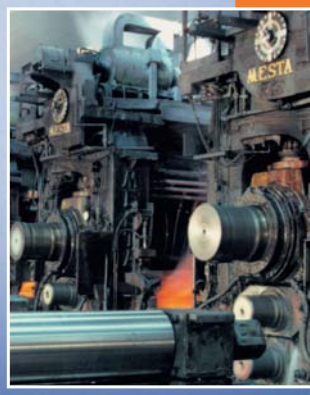
Catalog DA 12 • 2004



dc motors

DC motors
Sizes 100 to 630
0.45 kW to 1610 kW

SIEMENS

Catalogs for "Large Drives"

SINAMICS G150 Drive Converter Cabinet Units 75 kW to 560 kW D 11

Order No.:
German: E86060-K5511-A101-A2
English: E86060-K5511-A101-A2-7600

DC Motors Sizes 100 to 630 0.45 kW to 1610 kW DA 12

Order No.:
German: E86060-K5312-A101-A1
English: E20002-K5312-A101-A1-7600

SIMOREG DC-MASTER 6RA70 Digital Chassis Converters DA 21.1

Order No.:
German: E86060-K5121-A111-A1
English: E86060-K5121-A111-A1-7600
French: E86060-K5121-A111-A1-7700

SIMOREG K 6RA22 Analog Chassis Converters DA 21.2

Order No.:
German: E86060-K4021-A121-A1
English: E86060-K4021-A121-A1-7600

Spare Parts for SIMOREG Chassis Converters DA 21 E

www.siemens.de/simoreg
www.siemens.com/simoreg

SIMOREG DC MASTER 6RM70 Digital Converter Cabinet Units DA 22

Order No.:
German: E86060-K5122-A101-A1
English: E86060-K5122-A101-A1-7600

SIMOVERT MV Medium-Voltage Drives 660 kVA to 7200 kVA DA 63

Order No.:
German: E86060-K5363-A101-A2
English: E86060-K5363-A101-A2-7600

Components for Automation CA 01

Order No.:
German: E86060-D4001-A100-C1
English: E86060-D4001-A110-C1-7600

A&D Mall

Internet:
www.siemens.com/automation/mall

Trademarks

All designations marked in this Product Brief with ® are registered trademarks of Siemens AG.

Other designations used in this document may be trademarks; the owner's rights may be violated if they are used by third parties for their own purposes.

DC motors
Sizes 100 to 630
0.45 kW to 1610 kW
Catalog DA 12 · 2004

Supersedes:
Catalog DA 12 · 1995/96
Supplement DA 12 · July 2001

© Siemens AG 2004

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

SIEMENS

Introduction 1
Welcome to Automation and Drives
DC technology remains of prime importance
DC motors – For what types of applications?
Why use DC motors from Siemens?

Explanations 2

Selection and ordering 3
Guideline
Order No. code
Order No. supplements
Selection and ordering data
Options

Dimensions 4

Appendix 5
Regulations, standards and specifications
Siemens contact partners worldwide
A&D online services
Customer support
Indices
Conditions of sale and delivery

Welcome to Automation and Drives

We would like to welcome you to Automation and Drives and our comprehensive range of products, systems, solutions and services for production and process automation and building technology worldwide.

With Totally Integrated Automation and Totally Integrated Power, we deliver solution platforms based on standards that offer you a considerable savings potential.

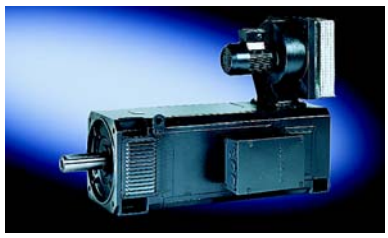
Discover the world of our technology now. If you need more detailed information, please contact one of your regional Siemens partners. They will be glad to assist you.

True values endure – DC technology remains of prime importance

– even if its immediate demise has been forecast for more than fifteen years: Siemens Automation & Drives will continue to provide this simple and user-friendly technology into the future. After all, it has proved itself to be reliable in daily use for decades and therefore remains of prime importance.

With our extensive know-how and with more than 125 years of experience, we remain your reliable partner for all your DC drive requirements. We offer perfect up-to-date solutions for both new plants or retrofitting. We are constantly working on the further development of the DC technology.

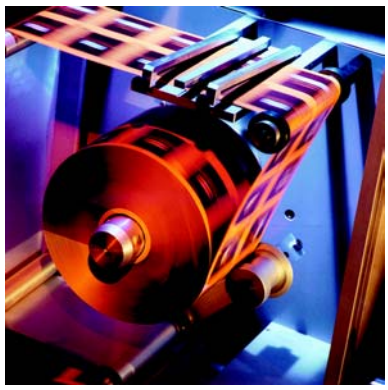
The perfect example: SIMOREG® Control Module, the perfect retrofit solution for your DC drives – and the most effective method to safeguard your investments permanently.

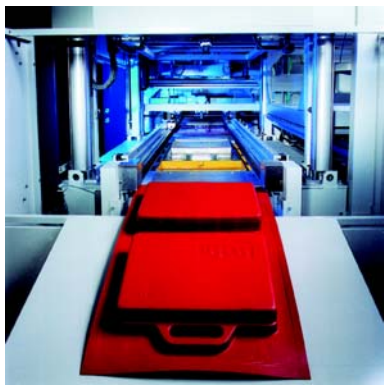


DC motors – For what types of application?

The modular DC motors are well-proven in combination with static converters as variable-speed drives in almost all industry sectors.
This secures competitive strength and efficiency – internationally as well.
Our DC drives are the optimum solution, no matter which functions have to be fulfilled in drive, power or process engineering.
For example:

- In elevators and cable cars
- In rolling mills
- In the printing industry
- In the textile and man-made fiber industries
- For hoisting equipment
- In the basic industries





Why use DC motors from Siemens?

Siemens DC drives distinguish themselves as follows:

- Their excellent static and dynamic control response
- Their wide range with high control precision
- The high efficiency of the complete drive system.

DC motors continue to be a high-quality alternative to three-phase motors. Together with SIMOREG drive converters, they form optimum, variable-speed drives for numerous branches of industry and are used wherever there is a requirement for favorably priced technology and high availability.

Outstanding features:

- High power density with small motor dimensions
- High thermal reserves for continuous duty and overload thanks to the DURIGNIT 2000® insulating system
- Minimal losses thanks to excellent efficiency
- High quality of smooth running and vibration
- Low noise values
- High mechanical rigidity
- Low weight
- Long brush lifetimes thanks to optimized commutation system
- High operational reliability and availability thanks to numerous diagnostic functions when fed from SIMOREG drive converters.

Explanations

2

2/2	Motor design
2/2	Magnetic circuit, rate of change of current
2/2	Rotors
2/2	Carbon brushes, commutation
2/2	Supply, converter connection, armature voltage and smoothing reactor
2/2	Installation and operating conditions
2/3	Intermittent duty
2/3	DURIGNIT 2000 insulating system
2/3	Rated power
2/3	Direction of rotation
2/3	Field control range
2/3	Speed data on the rating plate
2/3	Sector-specific applications
2/3	Paint finish
2/3	Aggressive gases and vapors
2/4	Noise levels
2/4	Bearings
2/4	Cooling and ventilation
2/5	Encoders
2/5	Protection and monitoring
2/6	Terminal boxes
2/6	Shaft ends
2/6	Balancing

2

Motor design

All DC motors are fully laminated and, up to and including Size 280, they are uncompensated. From Size 355, the motors are equipped with a compensation winding.

At constant torque, the forced-cooled motors 1GH, 1GG, 1GF, 1HQ and 1HS can be coasted down to 10 rpm by means of armature control.

The self-ventilated 1HA motors can be coasted down when the torque falls by means of armature control 1:3.

At constant torque, the non-ventilated 1HC motors can be coasted down to approximately 50 rpm by means of armature control.

Magnetic circuit, rate of change of current

The motors have a fully laminated magnetic circuit and are therefore suitable for being fed from converter units. In the case of dynamic processes, a rate of change of current up to 250 I_N/s is permissible.

Rotors

The laminated rotor packages have screwed slots to minimize noise and torque ripple. The rotors are dynamically balanced.

Carbon brushes, commutation

Practically spark-free commutation when fed from drive converters is achieved as a result of the optimum motor design, even in the overload range. This results in extremely long brush lifetimes.

Brush wear is essentially dependent on the operating and ambient conditions of the DC motor, so the following conditions should apply in order to achieve a long brush lifetime:

- Relative air humidity 10 to 50%
- Effective load > 50% · I_N
- Cooling air temperature > 10 °C

For conditions outside these ranges, information is available on request.

Critical applications can also be mastered if the appropriate brush materials are chosen.

Supply, converter connection, armature voltage and smoothing reactor

The rated voltages listed in the selection tables are rated voltages according to DIN 40 030.

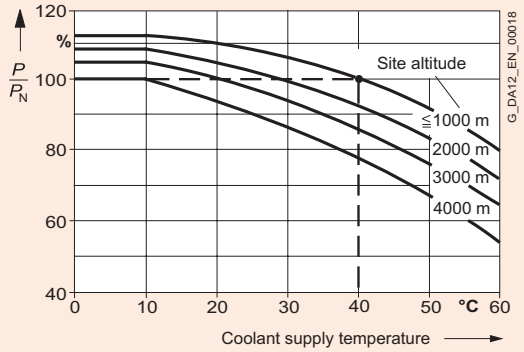
The rated data assigned to each of these rated voltages is only valid in combination with the specified converter connection and supply voltage. The inductances specified in the "Selection and ordering data" tables are applicable for 100 Hz with single-phase and for 300 Hz with three-phase bridge connections and a line frequency of 50 Hz, which is generally specified on the rating plate.

Installation and operating conditions

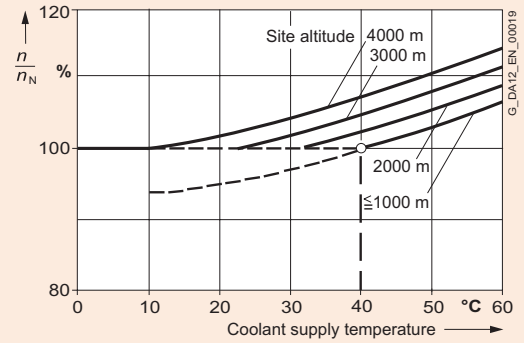
Operating conditions

The motors are designed for the following conditions of operation:

- Site altitude ≤ 1000 m (> 1000 m, see adjacent characteristics)
- Cooling air temperature up to 40 °C (> 40 °C, see adjacent characteristics)
- Cooling air must not contain any foreign bodies or aggressive components
- Maximum permissible vibration levels (see adjacent table).



Output changes as a function of the site altitude and the coolant supply temperature for DC motors.



Speed deviations as a function of the site altitude and the coolant supply temperature for DC motors.

Vibration frequency Hz		Vibration values Frame size	
		Up to 160	160 and above
< 6.3	Vibration displacement s mm	≤ 0.16	≤ 0.25
6.3 – 63	Vibration velocity V_{rms} mm/s	≤ 4.5	≤ 7.1
> 63	Vibration acceleration a m/s^2	≤ 2.55	≤ 4.0

Condensation

If there is a risk of condensation, anti-condensation heating can be fitted to the motors. Supply voltages of 115 V and 230 V are permitted.

Overload capacity

Overloading of the motors is possible in accordance with the following table. In the event of frequent overloading, it is assumed that the effective load of the motor does not exceed the rated load.

	Overload capacity (with reference to P_N and n_N) for			
	motors without compensation		motors with compensation	
	Torque	Current	Torque	Current
	M_{max}/M_N	I_{max}/I_N	M_{max}/M_N	I_{max}/I_N
15 s	1.6	~ 1.85	1.8	~ 1.85
5 s	1.8	~ 2.2	2.0	~ 2.1

Intermittent duty

The following increases in output can be assumed with reference to the rated outputs listed in the "Selection and ordering data" for separately ventilated motors in S3 mode (intermittent duty):

S3 operating mode	Increase in output from P_N in S1 operating mode
–60%	1.15
–40%	1.3
–25%	1.5

DURIGNIT 2000 insulating system

The high-quality DURIGINIT 2000 insulating system mainly comprises plastic materials with a high temperature overload capability and track resistance. It also meets the requirements placed on motors that are operating in tropical conditions (humid and hot climate).

Temperature class F (overtemperature limit 105 K at KT 40 °C) is implemented for 1G.5/1H.5 motors (1HA5 motors, temperature class H in the stator). For utilization in temperature class B, derating of 13% to 87% must be implemented (106% speed, for Sizes 100 to 160 only).

Temperature class H (overtemperature limit 125 K at KT 40 °C) is implemented for 1G.6/1H.6 and 1G.7/1H.7 motors. For utilization in temperature class F, derating of 8% to 92% is necessary (103% speed).

Rated power

The rated output power specified in the selection tables is applicable for S1 continuous duty according to EN 60 034-1 when the motors are fed from drive converters using the applicable converter connections and supply voltages specified for the rated armature voltages and, where necessary, combined with the series-connected inductance specified in the selection tables.

In the case of self-ventilated motors for a control range of 1:3 and falling torque, linear interpolation is possible between the rated torque and the torque at the lower limit of the control range over the speed.

Direction of rotation

The motors are designed for both clockwise and anti-clockwise rotation or reversing operation. The direction of rotation only has to be specified for motors of Size 500 and 630.

Field control range

The motor speed can be increased by field weakening

- At constant armature voltage and power as far as the field weakening speeds n_{Fmax} specified in the "Selection and ordering data" tables
- Beyond these values, as far as the maximum permissible mechanical limit speed n_{mech} as specified in the "Selection and ordering data" tables with reduced power P_{red} as follows:

$$P_{red} = \frac{\frac{n^*}{n_F} - 1}{\frac{n^*}{n_{Fmax}} - 1} \cdot P_N$$

n^* Fictitious reference value with units of speed from the table shown below

n_F Required field weakening speed in the range $n_{Fmax} < n_F \leq n_{mech}$

Speeds n^* (fictitious reference values only)	
Motor Size	Speed n^*
	rpm
100	26000
112	22800
132	18100
160 (1G.5/1H.5)	14900
160 (1G.6)	14400
180	13000
200	11700
225	10500
250	9400
280	8300
355	6400
400	5700
450	4950
500	4580
630	3580

In the speed range from n_{Fmax} to n_{mech}, the series inductances and noise values can increase; further details on request.

Speed data on the rating plate

If specified in the order, the field weakening speed will be given on the rating plate as shown in the following table.

Design		Field weakening speed n_F rpm
Standard design		1.15 · n_N maximum n_{Fmax} (see selection tables)
Special design in accordance with the section of the catalog "Selection and ordering" - "Options" for an additional price, with short order code	**C05**	1.7 · n_N maximum n_{Fmax} (see selection tables)
	C06	n_{Fmax} > 1.7 · n_N

If the speeds of the respective motor deviate from those specified in the "Selection and ordering data" tables, for example, due to

- Speed compensation by means of armature voltage changes and/or field weakening
- Additional, permissible field weakening speeds not specified for the standard design (without a short code or for short codes **C05** and **C06**)

the short code **Y80** "Deviating rating plate data" and information in plain text must also be specified, see "Selection and ordering" - "Options".

Sector-specific applications

Short codes are specified for the following sector-specific applications (see "Selection and ordering" - "Options").

Paint finish

The standard paint color is anthracite according to RAL 7016. Motors can be supplied with a special paint finish (short code **L53**) or with primer only (short code **K24**).

Aggressive gases and vapors

If chemically aggressive gases and vapors are expected at the installation site, additional precautions must be taken with regard to insulation, surface protection and brush types. Please enquire specifying the substance type and concentration.

Noise levels

The noise levels of the motors have been determined according to EN ISO 1680 and lie far below the values permitted according to EN 60 034-9. This has been achieved thanks to the mechanical design and by optimizing the magnetic circuit and the ventilation.

The sound pressure level L_{pA} and the acoustic power level L_{WA} (acc. to the table below, including tolerance) are applicable at full load up to 2000 rpm, for converter infeed in B6C connection and with a standard external fan at 50 Hz.

The acoustic power level L_{WA} is the sum of measuring surface size and the measuring surface sound pressure level L_{pA}.

For comparisons with the standard, a no-load/load differential of the machine noise of 3 to 5 dB can be assumed. The no-load noise values for an infeed of pure DC current lie about 3 dB below the noise values for converter infeed.

When a filter is installed, the noise values are reduced by 1 to 2 dB.

When a silencer is used (see "Selection and ordering" - "Options"), the noise values are reduced by approx. 5 dB.

Frame size	Measuring surface sound pressure level L_{pA} dB (A)		Acoustic power level L_{WA} dB (A)	
	1GF5, 1GG5 and 1GH5 motors			
100	68		80	
112	68		80	
132	71		83	
160	74		86	
	1H.5 motors			
	1HC5	**1HA5**	**1HC5**	**1HA5**
100	55	–	67	–
112	62	–	74	–
132	63	74	75	86
160	64	77	76	89
	1GF6, 1GG6 and 1GH6 motors			
160	73		86	
	1G.6/ and 1H.6 motors			
	1GH6 1HS6	**1GG6 1HQ6**	**1GH6 1HS6**	**1GG6 1HQ6**
180	72	76	85	90
200	73	77	87	91
225	76	80	90	94
250	78	82	93	97
280	80	84	95	99

Noise values are available for larger motors on request.

Bearings

Motors up to and including Size 200 have roller bearings (grooved ball bearings) with permanent lubrication. Larger motors are provided with a regreasing device. In the case of increased lateral forces, a special design of the drive-end bearing is required (see "Selection and ordering" - "Options" and the project engineering manual).

In motors up to Size 160, the fixed bearings are at the drive end and in larger sizes they are at the non-drive end.

For positioning angles up to the vertical, the bearings of the motors up to Size 280 can carry the weight of the rotor as well as one half of the coupling. In the case of additional axial loads, please enquire.

Cooling and ventilation

Cooling:

The cooling air is normally fed from the non-drive end (NDE) to the drive end (DE), i.e. from the commutator end to the output end, where it discharges through vents to the left and right. This direction of air flow is necessary to achieve adequate cooling for the commutator for motors operating at high speeds and outputs.

The direction of air flow can be reversed (from the drive end to the non-drive end; i.e. from the output end to the commutator end). This is recommended for motors operated with weak loads, low cooling-air intake temperature, or under harsh ambient conditions (aggressive gases, organic liquids, dust, etc.) Derating may be necessary under some circumstances (request).

The fan unit of the 1GG motors can also be retrofitted to 1GH motors.

Frame size	Cooling air flow V	Permissible pressure drop in the ducts for 1GF and 1GG motors Δp	Required pressure for 1GH motors Δp
	m^3/s	Pa	Pa
1GF5, 1GG5, 1GH5			
100/102	0.045	40	300
104 - 108	0.06	45	500
114/116	0.07	45	500
118	0.08	70	650
132 - 136	0.09	45	500
162 - 166	0.2	60	700
1GF6, 1GG6, 1GH6			
160	0.20	60	1300
180	0.30	70	1350
200	0.35	70	1250
225	0.50	80	1600
250	0.60	80	1500
280	0.75	80	1600
1GG7, 1GH7			
351	1.3	100	1800
352			1900
353			2000
354			2300
355			2500
401	1.6	100	1800
402			1900
403			2100
404			2200
405			2500
451	2.0	100	1700
452			1800
453			2000
454			2200
455			2400
1GG5, 1GH5			
500	2.0	70	1400
630	3.0	70	1350

Duct connection

Fans are not included in the scope of supply of motors designed for use with a separately-driven fan 1GH. The ducts should be dimensioned to ensure that the motor is provided with a cooling air flow V and pressure Δp as specified in the above table.

Separately-driven fan

In the case of separately-driven fan assemblies for 1GG, 1HS and 1HQ motors, three-phase induction motors with supply voltages of 50 Hz 380 V to 420 V AC are used (according to EN 60 034 ± 5%). Motors up to Size 160 are provided with fan motors with a wide-range winding of 50 Hz 380 to 500 V AC. For other supply voltages and frequencies, a three-phase induction motor with a non-standard winding is required (short code **Y81**). Separately-driven fan motors for cooling air temperatures of 55 °C or higher or at site altitudes above 3000 m are available on request.

Filter installation

A dry-type air filter can be mounted and even retrofitted on all 1GG motors without any derating.

Air/water coolers for 1HS5, 1HS6 and 1HS7 motors

For 1HS5, 1HS6 and 1HS7 motors, the heated internal air is cooled down by the air/water coolers installed in the heat exchanger assembly. The internal air is circulated by separately-driven fans.

For a cooling water inlet temperature of 25 °C, 1HS motors have the same output data as 1GH motors; output data can be supplied on request for other temperatures.

The water connections are mounted as standard on the right-hand side (viewed from the drive end).

It is only possible with coolers in special design to subsequently change over the cooler for water connection from the left.

If a water analysis is not provided when ordering the motors, a standard cooler is supplied.

The cooling water temperature rise is, for the standard version, up to 10 K and the maximum water pressure is up to 6 bar (test overpressure 9 bar).

For motors	Required cooling water flow	Pressure drop in cooler
1HS. ...	m^3/h	bar
.... 186	2.3	0.1
.... 188	2.5	0.1
.... 206	2.7	0.1
.... 208	3.0	0.12
.... 226	3.5	0.15
.... 228	3.8	0.18
.... 256	4.5	0.15
.... 258	4.8	0.18
.... 286	5.7	0.22
.... 288	6.0	0.24
.... 351 - 355	5.7	0.13
.... 401 - 405	6.6	0.2
.... 451 - 455	7.5	0.26
.... 500 - 504	6.9	0.3
.... 631 - 634	9.0	0.37
.... 635	9.6	0.43

- Standard design
  Cooler with copper ducts and copper collectors (not removable) for water that has been cleared of solid particles and that does not contain aggressive substances.
- Special version
  Cooler with CuNi10Fe ducts, removable plastic coated steel chambers, suitable for brackish water. Cooling ducts can be cleaned mechanically.

Encoders

Various tachometers and pulse encoders can be mounted on the motors, see "Selection and ordering" - "Options".

Speed encoder types and variants other than those specified in the list of options can be obtained order-specifically and fitted. The possible design variants and combinations of tachometers or pulse encoders can be found in the catalog product ranges of the following manufacturers:

- Hübner Berlin
- Hübner Gießen
- Heidenhain
- Radio Energie
- Leine & Linde.

The encoder type required must be accurately described and requested in combination with the motor from the factory. When ordering, the option **Y70** = "Tacho / pulse encoder, special version" must be specified and supplemented with the order number or type number and the manufacturer in plain text.
The required encoders are then procured by the factory and fitted.
In the case of encoder types with long delivery times, it is important to note that the delivery time for the motors may be extended.

The motors can be supplied without encoders but with a mounting flange and mounting components for fitting a speed sensor. The types of speed sensors for which the mounting assembly can be prepared are listed under "Selection and ordering data".

Protection and monitoring

Thermal motor protection

The motors can be fitted with temperature sensors if required. The temperature sensors are installed in the coil end of the commutating pole winding on the air outlet side or, in the case of compensated motors, in the compensation winding. Reliable motor protection can be achieved thanks to current limiting and I^2t monitoring of the associated SIMOREG DC MASTER. Temperature sensors are connected on auxiliary terminals in the motor terminal box.

Continuous temperature monitoring can be implemented by selecting a KTY84-130 silicon sensor (short code **A23**) or a PT100 resistance thermometer (short code **A62**). For limit value monitoring (2 components are installed if both "Warning" and "Shutdown" are required), PTC thermistors are available (PTC resistors, short codes **A11** and **A12**) and bi-metal strip temperature monitors (short code **A31**).

Bearing temperature monitoring

The bearing temperature can be monitored for motors from Size 180 by means of PT100 resistance thermometers (short code **A76**). They are connected on the auxiliary terminals in the motor terminal box.

Air flow monitor

For motors with an externally mounted separately-driven fan, the internal air can be monitored using an air flow monitor (short code **A97**). The air flow monitor cannot be used for monitoring the air filter.

Brush monitoring

The brush length can be monitored (limit value) using a microswitch mounted on the brush holder (short code **A06**). The output signal is floating and can be evaluated by the SIMOREG DC MASTER.

For motors of Sizes 500 and 630, non-floating evaluation only is possible by means of signaling brushes (short code **A00**). For evaluation, the KM01 signaling unit can be ordered from Schunk Kohlenstofftechnik GmbH, Wettenburg, Germany.

Cooling air thermometer

In the internal air circuit of the air-to-air and air-to-water cooled motors, a PT100 cooling air thermometer can be installed for detecting the temperature of the heated air (short code **A45**). The PT100 is connected on an auxiliary terminal block mounted in the cooler assembly.

Leak warning device

Motors with an air/water cooler assembly can be equipped with a warning electrode for monitoring water leakage (short code **H08**). The warning electrode is connected in the electrode casing.

Anti-condensation heating

For motors that are subjected to a risk of frequent condensation of the winding due to climatic conditions, e.g. motors that are at a standstill in humid ambient air or motors that are subjected to large temperature variations, anti-condensation heating can be provided (short code **K45** for 230 V). This heats the air in the motor and condensation does not form inside the motor. Anti-condensation heating must not be switched on during operation. They are connected on the auxiliary terminals in the motor terminal box.

The motor can also be heated, however, through the excitation winding. For this purpose, a current of 30% to 40% of the rated excitation current is applied to the excitation terminals of the motor with the armature circuit open (without external cooling). In this case, approximately 10% to 15% of the rated excitation output is available as heat output.

Terminal box

All motors are equipped with a terminal box to the IP55 degree of protection which houses the power connections, excitation and terminals for connecting temperature sensors, anti-condensation heating, etc.

For the size of conductor cross-sections, see DIN VDE 0298.

Terminal box design

The terminal boxes of the motors with a rated current of <105 A are supplied with pre-drilled cable inlets fitted with blanking plugs. For higher currents, the terminal boxes are fitted with a removable cable entry plate. This is normally supplied undrilled.

For motors up to Size 160, the cable entry plate can be drilled for fitting with the maximum number of heavy-gauge threaded joints to DIN 46320 (short code **K55**). The drilled holes are sealed with blanking plugs. When ordered with the short code **K57**, adapters for conversion from heavy-gauge to metric threads are also supplied loose.

For motors of Size 180 and above, the plate can be pre-drilled for a maximum number of heavy-gauge threaded joints to DIN 46320 (short code **K55**) or with metric threads to DIN 89280 (short code **K57**). The gland is enclosed.

Shaft end

The shaft ends comply with IEC 60072, the centering holes comply with (60°) DIN 332 Part 2 and the keyways are constructed according to DIN 6885 Page 1. The featherkeys are included in the scope of supply.

If required, the motors can also be supplied with a non-standard shaft end (please enquire).

With the exception of 1GF motors, a second shaft end can be provided for the motors. For output over an elastic coupling, the full rated torque can be transferred from the non-drive shaft end.

Balancing

The motors of the 1G.5/1H.5 and 1G.6/1H.6 series are balanced with full-key. Balancing with half-key is possible (short code **L69**).

Motors of the 1G.7/1H.7 series are balanced with half-key. Balancing with full-key is possible (short code **L68**).

Selection and ordering

3

3/2 **Guide for drive selection**
3/3 Specification of motor type according to cooling method and degree of protection
3/4 Preselection of the motor according to torque and output

3/5 **Order No. code**
Order No., identification codes

3/6 **Order No. supplements**
Exciting voltage, designs

Series 1GF5, 1GG5 and 1GH5 Sizes 100 to 160
3/7 Size 100
3/9 Size 112
3/12 Size 132
3/14 Size 160

Series 1GF6, 1GG6, 1GH6 and 1HS6 Sizes 160 to 180
3/18 Size 160
3/20 Size 180

Series 1GG6, 1GH6 and 1HS6 Sizes 200 to 280
3/23 Size 200
3/26 Size 225
3/29 Size 250
3/32 Size 280

Series 1GG7, 1GH7 and 1HS7 Sizes 355 to 450
3/35 Size 355
3/45 Size 400
3/56 Size 450

Series 1GG5, 1GH5 and 1HS5 Sizes 500 to 630
3/67 Size 500
3/78 Size 630

3/89 **Series 1HA5 Size 160**

Series 1HC5 Sizes 100 to 160
3/91 Size 100
3/93 Size 112
3/94 Size 132
3/96 Size 160

Series 1HQ6 Sizes 180 to 280
3/97 Size 180
3/99 Size 200
3/102 Size 225
3/105 Size 250
3/108 Size 280

Series 1HQ7 Sizes 355 to 450
3/111 Size 355
3/117 Size 400
3/127 Size 450

Options
3/137 Mounting accessories
3/139 Operation and diagnostics
3/140 Add-ons

Guideline for drive selection

These "Recommendations for drive selection" guide you step-by-step through this catalog to the required motor

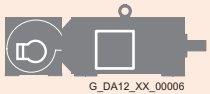
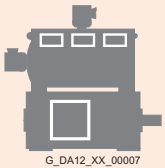
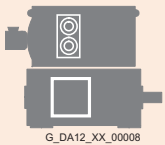
For further notes and support with project engineering, see the project engineering manual.

Details and explanations for the converters can be found in Catalogs DA 21 (Chassis Converters) and DA 22 (Converter Cabinet Units).

Step 1	**Technical requirements for the motor**		
Determine the required product profile	Rated supply voltage	3 AC 50/60 Hz, 400, 500 or 690 V	
	Operating mode	1Q/4Q	
	Degree of protection and type of cooling	IP.. / IC..	
	Speed range	n =.....rpm	
	Output	P =.....kW	
	Torque	$M = P \cdot 9550/n$ = ...Nm	
	Type of construction	IM ..	
Determine the rated armature voltage	Rated supply voltage	Operating mode	Rated armature voltage
	2 AC 50/60 Hz 400 V	4Q	280 V DC
	2 AC 50/60 Hz 400 V	1Q	310 V DC
	3 AC 50/60 Hz 400 V	4Q	420 V DC
	3 AC 50/60 Hz 400 V	1Q	470 V DC
	3 AC 50/60 Hz 500 V	4Q	520 V DC
	3 AC 50/60 Hz 500 V	1Q	600 V DC
	3 AC 50/60 Hz 690 V	4Q	720 V DC
	3 AC 50/60 Hz 690 V	1Q	810 V DC
Step 2	**Environmental requirements for the motor → Page 2/2**		
Determine the installation conditions	Ambient temperature	≤ 40 °C	> 40 °C
	Site altitude	≤ 1000 m	> 1000 m
	Determining the factors for output and speed change	–	For determining the factors for output and speed change (see Part 2 under "Installation and operating conditions")
Step 3	**Select the motor → Pages 3/3 and 3/4**		
Determine the range of possible motors	Select the size and therefore the possible motors on the basis of the following parameters: **type of cooling**, **degree of protection**, **torque** and **output range**.		
Step 4	**Detailed selection of the motor → Pages 3/7 to 3/136**		
Determine the motor Order No.	Determine the motor Order No. according to the following parameters: **rated armature voltage**, **speed**, **torque** and **output** from the "Selection- and ordering data" for the motors that have already been identified as possibilities.		
Step 5	**Adapt the speed if necessary**		
Speed adaptation and the associated parameter change	$n = n_N$	$n < n_N$	$n > n_N$
	Speed adaptation: not required	Speed adaptation: through armature control	Speed adaptation: through field weakening
		$U = U_N \cdot n / n_N$	U = constant
		$P = P_N \cdot n / n_N$	P = constant
		M_N = constant	$M = M_N \cdot n_N / n$
Step 6	**Selection of the options → Page 3/137 to 3/140**		
Complete the motor order No.	Determine the options and the associated short codes for special versions (mounted assemblies, operation and diagnostics).		
Step 7			
Select the SIMOREG converter and the line-side components	For Order No. of the converter and the line-side components, see Catalogs DA 21 and DA 22.		

Guideline for drive selection

Determining the motor type according to type of cooling and degree of protection *(for further selection according to torque and output, see overleaf)*

		Cooling method Designation to DIN 34, Part 6		With duct connection	Degree of protection Designation to DIN 34, Part 5	Adapting the basic motor module		Motor type
Modular configuration in series enables the following cooling methods and degrees of protection to be derived from one basic motor module G_DA12_XX_00005	**Internally cooled motors**							
	Suitable for use in dry indoor rooms with low dust levels	Internal cooling with axially mounted fan unit	IC05	–	IP23	Fan unit	 G_DA12_XX_00006	1GF
		Internal cooling with radially mounted fan unit	IC06	–	IP23	Fan unit	G_DA12_XX_00002	1GG
		Internal cooling using separately-mounted fan through duct	IC17	Single-end (cooling air inlet)	IP23	No	G_DA12_XX_00005	1GH
			IC37	Both ends (cooling air inlet and outlet)	IP54			
	Surface-cooled motors							
	Suitable for use outdoors or in extremely dusty and/or humid environments	Heat exchange through self-cooling using air-to-air heat exchanger	IC A01 A61	–	IP54	Air-to-air heat exchanger	G_DA12_XX_00003	1HA
		Surface cooling through natural cooling	IC0041	–	IP54	No	G_DA12_XX_00005	1HC
		Heat exchange through external cooling using air-to-air heat exchanger	IC A06 A66	–	IP54	Air-to-air heat exchanger, fan unit	 G_DA12_XX_00007	1HQ
		Heat exchange through external cooling using air-to-water heat exchanger	IC W37 A86	–	IP54	Air-to-water heat exchanger, fan unit	 G_DA12_XX_00008	1HS

3

Guideline for drive selection

Selection of the motor according to torque and output

Motor type/ series	Size	Torque Nm	Output kW	Detailed selection and ordering data Page
1GF5	112	27.8 – 56	2.45 – 16.2	3/9 – 3/10
	132	68 – 148	6.90 – 39	3/12 – 3/13
	160	132 – 276	13 – 76	3/14 – 3/17
1GF6	160	256 – 506	30 – 111	3/18 – 3/19
1GG5/1GH5	100	8.7 – 36.3	1.09 – 9.9	3/7 – 3/8
	112	27.8 – 61.5	2.45 – 17.9	3/9 – 3/11
	132	68 – 148	6.9 – 39	3/12 – 3/13
	160	132 – 176	13 – 76	3/14 – 3/17
1GG6/1GH6	160	256 – 506	30 – 111	3/18 – 3/19
	180	450 – 670	44.2 – 191	3/20 – 3/22
	200	670 – 965	64.5 – 256	3/23 – 3/25
	225	1070 – 1550	94.5 – 340	3/26 – 3/28
	250	1630 – 2300	121 – 436	3/29 – 3/31
	280	2400 – 3360	170 – 510	3/32 – 3/34
1GG7/1GH7	355	2950 – 8280	236 – 770	3/35 – 3/44
	400	4400 – 12920	230 – 880	3/45 – 3/55
	450	6830 – 18400	197 – 1020	3/56 – 3/66
1GG5/1GH5	500	5700 – 20600	288 – 1110	3/67 – 3/77
	630	16000 – 44500	344 – 1610	3/78 – 3/88
1HA5	160	75.5 – 95.5	8.4 – 25.2	3/89 – 3/90
1HC5	100	3.15 – 10.7	0.45 – 2.15	3/91 – 3/92
	112	10 – 19.1	1.24 – 4.55	3/93
	132	13.7 – 45.7	1.87 – 8.55	3/94 – 3/95
	160	40.3 – 69	6.3 – 15.3	3/96
1HQ6	180	264 – 482	36.7 – 110	3/97 – 3/98
	200	422 – 715	55.5 – 169	3/99 – 3/101
	225	630 – 1180	82 – 264	3/102 – 3/104
	250	1170 – 1780	107 – 340	3/105 – 3/107
	280	1770 – 2750	151 – 436	3/108 – 3/110
1HQ7	355	2300 – 7440	220 – 645	3/111 – 3/116
	400	3400 – 11700	225 – 770	3/117 – 3/126
	450	5610 – 15800	176 – 845	3/127 – 3/136
1HS6	180	450 – 670	44.2 – 191	3/20 – 3/22
	200	670 – 965	64.5 – 256	3/23 – 3/25
	225	1070 – 1550	94.5 – 340	3/26 – 3/28
	250	1630 – 2300	121 – 436	3/29 – 3/31
	280	2400 – 3360	170 – 510	3/32 – 3/34
1HS7	355	2950 – 8280	236 – 770	3/35 – 3/44
	400	4400 – 12920	230 – 880	3/45 – 3/55
	450	6830 – 18400	197 – 1020	3/56 – 3/66
1HS5	500	5700 – 20600	288 – 1110	3/67 – 3/77
	630	16000 – 44500	344 – 1610	3/78 – 3/88

Torque Nm: 0 1 10 100 1000 10000

Output kW: 0 1 10 100 1000 10000

Order No. code

Order No.

The Order No. comprises a combination of letters and numbers and for clarity it is subdivided into three blocks which are connected by hyphens,
e.g. **1GG6 288-0ND40-1VV1**

The first block (positions 1 to 7) identifies the machine type; further characteristics of the version are coded in the second (positions 8 to 12) and third (positions 13 to 16) blocks.
For deviations in the third block from the catalog codes, either Z or 9 should be used as appropriate.

Ordering data:

- Complete Order No. and short code(s) or plain text.
- If a quotation has been requested, please specify the quotation number in addition to the Order No.
- When ordering a complete motor as a spare part, please specify the works serial No. for the previously supplied motor as well as the Order No.

Structure of the Order No.:	**Position:**	1	2	3	4	5	6	7	-	8	9	10	11	12	-	13	14	15	16		
Positions 1 to 3: digit, character, character	**Internally cooled DC machines**																				
	• Separate ventilation using axially-mounted, standard fan	1	G	F																	
	• Separate ventilation using radially-mounted, standard fan	1	G	G																	
	• Separate ventilation using external fan (not included in scope of supply), connected via duct	1	G	H																	
	Surface-cooled DC machines																				
	• Self-ventilated	1	H	A																	
	• Self-cooled	1	H	C																	
	• Separate ventilation using mounted air-to-air heat exchanger	1	H	Q																	
	• Separate ventilation using mounted air-to-water heat exchanger	1	H	S																	
Position 4: digit	Series 5 Series 6 Series 7				5 6 7																
Positions 5 to 7: digits	Motor size (the size is encoded in positions 5 and 6)																				
Position 8: digit	Connection and mode of operation																				
Position 9: character	Field power level																				
Position 10: character	Armature circuit type of construction																				
Position 11: digit	Rated field voltage																				
Position 12: digit	Type of construction																				
Position 13: digit	Converter circuit and terminal data																				
Position 14: character	Rated armature voltage																				
Position 15: character	Armature control range																				
Position 16: digit	Load-torque characteristic, performance data (latest edition)																				
	Special versions: coded short code also required not coded plain text also required																			-	Z

Order No. supplements

Field voltage

The standard field voltage is 310 V. Other field voltages have been determined in accordance with the recommended field voltages according to DIN 40 030 and in accordance with the SIMOREG product range as "Standard versions". They can be coded using a digit at position 11 of the Order No. or using a short code.

• **Standard** rated field voltages:

Field voltage	Position: 11	Short code
110 V DC	3	
180 V DC	1	
190 V DC	9	L5C
200 V DC	9	L5A
210 V DC	6	
220 V DC	2	
310 V DC	4	
325 V DC	9	L5D
330 V DC	9	L5F
340 V DC	9	L5E
350 V DC	9	L5B
360 V DC	7	
500 V DC	5	

• **Non-standard** rated field voltages:
If an field voltage is required that is not covered by the "Standard versions", the digit "9" must be placed in position 11 of the Order No. The short code for the field voltage range must be specified in accordance with the table below and the required field voltage must be specified in plain text.

Field voltage	Position: 11	Short code *)
Motor Sizes 100 to 160:		
< 110 V DC	9	L2Y
from 110 V DC to 440 V DC	9	L1Y
from >440 V DC to 500 V DC	9	L2Y
Motor Sizes 180 to 630:		
< 110 V DC	9	L4Y
from 110 V DC to 500 V DC	9	L3Y
> 500 V DC	9	L4Y

*) Short codes only determine the price of the versions, so plain text is also required.

Type of constructions

acc. to IEC 34, Part 7; flange type of construction to DIN 42 948.

The Order No. listed in the selection tables must be supplemented with the type of construction code digit in Position 12. In the case of type of construction code digit "9", the short code for the required type of construction must also be specified (see table below).

Type of constructions for motor Sizes 100 to 280 [1])

Type of construction	Position: 12	Short code
IM B 3	0	
IM B 35	6	
IM B 5 [2])	1	
IM V 1 [2])	4	
IM B 6 [3])	9	M1A
IM B 7 [3])	9	M1B
IM B 8	9	M1C
IM V 15	9	M1H
IM V 3 [2])	9	M1G
IM V 36	9	M1J
IM V 5 [3])	9	M1D
IM V 6 [3])	9	M1E

1) DC motors in Sizes 355 to 630 are only offered in the catalog in the IM B 3 type of construction

2) The motors are supplied in IM B 35 type of construction for IM B 5, in IM V 15 type of construction for IM V 1 and in IM V 36 type of construction for IM V 3. 1HQ and 1HS motors are only supplied in the type of constructions IM B 3 and IM B 35.

3) For these type of constructions, special support feet must be provided for relieving the strain on the fixing bolts in the transverse direction (not included in scope of supply).

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 280 V	310 V	420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 2												
1170				1.09	8.9	1400	1G□5 102-0ED□ -4TV1	5.4	63	10.7	40.5	73
	1290			1.37	10.1	1600	-3UV1	6.15	64			54
		1840		2.2	11.4	4900	-6VV1	6.95	70			-
			2110	2.5	11.3	5000	-6WV1	6.85	73			-
1640				1.52	8.85	2000	1G□5 102-0EE□ -4TV1	7.2	68	6.41	23	63
	1820			1.93	10.1	2300	-3UV1	8.2	69			54
		2590		2.85	10.5	6300	-6VV1	8.65	74			-
			2950	3.15	10.2	5600	-6WV1	8.4	75			-
1890				1.72	8.7	2300	1G□5 102-0EF□ -4TV1	7.95	69	5.08	18	59
	2090			2.2	10.1	2650	-3UV1	9.1	71			52
		2970		3.1	9.95	6300	-6VV1	9.2	75			-
			3380	3.4	9.6	5600	-6WV1	8.9	76			-
Overall length 4												
1100				1.65	14.3	1300	1G□5 104-0ED□ -4TV1	8.2	64	7.45	27	48
	1210			2.15	17	1500	-3UV1	9.6	65			43
		1750		3.3	18	4200	-6VV1	10.4	71			-
			2010	3.7	17.6	4350	-6WV1	10.2	73			-
1500				2.2	14	1800	1G□5 104-0EE□ -4TV1	10.4	69	4.6	16.5	43
	1650			2.9	16.8	2100	-3UV1	12.3	70			43
		2370		4.2	16.9	5300	-6VV1	12.5	75			-
			2710	4.6	16.2	4750	-6WV1	12.1	77			-
1820				2.6	13.6	2250	1G□5 104-0EF□ -4TV1	11.8	73	3.29	12	40
	2010			3.4	16.2	2550	-3UV1	13.9	74			41
		2850		4.7	15.7	5300	-6VV1	13.7	78			-
			3240	5.1	15	4750	-6WV1	13.2	79			-
Overall length 6												
850				1.85	20.8	1000	1G□5 106-0EC□ -4TV1	9.3	63	7.03	26.5	39
	930			2.35	24.2	1150	-3UV1	10.9	64			34
		1350		3.75	26.5	3250	-6VV1	12	70			-
			1550	4.3	26.5	3300	-6WV1	11.9	73			-
1110				2.4	20.6	1350	1G□5 106-0ED□ -4TV1	11.3	68	4.53	17.5	37
	1220			3.15	24.6	1550	-3UV1	13.5	69			37
		1750		4.75	26	4150	-6VV1	14.3	74			-
			2010	5.3	25.2	4150	-6WV1	14	76			-
1530				3.2	20	1900	1G□5 106-0EE□ -4TV1	14.5	73	2.63	10.5	32
	1690			4.25	24	2150	-3UV1	17.3	74			34
		2400		6	23.8	4600	-6VV1	17.3	78			-
			2720	6.6	23.2	4150	-6WV1	16.9	80			-
1980				4	19.3	2500	1G□5 106-0EF□ -4TV1	17.5	76	1.69	6.6	29
	2190			5.2	22.6	2800	-3UV1	20.6	78			30
		3080		6.9	21.4	4600	-6VV1	19.6	80			-
			3500	7.55	20.6	4100	1G□5 106-0FF□ -6WV1	19.1	81			-

Fan unit	Radially mounted	G
	Separate	H
Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

1GG5, 1GH5
Size 100

Rated speed n_N rpm at rated armature voltage 280 V	310 V	420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 8													
1060				3.15	28.4	1250	1G□5 108-0ED□	-4TV1	14.6	70	3.19	13	29
	1160			4.15	34.3	1450		-3UV1	17.5	71			29
		1660		6.3	36.3	3850		-6VV1	18.7	76			-
			1890	7.05	35.5	3700		-6WV1	18.4	78			-
1370				4.05	28.2	1700	1G□5 108-0EE□	-4TV1	18.2	74	2.06	8.3	26
	1510			5.35	33.7	1900		-3UV1	21.8	75			27
		2150		7.7	34.3	4150		-6VV1	22.2	79			-
			2440	8.55	33.5	3700		-6WV1	21.8	80			-
1730				5	27.6	2150	1G□5 108-0EF□	-4TV1	22	76	1.43	5.5	23
	1920			6.6	32.7	2450		-3UV1	26	78			25
		2700		8.9	31.5	4150		-6VV1	25.2	81			-
			3060	9.8	30.5	3700		-6WV1	24.6	81			-
2330				6.35	26	2950	1G□5 108-0EG□	-4TV1	27.2	79	0.801	3.25	20
	2590			8.25	30.5	3350		-3UV1	31.7	80			21
		3630		9.9	26	4150	1G□5 108-0FG□	-6VV1	27.8	83			-

Fan unit	Radially mounted	G
	Separate	H
Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG5 102	0.23	0.013	7000	39
1GH5 102	0.23	0.013	7000	34
1GG5 104	0.27	0.016	7000	50
1GH5 104	0.27	0.016	7000	42
1GG5 106	0.33	0.02	7000	61
1GH5 106	0.33	0.02	7000	53
1GG5 108	0.4	0.025	7000	76
1GH5 108	0.4	0.025	7000	68

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: **"C05"** for n_F > 1.15 · n_N to 1.7 · n_N and **"C06"** for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 280 V	310 V	420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 4												
		885		3.9	42	2450	1G□5 114-0FA□ -6VV1	13.1	67	7.87	62	-
			1030	4.5	41.7	2450	-6WV1	13	70			-
735				2.45	31.7	850	1G□5 114-0FB□ -4TV1	12.2	65	5.22	39.5	10
	820			3.05	35.5	1000	-3UV1	13.6	67			-
		1170		5.1	41.7	3100	-6VV1	16.2	71			-
			1350	5.85	41.5	3100	-6WV1	16.1	74			-
865				2.9	32	1000	1G□5 114-0FC□ -4TV1	13.9	68	4.11	30	14
	980			3.35	32.7	1200	-3UV1	14.5	70			-
		1370		5.95	41.5	3550	-6VV1	18.4	74			-
			1570	6.75	41	3600	-6WV1	18.3	76			-
1060				3.5	31.5	1300	1G□5 114-0FD□ -4TV1	16.2	72	2.83	22	16
	1180			4.45	36	1450	-3UV1	18.5	73			9
		1670		7.15	41	4200	-6VV1	21.2	78			-
			1910	8.05	40.3	4250	-6WV1	21	79			-
1320				4.3	31	1650	1G□5 114-0FE□ -4TV1	19.3	75	1.96	15.5	16
	1470			5.55	36	1850	-3UV1	22.2	76			13
		2070		8.6	39.7	5100	-6VV1	24.8	80			-
			2350	9.6	39	5200	-6WV1	24.4	81			-
1550				5	30.7	1950	1G□5 114-0FF□ -4TV1	22	77	1.53	11.5	16
	1720			6.45	35.7	2200	-3UV1	25.6	78			13
		2420		9.8	38.7	6000	-6VV1	28	81			-
			2750	10.9	37.7	6000	1G□5 114-0GF□ -6WV1	27.4	83			-
1870				5.95	30.5	2350	1G□5 114-0FG□ -4TV1	25.8	79	1.07	8.3	16
	2080			7.65	35	2650	-3UV1	29.8	80			13
		2940		11.2	36.5	6000	1G□5 114-0GG□ -6VV1	31.5	83			-
			3350	12.2	34.7	6000	-6WV1	30.3	84			-
2080				6.55	30	2650	1G□5 114-0FH□ -4TV1	28.2	80	0.871	6.8	15
	2320			8.4	34.5	3000	-3UV1	32.3	81			13
		3300		12	34.7	6000	1G□5 114-0GH□ -6VV1	33.3	84			-
2340				7.25	29.6	3000	1G□5 114-0FJ□ -4TV1	30.7	81	0.703	5.5	15
	2610			9.2	33.7	3350	1G□5 114-0GJ□ -3UV1	35	82			13
2660				8.1	29	3400	1G□5 114-0GK□ -4TV1	34	82	0.55	4.4	14
	2990			10.7	34.3	3850	-3UV1	40.5	83			18
3100				9	27.8	4000	1G□5 114-0GL□ -4TV1	37.7	83	0.432	3.35	14
	3490			11.7	32	4500	1G□5 114-0HL□ -3UV1	44	84			17

Fan unit
- Axially mounted — F
- Radially mounted — G
- Separate — H

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0
- IM B 35 — 6

1GF5, 1GG5, 1GH5
Size 112

Rated speed n_N rpm at rated armature voltage 280 V	310 V	420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 6												
		900		5.3	56	2500	1G■5 116-0FC■ -6VV1	16.9	70	5.22	41.5	-
			1040	6.05	55.5	2550	-6WV1	16.8	73			-
		1160		6.75	55.5	3100	1G■5 116-0FD■ -6VV1	20.5	75	3.41	28	-
			1330	7.7	55.5	3150	-6WV1	20.4	77			-
		1440		8.25	54.5	3750	1G■5 116-0FE■ -6VV1	24.4	78	2.38	19.5	-
			1640	9.35	54.5	3800	-6WV1	24.2	79			-
		1850		10.4	53.5	4750	1G■5 116-0FF■ -6VV1	29.8	80	1.59	12.5	-
			2100	11.6	52.5	4850	-6WV1	29.5	81			-
		2270		12.4	52	5900	1G■5 116-0FG■ -6VV1	34.7	83	1.06	8.6	-
			2570	13.8	51.5	6000	-6WV1	34.3	83			-
		2550		13.6	51	6000	1G■5 116-0FH■ -6VV1	38	83	0.857	7	-
			2900	14.9	49	6000	1G■5 116-0GH■ -6WV1	37	84			-
		2920		14.9	48.7	6000	1G■5 116-0GJ■ -6VV1	41	84	0.662	5.5	-
			3330	16.2	46.5	5700	-6WV1	39.7	85			-
		3400		16.2	45.5	6000	1G■5 116-0GK■ -6VV1	44.3	85	0.529	4.25	-

Fan unit
Axially mounted — F
Radially mounted — G
Separate — H

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0
IM B 35 — 6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GF5 114	0.33	0.032	6000	93
1GG5 114	0.33	0.032	6000	93
1GH5 114	0.33	0.032	6000	86
1GF5 116	0.4	0.042	6000	115
1GG5 116	0.4	0.042	6000	115
1GH5 116	0.4	0.042	6000	110

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: **"C05"** for n_F > 1.15 · n_N to 1.7 · n_N and **"C06"** for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 8										
	915	5.85	61	2350	1G□5 118-0FC□ -6WV1	16.4	72	5.5	45	-
1020		6.55	61.5	2850	1G□5 118-0FD□ -6VV1	20	74	3.62	30	-
	1170	7.45	61	2850	-6WV1	20	76			-
1270		8	60	3450	1G□5 118-0FE□ -6VV1	23.8	76	2.59	21	-
	1450	9.1	60	3500	-6WV1	23.6	78			-
1630		10.1	59	4350	1G□5 118-0FF□ -6VV1	29.4	79	1.71	13.5	-
	1850	11.4	59	4400	-6WV1	29.2	81			-
2020		12.2	57.5	5300	1G□5 118-0FG□ -6VV1	34.5	82	1.14	9.3	-
	2280	13.6	57	5400	-6WV1	34	83			-
2270		13.5	57	5500	1G□5 118-0FH□ -6VV1	37.5	83	0.912	7.5	-
	2560	15	56	5500	-6WV1	37	84			-
2580		14.9	55	5500	1G□5 118-0FJ□ -6VV1	41.3	84	0.717	5.9	-
	2920	16.3	53.5	5500	1G□5 118-0GJ□ -6WV1	40.3	84		6	-
3000		16.4	52	5500	1G□5 118-0GK□ -6VV1	45	84	0.564	4.55	-
	3410	17.9	50	5500	1G□5 118-0GK□ -6WV1	43.7	85		4.6	-

Fan unit	Radially mounted	G
	Separate	H
Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG5 118	0.44	0.046	5500	121
1GH5 118	0.44	0.046	5500	114

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N
(short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

1GF5, 1GG5, 1GH5
Size 132

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 2										
740		6.9	89	1350	1G□5 132-0GA□ -6VV1	22.4	70	4.5	56	-
	860	7.95	88.5	1350	-6WV1	22.4	73			-
900		8.15	86.5	1600	1G□5 132-0GB□ -6VV1	25.4	73	3.42	41.5	-
	1040	9.35	86	1600	-6WV1	25.2	75			-
1050		9	82	1900	1G□5 132-0GC□ -6VV1	27.4	75	2.86	31.5	-
	1210	10.3	81.5	1900	-6WV1	27.2	78			-
1280		11.3	84.5	2100	1G□5 132-0GD□ -6VV1	33	79	1.91	23	-
	1470	12.8	83	2150	-6WV1	32.7	81			-
1470		12.7	82.5	2400	1G□5 132-0GE□ -6VV1	36.3	80	1.58	18.5	-
	1670	14.3	82	2400	-6WV1	36	82			-
1720		14.8	82	2700	1G□5 132-0GF□ -6VV1	41.5	83	1.16	14	-
	1950	16.6	81.5	2700	-6WV1	41	84			-
1950		16.7	82	2950	1G□5 132-0GG□ -6VV1	46.3	84	0.928	11	-
	2210	18.7	81	3000	-6WV1	45.7	85			-
2240		17.7	75.5	3550	1G□5 132-0GH□ -6VV1	48.3	85	0.776	8.6	-
	2530	19.7	74.5	3600	-6WV1	47.7	86			-
2620		20.2	73.5	4050	1G□5 132-0GJ□ -6VV1	54.5	86	0.595	6.4	-
	2960	21.6	69.5	4250	-6WV1	51.5	88			-
3160		22.5	68	4900	1G□5 132-0GK□ -6VV1	60	88	0.409	4.55	-
Overall length 4										
705		8.5	115	1300	1G□5 134-0GA□ -6VV1	27.4	70	3.58	43.5	-
	815	9.8	115	1300	-6WV1	27.4	73			-
840		9.4	107	1600	1G□5 134-0GB□ -6VV1	29.4	73	2.93	32.5	-
	970	10.8	106	1600	-6WV1	29.2	76			-
1050		12	109	1850	1G□5 134-0GC□ -6VV1	35.7	78	1.97	23	-
	1200	13.8	110	1850	-6WV1	35.7	79			-
1240		15	116	1950	1G□5 134-0GD□ -6VV1	43	80	1.4	17.5	-
	1410	17	115	2000	-6WV1	43	82			-
1460		16.5	108	2400	1G□5 134-0GE□ -6VV1	47	81	1.14	13	-
	1660	18.7	108	2450	-6WV1	46.7	83			-
1710		19.8	111	2650	1G□5 134-0GF□ -6VV1	55.5	83	0.844	9.9	-
	1940	22.2	109	2650	-6WV1	54.5	85			-
1910		21.4	107	3000	1G□5 134-0GG□ -6VV1	58.5	84	0.717	8.1	-
	2160	23.8	105	3050	-6WV1	57.5	86			-
2300		24.2	100	3600	1G□5 134-0GH□ -6VV1	65.5	86	0.52	5.7	-
	2600	26.8	98.5	3700	-6WV1	64	88			-
2660		27	97	4150	1G□5 134-0GJ□ -6VV1	72	88	0.407	4.4	-
	3000	28.8	91.5	4300	-6WV1	68.5	88			-
3140		33	100	4500	1G□5 134-0GK□ -6VV1	87.5	88	0.297	3.2	-

Fan unit	Axially mounted	F
	Radially mounted	G
	Separate	H
Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

1GF5, 1GG5, 1GH5
Size 132

Rated speed n_N rpm at rated armature voltage 420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 6										
715		11.1	148	1300	1G□5 136-0GA□ -6VV1	34.7	73	2.6	32.5	-
	825	12.8	148	1300	-6WV1	34.7	75			-
910		13.7	144	1600	1G□5 136-0GB□ -6VV1	41	76	1.81	22	-
	1040	15.7	144	1600	-6WV1	41	78			-
1090		16.2	142	1850	1G□5 136-0GC□ -6VV1	47.3	79	1.37	16	-
	1240	18.5	142	1900	-6WV1	47.3	81			-
1350		20.2	143	2200	1G□5 136-0GD□ -6VV1	57	82	0.921	11.5	-
	1540	23	143	2200	-6WV1	57	83			-
1730		24.8	137	2750	1G□5 136-0GE□ -6VV1	68.5	84	0.627	7.2	-
	1960	27.8	135	2800	-6WV1	67.5	86			-
2000		28.2	135	3150	1G□5 136-0GF□ -6VV1	77	86	0.486	5.5	-
	2260	31.5	133	3200	-6WV1	76	87			-
2370		32.3	130	3700	1G□5 136-0GG□ -6VV1	86.5	88	0.355	4.05	-
	2680	35.5	126	3750	-6WV1	84	88			-
2600		34	125	3400	1G□5 136-0GH□ -6VV1	91	88	0.302	3.4	-
	2940	36.5	119	3550	-6WV1	86	89			-
2890		36.7	121	3750	1G□5 136-0GJ□ -6VV1	97	89	0.244	2.8	-
	3250	39	115	3800	-6WV1	91	89			-
3220		38	113	4250	1G□5 136-0GK□ -6VV1	100	89	0.204	2.25	-

Fan unit
- Axially mounted — F
- Radially mounted — G
- Separate — H

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0
- IM B 35 — 6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GF5 132	0.47	0.09	5000	125
1GG5 132	0.47	0.09	5000	125
1GH5 132	0.47	0.09	5000	115
1GF5 134	0.54	0.11	5000	145
1GG5 134	0.54	0.11	5000	145
1GH5 134	0.54	0.11	5000	135
1GF5 136	0.62	0.14	5000	170
1GG5 136	0.62	0.14	5000	170
1GH5 136	0.62	0.14	5000	160

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

1GF5, 1GG5, 1GH5
Size 160

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 2												
	730			13	170	1500	1G□5 162-0GB□ -6WV1	35.7	74	2.59	31	-
		830		14.7	169	1500	-7MV1	35.5	76			-
			985	17.4	169	1500	-7NV1	35.5	79			-
760				14.2	178	1600	1G□5 162-0GC□ -6VV1	43	76	1.8	24	-
	875			16.3	178	1600	-6WV1	43	78			-
		985		18.3	177	1600	-7MV1	42.7	80			-
			1170	21.2	173	1650	-7NV1	41.7	82			-
915				16.8	175	1850	1G□5 162-0GD□ -6VV1	49.5	78	1.37	17.5	-
	1040			19.2	176	1850	-6WV1	49.5	80			-
		1170		21.5	175	1850	-7MV1	49.5	82			-
			1390	24.4	168	1950	-7NV1	47	84			-
1120				20	171	2250	1G□5 162-0GE□ -6VV1	57.5	81	1	12	-
	1280			22.6	169	2250	-6WV1	57	83			-
		1440		25.4	168	2250	-7MV1	56.5	84			-
			1690	28.6	162	2350	-7NV1	54.5	85			-
1370				24	167	2650	1G□5 162-0GF□ -6VV1	67	83	0.705	8.6	-
	1560			27.2	167	2650	-6WV1	66.5	84			-
		1740		30	165	2700	-7MV1	66.5	85			-
			2040	33	154	2850	-7NV1	62	87			-
1630				28.6	168	3000	1G□5 162-0GG□ -6VV1	78.5	85	0.518	6.3	-
	1850			32.3	167	3000	-6WV1	78	86			-
		2060		35.3	164	3050	-7MV1	77	87			-
			2410	37.5	149	3300	-7NV1	69.5	88			-
1860				32.5	167	3300	1G□5 162-0GH□ -6VV1	88	86	0.411	5	-
	2100			36.3	165	3350	-6WV1	87	87			-
		2340		39.7	162	3400	-7MV1	85.5	88			-
			2730	41	143	3600	-7NV1	76	89			-
2150				36.3	161	3750	1G□5 162-0GJ□ -6VV1	97	88	0.305	3.8	-
	2430			40.3	158	3800	-6WV1	96	88			-
		2710		43.3	153	3900	-7MV1	92	89			-
			3150	45.3	137	3600	-7NV1	83	89			-
2530				42	159	4250	1G□5 162-0GK□ -6VV1	112	88	0.237	2.8	-
	2850			45.3	152	4400	-6WV1	107	89			-
		3180		47	141	4150	-7MV1	100	89			-
2770				43.7	151	4500	1G□5 162-0GL□ -6VV1	116	88	0.208	2.35	-
	3120			46.7	143	4500	-6WV1	110	89			-
		3470		48	132	4150	1G□5 162-0GL□ -7MV1	102	89			-

Fan unit
- Axially mounted — F
- Radially mounted — G
- Separate — H

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0
- IM B 35 — 6

1GF5, 1GG5, 1GH5
Size 160

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 4												
685				16	223	1500	1G□5 164-0GB□ -6VV1	48.5	76	1.62	21.5	-
	785			18.3	223	1500	-6WV1	48.5	78			-
		885		20.6	222	1500	-7MV1	48.3	80			-
			1050	24.4	222	1500	-7NV1	48.3	82			-
850				19	213	1800	1G□5 164-0GC□ -6VV1	55.5	79	1.18	15	-
	970			21.6	213	1800	-6WV1	55.5	81			-
		1090		24.2	212	1850	-7MV1	55.5	83			-
			1280	28.5	213	1850	-7NV1	55.5	84			-
1040				23	211	2150	1G□5 164-0GD□ -6VV1	65.5	82	0.832	10.5	-
	1180			26.2	212	2150	-6WV1	65.5	83			-
		1330		29	208	2150	-7MV1	64.5	84			-
			1560	33.7	206	2200	-7NV1	64	86			-
1240				28.2	217	2400	1G□5 164-0GE□ -6VV1	78.5	83	0.607	7.8	-
	1410			31.7	215	2400	-6WV1	78	85			-
		1580		35.3	213	2450	-7MV1	77	86			-
			1840	38.7	201	2550	-7NV1	72.5	88			-
1520				33.3	209	2850	1G□5 164-0GF□ -6VV1	91	85	0.423	5.4	-
	1720			37.5	208	2900	-6WV1	90	87			-
		1920		41.3	205	2950	-7MV1	89	88			-
			2240	45	192	3100	-7NV1	83.5	89			-
1780				37.7	202	3300	1G□5 164-0GG□ -6VV1	101	87	0.325	4.05	-
	2010			42.3	201	3350	-6WV1	100	88			-
		2240		46	196	3400	-7MV1	98	88			-
			2600	50.5	185	3350	-7NV1	93	89			-
2130				45.3	203	3750	1G□5 164-0GH□ -6VV1	120	88	0.23	2.9	-
	2400			50.5	201	3800	-6WV1	119	89			-
		2670		54.5	195	3900	-7MV1	115	89			-
			3090	57.5	178	3350	-7NV1	105	90			-
2350				47	191	4200	1G□5 164-0GJ□ -6VV1	124	88	0.199	2.4	-
	2640			52	188	4300	-6WV1	122	89			-
		2940		54	175	3900	-7MV1	115	90			-
			3410	58.5	164	3410	-7NV1	107	90			-
2620				51	186	4500	1G□5 164-0GK□ -6VV1	134	89	0.164	1.95	-
	2950			57.5	186	4300	-6WV1	134	89			-
		3270		59	172	3850	-7MV1	125	90			-
2960				55	177	3850	1G□5 164-0GL□ -6VV1	145	89	0.127	1.5	-
	3330			58.5	168	3400	1G□5 164-0GL□ -6WV1	137	90			-

Fan unit
Axially mounted — F
Radially mounted — G
Separate — H

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0
IM B 35 — 6

3

1GF5, 1GG5, 1GH5
Size 160

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 6												
	725			20.2	266	1450	1G□5 166-0GB□ -6WV1	53	78	1.43	20.5	-
		815		22.8	267	1450	-7MV1	53	80			-
			965	26.8	265	1450	-7NV1	53	83			-
820				23.6	275	1750	1G□5 166-0GC□ -6VV1	68.5	80	0.918	13.5	-
	935			27	276	1750	-6WV1	68.5	81			-
		1050		30.3	276	1750	-7MV1	68.5	83			-
			1240	35.3	272	1750	-7NV1	68	85			-
1060				30.3	273	2150	1G□5 166-0GD□ -6VV1	84.5	83	0.588	8.5	-
	1210			34.3	271	2150	-6WV1	84	84			-
		1350		38	269	2150	-7MV1	84	86			-
			1590	43.5	261	2250	-7NV1	81.5	88			-
1340				37	264	2600	1G□5 166-0GE□ -6VV1	101	85	0.397	5.6	-
	1520			41.7	262	2650	-6WV1	100	86			-
		1690		46	260	2650	-7MV1	100	88			-
			1980	52	251	2750	-7NV1	96	88			-
1610				44	261	3050	1G□5 166-0GF□ -6VV1	118	88	0.279	4	-
	1820			49.5	260	3050	-6WV1	118	88			-
		2030		54	254	3100	-7MV1	116	89			-
			2360	59.5	241	3250	-7NV1	109	90			-
1790				48.5	259	3300	1G□5 166-0GG□ -6VV1	129	88	0.229	3.3	-
	2020			54	255	3350	-6WV1	128	89			-
		2250		59	250	3400	-7MV1	125	89			-
			2610	64	234	3500	-7NV1	117	90			-
2000				51	244	3750	1G□5 166-0GH□ -6VV1	134	89	0.188	2.7	-
	2250			57	242	3750	-6WV1	134	89			-
		2510		63.5	242	3750	-7MV1	134	90			-
			2910	69.5	228	3500	-7NV1	126	91			-
2260				57.5	243	3450	1G□5 166-0GJ□ -6VV1	151	89	0.154	2.1	-
	2540			64	241	3500	-6WV1	149	90			-
		2820		63.5	215	3200	-7MV1	133	90			-
2600				65	239	3900	1G□5 166-0GK□ -6VV1	171	90	0.118	1.6	-
	2920			70	229	3550	-6WV1	163	90			-
		3230		70	207	3250	-7MV1	147	91			-
3030				72	227	4000	1G□5 166-0GL□ -6VV1	188	90	0.0969	1.2	-
	3400			76	213	3550	1G□5 166-0GL□ -6WV1	178	90			-

Fan unit
- Axially mounted — F
- Radially mounted — G
- Separate — H

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0
- IM B 35 — 6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GF5 162	0.68	0.24	4500	225
1GG5 162	0.68	0.24	4500	225
1GH5 162	0.68	0.24	4500	215
1GF5 164	0.75	0.29	4500	255
1GG5 164	0.75	0.29	4500	255
1GH5 164	0.75	0.29	4500	240
1GF5 166	0.81	0.36	4500	300
1GG5 166	0.81	0.36	4500	300
1GH5 166	0.81	0.36	4500	290

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N
(short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

1GF6, 1GG6, 1GH6
Size 160

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH
Overall length 2											
995				31.5	302	2500	**1G□6 162-0JC□ -6VV5**	90	79	0.65	6.6
	1130			35.7	302	2550	**-6WV5**	90	81		
		1270		40	301	2550	**-7MV5**	90	83		
			1490	47	301	2550	**-7NV5**	90	84		
1310				41.5	303	2350	**1G□6 162-0JD□ -6VV5**	114	83	0.403	4
	1480			47	303	2350	**-6WV5**	115	84		
		1660		52.5	302	2400	**-7MV5**	114	85		
			1940	60.5	298	2250	**-7NV5**	113	87		
1660				53	305	2500	**1G□6 162-0JE□ -6VV5**	142	86	0.252	2.65
	1880			59.5	302	2500	**-6WV5**	141	87		
2140				63.5	283	4500	**1G□6 162-0JF□ -6VV5**	168	88	0.173	1.65
	2410			71	281	4500	**-6WV5**	168	88		
		2690		77	273	4500	**-7MV5**	163	89		
			3120	88.5	271	4500	**-7NV5**	161	90		
2750				78.5	273	4400	**1G□6 162-0JG□ -6VV5**	206	89	0.108	1
	3100			87.5	270	4450	**-6WV5**	204	90		
		3430		92	256	4500	**-7MV5**	193	90		
3440				93.5	260	4500	**1G□6 162-0JH□ -6VV5**	242	90	0.0691	0.66
Overall length 4											
725				30	395	2000	**1G□6 164-0JC□ -6VV5**	88	77	0.774	8.7
	830			34.3	395	2000	**-6WV5**	87.5	79		
		935		38.5	393	2000	**-7MV5**	87.5	81		
			1100	45.3	393	2000	**-7NV5**	87.5	83		
960				39.5	393	1850	**1G□6 164-0JD□ -6VV5**	111	81	0.479	5.3
	1090			45	394	1850	**-6WV5**	111	83		
		1220		50	391	1900	**-7MV5**	111	84		
			1430	59	394	1750	**-7NV5**	111	86		
1220				52	407	1950	**1G□6 164-0JE□ -6VV5**	142	84	0.299	3.55
	1390			58.5	402	1950	**-6WV5**	141	85		
1590				64.5	387	3550	**1G□6 164-0JF□ -6VV5**	173	86	0.197	2.15
	1800			72.5	385	3600	**-6WV5**	171	88		
		2000		79	377	3650	**-7MV5**	168	88		
			2330	91	373	3700	**-7NV5**	166	89		
2050				81.5	380	3400	**1G□6 164-0JG□ -6VV5**	214	88	0.122	1.35
	2310			90.5	374	3450	**-6WV5**	212	89		
		2580		97.5	361	3550	**-7MV5**	204	90		
			2990	111	355	3200	**-7NV5**	200	91		
2570				99.5	370	4000	**1G□6 164-0JH□ -6VV5**	258	90	0.0762	0.88
	2890			110	363	3750	**1G□6 164-0JH□ -6WV5**	252	91		

Fan unit
- Axially mounted — F
- Radially mounted — G
- Separate — H

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0
- IM B 35 — 6

1GF6, 1GG6, 1GH6
Size 160

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit resistance at 120 °C R_a Ω	Armature circuit inductance L_a mH
Overall length 6											
		710		36	484	1650	1G□6 166-0JC□ -7MV5	84	78	0.932	11.5
			840	42.7	485	1650	-7NV5	84	81		
730				37.3	488	1500	1G□6 166-0JD□ -6VV5	107	79	0.578	7
	830			42.5	489	1500	-6WV5	107	80		
		930		47.5	488	1550	-7MV5	107	83		
			1100	56	486	1400	-7NV5	107	84		
935				49.5	506	1550	1G□6 166-0JE□ -6VV5	138	83	0.361	4.7
	1060			56	504	1550	-6WV5	138	84		
1220				61.5	481	3000	1G□6 166-0JF□ -6VV5	167	85	0.237	2.9
	1380			69.5	481	3000	-6WV5	167	86		
		1540		77.5	481	3000	-7MV5	166	88		
			1800	89	472	3050	-7NV5	164	88		
1580				79.5	480	2800	1G□6 166-0JG□ -6VV5	210	88	0.147	1.75
	1780			89	477	2850	-6WV5	210	88		
		1990		97	465	2900	-7MV5	204	89		
			2310	111	459	2500	-7NV5	200	90		
1990				98.5	473	3250	1G□6 166-0JH□ -6VV5	256	89	0.0914	1.15
	2240			110	469	2900	1G□6 166-0JH□ -6WV5	254	90		

Fan unit
Axially mounted — F
Radially mounted — G
Separate — H

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0
IM B 35 — 6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GF6 162	1.81	0.32	4500	322
1GG6 162	1.81	0.32	4500	320
1GH6 162	1.81	0.32	4500	307
1GF6 164	2.08	0.38	4500	367
1GG6 164	2.08	0.38	4500	365
1GH6 164	2.08	0.38	4500	352
1GF6 166	2.3	0.46	4500	430
1GG6 166	2.3	0.46	4500	428
1GH6 166	2.3	0.46	4500	415

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

1GG6, 1GH6, 1HS6
Size 180

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 6											
815				44.8	525	2150	1 6 186-0NA -1VV3	127	80	472	7.85
	930			51	525	1990	-1WV3	127	82		
		1050		57.5	525	1820	-7MV3	127	83		
			1230	67.5	525	1500	-7NV3	127	85		
995				55.5	535	1930	1 6 186-0NB -1VV3	153	83	330	5.83
	1130			63	530	1740	-1WV3	153	84		
		1270		70.5	530	1500	-7MV3	153	86		
1220				65.5	515	3400	1 6 186-0NC -1VV3	177	85	242	3.89
	1380			74	510	3400	-1WV3	176	86		
		1540		82.5	510	3400	-7MV3	176	87		
			1800	96.5	510	3400	-7NV3	176	89		
1530				83.5	520	3400	1 6 186-0ND -1VV3	220	87	156	2.72
	1730			94.5	520	3400	-1WV3	220	88		
		1920		105	520	3400	-7MV3	220	89		
			2240	122	520	3400	-7NV3	220	90		
1770				96	520	3400	1 6 186-0NE -1VV3	252	88	118	1.96
	2000			108	515	3400	-1WV3	250	89		
		2240		120	510	3400	-7MV3	250	90		
			2600	139	510	2720	-7NV3	248	91		
2140				117	520	3400	1 6 186-0NF -1VV3	302	90	82.5	1.46
	2400			132	525	3220	-1WV3	302	91		
		2680		144	515	2720	-7MV3	296	91		
2600				136	500	3400	1 6 186-0NG -1VV3	348	91	60.5	0.97
	2940			151	490	3400	-1WV3	344	91		
		3260		164	480	3400	-7MV3	335	92		
2840				139	468	3400	1 6 186-0NH -1VV3	354	91	51.5	0.84
	3200			151	450	3400	1 6 186-0NH -1WV3	342	92		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

1GG6, 1GH6, 1HS6
Size 180

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 8											
645				44.2	655	1730	1 6 188-0NA -1VV3	129	78	535	9.65
	735			50.5	655	1620	-1WV3	129	80		
		830		57	655	1490	-7MV3	129	82		
			980	67	655	1240	-7NV3	129	84		
790				55	665	1580	1 6 188-0NB -1VV3	156	81	374	7.17
	900			63	670	1410	-1WV3	157	83		
		1010		70.5	665	1250	-7MV3	156	84		
970				65.5	645	2920	1 6 188-0NC -1VV3	181	83	275	4.78
	1100			74	640	3300	-1WV3	180	85		
		1240		82.5	635	3320	-7MV3	178	86		
			1450	96.5	635	3320	-7NV3	178	88		
1230				83.5	650	3300	1 6 188-0ND -1VV3	224	86	177	3.34
	1390			94	645	3320	-1WV3	222	87		
		1550		104	640	3240	-7MV3	220	88		
			1810	121	640	2980	-7NV3	220	90		
1420				96	645	3300	1 6 188-0NE -1VV3	254	87	134	2.41
	1610			108	640	3080	-1WV3	252	89		
		1800		119	630	2800	-7MV3	250	89		
			2100	137	625	2200	-7NV3	246	91		
1720				116	645	3020	1 6 188-0NF -1VV3	302	89	93.5	1.79
	1940			130	640	2680	-1WV3	300	90		
		2160		143	630	2240	-7MV3	296	91		
2100				135	615	3400	1 6 188-0NG -1VV3	348	90	69	1.19
	2380			150	600	3400	-1WV3	342	91		
		2640		162	585	3400	-7MV3	332	91		
			3060	183	570	3400	-7NV3	324	92		
2300				144	600	3400	1 6 188-0NH -1VV3	370	91	58.5	1.03
	2580			158	585	3400	-1WV3	360	91		
		2880		172	570	3400	-7MV3	352	92		
			3340	191	545	3400	1 6 188-0NH -7NV3	336	92		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0
- IM B 35 — 6

3

1GG6, 1GH6, 1HS6
Size 180

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG6 186	2.5	0.6	3800	460
1GH6 186	2.5	0.6	3800	430
1HS6 186	2.5	0.6	3800	530
1GG6 188	2.7	0.7	3800	520
1GH6 188	2.7	0.7	3800	490
1HS6 188	2.7	0.7	3800	600

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N
(short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 6											
815				66.5	780	2450	1 6 206-0NA -1VV3	186	82	292	5.81
	925			76	785	2750	-1WV3	187	84		
		1040		85	780	2750	-7MV3	186	85		
			1220	100	785	2750	-7NV3	187	87		
960				80	795	2740	1 6 206-0NB -1VV3	220	85	212	4.28
	1090			91	795	2740	-1WV3	220	86		
		1220		102	800	2720	-7MV3	220	87		
			1430	119	795	2740	-7NV3	220	88		
1120				93	795	3000	1 6 206-0NC -1VV3	250	86	160	3.19
	1270			106	795	2980	-1WV3	252	87		
		1420		118	795	2980	-7MV3	250	88		
			1660	137	790	2850	-7NV3	250	90		
1340				109	775	2800	1 6 206-0ND -1VV3	288	88	117	2.29
	1510			123	780	2800	-1WV3	288	89		
		1690		137	775	2800	-7MV3	288	90		
			1970	159	770	2350	-7NV3	286	91		
1570				131	795	2680	1 6 206-0NE -1VV3	342	89	84.5	1.66
	1780			147	790	2700	-1WV3	340	90		
		1980		163	785	2300	-7MV3	338	91		
1870				152	775	3100	1 6 206-0NF -1VV3	394	90	63.5	1.2
	2120			170	765	3100	-1WV3	388	91		
		2350		186	755	3100	-7MV3	382	92		
			2720	212	745	3100	-7NV3	376	92		
2040				161	755	3100	1 6 206-0NG -1VV3	414	91	54.5	1.04
	2300			181	750	3100	-1WV3	414	91		
		2560		200	745	3100	-7MV3	410	92		
			2960	230	740	3100	-7NV3	408	92		
2480				185	710	3100	1 6 206-0NH -1VV3	472	92	38.2	0.76
	2800			202	690	3100	-1WV3	456	92		
		3100		218	670	3100	1 6 206-0NH -7MV3	444	92		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

1GG6, 1GH6, 1HS6
Size 200

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 8											
650				64.5	950	1950	1 6 208-0NA -1VV3	184	81	334	7.18
	740			73.5	950	2220	-1WV3	184	82		
		835		82.5	945	2420	-7MV3	183	84		
			980	97	945	2420	-7NV3	183	86		
770				77.5	960	2320	1 6 208-0NB -1VV3	215	83	242	5.29
	875			88	960	2420	-1WV3	215	85		
		980		98.5	960	2420	-7MV3	215	86		
			1150	116	965	2420	-7NV3	216	88		
900				90.5	960	2650	1 6 208-0NC -1VV3	246	85	183	3.95
	1020			103	965	2640	-1WV3	248	86		
		1140		115	965	2560	-7MV3	246	87		
			1330	134	960	2300	-7NV3	246	89		
1080				106	935	2460	1 6 208-0ND -1VV3	282	87	134	2.84
	1220			120	940	2460	-1WV3	282	88		
		1360		133	935	2300	-7MV3	280	89		
			1590	155	930	1900	-7NV3	280	90		
1270				128	965	2350	1 6 208-0NE -1VV3	336	88	96.5	2.05
	1430			144	960	2150	-1WV3	336	89		
		1600		160	955	1890	-7MV3	334	90		
1510				151	955	3100	1 6 208-0NF -1VV3	394	89	72.5	1.48
	1700			170	955	3100	-1WV3	394	90		
		1900		186	935	3100	-7MV3	385	91		
			2200	212	920	3100	-7NV3	378	92		
1650				158	915	3100	1 6 208-0NG -1VV3	408	90	62	1.28
	1860			178	915	3100	-1WV3	408	91		
		2060		197	915	3100	-7MV3	406	91		
			2400	228	905	3100	-7NV3	405	92		
2020				183	865	3100	1 6 208-0NH -1VV3	466	91	43.8	0.94
	2260			206	870	3100	-1WV3	468	92		
		2520		228	865	3100	-7MV3	466	92		
			2920	256	835	3100	1 6 208-0NH -7NV3	450	93		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0
- IM B 35 — 6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG6 206	2.8	1.2	3500	610
1GH6 206	2.8	1.2	3500	580
1HS6 206	2.8	1.2	3500	710
1GG6 208	2.9	1.3	3500	690
1GH6 208	2.9	1.3	3500	660
1HS6 208	2.9	1.3	3500	800

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N
(short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

1GG6, 1GH6, 1HS6
Size 225

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 6													
745						96	1230	2020	1 6 226-0NA -1VV3	264	85	180	4.71
	845					109	1230	2020	-1WV3	264	86		
		950				122	1230	2020	-7MV3	262	87		
			1110			142	1220	2040	-7NV3	262	89		
				1350		171	1210	2050	-2XV3	258	90		
					1530	192	1200	1850	-2YV3	256	91		
855						110	1230	2020	1 6 226-0NB -1VV3	296	86	139	3.56
	970					125	1230	2020	-1WV3	298	88		
		1080				139	1230	2020	-7MV3	296	89		
			1270			162	1220	2040	-7NV3	294	90		
				1540		193	1200	1730	-2XV3	288	91		
1020						132	1240	1970	1 6 226-0NC -1VV3	350	88	103	2.7
	1150					148	1230	1990	-1WV3	348	89		
		1280				164	1220	2000	-7MV3	346	90		
			1500			190	1210	1790	-7NV3	342	91		
1260						156	1180	2460	1 6 226-0ND -1VV3	408	89	74	1.91
	1420					175	1180	2460	-1WV3	406	90		
		1590				193	1160	2500	-7MV3	400	91		
			1850			222	1150	2520	-7NV3	396	92		
				2240		260	1110	2580	-2XV3	382	93		
					2520	286	1080	2640	-2YV3	372	93		
1480						182	1170	2650	1 6 226-0NE -1VV3	470	90	55	1.49
	1660					205	1180	2650	-1WV3	472	91		
		1850				225	1160	2680	-7MV3	464	92		
			2150			256	1140	2700	-7NV3	454	92		
				2600		296	1090	2700	-2XV3	434	93		
1750						218	1190	2660	1 6 226-0NF -1VV3	560	91	38.8	1.03
	1970					242	1170	2680	-1WV3	550	92		
		2180				262	1150	2700	-7MV3	535	92		
			2540			296	1110	2700	-7NV3	520	93		
2100						248	1130	2680	1 6 226-0NG -1VV3	625	92	26	0.67
	2360					272	1100	2700	-1WV3	610	93		
		2620				294	1070	2700	-7MV3	595	93		
2300						266	1100	2700	1 6 226-0NH -1VV3	670	93	22	0.61
	2600					292	1070	2700	1 6 226-0NH -1WV3	655	93		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0
- IM B 35 — 6

1GG6, 1GH6, 1HS6
Size 225

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 8													
585						94.5	1540	1740	1 6 228-0NA -1VV3	264	83	206	5.83
	665					107	1540	1750	-1WV3	262	85		
		745				120	1540	1740	-7MV3	262	86		
			875			140	1530	1750	-7NV3	260	87		
				1070		169	1510	1710	-2XV3	258	89		
					1220	190	1490	1500	-2YV3	254	90		
670						109	1550	1730	1 6 228-0NB -1VV3	298	85	160	4.4
	765					123	1540	1750	-1WV3	296	86		
		855				137	1530	1750	-7MV3	294	87		
			1000			160	1530	1730	-7NV3	294	89		
				1220		191	1500	1400	-2XV3	288	90		
800						130	1550	1700	1 6 228-0NC -1VV3	350	86	118	3.34
	910					146	1530	1710	-1WV3	346	88		
		1020				163	1530	1690	-7MV3	345	89		
			1190			188	1510	1450	-7NV3	340	90		
995						154	1480	2140	1 6 228-0ND -1VV3	408	88	85	2.37
	1130					173	1460	2150	-1WV3	404	89		
		1260				191	1450	2160	-7MV3	398	90		
			1460			220	1440	2200	-7NV3	395	91		
				1770		258	1390	2250	-2XV3	382	92		
					2000	286	1370	2280	-2YV3	374	93		
1170						181	1480	2300	1 6 228-0NE -1VV3	472	89	63.5	1.84
	1320					202	1460	2340	-1WV3	466	90		
		1470				224	1460	2340	-7MV3	464	91		
			1710			255	1420	2380	-7NV3	454	92		
				2060		296	1370	2460	-2XV3	435	93		
					2340	325	1330	2520	-2YV3	420	93		
1390						216	1480	2320	1 6 228-0NF -1VV3	555	91	44.5	1.28
	1560					240	1470	2360	-1WV3	550	91		
		1740				262	1440	2400	-7MV3	535	92		
			2020			296	1400	2440	-7NV3	520	93		
				2440		338	1320	2550	-2XV3	492	93		
1670						255	1460	2280	1 6 228-0NG -1VV3	650	92	29.8	0.83
	1880					282	1430	2320	-1WV3	635	92		
		2080				305	1400	2360	-7MV3	620	93		
			2420			340	1340	2440	-7NV3	595	94		
1840						270	1400	2380	1 6 228-0NH -1VV3	680	92	25.2	0.75
	2060					302	1400	2400	-1WV3	680	93		
		2300				330	1370	2420	1 6 228-0NH -7MV3	665	93		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

3

1GG6, 1GH6, 1HS6
Size 225

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG6 226	2.9	2.2	3000	880
1GH6 226	2.9	2.2	3000	840
1HS6 226	2.9	2.2	3000	1000
1GG6 228	3.5	2.5	3000	990
1GH6 228	3.5	2.5	3000	950
1HS6 228	3.5	2.5	3000	1100

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 6													
690						122	1690	1780	1 6 256-0NA -1VV1	325	87	120	4.03
	780					138	1690	1780	-1WV1	325	88		
		875				154	1680	1780	-7MV1	324	89		
			1020			180	1690	1710	-7NV1	325	90		
				1240		218	1680	1310	-2XV1	324	91		
785						141	1720	1780	1 6 256-0NB -1VV1	372	88	93.5	3.04
	890					159	1710	1780	-1WV1	370	89		
		990				177	1710	1730	-7MV1	370	90		
			1150			206	1710	1430	-7NV1	370	91		
920						165	1710	1850	1 6 256-0NC -1VV1	430	89	69	2.32
	1040					186	1710	1640	-1WV1	428	90		
		1160				206	1700	1450	-7MV1	425	91		
1120						196	1670	2200	1 6 256-0ND -1VV1	505	90	50.5	1.72
	1260					220	1670	2220	-1WV1	505	91		
		1400				245	1670	2200	-7MV1	505	92		
			1630			284	1660	2220	-7NV1	505	92		
				1970		342	1660	2220	-2XV1	500	93		
					2220	384	1650	2220	-2YV1	500	94		
1280						224	1670	2220	1 6 256-0NE -1VV1	575	91	38.2	1.28
	1440					252	1670	2220	-1WV1	575	92		
		1610				278	1650	2220	-7MV1	565	92		
			1870			322	1640	2220	-7NV1	565	93		
				2250		384	1630	2250	-2XV1	560	94		
1480						282	1820	1980	1 6 256-0NF -1VV1	720	92	27.5	0.92
	1660					316	1820	1990	-1WV1	715	92		
		1850				344	1780	2020	-7MV1	700	93		
			2140			372	1660	2140	-7NV1	650	94		
1720						314	1740	2300	1 6 256-0NG -1VV1	795	92	21.2	0.69
	1940					352	1730	2300	-1WV1	790	93		
		2150				384	1710	2300	-7MV1	780	93		
1970						350	1700	2300	1 6 256-0NH -1VV1	880	93	16.1	0.55
	2220					394	1690	2300	1 6 256-0NH -1WV1	880	93		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

1GG6, 1GH6, 1HS6
Size 250

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 8													
540						121	2140	1510	1 6 258-0NA -1VV1	328	85	138	5
	615					137	2120	1520	-1WV1	326	86		
		685				153	2140	1520	-7MV1	326	87		
			800			179	2140	1380	-7NV1	328	89		
				975		218	2140	1070	-2XV1	328	90		
615						139	2160	1530	1 6 258-0NB -1VV1	372	86	107	3.77
	700					158	2160	1530	-1WV1	372	88		
		780				176	2150	1390	-7MV1	372	89		
			910			205	2150	1180	-7NV1	370	90		
720						164	2180	1470	1 6 258-0NC -1VV1	432	88	79.5	2.87
	815					185	2160	1320	-1WV1	432	89		
		910				206	2160	1170	-7MV1	430	90		
880						195	2120	1910	1 6 258-0ND -1VV1	510	89	58.5	2.13
	995					220	2120	1910	-1WV1	505	90		
		1110				244	2100	1910	-7MV1	505	91		
			1290			284	2100	1910	-7NV1	505	92		
				1560		342	2100	1920	-2XV1	505	93		
					1760	386	2100	1920	-2YV1	505	93		
1010						222	2100	1920	1 6 258-0NE -1VV1	570	90	44	1.59
	1140					250	2100	1930	-1WV1	570	91		
		1270				278	2100	1930	-7MV1	570	92		
			1480			324	2100	1920	-7NV1	570	92		
				1780		388	2080	1930	-2XV1	570	93		
					2020	416	1970	2020	-2YV1	535	94		
1170						282	2300	1700	1 6 258-0NF -1VV1	720	91	31.6	1.15
	1310					316	2300	1710	-1WV1	720	92		
		1460				348	2280	1720	-7MV1	710	92		
			1700			394	2220	1760	-7NV1	690	93		
1360						314	2200	1990	1 6 258-0NG -1VV1	800	92	24.4	0.85
	1530					352	2200	2000	-1WV1	795	92		
		1700				390	2200	2000	-7MV1	795	93		
			1970			436	2120	2060	-7NV1	765	94		
1560						352	2150	2000	1 6 258-0NH -1VV1	890	92	18.6	0.68
	1750					395	2160	2000	-1WV1	890	93		
		1940				436	2150	2000	1 6 258-0NH -7MV1	885	93		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0
- IM B 35 — 6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG6 256	4	3.6	2600	1160
1GH6 256	4	3.6	2600	1120
1HS6 256	4	3.6	2600	1320
1GG6 258	4.7	4.2	2600	1320
1GH6 258	4.7	4.2	2600	1280
1HS6 258	4.7	4.2	2600	1500

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N
(short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

1GG6, 1GH6, 1HS6
Size 280

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 6													
605						171	2700	1330	1 6 286-0NA -1VV1	452	88	80	3.44
	685					193	2700	1330	-1WV1	450	89		
		765				215	2680	1290	-7MV1	450	90		
			890			252	2700	1090	-7NV1	454	91		
715						197	2640	1390	1 6 286-0NB -1VV1	515	89	59.5	2.59
	805					222	2640	1250	-1WV1	515	90		
		900				246	2620	1110	-7MV1	510	91		
815						218	2550	1660	1 6 286-0NC -1VV1	565	90	49.4	2.19
	920					246	2550	1660	-1WV1	565	91		
		1020				274	2560	1660	-7MV1	565	91		
			1190			318	2550	1660	-7NV1	565	92		
				1440		384	2550	1660	-2XV1	565	93		
					1630	434	2540	1660	-2YV1	565	94		
915						242	2520	1880	1 6 286-0ND -1VV1	620	91	39.6	1.66
	1030					274	2540	1870	-1WV1	625	91		
		1150				304	2520	1880	-7MV1	620	92		
			1330			352	2520	1880	-7NV1	620	93		
				1610		424	2520	1880	-2XV1	620	93		
					1820	478	2500	1880	-2YV1	620	94		
1050						292	2660	1740	1 6 286-0NE -1VV1	745	91	29.6	1.31
	1180					328	2650	1750	-1WV1	745	92		
		1310				364	2650	1750	-7MV1	745	93		
			1520			422	2650	1750	-7NV1	745	93		
				1830		480	2500	1840	-2XV1	700	94		
1260						344	2600	1740	1 6 286-0NF -1VV1	870	92	21	1.01
	1410					386	2620	1740	-1WV1	870	93		
		1570				428	2600	1750	-7MV1	870	93		
			1810			474	2500	1810	-7NV1	830	94		
1410						390	2640	1710	1 6 286-0NG -1VV1	985	93	16.3	0.74
	1590					438	2640	1710	-1WV1	980	93		
		1760				472	2560	1760	-7MV1	955	94		
1600						428	2550	1690	1 6 286-0NH -1VV1	1070	93	13	0.58
	1790					448	2400	1790	1 6 286-0NH -1WV1	1000	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0
- IM B 35 — 6

1GG6, 1GH6, 1HS6
Size 280

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 8													
482						170	3360	1130	1 6 288-0NA -1VV1	455	86	91.5	4.24
	545					192	3360	1100	-1WV1	454	87		
		610				214	3350	1040	-7MV1	452	88		
			715			250	3340	890	-7NV1	452	90		
570						195	3260	1120	1 6 288-0NB -1VV1	515	88	68.5	3.19
	645					220	3260	1010	-1WV1	510	89		
		720				246	3260	905	-7MV1	515	90		
650						218	3200	1420	1 6 288-0NC -1VV1	570	89	56.5	2.7
	735					245	3180	1430	-1WV1	565	90		
		820				274	3200	1420	-7MV1	570	90		
			955			318	3180	1430	-7NV1	565	91		
				1150		384	3180	1430	-2XV1	565	93		
					1310	434	3160	1430	-2YV1	565	93		
730						242	3160	1620	1 6 288-0ND -1VV1	630	90	45.5	2.04
	825					272	3150	1630	-1WV1	625	90		
		920				304	3160	1620	-7MV1	625	91		
			1070			352	3140	1630	-7NV1	625	92		
				1300		426	3120	1630	-2XV1	625	93		
					1460	480	3140	1630	-2YV1	625	94		
840						290	3300	1510	1 6 288-0NE -1VV1	745	91	34	1.62
	945					328	3320	1510	-1WV1	750	91		
		1050				364	3320	1510	-7MV1	750	92		
			1220			422	3300	1510	-7NV1	745	93		
				1480		510	3300	1510	-2XV1	745	94		
1010						344	3250	1500	1 6 288-0NF -1VV1	875	92	24	1.24
	1130					386	3260	1510	-1WV1	875	92		
		1260				430	3260	1500	-7MV1	875	93		
			1460			498	3260	1510	-7NV1	875	93		
1130						390	3300	1480	1 6 288-0NG -1VV1	990	92	18.7	0.91
	1270					440	3300	1480	-1WV1	995	93		
		1420				488	3280	1480	-7MV1	990	93		
1280						430	3200	1450	1 6 288-0NH -1VV1	1080	93	15	0.72
	1440					482	3200	1450	1 6 288-0NH -1WV1	1080	93		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

3

1GG6, 1GH6, 1HS6
Size 280

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG6 286	4.8	6.4	2500	1560
1GH6 286	4.8	6.4	2500	1520
1HS6 286	4.8	6.4	2500	1780
1GG6 288	5.4	7.5	2500	1780
1GH6 288	5.4	7.5	2500	1740
1HS6 288	5.4	7.5	2500	2020

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N
(short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are compensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 1													
580						244	4000	1740	1 7 351-5NA -1VV1	635	90	50.9	0.74
	655					274	3990	1840	-1WV1	635	90		
		730				305	3990	1850	-7MV1	635	91		
			850			355	3990	1850	-7NV1	635	92		
				1030		422	3920	1890	-2XV1	625	93		
					1170	476	3890	1900	-2YV1	620	94		
660						274	3960	1830	1 7 351-5NB -1VV1	715	90	43.6	0.54
	745					310	3970	1820	-1WV1	720	91		
		835				344	3940	1850	-7MV1	715	91		
			970			400	3940	1850	-7NV1	715	92		
				1180		458	3710	1920	-2XV1	675	93		
					1330	515	3700	1930	-2YV1	675	94		
735						308	4000	1810	1 7 351-5NC -1VV1	800	91	34.4	0.5
	830					348	4000	1820	-1WV1	800	92		
		925				386	3990	1840	-7MV1	800	92		
			1070			448	3990	1840	-7NV1	800	93		
				1300		510	3740	1920	-2XV1	750	94		
					1470	565	3670	1940	-2YV1	735	94		
835						344	3940	1820	1 7 351-5ND -1VV1	890	91	28.4	0.35
	940					388	3940	1810	-1WV1	890	92		
		1050				416	3780	1860	-7MV1	855	93		
			1220			482	3770	1870	-7NV1	855	93		
				1480		525	3390	2000	-2XV1	770	94		
					1670	590	3370	2020	1 7 351-5ND -2YV1	770	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG7, 1GH7, 1HS7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
960						394	3920	1760	1 7 351-5NE -1VV1	1010	92	20.7	0.31
	1080					442	3910	1770	-1WV1	1010	93		
		1200				472	3750	1820	-7MV1	965	93		
			1400			535	3650	1850	-7NV1	940	94		
				1690		570	3220	2020	-2XV1	835	94		
					1910	620	3100	2060	-2YV1	805	94		
1060						434	3900	1780	1 7 351-5NF -1VV1	1100	93	17.2	0.24
	1200					486	3870	1780	-1WV1	1100	93		
		1330				510	3660	1860	-7MV1	1040	94		
			1550			580	3570	1880	-7NV1	1020	94		
				1880		580	2950	2100	-2XV1	850	94		
1210						488	3850	1790	1 7 351-5NG -1VV1	1230	94	12.3	0.19
	1360					540	3790	1810	-1WV1	1210	94		
		1520				555	3490	1920	-7MV1	1120	94		
			1760			625	3390	1950	-7NV1	1100	94		
1370						515	3590	1870	1 7 351-5NH -1VV1	1300	94	10.5	0.14
	1540					575	3570	1870	-1WV1	1300	94		
		1710				565	3150	2040	-7MV1	1150	94		
1600						565	3370	2100	1 7 351-5NJ -1VV1	1420	94	8.26	0.11
	1800					620	3290	2100	1 7 351-5NJ -1WV1	1390	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG7, 1GH7, 1HS7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 2													
492						242	4700	1480	1 7 352-5NA -1VV1	635	89	54.5	0.82
	555					272	4680	1670	-1WV1	635	90		
		620				304	4680	1710	-7MV1	635	91		
			725			354	4660	1710	-7NV1	635	92		
				880		430	4670	1710	-2XV1	635	93		
					1000	485	4630	1720	-2YV1	635	93		
565						272	4590	1690	1 7 352-5NB -1VV1	715	89	46.7	0.6
	635					308	4630	1690	-1WV1	715	90		
		710				344	4630	1690	-7MV1	715	91		
			830			400	4600	1690	-7NV1	715	92		
				1010		474	4480	1730	-2XV1	700	93		
					1140	535	4480	1730	-2YV1	700	94		
625						308	4710	1670	1 7 352-5NC -1VV1	800	90	36.8	0.55
	705					346	4690	1680	-1WV1	800	91		
		790				386	4670	1680	-7MV1	800	92		
			915			448	4680	1680	-7NV1	800	93		
				1110		530	4560	1720	-2XV1	780	94		
					1260	595	4510	1730	-2YV1	775	94		
710						348	4680	1640	1 7 352-5ND -1VV1	900	91	30.4	0.38
	805					392	4650	1640	-1WV1	900	92		
		895				430	4580	1680	-7MV1	885	92		
			1040			498	4580	1680	-7NV1	885	93		
				1270		555	4170	1790	-2XV1	815	94		
					1430	625	4170	1790	1 7 352-5ND -2YV1	810	94		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

3

1GG7, 1GH7, 1HS7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
820						400	4660	1590	1 7 352-5NE -1VV1	1020	92	22.2	0.35
	920					450	4670	1590	-1WV1	1020	93		
		1030				490	4550	1630	-7MV1	1000	93		
			1190			560	4500	1650	-7NV1	985	94		
				1440		615	4080	1770	-2XV1	900	94		
					1630	680	3980	1790	-2YV1	880	95		
910						445	4670	1600	1 7 352-5NF -1VV1	1140	92	18.5	0.26
	1020					500	4680	1610	-1WV1	1130	93		
		1140				535	4480	1650	-7MV1	1090	94		
			1320			615	4450	1660	-7NV1	1080	94		
				1600		645	3850	1840	-2XV1	940	95		
1030						505	4680	1610	1 7 352-5NG -1VV1	1280	93	13.2	0.21
	1160					565	4650	1620	-1WV1	1270	94		
		1300				595	4370	1680	-7MV1	1210	94		
			1500			675	4300	1710	-7NV1	1180	95		
1170						545	4450	1650	1 7 352-5NH -1VV1	1380	94	11.2	0.15
	1310					605	4410	1670	-1WV1	1360	94		
		1460				615	4020	1780	-7MV1	1240	94		
1360						605	4250	1880	1 7 352-5NJ -1VV1	1520	94	8.85	0.12
	1530					670	4180	1900	1 7 352-5NJ -1WV1	1500	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG7, 1GH7, 1HS7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 3													
416						240	5510	1250	1 7 353-5NA -1VV1	635	88	58.9	0.92
	472					272	5500	1420	-1WV1	635	89		
		525				302	5490	1560	-7MV1	630	90		
			615			352	5460	1560	-7NV1	630	91		
				750		428	5450	1570	-2XV1	635	92		
					845	482	5450	1570	-2YV1	635	93		
475						272	5470	1430	1 7 353-5NB -1VV1	715	89	50.5	0.66
	540					306	5420	1550	-1WV1	715	90		
		600				342	5440	1550	-7MV1	715	91		
			700			398	5430	1550	-7NV1	715	92		
				855		484	5410	1550	-2XV1	720	93		
					970	545	5370	1550	-2YV1	715	93		
530						306	5510	1540	1 7 353-5NC -1VV1	800	90	39.8	0.62
	600					345	5490	1540	-1WV1	800	91		
		670				385	5490	1540	-7MV1	800	91		
			780			448	5480	1540	-7NV1	800	92		
				945		540	5450	1550	-2XV1	795	93		
					1070	610	5440	1550	-2YV1	795	94		
605						346	5460	1510	1 7 353-5ND -1VV1	900	90	32.8	0.43
	680					390	5480	1510	-1WV1	900	91		
		760				435	5460	1510	-7MV1	900	92		
			885			505	5450	1510	-7NV1	900	93		
				1080		580	5130	1580	-2XV1	850	94		
					1220	655	5130	1580	1 7 353-5ND -2YV1	850	94		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

3

1GG7, 1GH7, 1HS7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
695						398	5470	1460	1 7 353-5NE -1VV1	1020	92	24	0.39
	785					448	5450	1460	-1WV1	1020	92		
		870				498	5460	1460	-7MV1	1020	93		
			1010			575	5430	1470	-7NV1	1020	94		
				1230		655	5090	1540	-2XV1	955	94		
					1390	730	5010	1560	-2YV1	945	95		
770						444	5510	1470	1 7 353-5NF -1VV1	1140	92	19.9	0.3
	870					498	5460	1470	-1WV1	1130	93		
		965				550	5440	1470	-7MV1	1120	93		
			1120			640	5450	1470	-7NV1	1130	94		
				1360		700	4920	1590	-2XV1	1020	95		
880						505	5470	1470	1 7 353-5NG -1VV1	1280	93	14.3	0.23
	990					570	5500	1470	-1WV1	1280	94		
		1100				625	5430	1480	-7MV1	1270	94		
			1280			715	5350	1500	-7NV1	1250	95		
995						555	5340	1490	1 7 353-5NH -1VV1	1400	93	12.1	0.17
	1120					625	5340	1490	-1WV1	1410	94		
		1240				660	5070	1550	-7MV1	1340	94		
1160						630	5190	1680	1 7 353-5NJ -1VV1	1680	94	9.57	0.14
	1300					705	5170	1690	1 7 353-5NJ -1WV1	1580	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG7, 1GH7, 1HS7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 4													
344						238	6610	1030	1 7 354-5NA -1VV1	635	87	64.8	1.06
	390					270	6610	1170	-1WV1	635	89		
		436				300	6570	1310	-7MV1	630	90		
			510			350	6550	1410	-7NV1	630	91		
				620		426	6560	1410	-2XV1	635	92		
					705	482	6530	1410	-2YV1	635	93		
392						268	6530	1180	1 7 354-5NB -1VV1	710	88	55.4	0.75
	445					304	6520	1340	-1WV1	715	89		
		498				340	6520	1390	-7MV1	715	90		
			580			396	6520	1390	-7NV1	715	91		
				710		480	6460	1400	-2XV1	715	92		
					805	545	6470	1400	-2YV1	715	93		
438						304	6630	1310	1 7 354-5NC -1VV1	800	89	43.8	0.71
	496					342	6590	1380	-1WV1	795	90		
		555				382	6570	1390	-7MV1	795	91		
			645			445	6590	1390	-7NV1	795	92		
				785		540	6570	1390	-2XV1	800	93		
					890	610	6540	1390	-2YV1	800	94		
500						344	6570	1350	1 7 354-5ND -1VV1	900	90	36	0.49
	565					388	6560	1360	-1WV1	900	91		
		630				432	6550	1360	-7MV1	900	91		
			735			505	6560	1360	-7NV1	900	92		
				895		600	6400	1380	-2XV1	885	93		
					1010	680	6430	1380	1 7 354-5ND -2YV1	885	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

3

1GG7, 1GH7, 1HS7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
575						396	6580	1310	1 7 354-5NE -1VV1	1020	91	26.4	0.45
	650					446	6550	1310	-1WV1	1020	92		
		725				496	6530	1310	-7MV1	1020	92		
			845			575	6500	1320	-7NV1	1020	93		
				1020		685	6420	1330	-2XV1	1000	94		
					1160	765	6290	1350	-2YV1	990	95		
640						440	6570	1320	1 7 354-5NF -1VV1	1130	92	21.9	0.34
	720					496	6580	1320	-1WV1	1130	92		
		805				550	6520	1320	-7MV1	1130	93		
			935			640	6530	1320	-7NV1	1130	94		
				1130		740	6260	1370	-2XV1	1080	94		
735						505	6560	1320	1 7 354-5NG -1VV1	1280	93	15.7	0.26
	825					565	6540	1330	-1WV1	1270	93		
		915				630	6560	1320	-7MV1	1280	94		
			1060			730	6550	1320	-7NV1	1280	94		
830						555	6410	1340	1 7 354-5NH -1VV1	1410	93	13.3	0.19
	930					625	6410	1340	-1WV1	1410	94		
		1030				690	6370	1340	-7MV1	1400	94		
965						625	6170	1540	1 7 354-5NJ -1VV1	1580	93	10.5	0.16
	1090					705	6190	1530	1 7 354-5NJ -1WV1	1580	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

3

1GG7, 1GH7, 1HS7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 5													
275						236	8200	710	1 7 355-5NA -1VV1	640	86	73.5	1.25
	312					268	8200	940	-1WV1	640	87		
		350				300	8180	1050	-7MV1	640	88		
			410			352	8200	1220	-7NV1	640	90		
				498		426	8170	1230	-2XV1	640	91		
					565	482	8150	1230	-2YV1	640	92		
314						268	8150	945	1 7 355-5NB -1VV1	725	86	62.9	0.88
	355					302	8120	1070	-1WV1	720	88		
		398				338	8110	1200	-7MV1	720	89		
			465			395	8110	1210	-7NV1	720	90		
				570		482	8080	1210	-2XV1	720	91		
					645	545	8070	1210	-2YV1	720	92		
350						302	8240	1050	1 7 355-5NC -1VV1	800	88	49.7	0.85
	398					342	8210	1200	-1WV1	800	89		
		442				380	8210	1200	-7MV1	800	90		
			520			446	8190	1200	-7NV1	805	91		
				630		540	8190	1200	-2XV1	805	92		
					715	610	8150	1210	-2YV1	800	93		
400						346	8260	1170	1 7 355-5ND -1VV1	915	89	40.7	0.57
	452					392	8280	1170	-1WV1	915	90		
		505				435	8230	1170	-7MV1	910	90		
			590			505	8190	1180	-7NV1	910	92		
				715		610	8150	1180	-2XV1	905	93		
					810	690	8150	1180	1 7 355-5ND -2YV1	905	93		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

3

1GG7, 1GH7, 1HS7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
462						395	8170	1140	1 7 355-5NE -1VV1	1030	90	30	0.53
	520					446	8190	1140	-1WV1	1030	91		
		580				495	8150	1140	-7MV1	1020	92		
			675			575	8140	1140	-7NV1	1030	93		
				820		700	8150	1130	-2XV1	1030	94		
510						440	8240	1150	1 7 355-5NF -1VV1	1140	91	24.8	0.4
	575					495	8220	1140	-1WV1	1150	92		
		640				550	8210	1140	-7MV1	1130	92		
			745			640	8190	1140	-7NV1	1140	93		
				905		770	8130	1150	-2XV1	1130	94		
585						500	8160	1150	1 7 355-5NG -1VV1	1290	92	17.8	0.31
	660					565	8180	1150	-1WV1	1280	93		
		735				620	8060	1150	-7MV1	1260	93		
			855			725	8100	1150	-7NV1	1270	94		
665						550	7900	1170	1 7 355-5NH -1VV1	1400	93	15.1	0.23
	745					620	7940	1160	-1WV1	1400	93		
		830				690	7940	1160	-7MV1	1400	94		
775						625	7700	1340	1 7 355-5NJ -1VV1	1580	93	11.9	0.19
	870					705	7740	1340	1 7 355-5NJ -1WV1	1590	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG7 351	3.8	17	2200	2400
1GH7 351	3.8	17	2200	2200
1HS7 351	3.8	17	2200	2700
1GG7 352	4.1	20	2200	2600
1GH7 352	4.1	20	2200	2400
1HS7 352	4.1	20	2200	2900
1GG7 353	4.5	22	2200	2800
1GH7 353	4.5	22	2200	2600
1HS7 353	4.5	22	2200	3100
1GG7 354	5.1	25	2200	3000
1GH7 354	5.1	25	2200	2800
1HS7 354	5.1	25	2200	3300
1GG7 355	5.7	29	2200	3300
1GH7 355	5.7	29	2200	3100
1HS7 355	5.7	29	2200	3600

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are compensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 1													
412						242	5600	1240	1▯7 401-5NA▯ -1VV1	640	88	59.2	1.13
	466					272	5600	1400	-1WV1	635	89		
		520				304	5600	1560	-7MV1	635	90		
			610			355	5550	1650	-7NV1	640	91		
				740		430	5550	1660	-2XV1	640	92		
					835	485	5550	1660	-2YV1	635	93		
468						274	5600	1400	1▯7 401-5NB▯ -1VV1	715	89	46.3	0.73
	530					308	5550	1590	-1WV1	715	90		
		590				345	5600	1630	-7MV1	720	91		
			685			402	5600	1620	-7NV1	720	92		
				830		472	5450	1660	-2XV1	695	93		
					940	530	5400	1670	-2YV1	690	94		
530						310	5600	1600	1▯7 401-5NC▯ -1VV1	805	90	37.5	0.54
	600					350	5550	1600	-1WV1	805	91		
		665				390	5600	1600	-7MV1	805	92		
			775			454	5600	1610	-7NV1	810	92		
				940		530	5400	1660	-2XV1	780	93		
					1060	600	5400	1650	-2YV1	780	94		
590						350	5650	1600	1▯7 401-5ND▯ -1VV1	900	91	28.8	0.53
	665					394	5650	1600	-1WV1	900	92		
		745				434	5550	1630	-7MV1	890	93		
			865			505	5600	1630	-7NV1	890	93		
				1050		575	5250	1700	-2XV1	840	94		
					1180	645	5200	1710	1▯7 401-5ND▯ -2YV1	835	95		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

1GG7, 1GH7, 1HS7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
675						375	5300	1640	1 7 401-5NE -1VV1	960	92	24.5	0.34
	760					422	5300	1640	-1WV1	960	92		
		850				455	5100	1680	-7MV1	930	93		
			985			525	5100	1680	-7NV1	925	94		
				1190		585	4700	1780	-2XV1	855	94		
					1350	650	4600	1800	-2YV1	840	95		
765						448	5600	1570	1 7 401-5NF -1VV1	1140	92	19	0.27
	860					505	5600	1570	-1WV1	1140	93		
		955				540	5400	1610	-7MV1	1100	93		
			1110			625	5400	1610	-7NV1	1100	94		
				1350		675	4780	1750	-2XV1	985	95		
					1520	750	4700	1760	-2YV1	970	95		
870						492	5400	1610	1 7 401-5NG -1VV1	1240	93	14.1	0.28
	980					545	5300	1630	-1WV1	1230	94		
		1090				585	5150	1670	-7MV1	1190	94		
			1260			665	5050	1690	-7NV1	1160	94		
				1530		705	4400	1800	-2XV1	1020	95		
975						555	5450	1550	1 7 401-5NH -1VV1	1400	94	11.3	0.18
	1100					615	5350	1570	-1WV1	1380	94		
		1220				645	5050	1640	-7MV1	1300	94		
			1410			730	4950	1660	-7NV1	1270	95		
1190						630	5050	1780	1 7 401-5NJ -1VV1	1580	94	8.3	0.12
	1340					700	4980	1790	-1WV1	1570	94		
		1490				695	4450	1800	1 7 401-5NJ -7MV1	1400	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG7, 1GH7, 1HS7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 2													
335						240	6850	1000	1 7 402-5NA -1VV1	640	87	64.6	1.3
	380					270	6800	1140	-1WV1	635	89		
		425				302	6800	1280	-7MV1	635	89		
			496			352	6800	1490	-7NV1	635	91		
				605		428	6750	1500	-2XV1	635	92		
					685	485	6750	1500	-2YV1	635	93		
380						272	6850	1140	1 7 402-5NB -1VV1	715	89	50.4	0.82
	430					306	6800	1290	-1WV1	710	90		
		482				342	6800	1450	-7MV1	715	91		
			560			398	6800	1470	-7NV1	715	92		
				680		482	6750	1480	-2XV1	715	93		
					770	545	6750	1480	-2YV1	715	93		
432						308	6800	1300	1 7 402-5NC -1VV1	805	89	40.8	0.6
	488					348	6800	1460	-1WV1	805	90		
		545				388	6800	1460	-7MV1	805	91		
			635			452	6800	1460	-7NV1	805	92		
				770		545	6750	1470	-2XV1	805	93		
					870	615	6750	1470	-2YV1	800	94		
484						348	6850	1460	1 7 402-5ND -1VV1	900	91	31.4	0.6
	545					392	6850	1450	-1WV1	900	91		
		610				436	6850	1470	-7MV1	900	92		
			705			508	6900	1460	-7NV1	900	93		
				855		600	6700	1500	-2XV1	880	94		
					970	670	6600	1510	1 7 402-5ND -2YV1	870	94		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

3

1GG7, 1GH7, 1HS7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
555						382	6850	1460	1▯7 402-5NE▯ -1VV1	985	91	26.6	0.39
	625					430	6850	1460	-1WV1	985	92		
		695				466	6400	1490	-7MV1	955	93		
			810			540	6350	1500	-7NV1	955	93		
				980		610	5950	1570	-2XV1	890	94		
					1110	690	5950	1570	-2YV1	890	95		
625						450	6900	1410	1▯7 402-5NF▯ -1VV1	1150	92	20.7	0.3
	705					505	6850	1410	-1WV1	1150	92		
		785				555	6750	1430	-7MV1	1135	93		
			910			645	6750	1430	-7NV1	1135	94		
				1100		720	6250	1520	-2XV1	1050	95		
					1250	805	6150	1530	-2YV1	1040	95		
715						505	6750	1430	1▯7 402-5NG▯ -1VV1	1280	93	15.4	0.33
	805					565	6700	1440	-1WV1	1270	93		
		895				610	6500	1470	-7MV1	1240	94		
			1040			695	6400	1490	-7NV1	1210	94		
				1250		765	5850	1590	-2XV1	1110	95		
800						565	6750	1390	1▯7 402-5NH▯ -1VV1	1430	93	12.3	0.21
	900					635	6750	1390	-1WV1	1430	94		
		1000				680	6500	1430	-7MV1	1370	94		
			1160			775	6400	1450	-7NV1	1350	95		
980						655	6400	1580	1▯7 402-5NJ▯ -1VV1	1640	94	9	0.13
	1100					735	6400	1580	-1WV1	1640	94		
		1220				755	5900	1680	1▯7 402-5NJ▯ -7MV1	1520	95		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG7, 1GH7, 1HS7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 3													
284						240	8100	850	1 7 403-5NA -1VV1	645	86	70.4	1.48
	322					270	8030	970	-1WV1	640	88		
		360				302	8030	1080	-7MV1	640	89		
			420			354	8070	1260	-7NV1	645	90		
				510		430	8070	1350	-2XV1	645	91		
					580	485	8030	1360	-2YV1	640	92		
320						270	8060	960	1 7 403-5NB -1VV1	715	88	54.9	0.93
	362					306	8070	1090	-1WV1	715	89		
		404				342	8080	1210	-7MV1	720	90		
			472			402	8150	1330	-7NV1	725	91		
				570		485	8100	1340	-2XV1	720	92		
					650	550	8120	1340	-2YV1	720	93		
364						310	8130	1090	1 7 403-5NC -1VV1	815	89	44.4	0.67
	412					350	8130	1240	-1WV1	815	90		
		458				390	8130	1320	-7MV1	815	91		
			535			452	8080	1330	-7NV1	810	92		
				650		550	8120	1330	-2XV1	815	93		
					730	625	8150	1320	-2YV1	815	93		
406						348	8190	1220	1 7 403-5ND -1VV1	905	90	34.2	0.68
	460					392	8160	1330	-1WV1	900	91		
		510				436	8150	1330	-7MV1	900	92		
			595			505	8110	1330	-7NV1	900	93		
				720		605	8030	1350	-2XV1	890	94		
					815	680	7980	1360	1 7 403-5ND -2YV1	885	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG7, 1GH7, 1HS7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
464						382	7860	1330	1 7 7 403-5NE -1VV1	990	91	29	0.43
	525					432	7890	1320	-1WV1	990	91		
		585				470	7690	1350	-7MV1	970	92		
			680			545	7670	1350	-7NV1	970	93		
				825		625	7250	1410	-2XV1	915	94		
					930	705	7240	1410	-2YV1	915	94		
525						450	8200	1280	1 7 7 403-5NF -1VV1	1160	91	22.5	0.33
	590					510	8240	1270	-1WV1	1160	92		
		660				565	8210	1280	-7MV1	1160	93		
			765			655	8190	1280	-7NV1	1160	93		
				930		740	7620	1350	-2XV1	1080	94		
					1050	835	7620	1350	-2YV1	1080	95		
600						500	7970	1310	1 7 7 403-5NG -1VV1	1270	92	16.8	0.37
	675					570	8080	1290	-1WV1	1290	93		
		750				620	7900	1320	-7MV1	1260	93		
			870			710	7790	1330	-7NV1	1250	94		
				1050		800	7260	1400	-2XV1	1160	95		
670						570	8100	1250	1 7 7 403-5NH -1VV1	1440	93	13.4	0.23
	755					640	8090	1250	-1WV1	1440	93		
		840				695	7900	1270	-7MV1	1410	94		
			975			800	7840	1280	-7NV1	1400	95		
820						670	7780	1430	1 7 7 403-5NJ -1VV1	1690	94	9.8	0.15
	925					750	7750	1430	-1WV1	1680	94		
		1030				785	7290	1500	1 7 7 403-5NJ -7MV1	1580	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

3

1GG7, 1GH7, 1HS7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 4													
225						235	9970	680	1 7 404-5NA -1VV1	640	85	78.5	1.74
	256					266	9930	770	-1WV1	640	87		
		286				298	9950	860	-7MV1	640	88		
			336			348	9900	1010	-7NV1	640	89		
				410		425	9900	1220	-2XV1	640	91		
					466	470	9840	1220	-2YV1	640	92		
256						266	9930	770	1 7 404-5NB -1VV1	715	87	61.2	1.07
	292					302	9880	880	-1WV1	715	88		
		326				338	9900	980	-7MV1	715	89		
			380			394	9900	1140	-7NV1	715	90		
				464		480	9880	1190	-2XV1	720	92		
					525	545	9910	1190	-2YV1	720	92		
292						304	9950	880	1 7 404-5NC -1VV1	805	88	49.3	0.77
	330					344	9950	990	-1WV1	805	89		
		370				384	9910	1110	-7MV1	810	90		
			432			448	9910	1180	-7NV1	810	91		
				525		545	9910	1180	-2XV1	810	92		
					595	615	9880	1180	-2YV1	810	93		
328						345	10050	980	1 7 404-5ND -1VV1	905	89	38.2	0.8
	370					385	9950	1110	-1WV1	895	90		
		414				430	9930	1190	-7MV1	895	91		
			482			505	10010	1190	-7NV1	905	92		
				585		615	10040	1180	-2XV1	910	93		
					660	690	9980	1190	1 7 404-5ND -2YV1	900	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1GG7, 1GH7, 1HS7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
375						384	9780	1130	1 7 404-5NE -1VV1	1010	90	32.3	0.5
	424					432	9740	1170	-1WV1	1000	91		
		474				475	9570	1180	-7MV1	985	91		
			550			555	9640	1180	-7NV1	990	92		
				670		640	9120	1230	-2XV1	940	93		
					755	725	9170	1220	-2YV1	945	94		
424						445	10030	1140	1 7 404-5NF -1VV1	1150	91	25	0.38
	478					500	9990	1150	-1WV1	1150	91		
		535				560	10000	1140	-7MV1	1150	92		
			620			650	10010	1150	-7NV1	1150	93		
				755		760	9620	1170	-2XV1	1120	94		
					850	860	9670	1170	-2YV1	1120	94		
485						498	9810	1170	1 7 404-5NG -1VV1	1280	92	18.8	0.44
	545					560	9820	1170	-1WV1	1280	92		
		610				625	9790	1160	-7MV1	1280	93		
			710			720	9690	1170	-7NV1	1270	94		
				855		830	9280	1210	-2XV1	1210	95		
545						565	9910	1120	1 7 404-5NH -1VV1	1440	92	15	0.27
	615					635	9870	1110	-1WV1	1440	93		
		685				710	9900	1110	-7MV1	1450	94		
			795			820	9850	1110	-7NV1	1440	94		
670						675	9620	1270	1 7 404-5NJ -1VV1	1710	93	10.9	0.17
	750					760	9680	1270	-1WV1	1710	94		
		835				810	9270	1310	1 7 404-5NJ -7MV1	1640	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG7, 1GH7, 1HS7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 5													
171						230	12850	510	1 7 405-5NA -1VV1	640	83	91.7	2.16
	195					260	12730	590	-1WV1	635	85		
		220				292	12680	660	-7MV1	635	86		
			258			342	12670	770	-7NV1	635	88		
				316		420	12700	950	-2XV1	640	90		
					360	475	12600	1050	-2YV1	640	91		
196						262	12770	590	1 7 405-5NB -1VV1	715	85	71.3	1.31
	224					300	12790	670	-1WV1	720	86		
		250				335	12800	750	-7MV1	720	88		
			294			390	12680	880	-7NV1	715	89		
				358		475	12680	1010	-2XV1	715	91		
					406	540	12700	1010	-2YV1	720	92		
224						300	12790	670	1 7 405-5NC -1VV1	810	86	57.4	0.92
	254					338	12710	760	-1WV1	805	88		
		284				380	12780	850	-7MV1	810	89		
			332			445	12800	990	-7NV1	810	90		
				405		540	12730	1000	-2XV1	810	91		
					460	610	12670	1000	-2YV1	805	92		
252						340	12890	760	1 7 405-5ND -1VV1	905	88	44.6	0.98
	285					385	12900	860	-1WV1	905	89		
		318				425	12760	950	-7MV1	895	90		
			372			498	12790	1010	-7NV1	900	91		
				452		605	12780	1010	-2XV1	900	92		
					515	685	12700	1010	1 7 405-5ND -2YV1	900	93		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1GG7, 1GH7, 1HS7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
288						382	12670	860	1▯7 405-5NE▯ -1VV1	1010	88	37.5	0.6
	326					432	12660	980	-1WV1	1010	89		
		365				476	12460	990	-7MV1	1000	90		
			426			555	12450	990	-7NV1	1000	91		
				520		655	12040	1010	-2XV1	970	93		
					585	740	12080	1020	-2YV1	970	93		
326						440	12900	960	1▯7 405-5NF▯ -1VV1	1150	90	29.1	0.46
	368					498	12920	960	-1WV1	1150	90		
		412				555	12870	960	-7MV1	1150	91		
			480			645	12840	970	-7NV1	1150	92		
				585		780	12730	965	-2XV1	1150	93		
					660	880	12730	970	-2YV1	1150	94		
375						495	12610	980	1▯7 405-5NG▯ -1VV1	1280	91	21.9	0.54
	424					555	12500	980	-1WV1	1270	92		
		472				620	12550	980	-7MV1	1280	92		
			550			720	12500	980	-7NV1	1270	93		
				665		855	12280	970	-2XV1	1250	94		
420						555	12620	940	1▯7 405-5NH▯ -1VV1	1420	92	17.4	0.33
	474					630	12700	940	-1WV1	1430	92		
		530				700	12620	940	-7MV1	1430	93		
			615			810	12580	940	-7NV1	1430	94		
520						670	12300	1090	1▯7 405-5NJ▯ -1VV1	1700	92	12.7	0.2
	585					755	12330	1080	-1WV1	1700	93		
		650				835	12270	1090	1▯7 405-5NJ▯ -7MV1	1700	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG7 401	4.3	23	2000	3000
1GH7 401	4.3	23	2000	2800
1HS7 401	4.3	23	2000	3300
1GG7 402	4.8	26	2000	3300
1GH7 402	4.8	26	2000	3100
1HS7 402	4.8	26	2000	3600
1GG7 403	5.2	30	2000	3700
1GH7 403	5.2	30	2000	3500
1HS7 403	5.2	30	2000	4000
1GG7 404	6.1	34	2000	4100
1GH7 404	6.1	34	2000	3900
1HS7 404	6.1	34	2000	4400
1GG7 405	6.6	41	2000	4800
1GH7 405	6.6	41	2000	4600
1HS7 405	6.6	41	2000	5100

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N
(short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

1GG7, 1GH7, 1HS7
Size 450

Selection and ordering data

These motors are compensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 1													
254						210	7900	1020	1 7 451-5NA -1VV1	580	85	93.1	1.53
	290					238	7870	1160	-1WV1	575	86		
		324				266	7840	1300	-7MV1	575	88		
			380			312	7840	1350	-7NV1	575	89		
				464		375	7720	1370	-2XV1	565	91		
					525	426	7740	1370	-2YV1	565	92		
288						238	7890	1150	1 7 451-5NB -1VV1	640	87	70.9	1.32
	326					268	7850	1300	-1WV1	635	88		
		365				300	7850	1340	-7MV1	635	89		
			426			350	7850	1340	-7NV1	635	91		
				520		420	7730	1360	-2XV1	625	92		
					590	476	7730	1350	-2YV1	625	93		
322						266	7870	1290	1 7 451-5NC -1VV1	710	88	58.5	0.93
	365					302	7900	1340	-1WV1	710	89		
		408				334	7820	1350	-7MV1	705	90		
			476			390	7810	1350	-7NV1	705	91		
				580		465	7660	1370	-2XV1	690	93		
					655	525	7630	1370	-2YV1	690	93		
364						304	8000	1310	1 7 451-5ND -1VV1	810	88	49.1	0.76
	412					344	8000	1310	-1WV1	810	90		
		460				380	7890	1320	-7MV1	800	91		
			535			444	7900	1320	-7NV1	800	92		
				655		525	7680	1350	-2XV1	780	93		
					740	595	7690	1340	1 7 451-5ND -2YV1	780	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG7, 1GH7, 1HS7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
418						350	8000	1320	1 7 451-5NE -1VV1	910	90	35.5	0.66
	472					394	7960	1320	-1WV1	910	91		
		525				435	7890	1330	-7MV1	900	92		
			615			505	7860	1330	-7NV1	900	93		
				745		595	7640	1360	-2XV1	875	94		
					840	670	7600	1360	-2YV1	870	94		
505						420	7960	1290	1 7 451-5NF -1VV1	1080	92	25	0.49
	570					472	7940	1290	-1WV1	1080	92		
		635				520	7850	1300	-7MV1	1070	93		
			735			600	7790	1310	-7NV1	1060	94		
				890		695	7440	1350	-2XV1	1010	95		
					1010	780	7390	1360	-2YV1	1010	95		
610						500	7800	1040	1 7 451-5NG -1VV1	1270	93	17.2	0.35
	690					560	7760	1170	-1WV1	1270	93		
		765				610	7600	1290	-7MV1	1240	94		
			890			705	7560	1300	-7NV1	1240	95		
				1080		795	7050	1370	-2XV1	1150	95		
					1220	885	6950	1380	-2YV1	1140	96		
765						605	7550	1270	1 7 451-5NH -1VV1	1530	93	12.3	0.19
	860					680	7540	1280	-1WV1	1530	94		
		960				725	7210	1320	-7MV1	1470	94		
			1110			830	7120	1330	-7NV1	1450	95		
880						680	7360	1290	1 7 451-5NJ -1VV1	1710	94	9	0.17
	985					760	7400	1290	-1WV1	1700	95		
		1100				800	6960	1350	-7MV1	1610	95		
			1270			910	6830	1360	1 7 451-5NJ -7NV1	1580	96		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

3

1GG7, 1GH7, 1HS7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 2													
210						208	9460	840	1 7 452-5NA -1VV1	580	84	101	1.7
	240					238	9510	960	-1WV1	585	85		
		268				265	9450	1070	-7MV1	580	87		
			315			310	9400	1240	-7NV1	575	88		
				385		376	9330	1250	-2XV1	570	90		
					438	428	9360	1240	-2YV1	575	91		
238						236	9470	950	1 7 452-5NB -1VV1	640	86	76.7	1.47
	270					268	9480	1080	-1WV1	640	87		
		302				300	9490	1210	-7MV1	645	88		
			354			350	9440	1220	-7NV1	640	90		
				432		422	9350	1230	-2XV1	635	91		
					490	478	9340	1230	-2YV1	635	92		
268						266	9520	1070	1 7 452-5NC -1VV1	715	87	63.1	1.03
	302					302	9520	1210	-1WV1	715	88		
		338				335	9440	1230	-7MV1	710	89		
			396			392	9460	1230	-7NV1	710	91		
				482		468	9280	1250	-2XV1	700	92		
					545	530	9260	1250	-2YV1	700	93		
302						304	9650	1190	1 7 452-5ND -1VV1	815	88	52.9	0.84
	342					344	9640	1190	-1WV1	815	89		
		382				382	9550	1200	-7MV1	810	90		
			446			446	9550	1200	-7NV1	810	91		
				545		530	9320	1220	-2XV1	790	92		
					615	600	9320	1220	1 7 452-5ND -2YV1	790	93		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG7, 1GH7, 1HS7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
348						350	9640	1200	1 7 452-5NE -1VV1	920	90	38.4	0.74
	392					395	9600	1200	-1WV1	920	91		
		438				438	9550	1210	-7MV1	910	91		
			510			510	9550	1210	-7NV1	910	92		
				620		605	9320	1230	-2XV1	890	93		
					700	680	9270	1240	-2YV1	890	94		
418						420	9580	1180	1 7 452-5NF -1VV1	1090	91	27	0.55
	472					475	9610	1180	-1WV1	1090	92		
		525				525	9530	1180	-7MV1	1080	92		
			615			605	9430	1190	-7NV1	1070	93		
				745		710	9130	1220	-2XV1	1040	94		
					840	795	9040	1230	-2YV1	1030	95		
510						505	9480	1150	1 7 452-5NG -1VV1	1290	92	18.6	0.39
	575					565	9400	1160	-1WV1	1280	92		
		640				620	9270	1170	-7MV1	1270	94		
			740			715	9200	1170	-7NV1	1260	94		
				900		820	8720	1220	-2XV1	1190	95		
					1010	915	8620	1230	-2YV1	1180	95		
640						615	9210	1150	1 7 452-5NH -1VV1	1560	93	13.3	0.21
	720					690	9180	1150	-1WV1	1560	94		
		800				740	8840	1190	-7MV1	1500	94		
			930			850	8740	1190	-7NV1	1490	95		
730						685	8940	1170	1 7 452-5NJ -1VV1	1730	94	9.74	0.19
	825					770	8940	1170	-1WV1	1730	94		
		915				825	8610	1200	-7MV1	1660	95		
			1060			945	8510	1220	1 7 452-5NJ -7NV1	1640	95		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1GG7, 1GH7, 1HS7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 3													
173						206	11400	690	1 7 453-5NA -1VV1	585	83	110	1.92
	197					236	11400	790	-1WV1	585	84		
		222				265	11400	890	-7MV1	585	86		
			260			310	11400	1040	-7NV1	580	87		
				318		378	11300	1110	-2XV1	580	89		
					362	430	11300	1110	-2YV1	580	90		
196						236	11500	785	1 7 453-5NB -1VV1	650	85	84.2	1.68
	224					268	11500	895	-1WV1	650	86		
		250				300	11500	1000	-7MV1	650	87		
			294			350	11400	1100	-7NV1	645	89		
				358		425	11300	1100	-2XV1	645	91		
					406	482	11300	1100	-2YV1	645	92		
220						266	11500	880	1 7 453-5NC -1VV1	725	86	69.1	1.16
	250					302	11500	1000	-1WV1	725	87		
		280				336	11400	1100	-7MV1	720	88		
			328			394	11500	1100	-7NV1	720	90		
				400		472	11300	1110	-2XV1	710	91		
					454	535	11300	1110	-2YV1	710	92		
248						304	11700	990	1 7 453-5ND -1VV1	825	87	57.8	0.93
	282					345	11700	1060	-1WV1	825	88		
		316				384	11600	1070	-7MV1	820	89		
			370			448	11600	1070	-7NV1	820	90		
				452		535	11300	1090	-2XV1	800	92		
					510	610	11400	1080	1 7 453-5ND -2YV1	805	93		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG7, 1GH7, 1HS7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
288						350	11600	1080	1 7 453-5NE -1VV1	925	89	42.1	0.83
	326					396	11600	1080	-1WV1	925	90		
		364				440	11500	1080	-7MV1	925	91		
			424			515	11600	1080	-7NV1	925	92		
				515		615	11400	1100	-2XV1	910	93		
					585	690	11300	1100	-2YV1	900	94		
348						420	11500	1050	1 7 453-5NF -1VV1	1100	90	29.6	0.63
	392					474	11500	1050	-1WV1	1100	91		
		438				525	11500	1060	-7MV1	1090	92		
			510			615	11500	1060	-7NV1	1100	93		
				620		725	11200	1080	-2XV1	1070	94		
					700	815	11100	1090	-2YV1	1060	94		
424						510	11500	1020	1 7 453-5NG -1VV1	1310	92	20.4	0.45
	478					575	11500	1020	-1WV1	1310	92		
		530				630	11300	1040	-7MV1	1290	93		
			620			730	11300	1040	-7NV1	1290	94		
				750		845	10800	1080	-2XV1	1230	95		
					845	950	10700	1080	-2YV1	1230	95		
530						625	11300	1020	1 7 453-5NH -1VV1	1600	93	14.5	0.23
	595					700	11200	1020	-1WV1	1590	93		
		665				760	10900	1040	-7MV1	1550	94		
			775			880	10900	1050	-7NV1	1550	94		
610						685	10700	1060	1 7 453-5NJ -1VV1	1730	94	10.7	0.21
	685					770	10700	1060	-1WV1	1730	94		
		765				855	10700	1060	-7MV1	1730	95		
			885			985	10600	1060	1 7 453-5NJ -7NV1	1720	95		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1GG7, 1GH7, 1HS7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 4													
138						204	14100	550	1 7 454-5NA -1VV1	595	80	123	2.21
	158					232	14000	630	-1WV1	585	83		
		178				262	14100	710	-7MV1	590	84		
			210			308	14000	840	-7NV1	590	86		
				258		376	13900	980	-2XV1	585	88		
					294	428	13900	980	-2YV1	585	89		
158						232	14000	630	1 7 454-5NB -1VV1	650	83	94.2	1.95
	180					265	14100	720	-1WV1	655	85		
		202				298	14100	810	-7MV1	655	86		
			238			348	14000	950	-7NV1	650	88		
				290		424	13900	970	-2XV1	650	90		
					330	482	14000	970	-2YV1	650	91		
178						264	14200	710	1 7 454-5NC -1VV1	730	84	77	1.33
	202					300	14200	810	-1WV1	730	86		
		226				334	14100	905	-7MV1	725	87		
			266			392	14100	970	-7NV1	725	89		
				325		474	13900	975	-2XV1	720	91		
					370	540	14000	975	-2YV1	720	91		
200						298	14200	800	1 7 454-5ND -1VV1	820	85	64.4	1.06
	228					338	14100	910	-1WV1	820	87		
		256				380	14200	940	-7MV1	820	88		
			300			445	14200	940	-7NV1	820	89		
				366		540	14100	950	-2XV1	815	91		
					416	610	14000	955	1 7 454-5ND -2YV1	810	92		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG7, 1GH7, 1HS7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
232						345	14100	930	1▢7 454-5NE▢ -1VV1	925	88	47.1	0.97
	264					390	14100	950	-1WV1	920	89		
		295				436	14100	955	-7MV1	920	90		
			345			510	14100	950	-7NV1	925	91		
				420		615	14000	965	-2XV1	915	92		
					476	695	13900	970	-2YV1	915	93		
282						415	14000	935	1▢7 454-5NF▢ -1VV1	1090	89	33.1	0.73
	318					470	14000	930	-1WV1	1100	90		
		356				525	14100	930	-7MV1	1100	91		
			415			610	14000	935	-7NV1	1090	92		
				505		735	13900	945	-2XV1	1090	93		
					570	825	13800	955	-2YV1	1080	94		
344						510	14200	900	1▢7 454-5NG▢ -1VV1	1320	91	22.8	0.53
	388					575	14200	900	-1WV1	1320	92		
		432				635	14000	905	-7MV1	1310	92		
			505			735	13900	910	-7NV1	1300	93		
				610		865	13500	935	-2XV1	1260	94		
					690	970	13400	940	-2YV1	1250	95		
430						625	13900	895	1▢7 454-5NH▢ -1VV1	1600	92	16.2	0.27
	486					705	13900	895	-1WV1	1600	93		
		540				770	13600	910	-7MV1	1580	93		
			630			895	13600	910	-7NV1	1570	94		
496						705	13600	905	1▢7 454-5NJ▢ -1VV1	1790	93	12	0.25
	560					790	13500	910	-1WV1	1780	94		
		620				875	13500	915	-7MV1	1780	94		
			720			1010	13400	915	1▢7 454-5NJ▢ -7NV1	1770	95		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

3

1GG7, 1GH7, 1HS7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 5													
103						197	18300	412	1 7 455-5NA -1VV1	595	78	143	2.68
	119					226	18100	476	-1WV1	590	80		
		134				255	18200	535	-7MV1	590	82		
			159			302	18100	635	-7NV1	590	84		
				196		372	18100	785	-2XV1	590	86		
					224	424	18100	825	-2YV1	590	88		
119						226	18100	476	1 7 455-5NB -1VV1	655	81	110	2.38
	136					260	18300	545	-1WV1	660	82		
		153				292	18200	610	-7MV1	660	84		
			181			344	18200	725	-7NV1	655	86		
				222		420	18100	815	-2XV1	650	88		
					252	478	18100	815	-2YV1	650	89		
134						258	18400	535	1 7 455-5NC -1VV1	735	82	89.6	1.6
	153					294	18400	610	-1WV1	735	84		
		172				330	18300	690	-7MV1	730	85		
			202			388	18300	810	-7NV1	730	87		
				248		470	18100	825	-2XV1	725	89		
					282	535	18100	825	-2YV1	725	90		
151						290	18300	605	1 7 455-5ND -1VV1	815	83	74.8	1.27
	173					330	18200	690	-1WV1	815	85		
		194				370	18200	775	-7MV1	815	86		
			228			436	18200	800	-7NV1	815	88		
				280		530	18100	800	-2XV1	810	90		
					318	605	18100	800	1 7 455-5ND -2YV1	815	91		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG7, 1GH7, 1HS7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
177						338	18200	720	1 7 455-5NE -1VV1	920	86	54.9	1.18
	202					384	18200	805	-1WV1	920	87		
		225				430	18300	805	-7MV1	925	88		
			264			505	18300	805	-7NV1	925	90		
				322		615	18200	815	-2XV1	925	91		
					365	695	18200	815	-2YV1	920	92		
215						408	18100	790	1 7 455-5NF -1VV1	1090	88	38.5	0.9
	244					464	18200	790	-1WV1	1090	89		
		272				515	18100	800	-7MV1	1090	90		
			318			605	18200	795	-7NV1	1090	91		
				388		735	18100	795	-2XV1	1090	92		
					440	835	18100	795	-2YV1	1100	93		
264						505	18300	755	1 7 455-5NG -1VV1	1330	90	26.6	0.64
	298					570	18300	760	-1WV1	1320	91		
		332				635	18300	760	-7MV1	1320	91		
			388			735	18100	765	-7NV1	1310	92		
				470		875	17800	775	-2XV1	1290	94		
					535	985	17600	780	-2YV1	1280	94		
330						625	18100	750	1 7 455-5NH -1VV1	1620	91	18.9	0.32
	372					710	18200	745	-1WV1	1640	92		
		416				775	17800	760	-7MV1	1600	92		
			484			905	17900	755	-7NV1	1610	93		
382						695	17400	770	1 7 455-5NJ -1VV1	1780	92	14	0.3
	430					785	17400	770	-1WV1	1780	93		
		478				875	17500	770	-7MV1	1790	93		
			555			1020	17600	770	1 7 455-5NJ -7NV1	1790	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1GG7, 1GH7, 1HS7
Size 450

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG7 451	2.9	39	1800	3800
1GH7 451	2.9	39	1800	3600
1HS7 451	2.9	39	1800	4100
1GG7 452	3.2	44	1800	4100
1GH7 452	3.2	44	1800	3900
1HS7 452	3.2	44	1800	4400
1GG7 453	3.3	50	1800	4600
1GH7 453	3.3	50	1800	4400
1HS7 453	3.3	50	1800	4900
1GG7 454	3.6	57	1800	5300
1GH7 454	3.6	57	1800	5100
1HS7 454	3.6	57	1800	5600
1GG7 455	4.2	70	1800	6200
1GH7 455	4.2	70	1800	6000
1HS7 455	4.2	70	1800	6500

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N
(short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are compensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 0													
345						302	8350	1170	**1 5 500-5EA -1VV5**	805	88	49	0.7
	392					340	8300	1170	**-1WV5**	800	89		
		438				375	8200	1180	**-7MV5**	790	90		
			510			435	8150	1190	**-7NV5**	785	91		
				620		510	7850	1220	**-2XV5**	760	92		
					705	570	7700	1230	**-2YV5**	745	93		
382						335	8400	1150	**1 5 500-5EC -1VV5**	885	89	39.8	0.6
	432					378	8350	1160	**-1WV5**	880	90		
		482				418	8300	1160	**-7MV5**	875	91		
			565			484	8200	1170	**-7NV5**	865	92		
				685		560	7800	1210	**-2XV5**	825	93		
					775	625	7700	1220	**-2YV5**	815	93		
450						360	7650	1280	**1 5 500-5EE -1VV5**	935	90	31.6	0.48
	510					406	7600	1280	**-1WV5**	930	91		
		565				448	7550	1290	**-7MV5**	925	92		
			660			520	7500	1290	**-7NV5**	925	92		
				795		620	7450	1300	**-2XV5**	910	93		
					900	690	7300	1320	**-2YV5**	895	94		
470						398	8100	1380	**1 5 500-5EG -1VV5**	1030	91	26.5	0.43
	530					450	8100	1380	**-1WV5**	1030	91		
		590				496	8050	1390	**-7MV5**	1020	92		
			685			570	7950	1400	**-7NV5**	1010	93		
				835		645	7400	1470	**-2XV5**	940	94		
					940	725	7350	1470	**-2YV5**	940	94		
525						448	8150	1300	**1 5 500-5EJ -1VV5**	1150	91	21.8	0.32
	590					505	8150	1300	**-1WV5**	1150	92		
		660				540	7800	1340	**-7MV5**	1100	93		
			765			625	7800	1340	**-7NV5**	1100	93		
				930		685	7050	1440	**-2XV5**	995	94		
					1050	770	7000	1440	**1 5 500-5EJ -2YV5**	990	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG5, 1GH5, 1HS5
Size 500

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
595						510	8200	1470	1 5 500-5EL -1VV5	1300	92	16.8	0.27
	670					570	8100	1480	-1WV5	1290	93		
		745				605	7750	1530	-7MV5	1230	93		
			865			695	7650	1540	-7NV5	1220	94		
				1050		750	6800	1650	-2XV5	1090	94		
					1190	835	6700	1670	-2YV5	1070	95		
700						565	7700	1490	1 5 500-5EN -1VV5	1430	93	12.7	0.18
	785					630	7650	1500	-1WV5	1420	93		
		875				660	7200	1560	-7MV5	1340	94		
			1020			760	7100	1560	-7NV5	1320	94		
				1230		755	5850	1700	-2XV5	1090	94		
					1390	850	5850	1700	-2YV5	1090	95		
765						620	7750	1470	1 5 500-5EQ -1VV5	1560	93	10.5	0.17
	860					685	7600	1490	-1WV5	1540	94		
		955				715	7150	1550	-7MV5	1440	94		
			1110			810	6950	1570	-7NV5	1410	94		
				1340		800	5700	1700	-2XV5	1160	94		
850						670	7550	1470	1 5 500-5ES -1VV5	1690	93	8.6	0.13
	960					745	7400	1480	-1WV5	1660	94		
		1070				750	6700	1580	-7MV5	1510	94		
			1240			865	6650	1580	-7NV5	1500	94		
995						735	7050	1510	1 5 500-5EV -1VV5	1840	94	6.6	0.12
	1120					810	6900	1520	-1WV5	1800	94		
		1240				815	6300	1620	-7MV5	1640	94		
			1440			925	6150	1640	1 5 500-5EV -7NV5	1620	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG5, 1GH5, 1HS5
Size 500

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 1													
256						300	11200	985	1 5 501-5EA -1VV5	810	86	56	0.84
	290					340	11200	985	-1WV5	810	88		
		325				380	11200	985	-7MV5	810	89		
			380			444	11200	985	-7NV5	810	90		
				464		530	10900	1000	-2XV5	795	91		
					525	600	10900	1000	-2YV5	795	92		
284						334	11200	970	1 5 501-5EC -1VV5	890	88	45.6	0.73
	322					378	11200	970	-1WV5	890	89		
		360				420	11100	975	-7MV5	885	90		
			420			490	11100	975	-7NV5	885	91		
				510		590	11000	980	-2XV5	880	92		
					580	665	10900	985	-2YV5	875	93		
335						360	10300	1090	1 5 501-5EE -1VV5	945	89	36	0.57
	380					406	10200	1090	-1WV5	940	90		
		422				450	10200	1090	-7MV5	935	91		
			492			525	10200	1090	-7NV5	940	92		
				595		625	10000	1110	-2XV5	925	93		
					675	710	10000	1100	-2YV5	925	93		
350						400	10900	1180	1 5 501-5EG -1VV5	1040	90	30.4	0.53
	396					450	10900	1190	-1WV5	1040	91		
		440				500	10900	1190	-7MV5	1040	91		
			515			580	10800	1190	-7NV5	1030	92		
				620		695	10700	1200	-2XV5	1020	93		
					705	780	10600	1200	-2YV5	1010	94		
390						464	11400	1080	1 5 501-5EJ -1VV5	1210	90	24.8	0.38
	440					525	11400	1070	-1WV5	1210	91		
		490				570	11100	1100	-7MV5	1180	92		
			570			660	11100	1100	-7NV5	1170	93		
				695		750	10300	1160	-2XV5	1100	94		
					785	840	10200	1160	1 5 501-5EJ -2YV5	1090	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1GG5, 1GH5, 1HS5
Size 500

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
448						525	11200	1260	1 5 501-5EL -1VV5	1350	91	19.3	0.33
	505					595	11300	1250	-1WV5	1360	92		
		565				645	10900	1280	-7MV5	1320	93		
			655			740	10800	1290	-7NV5	1300	93		
				795		830	9950	1360	-2XV5	1210	94		
					895	925	9850	1370	-2YV5	1190	95		
520						600	11000	1230	1 5 501-5EN -1VV5	1530	92	14.5	0.22
	590					670	10800	1240	-1WV5	1510	93		
		655				715	10400	1280	-7MV5	1450	93		
			760			825	10400	1290	-7NV5	1450	94		
				925		885	9150	1400	-2XV5	1280	95		
					1040	995	9150	1400	-2YV5	1280	95		
570						660	11100	1220	1 5 501-5EQ -1VV5	1680	93	12	0.21
	640					740	11000	1220	-1WV5	1670	93		
		715				785	10500	1260	-7MV5	1590	94		
			830			895	10300	1280	-7NV5	1560	94		
				1000		950	9050	1400	-2XV5	1380	95		
635						705	10600	1220	1 5 501-5ES -1VV5	1780	93	9.8	0.16
	715					790	10600	1230	-1WV5	1780	94		
		795				840	10100	1270	-7MV5	1700	94		
			925			970	10000	1270	-7NV5	1690	95		
745						755	9700	1290	1 5 501-5EV -1VV5	1890	94	7.6	0.15
	835					850	9700	1280	-1WV5	1900	94		
		930				925	9500	1300	-7MV5	1860	94		
			1080			1060	9350	1310	1 5 501-5EV -7NV5	1840	95		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG5, 1GH5, 1HS5
Size 500

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 2													
199						296	14200	795	1 5 502-5EA -1VV5	810	85	63	0.98
	226					336	14200	855	-1WV5	810	86		
		254				376	14100	855	-7MV5	810	87		
			298			440	14100	855	-7NV5	810	89		
				362		535	14100	855	-2XV5	810	91		
					412	605	14000	855	-2YV5	805	91		
222						330	14200	840	1 5 502-5EC -1VV5	890	86	51.5	0.86
	252					374	14200	840	-1WV5	890	87		
		282				416	14100	845	-7MV5	885	89		
			330			486	14100	845	-7NV5	885	90		
				400		590	14100	845	-2XV5	885	91		
					454	665	14000	850	-2YV5	880	92		
262						356	13000	950	1 5 502-5EE -1VV5	940	88	40.5	0.67
	296					402	13000	955	-1WV5	940	89		
		332				448	12900	955	-7MV5	940	90		
			386			520	12900	955	-7NV5	935	91		
				468		625	12800	965	-2XV5	925	92		
					530	710	12800	960	-2YV5	930	93		
274						402	14000	1030	1 5 502-5EG -1VV5	1060	88	34.2	0.62
	310					454	14000	1030	-1WV5	1060	90		
		345				505	14000	1030	-7MV5	1060	90		
			402			585	13900	1030	-7NV5	1050	91		
				488		705	13800	1040	-2XV5	1040	93		
					555	795	13700	1040	-2YV5	1040	93		
305						460	14400	945	1 5 502-5EJ -1VV5	1210	89	28	0.45
	345					520	14400	940	-1WV5	1210	90		
		384				575	14300	950	-7MV5	1200	91		
			448			670	14300	950	-7NV5	1200	92		
				545		770	13500	990	-2XV5	1130	93		
					615	865	13400	995	1 5 502-5EJ -2YV5	1130	94		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

3

1GG5, 1GH5, 1HS5
Size 500

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
352						530	14400	1100	1 5 502-5EL -1VV5	1380	90	21.6	0.39
	398					595	14300	1110	-1WV5	1370	91		
		442				655	14200	1120	-7MV5	1350	92		
			515			755	14000	1130	-7NV5	1340	93		
				625		855	13100	1190	-2XV5	1250	94		
					710	955	12800	1200	-2YV5	1230	94		
408						605	14200	1080	1 5 502-5EN -1VV5	1560	91	16.3	0.26
	460					680	14100	1080	-1WV5	1550	92		
		515				730	13500	1110	-7MV5	1490	93		
			595			845	13600	1110	-7NV5	1490	93		
				725		930	12300	1200	-2XV5	1350	94		
					820	1050	12200	1200	-2YV5	1350	95		
446						670	14300	1060	1 5 502-5EQ -1VV5	1710	92	13.5	0.25
	505					755	14300	1060	-1WV5	1710	93		
		560				810	13800	1090	-7MV5	1650	93		
			650			925	13600	1100	-7NV5	1620	94		
				790		1010	12200	1190	-2XV5	1460	95		
500						705	13500	1080	1 5 502-5ES -1VV5	1790	93	11	0.18
	565					795	13400	1070	-1WV5	1790	93		
		625				870	13300	1090	-7MV5	1770	94		
			725			1010	13300	1090	-7NV5	1770	94		
585						765	12500	1120	1 5 502-5EV -1VV5	1920	93	8.5	0.17
	660					860	12400	1120	-1WV5	1920	94		
		730				950	12400	1130	-7MV5	1920	94		
			845			1100	12400	1130	1 5 502-5EV -7NV5	1920	95		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG5, 1GH5, 1HS5
Size 500

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 3													
164						292	17000	655	1 5 503-5EA -1VV5	810	83	70	1.12
	186					332	17000	745	-1WV5	810	85		
		208				372	17100	755	-7MV5	815	86		
			245			436	17000	755	-7NV5	810	88		
				300		530	16900	755	-2XV5	805	90		
					340	605	17000	750	-2YV5	810	91		
182						326	17100	730	1 5 503-5EC -1VV5	895	85	57	0.98
	208					370	17000	740	-1WV5	890	86		
		232				414	17000	740	-7MV5	890	87		
			272			485	17000	740	-7NV5	890	89		
				332		590	17000	740	-2XV5	890	91		
					376	665	16900	745	-2YV5	885	91		
216						354	15700	800	1 5 503-5EE -1VV5	945	87	45	0.77
	245					400	15600	800	-1WV5	945	88		
		274				446	15500	805	-7MV5	940	89		
			320			520	15500	805	-7NV5	940	90		
				388		630	15500	805	-2XV5	940	92		
					440	710	15400	810	-2YV5	935	92		
225						400	17000	900	1 5 503-5EG -1VV5	1070	87	38.2	0.72
	255					454	17000	910	-1WV5	1070	89		
		285				505	16900	910	-7MV5	1060	90		
			332			590	17000	910	-7NV5	1070	91		
				404		710	16800	915	-2XV5	1060	92		
					458	805	16800	915	-2YV5	1060	93		
252						458	17400	835	1 5 503-5EJ -1VV5	1210	88	31	0.51
	285					520	17400	830	-1WV5	1220	89		
		318				575	17300	840	-7MV5	1210	90		
			370			675	17400	830	-7NV5	1220	91		
				452		785	16600	865	-2XV5	1160	93		
					510	885	16600	865	1 5 503-5EJ -2YV5	1160	93		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1GG5, 1GH5, 1HS5
Size 500

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
290						530	17500	985	1 5 503-5EL -1VV5	1390	89	24.2	0.44
	328					600	17500	980	-1WV5	1390	90		
		366				660	17200	995	-7MV5	1370	91		
			426			765	17100	995	-7NV5	1370	92		
				520		880	16200	1040	-2XV5	1290	93		
					585	985	16100	1050	-2YV5	1280	94		
338						610	17200	955	1 5 503-5EN -1VV5	1580	91	18.2	0.3
	380					685	17200	955	-1WV5	1570	91		
		425				745	16700	975	-7MV5	1530	92		
			495			860	16600	980	-7NV5	1520	93		
				600		965	15400	1040	-2XV5	1410	94		
					680	1090	15300	1040	-2YV5	1410	94		
368						675	17500	935	1 5 503-5EQ -1VV5	1740	91	15	0.29
	416					760	17400	935	-1WV5	1740	92		
		464				825	17000	955	-7MV5	1690	93		
			540			945	16700	970	-7NV5	1660	93		
				655		1060	15500	1030	-2XV5	1540	94		
415						710	16300	955	1 5 503-5ES -1VV5	1810	92	12.2	0.21
	468					795	16200	960	-1WV5	1800	93		
		520				875	16100	965	-7MV5	1780	93		
			605			1020	16100	960	-7NV5	1790	94		
485						765	15100	1010	1 5 503-5EV -1VV5	1930	93	9.5	0.2
	545					860	15100	1010	-1WV5	1930	93		
		605				955	15100	1010	-7MV5	1930	94		
			705			1110	15000	1000	1 5 503-5EV -7NV5	1930	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG5, 1GH5, 1HS5
Size 500

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 4													
137						288	20000	550	1 5 504-5EA -1VV5	815	82	76.5	1.26
	156					328	20000	625	-1WV5	815	83		
		175				368	20000	675	-7MV5	815	85		
			206			432	20000	675	-7NV5	810	87		
				252		525	19900	680	-2XV5	805	89		
					286	600	20000	675	-2YV5	810	90		
153						322	20000	610	1 5 504-5EC -1VV5	895	83	62.5	1.11
	174					366	20000	665	-1WV5	895	85		
		195				410	20000	665	-7MV5	890	86		
			228			480	20200	665	-7NV5	890	88		
				280		585	20000	665	-2XV5	890	90		
					318	665	20000	665	-2YV5	890	91		
182						350	18400	730	1 5 504-5EE -1VV5	945	86	49.4	0.87
	206					398	18500	755	-1WV5	950	87		
		230				444	18400	755	-7MV5	945	88		
			270			520	18400	755	-7NV5	945	89		
				328		625	18200	760	-2XV5	935	91		
					372	710	18200	760	-2YV5	940	92		
190						398	20000	760	1 5 504-5EG -1VV5	1070	86	42	0.81
	215					450	20000	820	-1WV5	1070	87		
		240				500	19900	825	-7MV5	1060	89		
			280			585	20000	825	-7NV5	1060	90		
				342		710	19800	825	-2XV5	1060	91		
					388	805	19800	825	-2YV5	1060	92		
212						455	20500	750	1 5 504-5EJ -1VV5	1220	87	34	0.57
	240					515	20500	750	-1WV5	1220	88		
		268				575	20500	750	-7MV5	1220	89		
			312			670	20500	750	-7NV5	1210	91		
				382		790	19800	770	-2XV5	1170	92		
					432	890	19700	775	1 5 504-5EJ -2YV5	1170	93		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG5, 1GH5, 1HS5
Size 500

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
244						525	20500	890	1 5 504-5EL -1VV5	1390	88	26.6	0.5
	276					595	20600	890	-1WV5	1390	89		
		308				660	20500	895	-7MV5	1380	90		
			360			765	20200	900	-7NV5	1370	91		
				438		890	19400	930	-2XV5	1310	93		
					496	995	19200	940	-2YV5	1300	93		
285						610	20400	855	1 5 504-5EN -1VV5	1590	90	20	0.33
	322					685	20400	860	-1WV5	1580	91		
		360				745	19800	880	-7MV5	1540	91		
			418			865	19800	880	-7NV5	1540	92		
				510		985	18400	925	-2XV5	1440	94		
					575	1110	18400	930	-2YV5	1440	94		
312						675	20600	840	1 5 504-5EQ -1VV5	1750	90	16.5	0.33
	352					760	20600	845	-1WV5	1740	91		
		392				830	20200	860	-7MV5	1710	92		
			456			955	20000	865	-7NV5	1690	93		
				555		1080	18600	915	-2XV5	1570	94		
350						705	19200	865	1 5 504-5ES -1VV5	1810	91	13.4	0.23
	395					795	19200	865	-1WV5	1810	92		
		440				880	19100	865	-7MV5	1800	93		
			510			1020	19100	870	-7NV5	1800	93		
410						760	17700	915	1 5 504-5EV -1VV5	1930	92	10.5	0.23
	462					855	17700	915	-1WV5	1920	93		
		515				950	17600	915	-7MV5	1920	93		
			595			1100	17700	915	1 5 504-5EV -7NV5	1920	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG5 500	5	55	1800	4150
1GH5 500	5	55	1800	3950
1HS5 500	5	55	1800	4550
1GG5 501	5.5	65	1800	4650
1GH5 501	5.5	65	1800	4450
1HS5 501	5.5	65	1800	5050
1GG5 502	6.8	75	1800	5100
1GH5 502	6.8	75	1800	4900
1HS5 502	6.8	75	1800	5500
1GG5 503	7.6	85	1700	5800
1GH5 503	7.6	85	1700	5600
1HS5 503	7.6	85	1700	6200
1GG5 504	9.3	94	1700	6300
1GH5 504	9.3	94	1700	6100
1HS5 504	9.3	94	1700	6700

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N
(short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

1GG5, 1GH5, 1HS5
Size 630

Selection and ordering data

These motors are compensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 1													
186						358	18400	745	1▢5 631-5EA▢ -1VV5	965	87	46.4	0.96
	210					405	18400	840	-1WV5	965	88		
		236				452	18300	925	-7MV5	960	89		
			276			530	18300	920	-7NV5	965	90		
				335		640	18200	925	-2XV5	955	92		
					380	725	18200	925	-2YV5	955	92		
206						418	19400	825	1▢5 631-5EC▢ -1VV5	1120	88	36.8	0.72
	234					472	19300	880	-1WV5	1110	89		
		262				525	19100	880	-7MV5	1110	90		
			305			615	19300	880	-7NV5	1110	91		
				372		735	18900	890	-2XV5	1090	92		
					420	830	18900	890	-2YV5	1090	93		
230						462	19200	920	1▢5 631-5EE▢ -1VV5	1220	89	30.8	0.58
	260					520	19100	965	-1WV5	1220	90		
		290				575	18900	975	-7MV5	1210	91		
			340			670	18800	975	-7NV5	1200	92		
				412		785	18200	1000	-2XV5	1160	93		
					466	885	18100	1000	-2YV5	1160	93		
252						492	18600	895	1▢5 631-5EG▢ -1VV5	1290	89	26.5	0.5
	285					555	18600	895	-1WV5	1290	90		
		318				615	18500	900	-7MV5	1280	91		
			370			720	18600	895	-7NV5	1290	92		
				448		855	18200	910	-2XV5	1260	93		
					510	960	18000	915	-2YV5	1250	94		
284						575	19300	985	1▢5 631-5EJ▢ -1VV5	1490	90	20.2	0.38
	320					645	19200	990	-1WV5	1480	91		
		356				705	18900	1010	-7MV5	1460	92		
			415			815	18800	1010	-7NV5	1450	93		
				505		945	17900	1040	-2XV5	1380	94		
					570	1060	17800	1050	1▢5 631-5EJ▢ -2YV5	1370	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG5, 1GH5, 1HS5
Size 630

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
306						605	18900	1010	1 5 631-5EL -1VV5	1570	91	17.9	0.31
	346					685	18900	1010	-1WV5	1570	92		
		385				755	18700	1020	-7MV5	1550	92		
			448			870	18500	1020	-7NV5	1540	93		
				545		995	17400	1070	-2XV5	1450	94		
					615	1120	17400	1070	-2YV5	1450	95		
338						675	19100	980	1 5 631-5EN -1VV5	1730	92	14.4	0.3
	382					760	19000	980	-1WV5	1730	92		
		425				830	18700	995	-7MV5	1700	93		
			494			955	18500	1000	-7NV5	1680	94		
				600		1080	17200	1050	-2XV5	1570	95		
					675	1210	17100	1060	-2YV5	1560	95		
374						725	18500	970	1 5 631-5EQ -1VV5	1850	92	12.5	0.23
	422					815	18400	970	-1WV5	1850	93		
		470				880	17900	990	-7MV5	1790	93		
			545			1010	17700	1000	-7NV5	1770	94		
				660		1120	16200	1060	-2XV5	1620	95		
					745	1250	16000	1070	-2YV5	1610	95		
410						805	18800	980	1 5 631-5ES -1VV5	2050	92	10.5	0.21
	462					900	18600	985	-1WV5	2040	93		
		515				965	17900	1010	-7MV5	1960	94		
			600			1110	17700	1020	-7NV5	1940	94		
				725		1220	16100	1090	-2XV5	1760	95		
464						890	18300	1060	1 5 631-5EV -1VV5	2250	93	8.2	0.15
	520					995	18300	1060	-1WV5	2240	94		
		580				1060	17500	1090	-7MV5	2140	94		
			675			1220	17300	1100	1 5 631-5EV -7NV5	2120	95		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1GG5, 1GH5, 1HS5
Size 630

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 2													
146						356	23200	585	1 5 632-5EA -1VV5	970	85	51.5	1.11
	166					405	23200	665	-1WV5	970	87		
		185				452	23400	740	-7MV5	970	88		
			216			530	23400	810	-7NV5	975	89		
				264		640	23200	815	-2XV5	965	91		
					300	730	23200	810	-2YV5	970	92		
162						416	24500	650	1 5 632-5EC -1VV5	1130	86	41.2	0.84
	184					472	24500	735	-1WV5	1130	88		
		205				530	24600	765	-7MV5	1130	89		
			240			615	24500	775	-7NV5	1120	90		
				292		750	24500	770	-2XV5	1130	91		
					332	850	24500	770	-2YV5	1120	92		
180						468	24800	720	1 5 632-5EE -1VV5	1260	87	34.2	0.66
	204					530	24800	815	-1WV5	1260	88		
		228				585	24500	850	-7MV5	1240	89		
			266			680	24400	850	-7NV5	1230	91		
				325		810	23800	865	-2XV5	1210	92		
					368	915	23800	870	-2YV5	1200	93		
198						488	23500	790	1 5 632-5EG -1VV5	1290	88	29.5	0.58
	224					550	23400	795	-1WV5	1290	89		
		250				615	23500	795	-7MV5	1290	90		
			292			715	23400	795	-7NV5	1290	91		
				355		865	23200	800	-2XV5	1280	93		
					402	975	23200	800	-2YV5	1280	93		
222						585	25200	865	1 5 632-5EJ -1VV5	1540	89	22.5	0.43
	252					655	24800	870	-1WV5	1520	90		
		282				725	24600	875	-7MV5	1510	91		
			328			840	24500	880	-7NV5	1500	92		
				398		980	23500	905	-2XV5	1440	93		
					450	1100	23400	910	1 5 632-5EJ -2YV5	1430	94		

Separate ventilation
- Fan unit, radially mounted — GG
- Fan unit, separately-mounted — GH
- Mounted air-to-water heat exchanger — HS

Rated field voltage
- 310 V — 4

Type of construction
- IM B 3 — 0

1GG5, 1GH5, 1HS5
Size 630

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
242						605	23800	900	1 5 632-5EL -1VV5	1570	90	19.9	0.35
	274					685	23800	900	-1WV5	1580	91		
		304				755	23800	905	-7MV5	1560	92		
			354			880	23800	905	-7NV5	1570	93		
				430		1040	23000	925	-2XV5	1520	94		
					486	1170	23000	925	-2YV5	1520	94		
266						680	24400	865	1 5 632-5EN -1VV5	1760	91	16.1	0.34
	302					770	24400	865	-1WV5	1760	92		
		335				855	24400	865	-7MV5	1760	92		
			390			985	24200	870	-7NV5	1740	93		
				474		1140	23000	900	-2XV5	1660	94		
					535	1270	22600	910	-2YV5	1640	95		
295						745	24200	840	1 5 632-5EQ -1VV5	1920	91	13.9	0.26
	332					840	24200	840	-1WV5	1920	92		
		370				910	23500	860	-7MV5	1870	93		
			432			1050	23200	865	-7NV5	1850	93		
				525		1190	21600	910	-2XV5	1730	94		
					590	1330	21500	915	-2YV5	1710	95		
324						815	24000	865	1 5 632-5ES -1VV5	2080	92	11.7	0.24
	365					920	24000	860	-1WV5	2100	92		
		406				1010	23800	870	-7MV5	2060	93		
			472			1160	23500	880	-7NV5	2040	94		
				575		1310	21800	925	-2XV5	1900	95		
365						920	24000	925	1 5 632-5EV -1VV5	2340	93	9.1	0.18
	412					1030	23800	930	-1WV5	2320	93		
		458				1110	23200	950	-7MV5	2250	94		
			530			1280	23000	955	-7NV5	2240	94		
				645		1400	20800	670	1 5 632-5EV -2XV5	2020	95		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG5, 1GH5, 1HS5
Size 630

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 3													
121						356	28000	484	1 5 633-5EA -1VV5	985	84	57	1.27
	137					404	28200	550	-1WV5	985	85		
		154				452	28000	615	-7MV5	980	87		
			180			530	28200	720	-7NV5	985	88		
				220		645	28000	725	-2XV5	980	90		
					250	735	28000	720	-2YV5	985	91		
134						416	29600	535	1 5 633-5EC -1VV5	1140	85	45.4	0.95
	152					474	29800	610	-1WV5	1150	86		
		170				530	29800	680	-7MV5	1150	88		
			200			620	29600	685	-7NV5	1140	89		
				244		755	29600	685	-2XV5	1140	91		
					276	855	29600	685	-2YV5	1140	92		
149						470	30200	595	1 5 633-5EE -1VV5	1280	86	37.6	0.75
	169					530	30000	675	-1WV5	1270	87		
		189				590	29800	755	-7MV5	1260	88		
			222			690	29600	755	-7NV5	1260	90		
				270		825	29200	765	-2XV5	1240	91		
					306	930	29000	770	-2YV5	1230	92		
165						484	28000	660	1 5 633-5EG -1VV5	1290	87	32.4	0.65
	187					550	28000	710	-1WV5	1300	89		
		208				610	28000	715	-7MV5	1290	90		
			244			715	28000	710	-7NV5	1290	91		
				296		865	28000	715	-2XV5	1290	92		
					336	975	27800	715	-2YV5	1280	93		
185						585	30200	740	1 5 633-5EJ -1VV5	1550	88	24.8	0.49
	210					665	30200	770	-1WV5	1560	89		
		234				735	30000	780	-7MV5	1540	90		
			272			850	29800	785	-7NV5	1530	92		
				332		1010	29000	800	-2XV5	1490	93		
					376	1130	28800	805	1 5 633-5EJ -2YV5	1480	94		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG5, 1GH5, 1HS5
Size 630

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
202						600	28400	810	1 5 633-5EL -1VV5	1570	89	21.8	0.39
	228					680	28500	815	-1WV5	1580	90		
		254				755	28400	820	-7MV5	1570	91		
			296			880	28400	815	-7NV5	1570	92		
				358		1060	28200	820	-2XV5	1560	93		
					406	1200	28200	820	-2YV5	1560	94		
222						685	29500	775	1 5 633-5EN -1VV5	1790	90	17.8	0.39
	250					775	29600	770	-1WV5	1790	91		
		280				860	29400	775	-7MV5	1780	92		
			325			1000	29400	775	-7NV5	1780	93		
				395		1180	28500	790	-2XV5	1730	94		
					446	1320	28200	800	-2YV5	1710	94		
246						745	29000	755	1 5 633-5EQ -1VV5	1930	91	15.3	0.29
	278					840	28800	755	-1WV5	1930	91		
		308				930	28800	760	-7MV5	1920	92		
			360			1080	28600	760	-7NV5	1910	93		
				436		1240	27200	795	-2XV5	1810	94		
					494	1400	27000	795	-2YV5	1810	95		
272						815	28600	780	1 5 633-5ES -1VV5	2100	91	12.4	0.22
	306					920	28800	780	-1WV5	2100	92		
		340				1020	28600	780	-7MV5	2080	93		
			395			1180	28500	785	-7NV5	2080	94		
				480		1340	26600	825	-2XV5	1950	95		
304						940	29500	820	1 5 633-5EV -1VV5	2400	92	10	0.2
	344					1050	29200	825	-1WV5	2380	93		
		382				1140	28500	845	-7MV5	2320	93		
			445			1320	28400	845	-7NV5	2320	94		
				540		1480	26200	620	1 5 633-5EV -2XV5	2140	95		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

3

1GG5, 1GH5, 1HS5
Size 630

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 4													
102						350	32800	408	1 5 634-5EA -1VV5	985	83	62.5	1.43
	117					398	32500	468	-1WV5	980	84		
		131				446	32500	525	-7MV5	980	86		
			154			525	32600	615	-7NV5	980	87		
				188		640	32500	655	-2XV5	980	89		
					214	725	32400	660	-2YV5	975	90		
114						410	34400	456	1 5 634-5EC -1VV5	1140	84	49.6	1.06
	130					466	34200	520	-1WV5	1140	85		
		145				525	34600	580	-7MV5	1140	87		
			171			615	34400	620	-7NV5	1140	88		
				208		745	34200	625	-2XV5	1130	90		
					236	850	34400	620	-2YV5	1140	91		
126						468	35500	505	1 5 634-5EE -1VV5	1290	85	41.2	0.84
	144					535	35500	575	-1WV5	1300	86		
		161				595	35200	645	-7MV5	1290	87		
			189			695	35200	675	-7NV5	1280	89		
				230		835	34600	685	-2XV5	1270	91		
					262	945	34400	690	-2YV5	1260	92		
141						480	32500	565	1 5 634-5EG -1VV5	1290	86	35.4	0.73
	159					545	32800	635	-1WV5	1300	88		
		178				610	32800	645	-7MV5	1300	89		
			208			710	32600	645	-7NV5	1290	90		
				254		860	32400	650	-2XV5	1290	92		
					288	975	32400	650	-2YV5	1290	92		
157						590	35800	630	1 5 634-5EJ -1VV5	1590	87	27.2	0.55
	178					670	36000	695	-1WV5	1590	89		
		199				740	35500	700	-7MV5	1570	90		
			232			865	35600	700	-7NV5	1570	91		
				284		1030	34600	715	-2XV5	1530	92		
					322	1160	34400	715	1 5 634-5EJ -2YV5	1520	93		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

1GG5, 1GH5, 1HS5
Size 630

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
172						600	33400	690	1 5 634-5EL -1VV5	1590	89	23.8	0.43
	195					675	33000	745	-1WV5	1570	90		
		218				755	33000	745	-7MV5	1580	91		
			254			880	33000	745	-7NV5	1580	92		
				308		1060	32800	750	-2XV5	1570	93		
					348	1200	33000	750	-2YV5	1570	93		
190						680	34200	705	1 5 634-5EN -1VV5	1780	89	19.4	0.44
	215					765	34000	710	-1WV5	1770	90		
		240				855	34000	705	-7MV5	1780	91		
			278			995	34200	705	-7NV5	1780	92		
				338		1200	34000	710	-2XV5	1770	93		
					382	1360	34000	710	-2YV5	1770	94		
210						740	33600	690	1 5 634-5EQ -1VV5	1930	90	16.7	0.32
	238					840	33800	685	-1WV5	1940	91		
		264				930	33600	690	-7MV5	1930	92		
			308			1080	33500	690	-7NV5	1920	93		
				374		1290	33000	700	-2XV5	1890	94		
					422	1450	32800	705	-2YV5	1880	94		
232						810	33400	710	1 5 634-5ES -1VV5	2100	91	13.6	0.24
	262					915	33400	710	-1WV5	2100	92		
		292				1010	33000	715	-7MV5	2080	92		
			340			1180	33200	715	-7NV5	2080	93		
				410		1390	32400	730	-2XV5	2040	94		
					465	1580	32400	472	-2YV5	2040	95		
260						935	34400	750	1 5 634-5EV -1VV5	2400	91	11	0.22
	294					1060	34400	750	-1WV5	2420	92		
		328				1170	34000	755	-7MV5	2400	93		
			380			1360	34200	755	-7NV5	2400	94		
				462		1550	32000	735	1 5 634-5EV -2XV5	2250	95		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

3

1GG5, 1GH5, 1HS5
Size 630

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 5													
81						344	40400	326	1 5 635-5EA -1VV5	985	80	70.5	1.66
	93					392	40000	374	-1WV5	980	82		
		105				442	40200	420	-7MV5	985	84		
			124			520	40000	496	-7NV5	985	86		
				151		635	40200	575	-2XV5	985	88		
					172	725	40200	575	-2YV5	985	89		
91						404	42400	364	1 5 635-5EC -1VV5	1140	82	56	1.23
	104					460	42200	416	-1WV5	1140	84		
		117				515	42000	468	-7MV5	1140	85		
			137			605	42200	545	-7NV5	1140	87		
				168		740	42000	545	-2XV5	1140	89		
					191	845	42200	540	-2YV5	1140	90		
101						460	43500	404	1 5 635-5EE -1VV5	1290	83	46.4	0.97
	115					525	43600	460	-1WV5	1300	85		
		129				590	43600	515	-7MV5	1300	86		
			152			690	43400	595	-7NV5	1290	88		
				186		845	43400	595	-2XV5	1290	90		
					212	955	43000	595	-2YV5	1280	91		
113						474	40000	452	1 5 635-5EG -1VV5	1300	85	39.8	0.84
	128					540	40200	510	-1WV5	1300	86		
		144				600	39800	570	-7MV5	1290	88		
			168			705	40000	565	-7NV5	1300	89		
				205		855	39800	570	-2XV5	1290	91		
					232	970	40000	570	-2YV5	1290	92		
126						585	44400	505	1 5 635-5EJ -1VV5	1600	86	30.6	0.63
	143					665	44400	570	-1WV5	1600	87		
		160				745	44500	610	-7MV5	1600	88		
			187			870	44400	610	-7NV5	1600	90		
				228		1040	43600	620	-2XV5	1570	91		
					260	1180	43400	620	1 5 635-5EJ -2YV5	1560	92		

Separate ventilation	Fan unit, radially mounted	GG
	Fan unit, separately-mounted	GH
	Mounted air-to-water heat exchanger	HS
Rated field voltage	310 V	4
Type of construction	IM B 3	0

1GG5, 1GH5, 1HS5
Size 630

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
139						595	40800	555	1 5 635-5EL -1VV5	1590	87	26.8	0.5
	157					670	40800	630	-1WV5	1580	88		
		175				750	41000	655	-7MV5	1590	89		
			205			875	40800	660	-7NV5	1580	91		
				248		1060	40800	660	-2XV5	1580	92		
					282	1200	40600	660	-2YV5	1580	93		
153						675	42200	610	1 5 635-5EN -1VV5	1790	88	22	0.51
	173					765	42200	620	-1WV5	1790	89		
		193				850	42000	625	-7MV5	1790	90		
			226			990	41800	625	-7NV5	1780	91		
				274		1200	41800	625	-2XV5	1780	93		
					310	1360	41800	625	-2YV5	1780	93		
169						735	41500	605	1 5 635-5EQ -1VV5	1940	89	18.7	0.37
	192					835	41500	605	-1WV5	1940	90		
		214				925	41200	610	-7MV5	1930	91		
			250			1080	41200	605	-7NV5	1930	92		
				302		1300	41200	610	-2XV5	1920	93		
					342	1470	41000	610	-2YV5	1920	94		
187						805	41200	625	1 5 635-5ES -1VV5	2100	90	15.9	0.35
	210					910	41400	625	-1WV5	2120	91		
		235				1010	41000	625	-7MV5	2100	91		
			274			1180	41200	625	-7NV5	2100	92		
				332		1420	40800	630	-2XV5	2080	93		
					376	1610	40800	500	-2YV5	2100	94		
210						930	42200	665	1 5 635-5EV -1VV5	2420	91	12.3	0.25
	238					1050	42200	665	-1WV5	2420	91		
		265				1170	42200	665	-7MV5	2420	92		
			308			1360	42200	665	-7NV5	2420	93		
				374		1610	41200	680	1 5 635-5EV -2XV5	2350	94		

Separate ventilation
Fan unit, radially mounted — GG
Fan unit, separately-mounted — GH
Mounted air-to-water heat exchanger — HS

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0

3

1GG5, 1GH5, 1HS5
Size 630

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1GG5 631	5.6	174	1500	7450
1GH5 631	5.6	174	1500	7200
1HS5 631	5.6	174	1500	7950
1GG5 632	6.8	199	1500	8250
1GH5 632	6.8	199	1500	8000
1HS5 632	6.8	199	1500	8750
1GG5 633	7.1	226	1300	9350
1GH5 633	7.1	226	1300	9100
1HS5 633	7.1	226	1300	9850
1GG5 634	7.4	251	1300	10150
1GH5 634	7.4	251	1300	9900
1HS5 634	7.4	251	1300	10650
1GG5 635	9.2	289	1300	11500
1GH5 635	9.2	289	1300	11250
1HS5 635	9.2	289	1300	12000

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 4												
1060				8.4	75.5	2800	**1HA5 164-0BC** ▭ **-6VE0**	22.4	86	0.955	16	-
	1200			9.7	77	2800	**-6WE0**	23	86			-
		1320		10.9	79	2800	**-7ME0**	23.4	87			-
			1540	13	80.5	2800	**-7NE0**	24	88			-
1490				12.4	79.5	2800	**1HA5 164-0BE** ▭ **-6VE0**	32.7	88	0.522	8.2	-
	1660			14.2	81.5	2800	**-6WE0**	33.7	88			-
		1840		15.7	81.5	2800	**1HA5 164-0CE** ▭ **-7ME0**	33.5	88			-
			2130	18.1	81	2800	**-7NE0**	33.5	88			-
1790				15.3	81.5	2800	**1HA5 164-0BF** ▭ **-6VE0**	40.5	88	0.361	5.7	-
	2000			17.1	81.5	2800	**1HA5 164-0CF** ▭ **-6WE0**	40.3	88			-
		2220		18.4	79	2800	**-7ME0**	39.3	88			-
			2560	21.2	79	2800	**-7NE0**	39.3	88			-
Overall length 6												
1030				9.3	86	2800	**1HA5 166-0BC** ▭ **-6VE0**	24.5	86	0.773	14	-
	1150			10.7	89	2800	**-6WE0**	25.2	87			-
		1280		12	89.5	2800	**-7ME0**	25.5	88			-
			1470	14.3	93	2800	**-7NE0**	26.4	88			-
1290				12.1	89.5	2800	**1HA5 166-0BD** ▭ **-6VE0**	32	88	0.496	8.9	-
	1440			13.9	92	2800	**-6WE0**	32.7	88			-
		1590		15.5	93	2800	**-7ME0**	33	88			-
			1840	18.4	95.5	2800	**1HA5 166-0CD** ▭ **-7NE0**	33.7	89			-
1580				15.4	93	2800	**1HA5 166-0BE** ▭ **-6VE0**	40.5	88	0.319	5.8	-
	1780			17.7	95	2800	**-6WE0**	41.5	89			-
		1960		19.1	93	2800	**1HA5 166-0CE** ▭ **-7ME0**	40.5	89			-
			2260	22	93	2800	**-7NE0**	40.7	89			-
1860				18.4	94.5	2800	**1HA5 166-0CF** ▭ **-6VE0**	48.5	88	0.25	4.2	-
	2090			20.5	93.5	2800	**-6WE0**	48.5	88			-
		2310		21.8	90	2800	**-7ME0**	46.7	88			-
			2660	25.2	90.5	2800	**-7NE0**	46.7	88			-
2060				19.8	92	2800	**1HA5 166-0CG** ▭ **-6VE0**	52.5	88	0.204	3.45	-
	2300			22.2	92	2800	**-6WE0**	52.5	88			-
		2540		23.6	88.5	2800	**1HA5 166-0CG** ▭ **-7ME0**	50.5	88			-

Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

1HA5
Size 160

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HA5 164	0.42	0.29	2800	265
1HA5 166	0.47	0.36	2800	310

Armature control

Speed can be coasted down 1:3 by armature control with falling motor torque.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 280 V	310 V	420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 2												
		1320		0.64	4.65	4200	**1HC5 102-0CA** **-6VU1**	2.02	72	36.9	150	-
			1520	0.73	4.6	4450	**-6WU1**	2.02	74			-
	1190			0.45	3.6	1450	**1HC5 102-0CB** **-3UU1**	1.92	70	25.3	100	105
		1690		0.79	4.45	5000	**1HC5 102-0DB** **-6VU1**	2.4	75			-
			1940	0.88	4.35	5000	**-6WU1**	2.35	77			-
1420				0.53	3.55	1750	**1HC5 102-0CC** **-4TU1**	2.42	73	15.7	61	190
	1610			0.59	3.5	2000	**-3UU1**	2.42	74			105
		2320		0.98	4.05	5000	**1HC5 102-0DC** **-6VU1**	2.88	78	15.7		-
			2680	1.08	3.85	5000	**1HC5 102-0EC** **-6WU1**	2.82	79			-
1730				0.63	3.5	2200	**1HC5 102-0DD** **-4TU1**	2.8	75	10.7	45	175
	1950			0.7	3.45	2450	**-3UU1**	2.78	77			100
		2850		1.09	3.65	5000	**1HC5 102-0ED** **-6VU1**	3.15	80			-
2440				0.82	3.2	3100	**1HC5 102-0DE** **-4TU1**	3.63	78	6.41	25.5	145
	2770			0.91	3.15	3550	**1HC5 102-0EE** **-3UU1**	3.6	79			92
Overall length 4												
		1260		0.8	6.05	4050	**1HC5 104-0CA** **-6VU1**	2.4	75	24.9	105	-
			1460	0.91	5.95	4500	**-6WU1**	2.38	77			-
	1120			0.56	4.75	1400	**1HC5 104-0CB** **-3UU1**	2.3	73	18.2	72	100
		1580		0.96	5.8	5000	**-6VU1**	2.82	77			-
			1820	1.08	5.65	5000	**1HC5 104-0DB** **-6WU1**	2.8	78			-
1330				0.65	4.65	1650	**1HC5 104-0CC** **-4TU1**	2.88	75	10.3	44.5	170
	1510			0.73	4.6	1900	**-3UU1**	2.86	77			95
		2140		1.18	5.25	5000	**1HC5 104-0DC** **-6VU1**	3.37	80			-
			2450	1.31	5.1	5000	**-6WU1**	3.3	81			-
1670				0.79	4.5	2100	**1HC5 104-0DD** **-4TU1**	3.45	78	7.45	30	145
	1890			0.88	4.45	2400	**-3UU1**	3.43	78			86
		2710		1.31	4.6	5000	**1HC5 104-0ED** **-6VU1**	3.73	81			-
Overall length 6												
		1290		1.08	8	4150	**1HC5 106-0CA** **-6VU1**	3.13	78	15	66	-
			1460	1.21	7.9	4550	**-6WU1**	3.1	79			-
	1120			0.75	6.4	1400	**1HC5 106-0CB** **-3UU1**	2.98	75	11.2	45.5	88
		1570		1.25	7.6	5000	**-6VU1**	3.57	80			-
			1800	1.4	7.45	4550	**1HC5 106-0DB** **-6WU1**	3.53	81			-
1290				0.86	6.35	1650	**1HC5 106-0CC** **-4TU1**	3.73	78	7.03	29	135
	1450			0.95	6.25	1850	**-3UU1**	3.67	78			79
		2070		1.48	6.85	5000	**1HC5 106-0DC** **-6VU1**	4.13	82			-
			2350	1.63	6.6	4600	**-6WU1**	4.05	83			-
1640				1.06	6.15	2100	**1HC5 106-0DD** **-4TU1**	4.53	79	4.53	19.5	115
	1850			1.17	6.05	2350	**-3UU1**	4.47	80			70
		2630		1.58	5.75	5000	**1HC5 106-0ED** **-6VU1**	4.4	83			-

Rated field voltage 310 V — 4

Type of construction IM B 3 — 0; IM B 35 — 6

1HC5
Size 100

Rated speed n_N rpm at rated armature voltage 280 V	310 V	420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 8												
		1230		1.38	10.7	4000	**1HC5 108-0CA** **-6VU1**	3.93	79	10.9	46	-
			1400	1.56	10.6	4050	**-6WU1**	3.95	80			-
	1170			1.06	8.65	1450	**1HC5 108-0CB** **-3UU1**	4.07	78	6.76	28	70
		1640		1.71	9.95	4550	**1HC5 108-0DB** **-6VU1**	4.77	82			-
			1870	1.9	9.7	4100	**-6WU1**	4.7	83			-
1240				1.12	8.65	1550	**1HC5 108-0CC** **-4TU1**	4.75	79	4.81	20.5	110
	1390			1.25	8.6	1750	**-3UU1**	4.77	80			64
		1970		1.89	9.15	4600	**1HC5 108-0DC** **-6VU1**	5.25	83			-
			2240	2.1	8.95	4100	**-6WU1**	5.1	84			-
1520				1.35	8.5	1950	**1HC5 108-0CD** **-4TU1**	5.65	81	3.19	14.5	94
	1710			1.5	8.4	2200	**1HC5 108-0DD** **-3UU1**	5.65	82			57
		2430		1.99	7.8	4600	**-6VU1**	5.5	83			-
			2800	2.15	7.35	4150	**1HC5 108-0ED** **-6WU1**	5.35	84			-

Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HC5 102	0.05	0.013	7000	34
1HC5 104	0.058	0.016	7000	42
1HC5 106	0.072	0.02	7000	53
1HC5 108	0.088	0.025	7000	68

Armature control

Speed can be coasted down by means of armature control to approx. 50 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 280 V	310 V	420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 4												
1170				1.24	10.1	1500	**1HC5 114-0DB** **-4TU1**	5.4	79	5.22	44.5	67
	1310			1.39	10.1	1650	**1HC5 114-0EB** **-3UU1**	5.4	80			28
		1840		2.5	13	4500	**1HC5 114-0FB** **-6VU1**	7.1	83			-
			2080	2.8	12.9	4500	**-6WU1**	7	84			-
1610				1.7	10.1	2050	**1HC5 114-0ED** **-4TU1**	7.2	83	2.83	25	59
	1800			1.89	10	2300	**1HC5 114-0FD** **-3UU1**	7.15	83			30
		2510		3.25	12.4	4500	**-6VU1**	8.95	85			-
			2820	3.45	11.7	4500	**1HC5 114-0GD** **-6WU1**	8.5	85			-
Overall length 6												
		1150		2.3	19.1	3550	**1HC5 116-0DB** **-6VU1**	6.6	81	7.66	72	-
			1300	2.6	19.1	3850	**1HC5 116-0EB** **-6WU1**	6.6	83			-
	1020			1.57	14.7	1300	**1HC5 116-0DC** **-3UU1**	6.15	81	5.22	47.5	17
		1440		2.85	18.9	4450	**1HC5 116-0EC** **-6VU1**	8.05	83			-
			1630	3.2	18.7	4500	**-6WU1**	8	84			-
1140				1.74	14.6	1450	**1HC5 116-0DD** **-4TU1**	7.45	82	3.41	32	50
	1280			1.94	14.5	1650	**1HC5 116-0ED** **-3UU1**	7.4	83			22
		1800		3.5	18.6	4500	**1HC5 116-0FD** **-6VU1**	9.7	85			-
			2030	3.9	18.3	4500	**-6WU1**	9.5	86			-
1400				2.1	14.3	1800	**1HC5 116-0EE** **-4TU1**	8.8	83	2.38	22	46
	1560			2.35	14.4	2000	**-3UU1**	8.8	84			23
		2190		4.1	17.9	4500	**1HC5 116-0FE** **-6VU1**	11.2	86			-
			2470	4.55	17.6	4500	**1HC5 116-0FE** **-6WU1**	11	87			-

Rated field voltage	310 V	**4**
Type of construction	IM B 3	**0**
	IM B 35	**6**

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HC5 114	0.043	0.032	6000	86
1HC5 116	0.05	0.042	6000	110

Armature control

Speed can be coasted down by means of armature control to approx. 50 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

1HC5
Size 132

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 280 V	310 V	420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 2												
		1130		2.75	23.2	3150	**1HC5 132-0DA** **-6VU1**	7.65	83	4.29	62	-
			1290	3.1	23	3250	**1HC5 132-0EA** **-6WU1**	7.55	83			-
	955			2.05	20.5	1200	**1HC5 132-0DB** **-3UU1**	7.85	80	3.09	45	30
		1360		3.2	22.5	3600	**1HC5 132-0EB** **-6VU1**	8.8	84			-
			1590	3.6	21.6	3600	**-6WU1**	8.75	85			-
990				1.87	18	1250	**1HC5 132-0DC** **-4TU1**	7.85	80	2.45	34.5	44
	1110			2.4	20.6	1400	**-3UU1**	8.95	82			32
		1640		3.65	21.2	3600	**1HC5 132-0EC** **-6VU1**	10	85			-
			1930	4.05	20	3600	**1HC5 132-0FC** **-6WU1**	9.9	85			-
1180				2.2	17.8	1500	**1HC5 132-0DD** **-4TU1**	9.1	82	1.73	25.5	43
	1340			2.8	20	1700	**1HC5 132-0ED** **-3UU1**	10.4	83			34
		2080		4.2	19.3	3600	**1HC5 132-0FD** **-6VU1**	11.5	86			-
			2600	4.7	17.3	3600	**-6WU1**	11.6	86			-
1370				2.45	17.1	1750	**1HC5 132-0EE** **-4TU1**	10.1	83	1.41	20.5	41
	1570			3.15	19.2	2000	**-3UU1**	11.8	84			35
		2610		4.7	17.2	3600	**1HC5 132-0GE** **-6VU1**	12.9	85			-
1650				2.8	16.2	2100	**1HC5 132-0EF** **-4TU1**	11.5	84	1.05	16	38
	1900			3.65	18.3	2450	**1HC5 132-0FF** **-3UU1**	13.4	85			36
1930				3.1	15.3	2500	**1HC5 132-0FG** **-4TU1**	12.8	84	0.827	13	36
	2310			4.1	16.9	3000	**-3UU1**	15.3	85			38
2410				3.45	13.7	3100	**1HC5 132-0FH** **-4TU1**	14.5	84	0.691	10	33
	2910			4.35	14.3	3600	**1HC5 132-0GH** **-3UU1**	16.5	84			37
Overall length 4												
		1040		3.8	35	2900	**1HC5 134-0DA** **-6VU1**	10.4	83	3.03	47.5	-
			1190	4.2	33.7	3000	**-6WU1**	10.2	85			-
	875			2.9	31.7	1100	**1HC5 134-0DB** **-3UU1**	10.8	81	2.32	35	23
		1240		4.35	33.5	3350	**1HC5 134-0EB** **-6VU1**	11.8	85			-
			1450	4.85	32	3400	**-6WU1**	11.7	86			-
955				2.7	27	1200	**1HC5 134-0DC** **-4TU1**	11	82	1.68	25	31
	1060			3.4	30.7	1350	**-3UU1**	12.6	83			26
		1570		5.15	31.3	3600	**1HC5 134-0EC** **-6VU1**	13.8	86			-
			1860	5.7	29.2	3600	**1HC5 134-0FC** **-6WU1**	13.7	87			-
1110				3.05	26.2	1400	**1HC5 134-0DD** **-4TU1**	12.4	83	1.26	19	31
	1240			3.9	30	1600	**1HC5 134-0ED** **-3UU1**	14.3	84			27
		1900		5.7	28.6	3600	**1HC5 134-0FD** **-6VU1**	15.4	88			-
			2380	6.4	25.6	3600	**-6WU1**	15.4	88			-
1330				3.45	24.8	1700	**1HC5 134-0EE** **-4TU1**	14.1	84	0.958	14	30
	1520			4.55	28.6	1950	**-3UU1**	16.7	86			27
		2620		6.6	24	3600	**1HC5 134-0GE** **-6VU1**	17.9	88			-

Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

Rated speed n_N rpm at rated armature voltage 280 V	310 V	420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 6												
		1020		4.9	45.7	2950	**1HC5 136-0DA** **-6VU1**	13.4	84	2.22	35	-
			1170	5.5	45	3000	**-6WU1**	13.2	86			-
	910			3.95	41.5	1150	**1HC5 136-0DB** **-3UU1**	14.7	83	1.51	24	20
		1300		5.9	43.3	3500	**1HC5 136-0EB** **-6VU1**	15.7	86			-
			1520	6.65	41.7	3550	**-6WU1**	15.9	88			-
965				3.55	35.3	1200	**1HC5 136-0DC** **-4TU1**	14.6	83	1.15	17.5	25
	1090			4.6	40.3	1400	**-3UU1**	16.9	84			21
		1620		6.85	40.5	3600	**1HC5 136-0EC** **-6VU1**	18.3	88			-
			1930	7.6	37.5	3600	**1HC5 136-0FC** **-6WU1**	18.1	88			-
1190				4.2	33.7	1500	**1HC5 136-0DD** **-4TU1**	17	85	0.774	12	24
	1360			5.5	38.5	1750	**1HC5 136-0ED** **-3UU1**	20	86			22
		2240		8.1	34.5	3600	**1HC5 136-0FD** **-6VU1**	21.5	88			-
			2790	8.55	29.2	3600	**1HC5 136-0GD** **-6WU1**	20.4	88			-

Rated field voltage 310 V — 4
Type of construction IM B 3 — 0
IM B 35 — 6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HC5 132	0.135	0.09	5000	115
1HC5 134	0.175	0.11	5000	135
1HC5 136	0.21	0.14	5000	160

Armature control

Speed can be coasted down by means of armature control to approx. 50 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

1HC5
Size 160

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a Ω	Armature circuit Inductance L_a mH	Series inductance mH
Overall length 4										
1140		6.3	53	3600	**1HC5 164-0DC -6VU1**	16.7	86	0.955	16	-
	1290	7.05	52	3600	**1HC5 164-0EC -6WU1**	16.7	87			-
1390		7.4	51	3600	**1HC5 164-0ED -6VU1**	19.6	88	0.67	11.5	-
	1580	8.25	49.7	3600	**-6WU1**	19.6	88			-
1670		8.5	48.5	3600	**1HC5 164-0EE -6VU1**	22.6	88	0.522	8.6	-
	1930	9.45	46.7	3600	**1HC5 164-0FE -6WU1**	22.6	88			-
2120		9.75	44	3600	**1HC5 164-0FF -6VU1**	26	88	0.361	6.1	-
	2510	10.6	40.3	3600	**-6WU1**	25.5	88			-
Overall length 6										
1090		7.85	69	3600	**1HC5 166-0DC -6VU1**	20.8	88	0.773	14.5	-
	1240	8.85	68	3600	**1HC5 166-0EC -6WU1**	20.8	88			-
1420		9.85	66	3600	**1HC5 166-0ED -6VU1**	26	88	0.496	9.3	-
	1640	11.2	65	3600	**-6WU1**	26.2	89			-
1850		12.2	63	3600	**1HC5 166-0FE -6VU1**	32.3	89	0.319	6.2	-
	2160	13.6	60	3600	**-6WU1**	31.7	89			-
2340		14.1	57.5	3600	**1HC5 166-0FF -6VU1**	37.3	89	0.25	4.55	-
	2820	15.3	52	3600	**1HC5 166-0GF -6WU1**	36.3	88			-

Rated field voltage 310 V → 4
Type of construction IM B 3 → 0, IM B 35 → 6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HC5 164	0.26	0.29	4500	245
1HC5 166	0.29	0.36	4500	290

Armature control

Speed can be coasted down by means of armature control to approx. 50 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 6											
930				37.6	386	2540	**1HQ6 186-0NA□ -1VV1**	104	84	472	7.85
	1060			42.8	386	2280	**-1WV1**	104	85		
		1190		47.8	384	2020	**-7MV1**	103	86		
			1390	56	385	1570	**-7NV1**	103	88		
1140				46.2	388	2180	**1HQ6 186-0NB□ -1VV1**	124	86	330	5.83
	1290			52.5	388	1880	**-1WV1**	125	87		
		1440		58	385	1570	**-7MV1**	123	88		
1390				53.5	368	3400	**1HQ6 186-0NC□ -1VV1**	141	87	242	3.89
	1570			60.5	368	3400	**-1WV1**	141	88		
		1750		66.5	362	3400	**-7MV1**	139	89		
			2040	76.5	358	3400	**-7NV1**	137	90		
1730				62	342	3400	**1HQ6 186-0ND□ -1VV1**	159	90	156	2.72
	1950			69	338	3400	**-1WV1**	157	90		
		2180		75.5	330	3400	**-7MV1**	156	91		
			2520	86	326	3400	**-7NV1**	153	92		
2000				75	358	3400	**1HQ6 186-0NE□ -1VV1**	192	90	118	1.96
	2260			84.5	358	3400	**-1WV1**	194	91		
		2520		93	352	3400	**-7MV1**	192	92		
2400				81.5	324	3400	**1HQ6 186-0NF□ -1VV1**	208	91	82.5	1.46
	2700			91.5	324	3400	**-1WV1**	208	92		
2920				85.5	280	3400	**1HQ6 186-0NG□ -1VV1**	216	92	60.5	0.97
	3280			96	280	3400	**-1WV1**	218	92		
3160				87.5	264	3400	**1HQ6 186-0NH□ -1VV1**	222	92	51.5	0.84

Rated field voltage
310 V — 4

Type of construction
IM B 3 — 0
IM B 35 — 6

1HQ6
Size 180

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 8											
745				37.6	482	2000	**1HQ6 188-0NA** ▯ **-1VV1**	106	82	535	9.65
	850			42.8	480	1840	**-1WV1**	106	83		
		955		47.8	478	1660	**-7MV1**	105	85		
			1120	56	478	1290	**-7NV1**	105	87		
915				46.2	482	1760	**1HQ6 188-0NB** ▯ **-1VV1**	127	84	374	7.17
	1040			52.5	482	1550	**-1WV1**	127	86		
		1160		58.5	482	1290	**-7MV1**	126	87		
1120				54.5	465	3360	**1HQ6 188-0NC** ▯ **-1VV1**	146	86	275	4.78
	1270			61.5	462	3400	**-1WV1**	146	87		
		1420		68	458	3400	**-7MV1**	144	88		
			1650	78.5	454	3400	**-7NV1**	142	90		
1400				64	436	3400	**1HQ6 188-0ND** ▯ **-1VV1**	167	89	177	3.34
	1590			72	432	3400	**-1WV1**	165	90		
		1770		79.5	428	3400	**-7MV1**	164	90		
			2060	91.5	424	3400	**-7NV1**	164	91		
1620				76.5	450	3400	**1HQ6 188-0NE** ▯ **-1VV1**	197	90	134	2.41
	1830			86	448	3400	**-1WV1**	197	90		
		2040		95.5	448	3160	**-7MV1**	198	91		
1940				83.5	412	3400	**1HQ6 188-0NF** ▯ **-1VV1**	212	91	93.5	1.79
	2180			94	412	3020	**-1WV1**	212	92		
2360				88	356	3400	**1HQ6 188-0NG** ▯ **-1VV1**	222	92	69	1.19
	2660			98.5	354	3400	**-1WV1**	222	92		
		2960		109	352	3400	**-7MV1**	222	92		
2580				92	340	3400	**1HQ6 188-0NH** ▯ **-1VV1**	234	92	58.5	1.03
	2900			102	336	3400	**-1WV1**	230	92		
		3220		110	326	3400	**1HQ6 188-0NH** ▯ **-7MV1**	224	92		

Rated field voltage 310 V — 4
Type of construction IM B 3 — 0
IM B 35 — 6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HQ6 186	1.5	0.6	3800	540
1HQ6 188	1.6	0.7	3800	610

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 6											
935				56.5	575	2800	**1HQ6 206-0NA** **-1VV1**	154	85	292	5.81
	1060			64	575	3100	**-1WV1**	154	86		
		1190		71.5	575	3100	**-7MV1**	153	88		
			1390	83.5	575	3100	**-7NV1**	153	89		
1100				66	575	3100	**1HQ6 206-0NB** **-1VV1**	176	87	212	4.28
	1250			75	575	3100	**-1WV1**	176	88		
		1390		83.5	575	3100	**-7MV1**	176	89		
			1630	97	570	3100	**-7NV1**	175	90		
1270				72	540	3100	**1HQ6 206-0NC** **-1VV1**	188	89	160	3.19
	1440			80.5	535	3100	**-1WV1**	185	90		
		1600		88.5	530	3100	**-7MV1**	183	90		
			1860	102	525	3100	**-7NV1**	181	91		
1520				87.5	550	3100	**1HQ6 206-0ND** **-1VV1**	226	90	117	2.29
	1710			98	545	3100	**-1WV1**	225	90		
		1910		107	535	3100	**-7MV1**	222	91		
			2220	122	525	2540	**-7NV1**	218	92		
1770				95.5	515	3100	**1HQ6 206-0NE** **-1VV1**	242	91	84.5	1.66
	1990			106	510	3100	**-1WV1**	242	92		
		2220		116	500	2600	**-7MV1**	238	92		
2100				102	464	3100	**1HQ6 206-0NF** **-1VV1**	260	92	63.5	1.2
	2360			113	458	3100	**-1WV1**	256	92		
		2620		122	445	3100	**-7MV1**	248	93		
			3040	136	428	3100	**-7NV1**	240	93		
2280				116	486	3100	**1HQ6 206-0NG** **-1VV1**	295	92	54.5	1.04
	2580			130	482	3100	**-1WV1**	294	92		
		2860		144	480	3100	**-7MV1**	294	93		
2760				122	422	3100	**1HQ6 206-0NH** **-1VV1**	308	92	38.2	0.76

Rated field voltage: 310 V → 4

Type of construction: IM B 3 → 0; IM B 35 → 6

1HQ6
Size 200

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 8											
745				55.5	710	2240	**1HQ6 208-0NA** -1VV1	154	84	334	7.18
	850			63	710	2550	-1WV1	153	85		
		950		70.5	710	2780	-7MV1	153	86		
			1110	82.5	710	2780	-7NV1	153	88		
880				66	715	2640	**1HQ6 208-0NB** -1VV1	178	86	242	5.29
	995			74.5	715	2800	-1WV1	178	87		
		1120		83.5	710	2800	-7MV1	178	88		
			1310	97.5	710	2800	-7NV1	177	89		
1020				72.5	680	3060	**1HQ6 208-0NC** -1VV1	191	88	183	3.95
	1150			81.5	675	3100	-1WV1	190	89		
		1290		90.5	670	3100	-7MV1	189	90		
			1500	105	670	2700	-7NV1	188	91		
1220				89	695	2850	**1HQ6 208-0ND** -1VV1	232	89	134	2.84
	1380			100	690	2860	-1WV1	232	90		
		1540		110	680	2640	-7MV1	228	90		
			1790	127	680	2060	-7NV1	226	91		
1420				97.5	655	2960	**1HQ6 208-0NE** -1VV1	250	90	96.5	2.05
	1600			110	655	2520	-1WV1	250	91		
		1790		121	645	2060	-7MV1	250	92		
1690				103	580	3100	**1HQ6 208-0NF** -1VV1	260	91	72.5	1.48
	1900			116	585	3100	-1WV1	260	92		
		2120		128	575	3100	-7MV1	262	92		
			2450	146	570	3100	-7NV1	258	93		
1840				118	610	3100	**1HQ6 208-0NG** -1VV1	298	92	62	1.28
	2080			132	605	3100	-1WV1	300	92		
		2300		146	605	3100	-7MV1	298	93		
			2680	169	600	3100	-7NV1	298	93		
2220				124	535	3100	**1HQ6 208-0NH** -1VV1	310	92	43.8	0.94
	2500			139	530	3100	-1WV1	314	93		
		2780		154	530	3100	**1HQ6 208-0NH** -7MV1	314	93		

Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HQ6 206	1.7	1.2	3500	720
1HQ6 208	1.9	1.3	3500	810

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

1HQ6
Size 225

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 6													
850						82.5	925	2320	**1HQ6 226-0NA□ -1VV1**	220	87	180	4.71
	960					93	925	2320	**-1WV1**	220	88		
		1070				104	930	2320	**-7MV1**	220	89		
			1260			120	910	2340	**-7NV1**	216	90		
				1530		143	895	2300	**-2XV1**	214	91		
					1730	160	885	1970	**-2YV1**	212	92		
970						94.5	930	2320	**1HQ6 226-0NB□ -1VV1**	250	88	139	3.56
	1100					106	920	2340	**-1WV1**	246	89		
		1220				118	925	2340	**-7MV1**	248	90		
			1430			136	910	2360	**-7NV1**	244	91		
				1730		161	890	1850	**-2XV1**	238	92		
1150						111	920	2300	**1HQ6 226-0NC□ -1VV1**	290	89	103	2.7
	1300					124	910	2320	**-1WV1**	286	90		
		1450				137	900	2320	**-7MV1**	284	91		
			1690			157	885	1890	**-7NV1**	282	92		
1420						127	855	2700	**1HQ6 226-0ND□ -1VV1**	326	91	74	1.91
	1610					142	840	2700	**-1WV1**	326	91		
		1790				156	830	2700	**-7MV1**	322	92		
			2080			178	815	2700	**-7NV1**	316	93		
				2500		208	795	2700	**-2XV1**	306	93		
1650						136	785	2700	**1HQ6 226-0NE□ -1VV1**	344	92	55	1.49
	1860					153	785	2700	**-1WV1**	344	92		
		2080				169	775	2700	**-7MV1**	345	93		
			2400			195	775	2700	**-7NV1**	344	93		
1950						156	765	2700	**1HQ6 226-0NF□ -1VV1**	395	93	38.8	1.03
	2200					175	760	2700	**-1WV1**	395	93		
		2440				193	755	2700	**-7MV1**	392	93		
2320						164	675	2700	**1HQ6 226-0NG□ -1VV1**	412	93	26	0.67
	2600					184	675	2700	**-1WV1**	412	94		
2540						167	630	2700	**1HQ6 226-0NH□ -1VV1**	420	93	22	0.61

Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

1HQ6
Size 225

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 8													
665						82	1180	1990	1HQ6 228-0NA -1VV1	224	85	206	5.83
	755					93	1180	1990	-1WV1	222	87		
		845				103	1160	2000	-7MV1	220	88		
			985			120	1160	2020	-7NV1	220	89		
				1200		144	1150	1860	-2XV1	216	91		
					1360	162	1140	1580	-2YV1	214	91		
760						94	1180	1990	1HQ6 228-0NB -1VV1	252	87	160	4.4
	860					106	1180	2000	-1WV1	250	88		
		960				118	1170	2000	-7MV1	250	89		
			1120			136	1160	1920	-7NV1	246	90		
				1370		162	1130	1480	-2XV1	240	92		
905						111	1170	1960	1HQ6 228-0NC -1VV1	292	88	118	3.34
	1020					125	1170	1970	-1WV1	292	89		
		1140				138	1160	1890	-7MV1	288	90		
			1330			159	1140	1540	-7NV1	284	91		
1120						129	1100	2480	1HQ6 228-0ND -1VV1	335	90	85	2.37
	1270					145	1090	2500	-1WV1	332	91		
		1410				161	1090	2500	-7MV1	332	91		
			1640			185	1080	2520	-7NV1	328	92		
				1990		215	1030	2600	-2XV1	316	93		
					2240	236	1010	2660	-2YV1	308	93		
1300						137	1010	2700	1HQ6 228-0NE -1VV1	350	91	63.5	1.84
	1470					154	1000	2700	-1WV1	348	92		
		1640				171	995	2700	-7MV1	350	92		
			1900			198	995	2700	-7NV1	346	93		
				2300		238	990	2700	-2XV1	348	94		
					2600	264	970	2700	-2YV1	344	94		
1540						158	980	2700	1HQ6 228-0NF -1VV1	398	92	44.5	1.28
	1730					177	975	2700	-1WV1	396	93		
		1930				196	970	2700	-7MV1	398	93		
			2240			226	965	2700	-7NV1	398	94		
1830						167	870	2700	1HQ6 228-0NG -1VV1	415	93	29.8	0.83
	2060					187	865	2700	-1WV1	418	93		
		2280				206	865	2700	-7MV1	416	94		
			2660			238	855	2700	-7NV1	416	94		
2000						168	800	2700	1HQ6 228-0NH -1VV1	416	93	25.2	0.75
	2260					189	800	2700	-1WV1	422	94		
		2500				208	795	2700	1HQ6 228-0NH -7MV1	420	94		

Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

3

1HQ6
Size 225

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HQ6 226	1.9	2.2	3000	1020
1HQ6 228	2.3	2.5	3000	1030

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 6													
765						107	1340	1990	**1HQ6 256-0NA** ☐ **-1VV1**	282	88	120	4.03
	865					121	1340	1990	**-1WV1**	282	89		
		965				134	1330	2000	**-7MV1**	280	90		
			1130			156	1320	1860	**-7NV1**	278	91		
870						123	1350	2000	**1HQ6 256-0NB** ☐ **-1VV1**	320	89	93.5	3.04
	985					138	1340	2020	**-1WV1**	318	90		
		1100				153	1330	1910	**-7MV1**	315	91		
			1280			178	1330	1520	**-7NV1**	315	92		
1020						143	1340	2050	**1HQ6 256-0NC** ☐ **-1VV1**	368	90	69	2.32
	1150					161	1340	1800	**-1WV1**	366	91		
		1280				178	1330	1530	**-7MV1**	364	92		
1240						168	1290	2300	**1HQ6 256-0ND** ☐ **-1VV1**	428	91	50.5	1.72
	1400					189	1290	2300	**-1WV1**	428	92		
		1560				208	1270	2300	**-7MV1**	426	92		
			1810			240	1270	2300	**-7NV1**	425	93		
				2180		285	1250	2300	**-2XV1**	418	94		
1420						191	1280	2300	**1HQ6 256-0NE** ☐ **-1VV1**	484	92	38.2	1.28
	1600					214	1280	2300	**-1WV1**	480	93		
		1780				236	1270	2300	**-7MV1**	482	93		
			2060			270	1250	2300	**-7NV1**	476	93		
1640						230	1340	2300	**1HQ6 256-0NF** ☐ **-1VV1**	585	93	27.5	0.92
	1840					252	1310	2300	**-1WV1**	570	93		
		2040				270	1260	2300	**-7MV1**	550	94		
1900						240	1210	2300	**1HQ6 256-0NG** ☐ **-1VV1**	605	93	21.2	0.69
	2120					262	1180	2300	**-1WV1**	590	94		
2160						265	1170	2300	**1HQ6 256-0NH** ☐ **-1VV1**	665	94	16.1	0.55

Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

1HQ6
Size 250

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 8													
600						107	1700	1700	**1HQ6 258-0NA□ -1VV1**	285	87	138	5
	675					121	1710	1700	**-1WV1**	285	88		
		755				135	1710	1700	**-7MV1**	285	89		
			885			157	1690	1480	**-7NV1**	284	90		
				1070		189	1690	1110	**-2XV1**	282	91		
680						123	1730	1710	**1HQ6 258-0NB□ -1VV1**	324	88	107	3.77
	770					139	1720	1690	**-1WV1**	324	89		
		860				154	1710	1530	**-7MV1**	322	90		
			1000			179	1710	1240	**-7NV1**	320	91		
795						144	1730	1640	**1HQ6 258-0NC□ -1VV1**	375	89	79.5	2.87
	900					162	1720	1450	**-1WV1**	374	90		
		1000				180	1720	1230	**-7MV1**	372	91		
975						170	1670	2140	**1HQ6 258-0ND□ -1VV1**	438	90	58.5	2.13
	1100					191	1660	2140	**-1WV1**	435	91		
		1220				212	1660	2150	**-7MV1**	435	92		
			1420			245	1650	2150	**-7NV1**	432	93		
				1720		292	1620	2180	**-2XV1**	425	93		
					1950	328	1610	2180	**-2YV1**	428	94		
1120						193	1650	2160	**1HQ6 258-0NE□ -1VV1**	490	91	44	1.59
	1260					218	1650	2150	**-1WV1**	492	92		
		1400				240	1640	2160	**-7MV1**	488	92		
			1630			276	1620	2180	**-7NV1**	488	93		
				1970		330	1600	2200	**-2XV1**	484	94		
1290						240	1780	1950	**1HQ6 258-0NF□ -1VV1**	610	92	31.6	1.15
	1450					266	1750	1980	**-1WV1**	600	93		
		1610				290	1720	2000	**-7MV1**	585	93		
			1870			326	1660	2060	**-7NV1**	575	94		
1500						256	1630	2300	**1HQ6 258-0NG□ -1VV1**	640	93	24.4	0.85
	1690					282	1590	2300	**-1WV1**	635	93		
		1870				305	1560	2300	**-7MV1**	620	94		
			2160			340	1500	2300	**-7NV1**	595	94		
1700						268	1510	2300	**1HQ6 258-0NH□ -1VV1**	675	93	18.6	0.68
	1910					294	1470	2300	**-1WV1**	660	94		
		2120				315	1420	2300	**1HQ6 258-0NH□ -7MV1**	635	94		

Rated field voltage 310 V → 4
Type of construction IM B 3 → 0; IM B 35 → 6

3

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HQ6 256	2.6	3.6	2600	1340
1HQ6 258	3.2	4.2	2600	1520

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

1HQ6
Size 280

Selection and ordering data

These motors are uncompensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 6													
665						151	2160	1490	**1HQ6 286-0NA** ▯ **-1VV1**	394	89	80	3.44
	750					170	2160	1490	**-1WV1**	394	90		
		840				189	2150	1390	**-7MV1**	392	91		
			980			220	2140	1150	**-7NV1**	390	92		
785						173	2100	1520	**1HQ6 286-0NB** ▯ **-1VV1**	445	90	59.5	2.59
	885					195	2100	1340	**-1WV1**	445	91		
		985				216	2100	1160	**-7MV1**	444	92		
890						192	2060	1850	**1HQ6 286-0NC** ▯ **-1VV1**	492	91	49.4	2.19
	1010					216	2040	1850	**-1WV1**	490	92		
		1120				238	2020	1860	**-7MV1**	485	92		
			1300			276	2020	1860	**-7NV1**	485	93		
				1580		330	1990	1880	**-2XV1**	484	94		
					1780	370	1990	1890	**-2YV1**	480	94		
1000						212	2020	2100	**1HQ6 286-0ND** ▯ **-1VV1**	540	91	39.6	1.66
	1130					238	2020	2100	**-1WV1**	535	92		
		1260				264	2000	2100	**-7MV1**	535	93		
			1460			305	2000	2100	**-7NV1**	535	93		
				1770		364	1960	2120	**-2XV1**	530	94		
					2000	406	1940	2140	**-2YV1**	525	94		
1150						252	2100	1970	**1HQ6 286-0NE** ▯ **-1VV1**	635	92	29.6	1.31
	1290					282	2080	1970	**-1WV1**	635	93		
		1440				312	2060	1980	**-7MV1**	635	93		
			1670			356	2040	2000	**-7NV1**	625	94		
				2000		400	1910	2120	**-2XV1**	585	94		
1370						282	1970	2040	**1HQ6 286-0NF** ▯ **-1VV1**	710	93	21	1.01
	1540					308	1910	2080	**-1WV1**	690	93		
		1700				332	1870	2140	**-7MV1**	670	94		
			1960			364	1770	2200	**-7NV1**	635	94		
1540						328	2040	1970	**1HQ6 286-0NG** ▯ **-1VV1**	820	93	16.3	0.74
	1730					358	1980	2020	**-1WV1**	805	94		
		1920				384	1910	2060	**-7MV1**	775	94		
1740						335	1840	2050	**1HQ6 286-0NH** ▯ **-1VV1**	840	94	13	0.58
	1950					364	1780	2100	**1HQ6 286-0NH** ▯ **-1WV1**	815	94		

Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

1HQ6
Size 280

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 8													
525						151	2750	1270	1HQ6 288-0NA□ -1VV1	400	88	91.5	4.24
	595					170	2720	1210	-1WV1	398	89		
		665				190	2720	1110	-7MV1	398	90		
			775			220	2720	925	-7NV1	395	91		
620						174	2680	1220	1HQ6 288-0NB□ -1VV1	454	89	68.5	3.19
	705					196	2660	1080	-1WV1	452	90		
		785				218	2650	950	-7MV1	450	91		
710						193	2600	1580	1HQ6 288-0NC□ -1VV1	498	90	56.5	2.7
	800					216	2580	1590	-1WV1	494	91		
		890				240	2580	1600	-7MV1	494	91		
			1040			280	2580	1590	-7NV1	494	92		
				1260		335	2540	1610	-2XV1	492	93		
					1420	378	2540	1610	-2YV1	488	94		
795						214	2580	1800	1HQ6 288-0ND□ -1VV1	550	91	45.5	2.04
	900					240	2550	1810	-1WV1	545	91		
		1000				268	2560	1800	-7MV1	550	92		
			1160			310	2550	1810	-7NV1	545	93		
				1410		370	2500	1830	-2XV1	540	94		
					1590	416	2500	1830	-2YV1	540	94		
915						255	2660	1690	1HQ6 288-0NE□ -1VV1	650	91	34	1.62
	1030					286	2650	1690	-1WV1	645	92		
		1150				316	2620	1700	-7MV1	640	93		
			1330			366	2620	1700	-7NV1	640	93		
				1610		436	2580	1720	-2XV1	640	94		
1090						296	2600	1710	1HQ6 288-0NF□ -1VV1	745	92	24	1.24
	1230					328	2550	1730	-1WV1	735	93		
		1360				356	2500	1760	-7MV1	715	93		
			1580			400	2420	1810	-7NV1	700	94		
1230						338	2620	1670	1HQ6 288-0NG□ -1VV1	850	93	18.7	0.91
	1390					380	2620	1670	-1WV1	855	93		
		1540				414	2560	1700	-7MV1	840	94		
1390						356	2450	1700	1HQ6 288-0NH□ -1VV1	885	94	15	0.72
	1560					392	2400	1730	1HQ6 288-0NH□ -1WV1	875	94		

Rated field voltage	310 V	4
Type of construction	IM B 3	0
	IM B 35	6

1HQ6
Size 280

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HQ6 286	3.3	6.4	2500	1800
1HQ6 288	3.9	7.5	2500	2040

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Type of construction

For other type of constructions and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are compensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 1													
590						222	3590	1970	1HQ7 351-5NA□□-1VV1	580	90	50.9	0.74
	670					250	3560	1970	-1WV1	580	91		
		745				274	3510	2000	-7MV1	570	91		
			870			316	3470	2000	-7NV1	565	92		
				1050		362	3290	2080	-2XV1	535	93		
					1190	405	3250	2100	-2YV1	530	94		
675						244	3450	1980	1HQ7 351-5NB□□-1VV1	635	90	43.6	0.54
	765					275	3430	1990	-1WV1	635	91		
		850				298	3350	2020	-7MV1	620	92		
			990			345	3330	2040	-7NV1	615	93		
				1210		384	3030	2100	-2XV1	565	93		
					1360	428	3000	2100	-2YV1	560	94		
755						276	3490	1980	1HQ7 351-5NC□□-1VV1	710	91	34.4	0.5
	850					310	3480	1980	-1WV1	710	92		
		945				335	3380	2020	-7MV1	690	93		
			1100			384	3330	2040	-7NV1	680	93		
				1330		422	3030	2100	-2XV1	620	94		
					1510	464	2930	2100	-2YV1	605	94		
860						302	3350	1970	1HQ7 351-5ND□□-1VV1	775	92	28.4	0.35
	965					338	3340	1980	-1WV1	770	92		
		1080				358	3170	2050	-7MV1	735	93		
			1250			410	3130	2060	-7NV1	725	94		
				1520		424	2660	2100	-2XV1	620	94		
					1720	466	2590	2100	-2YV1	605	94		
980						335	3260	1970	1HQ7 351-5NE□□-1VV1	850	93	20.7	0.31
	1100					376	3250	1970	-1WV1	850	93		
		1230				396	3080	2050	-7MV1	805	94		
			1430			446	2980	2080	-7NV1	785	94		
				1730		442	2440	2100	-2XV1	645	94		
					1950	470	2300	2100	-2YV1	610	94		
1090						368	3220	1960	1HQ7 351-5NF□□-1VV1	930	93	17.2	0.24
	1230					408	3170	1980	-1WV1	920	94		
		1370				418	2910	2100	-7MV1	850	94		
			1590			470	2820	2100	-7NV1	825	94		
1240						402	3100	2040	1HQ7 351-5NG□□-1VV1	1010	94	12.3	0.19
	1390					445	3050	2060	-1WV1	1000	94		
		1550				440	2710	2100	-7MV1	890	94		
			1800			484	2570	2100	-7NV1	850	94		
1400						415	2830	2100	1HQ7 351-5NH□□-1VV1	1040	94	10.5	0.14
	1580					456	2760	2100	-1WV1	1020	94		
1640						440	2560	2100	1HQ7 351-5NJ□□-1VV1	1100	94	8.26	0.11
	1840					472	2450	2100	1HQ7 351-5NJ□□-1WV1	1060	94		

Rated field voltage 310 V — 4

Type of construction IM B 3 — 0

1HQ7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 2													
505						224	4250	1800	**1HQ7 352-5NA□□-1VV1**	590	89	54.5	0.82
	570					252	4220	1810	**-1WV1**	590	90		
		635				278	4180	1820	**-7MV1**	580	91		
			740			322	4150	1830	**-7NV1**	580	92		
				900		375	3980	1880	**-2XV1**	555	93		
					1020	420	3930	1900	**-2YV1**	550	94		
575						246	4080	1820	**1HQ7 352-5NB□□-1VV1**	645	90	46.7	0.6
	650					278	4080	1820	**-1WV1**	645	90		
		725				305	4020	1840	**-7MV1**	635	91		
			845			354	4000	1840	**-7NV1**	630	92		
				1030		402	3720	1930	**-2XV1**	590	93		
					1170	450	3680	1940	**-2YV1**	585	94		
640						282	4200	1800	**1HQ7 352-5NC□□-1VV1**	730	91	36.8	0.55
	725					316	4160	1800	**-1WV1**	725	92		
		810				344	4060	1830	**-7MV1**	710	92		
			940			396	4020	1850	**-7NV1**	700	93		
				1140		446	3730	1940	**-2XV1**	650	94		
					1290	496	3670	1960	**-2YV1**	645	94		
730						308	4030	1800	**1HQ7 352-5ND□□-1VV1**	790	92	30.4	0.38
	825					346	4000	1800	**-1WV1**	790	92		
		920				372	3860	1840	**-7MV1**	760	93		
			1070			428	3820	1860	**-7NV1**	755	93		
				1300		462	3390	2020	**-2XV1**	675	94		
					1470	515	3340	2020	**-2YV1**	665	94		
840						335	3810	1820	**1HQ7 352-5NE□□-1VV1**	850	93	22.2	0.35
	945					376	3800	1820	**-1WV1**	850	93		
		1050				415	3770	1830	**-7MV1**	845	94		
			1220			474	3710	1850	**-7NV1**	830	94		
				1480		498	3220	2040	**-2XV1**	725	95		
					1670	540	3090	2100	**-2YV1**	700	95		
935						382	3900	1760	**1HQ7 352-5NF□□-1VV1**	970	93	18.5	0.26
	1050					426	3880	1780	**-1WV1**	960	93		
		1170				445	3630	1860	**-7MV1**	905	94		
			1360			505	3540	1880	**-7NV1**	885	94		
				1650		496	2870	2100	**-2XV1**	720	94		
1060						405	3650	1880	**1HQ7 352-5NG□□-1VV1**	1020	94	13.2	0.21
	1190					454	3640	1880	**-1WV1**	1020	94		
		1320				482	3480	1940	**-7MV1**	975	94		
			1540			540	3350	1980	**-7NV1**	945	95		
1200						428	3410	1950	**1HQ7 352-5NH□□-1VV1**	1080	94	11.2	0.15
	1350					480	3400	1950	**-1WV1**	1070	94		
		1500				480	3050	2080	**-7MV1**	970	94		
1400						485	3300	2100	**1HQ7 352-5NJ□□-1VV1**	1210	94	8.85	0.12
	1570					530	3230	2100	**1HQ7 352-5NJ□□-1WV1**	1190	94		

Rated field voltage 310 V → 4
Type of construction IM B 3 → 0

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 3													
426						225	5040	1640	**1HQ7 353-5NA** **-1VV1**	600	88	58.9	0.92
	482					255	5050	1630	**-1WV1**	600	89		
		540				282	4980	1640	**-7MV1**	595	90		
			630			328	4970	1650	**-7NV1**	590	91		
				765		385	4800	1690	**-2XV1**	570	93		
					870	434	4770	1700	**-2YV1**	570	93		
490						244	4750	1670	**1HQ7 353-5NB** **-1VV1**	645	89	50.5	0.66
	555					275	4730	1680	**-1WV1**	640	90		
		620				304	4680	1690	**-7MV1**	635	91		
			720			354	4680	1690	**-7NV1**	635	92		
				875		416	4540	1730	**-2XV1**	615	93		
					990	468	4520	1730	**-2YV1**	610	93		
545						285	5000	1630	**1HQ7 353-5NC** **-1VV1**	740	90	39.8	0.62
	615					322	5000	1630	**-1WV1**	740	91		
		685				352	4900	1650	**-7MV1**	730	92		
			800			406	4850	1660	**-7NV1**	720	93		
				970		466	4590	1730	**-2XV1**	685	94		
					1100	520	4510	1740	**-2YV1**	675	94		
620						312	4800	1620	**1HQ7 353-5ND** **-1VV1**	805	91	32.8	0.43
	700					352	4800	1620	**-1WV1**	805	92		
		780				382	4680	1660	**-7MV1**	785	92		
			910			442	4640	1660	**-7NV1**	785	93		
				1110		492	4230	1770	**-2XV1**	720	94		
					1250	550	4200	1780	**-2YV1**	710	94		
715						332	4430	1680	**1HQ7 353-5NE** **-1VV1**	845	92	24	0.39
	805					372	4410	1690	**-1WV1**	840	93		
		895				412	4400	1690	**-7MV1**	835	93		
			1040			476	4370	1690	**-7NV1**	835	94		
				1260		540	4100	1770	**-2XV1**	785	95		
					1420	595	4000	1800	**-2YV1**	770	95		
795						380	4560	1620	**1HQ7 353-5NF** **-1VV1**	965	93	19.9	0.3
	895					428	4560	1620	**-1WV1**	965	93		
		995				468	4490	1640	**-7MV1**	950	94		
			1160			535	4400	1660	**-7NV1**	940	94		
				1400		560	3820	1840	**-2XV1**	815	95		
905						406	4290	1720	**1HQ7 353-5NG** **-1VV1**	1020	93	14.3	0.23
	1020					456	4270	1720	**-1WV1**	1020	94		
		1130				500	4220	1740	**-7MV1**	1010	94		
			1310			580	4220	1730	**-7NV1**	1010	95		
1020						430	4020	1780	**1HQ7 353-5NH** **-1VV1**	1080	94	12.1	0.17
	1150					484	4020	1780	**-1WV1**	1080	94		
		1280				525	3920	1810	**-7MV1**	1060	94		
1190						490	3930	2020	**1HQ7 353-5NJ** **-1VV1**	1230	94	9.57	0.14
	1340					550	3920	2020	**1HQ7 353-5NJ** **-1WV1**	1230	94		
Rated field voltage 310 V									**4**				
Type of construction IM B 3									**0**				

3

1HQ7
Size 355

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 4													
354						225	6070	1420	1HQ7 354-5NA□ -1VV1	605	87	64.8	1.06
	402					255	6050	1460	-1WV1	605	89		
		450				282	6000	1470	-7MV1	600	90		
			525			330	6000	1470	-7NV1	600	91		
				640		390	5810	1500	-2XV1	580	92		
					725	440	5800	1510	-2YV1	580	93		
408						240	5620	1520	1HQ7 354-5NB□ -1VV1	640	88	55.4	0.75
	462					270	5580	1530	-1WV1	635	89		
		515				300	5560	1530	-7MV1	630	90		
			600			350	5560	1530	-7NV1	630	91		
				730		416	5430	1550	-2XV1	620	93		
					830	472	5430	1550	-2YV1	620	93		
455						282	5920	1470	1HQ7 354-5NC□ -1VV1	740	90	43.8	0.71
	515					318	5900	1470	-1WV1	740	91		
		575				354	5880	1470	-7MV1	735	91		
			670			412	5870	1470	-7NV1	735	92		
				810		478	5630	1530	-2XV1	705	93		
					920	535	5560	1540	-2YV1	700	94		
520						310	5700	1460	1HQ7 354-5ND□ -1VV1	805	90	36	0.49
	585					350	5700	1460	-1WV1	805	91		
		655				386	5640	1470	-7MV1	800	92		
			760			448	5630	1480	-7NV1	795	93		
				925		510	5260	1550	-2XV1	750	94		
					1040	575	5260	1550	-2YV1	745	94		
595						334	5350	1500	1HQ7 354-5NE□ -1VV1	855	92	26.4	0.45
	675					376	5320	1500	-1WV1	850	93		
		750				416	5300	1510	-7MV1	850	93		
			870			482	5290	1510	-7NV1	845	94		
				1050		570	5180	1530	-2XV1	830	94		
					1190	635	5100	1550	-2YV1	820	95		
665						384	5510	1440	1HQ7 354-5NF□ -1VV1	980	92	21.9	0.34
	750					432	5500	1440	-1WV1	980	93		
		835				476	5440	1450	-7MV1	970	93		
			965			550	5440	1460	-7NV1	965	94		
				1170		605	4930	1570	-2XV1	880	95		
755						406	5130	1550	1HQ7 354-5NG□ -1VV1	1020	93	15.7	0.26
	850					456	5120	1550	-1WV1	1020	94		
		v945				500	5050	1570	-7MV1	1010	94		
			1100			580	5050	1570	-7NV1	1010	95		
855						432	4820	1600	1HQ7 354-5NH□ -1VV1	1090	93	13.3	0.19
	960					485	4820	1600	-1WV1	1090	94		
		1070				530	4730	1620	-7MV1	1070	94		
995						492	4720	1830	1HQ7 354-5NJ□ -1VV1	1230	94	10.5	0.16
	1120					550	4690	1840	1HQ7 354-5NJ□ -1WV1	1230	94		
Rated field voltage						310 V → 4							
Type of construction						IM B 3 → 0							

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 5													
282						220	7440	1130	1HQ7 355-5NA□□ -1VV1	600	86	73.5	1.25
	322					250	7410	1280	-1WV1	600	87		
		360				278	7370	1280	-7MV1	595	89		
			420			326	7400	1280	-7NV1	595	90		
				515		390	7250	1300	-2XV1	585	91		
					585	440	7180	1310	-2YV1	585	92		
326						232	6800	1300	1HQ7 355-5NB□□ -1VV1	620	87	62.9	0.88
	370					262	6760	1350	-1WV1	620	89		
		414				292	6730	1350	-7MV1	620	90		
			484			340	6700	1360	-7NV1	615	91		
				590		408	6600	1370	-2XV1	610	92		
					665	462	6620	1370	-2YV1	610	93		
365						275	7190	1300	1HQ7 355-5NC□□ -1VV1	725	89	49.7	0.85
	412					310	7180	1300	-1WV1	725	90		
		460				345	7160	1300	-7MV1	720	91		
			535			402	7160	1300	-7NV1	720	92		
				650		482	7080	1320	-2XV1	715	93		
					740	545	7030	1320	-2YV1	715	93		
416						302	6930	1290	1HQ7 355-5ND□□ -1VV1	790	90	40.7	0.57
	470					342	6940	1290	-1WV1	790	91		
		525				378	6880	1300	-7MV1	785	91		
			610			440	6880	1300	-7NV1	785	92		
				745		520	6670	1320	-2XV1	770	93		
					840	590	6700	1320	-2YV1	770	94		
480						330	6570	1310	1HQ7 355-5NE□□ -1VV1	850	91	30	0.53
	540					372	6560	1310	-1WV1	850	92		
		605				412	6500	1320	-7MV1	845	93		
			700			478	6520	1320	-7NV1	845	93		
				850		570	6410	1330	-2XV1	830	94		
					960	645	6420	1330	-2YV1	835	95		
535						378	6750	1260	1HQ7 355-5NF□□ -1VV1	970	92	24.8	0.4
	600					426	6750	1260	-1WV1	970	92		
		670				472	6720	1270	-7MV1	965	93		
			780			550	6740	1260	-7NV1	970	94		
				945		635	6420	1310	-2XV1	925	94		
610						402	6300	1360	1HQ7 355-5NG□□ -1VV1	1020	93	17.8	0.31
	685					452	6300	1360	-1WV1	1020	93		
		760				500	6280	1370	-7MV1	1010	94		
			885			580	6260	1360	-7NV1	1010	94		
690						430	5950	1400	1HQ7 355-5NH□□ -1VV1	1090	93	15.1	0.23
	775					482	5940	1410	-1WV1	1080	94		
		860				530	5880	1420	-7MV1	1070	94		
805						490	5820	1630	1HQ7 355-5NJ□□ -1VV1	1230	94	11.9	0.19
	905					550	5810	1630	1HQ7 355-5NJ□□ -1WV1	1230	94		

Rated field voltage	310 V	4
Type of construction	IM B 3	0

1HQ7
Size 355

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HQ7 351	3.8	17	2200	2700
1HQ7 352	4.1	20	2200	2900
1HQ7 353	4.5	22	2200	3100
1HQ7 354	5.1	25	2200	3300
1HQ7 355	5.7	29	2200	3600

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N
(short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are compensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 1													
426						230	5150	1700	**1HQ7 401-5NA -1VV1**	600	90	59.2	1.13
	482					260	5150	1730	**-1WV1**	600	91		
		540				288	5100	1740	**-7MV1**	595	91		
			625			334	5100	1740	**-7NV1**	595	92		
				760		394	4950	1780	**-2XV1**	580	93		
					860	440	4900	1790	**-2YV1**	570	94		
v478						258	5150	1710	**1HQ7 401-5NB -1VV1**	670	90	46.3	0.73
	540					292	5150	1700	**-1WV1**	670	91		
		605				320	5050	1720	**-7MV1**	660	92		
			700			370	5050	1730	**-7NV1**	655	93		
				850		430	4820	1780	**-2XV1**	630	94		
					960	482	4800	1790	**-2YV1**	625	94		
545						285	5000	1720	**1HQ7 401-5NC -1VV1**	735	91	37.5	0.54
	610					322	5050	1720	**-1WV1**	740	92		
		685				350	4880	1750	**-7MV1**	720	92		
			795			404	4850	1760	**-7NV1**	715	93		
				965		460	4560	1840	**-2XV1**	670	94		
					1090	515	4500	1850	**-2YV1**	665	94		
605						324	5100	1720	**1HQ7 401-5ND -1VV1**	830	92	28.8	0.53
	685					364	5100	1720	**-1WV1**	825	93		
		760				396	4980	1750	**-7MV1**	805	93		
			885			455	4920	1760	**-7NV1**	795	94		
				1070		515	4600	1840	**-2XV1**	745	95		
					1210	570	4500	1870	**-2YV1**	730	95		
695						358	4920	1700	**1HQ7 401-5NE -1VV1**	910	93	24.5	0.34
	780					400	4900	1710	**-1WV1**	900	93		
		870				428	4700	1760	**-7MV1**	860	94		
			1010			492	4650	1770	**-7NV1**	860	94		
				1220		530	4150	1900	**-2XV1**	765	95		
					1380	590	4080	1900	**1HQ7 401-5NE -2YV1**	755	95		
Rated field voltage					310 V				4				
Type of construction					IM B 3				0				

1HQ7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
780						382	4680	1770	1HQ7 401-5NF▯	-1VV1	965	93	19	0.27
	880					428	4650	1770		-1WV1	960	94		
		980				468	4560	1790		-7MV1	945	94		
			1140			535	4500	1810		-7NV1	930	95		
				1380		555	3840	1900		-2XV1	800	95		
					1550	615	3780	1900		-2YV1	790	95		
890						444	4760	1730	1HQ7 401-5NG▯	-1VV1	1110	94	14.1	0.28
	1000					492	4700	1750		-1WV1	1100	94		
		1110				515	4420	1820		-7MV1	1030	95		
			1290			580	4290	1850		-7NV1	1000	95		
				1560		595	3640	1900		-2XV1	855	95		
1000						464	4440	1770	1HQ7 401-5NH▯	-1VV1	1160	94	11.3	0.18
	1120					520	4420	1780		-1WV1	1160	95		
		1250				540	4120	1860		-7MV1	1080	95		
			1450			610	4020	1890		-7NV1	1060	95		
1220						515	4030	1900	1HQ7 401-5NJ▯	-1VV1	1280	94	8.3	0.12
	1370					575	4000	1900		-1WV1	1280	95		
		1530				545	3400	1900	1HQ7 401-5NJ▯	-7MV1	1090	95		

Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1HQ7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 2													
350						234	6400	1400	**1HQ7 402-5NA** -1VV1	615	89	64.6	1.3
	396					264	6350	1550	**-1WV1**	615	90		
		442				292	6300	1560	**-7MV1**	610	91		
			515			338	6250	1570	**-7NV1**	605	92		
				625		402	6140	1600	**-2XV1**	595	93		
					710	452	6100	1600	**-2YV1**	590	94		
394						260	6300	1530	**1HQ7 402-5NB** -1VV1	680	90	50.4	0.82
	445					294	6300	1530	**-1WV1**	680	91		
		496				324	6250	1550	**-7MV1**	670	91		
			580			376	6200	1550	**-7NV1**	670	92		
				700		440	6000	1590	**-2XV1**	645	93		
					795	496	5950	1590	**-2YV1**	645	94		
446						288	6150	1550	**1HQ7 402-5NC** -1VV1	750	90	40.8	0.6
	505					325	6150	1550	**-1WV1**	750	91		
		565				356	6000	1570	**-7MV1**	735	92		
			655			412	6000	1580	**-7NV1**	730	93		
				795		475	5700	1630	**-2XV1**	695	94		
					900	535	5700	1640	**-2YV1**	695	94		
500						322	6150	1570	**1HQ7 402-5ND** -1VV1	825	92	31.4	0.6
	565					362	6120	1570	**-1WV1**	825	92		
		625				402	6120	1570	**-7MV1**	820	93		
			730			465	6080	1580	**-7NV1**	820	94		
				885		535	5800	1630	**-2XV1**	780	94		
					1000	595	5700	1650	**-2YV1**	765	95		
570						364	6100	1520	**1HQ7 402-5NE** -1VV1	930	92	26.6	0.39
	645					408	6050	1530	**-1WV1**	925	93		
		715				440	5900	1570	**-7MV1**	895	93		
			830			510	5860	1570	**-7NV1**	895	94		
				1010		565	5350	1670	**-2XV1**	820	95		
					1140	630	5280	1680	**1HQ7 402-5NE** -2YV1	810	95		

Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1HQ7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
645						380	5620	1610	1HQ7 402-5NF▯	-1VV1	965	93	20.7	0.3
	725					428	5620	1610		-1WV1	965	93		
		810				472	5580	1620		-7MV1	955	94		
			940			545	5550	1620		-7NV1	950	94		
				1140		600	5020	1730		-2XV1	865	95		
					1280	670	5000	1750		-2YV1	860	95		
735						444	5770	1580	1HQ7 402-5NG▯	-1VV1	1120	94	15.4	0.33
	825					498	5750	1580		-1WV1	1110	94		
		920				545	5650	1600		-7MV1	1100	95		
			1070			620	5550	1620		-7NV1	1080	95		
				1290		670	4980	1750		-2XV1	965	95		
825						450	5200	1650	1HQ7 402-5NH▯	-1VV1	1120	94	12.3	0.21
	930					505	5200	1580		-1WV1	1120	94		
		1030				555	5150	1660		-7MV1	1110	95		
			1190			640	5130	1670		-7NV1	1110	95		
1010						515	4880	1880	1HQ7 402-5NJ▯	-1VV1	1280	94	9	0.13
	1130					580	4880	1880		-1WV1	1290	95		
		1260				615	4660	1900	1HQ7 402-5NJ▯	-7MV1	1230	95		
Rated field voltage					310 V					4				
Type of construction					IM B 3					0				

3

1HQ7 Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 3													
294						232	7540	1180	**1HQ7 403-5NA** -1VV1	615	88	70.4	1.48
	332					262	7540	1330	**-1WV1**	615	89		
		372				292	7500	1420	**-7MV1**	615	90		
			434			338	7450	1430	**-7NV1**	610	91		
				525		404	7350	1450	**-2XV1**	600	93		
					595	455	7300	1450	**-2YV1**	595	93		
332						255	7340	1330	**1HQ7 403-5NB** -1VV1	670	89	54.9	0.93
	375					290	7400	1390	**-1WV1**	675	90		
		418				320	7300	1400	**-7MV1**	665	91		
			488			372	7300	1410	**-7NV1**	665	92		
				590		442	7150	1430	**-2XV1**	650	93		
					670	498	7100	1440	**-2YV1**	650	94		
375						288	7340	1400	**1HQ7 403-5NC** -1VV1	755	90	44.4	0.67
	424					324	7300	1410	**-1WV1**	750	91		
		474				356	7200	1430	**-7MV1**	740	91		
			550			414	7200	1430	**-7NV1**	740	92		
				670		482	6870	1470	**-2XV1**	710	93		
					760	545	6850	1470	**-2YV1**	710	94		
420						320	7260	1430	**1HQ7 403-5ND** -1VV1	825	91	34.2	0.68
	475					362	7280	1430	**-1WV1**	825	92		
		530				400	7220	1440	**-7MV1**	820	93		
			615			466	7240	1430	**-7NV1**	825	93		
				745		545	7000	1470	**-2XV1**	795	94		
					840	610	6940	1480	**-2YV1**	790	95		
480						364	7250	1380	**1HQ7 403-5NE** -1VV1	935	92	29	0.43
	540					410	7250	1380	**-1WV1**	935	92		
		600				446	7100	1410	**-7MV1**	910	93		
			700			515	7050	1420	**-7NV1**	905	94		
				850		585	6600	1480	**-2XV1**	850	95		
					960	655	6500	1490	**1HQ7 403-5NE** -2YV1	845	95		
Rated field voltage						310 V			4				
Type of construction						IM B 3			0				

3

1HQ7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
545						384	6740	1460	1HQ7 403-5NF▯	-1VV1	980	92	22.5	0.33
	610					432	6750	1460		-1WV1	980	93		
		680				478	6700	1460		-7MV1	975	93		
			790			555	6700	1460		-7NV1	975	94		
				955		630	6300	1530		-2XV1	915	95		
					1080	705	6230	1540		-2YV1	905	95		
620						455	7000	1410	1HQ7 403-5NG▯	-1VV1	1150	93	16.8	0.37
	695					510	7000	1420		-1WV1	1150	94		
		775				560	6900	1430		-7MV1	1130	94		
			900			635	6750	1450		-7NV1	1110	95		
				1080		705	6250	1550		-2XV1	1020	95		
695						465	6400	1470	1HQ7 403-5NH▯	-1VV1	1170	94	13.4	0.23
	780					520	6350	1480		-1WV1	1160	94		
		870				575	6300	1480		-7MV1	1160	95		
			1010			660	6250	1480		-7NV1	1150	95		
850						520	5850	1720	1HQ7 403-5NJ▯	-1VV1	1300	94	9.8	0.15
	955					580	5800	1730		-1WV1	1290	95		
		1060				635	5720	1750	1HQ7 403-5NJ▯	-7MV1	1280	95		

Rated field voltage	310 V	4
Type of construction	IM B 3	0

3

1HQ7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 4													
240						228	9100	950	**1HQ7 404-5NA** **-1VV1**	615	87	78.5	1.74
	270					255	9000	1080	**-1WV1**	600	88		
		302				286	9000	1210	**-7MV1**	605	89		
			354			336	9050	1260	**-7NV1**	610	91		
				430		402	8900	1280	**-2XV1**	600	92		
					488	455	8900	1280	**-2YV1**	600	93		
268						255	9050	1270	**1HQ7 404-5NB** **-1VV1**	680	88	61.2	1.07
	305					288	9000	1220	**-1WV1**	675	89		
		340				320	8950	1240	**-7MV1**	675	90		
			398			376	9000	1240	**-7NV1**	680	91		
				484		448	8850	1260	**-2XV1**	665	93		
					550	505	8800	1270	**-2YV1**	660	93		
306						285	8900	1220	**1HQ7 404-5NC** **-1VV1**	755	89	49.3	0.77
	345					322	8900	1250	**-1WV1**	750	90		
		386				356	8800	1260	**-7MV1**	745	91		
			450			415	8800	1260	**-7NV1**	745	92		
				550		485	8450	1290	**-2XV1**	715	93		
					620	550	8450	1290	**-2YV1**	720	94		
344						310	8600	1270	**1HQ7 404-5ND** **-1VV1**	800	90	38.2	0.8
	388					350	8600	1280	**-1WV1**	805	91		
		432				400	8800	1270	**-7MV1**	825	92		
			505			456	8620	1280	**-7NV1**	810	93		
				610		545	8520	1280	**-2XV1**	800	94		
					690	615	8500	1280	**-2YV1**	795	94		
392						365	8900	1220	**1HQ7 404-5NE** **-1VV1**	945	91	32.3	0.5
	442					412	8900	1220	**-1WV1**	945	92		
		492				450	8750	1240	**-7MV1**	925	92		
			575			520	8650	1250	**-7NV1**	920	93		
				695		600	8250	1290	**-2XV1**	875	94		
					785	675	8200	1300	**1HQ7 404-5NE** **-2YV1**	870	95		
Rated field voltage						310 V			**4**				
Type of construction						IM B 3			**0**				

3

1HQ7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
445						378	8100	1310	1HQ7 404-5NF▯	-1VV1	965	92	25	0.38
	500					426	8100	1310		-1WV1	970	92		
		555				475	8150	1300		-7MV1	970	93		
			650			555	8150	1300		-7NV1	975	94		
				785		655	8000	1320		-2XV1	950	95		
					885	740	8000	1320		-2YV1	950	95		
505						454	8550	1260	1HQ7 404-5NG▯	-1VV1	1150	93	18.8	0.44
	570					510	8550	1260		-1WV1	1150	93		
		635				565	8500	1260		-7MV1	1140	94		
			735			655	8500	1260		-7NV1	1140	94		
				890		740	7940	1260		-2XV1	1070	95		
570						465	7800	1310	1HQ7 404-5NH▯	-1VV1	1170	93	15	0.27
	640					525	7800	1300		-1WV1	1170	94		
		715				575	7700	1320		-7MV1	1160	94		
			825			670	7750	1310		-7NV1	1170	95		
700						520	7100	1550	1HQ7 404-5NJ▯	-1VV1	1300	94	10.9	0.17
	785					585	7100	1550		-1WV1	1300	94		
		870				640	7000	1570	1HQ7 404-5NJ▯	-7MV1	1290	95		

Rated field voltage	310 V	4
Type of construction	IM B 3	0

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 5													
183						225	11700	730	**1HQ7 405-5NA** **-1VV1**	620	85	91.7	2.16
	208					256	11700	830	**-1WV1**	620	87		
		234				285	11600	935	**-7MV1**	615	88		
			274			334	11600	1070	**-7NV1**	615	89		
				334		404	11500	1080	**-2XV1**	610	91		
					380	456	11500	1080	**-2YV1**	605	92		
206						250	11600	825	**1HQ7 405-5NB** **-1VV1**	675	86	71.3	1.31
	235					284	11500	940	**-1WV1**	680	88		
		262				316	11500	1050	**-7MV1**	675	89		
			308			370	11500	1050	**-7NV1**	675	90		
				375		448	11400	1060	**-2XV1**	670	92		
					425	505	11300	1070	**-2YV1**	670	92		
235						282	11500	940	**1HQ7 405-5NC** **-1VV1**	760	87	57.4	0.92
	266					320	11500	1050	**-1WV1**	760	88		
		298				354	11300	1060	**-7MV1**	750	89		
			348			414	11300	1060	**-7NV1**	750	91		
				424		492	11100	1090	**-2XV1**	735	92		
					480	555	11000	1090	**-2YV1**	730	93		
266						314	11300	1060	**1HQ7 405-5ND** **-1VV1**	825	89	44.6	0.98
	300					354	11200	1090	**-1WV1**	825	90		
		335				394	11200	1090	**-7MV1**	820	91		
			390			460	11200	1090	**-7NV1**	820	92		
				474		555	11200	1090	**-2XV1**	820	93		
					535	630	11200	1090	**-2YV1**	820	94		
302						360	11300	1040	**1HQ7 405-5NE** **-1VV1**	940	90	37.5	0.6
	342					408	11400	1030	**-1WV1**	945	91		
		382				450	11300	1040	**-7MV1**	935	92		
			444			525	11300	1040	**-7NV1**	935	92		
				540		615	11000	1070	**-2XV1**	900	94		
					610	695	10900	1070	**1HQ7 405-5NE** **-2YV1**	900	94		
Rated field voltage					310 V				**4**				
Type of construction					IM B 3				**0**				

3

1HQ7
Size 400

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
344						386	10700	1080	1HQ7 405-5NF▯	-1VV1	1000	91	29.1	0.46
	388					435	10700	1080		-1WV1	1000	92		
		432				482	10600	1090		-7MV1	995	92		
			500			560	10600	1090		-7NV1	995	93		
				610		670	10500	1100		-2XV1	980	94		
					685	760	10500	1100		-2YV1	985	95		
394						450	10900	1070	1HQ7 405-5NG▯	-1VV1	1150	92	21.9	0.54
	444					505	10800	1070		-1WV1	1150	93		
		494				560	10800	1080		-7MV1	1140	93		
			575			655	10900	1070		-7NV1	1150	94		
				695		770	10600	995		-2XV1	1120	95		
444						460	9900	1110	1HQ7 405-5NH▯	-1VV1	1160	93	17.4	0.33
	498					520	9950	1110		-1WV1	1170	93		
		555				575	9900	1120		-7MV1	1160	94		
			645			670	9900	1110		-7NV1	1170	94		
540						520	9200	1340	1HQ7 405-5NJ▯	-1VV1	1310	93	12.7	0.2
	610					585	9200	1340		-1WV1	1310	94		
		675				645	9100	1340	1HQ7 405-5NJ▯	-7MV1	1300	94		
Rated field voltage					310 V					4				
Type of construction					IM B 3					0				

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HQ7 401	4.3	23	2000	3300
1HQ7 402	4.8	26	2000	3600
1HQ7 403	5.2	30	2000	4000
1HQ7 404	6.1	34	2000	4400
1HQ7 405	6.6	41	2000	5100

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

Selection and ordering data

These motors are compensated.

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit Resistance at 120 °C R_a mΩ	Armature circuit Inductance L_a mH
Overall length 1													
262						189	6890	1050	**1HQ7 451-5NA** **-1VV1**	515	86	93.1	1.53
	298					214	6860	1190	**-1WV1**	510	88		
		334				238	6800	1340	**-7MV1**	510	89		
			390			278	6810	1480	**-7NV1**	510	90		
				476		334	6700	1490	**-2XV1**	500	92		
					540	378	6680	1490	**-2YV1**	500	92		
296						214	6900	1180	**1HQ7 451-5NB** **-1VV1**	570	88	70.9	1.32
	336					242	6880	1340	**-1WV1**	570	89		
		375				268	6820	1460	**-7MV1**	565	90		
			438			314	6840	1460	**-7NV1**	565	91		
				530		374	6740	1480	**-2XV1**	555	93		
					605	422	6680	1480	**-2YV1**	555	93		
332						240	6900	1330	**1HQ7 451-5NC** **-1VV1**	635	89	58.5	0.93
	375					270	6880	1460	**-1WV1**	630	90		
		418				300	6840	1460	**-7MV1**	625	91		
			488			348	6800	1470	**-7NV1**	625	92		
				595		412	6610	1500	**-2XV1**	610	93		
					670	464	6610	1500	**-2YV1**	605	94		
375						270	6880	1440	**1HQ7 451-5ND** **-1VV1**	710	90	49.1	0.76
	424					305	6870	1440	**-1WV1**	710	91		
		474				336	6770	1450	**-7MV1**	700	91		
			550			392	6800	1450	**-7NV1**	700	92		
				670		460	6560	1480	**-2XV1**	680	93		
					760	515	6470	1500	**-2YV1**	670	94		
430						310	6890	1450	**1HQ7 451-5NE** **-1VV1**	800	91	35.5	0.66
	486					350	6880	1440	**-1WV1**	800	92		
		540				384	6790	1460	**-7MV1**	790	93		
			630			444	6730	1470	**-7NV1**	785	93		
				765		515	6430	1510	**-2XV1**	750	94		
					865	580	6410	1520	**1HQ7 451-5NE** **-2YV1**	750	95		
Rated field voltage					310 V				**4**				
Type of construction					IM B 3				**0**				

1HQ7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
520						370	6800	1420	1HQ7 451-5NF▯	-1VV1	v945	92	25	0.49
	585					415	6770	1430		-1WV1	940	93		
		650				454	6660	1440		-7MV1	925	94		
			755			520	6580	1460		-7NV1	915	94		
				915		595	6210	1520		-2XV1	865	95		
					1030	665	6160	1530		-2YV1	855	95		
630						432	6550	1420	1HQ7 451-5NG▯	-1VV1	1090	93	17.2	0.35
	705					485	6570	1420		-1WV1	1090	94		
		785				530	6440	1440		-7MV1	1070	94		
			915			605	6310	1450		-7NV1	1050	95		
				1100		670	5810	1540		-2XV1	965	96		
					1240	740	5700	1570		-2YV1	945	96		
790						510	6170	1450	1HQ7 451-5NH▯	-1VV1	1280	94	12.3	0.19
	885					575	6200	1450		-1WV1	1280	94		
		985				605	5860	1500		-7MV1	1220	95		
			1140			690	5770	1520		-7NV1	1200	95		
900						575	6100	1460	1HQ7 451-5NJ▯	-1VV1	1430	95	9	0.17
	1010					645	6100	1460		-1WV1	1430	95		
		1130				665	5610	1540	1HQ7 451-5NJ▯	-7MV1	1330	95		
Rated field voltage						310 V				4				
Type of construction						IM B 3				0				

3

1HQ7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 2													
216						187	8270	865	**1HQ7 452-5NA** □ **-1VV1**	515	85	101	1.7
	246					212	8230	985	**-1WV1**	510	87		
		276				238	8230	1100	**-7MV1**	515	88		
			324			278	8190	1300	**-7NV1**	510	89		
				395		334	8080	1370	**-2XV1**	505	91		
					448	378	8060	1370	**-2YV1**	500	92		
245						212	8260	980	**1HQ7 452-5NB** □ **-1VV1**	570	87	76.7	1.47
	278					240	8240	1110	**-1WV1**	570	88		
		310				268	8260	1240	**-7MV1**	570	89		
			362			312	8230	1340	**-7NV1**	565	91		
				442		375	8100	1350	**-2XV1**	560	92		
					500	424	8100	1350	**-2YV1**	560	93		
274						238	8300	1100	**1HQ7 452-5NC** □ **-1VV1**	635	88	63.1	1.03
	310					270	8300	1240	**-1WV1**	635	89		
		348				298	8180	1350	**-7MV1**	630	90		
			405			348	8200	1350	**-7NV1**	625	91		
				494		414	8000	1370	**-2XV1**	615	93		
					560	468	7980	1370	**-2YV1**	615	93		
310						270	8320	1240	**1HQ7 452-5ND** □ **-1VV1**	715	89	52.9	0.84
	352					305	8270	1310	**-1WV1**	715	90		
		392				336	8180	1330	**-7MV1**	705	91		
			458			392	8170	1330	**-7NV1**	705	92		
				555		462	7950	1360	**-2XV1**	685	93		
					630	520	7880	1360	**-2YV1**	680	94		
356						310	8320	1320	**1HQ7 452-5NE** □ **-1VV1**	805	90	38.4	0.74
	402					350	8320	1320	**-1WV1**	805	91		
		448				385	8200	1340	**-7MV1**	795	92		
			525			446	8120	1340	**-7NV1**	790	93		
				635		525	7900	1370	**-2XV1**	770	94		
					715	590	7880	1380	**1HQ7 452-5NE** □ **-2YV1**	765	94		
Rated field voltage						310 V			4				
Type of construction						IM B 3			0				

3

1HQ7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
430						370	8210	1300	1HQ7 452-5NF▯	-1VV1	950	92	27	0.55
	484					416	8210	1310		-1WV1	950	92		
		540				456	8060	1320		-7MV1	935	93		
			625			525	8020	1330		-7NV1	925	94		
				760		610	7670	1370		-2XV1	885	95		
					860	680	7560	1380		-2YV1	875	95		
520						440	8080	1280	1HQ7 452-5NG▯	-1VV1	1120	93	18.6	0.39
	585					494	8060	1280		-1WV1	1110	94		
		655				535	7800	1310		-7MV1	1090	94		
			760			615	7720	1320		-7NV1	1070	95		
				915		695	7260	1380		-2XV1	1000	95		
					1040	770	7070	1400		-2YV1	985	96		
655						525	7660	1300	1HQ7 452-5NH▯	-1VV1	1320	94	13.3	0.21
	735					585	7600	1310		-1WV1	1310	94		
		820				620	7220	1360		-7MV1	1250	95		
			950			715	7190	1360		-7NV1	1240	95		
750						570	7260	1350	1HQ7 452-5NJ▯	-1VV1	1420	94	9.74	0.19
	840					640	7270	1350		-1WV1	1420	95		
		935				690	7050	1380	1HQ7 452-5NJ▯	-7MV1	1380	95		
Rated field voltage					310 V					4				
Type of construction					IM B 3					0				

3

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 3													
179						186	9920	715	**1HQ7 453-5NA** **-1VV1**	520	84	110	1.92
	204					212	9920	815	**-1WV1**	520	86		
		228				236	9880	910	**-7MV1**	515	87		
			268			276	9840	1070	**-7NV1**	510	89		
				328		335	9750	1230	**-2XV1**	510	90		
					372	380	9760	1230	**-2YV1**	510	91		
202						212	10000	810	**1HQ7 453-5NB** **-1VV1**	580	86	84.2	1.68
	230					240	9960	920	**-1WV1**	575	87		
		258				268	9920	1030	**-7MV1**	575	89		
			302			312	9870	1210	**-7NV1**	570	90		
				368		376	9760	1220	**-2XV1**	565	92		
					418	426	9730	1220	**-2YV1**	565	92		
228						238	9970	910	**1HQ7 453-5NC** **-1VV1**	640	87	69.1	1.16
	258					270	9990	1030	**-1WV1**	640	88		
		288				298	9880	1150	**-7MV1**	635	90		
			338			348	9840	1210	**-7NV1**	630	91		
				410		418	9740	1230	**-2XV1**	625	92		
					465	472	9690	1230	**-2YV1**	620	93		
258						268	9920	1030	**1HQ7 453-5ND** **-1VV1**	720	88	57.8	0.93
	292					304	9940	1170	**-1WV1**	720	89		
		326				338	9900	1190	**-7MV1**	715	90		
			382			394	9850	1190	**-7NV1**	710	91		
				464		468	9630	1210	**-2XV1**	695	93		
					525	530	9640	1210	**-2YV1**	695	93		
296						312	11000	1180	**1HQ7 453-5NE** **-1VV1**	820	90	42.1	0.83
	335					352	10000	1190	**-1WV1**	815	91		
		374				388	9900	1200	**-7MV1**	805	91		
			436			450	9860	1210	**-7NV1**	805	92		
				530		535	9640	1220	**-2XV1**	785	94		
					600	600	9550	1230	**1HQ7 453-5NE** **-2YV1**	780	94		
Rated field voltage					310 V				**4**				
Type of construction					IM B 3				**0**				

3

1HQ7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
358						372	9920	1170	1HQ7 453-5NF▯	-1VV1	960	91	29.6	0.63
	404					420	9920	1170		-1WV1	960	92		
		450				462	9800	1180		-7MV1	950	93		
			525			535	9730	1190		-7NV1	945	93		
				635		625	9400	1220		-2XV1	910	94		
					715	700	9350	1230		-2YV1	905	95		
435						446	9790	1140	1HQ7 453-5NG▯	-1VV1	1140	92	20.4	0.45
	490					500	9740	1150		-1WV1	1130	93		
		545				545	9550	1170		-7MV1	1110	94		
			635			630	9470	1170		-7NV1	1100	94		
				765		725	9050	1220		-2XV1	1050	95		
					865	805	8890	1230		-2YV1	1030	95		
545						535	9370	1160	1HQ7 453-5NH▯	-1VV1	1350	93	14.5	0.23
	615					600	9320	1160		-1WV1	1350	94		
		685				645	9000	1190		-7MV1	1300	94		
			795			740	8900	1200		-7NV1	1290	95		
625						590	9010	1190	1HQ7 453-5NJ▯	-1VV1	1480	94	10.7	0.21
	705					665	9000	1190		-1WV1	1480	95		
		780				720	8810	1210	1HQ7 453-5NJ▯	-7MV1	1450	95		

Rated field voltage 310 V → 4
Type of construction IM B 3 → 0

1HQ7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 4													
144						183	12100	575	**1HQ7 454-5NA** -1VV1	520	82	123	2.21
	164					208	12100	655	**-1WV1**	520	84		
		185				234	12100	740	**-7MV1**	520	86		
			218			274	12000	870	**-7NV1**	515	87		
				266		334	12000	1060	**-2XV1**	515	89		
					302	378	12000	1090	**-2YV1**	510	90		
164						208	12100	655	**1HQ7 454-5NB** -1VV1	575	85	94.2	1.95
	186					238	12200	745	**-1WV1**	580	86		
		208				265	12200	830	**-7MV1**	575	87		
			245			310	12100	980	**-7NV1**	575	89		
				298		376	12100	1070	**-2XV1**	570	91		
					340	426	12000	1080	**-2YV1**	570	92		
184						235	12200	735	**1HQ7 454-5NC** -1VV1	640	86	77	1.33
	208					266	12200	830	**-1WV1**	640	87		
		234				298	12200	935	**-7MV1**	640	88		
			274			348	12100	1070	**-7NV1**	640	90		
				334		418	12000	1090	**-2XV1**	630	91		
					378	474	12000	1090	**-2YV1**	630	92		
208						266	12200	830	**1HQ7 454-5ND** -1VV1	720	87	64.4	1.06
	236					302	12200	945	**-1WV1**	720	88		
		265				336	12100	1050	**-7MV1**	720	89		
			310			392	12100	1060	**-7NV1**	715	90		
				378		470	11900	1070	**-2XV1**	705	92		
					428	530	11800	1070	**-2YV1**	700	93		
240						308	12300	960	**1HQ7 454-5NE** -1VV1	815	89	47.1	0.97
	272					348	12200	1060	**-1WV1**	815	90		
		304				386	12100	1070	**-7MV1**	810	91		
			354			450	12100	1070	**-7NV1**	810	92		
				430		535	11900	1090	**-2XV1**	790	93		
					488	605	11800	1090	**1HQ7 454-5NE** -2YV1	790	94		

Rated field voltage 310 V → 4
Type of construction IM B 3 → 0

3

1HQ7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
290						372	12300	1030	1HQ7 454-5NF▯	-1VV1	970	90	33.1	0.73
	328					420	12200	1030		-1WV1	970	91		
		366				462	12100	1050		-7MV1	955	92		
			426			535	12000	1050		-7NV1	950	93		
				520		635	11700	1070		-2XV1	930	94		
					585	715	11700	1070		-2YV1	925	94		
354						446	12000	1010	1HQ7 454-5NG▯	-1VV1	1150	92	22.8	0.53
	400					500	11900	1010		-1WV1	1140	93		
		445				550	11800	1020		-7MV1	1130	93		
			515			635	11800	1030		-7NV1	1120	94		
				625		740	11300	1060		-2XV1	1080	95		
					705	830	11200	1010		-2YV1	1070	95		
444						535	11500	1020	1HQ7 454-5NH▯	-1VV1	1360	93	16.2	0.27
	500					605	11600	1020		-1WV1	1370	93		
		555				655	11300	1040		-7MV1	1330	94		
			645			760	11300	1040		-7NV1	1330	95		
510						590	11100	1050	1HQ7 454-5NJ▯	-1VV1	1490	94	12	0.25
	575					660	11000	1060		-1WV1	1480	94		
		640				730	10900	1060	1HQ7 454-5NJ▯	-7MV1	1470	95		
Rated field voltage					310 V					4				
Type of construction					IM B 3					0				

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.	Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
Overall length 5													
108						176	15600	432	**1HQ7 455-5NA** -1VV1	515	80	143	2.68
	124					202	15600	496	**-1WV1**	515	82		
		140				228	15600	560	**-7MV1**	515	84		
			165			268	15500	660	**-7NV1**	515	86		
				204		328	15400	815	**-2XV1**	510	88		
					232	372	15300	930	**-2YV1**	510	89		
124						202	15600	496	**1HQ7 455-5NB** -1VV1	575	83	110	2.38
	141					232	15700	565	**-1WV1**	575	84		
		159				260	15600	635	**-7MV1**	575	86		
			187			305	15600	750	**-7NV1**	575	87		
				230		370	15400	915	**-2XV1**	570	89		
					260	420	15400	915	**-2YV1**	565	90		
139						230	15800	555	**1HQ7 455-5NC** -1VV1	645	84	89.6	1.6
	159					260	15600	635	**-1WV1**	640	86		
		178				292	15700	710	**-7MV1**	640	87		
			210			342	15600	840	**-7NV1**	635	88		
				256		414	15400	920	**-2XV1**	630	90		
					290	470	15500	920	**-2YV1**	630	91		
158						260	15700	630	**1HQ7 455-5ND** -1VV1	720	85	74.8	1.27
	180					295	15700	720	**-1WV1**	720	86		
		202				330	15600	810	**-7MV1**	715	88		
			236			386	15600	900	**-7NV1**	715	89		
				290		466	15400	910	**-2XV1**	705	91		
					328	530	15400	905	**-2YV1**	705	92		
183						302	15800	730	**1HQ7 455-5NE** -1VV1	815	87	54.9	1.18
	208					344	15800	830	**-1WV1**	820	88		
		232				382	15700	905	**-7MV1**	815	89		
			272			446	15700	905	**-7NV1**	810	91		
				332		535	15400	920	**-2XV1**	800	92		
					376	605	15400	920	**1HQ7 455-5NE** -2YV1	800	93		

Rated field voltage 310 V — 4
Type of construction IM B 3 — 0

3

1HQ7
Size 450

Rated speed n_N rpm at rated armature voltage 420 V	470 V	520 V	600 V	720 V	810 V	Rated output P_N kW	Rated torque M_N Nm	Maximum field weakening speed n_{Fmax} rpm	Order No.		Rated current I_N A	Efficiency η %	Armature circuit: Resistance at 120 °C R_a mΩ	Armature circuit: Inductance L_a mH
222						366	15800	880	1HQ7 455-5NF	-1VV1	970	89	38.5	0.9
	252					414	15700	880		-1WV1	970	90		
		282				460	15600	885		-7MV1	965	91		
			328			535	15600	890		-7NV1	960	92		
				398		635	15200	905		-2XV1	940	93		
					452	720	15200	905		-2YV1	940	94		
272						442	15500	855	1HQ7 455-5NG	-1VV1	1150	91	26.6	0.64
	306					498	15500	855		-1WV1	1150	92		
		342				550	15400	865		-7MV1	1140	92		
			398			640	15400	865		-7NV1	1140	93		
				484		750	14800	890		-2XV1	1100	94		
					545	845	14800	810		-2YV1	1090	95		
342						530	14800	870	1HQ7 455-5NH	-1VV1	1360	92	18.9	0.32
	385					595	14800	870		-1WV1	1360	93		
		430				660	14700	875		-7MV1	1350	93		
			500			770	14700	870		-7NV1	1350	94		
394						580	14100	905	1HQ7 455-5NJ	-1VV1	1470	93	14	0.3
	442					655	14200	900		-1WV1	1470	94		
		492				725	14100	905	1HQ7 455-5NJ	-7MV1	1470	94		
Rated field voltage					310 V					4				
Type of construction					IM B 3					0				

Motor type	Field power approx. P_{field} kW	Moment of inertia J kgm²	Mechanical limit speed n_{mech} rpm	Weight, net approx. kg
1HQ7 451	2.9	39	1800	4200
1HQ7 452	3.2	44	1800	4500
1HQ7 453	3.3	50	1800	5000
1HQ7 454	3.6	57	1800	5700
1HQ7 455	4.2	70	1800	6600

Armature control

Speed can be coasted down by means of armature control to approx. 10 rpm at constant torque of the motor.

Field weakening

The order numbers for the motors are valid for field weakening speeds n_F up to 1.15 · n_N. At higher field weakening speeds supplementary short codes are required: "**C05**" for n_F > 1.15 · n_N to 1.7 · n_N and "**C06**" for n_F > 1.7 · n_N (short codes: from Page 3/137)

The motors can be operated at rated output P_N up to the field weakening speed n_{Fmax}.

For higher speeds, the output must be reduced.

Rated field voltage

For other rated field voltages and the associated Order No. supplement, see Page 3/6.

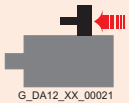
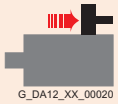
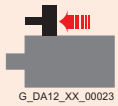
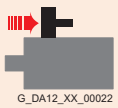
Selection and ordering data

When ordering, the Order No. must be supplemented with "-Z" and with one or more 3-character short codes.

Ordering example:

1GG7 352-5NA40-1WV1-Z
K10 + K55

Mounted equipment

	Option Description			Short code
Terminal box	Terminal box position[1]) when viewing DE		• Right	**K09**
			• Left	**K10**
			• Top	**K11** [2])
Cable infeed into terminal box	Cable infeed into terminal box for horizontal type of constructions: From below (with terminal box on left or right)			•
	From the right (terminal box at top and viewing at DE)			•
	For vertical type of constructions: From the right			•
	From DE (terminal box rotated by 90°)			**K83**
	From NDE (terminal box rotated by 90°)			**K84**
	Terminal box rotated by 180°			**K85**
	Cable entry plate drilled for maximum number of components (see Part 2 "Terminal boxes")	With heavy-gauge threaded joints to DIN 46320		**K55**
		With metric glands to DIN 89280		**K57**
Fan unit mounting and air intake for 1GG[1])	Fan unit at NDE and air entry into the fan unit from NDE Mounting of fan unit  G_DA12_XX_00021			
			• Top	**G04** [5])
			• Right	**G02**
			• Left	**G00**
	Fan unit at NDE and air entry into the fan unit from DE Mounting of fan unit  G_DA12_XX_00020			
			• Top	**G05** [6])
			• Right	**G03**
			• Left	**G01**
	Fan unit at DE and air entry into the fan unit from NDE Mounting of fan unit  G_DA12_XX_00023			
			• Top	**G10+K64** [4])
			• Right	**G08+K64** [4])
			• Left	**G06+K64** [4])
	Fan unit at DE and air entry into the fan unit from DE Mounting of fan unit  G_DA12_XX_00022			
			• Top	**G11+K64** [4])
			• Right	**G09+K64** [4])
			• Left	**G07+K64** [4])
	Intermediate socket required when terminal box and mounted fan are located in the same position			**L50** [3])
Air filter/silencer for 1GG	Dry-type filter			**G14** [7])
	Silencer			**G15** [3])[8])
	Combined silencer and filter assembly (for 1G.6 Sizes 180 to 280 only)			**H42**

• Standard version
1) Must be specified on ordering.
2) Not possible for 1H.. motors.
3) From Size 180 upwards.
4) Up to Size 160.
5) Standard up to Size 450.
6) Standard with 1GG5 50. and 63..
7) Not possible for 1GG5 100 to 166 when fan and terminal box are located in the same position.
8) For arrangement above motor casing only.

Options

	Option Description		Short code
Duct connection for 1GH	On one end (IP23/IC17 degree of protection)		•
	Both ends (IP54/IC37 degree of protection)		**K48**
	Air flow from DE to NDE		**K64**
	Duct connection at NDE	• Top	**K71**
		• Right	**K69**
		• Left	**K70**
	Duct connection at DE	• Top	**K67**
		• Right	**K65**
		• Left	**K66**
Degree of protection	IP55		**K49**
Paint finish	Standard paint finish in RAL 7016		•
	Primer only		**K24**
	Non-standard paint finish in RAL 7016		**L53**
	Standard paint finish in RAL		**Y53** [1])
	Non-standard paint finish in RAL		**Y54** [1])
Bearings	Bearing for high lateral forces		**K20** [2])
	Bearing with regreasing device		**K40** [3])
Shafts	Second standard shaft end		**K16**
	Non-standard shaft end on DE diameter less than or equal to standard, perm. length max. 2 x l		**Y55** [1])
	Standard shaft end without keyway		**K42**
	Shaft constructed from high-grade steel		**L72** [4])

• Standard version

1) Plain text is necessary.
2) Cannot be used with 1HA5/1HC5 and Sizes 355 to 630.
3) Not possible for Sizes 100 and 112, from Size 225 upwards standard version.
4) Only possible for Sizes 180 to 280.

Operation and diagnostics

	Option Description		Short code
Extended field control range	$n_F > 1.15 n_N$ to $1.7 n_N$ (to max. n_{Fmax})		**C05**
	$n_F > 1.7 n_N = n_{Fmax}$		**C06**
Sector-specific applications	Paper machine drives		**C34**
	Extruder drives		**C35**
	Pump motors for water treatment plants		**C36**
	Press motors		**C37**
	Motors for lifts and cable railways		**C38**
	Printing machine drives		**C40**
	Rolling mill drives		**C41**
	Hoisting equipment		**C42**
Direction of rotation	Both directions of rotation for motors of Sizes 100 to 450		•
	Both directions of rotation for motors of Sizes 500 to 630		**K99**
Anti-condensation heating	230 V AC		**K45**
	115 V AC		**K46** [1]
Visual brush inspection	Servicing covers with inspection window		**L73**
Brush length limit value	Microswitch, floating signal (for motors up to Size 450)		**A06**
	Signaling brushes (for motors from Size 500 upwards)		**A00**
Overtemperature limit value	Thermistor motor protection with PTC thermistor		
	• for tripping		**A11**
	• for warning and tripping		**A12**
	Bimetal strip temperature monitor for tripping		**A31**
Overtemperature, continuous	Measurement with KTY84-130 temperature sensor		**A23**
	Measurement with PT100 resistance thermometer		**A62**
Air flow for 1GG/1HS/1HQ	Vent captor air-flow monitoring		
	• U_B = AC 230 V relay output		**A09**
	• U_B = DC 24 V transistor output		**A97**
Cooling air temperature for 1HS/1HQ	Resistance thermometer in cooling air circuit		**A45**
Leak warning for 1HS	Humidity sensor in cooler unit		**H08**
Bearing monitoring	2 PT100 resistance thermometers		**A76** [1]
	Measuring fitting Type 32000 at DE and NDE for shock pulse measurement with mobile units		**G50** [1]
	Measuring fitting Type 40000 at DE and NDE for fixed connection of an SPM alarm box		**H60** [1]
Rating plate	Deviating rating plate data		**Y80** [2]
	Supply 2nd rating plate loose		**K31**
	Additional rating plate		**Y82** [2]
Balancing	Half-key balancing		**L69** [3]
	Full-key balancing		**L68** [4]
Vibration severity	acc. to DIN ISO 2373	• Grade N	•
		• Grade R	**K01** [5]
		• Grade S	**K02**
	Flange accuracy R acc. to DIN 42 955 (for flange motors with vibration class R only)		**K04**

• Standard version

1) From Size 180 upwards.
2) Plain text is necessary.
3) Standard with 1G.7/1H.7.
4) Standard with 1G.5/1H.5/1G.6/1H.6.
5) Standard up to Size 160.

Options

Mounted equipment

	Option Description	Short code
Fan unit	Non-standard voltage and/or frequency of the fan unit	**Y81** [4]
Brakes	Mounting of a DC spring-operated brake	
	• Supply voltage 230 V, 50 Hz	**G40** [1]
	• Supply voltage 24 V DC	**C00** [2]
	Manual release	**K82** [3]
	Combined mounting of brake and tacho/pulse encoder	**G92**
Tachometers	TD 3 AE 4 KAEM (Thalheim) 0.075 W, 30 V DC, non-standard type of construction (for single-quadrant drives only)	**G20**
	TDP 0.09 LT-3 (Hübner, Berlin) 0.4 W, 40 V DC, IM B 10	**G30**
	REO 444 R (Radio Energie) 4 W, DC 60 V, IM B 5	**G39**
	GMP 1.0 LT-4 (Hübner, Berlin) 30 W, DC 100 V, IM B 5 n, IP55	**G37**
	GTB 9.06 L/420 (Hübner, Berlin) 0.06 W, 20 V DC, hollow shaft type of construction	**G28**
	TDP 0.2 LT-4 (Hübner, Berlin) 4 W, 60 V DC, IM B 10, IP55	**H14**
Pulse encoders	POG 9 D 500 (Hübner, Berlin) 2 x 500 pulses per revolution, offset by 90°	**G16**
	POG 9 D 600 (Hübner, Berlin) 2 x 600 pulses per revolution, offset by 90°	**H48**
	POG 9 D 1024 (Hübner, Berlin) 2 x 1024 pulses per revolution, offset by 90°	**H55**
	POG 10 D 1024 (Hübner, Berlin) 2 x 1024 pulses per revolution, offset by 90°	**H56**
	ROD 436.001E (Heidenhain) 2 x 1024 pulses per revolution, offset by 90°	**H54**
Tacho or pulse encoder, non-standard versions	The device will be obtained by the factory to order. For further information, see Part 2 "Encoders"	**Y70** [4]
Tacho or pulse encoder mounting prepared for	TDP 0.2 LT; OG 9; POG 9; POG 10; REO 444R; FG4; L&L 850	**G75**
	TDP 0.09	**G76**
	TDP 1.2; GMP 1.0 L (Type of construction B5n)	**G77**
	ROD 436	**G78**
Air/water cooler for 1HS	Non-standard heat exchanger, suitable for brackish water	**M10**

1) For 1GF/1GL/1HA: Brakes mounted on request, not possible for Sizes 355 to 630.
2) Only possible for Sizes 100 to 160.
3) From Size 180 upwards standard version.
4) Plain text is necessary.

Dimensions

4

1G.5 series
Sizes 112 to 160
4/2 1GF5 114 - 1GF5 166
4/4 1GG5 100 - 1GG5 118
4/6 1GG5 132 - 1GG5 166
4/8 1GH5 100 - 1GH5 118
4/10 1GH5 132 - 1GH5 166
4/12 Speed encoder assembly and foot niche dimensions for 1G.5 motors Sizes 100 to 160

1HA5 series
Size 160
4/14 1HA5 164 - 1HA5 166

1HC5 series
Sizes 100 to 160
4/16 1HC5 102 - 1HC5 166

1G.6 series and 1H.6
Sizes 160 to 280
4/19 1GF6 162 - 1GF6 166
4/20 1GG6 162 - 1GG6 288
4/22 1GH6 162 - 1GH6 288
4/24 Types IM B 5, IM B 35, IM V 1 and IM V 15 for 1G.6 motors
4/26 1HS6 186 - 1HS6 288
4/28 1HQ6 186 - 1HQ6 288
4/30 Speed encoder assembly, foot niche dimensions and brake assembly for 1G.6 and 1H.6 motors

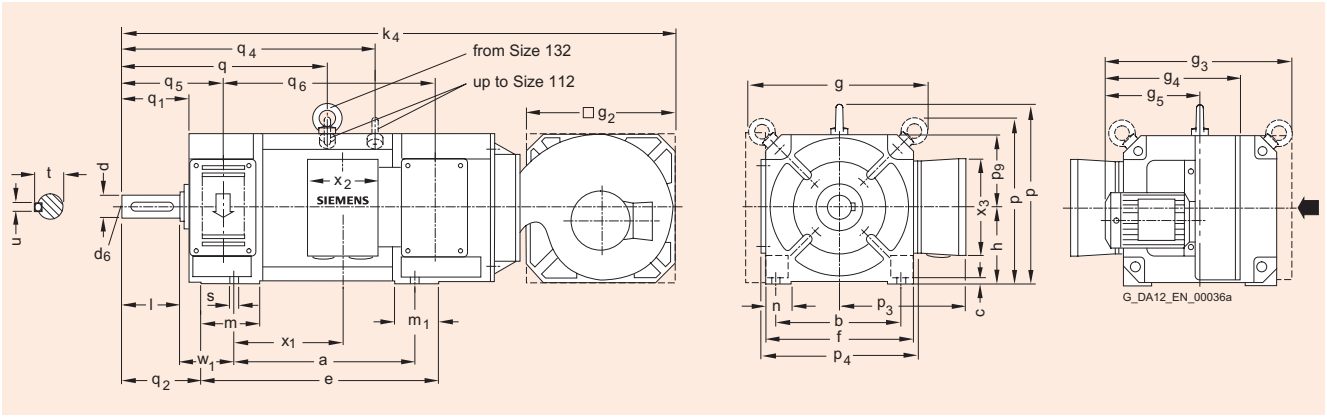
1G.7 and 1H.7 series
Sizes 355 to 450
4/32 1GG7 351 - 1GG7 355
4/33 1GG7 401 - 1GG7 405
4/34 1GG7 451 - 1GG7 455
4/35 1GH7 351 - 1GH7 355
4/36 1GH7 401 - 1GH7 405
4/37 1GH7 451 - 1GH7 455
4/38 1HS7 351 - 1HS7 355
4/39 1HS7 401 - 1HS7 405
4/40 1HS7 451 - 1HS7 455
4/41 1HQ7 351 - 1HQ7 355
4/42 1HQ7 401 - 1HQ7 405
4/43 1HQ7 451 - 1HQ7 455

1G.5 and 1H.5 series
Sizes 500 and 630
4/44 1GG5 500 - 1GG5 635
4/46 1GH5 500 - 1GH5 635
4/48 1HS5 500 - 1HS5 635

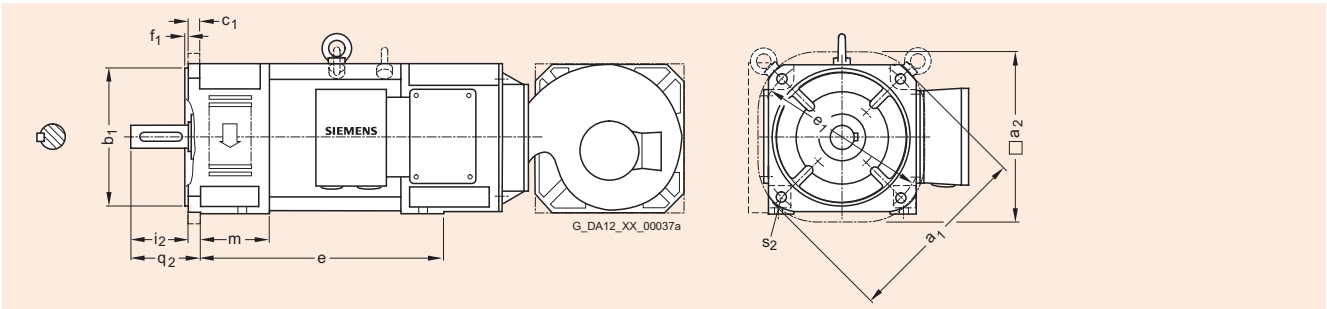
1GF5 114 - 1GF5 166

Dimension drawings

- Air inlet to the fan assembly from the left (standard version)
- Terminal box on right (standard version)



Type IM B 3



Types IM B 5, IM B 35, IM V 1 and IM V 15

For Type IM B 5/IM V 1, motors of Type IM B 35/IM V 15 will be supplied.

For the dimensions of the foot niches, see "Speed sensor assembly and foot niche dimensions for 1G.5 Sizes 100 to 160".

Type IM B 3

For motors			Dimensions acc. to																	
Size	Type **1GF5 . . .**	Terminal box type	**DIN a IEC B**	**b A**	c HA	e BB	f AB	g –	g_2 –	g_3 –	g_4 –	g_5 –	**h H**	m BA	m_1 –	n AA	p –	p_3 –	p_4 –	p_9 –
112	**. . . . 114**	gk 330	**340**	**190**	10	419	220	262	220	283	243	125	**112**	103	60	40	243	217	238	110
	 116	gk 330	**400**	**190**	10	479	220	262	220	283	243	125	**112**	103	60	40	243	217	238	110
132	**. . . . 132**	gk 420 gk 427	**320**	**216**	11	425	258	–	255	376	297	203	**132**	126	75	45	318	269	280	129
	 134	gk 420 gk 427	**370**	**216**	11	475	258	–	255	376	297	203	**132**	126	75	45	318	269	280	129
	 136	gk 420 gk 427	**430**	**216**	11	535	258	–	255	376	297	203	**132**	126	75	45	318	269	280	129
160	**. . . . 162**	gk 420 gk 427 gk 527	**390**	**254**	12	517	314	–	310	425	324	208	**160**	149	80	55	374	289	336	157
	 164	gk 420 gk 427 gk 527	**450**	**254**	12	577	314	–	310	425	324	208	**160**	149	80	55	374	289	336	157
	 166	gk 420 gk 427 gk 527	**530**	**254**	12	657	314	–	310	425	324	208	**160**	149	80	55	374	289	336	157

Type IM B 3 (continued)

For motors			Dimensions acc. to											Drive end shaft extension				
Size	Type 1GF5 . . .	Terminal box type	DIN q IEC –	q_1 –	q_2 –	q_4 –	q_5 –	q_6 –	s K	w_1 C	x_1 –	x_2 –	x_3 –	**d D**	l E	**t GA**	**u F**	d_6 –
112	**. . . . 114**	gk 330	275	89	89	355	138	376	12	70	213	132	152	**38**	80	**41**	**10**	M 12
	 116	gk 330	295	89	89	405	138	436	12	70	273	132	152	**38**	80	**41**	**10**	M 12
132	**. . . . 132**	gk 420 gk 427	275	121	121	–	176	361	12	89	174	162 162	162 162	**42**	110	**45**	**12**	M 16
	 134	gk 420 gk 427	310	121	121	–	176	411	12	89	224	162 162	162 162	**42**	110	**45**	**12**	M 16
	 136	gk 420 gk 427	370	121	121	–	176	471	12	89	284	162 162	162 162	**42**	110	**45**	**12**	M 16
160	**. . . . 162**	gk 420 gk 427 gk 527	342	120	120	–	185	457	14	108	246	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20
	 164	gk 420 gk 427 gk 527	402	120	120	–	185	517	14	108	306	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20
	 166	gk 420 gk 427 gk 527	482	120	120	–	185	597	14	108	386	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20

Types IM B 5, IM B 35, IM V 1 and IM V 15

For motors		Dimensions acc. to										
		Mounting flange to DIN 42 948										
Size	Type 1GF5 . . .	**DIN Size IEC**	a_1 P	a_2 [1] –	**b_1 N**	c_1 LA	**e_1 M**	f_1 T	i_2 –	s_2 S	e BB	q_2 –
112	**. . . . 114** **. . . . 116**	**A 300**	300	240	**230**	12	**265**	4	80	14	383 443	125
132	**. . . . 132** **. . . . 134** **. . . . 136**	**A 350**	350	–	**250**	18	**300**	5	110	18	374 424 484	172
160	**. . . . 162** **. . . . 164** **. . . . 166**	**A 400**	400	–	**300**	20	**350**	5	110	18	517 577 657	120

Motors with add-on units

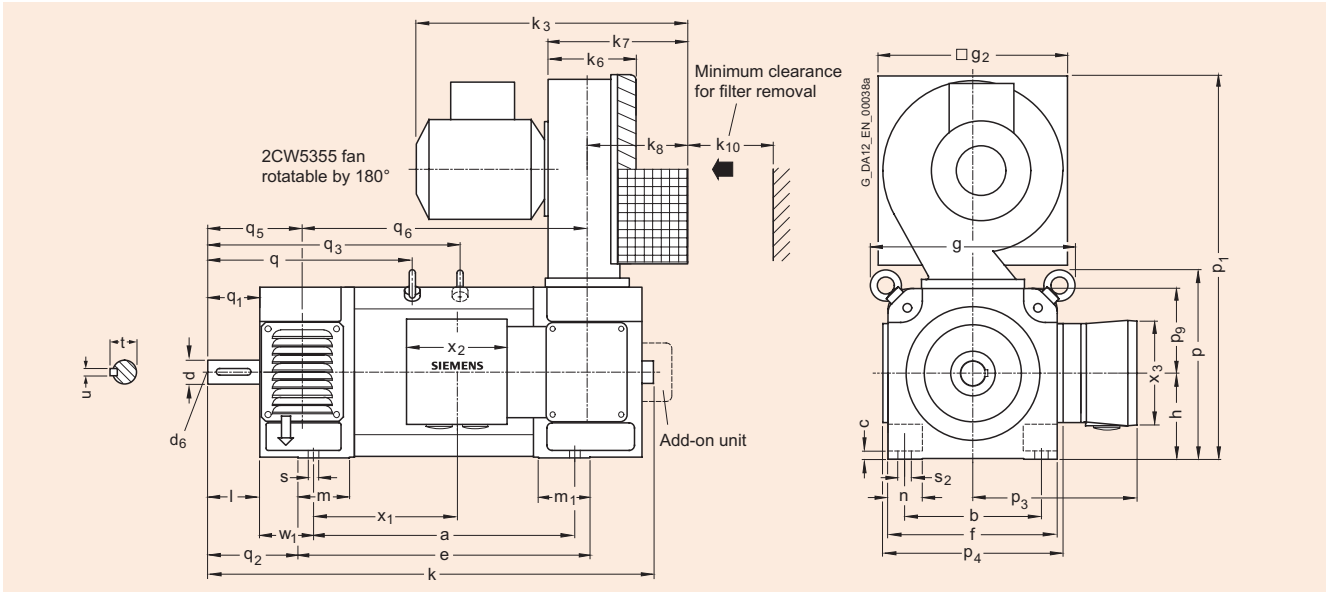
For motors		Dimensions				
Size	Type 1GF5 . . .	k_4 without add-on units	k_4 with tacho TD3 A4 KAEM GTB 9.06 L	k_4 with tacho TDP 0.2 LT REO 444 R TDP 0.09 LT	k_4 with tacho TDP 1.2 GMP 1.0 L	k_4 with pulse encoder POG 9D POG 10D ROD 436
112	**. . . . 114** **. . . . 116**	910 970	910 970	1083 1143	1160 1220	999 1059
132	**. . . . 132** **. . . . 134** **. . . . 136**	1002 1052 1112	1002 1052 1112	1175 1225 1285	1245 1295 1355	1090 1140 1200
160	**. . . . 162** **. . . . 164** **. . . . 166**	1182 1242 1322	1182 1242 1322	1355 1415 1495	1425 1485 1565	1270 1330 1410

1) The mounting flange with flattened sides protrudes beyond the machine contour.

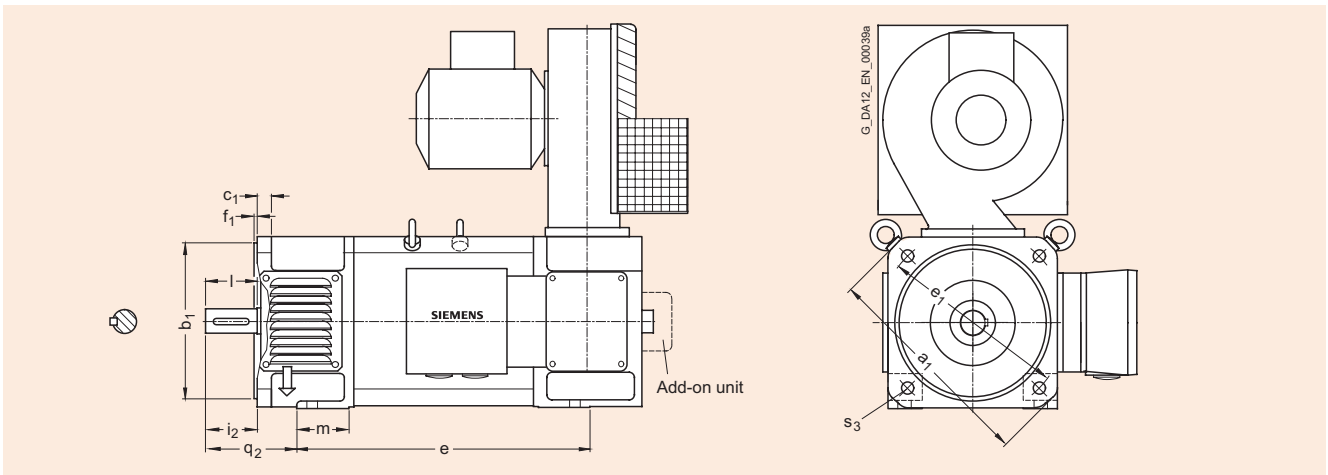
1GG5 100 - 1GG5 118

Dimension drawings

- Fan assembly on the non-drive end, top
- Air inlet to the fan assembly from the non-drive end
- Terminal box on right (standard version)



Type IM B 3



Types IM B 5, IM B 35, IM V 1 and IM V 15

For Type IM B 5/IM V 1, motors of Type IM B 35/IM V 15 will be supplied.

For the dimensions of the foot niches and device assemblies, see "Speed sensor assembly and foot niche dimensions for 1G.5 Sizes 100 to 160".

Type IM B 3

For motors			Dimensions acc. to																				
Size	Type **1GG5 . . .**	Terminal box type	**DIN a** **IEC B**	**b** **A**	c HA	e BB	f AB	g –	g_2 –	**h** **H**	k L	k_3 –	k_6 –	k_7 –	k_8 –	k_{10} –	m BA	m_1 –	n AA	p –	p_1 HD	p_3 –	p_4 –	p_9 –
100	**. . . . 100**	gk 230	**225**	**160**	9	260	198	240	220	**100**	447	316	102	162	117	100	60	60	40	220	446	191	226	99
	 102	gk 230	**225**	**160**	9	260	198	240	220	**100**	447	316	102	162	117	100	60	60	40	220	446	191	226	99
	 104	gk 230	**257**	**160**	9	292	198	224	220	**100**	479	316	102	162	117	100	60	60	40	220	446	191	226	99
	 106	gk 230	**305**	**160**	9	340	198	240	220	**100**	527	316	102	162	117	100	60	60	40	220	446	191	226	99
	 108	gk 230	**369**	**160**	9	404	198	240	220	**100**	591	316	102	162	117	100	60	60	40	220	446	191	226	99
112	**. . . . 114**	gk 330	**340**	**190**	10	419	220	262	220	**112**	600	316	102	162	117	100	103	60	40	243	469	217	238	110
	 116	gk 330	**400**	**190**	10	479	220	262	220	**112**	660	316	102	162	117	100	103	60	40	243	469	217	238	110
	 118	gk 330	**426**	**190**	10	505	220	262	255	**112**	686	367	102	182	144	100	103	60	40	243	526	217	238	110

For motors			Dimensions acc. to												Drive end shaft extension				
Size	Type **1GG5 . . .**	Terminal box type	**DIN** q **IEC** –	q_1 –	q_2 –	q_3 –	q_5 –	q_6 –	s K	s_2 –	w_1 C	x_1 –	x_2 –	x_3 –	**d** **D**	l E	**t** **GA**	**u** **F**	d_6 –
100	**. . . . 100**	gk 230	224	61	105	224	110	252	12	16	63	87	117	122	**28**	60	**31**	**8**	M 10
	 102	gk 230	224	61	105	224	110	252	12	16	63	87	117	122	**28**	60	**31**	**8**	M 10
	 104	gk 230	256	61	105	256	110	284	12	16	63	119	117	122	**28**	60	**31**	**8**	M 10
	 106	gk 230	239	61	105	299	110	332	12	16	63	167	117	122	**28**	60	**31**	**8**	M 10
	 108	gk 230	256	61	105	369	110	396	12	16	63	231	117	122	**28**	60	**31**	**8**	M 10
112	**. . . . 114**	gk 330	275	89	89	355	138	376	12	12	70	213	132	152	**38**	80	**41**	**10**	M 12
	 116	gk 330	295	89	89	405	138	436	12	12	70	273	132	152	**38**	80	**41**	**10**	M 12
	 118	gk 330	295	89	89	420	138	462	12	12	70	299	132	152	**38**	80	**41**	**10**	M 12

Types IM B 5, IM B 35, IM V 1 and IM V 15

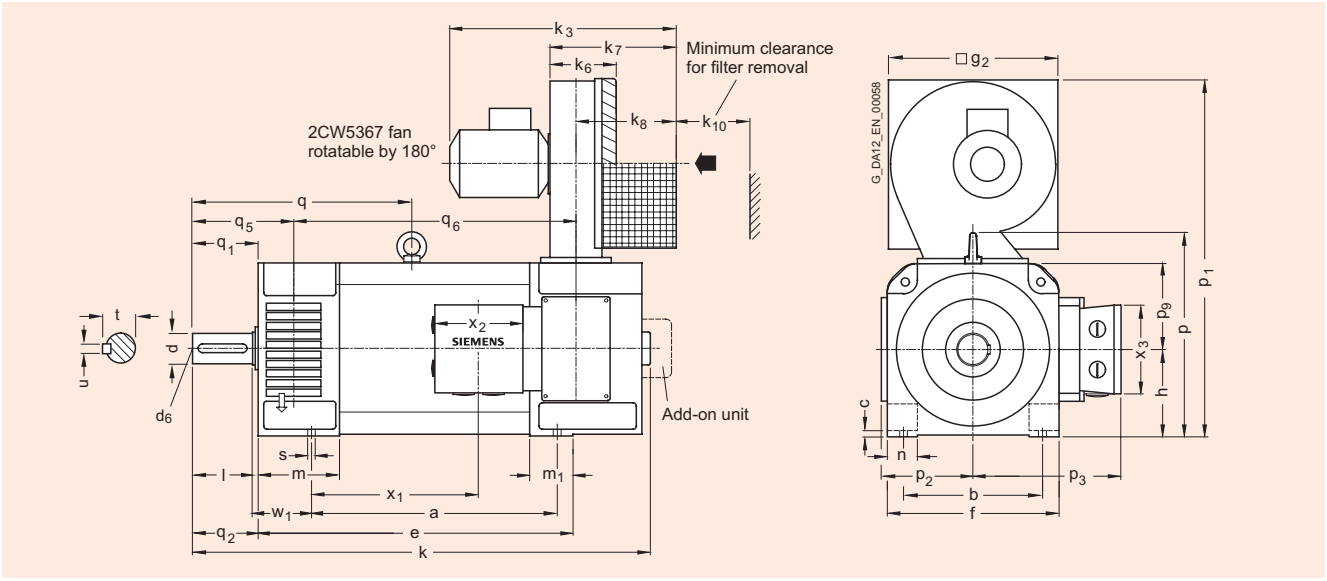
For motors		Dimensions acc. to											
		Mounting flange to DIN 42 948											
Size	Type **1GG5 . . .**	**DIN Size** **IEC**	a_1 P	b_1 **N**	c_1 LA	e BB	e_1 **M**	f_1 T	i_2 –	l E	m BA	s_3 S	q_2 –
100	**. . . . 100** **. . . . 102** **. . . . 104** **. . . . 106** **. . . . 108**	**A 250**	250	**180**	16	260 260 292 340 404	**215**	4	60	60	60	14	105
112	**. . . . 114** **. . . . 116** **. . . . 118**	**A 300**	300	**230**	12	383 443 469	**265**	4	80	80	67	14	125

4

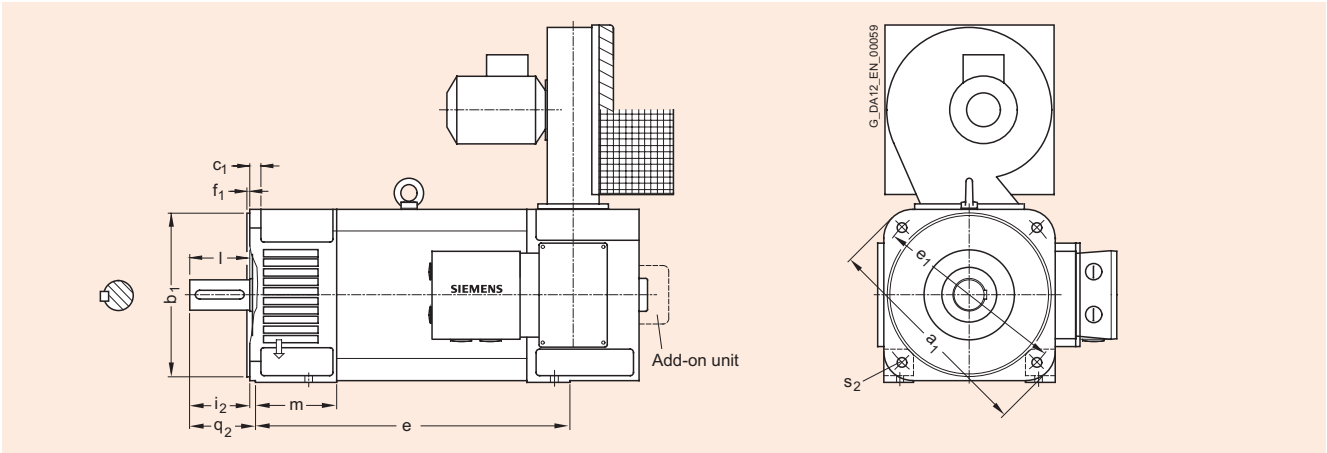
1GG5 132 - 1GG5 166

Dimension drawings

- Fan assembly on the non-drive end, top
- Air inlet to the fan assembly from the non-drive end
- Terminal box on right (standard version)



Type IM B 3



Types IM B 5, IM B 35, IM V 1 and IM V 15

For Type IM B 5/IM V 1, motors of Type IM B 35/IM V 15 will be supplied.

For the dimensions of the foot niches and device assemblies, see "Speed encoder assembly and foot niche dimensions for 1G.5 Sizes 100 to 160".

Type IM B 3

For motors			Dimensions acc. to																				
Size	Type 1GG5 . . .	Terminal box type	**DIN a** **IEC B**	**b** **A**	c HA	e BB	f AB	g_2 –	**h** **H**	k L	k_3 –	k_6 –	k_7 –	k_8 –	k_{10} –	m BA	m_1 –	n AA	p –	p_1 HD	p_2 –	p_3 –	p_9 –
132	. . . . **132**	gk 420 gk 427	**320**	**216**	11	425	258	255	**132**	653	367	102	182	144	100	126	75	45	318	543	140	241	129
	. . . . **134**	gk 420 gk 427	**370**	**216**	11	475	258	255	**132**	703	367	102	182	144	100	126	75	45	318	543	140	241	129
	. . . . **136**	gk 420 gk 427	**430**	**216**	11	535	258	255	**132**	763	367	102	182	144	100	126	75	45	318	543	140	241	129
160	. . . . **162**	gk 420 gk 427 gk 527	**390**	**254**	12	517	314	310	**160**	778	415	121	232	184	135	149	80	55	374	654	168	270 270 298	157
	. . . . **164**	gk 420 gk 427 gk 527	**450**	**254**	12	577	314	310	**160**	838	415	121	232	184	135	149	80	55	374	654	168	270 270 298	157
	. . . . **166**	gk 420 gk 427 gk 527	**530**	**254**	12	657	314	310	**160**	918	415	121	232	184	135	149	80	55	374	654	168	270 270 298	157

For motors			Dimensions acc. to											Drive end shaft extension				
Size	Type 1GG5 . . .	Terminal box type	**DIN** q **IEC** –	q_1 –	q_2 –	q_5 –	q_6 –	s K	w_1 C	x_1 –	x_2 –	x_3 –	**d** **D**	l E	**t** **GA**	**u** **F**	d_6 –
132	. . . . **132**	gk 420 gk 427	275	121	121	176	361	12	89	174	162	162	**42**	110	**45**	**12**	M 16
	. . . . **134**	gk 420 gk 427	310	121	121	176	411	12	89	224	162	162	**42**	110	**45**	**12**	M 16
	. . . . **136**	gk 420 gk 427	370	121	121	176	471	12	89	284	162	162	**42**	110	**45**	**12**	M 16
160	. . . . **162**	gk 420 gk 427 gk 527	342	120	120	185	457	14	108	246	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20
	. . . . **164**	gk 420 gk 427 gk 527	402	120	120	185	517	14	108	306	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20
	. . . . **166**	gk 420 gk 427 gk 527	482	120	120	185	597	14	108	386	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20

Types IM B 5, IM B 35, IM V 1 and IM V 15

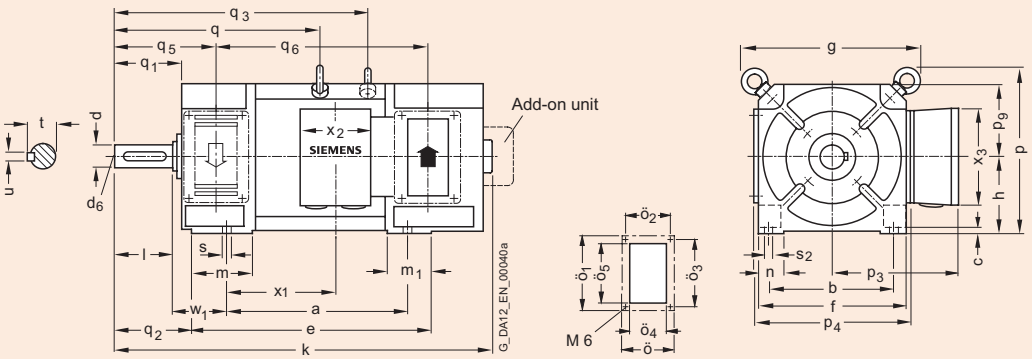
For motors		Dimensions acc. to Mounting flange to DIN 42 948											
Size	Type 1GG5 . . .	**DIN Size** **IEC**	a_1 P	**b_1** **N**	c_1 LA	e BB	**e_1** **M**	f_1 T	i_2 –	l E	m BA	s_2 S	q_2 –
132	. . . . **132** . . . . **134** **136**	**A 350**	350	**250**	18	374 424 484	**300**	5	110	110	75	18	172
160	. . . . **162** . . . . **164** **166**	**A 400**	400	**300**	20	517 577 657	**350**	5	110	110	149	18	120

4

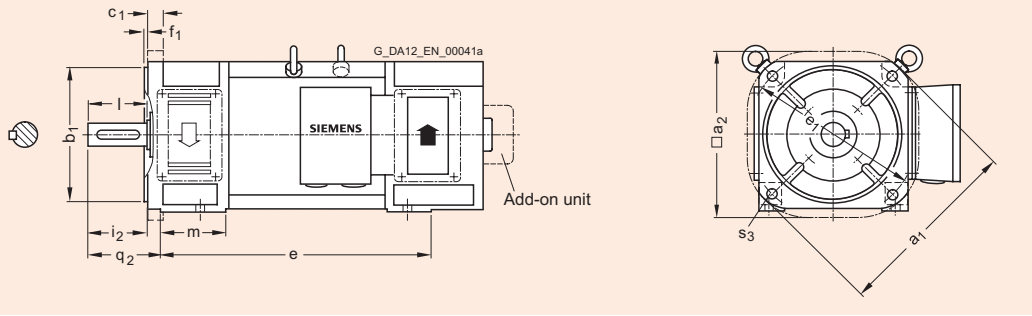
1GH5 100 - 1GH5 118

Dimension drawings

• Terminal box on right (standard version)



Type IM B 3



Types IM B 5, IM B 35, IM V 1 and IM V 15

For Type IM B 5/IM V 1, motors of Type IM B 35/IM V 15 will be supplied.

For single-sided duct connection at the drive end, the molded ribs of Size $ö_5$ x $ö_4$ will be removed (corner radius 8 mm).

For the dimensions of the foot niches and device assemblies, see "Speed sensor assembly and foot niche dimensions for 1G.5 Sizes 100 to 160".

Type IM B 3

For motors			Dimensions acc. to																			
Size	Type 1GH5 . . .	Terminal box type	DIN a IEC B	b A	c HA	e BB	f AB	g –	h[1] H	k L	m BA	m_1 –	n AA	ö –	$ö_1$ –	$ö_2$ –	$ö_3$ –	$ö_4$ –	$ö_5$ –	p –	p_3 –	p_4 –	p_9 –
100	. . . . **100**	gk 230	**225**	**160**	9	260	198	240	**100**	447	60	60	40	95	115	80	100	70	98	220	191	226	99
	. . . . **102**	gk 230	**225**	**160**	9	260	198	240	**100**	447	60	60	40	95	115	80	100	70	98	220	191	226	99
	. . . . **104**	gk 230	**257**	**160**	9	292	198	224	**100**	479	60	60	40	95	115	80	100	70	98	220	191	226	99
	. . . . **106**	gk 230	**305**	**160**	9	340	198	240	**100**	527	60	60	40	95	115	80	100	70	98	220	191	226	99
	. . . . **108**	gk 230	**369**	**160**	9	404	198	240	**100**	591	60	60	40	95	115	80	100	70	98	220	191	226	99
112	. . . . **114**	gk 330	**340**	**190**	10	419	220	262	**112**	600	103	60	40	95	115	80	100	70	98	243	217	238	110
	. . . . **116**	gk 330	**400**	**190**	10	479	220	262	**112**	660	103	60	40	95	115	80	100	70	98	243	217	238	110
	. . . . **118**	gk 330	**426**	**190**	10	505	220	262	**112**	686	103	60	40	95	115	80	100	70	98	243	217	238	110

For motors			Dimensions acc. to												Drive end shaft extension				
Size	Type 1GH5 . . .	Terminal box type	DIN q IEC –	q_1 –	q_2 –	q_3 –	q_5 –	q_6 –	s K	s_2 –	w_1 C	x_1 –	x_2 –	x_3 –	**d D**	l E	**t GA**	**u F**	d_6 –
100	. . . . **100**	gk 230	224	61	105	224	110	252	12	16	63	87	117	122	**28**	60	**31**	**8**	M 10
	. . . . **102**	gk 230	224	61	105	224	110	252	12	16	63	87	117	122	**28**	60	**31**	**8**	M 10
	. . . . **104**	gk 230	256	61	105	256	110	284	12	16	63	119	117	122	**28**	60	**31**	**8**	M 10
	. . . . **106**	gk 230	239	61	105	299	110	332	12	16	63	167	117	122	**28**	60	**31**	**8**	M 10
	. . . . **108**	gk 230	256	61	105	369	110	396	12	16	63	231	117	122	**28**	60	**31**	**8**	M 10
112	. . . . **114**	gk 330	275	89	89	355	138	376	12	12	70	213	132	152	**38**	80	**41**	**10**	M 12
	. . . . **116**	gk 330	295	89	89	405	138	436	12	12	70	273	132	152	**38**	80	**41**	**10**	M 12
	. . . . **118**	gk 330	295	89	89	420	138	462	12	12	70	299	132	152	**38**	80	**41**	**10**	M 12

Types IM B 5, IM B 35, IM V 1 and IM V 15

For motors		Dimensions acc. to												
		Mounting flange to DIN 42 948												
Size	Type 1GH5 . . .	DIN Size IEC	a_1 P	a_2 –	b_1 N	c_1 LA	e BB	e_1 M	f_1 T	i_2 –	l E	m BA	s_3 S	q_2 –
100	. . . . **100** . . . . **102** . . . . **104** . . . . **106** **108**	**A 250**	250	197	**180**	16	260 260 292 340 404	**215**	4	60	60	60	14	105
112	. . . . **114** . . . . **116** **118**	**A 300**	300	240[2]	**230**	12	383 443 469	**265**	4	80	80	67	14	125

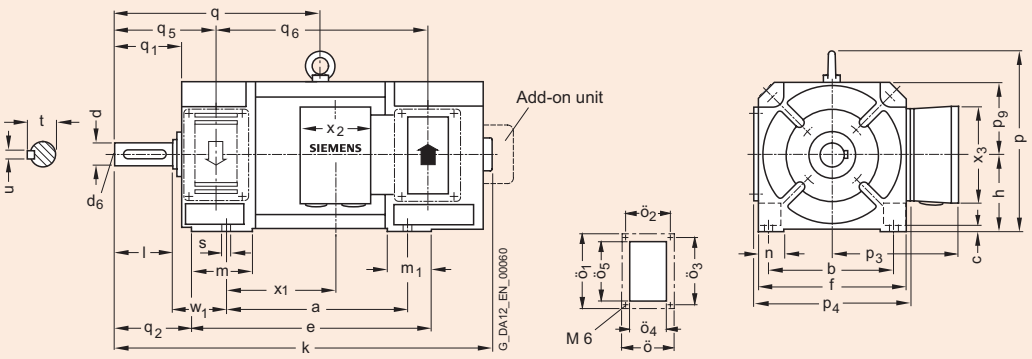
1) Duct connection from below, short codes K68 (drive end) and K72 (non-drive end): The openings must be sealed with metal covers and extend (including bolts) by about 5 mm beyond the foot rest surface. It is therefore not possible to position it with the cover attached on a level surface.

2) The mounting flange with flattened sides protrudes beyond the motor contour.

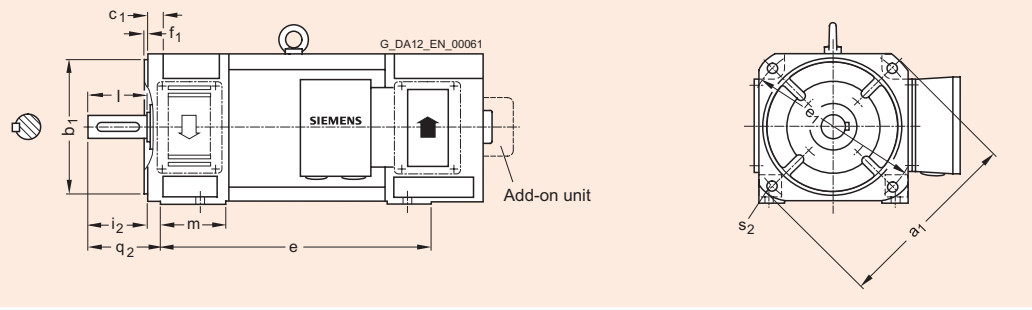
1GH5 132 - 1GH5 166

Dimension drawings

- Terminal box on right (standard version)



Type IM B 3



Types IM B 5, IM B 35, IM V 1 and IM V 15

For Type IM B 5/IM V 1, motors of Type IM B 35/IM V 15 will be supplied.

For single-sided duct connection at the drive end, the molded ribs of Size $ö_5$ x $ö_4$ will be removed (corner radius 8 mm).

For the dimensions of the foot niches and device assemblies, see "Speed sensor assembly and foot niche dimensions for 1G.5 Sizes 100 to 160".

Type IM B 3

For motors			Dimensions acc. to																			
Size	Type 1GH5 . . .	Terminal box type	DIN a IEC B	b A	c HA	e BB	f AB	h [1] H	k L	m BA	m_1 –	n AA	ö –	$ö_1$ –	$ö_2$ –	$ö_3$ –	$ö_4$ –	$ö_5$ –	p –	p_3 –	p_4 –	p_9 –
132	 132	gk 420 gk 427	**320**	**216**	11	425	258	**132**	653	126	75	45	105	157	90	142	80	140	318	269	280	129
	 134	gk 420 gk 427	**370**	**216**	11	475	258	**132**	703	126	75	45	105	157	90	142	80	140	318	269	280	129
	 136	gk 420 gk 427	**430**	**216**	11	535	258	**132**	763	126	75	45	105	157	90	142	80	140	318	269	280	129
160	 162	gk 420 gk 427 gk 527	**390**	**254**	12	517	314	**160**	778	149	80	55	125	190	110	175	100	170	374	289	336	157
	 164	gk 420 gk 427 gk 527	**450**	**254**	12	577	314	**160**	838	149	80	55	125	190	110	175	100	170	374	289	336	157
	 166	gk 420 gk 427 gk 527	**530**	**254**	12	657	314	**160**	918	149	80	55	125	190	110	175	100	170	374	289	336	157

For motors			Dimensions acc. to											Drive end shaft extension				
Size	Type 1GH5 . . .	Terminal box type	DIN IEC q –	q_1 –	q_2 –	q_5 –	q_6 –	s K	w_1 C	x_1 –	x_2 –	x_3 –	**d D**	l E	**t GA**	**u F**	d_6 –
132	 132	gk 420 gk 427	275	121	121	176	361	12	89	174	162	162	**42**	110	**45**	**12**	M 16
	 134	gk 420 gk 427	310	121	121	176	411	12	89	224	162	162	**42**	110	**45**	**12**	M 16
	 136	gk 420 gk 427	370	121	121	176	471	12	89	284	162	162	**42**	110	**45**	**12**	M 16
160	 162	gk 420 gk 427 gk 527	342	120	120	185	457	14	108	246	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20
	 164	gk 420 gk 427 gk 527	402	120	120	185	517	14	108	306	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20
	 166	gk 420 gk 427 gk 527	482	120	120	185	597	14	108	386	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20

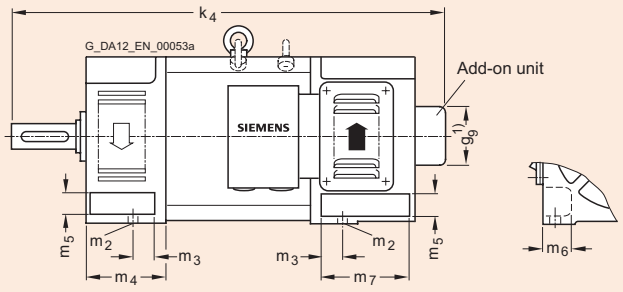
Types IM B 5, IM B 35, IM V 1 and IM V 15

For motors		Dimensions acc. to Mounting flange to DIN 42 948											
Size	Type 1GH5 . . .	DIN Size IEC	a_1 P	**b_1 N**	c_1 LA	e BB	**e_1 M**	f_1 T	i_2 –	l E	m BA	s_2 S	q_2 –
132	. . . . 132 . . . . 134 136	**A 350**	350	**250**	18	374 424 484	**300**	5	110	110	126	18	172
160	. . . . 162 . . . . 164 166	**A 400**	400	**300**	20	517 577 657	**350**	5	110	110	149	18	120

1) Duct connection from below, short codes K68 (drive end) and K72 (non-drive end): The openings must be sealed with metal covers and extend (including bolts) by about 5 mm beyond the foot rest surface. It is therefore not possible to position it with the cover attached on a level surface.

Speed encoder assembly and foot niche dimensions for 1G.5 Sizes 100 to 160

Dimension drawings



1) without terminal box or projecting connector

Speed encoder assembly and foot niche dimensions for 1G.5 Sizes 100 to 160

1GG5 and 1GH5 motors with add-on units

For motors		Tacho assembly with																		Pulse encoder assembly					
Size	Type **1GG5 . . .** **1GH5 . . .**	TD3 AEM (Minitacho)		A4 K		TDP 0.09LT		REO 444R		GTB 9.06L		TDP 0.2LT		GMP 1.0L		TDP 1.2		TDP 1.2 +TDP 1.2		KPG 503		KPG 506		POG 9D		POG 10D		ROD 436	
		g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4
100	**. . . . 100**	56	503	82	592	96	629	94	474	102	635	110	700	135	720	135	813	127	671	127	711	85	597	103	589	58	525
	 102		503		592		629		474		635		700		720		813		671		711		597		589		525
	 104		535		624		661		506		667		732		752		845		703		743		629		621		557
	 106		583		672		709		554		715		780		800		893		751		791		677		669		605
	 108		647		736		773		618		779		844		864		957		815		855		741		733		669
112	**. . . . 114**		656		745		782		627		788		853		873		966		824		864		750		742		678
	 116		716		805		842		687		848		913		933		1026		884		924		810		802		738
	 118		742		831		868		713		874		939		959		1052		910		950		836		828		764
132	**. . . . 132**	56	709	82	798	96	835	94	680	102	841	110	906	135	926	135	1019	127	877	127	917	85	803	103	795	58	732
	 134		759		848		885		730		891		956		976		1069		927		967		853		845		782
	 136		819		908		945		790		951		1016		1036		1129		987		1027		913		905		842
160	**. . . . 162**		834		923		960		805		966		1031		1051		1144		1002		1042		928		920		857
	 164		894		983		1020		865		1026		1091		1111		1204		1062		1102		988		980		917
	 166		974		1063		1100		945		1106		1171		1191		1284		1142		1182		1068		1060		997

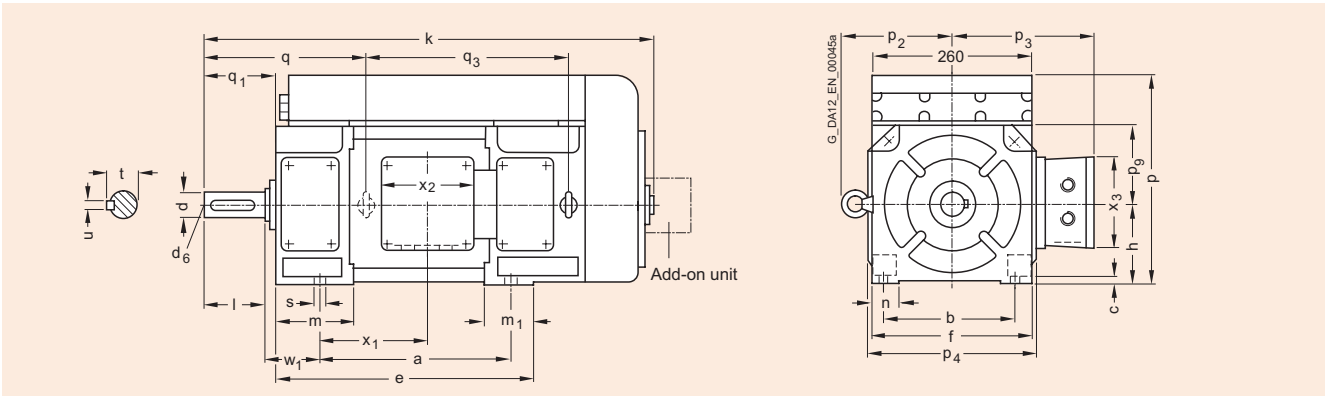
Foot niches

For motors		Dimensions acc. to						
		Largest machine foot screw that can be used						
Size	Type **1G.5 . . .**	**DIN** **IEC**	m_2 –	m_3 –	m_4 –	m_5 –	m_6 –	m_7 –
100	**. . . . 100** **. . . . 102** **. . . . 104** **. . . . 106** **. . . . 108**		M 10 x 30	32	94	32	40	–
112	**. . . . 114** **. . . . 116** **. . . . 118**		M 10 x 30	27	88	35	40	108
132	**. . . . 132** **. . . . 134** **. . . . 136**		M 10 x 30	32	110	38	45	141
160	**. . . . 162** **. . . . 164** **. . . . 166**		M 12 x 40	34	132	48	58	179

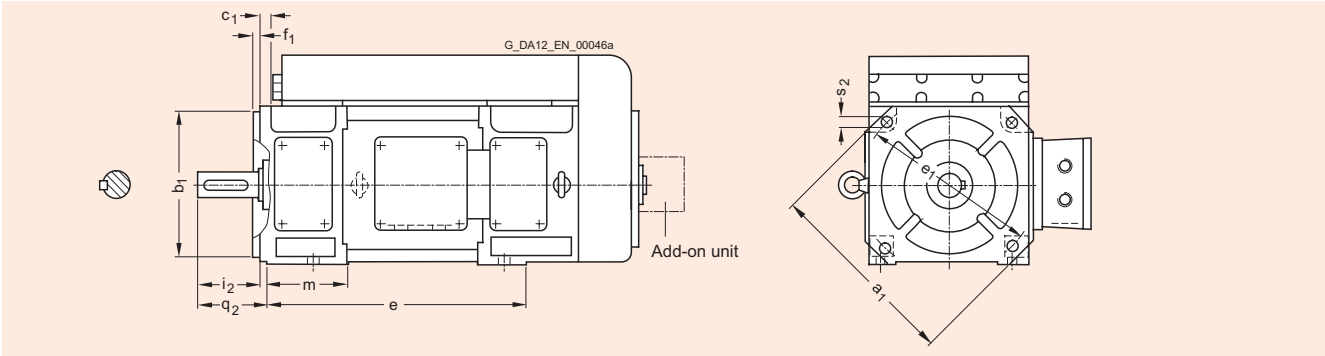
1HA5 164 - 1HA5 166

Dimension drawings

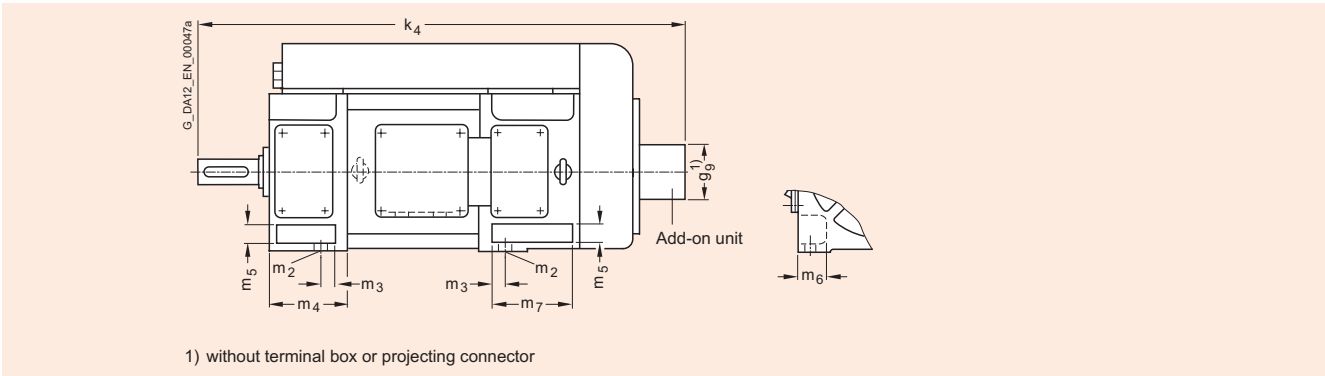
- Terminal box on right (standard version)



Type IM B 3



Types IM B 5, IM B 35, IM V 1 and IM V 15



1) without terminal box or projecting connector

Foot niches and tacho/encoder assembly
For 1H.513. with brake (dimension drawing 510.34335), dimension k_4 is lengthened by 126 mm.
For 1H.516. with brake (dimension drawing 510.34335) dimension k_4 is lengthened by 140 mm.

Type IM B 3

For motors			Dimensions acc. to														
Size	Type 1HA5 . . .	Terminal box type	DIN a IEC B	b A	c HA	e BB	f AB	h H	k L	m BA	m_1 –	n AA	p –	p_2 –	p_3 –	p_4 –	p_9 –
160	 164	gk 420 gk 427 gk 527	**450**	**254**	12	577	314	**160**	937	149	80	55	430	213	269 269 294	336	157
	 166	gk 420 gk 427 gk 527	**530**	**254**	12	657	314	**160**	1017	149	80	55	430	213	269 269 294	336	157

For motors			Dimensions acc. to								Drive end shaft extension				
Size	Type 1HA5 . . .	Terminal box type	DIN q IEC –	q_1 –	q_3 –	s K	w_1 –	x_1 –	x_2 –	x_3 –	d D	l E	t GA	u F	d_6 –
160	 164	gk 420 gk 427 gk 527	299	120	500	14	108	306	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20
	 166	gk 420 gk 427 gk 527	299	120	580	14	108	386	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20

Types IM B 5, IM B 35, IM V 1 and IM V 15

For motors		Dimensions acc. to										
		Mounting flange to DIN 42 948										
Size	Type 1HA5 . . .	DIN Size IEC	a_1 P	b_1 N	c_1 LA	e BB	e_1 M	f_1 T	i_2 –	s_2 S	m –	q_2 –
160	. . . . 164 166	**A 400**	400	**300**	20	577 657	**350**	5	110	18	149	120

Motors with add-on units[1])

For motors		Tacho assembly with																				Pulse encoder assembly					
		TD3 A4 KA EM (Minitacho)		GTB 9.06L		TDP 0.09LT		TDP 0.2LT		REO 444R		TDP 1.2		GMP 1.0L		KPG 503		KPG 506		TDP 1.2+ TDP 1.2		POG 9D		POG 10D		ROD 436	
Size	Type 1HA5 . . .	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4
160	. . . . 164 166	56	995 1075	95	966 1046	83	1084 1164	88/ 103	1130 1210	96	1128 1208	135	1212 1292	110	1175 1255	127	1163 1243	127	1203 1283	135	1305 1385	85	1089 1169	103	981 1061	58	918 998

Foot niches

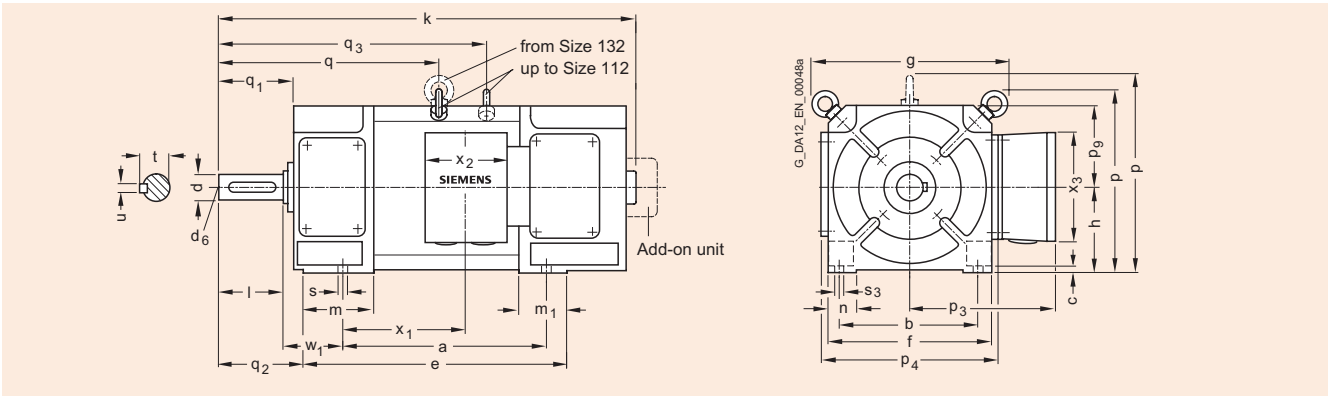
For motors		Dimensions acc. to					
		Largest machine foot screw that can be used					
Size	Type 1HA5 . . .	DIN m_2 IEC –	m_3 –	m_4 –	m_5 –	m_6 –	m_7 –
160	. . . . 164 166	M 12 x 40	34	132	48	58	179

1) For 1HA5 16. motors with brake, dimension k_4 is lengthened by 140 mm.

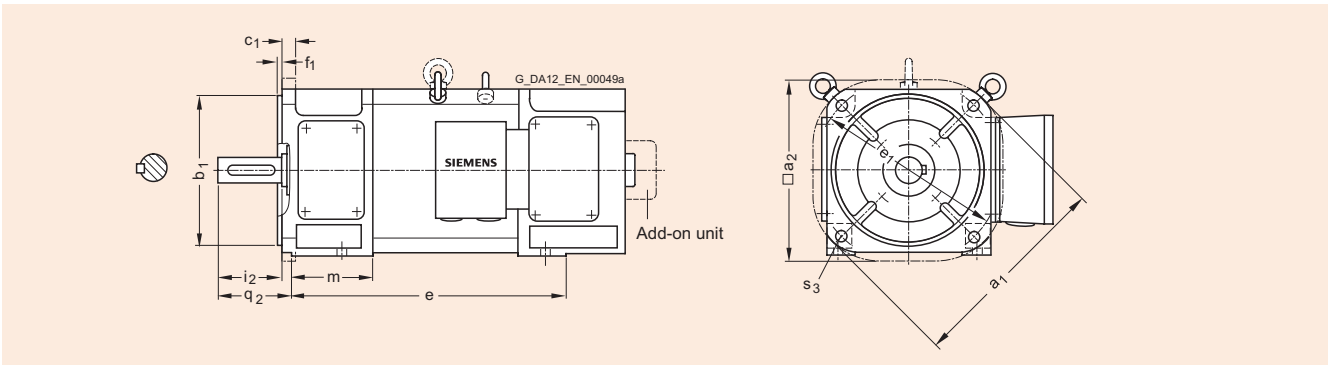
1HC5 102 - 1HC5 166

Dimension drawings

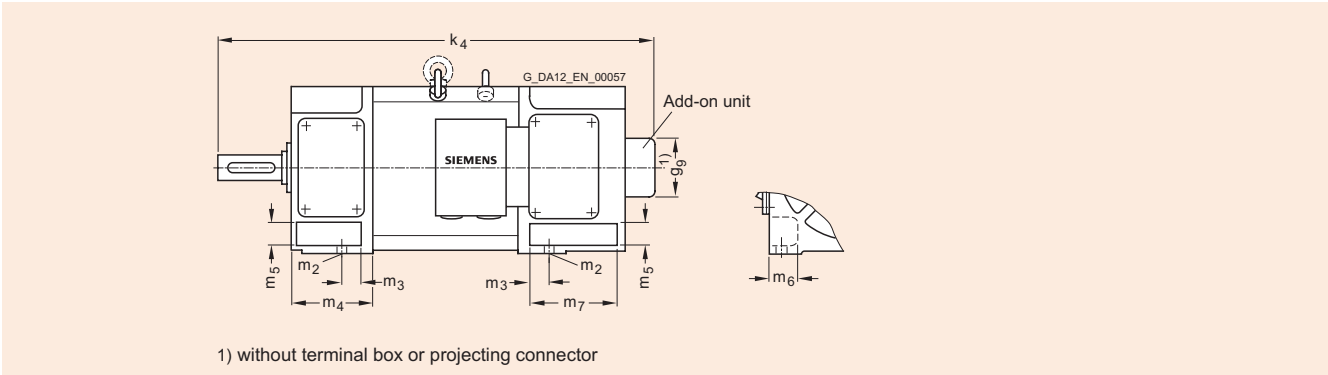
- Terminal box on right (standard version)



Type IM B 3



Types IM B 5, IM B 35, IM V 1 and IM V 15



1) without terminal box or projecting connector

Tacho/encoder assemblies and foot niches

Type IM B 3

For motors			Dimensions acc. to														
Size	Type 1HC5 . . .	Terminal box type	**DIN a IEC B**	**b A**	c HA	e BB	f AB	g AC	**h H**	k L	m BA	m_1 –	n AA	p –	p_3 –	p_4 –	p_9 –
100	. . . . **102**	gk 230	**225**	**160**	9	260	198	240	**100**	447	60	60	40	220	191	226	99
	. . . . **104**	gk 230	**257**	**160**	9	292	198	240	**100**	479	60	60	40	220	191	226	99
	. . . . **106**	gk 230	**305**	**160**	9	340	198	240	**100**	527	60	60	40	220	191	226	99
	. . . . **108**	gk 230	**369**	**160**	9	404	198	240	**100**	591	60	60	40	220	191	226	99
112	. . . . **114**	gk 330	**340**	**190**	10	419	220	262	**112**	600	103	60	40	243	217	238	110
	. . . . **116**	gk 330	**400**	**190**	10	479	220	262	**112**	660	103	60	40	243	217	238	110
132	. . . . **132**	gk 420 gk 427	**320**	**216**	11	425	258	–	**132**	653	126	75	45	318	269	280	129
	. . . . **134**	gk 420 gk 427	**370**	**216**	11	475	258	–	**132**	703	126	75	45	318	269	280	129
	. . . . **136**	gk 420 gk 427	**430**	**216**	11	535	258	–	**132**	763	126	75	45	318	269	280	129
160	. . . . **164**	gk 420 gk 427 gk 527	**450**	**254**	12	577	314	–	**160**	838	149	80	55	374	289	336	157
	. . . . **166**	gk 420 gk 427 gk 527	**530**	**254**	12	657	314	–	**160**	918	149	80	55	374	289	336	157

For motors			Dimensions acc. to										Drive end shaft extension				
Size	Type 1HC5 . . .	Terminal box type	**DIN q IEC** –	q_1 –	q_2 –	q_3 –	s K	s_2 –	w_1 C	x_1 –	x_2 –	x_3 –	**d D**	l E	**t GA**	**u F**	d_6 –
100	. . . . **102**	gk 230	224	61	105	224	12	16	63	87	117	122	**28**	60	**31**	**8**	M 10
	. . . . **104**	gk 230	256	61	105	256	12	16	63	119	117	122	**28**	60	**31**	**8**	M 10
	. . . . **106**	gk 230	239	61	105	299	12	16	63	167	117	122	**28**	60	**31**	**8**	M 10
	. . . . **108**	gk 230	256	61	105	369	12	16	63	231	117	122	**28**	60	**31**	**8**	M 10
112	. . . . **114**	gk 330	275	89	89	355	12	12	70	213	132	152	**38**	80	**41**	**10**	M 12
	. . . . **116**	gk 330	295	89	89	405	12	12	70	273	132	152	**38**	80	**41**	**10**	M 12
132	. . . . **132**	gk 420 gk 427	275	121	121	–	12	12	89	174	162 162	162 162	**42**	110	**45**	**12**	M 16
	. . . . **134**	gk 420 gk 427	310	121	121	–	12	12	89	224	162 162	162 162	**42**	110	**45**	**12**	M 16
	. . . . **136**	gk 420 gk 427	370	121	121	–	12	12	89	284	162 162	162 162	**42**	110	**45**	**12**	M 16
160	. . . . **164**	gk 420 gk 427 gk 527	402	120	120	–	14	14	108	306	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20
	. . . . **166**	gk 420 gk 427 gk 527	482	120	120	–	14	14	108	386	162 162 270	162 162 186	**55**	110	**59**	**16**	M 20

Types IM B 5, IM B 35, IM V 1 and IM V 15

For motors		Dimensions acc. to											
		Mounting flange to DIN 42 948											
Size	Type 1HC5 . . .	**DIN Size IEC**	a_1 P	a_2 –	b_1 **N**	c_1 LA	e_1 **M**	f_1 T	i_2 –	s_3 S	e BB	m –	q_2 –
100	. . . . **102** . . . . **104** . . . . **106** **108**	**A 250**	250	197	**180**	16	**215**	4	60	14	260 292 340 404	60	105
112	. . . . **114** **116**	**A 300**	300	240[1])	**230**	12	**265**	4	80	14	383 443	67	125
132	. . . . **132** . . . . **134** **136**	**A 350**	350	–	**250**	18	**300**	5	110	18	374 424 484	95	172
160	. . . . ***164*** ***166***	**A 400**	400	–	**300**	20	**350**	5	110	18	577 657	149	120

1HC5 102 - 1HC5 166

Motors with add-on units

For motors		Tacho assembly with																									
Size	Type 1HC5 . . .	TD3 A4 K AEM (Minitacho)		TDP 0.09LT REO 444R				GTB 9.06 L		TDP 0.2LT		GMP 1.0L		TDP 1.2		TDP 1.2 +TDP 1.2		KPG 503		KPG 506		Pulse encoder assembly POG 9D		POG 10D		ROD 436	
		g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4
100	. . . . **102**	56	503	82	592	96	629	94	474	102	635	110	700	135	720	135	813	127	671	127	711	85	597	103	589	58	526
	. . . . **104**		535		624		661		506		667		732		752		845		703		743		629		621		558
	. . . . **106**		583		672		709		554		715		780		800		893		751		791		677		669		606
	. . . . **108**		647		736		773		618		779		844		864		957		815		855		741		733		670
112	. . . . **114**		656		745		782		627		788		853		873		966		824		864		750		742		679
	. . . . **116**		716		805		842		687		848		913		933		1026		884		924		810		802		739
132	. . . . **132**		709		798		835		680		841		906		926		1019		877		917		803		795		732
	. . . . **134**		759		848		885		730		891		956		976		1069		927		967		853		845		782
	. . . . **136**		819		908		945		790		951		1016		1036		1129		987		1027		913		905		842
160	. . . . **164**		894		983		1020		865		1026		1091		1111		1204		1062		1102		988		980		917
	. . . . **166**		974		1063		1100		945		1106		1171		1191		1284		1142		1182		1068		1060		997

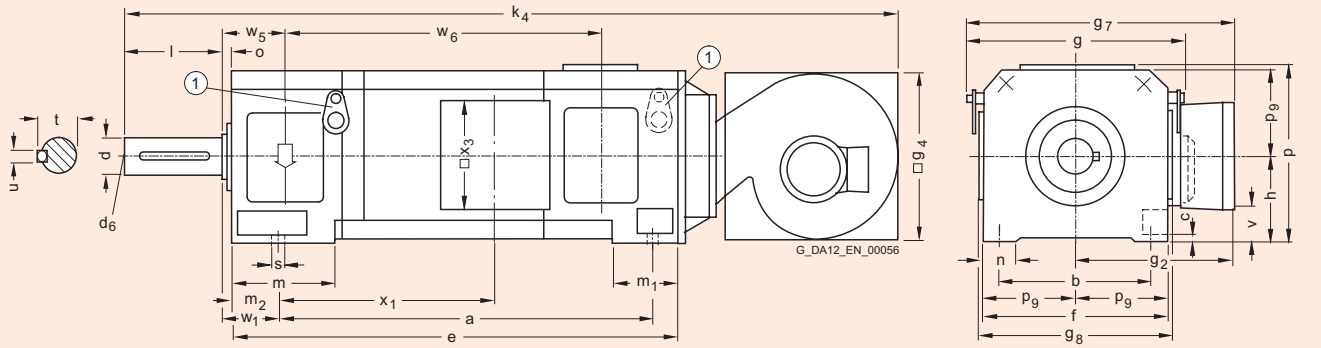
Foot niches

For motors		Dimensions acc. to									
		Largest machine foot screw that can be used									
Size	Type 1HC5 . . .	**DIN** **IEC**	m_2 –		m_3 –		m_4 –		m_5 –		m_6 –		m_7 –	
100	. . . . **102** . . . . **104** . . . . **106** **108**	M 10 x 30			32		94		32		40		–	
112	. . . . **112** . . . . **114** **116**	M 10 x 30			27		88		35		40		108	
132	. . . . **132** . . . . **134** **136**	M 10 x 30			32		110		38		45		141	
160	. . . . **162** . . . . **164** **166**	M 12 x 40			34		132		48		58		179	

1) The mounting flange with flattened sides protrudes beyond the motor contour.

Dimension drawings

- Air inlet to the fan assembly from the left
- Terminal box on right (standard version)



(1) Special lifting eye

Type IM B 3

For dimensions of the foot niches, see "Speed encoder assembly, foot niche dimensions and brake assembly for 1G.6 and 1H.6 motors".

Type IM B 3

For motors		Dimensions acc. to													
Size	Type 1GF6. . .	**DIN a IEC B**	**b A**	c HA	**e –**	f AB	g AC	g_2 AD	g_4 –	g_7 –	g_8 –	**h H**	k_4 –	m BA	m_1 –
160	**. . . . 162**	**590**	**254**	12	**691**	316	379	302	310	492	339	**160**	[1])	140	125
	 164	**660**	**254**	12	**761**	316	379	302	310	492	339	**160**	[1])	140	125
	 166	**750**	**254**	12	**851**	316	379	302	310	492	339	**160**	[1])	140	125

For motors		Dimensions acc. to												Drive end shaft extension				
Size	Type 1GF6. . .	**DIN** m_2 **IEC** –	n AA	o –	p –	p_9 –	s K	v –	w_1 C	w_5 –	w_6 –	x_1 –	x_3 –	**d D**	l E	d_6 –	**t GA**	**u F**
160	**. . . . 162**	58	55	12	326	158	14	55	70	87	470	304	210	**60**	140	M 20	**64**	**18**
	 164	58	55	12	326	158	14	55	70	87	540	374	210	**60**	140	M 20	**64**	**18**
	 166	58	55	12	326	158	14	55	70	87	630	464	210	**60**	140	M 20	**64**	**18**

Motors with add-on units

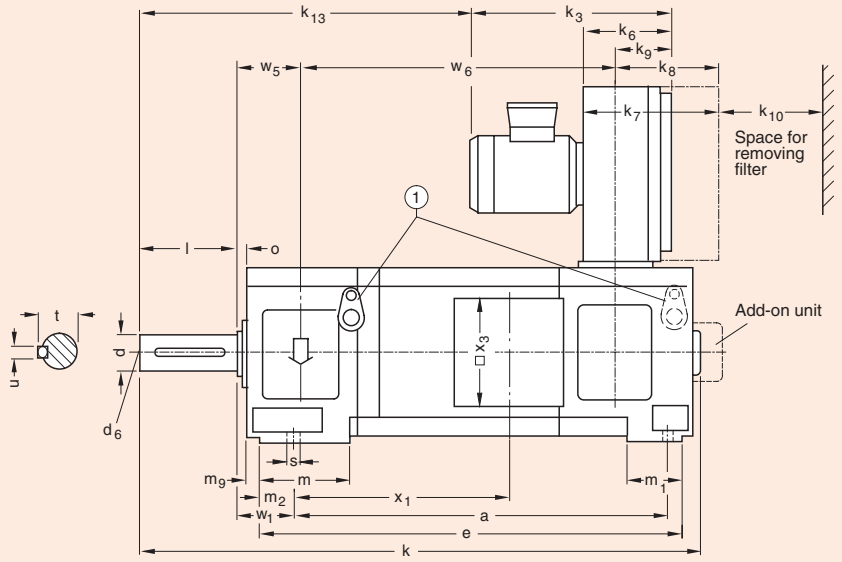
For motors					
Size	Type 1GF6 . . .	Tacho assembly, dimensions k_4 without tacho and	with TD3 A4 KAEM GTB 9.06 L	with TDP 0.2LT REO 444R TDP 0.9LT	with TDP 1.2 GMP 1.0L KPG 503 KPG 506	Pulse encoder assembly, dimensions k_4 with POG 9D POG 10D ROD 436
160	**. . . . 162**		1270	1450	1520	1365
	 164		1340	1520	1590	1435
	 166		1430	1610	1680	1525

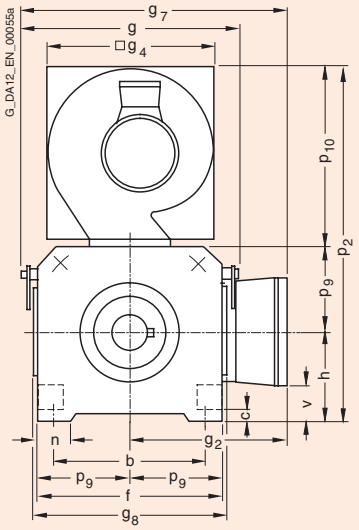
1) For dimensions, see table below "Motors with add-on units".

1GG6 162 - 1GG6 288

Dimension drawings

- Air inlet to the fan assembly from the non-drive end
- Terminal box on right (standard version)





(1) Special lifting eye for size 160, no graphic representation for sizes 180 to 280

Type IM B 3
IP23 degree of protection

For dimensions of foot niches and assemblies, see "Speed encoder assemblies, foot niche dimensions and brake assemblies for 1G.6 and 1H.6 motors", for flange dimensions, see "Types IM B 5, IM B 35, IM V 1 and IM V 15 for 1G.6 motors".

4

Type IM B 3

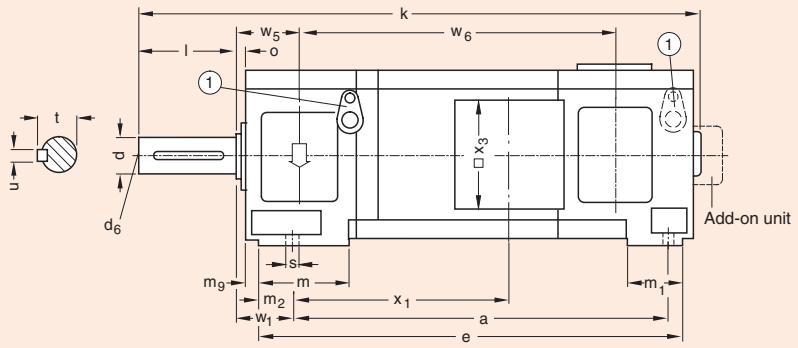
For motors		Dimensions acc. to																		
Size	Type 1GG6 . . .	DIN a IEC **B**	**b** **A**	c HA	**e** –	f AB	g AC	g_2 AD	g_4 –	g_7 –	g_8 –	**h** **H**	k L	k_3 –	k_6 –	k_7 –	k_8 –	k_9 –	k_{10} –	k_{13} –
160	. . . . **162**	**590**	**254**	12	**691**	316	379	302	310	492	339	**160**	858	334	121	232	184	74	135	436
	. . . . **164**	**660**	**254**	12	**761**	316	379	302	310	492	339	**160**	928	334	121	232	184	74	135	506
	. . . . **166**	**750**	**254**	12	**851**	316	379	302	310	492	339	**160**	1018	334	121	232	184	74	135	596
180	. . . . **186**	**600**	**279**	14	**730**	360	460	350	350	580	382	**180**	1020	470	185	310	250	130	130	522
	. . . . **188**	**670**	**279**	14	**800**	360	460	350	350	580	382	**180**	1090	470	185	310	250	130	130	592
200	. . . . **206**	**645**	**318**	18	**815**	400	500	370	350	620	422	**200**	1090	470	185	310	250	130	130	558
	. . . . **208**	**725**	**318**	18	**895**	400	500	370	350	620	422	**200**	1170	470	185	310	250	130	130	638
225	. . . . **226**	**735**	**356**	18	**925**	450	550	430	430	705	475	**225**	1290	530	215	380	305	140	170	675
	. . . . **228**	**825**	**356**	18	**1015**	450	550	430	430	705	475	**225**	1380	530	215	380	305	140	170	765
250	. . . . **256**	**785**	**406**	22	**1015**	500	620	455	430	765	525	**250**	1420	530	215	380	305	140	170	774
	. . . . **258**	**885**	**406**	22	**1115**	500	620	455	430	765	525	**250**	1520	530	215	380	305	140	170	874
280	. . . . **286**	**850**	**457**	22	**1100**	560	680	485	430	825	585	**280**	1500	530	215	380	305	140	170	846
	. . . . **288**	**960**	**457**	22	**1210**	560	680	485	430	825	585	**280**	1610	530	215	380	305	140	170	956

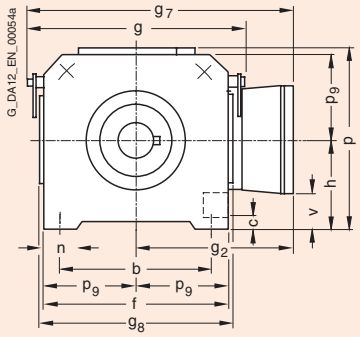
For motors		Dimensions acc. to																Drive end shaft extension				
Size	Type 1GG6 . . .	DIN m IEC BA	m_1 –	m_2 –	m_9 –	n AA	o –	p_2 –	p_9 –	p_{10} –	s K	v –	w_1 C	w_5 –	w_6 –	x_1 –	x_3 –	**d** **D**	l E	d_6 –	**t** **GA**	**u** **F**
160	. . . . **162**	140	125	58	–	55	12	655	158	337	14	55	70	87	470	304	210	**60**	140	M 20	**64**	**18**
	. . . . **164**	140	125	58	–	55	12	655	158	337	14	55	70	87	540	374	210	**60**	140	M 20	**64**	**18**
	. . . . **166**	140	125	58	–	55	12	655	158	337	14	55	70	87	630	464	210	**60**	140	M 20	**64**	**18**
180	. . . . **186**	110	130	50	51	70	20	740	180	380	15	30	121	130	592	370	310	**65**	140	M 20	**69**	**18**
	. . . . **188**	110	130	50	51	70	20	740	180	380	15	30	121	130	662	440	310	**65**	140	M 20	**69**	**18**
200	. . . . **206**	120	180	70	43	80	20	780	200	380	19	50	133	133	625	390	310	**70**	140	M 20	**74.5**	**20**
	. . . . **208**	120	180	70	43	80	20	780	200	380	19	50	133	133	705	470	310	**70**	140	M 20	**74.5**	**20**
225	. . . . **226**	140	200	50	49	85	50	965	225	515	19	50	149	175	720	475	360	**80**	170	M 20	**85**	**22**
	. . . . **228**	140	200	50	49	85	50	965	225	515	19	50	149	175	810	565	360	**80**	170	M 20	**85**	**22**
250	. . . . **256**	150	240	50	58	95	60	1030	250	530	24	75	168	183	811	530	360	**90**	170	M 24	**95**	**25**
	. . . . **258**	150	240	50	58	95	60	1030	250	530	24	75	168	183	911	630	360	**90**	170	M 24	**95**	**25**
280	. . . . **286**	160	230	80	50	100	60	1090	280	530	24	105	190	183	883	585	360	**95**	170	M 24	**100**	**25**
	. . . . **288**	160	230	80	50	100	60	1090	280	530	24	105	190	183	993	695	360	**95**	170	M 24	**100**	**25**

1GH6 162 - 1GH6 288

Dimension drawings

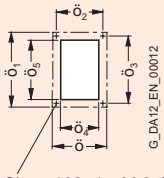
- Terminal box on right (standard version)



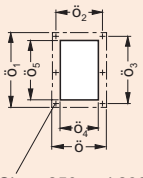


1 Special lifting eye for size 160, no graphic representation for sizes 180 to 280

Type IM B 3
IP23 degree of protection



Sizes 160 4 x M 6 through hole
Sizes 180 to 225 4 x M 8 16 deep



Sizes 250 and 280 6 x M 8 16 deep

Flange for air inlet or outlet

For dimensions of foot niches and assemblies, see "Speed encoder assemblies, foot niche dimensions and brake assemblies for 1G.6 and 1H.6 motors", for flange dimensions, see "Types IM B 5, IM B 35, IM V 1 and IM V 15 for 1G.6 motors".

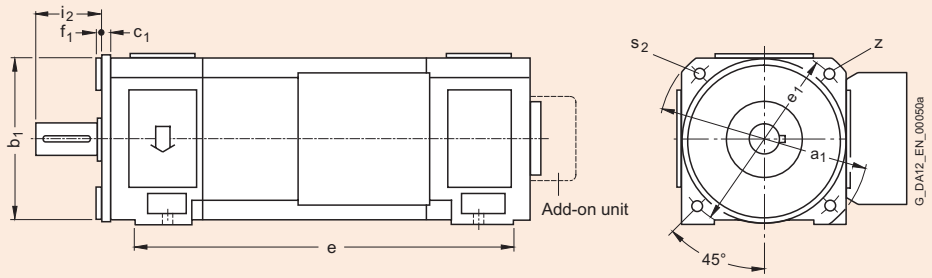
Type IM B 3

For motors		Dimensions acc. to																			
Size	Type 1GH6 . . .	**DIN a** **IEC B**	**b** **A**	c HA	**e** –	f AB	g AC	g_2 AD	g_7 –	g_8 –	**h** **H**	k L	m BA	m_1 –	m_2 –	m_9 –	n AA	o –	p HD	p_9 –	s K
160	**. . . . 162**	**590**	**254**	12	**691**	316	379	302	492	339	**160**	858	140	125	58	–	55	12	326	158	14
	 164	**660**	**254**	12	**761**	316	379	302	492	339	**160**	928	140	125	58	–	55	12	326	158	14
	 166	**750**	**254**	12	**851**	316	379	302	492	339	**160**	1018	140	125	58	–	55	12	326	158	14
180	**. . . . 186**	**600**	**279**	14	**730**	360	460	350	580	382	**180**	1020	110	130	50	51	70	20	370	180	15
	 188	**670**	**279**	14	**800**	360	460	350	580	382	**180**	1090	110	130	50	51	70	20	370	180	15
200	**. . . . 206**	**645**	**318**	18	**815**	400	500	370	620	422	**200**	1090	120	180	70	43	80	20	410	200	19
	 208	**725**	**318**	18	**895**	400	500	370	620	422	**200**	1170	120	180	70	43	80	20	410	200	19
225	**. . . . 226**	**735**	**356**	18	**925**	450	550	430	705	475	**225**	1290	140	200	50	49	85	50	460	225	19
	 228	**825**	**356**	18	**1015**	450	550	430	705	475	**225**	1380	140	200	50	49	85	50	460	225	19
250	**. . . . 256**	**785**	**406**	22	**1015**	500	620	455	765	525	**250**	1420	150	240	50	58	95	60	510	250	24
	 258	**885**	**406**	22	**1115**	500	620	455	765	525	**250**	1520	150	240	50	58	95	60	510	250	24
280	**. . . . 286**	**850**	**457**	22	**1100**	560	680	485	825	585	**280**	1500	160	230	80	50	100	60	570	280	24
	 288	**960**	**457**	22	**1210**	560	680	485	825	585	**280**	1610	160	230	80	50	100	60	570	280	24

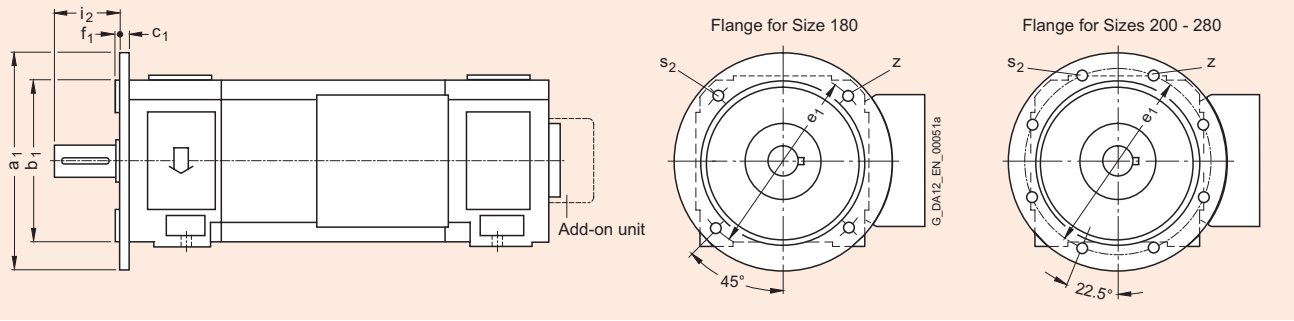
For motors		Dimensions acc. to												Drive end shaft extension				
Size	Type 1GH6 . . .	**DIN** v **IEC** –	w_1 C	w_5 –	w_6 –	x_1 –	x_3 –	ö –	$ö_1$ –	$ö_2$ –	$ö_3$ –	$ö_4$ –	$ö_5$ –	**d** **D**	l E	d_6 –	**t** **GA**	**u** **F**
160	**. . . . 162**	55	70	87	470	304	210	130	196	110	175	105	170	**60**	140	M 20	**64**	**18**
	 164	55	70	87	540	374	210	130	196	110	175	105	170	**60**	140	M 20	**64**	**18**
	 166	55	70	87	630	464	210	130	196	110	175	105	170	**60**	140	M 20	**64**	**18**
180	**. . . . 186**	30	121	130	592	370	310	155	220	135	200	115	190	**65**	140	M 20	**69**	**18**
	 188	30	121	130	662	440	310	155	220	135	200	115	190	**65**	140	M 20	**69**	**18**
200	**. . . . 206**	50	133	133	625	390	310	155	220	135	200	115	190	**70**	140	M 20	**74.5**	**20**
	 208	50	133	133	705	470	310	155	220	135	200	115	190	**70**	140	M 20	**74.5**	**20**
225	**. . . . 226**	50	149	175	720	475	360	185	265	165	245	135	230	**80**	170	M 20	**85**	**22**
	 228	50	149	175	810	565	360	185	265	165	245	135	230	**80**	170	M 20	**85**	**22**
250	**. . . . 256**	75	168	183	811	530	360	230	300	210	280	180	265	**90**	170	M 24	**95**	**25**
	 258	75	168	183	911	630	360	230	300	210	280	180	265	**90**	170	M 24	**95**	**25**
280	**. . . . 286**	105	190	183	883	585	360	230	300	210	280	180	265	**95**	170	M 24	**100**	**25**
	 288	105	190	183	993	695	360	230	300	210	280	180	265	**95**	170	M 24	**100**	**25**

Types IM B 5, IM B 35, IM V 1 and IM V 15 for 1G.6

Dimension drawings



Types IM B 5, IM B 35, IM V 1 and IM V 15
Size 160



Types IM B 5, IM B 35, IM V 1 and IM V 15
Sizes 180 to 280

For Type IM B 5 or IM V 1, motors of Type IM B 35 or IM V 15 will be supplied.

Types IM B 5, IM B 35, IM V 1 and IM V 15 for 1G.6

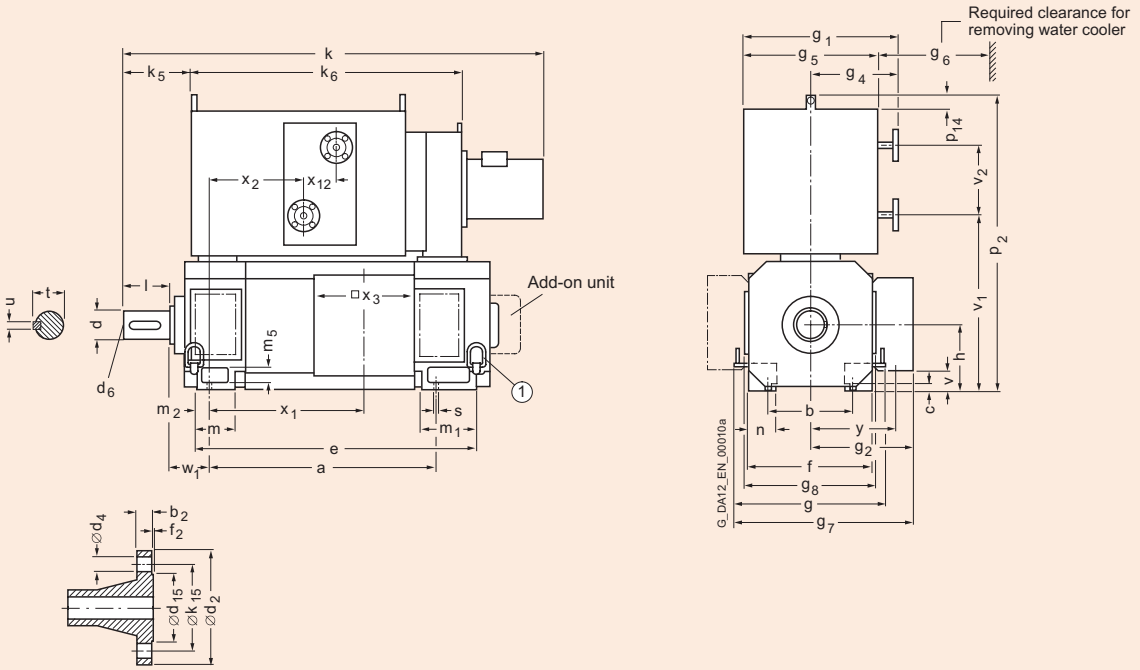
Mounting flange acc. to DIN 42 948

For motors		Dimensions acc. to								
Size	Type **1GF6 . . . 1GG6 . . . 1GH6 . . .**	**DIN IEC Size**	a_1 P	b_1 N	c_1 LA	e_1 M	f_1 T	i_2 –	s_2 S	z –
160	**. . . . 162 . . . . 164 . . . . 166**	**A 400**	400[1])	300	21	350	5	140	18	4
180	**. . . . 186 . . . . 188**	**A 400**	400	300	15	350	5	140	19	4
200	**. . . . 206 . . . . 208**	**A 450**	450	350	16	400	5	140	19	8
225	**. . . . 226 . . . . 228**	**A 550**	550	450	18	500	5	170	19	8
250	**. . . . 256 . . . . 258**	**A 660**	660	550	22	600	6	170	24	8
280	**. . . . 286 . . . . 288**	**A 660**	660	550	22	600	6	170	24	8

1) External flange contour matches casing. Diagonal edge-to-edge dimension only 395 mm.

1HS6 186 - 1HS6 288

Dimension drawings



① Rotatable lifting lug

Type IM B 3
IP54 degree of protection

For dimensions of the foot niches and device assemblies, see "Speed encoder assembly, foot niche dimensions and brake assembly for 1G.6 and 1H.6 motors".

4

1HS6 186 - 1HS6 288

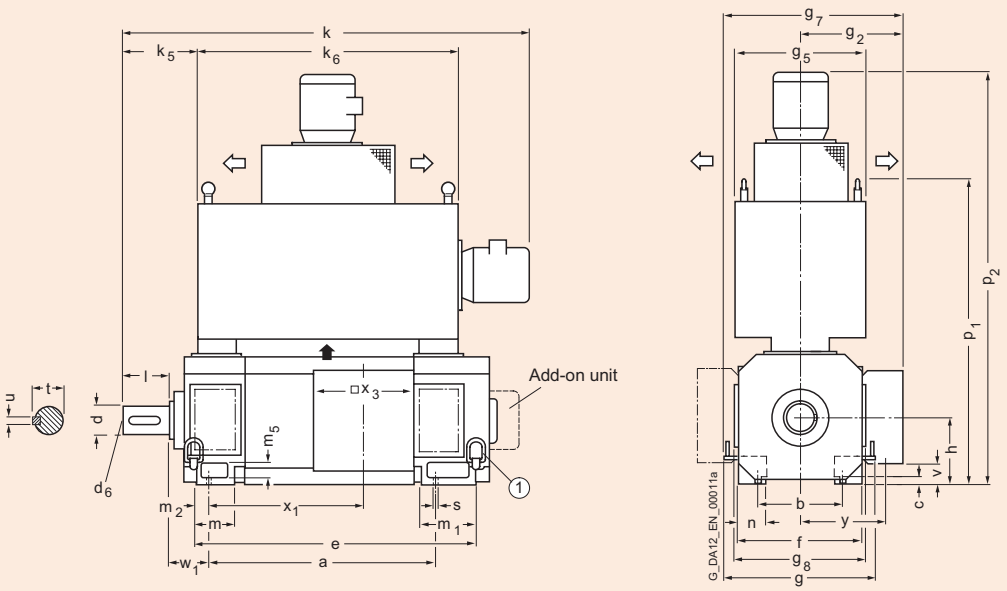
Type IM B 3

For motors		Dimensions acc. to																				
Size	Type 1HS6 . . .	DIN a IEC B	b A	c HA	e BB	f AB	g –	g_1 –	g_2 AD	g_4 –	g_5 –	g_6 –	g_7 –	g_8 –	h H	k L	k_5 –	k_6 –	m BA	m_1 –	m_2 –	m_5 –	n AA
180	 186	**600**	**279**	14	**730**	360	460	732	350	462	540	750	580	382	**180**	1202	150	770	110	130	50	55	70
	 188	**670**	**279**	14	**800**	360	460	732	350	462	540	750	580	382	**180**	1272	150	840	110	130	50	55	70
200	 206	**645**	**318**	18	**815**	400	500	732	370	462	540	750	620	422	**200**	1238	160	800	120	180	70	65	80
	 208	**725**	**318**	18	**895**	400	500	732	370	462	540	750	620	422	**200**	1318	160	880	120	180	70	65	80
225	 226	**735**	**356**	18	**925**	450	550	732	430	462	540	750	705	475	**225**	1455	230	910	140	200	50	65	85
	 228	**825**	**356**	18	**1015**	450	550	732	430	462	540	750	705	475	**225**	1545	230	1000	140	200	50	65	85
250	 256	**785**	**406**	22	**1015**	500	620	845	455	505	640	840	765	525	**250**	1554	240	1000	150	240	50	80	95
	 258	**885**	**406**	22	**1115**	500	620	845	455	505	640	840	765	525	**250**	1654	240	1100	150	240	50	80	95
280	 286	**850**	**457**	22	**1100**	560	680	845	485	505	640	840	825	585	**280**	1626	210	1100	160	230	80	85	100
	 288	**960**	**457**	22	**1210**	560	680	845	485	505	640	840	825	585	**280**	1736	210	1190	160	230	80	85	100

For motors		Dimensions acc. to											Mounting flange acc. to DIN 2633							Drive end shaft extension				
Size	Type 1HS6 . . .	DIN p_2 IEC –	p_{14} –	s K	v –	v_1 –	v_2 –	w_1 C	x_1 –	x_2 –	x_3 –	x_{12} –	y –	Size	b_2 –	d_2 –	d_4 –	d_{15} –	f_2 –	k_{15} –	d D	l E	t GA	u F	d_6 –
180	 186	980	60	15	30	505	270	121	370	250	310	56	260	**DN 20**	16	105	14	58	2	75	**65**	140	**69**	**18**	M 20
	 188	980	60	15	30	505	270	121	440	320	310	56	260	**DN 20**	16	105	14	58	2	75	**65**	140	**69**	**18**	M 20
200	 206	1020	60	19	50	545	270	133	390	273	310	56	280	**DN 20**	16	105	14	58	2	75	**70**	140	**74.5**	**20**	M 20
	 208	1020	60	19	50	545	270	133	470	353	310	56	280	**DN 20**	16	105	14	58	2	75	**70**	140	**74.5**	**20**	M 20
225	 226	1070	60	19	50	595	270	149	475	380	360	56	320	**DN 20**	16	105	14	58	2	75	**80**	170	**85**	**22**	M 20
	 228	1070	60	19	50	595	270	149	565	470	360	56	320	**DN 20**	16	105	14	58	2	75	**80**	170	**85**	**22**	M 20
250	 256	1240	60	24	75	655	370	168	530	460	360	56	350	**DN 32**	16	140	18	78	2	100	**90**	170	**95**	**25**	M 24
	 258	1240	60	24	75	655	370	168	630	560	360	56	350	**DN 32**	16	140	18	78	2	100	**90**	170	**95**	**25**	M 24
280	 286	1300	60	24	105	715	370	190	585	570	360	56	380	**DN 32**	16	140	18	78	2	100	**95**	170	**100**	**25**	M 24
	 288	1300	60	24	105	715	370	190	695	620	360	56	380	**DN 32**	16	140	18	78	2	100	**95**	170	**100**	**25**	M 24

1HQ6 186 - 1HQ6 288

Dimension drawings



① Rotatable lifting lug

Type IM B 3
IP54 degree of protection

For dimensions of the foot niches and device assembly, see "Speed encoder assembly, foot niche dimensions and brake assembly for 1G.6 and 1H.6 motors".

4

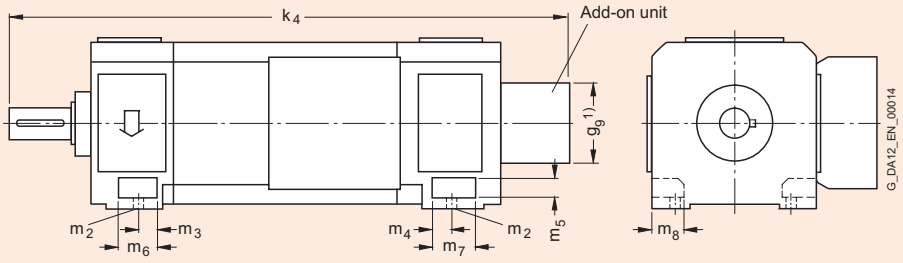
Type IM B 3

For motors		Dimensions acc. to																	
Size	Type **1HQ6 . . .**	**DIN a** **IEC B**	**b** **A**	c HA	**e** **BB**	f AB	g AC	g_2 AD	g_5 –	g_7 –	g_8 –	**h** **H**	k L	k_5 –	k_6 –	m BA	m_1 –	m_2 –	m_5 –
180	**. . . . 186**	**600**	**279**	14	**730**	360	460	350	440	580	382	**180**	1310	210	780	110	130	50	55
	 188	**670**	**279**	14	**800**	360	460	350	440	580	382	**180**	1380	210	850	110	130	50	55
200	**. . . . 206**	**645**	**318**	18	**815**	400	500	370	460	620	422	**200**	1330	210	800	120	180	70	65
	 208	**725**	**318**	18	**895**	400	500	370	460	620	422	**200**	1410	210	880	120	180	70	65
225	**. . . . 226**	**735**	**356**	18	**925**	450	550	430	500	705	475	**225**	1480	275	860	140	200	50	65
	 228	**825**	**356**	18	**1015**	450	550	430	500	705	475	**225**	1560	275	950	140	200	50	65
250	**. . . . 256**	**785**	**406**	22	**1015**	500	620	455	550	765	525	**250**	1640	260	1000	150	240	50	80
	 258	**885**	**406**	22	**1115**	500	620	455	550	765	525	**250**	1740	260	1100	150	240	50	80
280	**. . . . 286**	**850**	**457**	22	**1100**	560	680	485	600	825	585	**280**	1710	260	1070	160	230	80	85
	 288	**960**	**457**	22	**1210**	560	680	485	600	825	585	**280**	1820	260	1180	160	230	80	85

For motors		Dimensions acc. to									Drive end shaft extension				
Size	Type **1HQ6 . . .**	**DIN** n **IEC** AA	p_1 –	p_2 –	s K	v –	w_1 C	x_1 –	x_3 –	y –	**d** **D**	l E	**t** **GA**	**u** **F**	d_6 –
180	**. . . . 186**	70	950	1320	15	30	121	370	310	260	**65**	140	**69**	**18**	M 20
	 188	70	950	1320	15	30	121	440	310	260	**65**	140	**69**	**18**	M 20
200	**. . . . 206**	80	1020	1455	19	50	133	390	310	280	**70**	140	**74.5**	**20**	M 20
	 208	80	1020	1455	19	50	133	470	310	280	**70**	140	**74.5**	**20**	M 20
225	**. . . . 226**	85	1110	1545	19	50	149	475	360	320	**80**	170	**85**	**22**	M 20
	 228	85	1110	1545	19	50	149	565	360	320	**80**	170	**85**	**22**	M 20
250	**. . . . 256**	95	1210	1695	24	75	168	530	360	350	**90**	170	**95**	**25**	M 24
	 258	95	1210	1695	24	75	168	630	360	350	**90**	170	**95**	**25**	M 24
280	**. . . . 286**	100	1280	1765	24	105	190	585	360	380	**95**	170	**100**	**25**	M 24
	 288	100	1280	1765	24	105	190	695	360	380	**95**	170	**100**	**25**	M 24

Speed encoder assembly, foot niche dimensions and brake assembly for 1G.6/1H.6 motors

Dimension drawings



1) without terminal box or projecting connector

Encoder and brake assembly and foot niches

Speed encoder assembly, foot niche dimensions and brake assembly for 1G.6/1H.6 motors

Speed encoder assembly

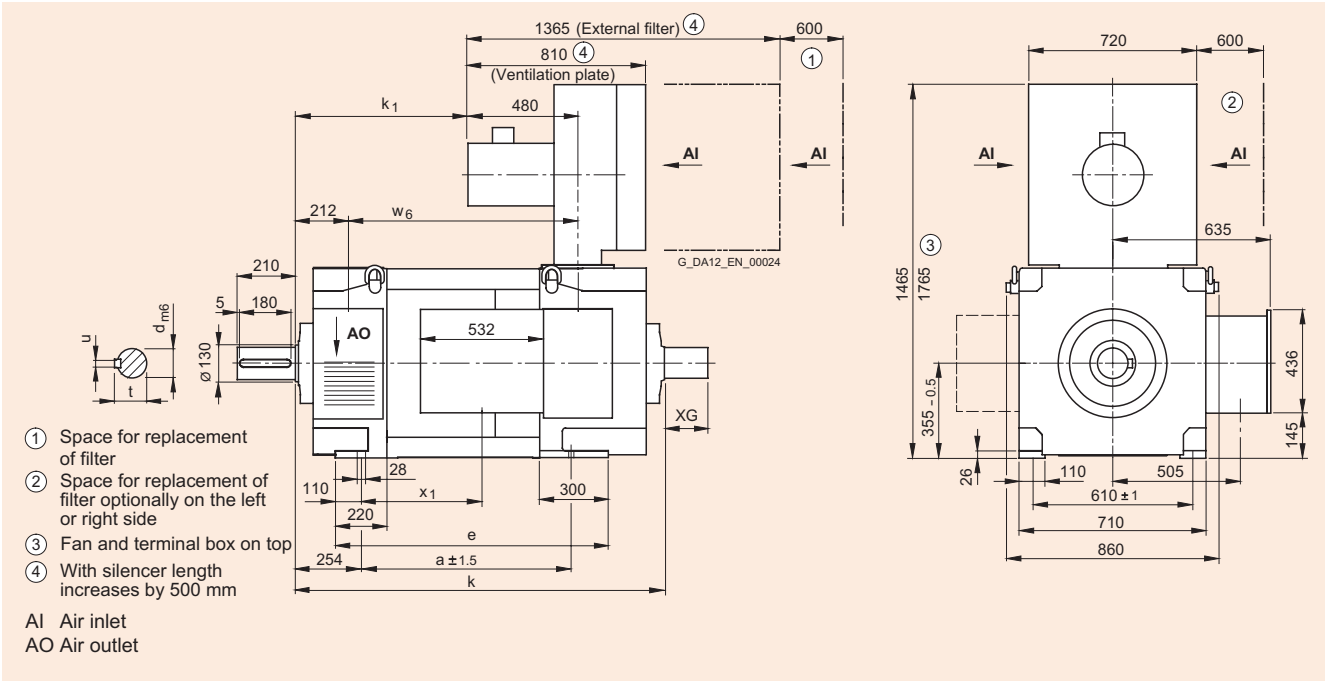
For motors		Tacho assembly with																Pulse encoder assembly			
		GTB 9.06L		TD3 A4 KAEM		TDP 0.09LT		TDP 0.2LT		REO 444R		TDP 1.2		GMP 1.0L		KPG 503		KPG 506		POG 9D POG 10 D		ROD 436	
Size	Type 1G.6	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4	g_9	k_4
160	 162	95	881	56	914	83	1022	103	1046	94	1040	135	1135	110	1120	127	1090	127	1134	103	1008	58	936
	 164		951		984		1092		1116		1110		1205		1190		1160		1204		1078		1006
	 166		1041		1074		1182		1206		1200		1295		1280		1250		1294		1168		1096
	1G.6 . . . . 1H.6																						
180	 186		1080		1080		1180		1205		1200		1290		1265		1245		1290		1165		1100
	 188		1150		1150		1250		1275		1270		1360		1335		1315		1360		1235		1170
200	 206		1155		1155		1255		1280		1275		1365		1340		1320		1365		1240		1175
	 208		1235		1235		1335		1360		1355		1445		1420		1400		1445		1320		1255
225	 226		1350		1350		1450		1475		1470		1560		1535		1515		1560		1435		1370
	 228		1440		1440		1540		1565		1560		1650		1625		1605		1650		1525		1460
250	 256		1485		1485		1585		1610		1605		1695		1670		1650		1695		1570		1505
	 258		1585		1585		1685		1710		1705		1795		1770		1750		1795		1670		1605
280	 286		1560		1560		1660		1685		1680		1770		1745		1725		1770		1645		1580
	 288		1670		1670		1770		1795		1790		1880		1885		1835		1880		1755		1690

Foot niche dimensions and brake assembly

For motors		Dimensions acc. to										
		Foot niches								Brake assembly		
		Largest machine foot screws that can be used										Dimensions for brake and speed encoder on request
Size	Type 1G.6 . . .	DIN IEC	m_2 –	m_3 –	m_4 –	m_5 –	m_6 –	m_7 –	m_8 –	g_9 –	k_4 –	
160	 162	M12 x 35		39	38	46	88	72	56	258	997	
	 164										1067	
	 166										1157	
	1G.6 . . . 1H.6 . . .											
180	 186	M12 x 40		35	25	55	80	95	65	280	1180	
	 188									320	1250	
200	 206	M16 x 50		25	55	65	80	140	70	320	1260	
	 208									320	1340	
225	 226	M16 x 50		70	45	65	115	170	75	360	1470	
	 228									360	1560	
250	 256	M20 x 60		80	35	80	115	200	80	450	1620	
	 258									450	1720	
280	 286	M20 x 60		60	35	85	120	190	85	500	1710	
	 288									500	1820	

1GG7 351 - 1GG7 355

Dimension drawings



① Space for replacement of filter
② Space for replacement of filter optionally on the left or right side
③ Fan and terminal box on top
④ With silencer length increases by 500 mm

AI Air inlet
AO Air outlet

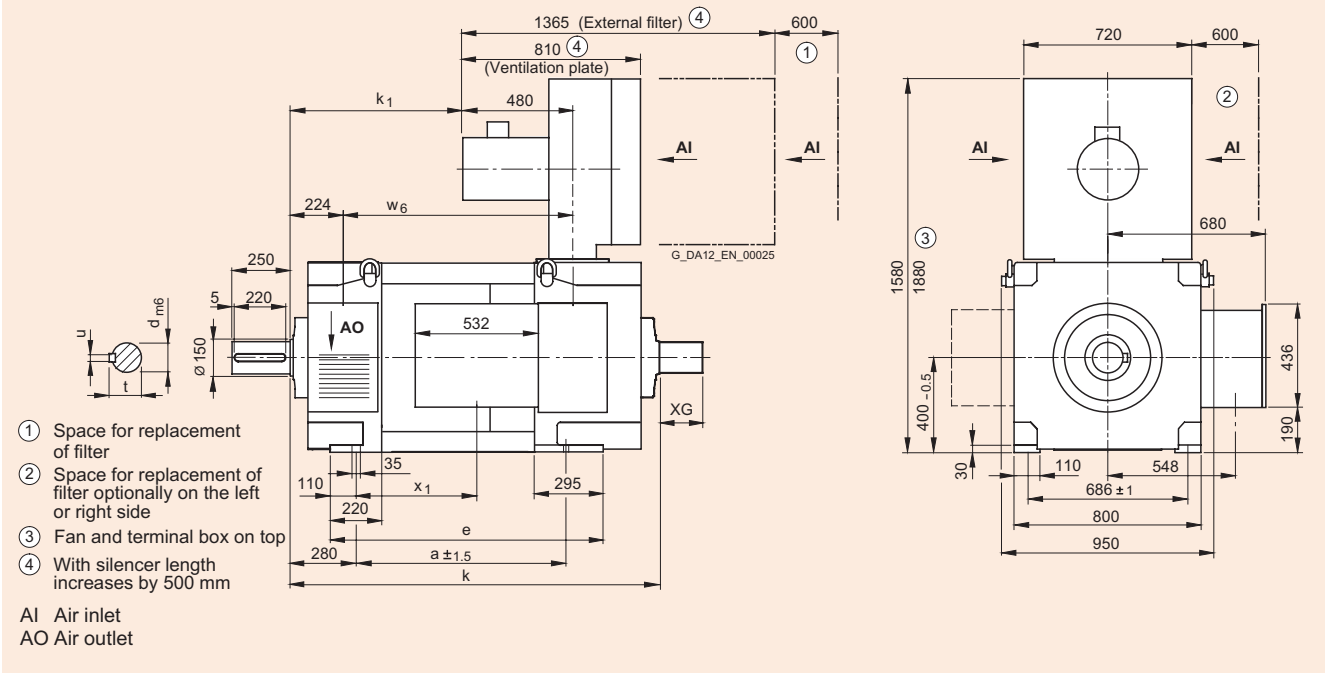
Type IM B 3

Type IM B 3

For motors		Dimensions acc. to						Drive end shaft extension			Tacho	Dimensions
Size	Type 1GG7 . . .	DIN a IEC B	e –	k L	k_1 LC	w_6 –	x_1 –	d D	t GA	u F		– XG
355	 351	770	1065	1450	582	850	415	110	116	28	ROD 436	85
	 352	870	1115	1500	632	900	465	110	116	28	POG 9 D / POG 10 D	150
	 353	930	1175	1560	692	960	525	120	127	32	REO 444 R	180
	 354	1000	1255	1640	772	1040	605	120	127	32	TDP 0.09	195
	 355	1120	1375	1760	992	1160	725	120	127	32	TDP 0.2 T	185

4

Dimension drawings



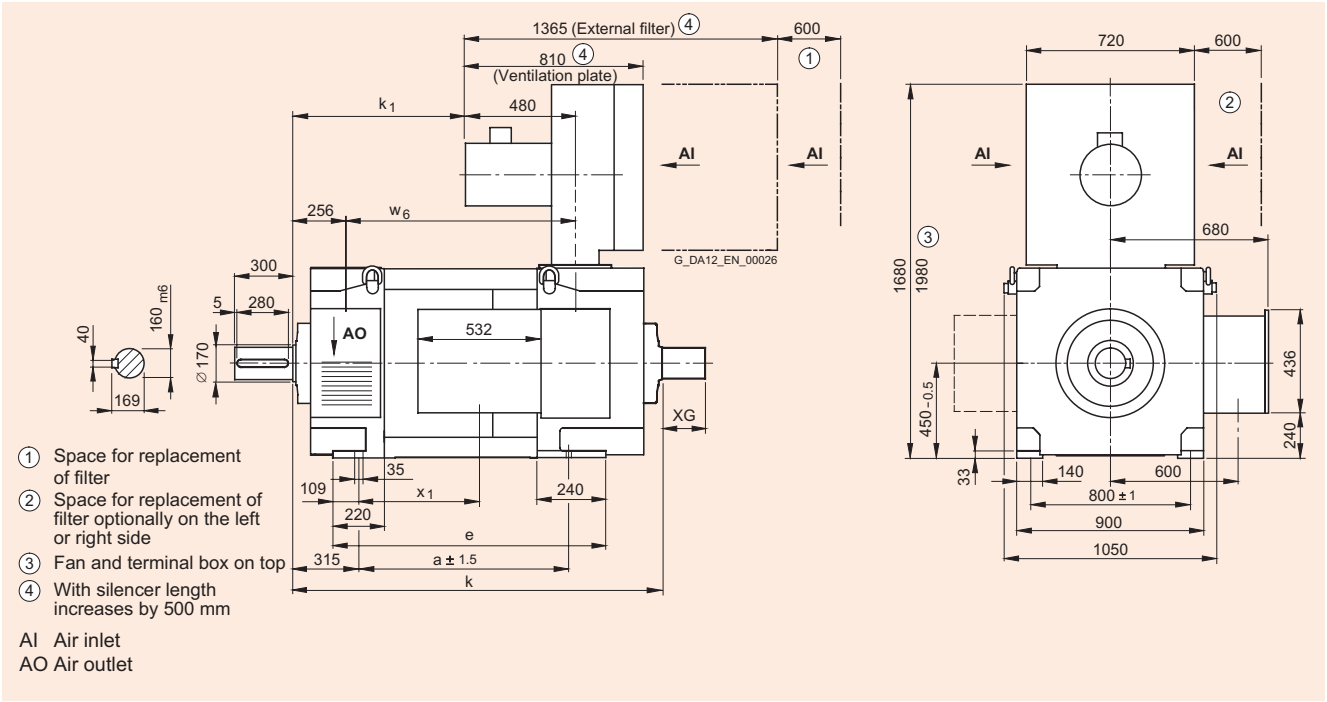
Type IM B 3

Type IM B 3

For motors		Dimensions acc. to						Drive end shaft extension			Tacho	Dimensions
Size	Type 1GG7 . . .	DIN a IEC B	e –	k L	k_1 LC	w_6 –	x_1 –	d D	t GA	u F		– XG
400	 401	830	1100	1515	659	915	450	130	137	32	ROD 436	85
	 402	900	1170	1585	729	985	520	130	137	32	POG 9 D / POG 10 D	150
	 403	1000	1245	1660	804	1060	595	130	137	32	REO 444 R	180
	 404	1105	1350	1765	909	1165	800	140	150	36	TDP 0.09	195
	 405	1275	1520	1935	1079	1335	970	140	150	36	TDP 0.2 T	185

1GG7 451 - 1GG7 455

Dimension drawings



① Space for replacement of filter
② Space for replacement of filter optionally on the left or right side
③ Fan and terminal box on top
④ With silencer length increases by 500 mm

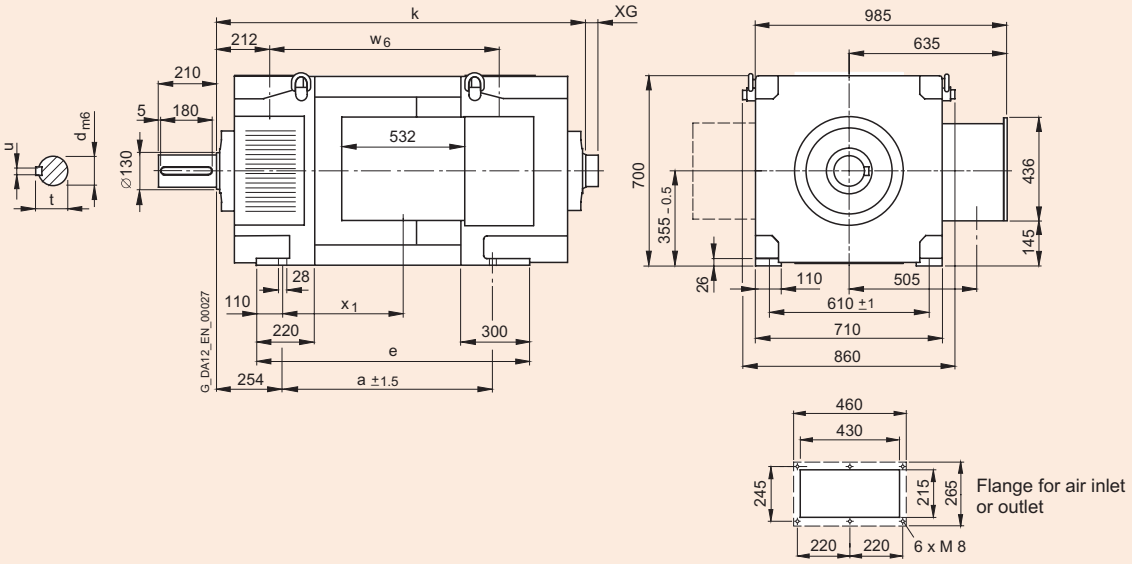
AI Air inlet
AO Air outlet

Type IM B 3

Type IM B 3

For motors		Dimensions acc. to						Tacho	Dimensions
Size	Type 1GG7 . . .	DIN a IEC B	e –	k L	k_1 LC	w_6 –	x_1 –		– XG
450	 451	930	1125	1660	781	1005	520	ROD 436	85
	 452	1000	1195	1730	851	1075	590	POG 9 D / POG 10 D	150
	 453	1090	1285	1820	941	1165	680	REO 444 R	180
	 454	1210	1405	1940	1061	1285	800	TDP 0.09	195
	 455	1400	1595	2130	1251	1475	990	TDP 0.2 T	185

Dimension drawings



Type IM B 3

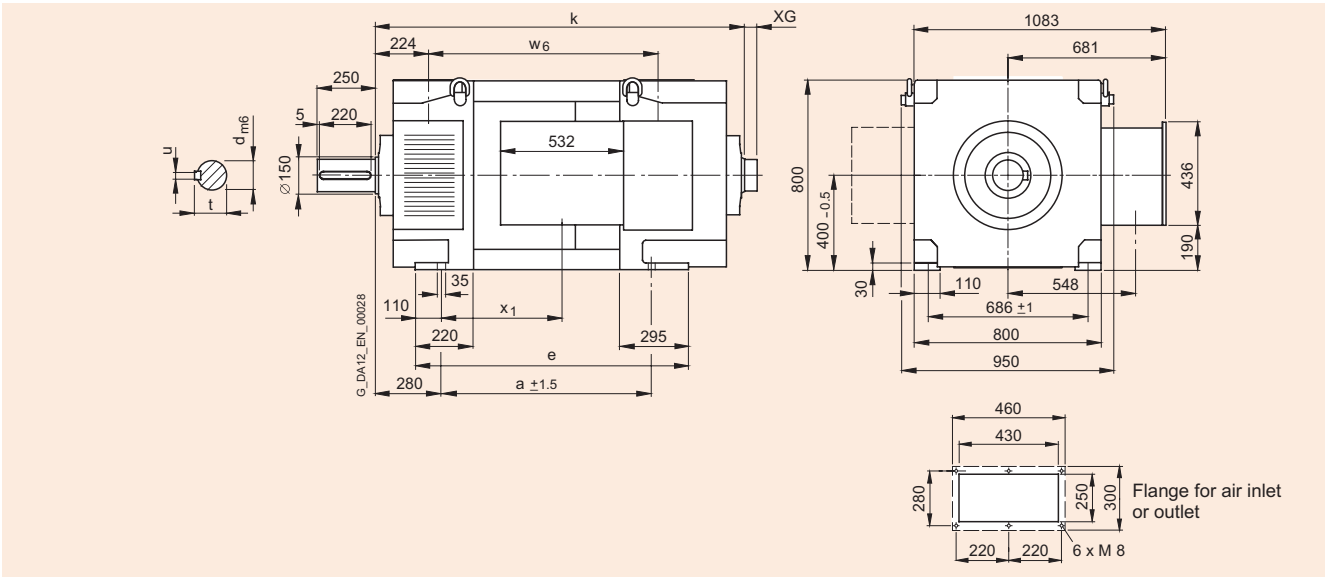
Type IM B 3

For motors		Dimensions acc. to					Drive end shaft extension			Tacho	Dimen-sions
Size	Type 1GH7 . . .	DIN a IEC B	e –	k L	w_6 –	x_1 –	d D	t GA	u F		– XG
355	 351	770	1065	1450	850	415	110	116	28	ROD 436	85
	 352	870	1115	1500	900	465	110	116	28	POG 9 D / POG 10 D	150
	 353	930	1175	1560	960	525	120	127	32	REO 444 R	180
	 354	1000	1255	1640	1040	605	120	127	32	TDP 0.09	195
	 355	1120	1375	1760	1160	725	120	127	32	TDP 0.2 T	185

4

1GH7 401 - 1GH7 405

Dimension drawings

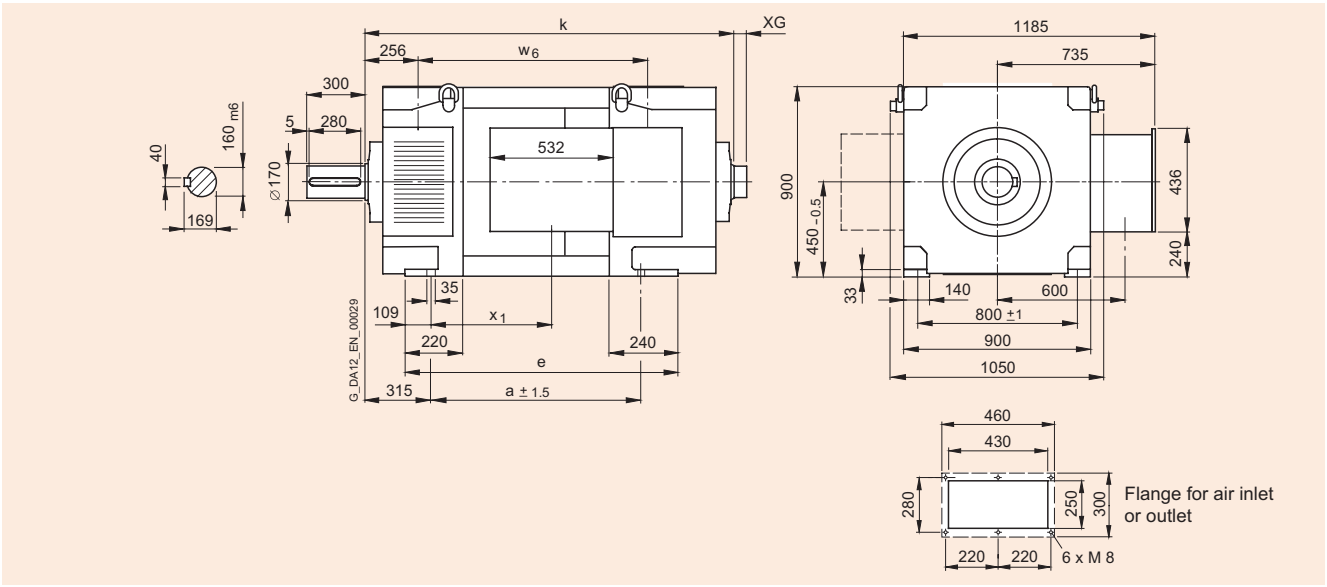


Type IM B 3

Type IM B 3

For motors		Dimensions acc. to					Drive end shaft extension			Tacho	Dimen-sions
Size	Type **1GH7 . . .**	**DIN a** **IEC B**	**e** –	k L	w_6 –	x_1 –	**d** **D**	**t** **GA**	**u** **F**		– XG
400	**. . . . 401**	**830**	**1100**	1515	915	450	130	137	32	ROD 436	85
	 402	**900**	**1170**	1585	985	520	130	137	32	POG 9 D / POG 10 D	150
	 403	**1000**	**1245**	1660	1060	595	130	137	32	REO 444 R	180
	 404	**1105**	**1350**	1765	1165	800	140	150	36	TDP 0.09	195
	 405	**1275**	**1520**	1935	1335	970	140	150	36	TDP 0.2 T	185

Dimension drawings



Type IM B 3

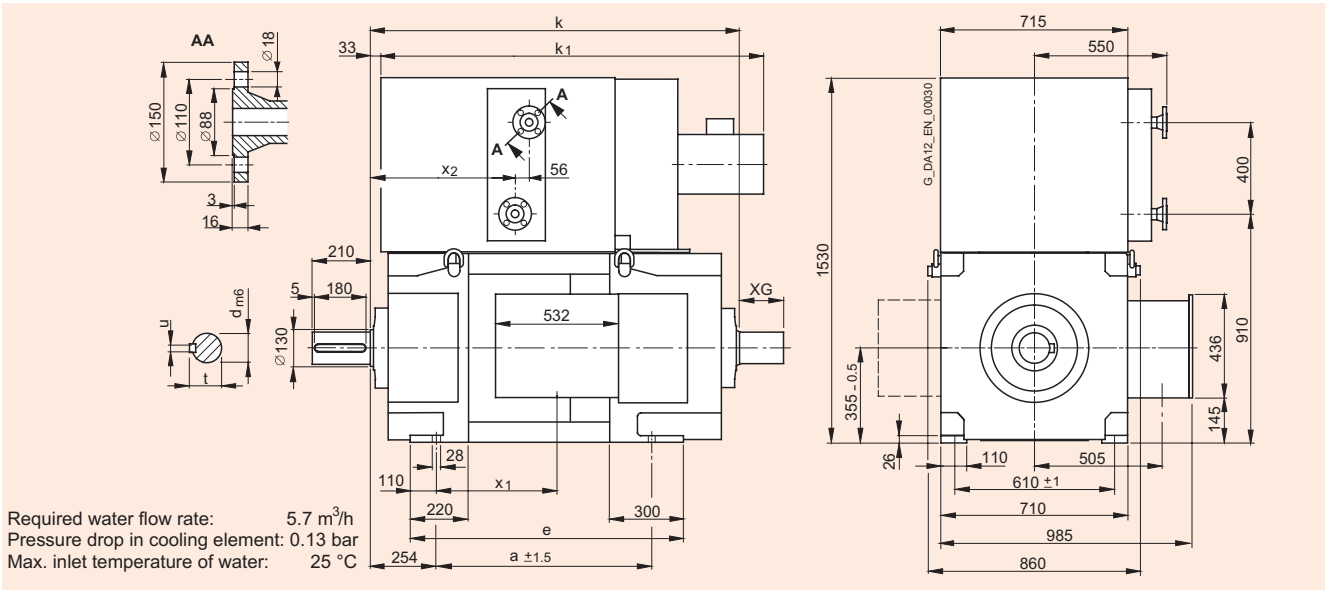
Type IM B 3

For motors		Dimensions acc. to					Tacho	Dimensions
Size	Type 1GH7 . . .	DIN a IEC B	e –	k L	w_6 –	x_1 –		– XG
450	 451	**930**	**1125**	1660	1005	520	ROD 436	85
	 452	**1000**	**1195**	1730	1075	590	POG 9 D / POG 10 D	150
	 453	**1090**	**1285**	1820	1165	680	REO 444 R	180
	 454	**1210**	**1405**	1940	1285	800	TDP 0.09	195
	 455	**1400**	**1595**	2130	1475	990	TDP 0.2 T	185

4

1HS7 351 - 1HS7 355

Dimension drawings



Required water flow rate: 5.7 m^3/h
Pressure drop in cooling element: 0.13 bar
Max. inlet temperature of water: 25 °C

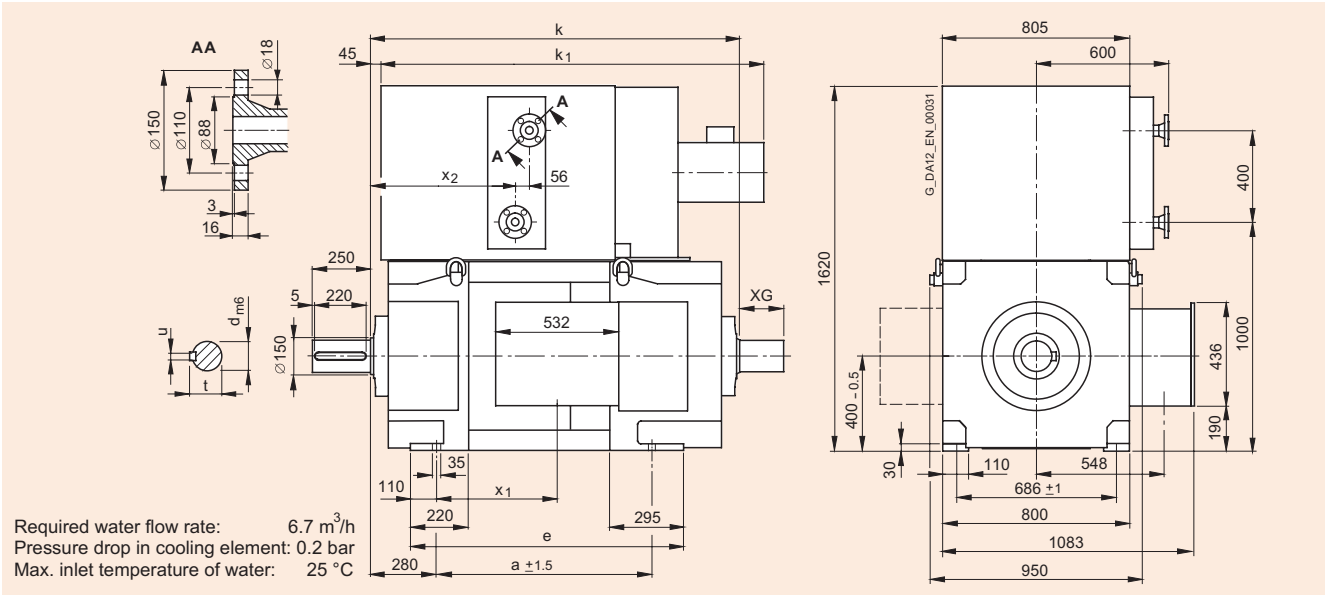
Type IM B 3

Type IM B 3

For motors		Dimensions acc. to						Drive end shaft extension			Tacho	Dimen-sions
Size	Type **1HS7 . . .**	**DIN a IEC B**	**e** –	k L	k_1 LC	x_1 –	x_2 –	**d D**	**t GA**	**u F**		– XG
355	**. . . . 351**	**770**	**1065**	1450	1520	415	550	**110**	**116**	**28**	ROD 436	85
	 352	**870**	**1115**	1500	1570	465	600	**110**	**116**	**28**	POG 9 D / POG 10 D	150
	 353	**930**	**1175**	1560	1630	525	660	**120**	**127**	**32**	REO 444 R	180
	 354	**1000**	**1255**	1640	1710	605	740	**120**	**127**	**32**	TDP 0.09	195
	 355	**1120**	**1375**	1760	1830	725	860	**120**	**127**	**32**	TDP 0.2 T	185

4

Dimension drawings



Required water flow rate: 6.7 m^3/h
Pressure drop in cooling element: 0.2 bar
Max. inlet temperature of water: 25 °C

Type IM B 3

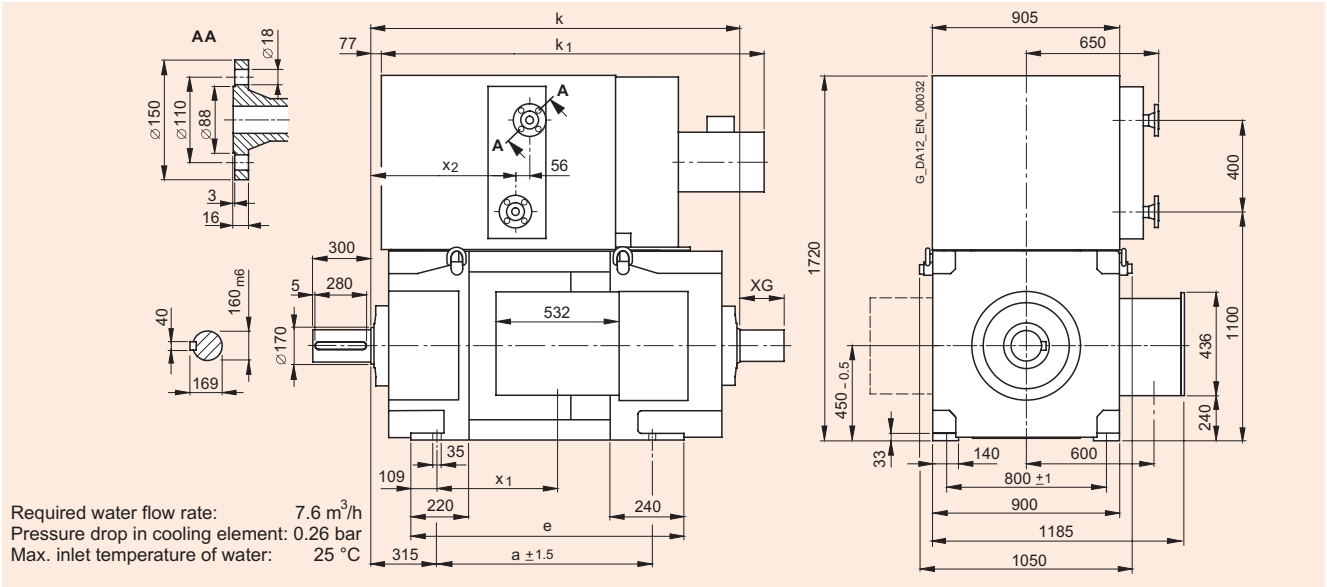
Type IM B 3

For motors		Dimensions acc. to						Drive end shaft extension			Tacho	Dimen-sions
Size	Type 1HS7 . . .	DIN a IEC B	e –	k L	k_1 LC	x_1 –	x_2 –	d D	t GA	u F		– XG
400	**. . . . 401**	**830**	**1100**	1515	1580	450	630	**130**	**137**	**32**	ROD 436	85
	 402	**900**	**1170**	1585	1650	520	700	**130**	**137**	**32**	POG 9 D / POG 10 D	150
	 403	**1000**	**1245**	1660	1725	595	775	**130**	**137**	**32**	REO 444 R	180
	 404	**1105**	**1350**	1765	1830	700	880	**140**	**150**	**36**	TDP 0.09	195
	 405	**1275**	**1520**	1935	2000	870	1050	**140**	**150**	**36**	TDP 0.2 T	185

4

1HS7 451 - 1HS7 455

Dimension drawings



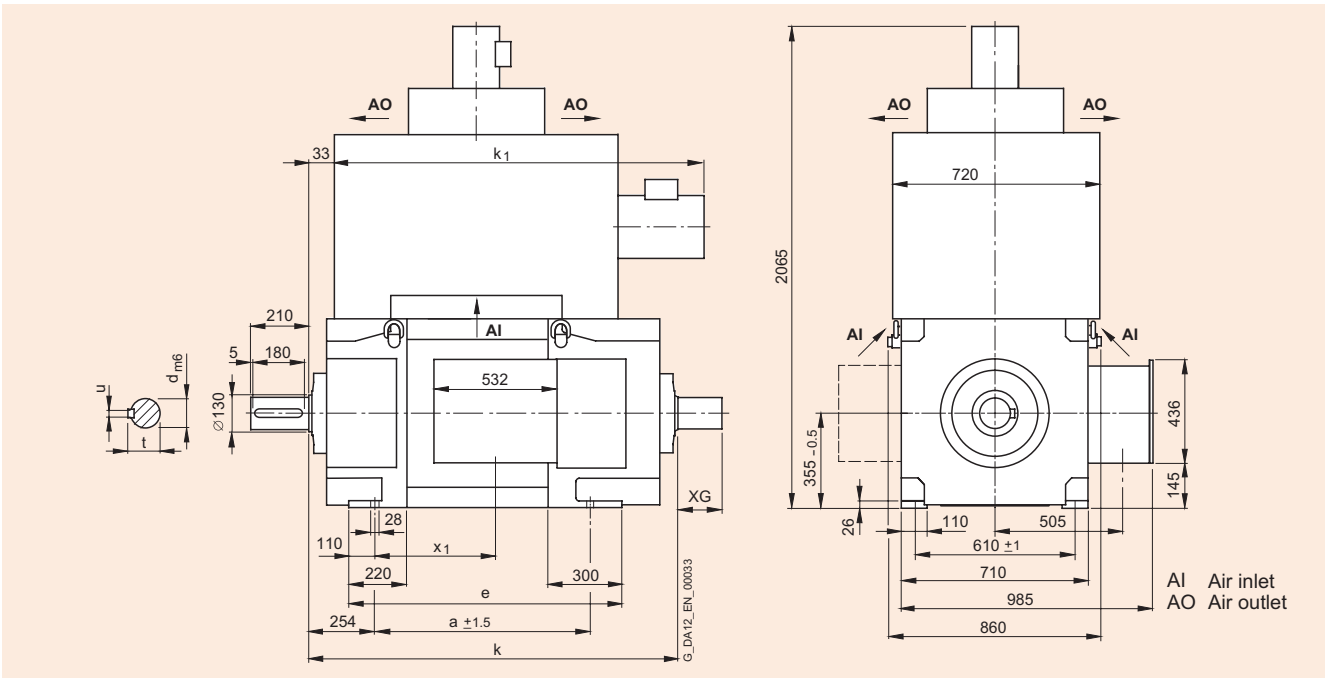
Type IM B 3

Type IM B 3

For motors		Dimensions acc. to						Tacho	Dimen-sions
Size	Type 1HS7 . . .	DIN a IEC B	e –	k L	k_1 LC	x_1 –	x_2 –		– XG
450	 451	**930**	**1125**	1660	1670	520	750	ROD 436	85
	 452	**1000**	**1195**	1730	1740	590	820	POG 9 D / POG 10 D	150
	 453	**1090**	**1285**	1820	1830	680	910	REO 444 R	180
	 454	**1210**	**1405**	1940	1950	800	1030	TDP 0.09	195
	 455	**1400**	**1595**	2130	2140	990	1220	TDP 0.2 T	185

4

Dimension drawings



Type IM B 3

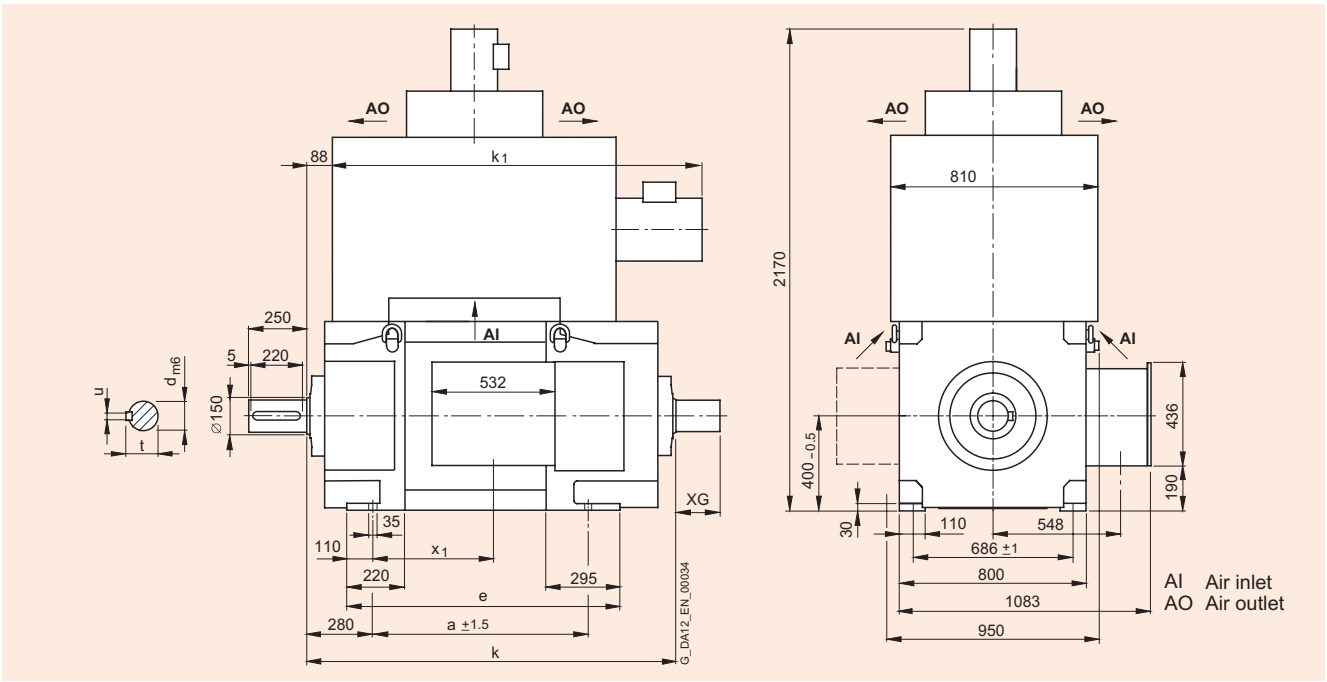
Type IM B 3

For motors		Dimensions acc. to					Drive end shaft extension			Tacho	Dimensions
Size	Type 1HQ7 . . .	DIN a IEC B	e –	k L	k_1 LC	x_1 –	d D	t GA	u F		– XG
355	 351	770	1065	1450	1510	415	110	116	28	ROD 436	85
	 352	870	1115	1500	1560	465	110	116	28	POG 9 D / POG 10 D	150
	 353	930	1175	1560	1620	525	120	127	32	REO 444 R	180
	 354	1000	1255	1640	1700	605	120	127	32	TDP 0.09	195
	 355	1120	1375	1760	1820	725	120	127	32	TDP 0.2 T	185

4

1HQ7 401 - 1HQ7 405

Dimension drawings

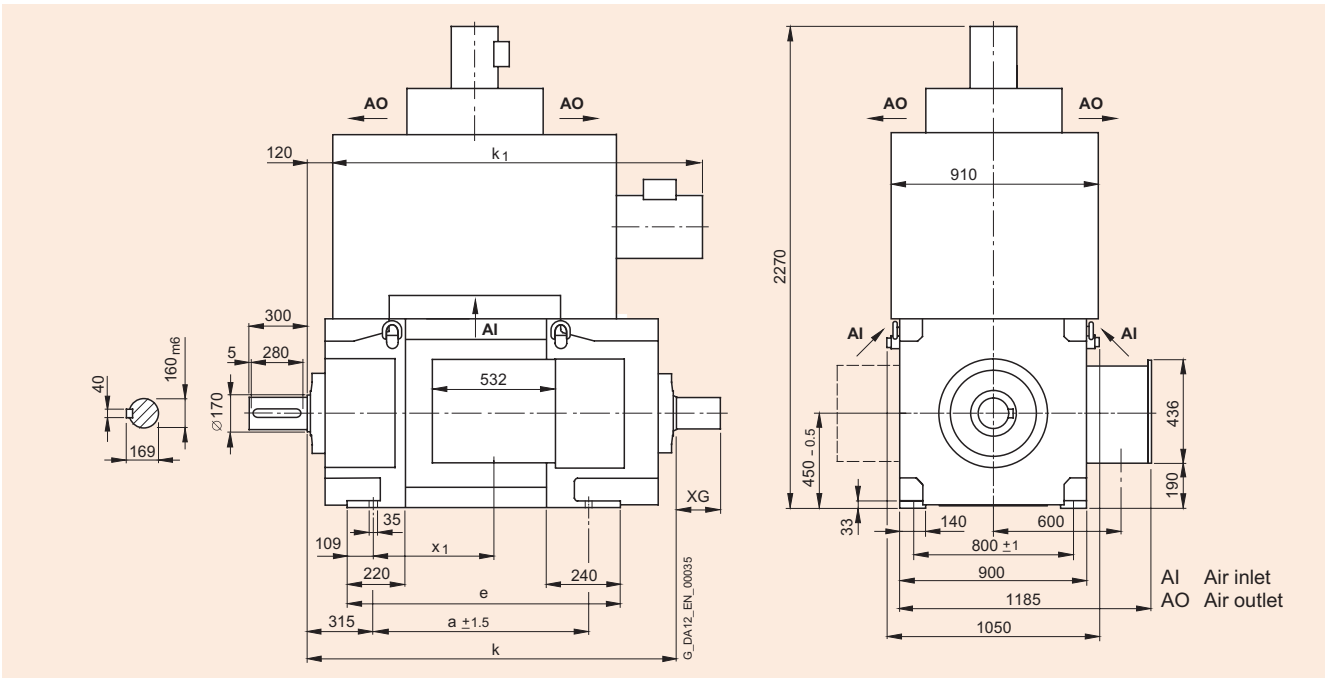


Type IM B 3

Type IM B 3

For motors		Dimensions acc. to					Drive end shaft extension			Tacho	Dimensions
Size	Type 1HQ7 . . .	DIN a IEC B	e –	k L	k_1 LC	x_1 –	d D	t GA	u F		– XG
400	 401	830	1100	1515	1530	450	130	137	32	ROD 436	85
	 402	900	1170	1585	1600	520	130	137	32	POG 9 D / POG 10 D	150
	 403	1000	1245	1660	1675	595	130	137	32	REO 444 R	180
	 404	1105	1350	1765	1780	800	140	150	36	TDP 0.09	195
	 405	1275	1520	1935	1950	970	140	150	36	TDP 0.2 T	185

Dimension drawings



Type IM B 3

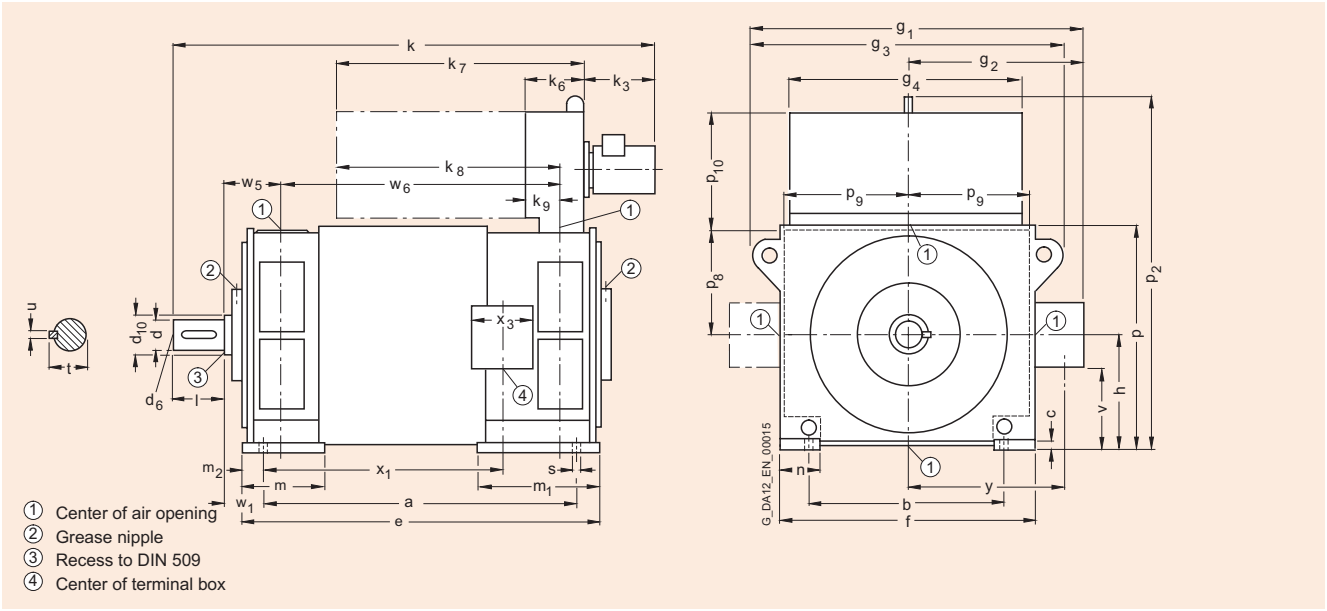
Type IM B 3

For motors		Dimensions acc. to					Tacho	Dimensions
Size	Type 1HQ7 . . .	DIN a IEC B	e –	k L	k_1 LC	x_1 –		– XG
450	 451	**930**	**1125**	1660	1620	520	ROD 436	85
	 452	**1000**	**1195**	1730	1690	590	POG 9 D / POG 10 D	150
	 453	**1090**	**1285**	1820	1780	680	REO 444 R	180
	 454	**1210**	**1405**	1940	1900	800	TDP 0.09	195
	 455	**1400**	**1595**	2130	2090	990	TDP 0.2 T	185

4

1GG5 500 - 1GG5 635

Dimension drawings



Type IM B 3

4

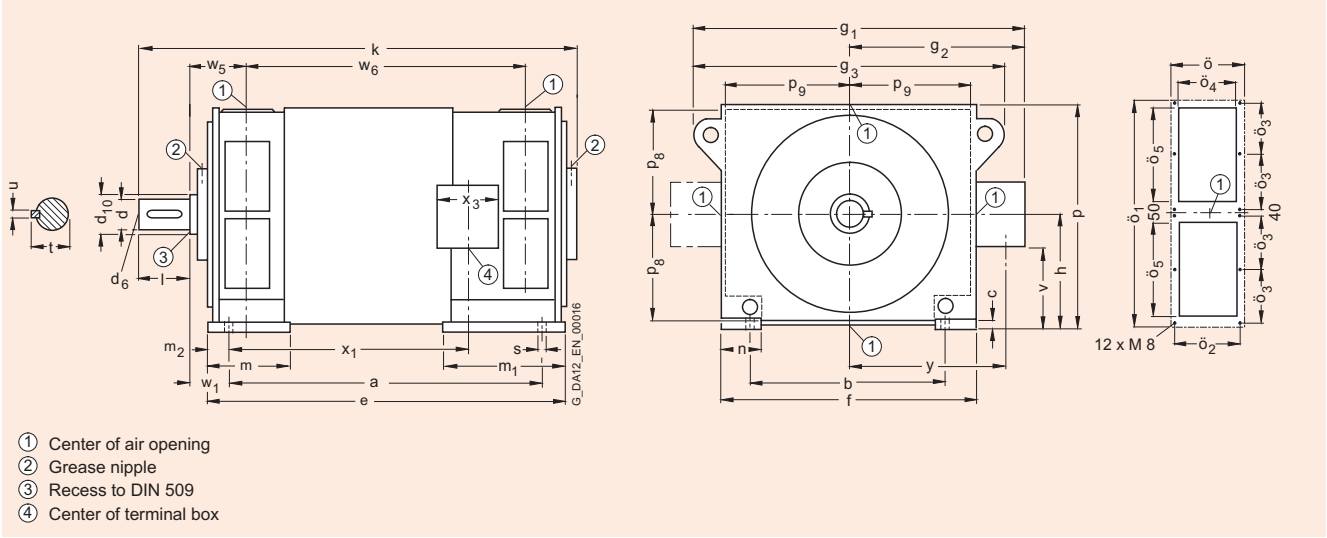
Type IM B 3

For motors			Dimensions acc. to																						
Size	Type 1GG5 . . .	Terminal box type	DIN a IEC B	b A	c HA	e BB	f AB	g_1 –	g_2 –	g_3 –	g_4 –	h H	k L	k_3 –	k_6 –	k_7 –	k_8 –	k_9 –	m BA	m_1 –	m_2 –	n AA	p –	p_2 –
500	 500	1XB7 710 1XB7 942	**1210**	**850**	30	1455	1072	1420 1560	770 910	1300	940	**500**	2115	425	280	1000	905	185	560	635	125	170	1000	1680
	 501	1XB7 710 1XB7 942	**1210**	**850**	30	1455	1072	1420 1560	770 910	1300	940	**500**	2115	425	280	1000	905	185	460	635	125	170	1000	1680
	 502	1XB7 710 1XB7 942	**1210**	**850**	30	1455	1072	1420 1560	770 910	1300	940	**500**	2115	425	280	1000	905	185	360	635	125	170	1000	1680
	 503	1XB7 710 1XB7 942	**1410**	**850**	30	1655	1072	1420 1560	770 910	1300	940	**500**	2365	425	280	1000	905	185	460	635	125	170	1000	1680
	 504	1XB7 710 1XB7 942	**1410**	**850**	30	1655	1072	1420 1560	770 910	1300	940	**500**	2365	425	280	1000	905	185	360	635	125	170	1000	1680
630	 631	1XB7 710 1XB7 942	**1280**	**1060**	34	1565	1354	1730 1870	910 1050	1640	1255	**630**	2270	425	330	1070	960	220	515	700	145	210	1260	1940
	 632	1XB7 710 1XB7 942	**1280**	**1060**	34	1565	1354	1730 1870	910 1050	1640	1255	**630**	2270	425	330	1070	960	220	415	700	145	210	1260	1940
	 633	1XB7 710 1XB7 942	**1480**	**1060**	34	1765	1354	1730 1870	910 1050	1640	1255	**630**	2520	425	330	1070	960	220	515	700	145	210	1260	1940
	 634	1XB7 710 1XB7 942	**1480**	**1060**	34	1765	1354	1730 1870	910 1050	1640	1255	**630**	2520	425	330	1070	960	220	415	700	145	210	1260	1940
	 635	1XB7 710 1XB7 942	**1630**	**1060**	34	1915	1354	1730 1870	910 1050	1640	1255	**630**	2670	425	330	1070	960	220	415	700	145	210	1260	1940

For motors			Dimensions acc. to												Drive end shaft extension					
Size	Type 1GG5 . . .	Terminal box type	DIN IEC p_8 –	p_9 –	p_{10} –	s K	v –	w_1 C	w_5 –	w_6 –	x_1 –	x_3 –	y –	d D	l E	t GA	u F	d_6 –	d_{10} –
500	 500	1XB7 710 1XB7 942	485	526	645	35	320	200	255	1090	830 800	360 480	670 755	**140**	250	**148**	**36**	M 30	150
	 501	1XB7 710 1XB7 942	485	526	645	35	320	200	255	1090	830 800	360 480	670 755	**140**	250	**148**	**36**	M 30	150
	 502	1XB7 710 1XB7 942	485	526	645	35	320	200	255	1090	830 800	360 480	670 755	**150**	250	**158**	**36**	M 30	160
	 503	1XB7 710 1XB7 942	485	526	645	35	320	200	255	1290	1030 1000	360 480	670 755	**160**	300	**169**	**40**	M 30	170
	 504	1XB7 710 1XB7 942	485	526	645	35	320	200	255	1290	1030 1000	360 480	670 755	**160**	300	**169**	**40**	M 30	170
630	 631	1XB7 710 1XB7 942	615	667	645	42	450	224	286	1150	880 850	360 480	810 895	**160**	300	**169**	**40**	M 30	170
	 632	1XB7 710 1XB7 942	615	667	645	42	450	224	286	1150	880 850	360 480	810 895	**170**	300	**179**	**40**	M 30	180
	 633	1XB7 710 1XB7 942	615	667	645	42	450	224	286	1350	1080 1050	360 480	810 895	**190**	350	**200**	**45**	M 30	200
	 634	1XB7 710 1XB7 942	615	667	645	42	450	224	286	1350	1080 1050	360 480	810 895	**190**	350	**200**	**45**	M 30	200
	 635	1XB7 710 1XB7 942	615	667	645	42	450	224	286	1500	1230 1200	360 480	810 895	**200**	350	**210**	**45**	M 30	220

1GH5 500 - 1GH5 635

Dimension drawings



① Center of air opening
② Grease nipple
③ Recess to DIN 509
④ Center of terminal box

Type IM B 3

4

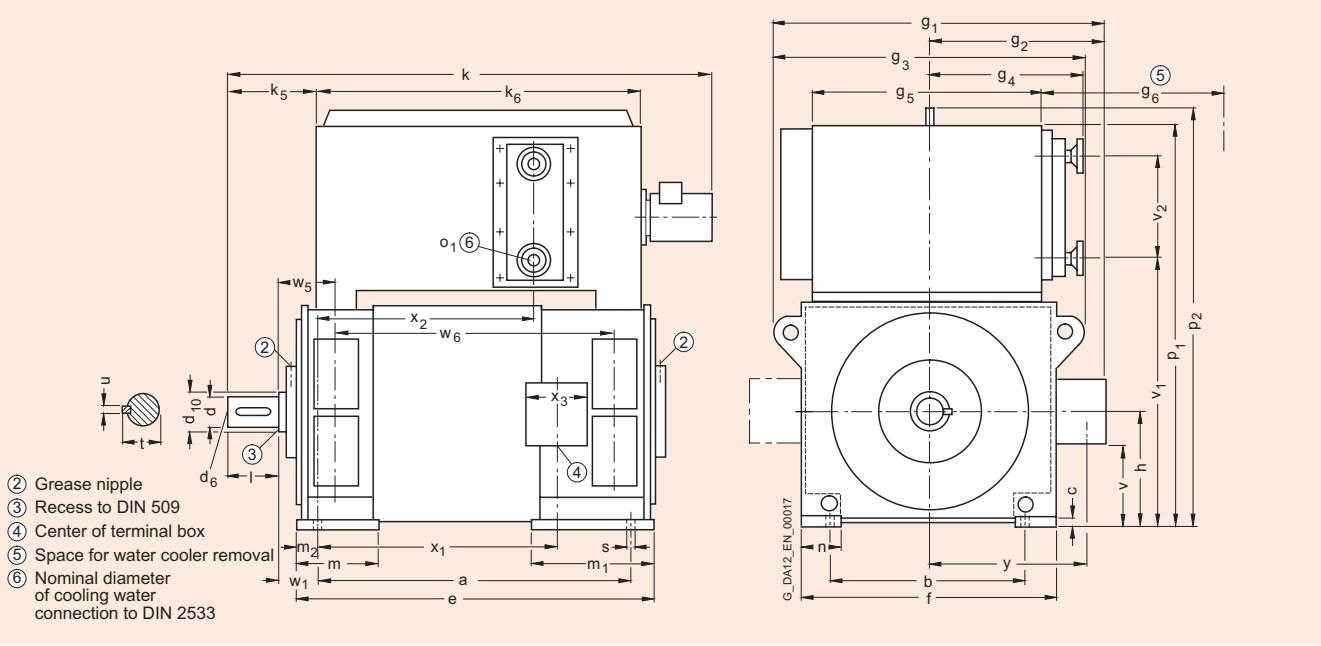
Type IM B 3

For motors			Dimensions acc. to																						
Size	Type **1GH5 . . .**	Terminal box type	**DIN IEC**	**a B**	**b A**	c HA	e BB	f AB	g_1 –	g_2 –	g_3 –	**h H**	k L	m BA	m_1 –	m_2 –	n AA	ö –	$ö_1$ –	$ö_2$ –	$ö_3$ –	$ö_4$ –	$ö_5$ –	p –	p_8 –
500	**. . . . 500**	1XB7 710 1XB7 942		**1210**	**850**	30	1455	1072	1420 1560	770 910	1300	**500**	1850	560	635	125	170	230	620	210	140	180	270	1000	485
	 501	1XB7 710 1XB7 942		**1210**	**850**	30	1455	1072	1420 1560	770 910	1300	**500**	1850	460	635	125	170	230	620	210	140	180	270	1000	485
	 502	1XB7 710 1XB7 942		**1210**	**850**	30	1455	1072	1420 1560	770 910	1300	**500**	1850	360	635	125	170	230	620	210	140	180	270	1000	485
	 503	1XB7 710 1XB7 942		**1410**	**850**	30	1655	1072	1420 1560	770 910	1300	**500**	2100	460	635	125	170	230	620	210	140	180	270	1000	485
	 504	1XB7 710 1XB7 942		**1410**	**850**	30	1655	1072	1420 1560	770 910	1300	**500**	2100	360	635	125	170	230	620	210	140	180	270	1000	485
630	**. . . . 631**	1XB7 710 1XB7 942		**1280**	**1060**	34	1565	1354	1730 1870	910 1050	1640	**630**	2010	515	700	145	210	265	840	245	195	215	380	1260	615
	 632	1XB7 710 1XB7 942		**1280**	**1060**	34	1565	1354	1730 1870	910 1050	1640	**630**	2010	515	700	145	210	265	840	245	195	215	380	1260	615
	 633	1XB7 710 1XB7 942		**1480**	**1060**	34	1765	1354	1730 1870	910 1050	1640	**630**	2260	515	700	145	210	265	840	245	195	215	380	1260	615
	 634	1XB7 710 1XB7 942		**1480**	**1060**	34	1765	1354	1730 1870	910 1050	1640	**630**	2260	415	700	145	210	265	840	245	195	215	380	1260	615
	 635	1XB7 710 1XB7 942		**1630**	**1060**	34	1915	1354	1730 1870	910 1050	1640	**630**	2410	415	700	145	210	265	840	245	195	215	380	1260	615

For motors			Dimensions acc. to										Drive end shaft extension					
Size	Type **1GH5 . . .**	Terminal box type	**DIN IEC** p_9 –	s K	v –	w_1 C	w_5 –	w_6 –	x_1 –	x_3 –	y –	**d D**	l E	**t GA**	**u F**	d_6 –	d_{10} –
500	**. . . . 500**	1XB7 710 1XB7 942	526	35	320	200	255	1090	830 800	360 480	670 755	**140**	250	**148**	**36**	M 30	150
	 501	1XB7 710 1XB7 942	526	35	320	200	255	1090	830 800	360 480	670 755	**140**	250	**148**	**36**	M 30	150
	 502	1XB7 710 1XB7 942	526	35	320	200	255	1090	830 800	360 480	670 755	**150**	250	**158**	**36**	M 30	160
	 503	1XB7 710 1XB7 942	526	35	320	200	255	1290	1030 1000	360 480	670 755	**160**	300	**169**	**40**	M 30	170
	 504	1XB7 710 1XB7 942	526	35	320	200	255	1290	1030 1000	360 480	670 755	**160**	300	**169**	**40**	M 30	170
630	**. . . . 631**	1XB7 710 1XB7 942	667	42	450	224	286	1150	880 850	360 480	810 895	**160**	300	**169**	**40**	M 30	170
	 632	1XB7 710 1XB7 942	667	42	450	224	286	1150	880 850	360 480	810 895	**170**	300	**179**	**40**	M 30	180
	 633	1XB7 710 1XB7 942	667	42	450	224	286	1350	1080 1050	360 480	810 895	**190**	350	**200**	**45**	M 30	200
	 634	1XB7 710 1XB7 942	667	42	450	224	286	1350	1080 1050	360 480	810 895	**190**	350	**200**	**45**	M 30	200
	 635	1XB7 710 1XB7 942	667	42	450	224	286	1500	1230 1200	360 480	810 895	**200**	350	**210**	**45**	M 30	220

1HS5 500 - 1HS5 635

Dimension drawings



Type IM B 3

4

Type IM B 3[1])

For motors			Dimensions acc. to																			
Size	Type **1HS5 . . .**	Terminal box type	**DIN a** **IEC B**	**b** **A**	c HA	e BB	f AB	g_1 –	g_2 –	g_3 –	g_4 –	g_5 –	g_6 –	**h** **H**	k L	k_5 –	k_6 –	m BA	m_1 –	m_2 –	n AA
500	**. . . . 500**	1XB7 710 1XB7 942	**1210**	**850**	30	1455	1072	1420 1560	770 910	1300	666	995	1250	**500**	2115	410	1280	560	635	125	170
	 501	1XB7 710 1XB7 942	**1210**	**850**	30	1455	1072	1420 1560	770 910	1300	666	995	1250	**500**	2115	410	1280	460	635	125	170
	 502	1XB7 710 1XB7 942	**1210**	**850**	30	1455	1072	1420 1560	770 910	1300	666	995	1250	**500**	2115	410	1280	360	635	125	170
	 503	1XB7 710 1XB7 942	**1410**	**850**	30	1655	1072	1420 1560	770 910	1300	666	995	1250	**500**	2365	460	1480	460	635	125	170
	 504	1XB7 710 1XB7 942	**1410**	**850**	30	1655	1072	1420 1560	770 910	1300	666	995	1250	**500**	2365	460	1480	360	635	125	170
630	**. . . . 631**	1XB7 710 1XB7 942	**1280**	**1060**	34	1565	1354	1730 1870	910 1050	1640	796	1255	1470	**630**	2270	475	1370	515	700	145	210
	 632	1XB7 710 1XB7 942	**1280**	**1060**	34	1565	1354	1730 1870	910 1050	1640	796	1255	1470	**630**	2270	475	1370	415	700	145	210
	 633	1XB7 710 1XB7 942	**1480**	**1060**	34	1765	1354	1730 1870	910 1050	1640	796	1255	1470	**630**	2520	525	1570	515	700	145	210
	 634	1XB7 710 1XB7 942	**1480**	**1060**	34	1765	1354	1730 1870	910 1050	1640	796	1255	1470	**630**	2520	525	1570	415	700	145	210
	 635	1XB7 710 1XB7 942	**1630**	**1060**	34	1915	1354	1730 1870	910 1050	1640	796	1255	1470	**630**	2670	525	1720	415	700	145	210

For motors			Dimensions acc. to													Drive end shaft extension					
Size	Type **1HS5 . . .**	Terminal box type	**DIN** o_1 **IEC** –	p_1 –	p_2 –	s K	v –	v_1 –	v_2 –	w_1 C	x_1 –	x_2 –	x_3 –	y –	**d** **D**	l E	**t** **GA**	**u** **F**	d_6 –	d_{10} –
500	**. . . . 500**	1XB7 710 1XB7 942	50	1800	1860	35	320	1226	440	200	830 800	715	360 480	670 755	**140**	250	**148**	**36**	M 30	150
	 501	1XB7 710 1XB7 942	50	1800	1860	35	320	1226	440	200	830 800	715	360 480	670 755	**140**	250	**148**	**36**	M 30	150
	 502	1XB7 710 1XB7 942	50	1800	1860	35	320	1226	440	200	830 800	715	360 480	670 755	**150**	250	**158**	**36**	M 30	160
	 503	1XB7 710 1XB7 942	50	1800	1860	35	320	1226	440	200	1030 1000	915	360 480	670 755	**160**	300	**169**	**40**	M 30	170
	 504	1XB7 710 1XB7 942	50	1800	1860	35	320	1226	440	200	1030 1000	915	360 480	670 755	**160**	300	**169**	**40**	M 30	170
630	**. . . . 631**	1XB7 710 1XB7 942	65	2200	2260	42	450	1505	540	224	880 850	762	360 480	810 895	**160**	300	**169**	**40**	M 30	170
	 632	1XB7 710 1XB7 942	65	2200	2260	42	450	1505	540	224	880 850	762	360 480	810 895	**170**	300	**179**	**40**	M 30	180
	 633	1XB7 710 1XB7 942	65	2200	2260	42	450	1505	540	224	1080 1050	962	360 480	810 895	**190**	350	**200**	**45**	M 30	200
	 634	1XB7 710 1XB7 942	65	2200	2260	42	450	1505	540	224	1080 1050	962	360 480	810 895	**190**	350	**200**	**45**	M 30	200
	 635	1XB7 710 1XB7 942	65	2200	2260	42	450	1505	540	224	1230 1200	1112	360 480	810 895	**200**	350	**210**	**45**	M 30	220

1) The dimensions are valid for special version 1 and 2 of the heat exchanger.
Please request dimensions of the standard heat exchanger.

Notes

Appendix

5

Further information
5/2 Regulations, standards and specifications

5/3 **Siemens contact partners worldwide**

A&D online services
5/4 Information and ordering options on the Internet and on CD-ROM

Customer support
5/5 Our services for every phase of the project
5/6 Knowledge base and Automation Value Card

Indices
5/7 Subject index
5/8 Order No. index

5/10 **Conditions of sale and delivery, export regulations**

Regulations, standards and specifications

The motors comply with the appropriate standards and regulations, see table below.

As a result of the fact that in many countries the national regulations have been completely harmonized with the international IEC 60 034-1 recommendation, there are no longer any differences with respect to coolant temperatures, temperature classes and maximum temperature rises.

Title	DIN/EN	IEC
General specifications for rotating electrical machines	EN 60 034-1	IEC 60 034-1 IEC 60 085
Terminal designations and direction of rotation for electrical machines	DIN VDE 0530, Part 8	IEC 60 034-8
Types of construction and installation	EN 60 034-7	IEC 60 034-7
Built-in thermal protection	–	IEC 60 034-11
Cooling methods for rotating electrical machines	EN 60 034-6	IEC 60 034-6
Degrees of protection of rotating electrical machines	EN 60 034-5	IEC 60 034-5
Vibration severity of rotating electrical machines	EN 60 034-14	IEC 60 034-14
Cylindrical shaft ends for electrical machines	DIN 748-3	IEC 60 072
Noise limit values for rotating electrical machines	EN 60 034-9	IEC 60 034-9

At

http://www.siemens.com/automation/partner

you can find details of Siemens contact partners worldwide responsible for particular technologies.

You can obtain in most cases a contact partner for

- Technical Support,
- Spare parts/repairs,
- Service,
- Training,
- Sales or
- Consultation/engineering.

You start by selecting a

- Country,
- Product or
- Sector.

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

Information and Ordering in the Internet and on CD-ROM

A&D in the WWW

A detailed knowledge of the range of products and services available is essential when planning and configuring automation systems. It goes without saying that this information must always be fully up-to-date.

The Siemens Automation and Drives Group (A&D) has therefore built up a comprehensive range of information in the World Wide Web, which offers quick and easy access to all data required.

Under the address

http://www.siemens.com/automation

you will find everything you need to know about products, systems and services.

Product Selection Using the Interactive Catalog

Detailed information together with convenient interactive functions:
The interactive catalog CA 01 covers more than 80,000 products and thus provides a full summary of the Siemens Automation and Drives product base.

Here you will find everything that you need to solve tasks in the fields of automation, switchgear, installation and drives.
All information is linked into a user interface which is easy to work with and intuitive.

After selecting the product of your choice you can order at the press of a button, by fax or by online link.

Information on the interactive catalog can be found in the Internet under

http://www.siemens.com/automation/ca01

or on CD-ROM:

- Automation & Drives CA 01,
  Order No.: E86060-D4001-A110-C2-7600

Easy shopping with the A&D Mall

The A&D Mall is the virtual department store of Siemens AG in the Internet. Here you have access to a huge range of products presented in electronic catalogs in an informative and attractive way.

Data transfer via EDIFACT allows the whole procedure from selection through ordering to tracking of the order to be carried out online via the Internet.

Numerous functions are available to support you.

For example, powerful search functions make it easy to find the required products, which can be immediately checked for availability. Customer-specific discounts and preparation of quotes can be carried out online as well as order tracking and tracing.

Please visit the A&D Mall on the Internet under:

http://www.siemens.com/automation/mall

Our Services for Every Phase of Your Project

In the face of harsh competition you need optimum conditions to keep ahead all the time:
A strong starting position. A sophisticated strategy and team for the necessary support - in every phase.
Service & Support from Siemens provides this support with a complete range of different services for automation and drives.

In every phase: from planning and startup to maintenance and upgrading.

Our specialists know when and where to act to keep the productivity and cost-effectiveness of your system running in top form.

Online Support

The comprehensive information system available round the clock via Internet ranging from Product Support and Service & Support services to Support Tools in the Shop.

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

Technical Support

Competent consulting in technical questions covering a wide range of customer-oriented services for all our products and systems.

Tel.: +49 (0)180 50 50 222
Fax: +49 (0)180 50 50 223
E-Mail:
adsupport@siemens.com

Technical Consulting

Support in the planning and designing of your project from detailed actual-state analysis, target definition and consulting on product and system questions right to the creation of the automation solution. [1])

Configuration and Software Engineering

Support in configuring and developing with customer-oriented services from actual configuration to implementation of the automation project. [1])

Service On Site

With Service On Site we offer services for startup and maintenance, essential for ensuring system availability.

In Germany
0180 50 50 444 [1])

Repairs and Spare Parts

In the operating phase of a machine or automation system we provide a comprehensive repair and spare parts service ensuring the highest degree of operating safety and reliability.

In Germany
0180 50 50 448 [1])

Optimization and Upgrading

To enhance productivity and save costs in your project we offer high-quality services in optimization and upgrading. [1])

1) For country-specific telephone numbers go to our Internet site at:
http://www.siemens.com/automation/service&support

Knowledge Base and Automation Value Card

Knowledge Base on CD-ROM

For locations without online connections to the Internet there are excerpts of the free part of the information sources available on CD-ROM (Service & Support Knowledge Base). This CD-ROM contains all the latest product information at the time of production (FAQs, Downloads, Tips and Tricks, Updates) as well as general information on Service and Technical Support.

The CD-ROM also includes a full-text search and our Knowledge Manager for targeted searches for solutions. The CD-ROM will be updated every 4 months.

Just the same as our online offer in the Internet, the Service & Support Knowledge Base on CD comes complete in 5 languages (German, English, French, Italian, Spanish).

You can order the **Service & Support Knowledge Base** CD from your Siemens contact.

Order no. **6ZB5310-0EP30-0BA2**

Orders via the Internet
(with Automation Value Card or credit card) at:

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

in the Shop domain.

Automation Value Card

Small card - great support

The Automation Value Card is an integral component of the comprehensive service concept with which Siemens Automation and Drives will accompany you in each phase of your automation project.

It doesn't matter whether you want just specific services from our Technical Support or want to purchase high-quality Support Tools in our Online Shop, you can always pay with your Automation Value Card. No invoicing, transparent and safe. With your personal card number and associated PIN you can view the state of your account and all transactions at any time.

Services on card. This is how it's done.

Card number and PIN are on the back of the Automation Value Card. When delivered, the PIN is covered by a scratch field, guaranteeing that the full credit is on the card.

By entering the card number and PIN you have full access to the Service & Support services being offered. The charge for the services procured is debited from the credits on your Automation Value Card.

All the services offered are marked in currency-neutral credits, so you can use the Automation Value Card worldwide.

Automation Value Card order numbers	
Credits	Order no.
200	**6ES7 997-0BA00-0XA0**
500	**6ES7 997-0BB00-0XA0**
1000	**6ES7 997-0BC00-0XA0**
10000	**6ES7 997-0BG00-0XA0**

Detailed information on the services offered is available on our Internet site at:

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

Service & Support à la Card: Examples

Technical Support	
"Priority"	Priority processing for urgent cases
"24 h"	Availability round the clock
"Extended"	Technical consulting for complex questions
Support Tools in the Support Shop	
"System Utilities"	Tools that can be used directly for configuration, analysis and testing
"Applications"	Complete topic solutions including ready-tested software
"Functions & Samples"	Adaptable blocks for accelerating your developments

Subject index

	Page
A	
A&D in the WWW	5/4
A&D online services	5/4
Acoustic power level	2/4
Add-on units	2/4, 3/140
Aggressive gases and vapors	2/3
Air filter	3/137
Air flow	3/139
Air flow monitor	2/6
Air inlet	3/137
Air/water cooler	2/5, 3/140
Anti-condensation heating	2/6, 3/139
Appendix	Part 5
Application conditions	2/2
Armature voltage	2/2
B	
Balancing	2/6, 3/139
Bearing monitoring	3/139
Bearing temperature monitoring	2/5
Bearings	2/4, 3/138
Benefits	1/5
Brakes	3/140
Brush length	3/139
Brush materials	2/2
Brush monitoring	2/6
Brush service life	2/2
Brushes	3/139
C	
Cable inlet	3/137
Carbon brushes	2/2
Commutation	2/2
Compensated motors	3/35 - 3/88, 3/111 - 3/136
Condensation	2/2
Conditions of sale	5/10
Converter circuit	2/2
Coolant inlet temperature	2/2
Cooling	2/4
Cooling air temperature	3/139
Cooling air thermometer	2/6
Cooling method	3/3
Customer Support	5/5 - 5/6
D	
DC technology is of prime importance	1/3
Degree of protection	3/3, 3/138
Designs	3/6
Determining the motor type	3/3
Diagnostics	3/139
Dimensions	Part 4
Direction of rotation	2/3
Drive selection	3/2
Dry-type filter	3/137
Duct connection	2/5, 3/138
DURIGNIT 2000	2/3
DURIGNIT insulation system	2/3
E	
Easy shopping with the A&D Mall	5/4
Encoder	2/5
Excitation voltage	3/6
Explanations	Part 2
Export regulations	5/10
Extended field control range	3/139

	Page
F	
Field control range	2/3
Field service	5/5
Field weakening	2/3
Field weakening speed	2/3
Fields of application	1/4
Filter assembly	2/5
G	
Gases	2/3
Guide for drive selection	3/2
I	
Indices	5/7 - 5/9
Information and ordering on the Internet and on CD-ROM	5/4
Installation and operating conditions	2/2
Intermittent mode	2/3
Introduction	Part 1
K	
Knowledge base and Automation Value Card	5/6
L	
Leak warning	3/139
Leak warning device	2/6
M	
Magnetic circuit	2/2
Monitoring	2/5
Motor design	2/2
Motor type	3/3
Mounted assemblies	3/137
Mounting of separately-driven fan	3/137
N	
Noise levels	2/4
Non-standard rated excitation voltages	3/6
O	
Online support	5/5
Operating conditions	2/2
Operating mode	2/3
Operation and diagnostics	3/139
Optimization and modernization	5/5
Options	3/137 - 3/140
Order No.	3/5
Order No. index	5/9
Order No. supplements	3/6
Order number code	3/5
Our services for every phase of the project	5/5
Output	3/4
Output variations	2/2
Overload capability	2/2
Overtemperature	3/139
P	
Paint finish	2/3, 3/138
Product selection using the interactive catalog	5/4
Project engineering and software engineering	5/5
Protection	2/5
Pulse encoder	2/5, 3/140
Q	
Quality management	1/1
R	
Rate of change of current	2/2
Rated excitation voltages	3/6
Rated output	2/3
Rating plate	3/139
Regreasing device	2/4
Regulations	5/2
Repairs and spare parts	5/5
Rotor	2/2

Subject and order number index

	Page
S	
Sector-specific applications	2/3, 3/139
Selection and ordering	Part 3
Selection of the motor according to torque and output	3/4
Self-cooled motors	3/3
Separately-driven fan	2/5, 3/140
Shaft extension	2/6, 3/138
Short codes	3/137 - 3/140
Siemens contact partners worldwide	5/3
Silencer	3/137
Site altitude	2/2
Smoothing reactor	2/2
Sound pressure level	2/4
Specifications	5/2
Speed data on the rating plate	2/3
Speed deviations	2/2
Speed direction	3/139
Standard paint finish	2/3
Standard rated field voltages	3/6
Standards	5/2
Structure of the Order No.	3/5
Supply system	2/2
Surface-cooled motors	3/3

	Page
T	
Tachometers	2/5, 3/140
Technical consulting	5/5
Technical support	5/5
Temperature class	2/3
Terminal box	2/6, 3/137
Terms of supply	5/10
Thermal motor protection	2/5
Torque	3/4
U	
Uncompensated motors	3/7 - 3/34, 3/89 - 3/110
V	
Vapors	2/3
Ventilation	2/4
Vibration severity	3/139
W	
Welcome to Automation and Drives	1/2

Order No. index

Order No.	Page
1GF5	
1GF5 114	3/9
1GF5 116	3/10
1GF5 132	3/12
1GF5 134	3/12
1GF5 136	3/13
1GF5 162	3/14
1GF5 164	3/15
1GF5 166	3/16
1GF6	
1GF6 162	3/17
1GF6 164	3/18
1GF6 166	3/19
1GG5	
1GG5 102	3/7
1GG5 104	3/7
1GG5 106	3/7
1GG5 108	3/8
1GG5 114	3/9
1GG5 116	3/10
1GG5 118	3/11
1GG5 132	3/12
1GG5 134	3/12
1GG5 136	3/13
1GG5 162	3/14
1GG5 164	3/15
1GG5 166	3/16
1GG5 500	3/67 - 3/68
1GG5 501	3/69 - 3/70
1GG5 502	3/71 - 3/72
1GG5 503	3/73 - 3/74
1GG5 504	3/75 - 3/76
1GG5 631	3/78 - 3/79
1GG5 632	3/80 - 3/81
1GG5 633	3/82 - 3/83
1GG5 634	3/84 - 3/84
1GG5 635	3/86 - 3/87

Order No.	Page
1GG6	
1GG6 162	3/18
1GG6 164	3/18
1GG6 166	3/19
1GG6 186	3/20
1GG6 188	3/21
1GG6 206	3/23
1GG6 208	3/24
1GG6 226	3/26
1GG6 228	3/27
1GG6 256	3/29
1GG6 258	3/30
1GG6 286	3/32
1GG6 288	3/33
1GG7	
1GG7 351	3/35 - 3/36
1GG7 352	3/37 - 3/38
1GG7 353	3/39 - 3/40
1GG7 354	3/41 - 3/42
1GG7 355	3/43 - 3/44
1GG7 401	3/45 - 3/46
1GG7 402	3/47 - 3/48
1GG7 403	3/49 - 3/50
1GG7 404	3/51 - 3/52
1GG7 405	3/53 - 3/54
1GG7 451	3/56 - 3/57
1GG7 452	3/58 - 3/59
1GG7 453	3/60 - 3/61
1GG7 454	3/62 - 3/63
1GG7 455	3/64 - 3/65

Subject and order number index

Order No.	Page
1GH5	
1GH5 102	3/7
1GH5 104	3/7
1GH5 106	3/7
1GH5 108	3/8
1GH5 114	3/9
1GH5 116	3/10
1GH5 118	3/11
1GH5 132	3/12
1GH5 134	3/12
1GH5 136	3/13
1GH5 162	3/14
1GH5 164	3/15
1GH5 166	3/16
1GH5 500	3/67 - 3/68
1GH5 501	3/69 - 3/70
1GH5 502	3/71 - 3/72
1GH5 503	3/73 - 3/74
1GH5 504	3/75 - 3/76
1GH6	
1GH6 162	3/18
1GH6 164	3/18
1GH6 166	3/19
1GH6 186	3/20
1GH6 188	3/21
1GH6 206	3/23
1GH6 208	3/24
1GH6 226	3/26
1GH6 228	3/27
1GH6 256	3/29
1GH6 258	3/30
1GH6 286	3/32
1GH6 288	3/33
1GH7	
1GH7 351	3/35 - 3/36
1GH7 352	3/37 - 3/38
1GH7 353	3/39 - 3/40
1GH7 354	3/41 - 3/42
1GH7 355	3/43 - 3/44
1GH7 401	3/45 - 3/46
1GH7 402	3/47 - 3/48
1GH7 403	3/49 - 3/50
1GH7 404	3/51 - 3/52
1GH7 405	3/53 - 3/54
1GH7 451	3/56 - 3/57
1GH7 452	3/58 - 3/59
1GH7 453	3/60 - 3/61
1GH7 454	3/62 - 3/63
1GH7 455	3/64 - 3/65
1HA5	
1HA5 164	3/89
1HA5 166	3/89
1HC5	
1HC5 102	3/91
1HC5 104	3/91
1HC5 106	3/91
1HC5 108	3/92
1HC5 114	3/93
1HC5 116	3/93
1HC5 132	3/94
1HC5 134	3/94
1HC5 136	3/95
1HC5 164	3/96
1HC5 166	3/96

Order No.	Page
1HQ6	
1HQ6 186	3/97
1HQ6 188	3/98
1HQ6 206	3/99
1HQ6 208	3/100
1HQ6 226	3/102
1HQ6 228	3/103
1HQ6 256	3/105
1HQ6 258	3/106
1HQ6 286	3/108
1HQ6 288	3/109
1HQ7	
1HQ7 351	3/111
1HQ7 352	3/112
1HQ7 353	3/113
1HQ7 354	3/114
1HQ7 355	3/115
1HQ7 401	3/117 - 3/118
1HQ7 402	3/119 - 3/120
1HQ7 403	3/121 - 3/122
1HQ7 404	3/123 - 3/124
1HQ7 405	3/125 - 3/126
1HQ7 451	3/127 - 3/128
1HQ7 452	3/129 - 3/130
1HQ7 453	3/131 - 3/132
1HQ7 454	3/133 - 3/134
1HQ7 455	3/135 - 3/136
1HS5	
1HS5 500	3/67 - 3/68
1HS5 501	3/69 - 3/70
1HS5 502	3/71 - 3/72
1HS5 503	3/73 - 3/74
1HS5 504	3/75 - 3/76
1HS6	
1HS6 186	3/20
1HS6 188	3/21
1HS6 206	3/23
1HS6 208	3/24
1HS6 226	3/26
1HS6 228	3/27
1HS6 256	3/29
1HS6 258	3/30
1HS6 286	3/32
1HS6 288	3/33
1HS7	
1HS7 351	3/35 - 3/36
1HS7 352	3/37 - 3/38
1HS7 353	3/39 - 3/40
1HS7 354	3/41 - 3/42
1HS7 355	3/43 - 3/44
1HS7 401	3/45 - 3/46
1HS7 402	3/47 - 3/48
1HS7 403	3/49 - 3/50
1HS7 404	3/51 - 3/52
1HS7 405	3/53 - 3/54
1HS7 451	3/56 - 3/57
1HS7 452	3/58 - 3/59
1HS7 453	3/60 - 3/61
1HS7 454	3/62 - 3/63
1HS7 455	3/64 - 3/65

Conditions of sale and delivery

Terms and Conditions of Sale and Delivery

By using this catalog you can acquire hardware and software products described therein from the Siemens AG subject to the following terms. Please note! The scope, the quality and the conditions for supplies and services, including software products, by any Siemens entity having a registered office outside of Germany, shall be subject exclusively to the General Terms and Conditions of the respective Siemens entity.

For customers with a seat or registered office in the Federal Republic of Germany

The General Terms of Payment as well as the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry shall apply.

For software products, the General License Conditions for Software Products for Automation and Drives for Customers with Seat or registered Office in Germany shall apply.

For customers with a seat or registered office outside of Germany

The General Terms of Payment as well as the General Conditions for Supplies of Siemens, Automation and Drives for Customers with a Seat or registered Office outside of Germany shall apply.

For software products, the General License Conditions for Software Products for Automation and Drives for Customers with Seat or registered Office outside of Germany shall apply.

General

The prices are in € (Euro) ex works, exclusive packaging.

The sales tax (value added tax) is not included in the prices. It shall be debited separately at the respective rate according to the applicable legal regulations.

In addition to the prices of products which include silver and/or copper, surcharges may be calculated if the respective limits of the notes are exceeded.

Prices are subject to change without prior notice. We will debit the prices valid at the time of delivery.

The dimensions are in mm. Illustrations are not binding.

Insofar as there are no remarks on the corresponding pages - especially with regard to data, dimensions and weights given - these are subject to change without prior notice.

Comprehensive Terms and Conditions of Sale and Delivery are available free of charge from your local Siemens business office under the following Order Nos.:

- 6ZB5310-0KR30-0BA0
  (for customers based in the Federal Republic of Germany)
- 6ZB5310-0KS53-0BA0
  (for customers based outside of the Federal Republic of Germany)

or download them from the Internet:
http://www.siemens.com/automation/mall
(Germany: A&D Mall Online Help System)

Export regulations

The products listed in this catalog / price list may be subject to European / German and/or US export regulations.

Therefore, any export requiring a license is subject to approval by the competent authorities.

According to current provisions, the following export regulations must be observed with respect to the products featured in this catalog / price list:

AL	Number of the German Export List Products marked other than "N" require an export license. In the case of software products, the export designations of the relevant data medium must also be generally adhered to. Goods labeled with an "AL not equal to N" are subject to a European or German export authorization when being exported out of the EU.
ECCN	Export Control Classification Number Products marked other than "N" are subject to a reexport license to specific countries. In the case of software products, the export designations of the relevant data medium must also be generally adhered to. Goods labeled with an "ECCN not equal to N" are subject to a US re-export authorization.

Even without a label or with an "AL: N" or "ECCN: N" label, authorization may be required due to the final destination and purpose for which the goods are to be used.

The deciding factors are the AL or ECCN export authorization indicated on order confirmations, delivery notes and invoices.

Errors excepted and subject to change without prior notice.

A&D/VuL/En 14.11.03

Responsible for

Technical content:
Siemens AG, A&D LD I B PA

General editing:
Siemens AG, A&D PT 5, Erlangen, Germany

Order No. for the bound edition:
E86060-K5312-A101-A1-7600

Printed in Germany
KG K 0504 10.0 E 212 En/422279

Siemens AG
Automation & Drives
Large Drives
PO Box 47 43
90025 Nuremberg, Germany

Catalogs of the Automation and Drives Group (A&D)

Further information can be obtained from our branch offices listed in the appendix of this catalog

Automation & Drives	*Catalog*
Interactive catalog on CD-ROM	
• Components for Automation & Drives	CA 01

Automation Systems for Machine Tools	
SINUMERIK & SIMODRIVE	NC 60
Cables, Connectors and System Components	NC Z

Drive Systems	
Variable-Speed Drives	
DC Motors	DA 12
DC Drives Preferred Series up to 500 kW	DA 12.1
DC Drives Preferred Series 215 kW to 1500 kW	DA 12.2
SIMOREG DC MASTER 6RA70 Digital Chassis Converters	DA 21.1
SIMOREG K 6RA22 Analog Chassis Converters	DA 21.2
SIMOREG DC MASTER 6RM70 Digital Converter Cabinet Units	DA 22
SIMOVERT PM Modular Converter Systems	DA 45
SIEMOSYN Motors	DA 48
MICROMASTER 410/420/430/440 Inverters	DA 51.2
MICROMASTER 411/COMBIMASTER 411	DA 51.3
SIMOVERT MV Medium-Voltage Drives	DA 63
SIMOVERT MASTERDRIVES Vector Control	DA 65.10
SIMOVERT MASTERDRIVES Motion Control	DA 65.11
Synchronous and asynchronous servomotors for SIMOVERT MASTERDRIVES	DA 65.3
SIMODRIVE 611 universal and POSMO	DA 65.4
Low-Voltage Three-Phase-Motors	
Project Manual	M 10
Squirrel-Cage Motors, Totally Enclosed, Fan-Cooled	M 11
Automation Systems for Machine Tools SIMODRIVE	NC 60
• AC Main Spindle Motors 1PM, 1FE, 1PH	
• AC Servomotors 1FT, 1FK	
• AC Linear motors 1FN	
• Converter System SIMODRIVE 611	
• Converter Systems SIMODRIVE POSMO A/CD/CA/SI	
Drive and Control Components for Hoisting Equipment	HE 1

Electrical Installation Technology	
PDF: ALPHA Small Distribution Boards and Distribution Boards	*ET A1*
PDF: ALPHA Side-by-Side Switchgear Cabinets	*ET A3*
PDF: BETA Modular Installation Devices	*ET B1*
PDF: DELTA Switches and Outlets	*ET D1*
PDF: GAMMA Building Management Systems	*ET G1*

Human Machine Interface Systems SIMATIC HMI	ST 80

Industrial Communication and Field Devices	IK PI

Low-Voltage Controls and Distribution	*Catalog*
Low-Voltage Controlgear, Switchgear and Systems	NS K
Communication-Capable Controlgear, Controlgear with SIRIUS, SIGUARD Safety Systems, Control and Signalling Devices, Switchgear, Transformers and DC Power Supplies, Main- and EMERGENCY-STOP Switches, Control Switches, Terminal Blocks	
BERO - Sensors for Automation	NS BERO
Products and Systems for Low-Voltage Power Distribution	NS PS
SENTRON WL	NS WL

Motion Control System SIMOTION	PM 10

Process Instrumentation and Analytics	
Field Instruments for Process Automation Measuring Instruments for Pressure, Differential Pressure, Flow, Level and Temperature, Positioners and Liquid Meters	FI 01
PDF: Indicators for panel mounting	*MP 12*
SIREC Recorders and Accessories	MP 20
SIPART, Controllers and Software	MP 31
SIWAREX Weighing Systems	WT 01
Continuous Weighing and Process Protection	WT 02
Gas Analysis Equipment for the Process Industry	PA 10
PDF: Process Analytics, Components for the System Integration	*PA 11*
SIPAN Liquid Analysis	PA 20

SIMATIC Industrial Automation Systems	
SIMATIC PCS Process Control System	ST 45
PDF: SIMATIC S5/505 Automation Systems	*ST 50*
Components for Totally Integrated Automation and Micro Automation	ST 70
SIMATIC PCS 7 Process Control System	ST PCS 7
PDF: Add-ons for the SIMATIC PCS 7 Process Control System	*ST PCS 7.A*
SIMATIC Control Systems	ST DA

SIPOS Electric Actuators	
Electric Rotary, Linear and Part-turn Actuators	MP 35
Electric Rotary Actuators for Nuclear Plants	MP 35.1/.2

Systems Engineering	
Power supplies SITOP power	KT 10.1
System cabling SIMATIC TOP connect	KT 10.2
MOBY Identification Systems	KT 21
Industrial Microcomputers SICOMP	KT 51

System Solutions
Applications and Products for Industry are part of the interactive catalog CA 01

TELEPERM M Process Control System	
AS 235, AS 235H and AS 235K automation systems	PLT 111
PDF: AS 488/TM automation systems	*PLT 112*
Operating and monitoring with WinCC/TM	PLT 123
CS 275 bus system	PLT 130

PDF: These catalogs are only available as pdf files.

The information provided in this catalog contains descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. Availability and technical specifications are subject to change without notice.

Siemens AG

Automation and Drives
Large Drives
Postfach 47 43, D-90025 Nürnberg

www.siemens.com/motors

Order No. E86060-K5312-A101-A1-7600