.50	5.40	308	1170
3900	1RN7636-8■A■-0C■0	895	200	96.6	96.8	0.84	0.83	41611	2.45	0.50	5.40	334	1273
4350	1RN7710-8■A■-0C■0	896	220	96.6	96.7	0.85	0.82	46361	2.70	0.75	5.55	434	2634
4850	1RN7712-8■A■-0C■0	896	245	96.8	96.9	0.85	0.83	51690	2.70	0.70	5.55	492	2294
5400	1RN7714-8■A■-0C■0	896	270	96.8	96.9	0.86	0.84	57552	2.65	0.75	5.55	559	2751
6000	1RN7716-8■A■-0C■0	896	300	97.0	97.1	0.86	0.84	63946	2.65	0.70	5.55	616	3470
7000	1RN7800-8■A■-0C■0	896	350	97.4	97.6	0.86	0.85	74604	1.90	0.45	5.00	861	6937
8000	1RN7802-8■A■-0C■0	896	400	97.4	97.6	0.86	0.86	85262	1.90	0.45	4.70	954	5876
9100	1RN7804-8■A■-0C■0	896	455	97.5	97.7	0.86	0.86	96985	1.80	0.40	4.40	1058	6686
10500	1RN7806-8■A■-0C■0	896	520	97.6	97.8	0.86	0.85	111906	1.95	0.50	5.10	1164	7038
10-pole													
2200	1RN7630-3■A■-0C■0	715	116	96.1	96.4	0.82	0.80	29382	2.45	0.50	5.00	258	1452
2500	1RN7632-3■A■-0C■0	716	132	96.3	96.5	0.82	0.79	33343	2.50	0.50	5.10	284	1642
2800	1RN7634-3■A■-0C■0	715	148	96.4	96.6	0.82	0.80	37396	2.40	0.50	5.00	311	1832
3150	1RN7636-3■A■-0C■0	715	164	96.4	96.7	0.83	0.81	42070	2.40	0.50	5.00	337	1577
3550	1RN7710-3■A■-0C■0	716	182	96.5	96.6	0.85	0.81	47346	2.85	0.65	5.15	433	4455
4000	1RN7712-3■A■-0C■0	716	205	96.6	96.7	0.85	0.81	53348	2.90	0.70	5.25	493	4341
4500	1RN7714-3■A■-0C■0	716	225	96.7	96.8	0.86	0.83	60017	2.80	0.70	5.15	557	3910
5000	1RN7716-3■A■-0C■0	716	260	96.7	96.7	0.83	0.79	66685	3.05	0.65	5.35	615	4678

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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

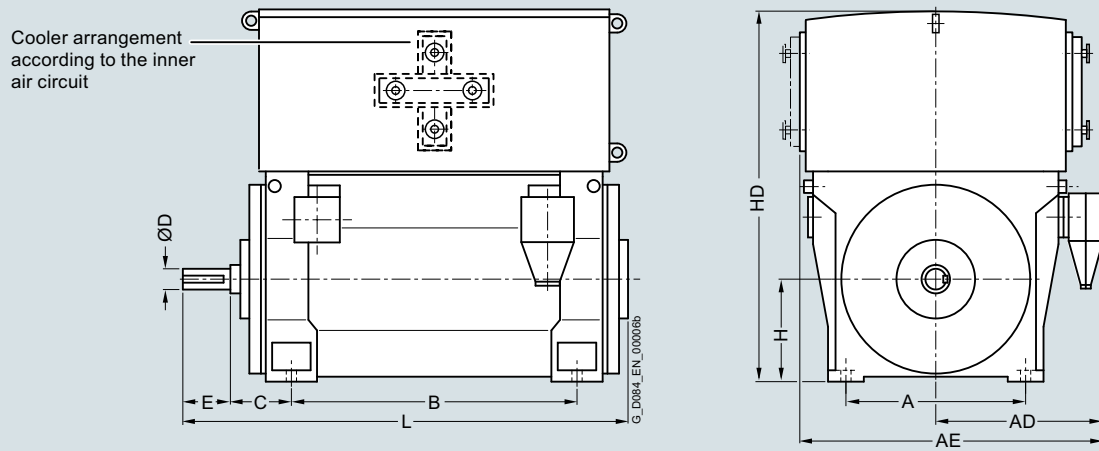
Higher pole numbers are available on request.

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](#).

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, anti-friction bearings – 1RN6²⁾, 1RN7²⁾ series – IC81W											
2-pole											
1RN6450-2HJ.0 ³⁾	4050	850	930	1620	1180	280	95	130	450	1725	1843
1RN6452-2HJ.0 ³⁾	4250	850	930	1620	1180	280	95	130	450	1725	1843
1RN6454-2HJ.0 ³⁾	4550	850	930	1620	1400	280	95	130	450	1725	2053
1RN6456-2HJ.0 ³⁾	4850	850	930	1620	1400	280	95	130	450	1725	2053
1RN6500-2HJ.0 ³⁾	5850	950	1135	1835	1320	315	110	165	500	1980	2150
1RN6502-2HJ.0 ³⁾	6000	950	1135	1835	1320	315	110	165	500	1980	2150
4-pole											
1RN6450-4HJ.0	4350	850	930	1620	1180	250	130	200	450	1715	1896
1RN6452-4HJ.0	4250	850	930	1620	1180	250	130	200	450	1715	1896
1RN6454-4HJ.0	4950	850	930	1620	1400	250	130	200	450	1715	2106
1RN6456-4HJ.0	5250	850	930	1620	1400	250	130	200	450	1715	2106
1RN6500-4HJ.0	6350	950	1135	1835	1320	280	150	200	500	1980	2150
1RN6502-4HJ.0	6550	950	1135	1835	1320	280	150	200	500	1980	2150
1RN6504-4HJ.0	7200	950	1135	1835	1500	280	150	200	500	1980	2300
1RN6506-4HJ.0	7500	950	1135	1835	1500	280	150	200	500	1980	2300
1RN6560-4HJ.0	7600	1060	1205	1975	1400	315	170	240	560	2150	2300
1RN6562-4HJ.0	8000	1060	1205	1975	1400	315	170	240	560	2150	2300
1RN6564-4HJ.0	8900	1060	1205	1975	1600	315	170	240	560	2150	2550
1RN6566-4HJ.0	9400	1060	1205	1975	1600	315	170	240	560	2150	2550
1RN7630-4N..0-OCG0	11000	1320	1490	2490	1600	375	200	280	630	2170	2610
1RN7632-4N..0-OCG0	11600	1320	1490	2490	1600	375	200	280	630	2170	2610
1RN7634-4N..0-OCG0	12500	1320	1490	2490	1800	375	200	280	630	2170	2810
1RN7636-4N..0-OCG0	13100	1320	1490	2490	1800	375	200	280	630	2170	2810
1RN7710-4N..0-OCG0	15700	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7712-4N..0-OCG0	16300	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7714-4N..0-OCG0	17700	1500	1800	2900	2240	375	220	350	710	2570	3310
1RN7716-4N..0-OCG0	18900	1500	1800	2900	2240	375	220	350	710	2570	3310

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

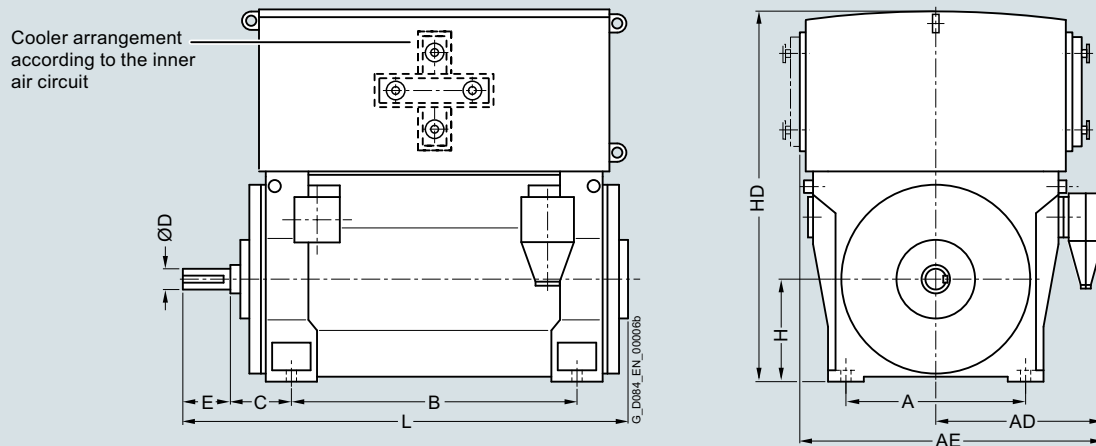
³⁾ Anti-friction bearings only for 50 Hz version.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)

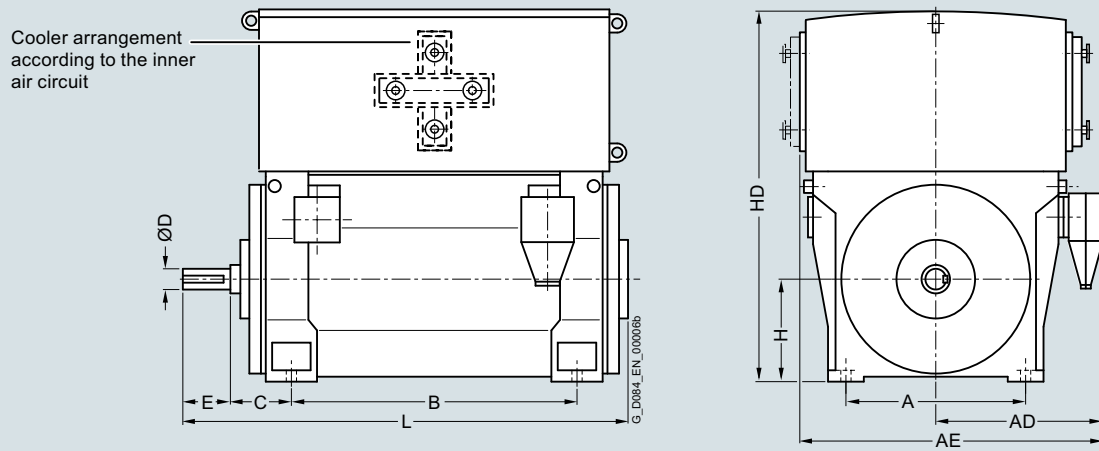


Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, anti-friction bearings – 1RN6²⁾, 1RN7²⁾ series – IC81W											
6-pole											
1RN6450-6HJ.0	4450	850	930	1620	1180	250	140	200	450	1715	1896
1RN6452-6HJ.0	4750	850	930	1620	1180	250	140	200	450	1715	1896
1RN6454-6HJ.0	5100	850	930	1620	1400	280	140	200	450	1715	2136
1RN6456-6HJ.0	5450	850	930	1620	1400	280	140	200	450	1715	2136
1RN6500-6HJ.0	6400	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6502-6HJ.0	6650	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6504-6HJ.0	7250	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6506-6HJ.0	7650	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6560-6HJ.0	8600	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6562-6HJ.0	9000	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6564-6HJ.0	9850	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN6566-6HJ.0	10400	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN7630-6N..0-OCG0	11500	1320	1340	2340	1600	375	200	280	630	2170	2610
1RN7632-6N..0-OCG0	12100	1320	1340	2340	1600	375	200	280	630	2170	2610
1RN7634-6N..0-OCG0	13000	1320	1340	2340	1800	375	200	280	630	2170	2810
1RN7636-6N..0-OCG0	13500	1320	1340	2340	1800	375	200	280	630	2170	2810
1RN7710-6N..0-OCG0	16000	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7712-6N..0-OCG0	17000	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7714-6N..0-OCG0	18500	1500	1800	2900	2240	375	220	350	710	2570	3310
1RN7716-6N..0-OCG0	19600	1500	1800	2900	2240	375	220	350	710	2570	3310

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

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, anti-friction bearings – 1RN6²⁾, 1RN7²⁾ series – IC81W											
8-pole											
1RN6450-8HJ.0	4450	850	930	1620	1180	250	140	200	450	1715	1896
1RN6452-8HJ.0	4750	850	930	1620	1180	250	140	200	450	1715	1896
1RN6454-8HJ.0	5150	850	930	1620	1400	280	140	200	450	1715	2136
1RN6456-8HJ.0	5450	850	930	1620	1400	280	140	200	450	1715	2136
1RN6500-8HJ.0	6350	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6502-8HJ.0	6600	950	1135	1835	1320	315	160	240	500	1960	2150
1RN6504-8HJ.0	7250	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6506-8HJ.0	7600	950	1135	1835	1500	315	160	240	500	1960	2360
1RN6560-8HJ.0	8550	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6562-8HJ.0	9000	1060	1205	1975	1400	315	180	240	560	2180	2300
1RN6564-8HJ.0	9800	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN6566-8HJ.0	10350	1060	1205	1975	1600	315	180	240	560	2180	2550
1RN7630-8N..0-OCG0	11200	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7632-8N..0-OCG0	11800	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7634-8N..0-OCG0	12700	1320	1340	2340	1800	375	200	280	630	2250	2810
1RN7636-8N..0-OCG0	13200	1320	1340	2340	1800	375	200	280	630	2250	2810
1RN7710-8N..0-OCG0	15600	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7712-8N..0-OCG0	16500	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7714-8N..0-OCG0	18000	1500	1800	2900	2240	375	220	350	710	2570	3310
1RN7716-8N..0-OCG0	19000	1500	1800	2900	2240	375	220	350	710	2570	3310

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

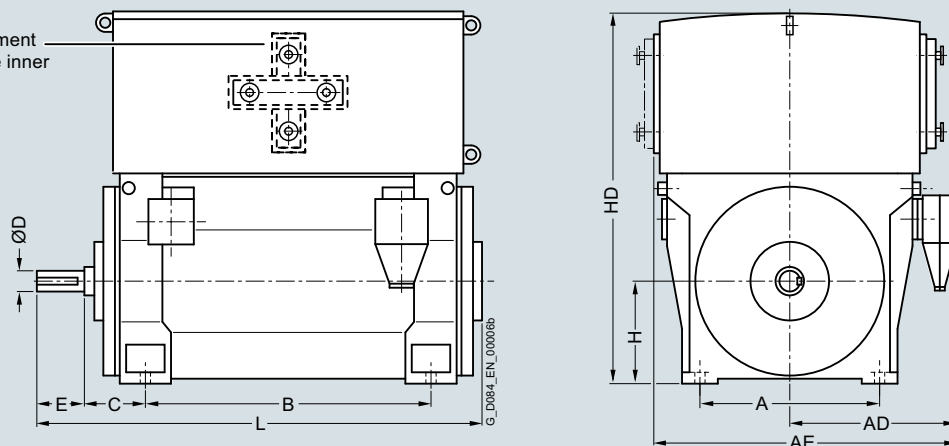
Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)

Cooler arrangement
according to the inner
air circuit

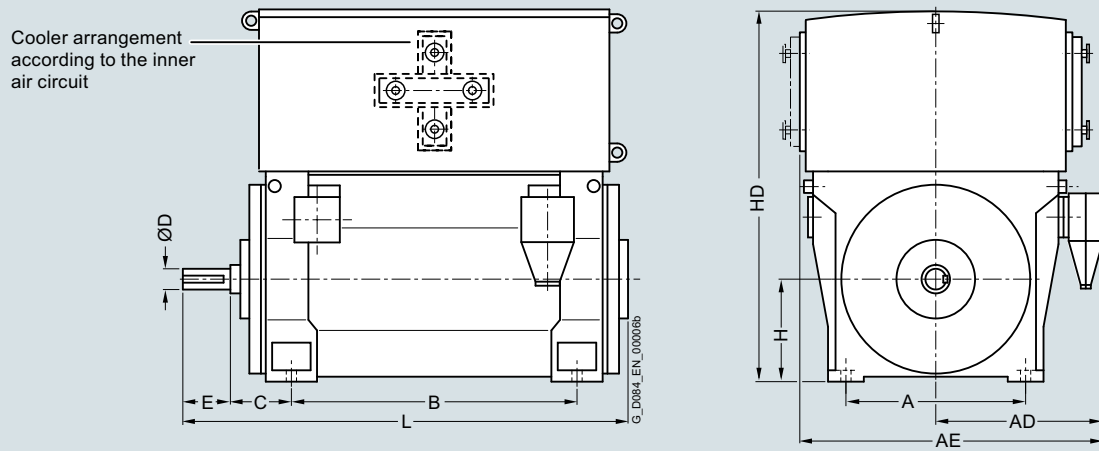


Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, anti-friction bearings – 1RN6²⁾, 1RN7²⁾ series – IC81W											
10-pole											
1RN6450-3HJ.0	4450	850	930	1620	1180	250	140	200	450	1715	1896
1RN6452-3HJ.0	4750	850	930	1620	1180	250	140	200	450	1715	1896
1RN6454-3HJ.0	5150	850	930	1620	1400	280	140	200	450	1715	2136
1RN6456-3HJ.0	5450	850	930	1620	1400	280	140	200	450	1715	2136
1RN6500-3HJ.0	5500	950	1000	1790	1320	280	160	240	500	1830	2270
1RN6502-3HJ.0	5850	950	1000	1790	1320	280	160	240	500	1830	2270
1RN6504-3HJ.0	6450	950	1000	1790	1500	280	170	240	500	1830	2480
1RN6506-3HJ.0	6800	950	1000	1790	1500	280	170	240	500	1830	2480
1RN6560-3HJ.0	7450	1060	1070	1920	1400	315	180	240	560	2040	2300
1RN6562-3HJ.0	8000	1060	1070	1920	1400	315	180	240	560	2040	2300
1RN6564-3HJ.0	8800	1060	1070	1920	1600	315	190	280	560	2040	2570
1RN6566-3HJ.0	9300	1060	1070	1920	1600	315	190	280	560	2040	2570
1RN7630-3N..0-OCG0	11200	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7632-3N..0-OCG0	11700	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7634-3N..0-OCG0	12500	1320	1340	2340	1800	375	200	280	630	2250	2810
1RN7636-3N..0-OCG0	13100	1320	1340	2340	1800	375	200	280	630	2250	2810
1RN7710-3N..0-OCG0	15600	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7712-3N..0-OCG0	16500	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7714-3N..0-OCG0	18000	1500	1800	2900	2240	375	220	350	710	2570	3310
1RN7716-3N..0-OCG0	19000	1500	1800	2900	2240	375	220	350	710	2570	3310

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

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, anti-friction bearings – 1RN6²⁾, 1RN7²⁾ series – IC81W											
12-pole											
1RN6450-5HJ.0	4450	850	930	1620	1180	250	140	200	450	1715	1896
1RN6452-5HJ.0	4750	850	930	1620	1180	250	140	200	450	1715	1896
1RN6454-5HJ.0	5150	850	930	1620	1400	280	140	200	450	1715	2136
1RN6456-5HJ.0	5450	850	930	1620	1400	280	140	200	450	1715	2136
1RN6500-5HJ.0	5550	950	1000	1790	1320	280	160	240	500	1830	2270
1RN6502-5HJ.0	5900	950	1000	1790	1320	280	160	240	500	1830	2270
1RN6504-5HJ.0	6350	950	1000	1790	1500	280	170	240	500	1830	2480
1RN6506-5HJ.0	6800	950	1000	1790	1500	280	170	240	500	1830	2480
1RN6560-5HJ.0	7450	1060	1070	1920	1400	315	180	240	560	2040	2300
1RN6562-5HJ.0	8000	1060	1070	1920	1400	315	180	240	560	2040	2300
1RN6564-5HJ.0	8800	1060	1070	1920	1600	315	190	280	560	2040	2570
1RN6566-5HJ.0	9250	1060	1070	1920	1600	315	190	280	560	2040	2570
1RN7630-5N..0-0CG0	11100	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7632-5N..0-0CG0	11700	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7634-5N..0-0CG0	12500	1320	1340	2340	1800	375	200	280	630	2250	2810
1RN7636-5N..0-0CG0	13100	1320	1340	2340	1800	375	200	280	630	2250	2810

Note: Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

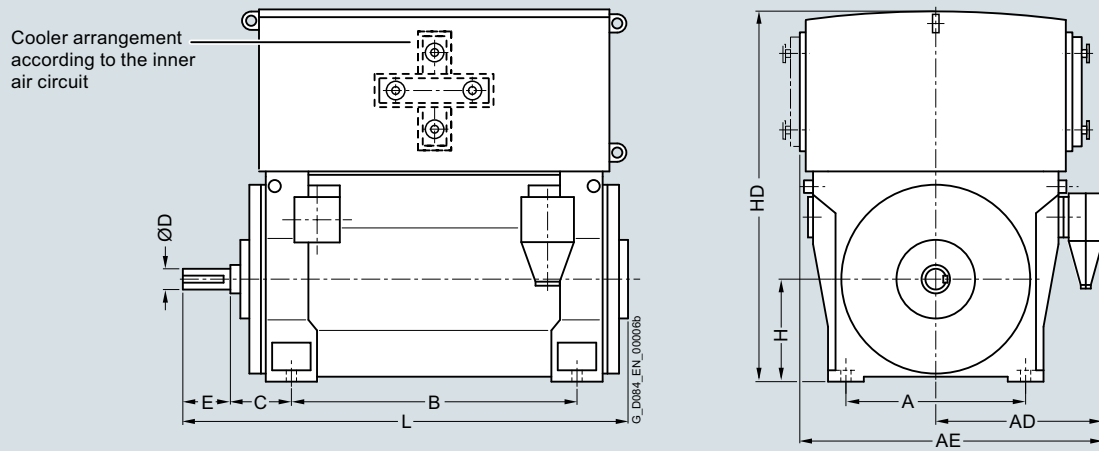
²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Dimension drawings

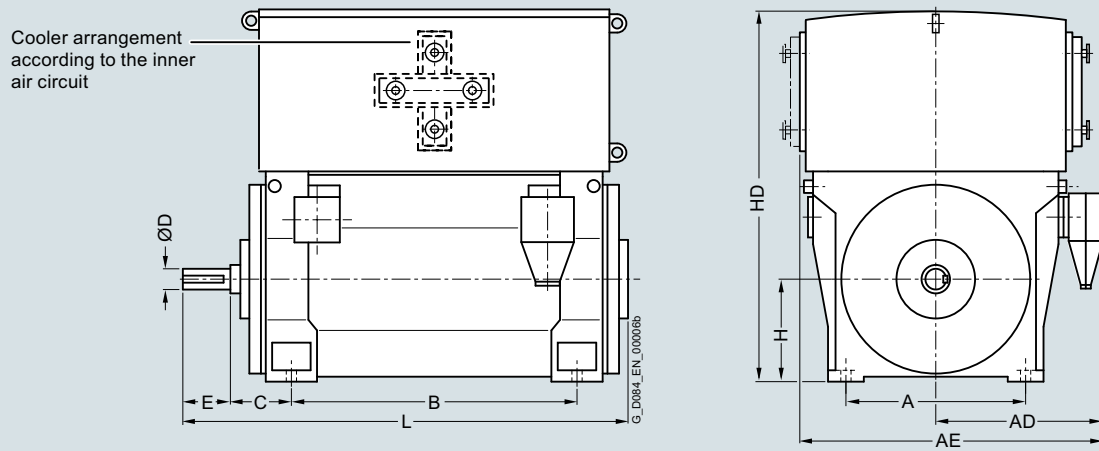


Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, anti-friction bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
2-pole											
1RN6450-2HJ.0 ²⁾	4050	850	1070	1840	1180	280	95	130	450	1725	1875
1RN6452-2HJ.0 ²⁾	4250	850	1070	1840	1180	280	95	130	450	1725	1875
1RN6454-2HJ.0 ²⁾	4550	850	1070	1840	1400	280	95	130	450	1725	2085
1RN6456-2HJ.0 ²⁾	4850	850	1070	1840	1400	280	95	130	450	1725	2085
1RN6500-2HJ.0 ²⁾	5850	950	1270	1970	1320	315	110	165	500	1980	2150
1RN6502-2HJ.0 ²⁾	6000	950	1270	1970	1320	315	110	165	500	1980	2150
4-pole											
1RN6450-4HJ.0	4350	850	1070	1840	1180	250	130	200	450	1715	1896
1RN6452-4HJ.0	4250	850	1070	1840	1180	250	130	200	450	1715	1896
1RN6454-4HJ.0	4950	850	1070	1840	1400	250	130	200	450	1715	2106
1RN6456-4HJ.0	5250	850	1070	1840	1400	250	130	200	450	1715	2106
1RN6500-4HJ.0	6350	950	1270	1970	1320	280	150	200	500	1980	2150
1RN6502-4HJ.0	6550	950	1270	1970	1320	280	150	200	500	1980	2150
1RN6504-4HJ.0	7200	950	1270	1970	1500	280	150	200	500	1980	2300
1RN6506-4HJ.0	7500	950	1270	1970	1500	280	150	200	500	1980	2300
1RN6560-4HJ.0	7600	1060	1340	2110	1400	315	170	240	560	2150	2300
1RN6562-4HJ.0	8000	1060	1340	2110	1400	315	170	240	560	2150	2300
1RN6564-4HJ.0	8900	1060	1340	2110	1600	315	170	240	560	2150	2550
1RN6566-4HJ.0	9400	1060	1340	2110	1600	315	170	240	560	2150	2550
1RN7630-4N..0-OCG0	10900	1320	1490	2490	1600	375	200	280	630	2170	2610
1RN7632-4N..0-OCG0	11500	1320	1490	2490	1600	375	200	280	630	2170	2610
1RN7634-4N..0-OCG0	12300	1320	1490	2490	1800	375	200	280	630	2170	2810
1RN7636-4N..0-OCG0	12900	1320	1490	2490	1800	375	200	280	630	2170	2810
1RN7710-4N..0-OCG0	16200	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7712-4N..0-OCG0	16900	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7714-4N..0-OCG0	18200	1500	1800	2900	2240	375	220	350	710	2570	3310
1RN7716-4N..0-OCG0	19400	1500	1800	2900	2240	375	220	350	710	2570	3310

¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

²⁾ Anti-friction bearings only for 50 Hz version.

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, anti-friction bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
6-pole											
1RN6450-6HJ.0	4450	850	1070	1840	1180	250	140	200	450	1715	1896
1RN6452-6HJ.0	4750	850	1070	1840	1180	250	140	200	450	1715	1896
1RN6454-6HJ.0	5100	850	1070	1840	1400	280	140	200	450	1715	2136
1RN6456-6HJ.0	5450	850	1070	1840	1400	280	140	200	450	1715	2136
1RN6500-6HJ.0	6400	950	1270	1970	1320	315	160	240	500	1960	2150
1RN6502-6HJ.0	6650	950	1270	1970	1320	315	160	240	500	1960	2150
1RN6504-6HJ.0	7250	950	1270	1970	1500	315	160	240	500	1960	2360
1RN6506-6HJ.0	7650	950	1270	1970	1500	315	160	240	500	1960	2360
1RN6560-6HJ.0	8600	1060	1340	2110	1400	315	180	240	560	2200	2300
1RN6562-6HJ.0	9000	1060	1340	2110	1400	315	180	240	560	2200	2300
1RN6564-6HJ.0	9850	1060	1340	2110	1600	315	180	240	560	2200	2550
1RN6566-6HJ.0	10400	1060	1340	2110	1600	315	180	240	560	2200	2550
1RN7630-6N..0-OCG0	11400	1320	1340	2340	1600	375	200	280	630	2170	2610
1RN7632-6N..0-OCG0	12000	1320	1340	2340	1600	375	200	280	630	2170	2610
1RN7634-6N..0-OCG0	12800	1320	1340	2340	1800	375	200	280	630	2170	2810
1RN7636-6N..0-OCG0	13400	1320	1340	2340	1800	375	200	280	630	2170	2810
1RN7710-6N..0-OCG0	16600	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7712-6N..0-OCG0	17600	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7714-6N..0-OCG0	19100	1500	1800	2900	2240	375	220	350	710	2570	3310
1RN7716-6N..0-OCG0	20200	1500	1800	2900	2240	375	220	350	710	2570	3310

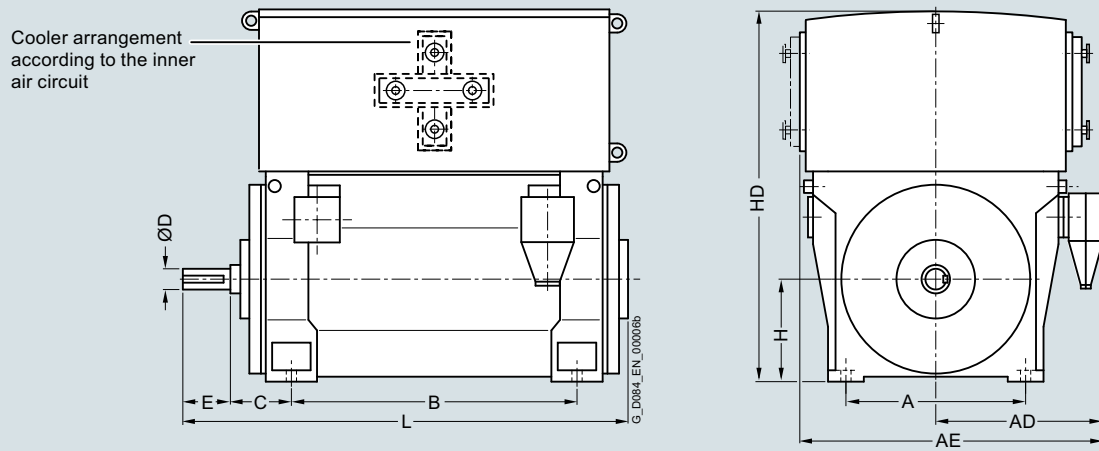
¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

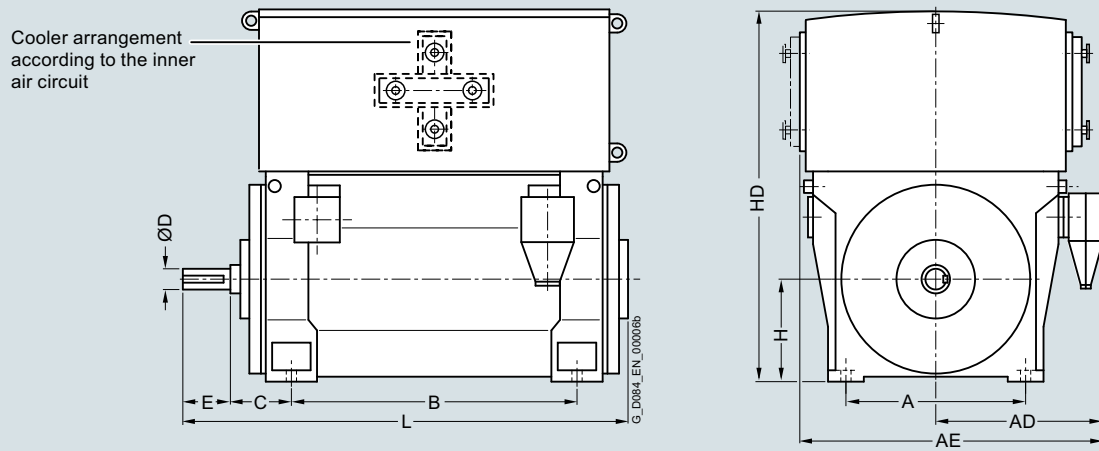
Dimension drawings (continued)



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, anti-friction bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
8-pole											
1RN6450-8HJ.0	4450	850	1070	1840	1180	250	140	200	450	1715	1896
1RN6452-8HJ.0	4750	850	1070	1840	1180	250	140	200	450	1715	1896
1RN6454-8HJ.0	5150	850	1070	1840	1400	280	140	200	450	1715	2136
1RN6456-8HJ.0	5450	850	1070	1840	1400	280	140	200	450	1715	2136
1RN6500-8HJ.0	6350	950	1270	1970	1320	315	160	240	500	1960	2150
1RN6502-8HJ.0	6600	950	1270	1970	1320	315	160	240	500	1960	2150
1RN6504-8HJ.0	7250	950	1270	1970	1500	315	160	240	500	1960	2360
1RN6506-8HJ.0	7600	950	1270	1970	1500	315	160	240	500	1960	2360
1RN6560-8HJ.0	8550	1060	1340	2110	1400	315	180	240	560	2200	2300
1RN6562-8HJ.0	9000	1060	1340	2110	1400	315	180	240	560	2200	2300
1RN6564-8HJ.0	9800	1060	1340	2110	1600	315	180	240	560	2200	2550
1RN6566-8HJ.0	10350	1060	1340	2110	1600	315	180	240	560	2200	2550
1RN7630-8N..0-OCG0	11100	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7632-8N..0-OCG0	11700	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7634-8N..0-OCG0	12500	1320	1340	2340	1800	375	200	280	630	2250	2810
1RN7636-8N..0-OCG0	13100	1320	1340	2340	1800	375	200	280	630	2250	2810
1RN7710-8N..0-OCG0	16200	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7712-8N..0-OCG0	17100	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7714-8N..0-OCG0	18600	1500	1800	2900	2240	375	220	350	710	2570	3310
1RN7716-8N..0-OCG0	19600	1500	1800	2900	2240	375	220	350	710	2570	3310

¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available 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 mm	L mm
9 ... 11 kV, IM B3 type of construction, anti-friction bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
10-pole											
1RN6500-3HJ.0	5500	950	1220	2010	1320	280	160	240	500	1830	2270
1RN6502-3HJ.0	5850	950	1220	2010	1320	280	160	240	500	1830	2270
1RN6504-3HJ.0	6400	950	1220	2010	1500	280	170	240	500	1830	2480
1RN6506-3HJ.0	6750	950	1220	2010	1500	280	170	240	500	1830	2480
1RN6560-3HJ.0	7850	1060	1210	2060	1400	315	180	240	560	2040	2300
1RN6562-3HJ.0	8350	1060	1210	2060	1400	315	180	240	560	2040	2300
1RN6564-3HJ.0	8950	1060	1210	2060	1600	315	190	280	560	2040	2570
1RN6566-3HJ.0	9350	1060	1210	2060	1600	315	190	280	560	2040	2570
1RN7630-3N..0-OCG0	11100	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7632-3N..0-OCG0	11700	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7634-3N..0-OCG0	12400	1320	1340	2340	1800	375	200	280	630	2250	2810
1RN7636-3N..0-OCG0	13000	1320	1340	2340	1800	375	200	280	630	2250	2810
1RN7710-3N..0-OCG0	16300	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7712-3N..0-OCG0	17200	1500	1800	2900	2000	375	220	350	710	2570	3070
1RN7714-3N..0-OCG0	18700	1500	1800	2900	2240	375	220	350	710	2570	3310
1RN7716-3N..0-OCG0	19600	1500	1800	2900	2240	375	220	350	710	2570	3310
12-pole											
1RN6502-5HJ.0	5900	950	1220	2010	1320	280	160	240	500	1830	2270
1RN6504-5HJ.0	6350	950	1220	2010	1500	280	170	240	500	1830	2480
1RN6506-5HJ.0	6750	950	1220	2010	1500	280	170	240	500	1830	2480
1RN6560-5HJ.0	7450	1060	1210	2060	1400	315	180	240	560	2040	2300
1RN6562-5HJ.0	7950	1060	1210	2060	1400	315	180	240	560	2040	2300
1RN6564-5HJ.0	8800	1060	1210	2060	1600	315	190	280	560	2040	2570
1RN6566-5HJ.0	9250	1060	1210	2060	1600	315	190	280	560	2040	2570
1RN7630-5N..0-OCG0	11000	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7632-5N..0-OCG0	11600	1320	1340	2340	1600	375	200	280	630	2250	2610
1RN7634-5N..0-OCG0	12400	1320	1340	2340	1800	375	200	280	630	2250	2810
1RN7636-5N..0-OCG0	12900	1320	1340	2340	1800	375	200	280	630	2250	2810

Note: Higher pole numbers are available on request.

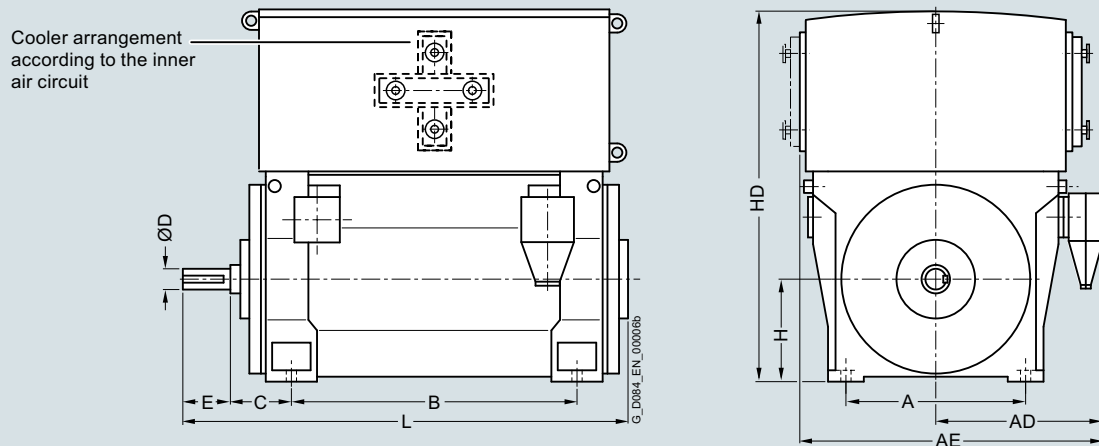
¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

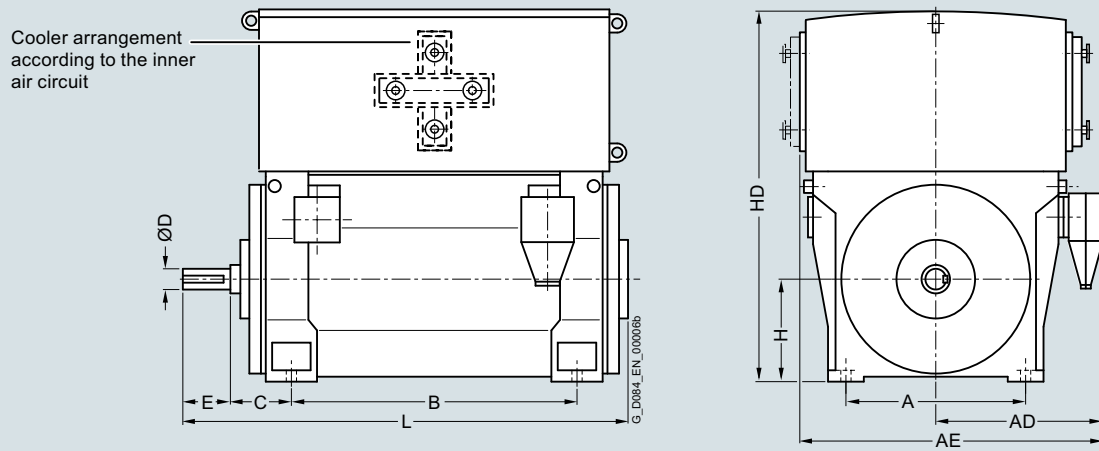
Dimension drawings



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
13.8 kV, IM B3 type of construction, anti-friction bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
4-pole											
1RN7630-4NA20-OCG0	10900	1320	1520	2520	1600	375	200	280	630	2170	2610
1RN7632-4NA20-OCG0	11500	1320	1520	2520	1600	375	200	280	630	2170	2610
1RN7634-4NA20-OCG0	12300	1320	1520	2520	1800	375	200	280	630	2170	2810
1RN7636-4NA20-OCG0	12900	1320	1520	2520	1800	375	200	280	630	2170	2810
1RN7710-4NA20-OCG0	16200	1500	1800	2900	2000	375	220	710	350	2570	3070
1RN7712-4NA20-OCG0	16900	1500	1800	2900	2000	375	220	710	350	2570	3070
1RN7714-4NA20-OCG0	18200	1500	1800	2900	2240	375	220	710	350	2570	3310
1RN7716-4NA20-OCG0	19400	1500	1800	2900	2240	375	220	710	350	2570	3310
6-pole											
1RN7630-6NA20-OCG0	11400	1320	1520	2520	1600	375	200	280	630	2170	2610
1RN7632-6NA20-OCG0	12000	1320	1520	2520	1600	375	200	280	630	2170	2610
1RN7634-6NA20-OCG0	12800	1320	1520	2520	1800	375	200	280	630	2170	2810
1RN7636-6NA20-OCG0	13400	1320	1520	2520	1800	375	200	280	630	2170	2810
1RN7710-6NA20-OCG0	16600	1500	1800	2900	2000	375	220	710	350	2570	3070
1RN7712-6NA20-OCG0	17600	1500	1800	2900	2000	375	220	710	350	2570	3070
1RN7714-6NA20-OCG0	19100	1500	1800	2900	2240	375	220	710	350	2570	3310
1RN7716-6NA20-OCG0	20200	1500	1800	2900	2240	375	220	710	350	2570	3310

¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available 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 mm	L mm
13.8 kV, IM B3 type of construction, anti-friction bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
8-pole											
1RN7630-8NA20-OCG0	11100	1320	1520	2520	1600	375	200	280	630	2250	2610
1RN7632-8NA20-OCG0	11700	1320	1520	2520	1600	375	200	280	630	2250	2610
1RN7634-8NA20-OCG0	12500	1320	1520	2520	1800	375	200	280	630	2250	2810
1RN7636-8NA20-OCG0	13100	1320	1520	2520	1800	375	200	280	630	2250	2810
1RN7710-8NA20-OCG0	16200	1500	1800	2900	2000	375	220	710	350	2570	3070
1RN7712-8NA20-OCG0	17100	1500	1800	2900	2000	375	220	710	350	2570	3070
1RN7714-8NA20-OCG0	18600	1500	1800	2900	2240	375	220	710	350	2570	3310
1RN7716-8NA20-OCG0	19600	1500	1800	2900	2240	375	220	710	350	2570	3310
10-pole											
1RN7630-3NA20-OCG0	11100	1320	1520	2520	1600	375	200	280	630	2250	2610
1RN7632-3NA20-OCG0	11700	1320	1520	2520	1600	375	200	280	630	2250	2610
1RN7634-3NA20-OCG0	12400	1320	1520	2520	1800	375	200	280	630	2250	2810
1RN7636-3NA20-OCG0	13000	1320	1520	2520	1800	375	200	280	630	2250	2810
1RN7710-3NA20-OCG0	16300	1500	1800	2900	2000	375	220	710	350	2570	3070
1RN7712-3NA20-OCG0	17200	1500	1800	2900	2000	375	220	710	350	2570	3070
1RN7714-3NA20-OCG0	18700	1500	1800	2900	2240	375	220	710	350	2570	3310
1RN7716-3NA20-OCG0	19600	1500	1800	2900	2240	375	220	710	350	2570	3310

Note: Higher pole numbers are available on request.

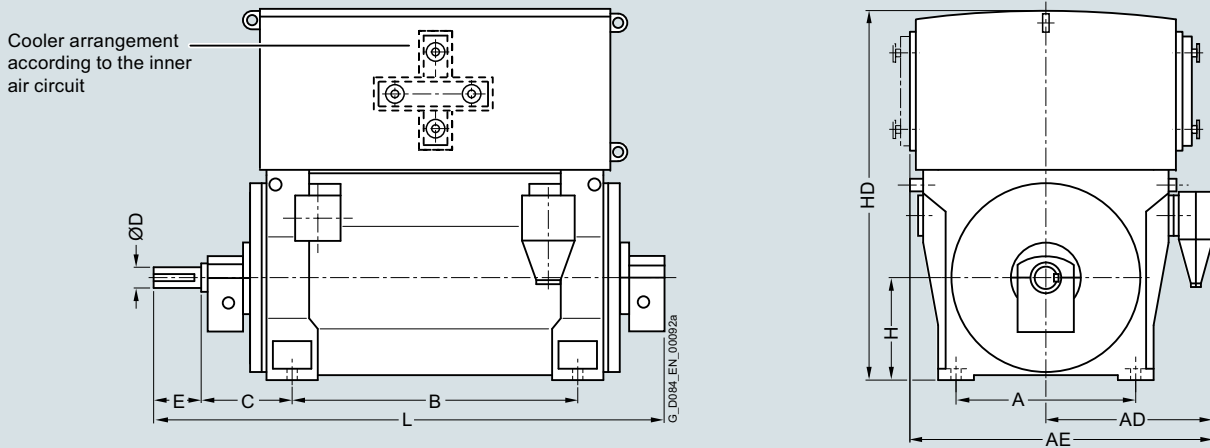
¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

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 – 1RN6²⁾, 1RN7²⁾ series – IC81W

2-pole

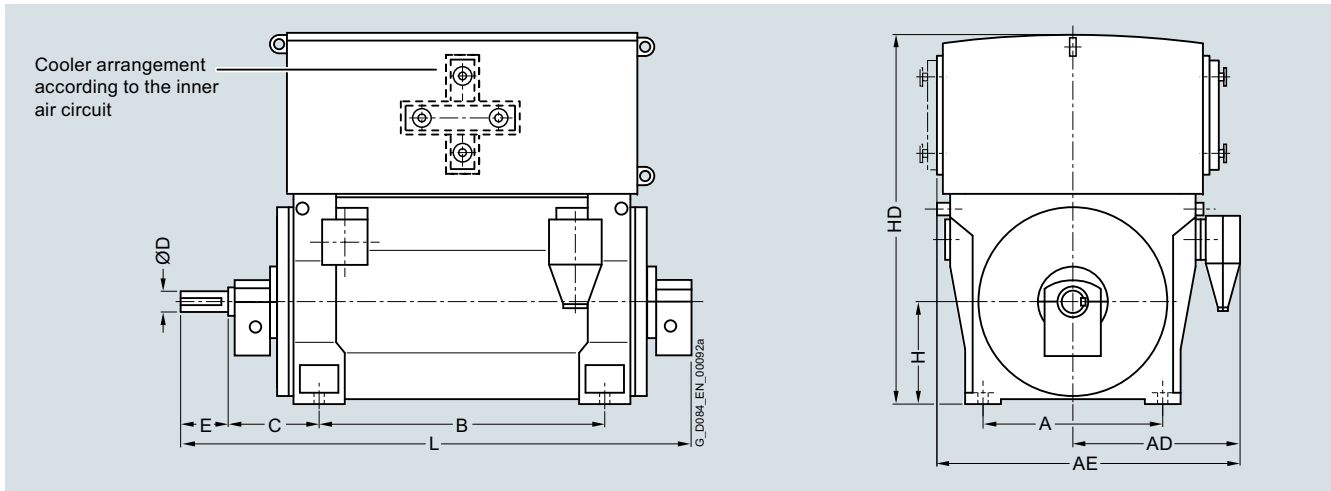
1RN6450-2HJ.0-Z K96 ³⁾	4050	850	930	1620	1180	425	95	130	450	1725	2218
1RN6452-2HJ.0-Z K96 ³⁾	4300	850	930	1620	1180	425	95	130	450	1725	2218
1RN6454-2HJ.0-Z K96 ³⁾	4600	850	930	1620	1400	425	95	130	450	1725	2428
1RN6456-2HJ.0-Z K96 ³⁾	4900	850	930	1620	1400	425	95	130	450	1725	2428
1RN6500-2HJ.0-Z K96 ³⁾	5900	950	1135	1835	1320	450	110	165	500	1980	2500
1RN6502-2HJ.0-Z K96 ³⁾	6050	950	1135	1835	1320	450	110	165	500	1980	2500
1RN6504-2HJ.0	6850	950	1135	1835	1500	450	110	165	500	1980	2650
1RN6506-2HJ.0	7100	950	1135	1835	1500	450	110	165	500	1980	2650
1RN6560-2HJ.0	7600	1060	1205	1975	1400	600	130	200	560	2150	2850
1RN6562-2HJ.0	8000	1060	1205	1975	1400	600	130	200	560	2150	2850
1RN6564-2HJ.0	8900	1060	1205	1975	1600	600	130	200	560	2150	3100
1RN6566-2HJ.0	9350	1060	1205	1975	1600	600	130	200	560	2150	3100
1RN7630-2N..0-0CJ0	10500	1320	1490	2490	1600	600	180	240	630	2170	3020
1RN7632-2N..0-0CJ0	11100	1320	1490	2490	1600	600	180	240	630	2170	3020
1RN7634-2N..0-0CJ0	11900	1320	1490	2490	1800	600	180	240	630	2170	3220
1RN7636-2N..0-0CJ0	12500	1320	1490	2490	1800	600	180	240	630	2170	3220
1RN7710-2N..0-0CJ0	14900	1500	1800	2900	2000	560	200	280	710	2570	3320
1RN7712-2N..0-0CJ0	15500	1500	1800	2900	2000	560	200	280	710	2570	3320
1RN7714-2N..0-0CJ0	16700	1500	1800	2900	2240	560	200	280	710	2570	3560
1RN7716-2N..0-0CJ0	17500	1500	1800	2900	2240	560	200	280	710	2570	3560

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

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 – 1RN6²⁾, 1RN7²⁾ series – IC81W											
4-pole											
1RN6450-4HJ.0-Z K96	4400	850	930	1620	1180	500	130	200	450	1715	2438
1RN6452-4HJ.0-Z K96	4650	850	930	1620	1180	500	130	200	450	1715	2438
1RN6454-4HJ.0-Z K96	5050	850	930	1620	1400	500	130	200	450	1715	2648
1RN6456-4HJ.0-Z K96	5350	850	930	1620	1400	500	130	200	450	1715	2648
1RN6500-4HJ.0-Z K96	6650	950	1135	1835	1320	560	150	200	500	1980	2700
1RN6502-4HJ.0-Z K96	6850	950	1135	1835	1320	560	150	200	500	1980	2700
1RN6504-4HJ.0-Z K96	7550	950	1135	1835	1500	560	150	200	500	1980	2880
1RN6506-4HJ.0-Z K96	7850	950	1135	1835	1500	560	150	200	500	1980	2880
1RN6560-4HJ.0-Z K96	7800	1060	1205	1975	1400	600	170	240	560	2150	2900
1RN6562-4HJ.0-Z K96	8200	1060	1205	1975	1400	600	170	240	560	2150	2900
1RN6564-4HJ.0-Z K96	9050	1060	1205	1975	1600	600	170	240	560	2150	3100
1RN6566-4HJ.0-Z K96	9600	1060	1205	1975	1600	600	170	240	560	2150	3100
1RN7630-4N..0-0CJ0	11200	1320	1490	2490	1600	630	200	280	630	2170	3090
1RN7632-4N..0-0CJ0	11700	1320	1490	2490	1600	630	200	280	630	2170	3090
1RN7634-4N..0-0CJ0	12600	1320	1490	2490	1800	630	200	280	630	2170	3290
1RN7636-4N..0-0CJ0	13200	1320	1490	2490	1800	630	200	280	630	2170	3290
1RN7710-4N..0-0CJ0	16100	1500	1800	2900	2000	710	220	350	710	2570	3650
1RN7712-4N..0-0CJ0	16700	1500	1800	2900	2000	710	220	350	710	2570	3650
1RN7714-4N..0-0CJ0	18000	1500	1800	2900	2240	710	220	350	710	2570	3890
1RN7716-4N..0-0CJ0	19300	1500	1800	2900	2240	710	220	350	710	2570	3890

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

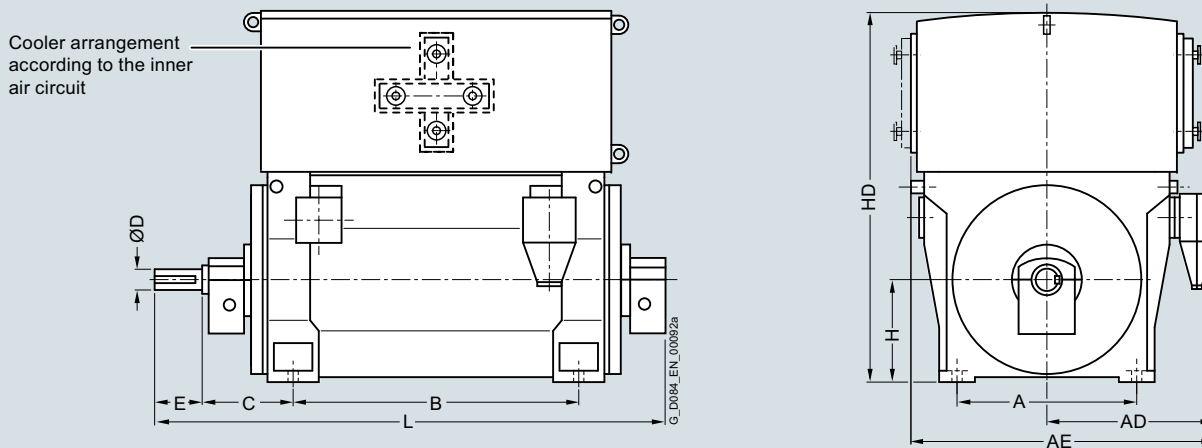
²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

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 – 1RN6²⁾, 1RN7²⁾ series – IC81W

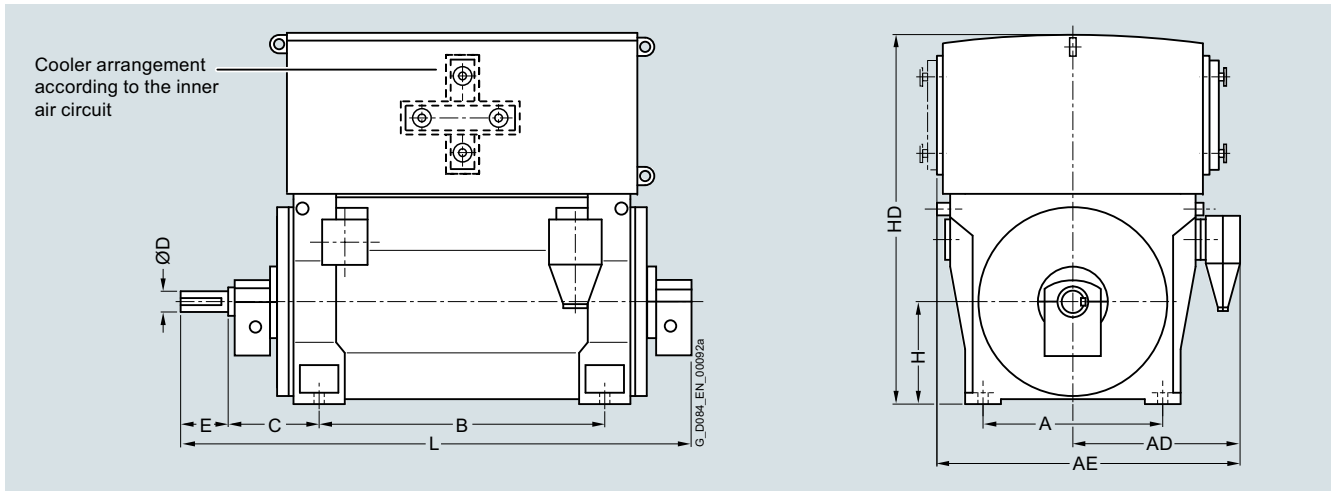
6-pole

1RN6450-6HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1715	2438
1RN6452-6HJ.0-Z K96	4800	850	930	1620	1180	500	140	200	450	1715	2438
1RN6454-6HJ.0-Z K96	5150	850	930	1620	1400	500	140	200	450	1715	2648
1RN6456-6HJ.0-Z K96	5500	850	930	1620	1400	500	140	200	450	1715	2648
1RN6500-6HJ.0-Z K96	6550	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6502-6HJ.0-Z K96	6850	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6504-6HJ.0-Z K96	7450	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6506-6HJ.0-Z K96	7850	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6560-6HJ.0-Z K96	8850	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6562-6HJ.0-Z K96	9250	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6564-6HJ.0-Z K96	10100	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN6566-6HJ.0-Z K96	10650	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN7630-6N..0-0CJ0	11600	1320	1340	2340	1600	630	200	280	630	2170	3090
1RN7632-6N..0-0CJ0	12200	1320	1340	2340	1600	630	200	280	630	2170	3090
1RN7634-6N..0-0CJ0	13000	1320	1340	2340	1800	630	200	280	630	2170	3290
1RN7636-6N..0-0CJ0	13600	1320	1340	2340	1800	630	200	280	630	2170	3290
1RN7710-6N..0-0CJ0	16100	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7712-6N..0-0CJ0	17100	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7714-6N..0-0CJ0	18600	1500	1800	2900	2240	670	220	350	710	2570	3810
1RN7716-6N..0-0CJ0	19700	1500	1800	2900	2240	670	220	350	710	2570	3810

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

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 – 1RN6²⁾, 1RN7²⁾ series – IC81W											
8-pole											
1RN6450-8HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1715	2438
1RN6452-8HJ.0-Z K96	4850	850	930	1620	1180	500	140	200	450	1715	2438
1RN6454-8HJ.0-Z K96	5200	850	930	1620	1400	500	140	200	450	1715	2648
1RN6456-8HJ.0-Z K96	5550	850	930	1620	1400	500	140	200	450	1715	2648
1RN6500-8HJ.0-Z K96	6500	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6502-8HJ.0-Z K96	6800	950	1135	1835	1320	560	170	240	500	1960	2700
1RN6504-8HJ.0-Z K96	7400	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6506-8HJ.0-Z K96	7800	950	1135	1835	1500	560	170	240	500	1960	2900
1RN6560-8HJ.0-Z K96	8800	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6562-8HJ.0-Z K96	9250	1060	1205	1975	1400	600	170	240	560	2200	2950
1RN6564-8HJ.0-Z K96	10050	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN6566-8HJ.0-Z K96	10600	1060	1205	1975	1600	600	170	240	560	2200	3150
1RN7630-8N..0-0CJ0	11300	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7632-8N..0-0CJ0	11900	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7634-8N..0-0CJ0	12700	1320	1340	2340	1800	630	200	280	630	2250	3290
1RN7636-8N..0-0CJ0	13300	1320	1340	2340	1800	630	200	280	630	2250	3290
1RN7710-8N..0-0CJ0	15700	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7712-8N..0-0CJ0	16600	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7714-8N..0-0CJ0	18000	1500	1800	2900	2240	670	220	350	710	2570	3810
1RN7716-8N..0-0CJ0	19000	1500	1800	2900	2240	670	220	350	710	2570	3810

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

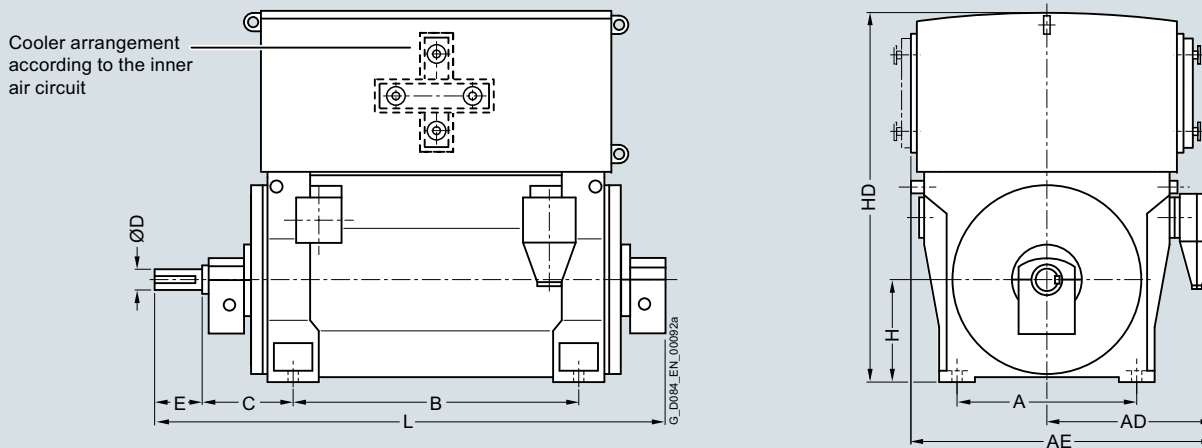
²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)

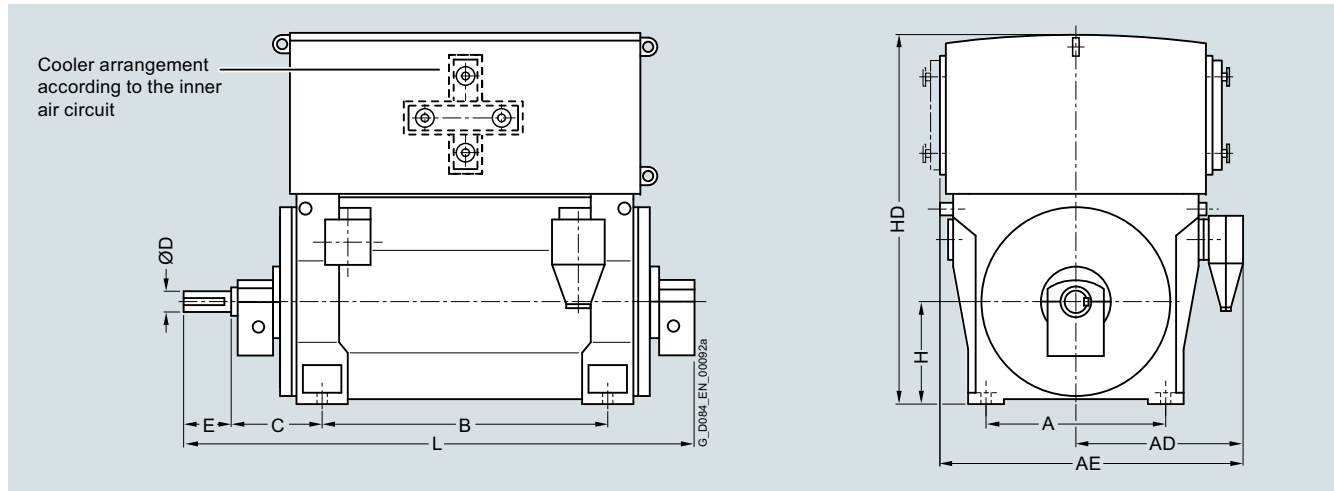


Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RN6²⁾, 1RN7²⁾ series – IC81W											
10-pole											
1RN6450-3HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1715	2438
1RN6452-3HJ.0-Z K96	4850	850	930	1620	1180	500	140	200	450	1715	2438
1RN6454-3HJ.0-Z K96	5200	850	930	1620	1400	500	140	200	450	1715	2648
1RN6456-3HJ.0-Z K96	5550	850	930	1620	1400	500	140	200	450	1715	2648
1RN6500-3HJ.0-Z K96	5700	950	1000	1790	1320	500	160	240	500	1830	2620
1RN6502-3HJ.0-Z K96	6050	950	1000	1790	1320	500	160	240	500	1830	2620
1RN6504-3HJ.0-Z K96	6600	950	1000	1790	1500	500	170	240	500	1830	2830
1RN6506-3HJ.0-Z K96	6950	950	1000	1790	1500	500	170	240	500	1830	2830
1RN6560-3HJ.0-Z K96	7650	1060	1070	1920	1400	530	180	240	560	2040	2670
1RN6562-3HJ.0-Z K96	8200	1060	1070	1920	1400	530	180	240	560	2040	2670
1RN6564-3HJ.0-Z K96	9050	1060	1070	1920	1600	530	190	280	560	2040	2940
1RN6566-3HJ.0-Z K96	9500	1060	1070	1920	1600	530	190	280	560	2040	2940
1RN7630-3N..0-0CJ0	11300	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7632-3N..0-0CJ0	11800	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7634-3N..0-0CJ0	12600	1320	1340	2340	1800	630	200	280	630	2250	3290
1RN7636-3N..0-0CJ0	13200	1320	1340	2340	1800	630	200	280	630	2250	3290
1RN7710-3N..0-0CJ0	15600	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7712-3N..0-0CJ0	16600	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7714-3N..0-0CJ0	18100	1500	1800	2900	2240	670	220	350	710	2570	3810
1RN7716-3N..0-0CJ0	19000	1500	1800	2900	2240	670	220	350	710	2570	3810

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

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 – 1RN6²⁾, 1RN7²⁾ series – IC81W

12-pole

1RN6450-5HJ.0-Z K96	4550	850	930	1620	1180	500	140	200	450	1715	2438
1RN6452-5HJ.0-Z K96	4850	850	930	1620	1180	500	140	200	450	1715	2438
1RN6454-5HJ.0-Z K96	5200	850	930	1620	1400	500	140	200	450	1715	2648
1RN6456-5HJ.0-Z K96	5550	850	930	1620	1400	500	140	200	450	1715	2648
1RN6500-5HJ.0-Z K96	5700	950	1000	1790	1320	500	160	240	500	1830	2620
1RN6502-5HJ.0-Z K96	6050	950	1000	1790	1320	500	160	240	500	1830	2620
1RN6504-5HJ.0-Z K96	6550	950	1000	1790	1500	500	170	240	500	1830	2830
1RN6506-5HJ.0-Z K96	6950	950	1000	1790	1500	500	170	240	500	1830	2830
1RN6560-5HJ.0-Z K96	7650	1060	1070	1920	1400	530	180	240	560	2040	2670
1RN6562-5HJ.0-Z K96	8250	1060	1070	1920	1400	530	180	240	560	2040	2670
1RN6564-5HJ.0-Z K96	9000	1060	1070	1920	1600	530	190	280	560	2040	2940
1RN6566-5HJ.0-Z K96	9500	1060	1070	1920	1600	530	190	280	560	2040	2940
1RN7630-5N..0-0CJ0	11200	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7632-5N..0-0CJ0	11800	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7634-5N..0-0CJ0	12600	1320	1340	2340	1800	630	200	280	630	2250	3290
1RN7636-5N..0-0CJ0	13200	1320	1340	2340	1800	630	200	280	630	2250	3290

Note: Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

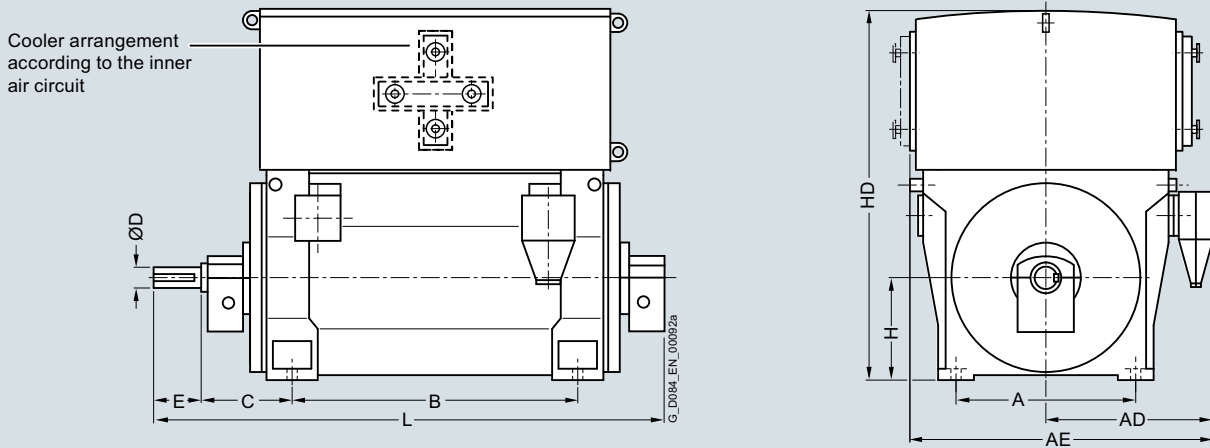
²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Dimension drawings

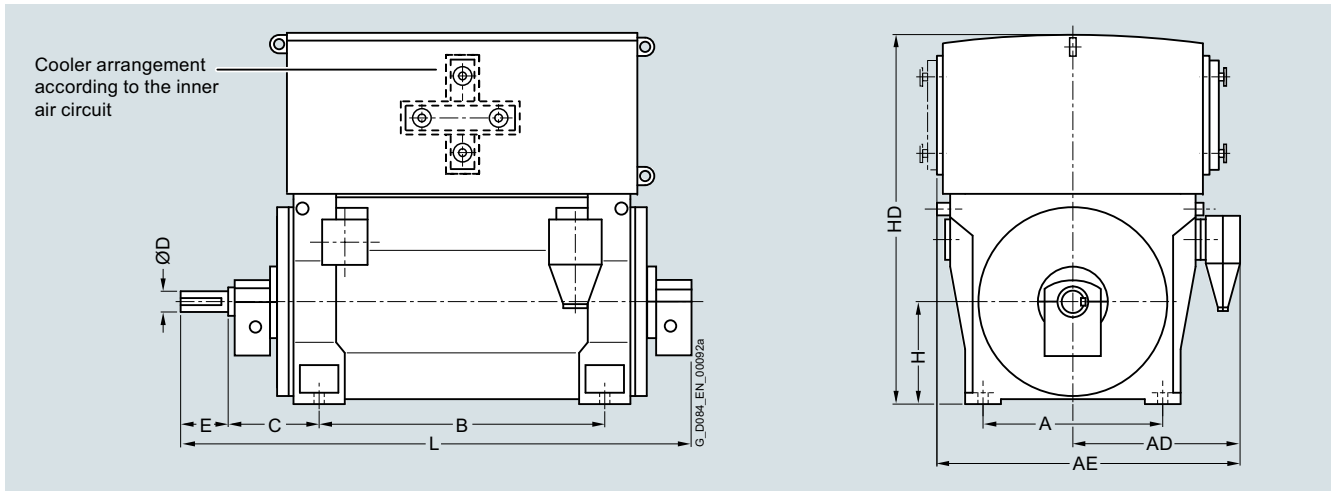


Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
2-pole											
1RN6450-2HJ.0-Z K96 ²⁾	4050	850	1070	1840	1180	425	95	130	450	1725	2218
1RN6452-2HJ.0-Z K96 ²⁾	4300	850	1070	1840	1180	425	95	130	450	1725	2218
1RN6454-2HJ.0-Z K96 ²⁾	4600	850	1070	1840	1400	425	95	130	450	1725	2428
1RN6456-2HJ.0-Z K96 ²⁾	4900	850	1070	1840	1400	425	95	130	450	1725	2428
1RN6500-2HJ.0-Z K96 ²⁾	5900	950	1270	1970	1320	450	110	165	500	1980	2500
1RN6502-2HJ.0-Z K96 ²⁾	6050	950	1270	1970	1320	450	110	165	500	1980	2500
1RN6504-2HJ.0	6850	950	1270	1970	1500	450	110	165	500	1980	2650
1RN6506-2HJ.0	7100	950	1270	1970	1500	450	110	165	500	1980	2650
1RN6560-2HJ.0	7600	1060	1340	2110	1400	600	130	200	560	2150	2850
1RN6562-2HJ.0	8000	1060	1340	2110	1400	600	130	200	560	2150	2850
1RN6564-2HJ.0	8900	1060	1340	2110	1600	600	130	200	560	2150	3100
1RN6566-2HJ.0	9350	1060	1340	2110	1600	600	130	200	560	2150	3100
1RN7630-2N..0-0CJ0	10300	1320	1490	2490	1600	600	180	240	630	2170	3020
1RN7632-2N..0-0CJ0	10900	1320	1490	2490	1600	600	180	240	630	2170	3020
1RN7634-2N..0-0CJ0	11700	1320	1490	2490	1800	600	180	240	630	2170	3220
1RN7636-2N..0-0CJ0	12300	1320	1490	2490	1800	600	180	240	630	2170	3220
1RN7710-2N..0-0CJ0	15300	1500	1800	2900	2000	560	200	280	710	2570	3320
1RN7712-2N..0-0CJ0	16000	1500	1800	2900	2000	560	200	280	710	2570	3320
1RN7714-2N..0-0CJ0	17200	1500	1800	2900	2240	560	200	280	710	2570	3560
1RN7716-2N..0-0CJ0	17900	1500	1800	2900	2240	560	200	280	710	2570	3560

¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

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 – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
4-pole											
1RN6450-4HJ.0-Z K96	4400	850	1070	1840	1180	500	130	200	450	1715	2438
1RN6452-4HJ.0-Z K96	4650	850	1070	1840	1180	500	130	200	450	1715	2438
1RN6454-4HJ.0-Z K96	5050	850	1070	1840	1400	500	130	200	450	1715	2645
1RN6456-4HJ.0-Z K96	5350	850	1070	1840	1400	500	130	200	450	1715	2645
1RN6500-4HJ.0-Z K96	6650	950	1270	1970	1320	560	150	200	500	1980	2700
1RN6502-4HJ.0-Z K96	6850	950	1270	1970	1320	560	150	200	500	1980	2700
1RN6504-4HJ.0-Z K96	7550	950	1270	1970	1500	560	150	200	500	1980	2880
1RN6506-4HJ.0-Z K96	7850	950	1270	1970	1500	560	150	200	500	1980	2880
1RN6560-4HJ.0-Z K96	7800	1060	1340	2110	1400	600	170	240	560	2150	2900
1RN6562-4HJ.0-Z K96	8200	1060	1340	2110	1400	600	170	240	560	2150	2900
1RN6564-4HJ.0-Z K96	9050	1060	1340	2110	1600	600	170	240	560	2150	3100
1RN6566-4HJ.0-Z K96	9600	1060	1340	2110	1600	600	170	240	560	2150	3100
1RN7630-4N..0-0CJ0	11000	1320	1490	2490	1600	630	200	280	630	2170	3090
1RN7632-4N..0-0CJ0	11600	1320	1490	2490	1600	630	200	280	630	2170	3090
1RN7634-4N..0-0CJ0	12400	1320	1490	2490	1800	630	200	280	630	2170	3290
1RN7636-4N..0-0CJ0	13000	1320	1490	2490	1800	630	200	280	630	2170	3290
1RN7710-4N..0-0CJ0	16600	1500	1800	2900	2000	710	220	350	710	2570	3650
1RN7712-4N..0-0CJ0	17300	1500	1800	2900	2000	710	220	350	710	2570	3650
1RN7714-4N..0-0CJ0	18600	1500	1800	2900	2240	710	220	350	710	2570	3890
1RN7716-4N..0-0CJ0	19800	1500	1800	2900	2240	710	220	350	710	2570	3890

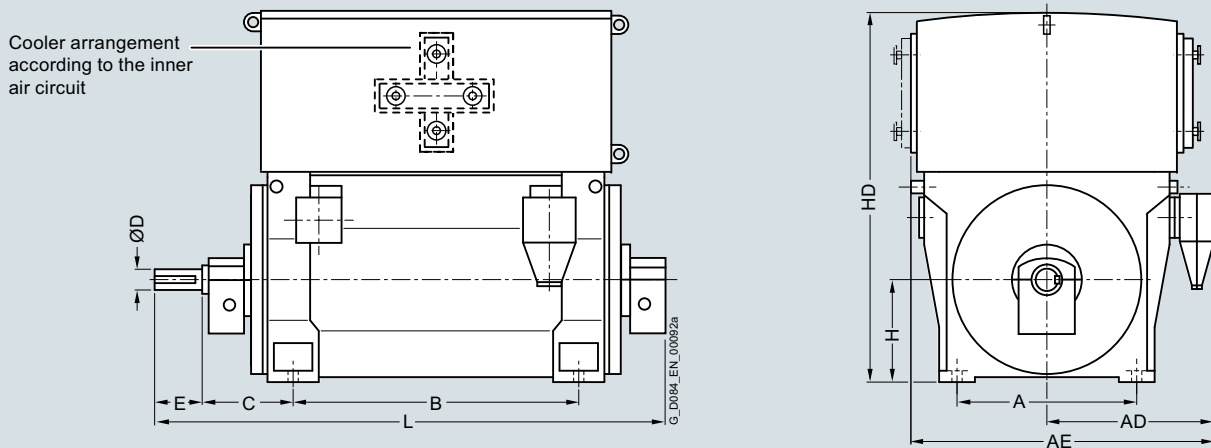
¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

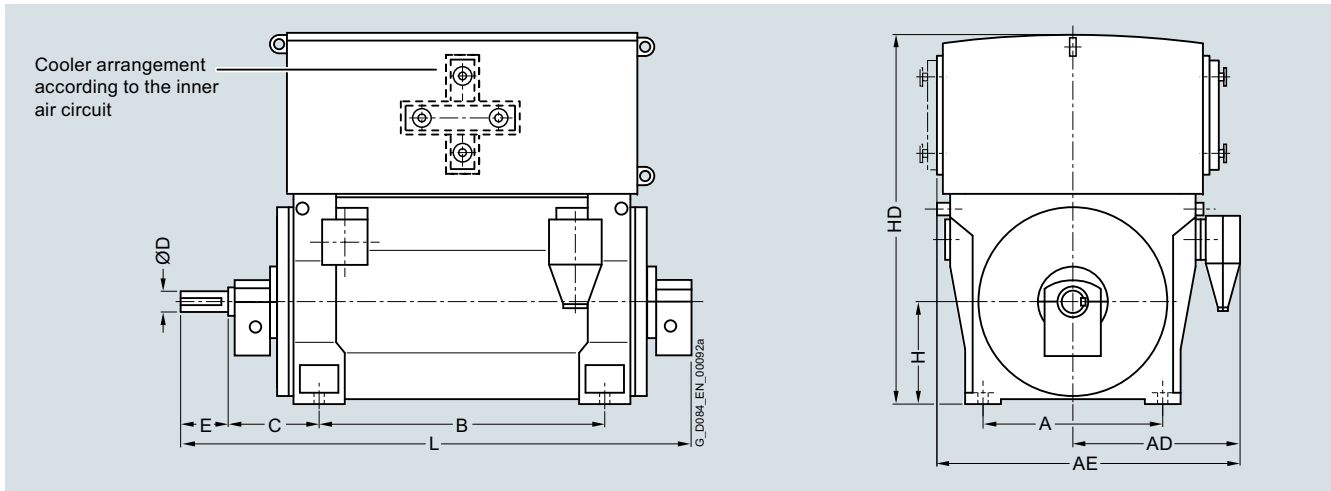
Dimension drawings (continued)



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 – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
6-pole											
1RN6450-6HJ.0-Z K96	4550	850	1070	1840	1180	500	140	200	450	1715	2438
1RN6452-6HJ.0-Z K96	4800	850	1070	1840	1180	500	140	200	450	1715	2438
1RN6454-6HJ.0-Z K96	5150	850	1070	1840	1400	500	140	200	450	1715	2648
1RN6456-6HJ.0-Z K96	5500	850	1070	1840	1400	500	140	200	450	1715	2648
1RN6500-6HJ.0-Z K96	6550	950	1270	1970	1320	560	170	240	500	1960	2700
1RN6502-6HJ.0-Z K96	6850	950	1270	1970	1320	560	170	240	500	1960	2700
1RN6504-6HJ.0-Z K96	7450	950	1270	1970	1500	560	170	240	500	1960	2900
1RN6506-6HJ.0-Z K96	7850	950	1270	1970	1500	560	170	240	500	1960	2900
1RN6560-6HJ.0-Z K96	8850	1060	1340	2110	1400	600	170	240	560	2200	2950
1RN6562-6HJ.0-Z K96	9250	1060	1340	2110	1400	600	170	240	560	2200	2950
1RN6564-6HJ.0-Z K96	10100	1060	1340	2110	1600	600	170	240	560	2200	3150
1RN6566-6HJ.0-Z K96	10650	1060	1340	2110	1600	600	170	240	560	2200	3150
1RN7630-6N..0-OCJ0	11500	1320	1340	2340	1600	630	200	280	630	2170	3090
1RN7632-6N..0-OCJ0	12100	1320	1340	2340	1600	630	200	280	630	2170	3090
1RN7634-6N..0-OCJ0	12900	1320	1340	2340	1800	630	200	280	630	2170	3290
1RN7636-6N..0-OCJ0	13400	1320	1340	2340	1800	630	200	280	630	2170	3290
1RN7710-6N..0-OCJ0	16500	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7712-6N..0-OCJ0	17600	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7714-6N..0-OCJ0	19100	1500	1800	2900	2240	670	220	350	710	2570	3810
1RN7716-6N..0-OCJ0	20200	1500	1800	2900	2240	670	220	350	710	2570	3810

¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: AD + 400 mm. Detailed drawings are available 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 mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
8-pole											
1RN6450-8HJ.0-Z K96	4550	850	1070	1840	1180	500	140	200	450	1715	2438
1RN6452-8HJ.0-Z K96	4850	850	1070	1840	1180	500	140	200	450	1715	2438
1RN6454-8HJ.0-Z K96	5200	850	1070	1840	1400	500	140	200	450	1715	2648
1RN6456-8HJ.0-Z K96	5550	850	1070	1840	1400	500	140	200	450	1715	2648
1RN6500-8HJ.0-Z K96	6500	950	1270	1970	1320	560	170	240	500	1960	2700
1RN6502-8HJ.0-Z K96	6800	950	1270	1970	1320	560	170	240	500	1960	2700
1RN6504-8HJ.0-Z K96	7400	950	1270	1970	1500	560	170	240	500	1960	2900
1RN6506-8HJ.0-Z K96	7800	950	1270	1970	1500	560	170	240	500	1960	2900
1RN6560-8HJ.0-Z K96	8800	1060	1340	2110	1400	600	170	240	560	2200	2950
1RN6562-8HJ.0-Z K96	9250	1060	1340	2110	1400	600	170	240	560	2200	2950
1RN6564-8HJ.0-Z K96	10050	1060	1340	2110	1600	600	170	240	560	2200	3150
1RN6566-8HJ.0-Z K96	10600	1060	1340	2110	1600	600	170	240	560	2200	3150
1RN7630-8N..0-OCJ0	11300	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7632-8N..0-OCJ0	11800	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7634-8N..0-OCJ0	12600	1320	1340	2340	1800	630	200	280	630	2250	3290
1RN7636-8N..0-OCJ0	13200	1320	1340	2340	1800	630	200	280	630	2250	3290
1RN7710-8N..0-OCJ0	16200	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7712-8N..0-OCJ0	17100	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7714-8N..0-OCJ0	18600	1500	1800	2900	2240	670	220	350	710	2570	3810
1RN7716-8N..0-OCJ0	19600	1500	1800	2900	2240	670	220	350	710	2570	3810

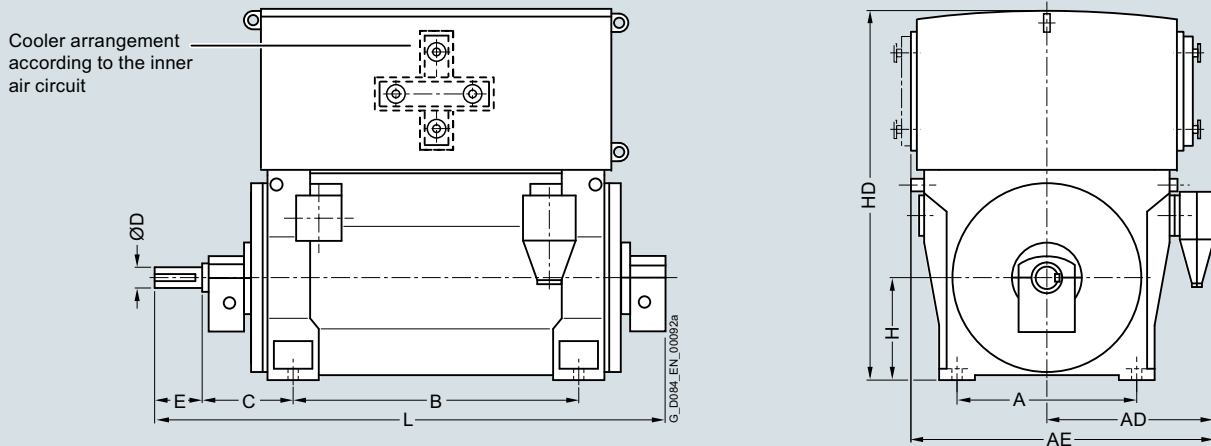
¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)

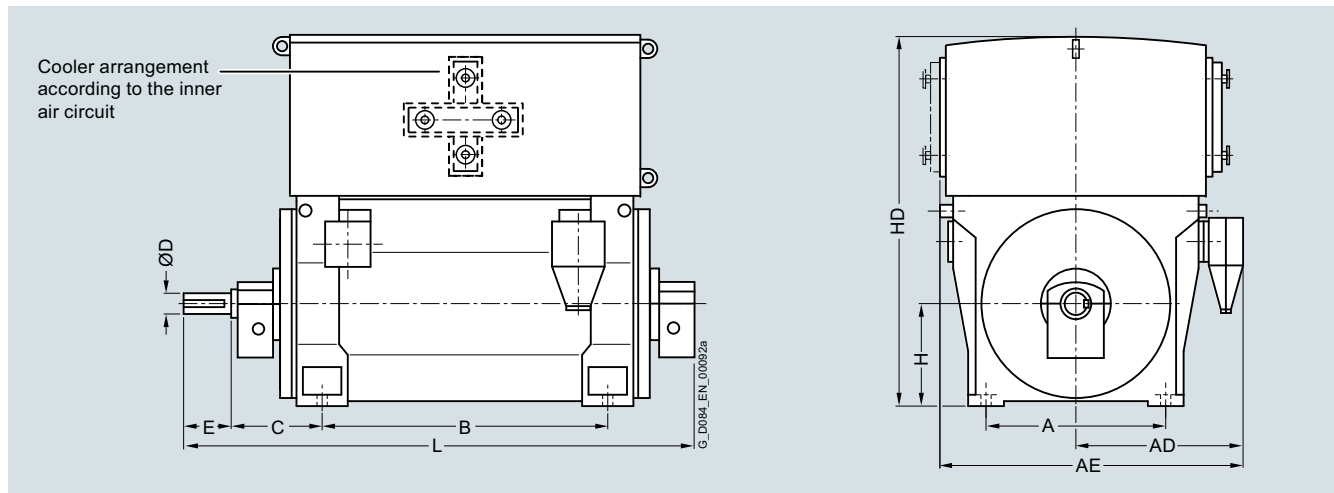


Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
10-pole											
1RN6500-3HJ.0-Z K96	5700	950	1220	2010	1320	500	160	240	500	1830	2620
1RN6502-3HJ.0-Z K96	6050	950	1220	2010	1320	500	160	240	500	1830	2620
1RN6504-3HJ.0-Z K96	6550	950	1220	2010	1500	500	170	240	500	1830	2830
1RN6506-3HJ.0-Z K96	6900	950	1220	2010	1500	500	170	240	500	1830	2830
1RN6560-3HJ.0-Z K96	8050	1060	1210	2060	1400	530	180	240	560	2040	2670
1RN6562-3HJ.0-Z K96	8550	1060	1210	2060	1400	530	180	240	560	2040	2670
1RN6564-3HJ.0-Z K96	9150	1060	1210	2060	1600	530	190	280	560	2040	2940
1RN6566-3HJ.0-Z K96	9550	1060	1210	2060	1600	530	190	280	560	2040	2940
1RN7630-3N..0-OCJ0	11200	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7632-3N..0-OCJ0	11800	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7634-3N..0-OCJ0	12500	1320	1340	2340	1800	630	200	280	630	2250	3290
1RN7636-3N..0-OCJ0	13100	1320	1340	2340	1800	630	200	280	630	2250	3290
1RN7710-3N..0-OCJ0	16300	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7712-3N..0-OCJ0	17300	1500	1800	2900	2000	670	220	350	710	2570	3570
1RN7714-3N..0-OCJ0	18700	1500	1800	2900	2240	670	220	350	710	2570	3810
1RN7716-3N..0-OCJ0	19600	1500	1800	2900	2240	670	220	350	710	2570	3810
12-pole											
1RN6502-5HJ.0-Z K96	6050	950	1220	2010	1320	500	160	240	500	1830	2620
1RN6504-5HJ.0-Z K96	6500	950	1220	2010	1500	500	170	240	500	1830	2830
1RN6506-5HJ.0-Z K96	6900	950	1220	2010	1500	500	170	240	500	1830	2830
1RN6560-5HJ.0-Z K96	7650	1060	1210	2060	1400	530	180	240	560	2040	2670
1RN6562-5HJ.0-Z K96	8200	1060	1210	2060	1400	530	180	240	560	2040	2670
1RN6564-5HJ.0-Z K96	9000	1060	1210	2060	1600	530	190	280	560	2040	2940
1RN6566-5HJ.0-Z K96	9450	1060	1210	2060	1600	530	190	280	560	2040	2940
1RN7630-5N..0-OCJ0	11100	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7632-5N..0-OCJ0	11700	1320	1340	2340	1600	630	200	280	630	2250	3090
1RN7634-5N..0-OCJ0	12400	1320	1340	2340	1800	630	200	280	630	2250	3290
1RN7636-5N..0-OCJ0	13000	1320	1340	2340	1800	630	200	280	630	2250	3290

Note: Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings 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
13.8 kV, IM B3 type of construction, sleeve bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
2-pole											
1RN7630-2NA20-OCJO	10300	1320	1520	2520	1600	600	180	240	630	2170	3020
1RN7632-2NA20-OCJO	10900	1320	1520	2520	1600	600	180	240	630	2170	3020
1RN7634-2NA20-OCJO	11700	1320	1520	2520	1800	600	180	240	630	2170	3220
1RN7636-2NA20-OCJO	12300	1320	1520	2520	1800	600	180	240	630	2170	3220
1RN7710-2NA20-OCJO	15300	1500	1800	2900	2000	560	200	710	280	2570	3320
1RN7712-2NA20-OCJO	16000	1500	1800	2900	2000	560	200	710	280	2570	3320
1RN7714-2NA20-OCJO	17200	1500	1800	2900	2240	560	200	710	280	2570	3560
1RN7716-2NA20-OCJO	17900	1500	1800	2900	2240	560	200	710	280	2570	3560
4-pole											
1RN7630-4NA20-OCJO	11000	1320	1520	2520	1600	630	200	280	630	2170	3090
1RN7632-4NA20-OCJO	11600	1320	1520	2520	1600	630	200	280	630	2170	3090
1RN7634-4NA20-OCJO	12400	1320	1520	2520	1800	630	200	280	630	2170	3290
1RN7636-4NA20-OCJO	13000	1320	1520	2520	1800	630	200	280	630	2170	3290
1RN7710-4NA20-OCJO	16600	1500	1800	2900	2000	710	220	710	350	2570	3650
1RN7712-4NA20-OCJO	17300	1500	1800	2900	2000	710	220	710	350	2570	3650
1RN7714-4NA20-OCJO	18600	1500	1800	2900	2240	710	220	710	350	2570	3890
1RN7716-4NA20-OCJO	19800	1500	1800	2900	2240	710	220	710	350	2570	3890
6-pole											
1RN7630-6NA20-OCJO	11500	1320	1520	2520	1600	630	200	280	630	2170	3090
1RN7632-6NA20-OCJO	12100	1320	1520	2520	1600	630	200	280	630	2170	3090
1RN7634-6NA20-OCJO	12900	1320	1520	2520	1800	630	200	280	630	2170	3290
1RN7636-6NA20-OCJO	13400	1320	1520	2520	1800	630	200	280	630	2170	3290
1RN7710-6NA20-OCJO	16500	1500	1800	2900	2000	670	220	710	350	2570	3570
1RN7712-6NA20-OCJO	17600	1500	1800	2900	2000	670	220	710	350	2570	3570
1RN7714-6NA20-OCJO	19100	1500	1800	2900	2240	670	220	710	350	2570	3810
1RN7716-6NA20-OCJO	20200	1500	1800	2900	2240	670	220	710	350	2570	3810

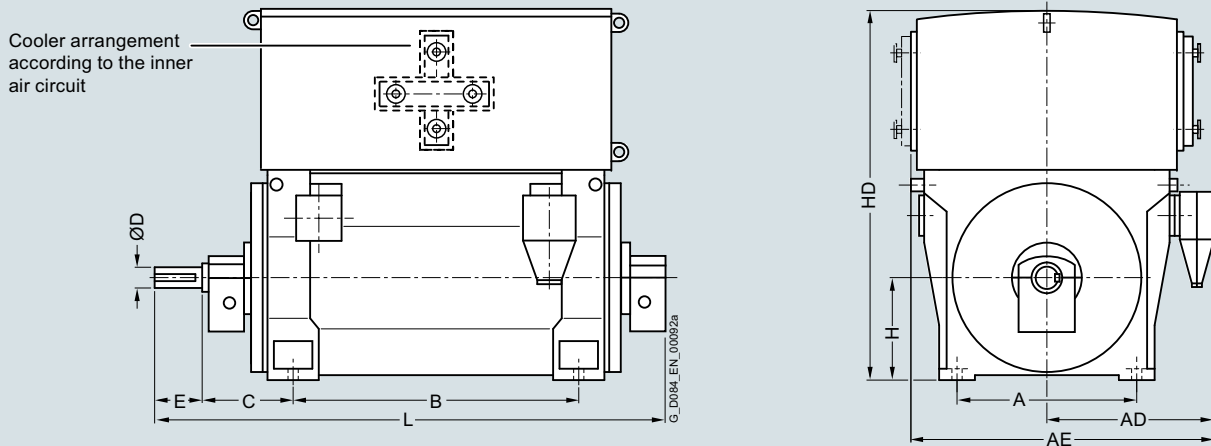
¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)

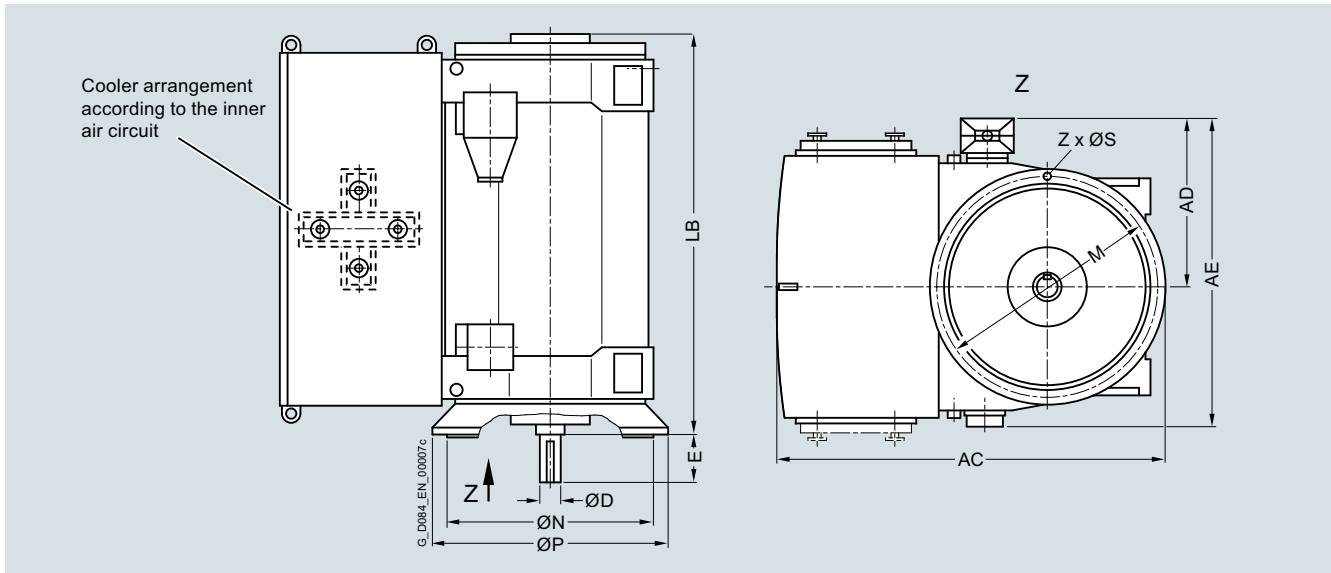


Motor type	Weight kg	Dimensions									
		A mm	AD mm	AE mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
13.8 kV, IM B3 type of construction, sleeve bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
8-pole											
1RN7630-8NA20-OCJ0	11300	1320	1520	2520	1600	630	200	280	630	2250	3090
1RN7632-8NA20-OCJ0	11800	1320	1520	2520	1600	630	200	280	630	2250	3090
1RN7634-8NA20-OCJ0	12600	1320	1520	2520	1800	630	200	280	630	2250	3290
1RN7636-8NA20-OCJ0	13200	1320	1520	2520	1800	630	200	280	630	2250	3290
1RN7710-8NA20-OCJ0	16200	1500	1800	2900	2000	670	220	710	350	2570	3570
1RN7712-8NA20-OCJ0	17100	1500	1800	2900	2000	670	220	710	350	2570	3570
1RN7714-8NA20-OCJ0	18600	1500	1800	2900	2240	670	220	710	350	2570	3810
1RN7716-8NA20-OCJ0	19600	1500	1800	2900	2240	670	220	710	350	2570	3810
10-pole											
1RN7630-3NA20-OCJ0	11200	1320	1520	2520	1600	630	200	280	630	2250	3090
1RN7632-3NA20-OCJ0	11800	1320	1520	2520	1600	630	200	280	630	2250	3090
1RN7634-3NA20-OCJ0	12500	1320	1520	2520	1800	630	200	280	630	2250	3290
1RN7636-3NA20-OCJ0	13100	1320	1520	2520	1800	630	200	280	630	2250	3290
1RN7710-3NA20-OCJ0	16300	1500	1800	2900	2000	670	220	710	350	2570	3570
1RN7712-3NA20-OCJ0	17300	1500	1800	2900	2000	670	220	710	350	2570	3570
1RN7714-3NA20-OCJ0	18700	1500	1800	2900	2240	670	220	710	350	2570	3810
1RN7716-3NA20-OCJ0	19600	1500	1800	2900	2240	670	220	710	350	2570	3810

Note: Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC	AD ¹⁾	AE ¹⁾	D	E	LB	P	N	M	S	Z Quantity
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RN6²⁾, 1RN7²⁾ series – IC81W												
4-pole												
1RN6450-4HJ.8	4550	1840	930	1620	130	200	1720	1150	1000	1080	26	8
1RN6452-4HJ.8	4750	1840	930	1620	130	200	1720	1150	1000	1080	26	8
1RN6454-4HJ.8	5150	1840	930	1620	130	200	1930	1150	1000	1080	26	8
1RN6456-4HJ.8	5450	1840	930	1620	130	200	1930	1150	1000	1080	26	8
1RN6500-4HJ.8	5500	1960	1000	1810	150	200	1910	1250	1120	1180	26	8
1RN6502-4HJ.8	5700	1960	1000	1810	150	200	1910	1250	1120	1180	26	8
1RN6504-4HJ.8	6400	1960	1000	1810	160	240	2120	1250	1120	1180	26	8
1RN6506-4HJ.8	6800	1960	1000	1810	160	240	2120	1250	1120	1180	26	8
1RN6560-4HJ.8	7550	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6562-4HJ.8	8000	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6564-4HJ.8 ³⁾	8900	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN6566-4HJ.8 ³⁾	9350	2180	1210	2100	190	280	2320	1400	1250	1320	26	8

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 an 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

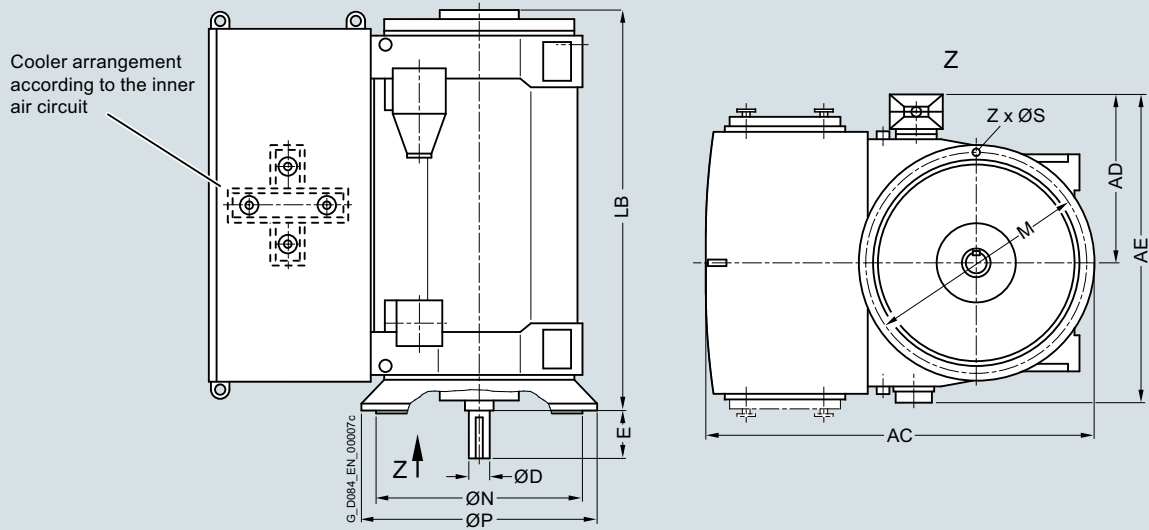
³⁾ Vertical type of construction, only in the 50 Hz version.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)

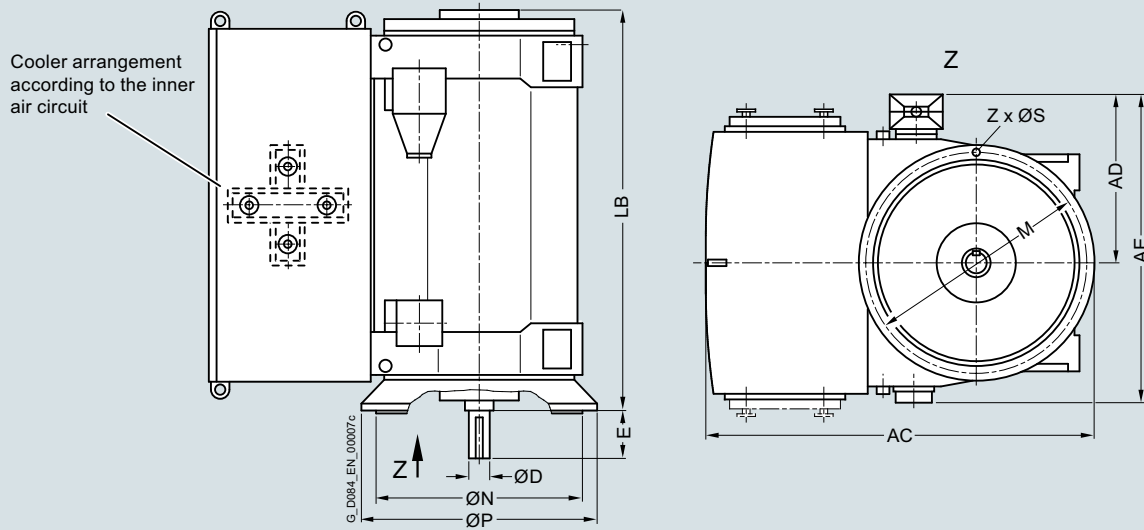


Motor type	Weight kg	Dimensions										
		AC	AD ¹⁾	AE ¹⁾	D	E	LB	P	N	M	S	Z
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RN6 ²⁾ , 1RN7 ²⁾ series – IC81W												
6-pole												
1RN6450-6HJ.8	4650	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6452-6HJ.8	4950	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6454-6HJ.8	5300	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6456-6HJ.8	5650	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6500-6HJ.8	5650	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN6502-6HJ.8	6050	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN6504-6HJ.8	6550	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN6506-6HJ.8	6950	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN6560-6HJ.8	7650	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6562-6HJ.8	8250	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6564-6HJ.8	9100	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN6566-6HJ.8	9550	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN7630-6N..8-OCG0	12300	2490	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-6N..8-OCG0	12900	2490	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-6N..8-OCG0	13700	2490	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-6N..8-OCG0	14300	2490	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7710-6N..8-OCG0	16700	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-6N..8-OCG0	17700	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-6N..8-OCG0	19200	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-6N..8-OCG0	20300	2900	1800	2900	220	350	3380	2000	1800	1900	35	24

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

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, anti-friction bearings – 1RN6 ²⁾ , 1RN7 ²⁾ series – IC81W												
8-pole												
1RN6450-8HJ.8	4650	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6452-8HJ.8	4950	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6454-8HJ.8	5350	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6456-8HJ.8	5650	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6500-8HJ.8	5700	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN6502-8HJ.8	6050	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN6504-8HJ.8	6550	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN6506-8HJ.8	6950	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN6560-8HJ.8	7650	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN6562-8HJ.8	8150	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN6564-8HJ.8	9000	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN6566-8HJ.8	9450	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN7630-8N..8-OCG0	11900	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-8N..8-OCG0	12500	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-8N..8-OCG0	13400	2570	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-8N..8-OCG0	13900	2570	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7710-8N..8-OCG0	16600	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-8N..8-OCG0	17600	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-8N..8-OCG0	19100	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-8N..8-OCG0	20100	2900	1800	2900	220	350	3380	2000	1800	1900	35	24

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

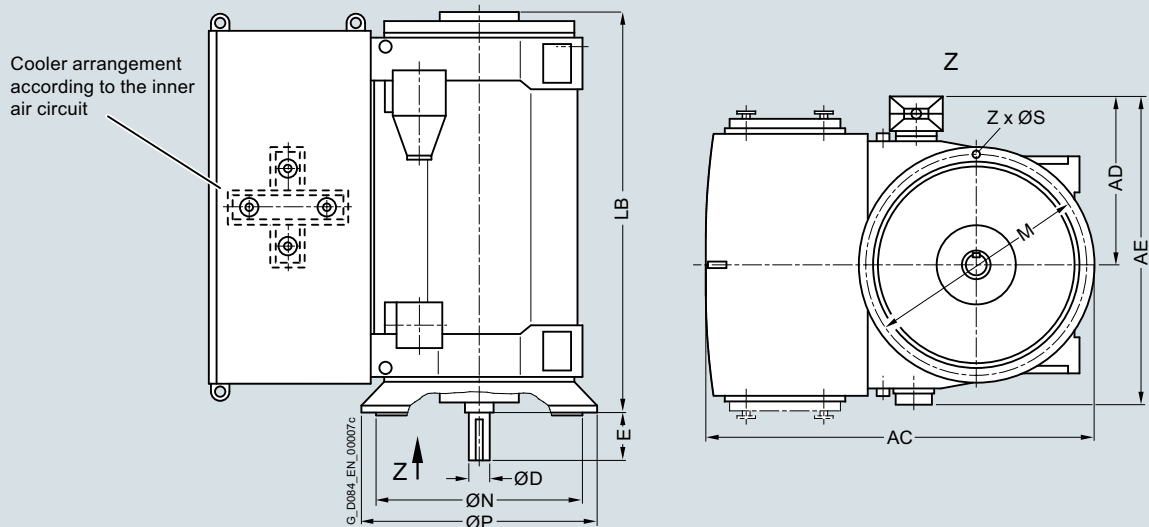
²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)

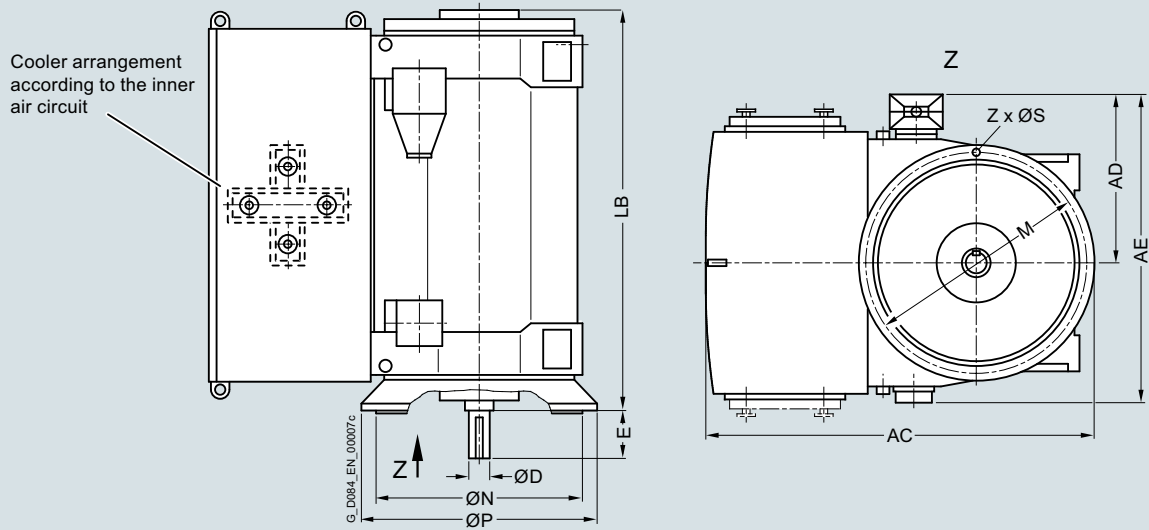


Motor type	Weight kg	Dimensions										
		AC	AD ¹⁾	AE ¹⁾	D	E	LB	P	N	M	S	Z Quantity
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RN6²⁾, 1RN7²⁾ series – IC81W												
10-pole												
1RN6450-3HJ.8	4650	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6452-3HJ.8	4950	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6454-3HJ.8	5350	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6456-3HJ.8	5650	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6500-3HJ.8	5650	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN6502-3HJ.8	6000	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN6504-3HJ.8	6550	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN6506-3HJ.8	6900	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN6560-3HJ.8	7550	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN6562-3HJ.8	8150	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN6564-3HJ.8	8950	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN6566-3HJ.8	9400	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN7630-3N..8-OCG0	11900	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-3N..8-OCG0	12400	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-3N..8-OCG0	13200	2570	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-3N..8-OCG0	13800	2570	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7710-3N..8-OCG0	16400	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-3N..8-OCG0	17300	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-3N..8-OCG0	18900	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-3N..8-OCG0	19800	2900	1800	2900	220	350	3380	2000	1800	1900	35	24

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC	AD ¹⁾	AE ¹⁾	D	E	LB	P	N	M	S	Z Quantity
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RN6²⁾, 1RN7²⁾ series – IC81W												
12-pole												
1RN6450-5HJ.8	4650	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6452-5HJ.8	4950	1840	930	1620	140	200	1720	1150	1000	1080	26	8
1RN6454-5HJ.8	5350	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6456-5HJ.8	5650	1840	930	1620	140	200	1930	1150	1000	1080	26	8
1RN6500-5HJ.8	5650	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN6502-5HJ.8	6000	1960	1000	1810	160	240	1910	1250	1120	1180	26	8
1RN6504-5HJ.8	6500	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN6506-5HJ.8	6950	1960	1000	1810	170	240	2120	1250	1120	1180	26	8
1RN6560-5HJ.8	7600	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN6562-5HJ.8	8150	2180	1070	1960	180	240	2090	1400	1250	1320	26	8
1RN6564-5HJ.8	8950	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN6566-5HJ.8	9400	2180	1070	1960	190	280	2320	1400	1250	1320	26	8
1RN7630-5N..8-OCG0	11800	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-5N..8-OCG0	12400	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-5N..8-OCG0	13200	2570	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-5N..8-OCG0	13800	2570	1250	2130	200	280	2610	1800	1600	1700	28	24

Note: Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

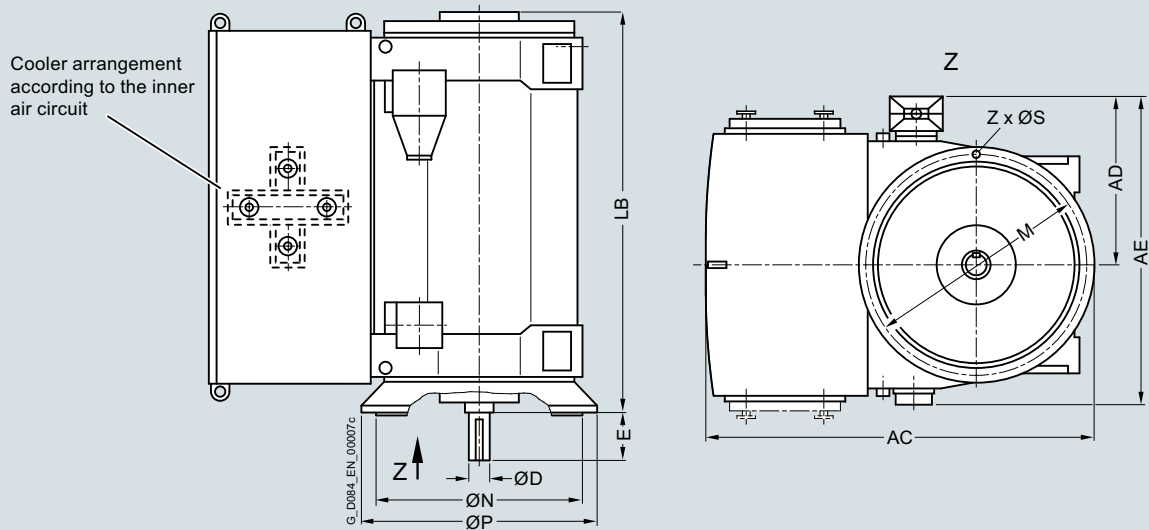
²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

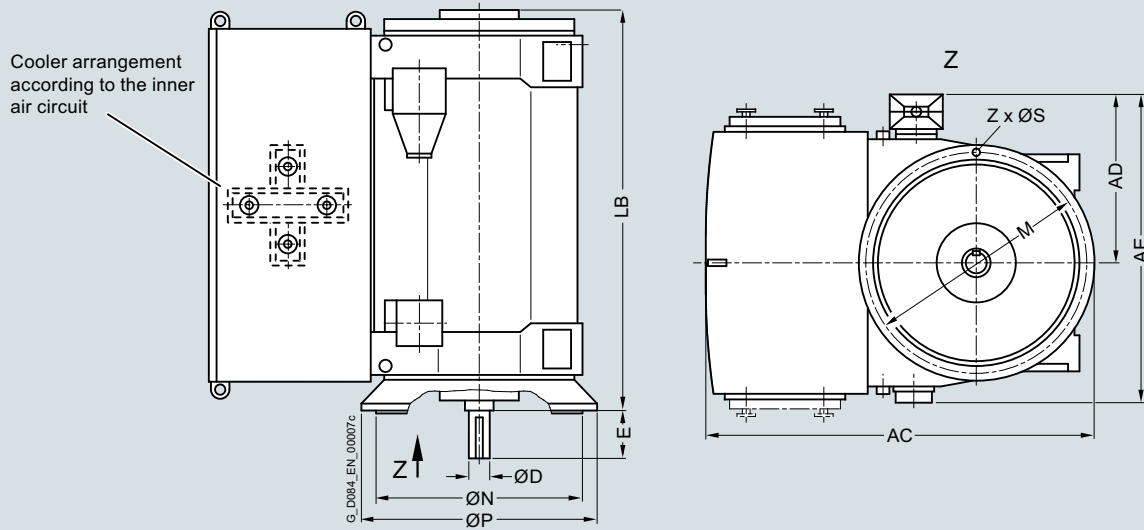
Dimension drawings



Motor type	Weight kg	Dimensions										
		AC	AD	AE	D	E	LB	P	N	M	S	Z
9 ... 11 kV, IM V1 type of construction, anti-friction bearings – 1RN6 ¹⁾ , 1RN7 ¹⁾ series– IC81W												
4-pole												
1RN6450-4HJ.8	4550	1840	1070	1840	130	200	1720	1150	1000	1080	26	8
1RN6452-4HJ.8	4750	1840	1070	1840	130	200	1720	1150	1000	1080	26	8
1RN6454-4HJ.8	5150	1840	1070	1840	130	200	1930	1150	1000	1080	26	8
1RN6456-4HJ.8	5450	1840	1070	1840	130	200	1930	1150	1000	1080	26	8
1RN6500-4HJ.8	5550	1960	1140	1950	150	200	1910	1250	1120	1180	26	8
1RN6502-4HJ.8	5700	1960	1140	1950	150	200	1910	1250	1120	1180	26	8
1RN6504-4HJ.8	6350	1960	1140	1950	160	240	2120	1250	1120	1180	26	8
1RN6506-4HJ.8	6700	1960	1140	1950	160	240	2120	1250	1120	1180	26	8
1RN6560-4HJ.8	7400	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6562-4HJ.8	7900	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6564-4HJ.8	8750	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN6566-4HJ.8	9200	2180	1210	2100	190	280	2320	1400	1250	1320	26	8

¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SL7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC	AD	AE	D	E	LB	P	N	M	S	Z
9 ... 11 kV, IM V1 type of construction, anti-friction bearings – 1RN6 ¹⁾ , 1RN7 ¹⁾ series – IC81W												
6-pole												
1RN6450-6HJ.8	4650	1840	1070	1840	140	200	1720	1150	1000	1080	26	8
1RN6452-6HJ.8	4950	1840	1070	1840	140	200	1720	1150	1000	1080	26	8
1RN6454-6HJ.8	5300	1840	1070	1840	140	200	1930	1150	1000	1080	26	8
1RN6456-6HJ.8	5650	1840	1070	1840	140	200	1930	1150	1000	1080	26	8
1RN6500-6HJ.8	5650	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN6502-6HJ.8	6050	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN6504-6HJ.8	6550	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN6506-6HJ.8	6950	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN6560-6HJ.8	7650	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6562-6HJ.8	8150	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6564-6HJ.8	8950	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN6566-6HJ.8	9400	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN7630-6N..8-OCG0	12100	2490	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-6N..8-OCG0	12700	2490	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-6N..8-OCG0	13600	2490	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-6N..8-OCG0	14100	2490	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7710-6N..8-OCG0	17000	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-6N..8-OCG0	18100	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-6N..8-OCG0	19600	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-6N..8-OCG0	20700	2900	1800	2900	220	350	3380	2000	1800	1900	35	24

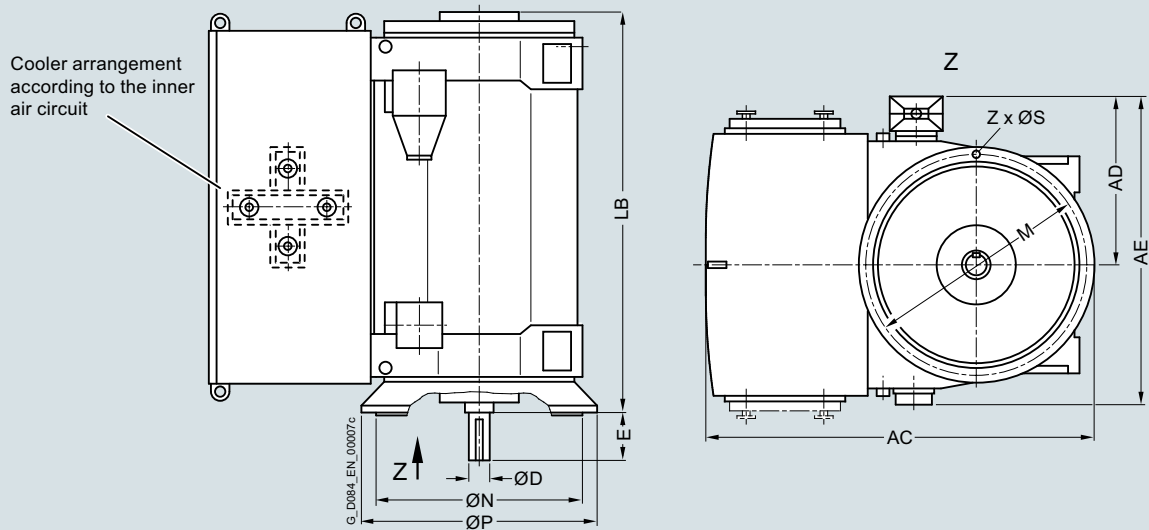
¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

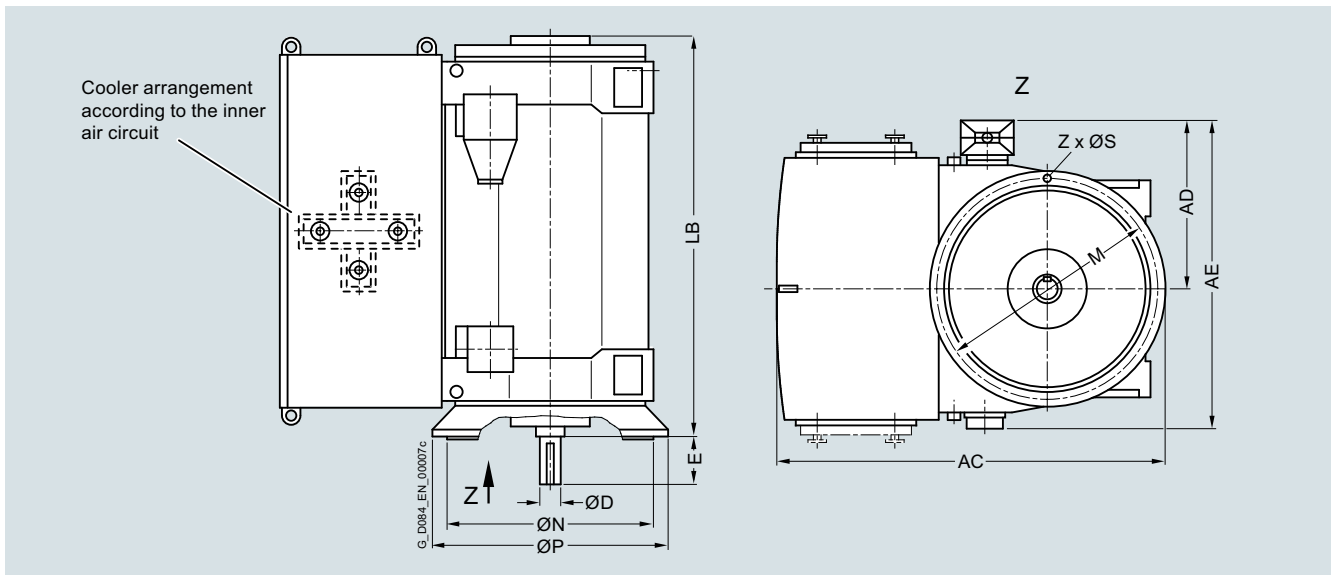
Dimension drawings (continued)



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, anti-friction bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W												
8-pole												
1RN6450-8HJ.8	4650	1840	1070	1840	140	200	1720	1150	1000	1080	26	8
1RN6452-8HJ.8	4950	1840	1070	1840	140	200	1720	1150	1000	1080	26	8
1RN6454-8HJ.8	5350	1840	1070	1840	140	200	1930	1150	1000	1080	26	8
1RN6456-8HJ.8	5650	1840	1070	1840	140	200	1930	1150	1000	1080	26	8
1RN6500-8HJ.8	5700	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN6502-8HJ.8	6050	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN6504-8HJ.8	6550	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN6506-8HJ.8	6950	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN6560-8HJ.8	7600	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6562-8HJ.8	8150	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6564-8HJ.8	9000	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN6566-8HJ.8	9400	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN7630-8N..8-OCG0	11800	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-8N..8-OCG0	12400	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-8N..8-OCG0	13200	2570	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-8N..8-OCG0	13800	2570	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7710-8N..8-OCG0	16200	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-8N..8-OCG0	17200	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-8N..8-OCG0	18600	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-8N..8-OCG0	19600	2900	1800	2900	220	350	3380	2000	1800	1900	35	24

¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC	AD	AE	D	E	LB	P	N	M	S	Z
9 ... 11 kV, IM V1 type of construction, anti-friction bearings – 1RN6 ¹⁾ , 1RN7 ¹⁾ series – IC81W												
10-pole												
1RN6500-3HJ.8	5650	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN6502-3HJ.8	6000	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN6504-3HJ.8	6500	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN6506-3HJ.8	6900	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN6560-3HJ.8	7900	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6562-3HJ.8	8550	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6564-3HJ.8	9400	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN6566-3HJ.8	10000	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN7630-3N..8-OCG0	11800	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-3N..8-OCG0	12300	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-3N..8-OCG0	13200	2570	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-3N..8-OCG0	13700	2570	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7710-3N..8-OCG0	16400	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-3N..8-OCG0	17400	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-3N..8-OCG0	18800	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-3N..8-OCG0	19700	2900	1800	2900	220	350	3380	2000	1800	1900	35	24

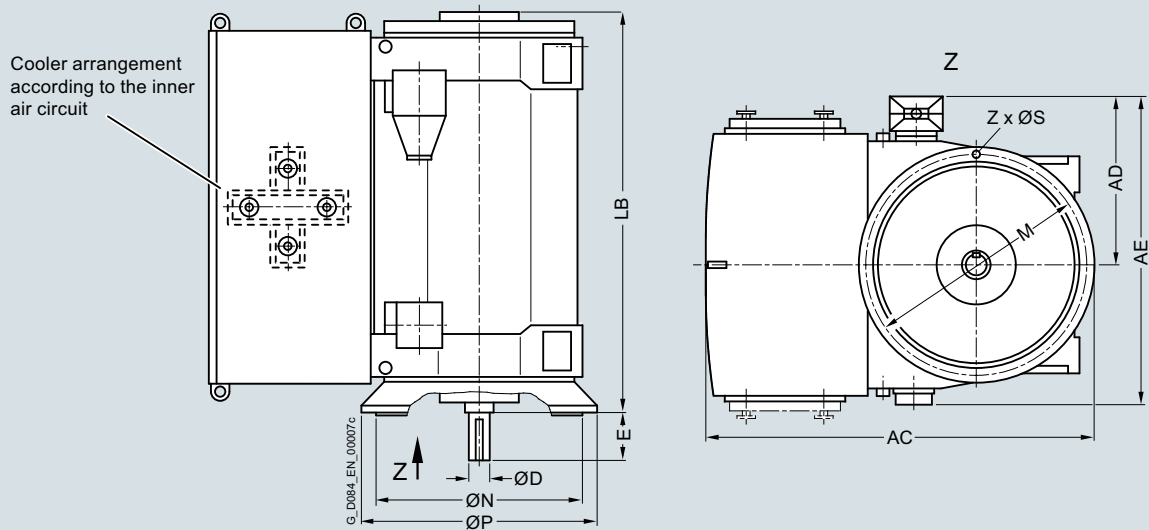
¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Motors for line operation

Water-cooled motors

SIMOTICS HV M 1RN6, 1RN7

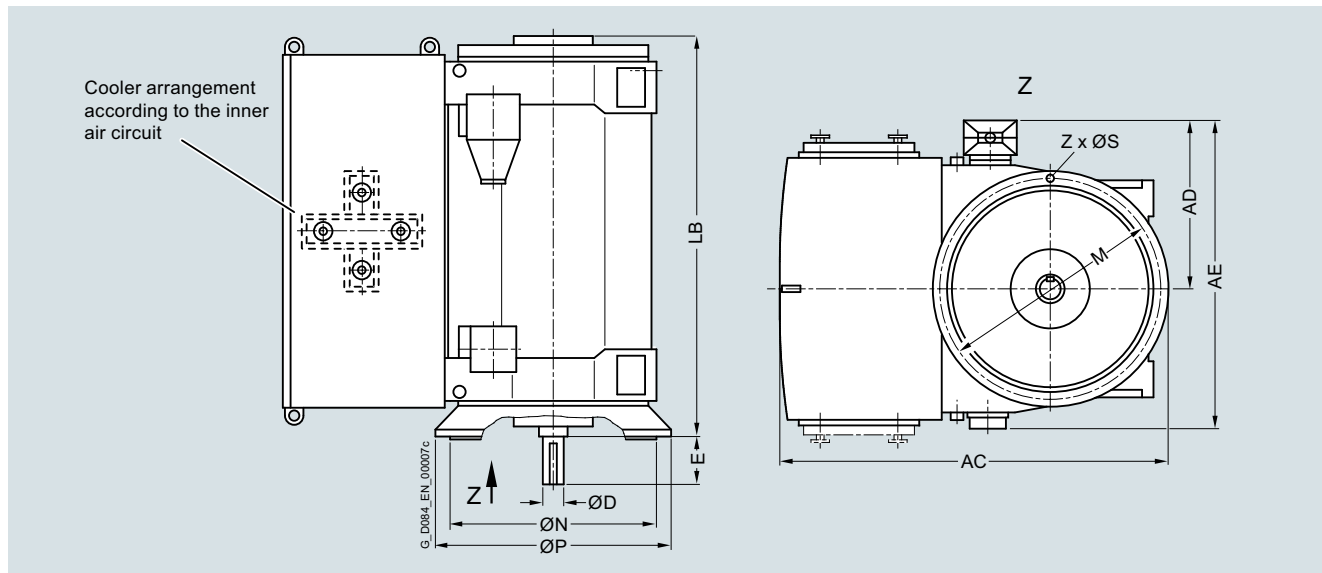
Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC	AD	AE	D	E	LB	P	N	M	S	Z
9 ... 11 kV, IM V1 type of construction, anti-friction bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W												
12-pole												
1RN6502-5HJ.8	6050	1960	1140	1950	160	240	1910	1250	1120	1180	26	8
1RN6504-5HJ.8	6450	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN6506-5HJ.8	6900	1960	1140	1950	170	240	2120	1250	1120	1180	26	8
1RN6560-5HJ.8	7550	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6562-5HJ.8	8100	2180	1210	2100	180	240	2090	1400	1250	1320	26	8
1RN6564-5HJ.8	8900	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN6566-5HJ.8	9350	2180	1210	2100	190	280	2320	1400	1250	1320	26	8
1RN7630-5N..8-OCG0	11700	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-5N..8-OCG0	12300	2570	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-5N..8-OCG0	13100	2570	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-5N..8-OCG0	13600	2570	1250	2130	200	280	2610	1800	1600	1700	28	24

Note: Higher pole numbers are available on request.

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
13.8 kV, IM V1 type of construction, anti-friction bearings – 1RN6¹⁾, 1RN7¹⁾ series – IC81W												
6-pole												
1RN7630-6NA24-OCG0	12100	2490	1440	2320	200	280	2410	1800	1600	1700	28	24
1RN7632-6NA24-OCG0	12700	2490	1440	2320	200	280	2410	1800	1600	1700	28	24
1RN7634-6NA24-OCG0	13600	2490	1440	2320	200	280	2610	1800	1600	1700	28	24
1RN7636-6NA24-OCG0	14100	2490	1440	2320	200	280	2610	1800	1600	1700	28	24
1RN7710-6NA24-OCG0	17000	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-6NA24-OCG0	18100	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-6NA24-OCG0	19600	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-6NA24-OCG0	20700	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
8-pole												
1RN7630-8NA24-OCG0	11800	2570	1440	2320	200	280	2410	1800	1600	1700	28	24
1RN7632-8NA24-OCG0	12400	2570	1440	2320	200	280	2410	1800	1600	1700	28	24
1RN7634-8NA24-OCG0	13200	2570	1440	2320	200	280	2610	1800	1600	1700	28	24
1RN7636-8NA24-OCG0	13800	2570	1440	2320	200	280	2610	1800	1600	1700	28	24
1RN7710-8NA24-OCG0	16200	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-8NA24-OCG0	17200	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-8NA24-OCG0	18600	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-8NA24-OCG0	19600	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
10-pole												
1RN7630-3NA24-OCG0	11800	2570	1440	2320	200	280	2410	1800	1600	1700	28	24
1RN7632-3NA24-OCG0	12300	2570	1440	2320	200	280	2410	1800	1600	1700	28	24
1RN7634-3NA24-OCG0	13200	2570	1440	2320	200	280	2610	1800	1600	1700	28	24
1RN7636-3NA24-OCG0	13700	2570	1440	2320	200	280	2610	1800	1600	1700	28	24
1RN7710-3NA24-OCG0	16400	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-3NA24-OCG0	17400	2900	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-3NA24-OCG0	18800	2900	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-3NA24-OCG0	19700	2900	1800	2900	220	350	3380	2000	1800	1900	35	24

Note: Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Motors for line operation

Notes

2

Motors for converter operation



3/2	General	3/90	Water-cooled motors
3/2	<u>Sinusoidal and non-sinusoidal converter output</u>	3/92	<u>SIMOTICS HV M 1RN6, 1RN7</u>
3/3	Converter with non-sinusoidal output		Selection and ordering data
3/3	<u>Air-cooled motors</u>	3/92	690 V, 50 Hz (square-law torque drive)
3/3	<u>SIMOTICS HV M 1RA6, 1RA7</u>	3/96	3.3 kV, 50 Hz (square-law torque drive)
	Selection and ordering data	3/98	4.16 kV, 50 Hz (square-law torque drive)
3/6	690 V, 50 Hz (square-law torque drive)	3/108	Up to 6.6 kV, 50 Hz (square-law torque drive)
3/10	4.16 kV, 50 Hz (square-law torque drive)	3/110	9 to 11 kV, 50 Hz (square-law torque drive)
3/14	Up to 6.6 kV, 50 Hz (square-law torque drive)	3/112	690 V, 60 Hz (square-law torque drive)
3/16	9 to 11 kV, 50 Hz (square-law torque drive)	3/116	4.16 kV, 60 Hz (square-law torque drive)
3/18	690 V, 60 Hz (square-law torque drive)	3/126	Up to 6.6 kV, 60 Hz (square-law torque drive)
3/22	4.16 kV, 60 Hz (square-law torque drive)		Dimension drawings
3/26	Up to 6.6 kV, 60 Hz (square-law torque drive)	3/129	IM B3 type of construction, anti-friction bearings, sleeve bearings IC81W
3/28	Dimension drawings	3/137	IM V1 type of construction, anti-friction bearings IC81W
3/29	<u>Air-cooled motors</u>	3/138	IM B3 type of construction, anti-friction bearings, sleeve bearings IC86W
	<u>SIMOTICS HV M 1RQ6, 1RQ7</u>	3/151	IM V1 type of construction, anti-friction bearings, sleeve bearings IC86W
	Selection and ordering data		
3/32	690 V, 50 Hz (square-law torque drive)		
3/36	3.3 kV, 50 Hz (square-law torque drive)		
3/38	4.16 kV, 50 Hz (square-law torque drive)		
3/48	Up to 6.6 kV, 50 Hz (square-law torque drive)		
3/50	9 to 11 kV, 50 Hz (square-law torque drive)		
3/52	690 V, 60 Hz (square-law torque drive)		
3/56	4.16 kV, 60 Hz (square-law torque drive)		
3/66	Up to 6.6 kV, 60 Hz (square-law torque drive)		
	Dimension drawings		
3/69	IM B3 type of construction, anti-friction bearings, sleeve bearings, IC611		
3/75	IM B3 type of construction, anti-friction bearings, sleeve bearings, IC666		
3/86	IM V1 type of construction, anti-friction bearings, sleeve bearings IC666		
		3/155	Converter with sinusoidal output
		3/155	<u>Air-cooled motors</u>
			<u>SIMOTICS HV M 1RQ7</u>
			<u>constant-torque drive</u>
			Selection and ordering data
		3/156	Up to 6.6 kV, 50 Hz (constant-torque drive)
		3/158	Up to 6.6 kV, 60 Hz (constant-torque drive)
		3/160	Dimension drawings
		3/161	<u>Water-cooled motors</u>
			<u>SIMOTICS HV M 1RN7</u>
			<u>constant-torque drive</u>
			Selection and ordering data
		3/162	Up to 6.6 kV, 50 Hz (constant-torque drive)
		3/164	Up to 6.6 kV, 60 Hz (constant-torque drive)
		3/166	Dimension drawings

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.

The SIMOTICS HV M motors 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. For motors with shaft height 800, the technical data for constant torque load characteristic are shown in Chapter 3, section "Converter with sinusoidal output".

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

The SIMOTICS HV M motor series is also available in special design versions for operation with medium voltage converters or low-voltage SINAMICS G and SINAMICS S drive converters (without sine-wave filter).

These motors, as standard, have 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, section "Converter with non-sinusoidal output".

The insulation system of these motors corresponds to thermal class 155 (F). 1R.6 motors are generally utilized to thermal class 155 (F), 1R.7 motors to 130 (B).

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1RA6, 1RA7	
Rated voltage	690 V ... 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	IP23
Cooling method	IC01
Stator winding insulation	Insulation system, thermal class 155 (F)
Shaft height	450 ... 900 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 710 mm	Housing: 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 partner regarding this check. The motor types are marked with footnotes in the following data tables.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Technical data (continued)

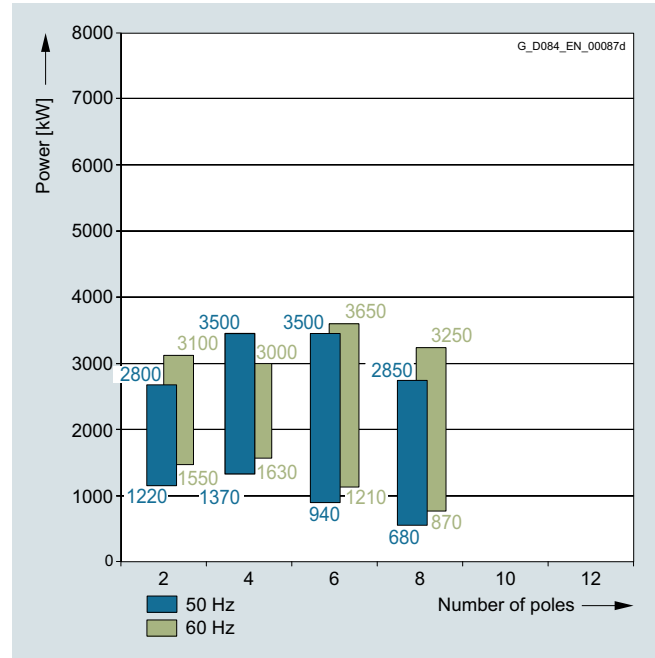
Power ranges for IEC motors with reinforced insulation for operation with SINAMICS converters without sine-wave filter

1RA6 and 1RP6 series

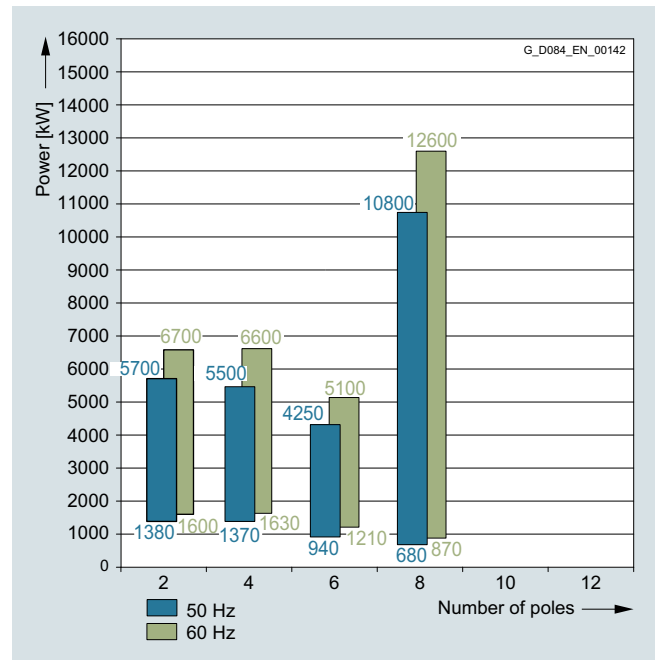
Insulation system, thermal class 155 (F)

The power data listed here apply for an ambient temperature of 40 °C and an installation altitude ≤ 1000 m.

3

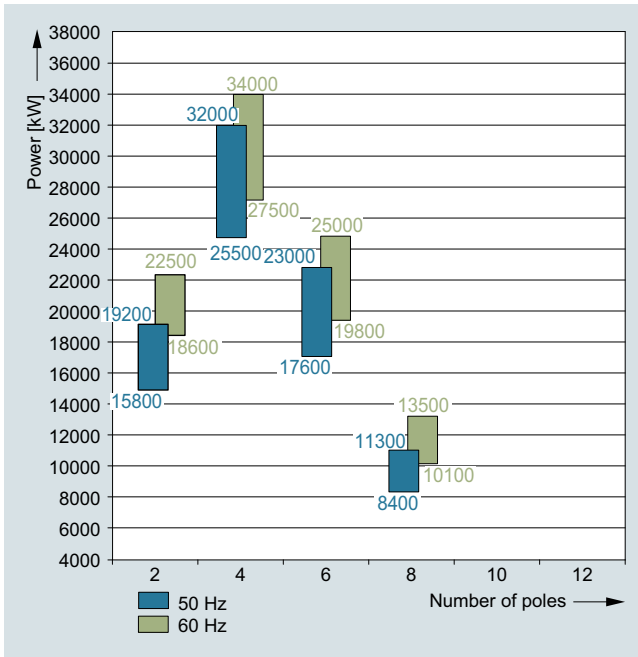


690 V; 50 Hz and 60 Hz

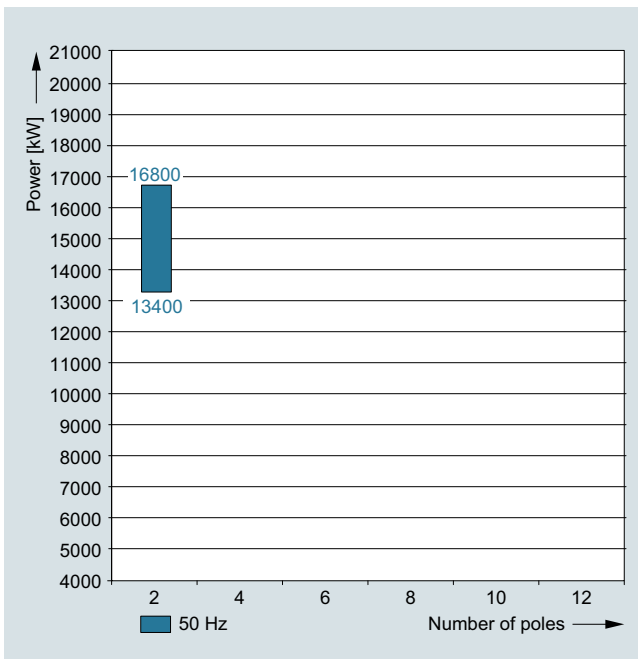


4.16 kV; 50 Hz and 60 Hz

Technical data (continued)



Up to 6,6 kV, 50 Hz and 60 Hz



9 to 11 kV; 50 Hz

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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_B/T_{rated} [-]	J kgm ²	n_{max} rpm
690 V, 50 Hz									
2-pole									
1220	1RA6450-2HP00	2980	95.5	0.90	1180	3913	2.20	13	3000
1520	1RA6452-2HP00	2980	96.0	0.90	1480	4875	2.10	14	3000
1600	1RA6454-2HP00	2983	96.2	0.92	1520	5129	2.30	16	3000
1700	1RA6456-2HP00	2983	96.2	0.92	1600	5445	2.30	18	3000
2250	1RA6500-2HP00	2975	96.4	0.90	2160	7222	2.30	19	3000
2550	1RA6502-2HP00	2974	96.6	0.90	2440	8188	2.10	20	3000
2800	1RA6504-2HP00	2977	96.7	0.92	4x660 ⁴⁾	8982	2.50	24	3000 ³⁾
4-pole									
1370	1RA6450-4HP00	1484	95.6	0.89	1340	8833	2.40	20	1800
1500	1RA6452-4HP00	1484	95.6	0.90	1460	9671	2.40	22	1800
1640	1RA6454-4HP00	1484	96.0	0.90	1580	10568	2.40	25	1800
1860	1RA6456-4HP00	1485	96.2	0.90	1800	11977	2.30	29	1800
2300 ²⁾	1RA6500-4HP00	1486	96.6	0.90	2200	14780	2.35	42	1800
2350 ²⁾	1RA6502-4HP00	1486	96.6	0.92	2200	15102	2.50	46	1800
2800 ²⁾	1RA6504-4HP00	1488	96.9	0.90	4x670 ⁴⁾	17969	2.60	52	1800
3200 ²⁾	1RA6560-4HP00	1486	96.8	0.92	4x750 ⁴⁾	20564	2.15	82	1800
3500 ²⁾	1RA6562-4HP00	1487	96.9	0.92	4x820 ⁴⁾	22476	2.15	93	1800

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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) Standard values; higher speed limits on request.

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.

4) Different number of parallel winding systems possible

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type
(repeated)

Partial load data 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

1RA6450-2...	916	2709	95.8	0.91	610	2371	96.0	0.90	305	1883	96.0	0.85
1RA6452-2...	1141	2708	96.4	0.91	760	2371	96.6	0.91	380	1883	96.5	0.87
1RA6454-2...	1201	2710	96.5	0.92	800	2372	96.6	0.91	400	1884	96.6	0.87
1RA6456-2...	1276	2711	96.5	0.92	850	2373	96.7	0.92	425	1884	96.6	0.88
1RA6500-2...	1688	2708	96.6	0.89	1125	2369	96.7	0.87	563	1883	96.7	0.79
1RA6502-2...	1913	2707	96.8	0.89	1275	2368	96.9	0.87	638	1882	96.9	0.81
1RA6504-2...	2101	2710	96.9	0.91	1400	2370	97.0	0.90	701	1883	97.0	0.84

4-pole

1RA6450-4...	1028	1350	95.9	0.88	685	1182	96.1	0.86	343	940	95.9	0.79
1RA6452-4...	1125	1350	96.0	0.90	750	1182	96.2	0.88	375	940	96.2	0.83
1RA6454-4...	1230	1350	96.3	0.90	820	1183	96.5	0.89	410	940	96.4	0.84
1RA6456-4...	1395	1351	96.5	0.89	930	1183	96.6	0.88	465	941	96.5	0.82
1RA6500-4...	1726	1353	96.7	0.89	1150	1183	96.9	0.86	575	941	96.8	0.77
1RA6502-4...	1763	1353	96.8	0.91	1175	1184	96.9	0.88	588	941	96.9	0.80
1RA6504-4...	2100	1354	97.0	0.89	1400	1184	97.1	0.86	700	941	96.9	0.74
1RA6560-4...	2401	1353	97.0	0.91	1600	1184	97.2	0.90	801	941	97.3	0.85
1RA6562-4...	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

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data (continued)

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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	1RA6450-6HP0	990	95.8	0.86	950	9079	2.30	26	1200
1040	1RA6452-6HP0	991	95.9	0.86	1060	10039	2.30	29	1200
1180	1RA6454-6HP0	991	96.0	0.86	1200	11394	2.30	32	1200
1330	1RA6456-6HP0	992	96.2	0.86	1340	12823	2.30	37	1200
1800	1RA6500-6HP0	988	96.0	0.85	1840	17399	1.75	56	1500
2000	1RA6502-6HP0	988	96.2	0.86	2040	19332	1.80	62	1500
2300	1RA6504-6HP0	989	96.4	0.85	2360	22209	1.95	69	1500
2400	1RA6506-6HP0	990	96.4	0.86	2440	23152	1.95	77	1500
2850	1RA6560-6HP0	990	96.6	0.87	3x950 ⁴⁾	27492	2.25	108	1300
3200	1RA6562-6HP0	991	96.9	0.86	3x1080 ⁴⁾	30838	2.45	119	1300
3500	1RA6564-6HP0	990	96.8	0.88	3x1140 ⁴⁾	33763	2.20	132	1300
8-pole									
680	1RA6450-8HP0	743	94.9	0.83	720	8750	2.30	32	1200
750	1RA6452-8HP0	743	95.2	0.84	780	9651	2.40	36	1200
880	1RA6454-8HP0	743	95.2	0.84	920	11324	2.40	40	1200
970	1RA6456-8HP0	744	95.4	0.84	1020	12476	2.40	46	1200
1400	1RA6500-8HP0	741	95.8	0.83	1480	18043	1.85	69	1350
1560	1RA6502-8HP0	742	95.9	0.83	1640	20078	1.85	76	1350
1720	1RA6504-8HP0	742	96.0	0.83	1800	22137	1.95	85	1350
1900	1RA6506-8HP0	743	96.2	0.83	2000	24421	2.10	94	1350
1960	1RA6560-8HP0	743	96.6	0.84	2040	25192	2.15	128	1350
2300	1RA6562-8HP0	743	96.6	0.84	2360	29563	2.20	141	1350
2600	1RA6564-8HP0	743	96.7	0.84	4x670 ⁴⁾	33419	2.45	156	1350
2850	1RA6566-8HP0	743	96.7	0.85	4x730 ⁴⁾	36632	2.25	173	1350

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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) Standard values; higher speed limits on request.

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.

4) Different number of parallel winding systems possible

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type
(repeated)

Partial load data 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

1RA6450-6...	705	900	96.1	0.85	470	789	96.3	0.82	235	627	96.2	0.73
1RA6452-6...	780	901	96.3	0.85	520	789	96.4	0.82	260	627	96.3	0.73
1RA6454-6...	885	901	96.3	0.85	590	789	96.4	0.83	295	627	96.4	0.74
1RA6456-6...	998	902	96.5	0.84	665	789	96.6	0.81	333	627	96.3	0.71
1RA6500-6...	1350	898	96.3	0.85	900	787	96.4	0.84	450	626	96.3	0.78
1RA6502-6...	1500	898	96.4	0.86	1000	787	96.6	0.84	500	626	96.4	0.78
1RA6504-6...	1725	899	96.5	0.85	1150	787	96.6	0.83	575	626	96.4	0.75
1RA6506-6...	1800	900	96.6	0.86	1200	788	96.7	0.84	600	626	96.5	0.77
1RA6560-6...	2138	900	96.7	0.87	1425	788	96.8	0.86	713	627	96.7	0.80
1RA6562-6...	2400	901	97.0	0.86	1600	789	97.0	0.84	800	627	96.7	0.76
1RA6564-6...	2625	900	97.0	0.88	1750	788	97.1	0.87	875	626	97.0	0.82

8-pole

1RA6450-8...	510	676	95.1	0.80	340	592	95.0	0.75	170	470	94.4	0.63
1RA6452-8...	563	676	95.4	0.81	375	592	95.4	0.77	188	470	94.9	0.65
1RA6454-8...	660	676	95.4	0.82	440	592	95.4	0.77	220	470	94.8	0.65
1RA6456-8...	728	676	95.6	0.82	485	592	95.6	0.77	243	470	95.1	0.65
1RA6500-8...	1050	674	95.9	0.82	700	590	95.9	0.80	350	469	95.5	0.70
1RA6502-8...	1170	674	96.0	0.82	780	591	96.1	0.80	390	469	95.6	0.70
1RA6504-8...	1290	675	96.1	0.82	860	591	96.1	0.79	430	470	95.7	0.70
1RA6506-8...	1425	675	96.3	0.82	950	591	96.2	0.78	475	470	95.6	0.67
1RA6560-8...	1470	675	96.7	0.84	980	591	96.8	0.82	490	470	96.6	0.73
1RA6562-8...	1725	675	96.7	0.84	1150	591	96.8	0.81	575	470	96.5	0.72
1RA6564-8...	1950	676	96.8	0.83	1300	592	96.8	0.79	650	470	96.4	0.69
1RA6566-8...	2138	675	96.8	0.84	1425	591	96.9	0.82	713	470	96.6	0.74

3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data

Rated power IEC		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 155 (F)							
P_{rated} 155 (F)	P_{rated} 130 (B)		Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
kW	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
4.16 kV, 50 Hz										
2-pole										
1380	— ⁴⁾	1RA6450-2HS40	2973	95.9	0.90	220	4433	2.00	13	3000
1570	— ⁴⁾	1RA6452-2HS40	2977	96.2	0.90	250	5040	2.20	14	3000
1750	— ⁴⁾	1RA6454-2HS40	2978	96.4	0.91	275	5616	2.30	16	3000
1950	— ⁴⁾	1RA6456-2HS40	2981	96.6	0.92	305	6252	2.30	18	3000
2550	2244	1RA6500-2HS40	2967	96.2	0.88	420	8207	1.85	19	3000
2700	2376	1RA6502-2HS40	2969	96.3	0.90	430	8684	2.05	20	3000
3200	2816	1RA6504-2HS40	2974	96.6	0.91	510	10275	2.35	24	3000 ³⁾
3550	3124	1RA6506-2HS40	2975	96.9	0.92	550	11395	2.40	26	3000 ³⁾
3700	3367	1RA6560-2HS40	2977	96.7	0.90	590	11868	1.90	39	3000 ³⁾
4300	3913	1RA6562-2HS40	2979	97.0	0.91	680	13784	2.05	43	3000 ³⁾
5000	4550	1RA6564-2HS40	2981	97.1	0.92	780	16017	2.25	49	3000 ³⁾
5700	5187	1RA6566-2HS40	2982	97.3	0.93	2x435	18253	2.45	54	3000 ³⁾
6490	5900	1RA7 630-2 ■■■ 40-0C ■■ 0	2981	97.4	0.88	960	18900	1.95	74	3000
7260	6600	1RA7 632-2 ■■■ 40-0C ■■ 0	2983	97.5	0.89	1060	21128	2.15	83	3000
8030	7300	1RA7 634-2 ■■■ 40-0C ■■ 0	2985	97.7	0.90	1160	23353	2.50	91	3000
8910	8100	1RA7 636-2 ■■■ 40-0C ■■ 0	2985	97.8	0.91	1260	25913	2.60	100	3000
9900	9000	1RA7 710-2 ■■■ 40-0C ■■ 0	2986	97.4	0.91	1400	28782	2.00	148	3000
11000	10000	1RA7 712-2 ■■■ 40-0C ■■ 0	2985	97.5	0.91	1560	31991	2.00	160	3000
12320	11200	1RA7 714-2 ■■■ 40-0C ■■ 0	2987	97.6	0.92	1740	35806	2.25	175	3000
13750	12500	1RA7 716-2 ■■■ 40-0C ■■ 0	2986	97.7	0.92	1940	39975	2.25	190	3000
4-pole										
1370	— ⁴⁾	1RA6450-4HS4 ■■	1484	95.6	0.88	225	8824	2.60	20	1800
1500	— ⁴⁾	1RA6452-4HS4 ■■	1485	95.8	0.88	245	9649	2.50	22	1800
1640	— ⁴⁾	1RA6454-4HS4 ■■	1485	96.0	0.89	265	10549	2.50	25	1800
1860	— ⁴⁾	1RA6456-4HS4 ■■	1485	96.1	0.90	300	11966	2.50	29	1800
2500 ²⁾	2200	1RA6500-4HS40	1485	96.4	0.90	400	16076	2.25	42	1800
2800 ²⁾	2464	1RA6502-4HS40	1485	96.5	0.90	445	18005	2.25	46	1800
3150 ²⁾	2772	1RA6504-4HS40	1485	96.6	0.91	495	20256	2.25	52	1800
3450 ²⁾	3036	1RA6506-4HS40	1486	96.8	0.91	540	22170	2.35	56	1800
3900 ²⁾	3549	1RA6560-4HS40	1489	97.0	0.89	630	25012	1.95	84	1800
4500 ²⁾	4095	1RA6562-4HS40	1489	97.1	0.90	710	28860	2.00	94	1800
5000 ²⁾	4550	1RA6564-4HS40	1490	97.2	0.91	780	32045	2.10	105	1800
5500 ²⁾	5005	1RA6566-4HS40	1490	97.4	0.91	2x430	35249	2.20	115	1800
6272	5600	1RA7630-4 ■■■ 40-0C ■■ 0	1490	97.5	0.88	910	35890	2.25	145	1800
7056	6300	1RA7632-4 ■■■ 40-0C ■■ 0	1490	97.5	0.88	1020	40376	2.20	160	1800
7840	7000	1RA7634-4 ■■■ 40-0C ■■ 0	1491	97.7	0.88	1120	44832	2.20	178	1800
8736	7800	1RA7636-4 ■■■ 40-0C ■■ 0	1491	97.7	0.88	1260	49956	2.25	194	1800
9744	8700	1RA7710-4 ■■■ 40-0C ■■ 0	1491	97.5	0.90	1380	55720	2.15	262	1800
10864	9700	1RA7712-4 ■■■ 40-0C ■■ 0	1491	97.6	0.90	1540	62125	2.15	286	1800
12096	10800	1RA7714-4 ■■■ 40-0C ■■ 0	1492	97.7	0.91	1680	69124	2.35	321	1800
13440	12000	1RA7716-4 ■■■ 40-0C ■■ 0	1492	97.8	0.91	1880	76804	2.35	361	1800

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type (repeated)	Partial load data 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												
1RA6450-2...	1035	2704	96.1	0.91	690	2368	96.3	0.91	345	1882	96.4	0.87
1RA6452-2...	1178	2707	96.4	0.91	785	2370	96.5	0.90	393	1883	96.4	0.87
1RA6454-2...	1313	2707	96.6	0.92	875	2370	96.7	0.91	438	1883	96.6	0.88
1RA6456-2...	1464	2709	96.8	0.92	975	2371	96.9	0.91	488	1884	96.8	0.88
1RA6500-2...	1914	2704	96.5	0.88	1276	2366	96.6	0.87	638	1881	96.7	0.81
1RA6502-2...	2026	2705	96.5	0.90	1350	2367	96.7	0.88	675	1882	96.7	0.83
1RA6504-2...	2401	2708	96.8	0.90	1600	2369	96.9	0.89	801	1883	96.8	0.81
1RA6506-2...	2663	2708	97.0	0.91	1775	2369	97.1	0.90	888	1883	97.1	0.83
1RA6560-2...	2777	2709	96.9	0.90	1851	2370	97.0	0.89	925	1883	97.0	0.84
1RA6562-2...	3226	2711	97.1	0.90	2151	2371	97.2	0.89	1076	1884	97.2	0.84
1RA6564-2...	3751	2712	97.3	0.91	2500	2371	97.3	0.90	1251	1884	97.3	0.85
1RA6566-2...	4276	2713	97.4	0.92	2850	2372	97.5	0.91	1426	1885	97.4	0.85
1RA7630-2...	4428	2710	97.5	0.89	2951	2370	97.6	0.89	1475	1883	97.7	0.87
1RA7632-2...	4952	2712	97.6	0.90	3300	2371	97.7	0.90	1650	1884	97.7	0.87
1RA7634-2...	5476	2714	97.8	0.91	3650	2372	97.8	0.90	1826	1884	97.8	0.87
1RA7636-2...	6076	2714	97.9	0.91	4050	2372	97.9	0.91	2026	1884	97.9	0.88
1RA7710-2...	6749	2713	97.4	0.92	4499	2374	97.3	0.92	2249	1885	97.0	0.89
1RA7712-2...	7500	2712	97.5	0.92	5000	2373	97.4	0.93	2499	1885	97.2	0.91
1RA7714-2...	8404	2713	97.6	0.93	5603	2374	97.5	0.93	2802	1885	97.2	0.90
1RA7716-2...	9375	2713	97.7	0.93	6250	2374	97.6	0.93	3124	1885	97.3	0.91
4-pole												
1RA6450-4...	1028	1350	95.8	0.87	685	1183	96.0	0.85	343	940	95.8	0.78
1RA6452-4...	1125	1351	96.0	0.87	750	1183	96.1	0.85	375	941	95.9	0.77
1RA6454-4...	1230	1351	96.2	0.89	820	1183	96.3	0.87	410	941	96.2	0.80
1RA6456-4...	1395	1351	96.3	0.90	930	1183	96.5	0.88	465	941	96.4	0.83
1RA6500-4...	1876	1352	96.6	0.89	1250	1183	96.7	0.86	625	941	96.5	0.77
1RA6502-4...	2101	1352	96.7	0.89	1400	1183	96.8	0.86	700	941	96.6	0.77
1RA6504-4...	2363	1353	96.8	0.90	1575	1183	96.9	0.88	788	941	96.8	0.79
1RA6506-4...	2588	1353	96.9	0.90	1725	1184	97.0	0.88	863	941	96.9	0.79
1RA6560-4...	2927	1355	97.1	0.89	1950	1185	97.2	0.87	976	942	97.1	0.80
1RA6562-4...	3377	1355	97.2	0.90	2250	1185	97.4	0.88	1126	942	97.3	0.82
1RA6564-4...	3752	1356	97.4	0.90	2500	1185	97.5	0.89	1251	942	97.4	0.82
1RA6566-4...	4126	1356	97.5	0.90	2750	1186	97.6	0.88	1376	942	97.4	0.81
1RA7630-4...	4202	1355	97.6	0.88	2800	1185	97.6	0.88	1401	941	97.5	0.84
1RA7632-4...	4727	1355	97.6	0.89	3150	1185	97.7	0.89	1576	941	97.6	0.85
1RA7634-4...	5252	1355	97.8	0.88	3500	1185	97.8	0.88	1751	942	97.7	0.85
1RA7636-4...	5852	1356	97.8	0.89	3900	1185	97.8	0.88	1951	942	97.7	0.85
1RA7710-4...	6527	1355	97.5	0.91	4359	1186	97.5	0.91	2181	942	97.2	0.89
1RA7712-4...	7277	1355	97.6	0.91	4860	1186	97.6	0.91	2431	942	97.3	0.88
1RA7714-4...	8105	1356	97.7	0.91	5412	1186	97.6	0.91	2708	942	97.3	0.88
1RA7716-4...	9006	1356	97.8	0.92	6014	1186	97.7	0.92	3009	942	97.5	0.89

1) Standard values; higher speed limits on request.

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.

4) Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data (continued)

Rated power IEC		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 155 (F)							
P_{rated} 155 (F)	P_{rated} 130 (B)		Rated speed	Efficiency	Power factor	Rated current at 4.16 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
kW	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
4.16 kV, 50 Hz										
6-pole										
940	— ²⁾	1RA6450-6HS4	990	95.7	0.85	160	9071	2.40	26	1200
1040	— ²⁾	1RA6452-6HS4	991	95.9	0.85	178	10026	2.50	29	1200
1180	— ²⁾	1RA6454-6HS4	991	96.1	0.86	198	11381	2.50	32	1200
1330	— ²⁾	1RA6456-6HS4	992	96.2	0.85	225	12811	2.50	37	1200
2000	1800	1RA6500-6HS4	987	95.8	0.84	345	19352	1.75	56	1500
2200	2000	1RA6502-6HS4	986	95.8	0.85	375	21308	1.65	62	1500
2450	2200	1RA6504-6HS4	987	96.0	0.85	415	23706	1.70	69	1500
2650	2400	1RA6506-6HS4	988	96.2	0.86	445	25615	1.80	77	1500
3150	2750	1RA6560-6HS4	989	96.5	0.86	530	30417	2.05	108	1300
3500	3100	1RA6562-6HS4	989	96.5	0.87	580	33797	2.05	119	1300
3900	3450	1RA6564-6HS4	989	96.6	0.87	640	37659	2.10	132	1300
4250	3750	1RA6566-6HS4	989	96.7	0.87	700	41039	2.05	146	1300
4592	4100	1RA7630-6-4-0C	993	97.3	0.84	700	39428	2.20	207	1800
5152	4600	1RA7632-6-4-0C	993	97.4	0.84	780	44236	2.20	229	1800
5712	5100	1RA7634-6-4-0C	993	97.3	0.84	870	49045	2.25	250	1800
6384	5700	1RA7636-6-4-0C	993	97.4	0.84	970	54815	2.25	271	1800
7056	6300	1RA7710-6-4-0C	994	97.2	0.86	1040	60524	2.10	350	1800
7840	7000	1RA7712-6-4-0C	994	97.3	0.86	1160	67249	2.15	398	1800
8624	7700	1RA7714-6-4-0C	995	97.5	0.87	1260	73899	2.30	450	1800
9632	8600	1RA7716-6-4-0C	995	97.5	0.86	1420	82537	2.30	496	1800
8-pole										
680	— ²⁾	1RA6450-8HS4	743	94.7	0.82	122	8743	2.50	32	1200
750	— ²⁾	1RA6452-8HS4	744	95.0	0.82	134	9638	2.50	36	1200
880	— ²⁾	1RA6454-8HS4	743	95.1	0.83	154	11318	2.50	40	1200
970	— ²⁾	1RA6456-8HS4	743	95.3	0.85	166	12477	2.40	46	1200
1360	1220	1RA6500-8HS4	741	95.4	0.83	240	17528	1.75	69	1350
1540	1380	1RA6502-8HS4	741	95.6	0.83	270	19848	1.80	76	1350
1740	1560	1RA6504-8HS4	742	95.8	0.83	305	22395	1.90	85	1350
1880	1700	1RA6506-8HS4	743	95.8	0.84	325	24164	2.00	94	1350
2200	1940	1RA6560-8HS4	741	96.1	0.84	380	28354	1.90	128	1350
2500	2200	1RA6562-8HS4	741	96.2	0.84	430	32220	1.95	141	1350
2750	2400	1RA6564-8HS4	742	96.4	0.84	470	35394	2.05	156	1350
3000	2640	1RA6566-8HS4	742	96.5	0.85	510	38612	2.10	173	1350
8000	7200	1RA7800-8-40-0C	746	97.3	0.86	1200	92172	2.60	865	1125
8800	8000	1RA7802-8-40-0C	746	97.4	0.86	1320	102413	2.50	955	1125
9800	8800	1RA7804-8-40-0C	746	97.5	0.85	1480	112654	2.50	1055	1125
10800	9800	1RA7806-8-40-0C	746	97.5	0.86	1620	125456	2.50	1165	1125
3360	3000	1RA7630-8-40-0C	744	96.5	0.83	520	38505	2.25	255	1000
3752	3350	1RA7632-8-40-0C	744	96.6	0.83	580	42998	2.25	282	1000
4200	3750	1RA7634-8-40-0C	744	96.7	0.83	650	48132	2.30	308	1000
4480	4000	1RA7636-8-40-0C	744	96.7	0.84	680	51340	2.30	334	1000
5040	4500	1RA7710-8-40-0C	745	96.9	0.85	760	57680	1.90	433	1000
5600	5000	1RA7712-8-40-0C	745	97.0	0.85	840	64089	1.95	493	1000
6272	5600	1RA7714-8-40-0C	745	97.1	0.86	930	71780	2.00	558	1000
7056	6300	1RA7716-8-40-0C	745	97.2	0.86	1040	80752	2.15	617	1000

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

¹⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type (repeated)	Partial load data 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												
1RA6450-6...	705	901	96.0	0.84	470	789	96.1	0.81	235	627	96.0	0.71
1RA6452-6...	780	901	96.1	0.84	520	789	96.2	0.80	260	627	96.0	0.70
1RA6454-6...	885	901	96.3	0.85	590	789	96.4	0.82	295	627	96.3	0.73
1RA6456-6...	998	902	96.4	0.83	665	790	96.5	0.80	333	627	96.2	0.69
1RA6500-6...	1500	898	96.1	0.84	1000	786	96.2	0.83	500	625	96.1	0.75
1RA6502-6...	1650	897	96.1	0.85	1100	786	96.3	0.84	550	625	96.3	0.78
1RA6504-6...	1838	897	96.3	0.85	1225	786	96.5	0.85	613	625	96.4	0.79
1RA6506-6...	1988	898	96.4	0.86	1325	787	96.6	0.85	663	626	96.5	0.78
1RA6560-6...	2363	899	96.7	0.87	1575	788	96.8	0.86	788	626	96.8	0.81
1RA6562-6...	2625	899	96.7	0.87	1750	788	96.9	0.87	875	626	96.8	0.82
1RA6564-6...	2925	900	96.8	0.87	1950	788	97.0	0.86	975	626	96.9	0.81
1RA6566-6...	3188	899	96.9	0.88	2125	788	97.1	0.87	1063	626	97.0	0.82
1RA7630-6...	3076	903	97.4	0.84	2050	789	97.4	0.82	1025	627	97.1	0.75
1RA7632-6...	3451	903	97.4	0.84	2300	789	97.4	0.83	1151	627	97.2	0.76
1RA7634-6...	3826	903	97.4	0.84	2550	790	97.4	0.82	1276	627	97.2	0.75
1RA7636-6...	4276	903	97.5	0.84	2850	789	97.5	0.82	1426	627	97.3	0.75
1RA7710-6...	4728	903	97.2	0.85	3157	790	97.0	0.84	1580	628	96.5	0.77
1RA7712-6...	5254	903	97.3	0.86	3508	791	97.1	0.85	1756	628	96.7	0.78
1RA7714-6...	5778	904	97.4	0.86	3859	791	97.2	0.84	1930	628	96.7	0.77
1RA7716-6...	6453	904	97.4	0.86	4309	791	97.2	0.83	2155	628	96.7	0.75
8-pole												
1RA6450-8...	510	676	94.8	0.80	340	592	94.7	0.75	170	470	94.0	0.63
1RA6452-8...	563	676	95.1	0.80	375	592	95.1	0.75	188	470	94.4	0.62
1RA6454-8...	660	676	95.3	0.82	440	592	95.3	0.78	220	470	94.8	0.66
1RA6456-8...	728	676	95.5	0.83	485	592	95.5	0.80	243	470	95.1	0.69
1RA6500-8...	1020	674	95.7	0.83	680	590	95.8	0.81	340	469	95.4	0.72
1RA6502-8...	1155	674	95.8	0.83	770	590	95.9	0.81	385	469	95.5	0.72
1RA6504-8...	1305	674	96.0	0.83	870	591	96.0	0.80	435	470	95.6	0.71
1RA6506-8...	1410	675	95.9	0.82	940	591	95.9	0.79	470	470	95.4	0.69
1RA6560-8...	1650	674	96.3	0.84	1100	590	96.5	0.83	550	469	96.5	0.76
1RA6562-8...	1875	674	96.4	0.84	1250	590	96.6	0.83	625	469	96.5	0.76
1RA6564-8...	2063	674	96.6	0.84	1375	591	96.7	0.82	688	470	96.6	0.75
1RA6566-8...	2250	675	96.7	0.85	1500	591	96.8	0.83	750	470	96.7	0.75
1RA7800-8...	5390	680	97.1	0.85	3600	594	96.9	0.82	1800	471	96.3	0.71
1RA7802-8...	5990	680	97.3	0.86	4000	594	97.0	0.83	2000	471	96.4	0.73
1RA7804-8...	6590	680	97.3	0.84	4400	594	97.0	0.81	2200	472	96.4	0.70
1RA7806-8...	7340	680	97.3	0.85	4900	594	97.1	0.82	2450	472	96.5	0.72
1RA7630-8...	2250	677	96.8	0.81	1501	592	96.7	0.77	750	471	96.2	0.66
1RA7632-8...	2515	677	96.9	0.81	1676	592	96.7	0.77	840	471	96.3	0.66
1RA7634-8...	2816	676	97.0	0.83	1875	592	97.0	0.82	941	470	96.8	0.75
1RA7636-8...	3001	677	97.0	0.83	2000	592	96.9	0.80	1000	470	96.6	0.72
1RA7710-8...	3379	677	96.8	0.85	2257	592	96.7	0.84	1130	471	96.2	0.77
1RA7712-8...	3754	677	97.0	0.85	2507	593	96.8	0.84	1255	471	96.3	0.77
1RA7714-8...	4204	677	97.1	0.86	2808	593	96.9	0.84	1405	471	96.4	0.78
1RA7716-8...	4729	677	97.1	0.85	3158	593	96.9	0.83	1580	471	96.4	0.76

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.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data

Rated power IEC		High voltage motor SIMOTICS HV M Article No.	Operating data at rated output for utilization 155 (F)							
P_{rated} 155 (F) kW	P_{rated} 130 (B) kW		Rated speed n_{rated} rpm	Efficiency η %	Power factor $\cos \varphi$ [-]	Rated current at 6 kV 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
Up to 6.6 kV, 50 Hz										
2-pole										
15800	14300	1RA7800-2-60-0C-0	2985	97.4	0.88	1600	45747	1.55	246	3600
17000	15400	1RA7802-2-60-0C-0	2987	97.5	0.89	1700	49233	1.80	266	3600
18200	16500	1RA7804-2-60-0C-0	2988	97.6	0.90	1800	52732	1.90	285	3600
19200	17500	1RA7806-2-60-0C-0	2988	97.7	0.91	1900	55928	1.95	305	3600
4-pole										
25500	23000	1RA7900-4-60-0C-0	1494	98.1	0.90	2500	147011	1.85	1023	1800
27500	25000	1RA7902-4-60-0C-0	1495	98.1	0.90	2700	159687	2.15	1102	1800
29000	26500	1RA7904-4-60-0C-0	1495	98.2	0.90	2900	169268	2.15	1178	1800
32000	29000	1RA7906-4-60-0C-0	1496	98.3	0.90	3150	185113	2.35	1296	1800
6-pole										
17600	16000	1RA7900-6-60-0C-0	994	97.8	0.87	1800	153711	1.70	1301	1200
19800	18000	1RA7902-6-60-0C-0	994	97.9	0.87	2050	172925	1.80	1464	1200
22000	20000	1RA7904-6-60-0C-0	995	98.0	0.87	2250	191946	1.90	1627	1200
23000	21000	1RA7906-6-60-0C-0	995	98.0	0.87	2350	201543	1.90	1789	1200
8-pole										
8400	7500	1RA7800-8-60-0C-0	746	97.4	0.86	860	96012	2.40	860	1125
9300	8400	1RA7802-8-60-0C-0	746	97.4	0.87	950	107534	2.30	955	1125
10300	9300	1RA7804-8-60-0C-0	746	97.5	0.86	1060	119055	2.40	1055	1125
11300	10300	1RA7806-8-60-0C-0	746	97.5	0.86	1180	131857	2.40	1160	1125

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type (repeated)	Partial load data 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												
1RA7800-2...	10800	2712	97.5	0.90	7200	2373	97.4	0.90	3600	1885	97.2	0.90
1RA7802-2...	11600	2714	97.5	0.90	7700	2375	97.5	0.91	3850	1885	97.2	0.89
1RA7804-2...	12400	2715	97.6	0.91	8200	2375	97.5	0.91	4100	1886	97.3	0.89
1RA7806-2...	13200	2714	97.7	0.91	8800	2375	97.7	0.92	4400	1886	97.4	0.90
4-pole												
1RA7900-4...	17250	1358	98.1	0.90	11500	1188	98.1	0.89	5750	943	97.8	0.86
1RA7902-4...	18750	1358	98.1	0.90	12500	1188	98.1	0.89	6250	943	97.8	0.86
1RA7904-4...	19875	1358	98.2	0.90	13250	1188	98.1	0.89	6625	943	97.9	0.86
1RA7906-4...	21750	1358	98.2	0.90	14500	1188	98.2	0.89	7250	943	97.9	0.86
6-pole												
1RA7900-6...	12000	904	97.9	0.89	8000	791	97.9	0.89	4000	628	97.6	0.85
1RA7902-6...	13500	904	98.0	0.89	9000	791	98.0	0.89	4500	628	97.7	0.85
1RA7904-6...	15000	904	98.0	0.89	10000	791	98.1	0.89	5000	628	97.8	0.85
1RA7906-6...	15750	904	98.1	0.89	10500	791	98.1	0.89	5250	628	97.8	0.85
8-pole												
1RA7800-8...	5620	679	97.2	0.85	3750	593	96.8	0.82	1870	471	96.3	0.72
1RA7802-8...	6290	679	97.4	0.86	4200	593	97.1	0.84	2100	471	96.6	0.76
1RA7804-8...	6970	679	97.4	0.85	4650	593	97.0	0.82	2320	471	96.5	0.72
1RA7806-8...	7720	679	97.4	0.85	5150	593	97.1	0.82	2570	471	96.6	0.72

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data

Rated power IEC		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 155 (F)							
P_{rated} 155 (F)	P_{rated} 130 (B)		Rated speed	Efficiency	Power factor	Rated current at 6 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
kW	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
9 ... 11 kV, 50 Hz										
2-pole										
13400	12200	1RA7800-2 ■ 90-0C ■ 0	2989	97.3	0.89	810	38977	1.80	246	3600
14400	13000	1RA7802-2 ■ 90-0C ■ 0	2989	97.4	0.90	860	41533	1.95	266	3600
15400	14000	1RA7804-2 ■ 90-0C ■ 0	2989	97.4	0.90	920	44727	1.90	285	3600
16800	15200	1RA7806-2 ■ 90-0C ■ 0	2990	97.5	0.91	990	48545	2.15	305	3600

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type (repeated)	Partial load data 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												
1RA7800-2...	9200	2715	97.3	0.90	6100	2375	97.2	0.91	3050	1886	97.0	0.89
1RA7802-2...	9800	2715	97.4	0.91	6500	2376	97.3	0.91	3250	1886	97.1	0.90
1RA7804-2...	10400	2715	97.4	0.91	7000	2375	97.4	0.91	3500	1886	97.1	0.90
1RA7806-2...	11400	2716	97.5	0.91	7600	2376	97.5	0.91	3800	1886	97.2	0.89

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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	1RA6450-2HP10	3578	95.9	0.90	1500	4140	1.90	13	3600 ²⁾
1650	1RA6452-2HP10	3581	96.0	0.91	1580	4403	2.20	14	3600 ²⁾
1720	1RA6454-2HP10	3584	96.1	0.91	1640	4586	2.40	16	3600 ²⁾
2180	1RA6456-2HP10	3584	96.7	0.92	2040	5814	2.40	18	3600 ²⁾
2500	1RA6500-2HP10	3579	96.7	0.90	2400	6670	2.55	20	3600 ²⁾
2750	1RA6502-2HP10	3577	96.6	0.91	4x650 ⁵⁾	7342	2.35	22	3600 ²⁾
3100	1RA6504-2HP10	3581	97.0	0.92	4x730 ⁵⁾	8267	2.55	25	3600 ²⁾
4-pole									
1630	1RA6450-4HP1	1784	95.9	0.88	1620	8740	2.30	20	1800
1750	1RA6452-4HP1	1783	96.0	0.90	1700	9385	2.30	22	1800
2070	1RA6454-4HP1	1783	96.2	0.90	2000	11104	2.30	25	1800
2310	1RA6456-4HP1	1786	96.4	0.89	2240	12364	2.50	29	1800
2700 ⁴⁾	1RA6500-4HP10	1788	96.9	0.90	4x650 ⁵⁾	14420	2.80	42	1800 ³⁾
2850 ⁴⁾	1RA6502-4HP10	1786	96.9	0.91	4x680 ⁵⁾	15238	2.50	46	1800 ³⁾
3000 ⁴⁾	1RA6504-4HP10	1786	97.0	0.92	4x700 ⁵⁾	16040	2.40	52	1800 ³⁾

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

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.

⁵⁾ Different number of parallel winding systems possible.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type (repeated)	Partial load data 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												
1RA6450-2...	1164	3253	96.2	0.90	775	2844	96.3	0.90	388	2261	96.2	0.86
1RA6452-2...	1239	3255	96.3	0.92	825	2845	96.4	0.91	413	2262	96.3	0.87
1RA6454-2...	1291	3257	96.3	0.92	860	2847	96.4	0.91	430	2262	96.2	0.86
1RA6456-2...	1636	3258	96.9	0.92	1090	2847	96.9	0.91	545	2263	96.7	0.87
1RA6500-2...	1876	3256	96.8	0.89	1250	2846	96.8	0.87	626	2261	96.6	0.77
1RA6502-2...	2064	3254	96.8	0.90	1375	2846	96.9	0.89	688	2261	96.8	0.82
1RA6504-2...	2325	3257	97.1	0.91	1550	2847	97.1	0.89	776	2262	97.0	0.82
4-pole												
1RA6450-4...	1223	1623	96.1	0.88	815	1420	96.2	0.86	408	1129	95.9	0.78
1RA6452-4...	1313	1623	96.3	0.90	875	1419	96.4	0.89	438	1129	96.3	0.84
1RA6454-4...	1553	1623	96.5	0.90	1035	1419	96.6	0.89	518	1129	96.5	0.85
1RA6456-4...	1733	1625	96.6	0.89	1155	1421	96.6	0.87	578	1130	96.3	0.79
1RA6500-4...	2025	1627	97.0	0.88	1351	1422	97.0	0.83	675	1130	96.6	0.70
1RA6502-4...	2138	1626	97.0	0.90	1425	1422	97.1	0.87	713	1130	96.9	0.78
1RA6504-4...	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

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data (continued)

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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_B/T_{rated} [-]	J kgm ²	n_{max} rpm
690 V, 60 Hz									
6-pole									
1210	1RA6450-6HP1	1191	96.1	0.85	1240	9718	2.40	26	1200
1350	1RA6452-6HP1	1191	96.3	0.84	1400	10837	2.40	29	1200
1480	1RA6454-6HP1	1191	96.3	0.86	1500	11883	2.30	32	1200
1620	1RA6456-6HP1	1192	96.6	0.86	1640	12995	2.40	37	1200
2150	1RA6500-6HP1	1190	96.5	0.84	2200	17254	2.10	56	1500
2400	1RA6502-6HP1	1188	96.5	0.85	2440	19293	1.85	62	1500
2700	1RA6504-6HP1	1190	96.7	0.84	3x930 ²⁾	21668	2.15	69	1500
2950	1RA6506-6HP1	1189	96.7	0.86	3x990 ²⁾	23694	1.90	77	1500
3300	1RA6560-6HP1	1191	96.9	0.87	3x1100 ²⁾	26461	2.30	108	1300
3650	1RA6562-6HP1	1190	96.8	0.87	3x1200 ²⁾	29292	2.10	119	1300
8-pole									
870	1RA6450-8HP1	893	95.3	0.84	910	9323	2.30	32	1200
960	1RA6452-8HP1	892	95.4	0.84	1000	10290	2.20	36	1200
1050	1RA6454-8HP1	893	95.5	0.84	1100	11239	2.40	40	1200
1180	1RA6456-8HP1	893	95.7	0.85	1220	12636	2.30	46	1200
1600	1RA6500-8HP1	892	96.0	0.83	1680	17130	1.85	69	1350
1800	1RA6502-8HP1	892	96.1	0.83	1880	19271	1.90	76	1350
2000	1RA6504-8HP1	893	96.3	0.83	2080	21389	2.05	85	1350
2200	1RA6506-8HP1	893	96.4	0.83	2320	23527	2.05	94	1350
2250	1RA6560-8HP1	893	96.7	0.84	2320	24062	2.30	128	1350
2600	1RA6562-8HP1	893	96.8	0.84	4x670 ²⁾	27805	2.25	141	1350
2900	1RA6564-8HP1	894	96.9	0.83	4x750 ²⁾	30979	2.65	156	1350
3250	1RA6566-8HP1	893	97.0	0.85	4x820 ²⁾	34756	2.35	173	1350

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

²⁾ Different number of parallel winding systems possible.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type
(repeated)

Partial load data 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

1RA6450-6...	908	1083	96.3	0.82	605	947	96.4	0.79	303	753	96.0	0.67
1RA6452-6...	1013	1083	96.5	0.82	675	947	96.5	0.78	338	753	96.2	0.67
1RA6454-6...	1110	1083	96.5	0.84	740	947	96.6	0.81	370	753	96.3	0.71
1RA6456-6...	1215	1084	96.8	0.84	810	947	96.8	0.81	405	753	96.5	0.71
1RA6500-6...	1613	1082	96.5	0.83	1075	946	96.5	0.79	538	752	96.0	0.69
1RA6502-6...	1800	1081	96.6	0.86	1200	945	96.7	0.84	600	752	96.5	0.78
1RA6504-6...	2025	1082	96.7	0.83	1350	946	96.7	0.80	675	752	96.2	0.69
1RA6506-6...	2213	1081	96.8	0.86	1475	946	96.9	0.85	738	752	96.7	0.78
1RA6560-6...	2475	1083	97.0	0.87	1650	947	97.0	0.86	825	753	96.7	0.79
1RA6562-6...	2738	1082	97.0	0.88	1825	946	97.1	0.87	913	752	97.0	0.83

8-pole

1RA6450-8...	653	812	95.5	0.81	435	710	95.4	0.77	218	565	94.9	0.66
1RA6452-8...	720	812	95.7	0.83	480	710	95.6	0.79	240	565	95.2	0.68
1RA6454-8...	788	812	95.6	0.81	525	710	95.6	0.77	263	565	95.0	0.65
1RA6456-8...	885	812	95.9	0.83	590	710	95.8	0.79	295	565	95.3	0.69
1RA6500-8...	1200	811	96.1	0.83	800	709	96.1	0.80	400	564	95.7	0.71
1RA6502-8...	1350	811	96.2	0.83	900	709	96.2	0.80	450	564	95.7	0.71
1RA6504-8...	1500	812	96.3	0.82	1000	710	96.3	0.79	500	564	95.7	0.69
1RA6506-8...	1650	812	96.4	0.82	1100	710	96.3	0.79	550	564	95.7	0.69
1RA6560-8...	1688	812	96.8	0.84	1125	710	96.8	0.81	563	564	96.5	0.72
1RA6562-8...	1950	812	96.9	0.84	1300	710	96.9	0.82	650	564	96.6	0.73
1RA6564-8...	2175	813	96.9	0.82	1450	710	96.8	0.78	725	565	96.3	0.67
1RA6566-8...	2438	812	97.1	0.84	1625	710	97.0	0.81	813	565	96.7	0.72

3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data

Rated power		High voltage motor SIMOTICS HV M	Operating data 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⁾
$P_{155(F)}^{rated}$ kW	$P_{130(B)}^{rated}$ kW		n_{rated} rpm	η %	$\cos \varphi$ [-]	I_{rated} A	T_{rated} Nm	T_B/T_{rated} [-]	J kgm ²	n_{max} rpm
4.16 kV, 60 Hz										
2-pole										
1600	— ⁴⁾	1RA6450-2HS30	3576	96.0	0.89	260	4274	2.10	13	3600 ²⁾
1850	— ⁴⁾	1RA6452-2HS30	3578	96.3	0.91	295	4941	2.30	14	3600 ²⁾
2060	— ⁴⁾	1RA6454-2HS30	3579	96.6	0.91	325	5500	2.30	16	3600 ²⁾
2300	— ⁴⁾	1RA6456-2HS30	3581	96.8	0.92	360	6137	2.40	18	3600 ²⁾
3000	2640	1RA6500-2HS30	3572	96.5	0.89	485	8020	2.05	20	3600 ²⁾
3250	2860	1RA6502-2HS30	3570	96.5	0.89	530	8693	1.95	22	3600 ²⁾
3700	3256	1RA6504-2HS30	3576	96.8	0.91	580	9880	2.30	25	3600 ²⁾
4200	3696	1RA6506-2HS30	3577	97.1	0.92	650	11212	2.45	27	3600 ²⁾
4600	4186	1RA6560-2HS30	3577	96.8	0.90	730	12280	1.90	39	3600 ²⁾
5100	4641	1RA6562-2HS30	3579	96.9	0.91	2x400	13608	2.05	43	3600 ²⁾
5900	5369	1RA6564-2HS30	3580	97.1	0.92	2x460	15738	2.15	49	3600 ²⁾
6700	6097	1RA6566-2HS30	3582	97.3	0.92	2x520	17862	2.45	54	3600 ²⁾
7810	7100	1RA7630-2 ■ 30-0C ■ 0	3580	97.3	0.88	1160	18939	1.95	74	3600
8690	7900	1RA7632-2 ■ 30-0C ■ 0	3583	97.6	0.89	1260	21055	2.20	83	3600
9570	8700	1RA7634-2 ■ 30-0C ■ 0	3585	97.7	0.90	1380	23174	2.35	91	3600
10560	9600	1RA7636-2 ■ 30-0C ■ 0	3586	97.8	0.90	1520	25564	2.60	100	3600
11660	10600	1RA7710-2 ■ 30-0C ■ 0	3585	97.3	0.91	1660	28235	2.05	148	3600
12980	11800	1RA7712-2 ■ 30-0C ■ 0	3586	97.4	0.91	1840	31423	2.05	158	3600
14300	13000	1RA7714-2 ■ 30-0C ■ 0	3586	97.5	0.93	1980	34618	2.25	175	3600
15070	13700	1RA7716-2 ■ 30-0C ■ 0	3586	97.5	0.93	2100	36482	2.25	189	3600
4-pole										
1630	— ⁴⁾	1RA6450-4HS3 ■	1782	95.7	0.89	265	8742	2.30	20	1800
1750	— ⁴⁾	1RA6452-4HS3 ■	1783	95.9	0.89	285	9375	2.40	22	1800
2070	— ⁴⁾	1RA6454-4HS3 ■	1784	96.1	0.90	330	11088	2.50	25	1800
2310	— ⁴⁾	1RA6456-4HS3 ■	1786	96.3	0.89	375	12358	2.50	29	1800
3100 ³⁾	2728	1RA6500-4HS30	1785	96.7	0.90	495	16584	2.30	42	1800
3450 ³⁾	3036	1RA6502-4HS30	1785	96.8	0.90	550	18457	2.20	46	1800
3800 ³⁾	3344	1RA6504-4HS30	1786	97.0	0.91	600	20318	2.35	52	1800
4100 ³⁾	3608	1RA6506-4HS30	1787	97.0	0.91	640	21909	2.40	56	1800
4700 ³⁾	4277	1RA6560-4HS30	1789	97.2	0.90	750	25088	1.95	84	1800
5400 ³⁾	4914	1RA6562-4HS30	1789	97.3	0.90	2x430	28824	1.95	94	1800
6000 ³⁾	5460	1RA6564-4HS30	1789	97.4	0.91	2x470	32027	2.05	105	1800
6600 ³⁾	6006	1RA6566-4HS30	1790	97.5	0.91	2x520	35210	2.10	115	1800
7056	6300	1RA7630-4 ■ 30-0C ■ 0	1791	97.6	0.88	1020	33590	2.30	145	1800
7952	7100	1RA7632-4 ■ 30-0C ■ 0	1791	97.7	0.88	1140	37856	2.30	160	1800
8848	7900	1RA7634-4 ■ 30-0C ■ 0	1791	97.7	0.89	1260	42121	2.35	178	1800
9856	8800	1RA7636-4 ■ 30-0C ■ 0	1792	97.8	0.89	1400	46894	2.50	194	1800
10976	9800	1RA7710-4 ■ 30-0C ■ 0	1791	97.6	0.90	1540	52252	2.15	262	1800
12208	10900	1RA7712-4 ■ 30-0C ■ 0	1792	97.6	0.90	1720	58084	2.15	286	1800
13552	12100	1RA7714-4 ■ 30-0C ■ 0	1792	97.7	0.91	1880	64479	2.35	321	1800
15120	13500	1RA7716-4 ■ 30-0C ■ 0	1792	97.8	0.91	2100	71939	2.35	362	1800

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type (repeated)	Partial load data 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												
1RA6450-2...	1201	3251	96.1	0.90	800	2843	96.2	0.90	400	2260	96.1	0.85
1RA6452-2...	1389	3253	96.4	0.91	925	2844	96.5	0.91	463	2261	96.3	0.87
1RA6454-2...	1545	3254	96.7	0.91	1030	2845	96.7	0.90	515	2261	96.5	0.86
1RA6456-2...	1725	3256	96.9	0.92	1150	2846	96.9	0.91	575	2262	96.7	0.87
1RA6500-2...	2251	3251	96.7	0.89	1500	2844	96.8	0.87	750	2260	96.6	0.79
1RA6502-2...	2439	3250	96.7	0.89	1626	2843	96.8	0.88	813	2259	96.8	0.83
1RA6504-2...	2776	3254	97.0	0.91	1850	2845	97.0	0.89	926	2261	96.9	0.83
1RA6506-2...	3151	3254	97.2	0.91	2100	2846	97.2	0.89	1051	2261	97.1	0.83
1RA6560-2...	3452	3255	96.9	0.90	2301	2846	97.0	0.88	1150	2262	96.9	0.83
1RA6562-2...	3827	3256	97.0	0.90	2551	2847	97.1	0.89	1275	2262	97.0	0.84
1RA6564-2...	4427	3257	97.3	0.91	2951	2848	97.3	0.90	1476	2262	97.2	0.85
1RA6566-2...	5026	3258	97.4	0.92	3350	2849	97.4	0.90	1676	2263	97.2	0.83
1RA7630-2...	5329	3255	97.4	0.89	3551	2846	97.5	0.89	1775	2261	97.5	0.87
1RA7632-2...	5927	3257	97.6	0.90	3951	2847	97.7	0.90	1975	2262	97.6	0.86
1RA7634-2...	6528	3258	97.8	0.90	4351	2848	97.8	0.90	2177	2262	97.7	0.87
1RA7636-2...	7202	3259	97.9	0.91	4800	2849	97.9	0.90	2401	2263	97.8	0.87
1RA7710-2...	7947	3258	97.2	0.92	5298	2847	97.1	0.92	2649	2263	96.8	0.90
1RA7712-2...	8850	3258	97.4	0.92	5900	2847	97.3	0.92	2949	2263	96.9	0.90
1RA7714-2...	9755	3259	97.5	0.93	6503	2848	97.3	0.93	3251	2263	97.0	0.91
1RA7716-2...	10275	3259	97.5	0.94	6850	2848	97.4	0.94	3425	2263	97.1	0.92
4-pole												
1RA6450-4...	1224	1622	96.0	0.89	815	1419	96.1	0.88	408	1129	96.0	0.83
1RA6452-4...	1313	1623	96.1	0.89	875	1420	96.2	0.88	438	1129	96.1	0.82
1RA6454-4...	1553	1623	96.3	0.90	1035	1420	96.4	0.89	518	1129	96.3	0.83
1RA6456-4...	1733	1624	96.5	0.89	1155	1421	96.5	0.87	578	1130	96.2	0.80
1RA6500-4...	2326	1625	96.8	0.89	1550	1421	96.8	0.86	775	1130	96.6	0.75
1RA6502-4...	2589	1625	96.9	0.89	1725	1421	96.9	0.86	863	1130	96.8	0.77
1RA6504-4...	2851	1626	97.1	0.90	1900	1422	97.1	0.87	950	1130	96.8	0.78
1RA6506-4...	3076	1626	97.1	0.90	2050	1422	97.1	0.87	1025	1130	96.8	0.77
1RA6560-4...	3527	1628	97.3	0.89	2350	1423	97.3	0.87	1176	1131	97.2	0.80
1RA6562-4...	4052	1628	97.4	0.90	2701	1423	97.5	0.89	1351	1131	97.4	0.83
1RA6564-4...	4502	1628	97.5	0.90	3000	1423	97.5	0.89	1501	1131	97.4	0.82
1RA6566-4...	4952	1628	97.6	0.91	3300	1423	97.7	0.90	1651	1131	97.5	0.84
1RA7630-4...	4726	1628	97.7	0.88	3150	1423	97.7	0.88	1576	1131	97.5	0.83
1RA7632-4...	5326	1628	97.8	0.89	3550	1423	97.8	0.88	1776	1131	97.6	0.84
1RA7634-4...	5926	1628	97.8	0.89	3950	1423	97.8	0.89	1976	1131	97.7	0.85
1RA7636-4...	6601	1629	97.9	0.89	4400	1424	97.9	0.88	2201	1131	97.7	0.84
1RA7710-4...	7353	1628	97.6	0.91	4904	1423	97.5	0.91	2455	1131	97.2	0.88
1RA7712-4...	8179	1628	97.6	0.91	5454	1423	97.5	0.91	2731	1131	97.2	0.89
1RA7714-4...	9083	1629	97.7	0.91	6058	1423	97.6	0.91	3033	1131	97.2	0.88
1RA7716-4...	10135	1629	97.8	0.92	6758	1423	97.7	0.92	3384	1131	97.3	0.89

1) Standard values; higher speed limits on request.

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 · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 155 (F)								
IEC	$P_{155(F)}^{rated}$ kW		$P_{130(B)}^{rated}$ kW	Rated speed	Efficiency	Power factor	Rated current at 4.16 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
Article No.											
4.16 kV, 60 Hz											
6-pole											
1210	⁻²⁾	1RA6450-6HS3	1190	96.0	0.84	210	9715	2.40	26	1200	
1350	⁻²⁾	1RA6452-6HS3	1191	96.2	0.85	230	10833	2.40	29	1200	
1480	⁻²⁾	1RA6454-6HS3	1191	96.3	0.85	250	11875	2.50	32	1200	
1620	⁻²⁾	1RA6456-6HS3	1191	96.4	0.87	270	12995	2.50	37	1200	
2350	2100	1RA6500-6HS3	1187	96.0	0.85	400	18907	1.65	56	1500	
2600	2350	1RA6502-6HS3	1188	96.4	0.84	445	20901	1.85	62	1500	
2900	2600	1RA6504-6HS3	1187	96.3	0.85	490	23332	1.70	69	1500	
3100	2800	1RA6506-6HS3	1188	96.4	0.86	520	24920	1.75	77	1500	
3750	3300	1RA6560-6HS3	1189	96.6	0.86	630	30120	2.00	108	1300	
4250	3750	1RA6562-6HS3	1189	96.8	0.86	710	34136	2.05	119	1300	
4700	4150	1RA6564-6HS3	1190	96.9	0.87	770	37718	2.15	132	1300	
5100	4500	1RA6566-6HS3	1190	97.0	0.87	840	40929	2.20	146	1300	
5488	4900	1RA7630-6-OC	1193	97.4	0.84	830	39222	2.15	207	1800	
6160	5500	1RA7632-6-OC	1193	97.5	0.84	930	44024	2.25	229	1800	
6832	6100	1RA7634-6-OC	1193	97.5	0.84	1040	48827	2.25	250	1800	
7616	6800	1RA7636-6-OC	1193	97.5	0.85	1140	54430	2.15	271	1800	
8400	7500	1RA7710-6-OC	1194	97.4	0.86	1240	59983	2.15	350	1800	
9296	8300	1RA7712-6-OC	1195	97.4	0.86	1380	66326	2.20	396	1800	
10304	9200	1RA7714-6-OC	1195	97.5	0.85	1540	73518	2.35	448	1800	
11480	10250	1RA7716-6-OC	1195	97.6	0.86	1700	81908	2.35	496	1800	
8-pole											
870	⁻²⁾	1RA6450-8HS3	893	95.2	0.81	156	9308	2.50	32	1200	
960	⁻²⁾	1RA6452-8HS3	893	95.3	0.82	170	10269	2.50	36	1200	
1050	⁻²⁾	1RA6454-8HS3	893	95.4	0.84	182	11239	2.40	40	1200	
1180	⁻²⁾	1RA6456-8HS3	894	95.6	0.82	210	12613	2.50	46	1200	
1640	1480	1RA6500-8HS3	891	95.7	0.83	285	17578	1.75	69	1350	
1840	1660	1RA6502-8HS3	892	96.0	0.83	320	19700	1.90	76	1350	
2050	1860	1RA6504-8HS3	892	96.0	0.84	355	21948	1.80	85	1350	
2300	2050	1RA6506-8HS3	892	96.1	0.84	395	24624	1.95	94	1350	
2650	2350	1RA6560-8HS3	892	96.4	0.84	455	28372	1.95	128	1350	
3000	2650	1RA6562-8HS3	891	96.5	0.84	510	32155	1.90	141	1350	
3300	2900	1RA6564-8HS3	891	96.6	0.84	560	35370	1.90	156	1350	
3500	3100	1RA6566-8HS3	892	96.8	0.85	590	37472	2.05	173	1350	
3976	3550	1RA7630-8-OC	894	96.7	0.83	610	37919	2.10	255	1000	
4424	3950	1RA7632-8-OC	894	96.8	0.82	690	42192	2.10	280	1000	
4872	4350	1RA7634-8-OC	894	96.8	0.84	740	46465	2.05	307	1000	
5488	4900	1RA7636-8-OC	894	96.9	0.84	840	52340	2.05	334	1000	
5936	5300	1RA7710-8-OC	895	97.0	0.84	900	56549	2.05	433	1000	
6720	6000	1RA7712-8-OC	895	97.1	0.85	1000	64018	2.10	493	1000	
7504	6700	1RA7714-8-OC	895	97.3	0.86	1120	71486	2.10	558	1000	
8400	7500	1RA7716-8-OC	896	97.3	0.86	1240	79933	2.10	616	1000	
9600	8600	1RA7800-8-OC	896	97.4	0.86	1420	91663	2.50	865	1125	
10600	9600	1RA7802-8-OC	896	97.4	0.85	1600	102321	2.50	950	1125	
11600	10600	1RA7804-8-OC	896	97.5	0.85	1780	112980	2.50	1055	1125	
12600	11600	1RA7806-8-OC	896	97.5	0.85	1940	123638	2.50	1155	1125	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

¹⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type
(repeated)

Partial load data for square-law torque drive

 P/P_{rated} 155 (F) = 75 % P n η $\cos \varphi$

kW

rpm

%

[-]

 P/P_{rated} 155 (F) = 50 % P n η $\cos \varphi$

kW

rpm

%

[-]

 P/P_{rated} 155 (F) = 25 % P n η $\cos \varphi$

kW

rpm

%

[-]

Square-law torque drive

6-pole

1RA6450-6...	908	1083	96.2	0.83	605	947	96.2	0.80	303	753	96.0	0.69
1RA6452-6...	1013	1083	96.3	0.84	675	947	96.4	0.80	338	753	96.1	0.70
1RA6454-6...	1110	1083	96.5	0.84	740	947	96.5	0.81	370	753	96.3	0.71
1RA6456-6...	1215	1083	96.6	0.86	810	947	96.7	0.83	405	753	96.5	0.74
1RA6500-6...	1763	1079	96.3	0.85	1175	944	96.4	0.84	588	751	96.3	0.78
1RA6502-6...	1950	1081	96.5	0.84	1300	945	96.6	0.82	650	752	96.3	0.74
1RA6504-6...	2175	1080	96.5	0.85	1450	945	96.6	0.85	725	751	96.5	0.79
1RA6506-6...	2325	1081	96.6	0.86	1550	945	96.7	0.85	775	752	96.6	0.79
1RA6560-6...	2813	1081	96.8	0.87	1875	946	96.9	0.87	938	752	96.8	0.82
1RA6562-6...	3188	1082	97.0	0.87	2125	946	97.0	0.86	1063	752	96.9	0.81
1RA6564-6...	3525	1082	97.0	0.87	2350	946	97.1	0.86	1175	752	96.9	0.80
1RA6566-6...	3825	1082	97.1	0.88	2550	946	97.2	0.87	1275	753	97.0	0.81
1RA7630-6...	3676	1084	97.4	0.84	2450	948	97.4	0.82	1226	753	97.1	0.75
1RA7632-6...	4126	1085	97.5	0.84	2750	948	97.5	0.82	1376	753	97.2	0.74
1RA7634-6...	4576	1085	97.5	0.84	3050	948	97.5	0.82	1526	753	97.2	0.75
1RA7636-6...	5102	1084	97.6	0.85	3400	948	97.6	0.83	1701	753	97.3	0.77
1RA7710-6...	5631	1085	97.3	0.85	3756	948	97.1	0.84	1880	754	96.6	0.77
1RA7712-6...	6229	1086	97.3	0.85	4154	949	97.1	0.83	2080	754	96.5	0.75
1RA7714-6...	6904	1086	97.4	0.85	4604	949	97.1	0.82	2305	754	96.5	0.74
1RA7716-6...	7693	1086	97.5	0.85	5130	949	97.2	0.83	2568	754	96.7	0.75

8-pole

1RA6450-8...	653	812	95.2	0.79	435	710	95.1	0.74	218	565	94.3	0.61
1RA6452-8...	720	812	95.4	0.80	480	710	95.3	0.75	240	565	94.5	0.62
1RA6454-8...	788	812	95.5	0.83	525	710	95.5	0.79	263	565	95.0	0.69
1RA6456-8...	885	813	95.6	0.79	590	711	95.5	0.75	295	565	94.8	0.62
1RA6500-8...	1230	810	95.9	0.83	820	709	95.9	0.81	410	564	95.5	0.72
1RA6502-8...	1380	811	96.0	0.82	920	709	96.0	0.79	460	564	95.5	0.70
1RA6504-8...	1538	811	96.1	0.83	1025	709	96.1	0.81	513	564	95.7	0.72
1RA6506-8...	1725	811	96.2	0.83	1150	709	96.1	0.80	575	564	95.6	0.71
1RA6560-8...	1988	811	96.6	0.84	1325	709	96.7	0.83	663	564	96.5	0.75
1RA6562-8...	2250	810	96.7	0.85	1500	709	96.8	0.83	750	564	96.7	0.77
1RA6564-8...	2475	811	96.8	0.85	1650	709	96.9	0.84	825	564	96.8	0.77
1RA6566-8...	2625	811	96.9	0.85	1750	709	97.0	0.83	875	564	96.8	0.76
1RA7630-8...	2666	813	96.9	0.83	1775	711	96.8	0.81	891	565	96.5	0.72
1RA7632-8...	2966	813	96.9	0.83	1975	711	96.9	0.80	990	565	96.5	0.71
1RA7634-8...	3265	814	97.0	0.82	2177	711	96.8	0.78	1090	565	96.3	0.68
1RA7636-8...	3677	813	97.1	0.84	2450	711	97.1	0.82	1226	565	96.9	0.76
1RA7710-8...	3980	814	96.9	0.84	2654	711	96.7	0.82	1329	565	96.0	0.74
1RA7712-8...	4505	814	97.0	0.85	3005	711	96.8	0.83	1504	565	96.2	0.75
1RA7714-8...	5031	814	97.1	0.85	3356	711	97.0	0.84	1680	565	96.4	0.76
1RA7716-8...	5631	814	97.2	0.85	3756	711	97.0	0.83	1880	565	96.4	0.76
1RA7800-8...	6440	815	97.2	0.86	4300	712	97.0	0.83	2150	566	96.3	0.73
1RA7802-8...	7190	815	97.2	0.84	4800	712	96.9	0.80	2400	566	96.2	0.70
1RA7804-8...	7940	815	97.3	0.84	5300	712	97.0	0.81	2650	566	96.3	0.71
1RA7806-8...	8690	815	97.3	0.84	5800	712	97.0	0.80	2900	566	96.3	0.69

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.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Selection and ordering data

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 155 (F)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6.6 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾	
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	
Up to 6.6 kV, 60 Hz											
2-pole											
18600	16600	1RA7800-2-80-0C	3586	97.2	0.88	1700	44205	1.60	246	3600	
19800	17700	1RA7802-2-80-0C	3588	97.3	0.89	1780	47108	1.80	266	3600	
21000	18800	1RA7804-2-80-0C	3589	97.3	0.90	1880	50021	1.90	285	3600	
22500	20000	1RA7806-2-80-0C	3589	97.4	0.91	1980	53214	2.20	305	3600	
4-pole											
27500	25000	1RA7900-4-80-0C	1795	98.0	0.91	2450	132999	2.10	1023	1800	
29500	27000	1RA7902-4-80-0C	1795	98.0	0.91	2650	143638	2.10	1102	1800	
31000	28000	1RA7904-4-80-0C	1795	98.0	0.92	2700	148958	2.30	1178	1800	
34000	31000	1RA7906-4-80-0C	1796	98.1	0.92	3000	164826	2.30	1296	1800	
6-pole											
19800	18000	1RA7900-6-80-0C	1194	97.8	0.86	1880	143959	1.65	1301	1200	
21500	19500	1RA7902-6-80-0C	1194	97.9	0.86	2050	155956	1.80	1464	1200	
23500	21500	1RA7904-6-80-0C	1195	98.0	0.88	2200	171807	1.90	1627	1200	
25000	22500	1RA7906-6-80-0C	1195	98.0	0.88	2300	179798	1.90	1789	1200	
8-pole											
10100	9000	1RA7800-8-80-0C	896	97.4	0.86	1040	95926	2.30	860	1125	
11200	10100	1RA7802-8-80-0C	896	97.5	0.86	1160	107651	2.40	955	1125	
12300	11200	1RA7804-8-80-0C	896	97.5	0.87	1280	119375	2.40	1060	1125	
13500	12300	1RA7806-8-80-0C	896	97.5	0.86	1420	131099	2.50	1165	1125	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Motor type (repeated)	Partial load data 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												
1RA7800-2...	12400	3259	97.2	0.90	8300	2848	97.2	0.91	4150	2263	96.9	0.90
1RA7802-2...	13200	3260	97.3	0.90	8800	2849	97.2	0.91	4400	2264	96.9	0.89
1RA7804-2...	14000	3261	97.3	0.91	9400	2849	97.3	0.91	4700	2264	97.0	0.89
1RA7806-2...	15000	3262	97.4	0.91	10000	2850	97.4	0.91	5000	2264	97.0	0.89
4-pole												
1RA7900-4...	18750	1631	98.0	0.91	12500	1425	97.9	0.91	6250	1132	97.7	0.87
1RA7902-4...	20250	1631	98.0	0.91	13500	1425	97.9	0.91	6750	1132	97.7	0.87
1RA7904-4...	21000	1631	98.0	0.91	14000	1425	97.9	0.91	7000	1132	97.7	0.87
1RA7906-4...	23250	1632	98.0	0.91	15500	1426	97.9	0.91	7750	1132	97.7	0.87
6-pole												
1RA7900-6...	13500	1086	97.9	0.88	9000	949	97.9	0.89	4500	754	97.6	0.86
1RA7902-6...	14625	1086	98.0	0.88	9750	949	97.9	0.89	4875	754	97.7	0.86
1RA7904-6...	16125	1086	98.0	0.88	10750	949	98.0	0.89	5375	754	97.7	0.86
1RA7906-6...	16875	1086	98.0	0.88	11250	949	98.0	0.89	5625	754	97.8	0.86
8-pole												
1RA7800-8...	6740	814	97.3	0.85	4500	711	96.9	0.82	2250	565	96.4	0.73
1RA7802-8...	7570	814	97.3	0.85	5050	712	96.9	0.82	2520	566	96.4	0.72
1RA7804-8...	8390	814	97.4	0.86	5600	712	97.0	0.83	2800	566	96.5	0.73
1RA7806-8...	9220	814	97.5	0.85	6150	712	97.1	0.82	3070	566	96.5	0.73

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RA6, 1RA7

Dimension drawings

Note:

For the converter driven motors, the same dimension drawings apply as for line operation motors. [Refer to chapter 2.](#)

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1RQ6, 1RQ7	
Rated voltage	690 V ... 10 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/IC666
Stator winding insulation	Insulation system, thermal class 155 (F)
Shaft height	450 ... 900 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 800 mm	Housing: 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 partner regarding this check. The motor types are marked with footnotes in the following data tables.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Technical data (continued)

Power ranges for IEC motors with reinforced insulation for operation with SINAMICS converters without sine-wave filter

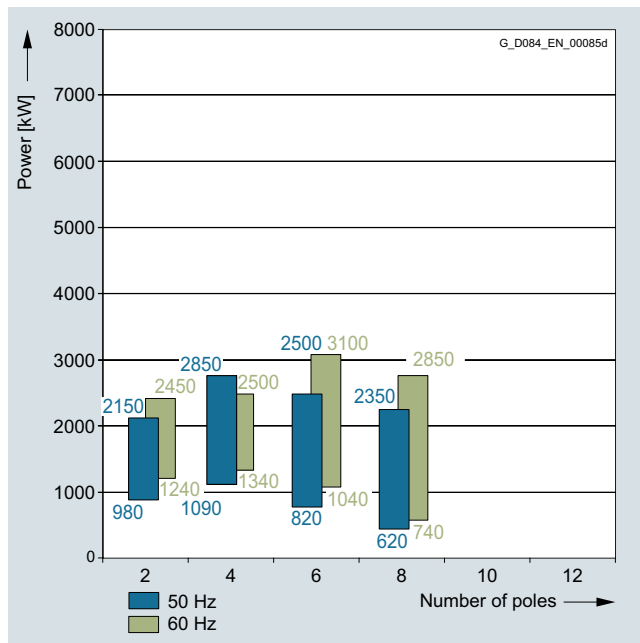
1RQ6, 1SG6 (Ex ec) and SB6 (Ex pxb) series

1RQ7, 1SG7 (Ex ec) and 1SB7 (Ex pxb) series

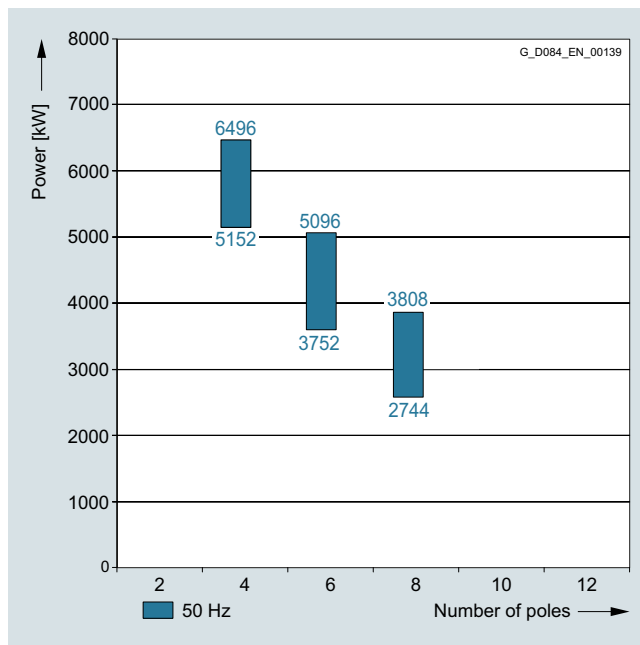
Insulation system, thermal class 155 (F)

The power data listed here apply for an ambient temperature of 40 °C and an installation altitude ≤ 1000 m.

3



690 V; 50 and 60 Hz

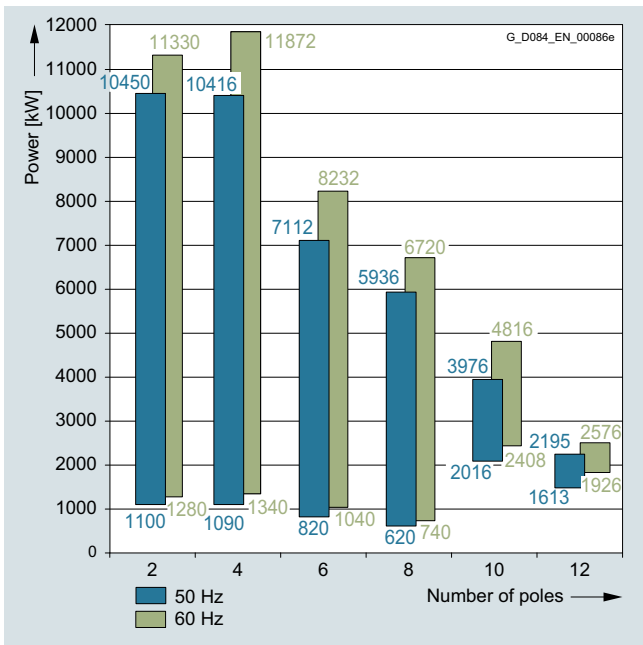


3.3 kV; 50 Hz

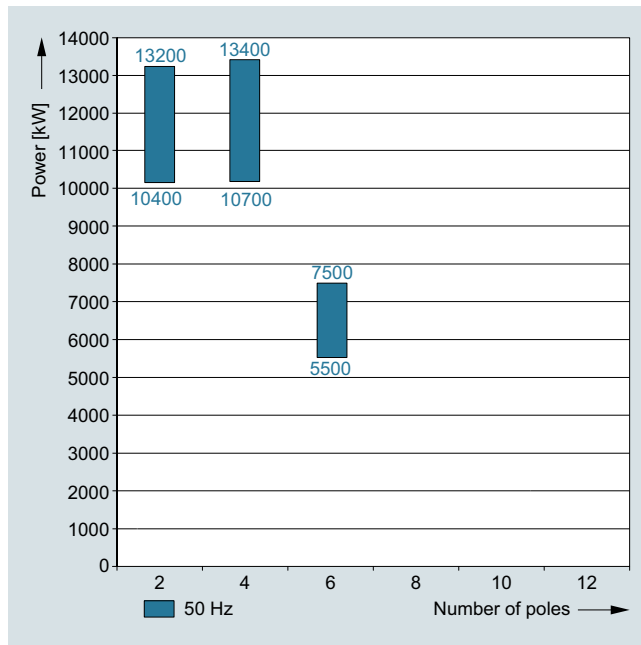
Motors for converter operation Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

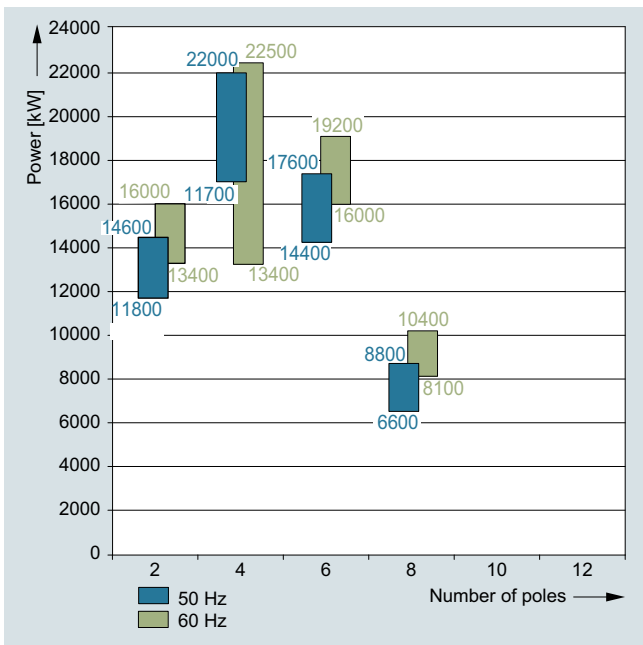
Technical data (continued)



4.16 kV; 50 and 60 Hz



9 to 11 kV; 50 Hz



Up to 6.6 kV; 50 and 60 Hz

3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

The following data also apply to explosion-protected motors 1SB6 (Ex pxb) and 1SG6 (Ex ec).

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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	1RQ6450-2JP00	2983	95.1	0.91	950	3141	2.40	13	3000
1040	1RQ6452-2JP00	2984	95.2	0.91	1000	3331	2.40	14	3000
1320	1RQ6454-2JP00	2983	95.9	0.92	1260	4232	2.30	16	3000
1370	1RQ6456-2JP00	2982	95.9	0.93	1280	4394	2.40	18	3000
1740	1RQ6500-2JP00	2980	96.1	0.91	1660	5576	2.70	19	3000
1880	1RQ6502-2JP00	2978	96.2	0.91	1800	6028	2.60	20	3000
2150	1RQ6504-2JP00	2980	96.6	0.92	2040	6890	2.60	24	3000 ³⁾
4-pole									
1090	1RQ6450-4JP00	1487	95.4	0.87	1100	7008	2.60	20	1800
1200	1RQ6452-4JP00	1486	95.5	0.90	1160	7724	2.50	22	1800
1290	1RQ6454-4JP00	1488	95.9	0.89	1260	8289	2.60	25	1800
1420	1RQ6456-4JP00	1490	96.1	0.89	1380	9113	2.90	29	1800
1950 ²⁾	1RQ6500-4JP00	1487	96.1	0.91	1860	12523	2.55	42	1800
2000 ²⁾	1RQ6502-4JP00	1487	96.2	0.91	1920	12844	2.55	46	1800
2100 ²⁾	1RQ6504-4JP00	1486	96.2	0.92	1980	13495	2.45	52	1800
2400 ²⁾	1RQ6506-4JP00	1489	96.6	0.91	2280	15392	2.70	56	1800
2700 ²⁾	1RQ6560-4JP00	1486	96.5	0.91	4x640 ⁴⁾	17351	2.10	82	1800
2850 ²⁾	1RQ6562-4JP00	1490	96.7	0.92	4x670 ⁴⁾	18265	2.65	93	1800

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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) Standard values; higher speed limits on request.

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.

4) Different number of parallel winding systems possible.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type
(repeated)

Partial load data 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

1RQ6450-2...	735	2711	95.4	0.91	490	2372	95.5	0.90	245	1884	95.3	0.84
1RQ6452-2...	780	2712	95.5	0.91	520	2373	95.6	0.90	260	1885	95.4	0.85
1RQ6454-2...	991	2711	96.1	0.92	660	2372	96.2	0.91	330	1884	96.1	0.87
1RQ6456-2...	1028	2710	96.2	0.94	685	2372	96.3	0.93	343	1884	96.4	0.90
1RQ6500-2...	1305	2711	96.2	0.89	870	2371	96.3	0.86	435	1884	96.1	0.76
1RQ6502-2...	1411	2710	96.4	0.90	940	2370	96.4	0.88	470	1884	96.3	0.81
1RQ6504-2...	1613	2712	96.7	0.91	1075	2371	96.8	0.90	538	1884	96.7	0.83

4-pole

1RQ6450-4...	818	1352	95.6	0.85	545	1184	95.6	0.82	273	941	95.1	0.72
1RQ6452-4...	900	1351	95.8	0.89	600	1184	95.9	0.87	300	941	95.7	0.81
1RQ6454-4...	968	1353	96.1	0.88	645	1185	96.1	0.86	323	941	95.8	0.78
1RQ6456-4...	1065	1354	96.2	0.88	711	1185	96.2	0.85	355	941	95.8	0.76
1RQ6500-4...	1463	1353	96.3	0.90	975	1184	96.3	0.87	488	941	96.2	0.77
1RQ6502-4...	1500	1354	96.3	0.90	1000	1184	96.4	0.88	500	941	96.3	0.79
1RQ6504-4...	1575	1353	96.4	0.92	1050	1184	96.5	0.90	526	941	96.5	0.84
1RQ6506-4...	1800	1355	96.7	0.90	1200	1185	96.7	0.87	600	942	96.5	0.76
1RQ6560-4...	2026	1353	96.7	0.91	1350	1184	96.8	0.90	675	941	96.9	0.85
1RQ6562-4...	2138	1355	96.8	0.91	1425	1185	96.9	0.89	713	942	96.8	0.81

3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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_B/T_{rated} [-]	J kgm ²	n_{max} rpm
690 V, 50 Hz									
6-pole									
820	1RQ6450-6JP0	991	95.6	0.85	840	7915	2.30	26	1200
910	1RQ6452-6JP0	992	95.9	0.85	930	8775	2.40	29	1200
1020	1RQ6454-6JP0	992	95.9	0.85	1040	9835	2.40	32	1200
1130	1RQ6456-6JP0	991	95.8	0.87	1140	10906	2.30	37	1200
1560	1RQ6500-6JP0	988	96.0	0.86	1580	15079	1.85	56	1500
1700	1RQ6502-6JP0	989	96.2	0.86	1720	16416	2.00	62	1500
1820	1RQ6504-6JP0	989	96.2	0.87	1820	17574	1.95	69	1500
1960	1RQ6506-6JP0	991	96.5	0.87	1960	18888	2.20	77	1500
2250	1RQ6560-6JP0	991	96.5	0.87	2240	21683	2.40	108	1300
2500	1RQ6562-6JP0	991	96.5	0.88	3x820 ²⁾	24092	2.30	119	1300
8-pole									
620	1RQ6450-8JP0	744	94.9	0.82	670	7967	2.70	32	1200
675	1RQ6452-8JP0	744	95.1	0.82	720	8679	2.40	36	1200
750	1RQ6454-8JP0	744	95.1	0.82	800	9635	2.50	40	1200
810	1RQ6456-8JP0	745	95.4	0.82	870	10398	2.70	46	1200
1160	1RQ6500-8JP0	741	95.6	0.84	1200	14950	1.80	69	1350
1280	1RQ6502-8JP0	741	95.7	0.84	1340	16497	1.85	76	1350
1440	1RQ6504-8JP0	741	95.8	0.84	1500	18559	1.85	85	1350
1600	1RQ6506-8JP0	742	96.0	0.84	1660	20593	1.90	94	1350
1700	1RQ6560-8JP0	742	96.3	0.85	1740	21880	2.20	128	1350
1960	1RQ6562-8JP0	742	96.5	0.85	2000	25226	2.20	141	1350
2150	1RQ6564-8JP0	743	96.6	0.85	2200	27635	2.35	156	1350
2350	1RQ6566-8JP0	743	96.7	0.85	2400	30205	2.45	173	1350

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

²⁾ Different number of parallel winding systems possible.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ6450-6...	615	901	96.0	0.84	410	789	96.0	0.81	205	627	95.8	0.71
1RQ6452-6...	683	902	96.1	0.83	455	789	96.1	0.80	228	627	95.8	0.69
1RQ6454-6...	765	902	96.2	0.84	510	789	96.2	0.80	255	627	95.9	0.70
1RQ6456-6...	848	901	96.2	0.87	565	789	96.3	0.84	283	627	96.2	0.76
1RQ6500-6...	1170	898	96.2	0.86	780	787	96.3	0.85	390	626	96.2	0.78
1RQ6502-6...	1275	899	96.3	0.85	850	788	96.4	0.84	425	626	96.2	0.76
1RQ6504-6...	1365	899	96.4	0.87	910	788	96.5	0.85	455	626	96.3	0.79
1RQ6506-6...	1470	901	96.6	0.86	980	788	96.6	0.84	490	627	96.3	0.76
1RQ6560-6...	1688	901	96.6	0.87	1125	789	96.7	0.86	563	627	96.4	0.79
1RQ6562-6...	1875	901	96.7	0.88	1250	789	96.7	0.87	625	627	96.6	0.82
8-pole												
1RQ6450-8...	465	676	95.0	0.77	310	592	94.8	0.71	155	471	93.8	0.57
1RQ6452-8...	506	676	95.2	0.79	338	592	95.1	0.74	169	470	94.4	0.61
1RQ6454-8...	563	677	95.2	0.79	375	592	95.0	0.73	188	471	94.2	0.60
1RQ6456-8...	608	677	95.5	0.79	405	592	95.3	0.73	203	471	94.5	0.59
1RQ6500-8...	870	674	95.8	0.83	580	590	95.8	0.81	290	469	95.5	0.73
1RQ6502-8...	960	674	95.9	0.84	640	590	95.9	0.82	320	469	95.6	0.74
1RQ6504-8...	1080	674	96.0	0.84	720	590	96.1	0.82	360	469	95.8	0.74
1RQ6506-8...	1200	674	96.1	0.84	800	591	96.2	0.82	400	470	95.8	0.74
1RQ6560-8...	1275	675	96.5	0.84	850	591	96.6	0.82	425	470	96.4	0.75
1RQ6562-8...	1470	675	96.6	0.85	980	591	96.7	0.83	490	470	96.5	0.75
1RQ6564-8...	1613	676	96.7	0.84	1075	591	96.7	0.82	538	470	96.4	0.73
1RQ6566-8...	1763	676	96.8	0.84	1175	592	96.8	0.81	588	470	96.5	0.72

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

The following data also apply to explosion-protected motors 1SB7 (Ex pxb) and 1SG7 (Ex ec).

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)							
IEC			Rated speed	Efficiency	Power factor	Rated current at 3.3 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_B/T_{rated}	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
3.3 kV, 50 Hz										
4-pole										
5152 ²⁾	4600	1RQ7630-4-50-0C-0	1492	97.4	0.88	940	29442	2.55	145	1800
5600 ²⁾	5000	1RQ7632-4-50-0C-0	1492	97.5	0.88	1020	32002	2.55	160	1800
6048 ²⁾	5400	1RQ7634-4-50-0C-0	1493	97.6	0.89	1080	34539	2.80	178	1800
6496 ²⁾	5800	1RQ7636-4-50-0C-0	1494	97.7	0.88	1180	37072	3.20	194	1800
6-pole										
3752	3350	1RQ7630-6-5-0C-0	994	96.9	0.84	720	32183	2.65	207	1600
4144	3700	1RQ7632-6-5-0C-0	994	97.0	0.84	790	35546	2.70	229	1600
4592	4100	1RQ7634-6-5-0C-0	994	97.0	0.84	880	39388	2.75	250	1600
5096	4550	1RQ7636-6-5-0C-0	994	97.1	0.84	980	43712	2.65	271	1600
8-pole										
2744	2450	1RQ7630-8-5-0C-0	745	96.2	0.83	540	31404	2.60	255	1350
3080	2750	1RQ7632-8-5-0C-0	745	96.5	0.83	600	35249	2.45	282	1350
3416	3050	1RQ7634-8-5-0C-0	745	96.8	0.84	660	39094	2.55	308	1350
3808	3400	1RQ7636-8-5-0C-0	745	96.9	0.84	730	43581	2.60	334	1350

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ7630-4...	3451	1356	97.4	0.88	2300	1186	97.4	0.87	1151	942	97.3	0.81
1RQ7632-4...	3751	1357	97.5	0.88	2500	1186	97.5	0.87	1251	942	97.4	0.82
1RQ7634-4...	4051	1357	97.6	0.88	2702	1186	97.6	0.87	1351	942	97.4	0.81
1RQ7636-4...	4350	1358	97.6	0.88	2902	1187	97.6	0.86	1450	943	97.3	0.78
6-pole												
1RQ7630-6...	2515	904	96.8	0.83	1677	790	96.7	0.80	840	628	96.2	0.70
1RQ7632-6...	2775	904	96.9	0.83	1852	790	96.8	0.81	925	628	96.3	0.71
1RQ7634-6...	3075	904	97.0	0.83	2052	790	96.8	0.80	1025	628	96.3	0.70
1RQ7636-6...	3416	904	97.1	0.84	2277	790	96.9	0.81	1140	628	96.5	0.72
8-pole												
1RQ7630-8...	1840	677	96.1	0.82	1226	592	95.9	0.78	615	471	95.1	0.68
1RQ7632-8...	2065	677	96.4	0.83	1375	592	96.2	0.80	690	470	95.5	0.71
1RQ7634-8...	2290	677	96.8	0.82	1526	592	96.6	0.79	765	471	96.1	0.70
1RQ7636-8...	2550	677	96.9	0.82	1702	592	96.7	0.79	850	471	96.2	0.69

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RQ6 at rated output for utilization 155 (F), for 1RQ7 at rated output for utilization 130 (B)							
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
4.16 kV, 50 Hz										
2-pole										
1100	– ³⁾	1RQ6450-2JS40	2979	95.4	0.90	178	3529	2.30	13	3000
1220	– ³⁾	1RQ6452-2JS40	2981	95.8	0.91	194	3910	2.60	14	3000
1350	– ³⁾	1RQ6454-2JS40	2982	96.0	0.91	215	4325	2.60	16	3000
1490	– ³⁾	1RQ6456-2JS40	2984	96.3	0.92	235	4771	2.70	18	3000
2000	1760	1RQ6500-2JS40	2973	96.2	0.91	315	6424	2.30	19	3000
2100	1848	1RQ6502-2JS40	2972	96.2	0.91	335	6747	2.20	20	3000
2450	2156	1RQ6504-2JS40	2976	96.5	0.92	385	7861	2.45	24	3000 ²⁾
2550	2244	1RQ6506-2JS40	2977	96.6	0.92	400	8180	2.55	26	3000 ²⁾
3100	2790	1RQ6560-2JS40	2978	96.5	0.90	495	9941	1.95	39	3000 ²⁾
3500	3150	1RQ6562-2JS40	2982	96.8	0.91	550	11208	2.30	43	3000 ²⁾
4000	3600	1RQ6564-2JS40	2983	97.0	0.92	620	12805	2.40	49	3000 ²⁾
4500	4050	1RQ6566-2JS40	2984	97.1	0.93	690	14401	2.65	54	3000 ²⁾
4840	4400	1RQ7630-2 ■ ■ 40-0C ■ 0	2984	96.9	0.89	710	14081	2.25	74	3000
5335	4850	1RQ7632-2 ■ ■ 40-0C ■ 0	2986	97.1	0.90	770	15510	2.50	83	3000
5940	5400	1RQ7634-2 ■ ■ 40-0C ■ 0	2987	97.3	0.91	850	17264	2.80	91	3000
6600	6000	1RQ7636-2 ■ ■ 40-0C ■ 0	2988	97.4	0.91	940	19175	2.95	100	3000
7370	6700	1RQ7710-2 ■ ■ 40-0C ■ 0	2988	96.7	0.92	1040	21412	2.30	148	3000
8250	7500	1RQ7712-2 ■ ■ 40-0C ■ 0	2988	96.8	0.92	1160	23969	2.30	159	3000
9350	8500	1RQ7714-2 ■ ■ 40-0C ■ 0	2988	97.1	0.93	1300	27165	2.45	176	3000
10450	9500	1RQ7716-2 ■ ■ 40-0C ■ 0	2988	97.3	0.93	1460	30361	2.45	189	3000

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ6450-2...	825	2708	95.6	0.90	550	2371	95.6	0.89	275	1883	95.4	0.84
1RQ6452-2...	915	2709	95.9	0.92	610	2372	96.0	0.91	305	1884	95.7	0.86
1RQ6454-2...	1013	2710	96.1	0.91	675	2372	96.2	0.90	338	1884	95.9	0.85
1RQ6456-2...	1118	2711	96.4	0.92	745	2373	96.4	0.91	373	1885	96.2	0.87
1RQ6500-2...	1500	2707	96.3	0.90	1000	2368	96.4	0.88	500	1883	96.3	0.81
1RQ6502-2...	1576	2707	96.3	0.90	1050	2368	96.4	0.89	525	1882	96.4	0.84
1RQ6504-2...	1838	2709	96.7	0.92	1225	2369	96.8	0.90	613	1883	96.7	0.85
1RQ6506-2...	1913	2710	96.7	0.92	1275	2370	96.8	0.90	638	1883	96.7	0.85
1RQ6560-2...	2326	2710	96.6	0.90	1550	2370	96.7	0.89	775	1884	96.7	0.85
1RQ6562-2...	2626	2713	96.8	0.90	1750	2372	96.9	0.89	875	1885	96.7	0.82
1RQ6564-2...	3001	2713	97.1	0.91	2000	2372	97.1	0.90	1001	1885	97.0	0.84
1RQ6566-2...	3375	2714	97.2	0.92	2250	2373	97.2	0.91	1126	1885	97.1	0.84
1RQ7630-2...	3302	2713	97.0	0.90	2200	2372	97.0	0.90	1100	1884	96.9	0.87
1RQ7632-2...	3641	2714	97.2	0.90	2425	2373	97.2	0.90	1215	1885	97.1	0.87
1RQ7634-2...	4051	2715	97.3	0.91	2700	2373	97.3	0.91	1351	1885	97.2	0.87
1RQ7636-2...	4501	2716	97.4	0.91	3000	2374	97.4	0.91	1501	1885	97.3	0.87
1RQ7710-2...	5027	2714	96.6	0.93	3351	2375	96.5	0.93	1675	1886	96.1	0.90
1RQ7712-2...	5624	2714	96.8	0.93	3750	2375	96.6	0.93	1874	1885	96.3	0.91
1RQ7714-2...	6375	2714	97.0	0.94	4251	2375	96.9	0.94	2125	1885	96.6	0.92
1RQ7716-2...	7125	2714	97.2	0.94	4750	2375	97.1	0.94	2375	1886	96.8	0.92

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RQ6 at rated output for utilization 155 (F), for 1RQ7 at rated output for utilization 130 (B)							
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
4.16 kV, 50 Hz										
4-pole										
1090	– ³⁾	1RQ6450-4JS4	1486	95.3	0.88	180	7007	2.70	20	1800
1200	– ³⁾	1RQ6452-4JS4	1486	95.5	0.89	196	7716	2.60	22	1800
1290	– ³⁾	1RQ6454-4JS4	1488	95.8	0.89	210	8281	2.80	25	1800
1420	– ³⁾	1RQ6456-4JS4	1489	96.0	0.89	230	9114	2.90	29	1800
2100 ²⁾	1848	1RQ6500-4JS40	1486	96.0	0.91	335	13495	2.50	42	1800
2300 ²⁾	2024	1RQ6502-4JS40	1487	96.2	0.90	370	14770	2.55	46	1800
2600 ²⁾	2288	1RQ6504-4JS40	1487	96.4	0.91	410	16697	2.45	52	1800
2800 ²⁾	2464	1RQ6506-4JS40	1487	96.5	0.91	445	17981	2.55	56	1800
3200 ²⁾	2880	1RQ6560-4JS40	1491	96.8	0.90	510	20495	2.40	84	1800
3500 ²⁾	3150	1RQ6562-4JS40	1492	96.9	0.91	550	22401	2.55	94	1800
4000 ²⁾	3600	1RQ6564-4JS40	1491	97.1	0.91	630	25619	2.45	105	1800
4400 ²⁾	3960	1RQ6566-4JS40	1492	97.2	0.91	690	28161	2.75	115	1800
5152 ²⁾	4600	1RQ7630-4 ■ ■ 40-0C ■ 0	1492	97.4	0.88	740	29442	2.55	145	1800
5600 ²⁾	5000	1RQ7632-4 ■ ■ 40-0C ■ 0	1493	97.5	0.88	810	31980	2.75	160	1800
6048 ²⁾	5400	1RQ7634-4 ■ ■ 40-0C ■ 0	1493	97.6	0.89	860	34539	2.85	178	1800
6496 ²⁾	5800	1RQ7636-4 ■ ■ 40-0C ■ 0	1494	97.6	0.89	930	37072	3.05	194	1800
7616 ²⁾	6800	1RQ7710-4 ■ ■ 40-0C ■ 0	1493	97.4	0.91	1060	43493	2.45	260	1800
8456 ²⁾	7550	1RQ7712-4 ■ ■ 40-0C ■ 0	1493	97.5	0.91	1180	48290	2.45	285	1800
9352 ²⁾	8350	1RQ7714-4 ■ ■ 40-0C ■ 0	1493	97.6	0.92	1300	53407	2.70	320	1800
10416 ²⁾	9300	1RQ7716-4 ■ ■ 40-0C ■ 0	1493	97.7	0.92	1440	59483	2.70	361	1800

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

³⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type
(repeated)

Partial load data 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

1RQ6450-4...	818	1352	95.5	0.87	545	1184	95.6	0.85	273	941	95.3	0.76
1RQ6452-4...	900	1352	95.7	0.89	600	1184	95.8	0.87	300	941	95.6	0.80
1RQ6454-4...	968	1353	95.9	0.88	645	1185	96.0	0.85	323	941	95.6	0.77
1RQ6456-4...	1065	1353	96.1	0.89	711	1185	96.2	0.87	355	941	95.8	0.79
1RQ6500-4...	1575	1353	96.1	0.89	1050	1184	96.2	0.86	525	941	95.9	0.76
1RQ6502-4...	1725	1354	96.3	0.88	1150	1184	96.3	0.85	575	941	95.9	0.73
1RQ6504-4...	1951	1353	96.5	0.90	1300	1184	96.5	0.88	650	941	96.3	0.79
1RQ6506-4...	2100	1354	96.6	0.90	1400	1184	96.6	0.87	700	941	96.4	0.78
1RQ6560-4...	2401	1357	96.9	0.89	1600	1186	96.8	0.86	801	942	96.6	0.76
1RQ6562-4...	2626	1357	97.0	0.89	1750	1186	97.0	0.86	875	943	96.7	0.76
1RQ6564-4...	3001	1357	97.2	0.90	2000	1186	97.2	0.88	1001	942	96.9	0.80
1RQ6566-4...	3300	1357	97.3	0.90	2202	1187	97.2	0.86	1100	943	96.9	0.75
1RQ7630-4...	3451	1356	97.5	0.88	2300	1186	97.5	0.87	1151	942	97.3	0.82
1RQ7632-4...	3751	1357	97.5	0.88	2502	1186	97.5	0.86	1251	942	97.3	0.80
1RQ7634-4...	4051	1357	97.7	0.88	2702	1186	97.6	0.87	1350	942	97.4	0.81
1RQ7636-4...	4350	1358	97.7	0.88	2902	1187	97.6	0.86	1450	943	97.3	0.80
1RQ7710-4...	5102	1356	97.3	0.91	3407	1187	97.2	0.90	1704	942	96.8	0.86
1RQ7712-4...	5664	1356	97.4	0.91	3783	1187	97.3	0.90	1892	942	96.9	0.86
1RQ7714-4...	6263	1356	97.5	0.92	4183	1187	97.4	0.91	2092	942	97.1	0.87
1RQ7716-4...	6977	1357	97.7	0.92	4658	1187	97.5	0.91	2330	943	97.2	0.87

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Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RQ6 at rated output for utilization 155 (F), for 1RQ7 at rated output for utilization 130 (B)							
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
4.16 kV, 50 Hz										
6-pole										
820	— ²⁾	1RQ6450-6JS4	991	95.5	0.85	140	7905	2.50	26	1200
910	— ²⁾	1RQ6452-6JS4	990	95.6	0.87	152	8783	2.40	29	1200
1020	— ²⁾	1RQ6454-6JS4	990	95.7	0.87	170	9845	2.40	32	1200
1130	— ²⁾	1RQ6456-6JS4	992	96.0	0.86	190	10890	2.50	37	1200
1560	1400	1RQ6500-6JS4	989	95.8	0.86	265	15064	1.90	56	1500
1780	1600	1RQ6502-6JS4	990	96.1	0.85	300	17171	2.05	62	1500
1980	1780	1RQ6504-6JS4	990	96.2	0.85	335	19100	2.10	69	1500
2150	1940	1RQ6506-6JS4	991	96.4	0.86	360	20719	2.20	77	1500
2550	2250	1RQ6560-6JS4	988	96.2	0.87	425	24648	2.00	108	1300
2900	2550	1RQ6562-6JS4	990	96.4	0.87	480	27975	2.20	119	1300
3200	2800	1RQ6564-6JS4	991	96.6	0.88	520	30838	2.35	132	1300
3500	3100	1RQ6566-6JS4	992	96.8	0.88	570	33695	2.50	146	1300
3752	3350	1RQ7630-6 ■■ 40-0C ■■ 0	994	97.1	0.84	570	32183	2.70	207	1800
4144	3700	1RQ7632-6 ■■ 40-0C ■■ 0	994	97.2	0.84	630	35546	2.75	229	1800
4592	4100	1RQ7634-6 ■■ 40-0C ■■ 0	995	97.2	0.84	700	39349	2.80	250	1800
5096	4550	1RQ7636-6 ■■ 40-0C ■■ 0	995	97.3	0.84	770	43668	2.80	271	1800
5656	5050	1RQ7710-6 ■■ 40-0C ■■ 0	995	97.0	0.85	850	48466	2.65	350	1600
6104	5450	1RQ7712-6 ■■ 40-0C ■■ 0	996	97.1	0.86	910	52253	2.65	396	1600
6608	5900	1RQ7714-6 ■■ 40-0C ■■ 0	996	97.2	0.86	980	56567	2.85	448	1600
7112	6350	1RQ7716-6 ■■ 40-0C ■■ 0	996	97.3	0.86	1060	60882	2.85	496	1600

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type
(repeated)

Partial load data 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

Motor type	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
1RQ6450-6...	615	901	95.7	0.84	410	789	95.8	0.80	205	627	95.5	0.70
1RQ6452-6...	683	900	95.8	0.86	455	789	96.0	0.84	228	627	95.9	0.76
1RQ6454-6...	765	901	95.9	0.87	510	789	96.1	0.84	255	627	96.1	0.76
1RQ6456-6...	848	902	96.2	0.85	565	789	96.3	0.83	283	627	96.1	0.73
1RQ6500-6...	1170	899	96.0	0.86	780	787	96.1	0.84	390	626	95.9	0.77
1RQ6502-6...	1335	900	96.2	0.85	890	788	96.2	0.82	445	626	95.9	0.74
1RQ6504-6...	1485	900	96.3	0.85	990	788	96.4	0.83	495	626	96.1	0.74
1RQ6506-6...	1613	901	96.5	0.85	1075	788	96.5	0.82	538	627	96.1	0.73
1RQ6560-6...	1913	899	96.4	0.87	1275	787	96.6	0.87	638	626	96.6	0.83
1RQ6562-6...	2175	900	96.6	0.88	1450	788	96.7	0.87	725	626	96.7	0.82
1RQ6564-6...	2400	901	96.7	0.88	1600	789	96.8	0.87	800	627	96.6	0.81
1RQ6566-6...	2625	901	96.9	0.87	1750	789	96.9	0.86	875	627	96.7	0.79
1RQ7630-6...	2515	904	97.1	0.83	1676	790	97.0	0.80	840	628	96.6	0.70
1RQ7632-6...	2775	904	97.2	0.83	1852	790	97.1	0.80	925	628	96.7	0.70
1RQ7634-6...	3075	904	97.2	0.83	2051	790	97.1	0.80	1025	628	96.7	0.70
1RQ7636-6...	3415	904	97.3	0.83	2277	790	97.2	0.80	1140	628	96.8	0.70
1RQ7710-6...	3788	904	96.9	0.84	2529	791	96.7	0.81	1265	628	96.0	0.71
1RQ7712-6...	4088	904	97.0	0.85	2729	791	96.7	0.81	1365	628	96.0	0.72
1RQ7714-6...	4425	905	97.0	0.84	2954	792	96.7	0.81	1478	629	96.0	0.70
1RQ7716-6...	4762	905	97.2	0.85	3180	792	96.9	0.82	1590	628	96.2	0.72

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Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RQ6 at rated output for utilization 155 (F), for 1RQ7 at rated output for utilization 130 (B)							
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}	$T_{\text{B}}/T_{\text{rated}}$	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
4.16 kV, 50 Hz										
8-pole										
620	— ²⁾	1RQ6450-8JS4	743	94.6	0.83	110	7976	2.40	32	1200
675	— ²⁾	1RQ6452-8JS4	744	94.8	0.82	120	8674	2.50	36	1200
750	— ²⁾	1RQ6454-8JS4	743	95.0	0.83	132	9640	2.50	40	1200
810	— ²⁾	1RQ6456-8JS4	744	95.2	0.83	142	10399	2.70	46	1200
1160	1040	1RQ6500-8JS4	741	95.3	0.84	200	14950	1.80	69	1350
1280	1160	1RQ6502-8JS4	743	95.7	0.83	225	16452	2.15	76	1350
1400	1260	1RQ6504-8JS4	742	95.6	0.84	240	18019	1.95	85	1350
1540	1380	1RQ6506-8JS4	742	95.8	0.85	260	19821	1.90	94	1350
1880	1660	1RQ6560-8JS4	743	96.3	0.84	325	24164	2.20	128	1350
2100	1860	1RQ6562-8JS4	742	96.3	0.85	355	27028	2.10	141	1350
2250	2000	1RQ6564-8JS4	742	96.3	0.85	380	28959	2.10	156	1350
2500	2200	1RQ6566-8JS4	742	96.4	0.85	425	32177	2.05	173	1350
2744	2450	1RQ7630-8 ■ 40-0C ■ 0	746	96.6	0.82	430	31362	2.80	255	1350
3080	2750	1RQ7632-8 ■ 40-0C ■ 0	746	96.7	0.83	475	35202	2.75	282	1350
3416	3050	1RQ7634-8 ■ 40-0C ■ 0	746	96.8	0.82	530	39042	2.75	307	1350
3808	3400	1RQ7636-8 ■ 40-0C ■ 0	745	96.8	0.83	590	43581	2.70	334	1350
4200	3750	1RQ7710-8 ■ 40-0C ■ 0	746	96.8	0.85	630	48002	2.30	433	1125
4760	4250	1RQ7712-8 ■ 40-0C ■ 0	746	97.0	0.85	720	54403	2.50	493	1125
5320	4750	1RQ7714-8 ■ 40-0C ■ 0	746	97.0	0.85	800	60803	2.60	558	1125
5936	5300	1RQ7716-8 ■ 40-0C ■ 0	746	97.1	0.84	900	67844	2.60	602	1125

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type
(repeated)

Partial load data 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

8-pole

Motor type	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	%	[-]
1RQ6450-8...	465	676	94.8	0.81	310	592	94.7	0.77	155	470	94.1	0.65
1RQ6452-8...	506	676	94.9	0.80	338	592	94.8	0.76	169	470	94.1	0.63
1RQ6454-8...	563	676	95.1	0.82	375	592	95.1	0.77	188	470	94.5	0.66
1RQ6456-8...	608	677	95.3	0.81	405	592	95.2	0.76	203	471	94.5	0.63
1RQ6500-8...	870	674	95.5	0.84	580	590	95.6	0.81	290	469	95.2	0.73
1RQ6502-8...	960	675	95.7	0.82	640	591	95.6	0.78	320	470	95.0	0.67
1RQ6504-8...	1050	675	95.8	0.84	700	591	95.8	0.81	350	470	95.4	0.72
1RQ6506-8...	1155	675	96.0	0.84	770	591	96.0	0.82	385	470	95.7	0.73
1RQ6560-8...	1410	675	96.4	0.84	940	591	96.5	0.81	470	470	96.2	0.73
1RQ6562-8...	1575	675	96.4	0.84	1050	591	96.6	0.83	525	470	96.4	0.75
1RQ6564-8...	1688	675	96.5	0.85	1125	591	96.6	0.83	563	470	96.5	0.76
1RQ6566-8...	1875	674	96.6	0.85	1250	591	96.7	0.84	625	470	96.6	0.77
1RQ7630-8...	1840	678	96.8	0.78	1226	593	96.6	0.73	615	471	96.1	0.60
1RQ7632-8...	2065	677	97.0	0.82	1375	592	97.0	0.79	690	471	96.7	0.70
1RQ7634-8...	2290	677	97.1	0.82	1526	592	97.1	0.79	765	471	96.7	0.69
1RQ7636-8...	2550	678	97.1	0.82	1701	592	97.0	0.78	850	471	96.6	0.67
1RQ7710-8...	2814	678	96.7	0.84	1879	593	96.5	0.81	940	471	95.8	0.72
1RQ7712-8...	3189	678	96.8	0.84	2129	593	96.5	0.81	1065	471	95.8	0.70
1RQ7714-8...	3563	678	96.8	0.84	2379	593	96.6	0.80	1190	471	95.8	0.70
1RQ7716-8...	3976	678	96.9	0.82	2655	593	96.7	0.78	1328	471	95.9	0.67

3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)							
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
4.16 kV, 50 Hz										
10-pole										
2016	1800	1RQ7630-3-40-0C-0	595	96.6	0.83	310	28889	2.30	258	1080
2240	2000	1RQ7632-3-40-0C-0	595	96.7	0.82	350	32098	2.35	284	1080
2464	2200	1RQ7634-3-40-0C-0	595	96.7	0.83	380	35308	2.30	310	1080
2688	2400	1RQ7636-3-40-0C-0	595	96.7	0.83	415	38518	2.30	336	1080
2968	2650	1RQ7710-3-40-0C-0	595	96.5	0.85	450	42530	2.20	429	1125
3304	2950	1RQ7712-3-40-0C-0	595	96.6	0.85	500	47345	2.20	486	1125
3640	3250	1RQ7714-3-40-0C-0	595	96.6	0.86	540	52160	2.20	553	1125
3976	3550	1RQ7716-3-40-0C-0	595	96.7	0.86	590	56975	2.20	610	1125
12-pole										
1613	1440	1RQ7630-5-40-0C-0	495	96.0	0.78	265	27780	2.25	264	900
1792	1600	1RQ7632-5-40-0C-0	495	96.0	0.79	295	30866	2.20	291	900
1994	1780	1RQ7634-5-40-0C-0	495	96.1	0.79	325	34339	2.20	318	900
2195	1960	1RQ7636-5-40-0C-0	495	95.9	0.78	365	37811	2.20	344	900

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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											
10-pole												
1RQ7630-3...	1350	541	96.7	0.81	900	473	96.7	0.78	450	376	96.4	0.68
1RQ7632-3...	1500	541	96.7	0.81	1000	473	96.7	0.78	500	376	96.4	0.67
1RQ7634-3...	1650	541	96.8	0.82	1100	473	96.8	0.79	550	376	96.5	0.69
1RQ7636-3...	1800	541	96.8	0.82	1200	473	96.8	0.79	600	376	96.5	0.69
1RQ7710-3...	1989	541	96.4	0.84	1328	474	96.2	0.81	665	376	95.5	0.71
1RQ7712-3...	2214	541	96.4	0.84	1479	474	96.2	0.81	740	376	95.5	0.71
1RQ7714-3...	2439	541	96.5	0.85	1629	474	96.3	0.82	816	376	95.6	0.73
1RQ7716-3...	2664	541	96.6	0.85	1780	474	96.3	0.82	891	376	95.7	0.73
12-pole												
1RQ7630-5...	1080	450	96.1	0.76	720	394	96.0	0.71	360	313	95.4	0.58
1RQ7632-5...	1200	450	96.1	0.77	800	394	96.0	0.72	400	313	95.5	0.60
1RQ7634-5...	1335	450	96.2	0.77	890	394	96.1	0.72	445	313	95.6	0.60
1RQ7636-5...	1470	450	96.3	0.76	980	394	96.2	0.72	490	313	95.7	0.59

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

The following data also apply to explosion-protected motors 1SB7 (Ex pxb) and 1SG7 (Ex ec).

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6 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	
Up to 6.6 kV, 50 Hz											
2-pole											
11800	10800	1RQ7800-2-60-0C-0	2989	97.3	0.90	1180	34504	2.00	246	3600	
12800	11600	1RQ7802-2-60-0C-0	2990	97.4	0.90	1280	37047	2.20	266	3600	
13600	12400	1RQ7804-2-60-0C-0	2991	97.5	0.91	1340	39589	2.35	285	3600	
14600	13200	1RQ7806-2-60-0C-0	2992	97.5	0.91	1440	42129	2.65	305	3600	
4-pole											
11700 ²⁾	10500	1RQ7800-4-60-0C-0	1494	97.5	0.92	1120	67118	2.80	520	1500	
12800 ²⁾	11500	1RQ7802-4-60-0C-0	1494	97.6	0.91	1240	73511	2.90	575	1500	
14000 ²⁾	12500	1RQ7804-4-60-0C-0	1495	97.6	0.91	1360	79849	2.90	625	1500	
15000 ²⁾	13400	1RQ7806-4-60-0C-0	1495	97.7	0.92	1440	85599	3.00	685	1500	
18800	17000	1RQ7900-4-60-0C-0	1496	98.1	0.91	1840	108515	2.50	1023	1800	
19800	18000	1RQ7902-4-60-0C-0	1497	98.1	0.91	1940	114821	3.00	1102	1800	
21000	19000	1RQ7904-4-60-0C-0	1497	98.1	0.91	2050	121200	3.00	1178	1800	
22000	20000	1RQ7906-4-60-0C-0	1497	98.1	0.91	2150	127579	3.35	1296	1800	
6-pole											
14400	13000	1RQ7900-6-60-0C-0	995	97.9	0.87	1460	124765	2.10	1301	1200	
15400	14000	1RQ7902-6-60-0C-0	996	98.0	0.87	1580	134227	2.30	1464	1200	
16400	15000	1RQ7904-6-60-0C-0	997	98.1	0.87	1700	143670	2.50	1627	1200	
17600	16000	1RQ7906-6-60-0C-0	996	98.1	0.87	1800	153402	2.50	1789	1200	
8-pole											
6600	6000	1RQ7800-8-60-0C-0	747	97.6	0.86	690	76701	2.80	863	1125	
7400	6700	1RQ7802-8-60-0C-0	747	97.7	0.87	760	85650	2.85	959	1125	
8100	7400	1RQ7804-8-60-0C-0	747	97.7	0.88	830	94598	2.60	1058	1125	
8800	8000	1RQ7806-8-60-0C-0	747	97.7	0.85	930	102268	3.05	1162	1125	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ7800-2...	8100	2715	97.2	0.91	5400	2376	97.1	0.91	2700	1886	96.8	0.89
1RQ7802-2...	8700	2716	97.3	0.91	5800	2376	97.2	0.91	2900	1886	96.9	0.88
1RQ7804-2...	9300	2717	97.4	0.91	6200	2377	97.3	0.91	3100	1887	97.0	0.88
1RQ7806-2...	9900	2717	97.5	0.91	6600	2377	97.3	0.90	3300	1887	96.9	0.86
4-pole												
1RQ7800-4...	7800	1357	97.4	0.92	5200	1187	97.3	0.91	2600	943	96.6	0.86
1RQ7802-4...	8600	1357	97.5	0.91	5700	1188	97.3	0.90	2800	943	96.6	0.85
1RQ7804-4...	9300	1358	97.5	0.91	6200	1188	97.3	0.90	3100	943	96.6	0.84
1RQ7806-4...	10000	1358	97.6	0.91	6700	1188	97.5	0.90	3300	943	96.8	0.85
1RQ7900-4...	12750	1359	98.0	0.90	8500	1189	97.9	0.87	4250	944	97.5	0.81
1RQ7902-4...	13500	1359	98.0	0.90	9000	1189	97.9	0.87	4500	944	97.4	0.81
1RQ7904-4...	14250	1359	98.0	0.90	9500	1189	98.0	0.87	4750	944	97.5	0.81
1RQ7906-4...	15000	1359	98.0	0.90	10000	1189	97.9	0.87	5000	944	97.4	0.81
6-pole												
1RQ7900-6...	9750	905	97.9	0.89	6500	791	97.8	0.88	3250	628	97.5	0.82
1RQ7902-6...	10500	905	98.0	0.89	7000	791	97.9	0.88	3500	628	97.5	0.82
1RQ7904-6...	11250	905	98.1	0.89	7500	791	97.9	0.88	3750	628	97.5	0.81
1RQ7906-6...	12000	905	98.1	0.89	8000	791	98.0	0.88	4000	628	97.6	0.82
8-pole												
1RQ7800-8...	4500	678	97.5	0.85	3000	594	97.3	0.80	1500	471	96.8	0.69
1RQ7802-8...	5000	678	97.6	0.86	3350	594	97.4	0.82	1680	471	96.9	0.72
1RQ7804-8...	5600	678	97.6	0.86	3700	593	97.5	0.83	1840	471	97.0	0.73
1RQ7806-8...	6000	679	97.6	0.83	4000	594	97.4	0.78	2000	471	96.8	0.65

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

The following data also apply to explosion-protected motors 1SB7 (Ex pxb) and 1SG7 (Ex ec).

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 10 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	
9 ... 11 kV, 50 Hz											
2-pole											
10400	9500	1RQ7800-2-90-0C-0	2990	97.0	0.90	630	30341	2.05	246	3600	
11200	10200	1RQ7802-2-90-0C-0	2991	97.2	0.91	670	32565	2.25	266	3600	
12200	11000	1RQ7804-2-90-0C-0	2992	97.3	0.91	720	35108	2.45	285	3600	
13200	12000	1RQ7806-2-90-0C-0	2992	97.4	0.91	780	38299	2.70	305	3600	
4-pole											
10700 ²⁾	9600	1RQ7800-4-90-0C-0	1494	97.3	0.91	630	61365	2.50	520	1500	
11600 ²⁾	10400	1RQ7802-4-90-0C-0	1495	97.5	0.91	680	66435	2.70	570	1500	
12500 ²⁾	11200	1RQ7804-4-90-0C-0	1495	97.5	0.92	720	71545	2.70	625	1500	
13400 ²⁾	12000	1RQ7806-4-90-0C-0	1495	97.6	0.92	770	76656	2.80	685	1500	
8-pole											
5500	5000	1RQ7800-8-90-0C-0	746	97.3	0.88	335	64003	2.30	863	1125	
6200	5600	1RQ7802-8-90-0C-0	746	97.3	0.89	375	71684	2.30	959	1125	
6800	6200	1RQ7804-8-90-0C-0	747	97.4	0.88	420	79258	2.55	1058	1125	
7500	6800	1RQ7806-8-90-0C-0	747	97.5	0.88	460	86928	2.60	1162	1125	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ7800-2...	7100	2716	97.0	0.91	4750	2376	96.9	0.91	2400	1886	96.5	0.89
1RQ7802-2...	7600	2717	97.1	0.91	5100	2376	97.0	0.91	2550	1887	96.6	0.89
1RQ7804-2...	8200	2717	97.2	0.91	5500	2377	97.1	0.91	2750	1887	96.7	0.88
1RQ7806-2...	9000	2718	97.4	0.91	6000	2377	97.2	0.90	3000	1887	96.8	0.86
4-pole												
1RQ7800-4...	7200	1357	97.3	0.92	4800	1187	97.2	0.91	2400	943	96.5	0.88
1RQ7802-4...	7800	1358	97.4	0.91	5200	1188	97.2	0.90	2600	943	96.5	0.86
1RQ7804-4...	8400	1358	97.5	0.92	5600	1188	97.3	0.91	2800	943	96.6	0.86
1RQ7806-4...	9000	1358	97.5	0.92	6000	1188	97.3	0.90	3000	943	96.7	0.86
8-pole												
1RQ7080-8...	3750	678	97.2	0.88	2500	593	97.1	0.85	1240	471	96.7	0.77
1RQ7802-8...	4200	678	97.3	0.88	2800	593	97.2	0.86	1400	471	96.9	0.79
1RQ7804-8...	4650	678	97.4	0.87	3100	593	97.2	0.84	1560	471	96.8	0.75
1RQ7806-8...	5100	678	97.5	0.87	3400	594	97.3	0.84	1700	471	96.8	0.74

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

The following data also apply to explosion-protected motors 1SB6 (Ex pxb) and 1SG6 (Ex ec).

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data at rated output for utilization 155 (F)							
		Rated speed	Efficiency	Power factor	Rated current	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	1RQ6450-2JP10	3583	95.2	0.90	1220	3309	2.40	13	3600 ²⁾
1300	1RQ6452-2JP10	3582	95.4	0.92	1240	3470	2.40	14	3600 ²⁾
1400	1RQ6454-2JP10	3582	95.4	0.92	1340	3734	2.40	16	3600 ²⁾
1700	1RQ6456-2JP10	3587	96.1	0.92	1600	4530	2.60	18	3600 ²⁾
1940	1RQ6500-2JP10	3581	96.1	0.91	1860	5173	2.65	20	3600 ²⁾
2050	1RQ6502-2JP10	3581	96.2	0.92	1940	5467	2.65	22	3600 ²⁾
2450	1RQ6504-2JP10	3583	96.5	0.92	2320	6530	2.75	25	3600 ²⁾
4-pole									
1340	1RQ6450-4JP1 ■	1786	95.5	0.88	1340	7174	2.40	20	1800
1410	1RQ6452-4JP1 ■	1785	95.6	0.89	1380	7553	2.30	22	1800
1590	1RQ6454-4JP1 ■	1787	95.9	0.89	1560	8509	2.40	25	1800
1740	1RQ6456-4JP1 ■	1784	95.9	0.90	1680	9329	2.10	29	1800
2000 ³⁾	1RQ6500-4JP10	1787	95.9	0.92	1900	10688	2.60	42	1800
2100 ³⁾	1RQ6502-4JP10	1785	95.9	0.92	2000	11234	2.30	46	1800
2500 ³⁾	1RQ6504-4JP10	1787	96.3	0.92	2360	13359	2.55	52	1800

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

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 · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ6450-2...	930	3257	95.4	0.90	620	2846	95.3	0.89	310	2262	95.0	0.83
1RQ6452-2...	975	3256	95.6	0.92	650	2846	95.6	0.92	325	2262	95.4	0.88
1RQ6454-2...	1050	3257	95.7	0.92	700	2846	95.7	0.92	350	2262	95.5	0.88
1RQ6456-2...	1275	3260	96.2	0.91	850	2848	96.1	0.90	425	2263	95.8	0.83
1RQ6500-2...	1455	3257	96.1	0.89	970	2847	96.1	0.87	485	2262	95.8	0.77
1RQ6502-2...	1538	3257	96.2	0.91	1025	2847	96.2	0.89	513	2262	96.0	0.81
1RQ6504-2...	1838	3258	96.6	0.91	1225	2848	96.5	0.88	613	2262	96.3	0.80
4-pole												
1RQ6450-4...	1005	1624	95.6	0.86	670	1421	95.6	0.84	335	1130	95.2	0.75
1RQ6452-4...	1058	1624	95.9	0.89	705	1420	95.9	0.88	353	1129	95.6	0.82
1RQ6454-4...	1193	1625	96.1	0.89	795	1421	96.0	0.87	398	1130	95.7	0.81
1RQ6456-4...	1306	1624	96.2	0.90	870	1420	96.3	0.90	435	1129	96.2	0.86
1RQ6500-4...	1500	1626	96.0	0.91	1000	1422	96.1	0.89	500	1130	95.9	0.81
1RQ6502-4...	1576	1625	96.0	0.91	1050	1421	96.1	0.90	525	1129	96.1	0.84
1RQ6504-4...	1876	1626	96.4	0.91	1250	1422	96.5	0.89	625	1130	96.3	0.82

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

The following data also apply to explosion-protected motors 1SB6 (Ex pxb) and 1SG6 (Ex ec).

Rated power P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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	1RQ6450-6JP1 ■	1190	95.7	0.86	1060	8350	2.30	26	1200
1130	1RQ6452-6JP1 ■	1191	95.9	0.85	1160	9070	2.20	29	1200
1270	1RQ6454-6JP1 ■	1191	96.1	0.86	1280	10192	2.30	32	1200
1360	1RQ6456-6JP1 ■	1193	96.3	0.84	1400	10905	2.30	37	1200
1800	1RQ6500-6JP1 ■	1188	96.1	0.86	1820	14470	1.85	56	1500
2000	1RQ6502-6JP1 ■	1190	96.3	0.86	2040	16050	2.05	62	1500
2100	1RQ6504-6JP1 ■	1190	96.4	0.87	2080	16853	2.05	69	1500
2350	1RQ6506-6JP1 ■	1191	96.6	0.86	2360	18843	2.25	77	1500
2850	1RQ6560-6JP1 ■	1192	96.6	0.87	3x950 ²⁾	22833	2.50	108	1300
3100	1RQ6562-6JP1 ■	1190	96.6	0.88	3x1020 ²⁾	24878	2.25	119	1300
8-pole									
740	1RQ6450-8JP1 ■	893	95.1	0.83	780	7922	2.30	32	1200
820	1RQ6452-8JP1 ■	893	95.2	0.84	860	8783	2.30	36	1200
910	1RQ6454-8JP1 ■	893	95.5	0.84	950	9739	2.40	40	1200
1000	1RQ6456-8JP1 ■	893	95.6	0.85	1020	10704	2.30	46	1200
1300	1RQ6500-8JP1 ■	892	95.7	0.84	1360	13918	1.80	69	1350
1440	1RQ6502-8JP1 ■	892	95.9	0.84	1500	15417	1.85	76	1350
1600	1RQ6504-8JP1 ■	892	96.0	0.84	1660	17130	1.90	85	1350
1800	1RQ6506-8JP1 ■	893	96.2	0.85	1840	19250	2.05	94	1350
2000	1RQ6560-8JP1 ■	893	96.6	0.84	2080	21389	2.30	128	1350
2350	1RQ6562-8JP1 ■	893	96.7	0.84	2440	25132	2.45	141	1350
2600	1RQ6564-8JP1 ■	893	96.7	0.85	4x660 ²⁾	27805	2.25	156	1350
2850	1RQ6566-8JP1 ■	893	96.8	0.85	4x720 ²⁾	30479	2.45	173	1350

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

²⁾ Different number of parallel winding systems possible.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ6450-6...	780	1083	96.0	0.85	520	947	96.1	0.82	260	753	95.8	0.72
1RQ6452-6...	848	1083	96.1	0.84	565	947	96.1	0.80	283	753	95.8	0.70
1RQ6454-6...	953	1083	96.3	0.85	635	947	96.4	0.83	318	753	96.1	0.73
1RQ6456-6...	1020	1084	96.5	0.82	680	948	96.4	0.79	340	754	96.1	0.68
1RQ6500-6...	1350	1080	96.3	0.86	900	945	96.3	0.85	450	752	96.1	0.79
1RQ6502-6...	1500	1082	96.4	0.85	1000	946	96.4	0.83	500	752	96.1	0.76
1RQ6504-6...	1575	1082	96.5	0.86	1050	946	96.5	0.85	525	752	96.2	0.78
1RQ6506-6...	1763	1083	96.6	0.86	1175	947	96.6	0.83	588	753	96.2	0.75
1RQ6560-6...	2138	1083	96.7	0.87	1425	947	96.6	0.85	713	753	96.3	0.78
1RQ6562-6...	2325	1082	96.7	0.88	1550	946	96.8	0.87	775	753	96.6	0.82
8-pole												
1RQ6450-8...	555	812	95.2	0.80	370	710	95.1	0.76	185	565	94.4	0.63
1RQ6452-8...	615	812	95.4	0.82	410	710	95.4	0.79	205	565	94.8	0.67
1RQ6454-8...	683	813	95.5	0.81	455	710	95.5	0.77	228	565	94.8	0.65
1RQ6456-8...	750	813	95.8	0.83	500	710	95.7	0.79	250	565	95.1	0.68
1RQ6500-8...	975	811	95.9	0.84	650	709	95.9	0.82	325	564	95.5	0.74
1RQ6502-8...	1080	811	96.0	0.84	720	709	96.0	0.82	360	564	95.6	0.74
1RQ6504-8...	1200	811	96.1	0.84	800	709	96.1	0.82	400	564	95.7	0.74
1RQ6506-8...	1350	812	96.3	0.84	900	710	96.2	0.81	450	564	95.7	0.72
1RQ6560-8...	1500	812	96.6	0.84	1000	710	96.6	0.81	500	564	96.3	0.72
1RQ6562-8...	1763	812	96.8	0.83	1175	710	96.7	0.80	588	565	96.3	0.70
1RQ6564-8...	1950	812	96.8	0.85	1300	710	96.8	0.83	650	564	96.5	0.75
1RQ6566-8...	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 · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

The following data also apply to explosion-protected motors 1SB6/1SB7 (Ex pxb) and 1SG6/1SB7 (Ex ec).

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RQ6 at rated output for utilization 155 (F), for 1RQ7 at rated output for utilization 130 (B)							
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}	$T_{\text{B}}/T_{\text{rated}}$	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
4.16 kV, 60 Hz										
2-pole										
1280	- ⁴⁾	1RQ6450-2JS30	3579	95.1	0.90	210	3418	2.50	13	3600 ²⁾
1420	- ⁴⁾	1RQ6452-2JS30	3581	95.6	0.91	225	3788	2.60	14	3600 ²⁾
1580	- ⁴⁾	1RQ6454-2JS30	3580	95.8	0.93	245	4217	2.60	16	3600 ²⁾
1740	- ⁴⁾	1RQ6456-2JS30	3586	96.0	0.92	275	4634	3.50	18	3600 ²⁾
2250	1980	1RQ6500-2JS30	3578	96.1	0.90	360	6005	2.50	20	3600 ²⁾
2400	2112	1RQ6502-2JS30	3578	96.2	0.91	380	6405	2.45	22	3600 ²⁾
2800	2464	1RQ6504-2JS30	3577	96.5	0.92	440	7475	2.40	25	3600 ²⁾
2950	2596	1RQ6506-2JS30	3578	96.6	0.92	460	7873	2.50	27	3600 ²⁾
3500	3150	1RQ6560-2JS30	3579	96.3	0.90	560	9339	1.95	39	3600 ²⁾
3900	3510	1RQ6562-2JS30	3581	96.5	0.91	620	10400	2.15	43	3600 ²⁾
4400	3960	1RQ6564-2JS30	3583	96.7	0.92	690	11727	2.35	49	3600 ²⁾
4900	4410	1RQ6566-2JS30	3585	96.9	0.93	750	13052	2.75	54	3600 ²⁾
5610	5100	1RQ7630-2-30-0C	3585	96.6	0.89	820	13585	2.30	74	3600
6160	5600	1RQ7632-2-30-0C	3586	96.7	0.90	890	14912	2.40	83	3600
6765	6150	1RQ7634-2-30-0C	3588	97.0	0.91	970	16368	2.90	91	3600
7480	6800	1RQ7636-2-30-0C	3588	97.1	0.92	1060	18098	3.10	100	3600
8360	7600	1RQ7710-2-30-0C	3589	96.1	0.92	1200	20221	2.35	147	3600
9350	8500	1RQ7712-2-30-0C	3588	96.3	0.92	1340	22622	2.35	158	3600
10340	9400	1RQ7714-2-30-0C	3588	96.6	0.93	1460	25018	2.45	174	3600
11330	10300	1RQ7716-2-30-0C	3588	96.8	0.94	1580	27413	2.45	189	3600

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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 · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ6450-2...	960	3254	95.2	0.90	640	2845	95.1	0.89	320	2261	94.8	0.83
1RQ6452-2...	1065	3256	95.6	0.91	710	2846	95.6	0.90	355	2262	95.2	0.85
1RQ6454-2...	1185	3255	95.9	0.93	790	2845	95.9	0.92	395	2261	95.7	0.89
1RQ6456-2...	1305	3259	96.0	0.91	871	2848	95.8	0.89	435	2263	95.3	0.81
1RQ6500-2...	1688	3255	96.1	0.89	1125	2846	96.1	0.87	563	2261	95.8	0.78
1RQ6502-2...	1801	3255	96.3	0.90	1200	2846	96.3	0.88	600	2261	96.0	0.81
1RQ6504-2...	2101	3254	96.6	0.91	1400	2846	96.6	0.91	700	2261	96.5	0.86
1RQ6506-2...	2213	3255	96.7	0.92	1475	2846	96.7	0.91	738	2261	96.5	0.85
1RQ6560-2...	2627	3256	96.4	0.90	1751	2847	96.4	0.89	875	2262	96.2	0.84
1RQ6562-2...	2926	3258	96.6	0.91	1951	2848	96.6	0.90	975	2263	96.4	0.85
1RQ6564-2...	3301	3259	96.8	0.92	2200	2849	96.8	0.91	1100	2263	96.6	0.86
1RQ6566-2...	3676	3260	97.0	0.92	2450	2850	96.9	0.91	1226	2263	96.7	0.84
1RQ7630-2...	3827	3258	96.6	0.90	2551	2848	96.6	0.90	1275	2262	96.4	0.87
1RQ7632-2...	4202	3259	96.8	0.90	2801	2849	96.8	0.90	1400	2263	96.6	0.88
1RQ7634-2...	4616	3261	97.0	0.91	3075	2850	96.9	0.91	1540	2263	96.7	0.87
1RQ7636-2...	5101	3261	97.1	0.92	3400	2850	97.1	0.91	1700	2264	96.9	0.87
1RQ7710-2...	5702	3261	96.0	0.92	3801	2849	95.8	0.92	1900	2264	95.2	0.89
1RQ7712-2...	6375	3260	96.2	0.93	4250	2849	96.0	0.93	2125	2263	95.6	0.91
1RQ7714-2...	7052	3260	96.5	0.94	4701	2849	96.4	0.94	2351	2264	95.9	0.92
1RQ7716-2...	7728	3260	96.7	0.94	5152	2849	96.5	0.94	2576	2264	96.1	0.92

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RQ6 at rated output for utilization 155 (F), for 1RQ7 at rated output for utilization 130 (B)							
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
4.16 kV, 60 Hz										
4-pole										
1340	— ⁴⁾	1RQ6450-4JS3	1784	95.4	0.88	220	7177	2.40	20	1800
1410	— ⁴⁾	1RQ6452-4JS3	1785	95.6	0.89	230	7546	2.40	22	1800
1590	— ⁴⁾	1RQ6454-4JS3	1785	95.8	0.90	255	8509	2.50	25	1800
1740	— ⁴⁾	1RQ6456-4JS3	1785	95.9	0.91	275	9313	2.70	29	1800
2600 ³⁾	2288	1RQ6500-4JS30	1786	96.1	0.90	415	13902	2.40	42	1800
2700 ³⁾	2376	1RQ6502-4JS30	1786	96.2	0.91	430	14436	2.45	46	1800
3000 ³⁾	2640	1RQ6504-4JS30	1788	96.4	0.91	475	16022	2.60	52	1800
3200 ³⁾	2816	1RQ6506-4JS30	1787	96.4	0.92	500	17100	2.40	56	1800
3700 ³⁾	3330	1RQ6560-4JS30	1791	96.7	0.91	580	19728	2.50	84	1800
4100 ³⁾	3690	1RQ6562-4JS30	1792	96.9	0.91	650	21848	2.50	94	1800
4600 ³⁾	4140	1RQ6564-4JS30	1791	97.0	0.91	720	24526	2.35	105	1800
5100 ³⁾	4590	1RQ6566-4JS30	1791	97.2	0.92	790	27192	2.40	115	1800
5824 ³⁾	5200	1RQ7630-4-30-0C	1792	97.4	0.88	840	27710	2.60	145	1800
6440 ³⁾	5750	1RQ7632-4-30-0C	1793	97.5	0.89	920	30624	2.85	160	1800
7112 ³⁾	6350	1RQ7634-4-30-0C	1793	97.6	0.89	1020	33819	2.95	178	1800
7840 ³⁾	7000	1RQ7636-4-30-0C	1792	97.7	0.89	1120	37302	2.65	194	1800
8680 ³⁾	7750	1RQ7710-4-30-0C	1793	97.3	0.90	1220	41276	2.45	261	1800
9632 ³⁾	8600	1RQ7712-4-30-0C	1793	97.4	0.91	1340	45803	2.45	286	1800
10696 ³⁾	9550	1RQ7714-4-30-0C	1793	97.5	0.92	1480	50862	2.70	321	1800
11872 ³⁾	10600	1RQ7716-4-30-0C	1793	97.6	0.92	1640	56454	2.70	362	1800

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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 · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ6450-4...	1005	1623	95.6	0.88	670	1420	95.6	0.87	335	1129	95.4	0.80
1RQ6452-4...	1058	1624	95.7	0.88	705	1420	95.8	0.87	353	1130	95.5	0.81
1RQ6454-4...	1193	1624	96.0	0.90	795	1420	96.0	0.89	398	1130	95.8	0.83
1RQ6456-4...	1305	1624	96.1	0.91	870	1420	96.2	0.91	435	1130	96.1	0.86
1RQ6500-4...	1951	1626	96.1	0.89	1300	1422	96.1	0.86	650	1130	95.8	0.75
1RQ6502-4...	2025	1626	96.2	0.90	1350	1422	96.2	0.87	676	1130	95.9	0.78
1RQ6504-4...	2250	1627	96.4	0.90	1500	1423	96.4	0.86	751	1130	96.0	0.76
1RQ6506-4...	2401	1626	96.5	0.91	1600	1422	96.5	0.89	801	1130	96.3	0.82
1RQ6560-4...	2776	1629	96.7	0.89	1850	1424	96.7	0.87	926	1131	96.3	0.77
1RQ6562-4...	3076	1629	96.9	0.90	2050	1424	96.9	0.87	1026	1131	96.5	0.78
1RQ6564-4...	3451	1629	97.1	0.91	2300	1424	97.1	0.89	1151	1131	96.8	0.81
1RQ6566-4...	3826	1629	97.2	0.91	2550	1424	97.2	0.89	1276	1131	97.0	0.82
1RQ7630-4...	3901	1629	97.4	0.88	2600	1424	97.4	0.87	1301	1131	97.2	0.82
1RQ7632-4...	4316	1630	97.5	0.89	2877	1424	97.4	0.87	1441	1131	97.2	0.81
1RQ7634-4...	4765	1630	97.6	0.89	3177	1424	97.5	0.87	1591	1131	97.2	0.82
1RQ7636-4...	5251	1629	97.6	0.89	3500	1424	97.6	0.88	1751	1131	97.4	0.84
1RQ7710-4...	5818	1629	97.2	0.91	3880	1424	97.0	0.90	1942	1131	96.6	0.86
1RQ7712-4...	6455	1629	97.3	0.92	4305	1424	97.2	0.92	2155	1131	96.8	0.88
1RQ7714-4...	7167	1629	97.4	0.92	4779	1424	97.3	0.92	2393	1131	96.9	0.88
1RQ7716-4...	7955	1629	97.6	0.92	5305	1424	97.4	0.92	2656	1131	97.1	0.89

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RQ6 at rated output for utilization 155 (F), for 1RQ7 at rated output for utilization 130 (B)							
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
4.16 kV, 60 Hz										
6-pole										
1040	– ²⁾	1RQ6450-6JS3	1190	95.7	0.86	176	8354	2.40	26	1200
1130	– ²⁾	1RQ6452-6JS3	1191	95.9	0.86	190	9071	2.40	29	1200
1270	– ²⁾	1RQ6454-6JS3	1191	96.1	0.86	215	10187	2.50	32	1200
1360	– ²⁾	1RQ6456-6JS3	1192	96.2	0.85	230	10902	2.50	37	1200
1780	1600	1RQ6500-6JS3	1190	96.1	0.86	300	14285	2.00	56	1500
2000	1800	1RQ6502-6JS3	1190	96.2	0.86	335	16050	2.05	62	1500
2200	2000	1RQ6504-6JS3	1190	96.4	0.86	370	17655	2.10	69	1500
2450	2200	1RQ6506-6JS3	1191	96.4	0.86	410	19645	2.25	77	1500
3050	2700	1RQ6560-6JS3	1189	96.3	0.87	510	24497	2.00	108	1300
3450	3050	1RQ6562-6JS3	1190	96.6	0.87	570	27687	2.15	119	1300
3800	3350	1RQ6564-6JS3	1190	96.7	0.88	620	30496	2.25	132	1300
4100	3600	1RQ6566-6JS3	1192	96.9	0.88	670	32848	2.55	146	1300
4368	3900	1RQ7630-6-30-0C	1194	97.0	0.84	660	31191	2.70	207	1600
4816	4300	1RQ7632-6-30-0C	1195	97.1	0.83	740	34361	2.85	229	1600
5376	4800	1RQ7634-6-30-0C	1195	97.2	0.84	820	38357	2.90	250	1600
5936	5300	1RQ7636-6-30-0C	1195	97.3	0.85	890	42353	2.80	271	1600
6496	5800	1RQ7710-6-30-0C	1196	96.9	0.85	980	46309	2.65	348	1600
7056	6300	1RQ7712-6-30-0C	1196	97.0	0.85	1060	50301	2.65	395	1600
7616	6800	1RQ7714-6-30-0C	1196	97.1	0.86	1140	54294	2.85	449	1600
8232	7350	1RQ7716-6-30-0C	1196	97.2	0.87	1200	58685	2.85	496	1600

Position of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type
(repeated)

Partial load data 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

1RQ6450-6...	780	1082	95.9	0.85	520	947	96.0	0.83	260	753	95.8	0.74
1RQ6452-6...	848	1083	96.1	0.85	565	947	96.2	0.82	283	753	96.0	0.73
1RQ6454-6...	953	1083	96.2	0.85	635	947	96.3	0.82	318	753	96.0	0.72
1RQ6456-6...	1020	1084	96.4	0.84	680	948	96.4	0.81	340	753	96.1	0.71
1RQ6500-6...	1335	1082	96.2	0.85	890	946	96.2	0.84	445	752	95.9	0.76
1RQ6502-6...	1500	1082	96.3	0.86	1000	946	96.3	0.84	500	752	96.0	0.77
1RQ6504-6...	1650	1082	96.4	0.86	1100	946	96.4	0.84	550	752	96.1	0.76
1RQ6506-6...	1838	1083	96.5	0.85	1225	947	96.4	0.83	613	753	96.0	0.74
1RQ6560-6...	2288	1081	96.5	0.87	1525	945	96.6	0.87	763	752	96.5	0.83
1RQ6562-6...	2588	1082	96.7	0.87	1725	946	96.8	0.87	863	752	96.6	0.82
1RQ6564-6...	2850	1082	96.8	0.88	1900	946	96.9	0.87	950	753	96.7	0.82
1RQ6566-6...	3075	1084	97.0	0.87	2050	947	96.9	0.86	1025	753	96.6	0.78
1RQ7630-6...	2925	1086	96.9	0.83	1952	949	96.8	0.79	976	754	96.3	0.70
1RQ7632-6...	3225	1086	97.0	0.82	2152	949	96.9	0.79	1075	754	96.4	0.68
1RQ7634-6...	3600	1086	97.1	0.83	2402	949	96.9	0.79	1200	754	96.5	0.69
1RQ7636-6...	3975	1086	97.2	0.83	2652	949	97.1	0.80	1325	754	96.6	0.71
1RQ7710-6...	4352	1086	96.8	0.84	2902	949	96.5	0.80	1453	754	95.7	0.70
1RQ7712-6...	4726	1087	96.9	0.84	3152	949	96.6	0.81	1577	754	95.8	0.71
1RQ7714-6...	5102	1087	96.9	0.85	3402	950	96.6	0.82	1703	754	95.9	0.72
1RQ7716-6...	5513	1087	96.9	0.85	3676	950	96.6	0.82	1840	755	95.9	0.73

3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RQ6 at rated output for utilization 155 (F), for 1RQ7 at rated output for utilization 130 (B)							
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
4.16 kV, 60 Hz										
8-pole										
740	– ²⁾	1RQ6450-8JS3	892	94.9	0.84	128	7927	2.30	32	1200
820	– ²⁾	1RQ6452-8JS3	893	95.2	0.84	142	8778	2.40	36	1200
910	– ²⁾	1RQ6454-8JS3	893	95.3	0.84	158	9739	2.40	40	1200
1000	– ²⁾	1RQ6456-8JS3	893	95.5	0.84	174	10702	2.30	46	1200
1380	1240	1RQ6500-8JS3	892	95.6	0.84	240	14775	1.80	69	1350
1540	1380	1RQ6502-8JS3	892	95.6	0.84	265	16488	1.85	76	1350
1720	1540	1RQ6504-8JS3	892	95.8	0.84	295	18415	1.85	85	1350
1820	1640	1RQ6506-8JS3	893	95.9	0.84	315	19464	2.05	94	1350
2250	2000	1RQ6560-8JS3	891	96.3	0.84	385	24116	1.95	128	1350
2500	2200	1RQ6562-8JS3	892	96.5	0.84	430	26766	2.05	141	1350
2750	2400	1RQ6564-8JS3	893	96.6	0.85	465	29409	2.30	156	1350
3000	2650	1RQ6566-8JS3	892	96.7	0.85	510	32119	2.15	173	1350
3248	2900	1RQ7630-8 ■ 30-0C ■ 0	895	96.4	0.83	500	30942	2.65	255	1350
3584	3200	1RQ7632-8 ■ 30-0C ■ 0	896	96.5	0.82	560	34105	2.65	281	1350
3920	3500	1RQ7634-8 ■ 30-0C ■ 0	895	96.6	0.84	600	37344	2.60	308	1350
4312	3850	1RQ7636-8 ■ 30-0C ■ 0	895	96.7	0.84	660	41078	2.60	334	1350
4760	4250	1RQ7710-8 ■ 30-0C ■ 0	896	96.8	0.85	720	45295	2.15	433	1125
5320	4750	1RQ7712-8 ■ 30-0C ■ 0	896	97.0	0.86	790	50624	2.20	493	1125
5936	5300	1RQ7714-8 ■ 30-0C ■ 0	896	97.1	0.86	880	56486	2.35	558	1125
6720	6000	1RQ7716-8 ■ 30-0C ■ 0	896	97.1	0.85	1000	63946	2.65	616	1125

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type
(repeated)

Partial load data 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

8-pole

Motor type	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	%	[-]
1RQ6450-8...	555	812	95.0	0.83	370	710	95.1	0.80	185	565	94.6	0.69
1RQ6452-8...	615	812	95.3	0.82	410	710	95.3	0.79	205	565	94.7	0.68
1RQ6454-8...	683	812	95.4	0.83	455	710	95.4	0.79	228	565	94.9	0.68
1RQ6456-8...	750	812	95.6	0.83	500	710	95.6	0.80	250	565	95.2	0.70
1RQ6500-8...	1035	811	95.7	0.83	690	709	95.8	0.81	345	564	95.3	0.73
1RQ6502-8...	1155	811	95.7	0.84	770	709	95.7	0.81	385	564	95.3	0.73
1RQ6504-8...	1290	811	96.0	0.84	860	709	96.0	0.82	430	564	95.6	0.74
1RQ6506-8...	1365	812	96.0	0.84	910	710	96.0	0.81	455	564	95.4	0.72
1RQ6560-8...	1688	811	96.5	0.85	1125	709	96.6	0.83	563	564	96.4	0.77
1RQ6562-8...	1875	811	96.6	0.85	1250	709	96.7	0.83	625	564	96.5	0.76
1RQ6564-8...	2063	812	96.7	0.84	1375	710	96.7	0.82	688	564	96.4	0.73
1RQ6566-8...	2250	811	96.8	0.85	1500	709	96.9	0.83	750	564	96.7	0.76
1RQ7630-8...	2175	814	96.6	0.81	1451	711	96.4	0.78	725	565	95.8	0.67
1RQ7632-8...	2401	813	96.8	0.83	1600	711	96.8	0.82	801	565	96.5	0.74
1RQ7634-8...	2626	813	96.9	0.83	1750	711	96.8	0.81	876	565	96.4	0.73
1RQ7636-8...	2890	814	96.9	0.83	1927	711	96.8	0.79	965	565	96.3	0.70
1RQ7710-8...	3191	814	96.7	0.85	2128	711	96.5	0.83	1066	565	95.8	0.75
1RQ7712-8...	3566	814	96.8	0.86	2378	711	96.6	0.84	1191	565	96.0	0.76
1RQ7714-8...	3978	814	96.9	0.86	2653	712	96.7	0.83	1328	566	96.1	0.75
1RQ7716-8...	4505	814	97.0	0.86	3005	711	96.8	0.85	1504	565	96.2	0.78

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Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
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	
4.16 kV, 60 Hz											
10-pole											
2408	2150	1RQ7630-3 ■ ■ ■ 30-0C ■ 0	715	96.7	0.82	375	28715	2.30	257	1080	
2688	2400	1RQ7632-3 ■ ■ ■ 30-0C ■ 0	715	96.7	0.83	415	32054	2.25	284	1080	
2968	2650	1RQ7634-3 ■ ■ ■ 30-0C ■ 0	715	96.9	0.82	465	35392	2.35	309	1080	
3248	2900	1RQ7636-3 ■ ■ ■ 30-0C ■ 0	715	96.9	0.83	500	38731	2.30	336	1080	
3640	3250	1RQ7710-3 ■ ■ ■ 30-0C ■ 0	715	96.6	0.86	540	43406	2.20	430	1125	
4032	3600	1RQ7712-3 ■ ■ ■ 30-0C ■ 0	715	96.6	0.86	600	48080	2.20	489	1125	
4424	3950	1RQ7714-3 ■ ■ ■ 30-0C ■ 0	715	96.8	0.86	660	52755	2.20	553	1125	
4816	4300	1RQ7716-3 ■ ■ ■ 30-0C ■ 0	715	96.8	0.86	720	57429	2.20	610	1125	
12-pole											
1926	1720	1RQ7630-5 ■ ■ ■ 30-0C ■ 0	595	96.2	0.78	320	27605	2.25	263	900	
2128	1900	1RQ7632-5 ■ ■ ■ 30-0C ■ 0	595	96.3	0.77	355	30494	2.20	290	900	
2352	2100	1RQ7634-5 ■ ■ ■ 30-0C ■ 0	595	96.3	0.78	390	33703	2.20	317	900	
2576	2300	1RQ7636-5 ■ ■ ■ 30-0C ■ 0	595	96.1	0.78	425	36913	2.25	344	900	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type
(repeated)

Partial load data 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

10-pole

1RQ7630-3...	1615	650	96.7	0.81	1075	569	96.7	0.78	540	452	96.3	0.68
1RQ7632-3...	1800	650	96.8	0.82	1200	568	96.8	0.79	600	452	96.4	0.70
1RQ7634-3...	1990	650	96.9	0.80	1326	569	96.9	0.77	665	452	96.5	0.66
1RQ7636-3...	2175	650	96.9	0.82	1450	568	96.9	0.79	725	452	96.6	0.70
1RQ7710-3...	2440	650	96.4	0.85	1628	568	96.2	0.82	815	452	95.4	0.72
1RQ7712-3...	2703	650	96.5	0.85	1803	568	96.3	0.83	903	452	95.6	0.74
1RQ7714-3...	2966	650	96.6	0.85	1978	568	96.4	0.83	991	452	95.7	0.74
1RQ7716-3...	3228	650	96.7	0.85	2153	568	96.4	0.82	1078	452	95.7	0.73
12-pole												
1RQ7630-5...	1290	541	96.2	0.76	860	473	96.1	0.71	430	376	95.5	0.58
1RQ7632-5...	1425	541	96.3	0.75	950	473	96.1	0.70	475	376	95.5	0.58
1RQ7634-5...	1575	541	96.4	0.77	1050	473	96.3	0.72	525	376	95.7	0.60
1RQ7636-5...	1725	541	96.4	0.77	1150	473	96.3	0.72	575	376	95.8	0.60

3

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

The following data also apply to explosion-protected motors 1SB7 (Ex pxb) and 1SG7 (Ex ec).

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾	
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	
Up to 6.6 kV, 60 Hz											
2-pole											
13400	12000	1RQ7800-2-80-0C	3590	96.9	0.90	1200	31920	2.10	246	3600	
14200	12700	1RQ7802-2-80-0C	3592	96.9	0.91	1260	33763	2.55	266	3600	
15200	13500	1RQ7804-2-80-0C	3592	97.0	0.91	1340	35890	2.65	285	3600	
16000	14300	1RQ7806-2-80-0C	3592	97.1	0.92	1400	38016	2.85	305	3600	
4-pole											
13400 ²⁾	12000	1RQ7800-4-80-0C	1794	97.3	0.91	1300	63880	2.70	520	1500	
14500 ²⁾	13000	1RQ7802-4-80-0C	1794	97.4	0.91	1420	69203	2.70	570	1500	
15600 ²⁾	14000	1RQ7804-4-80-0C	1794	97.4	0.92	1500	74526	2.70	625	1500	
16300 ²⁾	14600	1RQ7806-4-80-0C	1795	97.5	0.92	1560	77677	2.90	685	1500	
19800	18000	1RQ7900-4-80-0C	1796	97.8	0.92	1760	95706	2.90	1023	1800	
21000	19000	1RQ7902-4-80-0C	1797	97.8	0.92	1840	100966	2.90	1102	1800	
21500	19500	1RQ7904-4-80-0C	1797	97.8	0.92	1900	103623	3.30	1178	1800	
22500	20500	1RQ7906-4-80-0C	1797	97.8	0.92	2000	108937	3.60	1296	1800	
6-pole											
16000	14500	1RQ7900-6-80-0C	1195	97.9	0.88	1480	115870	2.00	1301	1200	
17000	15500	1RQ7902-6-80-0C	1196	97.9	0.88	1580	123758	2.25	1464	1200	
18200	16500	1RQ7904-6-80-0C	1196	98.0	0.88	1680	131742	2.45	1627	1200	
19200	17500	1RQ7906-6-80-0C	1196	98.0	0.89	1760	139726	2.45	1789	1200	
8-pole											
8100	7200	1RQ7800-8-80-0C	897	97.6	0.87	740	76650	2.85	865	1125	
8700	7800	1RQ7802-8-80-0C	897	97.6	0.88	790	83037	2.70	959	1125	
9500	8500	1RQ7804-8-80-0C	897	97.7	0.87	870	90489	2.80	1060	1125	
10400	9300	1RQ7806-8-80-0C	897	97.8	0.88	950	99006	2.80	1170	1125	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ7800-2...	9000	3262	96.8	0.90	6000	2850	96.6	0.90	3000	2264	96.2	0.88
1RQ7802-2...	9500	3263	96.8	0.91	6400	2851	96.6	0.90	3200	2265	96.2	0.86
1RQ7804-2...	10200	3263	97.0	0.92	6800	2851	96.8	0.91	3400	2265	96.4	0.87
1RQ7806-2...	10800	3264	97.0	0.92	7200	2851	96.9	0.91	3600	2265	96.4	0.87
4-pole												
1RQ7800-4...	9000	1630	97.2	0.91	6000	1425	97.0	0.90	3000	1132	96.1	0.85
1RQ7802-4...	9700	1630	97.3	0.91	6500	1425	97.1	0.90	3200	1132	96.3	0.86
1RQ7804-4...	10500	1630	97.4	0.92	7000	1425	97.2	0.91	3500	1132	96.4	0.86
1RQ7806-4...	10900	1631	97.4	0.92	7300	1425	97.2	0.91	3600	1132	96.3	0.85
1RQ7900-4...	13500	1632	97.7	0.91	9000	1426	97.6	0.88	4500	1133	97.1	0.83
1RQ7902-4...	14250	1632	97.7	0.91	9500	1426	97.6	0.88	4750	1133	97.1	0.83
1RQ7904-4...	14625	1633	97.7	0.91	9750	1426	97.6	0.88	4875	1133	97.1	0.83
1RQ7906-4...	15375	1633	97.7	0.91	10250	1426	97.6	0.88	5125	1133	97.1	0.81
6-pole												
1RQ7900-6...	10875	1086	97.9	0.89	7250	949	97.7	0.89	3625	754	97.4	0.84
1RQ7902-6...	11625	1086	97.9	0.89	7750	949	97.8	0.89	3875	754	97.4	0.84
1RQ7904-6...	12375	1086	98.0	0.89	8250	949	97.8	0.89	4125	754	97.4	0.84
1RQ7906-6...	13125	1086	98.0	0.89	8750	949	97.9	0.89	4375	754	97.5	0.84
8-pole												
1RQ7800-8...	5400	815	97.5	0.85	3600	712	97.3	0.81	1800	566	96.8	0.69
1RQ7802-8...	5800	815	97.5	0.86	3900	712	97.4	0.83	1960	566	96.9	0.73
1RQ7804-8...	6400	815	97.6	0.86	4250	712	97.4	0.82	2100	566	96.8	0.71
1RQ7806-8...	7000	815	97.6	0.87	4650	712	97.5	0.83	2300	566	96.9	0.72

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings

Note:

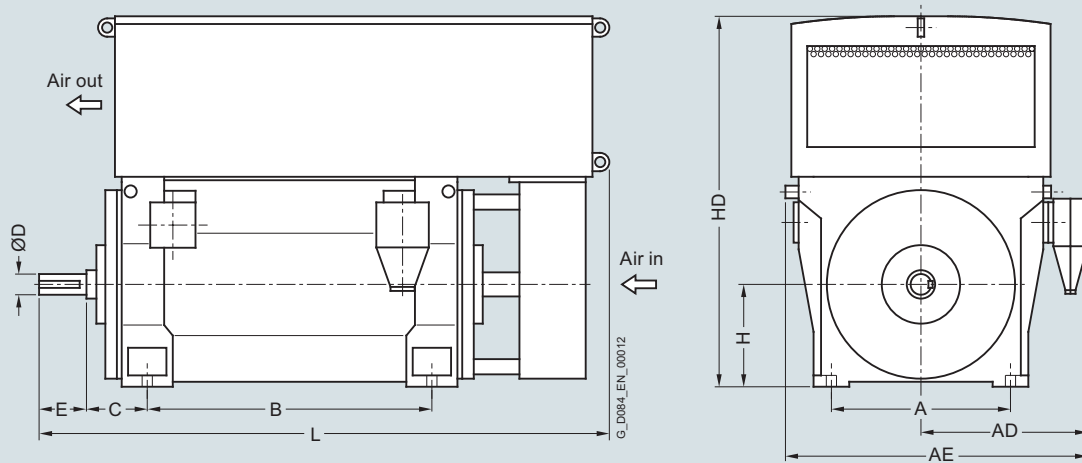
For the converter driven motors with shaft heights 450 to 710 mm and cooling method IC611, the same dimension drawings apply as for line operation motors. [Refer to chapter 2.](#)

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

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, anti-friction bearings – 1RQ7²⁾ – IC611

4-pole

1RQ7800-4J..0-0CG0	25000	1700	1900	3110	2240	375	250	330	800	3620	4530 ³⁾
1RQ7802-4J..0-0CG0	26200	1700	1900	3110	2240	375	250	330	800	3620	4530 ³⁾
1RQ7804-4J..0-0CG0	28100	1700	1900	3110	2500	375	250	330	800	3620	4790 ³⁾
1RQ7806-4J..0-0CG0	29400	1700	1900	3110	2500	375	250	330	800	3620	4790 ³⁾

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

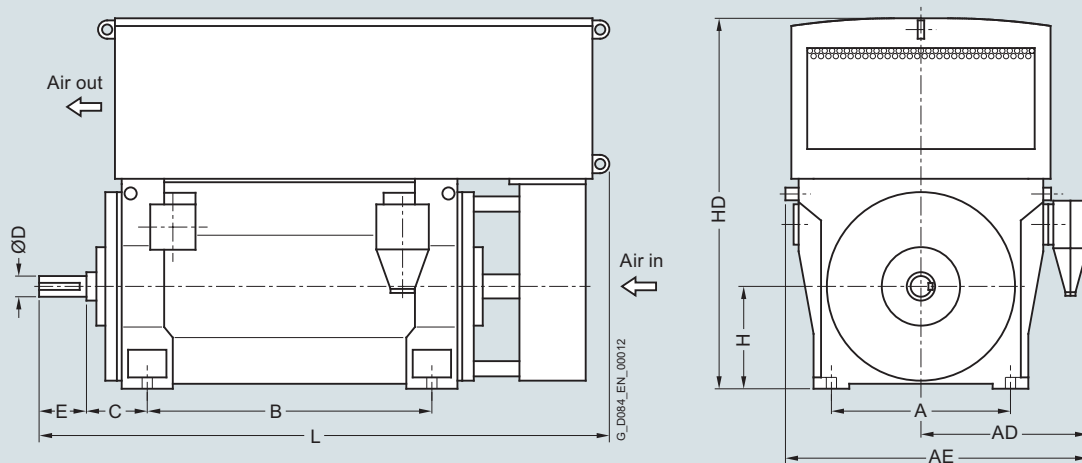
³⁾ Including air inlet silencer.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

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, anti-friction bearings – 1RQ7²⁾ – IC611

6-pole

1RQ7800-6J..0-0CG0	25800	1700	1900	3110	2240	375	250	330	800	3620	4530 ³⁾
1RQ7802-6J..0-0CG0	27300	1700	1900	3110	2240	375	250	330	800	3620	4530 ³⁾
1RQ7804-6J..0-0CG0	29300	1700	1900	3110	2500	375	250	330	800	3620	4790 ³⁾
1RQ7806-6J..0-0CG0	30800	1700	1900	3110	2500	375	250	330	800	3620	4790 ³⁾

Note:

Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

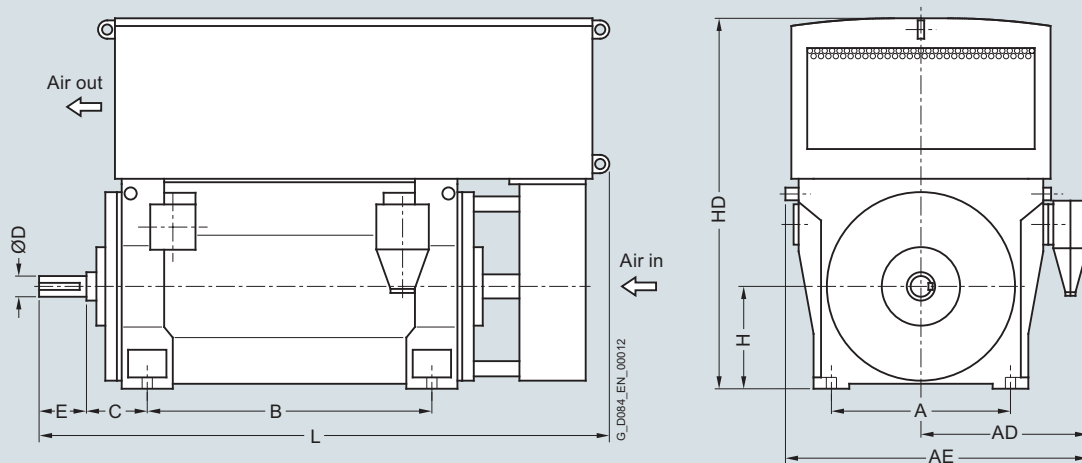
³⁾ Including air inlet silencer.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

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, anti-friction bearings– 1RQ7¹⁾ – IC611

4-pole

1RQ7800-4J..0-0CG0	25000	1700	1900	3110	2240	375	250	330	800	3620	4530 ²⁾
1RQ7802-4J..0-0CG0	26200	1700	1900	3110	2240	375	250	330	800	3620	4530 ²⁾
1RQ7804-4J..0-0CG0	28100	1700	1900	3110	2500	375	250	330	800	3620	4790 ²⁾
1RQ7806-4J..0-0CG0	29400	1700	1900	3110	2500	375	250	330	800	3620	4790 ²⁾

Note:

Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

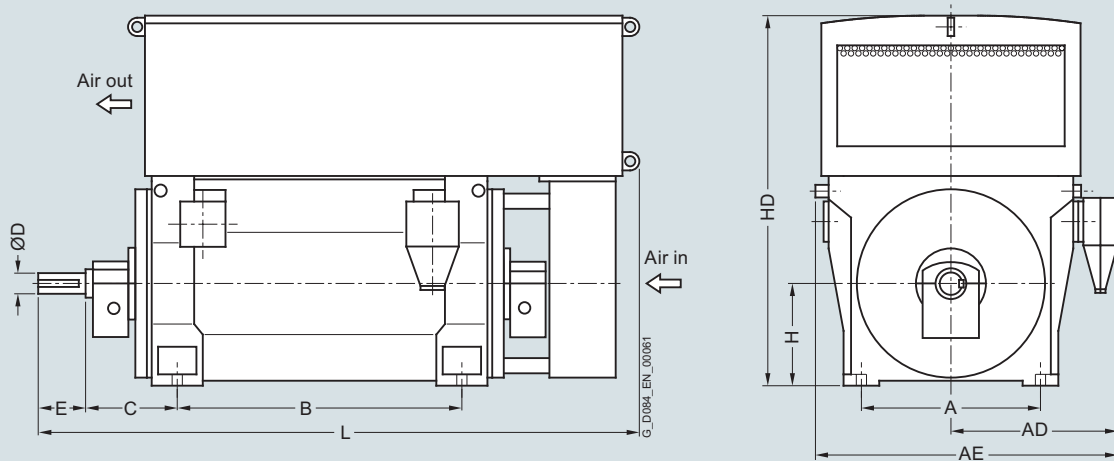
²⁾ Including air inlet silencer.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

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 – 1RQ7²⁾ – IC611											
4-pole											
1RQ7800-4J..0-0CJ0	25400	1700	1900	3110	2240	600	250	330	800	3620	4750 ³⁾
1RQ7802-4J..0-0CJ0	26600	1700	1900	3110	2240	600	250	330	800	3620	4750 ³⁾
1RQ7804-4J..0-0CJ0	28500	1700	1900	3110	2500	600	250	330	800	3620	5010 ³⁾
1RQ7806-4J..0-0CJ0	29900	1700	1900	3110	2500	600	250	330	800	3620	5010 ³⁾

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

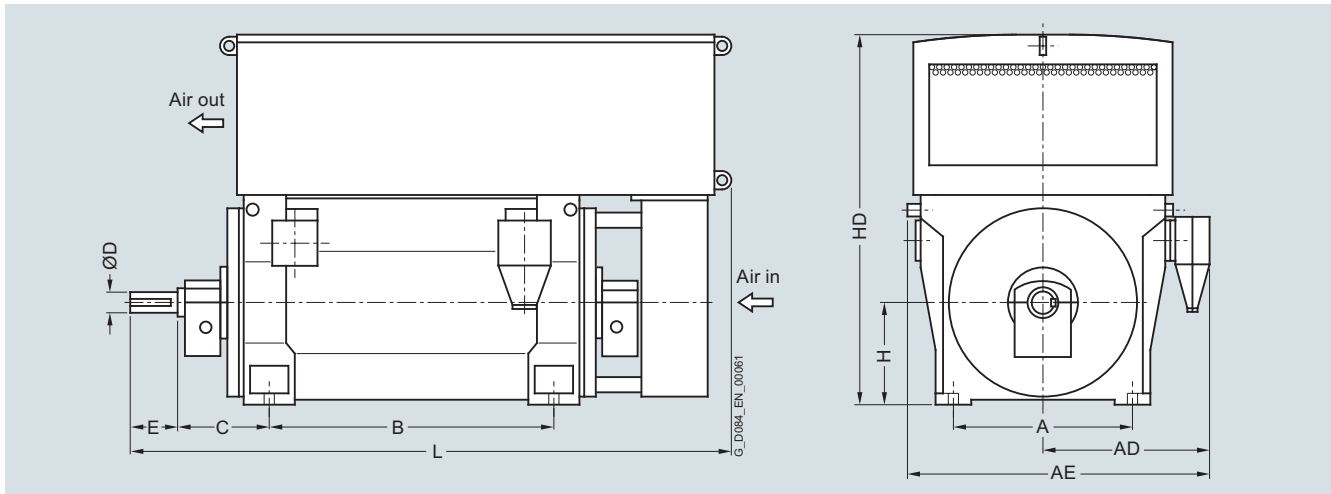
³⁾ Including air inlet silencer.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

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 – 1RQ7²⁾ – IC611											
6-pole											
1RQ7800-6J..0-0CJ0	26200	1700	1900	3110	2240	600	250	330	800	3620	4750 ³⁾
1RQ7802-6J..0-0CJ0	27700	1700	1900	3110	2240	600	250	330	800	3620	4750 ³⁾
1RQ7804-6J..0-0CJ0	29700	1700	1900	3110	2500	600	250	330	800	3620	5010 ³⁾
1RQ7806-6J..0-0CJ0	31200	1700	1900	3110	2500	600	250	330	800	3620	5010 ³⁾

Note:

Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

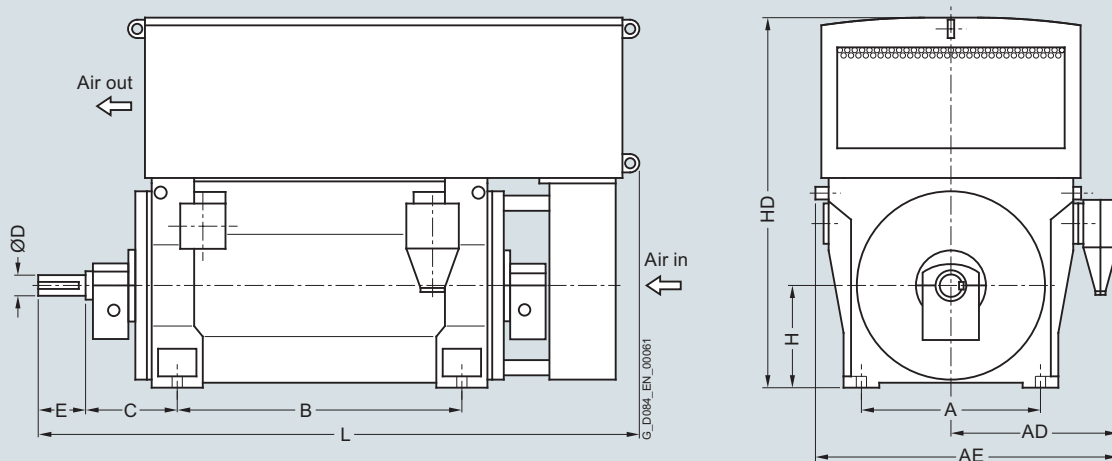
³⁾ Including air inlet silencer.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

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

9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ7¹⁾– IC611

4-pole

1RQ7800-4J..0-0CJ0	25400	1700	1900	3110	2240	600	250	330	800	3620	4750 ²⁾
1RQ7802-4J..0-0CJ0	26600	1700	1900	3110	2240	600	250	330	800	3620	4750 ²⁾
1RQ7804-4J..0-0CJ0	28500	1700	1900	3110	2500	600	250	330	800	3620	5010 ²⁾
1RQ7806-4J..0-0CJ0	29900	1700	1900	3110	2500	600	250	330	800	3620	5010 ²⁾

Note:

Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

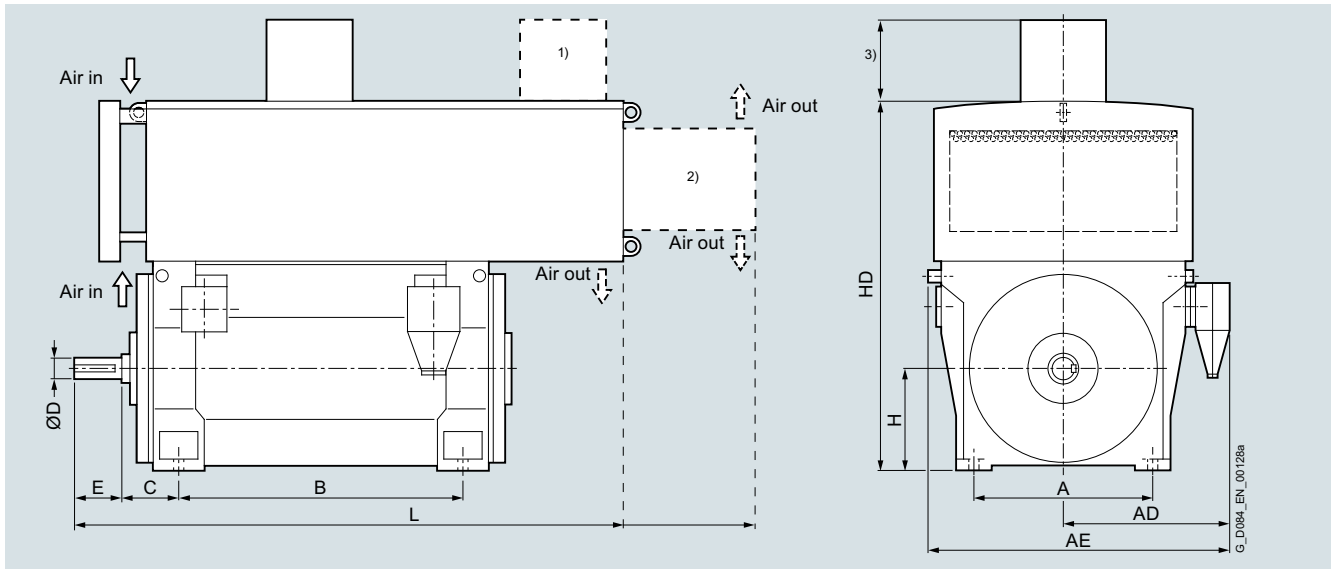
²⁾ Including air inlet silencer.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ⁵⁾ mm	AE ⁵⁾ 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, anti-friction bearings – 1RQ7⁴⁾ series – IC666											
4-pole											
1RQ7630-4M..0-0CG0	12200	1320	1340	2340	1600	375	200	280	630	3210	3910
1RQ7632-4M..0-0CG0	12800	1320	1340	2340	1600	375	200	280	630	3210	3910
1RQ7634-4M..0-0CG0	13800	1320	1340	2340	1800	375	200	280	630	3210	4110
1RQ7636-4M..0-0CG0	14300	1320	1340	2340	1800	375	200	280	630	3210	4110
1RQ7710-4M..0-0CG0	16900	1500	1800	2900	2000	375	220	350	710	3640	4450
1RQ7712-4M..0-0CG0	17600	1500	1800	2900	2000	375	220	350	710	3640	4450
1RQ7714-4M..0-0CG0	19000	1500	1800	2900	2240	375	220	350	710	3640	4690
1RQ7716-4M..0-0CG0	20300	1500	1800	2900	2240	375	220	350	710	3640	4690
1RQ7800-4M..0-0CG0	25600	1700	1900	3110	2240	375	250	330	800	3880	4590
1RQ7802-4M..0-0CG0	26800	1700	1900	3110	2240	375	250	330	800	3880	4590
1RQ7804-4M..0-0CG0	28700	1700	1900	3110	2500	375	250	330	800	3880	4850
1RQ7806-4M..0-0CG0	30000	1700	1900	3110	2500	375	250	330	800	3880	4850

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

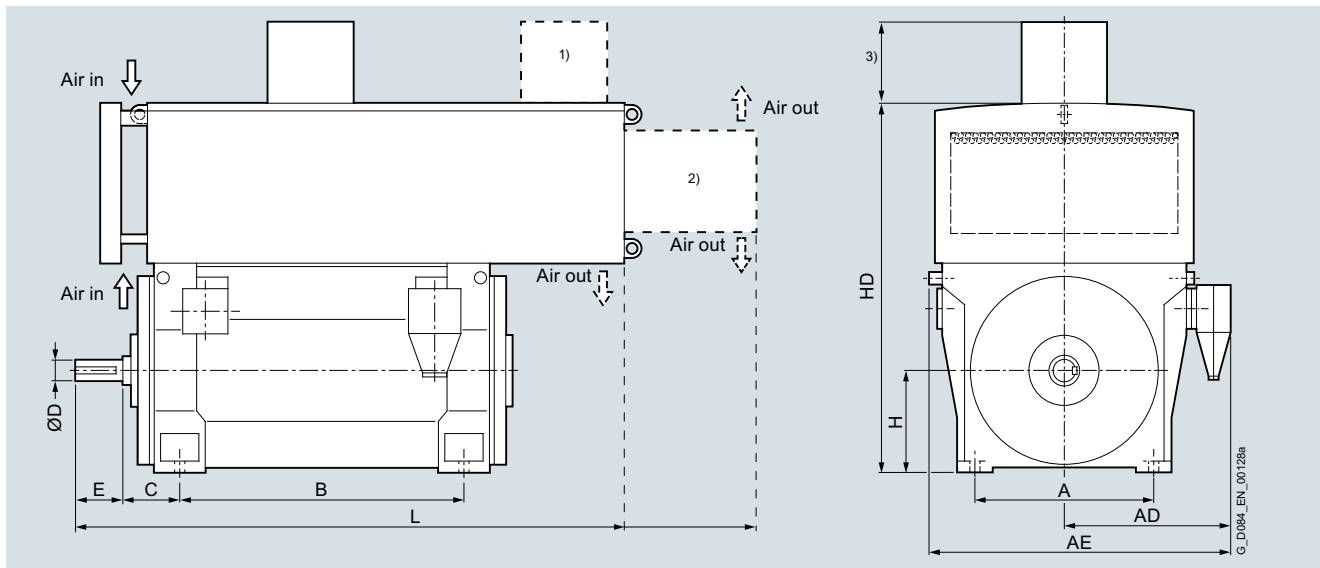
5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ⁵⁾ mm	AE ⁵⁾ 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, anti-friction bearings – 1RQ7⁴⁾ series – IC666											
6-pole											
1RQ7630-6M..0-0CG0	12700	1320	1340	2340	1600	375	200	280	630	3210	3910
1RQ7632-6M..0-0CG0	13300	1320	1340	2340	1600	375	200	280	630	3210	3910
1RQ7634-6M..0-0CG0	14200	1320	1340	2340	1800	375	200	280	630	3210	4110
1RQ7636-6M..0-0CG0	14800	1320	1340	2340	1800	375	200	280	630	3210	4110
1RQ7710-6M..0-0CG0	17300	1500	1800	2900	2000	375	220	350	710	3640	4450
1RQ7712-6M..0-0CG0	18400	1500	1800	2900	2000	375	220	350	710	3640	4450
1RQ7714-6M..0-0CG0	19800	1500	1800	2900	2240	375	220	350	710	3640	4690
1RQ7716-6M..0-0CG0	20900	1500	1800	2900	2240	375	220	350	710	3640	4690
1RQ7800-6M..0-0CG0	26400	1700	1900	3110	2240	375	250	330	800	3880	4590
1RQ7802-6M..0-0CG0	27900	1700	1900	3110	2240	375	250	330	800	3880	4590
1RQ7804-6M..0-0CG0	29900	1700	1900	3110	2500	375	250	330	800	3880	4850
1RQ7806-6M..0-0CG0	31400	1700	1900	3110	2500	375	250	330	800	3880	4850

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

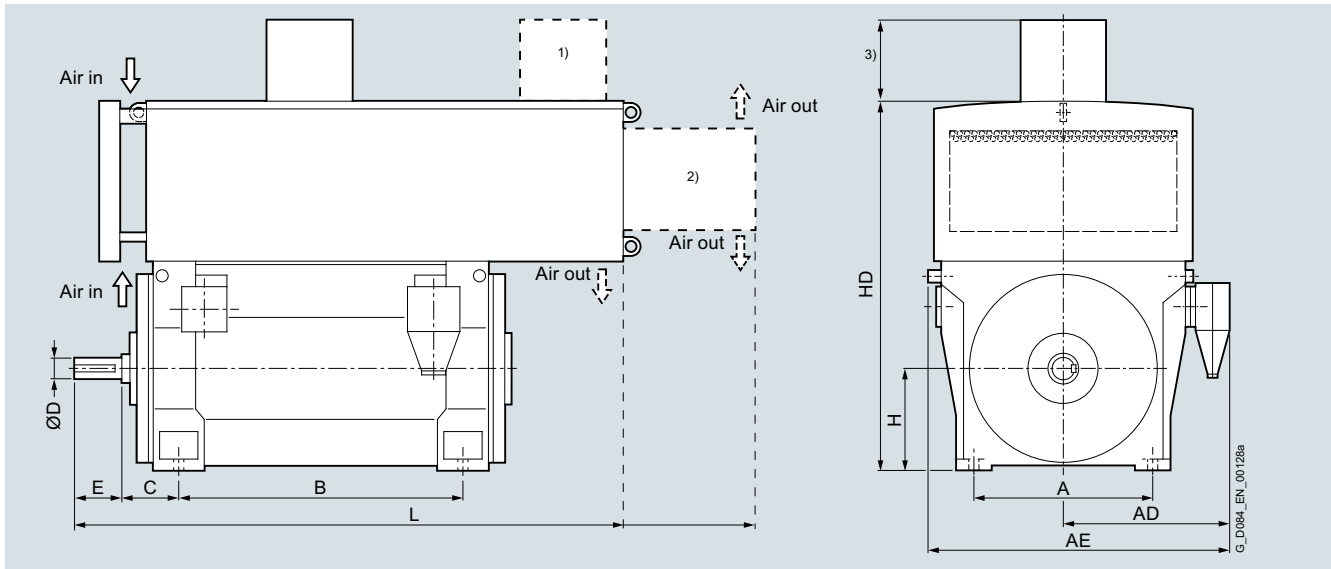
5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ⁵⁾ mm	AE ⁵⁾ 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, anti-friction bearings – 1RQ7⁴⁾ series – IC666											
8-pole											
1RQ7630-8M..0-0CG0	12400	1320	1340	2340	1600	375	200	280	630	3210	3910
1RQ7632-8M..0-0CG0	12900	1320	1340	2340	1600	375	200	280	630	3210	3910
1RQ7634-8M..0-0CG0	13800	1320	1340	2340	1800	375	200	280	630	3210	4110
1RQ7636-8M..0-0CG0	14400	1320	1340	2340	1800	375	200	280	630	3210	4110
1RQ7710-8M..0-0CG0	16800	1500	1800	2900	2000	375	220	350	710	3640	4450
1RQ7712-8M..0-0CG0	17600	1500	1800	2900	2000	375	220	350	710	3640	4450
1RQ7714-8M..0-0CG0	19200	1500	1800	2900	2240	375	220	350	710	3640	4690
1RQ7716-8M..0-0CG0	20200	1500	1800	2900	2240	375	220	350	710	3640	4690

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

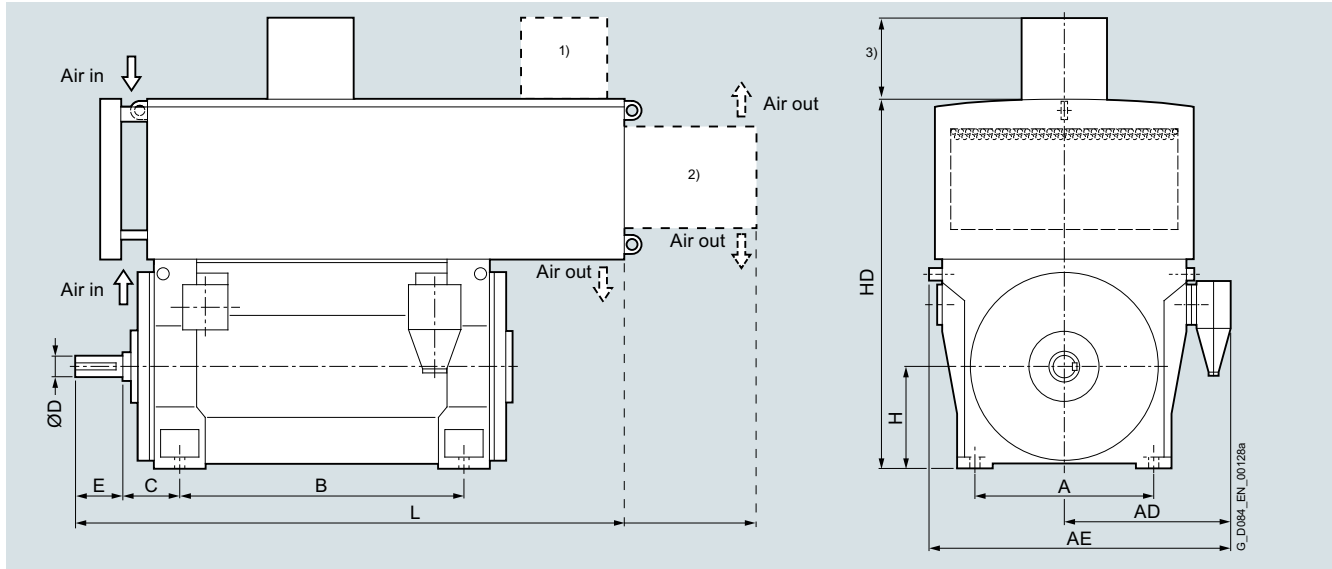
5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ⁵⁾ mm	AE ⁵⁾ 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, anti-friction bearings – 1RQ7⁴⁾ series – IC666											
10-pole											
1RQ7630-3M..0-0CG0	12300	1320	1340	2340	1600	375	200	280	630	3210	3910
1RQ7632-3M..0-0CG0	12900	1320	1340	2340	1600	375	200	280	630	3210	3910
1RQ7634-3M..0-0CG0	13700	1320	1340	2340	1800	375	200	280	630	3210	4110
1RQ7636-3M..0-0CG0	14300	1320	1340	2340	1800	375	200	280	630	3210	4110
1RQ7710-3M..0-0CG0	16600	1500	1800	2900	2000	375	220	350	710	3640	4450
1RQ7712-3M..0-0CG0	17600	1500	1800	2900	2000	375	220	350	710	3640	4450
1RQ7714-3M..0-0CG0	19200	1500	1800	2900	2240	375	220	350	710	3640	4690
1RQ7716-3M..0-0CG0	20200	1500	1800	2900	2240	375	220	350	710	3640	4690
12-pole											
1RQ7630-5M..0-0CG0	12300	1320	1340	2340	1600	375	200	280	630	3210	3910
1RQ7632-5M..0-0CG0	12800	1320	1340	2340	1600	375	200	280	630	3210	3910
1RQ7634-5M..0-0CG0	13700	1320	1340	2340	1800	375	200	280	630	3210	4110
1RQ7636-5M..0-0CG0	14200	1320	1340	2340	1800	375	200	280	630	3210	4110

Note: Higher pole numbers are available on request.

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

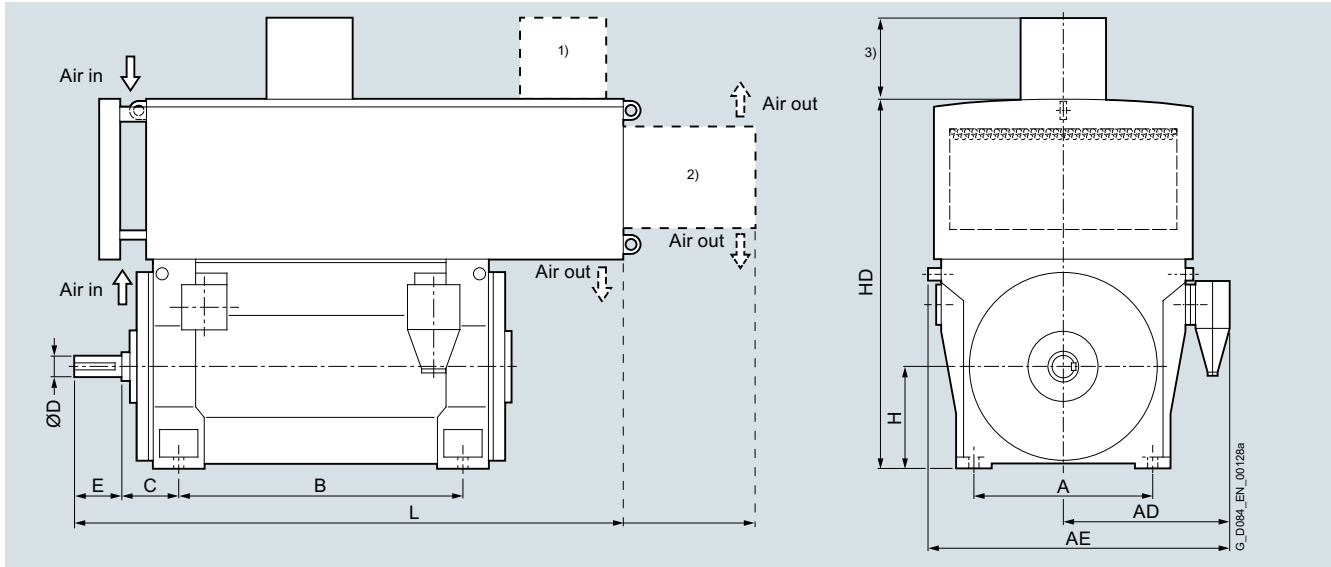
5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

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, anti-friction bearings – 1RQ7⁴⁾ series – IC666											
4-pole											
1RQ7800-4M..0-0CG0	25600	1700	1900	3110	2240	375	250	330	800	3880	4590
1RQ7802-4M..0-0CG0	26800	1700	1900	3110	2240	375	250	330	800	3880	4590
1RQ7804-4M..0-0CG0	28700	1700	1900	3110	2500	375	250	330	800	3880	4850
1RQ7806-4M..0-0CG0	30000	1700	1900	3110	2500	375	250	330	800	3880	4850

Note:

Higher pole numbers are available on request.

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

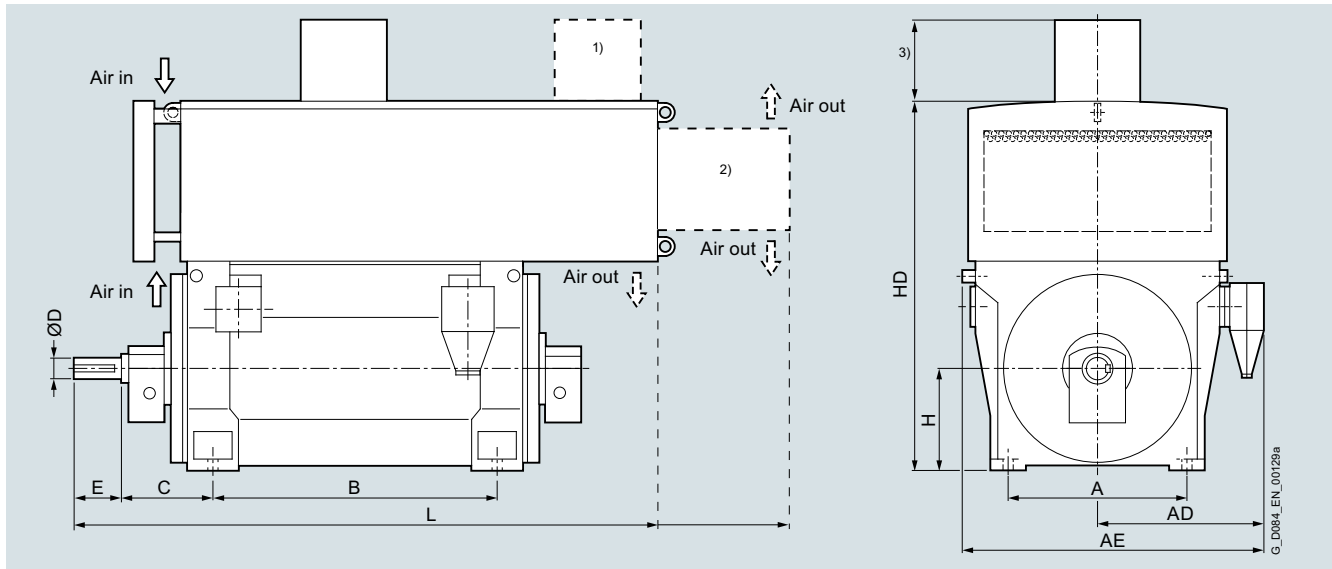
Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ⁵⁾ mm	AE ⁵⁾ 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 – 1RQ7⁴⁾ series – IC666											
2-pole											
1RQ7630-2M..0-0CJ0	11700	1320	1340	2340	1600	600	180	240	630	3210	4100
1RQ7632-2M..0-0CJ0	12200	1320	1340	2340	1600	600	180	240	630	3210	4100
1RQ7634-2M..0-0CJ0	13200	1320	1340	2340	1800	600	180	240	630	3210	4300
1RQ7636-2M..0-0CJ0	13800	1320	1340	2340	1800	600	180	240	630	3210	4300
1RQ7710-2M..0-0CJ0	16200	1500	1800	2900	2000	560	200	710	280	3640	4560
1RQ7712-2M..0-0CJ0	16700	1500	1800	2900	2000	560	200	710	280	3640	4560
1RQ7714-2M..0-0CJ0	18000	1500	1800	2900	2240	560	200	710	280	3640	4800
1RQ7716-2M..0-0CJ0	18700	1500	1800	2900	2240	560	200	710	280	3640	4800

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

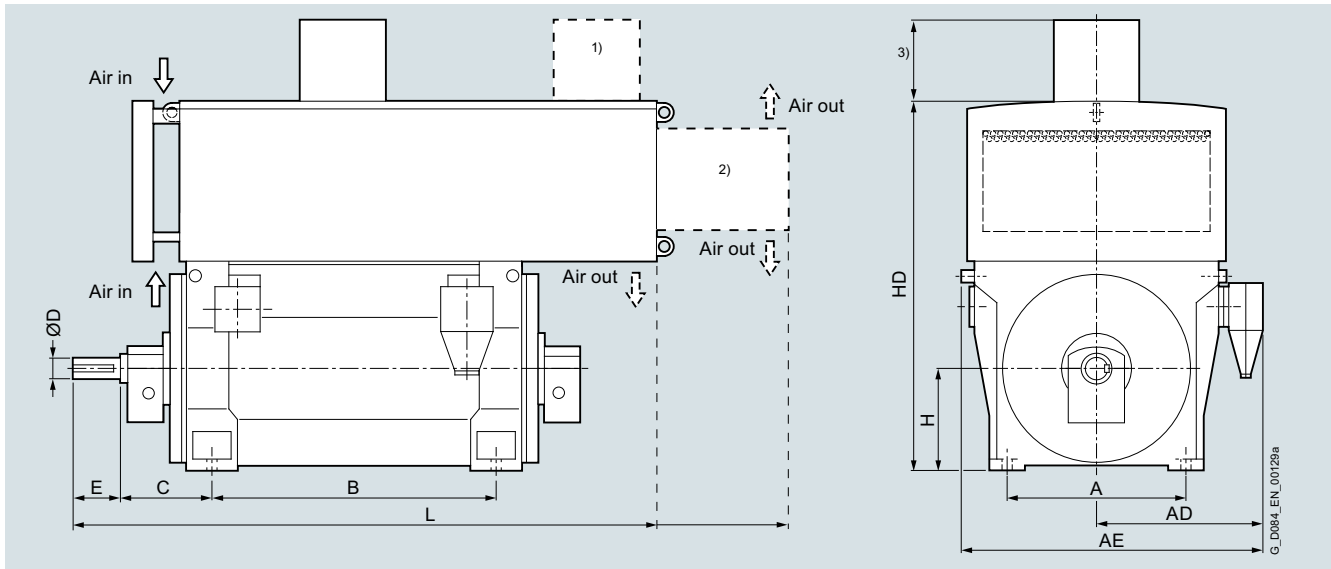
5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ⁵⁾ mm	AE ⁵⁾ 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 – 1RQ7⁴⁾ series – IC666											
4-pole											
1RQ7630-4M..0-0CJ0	12300	1320	1340	2340	1600	630	200	280	630	3210	4170
1RQ7632-4M..0-0CJ0	12900	1320	1340	2340	1600	630	200	280	630	3210	4170
1RQ7634-4M..0-0CJ0	13900	1320	1340	2340	1800	630	200	280	630	3210	4370
1RQ7636-4M..0-0CJ0	14400	1320	1340	2340	1800	630	200	280	630	3210	4370
1RQ7710-4M..0-0CJ0	17200	1500	1800	2900	2000	710	220	710	350	3640	4780
1RQ7712-4M..0-0CJ0	17900	1500	1800	2900	2000	710	220	710	350	3640	4780
1RQ7714-4M..0-0CJ0	19300	1500	1800	2900	2240	710	220	710	350	3640	5020
1RQ7716-4M..0-0CJ0	20600	1500	1800	2900	2240	710	220	710	350	3640	5020
1RQ7800-4M..0-0CJ0	26000	1700	1900	3110	2240	600	250	330	800	3880	4890
1RQ7802-4M..0-0CJ0	27200	1700	1900	3110	2240	600	250	330	800	3880	4890
1RQ7804-4M..0-0CJ0	29100	1700	1900	3110	2500	600	250	330	800	3880	5150
1RQ7806-4M..0-0CJ0	30500	1700	1900	3110	2500	600	250	330	800	3880	5150

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

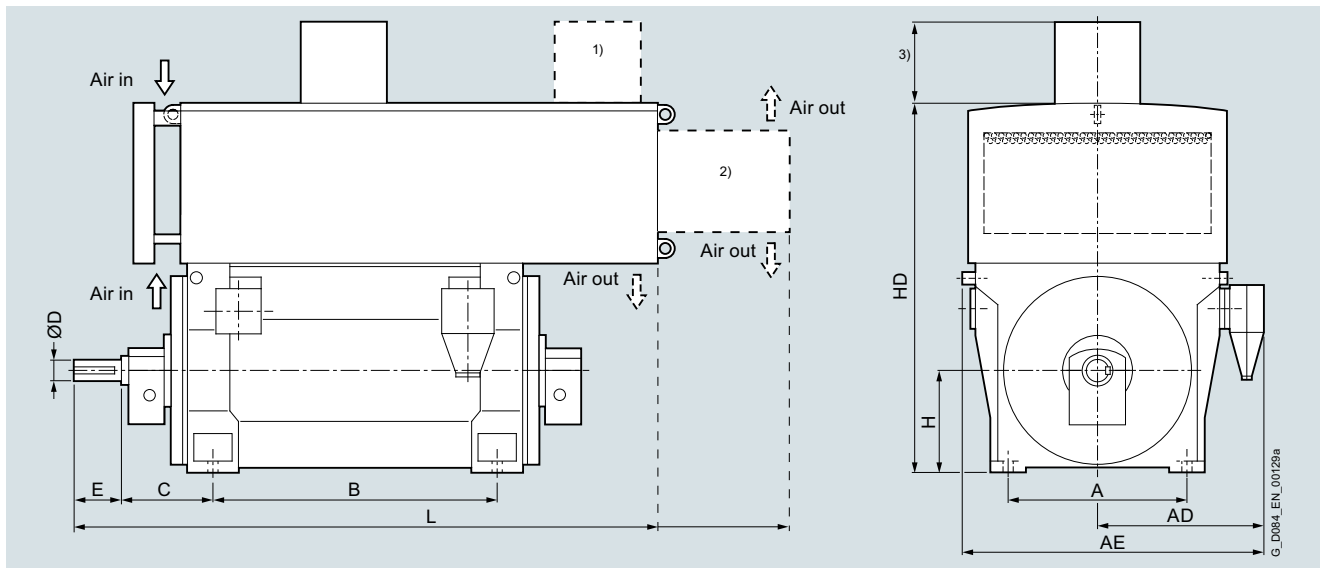
5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ⁵⁾ mm	AE ⁵⁾ 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 – 1RQ7⁴⁾ series – IC666											
6-pole											
1RQ7630-6M..0-0CJ0	12800	1320	1340	2340	1600	630	200	280	630	3210	4170
1RQ7632-6M..0-0CJ0	13400	1320	1340	2340	1600	630	200	280	630	3210	4170
1RQ7634-6M..0-0CJ0	14200	1320	1340	2340	1800	630	200	280	630	3210	4370
1RQ7636-6M..0-0CJ0	14900	1320	1340	2340	1800	630	200	280	630	3210	4370
1RQ7710-6M..0-0CJ0	17300	1500	1800	2900	2000	670	220	710	350	3640	4740
1RQ7712-6M..0-0CJ0	18500	1500	1800	2900	2000	670	220	710	350	3640	4740
1RQ7714-6M..0-0CJ0	19900	1500	1800	2900	2240	670	220	710	350	3640	4980
1RQ7716-6M..0-0CJ0	20900	1500	1800	2900	2240	670	220	710	350	3640	4980
1RQ7800-6M..0-0CJ0	26800	1700	1900	3110	2240	600	250	330	800	3880	4890
1RQ7802-6M..0-0CJ0	28300	1700	1900	3110	2240	600	250	330	800	3880	4890
1RQ7804-6M..0-0CJ0	30300	1700	1900	3110	2500	600	250	330	800	3880	5150
1RQ7806-6M..0-0CJ0	31800	1700	1900	3110	2500	600	250	330	800	3880	5150

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

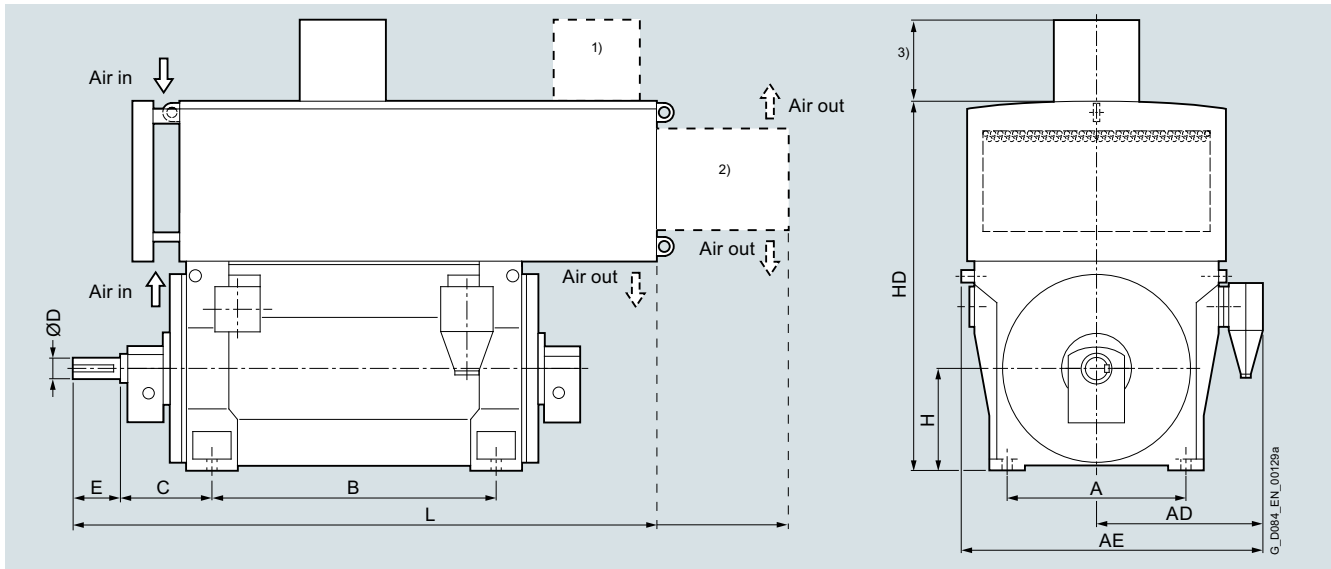
5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ⁵⁾ mm	AE ⁵⁾ 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 – 1RQ7⁴⁾ series – IC666											
8-pole											
1RQ7630-8M..0-0CJ0	12400	1320	1340	2340	1600	630	200	280	630	3210	4170
1RQ7632-8M..0-0CJ0	13000	1320	1340	2340	1600	630	200	280	630	3210	4170
1RQ7634-8M..0-0CJ0	13900	1320	1340	2340	1800	630	200	280	630	3210	4370
1RQ7636-8M..0-0CJ0	14400	1320	1340	2340	1800	630	200	280	630	3210	4370
1RQ7710-8M..0-0CJ0	17000	1500	1800	2900	2000	670	220	710	350	3640	4740
1RQ7712-8M..0-0CJ0	17900	1500	1800	2900	2000	670	220	710	350	3640	4740
1RQ7714-8M..0-0CJ0	19200	1500	1800	2900	2240	670	220	710	350	3640	4980
1RQ7716-8M..0-0CJ0	20200	1500	1800	2900	2240	670	220	710	350	3640	4980

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

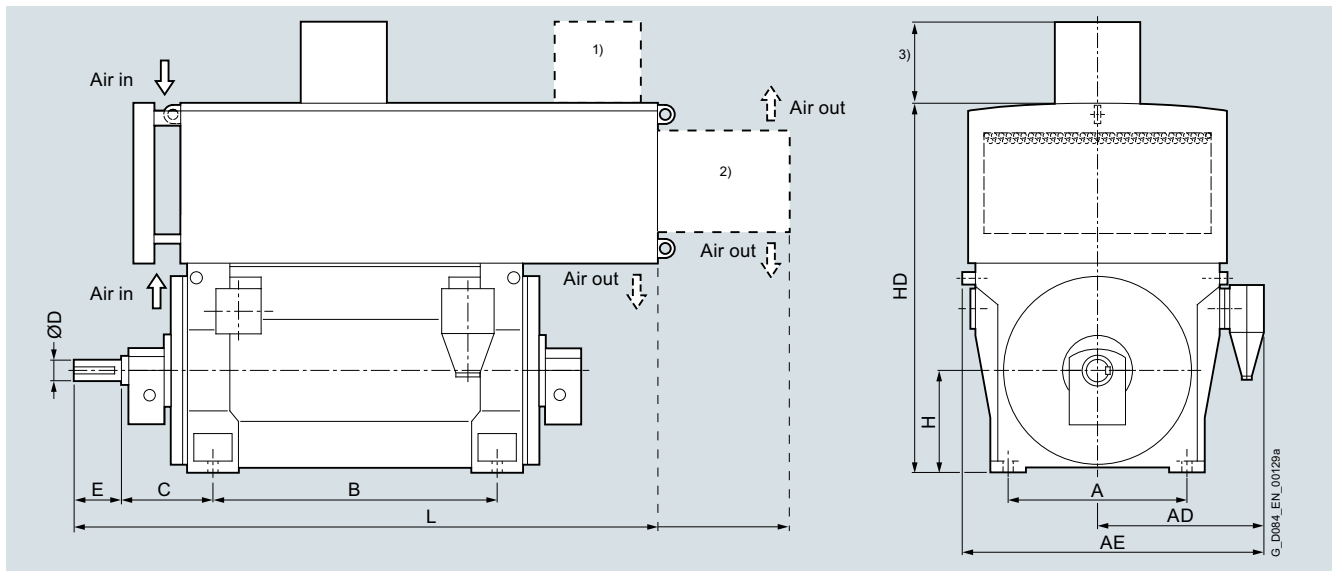
5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ⁵⁾ mm	AE ⁵⁾ 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 – 1RQ7⁴⁾ series – IC666											
10-pole											
1RQ7630-3M..0-0CJ0	12400	1320	1340	2340	1600	630	200	280	630	3210	4170
1RQ7632-3M..0-0CJ0	12900	1320	1340	2340	1600	630	200	280	630	3210	4170
1RQ7634-3M..0-0CJ0	13700	1320	1340	2340	1800	630	200	280	630	3210	4370
1RQ7636-3M..0-0CJ0	14300	1320	1340	2340	1800	630	200	280	630	3210	4370
1RQ7710-3M..0-0CJ0	16900	1500	1800	2900	2000	670	220	710	350	3640	4740
1RQ7712-3M..0-0CJ0	17900	1500	1800	2900	2000	670	220	710	350	3640	4740
1RQ7714-3M..0-0CJ0	19200	1500	1800	2900	2240	670	220	710	350	3640	4980
1RQ7716-3M..0-0CJ0	20200	1500	1800	2900	2240	670	220	710	350	3640	4980
12-pole											
1RQ7630-5M..0-0CJ0	12300	1320	1340	2340	1600	630	200	280	630	3210	4170
1RQ7632-5M..0-0CJ0	12900	1320	1340	2340	1600	630	200	280	630	3210	4170
1RQ7634-5M..0-0CJ0	13700	1320	1340	2340	1800	630	200	280	630	3210	4370
1RQ7636-5M..0-0CJ0	14300	1320	1340	2340	1800	630	200	280	630	3210	4370

Note: Higher pole numbers are available on request.

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

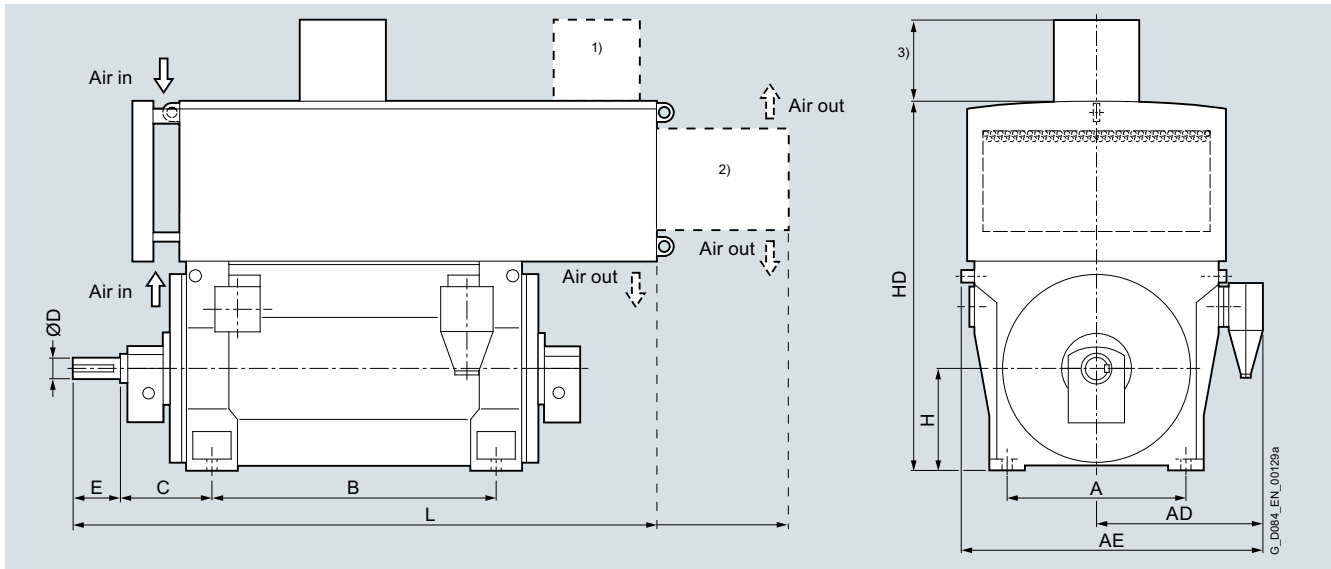
5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

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 – 1RQ7⁴⁾ series – IC666											
4-pole											
1RQ7800-4M..0-0CJ0	26000	1700	1900	3110	2240	600	250	330	800	3880	4890
1RQ7802-4M..0-0CJ0	27200	1700	1900	3110	2240	600	250	330	800	3880	4890
1RQ7804-4M..0-0CJ0	29100	1700	1900	3110	2500	600	250	330	800	3880	5150
1RQ7806-4M..0-0CJ0	30500	1700	1900	3110	2500	600	250	330	800	3880	5150

Note:

Higher pole numbers are available on request.

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

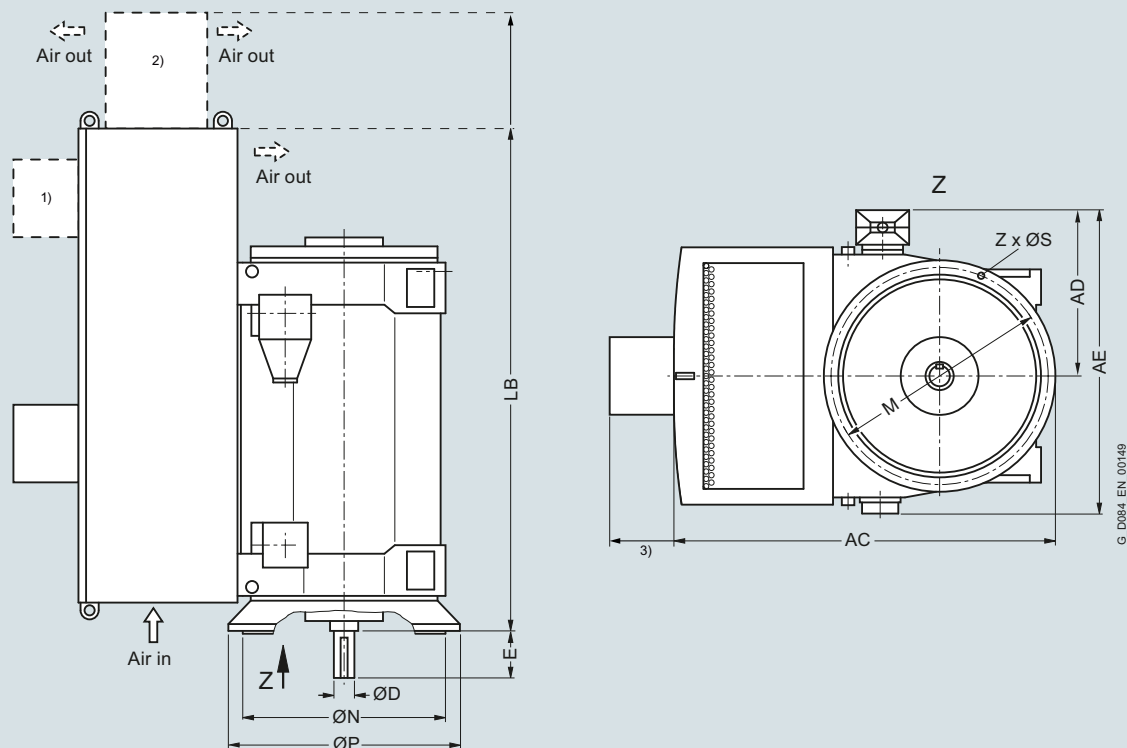
Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings



G_D084_EN_00149

Motor type	Weight kg	Dimensions										
		AC	AD ⁵⁾	AE ⁵⁾	D	E	LB	P	N	M	S	Z
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RQ7⁴⁾ – IC666												
6-pole												
1RQ7630-6M..8-0CG0	13400	3520	1250	2130	200	280	3700	1800	1600	1700	28	24
1RQ7632-6M..8-0CG0	14000	3520	1250	2130	200	280	3700	1800	1600	1700	28	24
1RQ7634-6M..8-0CG0	14900	3520	1250	2130	200	280	3900	1800	1600	1700	28	24
1RQ7636-6M..8-0CG0	15500	3520	1250	2130	200	280	3900	1800	1600	1700	28	24
1RQ7710-6M..8-0CG0	18900	3980	1800	2900	220	350	4510	2000	1800	1900	35	24
1RQ7712-6M..8-0CG0	20000	3980	1800	2900	220	350	4510	2000	1800	1900	35	24
1RQ7714-6M..8-0CG0	21500	3980	1800	2900	220	350	4750	2000	1800	1900	35	24
1RQ7716-6M..8-0CG0	22500	3980	1800	2900	220	350	4750	2000	1800	1900	35	24

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

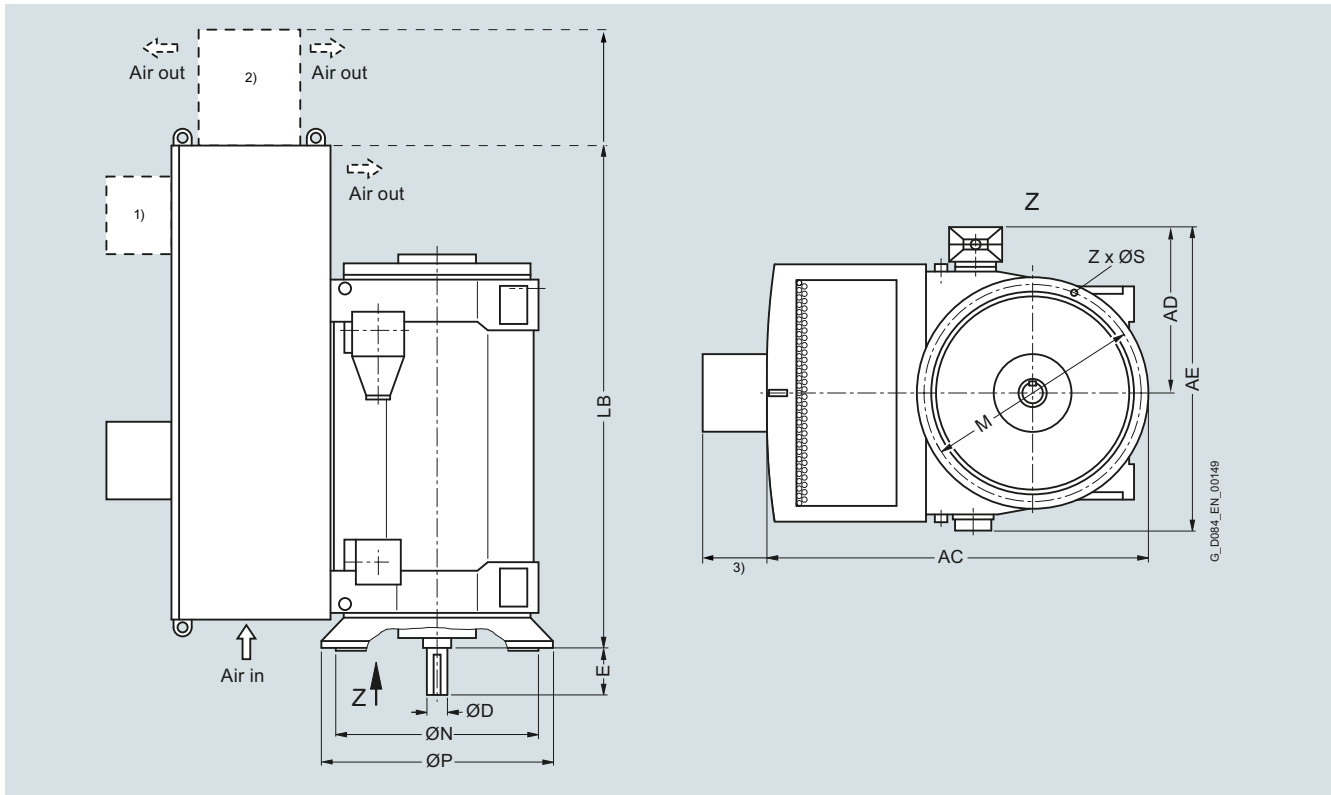
3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC mm	AD ⁵⁾ mm	AE ⁵⁾ 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, anti-friction bearings – 1RQ7⁴⁾ – IC666												
8-pole												
1RQ7630-8M..8-OCG0	13000	3520	1250	2130	200	280	3700	1800	1600	1700	28	24
1RQ7632-8M..8-OCG0	13600	3520	1250	2130	200	280	3700	1800	1600	1700	28	24
1RQ7634-8M..8-OCG0	14500	3520	1250	2130	200	280	3900	1800	1600	1700	28	24
1RQ7636-8M..8-OCG0	15100	3520	1250	2130	200	280	3900	1800	1600	1700	28	24
1RQ7710-8M..8-OCG0	17700	3980	1800	2900	220	350	4510	2000	1800	1900	35	24
1RQ7712-8M..8-OCG0	18600	3980	1800	2900	220	350	4510	2000	1800	1900	35	24
1RQ7714-8M..8-OCG0	20200	3980	1800	2900	220	350	4750	2000	1800	1900	35	24
1RQ7716-8M..8-OCG0	21200	3980	1800	2900	220	350	4750	2000	1800	1900	35	24

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

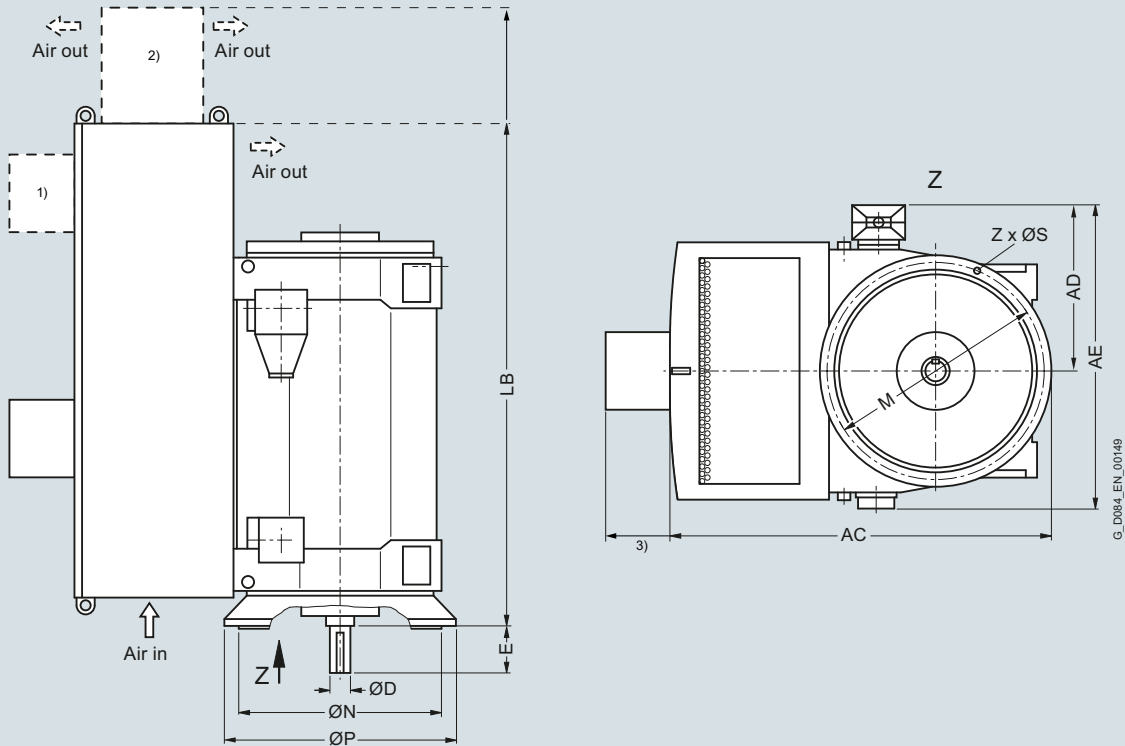
Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

Motors for converter operation

Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC	AD ⁵⁾	AE ⁵⁾	D	E	LB	P	N	M	S	Z
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RQ7 ⁴⁾ – IC666												
10-pole												
1RQ7630-3M..8-0CG0	13000	3520	1250	2130	200	280	3700	1800	1600	1700	28	24
1RQ7632-3M..8-0CG0	13500	3520	1250	2130	200	280	3700	1800	1600	1700	28	24
1RQ7634-3M..8-0CG0	14400	3520	1250	2130	200	280	3900	1800	1600	1700	28	24
1RQ7636-3M..8-0CG0	14900	3520	1250	2130	200	280	3900	1800	1600	1700	28	24
1RQ7710-3M..8-0CG0	17500	3980	1800	2900	220	350	4510	2000	1800	1900	35	24
1RQ7712-3M..8-0CG0	18500	3980	1800	2900	220	350	4510	2000	1800	1900	35	24
1RQ7714-3M..8-0CG0	20100	3980	1800	2900	220	350	4750	2000	1800	1900	35	24
1RQ7716-3M..8-0CG0	21200	3980	1800	2900	220	350	4750	2000	1800	1900	35	24

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

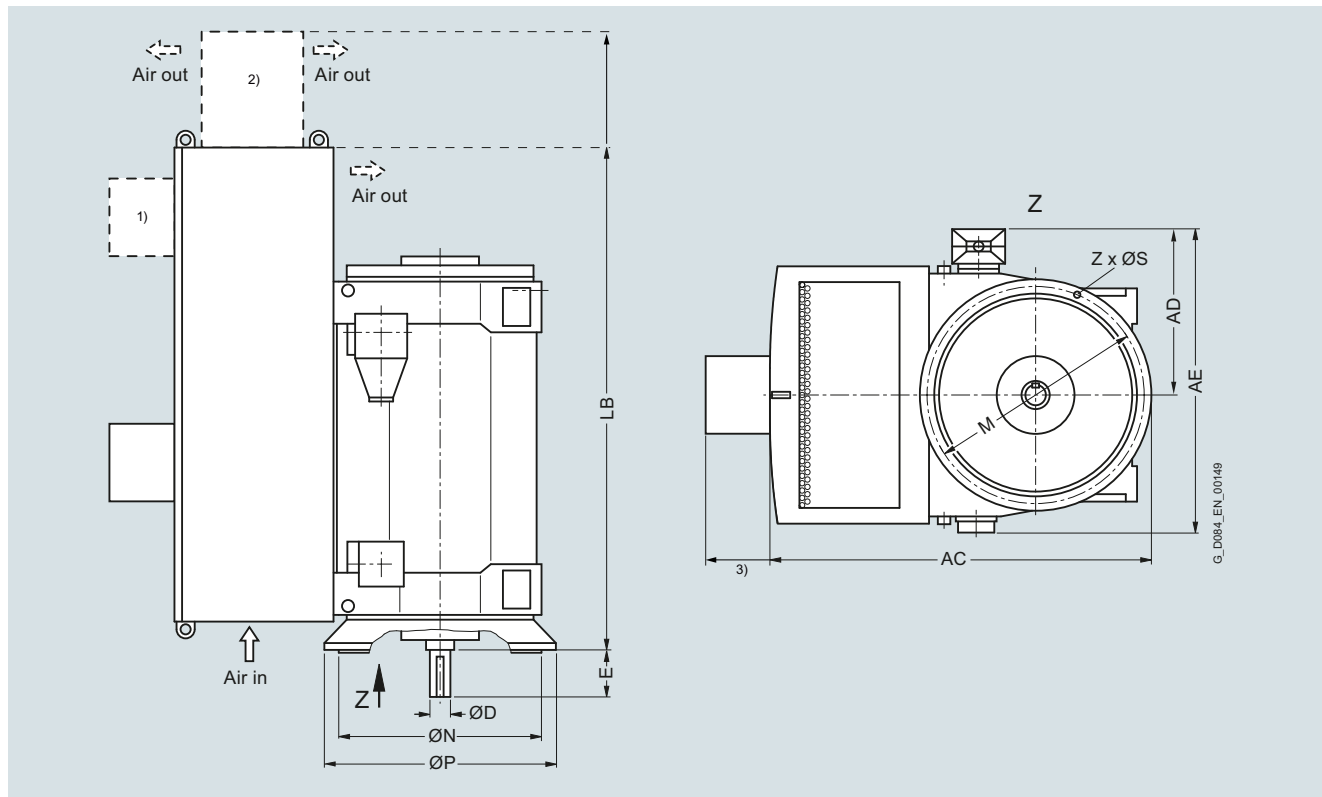
5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

Motors for converter operation Converter with non-sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions										
		AC	AD ⁵⁾	AE ⁵⁾	D	E	LB	P	N	M	S	Z

Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RQ7⁴⁾ – IC666

12-pole												
1RQ7630-5M..8-0CG0	12900	3520	1250	2130	200	280	3700	1800	1600	1700	28	24
1RQ7632-5M..8-0CG0	13500	3520	1250	2130	200	280	3700	1800	1600	1700	28	24
1RQ7634-5M..8-0CG0	14300	3520	1250	2130	200	280	3900	1800	1600	1700	28	24
1RQ7636-5M..8-0CG0	14900	3520	1250	2130	200	280	3900	1800	1600	1700	28	24

Note:

Higher pole numbers are available on request.

1) External fan for shaft height 630.

2) External fan for shaft heights 710, 800.

3)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm, AE + 300 mm. Detailed drawings are available on request.

5) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

3

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1RN6, 1RN7	
Rated voltage	690 V ... 10 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/IC86W
Stator winding insulation	Insulation system, thermal class 155 (F)
Shaft height	450 ... 900 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 800 mm	Housing: 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 partner regarding this check. The motor types are marked with footnotes in the following data tables.

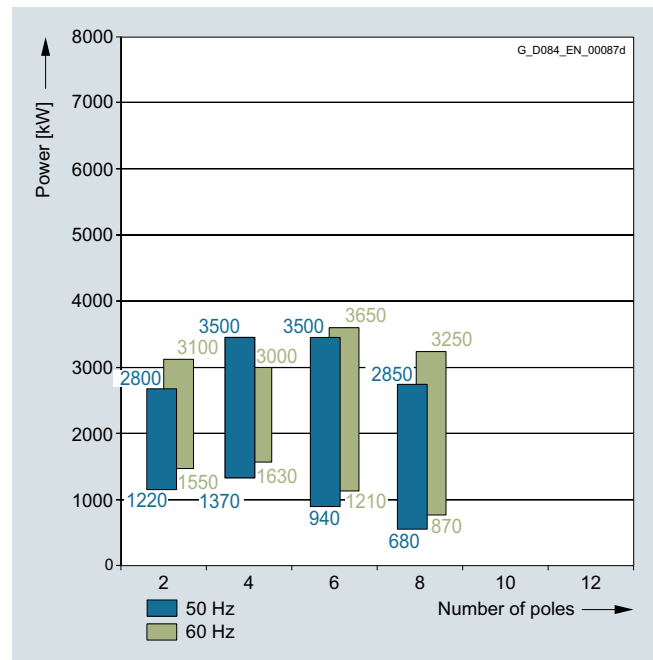
Power ranges for IEC motors with reinforced insulation for operation with SINAMICS converters without sine-wave filter

1RN6, 1SL6 (Ex ec) and 1SQ6 (Ex pxb) series

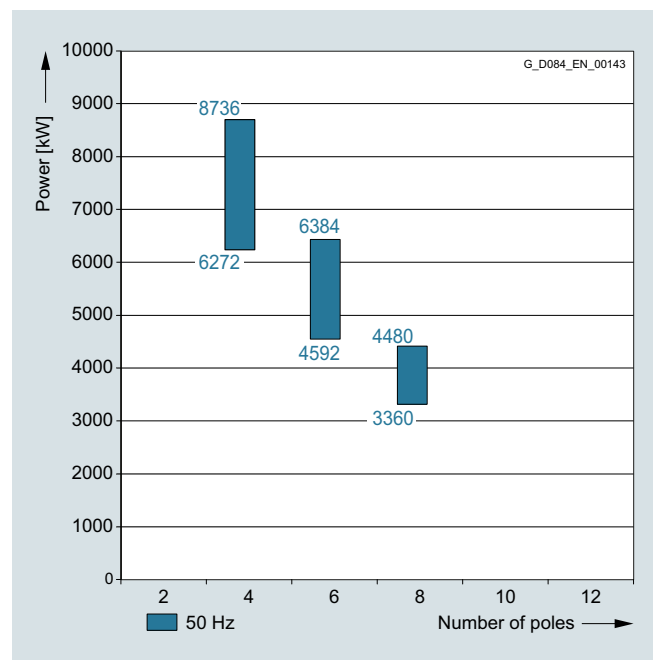
1RN7, 1SL7 (Ex ec) and 1SQ7 (Ex pxb) series

Insulation system, thermal class 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

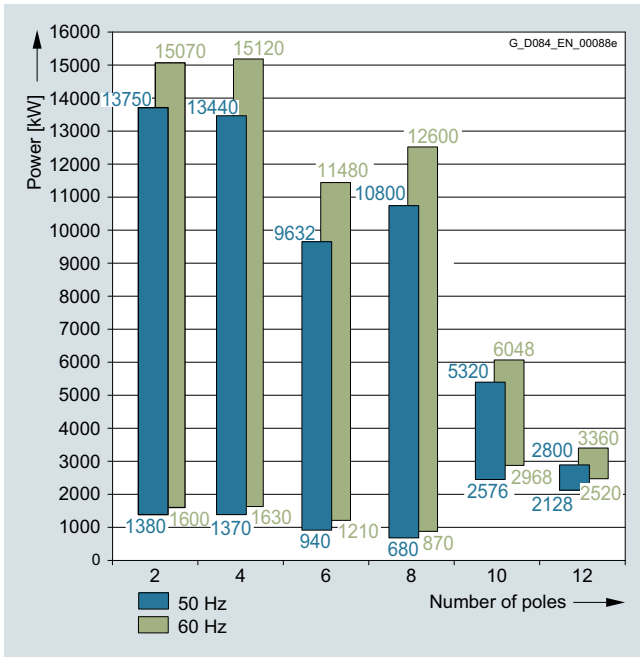


3.3 kV; 50 Hz

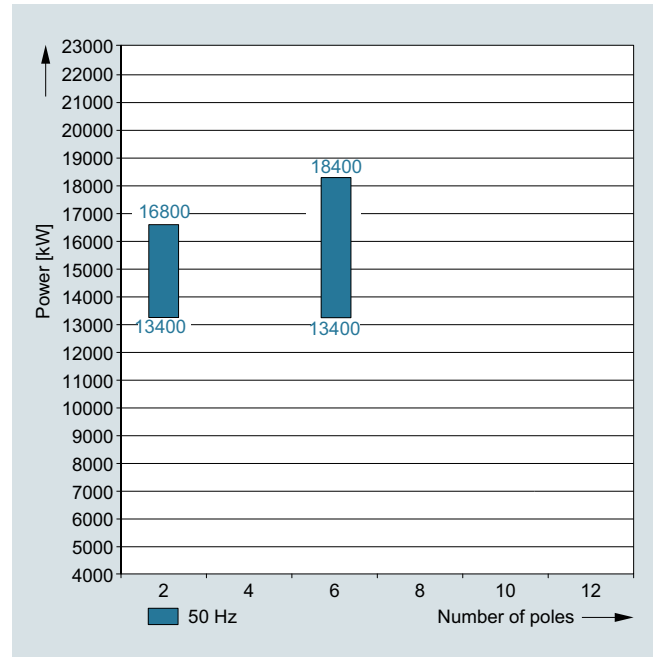
Motors for converter operation Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

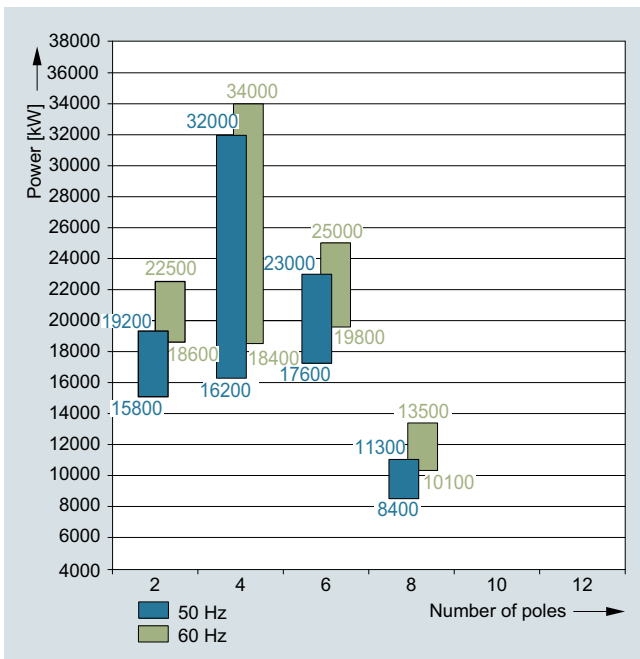
Technical data (continued)



4.16 kV; 50 Hz and 60 Hz



9 .. 11 kV; 50 Hz



Up to 6.6 kV; 50 Hz and 60 Hz

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL6 (Ex ec) and 1SQ6 (Ex pxb).

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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	1RN6450-2HP00	2980	95.5	0.90	1180	3913	2.20	13	3000
1520	1RN6452-2HP00	2980	96.0	0.90	1480	4875	2.10	14	3000
1600	1RN6454-2HP00	2983	96.2	0.92	1520	5129	2.30	16	3000
1700	1RN6456-2HP00	2983	96.2	0.92	1600	5445	2.30	18	3000
2250	1RN6500-2HP00	2975	96.4	0.90	2160	7222	2.30	19	3000
2550	1RN6502-2HP00	2974	96.6	0.90	2440	8188	2.10	20	3000
2800	1RN6504-2HP00	2977	96.7	0.92	4x660 ⁴⁾	8982	2.50	24	3000 ³⁾
4-pole									
1370	1RN6450-4HP00	1484	95.6	0.89	1340	8833	2.40	20	1800
1500	1RN6452-4HP00	1484	95.6	0.90	1460	9671	2.40	22	1800
1640	1RN6454-4HP00	1484	96.0	0.90	1580	10568	2.40	25	1800
1860	1RN6456-4HP00	1485	96.2	0.90	1800	11977	2.30	29	1800
2300 ²⁾	1RN6500-4HP00	1486	96.6	0.90	2200	14780	2.35	42	1800
2350 ²⁾	1RN6502-4HP00	1486	96.6	0.92	2200	15102	2.50	46	1800
2800 ²⁾	1RN6504-4HP00	1488	96.9	0.90	4x670 ⁴⁾	17969	2.60	52	1800
3200 ²⁾	1RN6560-4HP00	1486	96.8	0.92	4x750 ⁴⁾	20564	2.15	82	1800
3500 ²⁾	1RN6562-4HP00	1487	96.9	0.92	4x820 ⁴⁾	22476	2.15	93	1800

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

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.

⁴⁾ Different number of parallel winding systems possible.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN6450-2...	916	2709	95.8	0.91	610	2371	96.0	0.90	305	1883	96.0	0.85
1RN6452-2...	1141	2708	96.4	0.91	760	2371	96.6	0.91	380	1883	96.5	0.87
1RN6454-2...	1201	2710	96.5	0.92	800	2372	96.6	0.91	400	1884	96.6	0.87
1RN6456-2...	1276	2711	96.5	0.92	850	2373	96.7	0.92	425	1884	96.6	0.88
1RN6500-2...	1688	2708	96.6	0.89	1125	2369	96.7	0.87	563	1883	96.7	0.79
1RN6502-2...	1913	2707	96.8	0.89	1275	2368	96.9	0.87	638	1882	96.9	0.81
1RN6504-2...	2101	2710	96.9	0.91	1400	2370	97.0	0.90	701	1883	97.0	0.84
4-pole												
1RN6450-4...	1028	1350	95.9	0.88	685	1182	96.1	0.86	343	940	95.9	0.79
1RN6452-4...	1125	1350	96.0	0.90	750	1182	96.2	0.88	375	940	96.2	0.83
1RN6454-4...	1230	1350	96.3	0.90	820	1183	96.5	0.89	410	940	96.4	0.84
1RN6456-4...	1395	1351	96.5	0.89	930	1183	96.6	0.88	465	941	96.5	0.82
1RN6500-4..	1726	1353	96.7	0.89	1150	1183	96.9	0.86	575	941	96.8	0.77
1RN6502-4..	1763	1353	96.8	0.91	1175	1184	96.9	0.88	588	941	96.9	0.80
1RN6504-4..	2100	1354	97.0	0.89	1400	1184	97.1	0.86	700	941	96.9	0.74
1RN6560-4..	2401	1353	97.0	0.91	1600	1184	97.2	0.90	801	941	97.3	0.85
1RN6562-4..	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

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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_B/T_{rated} [-]	J kgm ²	n_{max} rpm
690 V, 50 Hz									
6-pole									
940	1RN6450-6HP0	990	95.8	0.86	950	9079	2.30	26	1200
1040	1RN6452-6HP0	991	95.9	0.86	1060	10039	2.30	29	1200
1180	1RN6454-6HP0	991	96.0	0.86	1200	11394	2.30	32	1200
1330	1RN6456-6HP0	992	96.2	0.86	1340	12823	2.30	37	1200
1800	1RN6500-6HP0	988	96.0	0.85	1840	17399	1.75	56	1500
2000	1RN6502-6HP0	988	96.2	0.86	2040	19332	1.80	62	1500
2300	1RN6504-6HP0	989	96.4	0.85	2360	22209	1.95	69	1500
2400	1RN6506-6HP0	990	96.4	0.86	2440	23152	1.95	77	1500
2850	1RN6560-6HP0	990	96.6	0.87	3x950 ²⁾	27492	2.25	108	1300
3200	1RN6562-6HP0	991	96.9	0.86	3x1080 ²⁾	30838	2.45	119	1300
3500	1RN6564-6HP0	990	96.8	0.88	3x1140 ²⁾	33763	2.20	132	1300
8-pole									
680	1RN6450-8HP0	743	94.9	0.83	720	8750	2.30	32	1200
750	1RN6452-8HP0	743	95.2	0.84	780	9651	2.40	36	1200
880	1RN6454-8HP0	743	95.2	0.84	920	11324	2.40	40	1200
970	1RN6456-8HP0	744	95.4	0.84	1020	12476	2.40	46	1200
1400	1RN6500-8HP0	741	95.8	0.83	1480	18043	1.85	69	1350
1560	1RN6502-8HP0	742	95.9	0.83	1640	20078	1.85	76	1350
1720	1RN6504-8HP0	742	96.0	0.83	1800	22137	1.95	85	1350
1900	1RN6506-8HP0	743	96.2	0.83	2000	24421	2.10	94	1350
1960	1RN6560-8HP0	743	96.6	0.84	2040	25192	2.15	128	1350
2300	1RN6562-8HP0	743	96.6	0.84	2360	29563	2.20	141	1350
2600	1RN6564-8HP0	743	96.7	0.84	4x670 ²⁾	33419	2.45	156	1350
2850	1RN6566-8HP0	743	96.7	0.85	4x730 ²⁾	36632	2.25	173	1350

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

²⁾ Different number of parallel winding systems possible.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type
(repeated)

Partial load data 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

1RN6450-6...	705	900	96.1	0.85	470	789	96.3	0.82	235	627	96.2	0.73
1RN6452-6...	780	901	96.3	0.85	520	789	96.4	0.82	260	627	96.3	0.73
1RN6454-6...	885	901	96.3	0.85	590	789	96.4	0.83	295	627	96.4	0.74
1RN6456-6...	998	902	96.5	0.84	665	789	96.6	0.81	333	627	96.3	0.71
1RN6500-6...	1350	898	96.3	0.85	900	787	96.4	0.84	450	626	96.3	0.78
1RN6502-6...	1500	898	96.4	0.86	1000	787	96.6	0.84	500	626	96.4	0.78
1RN6504-6...	1725	899	96.5	0.85	1150	787	96.6	0.83	575	626	96.4	0.75
1RN6506-6...	1800	900	96.6	0.86	1200	788	96.7	0.84	600	626	96.5	0.77
1RN6560-6...	2138	900	96.7	0.87	1425	788	96.8	0.86	713	627	96.7	0.80
1RN6562-6...	2400	901	97.0	0.86	1600	789	97.0	0.84	800	627	96.7	0.76
1RN6564-6...	2625	900	97.0	0.88	1750	788	97.1	0.87	875	626	97.0	0.82

8-pole

1RN6450-8...	510	676	95.1	0.80	340	592	95.0	0.75	170	470	94.4	0.63
1RN6452-8...	563	676	95.4	0.81	375	592	95.4	0.77	188	470	94.9	0.65
1RN6454-8...	660	676	95.4	0.82	440	592	95.4	0.77	220	470	94.8	0.65
1RN6456-8...	728	676	95.6	0.82	485	592	95.6	0.77	243	470	95.1	0.65
1RN6500-8...	1050	674	95.9	0.82	700	590	95.9	0.80	350	469	95.5	0.70
1RN6502-8...	1170	674	96.0	0.82	780	591	96.1	0.80	390	469	95.6	0.70
1RN6504-8...	1290	675	96.1	0.82	860	591	96.1	0.79	430	470	95.7	0.70
1RN6506-8...	1425	675	96.3	0.82	950	591	96.2	0.78	475	470	95.6	0.67
1RN6560-8...	1470	675	96.7	0.84	980	591	96.8	0.82	490	470	96.6	0.73
1RN6562-8...	1725	675	96.7	0.84	1150	591	96.8	0.81	575	470	96.5	0.72
1RN6564-8...	1950	676	96.8	0.83	1300	592	96.8	0.79	650	470	96.4	0.69
1RN6566-8...	2138	675	96.8	0.84	1425	591	96.9	0.82	713	470	96.6	0.74

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Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL7 (Ex ec) and 1SQ7 (Ex pxb).

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 3.3 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	
3.3 kV, 50 Hz											
4-pole											
6272 ²⁾	5600	1RN7630-4-50-0C-0	1490	97.4	0.87	1160	35890	2.10	145	1800	
7056 ²⁾	6300	1RN7632-4-50-0C-0	1490	97.4	0.88	1280	40376	2.15	160	1800	
7840 ²⁾	7000	1RN7634-4-50-0C-0	1491	97.6	0.88	1420	44832	2.25	178	1800	
8736 ²⁾	7800	1RN7636-4-50-0C-0	1491	97.6	0.88	1580	49956	2.35	194	1800	
6-pole											
4592	4100	1RN7630-6-50-0C-0	993	97.3	0.84	880	39428	2.20	207	1800	
5152	4600	1RN7632-6-50-0C-0	993	97.3	0.84	980	44236	2.15	229	1800	
5712	5100	1RN7634-6-50-0C-0	993	97.4	0.84	1100	49045	2.20	250	1800	
6384	5700	1RN7636-6-50-0C-0	993	97.4	0.85	1200	54815	2.15	271	1800	
8-pole											
3360	3000	1RN7630-8-50-0C-0	745	96.8	0.82	660	38454	2.45	255	1350	
3752	3350	1RN7632-8-50-0C-0	745	96.7	0.82	740	42940	2.50	282	1350	
4200	3750	1RN7634-8-50-0C-0	745	96.8	0.82	830	48067	2.50	308	1350	
4480	4000	1RN7636-8-50-0C-0	745	96.9	0.83	870	51271	2.60	334	1350	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN7630-4...	4202	1355	97.5	0.88	2801	1185	97.5	0.88	1401	941	97.5	0.84
1RN7632-4...	4727	1355	97.5	0.88	3150	1185	97.6	0.88	1576	941	97.6	0.85
1RN7634-4...	5252	1355	97.7	0.89	3500	1185	97.7	0.88	1751	942	97.6	0.85
1RN7636-4...	5852	1356	97.7	0.89	3900	1185	97.7	0.88	1951	942	97.6	0.83
6-pole												
1RN7630-6...	3076	903	97.3	0.84	2050	789	97.4	0.82	1025	627	97.1	0.75
1RN7632-6...	3451	903	97.4	0.84	2300	789	97.4	0.83	1151	627	97.2	0.76
1RN7634-6...	3826	903	97.5	0.84	2550	789	97.5	0.83	1276	627	97.3	0.76
1RN7636-6...	4277	903	97.5	0.85	2850	789	97.5	0.83	1426	627	97.3	0.77
8-pole												
1RN7630-8...	2250	677	96.7	0.81	1501	592	96.5	0.77	750	471	95.9	0.67
1RN7632-8...	2515	677	96.7	0.81	1676	592	96.5	0.77	840	471	95.8	0.66
1RN7634-8...	2815	677	96.8	0.81	1877	592	96.6	0.77	940	471	96.0	0.67
1RN7636-8...	3000	677	96.8	0.81	2002	592	96.7	0.77	1000	471	96.0	0.66

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL6/1SL7 (Ex ec) and 1SQ6/1SQ7 (Ex pxb).

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RN6 at rated output for utilization 155 (F), for 1RN7 at rated output for utilization 130 (B)							
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}	$T_{\text{B}}/T_{\text{rated}}$	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
4.16 kV, 50 Hz										
2-pole										
1380	— ³⁾	1RN6450-2HS40	2973	95.9	0.90	220	4433	2.00	13	3000
1570	— ³⁾	1RN6452-2HS40	2977	96.2	0.90	250	5040	2.20	14	3000
1750	— ³⁾	1RN6454-2HS40	2978	96.4	0.91	275	5616	2.30	16	3000
1950	— ³⁾	1RN6456-2HS40	2981	96.6	0.92	305	6252	2.30	18	3000
2550	2244	1RN6500-2HS40	2967	96.2	0.88	420	8207	1.85	19	3000
2700	2376	1RN6502-2HS40	2969	96.3	0.90	430	8684	2.05	20	3000
3200	2816	1RN6504-2HS40	2974	96.6	0.91	510	10275	2.35	24	3000 ²⁾
3550	3124	1RN6506-2HS40	2975	96.9	0.92	550	11395	2.40	26	3000 ²⁾
3700	3367	1RN6560-2HS40	2977	96.7	0.90	590	11868	1.90	39	3000 ²⁾
4300	3913	1RN6562-2HS40	2979	97.0	0.91	680	13784	2.05	43	3000 ²⁾
5000	4550	1RN6564-2HS40	2981	97.1	0.92	780	16017	2.25	49	3000 ²⁾
5700	5187	1RN6566-2HS40	2982	97.3	0.93	2x435	18253	2.45	54	3000 ²⁾
6490	5900	1RN7630-2 ■ 40-0C ■ 0	2981	97.4	0.88	960	18900	1.95	74	3000
7260	6600	1RN7632-2 ■ 40-0C ■ 0	2983	97.5	0.89	1060	21128	2.15	83	3000
8030	7300	1RN7634-2 ■ 40-0C ■ 0	2985	97.7	0.90	1160	23353	2.50	91	3000
8910	8100	1RN7636-2 ■ 40-0C ■ 0	2985	97.8	0.91	1260	25913	2.60	100	3000
9900	9000	1RN7710-2 ■ 40-0C ■ 0	2986	97.4	0.91	1400	28782	2.00	148	3000
11000	10000	1RN7712-2 ■ 40-0C ■ 0	2985	97.5	0.91	1560	31991	2.00	160	3000
12320	11200	1RN7714-2 ■ 40-0C ■ 0	2987	97.6	0.92	1740	35806	2.25	175	3000
13750	12500	1RN7716-2 ■ 40-0C ■ 0	2986	97.7	0.92	1940	39975	2.25	190	3000

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN6450-2...	1035	2704	96.1	0.91	690	2368	96.3	0.91	345	1882	96.4	0.87
1RN6452-2...	1178	2707	96.4	0.91	785	2370	96.5	0.90	393	1883	96.4	0.87
1RN6454-2...	1313	2707	96.6	0.92	875	2370	96.7	0.91	438	1883	96.6	0.88
1RN6456-2...	1464	2709	96.8	0.92	975	2371	96.9	0.91	488	1884	96.8	0.88
1RN6500-2...	1914	2704	96.5	0.88	1276	2366	96.6	0.87	638	1881	96.7	0.81
1RN6502-2...	2026	2705	96.5	0.90	1350	2367	96.7	0.88	675	1882	96.7	0.83
1RN6504-2...	2401	2708	96.8	0.90	1600	2369	96.9	0.89	801	1883	96.8	0.81
1RN6506-2...	2663	2708	97.0	0.91	1775	2369	97.1	0.90	888	1883	97.1	0.83
1RN6560-2...	2777	2709	96.9	0.90	1851	2370	97.0	0.89	925	1883	97.0	0.84
1RN6562-2...	3226	2711	97.1	0.90	2151	2371	97.2	0.89	1076	1884	97.2	0.84
1RN6564-2...	3751	2712	97.3	0.91	2500	2371	97.3	0.90	1251	1884	97.3	0.85
1RN6566-2...	4276	2713	97.4	0.92	2850	2372	97.5	0.91	1426	1885	97.4	0.85
1RN7630-2...	4428	2710	97.5	0.89	2951	2370	97.6	0.89	1475	1883	97.7	0.87
1RN7632-2...	4952	2712	97.6	0.90	3300	2371	97.7	0.90	1650	1884	97.7	0.87
1RN7634-2...	5476	2714	97.8	0.91	3650	2372	97.8	0.90	1826	1884	97.8	0.87
1RN7636-2...	6076	2714	97.9	0.91	4050	2372	97.9	0.91	2026	1884	97.9	0.88
1RN7710-2...	6749	2713	97.4	0.92	4499	2374	97.3	0.92	2249	1885	97.0	0.89
1RN7712-2...	7500	2712	97.5	0.92	5000	2373	97.4	0.93	2499	1885	97.2	0.91
1RN7714-2...	8404	2713	97.6	0.93	5603	2374	97.5	0.93	2802	1885	97.2	0.90
1RN7716-2...	9375	2713	97.7	0.93	6250	2374	97.6	0.93	3124	1885	97.3	0.91

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RN6 at rated output for utilization 155 (F), for 1RN7 at rated output for utilization 130 (B)							
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
4.16 kV, 50 Hz										
4-pole										
1370	— ³⁾	1RN6450-4HS4	1484	95.6	0.88	225	8824	2.60	20	1800
1500	— ³⁾	1RN6452-4HS4	1485	95.8	0.88	245	9649	2.50	22	1800
1640	— ³⁾	1RN6454-4HS4	1485	96.0	0.89	265	10549	2.50	25	1800
1860	— ³⁾	1RN6456-4HS4	1485	96.1	0.90	300	11966	2.50	29	1800
2500 ²⁾	2200	1RN6500-4HS40	1485	96.4	0.90	400	16076	2.25	42	1800
2800 ²⁾	2464	1RN6502-4HS40	1485	96.5	0.90	445	18005	2.25	46	1800
3150 ²⁾	2772	1RN6504-4HS40	1485	96.6	0.91	495	20256	2.25	52	1800
3450 ²⁾	3036	1RN6506-4HS40	1486	96.8	0.91	540	22170	2.35	56	1800
3900 ²⁾	3549	1RN6560-4HS40	1489	97.0	0.89	630	25012	1.95	84	1800
4500 ²⁾	4095	1RN6562-4HS40	1489	97.1	0.90	710	28860	2.00	94	1800
5000 ²⁾	4550	1RN6564-4HS40	1490	97.2	0.91	780	32045	2.10	105	1800
5500 ²⁾	5005	1RN6566-4HS40	1490	97.4	0.91	2x430	35249	2.20	115	1800
6272 ²⁾	5600	1RN7630-4 40-0C	1490	97.5	0.88	910	35890	2.25	145	1800
7056 ²⁾	6300	1RN7632-4 40-0C	1490	97.5	0.88	1020	40376	2.20	160	1800
7840 ²⁾	7000	1RN7634-4 40-0C	1491	97.7	0.88	1120	44832	2.20	178	1800
8736 ²⁾	7800	1RN7636-4 40-0C	1491	97.7	0.88	1260	49956	2.25	194	1800
9744 ²⁾	8700	1RN7710-4 40-0C	1491	97.5	0.90	1380	55720	2.15	262	1800
10864 ²⁾	9700	1RN7712-4 40-0C	1491	97.6	0.90	1540	62125	2.15	286	1800
12096 ²⁾	10800	1RN7714-4 40-0C	1492	97.7	0.91	1680	69124	2.35	321	1800
13440 ²⁾	12000	1RN7716-4 40-0C	1492	97.8	0.91	1880	76804	2.35	361	1800

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

³⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN6450-4...	1028	1350	95.8	0.87	685	1183	96.0	0.85	343	940	95.8	0.78
1RN6452-4...	1125	1351	96.0	0.87	750	1183	96.1	0.85	375	941	95.9	0.77
1RN6454-4...	1230	1351	96.2	0.89	820	1183	96.3	0.87	410	941	96.2	0.80
1RN6456-4...	1395	1351	96.3	0.90	930	1183	96.5	0.88	465	941	96.4	0.83
1RN6500-4...	1876	1352	96.6	0.89	1250	1183	96.7	0.86	625	941	96.5	0.77
1RN6502-4...	2101	1352	96.7	0.89	1400	1183	96.8	0.86	700	941	96.6	0.77
1RN6504-4...	2363	1353	96.8	0.90	1575	1183	96.9	0.88	788	941	96.8	0.79
1RN6506-4...	2588	1353	96.9	0.90	1725	1184	97.0	0.88	863	941	96.9	0.79
1RN6560-4...	2927	1355	97.1	0.89	1950	1185	97.2	0.87	976	942	97.1	0.80
1RN6562-4...	3377	1355	97.2	0.90	2250	1185	97.4	0.88	1126	942	97.3	0.82
1RN6564-4...	3752	1356	97.4	0.90	2500	1185	97.5	0.89	1251	942	97.4	0.82
1RN6566-4...	4126	1356	97.5	0.90	2750	1186	97.6	0.88	1376	942	97.4	0.81
1RN7630-4...	4202	1355	97.6	0.88	2800	1185	97.6	0.88	1401	941	97.5	0.84
1RN7632-4...	4727	1355	97.6	0.89	3150	1185	97.7	0.89	1576	941	97.6	0.85
1RN7634-4...	5252	1355	97.8	0.88	3500	1185	97.8	0.88	1751	942	97.7	0.85
1RN7636-4...	5852	1356	97.8	0.89	3900	1185	97.8	0.88	1951	942	97.7	0.85
1RN7710-4...	6527	1355	97.5	0.91	4359	1186	97.5	0.91	2181	942	97.2	0.89
1RN7712-4...	7277	1355	97.6	0.91	4860	1186	97.6	0.91	2431	942	97.3	0.88
1RN7714-4...	8105	1356	97.7	0.91	5412	1186	97.6	0.91	2708	942	97.3	0.88
1RN7716-4...	9006	1356	97.8	0.92	6014	1186	97.7	0.92	3009	942	97.5	0.89

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RN6 at rated output for utilization 155 (F), for 1RN7 at rated output for utilization 130 (B)							
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}	$T_{\text{B}}/T_{\text{rated}}$	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
4.16 kV, 50 Hz										
6-pole										
940	— ²⁾	1RN6450-6HS4	990	95.7	0.85	160	9071	2.40	26	1200
1040	— ²⁾	1RN6452-6HS4	991	95.9	0.85	178	10026	2.50	29	1200
1180	— ²⁾	1RN6454-6HS4	991	96.1	0.86	198	11381	2.50	32	1200
1330	— ²⁾	1RN6456-6HS4	992	96.2	0.85	225	12811	2.50	37	1200
2000	1800	1RN6500-6HS4	987	95.8	0.84	345	19352	1.75	56	1500
2200	2000	1RN6502-6HS4	986	95.8	0.85	375	21308	1.65	62	1500
2450	2200	1RN6504-6HS4	987	96.0	0.85	415	23706	1.70	69	1500
2650	2400	1RN6506-6HS4	988	96.2	0.86	445	25615	1.80	77	1500
3150	2750	1RN6560-6HS4	989	96.5	0.86	530	30417	2.05	108	1300
3500	3100	1RN6562-6HS4	989	96.5	0.87	580	33797	2.05	119	1300
3900	3450	1RN6564-6HS4	989	96.6	0.87	640	37659	2.10	132	1300
4250	3750	1RN6566-6HS4	989	96.7	0.87	700	41039	2.05	146	1300
4592	4100	1RN7630-6 ■ 40-0C ■ 0	993	97.3	0.84	700	39428	2.20	207	1800
5152	4600	1RN7632-6 ■ 40-0C ■ 0	993	97.4	0.84	780	44236	2.20	229	1800
5712	5100	1RN7634-6 ■ 40-0C ■ 0	993	97.3	0.84	870	49045	2.25	250	1800
6384	5700	1RN7636-6 ■ 40-0C ■ 0	993	97.4	0.84	970	54815	2.25	271	1800
7056	6300	1RN7710-6 ■ 40-0C ■ 0	994	97.2	0.86	1040	60524	2.10	350	1600
7840	7000	1RN7712-6 ■ 40-0C ■ 0	994	97.3	0.86	1160	67249	2.15	398	1600
8624	7700	1RN7714-6 ■ 40-0C ■ 0	995	97.5	0.87	1260	73899	2.30	450	1600
9632	8600	1RN7716-6 ■ 40-0C ■ 0	995	97.5	0.86	1420	82537	2.30	496	1600

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type
(repeated)

Partial load data 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

Motor type	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
1RN6450-6...	705	901	96.0	0.84	470	789	96.1	0.81	235	627	96.0	0.71
1RN6452-6...	780	901	96.1	0.84	520	789	96.2	0.80	260	627	96.0	0.70
1RN6454-6...	885	901	96.3	0.85	590	789	96.4	0.82	295	627	96.3	0.73
1RN6456-6...	998	902	96.4	0.83	665	790	96.5	0.80	333	627	96.2	0.69
1RN6500-6...	1500	898	96.1	0.84	1000	786	96.2	0.83	500	625	96.1	0.75
1RN6502-6...	1650	897	96.1	0.85	1100	786	96.3	0.84	550	625	96.3	0.78
1RN6504-6...	1838	897	96.3	0.85	1225	786	96.5	0.85	613	625	96.4	0.79
1RN6506-6...	1988	898	96.4	0.86	1325	787	96.6	0.85	663	626	96.5	0.78
1RN6560-6...	2363	899	96.7	0.87	1575	788	96.8	0.86	788	626	96.8	0.81
1RN6562-6...	2625	899	96.7	0.87	1750	788	96.9	0.87	875	626	96.8	0.82
1RN6564-6...	2925	900	96.8	0.87	1950	788	97.0	0.86	975	626	96.9	0.81
1RN6566-6...	3188	899	96.9	0.88	2125	788	97.1	0.87	1063	626	97.0	0.82
1RN7630-6...	3076	903	97.4	0.84	2050	789	97.4	0.82	1025	627	97.1	0.75
1RN7632-6...	3451	903	97.4	0.84	2300	789	97.4	0.83	1151	627	97.2	0.76
1RN7634-6...	3826	903	97.4	0.84	2550	790	97.4	0.82	1276	627	97.2	0.75
1RN7636-6...	4276	903	97.5	0.84	2850	789	97.5	0.82	1426	627	97.3	0.75
1RN7710-6...	4728	903	97.2	0.85	3157	790	97.0	0.84	1580	628	96.5	0.77
1RN7712-6...	5254	903	97.3	0.86	3508	791	97.1	0.85	1756	628	96.7	0.78
1RN7714-6...	5778	904	97.4	0.86	3859	791	97.2	0.84	1930	628	96.7	0.77
1RN7716-6...	6453	904	97.4	0.86	4309	791	97.2	0.83	2155	628	96.7	0.75

3

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RN6 at rated output for utilization 155 (F), for 1RN7 at rated output for utilization 130 (B)							
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
4.16 kV, 50 Hz										
8-pole										
680	— ²⁾	1RN6450-8HS4	743	94.7	0.82	122	8743	2.50	32	1200
750	— ²⁾	1RN6452-8HS4	744	95.0	0.82	134	9638	2.50	36	1200
880	— ²⁾	1RN6454-8HS4	743	95.1	0.83	154	11318	2.50	40	1200
970	— ²⁾	1RN6456-8HS4	743	95.3	0.85	166	12477	2.40	46	1200
1360	1220	1RN6500-8HS4	741	95.4	0.83	240	17528	1.75	69	1350
1540	1380	1RN6502-8HS4	741	95.6	0.83	270	19848	1.80	76	1350
1740	1560	1RN6504-8HS4	742	95.8	0.83	305	22395	1.90	85	1350
1880	1700	1RN6506-8HS4	743	95.8	0.84	325	24164	2.00	94	1350
2200	1940	1RN6560-8HS4	741	96.1	0.84	380	28354	1.90	128	1350
2500	2200	1RN6562-8HS4	741	96.2	0.84	430	32220	1.95	141	1350
2750	2400	1RN6564-8HS4	742	96.4	0.84	470	35394	2.05	156	1350
3000	2640	1RN6566-8HS4	742	96.5	0.85	510	38612	2.10	173	1350
3360	3000	1RN7630-8 ■■40-0C ■■0	744	96.5	0.83	520	38505	2.25	255	1350
3752	3350	1RN7632-8 ■■40-0C ■■0	744	96.6	0.83	580	42998	2.25	282	1350
4200	3750	1RN7634-8 ■■40-0C ■■0	744	96.7	0.83	650	48132	2.30	308	1350
4480	4000	1RN7636-8 ■■40-0C ■■0	744	96.7	0.84	680	51340	2.30	334	1350
5040	4500	1RN7710-8 ■■40-0C ■■0	745	96.9	0.85	760	57680	1.90	433	1125
5600	5000	1RN7712-8 ■■40-0C ■■0	745	97.0	0.85	840	64089	1.95	493	1125
6272	5600	1RN7714-8 ■■40-0C ■■0	745	97.1	0.86	930	71780	2.00	558	1125
7056	6300	1RN7716-8 ■■40-0C ■■0	745	97.2	0.86	1040	80752	2.15	617	1125
8000	7200	1RN7800-8 ■■40-0C ■■0	746	97.3	0.86	1200	92172	2.60	865	1125
8800	8000	1RN7802-8 ■■40-0C ■■0	746	97.4	0.86	1320	102413	2.50	955	1125
9800	8800	1RN7804-8 ■■40-0C ■■0	746	97.5	0.85	1480	112654	2.50	1055	1125
10800	9800	1RN7806-8 ■■40-0C ■■0	746	97.5	0.86	1620	125456	2.50	1165	1125

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type
(repeated)

Partial load data 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

8-pole

Motor type	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
1RN6450-8...	510	676	94.8	0.80	340	592	94.7	0.75	170	470	94.0	0.63
1RN6452-8...	563	676	95.1	0.80	375	592	95.1	0.75	188	470	94.4	0.62
1RN6454-8...	660	676	95.3	0.82	440	592	95.3	0.78	220	470	94.8	0.66
1RN6456-8...	728	676	95.5	0.83	485	592	95.5	0.80	243	470	95.1	0.69
1RN6500-8...	1020	674	95.7	0.83	680	590	95.8	0.81	340	469	95.4	0.72
1RN6502-8...	1155	674	95.8	0.83	770	590	95.9	0.81	385	469	95.5	0.72
1RN6504-8...	1305	674	96.0	0.83	870	591	96.0	0.80	435	470	95.6	0.71
1RN6506-8...	1410	675	95.9	0.82	940	591	95.9	0.79	470	470	95.4	0.69
1RN6560-8...	1650	674	96.3	0.84	1100	590	96.5	0.83	550	469	96.5	0.76
1RN6562-8...	1875	674	96.4	0.84	1250	590	96.6	0.83	625	469	96.5	0.76
1RN6564-8...	2063	674	96.6	0.84	1375	591	96.7	0.82	688	470	96.6	0.75
1RN6566-8...	2250	675	96.7	0.85	1500	591	96.8	0.83	750	470	96.7	0.75
1RN7630-8...	2250	677	96.8	0.81	1501	592	96.7	0.77	750	471	96.2	0.66
1RN7632-8...	2515	677	96.9	0.81	1676	592	96.7	0.77	840	471	96.3	0.66
1RN7634-8...	2816	676	97.0	0.83	1875	592	97.0	0.82	941	470	96.8	0.75
1RN7636-8...	3001	677	97.0	0.83	2000	592	96.9	0.80	1000	470	96.6	0.72
1RN7710-8...	3379	677	96.8	0.85	2257	592	96.7	0.84	1130	471	96.2	0.77
1RN7712-8...	3754	677	97.0	0.85	2507	593	96.8	0.84	1255	471	96.3	0.77
1RN7714-8...	4204	677	97.1	0.86	2808	593	96.9	0.84	1405	471	96.4	0.78
1RN7716-8...	4729	677	97.1	0.85	3158	593	96.9	0.83	1580	471	96.4	0.76
1RN7800-8...	5390	680	97.1	0.85	3600	594	96.9	0.82	1800	471	96.3	0.71
1RN7802-8...	5990	680	97.3	0.86	4000	594	97.0	0.83	2000	471	96.4	0.73
1RN7804-8...	6590	680	97.3	0.84	4400	594	97.0	0.81	2200	472	96.4	0.70
1RN7806-8...	7340	680	97.3	0.85	4900	594	97.1	0.82	2450	472	96.5	0.72

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Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization for utilization 130 (B)							
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
4.16 kV, 50 Hz										
10-pole										
2576	2300	1RN7630-3 40-0C 0	595	96.7	0.81	410	36913	2.30	258	1080
2856	2550	1RN7632-3 40-0C 0	595	96.8	0.81	450	40926	2.30	284	1080
3192	2850	1RN7634-3 40-0C 0	595	96.9	0.82	500	45740	2.30	310	1080
3528	3150	1RN7636-3 40-0C 0	595	97.0	0.81	560	50555	2.30	336	1080
3920	3500	1RN7710-3 40-0C 0	595	96.6	0.84	600	56172	2.20	429	1125
4312	3850	1RN7712-3 40-0C 0	595	96.7	0.85	650	61790	2.20	489	1125
4816	4300	1RN7714-3 40-0C 0	595	96.8	0.84	730	69012	2.20	551	1125
5320	4750	1RN7716-3 40-0C 0	595	96.9	0.85	800	76234	2.20	613	1125
12-pole										
2128	1900	1RN7630-5 40-0C 0	495	96.2	0.76	360	36654	2.25	264	900
2352	2100	1RN7632-5 40-0C 0	495	96.3	0.76	400	40512	2.30	290	900
2576	2300	1RN7634-5 40-0C 0	495	96.2	0.76	435	44370	2.30	318	900
2800	2500	1RN7636-5 40-0C 0	495	96.3	0.77	470	48229	2.30	344	900

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type
(repeated)

Partial load data 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

10-pole

1RN7630-3...	1725	541	96.8	0.80	1150	473	96.8	0.76	575	376	96.5	0.65
1RN7632-3...	1915	541	96.9	0.80	1276	473	96.9	0.76	640	376	96.6	0.65
1RN7634-3...	2140	541	97.0	0.80	1425	473	97.0	0.77	715	376	96.7	0.66
1RN7636-3...	2365	541	97.0	0.80	1577	473	97.0	0.77	790	376	96.8	0.66
1RN7710-3...	2627	541	96.5	0.83	1755	473	96.3	0.79	878	376	95.7	0.68
1RN7712-3...	2890	541	96.7	0.84	1930	473	96.5	0.81	966	376	95.9	0.71
1RN7714-3...	3227	541	96.7	0.83	2156	474	96.5	0.80	1079	376	95.8	0.69
1RN7716-3...	3565	541	96.8	0.84	2381	473	96.6	0.81	1192	376	96.0	0.71

12pole

1RN7630-5...	1425	450	96.2	0.73	951	394	96.1	0.68	475	313	95.5	0.54
1RN7632-5...	1575	450	96.3	0.73	1051	394	96.2	0.68	525	313	95.6	0.54
1RN7634-5...	1725	450	96.3	0.74	1150	394	96.2	0.68	575	313	95.6	0.55
1RN7636-5...	1875	450	96.4	0.74	1250	394	96.3	0.69	625	313	95.7	0.55

3

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL7 (Ex ec) and 1SQ7 (Ex pxb).

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6 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	
Up to 6.6 kV, 50 Hz											
2-pole											
15800	14300	1RN7800-2-60-0C-0	2985	97.4	0.88	1600	45747	1.55	246	3600	
17000	15400	1RN7802-2-60-0C-0	2987	97.5	0.89	1700	49233	1.80	266	3600	
18200	16500	1RN7804-2-60-0C-0	2988	97.6	0.90	1800	52732	1.90	285	3600	
19200	17500	1RN7806-2-60-0C-0	2988	97.7	0.91	1900	55928	1.95	305	3600	
4-pole											
16200 ²⁾	14500	1RN7800-4-60-0C-0	1492	97.6	0.91	1580	92812	2.10	520	1500	
17800 ²⁾	15900	1RN7802-4-60-0C-0	1492	97.7	0.91	1720	101773	2.20	575	1500	
19600 ²⁾	17500	1RN7804-4-60-0C-0	1493	97.8	0.91	1900	111939	2.30	630	1500	
21200 ²⁾	19000	1RN7806-4-60-0C-0	1493	97.8	0.91	2050	121534	2.30	685	1500	
25500	23000	1RN7900-4-60-0C-0	1494	98.1	0.90	2500	147011	1.85	1023	1800	
27500	25000	1RN7902-4-60-0C-0	1495	98.1	0.90	2700	159687	2.15	1102	1800	
29000	26500	1RN7904-4-60-0C-0	1495	98.2	0.90	2900	169268	2.15	1178	1800	
32000	29000	1RN7906-4-60-0C-0	1496	98.3	0.90	3150	185113	2.35	1296	1800	
6-pole											
17600	16000	1RN7900-6-60-0C-0	994	97.8	0.87	1800	153711	1.70	1301	1200	
19800	18000	1RN7902-6-60-0C-0	994	97.9	0.87	2050	172925	1.80	1464	1200	
22000	20000	1RN7904-6-60-0C-0	995	98.0	0.87	2250	191946	1.90	1627	1200	
23000	21000	1RN7906-6-60-0C-0	995	98.0	0.87	2350	201543	1.90	1789	1200	
8-pole											
8400	7500	1RN7800-8-60-0C-0	746	97.4	0.86	860	96012	2.40	860	1125	
9300	8400	1RN7802-8-60-0C-0	746	97.4	0.87	950	107534	2.30	955	1125	
10300	9300	1RN7804-8-60-0C-0	746	97.5	0.86	1060	119055	2.40	1055	1125	
11300	10300	1RN7806-8-60-0C-0	746	97.5	0.86	1180	131857	2.40	1160	1125	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN7800-2...	10800	2712	97.5	0.90	7200	2373	97.4	0.90	3600	1885	97.2	0.90
1RN7802-2...	11600	2714	97.5	0.90	7700	2375	97.5	0.91	3850	1885	97.2	0.89
1RN7804-2...	12400	2715	97.6	0.91	8200	2375	97.5	0.91	4100	1886	97.3	0.89
1RN7806-2...	13200	2714	97.7	0.91	8800	2375	97.7	0.92	4400	1886	97.4	0.90
4-pole												
1RN7800-4...	10800	1355	97.7	0.91	7200	1186	97.6	0.91	3600	942	97.2	0.89
1RN7802-4...	11900	1356	97.7	0.92	7900	1186	97.7	0.92	3900	942	97.3	0.89
1RN7804-4...	13100	1356	97.8	0.91	8700	1187	97.8	0.91	4300	942	97.3	0.88
1RN7806-4...	14200	1356	97.9	0.92	9500	1187	97.8	0.91	4700	942	97.4	0.88
1RN7900-4...	17250	1358	98.1	0.90	11500	1188	98.1	0.89	5750	943	97.8	0.86
1RN7902-4...	18750	1358	98.1	0.90	12500	1188	98.1	0.89	6250	943	97.8	0.86
1RN7904-4...	19875	1358	98.2	0.90	13250	1188	98.1	0.89	6625	943	97.9	0.86
1RN7906-4...	21750	1358	98.2	0.90	14500	1188	98.2	0.89	7250	943	97.9	0.86
6-pole												
1RN7900-6...	12000	904	97.9	0.89	8000	791	97.9	0.89	4000	628	97.6	0.85
1RN7902-6...	13500	904	98.0	0.89	9000	791	98.0	0.89	4500	628	97.7	0.85
1RN7904-6...	15000	904	98.0	0.89	10000	791	98.1	0.89	5000	628	97.8	0.85
1RN7906-6...	15750	904	98.1	0.89	10500	791	98.1	0.89	5250	628	97.8	0.85
8-pole												
1RN7800-8...	5620	679	97.2	0.85	3750	593	96.8	0.82	1870	471	96.3	0.72
1RN7802-8...	6290	679	97.4	0.86	4200	593	97.1	0.84	2100	471	96.6	0.76
1RN7804-8...	6970	679	97.4	0.85	4650	593	97.0	0.82	2320	471	96.5	0.72
1RN7806-8...	7720	679	97.4	0.85	5150	593	97.1	0.82	2570	471	96.6	0.72

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL7 (Ex ec) and 1SQ7 (Ex pxb).

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 10 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	
9 ... 11 kV, 50 Hz											
2-pole											
13400	12200	1RN7800-2-90-0C-0	2989	97.3	0.89	810	38977	1.80	246	3600	
14400	13000	1RN7802-2-90-0C-0	2989	97.4	0.90	860	41533	1.95	266	3600	
15400	14000	1RN7804-2-90-0C-0	2989	97.4	0.90	920	44727	1.90	285	3600	
16800	15200	1RN7806-2-90-0C-0	2990	97.5	0.91	990	48545	2.15	305	3600	
4-pole											
13400 ²⁾	12000	1RN7800-4-90-0C-0	1493	97.6	0.91	780	76758	2.40	520	1500	
15100 ²⁾	13500	1RN7802-4-90-0C-0	1494	97.7	0.91	880	86295	2.50	570	1500	
16800 ²⁾	15000	1RN7804-4-90-0C-0	1494	97.7	0.91	970	95884	2.50	625	1500	
18400 ²⁾	16500	1RN7806-4-90-0C-0	1494	97.7	0.92	1060	105472	2.50	690	1500	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN7800-2...	9200	2715	97.3	0.90	6100	2375	97.2	0.91	3050	1886	97.0	0.89
1RN7802-2...	9800	2715	97.4	0.91	6500	2376	97.3	0.91	3250	1886	97.1	0.90
1RN7804-2...	10400	2715	97.4	0.91	7000	2375	97.4	0.91	3500	1886	97.1	0.90
1RN7806-2...	11400	2716	97.5	0.91	7600	2376	97.5	0.91	3800	1886	97.2	0.89
4-pole												
1RN7800-4...	9000	1357	97.6	0.92	6000	1187	97.5	0.91	3000	943	97.0	0.88
1RN7802-4...	10100	1357	97.7	0.91	6700	1187	97.5	0.90	3300	943	97.0	0.85
1RN7804-4...	11200	1357	97.7	0.91	7500	1187	97.6	0.90	3700	943	97.1	0.86
1RN7806-4...	12300	1357	97.8	0.92	8200	1187	97.7	0.91	4100	943	97.2	0.88

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL6 (Ex ec) and 1SQ6 (Ex pxb).

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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	1RN6450-2HP10	3578	95.9	0.90	1500	4140	1.90	13	3600 ²⁾
1650	1RN6452-2HP10	3581	96.0	0.91	1580	4403	2.20	14	3600 ²⁾
1720	1RN6454-2HP10	3584	96.1	0.91	1640	4586	2.40	16	3600 ²⁾
2180	1RN6456-2HP10	3584	96.7	0.92	2040	5814	2.40	18	3600 ²⁾
2500	1RN6500-2HP10	3579	96.7	0.90	2400	6670	2.55	20	3600 ²⁾
2750	1RN6502-2HP10	3577	96.6	0.91	4x650 ⁵⁾	7342	2.35	22	3600 ²⁾
3100	1RN6504-2HP10	3581	97.0	0.92	4x730 ⁵⁾	8267	2.55	25	3600 ²⁾
4-pole									
1630	1RN6450-4HP1 ■	1784	95.9	0.88	1620	8740	2.30	20	1800
1750	1RN6452-4HP1 ■	1783	96.0	0.90	1700	9385	2.30	22	1800
2070	1RN6454-4HP1 ■	1783	96.2	0.90	2000	11104	2.30	25	1800
2310	1RN6456-4HP1 ■	1786	96.4	0.89	2240	12364	2.50	29	1800
2700 ⁴⁾	1RN6500-4HP10	1788	96.9	0.90	4x650 ⁵⁾	14420	2.80	42	1800 ³⁾
2850 ⁴⁾	1RN6502-4HP10	1786	96.9	0.91	4x680 ⁵⁾	15238	2.50	46	1800 ³⁾
3000 ⁴⁾	1RN6504-4HP10	1786	97.0	0.92	4x700 ⁵⁾	16040	2.40	52	1800 ³⁾

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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) Standard values; higher speed limits on request.

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.

5) Different number of parallel winding systems possible.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN6450-2...	1164	3253	96.2	0.90	775	2844	96.3	0.90	388	2261	96.2	0.86
1RN6452-2...	1239	3255	96.3	0.92	825	2845	96.4	0.91	413	2262	96.3	0.87
1RN6454-2...	1291	3257	96.3	0.92	860	2847	96.4	0.91	430	2262	96.2	0.86
1RN6456-2...	1636	3258	96.9	0.92	1090	2847	96.9	0.91	545	2263	96.7	0.87
1RN6500-2...	1876	3256	96.8	0.89	1250	2846	96.8	0.87	626	2261	96.6	0.77
1RN6502-2...	2064	3254	96.8	0.90	1375	2846	96.9	0.89	688	2261	96.8	0.82
1RN6504-2...	2325	3257	97.1	0.91	1550	2847	97.1	0.89	776	2262	97.0	0.82
4-pole												
1RN6450-4...	1223	1623	96.1	0.88	815	1420	96.2	0.86	408	1129	95.9	0.78
1RN6452-4...	1313	1623	96.3	0.90	875	1419	96.4	0.89	438	1129	96.3	0.84
1RN6454-4...	1553	1623	96.5	0.90	1035	1419	96.6	0.89	518	1129	96.5	0.85
1RN6456-4...	1733	1625	96.6	0.89	1155	1421	96.6	0.87	578	1130	96.3	0.79
1RN6500-4...	2025	1627	97.0	0.88	1351	1422	97.0	0.83	675	1130	96.6	0.70
1RN6502-4...	2138	1626	97.0	0.90	1425	1422	97.1	0.87	713	1130	96.9	0.78
1RN6504-4...	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 · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power IEC P_{rated} 155 (F) kW	Low voltage motor SIMOTICS HV M Article No.	Operating data 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, 60 Hz									
6-pole									
1210	1RN6450-6HP1	1191	96.1	0.85	1240	9718	2.40	26	1200
1350	1RN6452-6HP1	1191	96.3	0.84	1400	10837	2.40	29	1200
1480	1RN6454-6HP1	1191	96.3	0.86	1500	11883	2.30	32	1200
1620	1RN6456-6HP1	1192	96.6	0.86	1640	12995	2.40	37	1200
2150	1RN6500-6HP1	1190	96.5	0.84	2200	17254	2.10	56	1500
2400	1RN6502-6HP1	1188	96.5	0.85	2440	19293	1.85	62	1500
2700	1RN6504-6HP1	1190	96.7	0.84	3x930 ²⁾	21668	2.15	69	1500
2950	1RN6506-6HP1	1189	96.7	0.86	3x990 ²⁾	23694	1.90	77	1500
3300	1RN6560-6HP1	1191	96.9	0.87	3x1100 ²⁾	26461	2.30	108	1300
3650	1RN6562-6HP1	1190	96.8	0.87	3x1200 ²⁾	29292	2.10	119	1300
8-pole									
870	1RN6450-8HP1	893	95.3	0.84	910	9323	2.30	32	1200
960	1RN6452-8HP1	892	95.4	0.84	1000	10290	2.20	36	1200
1050	1RN6454-8HP1	893	95.5	0.84	1100	11239	2.40	40	1200
1180	1RN6456-8HP1	893	95.7	0.85	1220	12636	2.30	46	1200
1600	1RN6500-8HP1	892	96.0	0.83	1680	17130	1.85	69	1350
1800	1RN6502-8HP1	892	96.1	0.83	1880	19271	1.90	76	1350
2000	1RN6504-8HP1	893	96.3	0.83	2080	21389	2.05	85	1350
2200	1RN6506-8HP1	893	96.4	0.83	2320	23527	2.05	94	1350
2250	1RN6560-8HP1	893	96.7	0.84	2320	24062	2.30	128	1350
2600	1RN6562-8HP1	893	96.8	0.84	4x670 ²⁾	27805	2.25	141	1350
2900	1RN6564-8HP1	894	96.9	0.83	4x750 ²⁾	30979	2.65	156	1350
3250	1RN6566-8HP1	893	97.0	0.85	4x820 ²⁾	34756	2.35	173	1350

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

²⁾ Different number of parallel winding systems possible.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN6450-6...	908	1083	96.3	0.82	605	947	96.4	0.79	303	753	96.0	0.67
1RN6452-6...	1013	1083	96.5	0.82	675	947	96.5	0.78	338	753	96.2	0.67
1RN6454-6...	1110	1083	96.5	0.84	740	947	96.6	0.81	370	753	96.3	0.71
1RN6456-6...	1215	1084	96.8	0.84	810	947	96.8	0.81	405	753	96.5	0.71
1RN6500-6...	1613	1082	96.5	0.83	1075	946	96.5	0.79	538	752	96.0	0.69
1RN6502-6...	1800	1081	96.6	0.86	1200	945	96.7	0.84	600	752	96.5	0.78
1RN6504-6...	2025	1082	96.7	0.83	1350	946	96.7	0.80	675	752	96.2	0.69
1RN6506-6...	2213	1081	96.8	0.86	1475	946	96.9	0.85	738	752	96.7	0.78
1RN6560-6...	2475	1083	97.0	0.87	1650	947	97.0	0.86	825	753	96.7	0.79
1RN6562-6...	2738	1082	97.0	0.88	1825	946	97.1	0.87	913	752	97.0	0.83
8-pole												
1RN6450-8...	653	812	95.5	0.81	435	710	95.4	0.77	218	565	94.9	0.66
1RN6452-8...	720	812	95.7	0.83	480	710	95.6	0.79	240	565	95.2	0.68
1RN6454-8...	788	812	95.6	0.81	525	710	95.6	0.77	263	565	95.0	0.65
1RN6456-8...	885	812	95.9	0.83	590	710	95.8	0.79	295	565	95.3	0.69
1RN6500-8...	1200	811	96.1	0.83	800	709	96.1	0.80	400	564	95.7	0.71
1RN6502-8...	1350	811	96.2	0.83	900	709	96.2	0.80	450	564	95.7	0.71
1RN6504-8...	1500	812	96.3	0.82	1000	710	96.3	0.79	500	564	95.7	0.69
1RN6506-8...	1650	812	96.4	0.82	1100	710	96.3	0.79	550	564	95.7	0.69
1RN6560-8...	1688	812	96.8	0.84	1125	710	96.8	0.81	563	564	96.5	0.72
1RN6562-8...	1950	812	96.9	0.84	1300	710	96.9	0.82	650	564	96.6	0.73
1RN6564-8...	2175	813	96.9	0.82	1450	710	96.8	0.78	725	565	96.3	0.67
1RN6566-8...	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 · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL6/1SL7 (Ex ec) and 1SQ6/1SQ7 (Ex pxb).

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RN6 at rated output for utilization 155 (F), for 1RN7 at rated output for utilization 130 (B)							
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}	$T_{\text{B}}/T_{\text{rated}}$	J	n_{max}
kW	kW	Article No.	rpm	%	[-]	A	Nm	[-]	kgm ²	rpm
4.16 kV, 60 Hz										
2-pole										
1600	— ⁴⁾	1RN6450-2HS30	3576	96.0	0.89	260	4274	2.10	13	3600 ²⁾
1850	— ⁴⁾	1RN6452-2HS30	3578	96.3	0.91	295	4941	2.30	14	3600 ²⁾
2060	— ⁴⁾	1RN6454-2HS30	3579	96.6	0.91	325	5500	2.30	16	3600 ²⁾
2300	— ⁴⁾	1RN6456-2HS30	3581	96.8	0.92	360	6137	2.40	18	3600 ²⁾
3000	2640	1RN6500-2HS30	3572	96.5	0.89	485	8020	2.05	20	3600 ²⁾
3250	2860	1RN6502-2HS30	3570	96.5	0.89	530	8693	1.95	22	3600 ²⁾
3700	3256	1RN6504-2HS30	3576	96.8	0.91	580	9880	2.30	25	3600 ²⁾
4200	3696	1RN6506-2HS30	3577	97.1	0.92	650	11212	2.45	27	3600 ²⁾
4600	4186	1RN6560-2HS30	3577	96.8	0.90	730	12280	1.90	39	3600 ²⁾
5100	4641	1RN6562-2HS30	3579	96.9	0.91	2x400	13608	2.05	43	3600 ²⁾
5900	5369	1RN6564-2HS30	3580	97.1	0.92	2x460	15738	2.15	49	3600 ²⁾
6700	6097	1RN6566-2HS30	3582	97.3	0.92	2x520	17862	2.45	54	3600 ²⁾
7810	7100	1RN7630-2 ■ ■ ■ 30-0C ■ 0	3580	97.3	0.88	1160	18939	1.95	74	3600
8690	7900	1RN7632-2 ■ ■ ■ 30-0C ■ 0	3583	97.6	0.89	1260	21055	2.20	83	3600
9570	8700	1RN7634-2 ■ ■ ■ 30-0C ■ 0	3585	97.7	0.90	1380	23174	2.35	91	3600
10560	9600	1RN7636-2 ■ ■ ■ 30-0C ■ 0	3586	97.8	0.90	1520	25564	2.60	100	3600
11660	10600	1RN7710-2 ■ ■ ■ 30-0C ■ 0	3585	97.3	0.91	1660	28235	2.05	148	3600
12980	11800	1RN7712-2 ■ ■ ■ 30-0C ■ 0	3586	97.4	0.91	1840	31423	2.05	158	3600
14300	13000	1RN7714-2 ■ ■ ■ 30-0C ■ 0	3586	97.5	0.93	1980	34618	2.25	175	3600
15070	13700	1RN7716-2 ■ ■ ■ 30-0C ■ 0	3586	97.5	0.93	2100	36482	2.25	189	3600

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN6450-2...	1201	3251	96.1	0.90	800	2843	96.2	0.90	400	2260	96.1	0.85
1RN6452-2...	1389	3253	96.4	0.91	925	2844	96.5	0.91	463	2261	96.3	0.87
1RN6454-2...	1545	3254	96.7	0.91	1030	2845	96.7	0.90	515	2261	96.5	0.86
1RN6456-2...	1725	3256	96.9	0.92	1150	2846	96.9	0.91	575	2262	96.7	0.87
1RN6500-2...	2251	3251	96.7	0.89	1500	2844	96.8	0.87	750	2260	96.6	0.79
1RN6502-2...	2439	3250	96.7	0.89	1626	2843	96.8	0.88	813	2259	96.8	0.83
1RN6504-2...	2776	3254	97.0	0.91	1850	2845	97.0	0.89	926	2261	96.9	0.83
1RN6506-2...	3151	3254	97.2	0.91	2100	2846	97.2	0.89	1051	2261	97.1	0.83
1RN6560-2...	3452	3255	96.9	0.90	2301	2846	97.0	0.88	1150	2262	96.9	0.83
1RN6562-2...	3827	3256	97.0	0.90	2551	2847	97.1	0.89	1275	2262	97.0	0.84
1RN6564-2...	4427	3257	97.3	0.91	2951	2848	97.3	0.90	1476	2262	97.2	0.85
1RN6566-2...	5026	3258	97.4	0.92	3350	2849	97.4	0.90	1676	2263	97.2	0.83
1RN7630-2...	5329	3255	97.4	0.89	3551	2846	97.5	0.89	1775	2261	97.5	0.87
1RN7632-2...	5927	3257	97.6	0.90	3951	2847	97.7	0.90	1975	2262	97.6	0.86
1RN7634-2...	6528	3258	97.8	0.90	4351	2848	97.8	0.90	2177	2262	97.7	0.87
1RN7636-2...	7202	3259	97.9	0.91	4800	2849	97.9	0.90	2401	2263	97.8	0.87
1RN7710-2...	7947	3258	97.2	0.92	5298	2847	97.1	0.92	2649	2263	96.8	0.90
1RN7712-2...	8850	3258	97.4	0.92	5900	2847	97.3	0.92	2949	2263	96.9	0.90
1RN7714-2...	9755	3259	97.5	0.93	6503	2848	97.3	0.93	3251	2263	97.0	0.91
1RN7716-2...	10275	3259	97.5	0.94	6850	2848	97.4	0.94	3425	2263	97.1	0.92

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RN6 at rated output for utilization 155 (F), for 1RN7 at rated output for utilization 130 (B)							
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)	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
4.16 kV, 60 Hz										
4-pole										
1630	— ³⁾	1RN6450-4HS3	1782	95.7	0.89	265	8742	2.30	20	1800
1750	— ³⁾	1RN6452-4HS3	1783	95.9	0.89	285	9375	2.40	22	1800
2070	— ³⁾	1RN6454-4HS3	1784	96.1	0.90	330	11088	2.50	25	1800
2310	— ³⁾	1RN6456-4HS3	1786	96.3	0.89	375	12358	2.50	29	1800
3100 ²⁾	2728	1RN6500-4HS30	1785	96.7	0.90	495	16584	2.30	42	1800
3450 ²⁾	3036	1RN6502-4HS30	1785	96.8	0.90	550	18457	2.20	46	1800
3800 ²⁾	3344	1RN6504-4HS30	1786	97.0	0.91	600	20318	2.35	52	1800
4100 ²⁾	3608	1RN6506-4HS30	1787	97.0	0.91	640	21909	2.40	56	1800
4700 ²⁾	4277	1RN6560-4HS30	1789	97.2	0.90	750	25088	1.95	84	1800
5400 ²⁾	4914	1RN6562-4HS30	1789	97.3	0.90	2x430	28824	1.95	94	1800
6000 ²⁾	5460	1RN6564-4HS30	1789	97.4	0.91	2x470	32027	2.05	105	1800
6600 ²⁾	6006	1RN6566-4HS30	1790	97.5	0.91	2x520	35210	2.10	115	1800
7056 ²⁾	6300	1RN7630-4 ■ 30-0C ■ 0	1791	97.6	0.88	1020	33590	2.30	145	1800
7952 ²⁾	7100	1RN7632-4 ■ 30-0C ■ 0	1791	97.7	0.88	1140	37856	2.30	160	1800
8848 ²⁾	7900	1RN7634-4 ■ 30-0C ■ 0	1791	97.7	0.89	1260	42121	2.35	178	1800
9856 ²⁾	8800	1RN7636-4 ■ 30-0C ■ 0	1792	97.8	0.89	1400	46894	2.50	194	1800
10976 ²⁾	9800	1RN7710-4 ■ 30-0C ■ 0	1791	97.6	0.90	1540	52252	2.15	262	1800
12208 ²⁾	10900	1RN7712-4 ■ 30-0C ■ 0	1792	97.6	0.90	1720	58084	2.15	286	1800
13552 ²⁾	12100	1RN7714-4 ■ 30-0C ■ 0	1792	97.7	0.91	1880	64479	2.35	321	1800
15120 ²⁾	13500	1RN7716-4 ■ 30-0C ■ 0	1792	97.8	0.91	2100	71939	2.35	362	1800

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

³⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type
(repeated)

Partial load data 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

1RN6450-4...	1224	1622	96.0	0.89	815	1419	96.1	0.88	408	1129	96.0	0.83
1RN6452-4...	1313	1623	96.1	0.89	875	1420	96.2	0.88	438	1129	96.1	0.82
1RN6454-4...	1553	1623	96.3	0.90	1035	1420	96.4	0.89	518	1129	96.3	0.83
1RN6456-4...	1733	1624	96.5	0.89	1155	1421	96.5	0.87	578	1130	96.2	0.80
1RN6500-4...	2326	1625	96.8	0.89	1550	1421	96.8	0.86	775	1130	96.6	0.75
1RN6502-4...	2589	1625	96.9	0.89	1725	1421	96.9	0.86	863	1130	96.8	0.77
1RN6504-4...	2851	1626	97.1	0.90	1900	1422	97.1	0.87	950	1130	96.8	0.78
1RN6506-4...	3076	1626	97.1	0.90	2050	1422	97.1	0.87	1025	1130	96.8	0.77
1RN6560-4...	3527	1628	97.3	0.89	2350	1423	97.3	0.87	1176	1131	97.2	0.80
1RN6562-4...	4052	1628	97.4	0.90	2701	1423	97.5	0.89	1351	1131	97.4	0.83
1RN6564-4...	4502	1628	97.5	0.90	3000	1423	97.5	0.89	1501	1131	97.4	0.82
1RN6566-4...	4952	1628	97.6	0.91	3300	1423	97.7	0.90	1651	1131	97.5	0.84
1RN7630-4...	4726	1628	97.7	0.88	3150	1423	97.7	0.88	1576	1131	97.5	0.83
1RN7632-4...	5326	1628	97.8	0.89	3550	1423	97.8	0.88	1776	1131	97.6	0.84
1RN7634-4...	5926	1628	97.8	0.89	3950	1423	97.8	0.89	1976	1131	97.7	0.85
1RN7636-4...	6601	1629	97.9	0.89	4400	1424	97.9	0.88	2201	1131	97.7	0.84
1RN7710-4...	7353	1628	97.6	0.91	4904	1423	97.5	0.91	2455	1131	97.2	0.88
1RN7712-4...	8179	1628	97.6	0.91	5454	1423	97.5	0.91	2731	1131	97.2	0.89
1RN7714-4...	9083	1629	97.7	0.91	6058	1423	97.6	0.91	3033	1131	97.2	0.88
1RN7716-4...	10135	1629	97.8	0.92	6758	1423	97.7	0.92	3384	1131	97.3	0.89

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Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data 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	
4.16 kV, 60 Hz											
6-pole											
1210	— ²⁾	1RN6450-6HS3	1190	96.0	0.84	210	9715	2.40	26	1200	
1350	— ²⁾	1RN6452-6HS3	1191	96.2	0.85	230	10833	2.40	29	1200	
1480	— ²⁾	1RN6454-6HS3	1191	96.3	0.85	250	11875	2.50	32	1200	
1620	— ²⁾	1RN6456-6HS3	1191	96.4	0.87	270	12995	2.50	37	1200	
2350	2100	1RN6500-6HS3	1187	96.0	0.85	400	18907	1.65	56	1500	
2600	2350	1RN6502-6HS3	1188	96.4	0.84	445	20901	1.85	62	1500	
2900	2600	1RN6504-6HS3	1187	96.3	0.85	490	23332	1.70	69	1500	
3100	2800	1RN6506-6HS3	1188	96.4	0.86	520	24920	1.75	77	1500	
3750	3300	1RN6560-6HS3	1189	96.6	0.86	630	30120	2.00	108	1300	
4250	3750	1RN6562-6HS3	1189	96.8	0.86	710	34136	2.05	119	1300	
4700	4150	1RN6564-6HS3	1190	96.9	0.87	770	37718	2.15	132	1300	
5100	4500	1RN6566-6HS3	1190	97.0	0.87	840	40929	2.20	146	1300	
5488	4900	1RN7630-6-30-0C	1193	97.4	0.84	830	39222	2.15	207	1800	
6160	5500	1RN7632-6-30-0C	1193	97.5	0.84	930	44024	2.25	229	1800	
6832	6100	1RN7634-6-30-0C	1193	97.5	0.84	1040	48827	2.25	250	1800	
7616	6800	1RN7636-6-30-0C	1193	97.5	0.85	1140	54430	2.15	271	1800	
8400	7500	1RN7710-6-30-0C	1194	97.4	0.86	1240	59983	2.15	350	1600	
9296	8300	1RN7712-6-30-0C	1195	97.4	0.86	1380	66326	2.20	396	1600	
10304	9200	1RN7714-6-30-0C	1195	97.5	0.85	1540	73518	2.35	448	1600	
11480	10250	1RN7716-6-30-0C	1195	97.6	0.86	1700	81908	2.35	496	1600	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type
(repeated)

Partial load data 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

1RN6450-6...	908	1083	96.2	0.83	605	947	96.2	0.80	303	753	96.0	0.69
1RN6452-6...	1013	1083	96.3	0.84	675	947	96.4	0.80	338	753	96.1	0.70
1RN6454-6...	1110	1083	96.5	0.84	740	947	96.5	0.81	370	753	96.3	0.71
1RN6456-6...	1215	1083	96.6	0.86	810	947	96.7	0.83	405	753	96.5	0.74
1RN6500-6...	1763	1079	96.3	0.85	1175	944	96.4	0.84	588	751	96.3	0.78
1RN6502-6...	1950	1081	96.5	0.84	1300	945	96.6	0.82	650	752	96.3	0.74
1RN6504-6...	2175	1080	96.5	0.85	1450	945	96.6	0.85	725	751	96.5	0.79
1RN6506-6...	2325	1081	96.6	0.86	1550	945	96.7	0.85	775	752	96.6	0.79
1RN6560-6...	2813	1081	96.8	0.87	1875	946	96.9	0.87	938	752	96.8	0.82
1RN6562-6...	3188	1082	97.0	0.87	2125	946	97.0	0.86	1063	752	96.9	0.81
1RN6564-6...	3525	1082	97.0	0.87	2350	946	97.1	0.86	1175	752	96.9	0.80
1RN6566-6...	3825	1082	97.1	0.88	2550	946	97.2	0.87	1275	753	97.0	0.81
1RN7630-6...	3676	1084	97.4	0.84	2450	948	97.4	0.82	1226	753	97.1	0.75
1RN7632-6...	4126	1085	97.5	0.84	2750	948	97.5	0.82	1376	753	97.2	0.74
1RN7634-6...	4576	1085	97.5	0.84	3050	948	97.5	0.82	1526	753	97.2	0.75
1RN7636-6...	5102	1084	97.6	0.85	3400	948	97.6	0.83	1701	753	97.3	0.77
1RN7710-6...	5631	1085	97.3	0.85	3756	948	97.1	0.84	1880	754	96.6	0.77
1RN7712-6...	6229	1086	97.3	0.85	4154	949	97.1	0.83	2080	754	96.5	0.75
1RN7714-6...	6904	1086	97.4	0.85	4604	949	97.1	0.82	2305	754	96.5	0.74
1RN7716-6...	7693	1086	97.5	0.85	5130	949	97.2	0.83	2568	754	96.7	0.75

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Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RN6 at rated output for utilization 155 (F), for 1RN7 at rated output for utilization 130 (B)							
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
4.16 kV, 60 Hz										
8-pole										
870	— ²⁾	1RN6450-8HS3 ■	893	95.2	0.81	156	9308	2.50	32	1200
960	— ²⁾	1RN6452-8HS3 ■	893	95.3	0.82	170	10269	2.50	36	1200
1050	— ²⁾	1RN6454-8HS3 ■	893	95.4	0.84	182	11239	2.40	40	1200
1180	— ²⁾	1RN6456-8HS3 ■	894	95.6	0.82	210	12613	2.50	46	1200
1640	1480	1RN6500-8HS3 ■	891	95.7	0.83	285	17578	1.75	69	1350
1840	1660	1RN6502-8HS3 ■	892	96.0	0.83	320	19700	1.90	76	1350
2050	1860	1RN6504-8HS3 ■	892	96.0	0.84	355	21948	1.80	85	1350
2300	2050	1RN6506-8HS3 ■	892	96.1	0.84	395	24624	1.95	94	1350
2650	2350	1RN6560-8HS3 ■	892	96.4	0.84	455	28372	1.95	128	1350
3000	2650	1RN6562-8HS3 ■	891	96.5	0.84	510	32155	1.90	141	1350
3300	2900	1RN6564-8HS3 ■	891	96.6	0.84	560	35370	1.90	156	1350
3500	3100	1RN6566-8HS3 ■	892	96.8	0.85	590	37472	2.05	173	1350
3976	3550	1RN7630-8 ■ 30-OC ■ 0	894	96.7	0.83	610	37919	2.10	255	1350
4424	3950	1RN7632-8 ■ 30-OC ■ 0	894	96.8	0.82	690	42192	2.10	280	1350
4872	4350	1RN7634-8 ■ 30-OC ■ 0	894	96.8	0.84	740	46465	2.05	307	1350
5488	4900	1RN7636-8 ■ 30-OC ■ 0	894	96.9	0.84	840	52340	2.05	334	1350
5936	5300	1RN7710-8 ■ 30-OC ■ 0	895	97.0	0.84	900	56549	2.05	433	1125
6720	6000	1RN7712-8 ■ 30-OC ■ 0	895	97.1	0.85	1000	64018	2.10	493	1125
7504	6700	1RN7714-8 ■ 30-OC ■ 0	895	97.3	0.86	1120	71486	2.10	558	1125
8400	7500	1RN7716-8 ■ 30-OC ■ 0	896	97.3	0.86	1240	79933	2.10	616	1125
9600	8600	1RN7800-8 ■ 30-OC ■ 0	896	97.4	0.86	1420	91663	2.50	865	1125
10600	9600	1RN7802-8 ■ 30-OC ■ 0	896	97.4	0.85	1600	102321	2.50	950	1125
11600	10600	1RN7804-8 ■ 30-OC ■ 0	896	97.5	0.85	1780	112980	2.50	1055	1125
12600	11600	1RN7806-8 ■ 30-OC ■ 0	896	97.5	0.85	1940	123638	2.50	1155	1125

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

²⁾ Utilization 130 (B) on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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											
8-pole												
1RN6450-8...	653	812	95.2	0.79	435	710	95.1	0.74	218	565	94.3	0.61
1RN6452-8...	720	812	95.4	0.80	480	710	95.3	0.75	240	565	94.5	0.62
1RN6454-8...	788	812	95.5	0.83	525	710	95.5	0.79	263	565	95.0	0.69
1RN6456-8...	885	813	95.6	0.79	590	711	95.5	0.75	295	565	94.8	0.62
1RN6500-8...	1230	810	95.9	0.83	820	709	95.9	0.81	410	564	95.5	0.72
1RN6502-8...	1380	811	96.0	0.82	920	709	96.0	0.79	460	564	95.5	0.70
1RN6504-8...	1538	811	96.1	0.83	1025	709	96.1	0.81	513	564	95.7	0.72
1RN6506-8...	1725	811	96.2	0.83	1150	709	96.1	0.80	575	564	95.6	0.71
1RN6560-8...	1988	811	96.6	0.84	1325	709	96.7	0.83	663	564	96.5	0.75
1RN6562-8...	2250	810	96.7	0.85	1500	709	96.8	0.83	750	564	96.7	0.77
1RN6564-8...	2475	811	96.8	0.85	1650	709	96.9	0.84	825	564	96.8	0.77
1RN6566-8...	2625	811	96.9	0.85	1750	709	97.0	0.83	875	564	96.8	0.76
1RN7630-6...	2666	813	96.9	0.83	1775	711	96.8	0.81	891	565	96.5	0.72
1RN7632-6...	2966	813	96.9	0.83	1975	711	96.9	0.80	990	565	96.5	0.71
1RN7634-6...	3265	814	97.0	0.82	2177	711	96.8	0.78	1090	565	96.3	0.68
1RN7636-6...	3677	813	97.1	0.84	2450	711	97.1	0.82	1226	565	96.9	0.76
1RN7710-8...	3980	814	96.9	0.84	2654	711	96.7	0.82	1329	565	96.0	0.74
1RN7712-8...	4505	814	97.0	0.85	3005	711	96.8	0.83	1504	565	96.2	0.75
1RN7714-8...	5031	814	97.1	0.85	3356	711	97.0	0.84	1680	565	96.4	0.76
1RN7716-8...	5631	814	97.2	0.85	3756	711	97.0	0.83	1880	565	96.4	0.76
1RN7800-8...	6440	815	97.2	0.86	4300	712	97.0	0.83	2150	566	96.3	0.73
1RN7802-8...	7190	815	97.2	0.84	4800	712	96.9	0.80	2400	566	96.2	0.70
1RN7804-8...	7940	815	97.3	0.84	5300	712	97.0	0.81	2650	566	96.3	0.71
1RN7806-8...	8690	815	97.3	0.84	5800	712	97.0	0.80	2900	566	96.3	0.69

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data (continued)

Rated power		High voltage motor SIMOTICS HV M	Operating data for 1RN6 at rated output for utilization 155 (F), for 1RN7 at rated output for utilization 130 (B)								
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	
4.16 kV, 60 Hz											
10-pole											
2968	2650	1RN7630-3-30-0C-0	715	97.0	0.81	470	35392	2.50	258	1080	
3304	2950	1RN7632-3-30-0C-0	715	97.1	0.81	520	39399	2.35	283	1080	
3696	3300	1RN7634-3-30-0C-0	715	97.1	0.80	590	44074	2.35	309	1080	
4088	3650	1RN7636-3-30-0C-0	715	97.1	0.82	640	48748	2.30	336	1080	
4536	4050	1RN7710-3-30-0C-0	715	96.8	0.85	680	54090	2.20	430	1125	
4984	4450	1RN7712-3-30-0C-0	715	96.9	0.85	750	59433	2.20	488	1125	
5488	4900	1RN7714-3-30-0C-0	715	96.9	0.85	830	65443	2.20	552	1125	
6048	5400	1RN7716-3-30-0C-0	715	97.0	0.86	900	72121	2.20	613	1125	
12-pole											
2520	2250	1RN7630-5-30-0C-0	595	96.4	0.77	420	36111	2.20	264	900	
2800	2500	1RN7632-5-30-0C-0	595	96.4	0.76	475	40123	2.15	290	900	
3080	2750	1RN7634-5-30-0C-0	595	96.5	0.76	520	44135	2.20	317	900	
3360	3000	1RN7636-5-30-0C-0	595	96.5	0.76	570	48148	2.20	343	900	

Position of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type
(repeated)

Partial load data 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

10-pole

1RN7630-3...	1990	650	97.0	0.79	1326	569	97.0	0.75	665	452	96.6	0.63
1RN7632-3...	2215	650	97.1	0.79	1476	569	97.0	0.75	740	452	96.7	0.64
1RN7634-3...	2475	650	97.2	0.79	1651	569	97.1	0.75	825	452	96.7	0.63
1RN7636-3...	2741	650	97.1	0.81	1827	568	97.1	0.78	915	452	96.8	0.67
1RN7710-3...	3040	650	96.6	0.83	2028	568	96.4	0.80	1016	452	95.7	0.69
1RN7712-3...	3341	650	96.8	0.84	2228	568	96.5	0.80	1116	452	95.9	0.70
1RN7714-3...	3678	650	96.8	0.84	2454	568	96.6	0.81	1229	452	95.9	0.71
1RN7716-3...	4054	650	96.9	0.85	2704	568	96.7	0.82	1355	452	96.1	0.73

12-pole

1RN7630-5...	1690	541	96.4	0.75	1125	473	96.3	0.70	565	376	95.7	0.57
1RN7632-5...	1875	541	96.4	0.74	1250	473	96.3	0.68	625	376	95.7	0.55
1RN7634-5...	2065	541	96.5	0.74	1375	473	96.4	0.69	690	376	95.8	0.56
1RN7636-5...	2250	541	96.5	0.74	1500	473	96.4	0.68	750	376	95.8	0.55

3

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL7 (Ex ec) and 1SQ7 (Ex pxb).

Rated power		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾	
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	
Up to 6.6 kV, 60 Hz											
2-pole											
18600	16600	1RN7800-2-80-0C-0	3586	97.2	0.88	1700	44205	1.60	246	3600	
19800	17700	1RN7802-2-80-0C-0	3588	97.3	0.89	1780	47108	1.80	266	3600	
21000	18800	1RN7804-2-80-0C-0	3589	97.3	0.90	1880	50021	1.90	285	3600	
22500	20000	1RN7806-2-80-0C-0	3589	97.4	0.91	1980	53214	2.20	305	3600	
4-pole											
18400 ²⁾	16500	1RN7800-4-80-0C-0	1793	97.7	0.91	1780	87883	2.20	520	1500	
20100 ²⁾	18000	1RN7802-4-80-0C-0	1793	97.7	0.91	1940	95873	2.20	570	1500	
22400 ²⁾	20000	1RN7804-4-80-0C-0	1793	97.8	0.91	2150	106525	2.20	625	1500	
23700 ²⁾	21200	1RN7806-4-80-0C-0	1794	97.8	0.91	2300	112854	2.30	685	1500	
27500	25000	1RN7900-4-80-0C-0	1795	98.0	0.91	2450	132999	2.10	1023	1800	
29500	27000	1RN7902-4-80-0C-0	1795	98.0	0.91	2650	143638	2.10	1102	1800	
31000	28000	1RN7904-4-80-0C-0	1795	98.0	0.92	2700	148958	2.30	1178	1800	
34000	31000	1RN7906-4-80-0C-0	1796	98.1	0.92	3000	164826	2.30	1296	1800	
6-pole											
19800	18000	1RN7900-6-80-0C-0	1194	97.8	0.86	1880	143959	1.65	1301	1200	
21500	19500	1RN7902-6-80-0C-0	1194	97.9	0.86	2050	155956	1.80	1464	1200	
23500	21500	1RN7904-6-80-0C-0	1195	98.0	0.88	2200	171807	1.90	1627	1200	
25000	22500	1RN7906-6-80-0C-0	1195	98.0	0.88	2300	179798	1.90	1789	1200	
8-pole											
10100	9000	1RN7800-8-80-0C-0	896	97.4	0.86	1040	95926	2.30	860	1125	
11200	10100	1RN7802-8-80-0C-0	896	97.5	0.86	1160	107651	2.40	955	1125	
12300	11200	1RN7804-8-80-0C-0	896	97.5	0.87	1280	119375	2.40	1060	1125	
13500	12300	1RN7806-8-80-0C-0	896	97.5	0.86	1420	131099	2.50	1165	1125	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

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⁾ Standard values; higher speed limits on request.

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

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN7800-2...	12400	3259	97.2	0.90	8300	2848	97.2	0.91	4150	2263	96.9	0.90
1RN7802-2...	13200	3260	97.3	0.90	8800	2849	97.2	0.91	4400	2264	96.9	0.89
1RN7804-2...	14000	3261	97.3	0.91	9400	2849	97.3	0.91	4700	2264	97.0	0.89
1RN7806-2...	15000	3262	97.4	0.91	10000	2850	97.4	0.91	5000	2264	97.0	0.89
4-pole												
1RN7800-4...	12300	1629	97.7	0.91	8200	1424	97.6	0.91	4100	1131	97.0	0.88
1RN7802-4...	13500	1629	97.7	0.92	9000	1424	97.7	0.91	4500	1131	97.1	0.89
1RN7804-4...	15000	1629	97.8	0.91	10000	1424	97.7	0.91	5000	1131	97.1	0.87
1RN7806-4...	15900	1630	97.8	0.91	10600	1424	97.7	0.91	5300	1132	97.2	0.87
1RN7900-4...	18750	1631	98.0	0.91	12500	1425	97.9	0.91	6250	1132	97.7	0.87
1RN7902-4...	20250	1631	98.0	0.91	13500	1425	97.9	0.91	6750	1132	97.7	0.87
1RN7904-4...	21000	1631	98.0	0.91	14000	1425	97.9	0.91	7000	1132	97.7	0.87
1RN7906-4...	23250	1632	98.0	0.91	15500	1426	97.9	0.91	7750	1132	97.7	0.87
6-pole												
1RN7900-6...	13500	1086	97.9	0.88	9000	949	97.9	0.89	4500	754	97.6	0.86
1RN7902-6...	14625	1086	98.0	0.88	9750	949	97.9	0.89	4875	754	97.7	0.86
1RN7904-6...	16125	1086	98.0	0.88	10750	949	98.0	0.89	5375	754	97.7	0.86
1RN7906-6...	16875	1086	98.0	0.88	11250	949	98.0	0.89	5625	754	97.8	0.86
8-pole												
1RN7800-8...	6740	814	97.3	0.85	4500	711	96.9	0.82	2250	565	96.4	0.73
1RN7802-8...	7570	814	97.3	0.85	5050	712	96.9	0.82	2520	566	96.4	0.72
1RN7804-8...	8390	814	97.4	0.86	5600	712	97.0	0.83	2800	566	96.5	0.73
1RN7806-8...	9220	814	97.5	0.85	6150	712	97.1	0.82	3070	566	96.5	0.73

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings

Note:

For the converter driven motors with shaft heights 450 to 710 mm and cooling method IC81W, the same dimension drawings apply as for line operation motors. [Refer to chapter 2.](#)

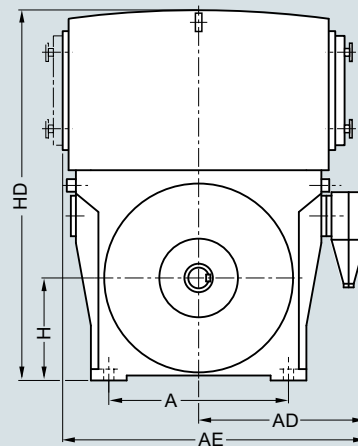
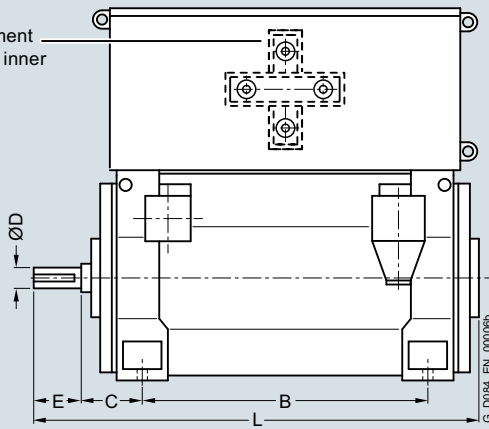
Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings

Cooler arrangement
according to the inner
air circuit



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, anti-friction bearings – 1RN7²⁾ – IC81W											
4-pole											
1RN7800-4N..0-0CG0	22700	1700	1900	3110	2240	375	250	330	800	2770	3470
1RN7802-4N..0-0CG0	23900	1700	1900	3110	2240	375	250	330	800	2770	3470
1RN7804-4N..0-0CG0	25600	1700	1900	3110	2500	375	250	330	800	2770	3730
1RN7806-4N..0-0CG0	27000	1700	1900	3110	2500	375	250	330	800	2770	3730

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

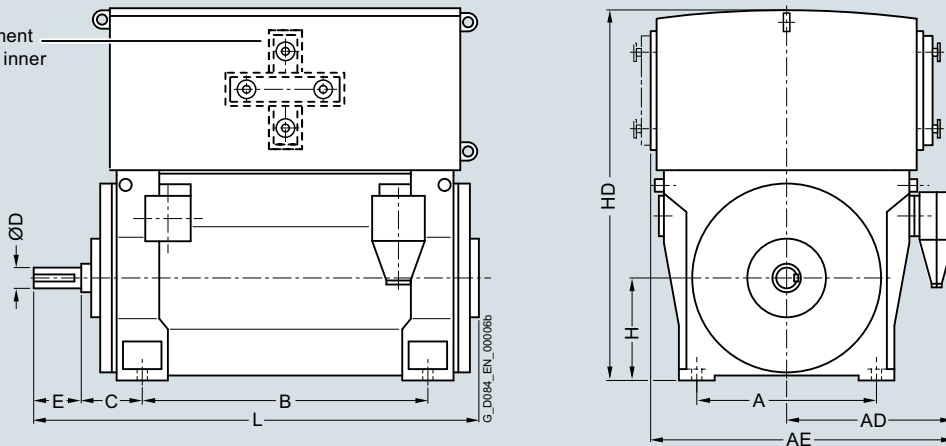
Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)

Cooler arrangement
according to the inner
air circuit



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, anti-friction bearings – 1RN7²⁾ – IC81W											
6-pole											
1RN7800-6N..0-OCG0	23500	1700	1900	3110	2240	375	250	330	800	2770	3470
1RN7802-6N..0-OCG0	25000	1700	1900	3110	2240	375	250	330	800	2770	3470
1RN7804-6N..0-OCG0	26900	1700	1900	3110	2500	375	250	330	800	2770	3730
1RN7806-6N..0-OCG0	28400	1700	1900	3110	2500	375	250	330	800	2770	3730

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

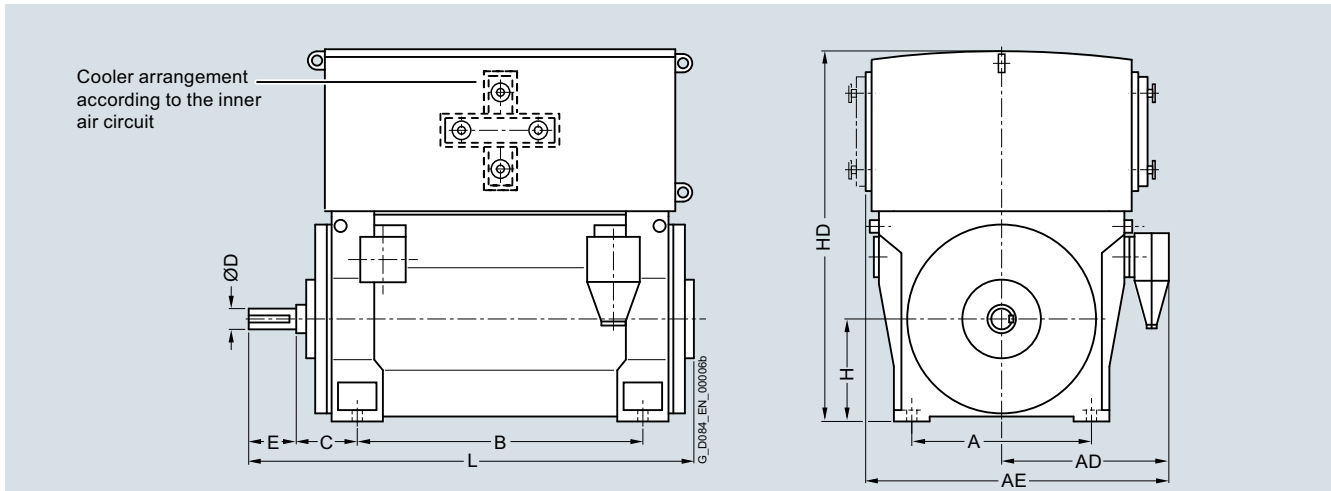
²⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

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, anti-friction bearings – 1RN7²⁾ – IC81W											
8-pole											
1RN7800-8N..0-OCG0	22400	1700	1900	3110	2240	375	280	470	800	2770	3620
1RN7802-8N..0-OCG0	23600	1700	1900	3110	2240	375	280	470	800	2770	3620
1RN7804-8N..0-OCG0	25400	1700	1900	3110	2500	375	280	470	800	2770	3880
1RN7806-8N..0-OCG0	26700	1700	1900	3110	2500	375	280	470	800	2770	3880

Note:

Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

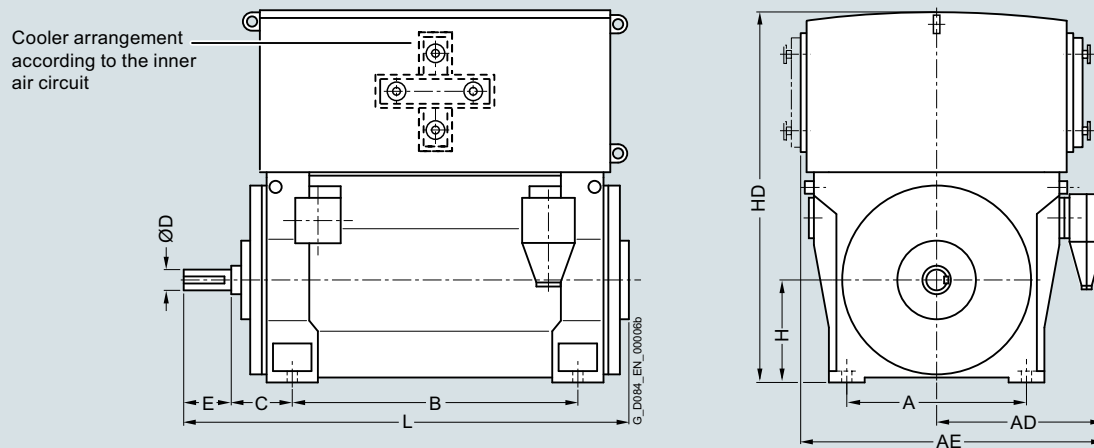
²⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

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, anti-friction bearings – 1RN7¹⁾ – IC81W											
4-pole											
1RN7800-4N..0-OCG0	22700	1700	1900	3110	2240	375	250	330	800	2770	3470
1RN7802-4N..0-OCG0	23900	1700	1900	3110	2240	375	250	330	800	2770	3470
1RN7804-4N..0-OCG0	25600	1700	1900	3110	2500	375	250	330	800	2770	3730
1RN7806-4N..0-OCG0	27000	1700	1900	3110	2500	375	250	330	800	2770	3730

Note:

Higher pole numbers are available on request.

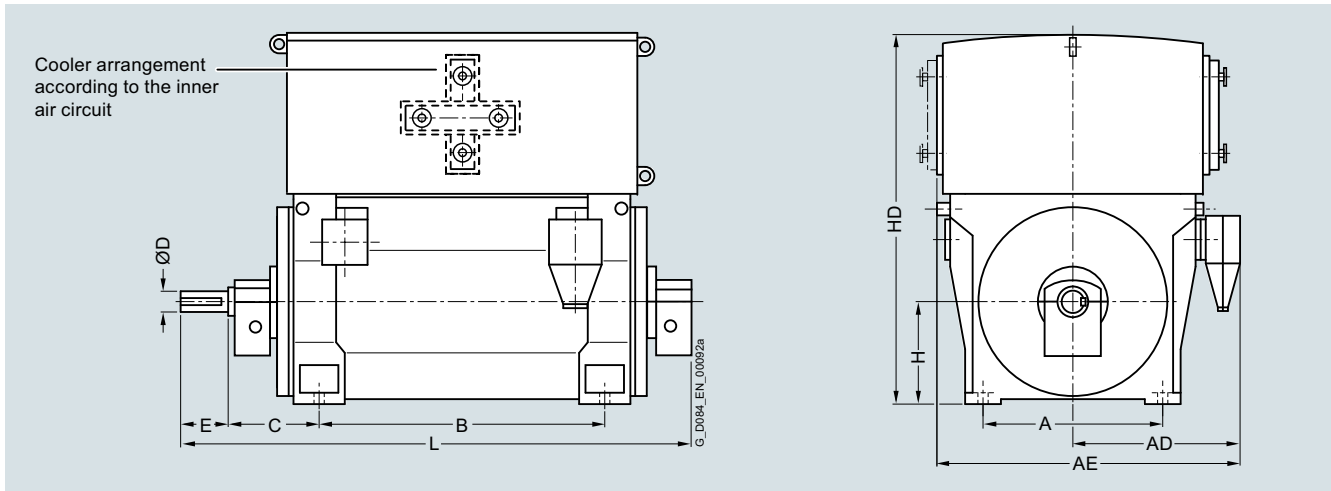
¹⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

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 – 1RQ7²⁾ – IC81W											
4-pole											
1RN7800-4N..0-0CJ0	23100	1700	1900	3110	2240	600	250	330	800	2770	3660
1RN7802-4N..0-0CJ0	24200	1700	1900	3110	2240	600	250	330	800	2770	3660
1RN7804-4N..0-0CJ0	26100	1700	1900	3110	2500	600	250	330	800	2770	3920
1RN7806-4N..0-0CJ0	27400	1700	1900	3110	2500	600	250	330	800	2770	3920

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

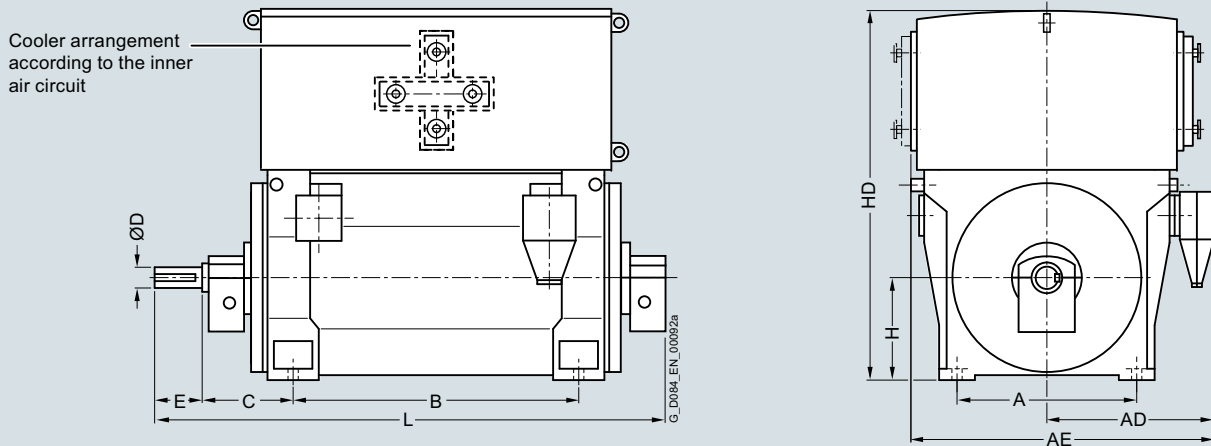
²⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

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 – 1RQ7²⁾ – IC81W

6-pole

1RN7800-6N..0-0CJ0	23900	1700	1900	3110	2240	600	250	330	800	2770	3660
1RN7802-6N..0-0CJ0	25400	1700	1900	3110	2240	600	250	330	800	2770	3660
1RN7804-6N..0-0CJ0	27300	1700	1900	3110	2500	600	250	330	800	2770	3920
1RN7806-6N..0-0CJ0	28800	1700	1900	3110	2500	600	250	330	800	2770	3920

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

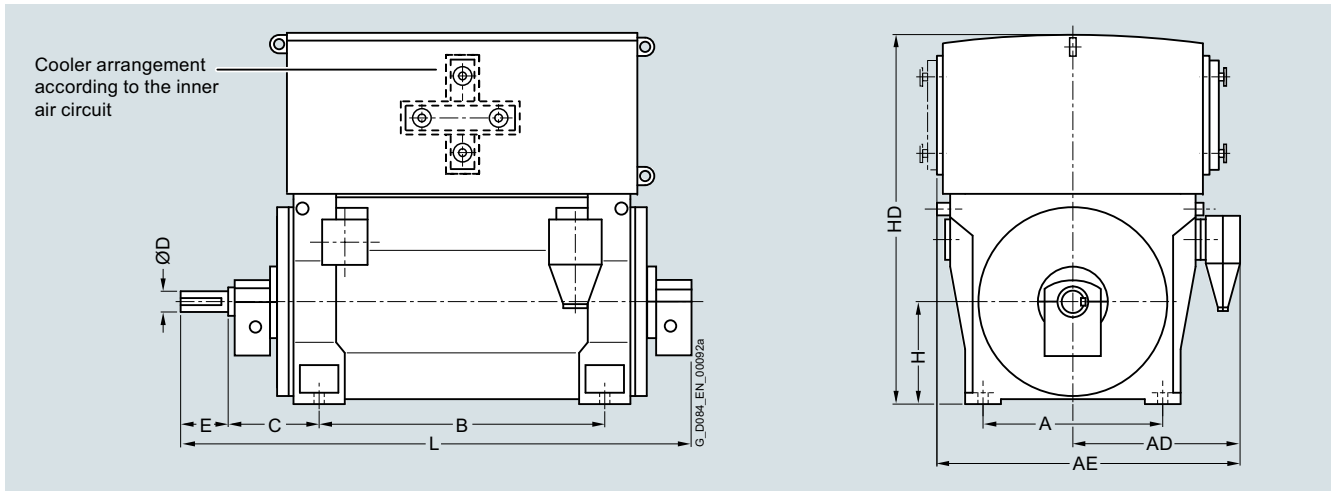
²⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

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 – 1RQ7²⁾ – IC81W											
8-pole											
1RN7800-8N..0-0CJ0	22900	1700	1900	3110	2240	600	280	470	800	2770	3800
1RN7802-8N..0-0CJ0	24100	1700	1900	3110	2240	600	280	470	800	2770	3800
1RN7804-8N..0-0CJ0	25800	1700	1900	3110	2500	600	280	470	800	2770	4060
1RN7806-8N..0-0CJ0	27100	1700	1900	3110	2500	600	280	470	800	2770	4060

Note:

Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

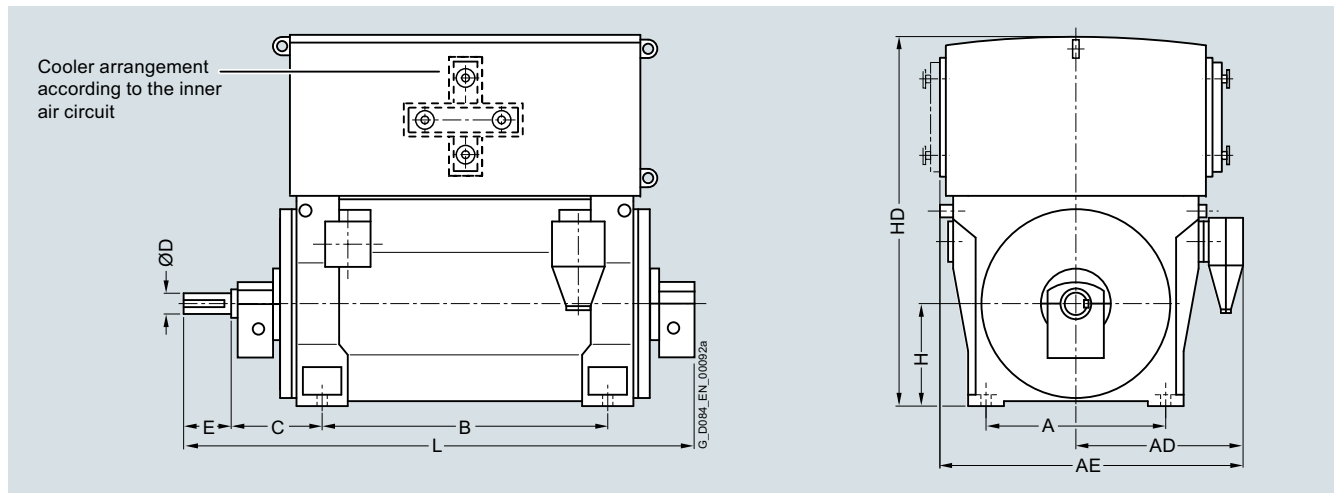
²⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

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 – 1RN7¹⁾ – IC81W											
4-pole											
1RN7800-4N..0-0CJ0	23100	1700	1900	3110	2240	600	250	330	800	2770	3660
1RN7802-4N..0-0CJ0	24200	1700	1900	3110	2240	600	250	330	800	2770	3660
1RN7804-4N..0-0CJ0	26100	1700	1900	3110	2500	600	250	330	800	2770	3920
1RN7806-4N..0-0CJ0	27400	1700	1900	3110	2500	600	250	330	800	2770	3920

Note:

Higher pole numbers are available on request.

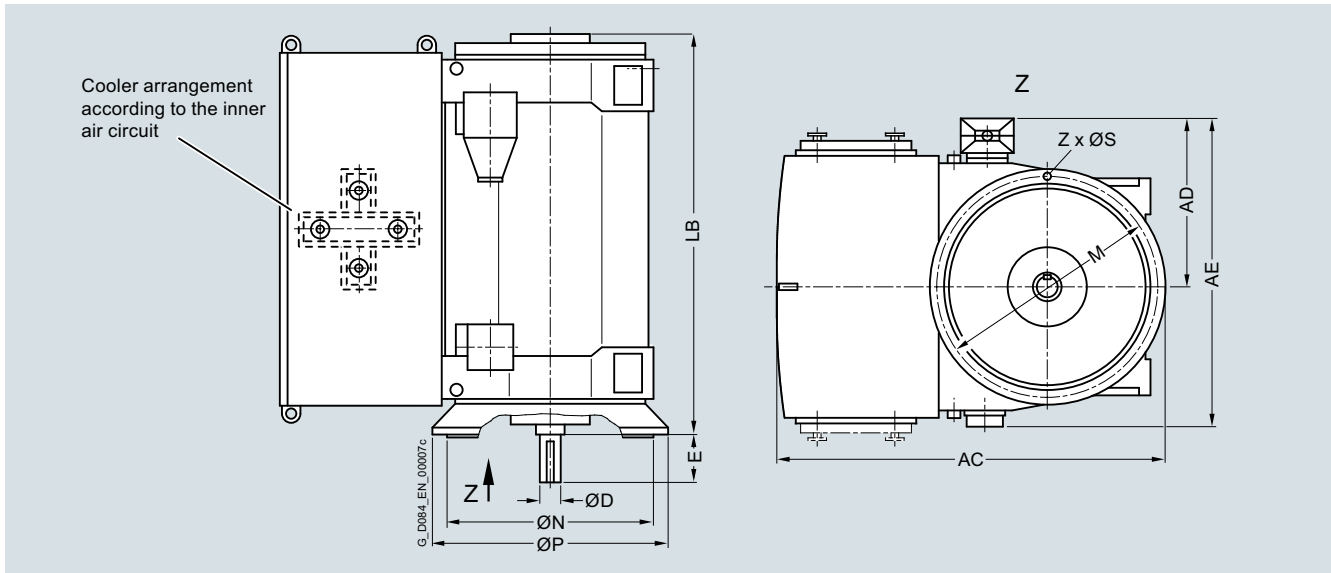
¹⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

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, anti-friction bearings – 1RN7 ³⁾ – IC81W												
8-pole												
1RN7800-8N..8-0CG0	22400	O. R. ²⁾	1810	3000	280	470	3280	2240	2000	2120	42	22
1RN7802-8N..8-0CG0	23600	O. R. ²⁾	1810	3000	280	470	3280	2240	2000	2120	42	22
1RN7804-8N..8-0CG0	25500	O. R. ²⁾	1810	3000	280	470	3540	2240	2000	2120	42	22
1RN7806-8N..8-0CG0	26800	O. R. ²⁾	1810	3000	280	470	3540	2240	2000	2120	42	22

Note:

Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ On request.

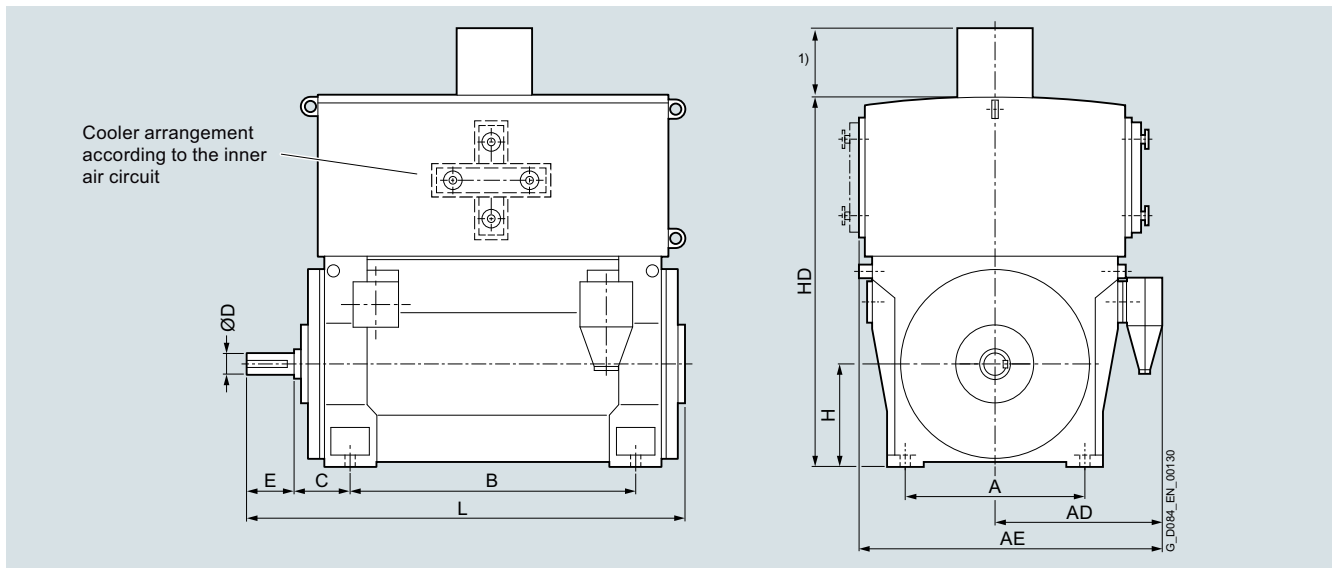
³⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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, anti-friction bearings – 1RN7³⁾ series – IC86W											
4-pole											
1RN7630-4P..0-0CG0	11300	1320	1490	2490	1600	375	200	280	630	2610	2610
1RN7632-4P..0-0CG0	11800	1320	1490	2490	1600	375	200	280	630	2610	2610
1RN7634-4P..0-0CG0	12700	1320	1490	2490	1800	375	200	280	630	2610	2810
1RN7636-4P..0-0CG0	13300	1320	1490	2490	1800	375	200	280	630	2610	2810
1RN7710-4P..0-0CG0	15400	1500	1800	2900	2000	375	220	350	710	2800	3070
1RN7712-4P..0-0CG0	16000	1500	1800	2900	2000	375	220	350	710	2800	3070
1RN7714-4P..0-0CG0	17400	1500	1800	2900	2240	375	220	350	710	2800	3310
1RN7716-4P..0-0CG0	18600	1500	1800	2900	2240	375	220	350	710	2800	3310
1RN7800-4P..0-0CG0	23200	1700	1900	3110	2240	375	250	330	800	3080	3470
1RN7802-4P..0-0CG0	24400	1700	1900	3110	2240	375	250	330	800	3080	3470
1RN7804-4P..0-0CG0	26100	1700	1900	3110	2500	375	250	330	800	3080	3730
1RN7806-4P..0-0CG0	27500	1700	1900	3110	2500	375	250	330	800	3080	3730

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

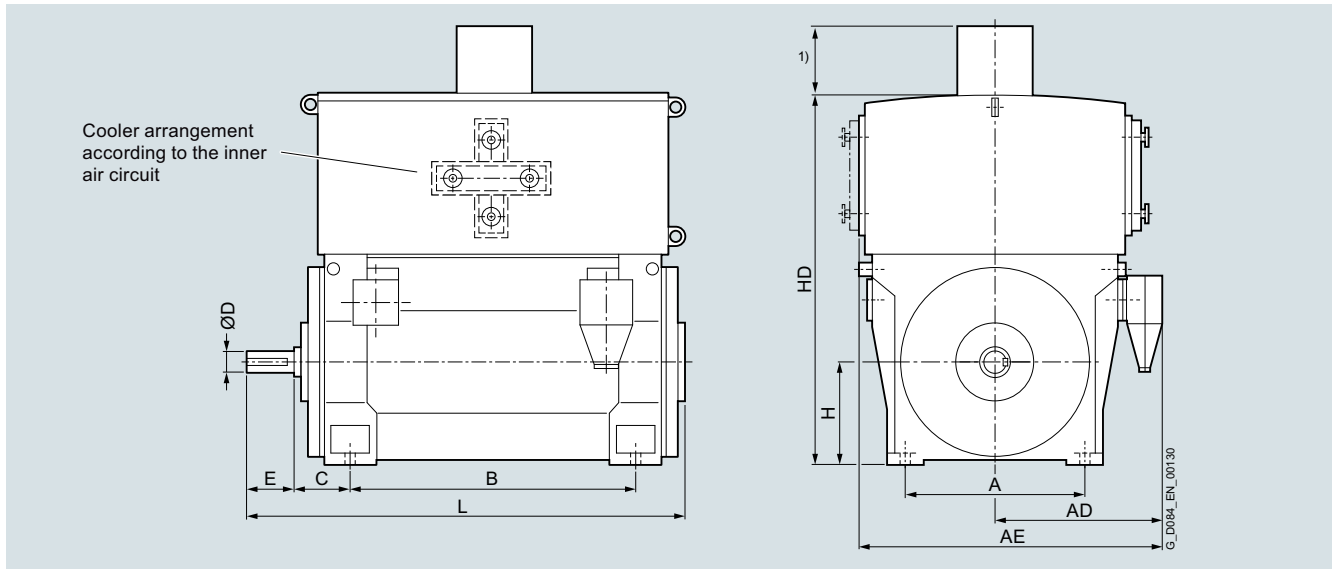
3) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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, anti-friction bearings – 1RN7³⁾ series – IC86W											
6-pole											
1RN7630-6P..0-0CG0	11700	1320	1340	2340	1600	375	200	280	630	2610	2610
1RN7632-6P..0-0CG0	12300	1320	1340	2340	1600	375	200	280	630	2610	2610
1RN7634-6P..0-0CG0	13200	1320	1340	2340	1800	375	200	280	630	2610	2810
1RN7636-6P..0-0CG0	13800	1320	1340	2340	1800	375	200	280	630	2610	2810
1RN7710-6P..0-0CG0	15700	1500	1800	2900	2000	375	220	350	710	2800	3070
1RN7712-6P..0-0CG0	16800	1500	1800	2900	2000	375	220	350	710	2800	3070
1RN7714-6P..0-0CG0	18300	1500	1800	2900	2240	375	220	350	710	2800	3310
1RN7716-6P..0-0CG0	19400	1500	1800	2900	2240	375	220	350	710	2800	3310
1RN7800-6P..0-0CG0	24000	1700	1900	3110	2240	375	250	330	800	3080	3470
1RN7802-6P..0-0CG0	25500	1700	1900	3110	2240	375	250	330	800	3080	3470
1RN7804-6P..0-0CG0	27400	1700	1900	3110	2500	375	250	330	800	3080	3730
1RN7806-6P..0-0CG0	28900	1700	1900	3110	2500	375	250	330	800	3080	3730

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

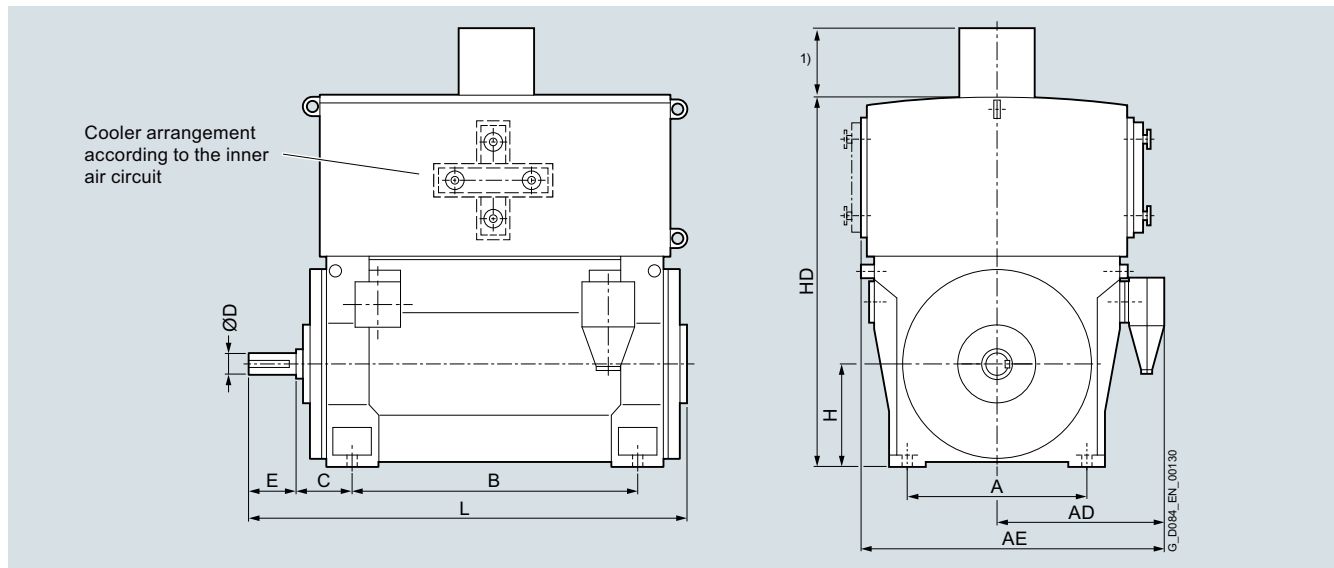
3) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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, anti-friction bearings – 1RN7³⁾ series – IC86W											
8-pole											
1RN7630-8P..0-OCG0	11400	1320	1340	2340	1600	375	200	280	630	2610	2610
1RN7632-8P..0-OCG0	12000	1320	1340	2340	1600	375	200	280	630	2610	2610
1RN7634-8P..0-OCG0	12800	1320	1340	2340	1800	375	200	280	630	2610	2810
1RN7636-8P..0-OCG0	13300	1320	1340	2340	1800	375	200	280	630	2610	2810
1RN7710-8P..0-OCG0	15200	1500	1800	2900	2000	375	220	350	710	2800	3070
1RN7712-8P..0-OCG0	16100	1500	1800	2900	2000	375	220	350	710	2800	3070
1RN7714-8P..0-OCG0	17600	1500	1800	2900	2240	375	220	350	710	2800	3310
1RN7716-8P..0-OCG0	18600	1500	1800	2900	2240	375	220	350	710	2800	3310
1RN7800-8P..0-OCG0	22900	1700	1900	3110	2240	375	280	470	800	3080	3620
1RN7802-8P..0-OCG0	24100	1700	1900	3110	2240	375	280	470	800	3080	3620
1RN7804-8P..0-OCG0	25900	1700	1900	3110	2500	375	280	470	800	3080	3880
1RN7806-8P..0-OCG0	27200	1700	1900	3110	2500	375	280	470	800	3080	3880

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

²⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

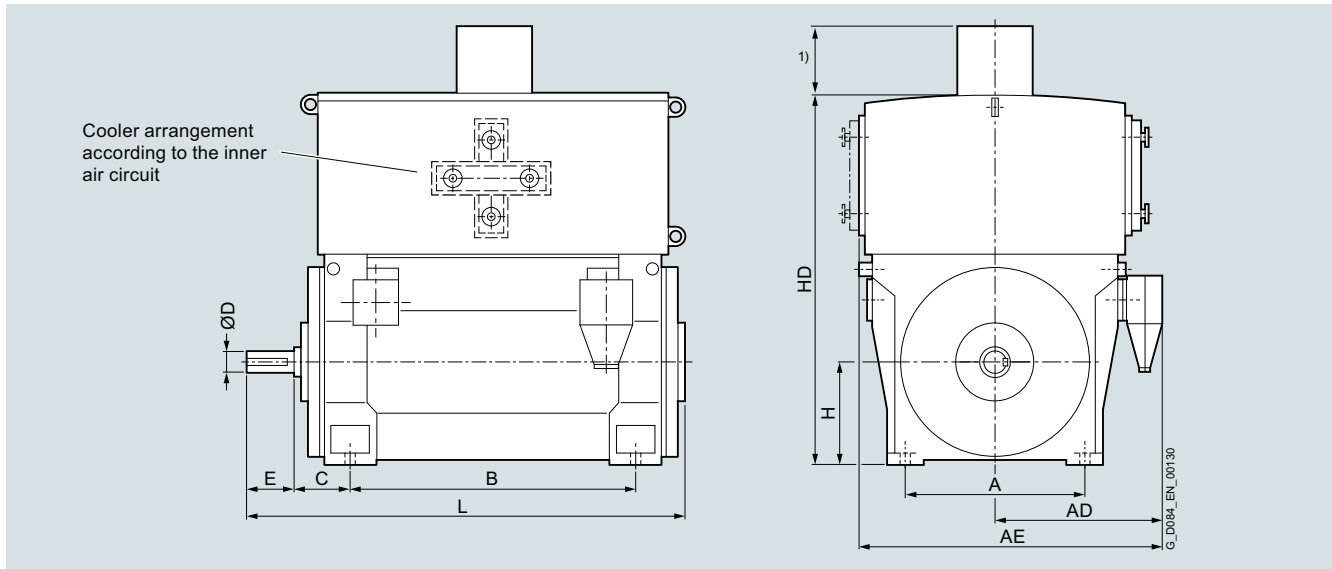
³⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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, anti-friction bearings – 1RN7³⁾ series – IC86W											
10-pole											
1RN7630-3P..0-OCG0	11300	1320	1340	2340	1600	375	200	280	630	2610	2610
1RN7632-3P..0-OCG0	11900	1320	1340	2340	1600	375	200	280	630	2610	2610
1RN7634-3P..0-OCG0	12700	1320	1340	2340	1800	375	200	280	630	2610	2810
1RN7636-3P..0-OCG0	13200	1320	1340	2340	1800	375	200	280	630	2610	2810
1RN7710-3P..0-OCG0	15200	1500	1800	2900	2000	375	220	350	710	2800	3070
1RN7712-3P..0-OCG0	16100	1500	1800	2900	2000	375	220	350	710	2800	3070
1RN7714-3P..0-OCG0	17600	1500	1800	2900	2240	375	220	350	710	2800	3310
1RN7716-3P..0-OCG0	18600	1500	1800	2900	2240	375	220	350	710	2800	3310

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

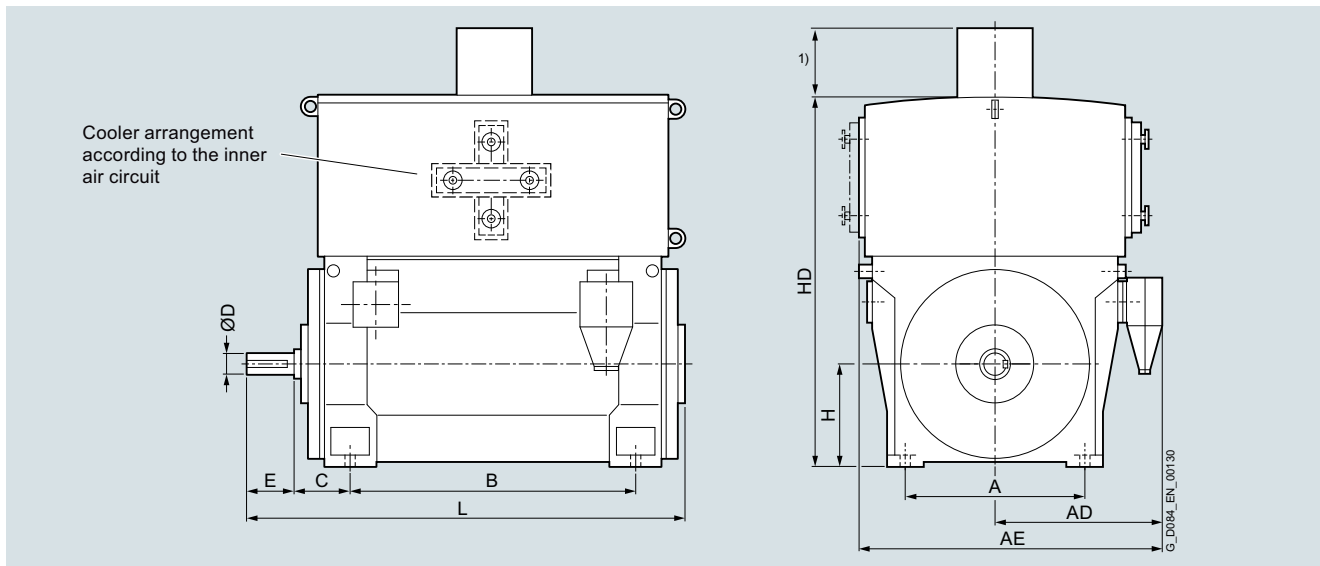
3) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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, anti-friction bearings – 1RN7³⁾ series – IC86W											
12-pole											
1RN7630-5P..0-OCG0	11300	1320	1340	2340	1600	375	200	280	630	2610	2610
1RN7632-5P..0-OCG0	11900	1320	1340	2340	1600	375	200	280	630	2610	2610
1RN7634-5P..0-OCG0	12700	1320	1340	2340	1800	375	200	280	630	2610	2810
1RN7636-5P..0-OCG0	13200	1320	1340	2340	1800	375	200	280	630	2610	2810

Note:

Higher pole numbers are available on request.

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

²⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

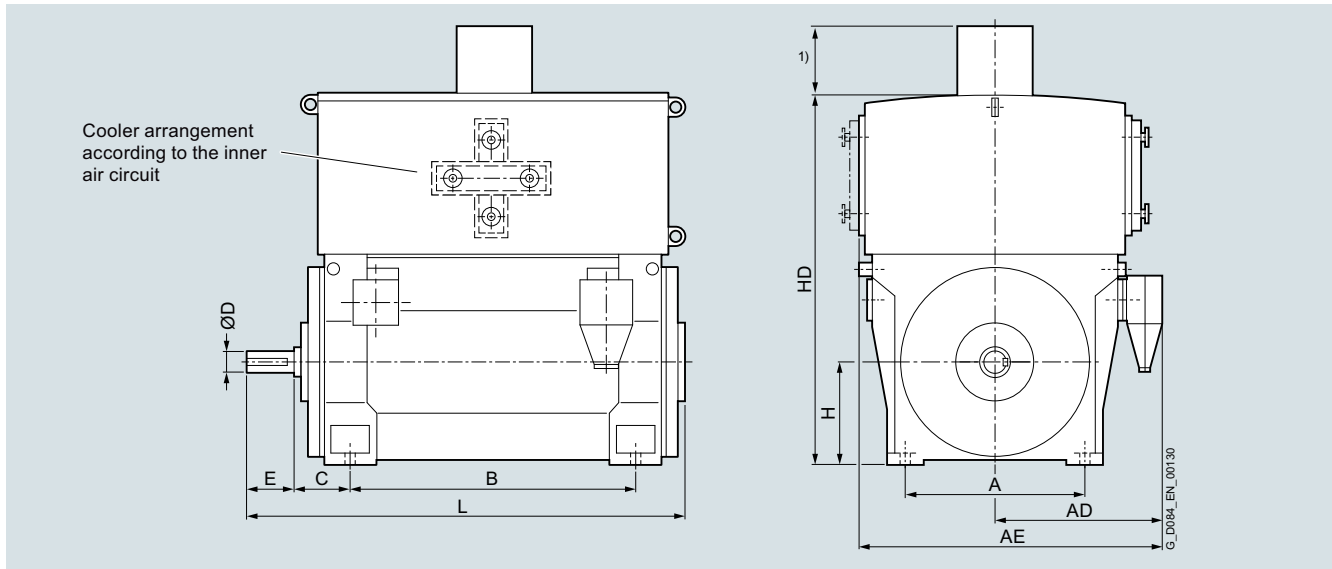
³⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

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, anti-friction bearings – 1RN7²⁾ series – IC86W											
8-pole											
1RN7800-4P..0-OCG0	23200	1700	1900	3110	2240	375	250	330	800	3080	3470
1RN7802-4P..0-OCG0	24400	1700	1900	3110	2240	375	250	330	800	3080	3470
1RN7804-4P..0-OCG0	26100	1700	1900	3110	2500	375	250	330	800	3080	3730
1RN7806-4P..0-OCG0	27500	1700	1900	3110	2500	375	250	330	800	3080	3730

Note:

Higher pole numbers are available on request.

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

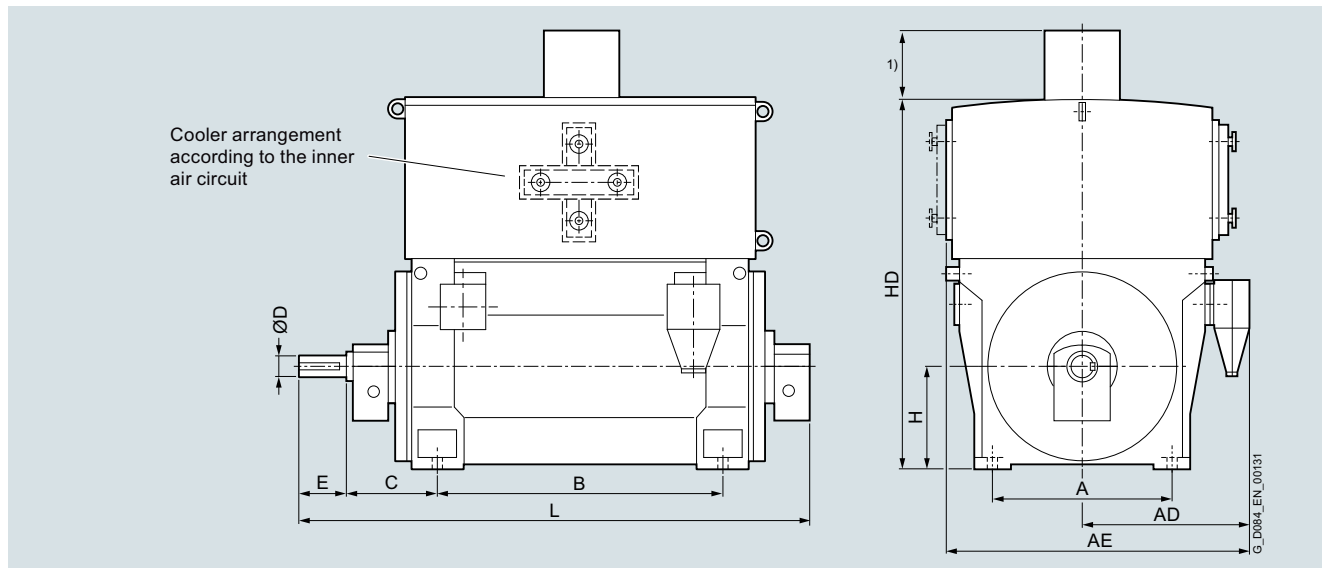
2) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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 – 1RN7³⁾ series – IC86W											
2-pole											
1RN7630-2P..0-0CJ0	10700	1320	1490	2490	1600	600	180	240	630	2610	3020
1RN7632-2P..0-0CJ0	11300	1320	1490	2490	1600	600	180	240	630	2610	3020
1RN7634-2P..0-0CJ0	12200	1320	1490	2490	1800	600	180	240	630	2610	3220
1RN7636-2P..0-0CJ0	12700	1320	1490	2490	1800	600	180	240	630	2610	3220
1RN7710-2P..0-0CJ0	14600	1500	1800	2900	2000	560	200	280	710	2800	3320
1RN7712-2P..0-0CJ0	15200	1500	1800	2900	2000	560	200	280	710	2800	3320
1RN7714-2P..0-0CJ0	16400	1500	1800	2900	2240	560	200	280	710	2800	3560
1RN7716-2P..0-0CJ0	17200	1500	1800	2900	2240	560	200	280	710	2800	3560

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

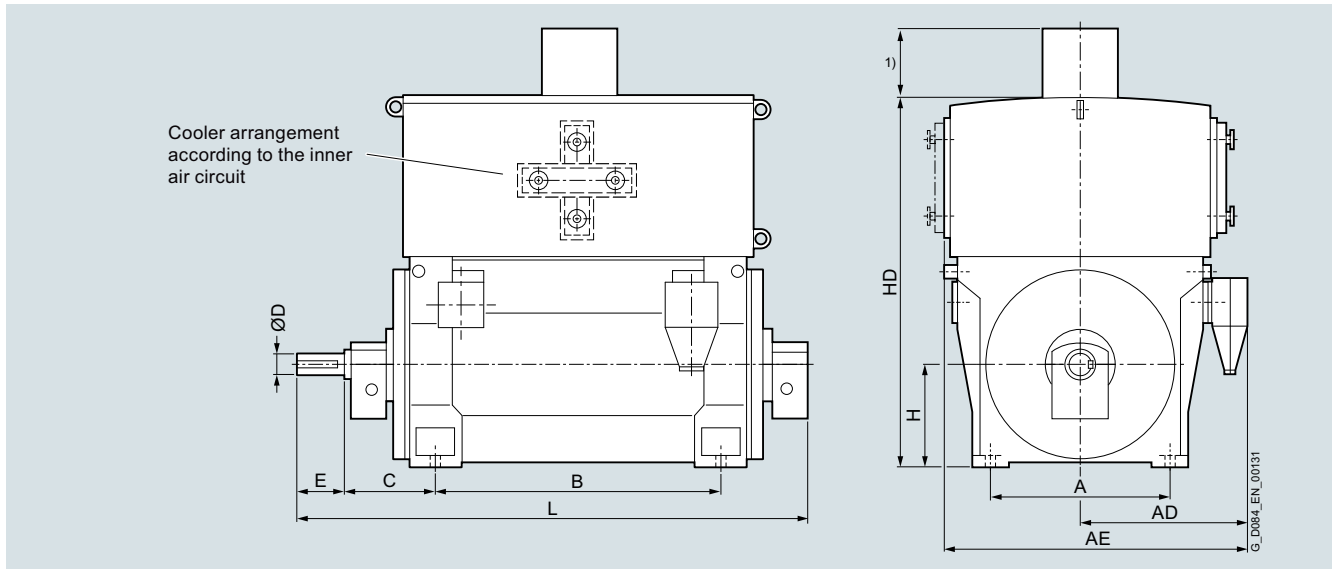
3) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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 – 1RN7³⁾ series – IC86W											
4-pole											
1RN7630-4P..0-0CJ0	11400	1320	1490	2490	1600	630	200	280	630	2610	3090
1RN7632-4P..0-0CJ0	11900	1320	1490	2490	1600	630	200	280	630	2610	3090
1RN7634-4P..0-0CJ0	12900	1320	1490	2490	1800	630	200	280	630	2610	3290
1RN7636-4P..0-0CJ0	13400	1320	1490	2490	1800	630	200	280	630	2610	3290
1RN7710-4P..0-0CJ0	15800	1500	1800	2900	2000	710	220	350	710	2800	3650
1RN7712-4P..0-0CJ0	16400	1500	1800	2900	2000	710	220	350	710	2800	3650
1RN7714-4P..0-0CJ0	17700	1500	1800	2900	2240	710	220	350	710	2800	3890
1RN7716-4P..0-0CJ0	19000	1500	1800	2900	2240	710	220	350	710	2800	3890
1RN7800-4P..0-0CJ0	23600	1700	1900	3110	2240	600	250	330	800	3080	3660
1RN7802-4P..0-0CJ0	24700	1700	1900	3110	2240	600	250	330	800	3080	3660
1RN7804-4P..0-0CJ0	26600	1700	1900	3110	2500	600	250	330	800	3080	3920
1RN7806-4P..0-0CJ0	27900	1700	1900	3110	2500	600	250	330	800	3080	3920

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

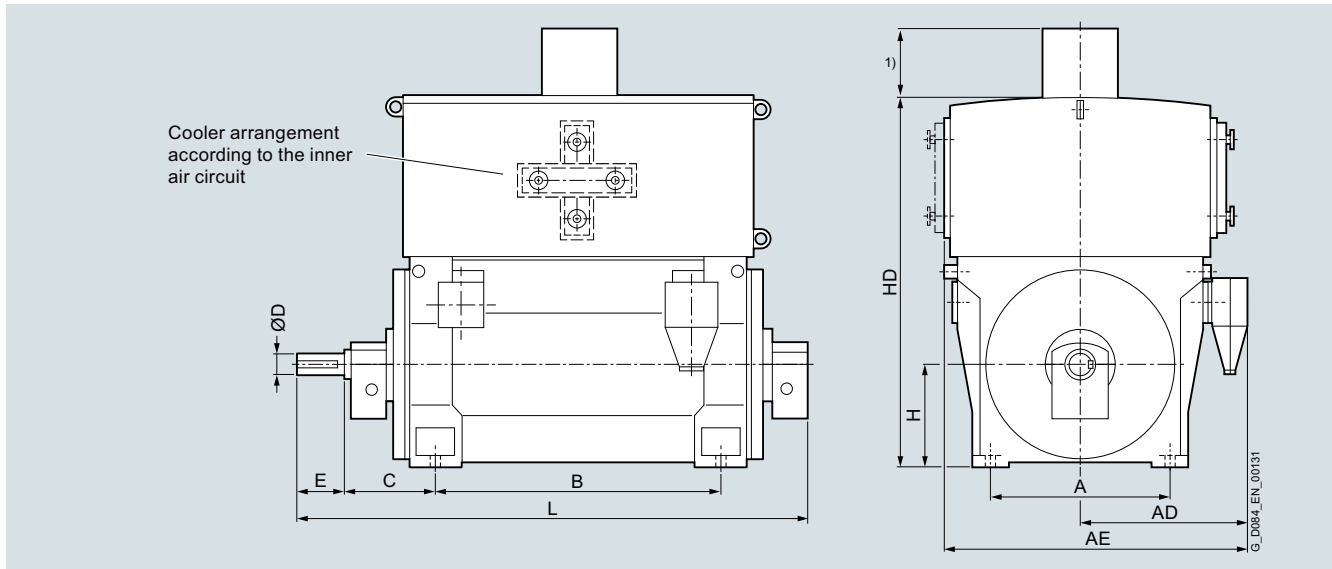
3) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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 – 1RN7³⁾ series – IC86W											
6-pole											
1RN7630-6P..0-0CJ0	11800	1320	1340	2340	1600	630	200	280	630	2610	3090
1RN7632-6P..0-0CJ0	12400	1320	1340	2340	1600	630	200	280	630	2610	3090
1RN7634-6P..0-0CJ0	13300	1320	1340	2340	1800	630	200	280	630	2610	3290
1RN7636-6P..0-0CJ0	13800	1320	1340	2340	1800	630	200	280	630	2610	3290
1RN7710-6P..0-0CJ0	15800	1500	1800	2900	2000	670	220	350	710	2800	3570
1RN7712-6P..0-0CJ0	16800	1500	1800	2900	2000	670	220	350	710	2800	3570
1RN7714-6P..0-0CJ0	18300	1500	1800	2900	2240	670	220	350	710	2800	3810
1RN7716-6P..0-0CJ0	19400	1500	1800	2900	2240	670	220	350	710	2800	3810
1RN7800-6P..0-0CJ0	24400	1700	1900	3110	2240	600	250	330	800	3080	3660
1RN7802-6P..0-0CJ0	25900	1700	1900	3110	2240	600	250	330	800	3080	3660
1RN7804-6P..0-0CJ0	27800	1700	1900	3110	2500	600	250	330	800	3080	3920
1RN7806-6P..0-0CJ0	29300	1700	1900	3110	2500	600	250	330	800	3080	3920

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

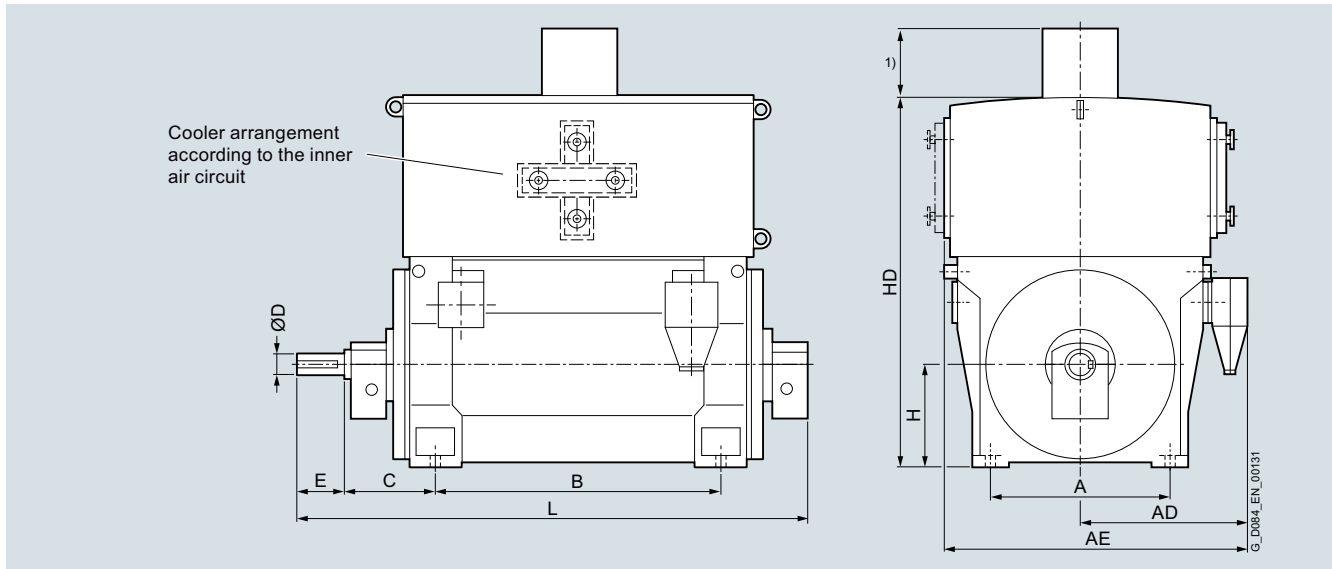
3) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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 – 1RN7³⁾ series – IC86W											
8-pole											
1RN7630-8P..0-0CJ0	11500	1320	1340	2340	1600	630	200	280	630	2610	3090
1RN7632-8P..0-0CJ0	12100	1320	1340	2340	1600	630	200	280	630	2610	3090
1RN7634-8P..0-0CJ0	12900	1320	1340	2340	1800	630	200	280	630	2610	3290
1RN7636-8P..0-0CJ0	13400	1320	1340	2340	1800	630	200	280	630	2610	3290
1RN7710-8P..0-0CJ0	15200	1500	1800	2900	2000	670	220	350	710	2800	3570
1RN7712-8P..0-0CJ0	16200	1500	1800	2900	2000	670	220	350	710	2800	3570
1RN7714-8P..0-0CJ0	17600	1500	1800	2900	2240	670	220	350	710	2800	3810
1RN7716-8P..0-0CJ0	18600	1500	1800	2900	2240	670	220	350	710	2800	3810
1RN7800-8P..0-0CJ0	23400	1700	1900	3110	2240	600	280	470	800	3080	3800
1RN7802-8P..0-0CJ0	24600	1700	1900	3110	2240	600	280	470	800	3080	3800
1RN7804-8P..0-0CJ0	26300	1700	1900	3110	2500	600	280	470	800	3080	4060
1RN7806-8P..0-0CJ0	27600	1700	1900	3110	2500	600	280	470	800	3080	4060

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

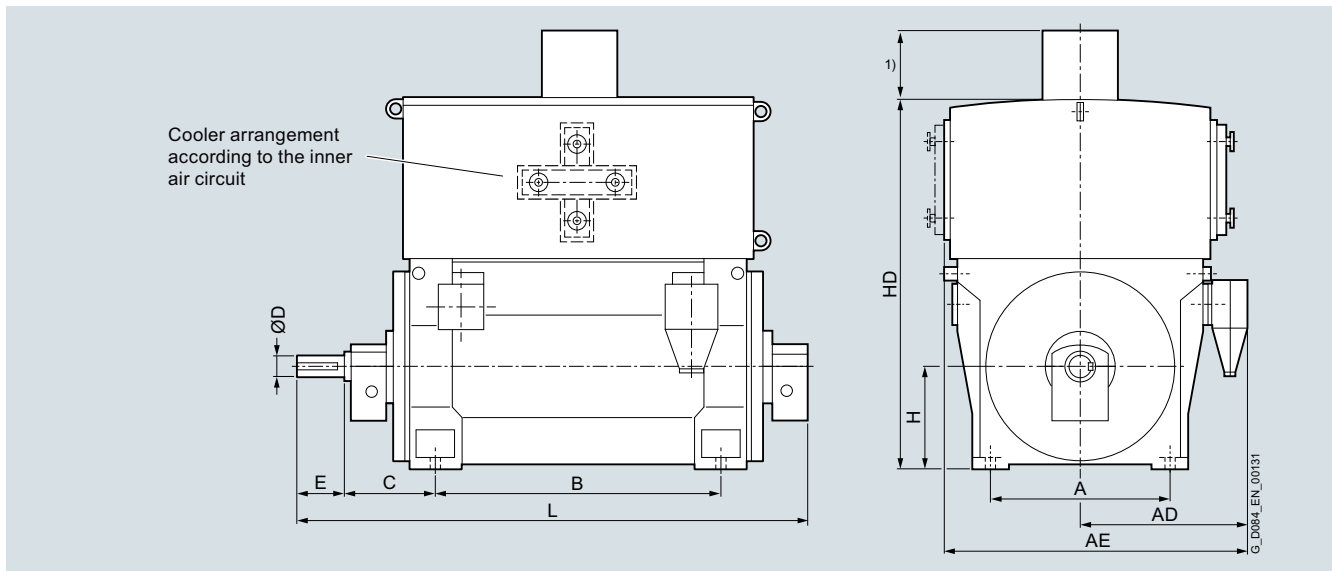
3) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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 – 1RN7³⁾ series – IC86W											
10-pole											
1RN7630-3P..0-0CJ0	11400	1320	1340	2340	1600	630	200	280	630	2610	3090
1RN7632-3P..0-0CJ0	12000	1320	1340	2340	1600	630	200	280	630	2610	3090
1RN7634-3P..0-0CJ0	12800	1320	1340	2340	1800	630	200	280	630	2610	3290
1RN7636-3P..0-0CJ0	13300	1320	1340	2340	1800	630	200	280	630	2610	3290
1RN7710-3P..0-0CJ0	15200	1500	1800	2900	2000	670	220	350	710	2800	3570
1RN7712-3P..0-0CJ0	16200	1500	1800	2900	2000	670	220	350	710	2800	3570
1RN7714-3P..0-0CJ0	17700	1500	1800	2900	2240	670	220	350	710	2800	3810
1RN7716-3P..0-0CJ0	18600	1500	1800	2900	2240	670	220	350	710	2800	3810

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

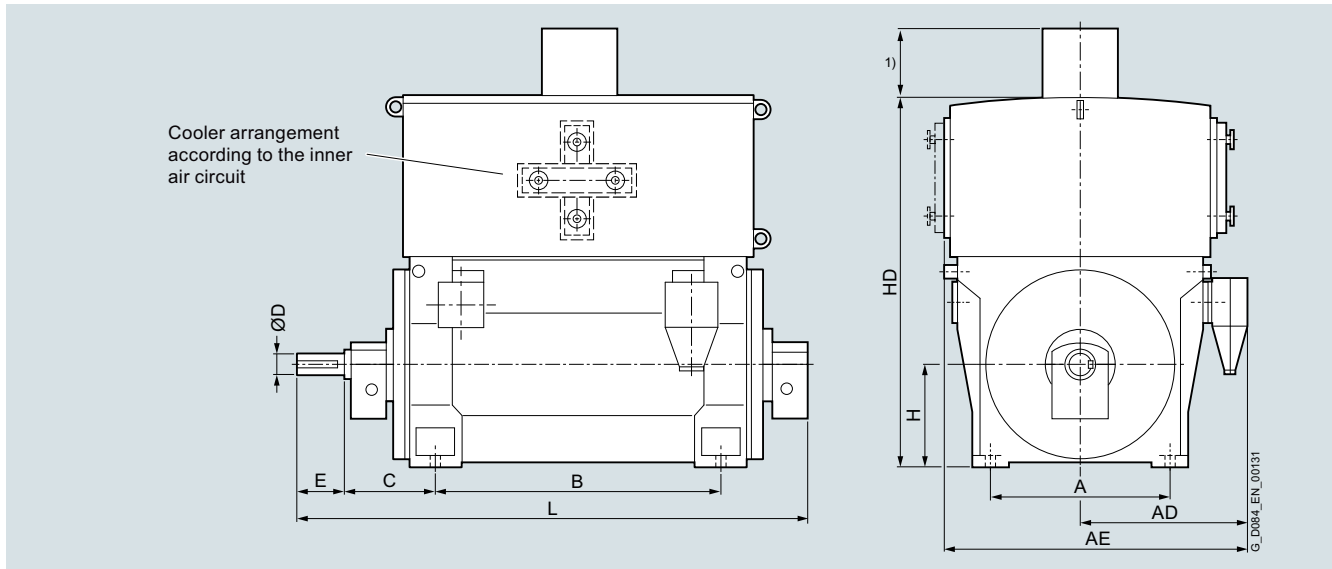
3) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings (continued)



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ 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 – 1RN7³⁾ series – IC86W											
12-pole											
1RN7630-5P..0-0CJ0	11400	1320	1340	2340	1600	630	200	280	630	2610	3090
1RN7632-5P..0-0CJ0	12000	1320	1340	2340	1600	630	200	280	630	2610	3090
1RN7634-5P..0-0CJ0	12800	1320	1340	2340	1800	630	200	280	630	2610	3290
1RN7636-5P..0-0CJ0	13300	1320	1340	2340	1800	630	200	280	630	2610	3290

Note:

Higher pole numbers are available on request.

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

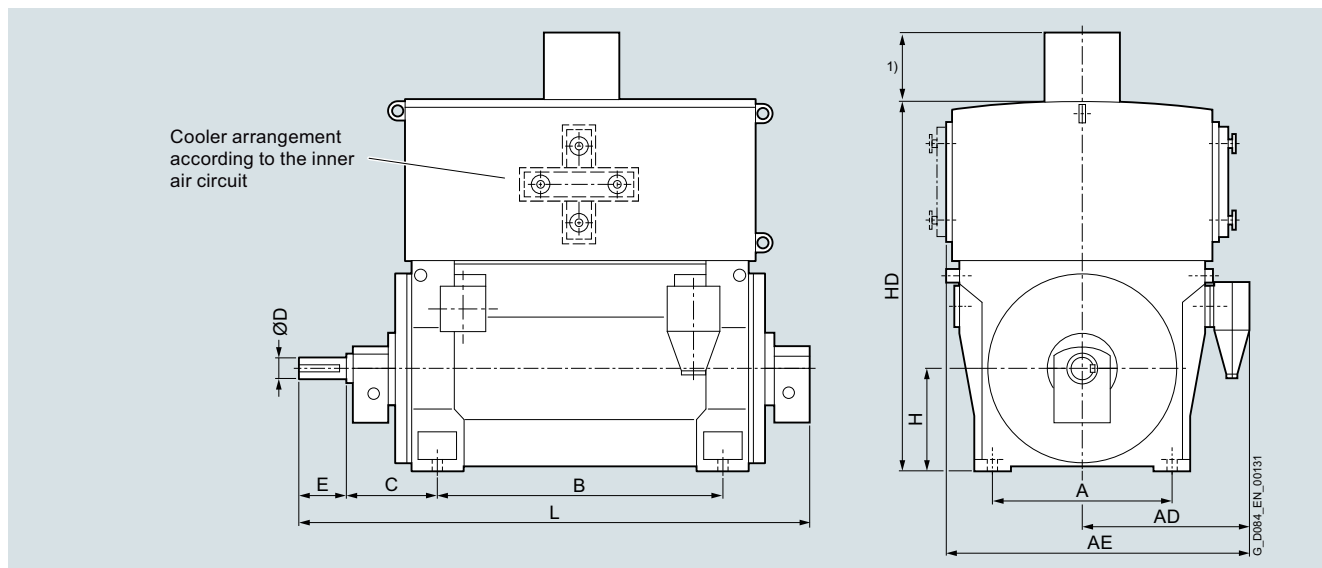
1) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

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 – 1RN7²⁾ series – IC86W											
4-pole											
1RN7800-4P..0-0CJ0	23600	1700	1900	3110	2240	600	250	330	800	3080	3660
1RN7802-4P..0-0CJ0	24700	1700	1900	3110	2240	600	250	330	800	3080	3660
1RN7804-4P..0-0CJ0	26600	1700	1900	3110	2500	600	250	330	800	3080	3920
1RN7806-4P..0-0CJ0	27900	1700	1900	3110	2500	600	250	330	800	3080	3920

Note:

Higher pole numbers are available on request.

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

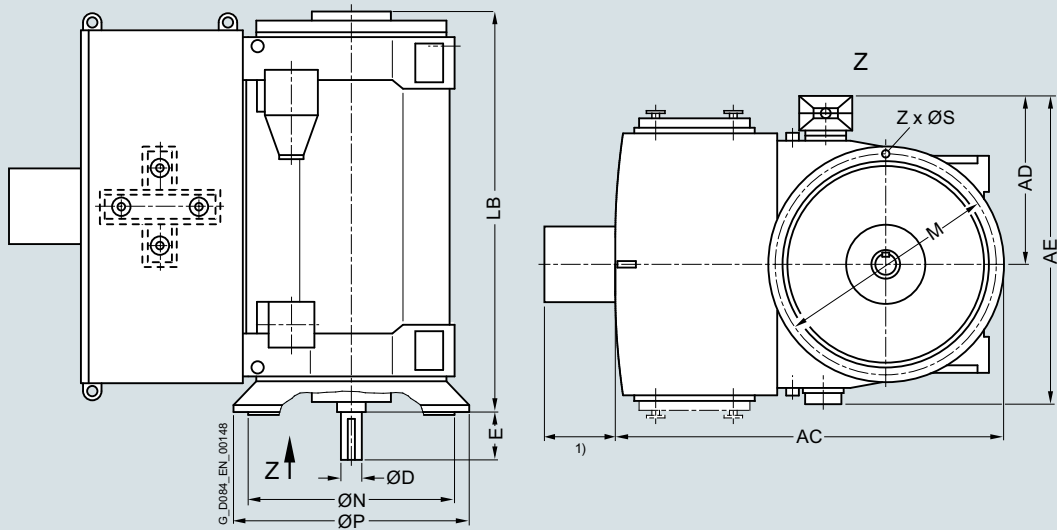
²⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC	AD ²⁾	AE ²⁾	D	E	LB	P	N	M	S	Z
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RN7 ³⁾ – IC86W												
6-pole												
1RN7630-6P..8-OCG0	12500	2920	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-6P..8-OCG0	13100	2920	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-6P..8-OCG0	13900	2920	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-6P..8-OCG0	14500	2920	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7710-6P..8-OCG0	17300	3130	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-6P..8-OCG0	18300	3130	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-6P..8-OCG0	19800	3130	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-6P..8-OCG0	20900	3130	1800	2900	220	350	3380	2000	1800	1900	35	24

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

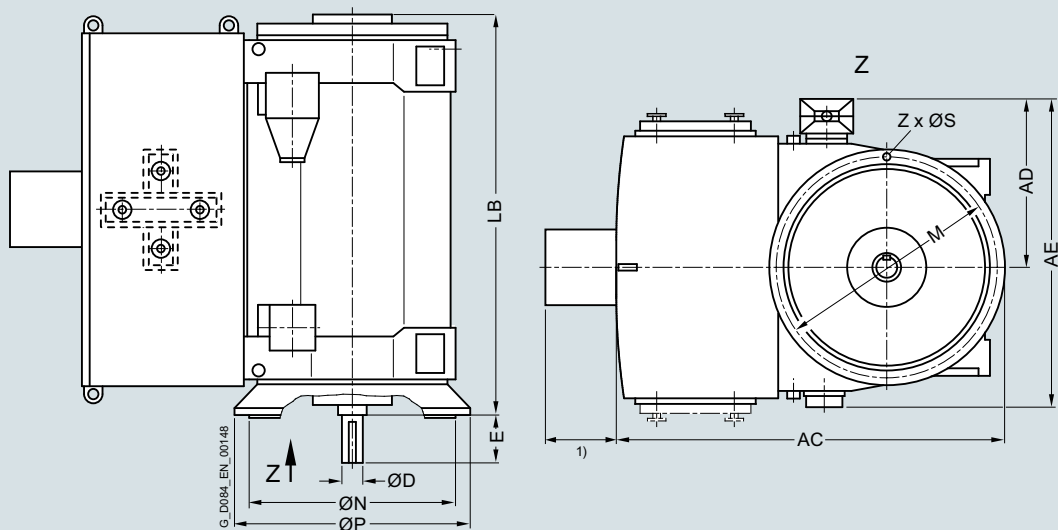
3) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings



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

Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RN7³⁾ – IC86W

8-pole												
1RN7630-8P..8-OCG0	12100	2920	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-8P..8-OCG0	12700	2920	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-8P..8-OCG0	13500	2920	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-8P..8-OCG0	14100	2920	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7710-8P..8-OCG0	16900	3130	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-8P..8-OCG0	18200	3130	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-8P..8-OCG0	19700	3130	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-8P..8-OCG0	20700	3130	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7800-8P..8-OCG0	22900	3350	1810	3000	280	470	3280	2240	2000	2120	42	22
1RN7802-8P..8-OCG0	24100	3350	1810	3000	280	470	3280	2240	2000	2120	42	22
1RN7804-8P..8-OCG0	26000	3350	1810	3000	280	470	3540	2240	2000	2120	42	22
1RN7806-8P..8-OCG0	27300	3350	1810	3000	280	470	3540	2240	2000	2120	42	22

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

2) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

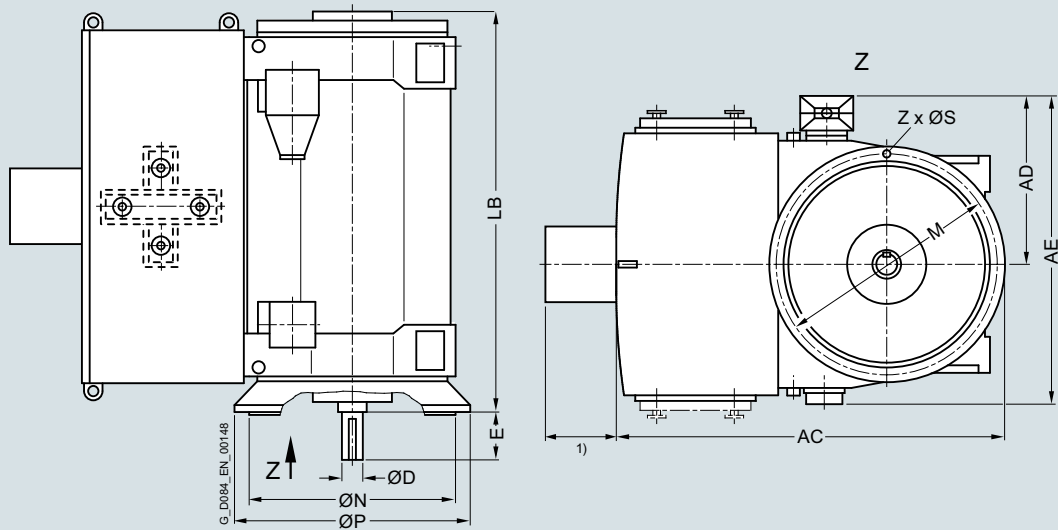
3) The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC	AD ²⁾	AE ²⁾	D	E	LB	P	N	M	S	Z
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RN7³⁾ – IC86W												
10-pole												
1RN7630-3P..8-OCG0	12000	2920	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-3P..8-OCG0	12600	2920	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-3P..8-OCG0	13400	2920	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-3P..8-OCG0	14000	2920	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7710-3P..8-OCG0	17000	3130	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7712-3P..8-OCG0	17900	3130	1800	2900	220	350	3140	2000	1800	1900	35	24
1RN7714-3P..8-OCG0	19500	3130	1800	2900	220	350	3380	2000	1800	1900	35	24
1RN7716-3P..8-OCG0	20400	3130	1800	2900	220	350	3380	2000	1800	1900	35	24

1)

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

²⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

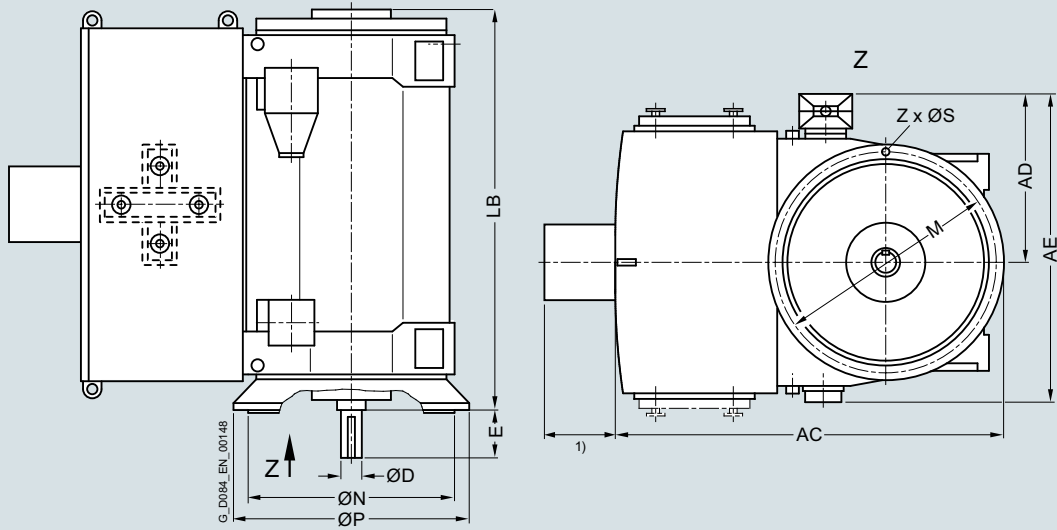
³⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with non-sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN6, 1RN7

Dimension drawings



Motor type	Weight kg	Dimensions										
		AC	AD ²⁾	AE ²⁾	D	E	LB	P	N	M	S	Z
Up to 6.6 kV, IM V1 type of construction, anti-friction bearings – 1RN7³⁾ – IC86W												
12-pole												
1RN7630-5P..8-OCG0	12000	2920	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7632-5P..8-OCG0	12600	2920	1250	2130	200	280	2410	1800	1600	1700	28	24
1RN7634-5P..8-OCG0	13400	2920	1250	2130	200	280	2610	1800	1600	1700	28	24
1RN7636-5P..8-OCG0	14000	2920	1250	2130	200	280	2610	1800	1600	1700	28	24

Note:

Higher pole numbers are available on request.

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2, 4, 8, 10, 12	570 mm
		6	500 mm
	60 Hz	2, 4	620 mm
		6, 8, 10, 12	570 mm
710	50 Hz	2, 4, 6	570 mm
		8, 10	500 mm
	60 Hz	2, 4, 6	620 mm
		8, 10	570 mm
800	50 Hz	4	570 mm
		6, 8	500 mm
	60 Hz	4	620 mm
		6, 8	570 mm

²⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

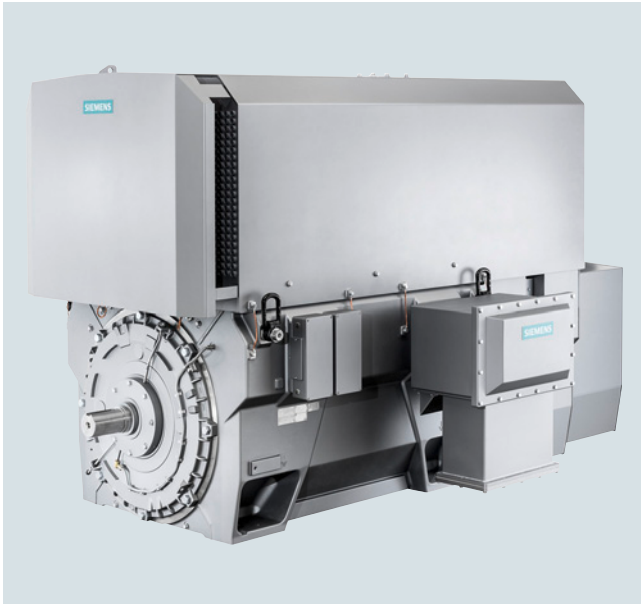
³⁾ The dimensions are also valid for the 1SL7 series. For the 1SQ7 series, the dimensions might change as follows due to the required purging system: AC + 400 mm. Detailed drawings are available on request.

Motors for converter operation

Converter with sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ7 constant-torque drive

Overview



Technical data

Overview of technical data

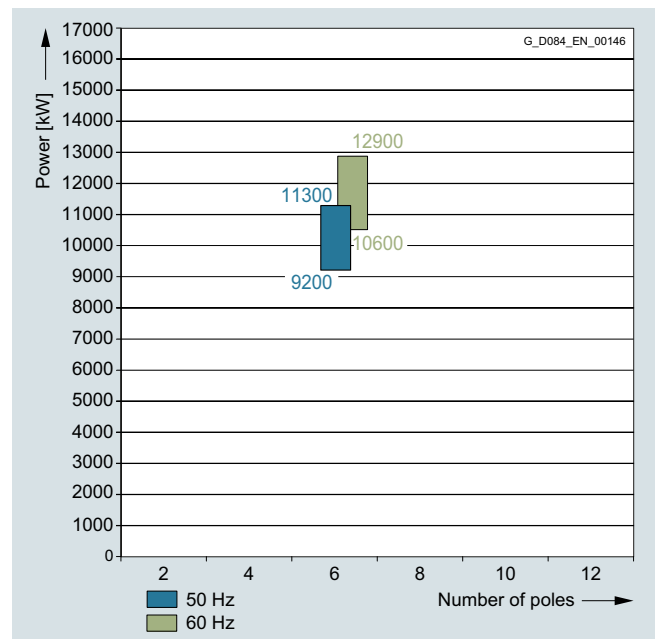
SIMOTICS HV M 1RQ7 constant-torque drive	
Rated voltage	6 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Cooling method	IC611/IC616/IC666
Stator winding insulation	Insulation system, thermal class 155 (F)
Shaft height	800 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 800 mm	Housing: Steel Cooling enclosure: Steel

Power ranges for IEC motors for operation with SINAMICS converters with sinusoidal output

1RQ7, 1SG7 (Ex ec) and 1SB7 (Ex pxb) series

Insulation system, thermal class 155 (F)

The power data listed here apply for an ambient temperature of 40 °C and an installation altitude 1000 m.



Up to 6.6 kV; 50 and 60 Hz

Motors for converter operation

Converter with sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ7 constant-torque drive

Selection and ordering data

The following data also apply to explosion-protected motors 1SB7 (Ex pxb) and 1SG7 (Ex ec).

Rated power		High-voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6 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	
Up to 6.6 kV, 50 Hz											
6-pole											
9200	8300	1RQ7800-6-60-0C-0	995	97.5	0.87	940	79663	2.20	685	1500	
9900	8900	1RQ7802-6-60-0C-0	996	97.5	0.88	1000	85336	2.40	765	1500	
10600	9500	1RQ7804-6-60-0C-0	996	97.6	0.88	1060	91089	2.35	840	1500	
11300	10100	1RQ7806-6-60-0C-0	996	97.6	0.88	1140	96842	2.15	925	1500	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

For details on converter operation with sinusoidal output, 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⁾ Standard values; higher speed limits on request.

Motors for converter operation

Converter with sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ7 constant-torque drive

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:3				1:5			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Constant-torque drive											
6-pole												
1RQ7800-6...	79663	498	96.8	0.87	79663	332	96.0	0.88	79663	199	94.3	0.88
1RQ7802-6...	85336	498	96.9	0.88	85336	332	96.1	0.88	85336	199	94.6	0.88
1RQ7804-6...	91089	498	97.0	0.88	91089	332	96.4	0.88	91089	199	94.8	0.88
1RQ7806-6...	96842	498	97.0	0.88	96842	332	96.2	0.88	96842	199	94.6	0.88

Motors for converter operation

Converter with sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ7 constant-torque drive

Selection and ordering data

The following data also apply to explosion-protected motors 1SB7 (Ex pxb) and 1SG7 (Ex ec).

Rated power		High-voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6 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	
Up to 6.6 kV, 60 Hz											
6-pole											
10600	9500	1RQ7800-6 ■ ■ 80-0C ■ 0	1195	97.5	0.88	1060	75920	2.20	685	1500	
11400	10200	1RQ7802-6 ■ ■ 80-0C ■ 0	1196	97.5	0.88	1140	81446	2.25	760	1500	
12200	10900	1RQ7804-6 ■ ■ 80-0C ■ 0	1196	97.5	0.87	1240	87035	2.50	840	1500	
12900	11600	1RQ7806-6 ■ ■ 80-0C ■ 0	1196	97.5	0.88	1300	92625	2.50	925	1500	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

For details on converter operation with sinusoidal output, 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⁾ Standard values; higher speed limits on request.

Motors for converter operation

Converter with sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ7 constant-torque drive

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:3				1:5			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Constant-torque drive											
6-pole												
1RQ7800-6...	75920	591	97.0	0.88	75920	390	96.4	0.88	75920	239	94.9	0.88
1RQ7802-6...	81446	598	97.1	0.88	81446	399	96.4	0.88	81446	235	95.1	0.88
1RQ7804-6...	87035	593	97.2	0.87	87035	395	96.7	0.87	87035	230	95.6	0.87
1RQ7806-6...	92625	598	97.2	0.88	92625	392	96.7	0.88	92625	237	95.5	0.88

Motors for converter operation

Converter with sinusoidal output

Air-cooled motors · SIMOTICS HV M 1RQ7 constant-torque drive

Dimension drawings

Note:

For dimension drawings, [refer to section "Converter with non-sinusoidal output"](#).

Motors for converter operation

Converter with sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN7 constant-torque drive

Overview



Technical data

Overview of technical data

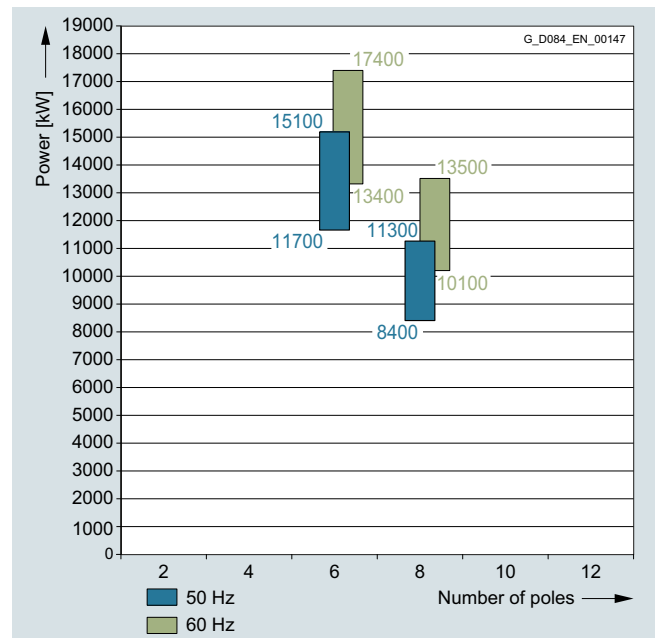
SIMOTICS HV M 1RN7 constant-torque	
Rated voltage	6 kV
Rated frequency	50/60 Hz
Motor type	Induction motor with squirrel-cage rotor
Type of construction	IM B3, IM V1
Degree of protection	IP55
Cooling method	IC86W
Stator winding insulation	Insulation system, thermal class 155 (F)
Shaft height	800 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 800 mm	Housing: Steel Cooling enclosure: Steel

Power ranges for IEC motors for operation with SINAMICS converters with sinusoidal output

1RN7, 1SL7 (Ex ec) and 1SQ7 (Ex pxb) series

Insulation system, thermal class 155 (F)

The power data listed here apply for a water inlet temperature of 25 °C and an installation altitude ≤ 1000 m.



Up to 6.6 kV; 50 Hz and 60 Hz

Motors for converter operation

Converter with sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN7 constant-torque drive

Selection and ordering data

The following data also apply to explosion-protected motors 1SL7 (Ex ec) and 1SQ7 (Ex pxb).

Rated power		High-voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6 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	
Up to 6.6 kV, 50 Hz											
6-pole											
11700	10500	1RN7800-6-60-0C-0	995	97.5	0.87	1200	100778	1.85	685	1500	
12800	11500	1RN7802-6-60-0C-0	995	97.5	0.88	1280	110376	1.95	760	1500	
14000	12500	1RN7804-6-60-0C-0	995	97.6	0.88	1400	119974	2.05	845	1500	
15100	13500	1RN7806-6-60-0C-0	995	97.6	0.88	1520	129572	2.00	930	1500	
8-pole											
8400	7500	1RN7800-8-60-0C-0	746	97.3	0.87	850	96012	2.40	860	1125	
9300	8400	1RN7802-8-60-0C-0	746	97.4	0.88	940	107534	2.30	955	1125	
10300	9300	1RN7804-8-60-0C-0	746	97.4	0.87	1060	119055	2.40	1055	1125	
11300	10300	1RN7806-8-60-0C-0	746	97.5	0.87	1160	131857	2.40	1160	1125	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

For details on converter operation with sinusoidal output, 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⁾ Standard values; higher speed limits on request.

Motors for converter operation

Converter with sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN7 constant-torque drive

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:3				1:5			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Constant-torque drive											
6-pole												
1RN7800-6...	100779	498	96.6	0.87	100779	332	95.6	0.87	100779	199	93.5	0.88
1RN7802-6...	110377	498	96.7	0.88	110377	332	95.7	0.88	110377	199	93.6	0.88
1RN7804-6...	119975	498	96.8	0.88	119975	332	96.0	0.88	119975	199	94.0	0.88
1RN7806-6...	129573	498	96.9	0.88	129573	332	96.0	0.88	129573	199	94.1	0.88
8-pole												
1RN7800-8...	96012	373	96.5	0.87	95883	249	95.4	0.87	91013	149	93.4	0.87
1RN7802-8...	107533	373	96.4	0.87	107389	249	95.3	0.88	102550	149	93.1	0.88
1RN7804-8...	119054	373	96.6	0.87	118895	249	95.6	0.87	113766	149	93.7	0.87
1RN7806-8...	131856	373	96.6	0.87	130401	249	95.7	0.87	126265	149	93.7	0.87

Motors for converter operation

Converter with sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN7 constant-torque drive

Selection and ordering data

The following data also apply to explosion-protected motors 1SL7 (Ex ec) and 1SQ7 (Ex pxb).

Rated power		High-voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6 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	
Up to 6.6 kV, 60 Hz											
6-pole											
13400	12000	1RN7800-6-80-0C	1194	97.5	0.87	1360	95979	1.80	685	1500	
14700	13200	1RN7802-6-80-0C	1195	97.6	0.87	1500	105489	1.90	760	1500	
16100	14400	1RN7804-6-80-0C	1195	97.6	0.87	1640	115079	2.00	845	1500	
17400	15600	1RN7806-6-80-0C	1195	97.6	0.88	1740	124669	2.00	930	1500	
8-pole											
10100	9000	1RN7800-8-80-0C	896	97.4	0.86	1040	95926	2.25	860	1125	
11200	10100	1RN7802-8-80-0C	896	97.4	0.86	1160	107651	2.40	955	1125	
12300	11200	1RN7804-8-80-0C	896	97.5	0.87	1280	119375	2.40	1060	1125	
13500	12300	1RN7806-8-80-0C	896	97.5	0.87	1400	131099	2.45	1165	1125	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

For details on converter operation with sinusoidal output, 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⁾ Standard values; higher speed limits on request.

Motors for converter operation

Converter with sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN7 constant-torque drive

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:3				1:5			
	<i>P</i>	<i>n</i>	η	$\cos \varphi$	<i>P</i>	<i>n</i>	η	$\cos \varphi$	<i>P</i>	<i>n</i>	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Constant-torque drive											
6-pole												
1RN7800-6...	95979	597	96.8	0.87	95979	398	95.9	0.87	95979	239	94.0	0.88
1RN7802-6...	105489	598	97.0	0.87	105489	398	96.3	0.87	105489	239	94.7	0.87
1RN7804-6...	115079	598	97.1	0.87	115079	398	96.4	0.88	115079	239	94.9	0.88
1RN7806-6...	124669	598	97.2	0.88	124669	398	96.5	0.88	124669	239	95.0	0.88
8-pole												
1RN7800-8...	95926	448	96.7	0.87	95819	299	95.8	0.87	91765	179	94.1	0.87
1RN7802-8...	107650	448	96.8	0.87	106998	299	96.0	0.87	102969	179	94.3	0.87
1RN7804-8...	119375	448	96.9	0.87	118177	299	96.1	0.87	114173	179	94.4	0.87
1RN7806-8...	131099	448	96.9	0.87	130953	299	96.1	0.87	125377	179	94.5	0.87

Motors for converter operation

Converter with sinusoidal output

Water-cooled motors · SIMOTICS HV M 1RN7 constant-torque drive

Dimension drawings

Note:

For dimension drawings, refer to section "Converter with non-sinusoidal output".

Motors for subcritical operation

4/2	General information
4/2	Subcritical motors
4/3	Motors for converter operation
4/3	<u>Converter with non-sinusoidal output</u>
4/3	Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7
4/6	Selection and ordering data
4/12	Dimension drawings
4/18	Water-cooled motors SIMOTICS HV M 1RN6, 1RN7
4/20	Selection and ordering data
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4/32	<u>Converter with sinusoidal output</u>
4/32	Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7 constant-torque drive
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Motors for subcritical operation

General information

Subcritical motors

Overview

Some applications require that a motor is operated over the complete speed range or at least over a significantly wider speed range. For example, this is the case for many pump and compressor drives.

However, especially for 2-pole motors, the critical speed lies below the rated speed of 3000 rpm (at 50 Hz). It is not permissible that the motors are operated in the range around the critical speed. This means that the motor must quickly pass through this range below the rated speed.

Based on a clever design, the critical speed of "subcritical motors" lies above the rated speed, which means that the motor can be operated across its complete speed range. As standard, SIMOTICS HV M motors with 4 poles and higher are always subcritical. This is not always the case for 2-pole motors.

Subcritical motors specifically designed for the applications listed above can be identified in the following tables as a result of the uneven digits from 1 to 5 at the seventh position of the article number (length).

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1RQ6, 1RQ7	
Rated voltage	690 V ... 10 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/IC666
Stator winding insulation	Insulation system, thermal class 155 (F)
Shaft height	450 ... 630 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 800 mm	Housing: Steel Cooling enclosure: Steel

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

Technical data (continued)

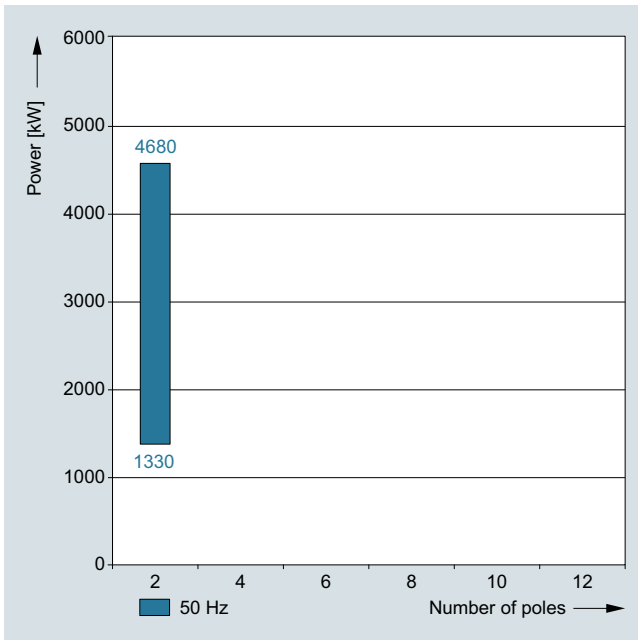
Power ranges for IEC motors with reinforced insulation for operation with SINAMICS converters without sine-wave filter

1RQ6, 1SG6 (Ex ec) and SB6 (Ex pxb) series

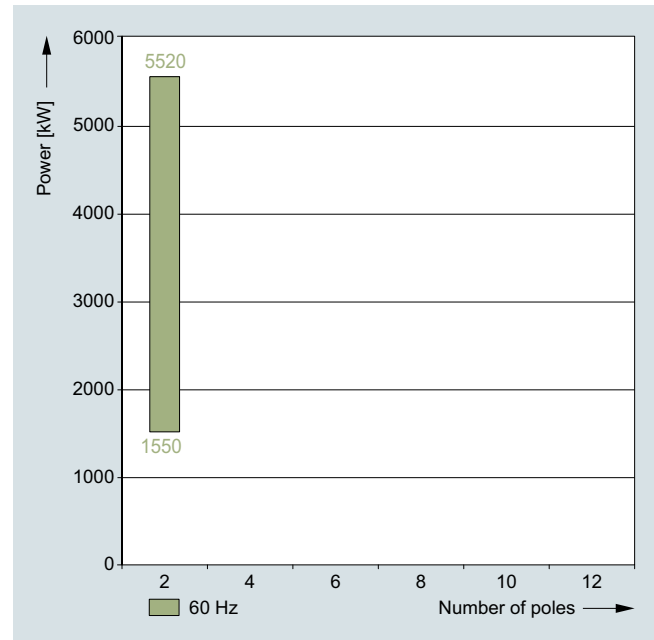
1RQ7, 1SG7 (Ex ec) and 1SB7 (Ex pxb) series

Insulation system, thermal class 155 (F)

The power data listed here apply for an ambient temperature of 40 °C and an installation altitude ≤ 1000 m.

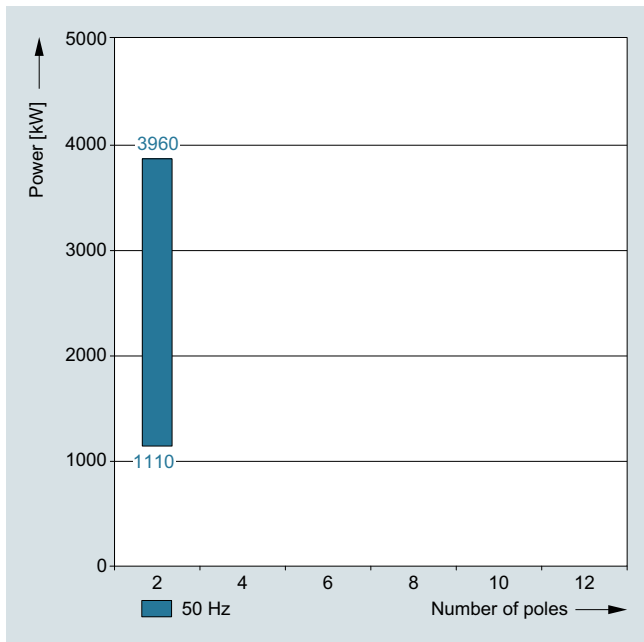


6 kV; 50 Hz



6.6 kV; 60 Hz

Technical data (continued)



10 kV; 50 Hz

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

The following data also apply to explosion-protected motors 1SB6 (Ex pxb) and 1SG6 (Ex ec).

Rated power IEC		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)							
P_{rated} 155 (F)	P_{rated} 130 (B)		Rated speed	Efficiency	Power factor	Rated current at 6 kV	Rated torque	Break- down torque	Moment of inertia	Mechanical speed limit ¹⁾
kW	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
6 kV, 50 Hz										
2-pole										
1330	1180	1RQ6450-2JT ■0	2977	95.4	0.88	136	3785	2.45	12.0	3000
1490	1320	1RQ6452-2JT ■0	2978	95.7	0.89	150	4233	2.45	14.0	3000
1670	1480	1RQ6454-2JT ■0	2980	95.9	0.89	166	4743	2.50	15.0	3000
1830	1620	1RQ6456-2JT ■0	2980	96.2	0.90	180	5191	2.45	16.0	3000
2080	1920	1RQ6500-2JT ■0	2978	96.1	0.90	215	6157	2.25	19.0	3000
2370	2180	1RQ6502-2JT ■0	2975	96.3	0.90	240	6997	2.15	21.0	3000
2800	2500	1RQ6561-2JT ■0	2981	95.9	0.90	280	8008	2.45	38.0	3000
3190	2850	1RQ6563-2JT ■0	2981	96.1	0.91	315	9130	2.55	42.0	3000
3580	3200	1RQ6565-2JT ■0	2981	96.4	0.91	350	10251	2.45	46.0	3000
4260	3550	1RQ7631-2 ■■■■0-0CJ0	2984	96.4	0.88	405	11361	2.15	65.0	3000
4680	3900	1RQ7633-2 ■■■■0-0CJ0	2985	96.6	0.88	440	12476	2.30	69.0	3000

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

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.

⁴⁾ Different number of parallel winding systems possible.

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ6450-2JT.0	885	2706	95.4	0.88	590	2368	95.3	0.88	295	1882	94.9	0.83
1RQ6452-2JT.0	990	2707	95.6	0.89	660	2369	95.5	0.88	330	1882	95.2	0.84
1RQ6454-2JT.0	1110	2708	95.9	0.89	740	2370	95.7	0.88	370	1883	95.3	0.83
1RQ6456-2JT.0	1215	2708	96.2	0.91	810	2370	96.1	0.90	405	1883	95.8	0.86
1RQ6500-2JT.0	1440	2707	96.1	0.90	960	2370	96.0	0.89	480	1882	95.8	0.84
1RQ6502-2JT.0	1635	2705	96.3	0.91	1090	2368	96.3	0.91	545	1881	96.2	0.88
1RQ6561-2JT.0	1880	2709	95.8	0.90	1250	2371	95.7	0.90	630	1883	95.4	0.87
1RQ6563-2JT.0	2140	2709	96.1	0.91	1430	2371	96.0	0.91	710	1883	95.7	0.88
1RQ6565-2JT.0	2400	2709	96.4	0.92	1600	2371	96.3	0.91	800	1883	96.0	0.89
1RQ7631-2...0-0CJ0	2660	2711	96.4	0.89	1780	2372	96.3	0.89	890	1884	96.0	0.85
1RQ7633-2...0-0CJ0	2930	2712	96.6	0.89	1950	2373	96.4	0.88	980	1884	96.1	0.85

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

The following data also apply to explosion-protected motors 1SB6 (Ex pxb) and 1SG6 (Ex ec).

Rated power IEC		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)							
P_{155}^{rated} 155 (F)	P_{130}^{rated} 130 (B)		Rated speed	Efficiency	Power factor	Rated current at 10 kV	Rated torque	Break-down torque	Moment of inertia	Mechanical speed limit ¹⁾
kW	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
10 kV, 50 Hz										
2-pole										
1110	1030	1RQ6450-2JT ■0	2978	95.1	0.88	71	3303	2.20	12.0	3000
1210	1130	1RQ6452-2JT ■0	2980	95.5	0.89	77	3621	2.40	14.0	3000
1320	1230	1RQ6454-2JT ■0	2980	95.6	0.89	83	3941	2.40	15.0	3000
1430	1330	1RQ6456-2JT ■0	2981	95.9	0.91	88	4261	2.45	17.0	3000
1770	1690	1RQ6500-2JT ■0	2979	95.9	0.90	114	5417	2.30	19.0	3000
1880	1800	1RQ6502-2JT ■0	2979	96.0	0.91	118	5770	2.35	21.0	3000
2280	2050	1RQ6561-2JT ■0	2983	95.7	0.90	138	6563	2.55	38.0	3000
2610	2350	1RQ6563-2JT ■0	2982	95.9	0.91	156	7525	2.45	42.0	3000
2940	2650	1RQ6565-2JT ■0	2982	96.1	0.92	174	8486	2.60	45.0	3000
3540	2950	1RQ7631-2 ■0-0CJ0	2987	96.2	0.88	200	9431	2.50	65.0	3000
3960	3300	1RQ7633-2 ■0-0CJ0	2986	96.4	0.89	220	10553	2.40	70.0	3000

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

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.

⁴⁾ Different number of parallel winding systems possible.

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

Motor type (repeated)	Partial load data 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												
1RQ6450-2JT.0	775	2706	95.2	0.88	515	2369	95.2	0.88	260	1882	94.9	0.84
1RQ6452-2JT.0	850	2708	95.5	0.90	565	2370	95.4	0.89	285	1883	95.1	0.85
1RQ6454-2JT.0	925	2708	95.6	0.89	615	2370	95.6	0.89	310	1883	95.3	0.85
1RQ6456-2JT.0	1000	2709	95.9	0.91	665	2371	96.0	0.91	335	1883	95.8	0.88
1RQ6500-2JT.0	1270	2707	95.9	0.90	845	2370	95.9	0.90	425	1882	95.8	0.86
1RQ6502-2JT.0	1350	2707	96.0	0.91	900	2369	96.0	0.91	450	1882	95.9	0.88
1RQ6561-2JT.0	1540	2710	95.7	0.91	1030	2372	95.6	0.90	510	1884	95.3	0.87
1RQ6563-2JT.0	1760	2710	95.9	0.91	1180	2371	95.8	0.91	590	1883	95.7	0.88
1RQ6565-2JT.0	1990	2710	96.1	0.92	1330	2371	96.0	0.92	660	1883	95.8	0.89
1RQ7631-2...0-0CJ0	2210	2714	96.1	0.88	1480	2374	96.0	0.88	740	1885	95.6	0.83
1RQ7633-2...0-0CJ0	2480	2713	96.3	0.89	1650	2374	96.2	0.89	830	1885	95.9	0.85

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

Selection and ordering data

The following data also apply to explosion-protected motors 1SB6 (Ex pxb) and 1SG6 (Ex ec).

Rated power IEC		High voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)							
P_{rated} 155 (F)	P_{rated} 130 (B)		Rated speed	Efficiency	Power factor	Rated current at 6.6 kV	Rated torque	Break- down torque	Moment of inertia	Mechanical speed limit ¹⁾
kW	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
6.6 kV, 60 Hz										
2-pole										
1550	1380	1RQ6451-2JT ■0	3568	95.2	0.88	140	3693	2.15	13.0	3600
1680	1500	1RQ6453-2JT ■0	3573	95.6	0.90	150	4009	2.65	15.0	3600
2460	2200	1RQ6501-2JT ■0	3573	96.1	0.91	220	5880	2.40	20.0	3600
2800	2500	1RQ6503-2JT ■0	3572	96.2	0.91	245	6683	2.40	21.0	3600
3090	2850	1RQ6561-2JT ■0	3583	95.5	0.90	290	7596	2.50	39.0	3600
3580	3300	1RQ6563-2JT ■0	3582	96.0	0.90	335	8798	2.55	42.0	3600
4120	3800	1RQ6565-2JT ■0	3582	96.3	0.91	380	10130	2.65	45.0	3600
5040	4200	1RQ7631-2 ■■0-0CJ0	3584	96.1	0.88	435	11191	2.25	65.0	3600
5520	4600	1RQ7633-2 ■■0-0CJ0	3585	96.3	0.88	475	12253	2.30	70.0	3600

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

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.

⁴⁾ Different number of parallel winding systems possible.

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

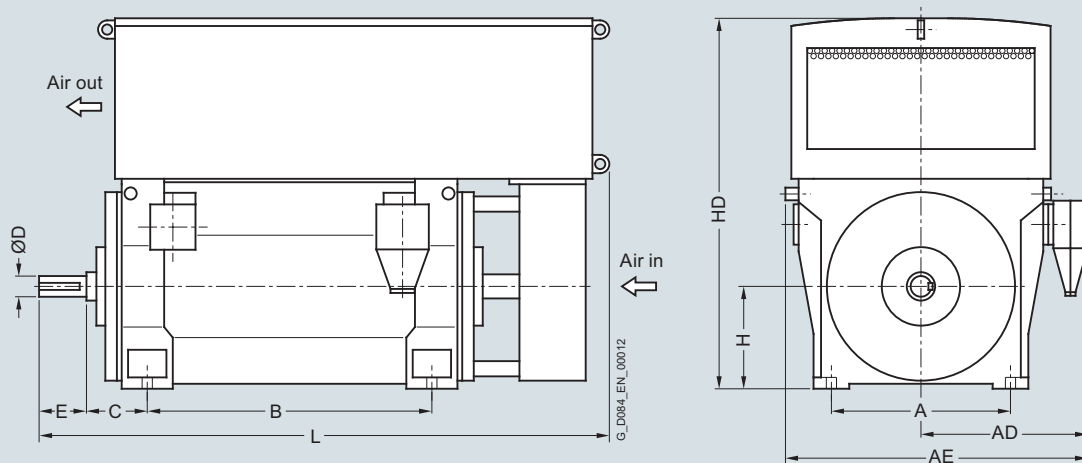
Motor type (repeated)	Partial load data for square-law torque drive											
	$P/P_{\text{rated}} 155 (F) = 75 \%$				$P/P_{\text{rated}} 155 (F) = 50 \%$				$P/P_{\text{rated}} 155 (F) = 25 \%$			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
2-pole												
1RQ6451-2JT.0	1035	3244	95.2	0.89	690	2837	95.2	0.89	345	2256	95.0	0.86
1RQ6453-2JT.0	1125	3248	95.6	0.90	750	2840	95.5	0.90	375	2258	95.2	0.86
1RQ6501-2JT.0	1650	3248	96.1	0.91	1100	2840	96.0	0.91	550	2258	95.8	0.87
1RQ6503-2JT.0	1880	3248	96.2	0.91	1250	2839	96.1	0.91	630	2258	95.9	0.88
1RQ6561-2JT.0	2140	3256	95.4	0.90	1430	2846	95.2	0.89	710	2262	94.6	0.85
1RQ6563-2JT.0	2480	3256	95.9	0.91	1650	2845	95.7	0.90	830	2261	95.3	0.87
1RQ6565-2JT.0	2850	3256	96.2	0.92	1900	2845	96.1	0.91	950	2261	95.6	0.88
1RQ7631-2...0-0CJ0	3150	3257	96.0	0.88	2100	2847	95.9	0.88	1050	2262	95.4	0.85
1RQ7633-2...0-0CJ0	3450	3258	96.2	0.88	2300	2847	96.0	0.88	1150	2263	95.5	0.84

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

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 ³⁾ mm

Up to 6.6 kV, IM B3 type of construction, anti-friction bearings – 1RQ6²⁾ – IC611

2-pole

1RQ6450-2	4250	850	934	1628	1180	250	95	130	450	1842	2425
1RQ6452-2	4450	850	934	1628	1180	250	95	130	450	1842	2425
1RQ6454-2	4800	850	934	1628	1400	250	95	130	450	1842	2635
1RQ6456-2	5050	850	934	1628	1400	250	95	130	450	1842	2635
1RQ6500-2	6100	950	1135	1835	1320	315	110	165	500	2040	3450
1RQ6502-2	6250	950	1135	1835	1320	315	110	165	500	2040	3450

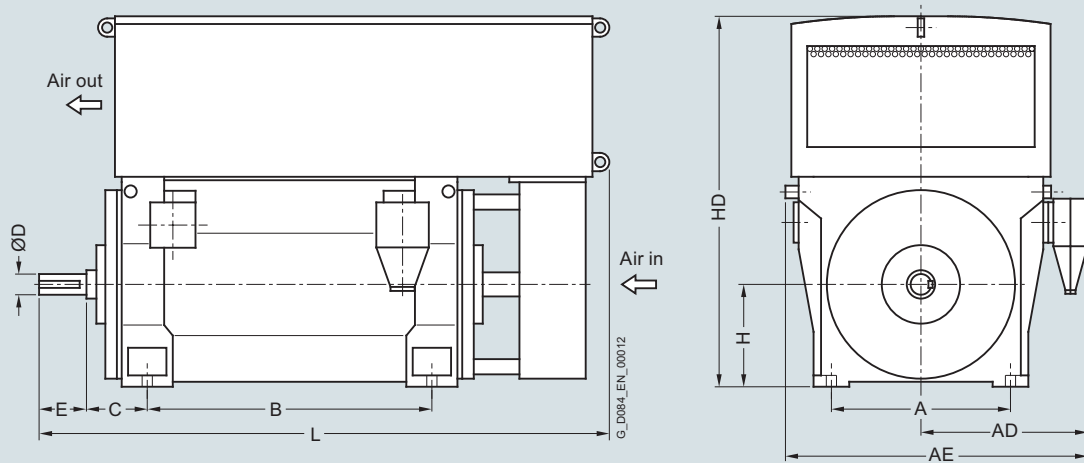
Note:

Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG6 series. For the 1SB6 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

³⁾ Including air inlet silencer.

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 ²⁾ mm
9 ... 11 kV, IM B3 type of construction, anti-friction bearings– 1RQ6¹⁾ – IC611											
2-pole											
1RQ6450-2	4250	850	1074	1848	1180	250	95	130	450	1842	2425
1RQ6452-2	4450	850	1074	1848	1180	250	95	130	450	1842	2425
1RQ6454-2	4800	850	1074	1848	1400	250	95	130	450	1842	2635
1RQ6456-2	5050	850	1074	1848	1400	250	95	130	450	1842	2635
1RQ6500-2	6100	950	1270	1970	1320	315	110	165	500	2040	3450
1RQ6502-2	6250	950	1270	1970	1320	315	110	165	500	2040	3450

Note:

Higher pole numbers are available on request.

1) The dimensions are also valid for the 1SG6 series. For the 1SB6 series, the dimensions might change as follows due to the required purging system:
 HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

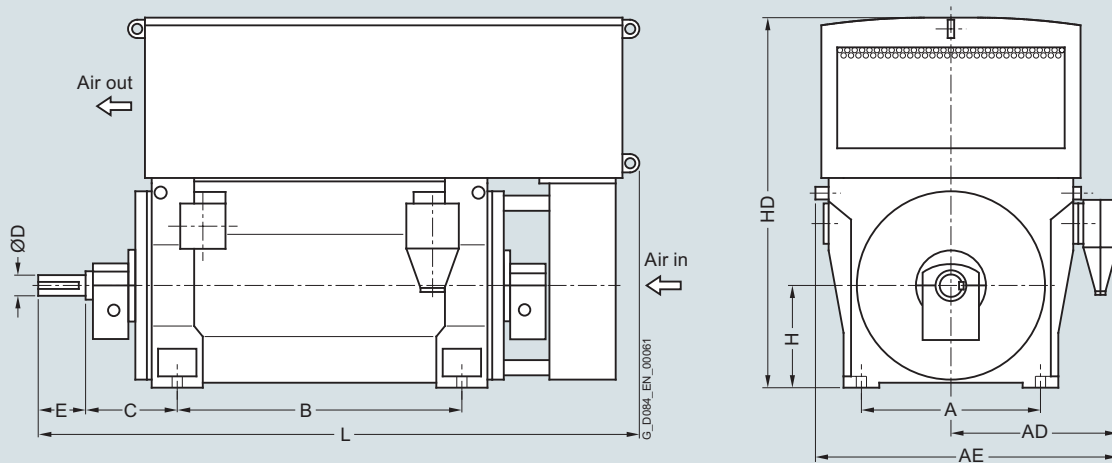
2) Including air inlet silencer.

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

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 ³⁾ mm

Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RQ6²⁾ – IC611

2-pole

1RQ6450-2	4300	850	934	1628	1180	425	95	130	450	1842	2575
1RQ6452-2	4500	850	934	1628	1180	425	95	130	450	1842	2575
1RQ6454-2	4850	850	934	1628	1400	425	95	130	450	1842	2790
1RQ6456-2	5100	850	934	1628	1400	425	95	130	450	1842	2790
1RQ6500-2	6100	950	1135	1835	1320	450	110	165	500	2040	3550
1RQ6502-2	6250	950	1135	1835	1320	450	110	165	500	2040	3550
1RQ6504-2	7100	950	1135	1835	1500	450	110	165	500	2040	3750
1RQ6506-2	7350	950	1135	1835	1500	450	110	165	500	2040	3750
1RQ6561-2	7900	1060	1205	1975	1400	475	130	200	560	2300	3780
1RQ6563-2	8200	1060	1205	1975	1400	475	130	200	560	2300	3780
1RQ6565-2	8600	1060	1205	1975	1400	475	130	200	560	2300	3780
1RQ7631-2JA60-0CJ0	11200	1320	1340	2340	1600	475	150	200	630	2710	4430
1RQ7633-2JA60-0CJ0	11400	1320	1340	2340	1600	475	150	200	630	2710	4430

Note:

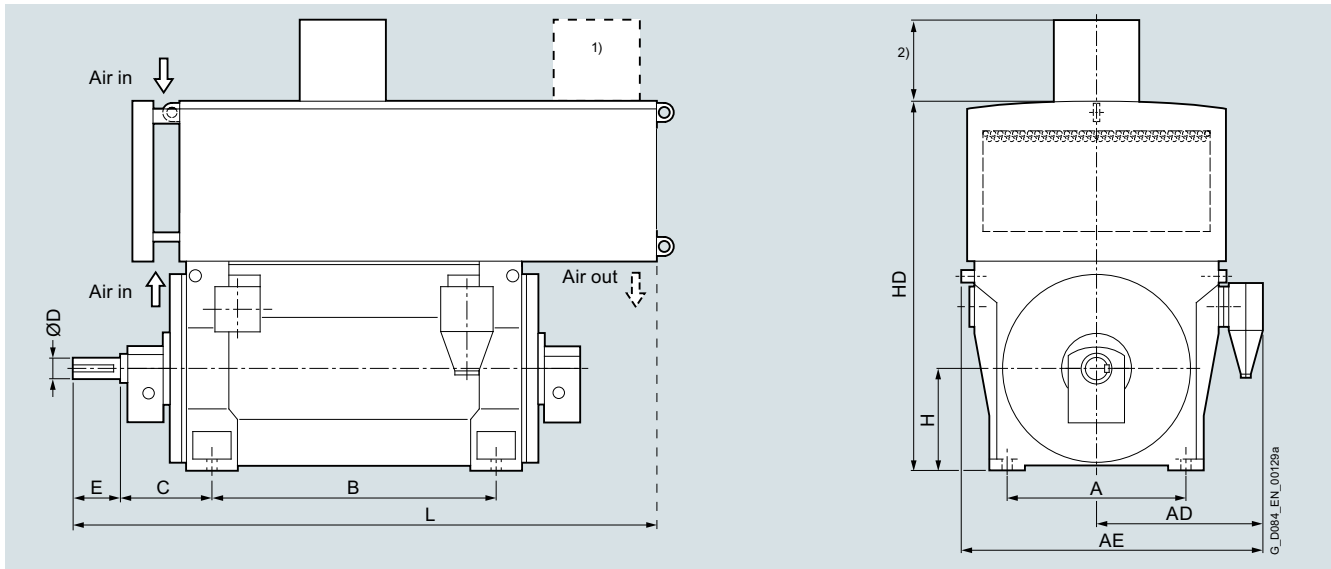
Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

³⁾ Including air inlet silencer.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ³⁾ mm	AE ³⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L ⁵⁾ mm
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RQ7⁴⁾ – IC666											
2-pole											
1RQ7631-2MA60-0CJ0	11100	1320	1340	2340	1600	475	150	200	630	3210	3930
1RQ7633-2MA60-0CJ0	11300	1320	1340	2340	1600	475	150	200	630	3210	3930

Note:

Higher pole numbers are available on request.

1) External fan for shaft height 630.

2) Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2	570 mm
	60 Hz	2	620 mm

3) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

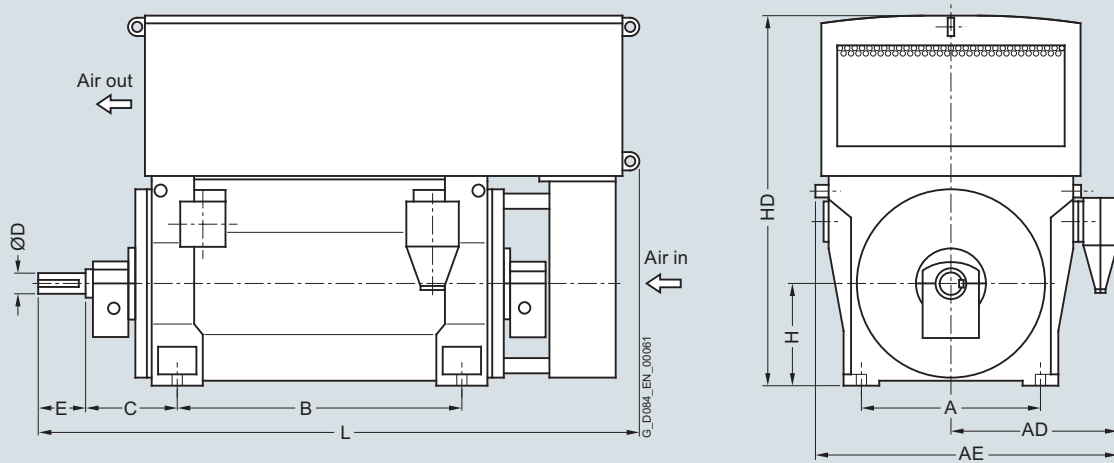
5) Including air inlet silencer.

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7

Dimension drawings



Motor type	Weight kg	Dimensions									
		A	AD ¹⁾	AE ¹⁾	B	C	D	E	H	HD	L ²⁾

9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ6¹⁾, 1RQ7¹⁾ – IC611

2-pole

1RQ6450-2	4300	850	1074	1848	1180	425	95	130	450	1842	2575
1RQ6452-2	4500	850	1074	1848	1180	425	95	130	450	1842	2575
1RQ6454-2	4850	850	1074	1848	1400	425	95	130	450	1842	2790
1RQ6456-2	5100	850	1074	1848	1400	425	95	130	450	1842	2790
1RQ6500-2	6100	950	1270	1970	1320	450	110	165	500	2040	3550
1RQ6502-2	6250	950	1270	1970	1320	450	110	165	500	2040	3550
1RQ6504-2	7100	950	1270	1970	1500	450	110	165	500	2040	3750
1RQ6506-2	7350	950	1270	1970	1500	450	110	165	500	2040	3750
1RQ6561-2	7900	1060	1340	2110	1400	475	130	200	560	2300	3780
1RQ6563-2	8200	1060	1340	2110	1400	475	130	200	560	2300	3780
1RQ6565-2	8600	1060	1340	2110	1400	475	130	200	560	2300	3780
1RQ7631-2JA80-0CJO	11100	1320	1340	2340	1600	475	150	200	630	2710	4430
1RQ7633-2JA80-0CJO	11300	1320	1340	2340	1600	475	150	200	630	2710	4430

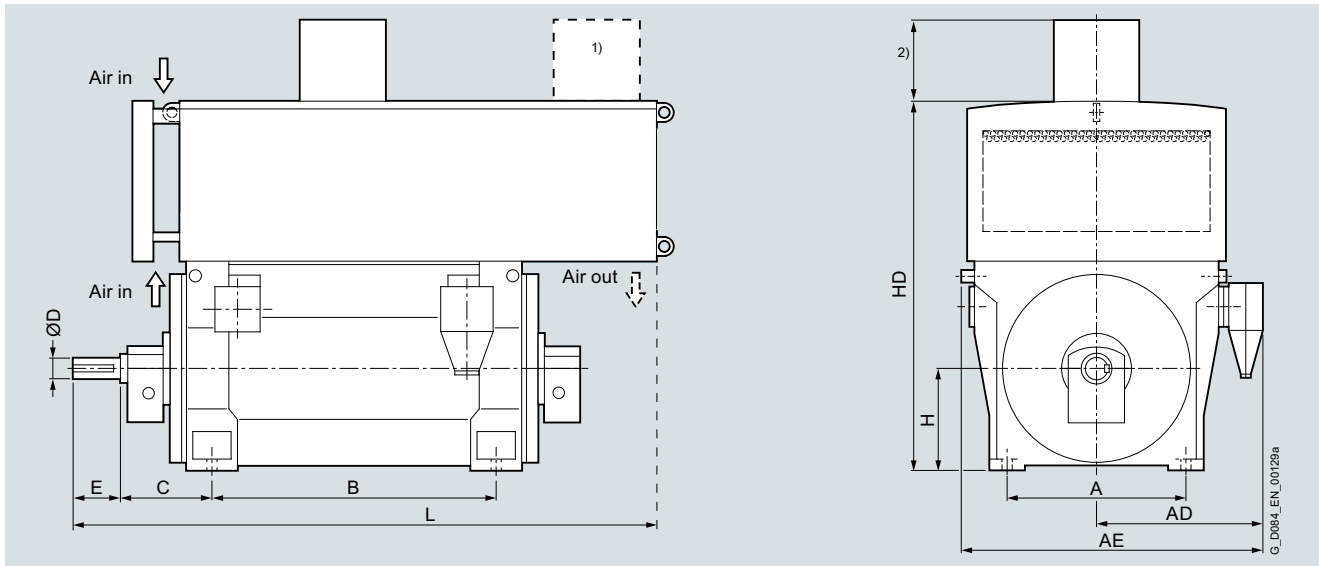
Note:

Higher pole numbers are available on request.

¹⁾ The dimensions are also valid for the 1SG6/1SG7 series. For the 1SB6/1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

²⁾ Including air inlet silencer.

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ³⁾ mm	AE ³⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L ⁵⁾ mm
9 ... 11 kV, IM B3 type of construction, sleeve bearings – 1RQ7⁴⁾ – IC666											
2-pole											
1RQ7631-2MA80-0CJ0	11300	1320	1340	2340	1600	475	150	200	630	3210	3930
1RQ7633-2MA80-0CJ0	11500	1320	1340	2340	1600	475	150	200	630	3210	3930

Note:

Higher pole numbers are available on request.

1) External fan for shaft height 630.

Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2	570 mm
	60 Hz	2	620 mm

3) The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

4) The dimensions are also valid for the 1SG7 series. For the 1SB7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm, AE + 300 mm. Detailed drawings are available on request.

5) Including air inlet silencer.

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1RN6, 1RN7	
Rated voltage	6 kV ... 10 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/IC86W
Stator winding insulation	Insulation system, thermal class 155 (F)
Shaft height	450 ... 630 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 800 mm	Housing: Steel Cooling enclosure: Steel

Technical data (continued)

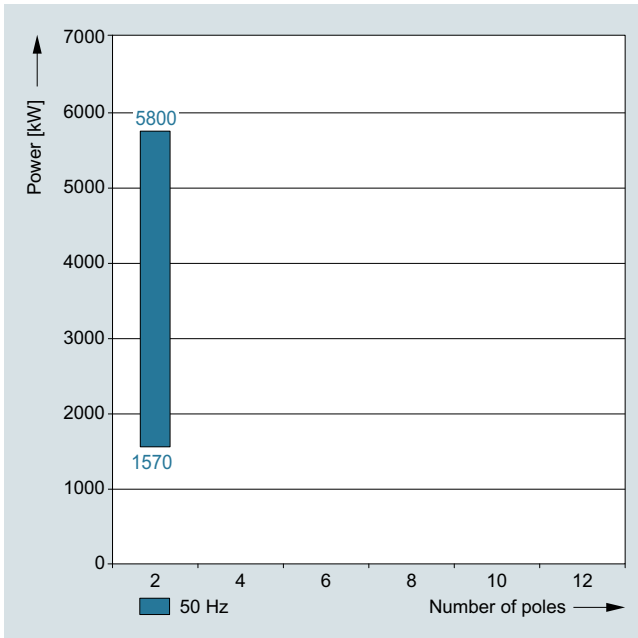
Power ranges for IEC motors with reinforced insulation for operation with SINAMICS converters without sine-wave filter

1RN6, 1SL6 (Ex ec) and 1SQ6 (Ex pxb) series

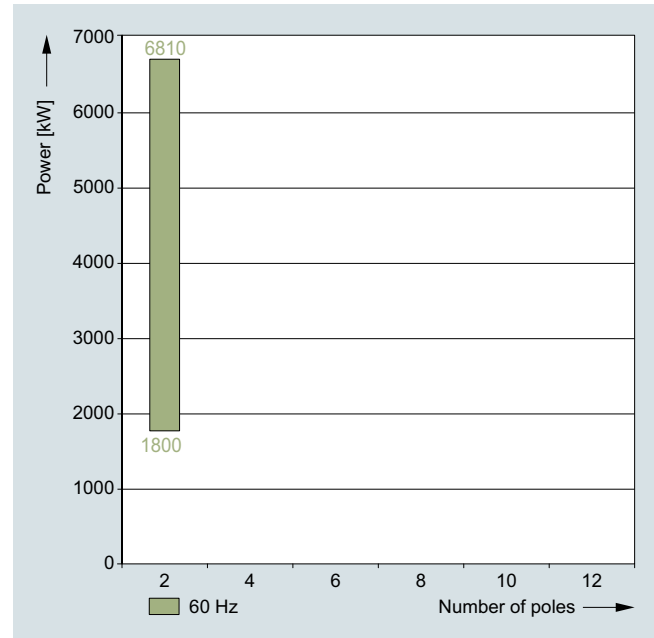
1RN7, 1SL7 (Ex ec) and 1SQ7 (Ex pxb) series

Insulation system, thermal class 155 (F)

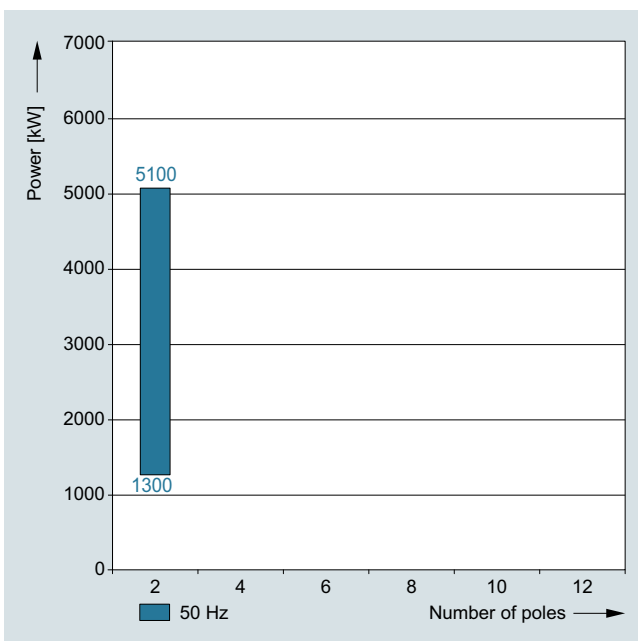
The power data listed here apply for a water inlet temperature of 25 °C and an installation altitude ≤ 1000 m.



6 kV; 50 Hz



6.6 kV; 60 Hz



10 kV; 50 Hz

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

Selection and ordering data

The following data also apply to explosion-protected motors 1SL6 (Ex ec) and 1SQ6 (Ex

Rated power IEC		High voltage motor SIMOTICS HV M Article No.	Operating data at rated output for utilization 130 (B)							
P_{rated} 155 (F)	P_{rated} 130 (B)		Rated speed	Efficiency	Power factor	Rated current at 6 kV	Rated torque	Break- down torque	Moment of inertia	Mechanical speed limit ¹⁾
kW	kW		n_{rated}	η	$\cos \varphi$	I_{rated}	T_{rated}	T_B/T_{rated}	J	n_{max}
6 kV, 50 Hz										
2-pole										
1570	1450	1RN6450-2HT■0	2970	95.6	0.88	166	4662	1.07	12.0	3000
1840	1700	1RN6452-2HT■0	2971	95.9	0.89	192	5464	1.05	14.0	3000
2060	1900	1RN6454-2HT■0	2974	96.2	0.90	210	6101	1.05	15.0	3000
2300	2120	1RN6456-2HT■0	2978	96.5	0.90	235	6798	1.07	17.0	3000
2730	2500	1RN6500-2HT■0	2972	96.4	0.89	280	8033	0.95	19.0	3000
2920	2680	1RN6502-2HT■0	2974	96.3	0.90	300	8605	0.96	21.0	3000
3310	3150	1RN6561-2HT■0	2977	96.2	0.90	350	10104	1.05	38.0	3000
3890	3700	1RN6563-2HT■0	2977	96.4	0.90	410	11868	1.05	42.0	3000
4310	4100	1RN6565-2HT■0	2977	96.6	0.91	450	13152	1.05	45.0	3000
5220	4500	1RN7631-2■■■■0-0CJ0	2981	97.1	0.86	520	14415	1.03	65.0	3000
5800	5000	1RN7633-2■■■■0-0CJ0	2981	97.2	0.87	570	16017	1.03	70.0	3000

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

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 subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN6450-2HT.0	1090	2701	95.7	0.89	725	2365	95.7	0.89	365	1879	95.5	0.87
1RN6452-2HT.0	1275	2701	96.0	0.91	850	2365	96.0	0.91	425	1880	95.9	0.88
1RN6454-2HT.0	1425	2704	96.3	0.91	950	2367	96.2	0.91	475	1881	96.0	0.88
1RN6456-2HT.0	1590	2706	96.5	0.90	1060	2369	96.4	0.90	530	1882	96.1	0.86
1RN6500-2HT.0	1875	2702	96.4	0.90	1250	2366	96.4	0.89	625	1880	96.3	0.86
1RN6502-2HT.0	2010	2704	96.3	0.91	1340	2367	96.3	0.91	670	1881	96.1	0.87
1RN6561-2HT.0	2360	2705	96.3	0.90	1580	2368	96.2	0.90	790	1882	96.0	0.88
1RN6563-2HT.0	2780	2705	96.4	0.91	1850	2368	96.4	0.91	930	1881	96.3	0.89
1RN6565-2HT.0	3080	2705	96.7	0.91	2050	2368	96.7	0.92	1030	1881	96.5	0.90
1RN7631-2...0-0CJ0	3380	2709	97.2	0.88	2250	2371	97.1	0.88	1130	1883	96.9	0.85
1RN7633-2...0-0CJ0	3750	2709	97.2	0.88	2500	2371	97.2	0.88	1250	1883	96.9	0.85

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

Overview

The following data also apply to explosion-protected motors 1SL6 (Ex ec) and 1SQ6 (Ex pxb).

Rated power IEC		High voltage motor SIMOTICS HV M Article No.	Operating data at rated output for utilization 130 (B)							
P_{155}^{rated} 155 (F) kW	P_{130}^{rated} 130 (B) kW		Rated speed n_{rated} rpm	Efficiency η %	Power factor $\cos \varphi$ [-]	Rated current at 10 kV 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
10 kV, 50 Hz										
2-pole										
1300	1250	1RN6450-2HT ■ 0	2974	95.5	0.88	86	4014	2.15	12.0	3000
1460	1400	1RN6452-2HT ■ 0	2977	95.8	0.90	94	4491	2.40	14.0	3000
1610	1550	1RN6454-2HT ■ 0	2979	95.9	0.89	104	4969	2.40	15.0	3000
1820	1750	1RN6456-2HT ■ 0	2980	96.2	0.90	116	5608	2.45	17.0	3000
2260	2180	1RN6500-2HT ■ 0	2977	96.1	0.90	146	6993	2.15	19.0	3000
2500	2420	1RN6502-2HT ■ 0	2976	96.3	0.90	162	7765	2.10	21.0	3000
2840	2650	1RN6561-2HT ■ 0	2982	96.1	0.90	176	8486	2.45	38.0	3000
3480	3250	1RN6563-2HT ■ 0	2982	96.4	0.90	215	10408	2.45	42.0	3000
3850	3600	1RN6565-2HT ■ 0	2982	96.6	0.91	235	11528	2.50	46.0	3000
4580	3950	1RN7631-2 ■ ■ ■ 0-0CJ0	2982	97.0	0.86	275	12649	1.90	65.0	3000
5100	4400	1RN7633-2 ■ ■ ■ 0-0CJ0	2982	97.1	0.87	300	14090	1.95	69.0	3000

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

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 subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

Motor type (repeated)	Partial load data 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												
1RN6450-2HT.0	940	2704	95.6	0.89	625	2367	95.7	0.89	315	1881	95.5	0.86
1RN6452-2HT.0	1050	2706	95.9	0.91	700	2368	95.9	0.91	350	1882	95.7	0.87
1RN6454-2HT.0	1165	2707	96.0	0.90	775	2370	96.0	0.89	390	1882	95.7	0.85
1RN6456-2HT.0	1315	2708	96.2	0.90	875	2370	96.2	0.90	440	1883	95.9	0.86
1RN6500-2HT.0	1635	2706	96.2	0.91	1090	2368	96.2	0.90	545	1882	96.0	0.87
1RN6502-2HT.0	1815	2705	96.3	0.91	1210	2368	96.3	0.91	605	1881	96.2	0.87
1RN6561-2HT.0	1990	2710	96.1	0.90	1330	2371	96.0	0.90	660	1884	95.6	0.86
1RN6563-2HT.0	2440	2709	96.4	0.90	1630	2371	96.3	0.90	810	1883	96.0	0.86
1RN6565-2HT.0	2700	2709	96.6	0.92	1800	2371	96.6	0.91	900	1883	96.3	0.88
1RN7631-2...0-0CJ0	2960	2710	97.0	0.88	1980	2372	97.0	0.88	990	1884	96.8	0.86
1RN7633-2...0-0CJ0	3300	2710	97.1	0.88	2200	2372	97.1	0.88	1100	1884	96.9	0.85

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

Overview

The following data also apply to explosion-protected motors 1SL6 (Ex ec) and 1SQ6 (Ex pxb).

Rated power IEC		High voltage motor SIMOTICS HV M Article No.	Operating data at rated output for utilization 130 (B)							
P_{rated} 155 (F) kW	P_{rated} 130 (B) kW		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 kV, 60 Hz										
2-pole										
1800	1700	1RN6451-2HT ■ 0	3565	95.7	0.89	172	4554	2.15	13.0	3600
2120	2000	1RN6453-2HT ■ 0	3568	96.0	0.90	198	5353	2.45	15.0	3600
3130	2950	1RN6501-2HT ■ 0	3568	96.5	0.90	295	7895	2.10	20.0	3600
3390	3200	1RN6503-2HT ■ 0	3566	96.5	0.91	315	8569	2.10	21.0	3600
4070	3750	1RN6561-2HT ■ 0	3578	96.3	0.89	385	10008	2.20	38.0	3600
4770	4400	1RN6563-2HT ■ 0	3578	96.5	0.90	445	11743	2.20	42.0	3600
5320	4900	1RN6565-2HT ■ 0	3579	96.8	0.90	490	13074	2.25	46.0	3600
6130	5400	1RN7631-2 ■ ■ ■ ■ 0-0CJ0	3580	97.0	0.86	570	14404	1.85	65.0	3600
6810	6000	1RN7633-2 ■ ■ ■ ■ 0-0CJ0	3581	97.2	0.87	620	16000	1.95	70.0	3600

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm,
refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm,
refer to the article number structure on [page 1/5](#).

Note:

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⁾ Standard values; higher speed limits on request.

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 subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

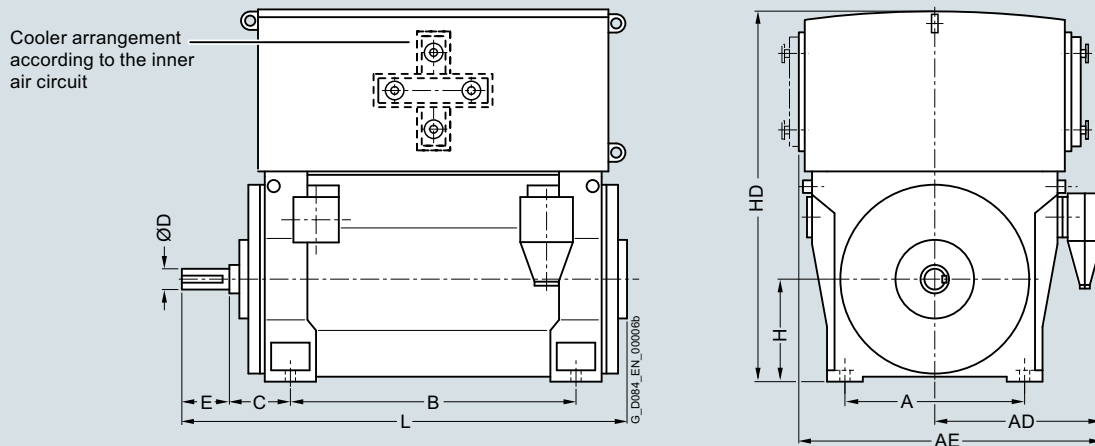
Motor type (repeated)	Partial load data for square-law torque drive											
	$P/P_{\text{rated}} = 155 (F) = 75 \%$				$P/P_{\text{rated}} = 155 (F) = 50 \%$				$P/P_{\text{rated}} = 155 (F) = 25 \%$			
	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$	P	n	η	$\cos \varphi$
	kW	rpm	%	[-]	kW	rpm	%	[-]	kW	rpm	%	[-]
	Square-law torque drive											
2-pole												
1RN6451-2HT.0	1275	3241	95.7	0.89	850	2835	95.7	0.89	425	2255	95.6	0.86
1RN6453-2HT.0	1500	3244	96.0	0.90	1000	2837	95.9	0.90	500	2256	95.7	0.87
1RN6501-2HT.0	2210	3244	96.5	0.91	1480	2837	96.4	0.90	740	2256	96.2	0.87
1RN6503-2HT.0	2400	3243	96.6	0.92	1600	2836	96.6	0.91	800	2256	96.4	0.89
1RN6561-2HT.0	2810	3253	96.3	0.90	1880	2843	96.1	0.90	940	2260	95.7	0.88
1RN6563-2HT.0	3300	3253	96.5	0.91	2200	2843	96.4	0.91	1100	2260	96.1	0.88
1RN6565-2HT.0	3680	3253	96.7	0.91	2450	2843	96.6	0.91	1230	2260	96.3	0.89
1RN7631-2...0-0CJ0	4050	3254	97.0	0.88	2700	2844	96.9	0.88	1350	2261	96.7	0.86
1RN7633-2...0-0CJ0	4500	3255	97.2	0.88	3000	2845	97.1	0.88	1500	2261	96.9	0.86

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

Dimension drawings



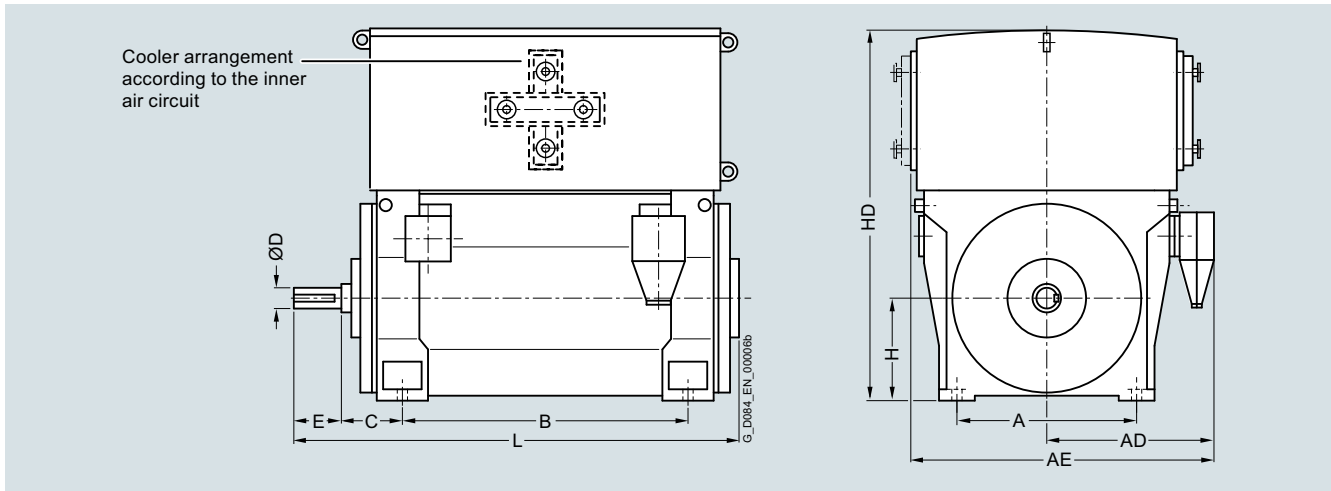
Motor type	Weight kg	Dimensions									
		A mm	AD ¹⁾ mm	AE ¹⁾ mm	B mm	C mm	D mm	E mm	H mm	HD mm	L mm
Up to 6.6 kV, IM B3 type of construction, anti-friction bearings – 1RN6²⁾ series – IC81W											
2-pole											
1RN6450-2	4050	850	934	1628	1180	250	95	130	450	1725	1843
1RN6452-2	4250	850	934	1628	1180	250	95	130	450	1725	1843
1RN6454-2	4550	850	934	1628	1400	250	95	130	450	1725	2053
1RN6456-2	4850	850	934	1628	1400	250	95	130	450	1725	2053
1RN6500-2	5450	950	1135	1835	1320	315	110	165	500	1980	2150
1RN6502-2	5600	950	1135	1835	1320	315	110	165	500	1980	2150

Note:

Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings 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, anti-friction bearings – 1RN6¹⁾ series – IC81W											
2-pole											
1RN6450-2	4050	850	1074	1848	1180	250	95	130	450	1725	1875
1RN6452-2	4250	850	1074	1848	1180	250	95	130	450	1725	1875
1RN6454-2	4550	850	1074	1848	1400	250	95	130	450	1725	2085
1RN6456-2	4850	850	1074	1848	1400	250	95	130	450	1725	2085
1RN6500-2	5450	950	1235	1932	1320	315	110	165	500	1980	2150
1RN6502-2	5850	950	1235	1932	1320	315	110	165	500	1980	2150

Note:
Higher pole numbers are available on request.

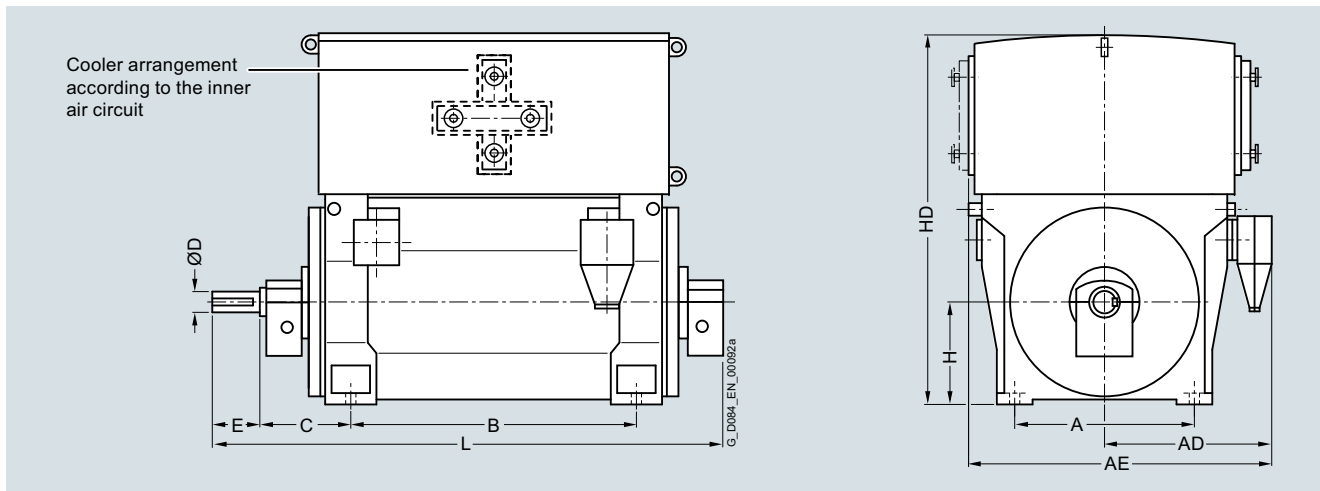
¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

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 – 1RN6²⁾, 1RN7 series – IC81W

2-pole

1RN6450-2	4050	850	934	1628	1180	425	95	130	450	1725	2218
1RN6452-2	4300	850	934	1628	1180	425	95	130	450	1725	2218
1RN6454-2	4600	850	934	1628	1400	425	95	130	450	1725	2428
1RN6456-2	4900	850	934	1628	1400	425	95	130	450	1725	2428
1RN6500-2	5900	950	1135	1835	1320	450	110	165	500	1980	2500
1RN6502-2	6050	950	1135	1835	1320	450	110	165	500	1980	2500
1RN6504-2	6850	950	1135	1835	1500	450	110	165	500	1980	2650
1RN6506-2	7100	950	1135	1835	1500	450	110	165	500	1980	2650
1RN6561-2	7250	1060	1205	1975	1400	475	130	200	560	2150	2550
1RN6563-2	7550	1060	1205	1975	1400	475	130	200	560	2150	2550
1RN6565-2	7950	1060	1205	1975	1400	475	130	200	560	2150	2550
1RN7631-2NA60-0CJ0	9700	1320	1340	2340	1600	475	150	200	630	2170	2630
1RN7633-2NA60-0CJ0	10000	1320	1340	2340	1600	475	150	200	630	2170	2630

Note:

Higher pole numbers are available on request.

¹⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

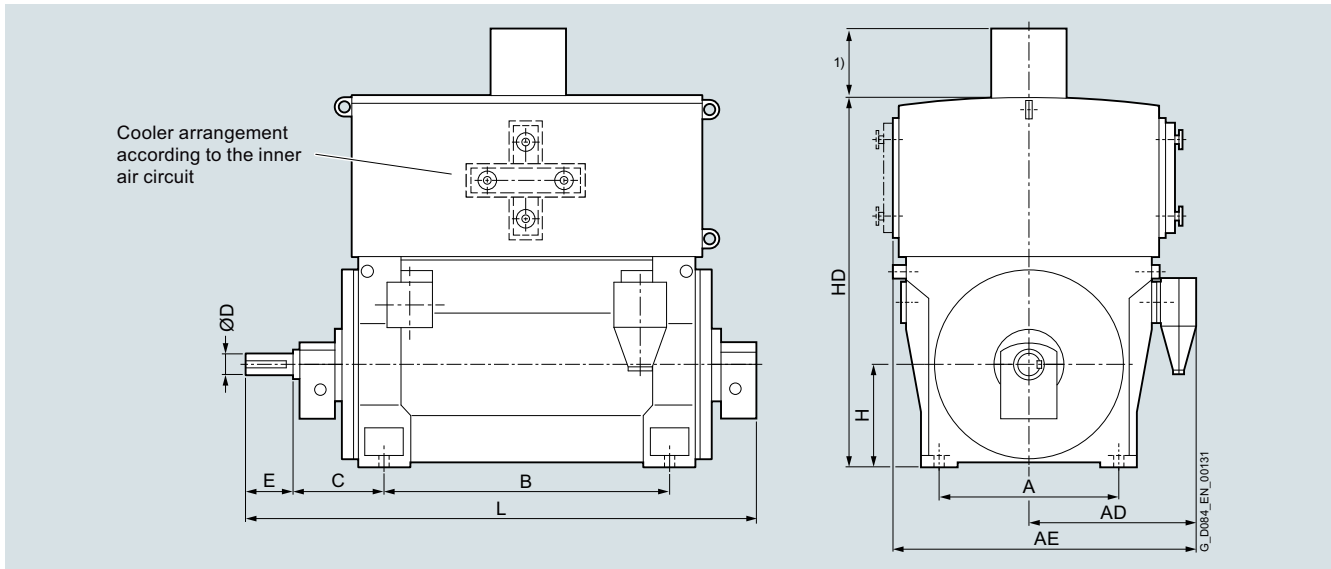
²⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

Dimension drawings



Motor type	Weight kg	Dimensions									
		A mm	AD ²⁾ mm	AE ²⁾ mm	B mm	C mm	D mm	E mm	H mm	HD ⁴⁾ mm	L mm
Up to 6.6 kV, IM B3 type of construction, sleeve bearings – 1RN7³⁾ series – IC86W											
2-pole											
1RN7631-2PA60-0CJ0	10200	1320	1340	2340	1600	475	150	200	630	2610	2630
1RN7633-2PA60-0CJ0	10500	1320	1340	2340	1600	475	150	200	630	2610	2630

Note:

Higher pole numbers are available on request.

1) Shaft height	Frequency	Number of poles	Fan dimension
630	50 Hz	2	570 mm
	60 Hz	2	620 mm

²⁾ The values apply to 6 kV. When a lower voltage is selected, the rated current increases. For rated voltages from 2.0 kV to 6.6 kV and rated currents > 400 A, the dimension increases by 140 mm.

³⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

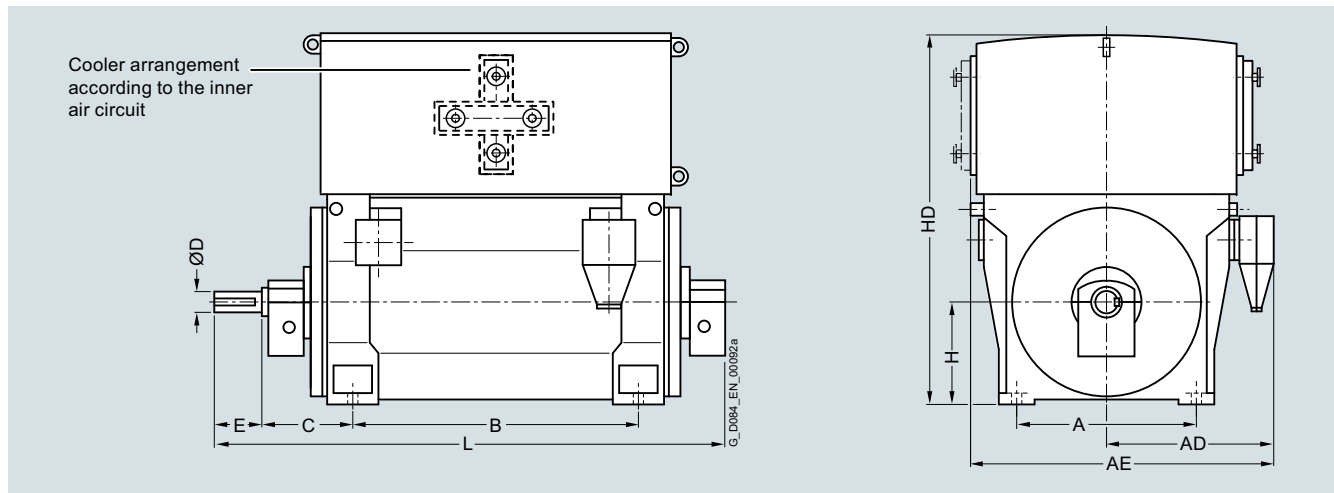
⁴⁾ For the 60 Hz version, sleeve bearings are standard, "-Z K96" not necessary.

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

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 – 1RN6¹⁾, 1RN7¹⁾ series – IC81W											
2-pole											
1RN6450-2	4050	850	1074	1848	1180	425	95	130	450	1725	2218
1RN6452-2	4300	850	1074	1848	1180	425	95	130	450	1725	2218
1RN6454-2	4600	850	1074	1848	1400	425	95	130	450	1725	2428
1RN6456-2	4900	850	1074	1848	1400	425	95	130	450	1725	2428
1RN6500-2	5500	950	1270	1970	1320	450	110	165	500	1980	2500
1RN6502-2	5650	950	1270	1970	1320	450	110	165	500	1980	2500
1RN6504-2	6450	950	1270	1970	1500	450	110	165	500	1980	2650
1RN6506-2	6700	950	1270	1970	1500	450	110	165	500	1980	2650
1RN6561-2	7250	950	1340	2110	1320	475	130	200	500	2150	2550
1RN6563-2	7550	950	1340	2110	1500	475	130	200	500	2150	2550
1RN6565-2	7950	950	1340	2110	1500	475	130	200	500	2150	2550
1RN7631-2NA80-OCJ0	9600	1320	1340	2340	1600	475	150	200	630	2170	2630
1RN7633-2NA80-OCJ0	9900	1320	1340	2340	1600	475	150	200	630	2170	2630

Note:

Higher pole numbers are available on request.

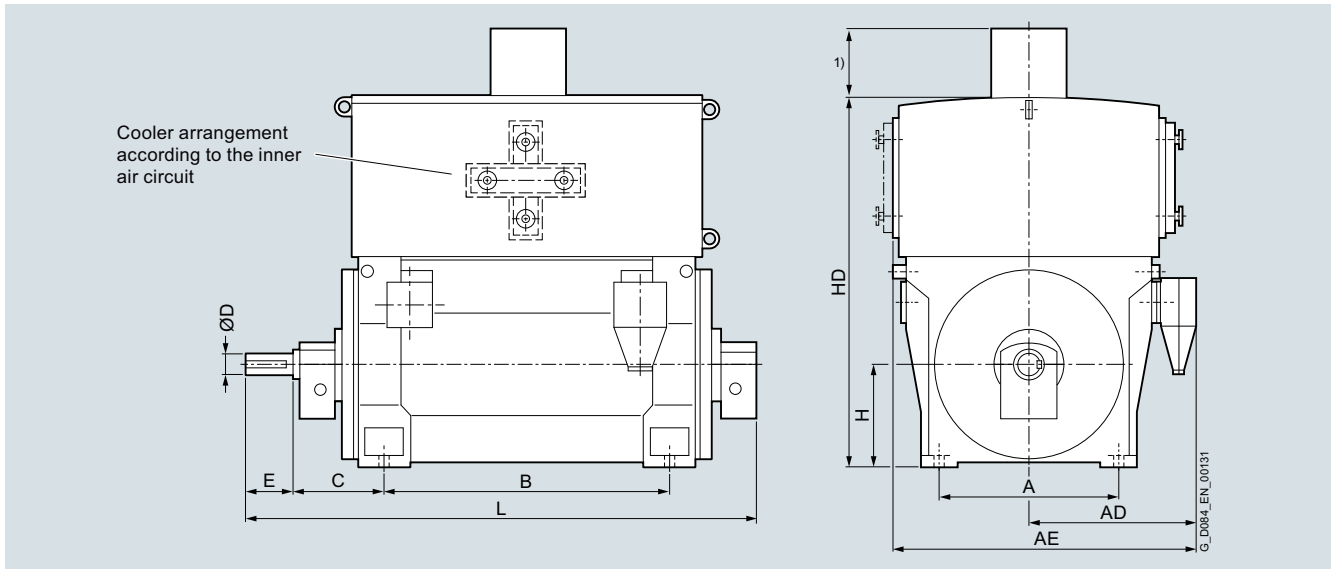
¹⁾ The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for subcritical operation

Motors for converter operation

Converter with non-sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7

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 – 1RN7²⁾ series – IC86W											
2-pole											
1RN7631-2PA80-0CJ0	10100	1320	1340	2340	1600	475	150	200	630	2610	2630
1RN7633-2PA80-0CJ0	10400	1320	1340	2340	1600	475	150	200	630	2610	2630

Note:

Higher pole numbers are available on request.

1)	Shaft height	Frequency	Number of poles	Fan dimension
	630	50 Hz	2	570 mm
		60 Hz	2	620 mm

2) The dimensions are also valid for the 1SL6 and 1SL7 series. For the 1SQ6 and 1SQ7 series, the dimensions might change as follows due to the required purging system: HD + 400 mm. Detailed drawings are available on request.

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7 constant-torque drive

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1RQ6 constant-torque drive	
Rated voltage	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	IC611/IC616/IC666
Stator winding insulation	Insulation system, thermal class 155 (F)
Shaft height	450 ... 630 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 800 mm	Housing: Steel Cooling enclosure: Steel

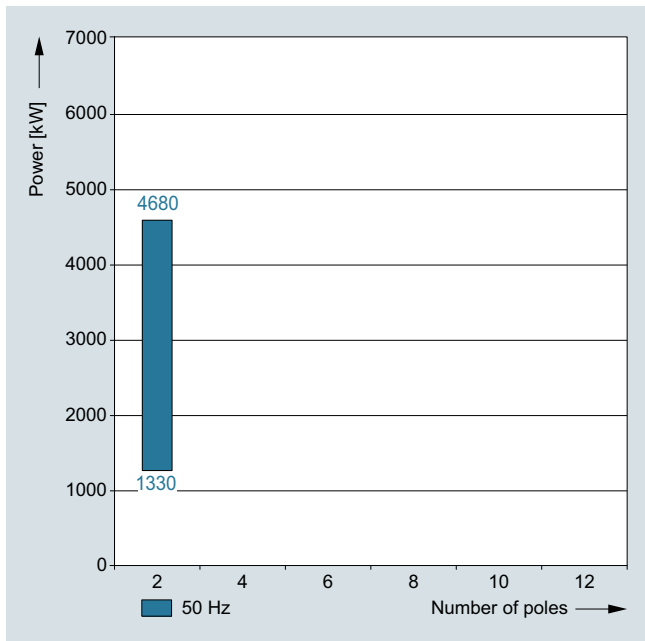
Technical data

Power ranges for IEC motors for operation with SINAMICS converters with sinusoidal output

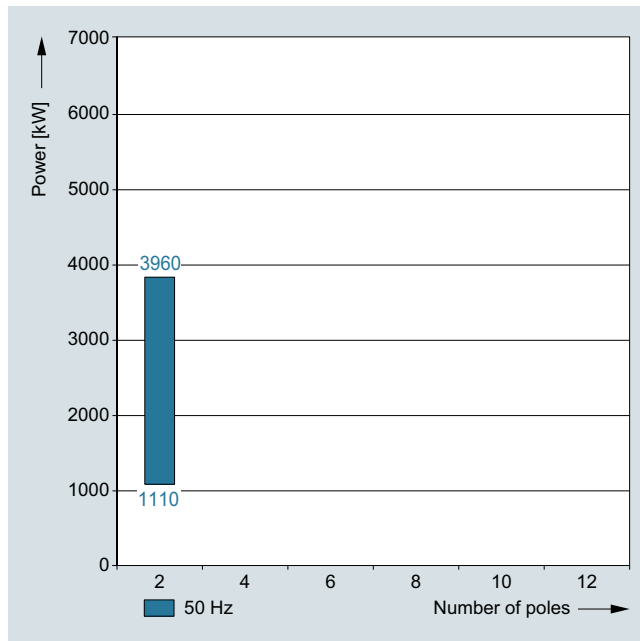
1RQ7, 1SG7 (Ex ec) and 1SB7 (Ex pxb) series

Insulation system, thermal class 155 (F)

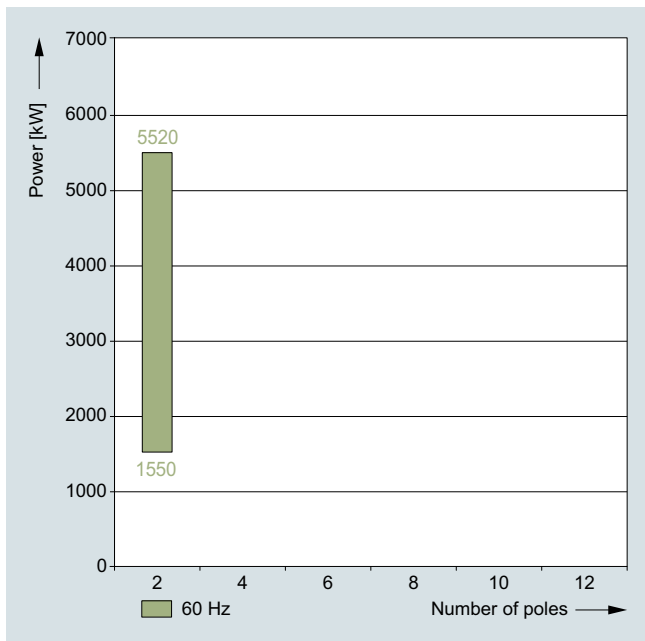
The power data listed here apply for an ambient temperature of 40 °C and an installation altitude 1000 m.



6 kV; 50 Hz



10 kV; 50 Hz



6.6 kV; 60 Hz

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7 constant-torque drive

Selection and ordering data

The following data also apply to explosion-protected motors 1SB7 (Ex pxb) and 1SG7 (Ex ec).

Rated power		High-voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6 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	
6 kV, 50 Hz											
2-pole											
1330	1180	1RQ6450-2FT ■ 0	2977	95.4	0.88	136	3785	1.07	12.0	3000	
1490	1320	1RQ6452-2FT ■ 0	2978	95.7	0.89	150	4233	1.07	14.0	3000	
1670	1480	1RQ6454-2FT ■ 0	2980	95.9	0.89	166	4743	1.07	15.0	3000	
1830	1620	1RQ6456-2FT ■ 0	2980	96.2	0.90	180	5191	1.07	16.0	3000	
2080	1920	1RQ6500-2FT ■ 0	2978	96.1	0.90	215	6157	0.90	19.0	3000	
2370	2180	1RQ6502-2FT ■ 0	2975	96.3	0.90	240	6997	0.96	21.0	3000	
2800	2500	1RQ6561-2FT ■ 0	2981	95.9	0.90	280	8008	1.05	38.0	3000	
3190	2850	1RQ6563-2FT ■ 0	2981	96.1	0.91	315	9130	1.05	42.0	3000	
3580	3200	1RQ6565-2FT ■ 0	2981	96.4	0.91	350	10251	1.05	46.0	3000	
4260	3550	1RQ7631-2M ■ 0-0CJ0	2984	96.4	0.88	405	11361	1.03	65.0	3000	
4680	3900	1RQ7633-2M ■ 0-0CJ0	2985	96.6	0.88	440	12476	1.03	69.0	3000	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

For details on converter operation with sinusoidal output, 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⁾ Standard values; higher speed limits on request.

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7 constant-torque drive

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:3				1:5			
	T_{\max}	n	η	$\cos \varphi$	T_{\max}	n	η	$\cos \varphi$	T_{\max}	n	η	$\cos \varphi$
	Nm	rpm	%	[-]	Nm	rpm	%	[-]	Nm	rpm	%	[-]
	Constant-torque drive											
2-pole												
1RQ6450-2FT.0	3619	1478	94.5	0.89	3457	981	93.2	0.89	3125	581	90.8	0.90
1RQ6452-2FT.0	4035	1480	94.7	0.89	3840	983	93.6	0.90	3444	582	91.5	0.90
1RQ6454-2FT.0	4546	1481	95.1	0.90	4319	984	94.1	0.90	3846	584	92.2	0.90
1RQ6456-2FT.0	4967	1481	95.2	0.91	4709	984	94.1	0.91	4256	584	92.1	0.92
1RQ6500-2FT.0	5874	1480	95.0	0.90	5589	983	93.8	0.91	5001	583	91.6	0.91
1RQ6502-2FT.0	6694	1477	95.0	0.91	6385	980	93.8	0.91	5764	580	91.6	0.92
1RQ6561-2FT.0	7672	1482	95.1	0.90	7275	985	94.2	0.91	6537	584	92.4	0.91
1RQ6563-2FT.0	8701	1482	95.3	0.91	8341	985	94.2	0.92	7517	585	92.4	0.92
1RQ6565-2FT.0	9798	1482	95.6	0.92	9311	985	94.5	0.92	8331	585	92.9	0.92
1RQ7631-2M..0-0CJ0	10879	1484	95.9	0.88	10355	987	95.1	0.89	9278	587	93.7	0.89
1RQ7633-2M..0-0CJ0	11896	1486	96.2	0.89	11306	988	95.5	0.89	10079	588	94.2	0.89

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7 constant-torque drive

Selection and ordering data

The following data also apply to explosion-protected motors 1SB7 (Ex pxb) and 1SG7 (Ex ec).

Rated power		High-voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 10 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	
10 kV, 50 Hz											
2-pole											
1110	1030	1RQ6450-2FT ■ 0	2978	95.1	0.88	71	3303	2.20	12.0	3000	
1210	1130	1RQ6452-2FT ■ 0	2980	95.5	0.89	77	3621	2.40	14.0	3000	
1320	1230	1RQ6454-2FT ■ 0	2980	95.6	0.89	83	3941	2.40	15.0	3000	
1430	1330	1RQ6456-2FT ■ 0	2981	95.9	0.91	88	4261	2.45	17.0	3000	
1770	1690	1RQ6500-2FT ■ 0	2979	95.9	0.90	114	5417	2.30	19.0	3000	
1880	1800	1RQ6502-2FT ■ 0	2979	96.0	0.91	118	5770	2.35	21.0	3000	
2280	2050	1RQ6561-2FT ■ 0	2983	95.7	0.90	138	6563	2.55	38.0	3000	
2610	2350	1RQ6563-2FT ■ 0	2982	95.9	0.91	156	7525	2.45	42.0	3000	
2940	2650	1RQ6565-2FT ■ 0	2982	96.1	0.92	174	8486	2.60	45.0	3000	
3540	2950	1RQ7631-2M ■ ■ 0-0CJ0	2987	96.2	0.88	200	9431	2.50	65.0	3000	
3960	3300	1RQ7633-2M ■ ■ 0-0CJ0	2986	96.4	0.89	220	10553	2.40	70.0	3000	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

For details on converter operation with sinusoidal output, 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⁾ Standard values; higher speed limits on request.

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7 constant-torque drive

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:3				1:5			
	T_{max}	n	η	$\cos \varphi$	T_{max}	n	η	$\cos \varphi$	T_{max}	n	η	$\cos \varphi$
	Nm	rpm	%	[-]	Nm	rpm	%	[-]	Nm	rpm	%	[-]
	Constant-torque drive											
2-pole												
1RQ6450-2FT.0	3167	1479	94.0	0.89	3019	981	92.5	0.89	2713	581	89.8	0.90
1RQ6452-2FT.0	3451	1481	94.5	0.90	3301	984	93.2	0.91	2946	584	90.9	0.91
1RQ6454-2FT.0	3774	1481	94.5	0.90	3593	984	93.1	0.90	3191	584	90.8	0.90
1RQ6456-2FT.0	4063	1482	94.8	0.92	3883	984	93.5	0.92	3520	584	91.0	0.93
1RQ6500-2FT.0	5197	1480	94.7	0.91	4910	983	93.4	0.91	4429	582	90.9	0.91
1RQ6502-2FT.0	5520	1480	94.8	0.91	5251	983	93.5	0.92	4760	582	91.1	0.92
1RQ6561-2FT.0	6245	1484	95.0	0.91	6005	986	94.1	0.91	5380	586	92.3	0.91
1RQ6563-2FT.0	7216	1483	95.0	0.91	6882	986	94.0	0.92	6204	585	92.0	0.92
1RQ6565-2FT.0	8119	1483	95.1	0.92	7756	986	94.0	0.93	6856	585	92.2	0.93
1RQ7631-2M..0-0CJ0	8989	1488	95.9	0.88	8584	990	95.3	0.89	7616	590	94.1	0.89
1RQ7633-2M..0-0CJ0	10086	1487	96.0	0.90	9554	990	95.3	0.90	8595	589	94.0	0.90

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7 constant-torque drive

Selection and ordering data

The following data also apply to explosion-protected motors 1SB7 (Ex pxb) and 1SG7 (Ex ec).

Rated power		High-voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6.6 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	
6.6 kV, 60 Hz											
2-pole											
1550	1380	1RQ6451-2FT ■0	3568	95.2	0.88	140	3693	2.15	13.0	3600	
1680	1500	1RQ6453-2FT ■0	3573	95.6	0.90	150	4009	2.65	15.0	3600	
2460	2200	1RQ6501-2FT ■0	3573	96.1	0.91	220	5880	2.40	20.0	3600	
2800	2500	1RQ6503-2FT ■0	3572	96.2	0.91	245	6683	2.40	21.0	3600	
3090	2850	1RQ6561-2FT ■0	3583	95.5	0.90	290	7596	2.50	39.0	3600	
3580	3300	1RQ6563-2FT ■0	3582	96.0	0.90	335	8798	2.55	42.0	3600	
4120	3800	1RQ6565-2FT ■0	3582	96.3	0.91	380	10130	2.65	45.0	3600	
5040	4200	1RQ7631-2M ■0-0CJ0	3584	96.1	0.88	435	11191	2.25	65.0	3600	
5520	4600	1RQ7633-2M ■0-0CJ0	3585	96.3	0.88	475	12253	2.30	70.0	3600	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

For details on converter operation with sinusoidal output, 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⁾ Standard values; higher speed limits on request.

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Air-cooled motors SIMOTICS HV M 1RQ6, 1RQ7 constant-torque drive

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:3				1:5			
	T_{\max}	n	η	$\cos \varphi$	T_{\max}	n	η	$\cos \varphi$	T_{\max}	n	η	$\cos \varphi$
	Nm	rpm	%	[-]	Nm	rpm	%	[-]	Nm	rpm	%	[-]
	Constant-torque drive											
2-pole												
1RQ6451-2FT.0	3538	1769	94.2	0.89	3387	1171	93.0	0.90	3030	694	90.7	0.91
1RQ6453-2FT.0	3850	1774	94.8	0.91	3657	1175	93.8	0.91	3286	698	91.8	0.91
1RQ6501-2FT.0	5654	1774	95.2	0.91	5363	1176	94.3	0.92	4790	698	92.4	0.92
1RQ6503-2FT.0	6409	1774	95.3	0.91	6097	1175	94.3	0.92	5478	697	92.5	0.92
1RQ6561-2FT.0	7231	1784	95.4	0.90	6936	1184	94.7	0.90	6226	706	93.5	0.90
1RQ6563-2FT.0	8412	1783	95.7	0.91	7987	1184	95.0	0.91	7174	706	93.7	0.92
1RQ6565-2FT.0	9695	1783	96.0	0.91	9195	1184	95.4	0.92	8253	706	94.2	0.92
1RQ7631-2M..0-0CJ0	10703	1785	96.1	0.89	10147	1186	95.6	0.89	9042	708	94.7	0.89
1RQ7633-2M..0-0CJ0	11714	1786	96.2	0.89	11107	1187	95.7	0.89	9979	708	94.7	0.89

Dimension drawings

Note:

For dimension drawings, refer to section "Converter with non-sinusoidal output".

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7 constant-torque drive

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1RN7 constant-torque	
Rated voltage	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	IC86W
Stator winding insulation	Insulation system, thermal class 155 (F)
Shaft height	450 ... 630 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 800 mm	Housing: Steel Cooling enclosure: Steel

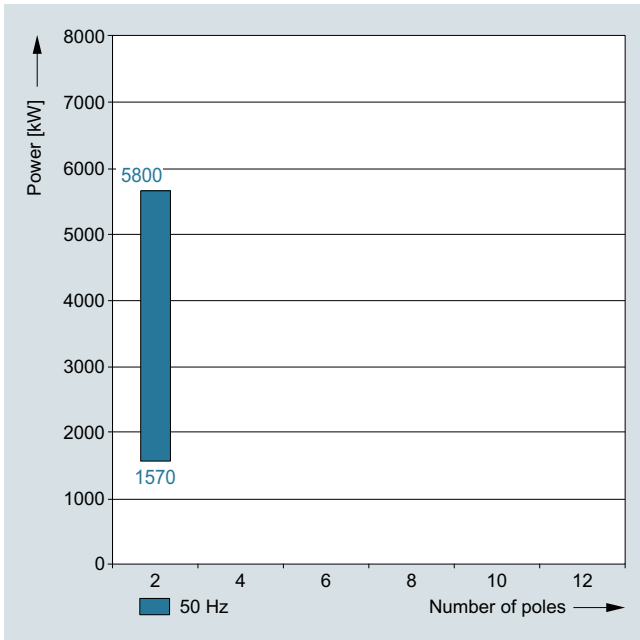
Power ranges for IEC motors for operation with SINAMICS converters with sinusoidal output

1RN7, 1SL7 (Ex ec) and 1SQ7 (Ex pxb) series

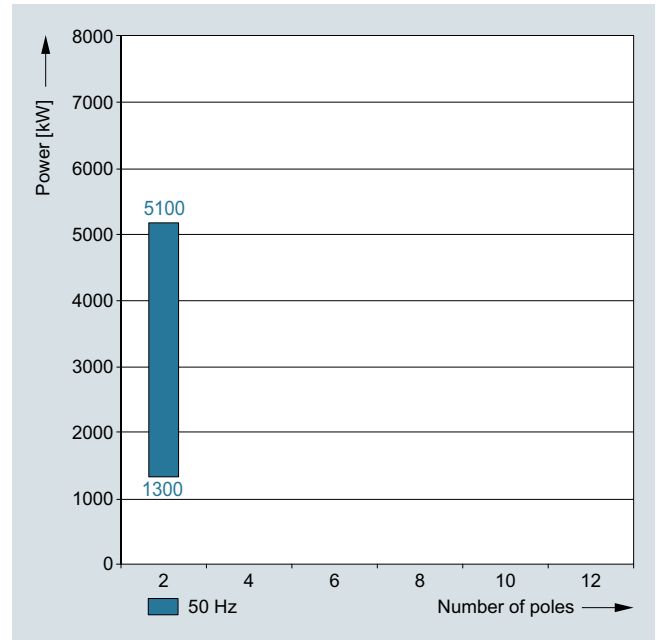
Insulation system, thermal class 155 (F)

The power data listed here apply for a water inlet temperature of 25 °C and an installation altitude ≤ 1000 m.

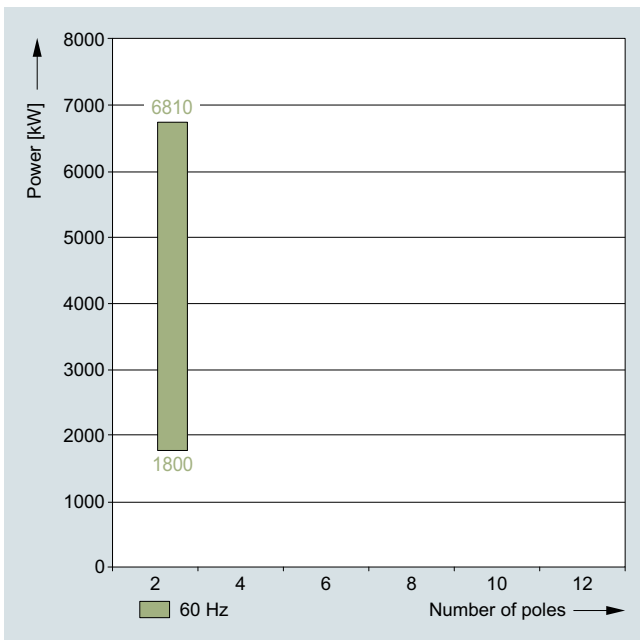
Technical data



6 kV; 50 Hz



10 kV; 50 Hz



6.6 kV; 60 Hz

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7 constant-torque drive

Selection and ordering data

The following data also apply to explosion-protected motors 1SL7 (Ex ec) and 1SQ7 (Ex pxb).

Rated power		High-voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6 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	
6 kV, 50 Hz											
2-pole											
1570	1450	1RN6450-2FT ■ 0	2970	95.6	0.88	166	4662	2.00	12.0	3000	
1840	1700	1RN6452-2FT ■ 0	2971	95.9	0.89	192	5464	2.05	14.0	3000	
2060	1900	1RN6454-2FT ■ 0	2974	96.2	0.90	210	6101	2.30	15.0	3000	
2300	2120	1RN6456-2FT ■ 0	2978	96.5	0.90	235	6798	2.45	17.0	3000	
2730	2500	1RN6500-2FT ■ 0	2972	96.4	0.89	280	8033	1.95	19.0	3000	
2920	2680	1RN6502-2FT ■ 0	2974	96.3	0.90	300	8605	2.05	21.0	3000	
3310	3150	1RN6561-2FT ■ 0	2977	96.2	0.90	350	10104	2.15	38.0	3000	
3890	3700	1RN6563-2FT ■ 0	2977	96.4	0.90	410	11868	2.20	42.0	3000	
4310	4100	1RN6565-2FT ■ 0	2977	96.6	0.91	450	13152	2.20	45.0	3000	
5220	4500	1RN7631-2P ■ 0-0CJ0	2981	97.1	0.86	520	14415	1.95	65.0	3000	
5800	5000	1RN7633-2P ■ 0-0CJ0	2981	97.2	0.87	570	16017	2.00	70.0	3000	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

For details on converter operation with sinusoidal output, 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⁾ Standard values; higher speed limits on request.

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7 constant-torque drive

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:3				1:5			
	T_{max} Nm	n rpm	η %	$\cos \varphi$ [-]	T_{max} Nm	n rpm	η %	$\cos \varphi$ [-]	T_{max} Nm	n rpm	η %	$\cos \varphi$ [-]
	Constant-torque drive											
2-pole												
1RN6450-2FT.0	4478	1472	93.9	0.90	4261	975	92.2	0.90	4256	572	88.2	0.91
1RN6452-2FT.0	5256	1472	94.1	0.91	4995	975	92.5	0.91	5007	572	88.6	0.92
1RN6454-2FT.0	5861	1475	94.7	0.91	5567	978	93.2	0.92	5556	576	89.9	0.93
1RN6456-2FT.0	6493	1479	95.2	0.90	6180	982	94.0	0.91	6101	580	91.2	0.92
1RN6500-2FT.0	7714	1474	94.8	0.90	7333	977	93.3	0.90	7310	575	89.9	0.91
1RN6502-2FT.0	8258	1476	94.7	0.91	7863	979	93.2	0.92	7792	576	89.8	0.92
1RN6561-2FT.0	9701	1478	94.9	0.90	9256	981	93.6	0.91	9073	579	90.7	0.92
1RN6563-2FT.0	11385	1478	94.9	0.91	10820	981	93.5	0.92	10738	578	90.3	0.92
1RN6565-2FT.0	12613	1478	95.3	0.91	11986	981	94.0	0.92	11887	579	91.1	0.93
1RN7631-2P..0-0CJO	13797	1482	96.2	0.88	13090	985	95.2	0.88	12935	584	93.1	0.89
1RN7633-2P..0-0CJO	15345	1482	96.2	0.88	14546	985	95.2	0.89	14413	583	93.1	0.89

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7 constant-torque drive

Selection and ordering data

The following data also apply to explosion-protected motors 1SL7 (Ex ec) and 1SQ7 (Ex pxb).

Rated power		High-voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 10 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	
10 kV, 50 Hz											
2-pole											
1300	1250	1RN6450-2FT ■ 0	2974	95.5	0.88	86	4014	2.15	12.0	3000	
1460	1400	1RN6452-2FT ■ 0	2977	95.8	0.90	94	4491	2.40	14.0	3000	
1610	1550	1RN6454-2FT ■ 0	2979	95.9	0.89	104	4969	2.40	15.0	3000	
1820	1750	1RN6456-2FT ■ 0	2980	96.2	0.90	116	5608	2.45	17.0	3000	
2260	2180	1RN6500-2FT ■ 0	2977	96.1	0.90	146	6993	2.15	19.0	3000	
2500	2420	1RN6502-2FT ■ 0	2976	96.3	0.90	162	7765	2.10	21.0	3000	
2840	2650	1RN6561-2FT ■ 0	2982	96.1	0.90	176	8486	2.45	38.0	3000	
3480	3250	1RN6563-2FT ■ 0	2982	96.4	0.90	215	10408	2.45	42.0	3000	
3850	3600	1RN6565-2FT ■ 0	2982	96.6	0.91	235	11528	2.50	46.0	3000	
4580	3950	1RN7631-2P ■ 0-0CJ0	2982	97.0	0.86	275	12649	1.90	65.0	3000	
5100	4400	1RN7633-2P ■ 0-0CJ0	2982	97.1	0.87	300	14090	1.95	69.0	3000	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

For details on converter operation with sinusoidal output, 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⁾ Standard values; higher speed limits on request.

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7 constant-torque drive

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:3				1:5			
	T_{\max}	n	η	$\cos \varphi$	T_{\max}	n	η	$\cos \varphi$	T_{\max}	n	η	$\cos \varphi$
	Nm	rpm	%	[-]	Nm	rpm	%	[-]	Nm	rpm	%	[-]
	Constant-torque drive											
2-pole												
1RN6450-2FT.0	3855	1475	93.7	0.89	3662	978	91.8	0.90	3654	575	87.6	0.91
1RN6452-2FT.0	4299	1478	94.2	0.91	4092	981	92.6	0.92	4047	578	88.9	0.93
1RN6454-2FT.0	4746	1480	94.4	0.90	4522	983	92.9	0.90	4444	580	89.4	0.91
1RN6456-2FT.0	5356	1481	94.7	0.91	5101	983	93.3	0.91	5012	581	90.1	0.92
1RN6500-2FT.0	6694	1478	94.5	0.91	6384	981	92.9	0.91	6276	578	89.4	0.92
1RN6502-2FT.0	7441	1477	94.6	0.91	7071	980	93.0	0.91	7033	577	89.4	0.92
1RN6561-2FT.0	8118	1483	94.9	0.90	7754	986	93.7	0.91	7528	584	91.2	0.92
1RN6563-2FT.0	9923	1483	95.2	0.91	9501	985	94.0	0.91	9336	583	91.4	0.92
1RN6565-2FT.0	11022	1482	95.4	0.91	10473	985	94.2	0.92	10324	583	91.7	0.93
1RN7631-2P..0-0CJ0	12105	1483	96.0	0.87	11531	986	94.9	0.89	11280	585	92.7	0.89
1RN7633-2P..0-0CJ0	13465	1484	96.1	0.88	12786	987	95.1	0.89	12583	585	93.0	0.89

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7 constant-torque drive

Selection and ordering data

The following data also apply to explosion-protected motors 1SL7 (Ex ec) and 1SQ7 (Ex pxb).

Rated power		High-voltage motor SIMOTICS HV M	Operating data at rated output for utilization 130 (B)								
IEC			Rated speed	Efficiency	Power factor	Rated current at 6.6 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	
6.6 kV, 60 Hz											
2-pole											
1800	1700	1RN6451-2FT ■ 0	3565	95.7	0.89	172	4554	2.15	13.0	3600	
2120	2000	1RN6453-2FT ■ 0	3568	96.0	0.90	198	5353	2.45	15.0	3600	
3130	2950	1RN6501-2FT ■ 0	3568	96.5	0.90	295	7895	2.10	20.0	3600	
3390	3200	1RN6503-2FT ■ 0	3566	96.5	0.91	315	8569	2.10	21.0	3600	
4070	3750	1RN6561-2FT ■ 0	3578	96.3	0.89	385	10008	2.20	38.0	3600	
4770	4400	1RN6563-2FT ■ 0	3578	96.5	0.90	445	11743	2.20	42.0	3600	
5320	4900	1RN6565-2FT ■ 0	3579	96.8	0.90	490	13074	2.25	46.0	3600	
6130	5400	1RN7631-2P ■ 0-0CJ0	3580	97.0	0.86	570	14404	1.85	65.0	3600	
6810	6000	1RN7633-2P ■ 0-0CJ0	3581	97.2	0.87	620	16000	1.95	70.0	3600	

Position ■ of the Article No.

For shaft heights 450 mm to 560 mm, refer to the article number structure on [page 1/3](#).

For shaft heights 630 mm to 900 mm, refer to the article number structure on [page 1/5](#).

Note:

For details on converter operation with sinusoidal output, 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⁾ Standard values; higher speed limits on request.

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7 constant-torque drive

Motor type (repeated)	Constant-torque drive, speed range											
	1:2				1:3				1:5			
	T_{\max}	n	η	$\cos \varphi$	T_{\max}	n	η	$\cos \varphi$	T_{\max}	n	η	$\cos \varphi$
	Nm	rpm	%	[-]	Nm	rpm	%	[-]	Nm	rpm	%	[-]
	Constant-torque drive											
2-pole												
1RN6451-2FT.0	4383	1766	94.1	0.90	4174	1168	92.6	0.90	4173	687	88.9	0.91
1RN6453-2FT.0	5131	1769	94.5	0.91	4898	1170	93.1	0.91	4850	690	89.7	0.92
1RN6501-2FT.0	7559	1770	95.1	0.91	7263	1171	93.8	0.91	7196	691	90.9	0.92
1RN6503-2FT.0	8218	1767	95.0	0.92	7849	1169	93.6	0.92	7769	689	90.4	0.93
1RN6561-2FT.0	9560	1779	95.4	0.90	9147	1180	94.4	0.91	9005	700	92.1	0.91
1RN6563-2FT.0	11226	1779	95.6	0.91	10686	1180	94.5	0.91	10507	700	92.2	0.92
1RN6565-2FT.0	12509	1780	95.9	0.91	11892	1181	94.9	0.91	11722	701	92.8	0.92
1RN7631-2P..0-0CJO	13782	1781	96.3	0.88	13098	1182	95.4	0.88	12928	702	93.5	0.89
1RN7633-2P..0-0CJO	15286	1782	96.6	0.88	14538	1183	95.8	0.89	14262	703	94.1	0.89

Motors for subcritical operation

Motors for converter operation

Converter with sinusoidal output > Water-cooled motors SIMOTICS HV M 1RN6, 1RN7 constant-torque drive

Dimension drawings

Note:

For dimension drawings, [refer to section "Converter with non-sinusoidal output"](#).

Explosion-protected motors



5/2	Overview
5/2	Classification of zones
5/3	Types of protection
5/4	Certification
5/5	Type of protection Ex ec/Ex tc
5/5	Air-cooled motors SIMOTICS HV M 1SG6/1SG7
5/6	Water-cooled motors SIMOTICS HV M 1SL6/1SL7
5/7	Type of protection Ex pxb
5/7	Air-cooled motors SIMOTICS HV M 1SB6/1SB7
5/8	Water-cooled motors SIMOTICS HV M 1SQ6/1SQ7

Explosion-protected motors

Overview

Classification of zones

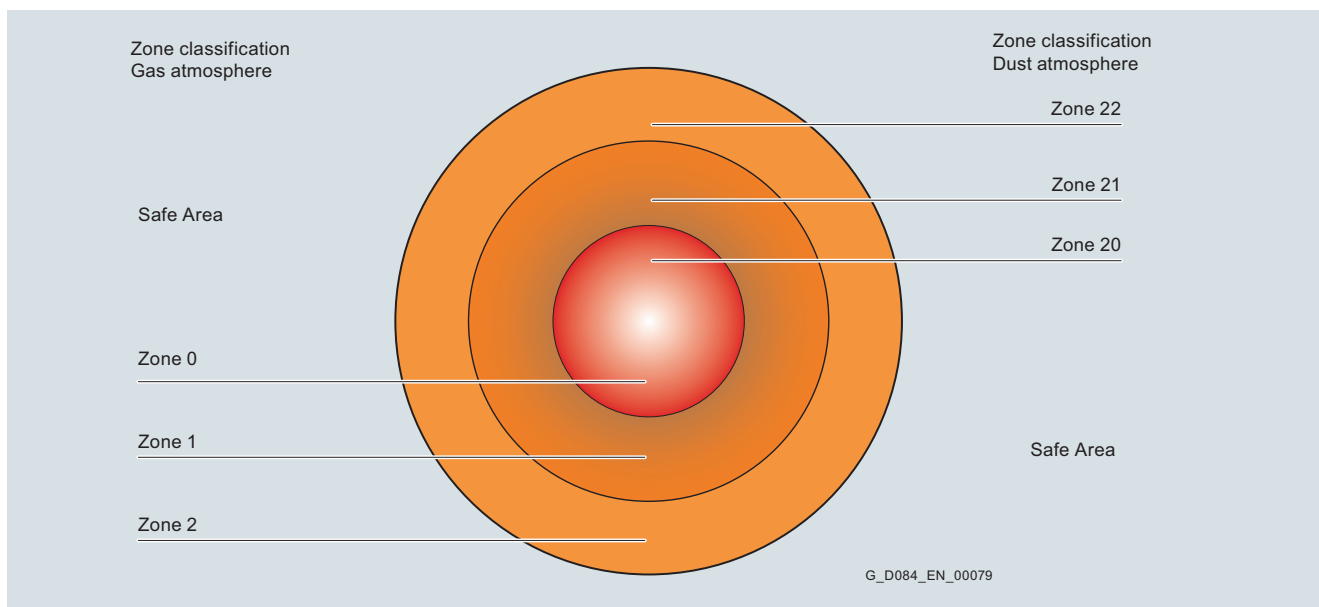
Overview

In many industries, manufacturing, processing, transportation or storing of combustible materials result in creation or release of gas, vapor or mist into the environment. Combustible dusts are created in other processes.

Explosive atmospheres result from contact of gases, vapors, mist or dust 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 ec	3G
–	1	An area in which it is expected that an explosive gas atmosphere occurs during normal operation.	Ex eb Ex pxb Ex db	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	

Note:

Referring to the 60079 IEC/EN standards, the following should be observed:

- The previous Ex e and Ex nA markings have been changed to Ex eb and Ex ec respectively. For both, the associated standard is IEC/EN 60079-7:2015. Expiration date of old marking: 2018-07-31
- The previous Ex px marking has been changed to Ex pxb. The associated standard is IEC/EN 60079-2:2014. Expiration date of old marking: 2017-08-25

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

Type of protection, pressurized enclosure *Ex pxb* 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.

The terminal box is included in the pressurized enclosure or has increased safety (type of protection *Ex eb*).

For motors > 11 kV, the terminal box is always included in the pressurized enclosure.

SIMOTICS HV M motors (air-cooled, type series 1SB6/1SB7 and water-cooled, type series 1SQ6/1SQ7) fulfill this type of protection.

Type of protection, *Ex ec* acc. to IEC/EN 60079-7

The type of protection ***Ex ec*** 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 SIMOTICS HV M motors (air-cooled, type series 1SG6/1SG7 and water-cooled, type series 1SL6/1SL7) are available in ***Ex ec***.

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 SIMOTICS HV M motors (air-cooled, type series 1SG6/1SG7 and water-cooled, type series 1SL6/1SL7) 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	pxb	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 db, eb, ec, pxb, 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											
• 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											

Explosion-protected motors

Type of protection Ex ec/Ex tc

Air-cooled motors · SIMOTICS HV M 1SG6/1SG7

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1SG6/SG7	
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 ec/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 ... 800 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 800 mm	Housing: Steel Cooling enclosure: Steel

SIMOTICS HV M motors (type series 1SG6 and 1SG7) developed for Zone 2 in type of protection **Ex ec** 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 ec** or **Ex tc** measures do not affect the performance data or main dimensions with respect to SIMOTICS HV M motors. This is the reason that the values of the 1RQ6 or 1RQ7 type series from Chapter 2 can be used for 1SG6 and 1SG7 motors.

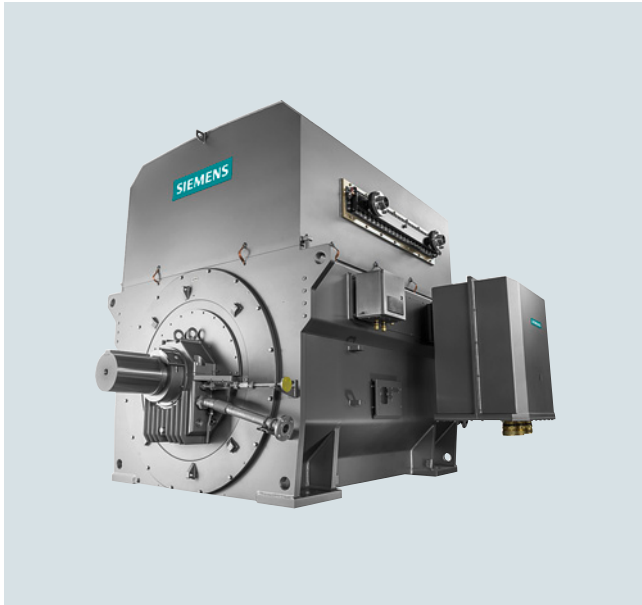
An extensive range of options and tests are available for SIMOTICS HV M motors, type of protection **Ex ec** or **Ex tc** (--> Options and tests).

Explosion-protected motors

Type of protection Ex ec/Ex tc

Water-cooled motors · SIMOTICS HV M 1SL6/1SL7

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1SL6/1SL7	
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 ec/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 ... 900 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 800 mm	Housing: Steel Cooling enclosure: Steel

SIMOTICS HV M motors (type series 1SL6 and 1SL7) developed for Zone 2 in type of protection **Ex ec** 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 ec** or **Ex tc** measures do not affect the performance data or main dimensions with respect to SIMOTICS HV M motors. This is the reason that the values of the 1RN6 or 1RN7 type series from Chapter 2 can be used for 1SL6 and 1SL7 motors.

An extensive range of options and tests are available for SIMOTICS HV M motors, type of protection **Ex ec** or **Ex tc** (--> Options and tests).

Explosion-protected motors

Type of protection Ex pxb

Air-cooled motors · SIMOTICS HV M 1SB6/1SB7

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1SB6/1SB7	
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 pxb
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 ... 800 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 800 mm	Housing: Steel Cooling enclosure: Steel

This series of SIMOTICS HV M motors, developed for Zone 1 (type series 1SB6 and 1SB7) in type of protection **Ex pxb** 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 pxb** measures have no effect on the performance data when compared to SIMOTICS HV M motors. This is the reason that the values of 1RQ6 or 1RQ7 motors from Chapter 2 can be used for 1SB6 and 1SB7 motors. Main dimensions on request.

A wide range of options and tests is available for SIMOTICS HV M motors, type of protection **Ex pxb**.

Explosion-protected motors

Type of protection Ex pxb

Water-cooled motors · SIMOTICS HV M 1SQ6/1SQ7

Overview



Technical data

Overview of technical data

SIMOTICS HV M 1SQ6/1SQ7	
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 pxb
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 ... 800 mm
Bearings	Anti-friction bearings, sleeve bearings
Cage material	Copper
Standards	IEC, EN (NEMA version on request)
Frame design for shaft heights 450 ... 560 mm	Housing: Cast iron Cooling enclosure: Steel
Frame design for shaft heights 630 ... 800 mm	Housing: Steel Cooling enclosure: Steel

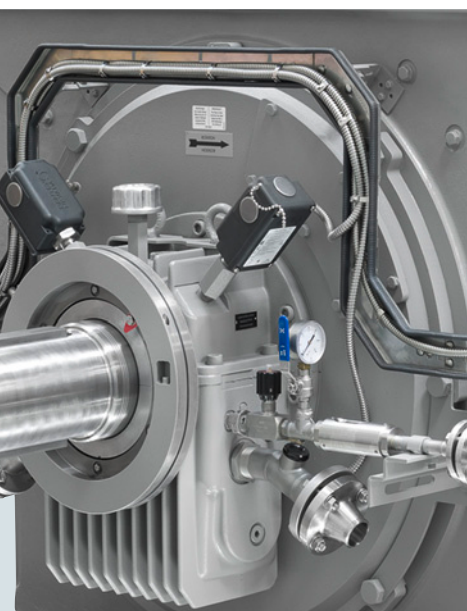
This series of SIMOTICS HV M motors, developed for Zone 1 (type series 1SQ6 and 1SQ7) in type of protection **Ex pxb** is available as modular motors with air/water heat exchanger (IC81W/IC86W cooling type). The Article No. schematic is shown in Chapter 1.

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 pxb** measures have no effect on the performance data when compared to SIMOTICS HV M motors. This is the reason that the values of 1RN6 or 1RN7 type series from Chapter 2 can be used for 1SQ6 and 1SQ7 motors. Main dimensions on request.

A wide range of options and tests is available for SIMOTICS HV M motors, type of protection **Ex pxb**.

Options and tests



6/2

Description of options

Options and tests

Description of options

Overview

Using the following options, SIMOTICS HV M can be adapted to order-specific requirements. The Article No. is supplemented with a "-Z" and with either one or several order codes.

Example: **1RN7710-2NA60-0CJ0-Z H05 + K16 + L20**

As standard, 6 x Pt100 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 anti-friction bearings.

Order code	Option description	Line operation	Converter operation	Explosion-protected	Remark
	Paint finish				
K24	Without paint finish, primed only	Yes	Yes	Yes	
K73	Paint finish according to corrosivity category C3 (180 µm)	Yes	Yes	Yes	
K74	Paint finish according to corrosivity category C4 (240 µm)	Yes	Yes	Yes	
K75	Paint finish according to corrosivity category C5-I (300 µm)	Yes	Yes	Yes	
K76	Paint finish according to corrosivity category C5-M (360 µm)	Yes	Yes	Yes	
Y53	Paint finish non-standard color	Yes	Yes	Yes	Plain text required
Y54	Special paint finish in a color different from RAL 7030	Yes	Yes	Yes	Plain text required
	Documentation				
B21	Documentation on digital storage device	Yes	Yes	Yes	
B22	Documentation as e-mail	Yes	Yes	Yes	
B23	Documentation as hard copy 1 set	Yes	Yes	Yes	
B27	Run out protocol	Yes	Yes	Yes	
B28	Protocol air gap calculation	Yes	Yes	Yes	
B34	Standard inspection and test plan (ITP)	Yes	Yes	Yes	
B35	Document: balancing report	Yes	Yes	Yes	
B36	Document: test description	Yes	Yes	Yes	
B37	Document: load characteristics	Yes	Yes	Yes	
B38	Document: spare part recommendation	Yes	Yes	Yes	
B41	Document: instrumentation data sheets	Yes	Yes	Yes	
B43	Document: production schedule, generated once	Yes	Yes	Yes	
B44	Document: production schedule, updated biweekly	Yes	Yes	Yes	
B45	Document: production schedule, updated monthly	Yes	Yes	Yes	
B48	Document: order-specific inspection and test plan	Yes	Yes	Yes	
D52	API 541 Standard, 4th Edition	Yes	Yes	Yes	
D69	API 541 Standard, 5th Edition	Yes	Yes	Yes	
	Document language				
D00	Documentation in German	Yes	Yes	Yes	
D54	Documentation in Czech (operating & safety instructions)	Yes	Yes	Yes	
D55	Documentation in Polish (operating & safety instructions)	Yes	Yes	Yes	
D56	Documentation in Russian (operating, safety instructions, datasheet, drawing)	Yes	Yes	Yes	
D57	Documentation in Japanese (operating & safety instructions)	Yes	Yes	Yes	
D62	Documentation in Danish (operating & safety instructions)	Yes	Yes	Yes	
D71	Documentation in Romanian (operating & safety instructions)	Yes	Yes	Yes	
D72	Documentation in Italian (operating & safety instructions)	Yes	Yes	Yes	
D73	Documentation in Finnish (operating & safety instructions)	Yes	Yes	Yes	
D74	Documentation in Dutch (operating & safety instructions)	Yes	Yes	Yes	
D75	Documentation in Turkish (operating & safety instructions)	Yes	Yes	Yes	
D76	Documentation in English	Yes	Yes	Yes	Standard
D77	Documentation in French (operating, safety instructions, datasheet, drawing)	Yes	Yes	Yes	
D78	Documentation in Spanish (operating, safety instructions, datasheet, drawing)	Yes	Yes	Yes	
D79	Documentation in Portuguese (operating & safety instructions)	Yes	Yes	Yes	
D80	Documentation in Bulgarian (operating & safety instructions)	Yes	Yes	Yes	

Overview (continued)

Order code	Option description	Line operation	Converter operation	Explosion-protected	Remark
	Document language (continued)				
D81	Documentation in Norwegian (operating & safety instructions)	Yes	Yes	Yes	
D82	Documentation in Hungarian (operating & safety instructions)	Yes	Yes	Yes	
D83	Documentation in Swedish (operating & safety instructions)	Yes	Yes	Yes	
D84	Documentation in simplified Chinese (operating & safety instructions)	Yes	Yes	Yes	
D85	Documentation in Slovenian (operating & safety instructions)	Yes	Yes	Yes	
D86	Documentation in Greek (operating & safety instructions)	Yes	Yes	Yes	
D87	Documentation in Slovakian (operating & safety instructions)	Yes	Yes	Yes	
D88	Documentation in Estonian (operating & safety instructions)	Yes	Yes	Yes	
D89	Documentation in Latvian (operating & safety instructions)	Yes	Yes	Yes	
D90	Documentation in Lithuanian (operating & safety instructions)	Yes	Yes	Yes	
D91	Documentation in Serbian (operating & safety instructions)	Yes	Yes	Yes	
	Speed monitoring				
A03	Speed monitoring by inductive proximity switch without evaluation device	Yes	Yes	Yes	
H45	Rotary pulse encoder HOG9 D 1024 KA	Yes	Yes	Yes	ATEX zone 2 only
H70	Rotary pulse encoder LL 861900220	Yes	Yes	No	
H73	Rotary pulse encoder HOG10 D 1024 I	Yes	Yes	No	
H76	Rotary pulse encoder HOG 10 D1024 I with integrated shaft grounding	Yes	Yes	No	
H88	Rotary pulse encoder HOG11 DN 1024 I with special corrosion protection	Yes	Yes	No	For marine applications
H89	Rotary pulse encoder HOG11 DN 1024 I with integrated shaft grounding and special corrosion protection	Yes	Yes	No	For marine applications
	Direction of rotation				
K97	Clockwise rotation, viewed onto DE	Yes	Yes	Yes	
K98	Counterclockwise rotation, viewed onto DE	Yes	Yes	Yes	Standard
K99	Operation for both directions of rotation	Yes	Yes	Yes	Available on request only
	Noise reduction				
L20	Noise reduction: sound absorber for air intake	Yes	Yes	Yes	Only for air-cooled motors
L21	Noise reduction: sound absorber for air discharge	Yes	Yes	Yes	Only for air-cooled motors
L22	Noise reduction: inner lining	Yes	Yes	Yes	Only for air-cooled motors
	Terminal box mounting position				
K09	Terminal box on right hand side (viewed onto DE)	Yes	Yes	Yes	Standard
K10	Terminal box on left hand side (viewed onto DE)	Yes	Yes	Yes	
K83	Terminal box rotated through 90°, cable entry from DE	Yes	Yes	Yes	
K84	Terminal box rotated through 90°, cable entry from NDE	Yes	Yes	Yes	
K85	Terminal box rotated through 180°	Yes	Yes	Yes	
	Terminal box, main and auxiliary terminal box				
L54	Terminal box with 6 Terminals and cable glands for 2 cable entries	Yes	Yes	Yes	
L55	Neutral point terminal box standard, max. 6.6 kV	Yes	Yes	Yes	
L56	Neutral point terminal box standard, max. 11 kV	Yes	Yes	No	
L57	Neutral point terminal box max. 6.6 kV, 6 terminals	Yes	Yes	No	
L58	Neutral point terminal box max. 6.6 kV, for installation of current transformers (without current transformer)	Yes	Yes	No	
L59	Terminal box with sealing chamber for 1 cable entry	Yes	Yes	Yes	
M50	Auxiliary terminal box made of cast iron	Yes	Yes	No	
M51	Auxiliary terminal box made of stainless steel	Yes	Yes	Yes	
M52	Auxiliary terminal box, cast iron, for heater	Yes	Yes	Yes	Standard

Options and tests

Description of options

Overview (continued)

Order code	Option description	Line operation	Converter operation	Explosion-protected	Remark
Terminal box – accessories/equipping					
K59	Cable plug connection, rated voltage 2 to 6.6 kV	Yes	Yes	No	
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	Yes	Yes	No	
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	Yes	Yes	No	
L83	Terminal for angled cable plug, rated voltage 9 to 11 kV	Yes	Yes	No	
M59	Cable entry frame MCT	Yes	Yes	Yes	
Cooling air monitoring					
A44	2 resistance thermometers PT100 for 2- to 4-wire connection ex terminal for cold air	Yes	Yes	Yes	
A45	2 resistance thermometers PT100 for 2- to 4-wire connection ex terminal for warm air	Yes	Yes	Yes	
A46	2 double resistance thermometers PT100 for 2- to 4-wire connection ex terminal for cold air	Yes	Yes	Yes	
A47	2 double resistance thermometers PT100 for 2- to 4-wire connection ex terminal for warm air	Yes	Yes	Yes	
A86	1 dial thermometer with 2 NO contacts for cold air	Yes	Yes	Yes	
A87	1 dial thermometer with 2 NO contacts for warm air	Yes	Yes	Yes	
T29	2 SITRANS transmitters for temperature monitoring of the cooling air	Yes	Yes	Yes	
Bearing version/instrumentation					
H09 + H11	DIN flange type for forced oil lubrication for oil inlet with flowmeter, manometer and throttle valve (incl. mating flange)+ DIN flange type for forced oil lubrication for oil outlet with inspection glass (incl. mating flange)	Yes	Yes	Yes	
H10 + H12	ANSI flange type for forced oil lubrication for oil inlet with flowmeter, manometer and throttle valve (incl. mating flange) + ANSI flange type for forced oil lubrication for oil outlet with inspection glass (incl. mating flange)	Yes	Yes	Yes	
H43	DIN-flange type for inlet and outlet incl. counter flange (for forced oil lubrication)	Yes	Yes	Yes	
H44	ANSI-flange type for inlet and outlet incl. counter flange (for forced oil lubrication)	Yes	Yes	Yes	
K96	Sleeve bearing instead of antifriction bearing	Yes	Yes	Yes	Only for motors with IM B3 type of construction up to shaft height 560
L18	Bearing insulation on DE (insulation can be bridged)	Yes	Yes	Yes	
L27	Bearing insulation on NDE	Yes	Yes	Yes	Standard
L60	Oil circulation lubrication (with oil cooling) instead of oil-ring lubrication	Yes	Yes	Yes	
L66	Ring lubrication, but prepared for future conversion to oil circulation lubrication	Yes	Yes	Yes	
P44	Oil manifold made of stainless steel, connections with mating flange	Yes	Yes	Yes	

Overview (continued)

Order code	Option description	Line operation	Converter operation	Explosion-protected	Remark
Bearing monitoring – sleeve bearings					
A02	Shaft vibration monitoring for sleeve bearings (Bently Nevada, Proxpac)	Yes	Yes	Yes	
A39	Preparation for shaft vibration monitoring for sleeve bearings	Yes	Yes	Yes	
A41	2 resistance thermometers PT100 for 2- to 4-wire connection ex terminal for sleeve bearings	Yes	Yes	Yes	
A43	2 double resistance thermometers Pt100 for 2- to 4-wire connection ex terminal for sleeve bearings	Yes	Yes	Yes	
A70	2 dial bearing thermometers without contacts, capillary principle	Yes	Yes	Yes	
A71	2 dial bearing thermometers with 2 NO contacts, capillary principle	Yes	Yes	Yes	
T28	2 SITRANS transmitters for temperature monitoring of the bearings	Yes	Yes	Yes	
Bearing monitoring – anti-friction bearings					
A40	2 resistance thermometers Pt100 for 2-, 3- or 4-wire connection from terminal box for anti-friction bearings	Yes	Yes	Yes	
A42	2 double resistance thermometers Pt100 for 2-, 3- or 4-wire connection from terminals for anti-friction bearings	Yes	Yes	Yes	
G50	Shock pulse measurement (SPM), measuring nipple on DE and NDE	Yes	Yes	Yes	Standard
H05	Shock pulse measurement (SPM), fixed sensor and distribution box	Yes	Yes	No	
H07	Shock pulse measurement (SPM), complete alarm box (Vibrex), safe area	Yes	Yes	No	
T28	2 SITRANS transmitters for temperature monitoring of the bearings	Yes	Yes	Yes	
Mechanical versions					
K16	Second shaft end up to 50 % rated torque	Yes	Yes	Yes	
L81	Vibration severity degree B acc. to IEC/EN 60034-14	Yes	Yes	Yes	Not available for 2-pole motors in shaft height 500 with anti-friction bearings.
Y55	Non-standard cylindrical shaft end (diameter identical or smaller as standard)	Yes	Yes	Yes	
Y85	Oil press-fit for cylindrical shaft extension instead of feather key connection	Yes	Yes	Yes	
Certified for pump drives					
E88	Construction supervision for motors for seawater desalination plants where Siemens AG commissions the acceptance authority	Yes	Yes	No	
E89	Construction supervision for motors for seawater desalination plants where a third party commissions the acceptance authority	Yes	Yes	No	
E90	Pump drive for seawater desalination plants certified according to Lloyds Register	Yes	Yes	No	

Options and tests

Description of options

Overview (continued)

Order code	Option description	Line operation	Converter operation	Explosion-protected	Remark
	Marine applications				Options and tests for marine and offshore applications: see Chapter 6.
	Anti-condensation heating				
L08	Anti-condensation heating, rated voltage 400 V	Yes	Yes	No	
L09	Anti-condensation heating, rated voltage 500 V	Yes	Yes	No	
M12	Anti-condensation heater 110-120 V (min. 100 V, max. 132 V)	Yes	Yes	No	
M13	Anti-condensation heater 220-240 V (min. 200 V, max. 264 V)	Yes	Yes	No	Standard for safe area motors
M14	Anti-condensation heating, Ex-certified, Zone 1, 110-120 V (min. 100 V, max. 132 V)	No	No	Yes	
M15	Anti-condensation heating, Ex-certified, Zone 1, 220-240 V (min. 200 V, max. 264 V)	No	No	Yes	Standard for explosion-protected motors
Y83	Anti-condensation heater with other rated voltages, V = additional text required	Yes	Yes	No	
	Ambient conditions				
D02	Operation at ambient temperatures up to -50 °C, transport up to -50 °C	Yes	Yes	Yes	
D03	Operation at ambient temperatures down to -40 °C, transport down to -40 °C	Yes	Yes	Yes	
D04	Operation at ambient temperatures down to -30 °C, transport down to -40 °C	Yes	Yes	Yes	
D05	Operation at ambient temperatures down to -20 °C	Yes	Yes	Yes	
D06	Installation altitude up to 1500 m above sea level	Yes	Yes	Yes	
D07	Installation altitude up to 2000 m above sea level	Yes	Yes	Yes	Available on request only
D08	Installation altitude up to 2500 m above sea level	Yes	Yes	Yes	Available on request only
D09	Installation altitude up to 3000 m above sea level	Yes	Yes	Yes	Available on request only
D11	Cooling air temperature ≤45 °C	Yes	Yes	Yes	
D12	Cooling air temperature ≤50 °C	Yes	Yes	Yes	
D14	Cooling air temperature ≤60 °C	Yes	Yes	Yes	
D15	Cooling water temperature ≤30 °C	Yes	Yes	Yes	
D16	Cooling water temperature ≤35 °C	Yes	Yes	Yes	
D17	Cooling water temperature ≤40 °C	Yes	Yes	Yes	
E81	Outdoor installation with high salinity or areas with almost constant condensation (corrosivity category C5)	Yes	Yes	Yes	
E82	Outdoor installation with moderate salinity (corrosivity category C4)	Yes	Yes	Yes	
E83	Outdoor installation with low salinity (corrosivity category C3)	Yes	Yes	Yes	
M06	Indoor use in sulfurous atmosphere	Yes	Yes	No	
	Winding and motor protection				
A12	6 PTC thermistors without lightning arresters	Yes	Yes	Yes	
A23	1 temperature sensor KTY 84-130	Yes	Yes	Yes	
A65	6 embedded resistance thermometers PT100 for 2- to 4-wire connection ex terminal without lightning arresters	Yes	Yes	Yes	Standard
A66	6 embedded resistance thermometers PT100 for 2- to 4-wire connection ex terminal including lightning arresters	Yes	Yes	No	
A67	6 embedded resistance thermometers PT100 (Ex ib design) for 2- to 4-wire connection ex terminal without lightning arresters	No	No	Yes	
T26	3 current transformers type 4MA72	Yes	Yes	No	
T27	3 SITRANS transmitters for temperature monitoring of the stator winding	Yes	Yes	Yes	

Overview (continued)

Order code	Option description	Line operation	Converter operation	Explosion-protected	Remark
Tests with acceptance					
F01	All standard tests (routine test), with acceptance	Yes	Yes	Yes	
F15	Recording of no-load characteristic and determination of core and friction losses, with acceptance	Yes	Yes	Yes	
F17	Recording of short-circuit characteristic and determination of short-circuit losses, with acceptance	Yes	Yes	Yes	
F19	Recording of load characteristic, with acceptance	Yes	Yes	Yes	
F23	Dissipation factor test (tan delta) on 2 (test) coils, with acceptance	Yes	Yes	Yes	
F29	No-load noise measurement, without noise analysis, with acceptance	No	Yes	No	
F31	Cooling air flow and pressure drop measurement, with acceptance	Yes	Yes	Yes	
F35	Recording of current and torque characteristics during acceleration, with acceptance	Yes	Yes	Yes	
F37	Determination of moment of inertia by retardation method, with acceptance	Yes	Yes	Yes	
F39	Overspeed test, with acceptance	Yes	Yes	Yes	
F41	Recording of residual voltage curve, with acceptance	Yes	Yes	Yes	
F53	Locked-rotor torque and current measurement, with acceptance	Yes	Yes	Yes	
F55	Polarization index measurement, with acceptance	Yes	Yes	Yes	
F61	Impulse or AC voltage test on 2 (test) coils, with acceptance	Yes	Yes	Yes	In addition, specify order code F90
F63	Noise analysis, with acceptance	No	Yes	No	
F83	Type test for horizontal motors with temperature rise test, with acceptance	Yes	Yes	Yes	
F90	2 test coils	Yes	Yes	Yes	
F93	Type test for vertical motors with temperature rise test, with acceptance	Yes	Yes	Yes	
Tests without acceptance					
F14	Recording of no-load characteristic and determination of core and friction losses, without acceptance	Yes	Yes	Yes	
F16	Recording of short-circuit characteristic and determination of short-circuit losses, without acceptance	Yes	Yes	Yes	
F18	Recording of load characteristic, without acceptance	Yes	Yes	Yes	
F22	Dissipation factor test (tan delta) on 2 (test) coils, without acceptance	Yes	Yes	Yes	In addition, specify order code F90
F28	No-load noise measurement, without noise analysis, without acceptance	No	Yes	No	
F30	Cooling air flow and pressure drop measurement, without acceptance	Yes	Yes	Yes	
F34	Recording of current and torque characteristics during acceleration, without acceptance	Yes	Yes	Yes	
F36	Determination of moment of inertia by retardation method, without acceptance	Yes	Yes	Yes	
F38	Overspeed test, without acceptance	Yes	Yes	Yes	
F42	"Conformance Test (Wet Test)" to NEMA Standard, without acceptance	Yes	Yes	Yes	
F52	Locked-rotor torque and current measurement, without acceptance	Yes	Yes	Yes	
F54	Polarization index measurement, without acceptance	Yes	Yes	Yes	
F60	Impulse or AC voltage test on 2 (test) coils, without acceptance	Yes	Yes	Yes	In addition, specify order code F90
F62	Noise analysis, without acceptance	No	Yes	No	
F82	Type test for horizontal motors with temperature rise test, without acceptance	Yes	Yes	Yes	
F90	2 test coils	Yes	Yes	Yes	
F92	Type test for vertical motors with temperature rise test, without acceptance	Yes	Yes	Yes	

Options and tests

Description of options

Overview (continued)

Order code	Option description	Line operation	Converter operation	Explosion-protected	Remark
Extension of liability for defects					
Q80	Extension of the liability for defects to a total of 24 months (2 years) from date of delivery	Yes	Yes	Yes	
Q81	Extension of the liability for defects to a total of 30 months (2.5 years) from date of delivery	Yes	Yes	Yes	
Q82	Extension of the liability for defects to a total of 36 months (3 years) from date of delivery	Yes	Yes	Yes	
Q83	Extension of the liability for defects to a total of 42 months (3.5 years) from date of delivery	Yes	Yes	Yes	
Q84	Extension of the liability for defects to a total of 48 months (4 years) from date of delivery	Yes	Yes	Yes	
Q85	Extension of the liability for defects to a total of 60 months (5 years) from date of delivery	Yes	Yes	Yes	
Others/additional options					
H08	Leakage water detection for water cooler	Yes	Yes	Yes	
K51	Degree of protection IP56	Yes	Yes	Yes	
K52	Degree of protection IP56 (non-heavy sea)	Yes	Yes	Yes	
L15	Supporting ring for coupling guard	Yes	Yes	Yes	
L17	Fitting of coupling half for cylindrical shaft end with key (supplied by customer, machined and balanced)	Yes	Yes	Yes	
L31	Machine mounting material for steel foundation incl. fixing and jacking screws, shims and tapered pins	Yes	Yes	Yes	
L32	Machine mounting material for table foundation or concrete ceiling incl. stud screws with nuts, washers, anchor plates, base plates, shims, tapered pins	Yes	Yes	Yes	
L33	Machine mounting material for concrete foundation incl t-head bolts, anchor sleeves, sole plates, shims and tapered pins	Yes	Yes	Yes	
M89	Air/water heat exchanger in mechanically cleanable version	Yes	Yes	Yes	
P45	Stainless steel (V2A) external bolts	Yes	Yes	Yes	
Y82	Additional plate for customer data	Yes	Yes	Yes	
Certificates					
D30	Electric design according to NEMA MG1-12	Yes	Yes	Yes	
D32	Ex certificate for China	Yes	Yes	Yes	
D35	Certificate for the Eurasian customs union (EAC)	Yes	Yes	Yes	
D36	Declaration of conformity acc. to 94/9/EC (ATEX) of an independent testing body for zone 2 motors (Ex ec)	Yes	Yes	Yes	
D37	IECEX certificate	Yes	Yes	Yes	
D40	CSA certification	Yes	Yes	Yes	
D47	Certificate for import into the Eurasian customs union (EAC)	Yes	Yes	Yes	
D48	POVERKA certificate for Russia	Yes	Yes	Yes	
D51	SHELL DEP 33.66.05.31	Yes	Yes	Yes	
Spare parts					
S60	Anti-friction bearing set, 2 bearings (DE+NDE), as spare part	Yes	Yes	Yes	
S61	Sleeve bearing set, 2 bearings (DE+NDE), as spare part	Yes	Yes	Yes	
S62	Resistance thermometer for anti-friction bearing (A40), 2 units, as spare part	Yes	Yes	Yes	
S63	Dual resistance thermometer for anti-friction bearing (A42), 2 units, as spare part	Yes	Yes	Yes	
S64	Resistance thermometer for sleeve bearing (A41), 2 units, as spare part	Yes	Yes	Yes	
S65	Resistance thermometer for sleeve bearing (A43), 2 units, as spare part	Yes	Yes	Yes	
S66	Resistance thermometer for cold and warm air (A44+A45) for air intake and air outlet, 2 units, as spare part	Yes	Yes	Yes	
S67	Dual resistance thermometer for cold and warm air (A46+A47) for air intake and air outlet, 2 units, as spare part	Yes	Yes	Yes	
S68	Leakage water sensor for water cooler (H08), 1 unit, as spare part	Yes	Yes	Yes	

Options for marine and offshore applications



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Options for marine and offshore applications

Orientation

Overview



The SIMOTICS HV series 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 Germanischer Lloyd	DNV GL	Norway
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

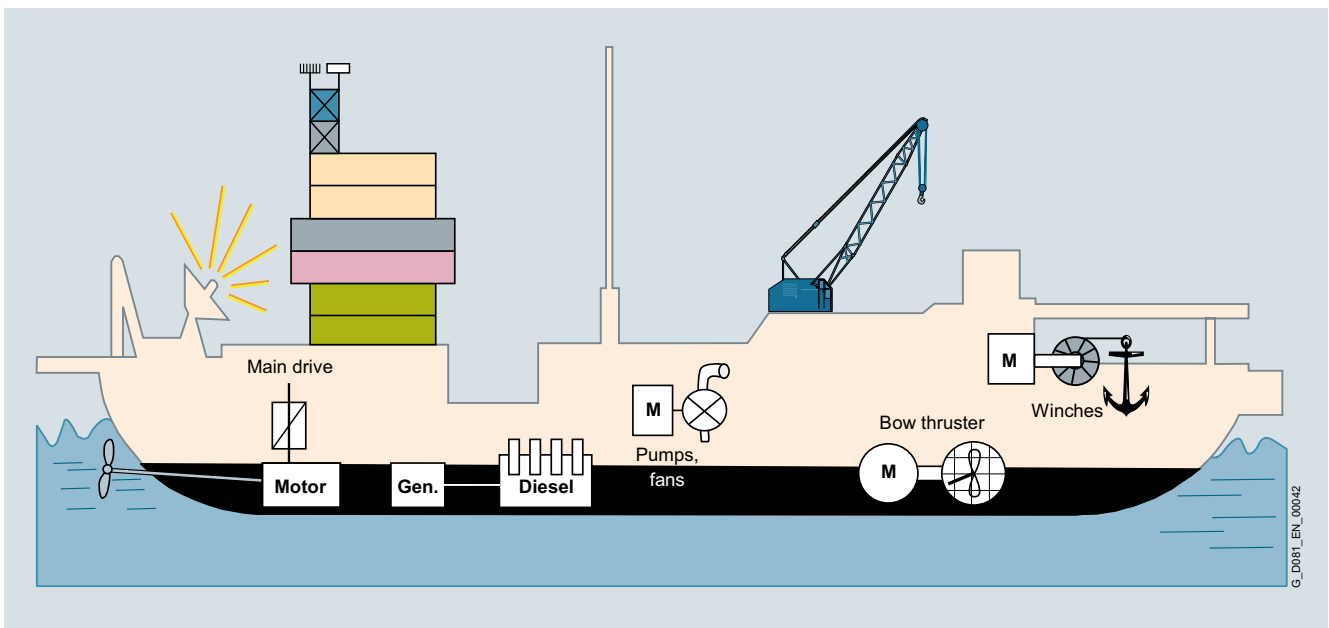
Our marine motors are designed for use onboard ships (installed below deck or on deck under a protective canopy):

- 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		
LR	32	45	70	95	90	≥ 100	≥ 100 kW
BV	32	45	75	100	95	≥ 100	≥ 500 kW
DNV GL	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 SIMOTICS HV M motors in a marine design

SIMOTICS HV M in a marine design

Cooling method	SIMOTICS HV M motor series
Water-cooled motors for line and converter operation	1RN6, 1RN7
Air-cooled motors for line and converter operation (self-ventilated)	1RQ6, 1RQ7
Air-cooled motors with externally mounted fan for converter operation	1RQ6, 1RQ7
Motors with the cooling types listed above with type of protection "ec" or "tc" (Zone 2 or Zone 22)	1SL6, 1SL7 1SG6, 1SG7
Motors with the cooling types listed above with type of protection "pxb" (Zone 1)	1SQ6, 1SQ7 1SB6, 1SB7

SIMOTICS HV M 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, 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	X05	X06

Motors for Essential Services

The technical design is in accordance 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	X15	X16
Certification						
• First motor	J70	J72	J74	J76	J80	J82
• Additional motors	J71	J73	J75	J77	J81	J83
Scope of the tests and presence of representatives of the classification society						
• First motor	X30	X32	X34	X36	X40	X42
• Additional motors	X31	X33	X35	X37	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	X25	X26
Certification						
• First motor	N40	N42	N44	N46	N50	N52
• Additional motors	N41	N43	N45	N47	N51	N53
Scope of the tests and presence of representatives of the classification society						
• First motor	X60	X62	X64	X66	X70	X72
• Additional motors	X61	X63	X65	X67	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. 1RN6 560-6HJ90-Z NoN- J01519785010001/2017 IMB3 Th.Cl.155(F)											
V	Hz	A	kW	cosφ	1/min	I _a /I _N	T _e s	Certif.No.	IP		
690 Δ/Δ	60	2x1350	2700	0.86	1193				55		
									←	VUW	
Rotor SQU.CAGE KL IEC/EN 60034-1								Gew/Wt	8.95 t		
MARINE EQUIPMENT / CLASSIFICATION SOCIETY: ABS											
KÜHLW./COOL.WATER 270L/MIN, 36°C											
Ta: -20...+50°C											
MADE IN GERMANY D-90441 Nürnberg											

Degree of protection

The degrees of protection as specified in this catalog 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

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 anti-friction 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: 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 pxb	1SQ6■■■■-■■■■■
Shaft height	630 mm	1SQ6632-4■■■■■
No. of poles/synchronous speed	4-pole/1500 rpm	
Type rating	6000 kW	
Ventilation	Shaft-mounted fan (basic version)	1SQ6632-4H■■■■■
Rotor version and operating mode	Copper (standard), line operation	1SQ6632-4HJ■■■
Voltage and frequency	6 kV, 50 Hz	1SQ6632-4HJ6■
Type of construction	IM V10 with protective hood	1SQ6632-4HJ64
Special versions		
1st motor	Technical design in accordance with BV (Bureau Veritas), France	1SQ6632-4HJ64-Z X11
	Necessary certification for first motor ordered in accordance with BV (Bureau Veritas), France	1SQ6632-4HJ64-Z X11+J72
	Necessary tests for first motor ordered in accordance with BV (Bureau Veritas), France	1SQ6632-4HJ64-Z X11+J72+X32
	Article No. for 1st motor	1SQ6632-4HJ64-Z X11+J72+X32
Additional 6 motors (additional motors)	Technical design in accordance with BV (Bureau Veritas), France	1SQ6632-4HJ64-Z X11
	Necessary certification for additional motors ordered in accordance with BV (Bureau Veritas), France	1SQ6632-4HJ64-Z X11+J73
	Necessary tests for additional motors ordered in accordance with BV (Bureau Veritas), France	1SQ6632-2HE64-Z X11+J73+X33
	Article No. for the additional 6 motors	1SQ6632-2HE64-Z X11+J73+X33
2nd 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	1SQ6632-4HJ64
Special versions		
1st motor	Technical design in accordance with ABS (American Bureau of Shipping), USA	1SQ6632-4HJ64-Z X20
	Necessary certification for first motor ordered according to ABS (American Bureau of Shipping), USA	1SQ6632-4HJ64-Z X20+N40
	Necessary tests for first motor ordered according to ABS (American Bureau of Shipping), USA	1SQ6632-4HJ64-Z X20+N40+X60
	Article No. for 1st motor	1SQ6632-4HJ64-Z X20+N40+X60
Additional 2 motors (additional motors)	Technical design in accordance with ABS (American Bureau of Shipping), USA	1SQ6632-4HJ64-Z X20
	Necessary certification for additional motors ordered according to ABS (American Bureau of Shipping), USA	1SQ6632-4HJ64-Z X20+N41
	Necessary tests for additional motors ordered according to ABS (American Bureau of Shipping), USA	1SQ6632-4HJ64-Z X20+N41+X61
	Article No. for the additional 2 motors	1SQ6632-4HJ64-Z X20+N41+X61

Options for marine and offshore applications

Options

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 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 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 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 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 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 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 (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 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 DNV 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 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 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 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)

1) Only for Essential Service and Essential Service Propulsion.

Options for marine and offshore applications

Notes

Service & Support



- 8/2 Services for Large Drives Applications
- 8/4 LDA Portal
- 8/5 SIDRIVE IQ
- 8/6 Selection and configuration tools

Service & Support

Services for Large Drives Applications

Overview



Keep your business running and shape your digital future - with Services for Large Drives Applications

Optimizing the productivity of your equipment and operations can be a challenge, especially with constantly changing market conditions. Working with our service experts makes it easier. We understand your industry's unique processes and provide the services needed so that you can better achieve your business goals.

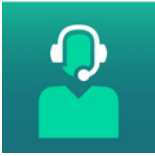
You can count on us to maximize your uptime and minimize your downtime, increasing your operations' productivity and reliability. When your operations have to be changed quickly to meet a new demand or business opportunity, our services give you the flexibility to adapt.

We assist in keeping your operations as energy and resource efficient as possible and reducing your total cost of ownership. As a trendsetter, we ensure that you can capitalize on the opportunities of digitalization and by applying data analytics to enhance decision making: You can be sure that your plant reaches its full potential and retains this over the longer lifespan.

You can rely on our highly dedicated team of engineers, technicians and specialists to deliver the services you need - safely, professionally and in compliance with all regulations. We are there for you, where you need us, when you need us.

www.siemens.com/lda-service

Overview

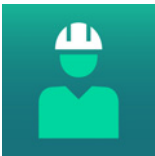


Support and Consulting

Our **LDA Portal** delivers comprehensive information, application examples, FAQs and support requests:

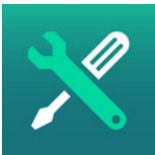
lda-portal.siemens.com

Technical Support and Diagnostic for advice and answers for all inquiries about functionality, handling, and fault clearance.



Field and Maintenance

A worldwide network of specially trained service personnel provides you with a highly quality service and an optimized commissioning time. By making use of a regular inspection and health check, you can maximize the availability of your plant and optimize your production processes.



Repair

Repair Services are offered on-site and in regional repair centers for fast restoration of faulty devices' functionality. Also available are extended repair services, which include additional diagnostic and repair measures, as well as emergency services.



Spare Parts

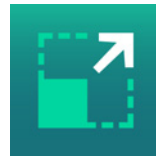
Spare Parts Services are available worldwide for smooth and fast supply of spare parts - and thus optimal plant availability. Genuine spare parts are available for up to ten years. Logistic experts take care of procurement, transport, custom clearance, storage and order management. Reliable logistics processes ensure that components reach their destination as needed.

Since not all spare parts can be kept in stock at all times, Siemens offers a preventive measure for spare parts provisioning on the customer's premises with optimized **Spare Parts Packages** for individual products, custom-assembled drive components and entire integrated drive trains - including risk consulting.



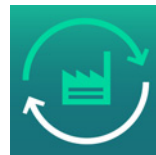
Training

From the basics and advanced to specialist skills, **LDA training** courses provide expertise right from the manufacturer - and encompass the entire spectrum of Siemens LDA products and systems for the industry. Courses are offered at various locations as well as online



Retrofit and Upgrade

Use Siemens Retrofit Services to extend the lifetime of your machinery and plants. Optimize the availability, reliability and energy efficiency of your installed motors and drives by retrofitting existing products and systems.



Digital Services by SIDRIVE IQ

To provide you with optimum support in your work, we have put together two digital service packages as part of our digital offering SIDRIVE IQ. The first package, **SIDRIVE IQ Rapid Response**, is all about getting your equipment up and running again as quickly as possible. The second package, **SIDRIVE IQ Guided Supervision**, is a service package specifically for continuous monitoring.



Service Agreements

A **Service Agreement** enables you to easily bundle a wide range of services into a single annual or multiyear agreement. You pick the services you need to match your unique requirements or fill gaps in your organization's maintenance capabilities. Programs and agreements can be customized as KPI-based and/or performance-based contracts.

Service & Support

LDA Portal

Large Drives Applications customer web platform

Overview



LDA Portal

Your one-stop-hub for HV motors, large industrial generators and MV converters

Your way to find information, data, services & support and the right contact:

The Siemens LDA Portal.

Our Large Drives Applications customer web platform is all about high-voltage motors, industrial generators, medium-voltage converters and many more portfolio elements like digital services when it affects applications in the megawatt power range. You can use the platform on your Desktop PC as well as on your tablet and mobile:

www.lda-portal.siemens.com

Information & Download

Find current information about the entire Siemens Large Drives Applications portfolio over the full product life cycle: The comprehensive "**Information & Download center**" will help you to quickly access the document you need. Via the advanced main search function, you will be guided to the right information. With the "**Portfolio Finder**" you can select the required product element with a few clicks only.

Newsletter

For being up-to-date about product news published in the Information & Download center you can subscribe the Newsletter.

Services & Support

Getting fast support and service for large drives is easy by using the LDA Portal. You will find a comprehensive view about the possible services and will be guided to the right contact in a fast way. The holistic installed base view offers you opportunities to unlock the full potential of your installed assets. Fast emergency services are quickly orderable via the LDA Portal. For getting fast support from Siemens experts you can start your service requests directly in the LDA Portal.

Contacts

Address your request to the right contact easily via the "**Contact us**" functionality. Your request will be forwarded to your country specific contact partner which will contact you immediately without any language barrier.

In addition you will easily find the service and repair center next to you for getting professional maintenance and further services.

Select & Buy

Interfaces to our selection and configuration tools enable you to get project specific product information in a fast way without the need of a Siemens contact. Even if it is a price indication via our Easy Selection for high-voltage motors or a **budget and firm** offer via our Drives Technology Configurator for HV motors, generators and MV drives.

Having available a **full quotation** with price, drawings, electrical & mechanical data, delivery time and specific T&C's **in only a few minutes** offers you high potential to speed up your proposal and offer process. We empower LDA Portal users with additional rights to get the things done fully digital. If you are interested in using more digital touchpoints in your offer process or order, please contact us.

Partnership & Sales Partner

We offer extended views and information for our partners. If you want to benefit from a partnership by getting access to exclusive information and more, do not hesitate to contact us.

Siemens LDA Portal - made for modern working

www.lda-portal.siemens.com

Overview

Get more out of your drive systems with SIDRIVE IQ



Drive systems play a key role in countless production processes and are ultimately what keeps the entire production going. Faults or failures involving components like motors and drives have costly consequences. Avoiding these faults by taking timely and deliberate action requires intelligent transparency – which allows for measures like targeted, proactive, and well-timed maintenance.

The future is digital – especially in the industrial sector. Thanks to digitalization and networked processes, companies can produce more flexibly and reliably, and they can respond to events more rapidly. Digitally enhanced drive components are an important step toward digitalized automation. With SIDRIVE IQ, you can now benefit from an Industrial Internet of Things (IIoT) digitalization solution for drive systems. Take advantage of digitalization to enter a new dimension of availability, serviceability, productivity and efficiency.

Reap the fruits of digitalization for medium voltage drives and high voltage motors with SIDRIVE IQ. The trinity of smart products, optimized plant designs and services provides you, with the insights you need, to make proactive choices you can trust – every single time.

With our **smart products** and systems with edge-capability you are able to make drive systems an “Industrial IoT platform device” for interoperability with automation and application.

Our **digital platform** gives you the perfect integration in IIoT ecosystems through modularity, scalability and connectivity with data model and processing libraries and functional user interaction and experience. Increase availability, optimize your asset management and processes for faster decision-making and a boost of productivity.

Digital **Services** by SIDRIVE IQ is the cloud-based approach for the next generation of remote and condition monitoring services. With SIDRIVE IQ, condition data from the drive train components is transferred to the cloud and analyzed by our service experts.

SIDRIVE IQ – our holistic solution and service to IIoT for your drive systems.

www.siemens.com/sidrive-iq

SIDRIVE IQ helps you to:

Boost your productivity



Reduce service and maintenance costs



Increase availability



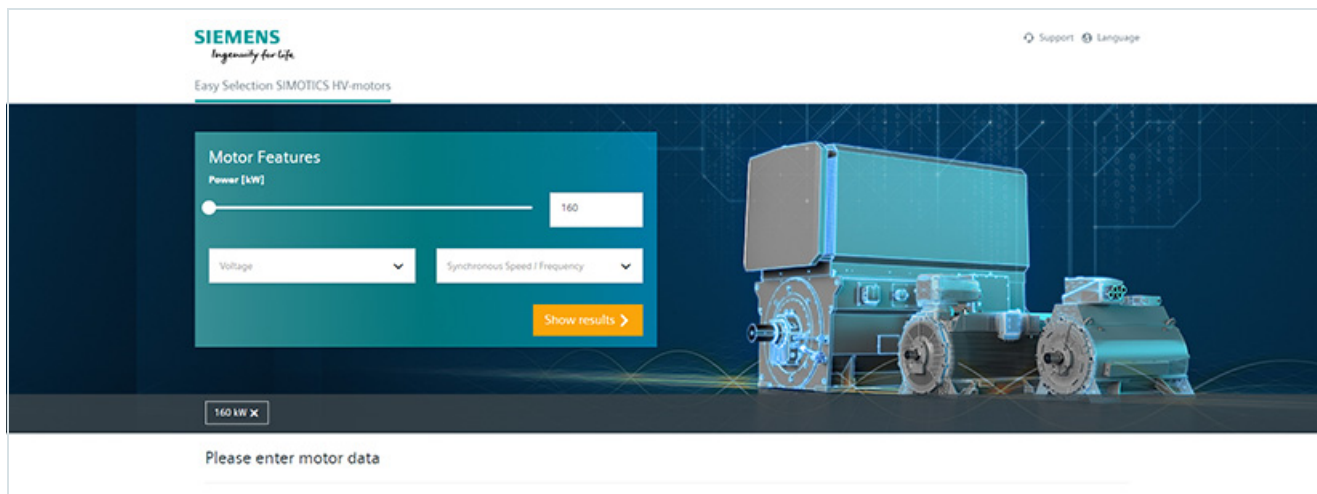
Shorten unplanned downtimes

Service & Support

Selection and configuration tools

Overview

Easy Selection SIMOTICS HV motors



The Easy Selection SIMOTICS HV motors provides a fast and easy motor selection in an early quotation phase. Based on the key search criteria, power, number of poles and voltage, the tool

provides the required motor types in a simple comparison view. For each selection result, technical data sheets, drawings and price information are available.

Drives Technology Configurator



The Drives Technology Configurator is the entry point when it comes to configuring high-voltage motors and medium-voltage converters. It supports you with configuring the optimum drives technology products for the specific application. With or without detailed product knowledge, based on detailed search criteria

the tool helps to find the right product and allows a detailed configuration of all available options. In addition to all this, comprehensive documentation comprising technical data sheets, 2D dimensional drawings and 3D models, certificates, etc. can be selected.

Tools information and access

Easy Selection SIMOTICS HV motors:
www.siemens.com/hv-easy

Drives Technology Configurator:
www.siemens.com/dt-configurator

Selection and Configuration website:
www.siemens.com/lda-tools

Get more information

Siemens High Voltage Motors:
www.siemens.com/high-voltage-motors

SIMOTICS HV M:
www.siemens.com/simotics-hv-m

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