g500-S + m500 shaft-mounted helical geared motors

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1 About this document

1.1 Document description

This document addresses to all persons who want to carry out any configurations with the products described.

The data and information compiled in this document serve to support you in the dimensioning and selection processes and in carrying out the electrical and mechanical installation. You will receive information regarding product extensions and accessories.

- The document includes safety instructions which must be observed.
- All persons working on and with the drives must have the documentation at hand during work and observe the information and notes relevant for it.
- The documentation must always be complete and in a perfectly readable state.

1.2 Further documents

Information and tools with regard to the Lenze products can be found on the Internet:
www.Lenze.com → Downloads

1.3 Notations and conventions

Conventions are used in this document to distinguish between different types of information.

Numeric notation		
Decimal separator	Point	Generally shown as a decimal point. Example: 1 234.56
Warnings		
UL Warnings	UL	Are used in English and French.
UR warnings	UR	
Text		
Engineering Tools	" "	Software Example: "EASY Starter", "PLC Designer"
Icons		
Page reference	🕮	Reference to another page with additional information. Example: 🕮 16 = see page 16
Documentation reference	🌍	Reference to other documentation with additional information. Example: 🌍 EDKxxx = see documentation EDKxxx

Layout of the safety instructions

⚠DANGER!

Indicates an extremely hazardous situation. Failure to comply with this instruction will result in severe irreparable injury and even death.

⚠WARNING!

Indicates an extremely hazardous situation. Failure to comply with this instruction may result in severe irreparable injury and even death.

⚠CAUTION!

Indicates a hazardous situation. Failure to comply with this instruction may result in slight to medium injury.

NOTICE

Indicates a material hazard. Failure to comply with this instruction may result in material damage.

2 Product information

2.1 Product description

In combination with three-phase AC motors, our shaft-mounted helical gearbox forms a compact, powerful drive unit. Numerous options at the input and output end allow the drive to be precisely adapted to your application.

The slim, shaft-mounted helical gearboxes feature high permissible radial forces, closely stepped ratios and a low backlash. They are available in a 2-stage, 3-stage and 4-stage design with a torque of up to 4500 Nm and a ratio of up to i= 5849.

Types

- Slimline design saves installation space of the machine
- Shaft dimensions in accordance with market standards and standardized flanges for easy machine integration
- High accuracy with axial output provide for the highest efficiency

Three-phase motors for mains and inverter operation

In a power range from 0.12 to 22 kW, Lenze offers inverter-compatible three-phase motors for more extensive tasks.

These motors differ in terms of efficiency class and can be used for the versions required for controlled or regulated inverter operation.

- Efficiency class IE2 in the power range 0.12 ... 0.55 kW
- Efficiency class IE3 in the power range 0.75 ... 22 kW

Customer benefit

- Different efficiency classes for the greatest economic benefit
- Space saving thanks to compact direct mounting on Lenze gearboxes
- Market-oriented modular system enables universal use for extensive machine tasks
- Standard market connectors ensure fast connection, even when servicing is required

g500-S400 gearbox with three-phase AC motor m550-P80/M4

Flexible in motor mounting

For motor mounting, Lenze offers a scalable modular system of gearboxes with adapters.

Power is transmitted between the motor and gearbox via a flexible jaw coupling or a plug-in hollow shaft. The shaft holders are available for motor shafts with or without featherkey, depending on the design.

Customer benefit

- Can be used universally for a wide range of machine tasks due to the market-oriented modular system
- Simple plug-in motor mounting
- Mounting motors according to IEC 72/DIN 42948
- Mounting motors according to NEMA C/TC
- Mounting servo motors with square flange according to IEC 72/DIN 42948
- Torsional vibration damping power transmission of the coupling
- Motor shaft connection, low backlash or backlash-free, depending on version

More information can be found under:

▸ Gearbox data 📖 57
▸ Gearboxes with adapter 📖 71

g500-S shaft-mounted helical gearbox with adapter for IEC standard motors

2.2 Identification of the products

Gearbox product name

Gearbox type	Product series		Type	Rated torque Nm	Product
Shaft-mounted helical gearbox	g500	-	S	130	g500-S130
				220	g500-S220
				400	g500-S400
				660	g500-S660
				950	g500-S950
				2100	g500-S2100
				3100	g500-S3100
				4500	g500-S4500

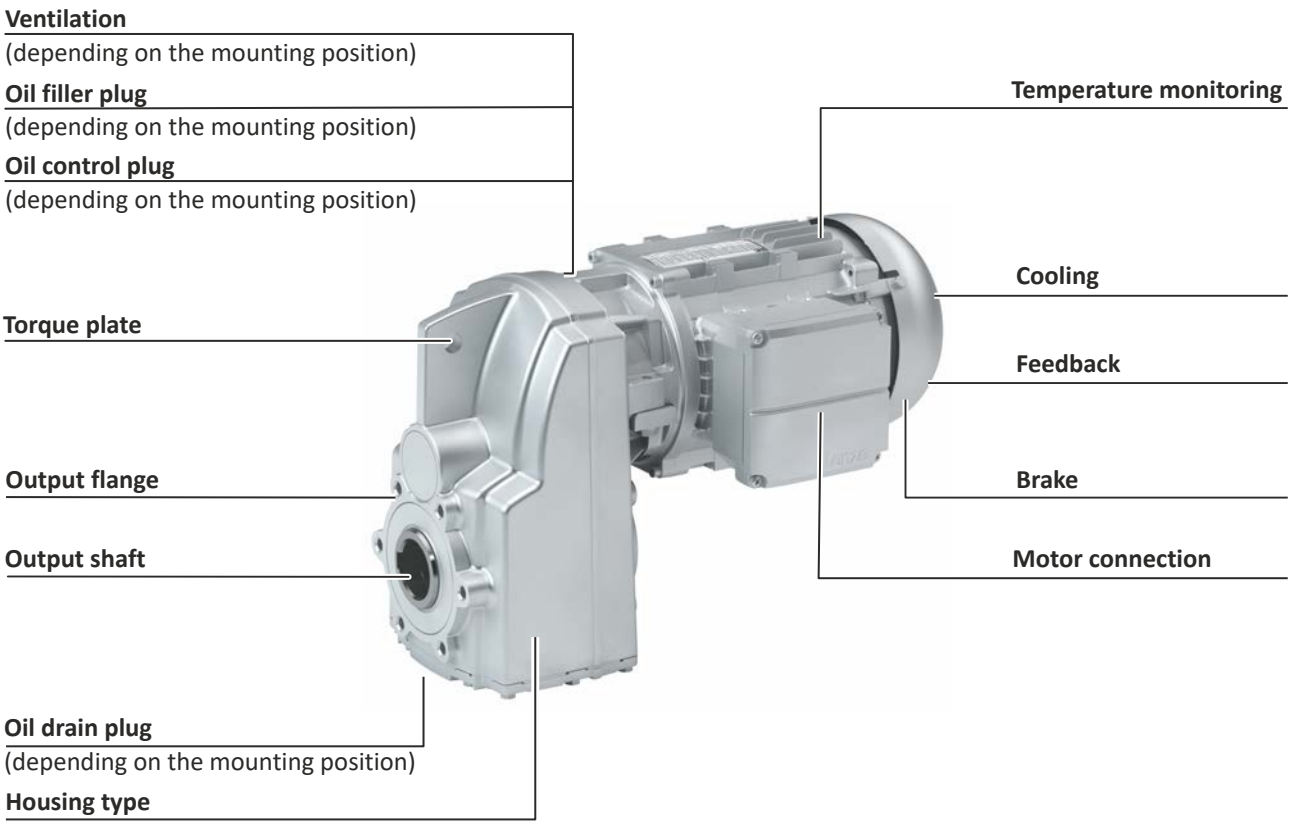
Three-phase AC motor product name

Example	m550	-	P	80	supply	S	4

Meaning	Variant	Product name						
Product family		m550						
Efficiency class	IE2			H				
	IE3			P				
Size					63 71 80 90 100 112 132 160 180			
Motor length	Short						S	
	Medium						M	
	Long						L	
Number of pole pairs	4-pole							4

2.3 Features

The following figure provides an overview of the elements and connections on the product.
Their position, size and appearance may vary.



2.4 The modular system

Values printed in bold are standard designs. Values that are not printed in bold are potential extensions, some of them including a surcharge.

Geared motors up to 660 Nm

Gearbox		**g500-S130**	**g500-S220**	**g500-S400**	**g500-S660**
Min. motor assignment		**m550-H63**	**m550-H63**	**m550-H63**	**m550-H63**
Max. motor assignment		**m550-H71**	**m550-P100**	**m550-P112**	**m550-P132**
Technical data					
Max. output torque	Nm	130	220	400	660
Min. drive power at 50 Hz	kW	0.12	0.12	0.12	0.12
Max. drive power at 50 Hz	kW	0.55	3.0	4.0	7.5
Mounting position					
Standard		**M1, M2, M3, M4, M5, M6 (ABCDEF)**			
Combined		M1/5/6 (AEF)			
Temperature package					
Standard		Ambient temperature: 0 °C … +40 °C			
Deep-freeze		Ambient temperature: -30 °C … +10 °C			
Wide range		Ambient temperature: -30 °C … +40 °C			
Color		**Unpainted** Primed/RAL colors			
Surface and corrosion protection		**Without OKS** Different types of OKS			
Output shaft					
Solid shaft with featherkey (V)	mm	25 x 50	25 x 50	30 x 60	35 x 70 40 x 80
Hollow shaft with keyway (H)	mm	25	25/30	30/35	40/45
Hollow shaft with shrink disc (S)	mm	25	25/30	35	40
Shaft material		**Steel** Stainless steel			
Output shaft bearing		Normal			
Gearbox version		With foot (HBR/VBR) **Without foot and centring (HCR)**/(VCR/SCR) With centring (HCR/VCR/SCR) With output flange (HCK/VCK/SCK)			
Output flange (K)	mm	160	160	200	200/250
Ventilation		Without		Vent valve	
Cooling		**Integral fan** Blower Heavy-Duty fan			
Product extensions					
Torque plate		Rubber buffers			
Shaft cover		Shrink disc cover			
Connection method		Y/Δ			
Connection type		**Terminal box** ICN connector HAN connector M12 connector			
Spring-applied brake		**Without** Holding brake Application brake Application brake with safety function			
Feedback		**Without** Resolver Incremental encoder Incremental encoder with safety functions Absolute value encoder			
Temperature monitoring		**TKO thermal contact** PT1000 temperature sensor			
Integral fan		Protection cover 2. Shaft end/hand wheel			
Blower		Protection cover			

Geared motors from 950 Nm to 4500 Nm

Gearbox		**g500-S950**	**g500-S2100**	**g500-S3100**	**g500-S4500**
Min. motor assignment		**m550-H63**	**m550-H63**	**m550-H63**	**m550-H63**
Max. motor assignment		**m550-P132**	**m550-P180**	**m550-P180**	**m550-P180**
Technical data					
Max. output torque	Nm	950	2100	3100	4500
Min. drive power at 50 Hz	kW	0.12	0.12	0.12	0.12
Max. drive power at 50 Hz	kW	7.5	22	22	22
Mounting position					
Standard		**M1, M2, M3, M4, M5, M6 (ABCDEF)**			
Combined					
Temperature package					
Standard		Ambient temperature: 0 °C … +40 °C			
Deep-freeze		Ambient temperature: -30 °C … +10 °C			
Wide range		Ambient temperature: -30 °C … +40 °C			
Color		**Primed** Painted in RAL colors			
Surface and corrosion protection		**OKS-S** Different types of OKS			
Output shaft					
Solid shaft with featherkey (V)	mm	40 x 80	50 x 100	60 x 120	70 x 140 80 x 160
Hollow shaft with keyway (H)	mm	40	50/55	60/70	70/80
Hollow shaft with shrink disc (S)	mm	40	50	65	75/80
Shaft material		**Steel** Stainless steel			
Output shaft bearing		Normal			
Gearbox version		**With foot (HBR)**/(VBR/SBR) With foot and centering (HAR/VAR(SAR) With foot and output flange (HAK/VAK/SAK)			
Output flange (K)	mm	250	250/300	350	400/450
Ventilation		**Vent valve**			
			Oil compensation reservoir		
Cooling		**Integral fan** Blower Heavy-Duty fan			
Product extensions					
Torque plate		Rubber buffers			
Shaft cover		Shrink disc cover			
Connection method		Y/Δ			
Connection type		**Terminal box** ICN connector HAN connector M12 connector			
Spring-applied brake		**Without** Holding brake Application brake Application brake with safety function			
Feedback		**Without** Resolver Incremental encoder Incremental encoder with safety functions Absolute value encoder			
Temperature monitoring		**TKO thermal contact** PT1000 temperature sensor			
Integral fan		Protection cover 2. Shaft end/hand wheel			
Blower		Protection cover			

2.4.1 Designs

Gearbox designs

Observe the available gearbox designs!

▸ The modular system 📖 14

g500-S130 ... S660

Hollow shaft, with foot

Without centring (HBR)

Hollow shaft, without foot

Without centring (HDR)

With centering (HCR)

Flange with through holes (HCK)

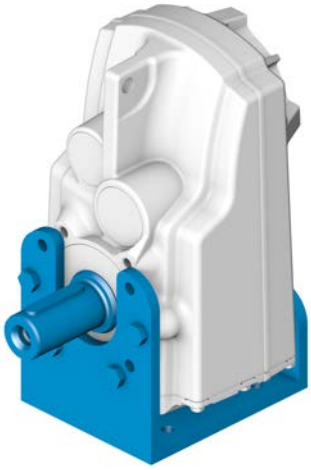
Shrink disc, without foot

Without centring (SDR)

With centring (SCR)

Flange with through holes (SCK)

Solid shaft, with foot



Without centring (VBR)

Solid shaft, without foot

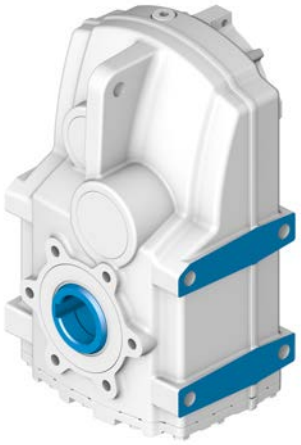
Without centring (VDR)

With centering (VCR)

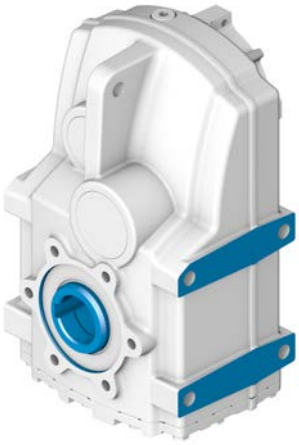
Flange with through holes (VCK)

g500-S950 ... S4500

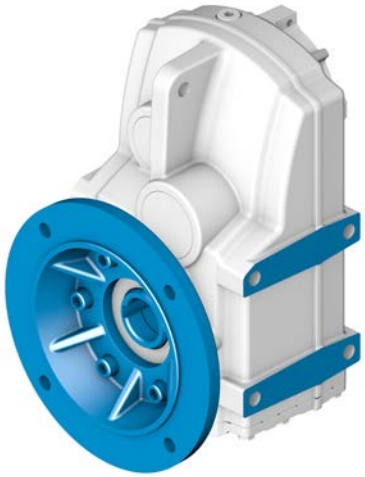
Hollow shaft, with foot



Without centring (HBR)



With centring (HAR)

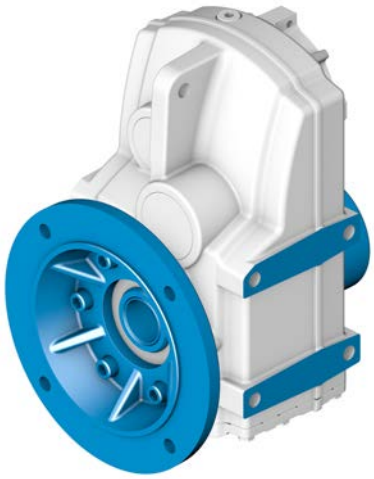


Flange with through holes (HAK)

Shrink disc, with foot

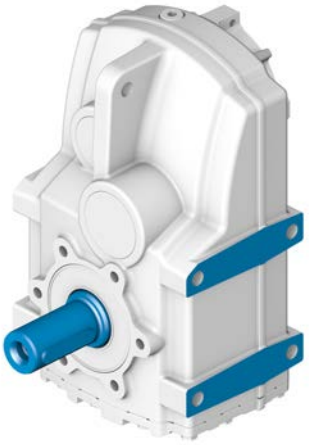
Without centring (SBR)

With centring (SAR)

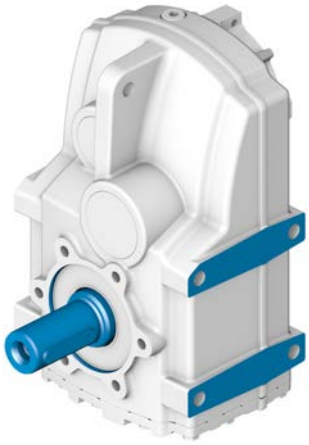


Flange with through holes (SAK)

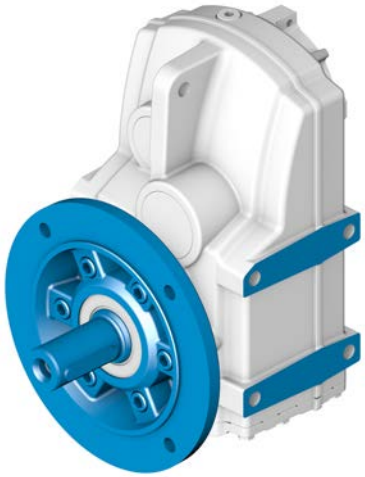
Solid shaft, with foot



Without centring (VBR)



With centring (VAR)

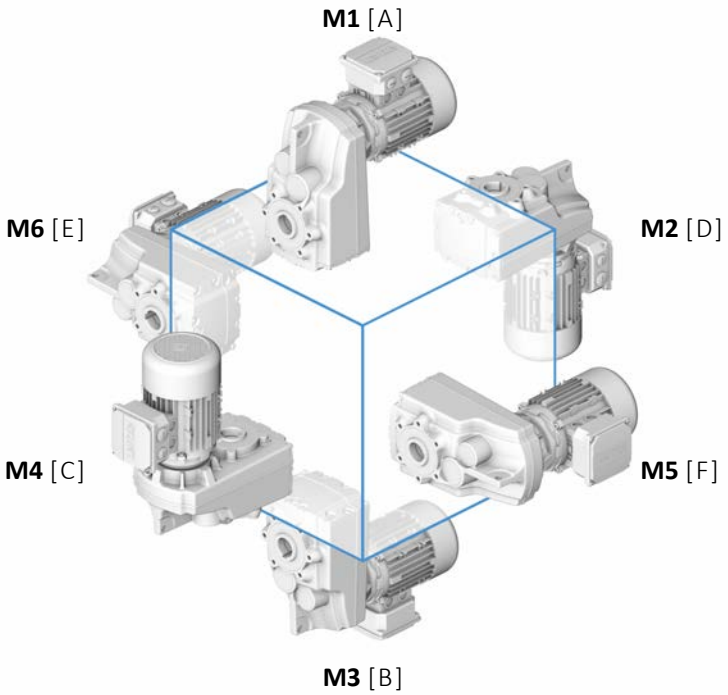


Flange with through holes (VAK)

2.4.2 Mounting positions

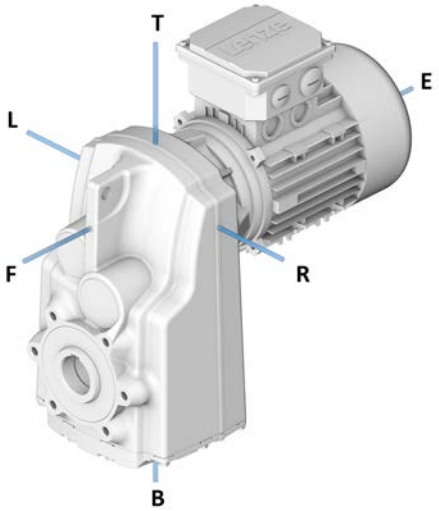
Details of the mounting position are needed to ensure the corresponding lubricant amount, position of the ventilation, oil checks and oil drain plug on the gearbox.

The gearmotors can be swiveled by 5° to 45° in all mounting positions.



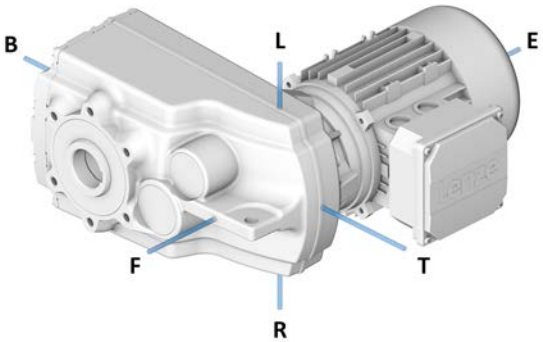
Defined positions on the geared motor

All of the defined positions refer to the areas on the geared motor in mounting position **M1 (A)** .
Position of the built-on accessories with T, L, R, B, F, E (Top, Left, Right, Bottom, Front and End)



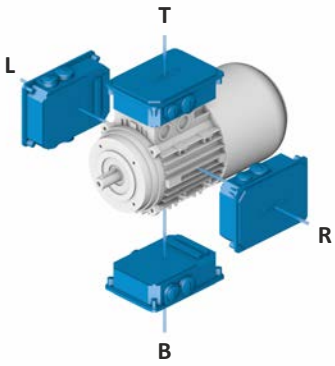
If the geared motor is rotated into a different mounting position M2 ... M6 (B...F), the defined positions on the geared motor are retained.

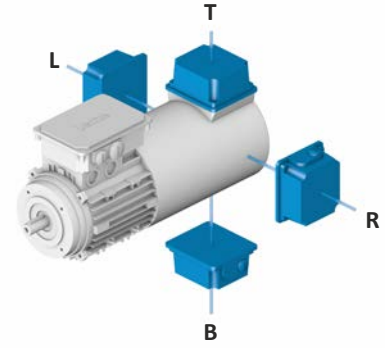
Example: Mounting position M5 (F)

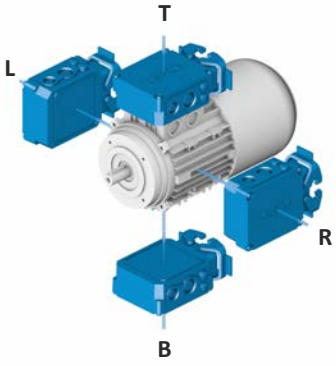


Positions of the terminal boxes/connectors

Power terminal box	Blower terminal box	Han connector
with/without M23 connector	with/without M23 connector	

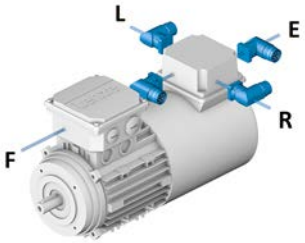






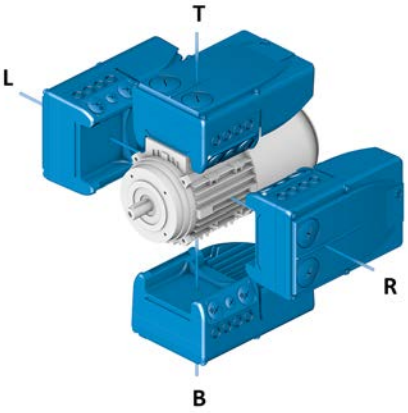
Positions of the connections

Power terminal box	Blower terminal box	Han connector
M23 cable glands/connectors	M23 cable glands/connectors	



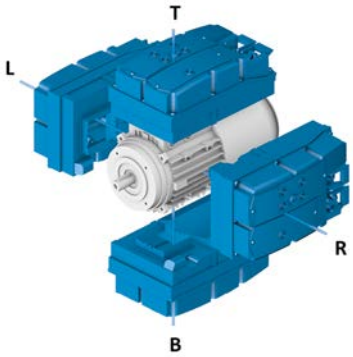
Positions of the i550/8400 motec frequency inverters

Positions of i550/8400 motec	Positions of the connectors
	8400 motec I/O connection



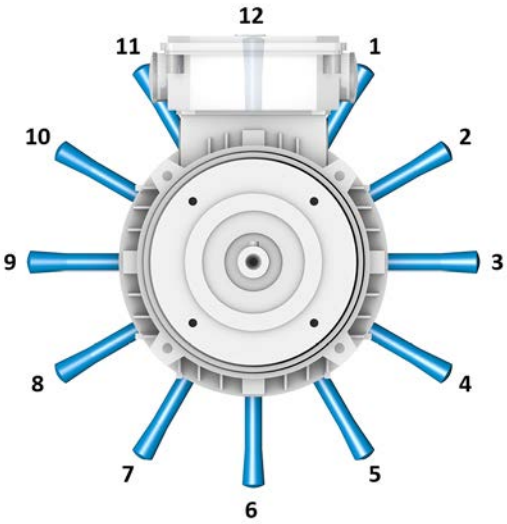
Positions of the i550/i650 motec frequency inverters

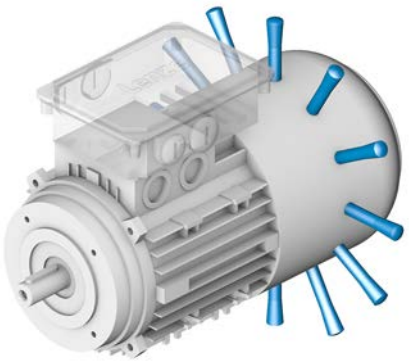
Positions of the i550/i650 motec



Position of the manual release lever

Only positions T, R, B and L are available for the spring-applied holding brake.

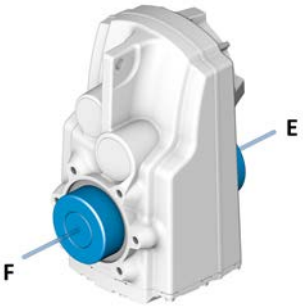




Position of the hollow shaft with shrink disc

The output flange is only available in position "F".

Output flange and shrink disc are not possible in the same position.



3 Safety instructions

3.1 Basic safety instructions

Disregarding the following basic safety instructions and safety information may lead to severe personal injury and damage to property!

- Only use the product as directed.
- Never commission the product in the event of visible damage.
- Never modify the product technically.
- Never commission the product before assembly has been completed.
- Never operate the product without the required covers.
- Connect/disconnect all pluggable connections only in deenergized condition!
- Only remove the product from the installation in the deenergized state.
- The product can – depending on their degree of protection – have live, movable or rotating parts during or after operation. Surfaces can be hot.
- Observe the specifications of the corresponding documentation. This is the condition for safe and trouble-free operation and the achievement of the specified product features.
- The procedural notes and circuit details given in the associated documentation are suggestions and their transferability to the respective application has to be checked. The manufacturer of the product does not take responsibility for the suitability of the process and circuit proposals.
- All work with and on the product may only be carried out by qualified personnel.
  IEC 60364 and CENELEC HD 384 define the qualifications of these persons:
  - They are familiar with installing, mounting, commissioning, and operating the product.
  - They have the corresponding qualifications for their work.
  - They know and can apply all regulations for the prevention of accidents, directives, and laws applicable at the place of use.

Please observe the specific safety information in the other sections!

3.2 Application as directed

- The product is a professional equipment intended for use by trades, specific professions or industry and not for sale to the general public. IEC 60050 [IEV 161-05-05]
- To prevent personal injury and damage to property, higher-level safety and protection systems must be used!
- All transport locks must be removed.
- Mounted eye bolts on the motor are not suitable for transporting geared motors.
- The product may only be operated under the specified operating conditions and in the specified mounting positions.
- The product may be operated on the mains or on the inverter.
- Only certified application brakes may be used as safety brakes for functional safety.
- The product must not be operated in private areas, in potentially explosive atmospheres and in areas with harmful gases, oils, acids and radiation.

3.3 Foreseeable misuse

- Use in potentially explosive areas
- Use in agressive environments
- Use under water
- Use under radiation
- Use in generator mode

3.4 Residual hazards

Even if notes given are taken into consideration and protective measures are implemented, the occurrence of residual risks cannot be fully prevented.

The user must take the residual hazards mentioned into consideration in the risk assessment for his/her machine/system.

If the above is disregarded, this can lead to severe injuries to persons and damage to property!

The user must take the residual hazards mentioned into consideration in the risk assessment for his/her machine/system.

If the above is disregarded, this may result in injuries to persons and material damage!

Product

Observe the warning labels on the product!

Dangerous electrical voltage:
Before working on the product, make sure there is no voltage applied to the power terminals!
After mains disconnection, the power terminals will still carry the hazardous electrical voltage for the time given next to the symbol!

Electrostatic sensitive devices:
Before working on the product, the staff must ensure to be free of electrostatic charge!

High leakage current:
Carry out fixed installation and PE connection in compliance with:
EN 61800-5-1 / EN 60204-1

Hot surface:
Use personal protective equipment or wait until the device has cooled down!

Protection of persons

- The power terminals may carry voltage in the switched-off state or when the motor is stopped.
  - Before working, check whether all power terminals are deenergized.
- Voltages may occur on the drive components (e.g. capacitive, caused by inverter supply).
  - Careful earthing in the marked positions of the components must be carried out.
- There is a risk of burns from hot surfaces.
  - Provide protection against accidental contact.
  - Use personal protective equipment or wait until the device has cooled down.
  - Prevent contact with flammable substances.
- There is a risk of injury due to rotating parts.
  - Before working on the drive system, ensure that the motor is at a standstill.
- There is a risk of accidental start-up or electric shock.

Gearbox protection

- Excessive vibration accelerations and resonances will damage the gearbox.
  - Do not operate the gearbox at vibration accelerations > 2 g (20 m/s^2) of the machine.
  - Do not operate the gearbox in the resonance range of the machine.
- Excessive torques will damage the gearboxes.
  - Do not exceed the output torques specified on the nameplate.
- Excessive input speeds lead to increased temperatures.
  - Do not exceed the input speeds specified on the nameplate.
- Avoid excessive lateral forces on the gearbox shaft.
  - Align the shafts of the gearbox and driven machine exactly with each other.
- Machine elements can be damaged by a lack of lubricant.
  - Mount the gearbox only in the mounting position indicated on the nameplate.
  - When changing the lubricant, use the lubricant type and quantity specified on the nameplate.

Motor protection

- Installed temperature contacts are not full protection for the machine.
  - If necessary, limit the maximum current. Parameterize the inverter so that it will be switched off after some seconds of operation with $I > I_{rated}$, especially if there is a risk of blocking.
  - Integrated overload protection does not prevent overloading under all conditions.
- The fuses are no motor protection.
  - Use a current-dependent motor protection switch.
  - Use the built-in temperature contacts.

4 Information on project planning

4.1 General information

NOTICE

For gearboxes with hollow shaft and shrink disk

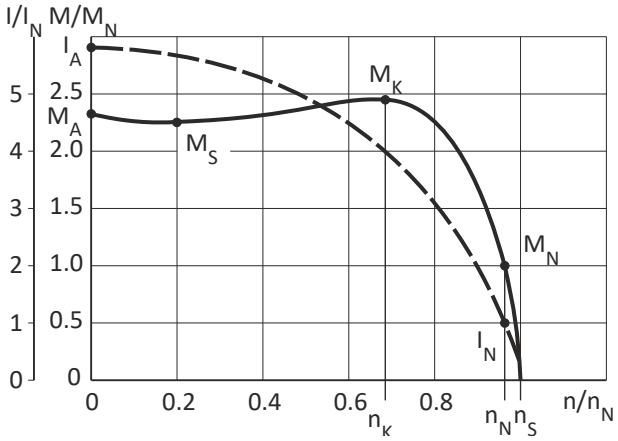
observe the following requirements for the machine shaft:

► Fit tolerance h6
► Material yield strength Re ≥ 360 MPa
► Modulus of elasticity approx. 210000 MPa
► Surface roughness Rz ≤ 15 µm
► No radial, axial forces and forces due to stress/rotation permissible

Operation with mains power

If operated with mains power, the three-phase AC motor starts up in accordance with the speed-torque characteristic when switched on. It follows this characteristic until it reaches its stable operating point. The operating point is reached when the load or rated torque (M_N) is smaller than the starting torque (M_A) and pull-up torque (M_S). The rated speed (n_N) of the drive is always less than the arithmetic synchronous speed (n_S).

The difference between rated and synchronous speed relative to the synchronous speed is called the slip.



Supplementary explanation of the service factor:

A motor wound to 50 Hz and 400 V can be operated on 60 Hz mains under rated operating conditions in accordance with the NEMA MG1-2011 standard **for a short time** with 1.15 times the load without suffering damage.

The service factor 1.15 is specified on the nameplate for 60 Hz operation.

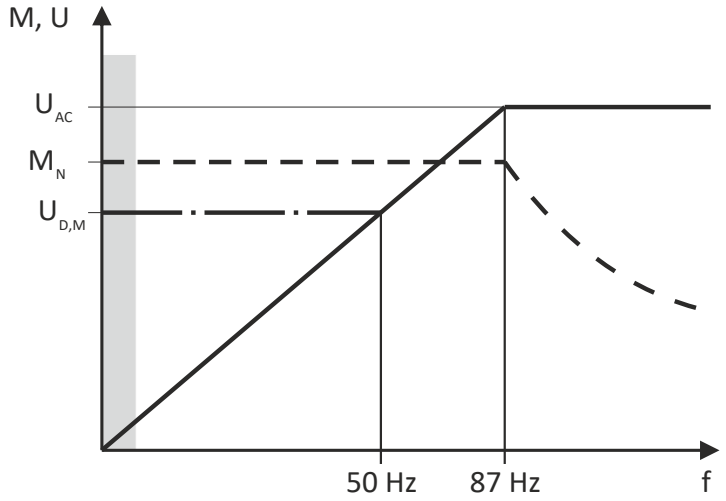
Operation on the frequency inverter

Standard setting

The frequency inverter is set for easy operation on a three-phase AC motor with vector control by default. The rated torque of the motor is available in a setting range up to 50 Hz in this mode of operation.

Extended setting range up to 87 Hz

If the frequency inverter's U/f reference point is set to 87 Hz, the rated torque can be taken into account in an extended setting range. A 230/400 V motor is used here, for example, and operated in delta on a 400 V frequency inverter. The setting range is increased by 40 %. The inverter must be dimensioned for a rated motor current of 230 V.

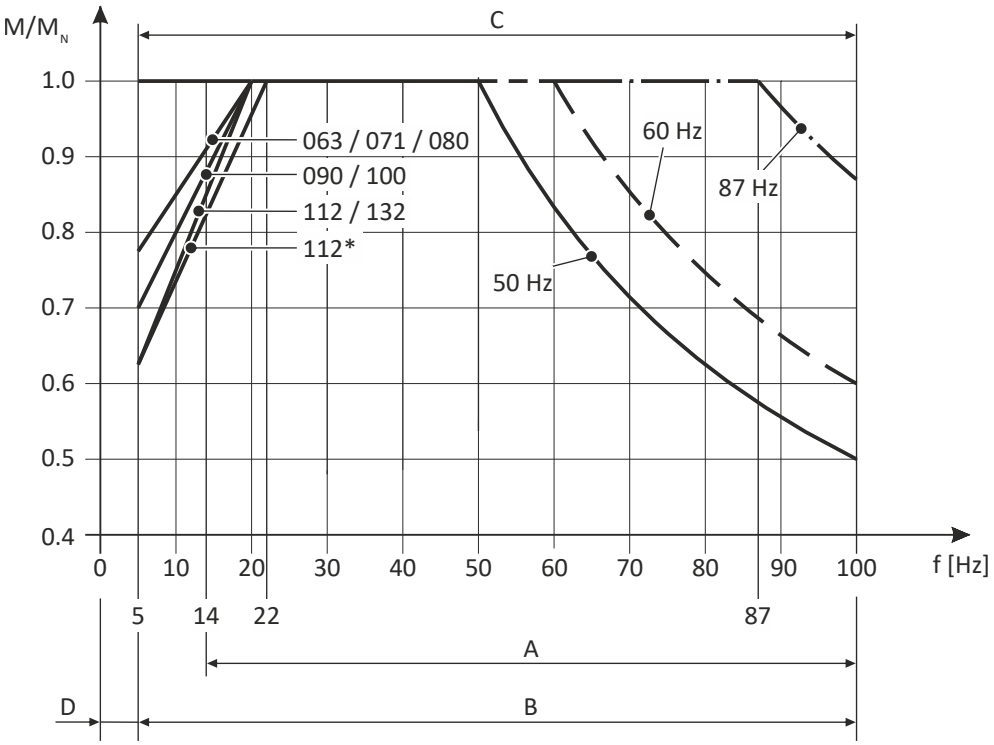


Torque reduction at low motor frequencies

At low motor frequencies (usually < 20 Hz) and with an integral fan, the motor is not cooled sufficiently at the rated torque. The motor can be operated from 5 Hz by reducing the torque accordingly.

Constant cooling takes place over the entire speed range in motors with a blower. This means that they can be used with their rated torque from 5 Hz.

The diagram shows the torque reduction depending on the motor frame size for self-ventilated motors taking into account the thermal behavior during inverter operation.



A	Operation with integral fan and brake
B	Operation with integral fan and brake with wide-range voltage DC 180 ... 205 V or AC 400 ... 460 V Operation with integral fan and brake control, holding current reduction
C	Operation with blower
D	Operation is possible below 5 Hz depending on the application and control mode. The application case must be checked by Lenze.
112*	Motor mounting of i550 motec or i650 motec

Thermal power limit

The thermal power limit, defined by the heat balance, limits the permissible continuous gearbox power. It is affected by

- the churning losses in the lubricant. These are determined by the mounting position and the circumferential speed of the gears
- the load and the speed spectrum.
- the ambient conditions: temperature, air circulation, input or dissipation of heat via shafts and the foundations.

NOTICE

A thermal check using the EASY System Designer (ESD) or consultation with your Lenze representative is required if

► the input speed n_1 > 1860 rpm is exceeded with the gearbox ratios listed below.

► the input speeds specified below are exceeded depending on the mounting position. For short periods of up to 5 minutes, speeds 30% higher than this are permissible.

► the ambient temperature is predominantly above +3 0°C.

Gearbox	Ratio i
g500-S2100 ... S4500	≤ 16

Motor	Mounting position M5, M6	Mounting position M1, M3	Mounting position M2, M4
m550-H63 ... H71	4000 rpm	3500 rpm	3000 rpm
m550-P80 ... P100	4000 rpm	3500 rpm	3000 rpm
m550-P112 ... P132	3000 rpm	2600 rpm	1500 rpm
m550-P160 ... P180	2000 rpm	1500 rpm	1500 rpm

Possible measures for expanding the scope of application

- Shaft sealing rings made of FKM material/Viton (optional)
- Reduction of lubricant quantity (in consultation with Lenze)
- Cooling of the gearmotor by air convection on the machine/system
- A version with a inch shaft is available on request.

4.2 Drive dimensioning

In order to carry out an accurate drive dimensioning process, you can use our configuring software, the »EASY System Designer«.

With the «EASY System Designer«, you can design the drive both quickly and to a high quality. The software contains profound and proven expertise with regard to drive applications and mechatronic drive components.

Please get in touch with your Lenze representative.

Order information	Example
Gearmotor	
Gearbox	g500-S130
Motor	m550-H63/S4
Gearbox ratio i	31387
Number of stages	2

Operation chart

Mains operation	Inverter operation
↓	↓
Check operating conditions	
↓	
Define required input variables	
↓	
Determine correction factor Operating modes and operating time Ambient temperature and installation height	
↓	
Determine gearbox type and efficiency	
↓	
Determine product on the basis of the active forces	
↓	
Calculate required drive power	
↓	↓
↓	Calculate adjustment range Determine the rated point Blower required?
↓	↓
Define load class and intensity	
↓	
Determine application factor “k” from diagram	
↓	
Select the product on the basis of the data obtained from the selection tables	
↓	
Final configuration	

Check operating conditions

Check
Approvals
Conformities
Supply voltage
Degree of protection
Ambient temperature
Surface protection

▸ Standards and operating conditions 🕮 54

▸ Surface and corrosion protection 🕮 38

Define required input variables

Necessary input variables	Note	Symbol	Unit
Operating time / day		OD	
Ambient temperature		T_V	°C
Site altitude amsl		H	m
Radial force		F_{rad}	N
Axial force		F_{ax}	N
Transmission element at the output Effective diameter of the transmission element	Gear wheels, sprockets … 	 d_W	 mm
Load torque	For short-term load peaks	$M_{L,max}$	Nm
	In rated operation	M_L	Nm
	In mains operation, $M_{L,max}/M_L$ should be < 2.0 to guarantee a safe start of the motor		
Load speed		$n_{L,max}$	rpm
	In inverter operation	$n_{L,min}$	rpm
Runtime for $M_{L,max}$	In inverter operation		%
External moments of inertia		J_{ext}	$kgcm^2$
Switching operations per hour		S_H	1/h

Determine correction factor

Operating modes S1, S2, S3, S6, and operating time							
Operating mode S1		Operating mode S2		Operating mode S3		Operating mode S6	
ED	k_L	ED	k_L	ED	k_L	ED	k_L
%		min		%		%	
100	1.0	10	1.4 - 1.5	15	1.4 - 1.5	15	1.5 - 1.6
		30	1.15 - 1.2	25	1.3 - 1.4	25	1.4 - 1.5
		60	1.07 - 1.1	40	1.15 - 1.2	40	1.3 - 1.4
		90	1.0 - 1.05	60	1.05 - 1.1	60	1.15 - 1.2

▸ Operating modes of the motor 🕮 262

Installation height amsl			
≤ 1000 m	≤ 2000 m	≤ 3000 m	≤ 4000 m
Correction factor			
k_H	k_H	k_H	k_H
1	0.95	.90	.85

Ambient temperature		
≤ 40 °C	≤ 45 °C	≤ 50 °C
Correction factor		
k_{TU}	k_{TU}	k_{TU}
1	0.95	0.90

Mounting position						
Gearbox	Mounting position					
	M1	M2	M3	M4	M5	M6
	Correction factor					
	k_E	k_E	k_E	k_E	k_E	k_E
g500-S	1.00	0.70	0.80	0.85	0.80	0.90

▸ Selection tables 78

Gearbox efficiency

Gearboxes	Gearbox efficiency
	η_{c1}
g500-S	
2-stage	0.96
3-stage	0.95
4-stage	0.94

Determine product on the basis of the forces

Transmission element			Gear wheels	Sprockets	Toothed belt pulleys (depending on the pretension)	Narrow V-belt (depending on the pretension)
Additional radial force factor	f_Z		≥ 17 teeth: 1.0 < 17 teeth: 1.15	≥ 20 teeth: 1.0 < 20 teeth: 1.25 < 13 teeth: 1.4	With belt tightener: 2.0 – 2.5 Without belt tightener: 2.5 – 3.0	1.5 – 2.0
			Calculation		Check	
Radial force	F_{rad}	N	$F_{rad} = 2000 \times \frac{M_{L,max} \times f_z}{dw}$		$F_{rad} \leq f_W \times F_{rad,max}$	
Axial force	F_{ax}	N			$F_{ax} \leq F_{rad,max} \times 0.5$	

dw Effective diameter of transmission element in mm

f_W Additional load factor

▸ Radial forces and axial forces 76

Calculate drive power

Required Drive power	kW	$P_1 = \frac{M_L \times n_{L,max}}{9549 \times k_L \times k_H \times k_{TU} \times \eta_g}$	

k_L Correction factor - operating mode

k_H Correction factor - site altitude

k_{TU} Correction factor - ambient temperature

η_G Gearbox efficiency

Intensity and load class for mains operation

		Calculation	
Intensity	F_I	$F_I = \frac{\frac{J_L}{i^2} + J_M + J_B + J_Z}{J_M + J_B + J_Z}$	

i Ratio of gearbox

J_L Load moment of inertia

J_M Motor moment of inertia

J_B Moment of inertia of brake

J_Z Additional moment of inertia (handwheel, 2nd shaft end ...)

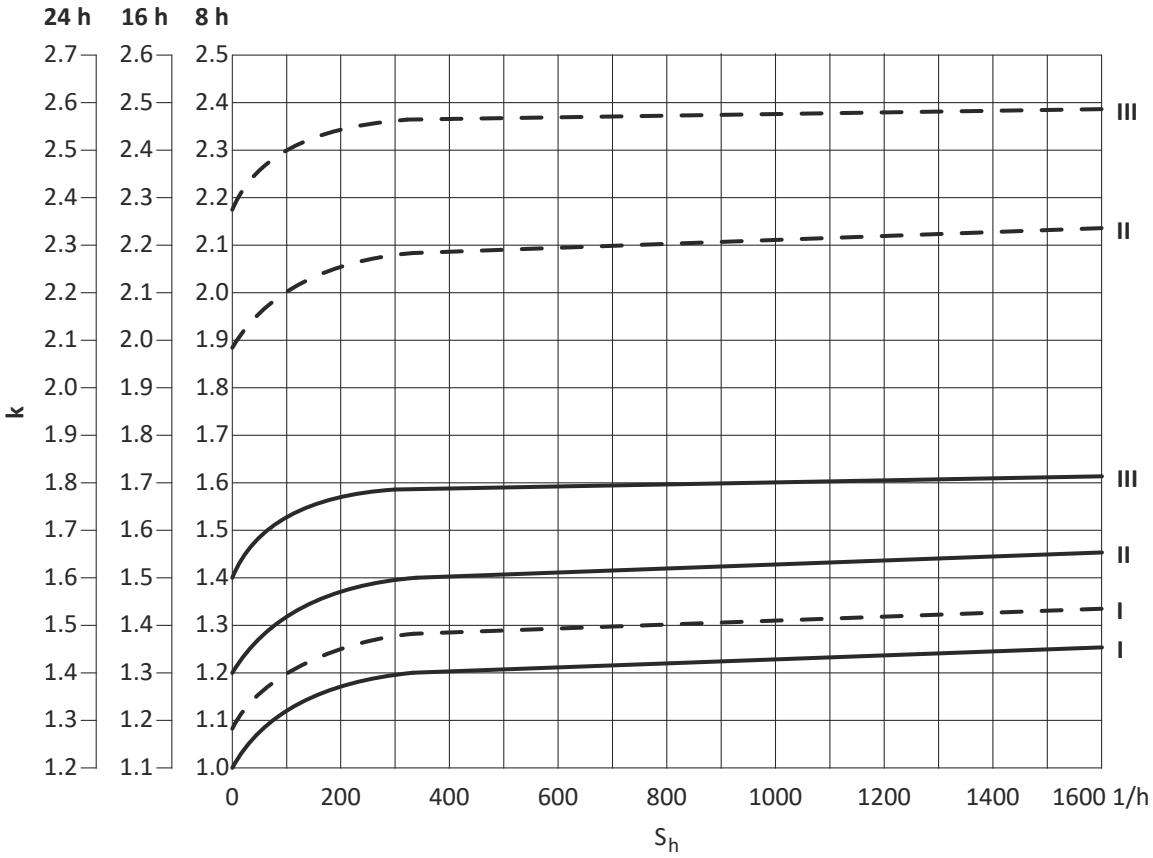
Intensity	Load type	Load class
$F_I \leq 1.25$	Smooth operation, small or light jolts	I
$1.25 < F_I \leq 4$	Uneven operation, average jolts	II
$F_I > 4$	Uneven operation, severe jolts and/or **alternating load**	III

Intensity and load class for inverter operation

	Calculation	
Intensity	$M_I = \frac{M_{L,max}}{M_L}$	For alternating load, select load class III!

Intensity	Load type	Load class
$M_I \leq 1.5$	Smooth operation, small or light jolts	I
$1.5 < M_I \leq 2$	Uneven operation, average jolts	II
$2 < M_I \leq 2.5$	Uneven operation, severe jolts and/or **alternating load**	III

Application factor k



k Application factor

S_h Switching rate

——— Ratio of motor stalling torque/rated torque < 2.5

– – – – Ratio of motor stalling torque/rated torque ≥ 2.5

Stalling/rated motor torque ▸ Rated data 🕮 247

Check and select product

Data ▸ Selection tables 🕮 78

Mains operation

Selection table	Screening	Unit	Note
Rated frequency	50	Hz	
Rated power	$P_{rated} \geq P_1$	kW	
Output torque	$M_2 \geq M_L$	Nm	The geared motor must be able to provide enough torque for $M_{L,max}$.
Output speed	$n_2 \approx n_{L,max}$	rpm	
Load factor	$c \geq k$		

Inverter operation

Selection table	Check	Unit	Note
Rated frequency	50/87	Hz	
Rated power	$P_{rated} \geq P_1$	kW	
Output torque	$M_2 \geq M_L$	Nm	The geared motor must be able to provide enough torque for $M_{L,max}$.
Max. Output speed	$n_2 \approx n_{L,max}$	rpm	
Min. Output speed			
Self-ventilated	$n_{21} \approx n_{L,min}$	rpm	Adjustment range≤ 2.5 (50 Hz) Adjustment range≤ 4.35 (87 Hz)
Forced-ventilated Self-ventilated (Output torque reduced)	$n_{22} \approx n_{L,min}$	rpm	Adjustment range≤ 10 (50 Hz) Adjustment range≤ 17.4 (87 Hz)
Load factor	c ≥ k		

4.3 Final configuration

	Screening
Connection dimensions	Output shaft Output flange/foot
Mounting position	Geared motor Connector/terminal box Driven shaft/output flange
Product extensions	Torque plate Shaft cover Connector/terminal box Brake Feedback Blower Temperature monitoring Second shaft end Handwheel Protection cover ...

More information about the final configuration:

- The modular system 📖 14
- Product extensions 📖 165

4.3.1 Surface and corrosion protection

Depending on the ambient conditions, the surface and corrosion protection system (called OKS) offers tailor-made solutions for optimum protection.

Various surface coatings ensure reliable functioning even at high air humidity, in outdoor installations, or in the presence of atmospheric contamination. Any color from the "RAL Classic" collection can be chosen for the top coat.

For indoor installation in buildings and if no special corrosion protection is required, the products are also available unpainted (without surface and corrosion protection system).

Without OKS (unpainted):

The aluminum parts are uncoated and cast iron parts primed with gray paint. Slight color differences between the components are possible.

Surface and corrosion protection	**Applications**	**Product**	
		g500-H45 ... H450 g500-S130 ... S660 g500-B45 ... B450	**g500-H600 ... H1500 g500-S950 ... S4500 g500-B600 ... B1500**
Without OKS (unpainted)	• Indoor installation, no special corrosion protection necessary • Painting by customer	Default	-
OKS-G (primed)	• Dependent on subsequent top coat applied	Optionally	Optionally
OKS-S (small)	• Standard applications • Indoor installation in heated buildings • Air humidity up to 90 %		Default
OKS-M (medium)	• Indoor installation in unheated buildings • Covered, protected outdoor installation • Air humidity up to 95 %		Optionally
OKS-L (large)	• Outdoor installation • Chemical industrial plants • Food industry • Air humidity above 95 %		

Surface and corrosion protection	**Corrosivity category**	**Surface coating**	**Color**	**Coating thickness**
	DIN EN ISO 12944-2	**Design**		
Without OKS (unpainted)	-	• Dip priming of the gray cast iron parts	-	30 ... 50 µm
OKS-G (primed)	-	• Dip priming of the gray cast iron parts • 2K PUR priming coat	-	80 ... 120 µm
OKS-S (small)	Comparable to C1	• Dip priming of the gray cast iron parts • 2K-PUR top coat	• Standard: RAL 7012 • Optional: According to RAL Classic possible	80 ... 120 µm
OKS-M (medium)	Comparable to C2	• Dip priming of the gray cast iron parts • 2K PUR priming coat • 2K-PUR top coat		110 ... 160 µm
OKS-L (large)	Comparable to C3			140 ... 200 µm

4.3.2 Temperature ranges

Temperature ranges

The following temperature ranges are available matched to your ambient conditions:

- Default
- Deep-freeze
- Wide range

Specify the temperature package and lubricant when ordering.

Observe the specified notes on the temperature packages!

In case of ambient temperatures < -30 °C or > +40 °C, please get in touch with your Lenze representative

Temperature ranges	
Standard	
Ambient temperature	0 °C ... +40 °C
Lubricant	Mineral oil • CLP 460 Synthetic oil • CLP HC 220 Food-compatible oil • CLP HC 220 NSF H1
Note	At an ambient temperature generally over +30 °C: • The application case must be checked by Lenze.
Low-temperature	
Ambient temperature	-30 °C ... +10 °C
Lubricant	Food-compatible oil • CLP HC 46 NSF H1
Note	When starting a cold motor at below -20 °C, increased starting torques are to be expected due to the higher viscosity of the roller bearing grease. • During project planning, allow a motor starting torque reserve of about 20%. Commissioning at over +10 °C: • Operate the drive at max. 50% of the rated torque to avoid a reduction in service life.
Wide range	
Ambient temperature	-30 °C ... +40 °C
Lubricant	Synthetic oil • CLP HC 220
Note	When starting a cold motor at below -20 °C, increased starting torques are to be expected due to the higher viscosity of the roller bearing grease. • During project planning, allow a motor starting torque reserve of about 30%. At an ambient temperature generally over +30 °C: • The application case must be checked by Lenze. At a constant temperature between -30 °C and -25 °C, the service life is up to 20% lower than with the low-temperature range.

4.3.3 Lubricants

The following gearboxes are lubricated for life:

- g500-S130

Recommended lubricants:

Lubricant	CLP 220	CLP 460	CLP HC 220	CLP HC 320
Ambient temperature	0 … +40 °C		-30 … +40 °C	-20 … +50 °C
Specification	Mineral oil with EP additives		Synthetic oil (polyalfaolefins basis)	
Changing interval				
Operating hours	16000		25000	
Not later than after	3 years		4 years	
At an oil temperature of	70 °C		70 °C	
FUCHS	Renolin CLP 220	Renolin CLP 460	Renolin Unisyn XT 220	Renolin Unisyn XT 320
KLÜBER	Klüberoil GEM 1-220 N	Klüberoil GEM 1-460 N	Klübersynth GEM 4-220 N	Klübersynth GEM 4-320 N
SHELL	Shell Omala S2 GX 220	Shell Omala S2 GX 460	Shell Omala S4 GXV 220	Shell Omala S4 GXV 320

Lubricant	CLP HC 46 NSF H1	CLP PG 100 NSF H1	CLP HC 220 NSF H1	CLP PG 460 NSF H1
Ambient temperature	-30 … +10 °C		-20 … +40 °C	
Specification	Synthetic oil (polyalfaolefins basis)	Synthetic oil (polyglycol basis)	Synthetic oil (polyalfaolefins basis)	Synthetic oil (polyglycol basis)
Changing interval				
Operating hours	16000			
Not later than after	3 years			
At an oil temperature of	70 °C			
FUCHS			Cassida Fluid GL 220	Cassida Fluid WG 460
KLÜBER	Klüberoil Summit HYSYN FG-46	Klübersynth UH1 6-100	Klüberoil 4 UH1-220 N	Klübersynth UH1 6-460
Castrol				Optileb GT 1800/460

Lubricant amounts for stocking

All lubricant amounts are reference values for a change of lubricant. They serve stocking purposes, for example. The specified values may vary if the unit is installed in a tilted position.

The exact values can be found on the nameplate.

Mounting position		M1 (A)	M2 (D)	M3 (B)	M4 (C)	M5 (F)	M6 (E)	M1, M5, M6 (AEF)
Gearboxes								
g500-S130	l	0.7	0.8	0.7	0.7	0.6	0.6	0.7
g500-S220	l	1.1	1.1	.9	1.1	1.0	0.8	1.1
g500-S400	l	1.6	1.3	1.2	1.5	1.3	1.1	1.6
g500-S660	l	2.5	2.4	1.8	2.4	1.9	1.9	2.5
g500-S950	l	2.9	3.2	2.4	3.2	2.4	2.4	-
g500-S2100	l	7.1	7.5	6.0	7.5	5.6	5.5	-
g500-S3100	l	9.7	10.6	8.0	11.7	8.7	7.3	-
g500-S4500	l	19.4	20.0	13.7	21.2	14.7	15.8	-
Pre-stage	l	0.4						

▸ Gearbox with pre-stage 🕮 155

4.3.4 Ventilation

No venting measures are required for the g500-S130 … S220 gearboxes.

The g500-S220 gearbox can optionally be equipped with a breather element.

From g500-S400 onwards, the gearboxes are supplied with breather elements as standard.

To reduce the number of different versions, the following gearboxes can also be ordered with combined mounting positions:

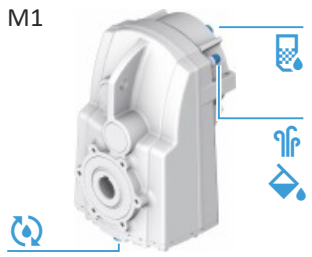
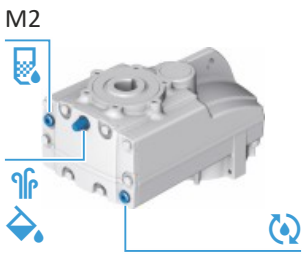
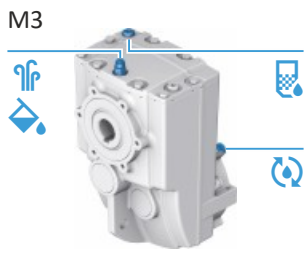
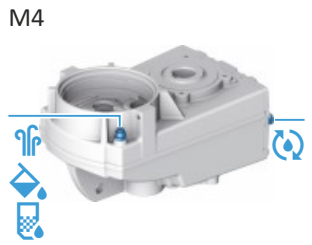
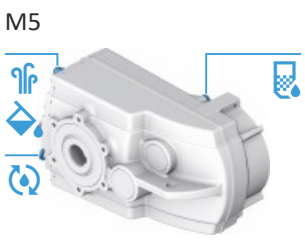
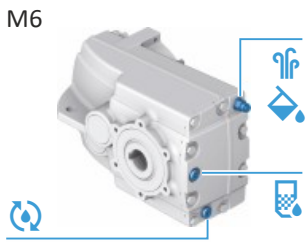
- g500-S130 ... S660 in mounting position M1/5/6 (AEF)

In these gearboxes, the lubricant amount has been optimised for the use in different mounting positions. If required, the breather elements are loosely enclosed and must be mounted before commissioning depending on the mounting position.

NOTICE

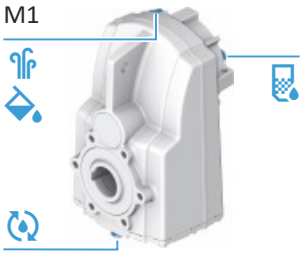
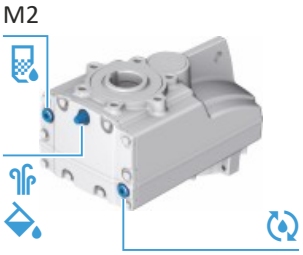
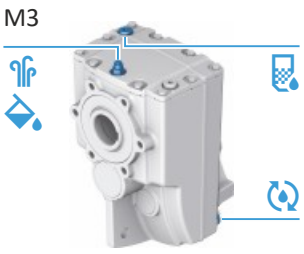
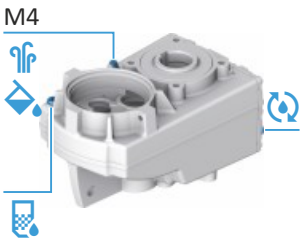
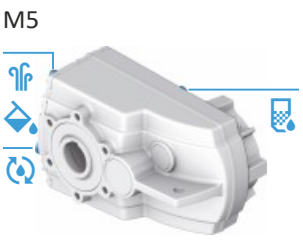
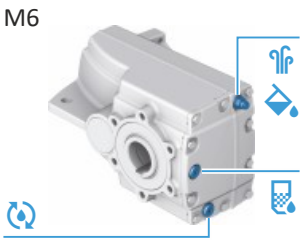
► For gearboxes with ventilation, a gap of at least 30 mm has to be observed to the machine wall on the corresponding gearbox side.

g500-S220

Mounting position		
M1 (A)	**M2 (D)**	**M3 (B)**
		
M4 (C)	**M5 (F)**	**M6 (E)**
		

Ventilation Change oil Fill oil Oil level

g500-S400

Mounting position		
M1 (A)	**M2 (D)**	**M3 (B)**
		
M4 (C)	**M5 (F)**	**M6 (E)**
		

Ventilation Change oil Fill oil Oil level

g500-S660

Mounting position		
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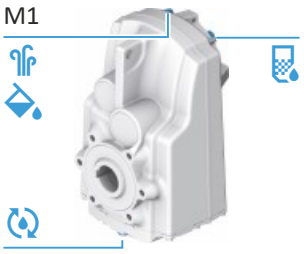
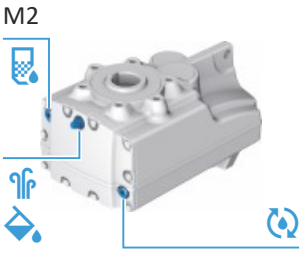
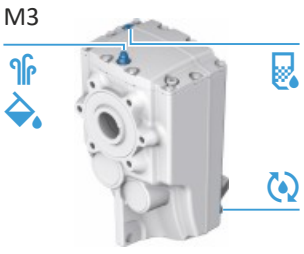
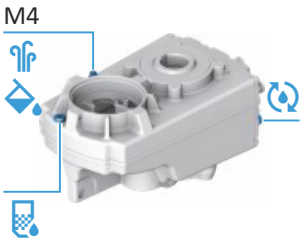
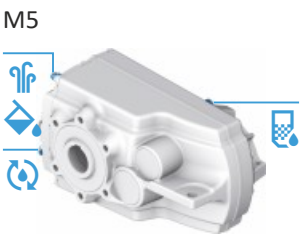
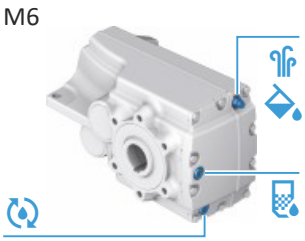
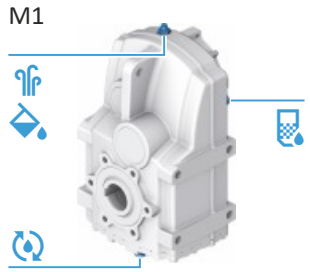
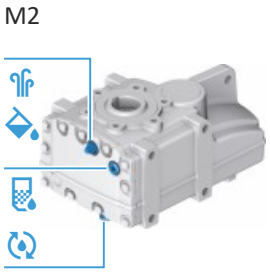
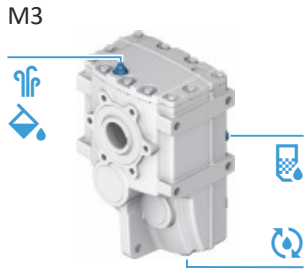
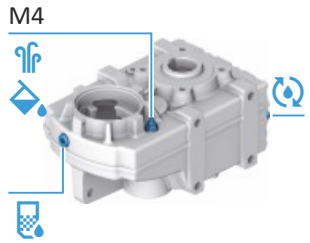
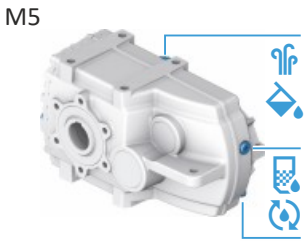
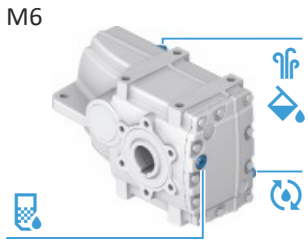
		
M4 (C)	**M5 (F)**	**M6 (E)**
		

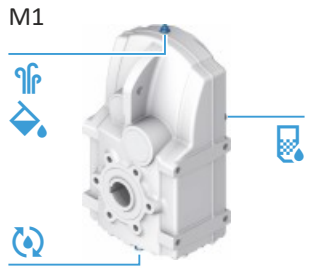
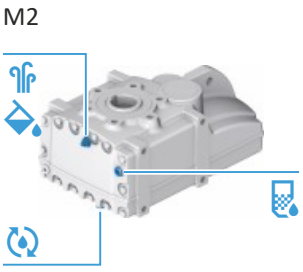
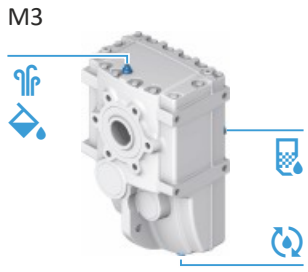
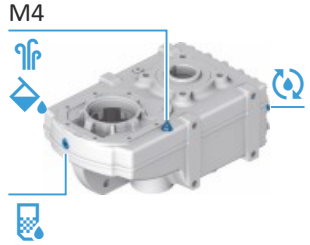
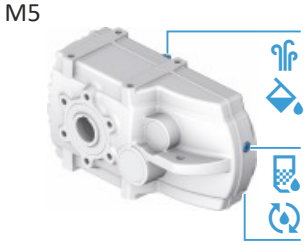
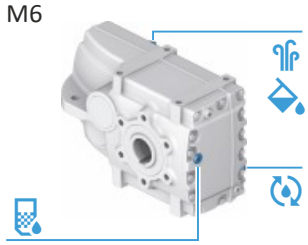
Ventilation Change oil Fill oil Oil level

g500-S950

Mounting position		
M1 (A)	**M2 (D)**	**M3 (B)**
		
M4 (C)	**M5 (F)**	**M6 (E)**
		

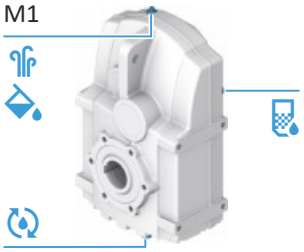
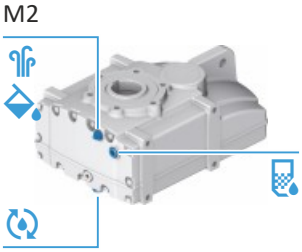
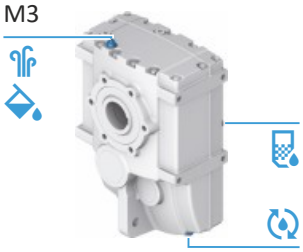
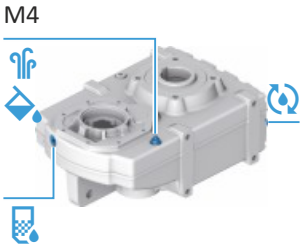
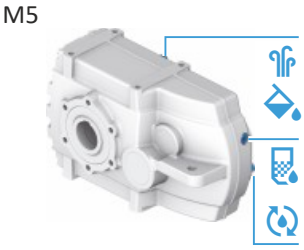
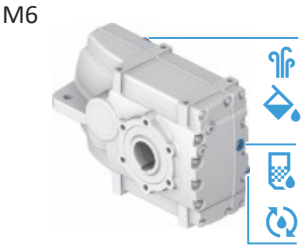
Ventilation Change oil Fill oil Oil level

g500-S2100

Mounting position		
M1 (A)	**M2 (D)**	**M3 (B)**
		
M4 (C)	**M5 (F)**	**M6 (E)**
		

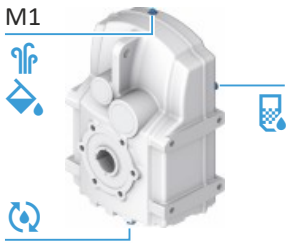
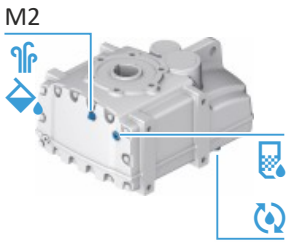
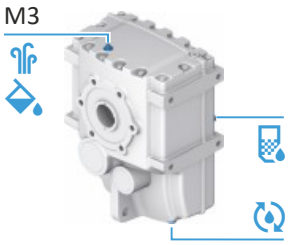
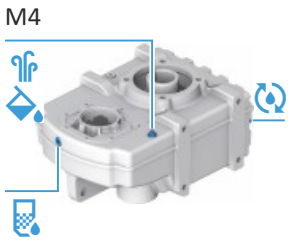
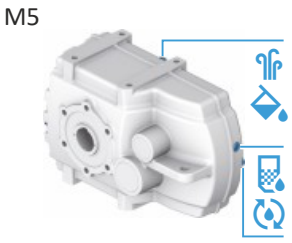
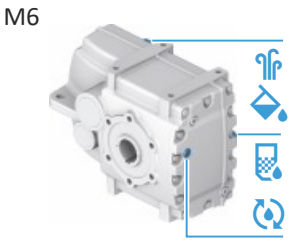
Ventilation Change oil Fill oil Oil level

g500-S3100

Mounting position		
M1 (A)	**M2 (D)**	**M3 (B)**
		
M4 (C)	**M5 (F)**	**M6 (E)**
		

Ventilation Change oil Fill oil Oil level

g500-S4500

Mounting position		
M1 (A)	**M2 (D)**	**M3 (B)**
		
M4 (C)	**M5 (F)**	**M6 (E)**
		

Ventilation Change oil Fill oil Oil level

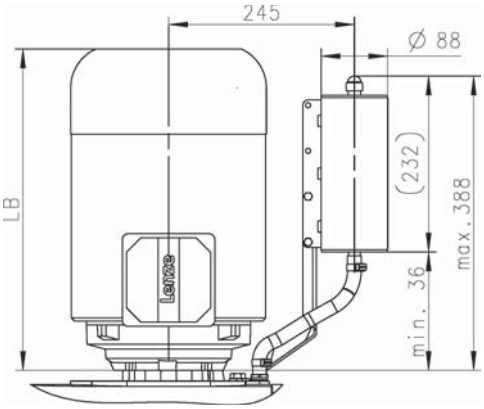
Gearbox with oil compensation reservoir for mounting position M4 (C)

In order to guarantee a reliable lubrication of the toothed parts in mounting position M4 (C) (motor is on the gearbox vertical from the top), a high filling level is required in the gearbox. As a result of the reduced volume of air in the gearbox, this may lead to oil escaping from the ventilation at higher input speeds. The oil compensation reservoir increases the expansion space for the lubricant.

The oil compensation reservoir can be ordered as a mounting set for fastening to the gearbox.

If insufficient space is available, the oil compensation reservoir can also be mounted over the gearbox hose connection on nearby system parts.

Dimensions of the oil compensation reservoir



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For the following gearboxes in mounting position M4 (C), which exceed the specified min. input speed, an oil expansion reservoir is required depending on the specified gear ratio:

g500-S2100		g500-S3100		g500-S4500	
Gearbox ratio	**Min. input speed**	**Gearbox ratio**	**Min. input speed**	**Gearbox ratio**	**Min. input speed**
	rpm		**rpm**		**rpm**
4.593	2000	4.951	2000	4.914	2000
6.029	2000	6.499	2000	6.450	2000
6.870	2000	7.406	2000	7.056	2000
8.272	2000	8.917	2000	8.944	2000
9.452	2000	10.932	2000	9.984	2000
10.504	2000	11.128	2000	11.740	2000
12.406	2000	12.584	2000	12.843	2000
13.787	2000	14.606	2000	13.105	2000
14.137	2000	16.517	2000	14.336	2000
15.711	2000	16.644	2000	16.381	2000
17.022	3000	18.822	2000	18.286	2000
18.917	3000	20.041	3000	20.067	2000
20.869	3000	22.663	3000	22.400	2000
23.193	3000	24.570	3000	26.437	3000
28.275	3000	27.785	3000	29.511	3000
31.422	3000	33.289	3000	32.489	3000
34.333	3000	37.644	3000	36.267	3000
38.156	3000	40.422	3000	42.044	3000
44.431	4000	45.711	3000	46.933	3000
49.378	4000	52.311	4000	51.027	4000
53.924	4000	59.156	4000	56.960	4000
59.927	4000	63.487	4000	64.500	4000
68.162	4000	71.793	4000	72.000	4000
75.750	4000				

5 Mechanical installation

5.1 Important notes

- Install the product according to the information in the chapter "Standards and operating conditions".

  ▸ Standards and operating conditions 📖 54
- The technical data and the data regarding the supply conditions can be found on the nameplate and in this documentation.
- Ambient media − especially chemically aggressive ones − may damage shaft sealing rings, lacquers and plastics.
- Lenze offers special surface and corrosion protection in this case.

5.2 Transport

⚠CAUTION!

Danger from tipping and falling loads!

Standing beneath suspended loads is prohibited!

Possible consequences: Minor or moderate injuries.

► To achieve a load direction that is as vertical as possible (maximum load-bearing capacity), use additional, suitable load carriers if necessary. Secure the load carrier against slipping!

► Screw in the transport aids completely. They must lie flat and over the entire surface!

► Load the transport aids vertically in the direction of the screw axis! Inclined or lateral tension reduces the load-bearing capacity! Observe the specifications in the DIN 580!

NOTICE

Eye bolts or lifting eyes on the motor are not suitable for transporting geared motors.

Only use these for mounting/dismounting the motor on the gearbox.

Possible consequences: Damage to the geared motor.

► Only use the threads provided on the gearbox for eye bolts or lifting eyes for transporting the geared motor.

Preconditions

- Ensure appropriate handling.
- Make sure that all component parts are securely mounted. Secure or remove loose component parts.
- Only use safely fixed transport aids (e.g., eye bolts or support plates).
- Do not damage any components during transport.
- Avoid electrostatic discharges on electronic components and contacts.
- Avoid impacts.
- Check the carrying capacity of the hoists and load handling devices. The weights can be found in the shipping documents.
- Secure the load against tipping and falling down.
- Standing beneath suspended loads is prohibited.

The lifting eye is not included in the scope of supply!

Position of the lifting eye

Geared motor	
	Lifting eye on the housing
G50BS113Mxxxxxx	●
G50BS122Mxxxxxx	●
G50BS140Mxxxxxx	●
G50BS166Mxxxxxx	●
G50BS195Mxxxxxx	●
G50BS221Mxxxxxx	●
G50BS231Mxxxxxx	●
G50BS245Mxxxxxx	●
G50BS280Mxxxxxx	●
G50BS314Mxxxxxx	●
G50BS319Mxxxxxx	●

5.3 Installation

Ventilation elements

Gearboxes that are supplied with a pre-assembled ventilation element:

- The ventilation element is identified by a sign on the gearbox.
- Remove the transport lock from the ventilation element before initial commissioning.

Gearboxes that are supplied with a loosely attached ventilation element:

- Before commissioning for the first time, install the ventilation element according to the mounting position.

Mounting surfaces

- The mounting surfaces must be plane, torsionally rigid and free from vibrations.
- The mounting areas must be suited to absorb the forces and torques generated during operation.
- Ensure an unhindered ventilation.
- For versions with a fan, keep a minimum distance of 10 % from the outside diameter of the fan cover in intake direction.

6 Electrical installation

6.1 Important notes

⚠ DANGER!

Risk of injury and risk of burns from dangerous voltage

Power terminals may also carry voltage in the switched-off state or when the motor is stopped and may cause life-threatening cardiac arrhythmia and serious burns.

► Disconnect the product from the mains.

► Check that the power terminals are deenergized before starting work.

- When working on energized products, comply with the applicable national accident prevention regulations.
- The electrical installation must be carried out according to the appropriate regulations (e.g. cable cross-sections, fuses, PE connection).
- The manufacturer of the system or machine is responsible for adherence to the limits required in connection with EMC legislation.

Connection for high leakage current

If the leakage current is greater than 3.5 mA for alternating current or greater than 10 mA for direct current, the standard EN 61800-5-1 requires that at least one or more of the following measures be met:

- The minimum PE conductor cross-section is 10 mm^2 with Cu or 16 mm^2 with Al.
- Attachment of an additional protective grounding conductor with the same cross-section as the original protective grounding conductor.
  - Do not place the additional terminal on the same terminal.
- Provide automatic disconnection of the mains in case of interruption of the protective conductor.

▸ Connection options 🕮 167

Operation on an external inverter

A max. pulse voltage amplitude of U_{pk} = 1560 V at the motor terminals must not be exceeded. Here, the minimum pulse rise time must be t_R = 0.1 µs.

If it cannot be ruled out that the permissible voltage peaks will be exceeded or that the minimum pulse rise time will not be reached, the following measures must be initiated:

- Reduction of the DC-bus voltage (threshold for brake chopper voltage)
- Use of filters, chokes
- Use of special motor cables

6.2 Preparation

EMC-compliant wiring

The EMC-compliant wiring is described in detail in the documentation of the Lenze inverters.

7 Technical data

7.1 Notes regarding the given data

Catalog data

The power values, torques and speeds specified in the configuration are rounded values and apply to:

- Operating time per day = 8 hrs (100 % ED)
- Duty class up to 10 switching operations per hour
- Ambient temperature = -30 ... +40 °C
- Site altitude ≤ 1000 m above mean sea level
- The selection tables indicate the mechanically permissible power levels and torques.
- The ratings apply to the operating mode S1 (acc. to EN 60034-1).

NOTICE

In case of other operating conditions, the achievable values can differ for those mentioned.

► In case of extreme operating conditions, please get in touch with your Lenze representative.

7.2 Standards and operating conditions

7.2.1 Conformities and approvals

More information and certificates of approval can be found under

g500 + m500 shaft-mounted helical geared motors (Lenze.com)

Europe					
Country	**Conformity/ approval**	**Law/standard**	**Description**	**Special feature**	**Product representation**
European Union	CE	(EU) 2019/1781	Regulation laying down ecodesign requirements for electric motors and speed control	-	CE mark
		2006/42/EC	Machinery Directive	Only for safety-relevant components	
		2011/65/EU	RoHS	-	
		2014/30/EU	EMC Directive		
		2014/35/EU	Low-Voltage Directive		
Great Britain	UKCA	S.I. 2008/1597	The Supply of Machinery (Safety) Regulations 2008	Only for safety-relevant components	UKCA mark
		S.I. 2012/3032	The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012	-	
		S.I. 2016/1091	The Electromagnetic Compatibility Regulations 2016		
		S.I. 2016/1101	The Electrical Equipment (Safety) Regulations 2016		
		S.I. 2021/745	The Ecodesign for Energy-Related Products and Energy Information Regulations 2021		

America					
Country	**Conformity/ approval**	**Law/standard**	**Description**	**Special feature**	**Product representation**
Brazil	INMETRO	ABNT NBR 17094-1	Rotating electrical machines - Part 1: Induction motors three-phase - Requirements	Approved products	INMETRO mark
		Portaria n.º 1, 2017	MEPS		
Canada	CSA	CSA 22.1 No. 100	CSA Standard for Motors and Generators	-	cULus mark
	NrCAN	SOR/2016-311 (Division 12 - Subdivision A)	Energy Efficiency Regulations		UL Energy mark
USA	DOE	10 CFR Part 431 - Subpart B	Energy Efficiency Program for Certain Commercial and Industrial Equipment		UL Energy mark + CC number
	UL	UL 1004-1	UL Standard for Rotating Electrical Machines		cULus mark

Asia					
Country	**Conformity/ approval**	**Law/standard**	**Description**	**Special feature**	**Product representation**
China	-	GB 18613	Minimum allowable values of energy efficiency and energy efficiency grades for small and medium three-phase asynchronous motors	-	CEL mark
		GB/T 26572	Requirements on concentration limits for certain restricted substances in electrical and electronic products		EFUP mark
	CCC	GB 12350	Safety requirements of small power motors		CCC mark
Singapore	NEA	Energy Conservation Act 2013	Energy Conservation Act (Cap. 92C) - MEPS		-
		IEC 60034-2-1	Rotating electrical machines - Part 2-1: Standard methods for determining losses and efficiency from tests		
South Korea	KEA	KS C IEC 60034-2-1			KEL mark incl. KC mark
		MOTIE Notification No. 2017-61MOTIE Notification No. 2020-225	Regulation on energy Efficiency Labeling & Standards - MEPS		

7.2.2 Protection of persons and device protection

Degree of protection			
EN	EN IEC 60529,EN IEC 60034-5	IP54	Information applies to the mounted and ready-for-use state
		IP55	
		IP65	
		IP66	

Temperature class			
-	EN IEC 60034-1	F (155 °C)	Insulation system
Utilization		B (130 °C)	Utilization

Permissible voltage			
-	IEC 60034-18-41	IVIC C	At 500 V

7.2.3 EMC data

Noise emission		
-	EN IEC 60034-1	A final overall assessment of the drive system is indispensable

Interference immunity		
-	EN IEC 60034-1	A final overall assessment of the drive system is indispensable

7.2.4 Environmental conditions

Energy efficiency			
Efficiency level	EN IEC 60034-30-1	Energy efficiency class IE2	according to REGULATION (EU) 2019/1781
		Energy efficiency class IE3	

Climate			
Storage	EN 60721-3-1:1997	1K3 (-25 ... +60 °C)	
Transport	EN 60721-3-2:1997	2K3 (-25 ... +70 °C)	
Operation	EN 60721-3-3:1995 + A2:1997	3K3 (0 ... +40 °C)	
	-	-30 ... +10 °C	Depending on the temperature package! Observe ambient temperature on the nameplate!
		-30 ... +40 °C	

Installation altitude			
0 … 1000 m amsl	-	Without current derating	
1000 … 4000 m amsl		Reduce power by 5 %/1000 m	

Air humidity			
-	-	Average relative humidity 85%	Without condensation

7.3 Gearbox data

The following tables contain the most important data of the gearbox for attachable motors of a geared motor.

The data given for speed, torque and power are valid if the

- input speed n_1= 1400 rpm
- Application factor c= 1.0

In order to calculate the exact ratio, the number of teeth z_g (driven) can be divided by the number of teeth z_t (driving).

g500-S130, 2-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
703	63.0	3.661	637	174	19
513	76.0	5.021	728	145	18
401	87.0	6.425	559	87	18
366	92.0	7.029	5096	725	18
309	116	8.322	749	90	13
274	125	9.411	847	90	12
226	130	11.413	856	75	13
200	130	12.907	968	75	12
176	130	14.606	4601	315	12
161	130	15.979	5992	375	12
143	130	18.069	6776	375	12
126	130	20.381	428	21	13
112	130	23.048	484	21	12
103	130	24.967	749	30	12
91.2	130	28.233	847	30	12
81.7	130	31.387	2354	75	12
72.3	130	35.493	2662	75	12
63.5	130	40.422	1819	45	12
56.1	130	45.711	2057	45	12
49.5	130	51.230	8453	165	12
43.8	130	57.933	869	15	11
39.5	130	64.200	321	5	12
34.9	130	72.600	363	5	11
29.9	102	84.581	8881	105	12
26.4	115	95.648	10043	105	11

g500-S130, 3-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
30.3	130	83.698	18832	225	13
26.8	130	94.649	21296	225	12
23.7	130	107.113	101222	945	13
21.5	130	117.177	131824	1125	13
19.1	130	132.508	149072	1125	12
16.9	130	149.460	9416	63	13
14.9	130	169.016	10648	63	12
13.8	130	183.089	8239	45	13
12.2	130	207.044	9317	45	12
11.0	130	230.169	51788	225	12
10.0	130	251.277	75383	300	12
9.0	130	279.341	104753	375	12
8.0	130	315.891	118459	375	12

g500-S220, 2-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
672	178	3.840	553	144	16
490	181	5.267	79	15	16
381	220	6.767	203	30	13
337	217	7.667	23	3	12
278	220	9.280	232	25	13
245	220	10.514	368	35	12
217	220	11.876	1247	105	12
199	220	12.992	1624	125	12
192	220	13.456	1978	147	12
175	220	14.720	368	25	12
156	220	16.571	116	7	12
137	220	18.776	920	49	12
127	220	20.300	203	10	12
112	220	23.000	23	1	11
97.5	220	26.422	1189	45	12
86.0	220	29.937	1886	63	11
78.3	220	32.867	493	15	12
69.1	220	37.238	782	21	11
60.3	220	42.533	638	15	12
53.2	220	48.190	1012	21	11
49.7	220	51.620	2581	50	11
43.9	220	58.486	2047	35	11
38.4	171	65.975	2639	40	11
33.9	194	74.750	299	4	11

g500-S220, 3-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
63.4	220	40.012	13804	345	13
55.9	220	45.333	136	3	12
48.8	220	52.587	3944	75	12
43.1	220	59.581	6256	105	12
38.1	220	67.298	21199	315	12
33.6	220	76.249	33626	441	12
29.8	220	86.079	5423	63	12
26.0	220	97.528	43010	441	12
22.7	220	111.747	8381	75	12
20.0	220	126.610	13294	105	12
17.7	220	143.205	30073	210	12
15.6	220	162.252	23851	147	12
13.6	220	185.248	30566	165	12
12.0	220	209.887	48484	231	12
10.5	220	241.022	10846	45	12
9.2	220	273.079	17204	63	12
8.1	220	312.233	9367	30	12
7.1	220	353.762	7429	21	12

g500-S220, 4-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
8.6	220	293.418	303688	1035	13
7.6	220	332.444	2992	9	12
6.5	220	385.636	86768	225	13
5.8	220	436.927	137632	315	12
5.1	220	493.522	466378	945	13
4.5	220	559.163	739772	1323	12

g500-S400, 2-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
773	203	3.339	581	174	16
563	243	4.579	664	145	16
440	258	5.860	3569	609	13
402	261	6.411	4648	725	12
346	365	7.467	112	15	13
306	380	8.436	329	39	12
252	400	10.240	256	25	12
223	400	11.569	752	65	12
197	400	13.105	1376	105	12
180	400	14.336	1792	125	12
174	400	14.806	4042	273	12
159	400	16.197	5264	325	12
141	400	18.286	128	7	12
125	400	20.659	1880	91	11
115	400	22.400	112	5	12
102	400	25.308	329	13	11
88.3	400	29.156	1312	45	12
78.2	400	32.940	3854	117	11
71.0	400	36.267	544	15	12
62.8	400	40.974	1598	39	11
54.7	314	46.933	704	15	11
48.4	348	53.026	2068	39	11
45.0	268	56.960	1424	25	11
39.9	302	64.354	4183	65	11

g500-S400, 3-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
44.2	400	58.027	4352	75	11
39.1	400	65.559	12784	195	11
34.5	400	74.260	23392	315	11
30.6	400	83.900	68714	819	11
27.0	400	94.984	5984	63	11
23.9	399	107.314	87890	819	11
20.8	400	123.307	9248	75	11
18.4	399	139.313	27166	195	11
16.0	399	158.019	16592	105	11
14.2	400	178.531	48739	273	11
12.4	400	204.412	33728	165	11
11.0	396	230.946	99076	429	11
9.5	388	265.956	11968	45	11
8.4	400	300.479	35156	117	11
7.3	330	344.533	5168	15	11
6.5	372	389.256	15181	39	11
5.7	254	439.733	6596	15	11
5.1	287	496.814	77503	156	11

g500-S400, 4-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
5.9	400	425.529	95744	225	11
5.3	400	480.766	281248	585	11
4.6	400	544.576	514624	945	11
4.1	400	615.266	1511708	2457	11
3.6	400	696.550	131648	189	11
3.2	400	786.968	1933580	2457	11
2.8	400	904.249	203456	225	11
2.5	400	1021.627	597652	585	11

g500-S660, 2-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
661	419	3.920	98	25	14
482	492	5.376	672	125	13
404	601	6.417	77	12	11
377	496	6.880	172	25	13
354	593	7.311	329	45	11
294	638	8.800	44	5	10
258	625	10.027	752	75	10
230	660	11.262	473	42	10
210	660	12.320	308	25	10
202	660	12.832	4042	315	10
185	660	14.037	5264	375	10
165	660	15.714	110	7	10
145	660	17.905	376	21	10
135	660	19.250	77	4	10
118	660	21.933	329	15	9
103	578	25.056	451	18	10
90.4	660	28.548	3854	135	9
82.8	660	31.167	187	6	10
72.7	660	35.511	1598	45	9
63.8	545	40.333	121	3	10
56.0	620	45.956	2068	45	9
52.6	446	48.950	979	20	10
46.2	508	55.773	4183	75	9

g500-S660, 3-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
51.6	625	49.867	748	15	10
45.3	650	56.818	12784	225	10
40.3	660	63.817	8041	126	10
36.9	660	69.813	5236	75	10
35.4	660	72.713	68714	945	10
32.4	660	79.545	89488	1125	10
28.9	660	89.048	1870	21	10
25.4	660	101.460	6392	63	10
23.6	660	109.083	1309	12	10
20.7	660	124.289	5593	45	10
18.7	660	137.133	2057	15	10
16.4	660	156.249	35156	225	10
14.5	660	176.611	3179	18	10
12.7	660	201.230	27166	135	10
11.3	660	223.833	1343	6	10
9.9	660	255.034	126242	495	10
9.0	603	280.500	561	2	10
7.9	660	319.600	1598	5	10
6.8	447	369.548	15521	42	10
6.0	511	421.060	132634	315	10

g500-S660, 4-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
8.0	660	318.039	214676	675	11
6.9	592	365.689	16456	45	11
6.1	640	416.664	281248	675	10
5.4	660	467.995	88451	189	11
5.0	660	511.964	115192	225	11
4.3	660	583.329	1968736	3375	10
3.9	660	653.016	41140	63	11
3.4	660	744.042	140624	189	10
3.2	660	799.944	14399	18	11
2.8	660	911.452	123046	135	10
2.5	660	1005.644	45254	45	11
2.2	660	1145.825	773432	675	10
1.9	660	1295.148	34969	27	10
1.7	660	1475.684	597652	405	10
1.5	660	1641.444	14773	9	10

g500-S950, 2-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
591	621	4.380	403	92	15
480	691	5.391	124	23	14
429	732	6.038	3472	575	14
336	783	7.702	1240	161	14
285	950	9.100	91	10	10
254	950	10.183	611	60	10
231	950	11.200	56	5	10
207	950	12.544	1568	125	9
185	950	14.037	5264	375	9
162	950	16.000	16	1	9
145	950	17.905	376	21	9
132	950	19.600	98	5	9
118	950	21.933	329	15	9
102	950	25.511	1148	45	9
90.7	950	28.548	3854	135	9
82.5	950	31.267	469	15	9
73.7	950	34.989	3149	90	9
62.8	950	41.067	616	15	9
56.1	950	45.956	2068	45	9
51.8	924	49.840	1246	25	9
46.3	950	55.773	4183	75	9
40.9	668	63.000	63	1	9
36.5	736	70.500	141	2	9

g500-S950, 3-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
51.6	950	50.027	3752	75	10
46.1	950	55.982	12596	225	9
40.3	950	64.022	2881	45	10
36.8	950	70.037	26264	375	9
36.0	950	71.644	135407	1890	10
32.9	950	78.375	88172	1125	9
28.9	950	89.333	268	3	10
25.8	950	99.968	6298	63	9
23.6	950	109.433	3283	30	9
21.1	950	122.461	22043	180	9
18.1	950	142.437	19229	135	9
16.2	950	159.394	129109	810	9
14.5	950	177.178	7973	45	9
13.0	950	198.270	53533	270	9
11.2	950	229.289	10318	45	9
10.0	950	256.585	34639	135	9
9.2	950	278.273	41741	150	9
8.2	950	311.401	280261	900	9
7.1	950	355.658	42679	120	9
6.4	950	397.999	286559	720	9

g500-S950, 4-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
8.0	950	319.059	1076824	3375	10
7.2	950	357.042	3615052	10125	10
6.2	950	406.963	10988	27	10
5.6	950	455.411	258218	567	10
4.9	950	513.607	577808	1125	10
4.4	950	574.751	1939784	3375	10
3.9	950	655.111	5896	9	10
3.5	950	733.101	138556	189	10
3.2	950	802.511	36113	45	10
2.8	950	898.048	242473	270	10
2.4	950	1044.538	423038	405	9
2.2	950	1168.888	1420199	1215	10
1.9	950	1299.304	175406	135	9
1.7	950	1453.983	588863	405	10
1.5	950	1681.452	226996	135	9
1.3	950	1881.625	762058	405	9
1.2	950	2040.671	459151	225	9
1.1	950	2283.608	3082871	1350	9
1.0	950	2476.633	3714949	1500	9
0.6	950	2771.470	24943229	9000	9

g500-S2100, 2-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
565	1331	4.593	689	150	12
430	1487	6.029	2279	378	11
378	1487	6.870	371	54	11
314	1487	8.272	3127	378	11
275	1866	9.452	4017	425	8
247	1872	10.504	1313	125	8
209	2030	12.406	4429	357	7
188	2047	13.787	4343	315	7
184	2050	14.137	721	51	7
165	2050	15.711	707	45	7
152	2050	17.022	6077	357	7
137	2050	18.917	5959	315	7
124	2050	20.869	3193	153	7
112	2050	23.193	3131	135	7
91.6	2050	28.275	1442	51	8
82.4	2050	31.422	1414	45	7
75.4	2050	34.333	103	3	7
67.9	2050	38.156	1717	45	7
58.1	2044	44.431	2266	51	7
52.3	2050	49.378	2222	45	7
47.8	1957	53.924	9167	170	7
43.1	2050	59.927	8989	150	7
37.9	1454	68.162	4635	68	7
34.1	1576	75.750	303	4	7

g500-S2100, 3-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
64.7	1945	40.056	721	18	8
58.2	2050	44.515	12019	270	8
47.1	2050	54.933	824	15	8
42.4	2050	61.049	13736	225	8
36.8	2050	70.302	4429	63	8
33.7	2050	76.907	5768	75	8
33.2	2050	78.128	73831	945	7
30.3	2050	85.468	96152	1125	7
26.4	2050	98.095	2060	21	8
23.8	2050	109.016	6868	63	7
21.6	2050	120.167	721	6	8
19.3	2050	133.544	12019	90	7
16.5	2050	156.407	4223	27	8
14.8	2050	173.820	70397	405	7
13.3	2050	194.556	1751	9	8
11.9	2050	216.215	29189	135	7
10.2	2050	251.778	2266	9	8
9.2	2050	279.807	37774	135	7
8.4	2050	305.567	9167	30	8
7.6	2050	339.584	152813	450	7
6.6	2050	386.250	1545	4	7
6.0	2050	429.250	1717	4	7

g500-S2100, 4-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
8.0	2050	320.263	181589	567	8
7.3	2050	350.353	236488	675	8
6.6	2050	389.356	3942232	10125	8
5.8	2050	446.878	84460	189	8
5.2	2050	496.628	281588	567	8
4.7	2050	547.426	29561	54	8
4.2	2050	608.369	492779	810	8
3.6	2050	712.523	173143	243	8
3.2	2050	791.846	2886277	3645	8
2.9	2050	886.309	71791	81	8
2.6	2050	984.979	1196749	1215	8
2.2	2050	1146.988	92906	81	8
2.0	2050	1274.678	1548734	1215	8
1.8	2050	1426.741	38522	27	8
1.6	2050	1585.575	642158	405	8
1.4	2050	1846.370	49852	27	8
1.2	2050	2051.921	831028	405	8
1.1	2050	2240.822	100837	45	8
1.0	2050	2490.286	1680943	675	8
0.9	2050	2719.543	815863	300	8
0.8	2050	3022.302	13600357	4500	8
0.7	2050	3475.821	834197	240	8
0.7	2050	3862.773	13905983	3600	8
0.6	2050	4393.594	140595	32	8
0.5	2050	4882.719	156247	32	8

g500-S3100, 2-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
524	1842	4.951	2847	575	10
399	2110	6.499	3139	483	10
350	2235	7.406	511	69	9
291	2264	8.917	4307	483	9
237	2275	10.932	2263	207	9
233	3022	11.128	1391	125	6
206	2965	12.584	1573	125	6
178	3100	14.606	4601	315	6
157	3100	16.517	5203	315	6
156	3100	16.644	749	45	6
138	3100	18.822	847	45	6
130	3100	20.041	6313	315	6
115	3100	22.663	7139	315	6
106	3100	24.570	3317	135	6
93.4	3100	27.785	3751	135	6
77.8	3100	33.289	1498	45	6
68.8	3100	37.644	1694	45	6
64.1	3100	40.422	1819	45	6
56.7	3100	45.711	2057	45	6
49.3	2587	52.311	2354	45	6
43.6	2743	59.156	2662	45	6
40.6	2250	63.487	9523	150	6
35.9	2408	71.793	10769	150	6

g500-S3100, 3-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
54.9	2958	47.159	12733	270	6
48.6	3054	53.330	14399	270	6
40.0	3100	64.676	14552	225	6
35.4	3100	73.138	16456	225	6
31.3	3100	82.769	78217	945	6
28.6	3100	90.546	101864	1125	6
27.7	3100	93.599	88451	945	6
25.3	3100	102.393	115192	1125	6
22.4	3100	115.492	7276	63	6
19.8	3100	130.603	8228	63	6
18.3	3100	141.478	12733	90	6
16.2	3100	159.989	14399	90	6
14.0	3100	184.146	74579	405	6
12.4	3100	208.240	84337	405	6
11.3	3100	229.059	30923	135	6
10.0	3100	259.030	34969	135	6
8.7	3100	296.430	40018	135	6
7.7	3100	335.215	45254	135	6
7.2	3100	359.758	161891	450	6
6.3	3100	406.829	183073	450	6

g500-S3100, 4-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
8.1	3100	316.910	356524	1125	7
7.2	3100	358.375	403172	1125	6
6.4	3100	404.222	3638	9	7
5.6	3100	457.111	4114	9	6
5.2	3100	495.172	89131	180	6
4.6	3100	559.961	100793	180	6
4.0	3100	644.510	522053	810	6
3.5	3100	728.838	590359	810	6
3.2	3100	801.707	216461	270	6
2.8	3100	906.604	244783	270	6
2.5	3100	1043.492	1267843	1215	6
2.2	3100	1180.024	1433729	1215	6
2.0	3100	1298.002	525691	405	6
1.7	3100	1467.835	594473	405	6
1.5	3100	1679.768	680306	405	6
1.3	3100	1899.551	769318	405	6
1.2	3100	2173.817	880396	405	6
1.0	3100	2458.242	995588	405	6
1.0	3100	2638.224	1780801	675	6
0.8	3100	2983.412	2013803	675	6
0.8	3030	3201.844	14408299	4500	6
0.7	3100	3620.777	16293497	4500	6
0.6	3030	4092.245	14732081	3600	6
0.5	3100	4627.679	16659643	3600	6
0.5	2392	5172.781	165529	32	6
0.4	2794	5849.594	187187	32	6

g500-S4500, 2-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
528	2352	4.914	2457	500	9
402	2451	6.450	129	20	9
368	2535	7.056	882	125	9
290	4087	8.944	1118	125	5
260	4163	9.984	1248	125	5
221	4451	11.740	3698	315	5
202	4500	12.843	4816	375	5
198	4500	13.105	1376	105	4
181	4500	14.336	1792	125	4
158	4500	16.381	344	21	5
142	4500	18.286	128	7	4
129	4500	20.067	301	15	5
116	4500	22.400	112	5	4
98.2	4500	26.437	3569	135	5
87.9	4500	29.511	1328	45	4
79.9	4500	32.489	1462	45	5
71.6	4500	36.267	544	15	4
61.6	4101	42.044	1892	45	5
55.2	4394	46.933	704	15	4
50.8	3653	51.027	3827	75	5
45.5	3946	56.960	1424	25	4
40.0	2488	64.500	129	2	5
35.8	2586	72.000	72	1	4

g500-S4500, 3-stage gearboxes

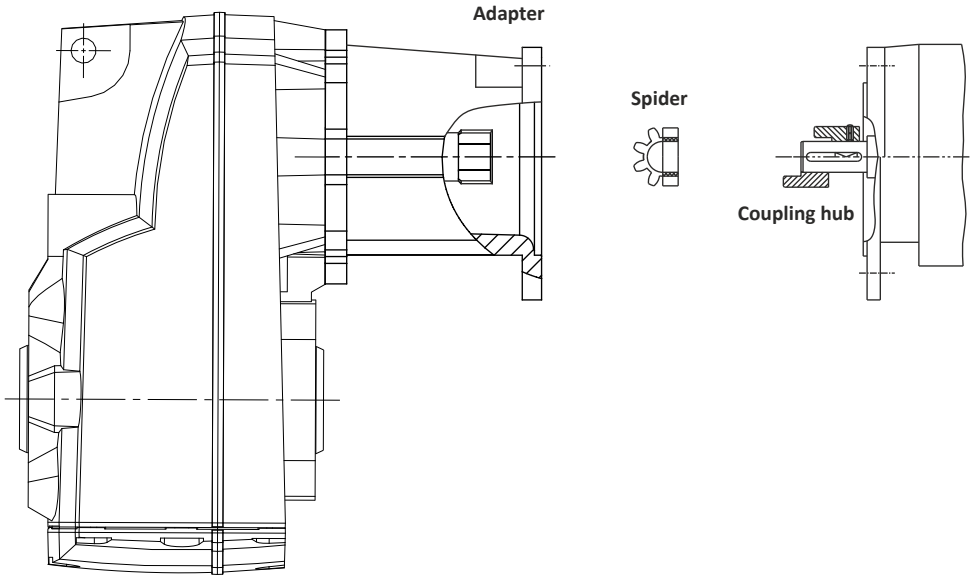
Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
68.1	4150	38.090	49708	1305	5
61.0	4291	42.520	18496	435	4
49.2	4500	52.794	9503	180	5
44.0	4500	58.933	884	15	4
39.9	4500	64.978	2924	45	5
35.8	4500	72.533	1088	15	4
35.7	4500	72.775	81872	1125	5
31.9	4500	81.237	30464	375	4
27.9	4500	92.825	5848	63	5
25.0	4500	103.619	2176	21	4
22.8	4500	113.711	5117	45	5
20.4	4500	126.933	1904	15	4
17.5	4500	148.005	59942	405	5
15.7	4500	165.215	22304	135	4
14.2	4500	181.396	48977	270	5
12.7	4500	202.489	9112	45	4
10.8	4500	238.252	32164	135	5
9.7	4500	265.956	11968	45	4
8.9	4500	289.151	65059	225	5
8.0	4500	322.773	24208	75	4
7.0	3962	365.500	731	2	5
6.3	4410	408.000	408	1	4

g500-S4500, 4-stage gearboxes

Output speed	Max. output torque	Ratio	Number of teeth		Max. backlash
					Standard
n_2	$M_{2, max}$	i	z_g	z_t	
rpm	Nm				'
7.9	4500	324.889	2924	9	5
7.1	4500	362.667	1088	3	5
6.5	4500	397.989	35819	90	5
5.8	4500	444.267	6664	15	5
5.0	4500	518.017	209797	405	5
4.5	4500	578.252	78064	135	4
4.1	4500	634.887	342839	540	5
3.6	4500	708.711	31892	45	4
3.1	4500	826.361	2008057	2430	5
2.8	4500	922.449	373592	405	4
2.5	4500	1027.912	832609	810	5
2.2	4500	1147.437	154904	135	4
2.1	4500	1211.575	490688	405	4
1.9	4500	1350.094	546788	405	5
1.7	4500	1507.081	203456	135	4
1.5	4500	1747.180	707608	405	5
1.3	4500	1950.341	263296	135	4
1.2	4500	2120.441	1431298	675	5
1.1	4500	2367.004	532576	225	4
0.9	4500	2872.683	1077256	375	4
0.8	4500	3025.244	136136	45	4
0.8	4500	3289.094	5920369	1800	5
0.7	4500	3671.547	275366	75	4
0.6	3598	4157.563	66521	16	5
0.5	4016	4641.000	4641	1	4

7.4 Gearboxes with adapter

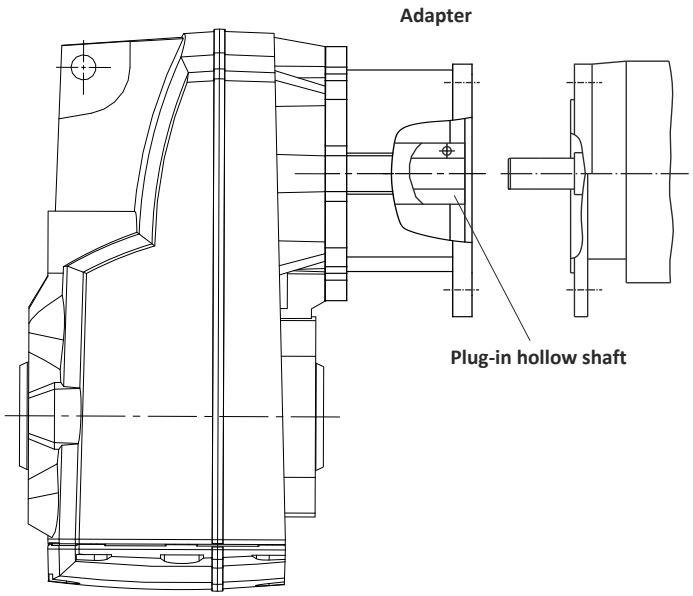
Versions with flexible coupling



Power is transmitted between the motor and gearbox via a flexible coupling. The gearbox shaft is designed as a claw on the motor side. The counterpart, the coupling hub, is placed on the motor shaft and secured axially. A spider is arranged between the two claws, which can absorb shocks and ensures torsional vibration-damping power transmission.

- Coupling hub with keyway
  - Positive power transmission
  - Suitable for normal operation
- Clamping hub with tangential terminal screw and keyway
  - Positive and non-positive power transmission
  - Suitable for reversing duty
- Tension ring hub without keyway
  - Non-positive power transmission
  - Suitable for reversing duty

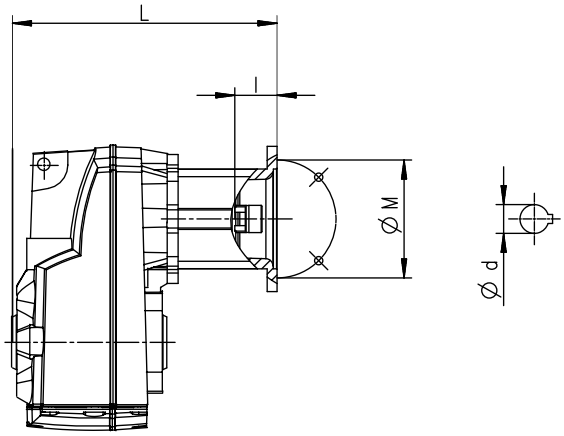
Versions with servo adapter



The adapters are designed shorter in these versions. Power is transmitted between the motor and gearbox without a clutch. The motor shaft can be inserted into the hollow shaft without any further assembly work. A lateral opening in the adapter is used to lock the previously aligned tangential clamping screw.

- Shaft clamping hub without keyway with tangential clamping screw
  - Non-positive power transmission
  - Suitable for reversing duty

Dimensions of gearbox with adapter for IEC standard motors



Gearbox dimensions ▸ Basic dimensions 🕮 123

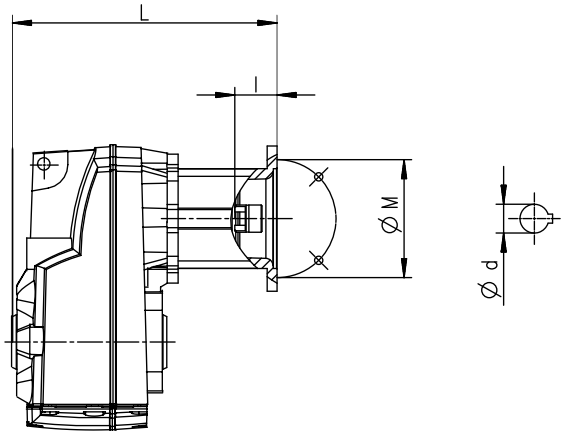
Versions with flexible coupling

Motor				Adapter		Gearbox g500							
	Size	Shaft			Size	-S130	-S220	-S400	-S660	-S950	-S2100	-S3100	-S4500
P_1		d	l	M		L	L	L	L	L	L	L	L
kW		mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm
0.12 0.18	63	11	23	FF75	N1A	196	212	228	246	-	-	-	-
					N2B	196	212	228	246	255	279	299	-
				FF130	N6C	213	229	245	263	272	296	316	367
0.25 0.37	71	14	30	FF85	N1B	213	229	245	263	272	296	316	-
					N3C	213	229	245	263	272	296	316	367
				FF100	N4C	213	229	245	263	272	296	316	367
				FF130	N2C	213	229	245	263	272	296	316	367
0.55 0.75	80	19	40	FF100	N7C	213	229	245	263	272	296	316	367
				FF130	N1C	213	229	245	263	272	296	316	367
					N2D	242	258	274	292	301	325	345	396
					N3E	-	258	274	292	301	325	345	396
1.1 1.5	90	24	50	FF130	N1D	242	258	274	292	301	325	345	396
					N2E	-	258	274	292	301	325	345	396
					N2F	-	-	-	-	301	325	345	396
				FT165	N4E	-	278	294	312	321	345	365	416
					N3F	-	-	-	-	321	345	365	416
2.2 3.0	100	28	60	FF130	N1E	-	258	274	292	301	325	345	396
					N1F	-	-	-	-	301	325	345	396
4.0	112			FF215	N2G	-	-	-	-	365	389	409	460
5.5 7.5	132	38	80	FF215	N3G	-	-	-	-	385	409	429	480
				FF265	N1G	-	-	-	-	385	409	429	480
					N3H	-	-	-	-	-	448	468	520
11.0 15.0	160	42	110	FF300	N1H	-	-	-	-	-	478	498	550
18.5 22.0	180	48	110	FF300	N2H	-	-	-	-	-	478	498	550

The N6C adapter is only available with clamping hub.

The N1D adapter is only available with standard and clamping hub.

Dimensions of gearbox with adapter for NEMA motors

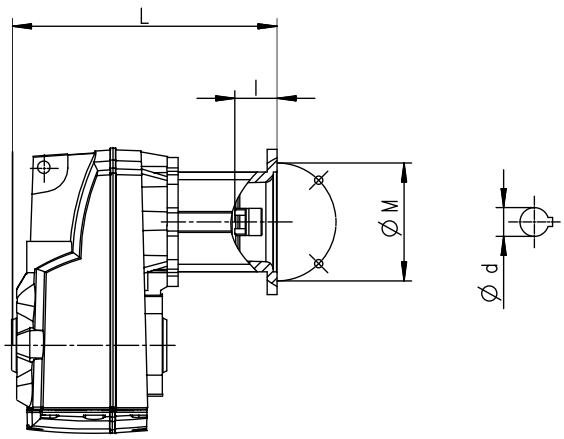


Gearbox dimensions ▸ Basic dimensions 🕮 123

Versions with flexible coupling

Motor			Adapter		Gearbox g500							
Size	Shaft			Size	-S130	-S220	-S400	-S660	-S950	-S2100	-S3100	-S4500
	d	l	M		L	L	L	L	L	L	L	L
	inch	inch	inch		mm	mm	mm	mm	mm	mm	mm	mm
56 C	0.625	1.875	5.875	**A5C**	228	244	260	278	287	311	331	382
143/145 TC	0.875	2.250	5.875	**A5D**	266	282	298	316	325	349	369	420
182/184 TC	1.125	2.750	7.252	**A5E**	-	299	316	333	342	366	386	438
213/215 TC	1.375	3.375	7.252	**A5G**	-	-	-	-	410	434	454	506
254/256 TC	1.625	4.000	7.252	**A5H**	-	-	-	-	-	474	494	545
284/286 TC	1.875	4.625	9.000	**A6H**	-	-	-	-	-	-	503	555

Dimensions of gearboxes with adapter for servo motors



Gearbox dimensions ▸ Basic dimensions 📖 123

Versions with servo adapter

Motor			Adapter		Gearbox g500							
	Shaft			Size	-S130	-S220	-S400	-S660	-S950	-S2100	-S3100	-S4500
M	d	l	M		L	L	L	L	L	L	L	L
mm	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm
-75	11	23	FT75	**S2B**	152	168	184	202	211	235	255	-
	14	30		**S3B**	152	168	184	202	211	235	255	-
100	14	30	FF100	**S4C**	167	183	199	217	226	250	270	321
	19	40		**S7C**	167	183	199	217	226	250	270	321
	16	40		**S8C**	167	183	199	217	226	250	270	321
115	19	50	FF115	**S3D**	184	200	216	234	243	267	287	338
	24	50		**S4D**	184	200	216	234	243	267	287	338
130	19	50	FF130	**S2D**	184	200	216	234	243	267	287	338
	24	50		**S1D**	184	200	216	234	243	267	287	338
	24	60		**S2E**	-	200	216	234	243	267	287	338
	28	60		**S1E**	-	200	216	234	243	267	287	338
165	24	50	FF165	**S4E**	-	200	216	234	243	267	287	338
	32	58		**S6E**	-	200	216	234	243	267	287	338
	28	60		**S7E**	-	200	216	234	243	267	287	338

7.5 Radial forces and axial forces

Permissible radial force

The calculation of the permissible radial force must take account of the additional load factor f_w.

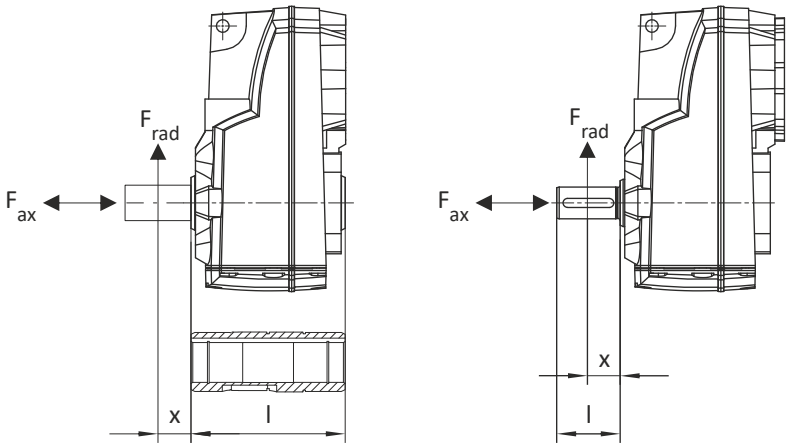
$F_{rad, perm} = f_w \times F_{rad,max}$

Permissible axial force

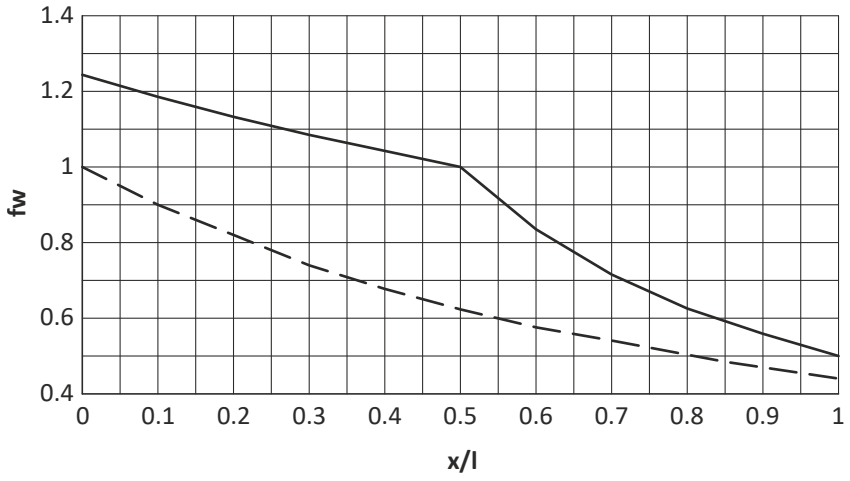
If there is no radial force, the maximum axial force is 50% of the value in the table $F_{rad,max}$

$F_{ax, zul} = 0.5 \times F_{rad,max}$.

Application of forces



Additional load factor f_w on the drive shaft



Solid shaft
Hollow shaft

The values given in the tables refer to the centre shaft end force application point and are minimum values calculated according to the most unfavourable conditions (force application angle, mounting position, direction of rotation). The values were calculated with a load capacity of c= 1.3 and an input speed of 1400 rpm.

In case of different operating conditions, considerably higher forces can be transmitted. Please get in touch with your Lenze representative

A hollow shaft with shrink disc (SAR/SBR/SCR/SDR/SAK/SCK) requires a check by Lenze.

Max. radial force, gearbox with hollow shaft (H□R/H□K)

Getriebe	Output speed n_2 [rpm]									
	1000	630	400	250	160	100	63	40	25	16
	Max. radial force $F_{rad,max}$ [rated]									
g500-S130	1000	1100	1300	1500	1650	2200	2750	3450	4200	4500
g500-S220	2100	2300	2800	3200	3800	4600	5500	6300	7000	7000
g500-S400	2200	2500	3000	3400	4100	5000	6000	7100	8000	8000
g500-S660	2500	2900	3500	4000	5000	6600	8500	10800	12000	12000
g500-S950	3400	4000	4300	5000	6000	8000	10300	11500	12500	13000
g500-S2100	4500	5100	6200	6500	7500	10000	12000	15700	15700	16000
g500-S3100	5200	5700	7000	8000	9000	12500	15000	17000	19800	19800
g500-S4500	11100	12900	15000	17500	19000	20000	23000	30000	30000	30000

Max. radial force, gearbox with solid shaft, without flange (V□R)

Getriebe	Output speed n_2 [rpm]									
	1000	630	400	250	160	100	63	40	25	16
	Max. radial force $F_{rad,max}$ [rated]									
g500-S130	1000	1100	1300	1500	1650	2200	2750	3450	4200	4500
g500-S220	1700	1900	2300	2700	3200	3600	3600	3600	3600	3600
g500-S400	1700	1900	2300	2700	3200	4000	4800	5800	6200	6200
g500-S660	2300	2600	3100	3600	3900	5100	6500	8400	9000	9000
g500-S950	6100	6800	8200	9500	10300	10300	10300	10300	10300	10300
g500-S2100	7500	8200	10000	11500	13600	15700	15700	15700	15700	15700
g500-S3100	9400	10300	12600	14500	16500	18000	19800	19800	19800	19800
g500-S4500	12000	13100	16100	18500	20000	22000	25000	30000	30000	30000

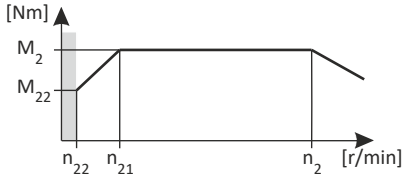
Max. radial force, gearbox with solid shaft and flange (V□K)

Getriebe	Output speed n_2 [rpm]									
	1000	630	400	250	160	100	63	40	25	16
	Max. radial force $F_{rad,max}$ [rated]									
g500-S130	1000	1100	1300	1500	1650	2200	2750	3450	4200	4500
g500-S220	2400	2600	3200	3700	4400	4600	4600	4600	4600	4600
g500-S400	3300	3600	4400	5100	5900	6800	7000	7000	7000	7000
g500-S660	4500	5000	6100	7000	7800	9600	10000	10000	10000	10000
g500-S950	4900	5300	6500	7500	8500	10300	10300	10300	10300	10300
g500-S2100	7400	8200	10000	11500	13600	15700	15700	15700	15700	15700
g500-S3100	12800	14100	17200	19800	19800	19800	19800	19800	19800	19800
g500-S4500	17500	19200	23500	27000	28000	30000	30000	30000	30000	30000

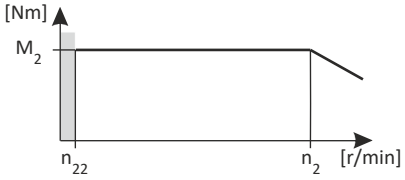
7.6 Selection tables

Torque characteristic with inverter operation

Self-ventilated geared motors	Forced ventilated geared motors



20 Hz to 50 or 87 Hz: Operation at constant torque.
Below 20 Hz (n_{21}): Derating without separate fan.
Below 5 Hz (n_{22}): Verification of the application by Lenze required.



5 Hz to 50 or 87 Hz: Operation at constant torque.
Below 5 Hz (n_{22}): Verification of the application by Lenze required.

Notes on the selection tables

The selection tables represent the available combinations of gearbox, number of stages, ratio and motor for the mounting position M1. They only serve as a rough overview.

The following legend shows the layout of the selection tables:

Example	Explanation
50 Hz: P_N = 0.12 kW	Rated motor power at a rated frequency of 50 Hz
87 Hz: P_N = 0.21 kW	Rated motor power at a frequency of 87 Hz

Inverter operation												Geared motor			
				Mains operation											
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		$kgcm^2$					kg
4.5	17.3	19.1	25.0	45.1	25.0	5.3	80.4	24.0	5.4	1.787	31.387	g500-S130	m550-H63/S4	2	9.8
4.0	19.5	16.9	28.0	39.9	28.0	4.7	71.1	27.0	4.8	1.811	35.493	g500-S130	m550-H63/S4	2	9.8
3.5	22.2	14.8	32.0	35.0	32.0	4.1	62.5	31.0	4.2	1.759	40.422	g500-S130	m550-H63/S4	2	9.8

Basic weigh t

Number of gear stages

Motor product name

Gearbox product name

Ratio

Moment of inertia without brake

Data at 87 Hz

Data at 50 Hz
n_2 = Output speed - M_2 = Output torque

c = the load capacity of the gearbox is the ratio of the permissible rated torque of the gearbox to the rated torque of the motor (converted to the output shaft). **c** must always be greater than the application factor determined for the application. **k**

$$c = \frac{M_{2,zul}}{M_{1,N} \times i \times \eta_{Getr}} > k$$

Data at 20 Hz
n_{21} = Output speed - M_2 = Output torque

Data at 5 Hz
n_{22} = Output speed - M_{22} = Output torque (Externally cooled motors can deliver the torque M_2 over the entire adjustment range)

50 Hz: 0.12 kW

87 Hz: 0.21 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
4.0	19.5	16.9	28.0	39.9	28.0	4.7	71.1	27.0	4.8	2.511	35.493	g500-S130	m550-H63/S4	2	9.8
3.5	22.2	14.8	32.0	35.0	32.0	4.1	62.5	31.0	4.2	2.459	40.422	g500-S130	m550-H63/S4	2	9.8
3.3	23.4	14.1	33.0	33.3	33.0	4.6	59.4	33.0	4.7	2.495	42.533	g500-S220	m550-H63/S4	2	12
3.1	25.1	13.1	36.0	31.0	36.0	3.6	55.2	35.0	3.7	2.474	45.711	g500-S130	m550-H63/S4	2	9.8
3.0	25.8	12.8	37.0	30.1	37.0	4.6	53.8	36.0	4.7	2.509	46.933	g500-S400	m550-H63/S4	2	15
2.9	26.5	12.5	38.0	29.4	38.0	4.6	52.4	37.0	4.7	2.491	48.190	g500-S220	m550-H63/S4	2	12
2.8	28.2	11.7	40.0	27.6	40.0	3.2	49.3	39.0	3.3	2.439	51.230	g500-S130	m550-H63/S4	2	9.8
2.8	28.4	11.6	41.0	27.4	41.0	4.0	48.9	40.0	4.1	2.469	51.620	g500-S220	m550-H63/S4	2	12
2.7	29.2	11.3	42.0	26.7	42.0	4.6	47.6	41.0	4.7	2.503	53.026	g500-S400	m550-H63/S4	2	15
2.5	31.3	10.5	45.0	24.8	45.0	4.0	44.3	44.0	4.1	2.479	56.960	g500-S400	m550-H63/S4	2	15
2.5	31.9	10.4	46.0	24.4	46.0	2.9	43.6	45.0	2.9	2.448	57.933	g500-S130	m550-H63/S4	2	9.8
2.4	32.2	10.3	46.0	24.2	46.0	4.0	43.2	45.0	4.1	2.467	58.486	g500-S220	m550-H63/S4	2	12
2.4	32.3	10.1	46.0	23.7	46.0	4.8	42.4	45.0	4.7	2.531	59.581	g500-S220	m550-H63/S4	3	12
2.2	35.3	9.3	50.0	22.0	50.0	2.6	39.3	49.0	2.6	2.427	64.200	g500-S130	m550-H63/S4	2	9.8
2.2	35.4	9.3	51.0	22.0	51.0	4.0	39.2	50.0	4.1	2.474	64.354	g500-S400	m550-H63/S4	2	15
2.2	36.3	9.1	52.0	21.4	52.0	3.1	38.3	51.0	3.1	2.444	65.975	g500-S220	m550-H63/S4	2	12
2.1	36.5	8.9	52.0	21.0	52.0	4.2	37.5	51.0	4.1	2.492	67.298	g500-S220	m550-H63/S4	3	12
2.0	39.9	8.3	57.0	19.5	57.0	2.3	34.8	56.0	2.3	2.432	72.600	g500-S130	m550-H63/S4	2	9.8
1.9	41.1	8.0	59.0	18.9	59.0	3.1	33.8	58.0	3.1	2.443	74.750	g500-S220	m550-H63/S4	2	12
1.9	41.3	7.9	59.0	18.6	59.0	3.7	33.1	58.0	3.8	2.491	76.249	g500-S220	m550-H63/S4	3	12
1.7	45.4	7.2	65.0	16.9	65.0	2.0	30.2	64.0	2.1	2.544	83.698	g500-S130	m550-H63/S4	3	13
1.7	46.5	7.1	66.0	16.7	66.0	1.5	29.9	65.0	1.6	2.416	84.581	g500-S130	m550-H63/S4	2	9.8
1.6	46.6	7.0	67.0	16.4	67.0	3.3	29.3	65.0	3.4	2.462	86.079	g500-S220	m550-H63/S4	3	12
1.5	51.3	6.3	73.0	14.9	73.0	1.8	26.7	72.0	1.8	2.537	94.649	g500-S130	m550-H63/S4	3	13
1.5	52.6	6.3	75.0	14.8	75.0	1.5	26.4	74.0	1.6	2.419	95.648	g500-S130	m550-H63/S4	2	9.8
1.5	52.8	6.2	75.0	14.5	75.0	2.9	25.9	74.0	3.0	2.461	97.528	g500-S220	m550-H63/S4	3	12
1.3	58.0	5.6	83.0	13.2	83.0	1.6	23.6	81.0	1.6	2.523	107.113	g500-S130	m550-H63/S4	3	13
1.3	58.1	5.6	83.0	13.2	83.0	4.8	23.5	81.0	4.9	2.464	107.314	g500-S400	m550-H63/S4	3	15
1.3	60.6	5.4	87.0	12.7	87.0	2.5	22.6	85.0	2.6	2.444	111.747	g500-S220	m550-H63/S4	3	12
1.2	63.5	5.1	91.0	12.1	91.0	1.4	21.5	89.0	1.5	2.517	117.177	g500-S130	m550-H63/S4	3	13
1.2	66.8	4.9	95.0	11.5	95.0	4.2	20.5	94.0	4.3	2.446	123.307	g500-S400	m550-H63/S4	3	15
1.1	68.6	4.7	98.0	11.2	98.0	2.2	19.9	96.0	2.3	2.443	126.610	g500-S220	m550-H63/S4	3	12
1.1	71.8	4.5	103	10.7	103	1.3	19.1	101	1.3	2.514	132.508	g500-S130	m550-H63/S4	3	13
1.0	75.5	4.3	108	10.2	108	3.7	18.1	106	3.8	2.445	139.313	g500-S400	m550-H63/S4	3	15
1.0	77.6	4.2	111	9.9	111	2.0	17.6	109	2.0	2.430	143.205	g500-S220	m550-H63/S4	3	12
1.0	81.0	4.0	116	9.5	116	1.1	16.9	113	1.2	2.507	149.460	g500-S130	m550-H63/S4	3	13
0.9	85.6	3.8	122	9.0	122	3.3	16.0	120	3.3	2.432	158.019	g500-S400	m550-H63/S4	3	15
0.9	87.9	3.7	126	8.7	126	1.8	15.6	123	1.8	2.430	162.252	g500-S220	m550-H63/S4	3	12
0.8	91.6	3.5	131	8.4	131	1.0	14.9	128	1.0	2.504	169.016	g500-S130	m550-H63/S4	3	13
0.8	95.7	3.4	137	8.0	137	4.6	14.3	134	4.7	2.456	176.611	g500-S660	m550-H63/S4	3	21
0.8	96.7	3.4	138	7.9	138	2.9	14.1	135	3.0	2.431	178.531	g500-S400	m550-H63/S4	3	15
0.8	99.2	3.3	142	7.7	142	0.9	13.8	139	0.9	2.501	183.089	g500-S130	m550-H63/S4	3	13
0.8	100	3.2	143	7.6	143	1.5	13.6	141	1.6	2.421	185.248	g500-S220	m550-H63/S4	3	12
0.7	109	3.0	156	7.0	156	4.2	12.5	153	4.3	2.456	201.230	g500-S660	m550-H63/S4	3	21
0.7	111	2.9	158	6.9	158	2.5	12.4	155	2.6	2.421	204.412	g500-S400	m550-H63/S4	3	15
0.7	112	2.9	160	6.8	160	0.8	12.2	157	0.8	2.499	207.044	g500-S130	m550-H63/S4	3	13
0.7	114	2.9	162	6.7	162	1.4	12.0	159	1.4	2.420	209.887	g500-S220	m550-H63/S4	3	12
0.6	121	2.7	173	6.3	173	3.8	11.3	170	3.9	2.437	223.833	g500-S660	m550-H63/S4	3	21
0.6	124	2.6	177	6.2	177	4.6	11.0	174	4.7	2.497	229.289	g500-S950	m550-H63/S4	3	41
0.6	125	2.6	179	6.1	179	2.2	10.9	175	2.3	2.421	230.946	g500-S400	m550-H63/S4	3	15

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
0.6	131	2.5	187	5.9	187	1.2	10.5	183	1.2	2.414	241.022	g500-S220	m550-H63/S4	3	12
0.6	138	2.4	197	5.5	197	3.3	9.9	194	3.4	2.437	255.034	g500-S660	m550-H63/S4	3	21
0.6	139	2.3	199	5.5	199	4.6	9.8	195	4.7	2.496	256.585	g500-S950	m550-H63/S4	3	41
0.5	144	2.3	206	5.3	206	1.9	9.5	202	1.9	2.414	265.956	g500-S400	m550-H63/S4	3	15
0.5	148	2.2	211	5.2	211	1.0	9.2	207	1.1	2.414	273.079	g500-S220	m550-H63/S4	3	12
0.5	151	2.2	215	5.1	215	4.0	9.1	211	4.1	2.471	278.273	g500-S950	m550-H63/S4	3	41
0.5	152	2.1	217	5.0	217	2.8	9.0	213	2.8	2.426	280.500	g500-S660	m550-H63/S4	3	21
0.5	157	2.0	224	4.8	224	1.0	8.6	219	1.0	2.492	293.418	g500-S220	m550-H63/S4	4	15
0.5	163	2.0	233	4.7	233	1.7	8.4	228	1.8	2.414	300.479	g500-S400	m550-H63/S4	3	15
0.5	169	1.9	241	4.5	241	3.9	8.1	236	4.0	2.470	311.401	g500-S950	m550-H63/S4	3	41
0.5	169	1.9	242	4.5	242	0.9	8.1	237	0.9	2.403	312.233	g500-S220	m550-H63/S4	3	12
0.4	173	1.9	247	4.4	247	2.7	7.9	243	2.7	2.425	319.600	g500-S660	m550-H63/S4	3	21
0.4	177	1.8	253	4.3	253	0.9	7.6	248	0.9	2.492	332.444	g500-S220	m550-H63/S4	4	15
0.4	187	1.7	267	4.1	267	1.2	7.3	261	1.3	2.404	344.533	g500-S400	m550-H63/S4	3	15
0.4	192	1.7	274	4.0	274	0.8	7.1	268	0.8	2.403	353.762	g500-S220	m550-H63/S4	3	12
0.4	193	1.7	275	4.0	275	3.1	7.1	270	3.1	2.445	355.658	g500-S950	m550-H63/S4	3	41
0.4	195	1.6	279	3.9	279	2.1	6.9	273	2.2	2.496	365.689	g500-S660	m550-H63/S4	4	24
0.4	200	1.6	286	3.8	286	1.6	6.8	280	1.6	2.416	369.548	g500-S660	m550-H63/S4	3	21
0.4	211	1.5	301	3.6	301	1.2	6.5	295	1.3	2.404	389.256	g500-S400	m550-H63/S4	3	15
0.4	216	1.5	308	3.6	308	3.1	6.3	302	3.1	2.445	397.999	g500-S950	m550-H63/S4	3	41
0.3	222	1.4	318	3.4	318	1.1	6.1	311	1.1	2.495	416.664	g500-S660	m550-H63/S4	4	24
0.3	227	1.4	324	3.3	324	1.2	5.9	318	1.3	2.491	425.529	g500-S400	m550-H63/S4	4	18
0.3	228	1.4	326	3.4	326	1.6	6.0	320	1.6	2.415	421.060	g500-S660	m550-H63/S4	3	21
0.3	250	1.3	357	3.0	357	1.9	5.4	350	1.9	2.493	467.995	g500-S660	m550-H63/S4	4	24
0.3	257	1.2	367	2.9	367	1.1	5.3	359	1.1	2.491	480.766	g500-S400	m550-H63/S4	4	18
0.3	273	1.2	390	2.8	390	1.7	4.9	383	1.7	2.493	511.964	g500-S660	m550-H63/S4	4	24
0.3	274	1.2	392	2.8	392	2.4	4.9	384	2.5	2.500	513.607	g500-S950	m550-H63/S4	4	44
0.3	291	1.1	415	2.6	415	1.0	4.6	407	1.0	2.490	544.576	g500-S400	m550-H63/S4	4	18
0.2	307	1.0	438	2.5	438	2.2	4.4	430	2.2	2.500	574.751	g500-S950	m550-H63/S4	4	44
0.2	311	1.0	445	2.4	445	1.5	4.3	436	1.5	2.493	583.329	g500-S660	m550-H63/S4	4	24
0.2	328	1.0	469	2.3	469	0.9	4.1	460	0.9	2.490	615.266	g500-S400	m550-H63/S4	4	18
0.2	349	0.9	498	2.2	498	1.3	3.9	488	1.4	2.491	653.016	g500-S660	m550-H63/S4	4	24
0.2	350	0.9	500	2.2	500	1.9	3.9	490	1.9	2.497	655.111	g500-S950	m550-H63/S4	4	44
0.2	391	0.8	559	1.9	559	1.7	3.4	548	1.7	2.497	733.101	g500-S950	m550-H63/S4	4	44
0.2	397	0.8	567	1.9	567	1.2	3.4	556	1.2	2.491	744.042	g500-S660	m550-H63/S4	4	24
0.2	427	0.8	610	1.8	610	1.1	3.2	598	1.1	2.491	799.944	g500-S660	m550-H63/S4	4	24
0.2	428	0.7	612	1.8	612	1.6	3.1	600	1.6	2.495	802.511	g500-S950	m550-H63/S4	4	44
0.2	479	0.7	685	1.6	685	1.4	2.8	671	1.4	2.495	898.048	g500-S950	m550-H63/S4	4	44
0.2	487	0.7	695	1.6	695	1.0	2.8	681	1.0	2.491	911.452	g500-S660	m550-H63/S4	4	24
0.1	537	0.6	767	1.4	767	0.9	2.5	752	0.9	2.490	1005.644	g500-S660	m550-H63/S4	4	24
0.1	558	0.6	796	1.4	796	1.2	2.4	781	1.2	2.492	1044.538	g500-S950	m550-H63/S4	4	44
0.1	612	0.5	875	1.2	875	2.3	2.2	857	2.4	2.500	1146.988	g500-S2100	m550-H63/S4	4	76
0.1	624	0.5	891	1.2	891	1.1	2.2	874	1.1	2.492	1168.888	g500-S950	m550-H63/S4	4	44
0.1	647	0.5	924	1.2	924	4.6	2.1	906	4.7	2.523	1211.575	g500-S4500	m550-H63/S4	4	190
0.1	680	0.5	972	1.1	972	2.1	2.0	953	2.2	2.500	1274.678	g500-S2100	m550-H63/S4	4	76
0.1	694	0.5	991	1.1	991	1.0	1.9	971	1.0	2.491	1299.304	g500-S950	m550-H63/S4	4	44
0.1	762	0.4	1088	1.0	1088	1.9	1.8	1066	1.9	2.497	1426.741	g500-S2100	m550-H63/S4	4	76
0.1	776	0.4	1109	1.0	1109	0.9	1.7	1087	0.9	2.491	1453.983	g500-S950	m550-H63/S4	4	44
0.1	846	0.4	1209	0.9	1209	1.7	1.6	1185	1.7	2.497	1585.575	g500-S2100	m550-H63/S4	4	76
0.1	897	0.4	1281	0.8	1281	2.4	1.5	1255	2.5	2.497	1679.768	g500-S3100	m550-H63/S4	4	115
0.1	933	0.3	1332	0.8	1332	3.4	1.4	1306	3.5	2.505	1747.180	g500-S4500	m550-H63/S4	4	190
0.1	986	0.3	1408	0.8	1408	1.5	1.4	1380	1.5	2.493	1846.370	g500-S2100	m550-H63/S4	4	76

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
0.1	1014	0.3	1448	0.7	1448	2.1	1.3	1420	2.2	2.497	1899.551	g500-S3100	m550-H63/S4	4	115
0.1	1041	0.3	1487	0.7	1487	3.0	1.3	1458	3.1	2.505	1950.341	g500-S4500	m550-H63/S4	4	190
0.1	1095	0.3	1565	0.7	1565	1.3	1.2	1534	1.3	2.493	2051.921	g500-S2100	m550-H63/S4	4	76
0.1	1132	0.3	1617	0.7	1617	2.8	1.2	1585	2.8	2.476	2120.441	g500-S4500	m550-H63/S4	4	190
0.1	1160	0.3	1657	0.7	1657	1.9	1.2	1625	1.9	2.494	2173.817	g500-S3100	m550-H63/S4	4	115
0.1	1196	0.3	1709	0.6	1709	1.2	1.1	1675	1.2	2.468	2240.822	g500-S2100	m550-H63/S4	4	76
0.1	1263	0.3	1805	0.6	1805	2.5	1.1	1769	2.5	2.500	2367.004	g500-S4500	m550-H63/S4	4	190
0.1	1312	0.2	1874	0.6	1874	1.7	1.0	1837	1.7	2.494	2458.242	g500-S3100	m550-H63/S4	4	115
0.1	1329	0.2	1899	0.6	1899	1.1	1.0	1861	1.1	2.468	2490.286	g500-S2100	m550-H63/S4	4	76
0.1	1408	0.2	2012	0.5	2012	1.5	1.0	1972	1.6	2.468	2638.224	g500-S3100	m550-H63/S4	4	115
0.1	1452	0.2	2074	0.5	2074	1.0	0.9	2033	1.0	2.467	2719.543	g500-S2100	m550-H63/S4	4	76
0.0	1533	0.2	2190	0.5	2190	2.1	0.9	2147	2.1	2.473	2872.683	g500-S4500	m550-H63/S4	4	190
0.0	1592	0.2	2275	0.5	2275	1.4	0.8	2230	1.4	2.468	2983.412	g500-S3100	m550-H63/S4	4	115
0.0	1613	0.2	2304	0.5	2304	0.9	0.8	2259	0.9	2.467	3022.302	g500-S2100	m550-H63/S4	4	76
0.0	1615	0.2	2307	0.5	2307	2.0	0.8	2261	2.0	2.448	3025.244	g500-S4500	m550-H63/S4	4	190
0.0	1709	0.2	2441	0.4	2441	1.2	0.8	2393	1.3	2.467	3201.844	g500-S3100	m550-H63/S4	4	115
0.0	1756	0.2	2508	0.4	2508	1.8	0.8	2458	1.8	2.446	3289.094	g500-S4500	m550-H63/S4	4	190
0.0	1933	0.2	2761	0.4	2761	1.1	0.7	2706	1.2	2.467	3620.777	g500-S3100	m550-H63/S4	4	115
0.0	1960	0.2	2799	0.4	2799	1.6	0.7	2744	1.6	2.446	3671.547	g500-S4500	m550-H63/S4	4	190
0.0	2184	0.1	3120	0.3	3120	1.0	0.6	3059	1.0	2.443	4092.245	g500-S3100	m550-H63/S4	4	115
0.0	2219	0.1	3170	0.3	3170	1.1	0.6	3107	1.2	2.445	4157.563	g500-S4500	m550-H63/S4	4	190
0.0	2470	0.1	3529	0.3	3529	0.9	0.5	3459	0.9	2.443	4627.679	g500-S3100	m550-H63/S4	4	115
0.0	2477	0.1	3539	0.3	3539	1.1	0.5	3469	1.2	2.445	4641.000	g500-S4500	m550-H63/S4	4	190

50 Hz: 0.18 kW

87 Hz: 0.33 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
19.9	5.9	85.4	8.0	199	8.0	4.6	356	9.0	3.8	3.388	7.029	g500-S130	m550-H63/M4	2	10
8.8	13.3	37.6	19.0	87.6	19.0	4.6	157	20.0	3.8	3.150	15.979	g500-S130	m550-H63/M4	2	10
7.7	15.1	33.2	22.0	77.5	22.0	4.6	139	22.0	4.3	3.244	18.069	g500-S130	m550-H63/M4	2	10
6.9	17.0	29.4	24.0	68.7	24.0	4.2	123	25.0	4.0	3.075	20.381	g500-S130	m550-H63/M4	2	10
6.1	19.2	26.0	28.0	60.7	28.0	4.2	109	28.0	4.0	3.132	23.048	g500-S130	m550-H63/M4	2	10
4.5	26.2	19.1	37.0	44.6	37.0	3.5	79.8	38.0	3.4	2.987	31.387	g500-S130	m550-H63/M4	2	10
3.9	29.6	16.9	42.0	39.4	42.0	3.1	70.6	43.0	3.0	3.011	35.493	g500-S130	m550-H63/M4	2	10
3.5	32.8	15.0	47.0	35.0	47.0	4.7	62.6	48.0	3.9	3.103	40.012	g500-S220	m550-H63/M4	3	12
3.5	33.7	14.8	48.0	34.6	48.0	2.7	62.0	49.0	2.6	2.959	40.422	g500-S130	m550-H63/M4	2	10
3.3	35.4	14.1	51.0	32.9	51.0	3.0	58.9	52.0	2.9	2.995	42.533	g500-S220	m550-H63/M4	2	12
3.1	37.2	13.2	53.0	30.9	53.0	4.1	55.3	55.0	3.4	3.099	45.333	g500-S220	m550-H63/M4	3	12
3.1	38.1	13.1	55.0	30.6	55.0	2.4	54.8	56.0	2.3	2.974	45.711	g500-S130	m550-H63/M4	2	10
3.0	39.1	12.8	56.0	29.8	56.0	3.0	53.4	57.0	2.9	3.009	46.933	g500-S400	m550-H63/M4	2	16
2.9	40.2	12.5	58.0	29.1	58.0	3.0	52.0	59.0	2.9	2.991	48.190	g500-S220	m550-H63/M4	2	12
2.7	42.7	11.7	61.0	27.3	61.0	2.1	48.9	63.0	2.1	2.939	51.230	g500-S130	m550-H63/M4	2	10
2.7	43.0	11.6	62.0	27.1	62.0	2.6	48.5	63.0	2.6	2.969	51.620	g500-S220	m550-H63/M4	2	12
2.7	43.2	11.4	62.0	26.6	62.0	3.6	47.6	63.0	3.3	3.034	52.587	g500-S220	m550-H63/M4	3	12
2.6	44.2	11.3	63.0	26.4	63.0	3.0	47.2	65.0	2.9	3.003	53.026	g500-S400	m550-H63/M4	2	16
2.5	47.5	10.5	68.0	24.6	68.0	2.6	44.0	70.0	2.6	2.979	56.960	g500-S400	m550-H63/M4	2	16
2.4	47.6	10.3	68.0	24.1	68.0	4.6	43.2	70.0	4.3	3.042	58.027	g500-S400	m550-H63/M4	3	16
2.4	48.3	10.4	69.0	24.2	69.0	1.9	43.2	71.0	1.8	2.948	57.933	g500-S130	m550-H63/M4	2	10
2.4	48.7	10.3	70.0	23.9	70.0	2.6	42.8	71.0	2.6	2.967	58.486	g500-S220	m550-H63/M4	2	12
2.3	48.9	10.1	70.0	23.5	70.0	3.1	42.0	72.0	2.9	3.031	59.581	g500-S220	m550-H63/M4	3	12
2.2	53.5	9.3	77.0	21.8	77.0	1.7	39.0	78.0	1.7	2.927	64.200	g500-S130	m550-H63/M4	2	10
2.2	53.6	9.3	77.0	21.8	77.0	2.6	38.9	79.0	2.6	2.974	64.354	g500-S400	m550-H63/M4	2	16
2.1	53.8	9.2	77.0	21.4	77.0	4.6	38.2	79.0	4.3	3.039	65.559	g500-S400	m550-H63/M4	3	16
2.1	55.0	9.1	79.0	21.2	79.0	2.0	38.0	81.0	2.0	2.944	65.975	g500-S220	m550-H63/M4	2	12
2.1	55.2	8.9	79.0	20.8	79.0	2.8	37.2	81.0	2.6	2.992	67.298	g500-S220	m550-H63/M4	3	12
2.0	57.3	8.6	82.0	20.1	82.0	4.6	35.9	84.0	4.3	3.135	69.813	g500-S660	m550-H63/M4	3	21
1.9	60.5	8.3	87.0	19.3	87.0	1.5	34.5	89.0	1.5	2.932	72.600	g500-S130	m550-H63/M4	2	10
1.9	61.0	8.1	87.0	18.9	87.0	4.2	33.7	89.0	4.1	2.998	74.260	g500-S400	m550-H63/M4	3	16
1.9	62.3	8.0	89.0	18.7	89.0	2.0	33.5	91.0	2.0	2.943	74.750	g500-S220	m550-H63/M4	2	12
1.8	62.6	7.9	90.0	18.4	90.0	2.5	32.9	92.0	2.4	2.991	76.249	g500-S220	m550-H63/M4	3	12
1.8	65.3	7.5	94.0	17.6	94.0	4.6	31.5	96.0	4.5	3.130	79.545	g500-S660	m550-H63/M4	3	21
1.7	68.7	7.2	98.0	16.7	98.0	1.3	29.9	101	1.3	3.044	83.698	g500-S130	m550-H63/M4	3	13
1.7	68.9	7.2	99.0	16.7	99.0	4.1	29.9	101	4.0	2.995	83.900	g500-S400	m550-H63/M4	3	16
1.7	70.5	7.1	101	16.6	101	1.0	29.6	103	1.0	2.916	84.581	g500-S130	m550-H63/M4	2	10
1.6	70.7	7.0	101	16.3	101	2.2	29.1	104	2.1	2.962	86.079	g500-S220	m550-H63/M4	3	12
1.6	73.1	6.7	105	15.7	105	4.2	28.1	107	4.1	3.065	89.048	g500-S660	m550-H63/M4	3	21
1.5	77.7	6.3	111	14.8	111	1.2	26.5	114	1.1	3.037	94.649	g500-S130	m550-H63/M4	3	13
1.5	78.0	6.3	112	14.7	112	3.6	26.4	114	3.5	2.966	94.984	g500-S400	m550-H63/M4	3	16
1.5	79.7	6.3	114	14.6	114	1.0	26.2	117	1.0	2.919	95.648	g500-S130	m550-H63/M4	2	10
1.4	80.1	6.2	115	14.4	115	1.9	25.7	117	1.9	2.961	97.528	g500-S220	m550-H63/M4	3	12
1.4	83.3	5.9	119	13.8	119	4.2	24.7	122	4.1	3.062	101.460	g500-S660	m550-H63/M4	3	21
1.3	87.9	5.6	126	13.1	126	1.0	23.4	129	1.0	3.023	107.113	g500-S130	m550-H63/M4	3	13
1.3	88.1	5.6	126	13.0	126	3.2	23.3	129	3.1	2.964	107.314	g500-S400	m550-H63/M4	3	16
1.3	91.7	5.4	131	12.5	131	1.7	22.4	135	1.6	2.944	111.747	g500-S220	m550-H63/M4	3	12
1.2	96.2	5.1	138	11.9	138	0.9	21.4	141	0.9	3.017	117.177	g500-S130	m550-H63/M4	3	13
1.1	101	4.9	145	11.4	145	2.8	20.3	148	2.7	2.946	123.307	g500-S400	m550-H63/M4	3	16
1.1	104	4.7	149	11.1	149	1.5	19.8	152	1.4	2.943	126.610	g500-S220	m550-H63/M4	3	12

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
1.1	109	4.5	156	10.6	156	0.8	18.9	160	0.8	3.014	132.508	g500-S130	m550-H63/M4	3	13
1.0	113	4.4	161	10.2	161	3.6	18.3	165	3.5	2.983	137.133	g500-S660	m550-H63/M4	3	21
1.0	114	4.3	164	10.0	164	2.4	18.0	168	2.4	2.945	139.313	g500-S400	m550-H63/M4	3	16
1.0	118	4.2	168	9.8	168	1.3	17.5	172	1.3	2.930	143.205	g500-S220	m550-H63/M4	3	12
0.9	128	3.8	184	9.0	184	3.6	16.0	188	3.5	2.982	156.249	g500-S660	m550-H63/M4	3	21
0.9	130	3.8	186	8.9	186	2.2	15.9	190	2.1	2.932	158.019	g500-S400	m550-H63/M4	3	16
0.9	133	3.7	191	8.6	191	1.2	15.4	195	1.1	2.930	162.252	g500-S220	m550-H63/M4	3	12
0.8	145	3.4	208	7.9	208	3.0	14.2	213	2.9	2.956	176.611	g500-S660	m550-H63/M4	3	21
0.8	147	3.4	210	7.8	210	1.9	14.0	215	1.9	2.931	178.531	g500-S400	m550-H63/M4	3	16
0.8	152	3.2	218	7.6	218	1.0	13.5	223	1.0	2.921	185.248	g500-S220	m550-H63/M4	3	12
0.7	165	3.0	237	7.0	237	2.8	12.4	242	2.7	2.956	201.230	g500-S660	m550-H63/M4	3	21
0.7	168	2.9	240	6.8	240	1.7	12.3	246	1.6	2.921	204.412	g500-S400	m550-H63/M4	3	16
0.7	172	2.9	247	6.7	247	0.9	11.9	253	0.9	2.920	209.887	g500-S220	m550-H63/M4	3	12
0.6	184	2.7	263	6.3	263	2.5	11.2	270	2.5	2.937	223.833	g500-S660	m550-H63/M4	3	21
0.6	188	2.6	270	6.1	270	3.0	10.9	276	2.9	2.997	229.289	g500-S950	m550-H63/M4	3	41
0.6	190	2.6	271	6.1	271	1.5	10.8	278	1.4	2.921	230.946	g500-S400	m550-H63/M4	3	16
0.5	209	2.4	300	5.5	300	2.2	9.8	307	2.2	2.937	255.034	g500-S660	m550-H63/M4	3	21
0.5	211	2.3	302	5.5	302	3.0	9.8	309	2.9	2.996	256.585	g500-S950	m550-H63/M4	3	41
0.5	218	2.3	313	5.3	313	1.2	9.4	320	1.2	2.914	265.956	g500-S400	m550-H63/M4	3	16
0.5	228	2.2	327	5.0	327	2.6	9.0	335	2.6	2.971	278.273	g500-S950	m550-H63/M4	3	41
0.5	230	2.1	330	5.0	330	1.8	8.9	338	1.8	2.926	280.500	g500-S660	m550-H63/M4	3	21
0.5	247	2.0	353	4.7	353	1.1	8.3	362	1.1	2.914	300.479	g500-S400	m550-H63/M4	3	16
0.4	256	1.9	366	4.5	366	2.6	8.0	375	2.5	2.970	311.401	g500-S950	m550-H63/M4	3	41
0.4	262	1.9	376	4.4	376	1.8	7.8	385	1.7	2.925	319.600	g500-S660	m550-H63/M4	3	21
0.4	283	1.7	405	4.1	405	0.8	7.3	415	0.8	2.904	344.533	g500-S400	m550-H63/M4	3	16
0.4	292	1.7	418	3.9	418	2.0	7.0	428	2.0	2.945	355.658	g500-S950	m550-H63/M4	3	41
0.4	296	1.6	423	3.8	423	1.4	6.9	434	1.4	2.996	365.689	g500-S660	m550-H63/M4	4	24
0.4	303	1.6	434	3.8	434	1.0	6.8	445	1.0	2.916	369.548	g500-S660	m550-H63/M4	3	21
0.4	320	1.5	458	3.6	458	0.8	6.4	469	0.8	2.904	389.256	g500-S400	m550-H63/M4	3	16
0.4	327	1.5	468	3.5	468	2.0	6.3	479	2.0	2.945	397.999	g500-S950	m550-H63/M4	3	41
0.3	344	1.4	493	3.3	493	0.8	5.9	505	0.8	2.991	425.529	g500-S400	m550-H63/M4	4	19
0.3	346	1.4	495	3.3	495	1.0	5.9	507	1.0	2.915	421.060	g500-S660	m550-H63/M4	3	21
0.3	378	1.3	542	3.0	542	1.2	5.4	555	1.2	2.993	467.995	g500-S660	m550-H63/M4	4	24
0.3	414	1.2	593	2.7	593	1.1	4.9	607	1.1	2.993	511.964	g500-S660	m550-H63/M4	4	24
0.3	415	1.2	595	2.7	595	1.6	4.9	609	1.6	3.000	513.607	g500-S950	m550-H63/M4	4	44
0.2	465	1.0	665	2.4	665	1.4	4.4	682	1.4	3.000	574.751	g500-S950	m550-H63/M4	4	44
0.2	472	1.0	675	2.4	675	1.0	4.3	692	1.0	2.993	583.329	g500-S660	m550-H63/M4	4	24
0.2	528	0.9	756	2.1	756	0.9	3.8	775	0.9	2.991	653.016	g500-S660	m550-H63/M4	4	24
0.2	530	0.9	759	2.1	759	1.3	3.8	777	1.2	2.997	655.111	g500-S950	m550-H63/M4	4	44
0.2	593	0.8	849	1.9	849	1.1	3.4	870	1.1	2.997	733.101	g500-S950	m550-H63/M4	4	44
0.2	649	0.7	929	1.7	929	1.0	3.1	952	1.0	2.995	802.511	g500-S950	m550-H63/M4	4	44
0.2	726	0.7	1040	1.6	1040	0.9	2.8	1065	0.9	2.995	898.048	g500-S950	m550-H63/M4	4	44
0.1	928	0.5	1328	1.2	1328	1.5	2.2	1360	1.5	3.000	1146.988	g500-S2100	m550-H63/M4	4	76
0.1	980	0.5	1403	1.2	1403	3.0	2.1	1437	2.9	3.023	1211.575	g500-S4500	m550-H63/M4	4	191
0.1	1031	0.5	1476	1.1	1476	1.4	2.0	1512	1.4	3.000	1274.678	g500-S2100	m550-H63/M4	4	76
0.1	1154	0.4	1652	1.0	1652	1.2	1.8	1692	1.2	2.997	1426.741	g500-S2100	m550-H63/M4	4	76
0.1	1282	0.4	1836	0.9	1836	1.1	1.6	1881	1.1	2.997	1585.575	g500-S2100	m550-H63/M4	4	76
0.1	1358	0.4	1945	0.8	1945	1.6	1.5	1992	1.6	2.997	1679.768	g500-S3100	m550-H63/M4	4	116
0.1	1413	0.3	2023	0.8	2023	2.2	1.4	2072	2.2	3.005	1747.180	g500-S4500	m550-H63/M4	4	191
0.1	1493	0.3	2138	0.8	2138	1.0	1.4	2190	0.9	2.993	1846.370	g500-S2100	m550-H63/M4	4	76
0.1	1536	0.3	2199	0.7	2199	1.4	1.3	2253	1.4	2.997	1899.551	g500-S3100	m550-H63/M4	4	116
0.1	1577	0.3	2258	0.7	2258	2.0	1.3	2313	2.0	3.005	1950.341	g500-S4500	m550-H63/M4	4	191

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
0.1	1659	0.3	2376	0.7	2376	0.9	1.2	2434	0.8	2.993	2051.921	g500-S2100	m550-H63/M4	4	76
0.1	1715	0.3	2455	0.7	2455	1.8	1.2	2515	1.8	2.976	2120.441	g500-S4500	m550-H63/M4	4	191
0.1	1758	0.3	2517	0.6	2517	1.2	1.2	2578	1.2	2.994	2173.817	g500-S3100	m550-H63/M4	4	116
0.1	1914	0.3	2741	0.6	2741	1.6	1.1	2807	1.6	3.000	2367.004	g500-S4500	m550-H63/M4	4	191
0.1	1988	0.2	2846	0.6	2846	1.1	1.0	2916	1.1	2.994	2458.242	g500-S3100	m550-H63/M4	4	116
0.1	2133	0.2	3055	0.5	3055	1.0	0.9	3129	1.0	2.968	2638.224	g500-S3100	m550-H63/M4	4	116
0.0	2323	0.2	3326	0.5	3326	1.4	0.9	3407	1.3	2.973	2872.683	g500-S4500	m550-H63/M4	4	191
0.0	2412	0.2	3454	0.5	3454	0.9	0.8	3539	0.9	2.968	2983.412	g500-S3100	m550-H63/M4	4	116
0.0	2446	0.2	3503	0.5	3503	1.3	0.8	3588	1.3	2.948	3025.244	g500-S4500	m550-H63/M4	4	191
0.0	2589	0.2	3707	0.4	3707	0.8	0.8	3798	0.8	2.967	3201.844	g500-S3100	m550-H63/M4	4	116
0.0	2660	0.2	3808	0.4	3808	1.2	0.8	3901	1.2	2.946	3289.094	g500-S4500	m550-H63/M4	4	191
0.0	2969	0.2	4251	0.4	4251	1.1	0.7	4355	1.0	2.946	3671.547	g500-S4500	m550-H63/M4	4	191

50 Hz: 0.25 kW

87 Hz: 0.45 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
8.7	18.6	37.6	27.0	87.0	27.0	4.9	157	27.0	4.1	3.950	15.979	g500-S130	m550-H63/L4	2	11
7.7	21.0	33.2	30.0	76.9	30.0	4.3	138	30.0	4.1	4.044	18.069	g500-S130	m550-H63/L4	2	11
6.8	23.7	29.4	34.0	68.2	34.0	3.8	123	34.0	3.7	3.875	20.381	g500-S130	m550-H63/L4	2	11
6.0	26.8	26.0	38.0	60.3	38.0	3.4	109	38.0	3.2	3.932	23.048	g500-S130	m550-H63/L4	2	11
5.6	29.1	24.0	42.0	55.7	42.0	3.1	100	42.0	3.0	3.831	24.967	g500-S130	m550-H63/L4	2	11
5.3	30.8	22.7	44.0	52.6	44.0	4.4	94.6	44.0	4.2	3.909	26.422	g500-S220	m550-H63/L4	2	13
4.9	32.9	21.3	47.0	49.2	47.0	2.8	88.5	47.0	2.6	3.869	28.233	g500-S130	m550-H63/L4	2	11
4.8	33.9	20.6	49.0	47.7	49.0	4.4	85.7	49.0	4.2	3.944	29.156	g500-S400	m550-H63/L4	2	17
4.6	34.9	20.0	50.0	46.4	50.0	4.4	83.5	50.0	4.2	3.899	29.937	g500-S220	m550-H63/L4	2	13
4.4	36.5	19.1	52.0	44.3	52.0	2.5	79.7	52.0	2.5	3.787	31.387	g500-S130	m550-H63/L4	2	11
4.2	38.3	18.3	55.0	42.3	55.0	3.7	76.1	55.0	3.7	3.851	32.867	g500-S220	m550-H63/L4	2	13
4.2	38.4	18.2	55.0	42.2	55.0	4.4	75.9	55.0	4.4	3.928	32.940	g500-S400	m550-H63/L4	2	17
3.9	41.3	16.9	59.0	39.2	59.0	2.2	70.4	59.0	2.2	3.811	35.493	g500-S130	m550-H63/L4	2	11
3.8	42.2	16.5	61.0	38.3	61.0	3.7	68.9	61.0	3.7	3.874	36.267	g500-S400	m550-H63/L4	2	17
3.7	43.4	16.1	62.0	37.3	62.0	3.5	67.1	62.0	3.5	3.845	37.238	g500-S220	m550-H63/L4	2	13
3.5	45.9	15.0	66.0	34.7	66.0	3.4	62.5	66.0	2.8	3.903	40.012	g500-S220	m550-H63/L4	3	13
3.4	47.0	14.9	67.0	34.5	67.0	3.7	62.0	67.0	3.7	3.990	40.333	g500-S660	m550-H63/L4	2	22
3.4	47.1	14.8	67.0	34.4	67.0	1.9	61.8	67.0	1.9	3.759	40.422	g500-S130	m550-H63/L4	2	11
3.4	47.7	14.6	68.0	33.9	68.0	3.7	61.0	68.0	3.7	3.864	40.974	g500-S400	m550-H63/L4	2	17
3.3	49.5	14.1	71.0	32.7	71.0	3.1	58.8	71.0	3.1	3.795	42.533	g500-S220	m550-H63/L4	2	13
3.1	52.0	13.2	75.0	30.7	75.0	3.0	55.1	75.0	2.5	3.899	45.333	g500-S220	m550-H63/L4	3	13
3.0	53.2	13.1	76.0	30.4	76.0	1.7	54.7	76.0	1.7	3.774	45.711	g500-S130	m550-H63/L4	2	11
3.0	53.5	13.1	77.0	30.2	77.0	3.7	54.4	77.0	3.7	3.975	45.956	g500-S660	m550-H63/L4	2	22
3.0	54.6	12.8	78.0	29.6	78.0	3.3	53.3	78.0	3.3	3.809	46.933	g500-S400	m550-H63/L4	2	17
2.9	56.1	12.5	80.0	28.8	80.0	2.7	51.9	80.0	2.7	3.791	48.190	g500-S220	m550-H63/L4	2	13
2.8	57.0	12.3	82.0	28.4	82.0	3.2	51.1	82.0	3.2	3.911	48.950	g500-S660	m550-H63/L4	2	22
2.7	59.6	11.7	85.0	27.1	85.0	1.5	48.8	85.0	1.5	3.739	51.230	g500-S130	m550-H63/L4	2	11
2.7	60.1	11.6	86.0	26.9	86.0	2.6	48.4	86.0	2.6	3.769	51.620	g500-S220	m550-H63/L4	2	13
2.6	60.3	11.4	86.0	26.4	86.0	2.6	47.5	86.0	2.4	3.834	52.587	g500-S220	m550-H63/L4	3	13
2.6	61.7	11.3	88.0	26.2	88.0	3.3	47.1	88.0	3.3	3.803	53.026	g500-S400	m550-H63/L4	2	17
2.5	64.9	10.8	93.0	24.9	93.0	3.2	44.8	93.0	3.2	3.901	55.773	g500-S660	m550-H63/L4	2	22
2.4	66.3	10.5	95.0	24.4	95.0	2.8	43.9	95.0	2.8	3.779	56.960	g500-S400	m550-H63/L4	2	17
2.4	66.5	10.3	95.0	24.0	95.0	4.2	43.1	95.0	4.0	3.842	58.027	g500-S400	m550-H63/L4	3	17
2.4	67.5	10.4	97.0	24.0	97.0	1.3	43.2	97.0	1.3	3.748	57.933	g500-S130	m550-H63/L4	2	11
2.4	68.1	10.3	98.0	23.8	98.0	2.3	42.7	98.0	2.3	3.767	58.486	g500-S220	m550-H63/L4	2	13
2.3	68.3	10.1	98.0	23.3	98.0	2.3	42.0	98.0	2.2	3.831	59.581	g500-S220	m550-H63/L4	3	13
2.2	74.7	9.3	107	21.7	107	1.2	38.9	107	1.2	3.727	64.200	g500-S130	m550-H63/L4	2	11
2.2	74.9	9.3	107	21.6	107	2.8	38.8	107	2.8	3.774	64.354	g500-S400	m550-H63/L4	2	17
2.1	75.2	9.2	108	21.2	108	3.7	38.1	108	3.6	3.839	65.559	g500-S400	m550-H63/L4	3	17
2.1	76.8	9.1	110	21.1	110	1.4	37.9	110	1.4	3.744	65.975	g500-S220	m550-H63/L4	2	13
2.1	77.2	8.9	111	20.7	111	2.0	37.1	111	1.9	3.792	67.298	g500-S220	m550-H63/L4	3	13
1.9	84.5	8.3	121	19.1	121	1.1	34.4	121	1.1	3.732	72.600	g500-S130	m550-H63/L4	2	11
1.9	85.2	8.1	122	18.7	122	3.3	33.7	122	3.3	3.798	74.260	g500-S400	m550-H63/L4	3	17
1.9	87.0	8.0	125	18.6	125	1.4	33.4	125	1.4	3.743	74.750	g500-S220	m550-H63/L4	2	13
1.8	87.4	7.9	125	18.2	125	1.8	32.8	125	1.8	3.791	76.249	g500-S220	m550-H63/L4	3	13
1.7	96.0	7.2	138	16.6	138	0.9	29.9	138	0.9	3.844	83.698	g500-S130	m550-H63/L4	3	14
1.7	96.2	7.2	138	16.6	138	2.9	29.8	138	2.9	3.795	83.900	g500-S400	m550-H63/L4	3	17
1.6	98.7	7.0	141	16.1	141	1.6	29.0	141	1.6	3.762	86.079	g500-S220	m550-H63/L4	3	13
1.6	102	6.7	146	15.6	146	4.5	28.1	146	4.5	3.865	89.048	g500-S660	m550-H63/L4	3	22
1.5	109	6.3	156	14.7	156	0.8	26.4	156	0.8	3.837	94.649	g500-S130	m550-H63/L4	3	14

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
1.5	109	6.3	156	14.6	156	2.6	26.3	156	2.6	3.766	94.984	g500-S400	m550-H63/L4	3	17
1.4	112	6.2	160	14.3	160	1.4	25.6	160	1.4	3.761	97.528	g500-S220	m550-H63/L4	3	13
1.4	116	5.9	167	13.7	167	4.0	24.6	167	4.0	3.862	101.460	g500-S660	m550-H63/L4	3	22
1.3	123	5.6	176	13.0	176	2.3	23.3	176	2.3	3.764	107.314	g500-S400	m550-H63/L4	3	17
1.3	125	5.5	179	12.7	179	3.7	22.9	179	3.7	3.825	109.083	g500-S660	m550-H63/L4	3	22
1.2	128	5.4	184	12.4	184	1.2	22.4	184	1.2	3.744	111.747	g500-S220	m550-H63/L4	3	13
1.1	141	4.9	203	11.3	203	2.0	20.3	203	2.0	3.746	123.307	g500-S400	m550-H63/L4	3	17
1.1	143	4.8	204	11.2	204	3.2	20.1	204	3.2	3.823	124.289	g500-S660	m550-H63/L4	3	22
1.1	145	4.7	208	11.0	208	1.1	19.7	208	1.1	3.743	126.610	g500-S220	m550-H63/L4	3	13
1.0	157	4.4	225	10.1	225	2.9	18.2	225	2.9	3.783	137.133	g500-S660	m550-H63/L4	3	22
1.0	160	4.3	229	10.0	229	1.7	17.9	229	1.7	3.745	139.313	g500-S400	m550-H63/L4	3	17
1.0	163	4.2	234	9.8	234	4.1	17.6	234	4.1	3.914	142.437	g500-S950	m550-H63/L4	3	42
1.0	164	4.2	235	9.7	235	0.9	17.5	235	0.9	3.730	143.205	g500-S220	m550-H63/L4	3	13
0.9	179	3.8	257	8.9	257	2.6	16.0	257	2.6	3.782	156.249	g500-S660	m550-H63/L4	3	22
0.9	181	3.8	260	8.8	260	1.5	15.8	260	1.5	3.732	158.019	g500-S400	m550-H63/L4	3	17
0.9	183	3.8	262	8.7	262	3.6	15.7	262	3.6	3.912	159.394	g500-S950	m550-H63/L4	3	42
0.9	186	3.7	267	8.6	267	0.8	15.4	267	0.8	3.730	162.252	g500-S220	m550-H63/L4	3	13
0.8	203	3.4	290	7.9	290	2.3	14.2	290	2.3	3.756	176.611	g500-S660	m550-H63/L4	3	22
0.8	203	3.4	291	7.8	291	3.3	14.1	291	3.3	3.854	177.178	g500-S950	m550-H63/L4	3	42
0.8	205	3.4	293	7.8	293	1.4	14.0	293	1.4	3.731	178.531	g500-S400	m550-H63/L4	3	17
0.7	227	3.0	326	7.0	326	2.9	12.6	326	2.9	3.853	198.270	g500-S950	m550-H63/L4	3	42
0.7	231	3.0	331	6.9	331	2.0	12.4	331	2.0	3.756	201.230	g500-S660	m550-H63/L4	3	22
0.7	234	2.9	336	6.8	336	1.2	12.2	336	1.2	3.721	204.412	g500-S400	m550-H63/L4	3	17
0.6	257	2.7	368	6.2	368	1.8	11.2	368	1.8	3.737	223.833	g500-S660	m550-H63/L4	3	22
0.6	263	2.6	377	6.1	377	2.5	10.9	377	2.5	3.797	229.289	g500-S950	m550-H63/L4	3	42
0.6	265	2.6	380	6.0	380	1.0	10.8	380	1.0	3.721	230.946	g500-S400	m550-H63/L4	3	17
0.6	289	2.4	414	5.5	414	3.7	9.9	414	3.7	3.972	251.778	g500-S2100	m550-H63/L4	3	74
0.5	293	2.4	419	5.5	419	1.6	9.8	419	1.6	3.737	255.034	g500-S660	m550-H63/L4	3	22
0.5	294	2.3	422	5.4	422	2.3	9.7	422	2.3	3.796	256.585	g500-S950	m550-H63/L4	3	42
0.5	305	2.3	437	5.2	437	0.9	9.4	437	0.9	3.714	265.956	g500-S400	m550-H63/L4	3	17
0.5	319	2.2	457	5.0	457	2.1	9.0	457	2.1	3.771	278.273	g500-S950	m550-H63/L4	3	42
0.5	321	2.1	460	5.0	460	3.7	8.9	460	3.7	3.970	279.807	g500-S2100	m550-H63/L4	3	74
0.5	322	2.1	461	5.0	461	1.2	8.9	461	1.2	3.726	280.500	g500-S660	m550-H63/L4	3	22
0.5	340	2.0	487	4.7	487	3.7	8.4	487	3.7	3.991	296.430	g500-S3100	m550-H63/L4	3	114
0.5	345	2.0	494	4.6	494	0.8	8.3	494	0.8	3.714	300.479	g500-S400	m550-H63/L4	3	17
0.5	350	2.0	502	4.5	502	3.2	8.2	502	3.2	3.899	305.567	g500-S2100	m550-H63/L4	3	74
0.4	357	1.9	512	4.5	512	1.9	8.0	512	1.9	3.770	311.401	g500-S950	m550-H63/L4	3	42
0.4	359	1.9	515	4.4	515	1.3	7.9	515	1.3	3.903	318.039	g500-S660	m550-H63/L4	4	25
0.4	360	1.9	517	4.4	517	1.8	7.8	517	1.8	3.923	319.059	g500-S950	m550-H63/L4	4	45
0.4	362	1.9	519	4.3	519	4.0	7.8	519	4.0	3.990	320.263	g500-S2100	m550-H63/L4	4	77
0.4	367	1.9	525	4.3	525	1.2	7.8	525	1.2	3.725	319.600	g500-S660	m550-H63/L4	3	22
0.4	384	1.8	551	4.1	551	3.7	7.5	551	3.7	3.985	335.215	g500-S3100	m550-H63/L4	3	114
0.4	389	1.8	558	4.1	558	3.2	7.4	558	3.2	3.897	339.584	g500-S2100	m550-H63/L4	3	74
0.4	396	1.7	567	4.0	567	3.6	7.1	567	3.6	3.975	350.353	g500-S2100	m550-H63/L4	4	77
0.4	403	1.7	578	3.9	578	1.6	7.0	578	1.6	3.922	357.042	g500-S950	m550-H63/L4	4	45
0.4	408	1.7	585	3.9	585	1.4	7.0	585	1.4	3.745	355.658	g500-S950	m550-H63/L4	3	42
0.4	413	1.7	591	3.9	591	3.2	6.9	591	3.2	3.911	359.758	g500-S3100	m550-H63/L4	3	114
0.4	413	1.6	592	3.8	592	1.0	6.8	592	1.0	3.796	365.689	g500-S660	m550-H63/L4	4	25
0.4	440	1.5	630	3.6	630	3.3	6.4	630	3.3	3.974	389.356	g500-S2100	m550-H63/L4	4	77
0.4	443	1.6	635	3.6	635	2.6	6.5	635	2.6	3.829	386.250	g500-S2100	m550-H63/L4	3	74
0.3	456	1.5	654	3.5	654	1.4	6.3	654	1.4	3.745	397.999	g500-S950	m550-H63/L4	3	42
0.3	460	1.5	659	3.4	659	1.4	6.1	659	1.4	3.914	406.963	g500-S950	m550-H63/L4	4	45

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
0.3	467	1.5	669	3.4	669	3.2	6.1	669	3.2	3.907	406.829	g500-S3100	m550-H63/L4	3	114
0.3	492	1.4	706	3.2	706	2.6	5.8	706	2.6	3.827	429.250	g500-S2100	m550-H63/L4	3	74
0.3	505	1.3	724	3.1	724	2.8	5.6	724	2.8	3.950	446.878	g500-S2100	m550-H63/L4	4	77
0.3	514	1.3	737	3.1	737	1.3	5.5	737	1.3	3.914	455.411	g500-S950	m550-H63/L4	4	45
0.3	529	1.3	758	3.0	758	0.9	5.3	758	0.9	3.793	467.995	g500-S660	m550-H63/L4	4	25
0.3	561	1.2	804	2.8	804	2.6	5.0	804	2.6	3.949	496.628	g500-S2100	m550-H63/L4	4	77
0.3	578	1.2	829	2.7	829	0.8	4.9	829	0.8	3.793	511.964	g500-S660	m550-H63/L4	4	25
0.3	580	1.2	832	2.7	832	1.1	4.9	832	1.1	3.800	513.607	g500-S950	m550-H63/L4	4	45
0.3	618	1.1	886	2.5	886	2.3	4.6	886	2.3	3.936	547.426	g500-S2100	m550-H63/L4	4	77
0.2	649	1.0	931	2.4	931	1.0	4.3	931	1.0	3.800	574.751	g500-S950	m550-H63/L4	4	45
0.2	687	1.0	985	2.3	985	2.1	4.1	985	2.1	3.935	608.369	g500-S2100	m550-H63/L4	4	77
0.2	728	0.9	1044	2.2	1044	3.0	3.9	1044	3.0	3.939	644.510	g500-S3100	m550-H63/L4	4	117
0.2	740	0.9	1061	2.1	1061	0.9	3.8	1061	0.9	3.797	655.111	g500-S950	m550-H63/L4	4	45
0.2	805	0.8	1154	2.0	1154	1.8	3.5	1154	1.8	3.921	712.523	g500-S2100	m550-H63/L4	4	77
0.2	823	0.8	1180	1.9	1180	2.6	3.4	1180	2.6	3.938	728.838	g500-S3100	m550-H63/L4	4	117
0.2	828	0.8	1187	1.9	1187	0.8	3.4	1187	0.8	3.797	733.101	g500-S950	m550-H63/L4	4	45
0.2	895	0.8	1282	1.8	1282	1.6	3.2	1282	1.6	3.921	791.846	g500-S2100	m550-H63/L4	4	77
0.2	906	0.7	1298	1.7	1298	2.4	3.1	1298	2.4	3.871	801.707	g500-S3100	m550-H63/L4	4	117
0.2	934	0.7	1338	1.7	1338	3.4	3.0	1338	3.4	3.958	826.361	g500-S4500	m550-H63/L4	4	192
0.2	1001	0.7	1435	1.6	1435	1.4	2.8	1435	1.4	3.859	886.309	g500-S2100	m550-H63/L4	4	77
0.2	1024	0.7	1468	1.5	1468	2.1	2.8	1468	2.1	3.870	906.604	g500-S3100	m550-H63/L4	4	117
0.2	1042	0.7	1494	1.5	1494	3.0	2.7	1494	3.0	3.957	922.449	g500-S4500	m550-H63/L4	4	192
0.1	1113	0.6	1595	1.4	1595	1.3	2.5	1595	1.3	3.859	984.979	g500-S2100	m550-H63/L4	4	77
0.1	1161	0.6	1664	1.4	1664	2.7	2.4	1664	2.7	3.883	1027.912	g500-S4500	m550-H63/L4	4	192
0.1	1179	0.6	1690	1.3	1690	1.8	2.4	1690	1.8	3.860	1043.492	g500-S3100	m550-H63/L4	4	117
0.1	1296	0.5	1857	1.2	1857	1.1	2.2	1857	1.1	3.800	1146.988	g500-S2100	m550-H63/L4	4	77
0.1	1296	0.5	1858	1.2	1858	2.4	2.2	1858	2.4	3.882	1147.437	g500-S4500	m550-H63/L4	4	192
0.1	1333	0.5	1911	1.2	1911	1.6	2.1	1911	1.6	3.860	1180.024	g500-S3100	m550-H63/L4	4	117
0.1	1369	0.5	1962	1.1	1962	2.3	2.1	1962	2.3	3.823	1211.575	g500-S4500	m550-H63/L4	4	192
0.1	1440	0.5	2064	1.1	2064	1.0	2.0	2064	1.0	3.800	1274.678	g500-S2100	m550-H63/L4	4	77
0.1	1466	0.5	2102	1.1	2102	1.5	1.9	2102	1.5	3.855	1298.002	g500-S3100	m550-H63/L4	4	117
0.1	1525	0.4	2186	1.0	2186	2.1	1.9	2186	2.1	3.868	1350.094	g500-S4500	m550-H63/L4	4	192
0.1	1612	0.4	2310	1.0	2310	0.9	1.8	2310	0.9	3.797	1426.741	g500-S2100	m550-H63/L4	4	77
0.1	1658	0.4	2377	0.9	2377	1.3	1.7	2377	1.3	3.854	1467.835	g500-S3100	m550-H63/L4	4	117
0.1	1702	0.4	2440	0.9	2440	1.8	1.7	2440	1.8	3.867	1507.081	g500-S4500	m550-H63/L4	4	192
0.1	1791	0.4	2567	0.9	2567	0.8	1.6	2567	0.8	3.797	1585.575	g500-S2100	m550-H63/L4	4	77
0.1	1898	0.4	2720	0.8	2720	1.1	1.5	2720	1.1	3.797	1679.768	g500-S3100	m550-H63/L4	4	117
0.1	1974	0.3	2829	0.8	2829	1.6	1.4	2829	1.6	3.805	1747.180	g500-S4500	m550-H63/L4	4	192
0.1	2146	0.3	3076	0.7	3076	1.0	1.3	3076	1.0	3.797	1899.551	g500-S3100	m550-H63/L4	4	117
0.1	2203	0.3	3158	0.7	3158	1.4	1.3	3158	1.4	3.805	1950.341	g500-S4500	m550-H63/L4	4	192
0.1	2395	0.3	3433	0.7	3433	1.3	1.2	3433	1.3	3.776	2120.441	g500-S4500	m550-H63/L4	4	192
0.1	2456	0.3	3520	0.6	3520	0.9	1.2	3520	0.9	3.794	2173.817	g500-S3100	m550-H63/L4	4	117
0.1	2674	0.3	3832	0.6	3832	1.2	1.1	3832	1.2	3.800	2367.004	g500-S4500	m550-H63/L4	4	192
0.0	3245	0.2	4651	0.5	4651	1.0	0.9	4651	1.0	3.773	2872.683	g500-S4500	m550-H63/L4	4	192
0.0	3417	0.2	4898	0.5	4898	0.9	0.8	4898	0.9	3.748	3025.244	g500-S4500	m550-H63/L4	4	192
0.0	3715	0.2	5325	0.4	5325	0.9	0.8	5325	0.9	3.746	3289.094	g500-S4500	m550-H63/L4	4	192

50 Hz: 0.37 kW

87 Hz: 0.66 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
39.1	6.2	164	9.0	389	9.0	4.9	692	9.0	4.1	10.663	3.661	g500-S130	m550-H71/M4	2	13
28.5	8.5	120	12.0	284	12.0	4.9	505	12.0	4.1	9.987	5.021	g500-S130	m550-H71/M4	2	13
22.3	10.8	93.6	15.0	222	15.0	4.9	395	15.0	4.1	10.676	6.411	g500-S400	m550-H71/M4	2	19
22.3	10.8	93.4	15.0	222	15.0	4.6	395	16.0	3.8	9.673	6.425	g500-S130	m550-H71/M4	2	13
20.3	11.9	85.4	17.0	203	17.0	4.6	361	17.0	3.8	9.588	7.029	g500-S130	m550-H71/M4	2	13
17.2	14.0	72.1	20.0	171	20.0	4.9	305	20.0	4.1	9.785	8.322	g500-S130	m550-H71/M4	2	13
15.2	15.9	63.8	23.0	151	23.0	4.9	269	23.0	4.1	10.130	9.411	g500-S130	m550-H71/M4	2	13
12.5	19.3	52.6	27.0	125	27.0	4.7	222	28.0	4.0	9.521	11.413	g500-S130	m550-H71/M4	2	13
11.1	21.8	46.5	31.0	110	31.0	4.2	196	31.0	3.5	9.704	12.907	g500-S130	m550-H71/M4	2	13
11.0	21.9	46.2	31.0	110	31.0	4.9	195	31.0	4.1	9.721	12.992	g500-S220	m550-H71/M4	2	15
10.0	24.2	41.9	34.0	99.4	34.0	4.9	177	35.0	4.1	9.867	14.336	g500-S400	m550-H71/M4	2	19
9.8	24.7	41.1	35.0	97.6	35.0	3.7	174	35.0	3.1	9.388	14.606	g500-S130	m550-H71/M4	2	13
9.7	24.9	40.8	35.0	96.8	35.0	4.9	172	36.0	4.1	9.683	14.720	g500-S220	m550-H71/M4	2	15
8.9	27.0	37.6	38.0	89.2	38.0	3.4	159	39.0	2.8	9.350	15.979	g500-S130	m550-H71/M4	2	13
8.8	27.3	37.0	39.0	88.0	39.0	4.9	157	39.0	4.1	9.804	16.197	g500-S400	m550-H71/M4	2	19
8.6	28.0	36.2	40.0	86.0	40.0	4.6	153	40.0	3.8	9.542	16.571	g500-S220	m550-H71/M4	2	15
7.9	30.5	33.2	43.0	78.9	43.0	3.0	140	44.0	2.8	9.444	18.069	g500-S130	m550-H71/M4	2	13
7.8	30.9	32.8	44.0	77.9	44.0	4.6	139	44.0	4.4	9.631	18.286	g500-S400	m550-H71/M4	2	19
7.6	31.7	32.0	45.0	75.9	45.0	4.6	135	45.0	4.4	9.518	18.776	g500-S220	m550-H71/M4	2	15
7.0	34.4	29.4	49.0	69.9	49.0	2.7	124	49.0	2.5	9.275	20.381	g500-S130	m550-H71/M4	2	13
6.9	34.9	29.0	50.0	69.0	50.0	4.6	123	50.0	4.4	9.592	20.659	g500-S400	m550-H71/M4	2	19
6.2	38.9	26.0	55.0	61.8	55.0	2.3	110	56.0	2.2	9.332	23.048	g500-S130	m550-H71/M4	2	13
5.7	42.1	24.0	60.0	57.1	60.0	2.2	102	60.0	2.1	9.231	24.967	g500-S130	m550-H71/M4	2	13
5.4	44.6	22.7	64.0	53.9	64.0	3.5	95.9	64.0	3.3	9.309	26.422	g500-S220	m550-H71/M4	2	15
5.1	47.7	21.3	68.0	50.5	68.0	1.9	89.8	68.0	1.8	9.269	28.233	g500-S130	m550-H71/M4	2	13
4.9	49.2	20.6	70.0	48.9	70.0	3.8	86.9	70.0	3.6	9.344	29.156	g500-S400	m550-H71/M4	2	19
4.8	50.5	20.0	72.0	47.6	72.0	3.1	84.7	72.0	2.9	9.299	29.937	g500-S220	m550-H71/M4	2	15
4.6	53.0	19.1	76.0	45.4	76.0	1.7	80.8	76.0	1.7	9.187	31.387	g500-S130	m550-H71/M4	2	13
4.4	55.5	18.3	79.0	43.4	79.0	2.8	77.1	79.0	2.8	9.251	32.867	g500-S220	m550-H71/M4	2	15
4.3	55.6	18.2	79.0	43.3	79.0	3.8	77.0	80.0	3.8	9.328	32.940	g500-S400	m550-H71/M4	2	19
4.0	59.9	16.9	85.0	40.1	85.0	1.5	71.4	86.0	1.5	9.211	35.493	g500-S130	m550-H71/M4	2	13
3.9	61.2	16.5	87.0	39.3	87.0	3.2	69.9	88.0	3.2	9.274	36.267	g500-S400	m550-H71/M4	2	19
3.8	62.9	16.1	90.0	38.3	90.0	2.5	68.1	90.0	2.5	9.245	37.238	g500-S220	m550-H71/M4	2	15
3.6	66.5	15.0	95.0	35.6	95.0	2.3	63.4	95.0	1.9	9.303	40.012	g500-S220	m550-H71/M4	3	15
3.5	68.2	14.8	97.0	35.3	97.0	1.3	62.7	98.0	1.3	9.159	40.422	g500-S130	m550-H71/M4	2	13
3.5	68.1	14.9	97.0	35.3	97.0	3.2	62.9	97.0	3.2	9.390	40.333	g500-S660	m550-H71/M4	2	24
3.5	69.2	14.6	99.0	34.8	99.0	3.2	61.9	99.0	3.2	9.264	40.974	g500-S400	m550-H71/M4	2	19
3.4	71.8	14.1	102	33.5	102	2.2	59.6	103	2.1	9.195	42.533	g500-S220	m550-H71/M4	2	15
3.2	75.4	13.2	107	31.4	107	2.1	55.9	108	1.7	9.299	45.333	g500-S220	m550-H71/M4	3	15
3.1	77.2	13.1	110	31.2	110	1.2	55.5	110	1.2	9.174	45.711	g500-S130	m550-H71/M4	2	13
3.1	77.6	13.1	111	31.0	111	3.2	55.2	111	3.2	9.375	45.956	g500-S660	m550-H71/M4	2	24
3.0	79.2	12.8	113	30.4	113	2.8	54.0	113	2.8	9.209	46.933	g500-S400	m550-H71/M4	2	19
3.0	81.4	12.5	116	29.6	116	1.9	52.6	116	1.9	9.191	48.190	g500-S220	m550-H71/M4	2	15
2.9	82.6	12.3	118	29.1	118	2.8	51.8	118	2.8	9.311	48.950	g500-S660	m550-H71/M4	2	24
2.9	82.9	12.0	118	28.6	118	4.9	50.8	119	4.7	9.490	49.867	g500-S660	m550-H71/M4	3	24
2.8	86.5	11.7	123	27.8	123	1.1	49.5	124	1.1	9.139	51.230	g500-S130	m550-H71/M4	2	13
2.8	87.1	11.6	124	27.6	124	1.8	49.1	125	1.8	9.169	51.620	g500-S220	m550-H71/M4	2	15
2.7	87.4	11.4	125	27.1	125	1.8	48.2	125	1.7	9.234	52.587	g500-S220	m550-H71/M4	3	15
2.7	89.5	11.3	128	26.9	128	2.7	47.8	128	2.7	9.203	53.026	g500-S400	m550-H71/M4	2	19
2.6	94.2	10.8	134	25.5	134	2.8	45.5	135	2.8	9.301	55.773	g500-S660	m550-H71/M4	2	24

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
2.5	94.5	10.6	135	25.1	135	4.8	44.6	135	4.6	9.481	56.818	g500-S660	m550-H71/M4	3	24
2.5	96.2	10.5	137	25.0	137	2.0	44.5	138	2.0	9.179	56.960	g500-S400	m550-H71/M4	2	19
2.5	96.5	10.3	138	24.6	138	2.9	43.7	138	2.8	9.242	58.027	g500-S400	m550-H71/M4	3	19
2.5	97.8	10.4	139	24.6	139	0.9	43.8	140	0.9	9.148	57.933	g500-S130	m550-H71/M4	2	13
2.4	98.7	10.3	141	24.4	141	1.6	43.3	141	1.6	9.167	58.486	g500-S220	m550-H71/M4	2	15
2.4	99.1	10.1	141	23.9	141	1.6	42.5	142	1.5	9.231	59.581	g500-S220	m550-H71/M4	3	15
2.2	106	9.4	151	22.3	151	4.4	39.7	152	4.2	9.370	63.817	g500-S660	m550-H71/M4	3	24
2.2	108	9.3	154	22.2	154	0.8	39.5	155	0.8	9.127	64.200	g500-S130	m550-H71/M4	2	13
2.2	109	9.3	155	22.1	155	2.0	39.4	155	2.0	9.174	64.354	g500-S400	m550-H71/M4	2	19
2.2	109	9.2	155	21.7	155	2.6	38.7	156	2.5	9.239	65.559	g500-S400	m550-H71/M4	3	19
2.2	111	9.1	159	21.6	159	1.1	38.4	159	1.1	9.144	65.975	g500-S220	m550-H71/M4	2	15
2.1	112	8.9	160	21.2	160	1.4	37.7	160	1.3	9.192	67.298	g500-S220	m550-H71/M4	3	15
2.0	116	8.6	165	20.4	165	4.0	36.3	166	3.8	9.335	69.813	g500-S660	m550-H71/M4	3	24
2.0	117	8.6	166	20.3	166	4.9	36.2	167	4.9	9.743	70.037	g500-S950	m550-H71/M4	3	44
2.0	121	8.3	172	19.6	172	3.8	34.9	173	3.8	9.364	72.713	g500-S660	m550-H71/M4	3	24
1.9	124	8.1	176	19.2	176	2.3	34.1	177	2.3	9.198	74.260	g500-S400	m550-H71/M4	3	19
1.9	126	8.0	180	19.1	180	1.1	33.9	181	1.1	9.143	74.750	g500-S220	m550-H71/M4	2	15
1.9	127	7.9	181	18.7	181	1.2	33.2	181	1.2	9.191	76.249	g500-S220	m550-H71/M4	3	15
1.8	130	7.7	186	18.2	186	4.9	32.3	187	4.9	9.734	78.375	g500-S950	m550-H71/M4	3	44
1.8	132	7.5	189	17.9	189	3.5	31.9	189	3.5	9.330	79.545	g500-S660	m550-H71/M4	3	24
1.7	140	7.2	199	17.0	199	2.0	30.2	200	2.0	9.195	83.900	g500-S400	m550-H71/M4	3	19
1.7	143	7.0	204	16.6	204	1.1	29.4	205	1.1	9.162	86.079	g500-S220	m550-H71/M4	3	15
1.6	148	6.7	211	16.0	211	3.1	28.5	212	3.1	9.265	89.048	g500-S660	m550-H71/M4	3	24
1.6	149	6.7	212	16.0	212	4.5	28.4	213	4.5	9.555	89.333	g500-S950	m550-H71/M4	3	44
1.5	158	6.3	225	15.0	225	1.8	26.7	226	1.8	9.166	94.984	g500-S400	m550-H71/M4	3	19
1.5	162	6.2	231	14.6	231	1.0	26.0	232	1.0	9.161	97.528	g500-S220	m550-H71/M4	3	15
1.4	166	6.0	237	14.3	237	4.0	25.4	238	4.0	9.549	99.968	g500-S950	m550-H71/M4	3	44
1.4	169	5.9	240	14.0	240	2.7	25.0	241	2.7	9.262	101.460	g500-S660	m550-H71/M4	3	24
1.3	178	5.6	254	13.3	254	1.6	23.6	255	1.6	9.164	107.314	g500-S400	m550-H71/M4	3	19
1.3	181	5.5	259	13.1	259	2.6	23.2	260	2.5	9.225	109.083	g500-S660	m550-H71/M4	3	24
1.3	186	5.4	265	12.8	265	0.8	22.7	266	0.8	9.144	111.747	g500-S220	m550-H71/M4	3	15
1.2	205	4.9	292	11.6	292	1.4	20.6	293	1.4	9.146	123.307	g500-S400	m550-H71/M4	3	19
1.2	207	4.8	295	11.5	295	2.2	20.4	296	2.2	9.223	124.289	g500-S660	m550-H71/M4	3	24
1.0	228	4.4	325	10.4	325	2.0	18.5	326	2.0	9.183	137.133	g500-S660	m550-H71/M4	3	24
1.0	232	4.3	330	10.2	330	1.2	18.2	332	1.2	9.145	139.313	g500-S400	m550-H71/M4	3	19
1.0	237	4.2	338	10.0	338	2.8	17.8	339	2.8	9.314	142.437	g500-S950	m550-H71/M4	3	44
0.9	260	3.8	370	9.1	370	1.8	16.2	372	1.8	9.182	156.249	g500-S660	m550-H71/M4	3	24
0.9	263	3.8	375	9.0	375	1.1	16.0	376	1.1	9.132	158.019	g500-S400	m550-H71/M4	3	19
0.9	265	3.8	378	8.9	378	2.5	15.9	379	2.5	9.312	159.394	g500-S950	m550-H71/M4	3	44
0.8	294	3.4	419	8.1	419	1.6	14.4	420	1.6	9.156	176.611	g500-S660	m550-H71/M4	3	24
0.8	295	3.4	420	8.0	420	2.3	14.3	422	2.3	9.254	177.178	g500-S950	m550-H71/M4	3	44
0.8	297	3.4	423	8.0	423	0.9	14.2	425	0.9	9.131	178.531	g500-S400	m550-H71/M4	3	19
0.7	330	3.0	470	7.2	470	2.0	12.8	472	2.0	9.253	198.270	g500-S950	m550-H71/M4	3	44
0.7	335	3.0	477	7.1	477	1.4	12.6	479	1.4	9.156	201.230	g500-S660	m550-H71/M4	3	24
0.7	340	2.9	484	7.0	484	0.8	12.4	486	0.8	9.121	204.412	g500-S400	m550-H71/M4	3	19
0.6	372	2.7	530	6.4	530	1.2	11.3	533	1.2	9.137	223.833	g500-S660	m550-H71/M4	3	24
0.6	381	2.6	543	6.2	543	1.8	11.1	546	1.7	9.197	229.289	g500-S950	m550-H71/M4	3	44
0.6	419	2.4	597	5.7	597	3.2	10.1	599	3.2	9.372	251.778	g500-S2100	m550-H71/M4	3	76
0.6	424	2.4	604	5.6	604	1.1	9.9	607	1.1	9.137	255.034	g500-S660	m550-H71/M4	3	24
0.6	427	2.3	608	5.6	608	1.6	9.9	611	1.6	9.196	256.585	g500-S950	m550-H71/M4	3	44
0.5	463	2.2	660	5.1	660	1.4	9.1	662	1.4	9.171	278.273	g500-S950	m550-H71/M4	3	44
0.5	465	2.1	663	5.1	663	3.1	9.1	666	3.1	9.370	279.807	g500-S2100	m550-H71/M4	3	76

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
0.5	466	2.1	665	5.1	665	0.9	9.0	667	0.9	9.126	280.500	g500-S660	m550-H71/M4	3	24
0.5	493	2.0	703	4.8	703	3.2	8.6	705	3.2	9.391	296.430	g500-S3100	m550-H71/M4	3	116
0.5	508	2.0	724	4.7	724	2.8	8.3	727	2.8	9.299	305.567	g500-S2100	m550-H71/M4	3	76
0.5	518	1.9	738	4.6	738	1.3	8.1	741	1.3	9.170	311.401	g500-S950	m550-H71/M4	3	44
0.4	521	1.9	742	4.5	742	0.9	8.0	745	0.9	9.303	318.039	g500-S660	m550-H71/M4	4	27
0.4	523	1.9	745	4.5	745	1.3	7.9	748	1.3	9.323	319.059	g500-S950	m550-H71/M4	4	47
0.4	525	1.9	748	4.4	748	2.7	7.9	751	2.7	9.390	320.263	g500-S2100	m550-H71/M4	4	79
0.4	532	1.9	757	4.5	757	0.9	7.9	761	0.9	9.125	319.600	g500-S660	m550-H71/M4	3	24
0.4	557	1.8	794	4.3	794	3.2	7.6	798	3.2	9.385	335.215	g500-S3100	m550-H71/M4	3	116
0.4	565	1.8	805	4.2	805	2.6	7.5	808	2.5	9.297	339.584	g500-S2100	m550-H71/M4	3	76
0.4	574	1.7	818	4.1	818	2.5	7.2	821	2.5	9.375	350.353	g500-S2100	m550-H71/M4	4	79
0.4	585	1.7	834	4.0	834	1.1	7.1	837	1.1	9.322	357.042	g500-S950	m550-H71/M4	4	47
0.4	591	1.7	843	4.0	843	1.1	7.1	846	1.1	9.145	355.658	g500-S950	m550-H71/M4	3	44
0.4	598	1.7	853	4.0	853	2.8	7.0	856	2.8	9.311	359.758	g500-S3100	m550-H71/M4	3	116
0.4	638	1.5	909	3.7	909	2.3	6.5	913	2.3	9.374	389.356	g500-S2100	m550-H71/M4	4	79
0.4	642	1.6	915	3.7	915	2.2	6.6	919	2.2	9.229	386.250	g500-S2100	m550-H71/M4	3	76
0.4	662	1.5	943	3.6	943	1.0	6.4	947	1.0	9.145	397.999	g500-S950	m550-H71/M4	3	44
0.4	667	1.5	950	3.5	950	1.0	6.2	954	1.0	9.314	406.963	g500-S950	m550-H71/M4	4	47
0.4	677	1.5	964	3.5	964	2.8	6.2	968	2.8	9.307	406.829	g500-S3100	m550-H71/M4	3	116
0.3	714	1.4	1017	3.3	1017	2.0	5.9	1021	2.0	9.227	429.250	g500-S2100	m550-H71/M4	3	76
0.3	732	1.3	1043	3.2	1043	2.0	5.7	1047	2.0	9.350	446.878	g500-S2100	m550-H71/M4	4	79
0.3	746	1.3	1063	3.1	1063	0.9	5.6	1067	0.9	9.314	455.411	g500-S950	m550-H71/M4	4	47
0.3	813	1.2	1159	2.9	1159	1.8	5.1	1164	1.8	9.349	496.628	g500-S2100	m550-H71/M4	4	79
0.3	897	1.1	1278	2.6	1278	1.6	4.6	1283	1.6	9.336	547.426	g500-S2100	m550-H71/M4	4	79
0.2	997	1.0	1420	2.3	1420	1.4	4.2	1426	1.4	9.335	608.369	g500-S2100	m550-H71/M4	4	79
0.2	1056	0.9	1505	2.2	1505	2.1	3.9	1511	2.1	9.339	644.510	g500-S3100	m550-H71/M4	4	119
0.2	1167	0.8	1663	2.0	1663	1.2	3.6	1670	1.2	9.321	712.523	g500-S2100	m550-H71/M4	4	79
0.2	1194	0.8	1701	2.0	1701	1.8	3.5	1708	1.8	9.338	728.838	g500-S3100	m550-H71/M4	4	119
0.2	1297	0.8	1849	1.8	1849	1.1	3.2	1856	1.1	9.321	791.846	g500-S2100	m550-H71/M4	4	79
0.2	1313	0.7	1872	1.8	1872	1.7	3.2	1879	1.7	9.271	801.707	g500-S3100	m550-H71/M4	4	119
0.2	1354	0.7	1929	1.7	1929	2.3	3.1	1937	2.3	9.358	826.361	g500-S4500	m550-H71/M4	4	194
0.2	1452	0.7	2069	1.6	2069	1.0	2.9	2077	1.0	9.259	886.309	g500-S2100	m550-H71/M4	4	79
0.2	1485	0.7	2116	1.6	2116	1.5	2.8	2125	1.5	9.270	906.604	g500-S3100	m550-H71/M4	4	119
0.2	1511	0.7	2153	1.5	2153	2.1	2.7	2162	2.1	9.357	922.449	g500-S4500	m550-H71/M4	4	194
0.1	1613	0.6	2299	1.4	2299	0.9	2.6	2309	0.9	9.259	984.979	g500-S2100	m550-H71/M4	4	79
0.1	1684	0.6	2400	1.4	2400	1.9	2.5	2409	1.9	9.283	1027.912	g500-S4500	m550-H71/M4	4	194
0.1	1709	0.6	2436	1.4	2436	1.3	2.4	2446	1.3	9.260	1043.492	g500-S3100	m550-H71/M4	4	119
0.1	1879	0.5	2679	1.2	2679	1.7	2.2	2690	1.7	9.282	1147.437	g500-S4500	m550-H71/M4	4	194
0.1	1933	0.5	2755	1.2	2755	1.1	2.1	2766	1.1	9.260	1180.024	g500-S3100	m550-H71/M4	4	119
0.1	1985	0.5	2828	1.2	2828	1.6	2.1	2840	1.6	9.223	1211.575	g500-S4500	m550-H71/M4	4	194
0.1	2126	0.5	3030	1.1	3030	1.0	2.0	3042	1.0	9.255	1298.002	g500-S3100	m550-H71/M4	4	119
0.1	2211	0.4	3152	1.1	3152	1.4	1.9	3165	1.4	9.268	1350.094	g500-S4500	m550-H71/M4	4	194
0.1	2404	0.4	3427	1.0	3427	0.9	1.7	3440	0.9	9.254	1467.835	g500-S3100	m550-H71/M4	4	119
0.1	2469	0.4	3518	0.9	3518	1.3	1.7	3532	1.3	9.267	1507.081	g500-S4500	m550-H71/M4	4	194
0.1	2862	0.3	4079	0.8	4079	1.1	1.5	4095	1.1	9.205	1747.180	g500-S4500	m550-H71/M4	4	194
0.1	3195	0.3	4553	0.7	4553	1.0	1.3	4571	1.0	9.205	1950.341	g500-S4500	m550-H71/M4	4	194
0.1	3473	0.3	4950	0.7	4950	0.9	1.2	4970	0.9	9.176	2120.441	g500-S4500	m550-H71/M4	4	194
0.1	3877	0.3	5526	0.6	5526	0.8	1.1	5548	0.8	9.200	2367.004	g500-S4500	m550-H71/M4	4	194

50 Hz: 0.55 kW

87 Hz: 1 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
39.1	9.1	164	13.0	391	13.0	4.6	694	13.0	3.8	14.863	3.661	g500-S130	m550-H71/L4	2	14
28.5	12.5	120	18.0	285	18.0	4.3	506	18.0	3.5	14.187	5.021	g500-S130	m550-H71/L4	2	14
24.4	14.6	102	21.0	244	21.0	4.6	433	21.0	3.8	15.161	5.860	g500-S400	m550-H71/L4	2	20
22.3	16.0	93.6	23.0	223	23.0	4.6	396	23.0	3.8	14.876	6.411	g500-S400	m550-H71/L4	2	20
22.3	16.0	93.4	23.0	223	23.0	3.8	395	23.0	3.1	13.873	6.425	g500-S130	m550-H71/L4	2	14
20.3	17.5	85.4	25.0	203	25.0	3.7	361	26.0	3.0	13.788	7.029	g500-S130	m550-H71/L4	2	14
17.2	20.8	72.1	30.0	172	30.0	3.9	305	30.0	3.2	13.985	8.322	g500-S130	m550-H71/L4	2	14
15.2	23.5	63.8	34.0	152	34.0	3.7	270	34.0	3.1	14.330	9.411	g500-S130	m550-H71/L4	2	14
12.5	28.5	52.6	41.0	125	41.0	3.2	223	42.0	2.6	13.721	11.413	g500-S130	m550-H71/L4	2	14
12.0	29.6	50.5	42.0	120	42.0	4.6	214	43.0	3.8	14.019	11.876	g500-S220	m550-H71/L4	2	16
11.1	32.2	46.5	46.0	111	46.0	2.8	197	47.0	2.3	13.904	12.907	g500-S130	m550-H71/L4	2	14
11.0	32.4	46.2	46.0	110	46.0	4.6	196	47.0	3.8	13.921	12.992	g500-S220	m550-H71/L4	2	16
10.9	32.7	45.8	47.0	109	47.0	4.6	194	48.0	3.8	14.193	13.105	g500-S400	m550-H71/L4	2	20
10.6	33.6	44.6	48.0	106	48.0	4.6	189	49.0	3.8	13.973	13.456	g500-S220	m550-H71/L4	2	16
10.0	35.7	41.9	51.0	99.7	51.0	4.6	177	52.0	3.8	14.067	14.336	g500-S400	m550-H71/L4	2	20
9.8	36.4	41.1	52.0	97.9	52.0	2.5	174	53.0	2.1	13.588	14.606	g500-S130	m550-H71/L4	2	14
9.7	36.7	40.8	52.0	97.1	52.0	4.2	173	54.0	3.4	13.883	14.720	g500-S220	m550-H71/L4	2	16
9.7	36.9	40.5	53.0	96.6	53.0	4.6	172	54.0	3.8	14.117	14.806	g500-S400	m550-H71/L4	2	20
9.1	39.2	38.2	56.0	91.0	56.0	4.6	162	57.0	3.8	14.813	15.714	g500-S660	m550-H71/L4	2	25
8.9	39.8	37.6	57.0	89.5	57.0	2.3	159	58.0	1.9	13.550	15.979	g500-S130	m550-H71/L4	2	14
8.8	40.4	37.0	58.0	88.3	58.0	4.6	157	59.0	3.8	14.004	16.197	g500-S400	m550-H71/L4	2	20
8.6	41.3	36.2	59.0	86.3	59.0	3.7	153	60.0	3.1	13.742	16.571	g500-S220	m550-H71/L4	2	16
8.0	44.6	33.5	64.0	79.9	64.0	4.6	142	65.0	3.8	14.715	17.905	g500-S660	m550-H71/L4	2	25
7.9	45.1	33.2	64.0	79.1	64.0	2.0	141	66.0	1.9	13.644	18.069	g500-S130	m550-H71/L4	2	14
7.8	45.6	32.8	65.0	78.2	65.0	4.3	139	67.0	4.0	13.831	18.286	g500-S400	m550-H71/L4	2	20
7.6	46.8	32.0	67.0	76.2	67.0	3.3	135	68.0	3.1	13.718	18.776	g500-S220	m550-H71/L4	2	16
7.0	50.6	29.6	72.0	70.4	72.0	3.0	125	74.0	2.8	13.636	20.300	g500-S220	m550-H71/L4	2	16
7.0	50.8	29.4	73.0	70.2	73.0	1.8	125	74.0	1.7	13.475	20.381	g500-S130	m550-H71/L4	2	14
6.9	51.5	29.0	74.0	69.2	74.0	4.3	123	75.0	4.0	13.792	20.659	g500-S400	m550-H71/L4	2	20
6.4	55.9	26.8	80.0	63.8	80.0	3.8	113	82.0	3.6	13.696	22.400	g500-S400	m550-H71/L4	2	20
6.2	57.3	26.1	82.0	62.2	82.0	2.7	110	84.0	2.5	13.620	23.000	g500-S220	m550-H71/L4	2	16
6.2	57.5	26.0	82.0	62.0	82.0	1.6	110	84.0	1.5	13.532	23.048	g500-S130	m550-H71/L4	2	14
5.7	62.3	24.0	89.0	57.3	89.0	1.5	102	91.0	1.4	13.431	24.967	g500-S130	m550-H71/L4	2	14
5.7	62.5	23.9	89.0	57.1	89.0	3.8	101	91.0	3.6	13.947	25.056	g500-S660	m550-H71/L4	2	25
5.7	63.1	23.7	90.0	56.5	90.0	3.8	100	92.0	3.6	13.670	25.308	g500-S400	m550-H71/L4	2	20
5.4	65.9	22.7	94.0	54.1	94.0	2.3	96.1	96.0	2.2	13.509	26.422	g500-S220	m550-H71/L4	2	16
5.1	70.4	21.3	101	50.6	101	1.3	90.0	103	1.2	13.469	28.233	g500-S130	m550-H71/L4	2	14
5.0	71.2	21.0	102	50.1	102	3.8	89.0	104	3.6	13.909	28.548	g500-S660	m550-H71/L4	2	25
4.9	72.7	20.6	104	49.0	104	3.5	87.1	106	3.2	13.544	29.156	g500-S400	m550-H71/L4	2	20
4.8	74.6	20.0	107	47.8	107	2.1	84.8	109	1.9	13.499	29.937	g500-S220	m550-H71/L4	2	16
4.6	77.7	19.3	111	45.9	111	3.2	81.5	114	3.1	13.767	31.167	g500-S660	m550-H71/L4	2	25
4.6	78.3	19.1	112	45.6	112	1.2	80.9	115	1.1	13.387	31.387	g500-S130	m550-H71/L4	2	14
4.4	82.0	18.3	117	43.5	117	1.9	77.3	120	1.8	13.451	32.867	g500-S220	m550-H71/L4	2	16
4.3	82.1	18.2	117	43.4	117	3.4	77.1	120	3.3	13.528	32.940	g500-S400	m550-H71/L4	2	20
4.0	88.5	16.9	126	40.3	126	1.0	71.6	129	1.0	13.411	35.493	g500-S130	m550-H71/L4	2	14
4.0	88.5	16.9	126	40.3	126	3.2	71.5	130	3.1	13.742	35.511	g500-S660	m550-H71/L4	2	25
3.9	90.4	16.5	129	39.4	129	2.9	70.0	132	2.9	13.474	36.267	g500-S400	m550-H71/L4	2	20
3.8	92.9	16.1	133	38.4	133	1.7	68.2	136	1.6	13.445	37.238	g500-S220	m550-H71/L4	2	16
3.5	101	14.9	144	35.5	144	2.9	63.0	147	2.9	13.590	40.333	g500-S660	m550-H71/L4	2	25
3.5	101	14.8	144	35.4	144	0.9	62.8	147	0.9	13.359	40.422	g500-S130	m550-H71/L4	2	14

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
3.5	102	14.6	146	34.9	146	2.7	62.0	149	2.7	13.464	40.974	g500-S400	m550-H71/L4	2	20
3.5	102	14.6	146	34.8	146	3.2	61.9	150	3.1	14.087	41.067	g500-S950	m550-H71/L4	2	45
3.4	106	14.1	151	33.6	151	1.5	59.7	155	1.4	13.395	42.533	g500-S220	m550-H71/L4	2	16
3.1	114	13.1	163	31.3	163	0.8	55.6	167	0.8	13.374	45.711	g500-S130	m550-H71/L4	2	14
3.1	115	13.1	164	31.1	164	2.9	55.3	168	2.9	13.575	45.956	g500-S660	m550-H71/L4	2	25
3.1	115	13.1	164	31.1	164	3.2	55.3	168	3.1	14.061	45.956	g500-S950	m550-H71/L4	2	45
3.0	117	12.8	167	30.5	167	1.9	54.1	171	1.8	13.409	46.933	g500-S400	m550-H71/L4	2	20
3.0	120	12.5	172	29.7	172	1.3	52.7	176	1.3	13.391	48.190	g500-S220	m550-H71/L4	2	16
2.9	122	12.3	174	29.2	174	2.4	51.9	179	2.4	13.511	48.950	g500-S660	m550-H71/L4	2	25
2.9	123	12.0	175	28.7	175	3.6	50.9	179	3.3	13.690	49.867	g500-S660	m550-H71/L4	3	25
2.9	124	12.0	177	28.7	177	2.8	51.0	182	2.8	13.878	49.840	g500-S950	m550-H71/L4	2	45
2.8	129	11.6	184	27.7	184	1.2	49.2	188	1.2	13.369	51.620	g500-S220	m550-H71/L4	2	16
2.7	129	11.4	184	27.2	184	1.2	48.3	189	1.1	13.434	52.587	g500-S220	m550-H71/L4	3	16
2.7	132	11.3	189	27.0	189	1.8	47.9	193	1.8	13.403	53.026	g500-S400	m550-H71/L4	2	20
2.6	139	10.8	199	25.6	199	2.4	45.5	203	2.4	13.501	55.773	g500-S660	m550-H71/L4	2	25
2.6	139	10.8	199	25.6	199	2.8	45.5	203	2.8	13.860	55.773	g500-S950	m550-H71/L4	2	45
2.5	140	10.6	199	25.2	199	3.3	44.7	204	3.0	13.681	56.818	g500-S660	m550-H71/L4	3	25
2.5	142	10.5	203	25.1	203	1.3	44.6	208	1.3	13.379	56.960	g500-S400	m550-H71/L4	2	20
2.5	143	10.3	204	24.6	204	2.0	43.8	209	1.8	13.442	58.027	g500-S400	m550-H71/L4	3	20
2.4	146	10.3	208	24.5	208	1.1	43.4	213	1.0	13.367	58.486	g500-S220	m550-H71/L4	2	16
2.4	146	10.1	209	24.0	209	1.1	42.6	214	1.0	13.431	59.581	g500-S220	m550-H71/L4	3	16
2.3	157	9.5	224	22.7	224	2.2	40.3	230	2.2	13.672	63.000	g500-S950	m550-H71/L4	2	45
2.2	157	9.4	224	22.4	224	3.0	39.8	229	2.7	13.570	63.817	g500-S660	m550-H71/L4	3	25
2.2	157	9.4	225	22.3	225	4.2	39.7	230	3.9	14.044	64.022	g500-S950	m550-H71/L4	3	45
2.2	161	9.3	229	22.2	229	1.3	39.5	235	1.3	13.374	64.354	g500-S400	m550-H71/L4	2	20
2.2	161	9.2	230	21.8	230	1.7	38.7	236	1.6	13.439	65.559	g500-S400	m550-H71/L4	3	20
2.1	165	8.9	236	21.2	236	0.9	37.7	242	0.9	13.392	67.298	g500-S220	m550-H71/L4	3	16
2.0	172	8.6	245	20.5	245	2.7	36.4	251	2.5	13.535	69.813	g500-S660	m550-H71/L4	3	25
2.0	172	8.6	246	20.4	246	3.9	36.3	252	3.8	13.943	70.037	g500-S950	m550-H71/L4	3	45
2.0	176	8.5	251	20.3	251	2.2	36.0	257	2.2	13.661	70.500	g500-S950	m550-H71/L4	2	45
2.0	176	8.4	251	20.0	251	3.8	35.5	257	3.7	14.034	71.644	g500-S950	m550-H71/L4	3	45
2.0	179	8.3	255	19.7	255	2.6	34.9	261	2.5	13.564	72.713	g500-S660	m550-H71/L4	3	25
1.9	182	8.1	260	19.3	260	1.5	34.2	267	1.5	13.398	74.260	g500-S400	m550-H71/L4	3	20
1.9	187	7.9	267	18.8	267	0.8	33.3	274	0.8	13.391	76.249	g500-S220	m550-H71/L4	3	16
1.8	193	7.7	275	18.2	275	3.5	32.4	282	3.4	13.934	78.375	g500-S950	m550-H71/L4	3	45
1.8	195	7.5	279	18.0	279	2.4	31.9	286	2.3	13.530	79.545	g500-S660	m550-H71/L4	3	25
1.7	206	7.2	294	17.0	294	1.4	30.3	301	1.3	13.395	83.900	g500-S400	m550-H71/L4	3	20
1.6	219	6.7	312	16.1	312	2.1	28.5	320	2.1	13.465	89.048	g500-S660	m550-H71/L4	3	25
1.6	219	6.7	313	16.0	313	3.0	28.4	321	3.0	13.755	89.333	g500-S950	m550-H71/L4	3	45
1.5	233	6.3	333	15.1	333	1.2	26.7	341	1.2	13.366	94.984	g500-S400	m550-H71/L4	3	20
1.5	241	6.1	344	14.6	344	4.6	25.9	352	4.5	14.696	98.095	g500-S2100	m550-H71/L4	3	77
1.4	246	6.0	351	14.3	351	2.7	25.4	359	2.6	13.749	99.968	g500-S950	m550-H71/L4	3	45
1.4	249	5.9	356	14.1	356	1.9	25.0	365	1.8	13.462	101.460	g500-S660	m550-H71/L4	3	25
1.3	264	5.6	376	13.3	376	1.1	23.7	386	1.0	13.364	107.314	g500-S400	m550-H71/L4	3	20
1.3	268	5.5	382	13.1	382	4.6	23.3	392	4.5	14.679	109.016	g500-S2100	m550-H71/L4	3	77
1.3	268	5.5	383	13.1	383	1.7	23.3	392	1.7	13.425	109.083	g500-S660	m550-H71/L4	3	25
1.3	269	5.5	384	13.1	384	2.5	23.2	393	2.4	13.645	109.433	g500-S950	m550-H71/L4	3	45
1.2	284	5.2	405	12.4	405	4.6	22.0	415	4.5	14.819	115.492	g500-S3100	m550-H71/L4	3	117
1.2	301	4.9	430	11.7	430	2.2	20.7	440	2.2	13.641	122.461	g500-S950	m550-H71/L4	3	45
1.2	303	4.9	432	11.6	432	0.9	20.6	443	0.9	13.346	123.307	g500-S400	m550-H71/L4	3	20
1.2	305	4.8	436	11.5	436	1.5	20.4	447	1.5	13.423	124.289	g500-S660	m550-H71/L4	3	25
1.1	321	4.6	458	10.9	458	4.6	19.4	469	4.5	14.780	130.603	g500-S3100	m550-H71/L4	3	117

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
1.0	337	4.4	481	10.4	481	1.4	18.5	493	1.3	13.383	137.133	g500-S660	m550-H71/L4	3	25
1.0	342	4.3	489	10.3	489	0.8	18.2	501	0.8	13.345	139.313	g500-S400	m550-H71/L4	3	20
1.0	350	4.2	500	10.0	500	1.9	17.8	512	1.9	13.514	142.437	g500-S950	m550-H71/L4	3	45
0.9	384	3.8	548	9.2	548	1.2	16.3	561	1.2	13.382	156.249	g500-S660	m550-H71/L4	3	25
0.9	384	3.8	549	9.1	549	3.7	16.2	562	3.7	13.901	156.407	g500-S2100	m550-H71/L4	3	77
0.9	392	3.8	559	9.0	559	1.7	15.9	573	1.7	13.512	159.394	g500-S950	m550-H71/L4	3	45
0.8	427	3.5	610	8.2	610	3.4	14.6	625	3.3	13.895	173.820	g500-S2100	m550-H71/L4	3	77
0.8	434	3.4	619	8.1	619	1.1	14.4	635	1.0	13.356	176.611	g500-S660	m550-H71/L4	3	25
0.8	435	3.4	621	8.1	621	1.5	14.3	637	1.5	13.454	177.178	g500-S950	m550-H71/L4	3	45
0.8	452	3.3	646	7.8	646	3.8	13.8	662	3.7	14.002	184.146	g500-S3100	m550-H71/L4	3	117
0.7	478	3.1	682	7.4	682	3.0	13.1	699	2.9	13.737	194.556	g500-S2100	m550-H71/L4	3	77
0.7	487	3.0	695	7.2	695	1.4	12.8	712	1.3	13.453	198.270	g500-S950	m550-H71/L4	3	45
0.7	494	3.0	706	7.1	706	0.9	12.6	723	0.9	13.356	201.230	g500-S660	m550-H71/L4	3	25
0.7	512	2.9	730	6.9	730	3.8	12.2	748	3.7	13.987	208.240	g500-S3100	m550-H71/L4	3	117
0.7	531	2.8	758	6.6	758	2.7	11.7	777	2.6	13.733	216.215	g500-S2100	m550-H71/L4	3	77
0.6	563	2.6	803	6.2	803	3.2	11.1	823	3.1	13.768	229.059	g500-S3100	m550-H71/L4	3	117
0.6	563	2.6	804	6.2	804	1.2	11.1	824	1.2	13.397	229.289	g500-S950	m550-H71/L4	3	45
0.6	585	2.5	836	6.0	836	3.2	10.7	856	3.1	14.173	238.252	g500-S4500	m550-H71/L4	3	192
0.6	618	2.4	883	5.7	883	2.3	10.1	905	2.3	13.572	251.778	g500-S2100	m550-H71/L4	3	77
0.6	630	2.3	900	5.6	900	1.1	9.9	922	1.0	13.396	256.585	g500-S950	m550-H71/L4	3	45
0.6	636	2.3	908	5.5	908	3.2	9.8	931	3.1	13.758	259.030	g500-S3100	m550-H71/L4	3	117
0.5	653	2.3	933	5.4	933	3.2	9.6	956	3.1	14.161	265.956	g500-S4500	m550-H71/L4	3	192
0.5	684	2.2	976	5.1	976	1.0	9.1	1000	1.0	13.371	278.273	g500-S950	m550-H71/L4	3	45
0.5	687	2.1	981	5.1	981	2.1	9.1	1005	2.0	13.570	279.807	g500-S2100	m550-H71/L4	3	77
0.5	710	2.1	1014	4.9	1014	2.8	8.8	1039	2.8	13.936	289.151	g500-S4500	m550-H71/L4	3	192
0.5	728	2.0	1040	4.8	1040	2.9	8.6	1065	2.9	13.591	296.430	g500-S3100	m550-H71/L4	3	117
0.5	751	2.0	1072	4.7	1072	1.9	8.3	1098	1.9	13.499	305.567	g500-S2100	m550-H71/L4	3	77
0.5	765	1.9	1092	4.6	1092	0.9	8.2	1119	0.9	13.370	311.401	g500-S950	m550-H71/L4	3	45
0.5	767	1.9	1095	4.5	1095	2.8	8.0	1122	2.8	13.762	316.910	g500-S3100	m550-H71/L4	4	120
0.4	772	1.9	1102	4.5	1102	0.9	8.0	1129	0.8	13.523	319.059	g500-S950	m550-H71/L4	4	48
0.4	775	1.9	1106	4.5	1106	1.9	7.9	1134	1.8	13.590	320.263	g500-S2100	m550-H71/L4	4	80
0.4	786	1.8	1122	4.4	1122	3.8	7.8	1150	3.7	13.928	324.889	g500-S4500	m550-H71/L4	4	195
0.4	793	1.9	1132	4.4	1132	2.8	7.9	1160	2.8	13.928	322.773	g500-S4500	m550-H71/L4	3	192
0.4	823	1.8	1176	4.3	1176	2.6	7.6	1205	2.6	13.585	335.215	g500-S3100	m550-H71/L4	3	117
0.4	834	1.8	1191	4.2	1191	1.7	7.5	1220	1.7	13.497	339.584	g500-S2100	m550-H71/L4	3	77
0.4	848	1.7	1210	4.1	1210	1.7	7.2	1240	1.7	13.575	350.353	g500-S2100	m550-H71/L4	4	80
0.4	867	1.7	1238	4.0	1238	2.5	7.1	1268	2.4	13.757	358.375	g500-S3100	m550-H71/L4	4	120
0.4	877	1.7	1253	3.9	1253	3.6	7.0	1284	3.5	13.922	362.667	g500-S4500	m550-H71/L4	4	195
0.4	884	1.7	1262	4.0	1262	2.4	7.1	1293	2.4	13.511	359.758	g500-S3100	m550-H71/L4	3	117
0.4	898	1.6	1282	3.9	1282	2.2	6.9	1313	2.2	13.708	365.500	g500-S4500	m550-H71/L4	3	192
0.4	942	1.5	1345	3.7	1345	1.5	6.5	1378	1.5	13.574	389.356	g500-S2100	m550-H71/L4	4	80
0.4	949	1.6	1355	3.7	1355	1.4	6.6	1388	1.4	13.429	386.250	g500-S2100	m550-H71/L4	3	77
0.4	963	1.5	1375	3.6	1375	3.3	6.4	1409	3.2	13.844	397.989	g500-S4500	m550-H71/L4	4	195
0.4	978	1.5	1396	3.5	1396	2.2	6.3	1431	2.2	13.715	404.222	g500-S3100	m550-H71/L4	4	120
0.4	999	1.5	1427	3.5	1427	2.2	6.2	1462	2.1	13.507	406.829	g500-S3100	m550-H71/L4	3	117
0.4	1002	1.5	1431	3.5	1431	2.2	6.2	1466	2.2	13.703	408.000	g500-S4500	m550-H71/L4	3	192
0.3	1054	1.4	1506	3.3	1506	1.4	5.9	1542	1.3	13.427	429.250	g500-S2100	m550-H71/L4	3	77
0.3	1075	1.4	1535	3.2	1535	2.9	5.7	1572	2.9	13.840	444.267	g500-S4500	m550-H71/L4	4	195
0.3	1081	1.3	1544	3.2	1544	1.3	5.7	1582	1.3	13.550	446.878	g500-S2100	m550-H71/L4	4	80
0.3	1106	1.3	1579	3.1	1579	2.0	5.6	1618	1.9	13.711	457.111	g500-S3100	m550-H71/L4	4	120
0.3	1198	1.2	1711	2.9	1711	1.8	5.1	1753	1.8	13.687	495.172	g500-S3100	m550-H71/L4	4	120
0.3	1202	1.2	1716	2.9	1716	1.2	5.1	1758	1.2	13.549	496.628	g500-S2100	m550-H71/L4	4	80

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
0.3	1253	1.2	1790	2.8	1790	2.5	4.9	1833	2.5	13.762	518.017	g500-S4500	m550-H71/L4	4	195
0.3	1324	1.1	1891	2.6	1891	1.1	4.6	1938	1.1	13.536	547.426	g500-S2100	m550-H71/L4	4	80
0.3	1355	1.1	1935	2.6	1935	1.6	4.5	1982	1.6	13.685	559.961	g500-S3100	m550-H71/L4	4	120
0.2	1399	1.0	1998	2.5	1998	2.3	4.4	2047	2.2	13.759	578.252	g500-S4500	m550-H71/L4	4	195
0.2	1472	1.0	2102	2.4	2102	1.0	4.2	2153	1.0	13.535	608.369	g500-S2100	m550-H71/L4	4	80
0.2	1536	0.9	2193	2.3	2193	2.1	4.0	2247	2.0	13.719	634.887	g500-S4500	m550-H71/L4	4	195
0.2	1559	0.9	2227	2.2	2227	1.4	3.9	2281	1.4	13.539	644.510	g500-S3100	m550-H71/L4	4	120
0.2	1715	0.8	2448	2.0	2448	1.8	3.6	2508	1.8	13.718	708.711	g500-S4500	m550-H71/L4	4	195
0.2	1724	0.8	2462	2.0	2462	0.8	3.6	2522	0.8	13.521	712.523	g500-S2100	m550-H71/L4	4	80
0.2	1763	0.8	2518	2.0	2518	1.2	3.5	2580	1.2	13.538	728.838	g500-S3100	m550-H71/L4	4	120
0.2	1940	0.7	2770	1.8	2770	1.1	3.2	2838	1.1	13.471	801.707	g500-S3100	m550-H71/L4	4	120
0.2	1999	0.7	2855	1.7	2855	1.6	3.1	2925	1.5	13.558	826.361	g500-S4500	m550-H71/L4	4	195
0.2	2193	0.7	3132	1.6	3132	1.0	2.8	3209	1.0	13.470	906.604	g500-S3100	m550-H71/L4	4	120
0.2	2232	0.7	3187	1.6	3187	1.4	2.8	3265	1.4	13.557	922.449	g500-S4500	m550-H71/L4	4	195
0.1	2487	0.6	3551	1.4	3551	1.3	2.5	3638	1.2	13.483	1027.912	g500-S4500	m550-H71/L4	4	195
0.1	2525	0.6	3605	1.4	3605	0.9	2.4	3693	0.8	13.460	1043.492	g500-S3100	m550-H71/L4	4	120
0.1	2776	0.5	3964	1.2	3964	1.1	2.2	4061	1.1	13.482	1147.437	g500-S4500	m550-H71/L4	4	195
0.1	2931	0.5	4186	1.2	4186	1.1	2.1	4288	1.1	13.423	1211.575	g500-S4500	m550-H71/L4	4	195
0.1	3266	0.4	4664	1.1	4664	1.0	1.9	4779	0.9	13.468	1350.094	g500-S4500	m550-H71/L4	4	195
0.1	3646	0.4	5207	0.9	5207	0.9	1.7	5334	0.8	13.467	1507.081	g500-S4500	m550-H71/L4	4	195

50 Hz: 0.75 kW

87 Hz: 1.35 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
43.7	11.2	180	16.0	436	16.0	4.9	768	16.0	4.0	32.360	3.339	g500-S400	m550-P80/M4	2	23
39.9	12.3	164	17.0	397	17.0	3.6	701	18.0	3.0	28.763	3.661	g500-S130	m550-P80/M4	2	18
38.0	12.9	156	18.0	379	18.0	4.9	668	19.0	4.0	29.796	3.840	g500-S220	m550-P80/M4	2	20
29.1	16.8	120	24.0	290	24.0	3.2	511	25.0	2.6	28.087	5.021	g500-S130	m550-P80/M4	2	18
24.9	19.6	102	28.0	248	28.0	4.3	438	29.0	3.5	29.061	5.860	g500-S400	m550-P80/M4	2	23
22.8	21.5	93.6	31.0	227	31.0	4.3	400	31.0	3.5	28.776	6.411	g500-S400	m550-P80/M4	2	23
22.7	21.5	93.4	31.0	226	31.0	2.8	399	31.0	2.3	27.773	6.425	g500-S130	m550-P80/M4	2	18
21.6	22.6	88.7	32.0	215	32.0	4.9	379	33.0	4.0	28.841	6.767	g500-S220	m550-P80/M4	2	20
20.8	23.5	85.4	34.0	207	34.0	2.7	365	34.0	2.2	27.688	7.029	g500-S130	m550-P80/M4	2	18
19.6	25.0	80.4	36.0	195	36.0	4.9	344	36.0	4.0	29.379	7.467	g500-S400	m550-P80/M4	2	23
19.0	25.7	78.3	37.0	190	37.0	4.9	335	37.0	4.0	28.699	7.667	g500-S220	m550-P80/M4	2	20
17.5	27.9	72.1	40.0	175	40.0	2.9	308	41.0	2.4	27.885	8.322	g500-S130	m550-P80/M4	2	18
17.3	28.2	71.1	40.0	173	40.0	4.9	304	41.0	4.0	29.145	8.436	g500-S400	m550-P80/M4	2	23
15.5	31.5	63.8	45.0	155	45.0	2.8	273	46.0	2.3	28.230	9.411	g500-S130	m550-P80/M4	2	18
12.8	38.2	52.6	54.0	128	54.0	2.4	225	56.0	2.0	27.621	11.413	g500-S130	m550-P80/M4	2	18
12.3	39.8	50.5	57.0	123	57.0	3.9	216	58.0	3.2	27.919	11.876	g500-S220	m550-P80/M4	2	20
11.3	43.2	46.5	62.0	113	62.0	2.1	199	63.0	1.7	27.804	12.907	g500-S130	m550-P80/M4	2	18
11.2	43.5	46.2	62.0	112	62.0	3.6	197	63.0	2.9	27.821	12.992	g500-S220	m550-P80/M4	2	20
11.1	43.9	45.8	63.0	111	63.0	4.3	196	64.0	3.5	28.093	13.105	g500-S400	m550-P80/M4	2	23
10.9	45.0	44.6	64.0	108	64.0	3.4	191	66.0	2.8	27.873	13.456	g500-S220	m550-P80/M4	2	20
10.2	48.0	41.9	68.0	102	68.0	4.3	179	70.0	3.5	27.967	14.336	g500-S400	m550-P80/M4	2	23
10.0	48.9	41.1	70.0	99.6	70.0	1.9	176	71.0	1.5	27.488	14.606	g500-S130	m550-P80/M4	2	18
9.9	49.3	40.8	70.0	98.8	70.0	3.1	174	72.0	2.6	27.783	14.720	g500-S220	m550-P80/M4	2	20
9.9	49.6	40.5	71.0	98.3	71.0	4.3	173	72.0	3.5	28.017	14.806	g500-S400	m550-P80/M4	2	23
9.3	52.6	38.2	75.0	92.6	75.0	4.3	163	77.0	3.5	28.713	15.714	g500-S660	m550-P80/M4	2	28
9.1	53.5	37.6	76.0	91.1	76.0	1.7	161	78.0	1.4	27.450	15.979	g500-S130	m550-P80/M4	2	18
9.0	54.2	37.0	77.0	89.8	77.0	4.3	158	79.0	3.5	27.904	16.197	g500-S400	m550-P80/M4	2	23
8.8	55.5	36.2	79.0	87.8	79.0	2.8	155	81.0	2.3	27.642	16.571	g500-S220	m550-P80/M4	2	20
8.2	59.9	33.5	85.0	81.3	85.0	4.3	143	87.0	3.5	28.615	17.905	g500-S660	m550-P80/M4	2	28
8.1	60.5	33.2	86.0	80.5	86.0	1.5	142	88.0	1.4	27.544	18.069	g500-S130	m550-P80/M4	2	18
8.0	61.2	32.8	87.0	79.6	87.0	4.0	140	89.0	3.7	27.731	18.286	g500-S400	m550-P80/M4	2	23
7.8	62.8	32.0	90.0	77.5	90.0	2.5	137	92.0	2.3	27.618	18.776	g500-S220	m550-P80/M4	2	20
7.2	67.9	29.6	97.0	71.7	97.0	2.3	126	99.0	2.1	27.536	20.300	g500-S220	m550-P80/M4	2	20
7.2	68.2	29.4	97.0	71.4	97.0	1.3	126	99.0	1.2	27.375	20.381	g500-S130	m550-P80/M4	2	18
7.1	69.2	29.0	99.0	70.4	99.0	4.0	124	101	3.7	27.692	20.659	g500-S400	m550-P80/M4	2	23
6.5	75.0	26.8	107	65.0	107	3.6	115	109	3.3	27.596	22.400	g500-S400	m550-P80/M4	2	23
6.3	77.0	26.1	110	63.3	110	2.0	112	112	1.9	27.520	23.000	g500-S220	m550-P80/M4	2	20
6.3	77.1	26.0	110	63.1	110	1.2	111	112	1.1	27.432	23.048	g500-S130	m550-P80/M4	2	18
5.8	83.6	24.0	119	58.3	119	1.1	103	122	1.0	27.331	24.967	g500-S130	m550-P80/M4	2	18
5.8	83.9	23.9	120	58.1	120	3.6	102	122	3.3	27.847	25.056	g500-S660	m550-P80/M4	2	28
5.8	84.7	23.7	121	57.5	121	3.3	101	124	3.1	27.570	25.308	g500-S400	m550-P80/M4	2	23
5.5	88.4	22.7	126	55.1	126	1.7	97.1	129	1.6	27.409	26.422	g500-S220	m550-P80/M4	2	20
5.2	94.5	21.3	135	51.5	135	1.0	90.9	138	0.9	27.369	28.233	g500-S130	m550-P80/M4	2	18
5.1	95.6	21.0	136	51.0	136	3.6	89.8	139	3.3	27.809	28.548	g500-S660	m550-P80/M4	2	28
5.0	97.6	20.6	139	49.9	139	2.9	88.0	142	2.7	27.444	29.156	g500-S400	m550-P80/M4	2	23
4.9	100	20.0	143	48.6	143	1.5	85.7	146	1.4	27.399	29.937	g500-S220	m550-P80/M4	2	20
4.7	104	19.3	149	46.7	149	3.0	82.3	152	2.9	27.667	31.167	g500-S660	m550-P80/M4	2	28
4.7	105	19.1	150	46.4	150	0.9	81.7	153	0.9	27.287	31.387	g500-S130	m550-P80/M4	2	18
4.4	110	18.3	157	44.3	157	1.4	78.0	160	1.4	27.351	32.867	g500-S220	m550-P80/M4	2	20
4.4	110	18.2	157	44.2	157	2.5	77.9	161	2.5	27.428	32.940	g500-S400	m550-P80/M4	2	23

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
4.1	119	16.9	170	41.0	170	3.0	72.2	173	2.9	27.642	35.511	g500-S660	m550-P80/M4	2	28
4.0	121	16.5	173	40.1	173	2.3	70.7	177	2.3	27.374	36.267	g500-S400	m550-P80/M4	2	23
3.9	125	16.1	178	39.1	178	1.2	68.9	182	1.2	27.345	37.238	g500-S220	m550-P80/M4	2	20
3.6	135	14.9	193	36.1	193	2.7	63.6	197	2.7	27.490	40.333	g500-S660	m550-P80/M4	2	28
3.6	137	14.6	196	35.5	196	2.1	62.6	200	2.0	27.364	40.974	g500-S400	m550-P80/M4	2	23
3.6	138	14.6	196	35.4	196	3.0	62.5	200	2.9	27.987	41.067	g500-S950	m550-P80/M4	2	48
3.4	142	14.1	203	34.2	203	1.1	60.3	208	1.1	27.295	42.533	g500-S220	m550-P80/M4	2	20
3.2	154	13.1	219	31.7	219	2.7	55.8	224	2.7	27.475	45.956	g500-S660	m550-P80/M4	2	28
3.2	154	13.1	219	31.7	219	3.0	55.8	224	2.9	27.961	45.956	g500-S950	m550-P80/M4	2	48
3.1	157	12.8	224	31.0	224	1.4	54.7	229	1.4	27.309	46.933	g500-S400	m550-P80/M4	2	23
3.0	161	12.5	230	30.2	230	1.0	53.2	235	0.9	27.291	48.190	g500-S220	m550-P80/M4	2	20
3.0	164	12.3	234	29.7	234	1.9	52.4	239	1.9	27.411	48.950	g500-S660	m550-P80/M4	2	28
2.9	164	12.0	234	29.2	234	2.7	51.4	240	2.5	27.590	49.867	g500-S660	m550-P80/M4	3	29
2.9	167	12.0	238	29.2	238	2.6	51.5	243	2.6	27.778	49.840	g500-S950	m550-P80/M4	2	48
2.8	173	11.6	246	28.2	246	0.9	49.7	252	0.9	27.269	51.620	g500-S220	m550-P80/M4	2	20
2.8	173	11.4	247	27.7	247	0.9	48.8	253	0.8	27.334	52.587	g500-S220	m550-P80/M4	3	20
2.8	178	11.3	253	27.4	253	1.4	48.4	259	1.3	27.303	53.026	g500-S400	m550-P80/M4	2	23
2.6	187	10.8	266	26.1	266	1.9	46.0	272	1.9	27.401	55.773	g500-S660	m550-P80/M4	2	28
2.6	187	10.8	266	26.1	266	2.6	46.0	272	2.6	27.760	55.773	g500-S950	m550-P80/M4	2	48
2.6	187	10.6	267	25.6	267	2.4	45.1	273	2.3	27.581	56.818	g500-S660	m550-P80/M4	3	29
2.6	191	10.5	272	25.5	272	1.0	45.0	278	1.0	27.279	56.960	g500-S400	m550-P80/M4	2	23
2.5	191	10.3	273	25.1	273	1.5	44.2	279	1.4	27.342	58.027	g500-S400	m550-P80/M4	3	23
2.3	210	9.4	300	22.8	300	2.2	40.2	307	2.0	27.470	63.817	g500-S660	m550-P80/M4	3	29
2.3	211	9.5	301	23.1	301	2.1	40.7	307	2.0	27.572	63.000	g500-S950	m550-P80/M4	2	48
2.3	211	9.4	301	22.7	301	3.2	40.1	308	2.9	27.944	64.022	g500-S950	m550-P80/M4	3	48
2.3	215	9.3	307	22.6	307	1.0	39.9	314	1.0	27.274	64.354	g500-S400	m550-P80/M4	2	23
2.2	216	9.2	308	22.2	308	1.3	39.1	315	1.2	27.339	65.559	g500-S400	m550-P80/M4	3	23
2.1	230	8.6	328	20.8	328	2.0	36.7	336	1.9	27.435	69.813	g500-S660	m550-P80/M4	3	29
2.1	231	8.6	329	20.8	329	2.9	36.6	337	2.8	27.843	70.037	g500-S950	m550-P80/M4	3	48
2.1	236	8.5	337	20.6	337	2.1	36.4	344	2.0	27.561	70.500	g500-S950	m550-P80/M4	2	48
2.0	236	8.4	337	20.3	337	2.8	35.8	344	2.8	27.934	71.644	g500-S950	m550-P80/M4	3	48
2.0	240	8.3	342	20.0	342	1.9	35.3	350	1.9	27.464	72.713	g500-S660	m550-P80/M4	3	29
2.0	245	8.1	349	19.6	349	1.2	34.5	357	1.1	27.298	74.260	g500-S400	m550-P80/M4	3	23
1.9	258	7.7	369	18.6	369	2.6	32.7	377	2.5	27.834	78.375	g500-S950	m550-P80/M4	3	48
1.8	262	7.5	374	18.3	374	1.8	32.2	382	1.7	27.430	79.545	g500-S660	m550-P80/M4	3	29
1.7	277	7.2	394	17.3	394	1.0	30.6	403	1.0	27.295	83.900	g500-S400	m550-P80/M4	3	23
1.6	294	6.7	419	16.3	419	1.6	28.8	428	1.5	27.365	89.048	g500-S660	m550-P80/M4	3	29
1.6	295	6.7	420	16.3	420	2.3	28.7	429	2.2	27.655	89.333	g500-S950	m550-P80/M4	3	48
1.5	313	6.3	447	15.3	447	0.9	27.0	457	0.9	27.266	94.984	g500-S400	m550-P80/M4	3	23
1.5	323	6.1	461	14.8	461	4.3	26.1	472	4.2	28.596	98.095	g500-S2100	m550-P80/M4	3	81
1.5	330	6.0	470	14.6	470	2.0	25.7	481	2.0	27.649	99.968	g500-S950	m550-P80/M4	3	48
1.4	335	5.9	477	14.3	477	1.4	25.3	488	1.4	27.362	101.460	g500-S660	m550-P80/M4	3	29
1.3	360	5.5	513	13.3	513	1.3	23.5	524	1.3	27.325	109.083	g500-S660	m550-P80/M4	3	29
1.3	359	5.5	513	13.3	513	4.0	23.5	524	3.9	28.579	109.016	g500-S2100	m550-P80/M4	3	81
1.3	361	5.5	515	13.3	515	1.9	23.4	526	1.8	27.545	109.433	g500-S950	m550-P80/M4	3	48
1.3	381	5.2	543	12.6	543	4.3	22.2	555	4.2	28.719	115.492	g500-S3100	m550-P80/M4	3	120
1.2	404	4.9	576	11.9	576	1.7	20.9	589	1.6	27.541	122.461	g500-S950	m550-P80/M4	3	48
1.2	410	4.8	584	11.7	584	1.1	20.6	597	1.1	27.323	124.289	g500-S660	m550-P80/M4	3	29
1.1	431	4.6	614	11.1	614	4.3	19.6	628	4.2	28.680	130.603	g500-S3100	m550-P80/M4	3	120
1.1	452	4.4	645	10.6	645	1.0	18.7	659	1.0	27.283	137.133	g500-S660	m550-P80/M4	3	29
1.0	470	4.2	670	10.2	670	1.4	18.0	685	1.4	27.414	142.437	g500-S950	m550-P80/M4	3	48
0.9	515	3.8	735	9.3	735	0.9	16.4	751	0.9	27.282	156.249	g500-S660	m550-P80/M4	3	29

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
0.9	516	3.8	735	9.3	735	2.8	16.4	752	2.7	27.801	156.407	g500-S2100	m550-P80/M4	3	81
0.9	526	3.8	749	9.1	749	1.3	16.1	766	1.2	27.412	159.394	g500-S950	m550-P80/M4	3	48
0.8	573	3.5	817	8.4	817	2.5	14.8	836	2.5	27.795	173.820	g500-S2100	m550-P80/M4	3	81
0.8	584	3.4	833	8.2	833	1.1	14.5	852	1.1	27.354	177.178	g500-S950	m550-P80/M4	3	48
0.8	607	3.3	866	7.9	866	3.6	13.9	885	3.5	27.902	184.146	g500-S3100	m550-P80/M4	3	120
0.8	642	3.1	915	7.5	915	2.2	13.2	935	2.2	27.637	194.556	g500-S2100	m550-P80/M4	3	81
0.7	654	3.0	932	7.3	932	1.0	12.9	953	1.0	27.353	198.270	g500-S950	m550-P80/M4	3	48
0.7	687	2.9	979	7.0	979	3.2	12.3	1001	3.1	27.887	208.240	g500-S3100	m550-P80/M4	3	120
0.7	713	2.8	1017	6.7	1017	2.0	11.9	1039	2.0	27.633	216.215	g500-S2100	m550-P80/M4	3	81
0.6	755	2.6	1077	6.4	1077	2.9	11.2	1101	2.8	27.668	229.059	g500-S3100	m550-P80/M4	3	120
0.6	756	2.6	1078	6.3	1078	0.9	11.2	1102	0.9	27.297	229.289	g500-S950	m550-P80/M4	3	48
0.6	786	2.5	1120	6.1	1120	3.0	10.8	1145	2.9	28.073	238.252	g500-S4500	m550-P80/M4	3	195
0.6	830	2.4	1184	5.8	1184	1.7	10.2	1210	1.7	27.472	251.778	g500-S2100	m550-P80/M4	3	81
0.6	854	2.3	1218	5.6	1218	2.6	9.9	1245	2.5	27.658	259.030	g500-S3100	m550-P80/M4	3	120
0.5	877	2.3	1250	5.5	1250	3.0	9.6	1278	2.9	28.061	265.956	g500-S4500	m550-P80/M4	3	195
0.5	923	2.1	1316	5.2	1316	1.6	9.2	1345	1.5	27.470	279.807	g500-S2100	m550-P80/M4	3	81
0.5	953	2.1	1360	5.0	1360	2.6	8.9	1390	2.6	27.836	289.151	g500-S4500	m550-P80/M4	3	195
0.5	977	2.0	1394	4.9	1394	2.2	8.7	1425	2.2	27.491	296.430	g500-S3100	m550-P80/M4	3	120
0.5	1008	2.0	1437	4.8	1437	1.4	8.4	1469	1.4	27.399	305.567	g500-S2100	m550-P80/M4	3	81
0.5	1029	1.9	1468	4.6	1468	2.1	8.1	1501	2.1	27.662	316.910	g500-S3100	m550-P80/M4	4	123
0.5	1040	1.9	1483	4.5	1483	1.4	8.0	1516	1.4	27.490	320.263	g500-S2100	m550-P80/M4	4	84
0.4	1055	1.8	1505	4.5	1505	3.0	7.9	1538	2.9	27.828	324.889	g500-S4500	m550-P80/M4	4	198
0.5	1064	1.9	1518	4.5	1518	2.6	7.9	1552	2.6	27.828	322.773	g500-S4500	m550-P80/M4	3	195
0.4	1105	1.8	1576	4.3	1576	2.0	7.7	1611	1.9	27.485	335.215	g500-S3100	m550-P80/M4	3	120
0.4	1120	1.8	1597	4.3	1597	1.3	7.6	1632	1.3	27.397	339.584	g500-S2100	m550-P80/M4	3	81
0.4	1138	1.7	1623	4.2	1623	1.3	7.3	1659	1.2	27.475	350.353	g500-S2100	m550-P80/M4	4	84
0.4	1164	1.7	1660	4.1	1660	1.9	7.2	1697	1.8	27.657	358.375	g500-S3100	m550-P80/M4	4	123
0.4	1178	1.7	1680	4.0	1680	2.7	7.1	1717	2.6	27.822	362.667	g500-S4500	m550-P80/M4	4	198
0.4	1186	1.7	1692	4.0	1692	1.8	7.1	1729	1.8	27.411	359.758	g500-S3100	m550-P80/M4	3	120
0.4	1205	1.6	1719	4.0	1719	2.1	7.0	1757	2.0	27.608	365.500	g500-S4500	m550-P80/M4	3	195
0.4	1265	1.5	1803	3.7	1803	1.1	6.6	1844	1.1	27.474	389.356	g500-S2100	m550-P80/M4	4	84
0.4	1274	1.6	1816	3.8	1816	1.1	6.6	1857	1.1	27.329	386.250	g500-S2100	m550-P80/M4	3	81
0.4	1293	1.5	1843	3.7	1843	2.4	6.4	1884	2.4	27.744	397.989	g500-S4500	m550-P80/M4	4	198
0.4	1313	1.5	1872	3.6	1872	1.7	6.3	1914	1.6	27.615	404.222	g500-S3100	m550-P80/M4	4	123
0.4	1341	1.5	1913	3.6	1913	1.6	6.3	1956	1.6	27.407	406.829	g500-S3100	m550-P80/M4	3	120
0.4	1345	1.5	1918	3.6	1918	2.1	6.3	1961	2.0	27.603	408.000	g500-S4500	m550-P80/M4	3	195
0.3	1415	1.4	2018	3.4	2018	1.0	6.0	2063	1.0	27.327	429.250	g500-S2100	m550-P80/M4	3	81
0.3	1443	1.4	2058	3.3	2058	2.2	5.8	2104	2.1	27.740	444.267	g500-S4500	m550-P80/M4	4	198
0.3	1451	1.3	2070	3.3	2070	1.0	5.7	2116	1.0	27.450	446.878	g500-S2100	m550-P80/M4	4	84
0.3	1485	1.3	2117	3.2	2117	1.5	5.6	2164	1.4	27.611	457.111	g500-S3100	m550-P80/M4	4	123
0.3	1608	1.2	2293	2.9	2293	1.4	5.2	2345	1.3	27.587	495.172	g500-S3100	m550-P80/M4	4	123
0.3	1613	1.2	2300	2.9	2300	0.9	5.2	2351	0.9	27.449	496.628	g500-S2100	m550-P80/M4	4	84
0.3	1682	1.2	2399	2.8	2399	1.9	5.0	2453	1.8	27.662	518.017	g500-S4500	m550-P80/M4	4	198
0.3	1778	1.1	2535	2.7	2535	0.8	4.7	2592	0.8	27.436	547.426	g500-S2100	m550-P80/M4	4	84
0.3	1819	1.1	2593	2.6	2593	1.2	4.6	2651	1.2	27.585	559.961	g500-S3100	m550-P80/M4	4	123
0.3	1878	1.0	2678	2.5	2678	1.7	4.4	2738	1.6	27.659	578.252	g500-S4500	m550-P80/M4	4	198
0.2	2062	0.9	2940	2.3	2940	1.5	4.0	3006	1.5	27.619	634.887	g500-S4500	m550-P80/M4	4	198
0.2	2093	0.9	2985	2.3	2985	1.0	4.0	3052	1.0	27.439	644.510	g500-S3100	m550-P80/M4	4	123
0.2	2302	0.8	3282	2.1	3282	1.4	3.6	3356	1.3	27.618	708.711	g500-S4500	m550-P80/M4	4	198
0.2	2367	0.8	3376	2.0	3376	0.9	3.5	3451	0.9	27.438	728.838	g500-S3100	m550-P80/M4	4	123
0.2	2604	0.7	3713	1.8	3713	0.8	3.2	3796	0.8	27.371	801.707	g500-S3100	m550-P80/M4	4	123
0.2	2684	0.7	3827	1.8	3827	1.2	3.1	3913	1.2	27.458	826.361	g500-S4500	m550-P80/M4	4	198

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
0.2	2996	0.7	4272	1.6	4272	1.1	2.8	4368	1.0	27.457	922.449	g500-S4500	m550-P80/M4	4	198
0.1	3338	0.6	4761	1.4	4761	1.0	2.5	4867	0.9	27.383	1027.912	g500-S4500	m550-P80/M4	4	198
0.1	3726	0.5	5314	1.3	5314	0.9	2.2	5433	0.8	27.382	1147.437	g500-S4500	m550-P80/M4	4	198
0.1	3935	0.5	5611	1.2	5611	0.8	2.1	5737	0.8	27.323	1211.575	g500-S4500	m550-P80/M4	4	198

50 Hz: 1.1 kW

87 Hz: 1.9 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
40.2	17.8	164	25.0	400	25.0	2.5	703	25.0	2.1	55.363	3.661	g500-S130	m550-P90/M4	2	23
29.3	24.5	120	35.0	292	35.0	2.2	513	34.0	1.9	54.687	5.021	g500-S130	m550-P90/M4	2	23
27.9	25.7	114	37.0	278	37.0	4.9	489	36.0	4.2	55.344	5.267	g500-S220	m550-P90/M4	2	25
22.9	31.3	93.4	45.0	228	45.0	2.0	401	44.0	1.7	54.373	6.425	g500-S130	m550-P90/M4	2	23
21.7	33.0	88.7	47.0	217	47.0	4.7	381	46.0	4.0	55.441	6.767	g500-S220	m550-P90/M4	2	25
20.9	34.2	85.4	49.0	208	49.0	1.9	366	48.0	1.6	54.288	7.029	g500-S130	m550-P90/M4	2	23
19.2	37.3	78.3	53.0	191	53.0	4.1	336	52.0	3.5	55.299	7.667	g500-S220	m550-P90/M4	2	25
17.7	40.5	72.1	58.0	176	58.0	2.0	309	57.0	1.7	54.485	8.322	g500-S130	m550-P90/M4	2	23
15.8	45.2	64.7	65.0	158	65.0	3.4	278	63.0	2.9	54.836	9.280	g500-S220	m550-P90/M4	2	25
15.6	45.8	63.8	65.0	156	65.0	1.9	274	64.0	1.6	54.830	9.411	g500-S130	m550-P90/M4	2	23
14.0	51.2	57.1	73.0	139	73.0	3.0	245	72.0	2.6	54.761	10.514	g500-S220	m550-P90/M4	2	25
12.9	55.6	52.6	79.0	128	79.0	1.6	226	78.0	1.4	54.221	11.413	g500-S130	m550-P90/M4	2	23
12.7	56.3	51.9	80.0	127	80.0	5.0	223	79.0	4.2	54.998	11.569	g500-S400	m550-P90/M4	2	28
12.4	57.8	50.5	83.0	123	83.0	2.7	217	81.0	2.3	54.519	11.876	g500-S220	m550-P90/M4	2	25
11.4	62.9	46.5	90.0	114	90.0	1.5	200	88.0	1.2	54.404	12.907	g500-S130	m550-P90/M4	2	23
11.3	63.3	46.2	90.0	113	90.0	2.4	198	89.0	2.1	54.421	12.992	g500-S220	m550-P90/M4	2	25
11.2	63.8	45.8	91.0	112	91.0	4.4	197	90.0	3.7	54.693	13.105	g500-S400	m550-P90/M4	2	28
10.9	65.5	44.6	94.0	109	94.0	2.4	191	92.0	2.0	54.473	13.456	g500-S220	m550-P90/M4	2	25
10.3	69.8	41.9	100	102	100	4.0	180	98.0	3.4	54.567	14.336	g500-S400	m550-P90/M4	2	28
10.1	71.1	41.1	102	100	102	1.3	176	100	1.1	54.088	14.606	g500-S130	m550-P90/M4	2	23
10.0	71.7	40.8	102	99.5	102	2.2	175	101	1.8	54.383	14.720	g500-S220	m550-P90/M4	2	25
9.9	72.1	40.5	103	98.9	103	3.9	174	101	3.3	54.617	14.806	g500-S400	m550-P90/M4	2	28
9.2	77.8	37.6	111	91.7	111	1.2	161	109	1.0	54.050	15.979	g500-S130	m550-P90/M4	2	23
9.1	78.9	37.0	113	90.4	113	3.6	159	111	3.0	54.504	16.197	g500-S400	m550-P90/M4	2	28
8.9	80.7	36.2	115	88.4	115	1.9	155	113	1.6	54.242	16.571	g500-S220	m550-P90/M4	2	25
8.1	88.0	33.2	126	81.1	126	1.0	143	124	1.0	54.144	18.069	g500-S130	m550-P90/M4	2	23
8.0	89.1	32.8	127	80.1	127	3.1	141	125	3.0	54.331	18.286	g500-S400	m550-P90/M4	2	28
7.8	91.4	32.0	131	78.0	131	1.7	137	128	1.6	54.218	18.776	g500-S220	m550-P90/M4	2	25
7.6	93.8	31.2	134	76.1	134	4.9	134	132	4.7	54.954	19.250	g500-S660	m550-P90/M4	2	33
7.2	98.9	29.6	141	72.2	141	1.6	127	139	1.5	54.136	20.300	g500-S220	m550-P90/M4	2	25
7.2	99.3	29.4	142	71.9	142	0.9	126	139	0.9	53.975	20.381	g500-S130	m550-P90/M4	2	23
7.1	101	29.0	144	70.9	144	2.8	125	141	2.7	54.292	20.659	g500-S400	m550-P90/M4	2	28
6.7	107	27.4	153	66.8	153	4.3	117	150	4.2	54.889	21.933	g500-S660	m550-P90/M4	2	33
6.6	109	26.8	156	65.4	156	2.6	115	153	2.5	54.196	22.400	g500-S400	m550-P90/M4	2	28
6.4	112	26.1	160	63.7	160	1.4	112	157	1.3	54.120	23.000	g500-S220	m550-P90/M4	2	25
6.4	112	26.0	160	63.6	160	0.8	112	158	0.8	54.032	23.048	g500-S130	m550-P90/M4	2	23
5.9	122	23.9	174	58.5	174	3.3	103	171	3.2	54.447	25.056	g500-S660	m550-P90/M4	2	33
5.8	123	23.7	176	57.9	176	2.3	102	173	2.2	54.170	25.308	g500-S400	m550-P90/M4	2	28
5.8	124	23.5	177	57.4	177	4.9	101	174	4.7	55.630	25.511	g500-S950	m550-P90/M4	2	53
5.6	129	22.7	184	55.4	184	1.2	97.5	181	1.2	54.009	26.422	g500-S220	m550-P90/M4	2	25
5.1	139	21.0	199	51.3	199	3.3	90.2	195	3.2	54.409	28.548	g500-S660	m550-P90/M4	2	33
5.1	139	21.0	199	51.3	199	4.8	90.2	195	4.6	55.563	28.548	g500-S950	m550-P90/M4	2	53
5.0	142	20.6	203	50.2	203	2.0	88.3	199	1.9	54.044	29.156	g500-S400	m550-P90/M4	2	28
4.9	146	20.0	208	48.9	208	1.1	86.0	205	1.0	53.999	29.937	g500-S220	m550-P90/M4	2	25
4.7	152	19.3	217	47.0	217	3.0	82.6	213	3.1	54.267	31.167	g500-S660	m550-P90/M4	2	33
4.7	152	19.2	218	46.9	218	4.1	82.4	214	4.1	55.059	31.267	g500-S950	m550-P90/M4	2	53
4.5	160	18.3	229	44.6	229	1.0	78.3	225	1.0	53.951	32.867	g500-S220	m550-P90/M4	2	25
4.5	160	18.2	229	44.5	229	1.8	78.2	225	1.8	54.028	32.940	g500-S400	m550-P90/M4	2	28
4.2	170	17.1	243	41.9	243	3.9	73.6	239	4.0	55.014	34.989	g500-S950	m550-P90/M4	2	53
4.1	173	16.9	247	41.3	247	2.7	72.5	243	2.7	54.242	35.511	g500-S660	m550-P90/M4	2	33

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
4.1	177	16.5	252	40.4	252	1.6	71.0	248	1.6	53.974	36.267	g500-S400	m550-P90/M4	2	28
3.9	181	16.1	259	39.3	259	0.9	69.1	255	0.9	53.945	37.238	g500-S220	m550-P90/M4	2	25
3.6	196	14.9	281	36.3	281	1.9	63.8	276	2.0	54.090	40.333	g500-S660	m550-P90/M4	2	33
3.6	200	14.6	285	35.8	285	1.4	62.8	280	1.4	53.964	40.974	g500-S400	m550-P90/M4	2	28
3.6	200	14.6	286	35.7	286	3.3	62.7	281	3.4	54.587	41.067	g500-S950	m550-P90/M4	2	53
3.3	216	13.5	309	33.0	309	4.1	58.0	304	4.1	56.419	44.431	g500-S2100	m550-P90/M4	2	85
3.2	224	13.1	320	31.9	320	1.9	56.0	314	2.0	54.075	45.956	g500-S660	m550-P90/M4	2	33
3.2	224	13.1	320	31.9	320	3.0	56.0	314	3.0	54.561	45.956	g500-S950	m550-P90/M4	2	53
3.0	238	12.3	341	29.9	341	1.3	52.6	335	1.3	54.011	48.950	g500-S660	m550-P90/M4	2	33
2.9	239	12.0	342	29.4	342	1.8	51.6	336	1.8	54.190	49.867	g500-S660	m550-P90/M4	3	34
3.0	241	12.2	343	29.7	343	4.1	52.1	338	4.1	56.336	49.378	g500-S2100	m550-P90/M4	2	85
2.9	240	12.0	343	29.3	343	2.8	51.5	337	2.7	54.878	50.027	g500-S950	m550-P90/M4	3	54
2.9	243	12.0	347	29.4	347	2.7	51.7	341	2.7	54.378	49.840	g500-S950	m550-P90/M4	2	53
2.8	255	11.5	364	28.0	364	4.1	49.2	358	4.1	56.951	52.311	g500-S3100	m550-P90/M4	2	124
2.7	263	11.1	375	27.2	375	3.6	47.8	369	3.6	55.711	53.924	g500-S2100	m550-P90/M4	2	85
2.6	269	10.7	384	26.2	384	2.5	46.0	377	2.4	54.861	55.982	g500-S950	m550-P90/M4	3	54
2.6	272	10.8	388	26.3	388	1.3	46.2	381	1.3	54.001	55.773	g500-S660	m550-P90/M4	2	33
2.6	272	10.8	388	26.3	388	2.5	46.2	381	2.5	54.360	55.773	g500-S950	m550-P90/M4	2	53
2.6	273	10.6	389	25.8	389	1.7	45.3	383	1.6	54.181	56.818	g500-S660	m550-P90/M4	3	34
2.5	288	10.1	412	24.8	412	4.1	43.5	405	4.1	56.759	59.156	g500-S3100	m550-P90/M4	2	124
2.5	292	10.0	417	24.4	417	3.6	43.0	410	3.6	55.654	59.927	g500-S2100	m550-P90/M4	2	85
2.3	306	9.4	437	23.0	437	1.5	40.3	430	1.5	54.070	63.817	g500-S660	m550-P90/M4	3	34
2.3	307	9.5	438	23.3	438	1.5	40.9	431	1.6	54.172	63.000	g500-S950	m550-P90/M4	2	53
2.3	307	9.4	439	22.9	439	2.2	40.2	431	2.1	54.544	64.022	g500-S950	m550-P90/M4	3	54
2.3	309	9.5	442	23.1	442	3.6	40.6	434	3.6	56.072	63.487	g500-S3100	m550-P90/M4	2	124
2.2	332	8.8	474	21.5	474	2.7	37.8	466	2.8	55.059	68.162	g500-S2100	m550-P90/M4	2	85
2.1	335	8.6	478	21.0	478	1.4	36.9	470	1.3	54.035	69.813	g500-S660	m550-P90/M4	3	34
2.1	336	8.6	480	20.9	480	2.0	36.8	472	2.0	54.443	70.037	g500-S950	m550-P90/M4	3	54
2.1	337	8.5	482	20.8	482	4.3	36.6	474	4.3	55.979	70.302	g500-S2100	m550-P90/M4	3	86
2.1	343	8.5	490	20.8	490	1.5	36.5	482	1.5	54.161	70.500	g500-S950	m550-P90/M4	2	53
2.1	344	8.4	491	20.4	491	1.9	35.9	483	2.0	54.534	71.644	g500-S950	m550-P90/M4	3	54
2.0	349	8.3	498	20.1	498	1.3	35.4	490	1.4	54.064	72.713	g500-S660	m550-P90/M4	3	34
2.0	350	8.4	499	20.4	499	3.6	35.9	491	3.6	55.941	71.793	g500-S3100	m550-P90/M4	2	124
1.9	369	7.9	527	19.3	527	2.7	34.0	518	2.8	55.024	75.750	g500-S2100	m550-P90/M4	2	85
1.9	369	7.8	527	19.0	527	3.9	33.5	518	4.0	55.732	76.907	g500-S2100	m550-P90/M4	3	86
1.9	375	7.7	535	18.8	535	3.8	33.0	526	3.9	55.946	78.128	g500-S2100	m550-P90/M4	3	86
1.9	376	7.7	537	18.7	537	1.8	32.9	528	1.8	54.434	78.375	g500-S950	m550-P90/M4	3	54
1.8	382	7.5	545	18.4	545	1.2	32.4	536	1.2	54.030	79.545	g500-S660	m550-P90/M4	3	34
1.7	410	7.0	586	17.1	586	3.5	30.1	576	3.6	55.704	85.468	g500-S2100	m550-P90/M4	3	86
1.7	427	6.7	610	16.5	610	1.1	28.9	600	1.1	53.965	89.048	g500-S660	m550-P90/M4	3	34
1.6	429	6.7	612	16.4	612	1.6	28.8	602	1.6	54.255	89.333	g500-S950	m550-P90/M4	3	54
1.6	434	6.6	620	16.2	620	5.0	28.4	610	5.1	55.932	90.546	g500-S3100	m550-P90/M4	3	125
1.6	449	6.4	641	15.7	641	4.8	27.5	631	4.9	56.142	93.599	g500-S3100	m550-P90/M4	3	125
1.5	471	6.1	672	14.9	672	3.1	26.3	661	3.1	55.196	98.095	g500-S2100	m550-P90/M4	3	86
1.5	480	6.0	685	14.7	685	1.4	25.8	674	1.4	54.249	99.968	g500-S950	m550-P90/M4	3	54
1.4	487	5.9	695	14.4	695	1.0	25.4	684	1.0	53.962	101.460	g500-S660	m550-P90/M4	3	34
1.4	491	5.9	702	14.3	702	4.4	25.1	690	4.5	55.868	102.393	g500-S3100	m550-P90/M4	3	125
1.3	523	5.5	747	13.4	747	0.9	23.6	735	0.9	53.925	109.083	g500-S660	m550-P90/M4	3	34
1.3	523	5.5	747	13.4	747	2.7	23.6	734	2.8	55.179	109.016	g500-S2100	m550-P90/M4	3	86
1.3	525	5.5	750	13.4	750	1.3	23.5	737	1.3	54.145	109.433	g500-S950	m550-P90/M4	3	54
1.3	554	5.2	791	12.7	791	3.9	22.3	778	4.0	55.319	115.492	g500-S3100	m550-P90/M4	3	125
1.2	577	5.0	823	12.2	823	2.5	21.4	810	2.5	54.876	120.167	g500-S2100	m550-P90/M4	3	86

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
1.2	588	4.9	839	12.0	839	1.1	21.0	825	1.2	54.141	122.461	g500-S950	m550-P90/M4	3	54
1.1	627	4.6	895	11.2	895	3.5	19.7	880	3.5	55.280	130.603	g500-S3100	m550-P90/M4	3	125
1.1	641	4.5	915	11.0	915	2.2	19.3	900	2.3	54.865	133.544	g500-S2100	m550-P90/M4	3	86
1.0	679	4.2	969	10.4	969	3.2	18.2	953	3.3	54.958	141.478	g500-S3100	m550-P90/M4	3	125
1.0	683	4.2	976	10.3	976	1.0	18.1	960	1.0	54.014	142.437	g500-S950	m550-P90/M4	3	54
1.0	710	4.1	1014	9.9	1014	4.4	17.4	997	4.5	55.852	148.005	g500-S4500	m550-P90/M4	3	200
0.9	750	3.8	1072	9.4	1072	1.9	16.5	1054	2.0	54.401	156.407	g500-S2100	m550-P90/M4	3	86
0.9	765	3.8	1092	9.2	1092	0.9	16.2	1074	0.9	54.012	159.394	g500-S950	m550-P90/M4	3	54
0.9	768	3.8	1096	9.2	1096	2.8	16.1	1078	2.9	54.932	159.989	g500-S3100	m550-P90/M4	3	125
0.9	793	3.6	1132	8.9	1132	4.0	15.6	1113	4.0	55.822	165.215	g500-S4500	m550-P90/M4	3	200
0.8	834	3.5	1191	8.4	1191	1.7	14.8	1171	1.8	54.395	173.820	g500-S2100	m550-P90/M4	3	86
0.8	870	3.3	1243	8.1	1243	3.6	14.2	1222	3.7	55.207	181.396	g500-S4500	m550-P90/M4	3	200
0.8	883	3.3	1262	8.0	1262	2.5	14.0	1241	2.5	54.502	184.146	g500-S3100	m550-P90/M4	3	125
0.8	933	3.1	1333	7.5	1333	1.5	13.2	1311	1.6	54.237	194.556	g500-S2100	m550-P90/M4	3	86
0.7	971	3.0	1387	7.2	1387	3.2	12.7	1364	3.3	55.186	202.489	g500-S4500	m550-P90/M4	3	200
0.7	999	2.9	1427	7.0	1427	2.2	12.4	1403	2.2	54.487	208.240	g500-S3100	m550-P90/M4	3	125
0.7	1037	2.8	1482	6.8	1482	1.4	11.9	1457	1.4	54.233	216.215	g500-S2100	m550-P90/M4	3	86
0.6	1099	2.6	1570	6.4	1570	2.0	11.2	1543	2.0	54.268	229.059	g500-S3100	m550-P90/M4	3	125
0.6	1143	2.5	1633	6.1	1633	2.8	10.8	1605	2.8	54.673	238.252	g500-S4500	m550-P90/M4	3	200
0.6	1208	2.4	1725	5.8	1725	1.2	10.2	1696	1.2	54.072	251.778	g500-S2100	m550-P90/M4	3	86
0.6	1243	2.3	1775	5.7	1775	1.8	9.9	1745	1.8	54.258	259.030	g500-S3100	m550-P90/M4	3	125
0.6	1276	2.3	1822	5.5	1822	2.5	9.7	1792	2.5	54.661	265.956	g500-S4500	m550-P90/M4	3	200
0.5	1342	2.1	1917	5.2	1917	1.1	9.2	1885	1.1	54.070	279.807	g500-S2100	m550-P90/M4	3	86
0.5	1387	2.1	1981	5.1	1981	2.3	8.9	1948	2.3	54.436	289.151	g500-S4500	m550-P90/M4	3	200
0.5	1422	2.0	2031	4.9	2031	1.5	8.7	1997	1.6	54.091	296.430	g500-S3100	m550-P90/M4	3	125
0.5	1466	2.0	2094	4.8	2094	1.0	8.4	2059	1.0	53.999	305.567	g500-S2100	m550-P90/M4	3	86
0.5	1498	1.9	2139	4.6	2139	1.5	8.1	2103	1.5	54.262	316.910	g500-S3100	m550-P90/M4	4	128
0.5	1513	1.9	2162	4.6	2162	1.0	8.0	2125	1.0	54.090	320.263	g500-S2100	m550-P90/M4	4	89
0.5	1535	1.8	2193	4.5	2193	2.1	7.9	2156	2.1	54.428	324.889	g500-S4500	m550-P90/M4	4	203
0.5	1549	1.9	2212	4.5	2212	2.0	8.0	2175	2.1	54.428	322.773	g500-S4500	m550-P90/M4	3	200
0.4	1608	1.8	2297	4.4	2297	1.4	7.7	2259	1.4	54.085	335.215	g500-S3100	m550-P90/M4	3	125
0.4	1629	1.8	2327	4.3	2327	0.9	7.6	2288	0.9	53.997	339.584	g500-S2100	m550-P90/M4	3	86
0.4	1656	1.7	2365	4.2	2365	0.9	7.3	2325	0.9	54.075	350.353	g500-S2100	m550-P90/M4	4	89
0.4	1694	1.7	2419	4.1	2419	1.3	7.2	2378	1.3	54.257	358.375	g500-S3100	m550-P90/M4	4	128
0.4	1714	1.7	2448	4.0	2448	1.8	7.1	2407	1.9	54.422	362.667	g500-S4500	m550-P90/M4	4	203
0.4	1726	1.7	2465	4.1	2465	1.3	7.2	2424	1.3	54.011	359.758	g500-S3100	m550-P90/M4	3	125
0.4	1754	1.6	2504	4.0	2504	1.6	7.0	2463	1.6	54.208	365.500	g500-S4500	m550-P90/M4	3	200
0.4	1881	1.5	2686	3.7	2686	1.7	6.5	2641	1.7	54.344	397.989	g500-S4500	m550-P90/M4	4	203
0.4	1910	1.5	2728	3.6	2728	1.1	6.4	2683	1.2	54.215	404.222	g500-S3100	m550-P90/M4	4	128
0.4	1952	1.5	2788	3.6	2788	1.1	6.3	2741	1.1	54.007	406.829	g500-S3100	m550-P90/M4	3	125
0.4	1957	1.5	2796	3.6	2796	1.6	6.3	2749	1.6	54.203	408.000	g500-S4500	m550-P90/M4	3	200
0.3	2099	1.4	2999	3.3	2999	1.5	5.8	2948	1.5	54.340	444.267	g500-S4500	m550-P90/M4	4	203
0.3	2160	1.3	3085	3.2	3085	1.0	5.6	3034	1.0	54.211	457.111	g500-S3100	m550-P90/M4	4	128
0.3	2340	1.2	3342	3.0	3342	0.9	5.2	3286	0.9	54.187	495.172	g500-S3100	m550-P90/M4	4	128
0.3	2448	1.2	3496	2.8	3496	1.3	5.0	3438	1.3	54.262	518.017	g500-S4500	m550-P90/M4	4	203
0.3	2646	1.1	3779	2.6	3779	0.8	4.6	3716	0.8	54.185	559.961	g500-S3100	m550-P90/M4	4	128
0.3	2733	1.0	3903	2.5	3903	1.2	4.5	3838	1.2	54.259	578.252	g500-S4500	m550-P90/M4	4	203
0.2	3000	0.9	4285	2.3	4285	1.1	4.1	4213	1.1	54.219	634.887	g500-S4500	m550-P90/M4	4	203
0.2	3349	0.8	4783	2.1	4783	0.9	3.6	4703	1.0	54.218	708.711	g500-S4500	m550-P90/M4	4	203
0.2	3905	0.7	5577	1.8	5577	0.8	3.1	5484	0.8	54.058	826.361	g500-S4500	m550-P90/M4	4	203

50 Hz: 1.5 kW

87 Hz: 2.6 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
44.0	22.2	180	32.0	439	32.0	4.4	771	31.0	3.7	63.460	3.339	g500-S400	m550-P90/L4	2	29
40.2	24.3	164	35.0	400	35.0	1.8	703	34.0	1.5	59.863	3.661	g500-S130	m550-P90/L4	2	24
38.3	25.5	156	36.0	382	36.0	4.4	671	36.0	3.7	60.896	3.840	g500-S220	m550-P90/L4	2	26
32.1	30.4	131	43.0	320	43.0	4.4	562	43.0	3.7	61.207	4.579	g500-S400	m550-P90/L4	2	29
29.3	33.3	120	48.0	292	48.0	1.6	513	47.0	1.4	59.187	5.021	g500-S130	m550-P90/L4	2	24
27.9	35.0	114	50.0	278	50.0	3.6	489	49.0	3.1	59.844	5.267	g500-S220	m550-P90/L4	2	26
25.1	38.9	102	56.0	250	56.0	4.1	439	55.0	3.4	60.161	5.860	g500-S400	m550-P90/L4	2	29
22.9	42.5	93.6	61.0	229	61.0	4.1	402	60.0	3.5	59.876	6.411	g500-S400	m550-P90/L4	2	29
22.9	42.6	93.4	61.0	228	61.0	1.4	401	60.0	1.2	58.873	6.425	g500-S130	m550-P90/L4	2	24
21.7	44.9	88.7	64.0	217	64.0	3.4	381	63.0	2.9	59.941	6.767	g500-S220	m550-P90/L4	2	26
21.4	45.7	87.2	65.0	213	65.0	4.3	374	64.0	3.6	61.784	6.880	g500-S660	m550-P90/L4	2	34
20.9	46.6	85.4	67.0	208	67.0	1.4	366	66.0	1.2	58.788	7.029	g500-S130	m550-P90/L4	2	24
19.7	49.6	80.4	71.0	196	71.0	4.4	345	70.0	3.7	60.479	7.467	g500-S400	m550-P90/L4	2	29
19.2	50.9	78.3	73.0	191	73.0	3.0	336	72.0	2.5	59.799	7.667	g500-S220	m550-P90/L4	2	26
19.1	51.1	77.9	73.0	190	73.0	4.3	334	72.0	3.6	63.380	7.702	g500-S950	m550-P90/L4	2	54
17.7	55.2	72.1	79.0	176	79.0	1.5	309	78.0	1.2	58.985	8.322	g500-S130	m550-P90/L4	2	24
17.4	56.0	71.1	80.0	174	80.0	4.4	305	79.0	3.7	60.245	8.436	g500-S400	m550-P90/L4	2	29
15.8	61.6	64.7	88.0	158	88.0	2.5	278	87.0	2.1	59.336	9.280	g500-S220	m550-P90/L4	2	26
15.6	62.5	63.8	89.0	156	89.0	1.4	274	88.0	1.2	59.330	9.411	g500-S130	m550-P90/L4	2	24
14.4	68.0	58.6	97.0	143	97.0	4.1	252	96.0	3.5	59.622	10.240	g500-S400	m550-P90/L4	2	29
14.0	69.8	57.1	100	139	100	2.2	245	98.0	1.9	59.261	10.514	g500-S220	m550-P90/L4	2	26
13.1	74.7	53.3	107	130	107	4.3	229	105	3.6	60.706	11.262	g500-S660	m550-P90/L4	2	34
12.9	75.7	52.6	108	128	108	1.2	226	107	1.0	58.721	11.413	g500-S130	m550-P90/L4	2	24
12.7	76.8	51.9	110	127	110	3.6	223	108	3.1	59.498	11.569	g500-S400	m550-P90/L4	2	29
12.4	78.8	50.5	113	123	113	2.0	217	111	1.7	59.019	11.876	g500-S220	m550-P90/L4	2	26
11.9	81.8	48.7	117	119	117	4.4	209	115	3.7	60.422	12.320	g500-S660	m550-P90/L4	2	34
11.5	85.2	46.8	122	114	122	4.3	201	120	3.6	60.516	12.832	g500-S660	m550-P90/L4	2	34
11.4	85.7	46.5	122	114	122	1.1	200	121	0.9	58.904	12.907	g500-S130	m550-P90/L4	2	24
11.3	86.2	46.2	123	113	123	1.8	198	122	1.5	58.921	12.992	g500-S220	m550-P90/L4	2	26
11.2	87.0	45.8	124	112	124	3.2	197	123	2.7	59.193	13.105	g500-S400	m550-P90/L4	2	29
10.9	89.3	44.6	128	109	128	1.7	191	126	1.5	58.973	13.456	g500-S220	m550-P90/L4	2	26
10.5	93.2	42.7	133	104	133	4.4	183	131	3.7	60.263	14.037	g500-S660	m550-P90/L4	2	34
10.3	95.1	41.9	136	102	136	2.9	180	134	2.5	59.067	14.336	g500-S400	m550-P90/L4	2	29
10.1	96.9	41.1	139	100	139	0.9	176	137	0.8	58.588	14.606	g500-S130	m550-P90/L4	2	24
10.0	97.7	40.8	140	99.5	140	1.6	175	138	1.3	58.883	14.720	g500-S220	m550-P90/L4	2	26
9.9	98.3	40.5	140	98.9	140	2.9	174	138	2.4	59.117	14.806	g500-S400	m550-P90/L4	2	29
9.4	104	38.2	149	93.2	149	4.1	164	147	3.4	59.813	15.714	g500-S660	m550-P90/L4	2	34
9.2	106	37.6	152	91.7	152	0.9	161	149	0.7	58.550	15.979	g500-S130	m550-P90/L4	2	24
9.2	106	37.5	152	91.6	152	4.3	161	150	3.6	61.812	16.000	g500-S950	m550-P90/L4	2	54
9.1	108	37.0	154	90.4	154	2.6	159	151	2.2	59.004	16.197	g500-S400	m550-P90/L4	2	29
8.9	110	36.2	157	88.4	157	1.4	155	155	1.2	58.742	16.571	g500-S220	m550-P90/L4	2	26
8.2	119	33.5	170	81.8	170	3.9	144	167	3.3	59.715	17.905	g500-S660	m550-P90/L4	2	34
8.2	119	33.5	170	81.8	170	4.3	144	167	3.6	61.642	17.905	g500-S950	m550-P90/L4	2	54
8.0	121	32.8	174	80.1	174	2.3	141	171	2.2	58.831	18.286	g500-S400	m550-P90/L4	2	29
7.8	125	32.0	178	78.0	178	1.2	137	176	1.2	58.718	18.776	g500-S220	m550-P90/L4	2	26
7.6	128	31.2	183	76.1	183	3.6	134	180	3.5	59.454	19.250	g500-S660	m550-P90/L4	2	34
7.2	135	29.6	193	72.2	193	1.1	127	190	1.1	58.636	20.300	g500-S220	m550-P90/L4	2	26
7.1	137	29.0	196	70.9	196	2.0	125	193	2.0	58.792	20.659	g500-S400	m550-P90/L4	2	29
6.7	146	27.4	208	66.8	208	3.2	117	205	3.1	59.389	21.933	g500-S660	m550-P90/L4	2	34
6.6	149	26.8	213	65.4	213	1.9	115	210	1.8	58.696	22.400	g500-S400	m550-P90/L4	2	29

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
6.4	153	26.1	218	63.7	218	1.0	112	215	1.0	58.620	23.000	g500-S220	m550-P90/L4	2	26
5.9	166	23.9	238	58.5	238	2.4	103	234	2.3	58.947	25.056	g500-S660	m550-P90/L4	2	34
5.8	168	23.7	240	57.9	240	1.7	102	237	1.6	58.670	25.308	g500-S400	m550-P90/L4	2	29
5.8	169	23.5	242	57.4	242	3.6	101	239	3.5	60.130	25.511	g500-S950	m550-P90/L4	2	54
5.6	175	22.7	251	55.4	251	0.9	97.5	247	0.8	58.509	26.422	g500-S220	m550-P90/L4	2	26
5.1	190	21.0	271	51.3	271	2.4	90.2	267	2.4	58.909	28.548	g500-S660	m550-P90/L4	2	34
5.1	190	21.0	271	51.3	271	3.5	90.2	267	3.4	60.063	28.548	g500-S950	m550-P90/L4	2	54
5.0	194	20.6	277	50.2	277	1.5	88.3	273	1.4	58.544	29.156	g500-S400	m550-P90/L4	2	29
4.7	207	19.3	296	47.0	296	2.2	82.6	292	2.3	58.767	31.167	g500-S660	m550-P90/L4	2	34
4.7	208	19.2	297	46.9	297	3.0	82.4	292	3.0	59.559	31.267	g500-S950	m550-P90/L4	2	54
4.5	219	18.2	313	44.5	313	1.3	78.2	308	1.3	58.528	32.940	g500-S400	m550-P90/L4	2	29
4.2	232	17.1	332	41.9	332	2.9	73.6	327	2.9	59.514	34.989	g500-S950	m550-P90/L4	2	54
4.1	236	16.9	337	41.3	337	2.0	72.5	332	2.0	58.742	35.511	g500-S660	m550-P90/L4	2	34
4.1	241	16.5	344	40.4	344	1.2	71.0	339	1.2	58.474	36.267	g500-S400	m550-P90/L4	2	29
3.6	268	14.9	383	36.3	383	1.4	63.8	377	1.4	58.590	40.333	g500-S660	m550-P90/L4	2	34
3.6	272	14.6	389	35.8	389	1.0	62.8	383	1.0	58.464	40.974	g500-S400	m550-P90/L4	2	29
3.6	273	14.6	390	35.7	390	2.4	62.7	384	2.5	59.087	41.067	g500-S950	m550-P90/L4	2	54
3.3	295	13.5	422	33.0	422	3.0	58.0	416	3.0	60.919	44.431	g500-S2100	m550-P90/L4	2	86
3.2	305	13.1	436	31.9	436	1.4	56.0	430	1.4	58.575	45.956	g500-S660	m550-P90/L4	2	34
3.2	305	13.1	436	31.9	436	2.2	56.0	430	2.2	59.061	45.956	g500-S950	m550-P90/L4	2	54
3.0	325	12.3	464	29.9	464	1.0	52.6	458	1.0	58.511	48.950	g500-S660	m550-P90/L4	2	34
2.9	326	12.0	466	29.4	466	1.3	51.6	459	1.3	58.690	49.867	g500-S660	m550-P90/L4	3	35
2.9	327	12.0	468	29.3	468	2.0	51.5	461	2.0	59.378	50.027	g500-S950	m550-P90/L4	3	55
3.0	328	12.2	469	29.7	469	3.0	52.1	462	3.0	60.836	49.378	g500-S2100	m550-P90/L4	2	86
2.9	331	12.0	473	29.4	473	2.0	51.7	466	2.0	58.878	49.840	g500-S950	m550-P90/L4	2	54
2.8	347	11.5	496	28.0	496	3.0	49.2	489	3.0	61.451	52.311	g500-S3100	m550-P90/L4	2	125
2.7	358	11.1	512	27.2	512	2.6	47.8	504	2.6	60.211	53.924	g500-S2100	m550-P90/L4	2	86
2.6	366	10.7	523	26.2	523	1.8	46.0	516	1.8	59.361	55.982	g500-S950	m550-P90/L4	3	55
2.6	370	10.8	529	26.3	529	1.0	46.2	522	1.0	58.501	55.773	g500-S660	m550-P90/L4	2	34
2.6	370	10.8	529	26.3	529	1.8	46.2	522	1.8	58.860	55.773	g500-S950	m550-P90/L4	2	54
2.6	371	10.6	531	25.8	531	1.2	45.3	523	1.2	58.681	56.818	g500-S660	m550-P90/L4	3	35
2.5	393	10.1	561	24.8	561	3.0	43.5	553	3.0	61.259	59.156	g500-S3100	m550-P90/L4	2	125
2.5	398	10.0	569	24.4	569	2.6	43.0	560	2.6	60.154	59.927	g500-S2100	m550-P90/L4	2	86
2.3	417	9.4	596	23.0	596	1.1	40.3	588	1.1	58.570	63.817	g500-S660	m550-P90/L4	3	35
2.3	418	9.5	598	23.3	598	1.1	40.9	589	1.1	58.672	63.000	g500-S950	m550-P90/L4	2	54
2.3	419	9.4	598	22.9	598	1.6	40.2	590	1.5	59.044	64.022	g500-S950	m550-P90/L4	3	55
2.3	421	9.5	602	23.1	602	2.6	40.6	594	2.6	60.572	63.487	g500-S3100	m550-P90/L4	2	125
2.2	452	8.8	647	21.5	647	2.0	37.8	638	2.0	59.559	68.162	g500-S2100	m550-P90/L4	2	86
2.1	456	8.6	653	21.0	653	1.0	36.9	643	1.0	58.535	69.813	g500-S660	m550-P90/L4	3	35
2.1	458	8.6	655	20.9	655	1.5	36.8	645	1.5	58.943	70.037	g500-S950	m550-P90/L4	3	55
2.1	460	8.5	657	20.8	657	3.1	36.6	648	3.2	60.479	70.302	g500-S2100	m550-P90/L4	3	87
2.1	468	8.5	669	20.8	669	1.1	36.5	659	1.1	58.661	70.500	g500-S950	m550-P90/L4	2	54
2.1	468	8.4	670	20.4	670	1.4	35.9	660	1.4	59.034	71.644	g500-S950	m550-P90/L4	3	55
2.0	475	8.3	680	20.1	680	1.0	35.4	670	1.0	58.564	72.713	g500-S660	m550-P90/L4	3	35
2.0	476	8.4	681	20.4	681	2.6	35.9	671	2.6	60.441	71.793	g500-S3100	m550-P90/L4	2	125
1.9	503	7.9	719	19.3	719	2.0	34.0	708	2.0	59.524	75.750	g500-S2100	m550-P90/L4	2	86
1.9	503	7.8	719	19.0	719	2.9	33.5	709	2.9	60.232	76.907	g500-S2100	m550-P90/L4	3	87
1.9	511	7.7	730	18.8	730	2.8	33.0	720	2.9	60.446	78.128	g500-S2100	m550-P90/L4	3	87
1.9	512	7.7	733	18.7	733	1.3	32.9	722	1.3	58.934	78.375	g500-S950	m550-P90/L4	3	55
1.8	520	7.5	743	18.4	743	0.9	32.4	733	0.9	58.530	79.545	g500-S660	m550-P90/L4	3	35
1.8	541	7.2	774	17.7	774	4.0	31.1	763	4.1	60.718	82.769	g500-S3100	m550-P90/L4	3	126
1.7	559	7.0	799	17.1	799	2.6	30.1	787	2.6	60.204	85.468	g500-S2100	m550-P90/L4	3	87

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
1.6	584	6.7	835	16.4	835	1.1	28.8	823	1.2	58.755	89.333	g500-S950	m550-P90/L4	3	55
1.6	592	6.6	846	16.2	846	3.7	28.4	834	3.7	60.432	90.546	g500-S3100	m550-P90/L4	3	126
1.6	607	6.5	868	15.8	868	4.3	27.7	855	4.4	62.377	92.825	g500-S4500	m550-P90/L4	3	201
1.6	612	6.4	875	15.7	875	3.5	27.5	862	3.6	60.642	93.599	g500-S3100	m550-P90/L4	3	126
1.5	641	6.1	917	14.9	917	2.2	26.3	904	2.3	59.696	98.095	g500-S2100	m550-P90/L4	3	87
1.5	654	6.0	934	14.7	934	1.0	25.8	921	1.0	58.749	99.968	g500-S950	m550-P90/L4	3	55
1.4	669	5.9	957	14.3	957	3.2	25.1	943	3.3	60.368	102.393	g500-S3100	m550-P90/L4	3	126
1.4	677	5.8	968	14.1	968	4.3	24.9	955	4.4	62.299	103.619	g500-S4500	m550-P90/L4	3	201
1.3	713	5.5	1019	13.4	1019	2.0	23.6	1004	2.0	59.679	109.016	g500-S2100	m550-P90/L4	3	87
1.3	715	5.5	1023	13.4	1023	0.9	23.5	1008	0.9	58.645	109.433	g500-S950	m550-P90/L4	3	55
1.3	755	5.2	1079	12.7	1079	2.9	22.3	1064	2.9	59.819	115.492	g500-S3100	m550-P90/L4	3	126
1.2	786	5.0	1123	12.2	1123	1.8	21.4	1107	1.9	59.376	120.167	g500-S2100	m550-P90/L4	3	87
1.2	801	4.9	1145	12.0	1145	0.8	21.0	1128	0.8	58.641	122.461	g500-S950	m550-P90/L4	3	55
1.1	854	4.6	1221	11.2	1221	2.5	19.7	1203	2.6	59.780	130.603	g500-S3100	m550-P90/L4	3	126
1.1	873	4.5	1248	11.0	1248	1.6	19.3	1230	1.7	59.365	133.544	g500-S2100	m550-P90/L4	3	87
1.0	925	4.2	1322	10.4	1322	2.3	18.2	1303	2.4	59.458	141.478	g500-S3100	m550-P90/L4	3	126
1.0	968	4.1	1383	9.9	1383	3.3	17.4	1364	3.3	60.352	148.005	g500-S4500	m550-P90/L4	3	201
0.9	1022	3.8	1462	9.4	1462	1.4	16.5	1441	1.4	58.901	156.407	g500-S2100	m550-P90/L4	3	87
0.9	1046	3.8	1495	9.2	1495	2.1	16.1	1474	2.1	59.432	159.989	g500-S3100	m550-P90/L4	3	126
0.9	1080	3.6	1544	8.9	1544	2.9	15.6	1522	3.0	60.322	165.215	g500-S4500	m550-P90/L4	3	201
0.8	1136	3.5	1625	8.4	1625	1.3	14.8	1601	1.3	58.895	173.820	g500-S2100	m550-P90/L4	3	87
0.8	1186	3.3	1695	8.1	1695	2.7	14.2	1671	2.7	59.707	181.396	g500-S4500	m550-P90/L4	3	201
0.8	1204	3.3	1721	8.0	1721	1.8	14.0	1696	1.8	59.002	184.146	g500-S3100	m550-P90/L4	3	126
0.8	1272	3.1	1818	7.5	1818	1.1	13.2	1792	1.1	58.737	194.556	g500-S2100	m550-P90/L4	3	87
0.7	1324	3.0	1893	7.2	1893	2.4	12.7	1865	2.4	59.686	202.489	g500-S4500	m550-P90/L4	3	201
0.7	1361	2.9	1946	7.0	1946	1.6	12.4	1918	1.6	58.987	208.240	g500-S3100	m550-P90/L4	3	126
0.7	1413	2.8	2021	6.8	2021	1.0	11.9	1992	1.0	58.733	216.215	g500-S2100	m550-P90/L4	3	87
0.6	1497	2.6	2141	6.4	2141	1.5	11.2	2110	1.5	58.768	229.059	g500-S3100	m550-P90/L4	3	126
0.6	1557	2.5	2227	6.1	2227	2.0	10.8	2195	2.1	59.173	238.252	g500-S4500	m550-P90/L4	3	201
0.6	1646	2.4	2353	5.8	2353	0.9	10.2	2320	0.9	58.572	251.778	g500-S2100	m550-P90/L4	3	87
0.6	1693	2.3	2421	5.7	2421	1.3	9.9	2386	1.3	58.758	259.030	g500-S3100	m550-P90/L4	3	126
0.6	1739	2.3	2486	5.5	2486	1.8	9.7	2450	1.8	59.161	265.956	g500-S4500	m550-P90/L4	3	201
0.5	1890	2.1	2703	5.1	2703	1.7	8.9	2664	1.7	58.936	289.151	g500-S4500	m550-P90/L4	3	201
0.5	1938	2.0	2771	4.9	2771	1.1	8.7	2731	1.1	58.591	296.430	g500-S3100	m550-P90/L4	3	126
0.5	2041	1.9	2918	4.6	2918	1.1	8.1	2876	1.1	58.762	316.910	g500-S3100	m550-P90/L4	4	129
0.5	2092	1.8	2991	4.5	2991	1.5	7.9	2948	1.5	58.928	324.889	g500-S4500	m550-P90/L4	4	204
0.5	2110	1.9	3017	4.5	3017	1.5	8.0	2974	1.5	58.928	322.773	g500-S4500	m550-P90/L4	3	201
0.4	2191	1.8	3133	4.4	3133	1.0	7.7	3088	1.0	58.585	335.215	g500-S3100	m550-P90/L4	3	126
0.4	2308	1.7	3299	4.1	3299	0.9	7.2	3252	1.0	58.757	358.375	g500-S3100	m550-P90/L4	4	129
0.4	2335	1.7	3339	4.0	3339	1.4	7.1	3291	1.4	58.922	362.667	g500-S4500	m550-P90/L4	4	204
0.4	2352	1.7	3362	4.1	3362	0.9	7.2	3314	0.9	58.511	359.758	g500-S3100	m550-P90/L4	3	126
0.4	2389	1.6	3416	4.0	3416	1.2	7.0	3367	1.2	58.708	365.500	g500-S4500	m550-P90/L4	3	201
0.4	2563	1.5	3664	3.7	3664	1.2	6.5	3612	1.3	58.844	397.989	g500-S4500	m550-P90/L4	4	204
0.4	2603	1.5	3721	3.6	3721	0.8	6.4	3668	0.9	58.715	404.222	g500-S3100	m550-P90/L4	4	129
0.4	2659	1.5	3802	3.6	3802	0.8	6.3	3748	0.8	58.507	406.829	g500-S3100	m550-P90/L4	3	126
0.4	2667	1.5	3813	3.6	3813	1.2	6.3	3759	1.2	58.703	408.000	g500-S4500	m550-P90/L4	3	201
0.3	2861	1.4	4090	3.3	4090	1.1	5.8	4031	1.1	58.840	444.267	g500-S4500	m550-P90/L4	4	204
0.3	3335	1.2	4769	2.8	4769	0.9	5.0	4701	1.0	58.762	518.017	g500-S4500	m550-P90/L4	4	204
0.3	3723	1.0	5324	2.5	5324	0.9	4.5	5247	0.9	58.759	578.252	g500-S4500	m550-P90/L4	4	204

50 Hz: 2.2 kW

87 Hz: 3.9 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
44.0	32.4	180	46.0	440	46.0	4.4	773	47.0	3.6	128.160	3.339	g500-S400	m550-P100/M4	2	41
38.3	37.3	156	53.0	383	53.0	3.3	672	54.0	2.8	125.596	3.840	g500-S220	m550-P100/M4	2	38
32.1	44.4	131	64.0	321	64.0	3.8	563	64.0	3.2	125.907	4.579	g500-S400	m550-P100/M4	2	41
27.9	51.1	114	73.0	279	73.0	2.5	490	74.0	2.1	124.544	5.267	g500-S220	m550-P100/M4	2	38
25.1	56.9	102	81.0	251	81.0	3.2	440	82.0	2.6	124.861	5.860	g500-S400	m550-P100/M4	2	41
22.9	62.2	93.6	89.0	229	89.0	2.9	402	90.0	2.4	124.576	6.411	g500-S400	m550-P100/M4	2	41
21.7	65.7	88.7	94.0	217	94.0	2.3	381	95.0	1.9	124.641	6.767	g500-S220	m550-P100/M4	2	38
21.4	66.8	87.2	95.0	214	95.0	4.8	375	96.0	4.0	126.484	6.880	g500-S660	m550-P100/M4	2	46
19.7	72.4	80.4	104	197	104	3.5	346	104	2.9	125.179	7.467	g500-S400	m550-P100/M4	2	41
19.2	74.4	78.3	106	192	106	2.0	337	107	1.7	124.499	7.667	g500-S220	m550-P100/M4	2	38
19.1	74.7	77.9	107	191	107	4.8	335	108	4.0	128.080	7.702	g500-S950	m550-P100/M4	2	66
17.4	81.8	71.1	117	174	117	3.2	306	118	2.7	124.945	8.436	g500-S400	m550-P100/M4	2	41
15.8	90.0	64.7	129	158	129	1.7	278	130	1.4	124.036	9.280	g500-S220	m550-P100/M4	2	38
14.7	97.3	59.8	139	147	139	4.5	257	140	3.7	126.188	10.027	g500-S660	m550-P100/M4	2	46
14.4	99.4	58.6	142	144	142	2.8	252	143	2.3	124.322	10.240	g500-S400	m550-P100/M4	2	41
14.0	102	57.1	146	140	146	1.5	245	147	1.3	123.961	10.514	g500-S220	m550-P100/M4	2	38
13.1	109	53.3	156	131	156	4.2	229	157	3.5	125.406	11.262	g500-S660	m550-P100/M4	2	46
12.7	112	51.9	161	127	161	2.5	223	162	2.1	124.198	11.569	g500-S400	m550-P100/M4	2	41
12.4	115	50.5	165	124	165	1.3	217	166	1.1	123.719	11.876	g500-S220	m550-P100/M4	2	38
11.9	120	48.7	171	119	171	3.9	209	172	3.2	125.122	12.320	g500-S660	m550-P100/M4	2	46
11.5	125	46.8	178	115	178	3.7	201	179	3.1	125.216	12.832	g500-S660	m550-P100/M4	2	46
11.3	126	46.2	180	113	180	1.2	199	182	1.0	123.621	12.992	g500-S220	m550-P100/M4	2	38
11.2	127	45.8	182	112	182	2.2	197	183	1.8	123.893	13.105	g500-S400	m550-P100/M4	2	41
10.9	131	44.6	187	109	187	1.2	192	188	1.0	123.673	13.456	g500-S220	m550-P100/M4	2	38
10.5	136	42.7	195	105	195	3.4	184	196	2.8	124.963	14.037	g500-S660	m550-P100/M4	2	46
10.5	136	42.7	195	105	195	4.9	184	196	4.0	127.678	14.037	g500-S950	m550-P100/M4	2	66
10.3	139	41.9	199	103	199	2.0	180	200	1.7	123.767	14.336	g500-S400	m550-P100/M4	2	41
10.0	143	40.8	204	99.9	204	1.1	175	206	0.9	123.583	14.720	g500-S220	m550-P100/M4	2	38
9.9	144	40.5	205	99.3	205	2.0	174	207	1.6	123.817	14.806	g500-S400	m550-P100/M4	2	41
9.4	153	38.2	218	93.5	218	3.0	164	220	2.5	124.513	15.714	g500-S660	m550-P100/M4	2	46
9.2	155	37.5	222	91.9	222	4.3	161	224	3.6	126.512	16.000	g500-S950	m550-P100/M4	2	66
9.1	157	37.0	225	90.8	225	1.8	159	226	1.5	123.704	16.197	g500-S400	m550-P100/M4	2	41
8.9	161	36.2	230	88.7	230	1.0	156	232	0.8	123.442	16.571	g500-S220	m550-P100/M4	2	38
8.2	174	33.5	248	82.1	248	2.7	144	250	2.2	124.415	17.905	g500-S660	m550-P100/M4	2	46
8.2	174	33.5	248	82.1	248	3.8	144	250	3.2	126.342	17.905	g500-S950	m550-P100/M4	2	66
8.0	177	32.8	254	80.4	254	1.6	141	255	1.5	123.531	18.286	g500-S400	m550-P100/M4	2	41
7.8	182	32.0	260	78.3	260	0.8	137	262	0.8	123.418	18.776	g500-S220	m550-P100/M4	2	38
7.6	187	31.2	267	76.4	267	2.5	134	269	2.3	124.154	19.250	g500-S660	m550-P100/M4	2	46
7.5	190	30.6	272	75.0	272	3.5	132	274	3.3	125.688	19.600	g500-S950	m550-P100/M4	2	66
7.1	200	29.0	287	71.2	287	1.4	125	289	1.3	123.492	20.659	g500-S400	m550-P100/M4	2	41
6.7	213	27.4	304	67.0	304	2.2	118	306	2.0	124.089	21.933	g500-S660	m550-P100/M4	2	46
6.7	213	27.4	304	67.0	304	3.1	118	306	2.9	125.574	21.933	g500-S950	m550-P100/M4	2	66
6.6	217	26.8	311	65.6	311	1.3	115	313	1.2	123.396	22.400	g500-S400	m550-P100/M4	2	41
5.9	243	23.9	348	58.7	348	1.7	103	350	1.6	123.647	25.056	g500-S660	m550-P100/M4	2	46
5.8	246	23.7	351	58.1	351	1.1	102	354	1.1	123.370	25.308	g500-S400	m550-P100/M4	2	41
5.8	248	23.5	354	57.6	354	2.7	101	356	2.5	124.830	25.511	g500-S950	m550-P100/M4	2	66
5.2	274	21.2	392	52.0	392	4.1	91.2	395	3.9	128.493	28.275	g500-S2100	m550-P100/M4	2	98
5.1	277	21.0	396	51.5	396	1.7	90.4	399	1.6	123.609	28.548	g500-S660	m550-P100/M4	2	46
5.1	277	21.0	396	51.5	396	2.4	90.4	399	2.3	124.763	28.548	g500-S950	m550-P100/M4	2	66
4.7	302	19.3	432	47.2	432	1.5	82.8	435	1.5	123.467	31.167	g500-S660	m550-P100/M4	2	46

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
4.7	303	19.2	434	47.0	434	2.2	82.5	437	2.2	124.259	31.267	g500-S950	m550-P100/M4	2	66
4.7	305	19.1	436	46.8	436	4.1	82.1	439	4.1	128.288	31.422	g500-S2100	m550-P100/M4	2	98
4.4	323	18.0	462	44.2	462	4.1	77.5	465	4.1	129.806	33.289	g500-S3100	m550-P100/M4	2	137
4.3	333	17.5	476	42.8	476	3.5	75.1	480	3.5	127.120	34.333	g500-S2100	m550-P100/M4	2	98
4.2	340	17.1	485	42.0	485	2.0	73.7	489	1.9	124.214	34.989	g500-S950	m550-P100/M4	2	66
4.1	345	16.9	493	41.4	493	1.3	72.7	496	1.3	123.442	35.511	g500-S660	m550-P100/M4	2	46
3.9	365	15.9	522	39.0	522	4.1	68.5	526	4.1	129.332	37.644	g500-S3100	m550-P100/M4	2	137
3.9	370	15.7	529	38.5	529	3.5	67.6	533	3.5	126.981	38.156	g500-S2100	m550-P100/M4	2	98
3.7	383	15.0	547	36.7	547	3.6	64.4	551	2.9	127.782	40.056	g500-S2100	m550-P100/M4	3	99
3.6	392	14.8	561	36.4	561	3.5	63.8	565	3.5	128.010	40.422	g500-S3100	m550-P100/M4	2	137
3.6	398	14.6	570	35.8	570	1.7	62.8	574	1.7	123.787	41.067	g500-S950	m550-P100/M4	2	66
3.5	408	14.3	583	35.0	583	3.5	61.4	587	3.5	131.966	42.044	g500-S4500	m550-P100/M4	2	210
3.3	425	13.5	608	33.0	608	3.4	58.0	613	2.8	127.679	44.515	g500-S2100	m550-P100/M4	3	99
3.3	431	13.5	616	33.1	616	2.8	58.1	621	2.8	125.619	44.431	g500-S2100	m550-P100/M4	2	98
3.2	444	13.1	634	32.2	634	3.5	56.4	639	3.5	127.689	45.711	g500-S3100	m550-P100/M4	2	137
3.2	446	13.1	638	32.0	638	1.5	56.1	642	1.5	123.761	45.956	g500-S950	m550-P100/M4	2	66
3.1	451	12.7	644	31.2	644	4.6	54.7	649	3.8	128.519	47.159	g500-S3100	m550-P100/M4	3	138
3.1	455	12.8	651	31.3	651	3.5	55.0	656	3.5	131.586	46.933	g500-S4500	m550-P100/M4	2	210
2.9	478	12.0	684	29.4	684	1.4	51.6	688	1.3	124.078	50.027	g500-S950	m550-P100/M4	3	67
3.0	479	12.2	685	29.8	685	2.8	52.3	690	2.8	125.536	49.378	g500-S2100	m550-P100/M4	2	98
2.9	484	12.0	691	29.5	691	1.3	51.8	696	1.3	123.578	49.840	g500-S950	m550-P100/M4	2	66
2.9	495	11.8	708	28.8	708	2.9	50.6	713	2.9	129.505	51.027	g500-S4500	m550-P100/M4	2	210
2.8	508	11.5	726	28.1	726	2.8	49.3	731	2.8	126.151	52.311	g500-S3100	m550-P100/M4	2	137
2.8	510	11.3	729	27.6	729	4.2	48.4	734	4.0	128.283	53.330	g500-S3100	m550-P100/M4	3	138
2.7	523	11.1	748	27.3	748	2.4	47.8	753	2.3	124.911	53.924	g500-S2100	m550-P100/M4	2	98
2.7	525	10.9	751	26.8	751	2.7	47.0	756	2.6	126.127	54.933	g500-S2100	m550-P100/M4	3	99
2.6	535	10.7	765	26.3	765	1.2	46.1	770	1.2	124.061	55.982	g500-S950	m550-P100/M4	3	67
2.6	541	10.8	774	26.4	774	1.2	46.3	779	1.2	123.560	55.773	g500-S950	m550-P100/M4	2	66
2.6	553	10.5	790	25.8	790	2.9	45.3	796	2.9	129.247	56.960	g500-S4500	m550-P100/M4	2	210
2.5	574	10.1	821	24.8	821	2.8	43.6	826	2.8	125.959	59.156	g500-S3100	m550-P100/M4	2	137
2.5	581	10.0	831	24.5	831	2.4	43.1	837	2.3	124.854	59.927	g500-S2100	m550-P100/M4	2	98
2.4	583	9.8	834	24.1	834	2.5	42.3	840	2.3	126.072	61.049	g500-S2100	m550-P100/M4	3	99
2.3	612	9.4	875	23.0	875	1.1	40.3	881	1.0	123.744	64.022	g500-S950	m550-P100/M4	3	67
2.3	616	9.5	881	23.2	881	2.4	40.6	887	2.3	125.272	63.487	g500-S3100	m550-P100/M4	2	137
2.3	618	9.3	884	22.7	884	3.5	39.9	890	3.3	126.519	64.676	g500-S3100	m550-P100/M4	3	138
2.3	626	9.3	895	22.8	895	2.4	40.0	901	2.4	127.248	64.500	g500-S4500	m550-P100/M4	2	210
2.2	661	8.8	946	21.6	946	1.5	37.9	952	1.5	124.259	68.162	g500-S2100	m550-P100/M4	2	98
2.1	669	8.6	957	21.0	957	1.0	36.8	964	1.0	123.643	70.037	g500-S950	m550-P100/M4	3	67
2.1	672	8.5	961	20.9	961	2.1	36.7	967	2.1	125.179	70.302	g500-S2100	m550-P100/M4	3	99
2.1	685	8.4	979	20.5	979	1.0	36.0	986	1.0	123.734	71.644	g500-S950	m550-P100/M4	3	67
2.0	693	8.3	991	20.3	991	4.5	35.6	998	4.5	130.043	72.533	g500-S4500	m550-P100/M4	3	213
2.0	696	8.2	995	20.2	995	4.5	35.5	1002	4.5	128.875	72.775	g500-S4500	m550-P100/M4	3	213
2.0	697	8.4	996	20.5	996	2.4	35.9	1003	2.3	125.141	71.793	g500-S3100	m550-P100/M4	2	137
2.0	699	8.3	999	20.4	999	2.4	35.8	1006	2.4	127.087	72.000	g500-S4500	m550-P100/M4	2	210
2.0	699	8.2	1000	20.1	1000	3.1	35.3	1006	3.1	126.394	73.138	g500-S3100	m550-P100/M4	3	138
1.9	735	7.9	1051	19.4	1051	1.5	34.1	1058	1.5	124.224	75.750	g500-S2100	m550-P100/M4	2	98
1.9	735	7.8	1051	19.1	1051	2.0	33.5	1058	1.9	124.932	76.907	g500-S2100	m550-P100/M4	3	99
1.9	747	7.7	1068	18.8	1068	1.9	33.0	1075	1.9	125.146	78.128	g500-S2100	m550-P100/M4	3	99
1.9	749	7.7	1071	18.8	1071	0.9	32.9	1079	0.9	123.634	78.375	g500-S950	m550-P100/M4	3	67
1.8	776	7.4	1110	18.1	1110	4.1	31.8	1118	4.0	128.749	81.237	g500-S4500	m550-P100/M4	3	213
1.8	791	7.2	1131	17.8	1131	2.7	31.2	1139	2.7	125.418	82.769	g500-S3100	m550-P100/M4	3	138
1.7	817	7.0	1168	17.2	1168	1.8	30.2	1176	1.7	124.904	85.468	g500-S2100	m550-P100/M4	3	99

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
1.6	865	6.6	1237	16.2	1237	2.5	28.5	1246	2.5	125.132	90.546	g500-S3100	m550-P100/M4	3	138
1.6	887	6.5	1269	15.8	1269	3.6	27.8	1277	3.5	127.077	92.825	g500-S4500	m550-P100/M4	3	213
1.6	895	6.4	1279	15.7	1279	2.4	27.6	1288	2.4	125.342	93.599	g500-S3100	m550-P100/M4	3	138
1.5	938	6.1	1341	15.0	1341	1.5	26.3	1350	1.5	124.396	98.095	g500-S2100	m550-P100/M4	3	99
1.4	979	5.9	1399	14.4	1399	2.2	25.2	1409	2.2	125.068	102.393	g500-S3100	m550-P100/M4	3	138
1.4	990	5.8	1416	14.2	1416	3.2	24.9	1426	3.2	126.999	103.619	g500-S4500	m550-P100/M4	3	213
1.3	1042	5.5	1490	13.5	1490	1.4	23.7	1500	1.4	124.379	109.016	g500-S2100	m550-P100/M4	3	99
1.3	1087	5.3	1554	12.9	1554	2.9	22.7	1565	2.9	126.064	113.711	g500-S4500	m550-P100/M4	3	213
1.3	1104	5.2	1578	12.7	1578	2.0	22.3	1589	2.0	124.519	115.492	g500-S3100	m550-P100/M4	3	138
1.2	1148	5.0	1642	12.2	1642	1.3	21.5	1654	1.2	124.076	120.167	g500-S2100	m550-P100/M4	3	99
1.2	1213	4.7	1735	11.6	1735	2.6	20.3	1747	2.6	126.012	126.933	g500-S4500	m550-P100/M4	3	213
1.1	1248	4.6	1785	11.3	1785	1.7	19.8	1797	1.7	124.480	130.603	g500-S3100	m550-P100/M4	3	138
1.1	1276	4.5	1825	11.0	1825	1.1	19.3	1838	1.1	124.065	133.544	g500-S2100	m550-P100/M4	3	99
1.0	1352	4.2	1933	10.4	1933	1.6	18.2	1947	1.6	124.158	141.478	g500-S3100	m550-P100/M4	3	138
1.0	1414	4.1	2023	9.9	2023	2.2	17.4	2037	2.2	125.052	148.005	g500-S4500	m550-P100/M4	3	213
0.9	1495	3.8	2137	9.4	2137	1.0	16.5	2152	1.0	123.601	156.407	g500-S2100	m550-P100/M4	3	99
0.9	1529	3.8	2186	9.2	2186	1.4	16.1	2202	1.4	124.132	159.989	g500-S3100	m550-P100/M4	3	138
0.9	1579	3.6	2258	8.9	2258	2.0	15.6	2274	2.0	125.022	165.215	g500-S4500	m550-P100/M4	3	213
0.8	1661	3.5	2375	8.5	2375	0.9	14.8	2392	0.9	123.595	173.820	g500-S2100	m550-P100/M4	3	99
0.8	1734	3.3	2479	8.1	2479	1.8	14.2	2496	1.8	124.407	181.396	g500-S4500	m550-P100/M4	3	213
0.8	1760	3.3	2517	8.0	2517	1.2	14.0	2534	1.2	123.702	184.146	g500-S3100	m550-P100/M4	3	138
0.7	1935	3.0	2767	7.3	2767	1.6	12.7	2787	1.6	124.386	202.489	g500-S4500	m550-P100/M4	3	213
0.7	1990	2.9	2846	7.1	2846	1.1	12.4	2866	1.1	123.687	208.240	g500-S3100	m550-P100/M4	3	138
0.6	2189	2.6	3130	6.4	3130	1.0	11.3	3152	1.0	123.468	229.059	g500-S3100	m550-P100/M4	3	138
0.6	2277	2.5	3256	6.2	3256	1.4	10.8	3279	1.4	123.873	238.252	g500-S4500	m550-P100/M4	3	213
0.6	2476	2.3	3540	5.7	3540	0.9	10.0	3565	0.9	123.458	259.030	g500-S3100	m550-P100/M4	3	138
0.6	2542	2.3	3635	5.5	3635	1.2	9.7	3660	1.2	123.861	265.956	g500-S4500	m550-P100/M4	3	213
0.5	2763	2.1	3952	5.1	3952	1.1	8.9	3979	1.1	123.636	289.151	g500-S4500	m550-P100/M4	3	213
0.5	3058	1.8	4373	4.5	4373	1.0	7.9	4404	1.0	123.628	324.889	g500-S4500	m550-P100/M4	4	216
0.5	3085	1.9	4411	4.6	4411	1.0	8.0	4442	1.0	123.628	322.773	g500-S4500	m550-P100/M4	3	213
0.4	3414	1.7	4882	4.1	4882	0.9	7.1	4916	0.9	123.622	362.667	g500-S4500	m550-P100/M4	4	216
0.4	3746	1.5	5357	3.7	5357	0.8	6.5	5395	0.8	123.544	397.989	g500-S4500	m550-P100/M4	4	216

50 Hz: 3 kW

87 Hz: 5.2 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
44.0	44.1	180	63.0	440	63.0	3.2	773	62.0	2.7	135.460	3.339	g500-S400	m550-P100/L4	2	42
38.3	50.7	156	73.0	383	73.0	2.5	672	72.0	2.1	132.896	3.840	g500-S220	m550-P100/L4	2	39
37.5	51.7	153	74.0	375	74.0	4.2	658	73.0	3.5	139.101	3.920	g500-S660	m550-P100/L4	2	48
32.1	60.4	131	87.0	321	87.0	2.8	563	85.0	2.4	133.207	4.579	g500-S400	m550-P100/L4	2	42
27.9	69.5	114	100	279	100	1.8	490	98.0	1.5	131.844	5.267	g500-S220	m550-P100/L4	2	39
27.3	70.9	112	102	273	102	4.2	480	100	3.5	135.564	5.376	g500-S660	m550-P100/L4	2	48
27.3	71.1	111	102	273	102	4.3	479	100	3.6	139.548	5.391	g500-S950	m550-P100/L4	2	67
25.1	77.3	102	111	251	111	2.3	440	109	2.0	132.161	5.860	g500-S400	m550-P100/L4	2	42
24.3	79.7	99.4	114	243	114	4.2	427	112	3.5	137.806	6.038	g500-S950	m550-P100/L4	2	67
22.9	84.6	93.6	121	229	121	2.2	402	119	1.8	131.876	6.411	g500-S400	m550-P100/L4	2	42
22.9	84.7	93.5	121	229	121	4.2	402	120	3.5	135.781	6.417	g500-S660	m550-P100/L4	2	48
21.7	89.3	88.7	128	217	128	1.7	381	126	1.5	131.941	6.767	g500-S220	m550-P100/L4	2	39
21.4	90.8	87.2	130	214	130	3.5	375	128	3.0	133.784	6.880	g500-S660	m550-P100/L4	2	48
20.1	96.5	82.1	138	201	138	4.2	353	136	3.5	135.196	7.311	g500-S660	m550-P100/L4	2	48
19.7	98.5	80.4	141	197	141	2.6	346	139	2.2	132.479	7.467	g500-S400	m550-P100/L4	2	42
19.2	101	78.3	145	192	145	1.5	337	143	1.3	131.799	7.667	g500-S220	m550-P100/L4	2	39
19.1	102	77.9	146	191	146	3.5	335	143	3.0	135.380	7.702	g500-S950	m550-P100/L4	2	67
17.8	109	72.5	157	178	157	4.3	312	154	3.6	147.092	8.272	g500-S2100	m550-P100/L4	2	100
17.4	111	71.1	160	174	160	2.4	306	157	2.0	132.245	8.436	g500-S400	m550-P100/L4	2	42
16.7	116	68.2	166	167	166	3.8	293	164	3.3	133.799	8.800	g500-S660	m550-P100/L4	2	48
16.5	118	67.3	169	165	169	4.3	289	166	3.6	158.471	8.917	g500-S3100	m550-P100/L4	2	139
15.8	123	64.7	176	158	176	1.3	278	173	1.1	131.336	9.280	g500-S220	m550-P100/L4	2	39
14.7	132	59.8	190	147	190	3.3	257	187	2.8	133.488	10.027	g500-S660	m550-P100/L4	2	48
14.4	135	58.6	194	144	194	2.1	252	191	1.8	131.622	10.240	g500-S400	m550-P100/L4	2	42
14.0	139	57.1	199	140	199	1.1	245	196	0.9	131.261	10.514	g500-S220	m550-P100/L4	2	39
13.1	148	53.6	212	131	212	4.3	230	209	3.6	136.349	11.200	g500-S950	m550-P100/L4	2	67
13.1	149	53.3	213	131	213	3.1	229	210	2.6	132.706	11.262	g500-S660	m550-P100/L4	2	48
12.7	153	51.9	219	127	219	1.8	223	216	1.6	131.498	11.569	g500-S400	m550-P100/L4	2	42
12.4	157	50.5	225	124	225	1.0	217	221	0.8	131.019	11.876	g500-S220	m550-P100/L4	2	39
11.9	163	48.7	233	119	233	2.8	209	230	2.4	132.422	12.320	g500-S660	m550-P100/L4	2	48
11.7	166	47.8	237	117	237	4.0	206	234	3.4	135.256	12.544	g500-S950	m550-P100/L4	2	67
11.5	169	46.8	243	115	243	2.7	201	239	2.3	132.516	12.832	g500-S660	m550-P100/L4	2	48
11.3	171	46.2	246	113	246	0.9	199	242	0.8	130.921	12.992	g500-S220	m550-P100/L4	2	39
11.2	173	45.8	248	112	248	1.6	197	244	1.4	131.193	13.105	g500-S400	m550-P100/L4	2	42
10.9	178	44.6	255	109	255	0.9	192	251	0.7	130.973	13.456	g500-S220	m550-P100/L4	2	39
10.5	185	42.7	266	105	266	2.5	184	261	2.1	132.263	14.037	g500-S660	m550-P100/L4	2	48
10.5	185	42.7	266	105	266	3.6	184	261	3.0	134.978	14.037	g500-S950	m550-P100/L4	2	67
10.3	189	41.9	271	103	271	1.5	180	267	1.3	131.067	14.336	g500-S400	m550-P100/L4	2	42
9.9	195	40.5	280	99.3	280	1.4	174	276	1.2	131.117	14.806	g500-S400	m550-P100/L4	2	42
9.4	207	38.2	297	93.5	297	2.2	164	293	1.9	131.813	15.714	g500-S660	m550-P100/L4	2	48
9.2	211	37.5	303	91.9	303	3.1	161	298	2.7	133.812	16.000	g500-S950	m550-P100/L4	2	67
9.1	214	37.0	306	90.8	306	1.3	159	302	1.1	131.004	16.197	g500-S400	m550-P100/L4	2	42
8.6	225	35.2	322	86.4	322	4.3	152	317	3.6	142.369	17.022	g500-S2100	m550-P100/L4	2	100
8.2	236	33.5	339	82.1	339	2.0	144	334	1.7	131.715	17.905	g500-S660	m550-P100/L4	2	48
8.2	236	33.5	339	82.1	339	2.8	144	334	2.4	133.642	17.905	g500-S950	m550-P100/L4	2	67
8.0	241	32.8	346	80.4	346	1.2	141	341	1.1	130.831	18.286	g500-S400	m550-P100/L4	2	42
7.8	250	31.7	358	77.7	358	4.3	136	352	4.1	141.803	18.917	g500-S2100	m550-P100/L4	2	100
7.6	254	31.2	364	76.4	364	1.8	134	359	1.8	131.454	19.250	g500-S660	m550-P100/L4	2	48
7.5	259	30.6	371	75.0	371	2.6	132	365	2.5	132.988	19.600	g500-S950	m550-P100/L4	2	67
7.3	264	29.9	379	73.3	379	4.3	129	373	4.1	145.990	20.041	g500-S3100	m550-P100/L4	2	139

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
7.1	273	29.0	391	71.2	391	1.0	125	385	1.0	130.792	20.659	g500-S400	m550-P100/L4	2	42
6.7	289	27.4	415	67.0	415	1.6	118	409	1.5	131.389	21.933	g500-S660	m550-P100/L4	2	48
6.7	289	27.4	415	67.0	415	2.3	118	409	2.2	132.874	21.933	g500-S950	m550-P100/L4	2	67
6.6	296	26.8	424	65.6	424	0.9	115	417	0.9	130.696	22.400	g500-S400	m550-P100/L4	2	42
6.5	299	26.5	429	64.9	429	4.3	114	422	4.1	144.683	22.663	g500-S3100	m550-P100/L4	2	139
5.9	331	23.9	474	58.7	474	1.2	103	467	1.2	130.947	25.056	g500-S660	m550-P100/L4	2	48
5.8	334	23.7	479	58.1	479	0.8	102	471	0.8	130.670	25.308	g500-S400	m550-P100/L4	2	42
5.8	337	23.5	483	57.6	483	2.0	101	475	1.9	132.130	25.511	g500-S950	m550-P100/L4	2	67
5.2	373	21.2	535	52.0	535	3.0	91.2	527	2.9	135.793	28.275	g500-S2100	m550-P100/L4	2	100
5.1	377	21.0	540	51.5	540	1.2	90.4	532	1.2	130.909	28.548	g500-S660	m550-P100/L4	2	48
5.1	377	21.0	540	51.5	540	1.8	90.4	532	1.7	132.063	28.548	g500-S950	m550-P100/L4	2	67
4.7	411	19.3	590	47.2	590	1.1	82.8	581	1.1	130.767	31.167	g500-S660	m550-P100/L4	2	48
4.7	413	19.2	592	47.0	592	1.6	82.5	582	1.6	131.559	31.267	g500-S950	m550-P100/L4	2	67
4.7	415	19.1	594	46.8	594	3.0	82.1	585	3.1	135.588	31.422	g500-S2100	m550-P100/L4	2	100
4.4	439	18.0	630	44.2	630	3.0	77.5	620	3.1	137.106	33.289	g500-S3100	m550-P100/L4	2	139
4.3	453	17.5	650	42.8	650	2.6	75.1	640	2.6	134.420	34.333	g500-S2100	m550-P100/L4	2	100
4.2	462	17.1	662	42.0	662	1.4	73.7	652	1.5	131.514	34.989	g500-S950	m550-P100/L4	2	67
4.1	469	16.9	672	41.4	672	1.0	72.7	662	1.0	130.742	35.511	g500-S660	m550-P100/L4	2	48
3.9	497	15.9	712	39.0	712	3.0	68.5	701	3.1	136.632	37.644	g500-S3100	m550-P100/L4	2	139
3.9	504	15.7	722	38.5	722	2.6	67.6	711	2.6	134.281	38.156	g500-S2100	m550-P100/L4	2	100
3.7	521	15.0	746	36.7	746	2.6	64.4	735	2.2	135.082	40.056	g500-S2100	m550-P100/L4	3	100
3.6	533	14.8	765	36.4	765	2.6	63.8	753	2.6	135.310	40.422	g500-S3100	m550-P100/L4	2	139
3.6	542	14.6	777	35.8	777	1.2	62.8	765	1.2	131.087	41.067	g500-S950	m550-P100/L4	2	67
3.5	555	14.3	795	35.0	795	2.6	61.4	783	2.6	139.266	42.044	g500-S4500	m550-P100/L4	2	212
3.3	579	13.5	830	33.0	830	2.5	58.0	817	2.1	134.979	44.515	g500-S2100	m550-P100/L4	3	100
3.3	586	13.5	841	33.1	841	2.1	58.1	828	2.1	132.919	44.431	g500-S2100	m550-P100/L4	2	100
3.2	603	13.1	865	32.2	865	2.6	56.4	852	2.6	134.989	45.711	g500-S3100	m550-P100/L4	2	139
3.2	606	13.1	869	32.0	869	1.1	56.1	856	1.1	131.061	45.956	g500-S950	m550-P100/L4	2	67
3.1	613	12.7	879	31.2	879	3.4	54.7	865	2.9	135.819	47.159	g500-S3100	m550-P100/L4	3	140
3.1	619	12.8	888	31.3	888	2.6	55.0	874	2.6	138.886	46.933	g500-S4500	m550-P100/L4	2	212
2.9	650	12.0	932	29.4	932	1.0	51.6	918	1.0	131.378	50.027	g500-S950	m550-P100/L4	3	68
3.0	652	12.2	934	29.8	934	2.1	52.3	920	2.1	132.836	49.378	g500-S2100	m550-P100/L4	2	100
2.9	658	12.0	943	29.5	943	1.0	51.8	928	1.0	130.878	49.840	g500-S950	m550-P100/L4	2	67
2.9	673	11.8	965	28.8	965	2.2	50.6	951	2.2	136.805	51.027	g500-S4500	m550-P100/L4	2	212
2.8	690	11.5	990	28.1	990	2.1	49.3	974	2.1	133.451	52.311	g500-S3100	m550-P100/L4	2	139
2.8	693	11.3	994	27.6	994	3.1	48.4	979	3.0	135.583	53.330	g500-S3100	m550-P100/L4	3	140
2.7	712	11.1	1020	27.3	1020	1.7	47.8	1005	1.8	132.211	53.924	g500-S2100	m550-P100/L4	2	100
2.7	714	10.9	1024	26.8	1024	2.0	47.0	1008	1.9	133.427	54.933	g500-S2100	m550-P100/L4	3	100
2.6	728	10.7	1043	26.3	1043	0.9	46.1	1027	0.9	131.361	55.982	g500-S950	m550-P100/L4	3	68
2.6	736	10.8	1055	26.4	1055	0.9	46.3	1039	0.9	130.860	55.773	g500-S950	m550-P100/L4	2	67
2.6	752	10.5	1078	25.8	1078	2.2	45.3	1061	2.2	136.547	56.960	g500-S4500	m550-P100/L4	2	212
2.5	781	10.1	1119	24.8	1119	2.1	43.6	1102	2.1	133.259	59.156	g500-S3100	m550-P100/L4	2	139
2.5	791	10.0	1134	24.5	1134	1.7	43.1	1116	1.8	132.154	59.927	g500-S2100	m550-P100/L4	2	100
2.4	794	9.8	1138	24.1	1138	1.8	42.3	1120	1.7	133.372	61.049	g500-S2100	m550-P100/L4	3	100
2.3	832	9.4	1193	23.0	1193	0.8	40.3	1175	0.8	131.044	64.022	g500-S950	m550-P100/L4	3	68
2.3	838	9.5	1201	23.2	1201	1.7	40.6	1183	1.8	132.572	63.487	g500-S3100	m550-P100/L4	2	139
2.3	841	9.3	1205	22.7	1205	2.6	39.9	1187	2.5	133.819	64.676	g500-S3100	m550-P100/L4	3	140
2.3	845	9.2	1211	22.6	1211	3.7	39.7	1192	3.6	137.502	64.978	g500-S4500	m550-P100/L4	3	215
2.3	851	9.3	1220	22.8	1220	1.7	40.0	1202	1.8	134.548	64.500	g500-S4500	m550-P100/L4	2	212
2.2	899	8.8	1290	21.6	1290	1.1	37.9	1270	1.2	131.559	68.162	g500-S2100	m550-P100/L4	2	100
2.1	914	8.5	1310	20.9	1310	1.6	36.7	1290	1.6	132.479	70.302	g500-S2100	m550-P100/L4	3	100
2.0	943	8.3	1352	20.3	1352	3.3	35.6	1331	3.4	137.343	72.533	g500-S4500	m550-P100/L4	3	215

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
2.0	946	8.2	1356	20.2	1356	3.3	35.5	1335	3.4	136.175	72.775	g500-S4500	m550-P100/L4	3	215
2.0	947	8.4	1358	20.5	1358	1.7	35.9	1337	1.8	132.441	71.793	g500-S3100	m550-P100/L4	2	139
2.0	950	8.3	1362	20.4	1362	1.7	35.8	1341	1.8	134.387	72.000	g500-S4500	m550-P100/L4	2	212
2.0	951	8.2	1363	20.1	1363	2.3	35.3	1342	2.3	133.694	73.138	g500-S3100	m550-P100/L4	3	140
1.9	1000	7.9	1433	19.4	1433	1.1	34.1	1411	1.1	131.524	75.750	g500-S2100	m550-P100/L4	2	100
1.9	1000	7.8	1433	19.1	1433	1.4	33.5	1411	1.5	132.232	76.907	g500-S2100	m550-P100/L4	3	100
1.9	1015	7.7	1456	18.8	1456	1.4	33.0	1434	1.4	132.446	78.128	g500-S2100	m550-P100/L4	3	100
1.8	1056	7.4	1514	18.1	1514	3.0	31.8	1491	3.0	136.049	81.237	g500-S4500	m550-P100/L4	3	215
1.8	1076	7.2	1542	17.8	1542	2.0	31.2	1519	2.0	132.718	82.769	g500-S3100	m550-P100/L4	3	140
1.7	1111	7.0	1593	17.2	1593	1.3	30.2	1568	1.3	132.204	85.468	g500-S2100	m550-P100/L4	3	100
1.6	1177	6.6	1687	16.2	1687	1.8	28.5	1661	1.9	132.432	90.546	g500-S3100	m550-P100/L4	3	140
1.6	1207	6.5	1730	15.8	1730	2.6	27.8	1703	2.6	134.377	92.825	g500-S4500	m550-P100/L4	3	215
1.6	1217	6.4	1744	15.7	1744	1.8	27.6	1717	1.8	132.642	93.599	g500-S3100	m550-P100/L4	3	140
1.5	1275	6.1	1828	15.0	1828	1.1	26.3	1800	1.1	131.696	98.095	g500-S2100	m550-P100/L4	3	100
1.4	1331	5.9	1908	14.4	1908	1.6	25.2	1879	1.7	132.368	102.393	g500-S3100	m550-P100/L4	3	140
1.4	1347	5.8	1931	14.2	1931	2.3	24.9	1901	2.4	134.299	103.619	g500-S4500	m550-P100/L4	3	215
1.3	1417	5.5	2032	13.5	2032	1.0	23.7	2000	1.0	131.679	109.016	g500-S2100	m550-P100/L4	3	100
1.3	1478	5.3	2119	12.9	2119	2.1	22.7	2086	2.2	133.364	113.711	g500-S4500	m550-P100/L4	3	215
1.3	1501	5.2	2152	12.7	2152	1.4	22.3	2119	1.5	131.819	115.492	g500-S3100	m550-P100/L4	3	140
1.2	1562	5.0	2239	12.2	2239	0.9	21.5	2205	0.9	131.376	120.167	g500-S2100	m550-P100/L4	3	100
1.2	1650	4.7	2365	11.6	2365	1.9	20.3	2329	1.9	133.312	126.933	g500-S4500	m550-P100/L4	3	215
1.1	1698	4.6	2434	11.3	2434	1.3	19.8	2396	1.3	131.780	130.603	g500-S3100	m550-P100/L4	3	140
1.1	1736	4.5	2489	11.0	2489	0.8	19.3	2450	0.8	131.365	133.544	g500-S2100	m550-P100/L4	3	100
1.0	1839	4.2	2637	10.4	2637	1.2	18.2	2596	1.2	131.458	141.478	g500-S3100	m550-P100/L4	3	140
1.0	1924	4.1	2758	9.9	2758	1.6	17.4	2716	1.7	132.352	148.005	g500-S4500	m550-P100/L4	3	215
0.9	2079	3.8	2981	9.2	2981	1.0	16.1	2936	1.1	131.432	159.989	g500-S3100	m550-P100/L4	3	140
0.9	2147	3.6	3079	8.9	3079	1.5	15.6	3032	1.5	132.322	165.215	g500-S4500	m550-P100/L4	3	215
0.8	2358	3.3	3380	8.1	3380	1.3	14.2	3328	1.4	131.707	181.396	g500-S4500	m550-P100/L4	3	215
0.8	2393	3.3	3432	8.0	3432	0.9	14.0	3379	0.9	131.002	184.146	g500-S3100	m550-P100/L4	3	140
0.7	2632	3.0	3774	7.3	3774	1.2	12.7	3715	1.2	131.686	202.489	g500-S4500	m550-P100/L4	3	215
0.7	2707	2.9	3881	7.1	3881	0.8	12.4	3821	0.8	130.987	208.240	g500-S3100	m550-P100/L4	3	140
0.6	3097	2.5	4440	6.2	4440	1.0	10.8	4372	1.0	131.173	238.252	g500-S4500	m550-P100/L4	3	215
0.6	3457	2.3	4956	5.5	4956	0.9	9.7	4880	0.9	131.161	265.956	g500-S4500	m550-P100/L4	3	215
0.5	3758	2.1	5389	5.1	5389	0.8	8.9	5306	0.9	130.936	289.151	g500-S4500	m550-P100/L4	3	215

50 Hz: 4 kW

87 Hz: 7.35 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
44.0	59.0	180	84.0	440	84.0	2.4	773	88.0	1.9	203.160	3.339	g500-S400	m550-P112/M4	2	51
37.5	69.2	153	99.0	375	99.0	3.5	658	103	2.8	206.801	3.920	g500-S660	m550-P112/M4	2	56
33.6	77.4	137	111	336	111	4.3	589	116	3.4	211.117	4.380	g500-S950	m550-P112/M4	2	76
32.1	80.9	131	116	321	116	2.1	563	121	1.7	200.907	4.579	g500-S400	m550-P112/M4	2	51
27.3	94.9	112	136	273	136	3.5	480	142	2.8	203.264	5.376	g500-S660	m550-P112/M4	2	56
27.3	95.2	111	136	273	136	3.7	479	142	3.0	207.248	5.391	g500-S950	m550-P112/M4	2	76
25.1	104	102	148	251	148	1.7	440	155	1.4	199.861	5.860	g500-S400	m550-P112/M4	2	51
24.4	107	99.5	152	244	152	4.8	428	159	3.8	227.232	6.029	g500-S2100	m550-P112/M4	2	108
24.3	107	99.4	152	243	152	3.5	427	159	2.8	205.506	6.038	g500-S950	m550-P112/M4	2	76
22.9	113	93.6	162	229	162	1.6	402	169	1.3	199.576	6.411	g500-S400	m550-P112/M4	2	51
22.9	113	93.5	162	229	162	3.5	402	169	2.8	203.481	6.417	g500-S660	m550-P112/M4	2	56
22.6	115	92.3	164	226	164	4.8	397	172	3.8	248.653	6.499	g500-S3100	m550-P112/M4	2	147
21.4	121	87.3	173	214	173	4.4	376	181	3.5	220.562	6.870	g500-S2100	m550-P112/M4	2	108
21.4	122	87.2	174	214	174	2.9	375	182	2.3	201.484	6.880	g500-S660	m550-P112/M4	2	56
20.1	129	82.1	184	201	184	3.2	353	193	2.6	202.896	7.311	g500-S660	m550-P112/M4	2	56
19.8	131	81.0	187	199	187	4.4	348	195	3.5	237.059	7.406	g500-S3100	m550-P112/M4	2	147
19.7	132	80.4	188	197	188	1.9	346	197	1.6	200.179	7.467	g500-S400	m550-P112/M4	2	51
19.1	136	77.9	194	191	194	2.6	335	203	2.1	203.080	7.702	g500-S950	m550-P112/M4	2	76
17.8	146	72.5	209	178	209	3.9	312	218	3.1	214.792	8.272	g500-S2100	m550-P112/M4	2	108
17.4	149	71.1	213	174	213	1.8	306	223	1.4	199.945	8.436	g500-S400	m550-P112/M4	2	51
16.7	155	68.2	222	167	222	2.9	293	232	2.3	201.499	8.800	g500-S660	m550-P112/M4	2	56
16.5	158	67.3	225	165	225	3.9	289	235	3.1	226.171	8.917	g500-S3100	m550-P112/M4	2	147
16.2	161	65.9	230	162	230	4.1	284	240	3.3	206.272	9.100	g500-S950	m550-P112/M4	2	76
14.7	177	59.8	253	147	253	2.5	257	265	2.0	201.188	10.027	g500-S660	m550-P112/M4	2	56
14.4	180	58.9	257	144	257	3.7	253	269	3.0	205.744	10.183	g500-S950	m550-P112/M4	2	76
14.4	181	58.6	258	144	258	1.6	252	270	1.2	199.322	10.240	g500-S400	m550-P112/M4	2	51
13.4	193	54.9	276	135	276	3.3	236	289	2.6	217.882	10.932	g500-S3100	m550-P112/M4	2	147
13.1	198	53.6	283	131	283	3.4	230	296	2.7	204.049	11.200	g500-S950	m550-P112/M4	2	76
13.1	199	53.3	284	131	284	2.3	229	297	1.9	200.406	11.262	g500-S660	m550-P112/M4	2	56
12.7	204	51.9	292	127	292	1.4	223	305	1.1	199.198	11.569	g500-S400	m550-P112/M4	2	51
11.9	218	48.7	311	119	311	2.1	209	325	1.7	200.122	12.320	g500-S660	m550-P112/M4	2	56
11.8	219	48.4	313	119	313	4.8	208	327	3.8	218.340	12.406	g500-S2100	m550-P112/M4	2	108
11.7	222	47.8	316	117	316	3.0	206	331	2.4	202.956	12.544	g500-S950	m550-P112/M4	2	76
11.5	227	46.8	324	115	324	2.0	201	339	1.6	200.216	12.832	g500-S660	m550-P112/M4	2	56
11.2	231	45.8	331	112	331	1.2	197	346	1.0	198.893	13.105	g500-S400	m550-P112/M4	2	51
10.7	244	43.5	348	107	348	4.8	187	364	3.8	217.274	13.787	g500-S2100	m550-P112/M4	2	108
10.5	248	42.7	354	105	354	1.9	184	370	1.5	199.963	14.037	g500-S660	m550-P112/M4	2	56
10.5	248	42.7	354	105	354	2.7	184	370	2.1	202.678	14.037	g500-S950	m550-P112/M4	2	76
10.4	250	42.4	357	104	357	4.4	183	373	3.5	213.715	14.137	g500-S2100	m550-P112/M4	2	108
10.3	253	41.9	362	103	362	1.1	180	378	0.9	198.767	14.336	g500-S400	m550-P112/M4	2	51
10.1	258	41.1	368	101	368	4.8	177	385	3.8	225.157	14.606	g500-S3100	m550-P112/M4	2	147
9.9	261	40.5	373	99.3	373	1.1	174	391	0.9	198.817	14.806	g500-S400	m550-P112/M4	2	51
9.4	277	38.2	396	93.6	396	4.4	164	415	3.5	212.894	15.711	g500-S2100	m550-P112/M4	2	108
9.4	278	38.2	396	93.5	396	1.7	164	415	1.3	199.513	15.714	g500-S660	m550-P112/M4	2	56
9.2	283	37.5	404	91.9	404	2.4	161	422	1.9	201.512	16.000	g500-S950	m550-P112/M4	2	76
9.1	286	37.0	409	90.8	409	1.0	159	427	0.8	198.704	16.197	g500-S400	m550-P112/M4	2	51
9.0	289	36.6	413	89.7	413	4.8	158	432	3.8	239.258	16.381	g500-S4500	m550-P112/M4	2	220
8.9	292	36.3	417	89.0	417	4.8	156	436	3.8	222.696	16.517	g500-S3100	m550-P112/M4	2	147
8.8	294	36.0	420	88.3	420	4.4	155	439	3.5	218.965	16.644	g500-S3100	m550-P112/M4	2	147
8.6	301	35.2	429	86.4	429	3.9	152	449	3.1	210.069	17.022	g500-S2100	m550-P112/M4	2	108

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
8.2	316	33.5	452	82.1	452	1.5	144	473	1.2	199.415	17.905	g500-S660	m550-P112/M4	2	56
8.2	316	33.5	452	82.1	452	2.1	144	473	1.7	201.342	17.905	g500-S950	m550-P112/M4	2	76
8.0	323	32.8	461	80.4	461	0.9	141	483	0.8	198.531	18.286	g500-S400	m550-P112/M4	2	51
8.0	323	32.8	461	80.4	461	4.8	141	483	4.3	236.754	18.286	g500-S4500	m550-P112/M4	2	220
7.8	332	31.9	475	78.1	475	4.4	137	497	4.0	217.070	18.822	g500-S3100	m550-P112/M4	2	147
7.8	334	31.7	477	77.7	477	3.9	136	499	3.5	209.503	18.917	g500-S2100	m550-P112/M4	2	108
7.6	340	31.2	486	76.4	486	1.4	134	508	1.2	199.154	19.250	g500-S660	m550-P112/M4	2	56
7.5	346	30.6	494	75.0	494	1.9	132	517	1.7	200.688	19.600	g500-S950	m550-P112/M4	2	76
7.3	354	29.9	506	73.3	506	3.9	129	529	3.5	213.690	20.041	g500-S3100	m550-P112/M4	2	147
7.0	369	28.8	526	70.4	526	3.3	124	551	3.0	207.169	20.869	g500-S2100	m550-P112/M4	2	108
6.7	387	27.4	553	67.0	553	1.2	118	579	1.1	199.089	21.933	g500-S660	m550-P112/M4	2	56
6.7	387	27.4	553	67.0	553	1.7	118	579	1.6	200.574	21.933	g500-S950	m550-P112/M4	2	76
6.5	400	26.5	572	64.9	572	3.9	114	598	3.5	212.383	22.663	g500-S3100	m550-P112/M4	2	147
6.3	410	25.9	585	63.4	585	3.3	111	612	3.0	206.792	23.193	g500-S2100	m550-P112/M4	2	108
6.0	434	24.4	620	59.8	620	3.3	105	648	3.0	209.578	24.570	g500-S3100	m550-P112/M4	2	147
5.9	442	23.9	632	58.7	632	0.9	103	661	0.8	198.647	25.056	g500-S660	m550-P112/M4	2	56
5.8	451	23.5	644	57.6	644	1.5	101	673	1.3	199.830	25.511	g500-S950	m550-P112/M4	2	76
5.6	467	22.7	667	55.6	667	3.3	97.6	698	3.0	217.402	26.437	g500-S4500	m550-P112/M4	2	220
5.3	491	21.6	701	52.9	701	3.3	92.9	733	3.0	208.708	27.785	g500-S3100	m550-P112/M4	2	147
5.2	499	21.2	713	52.0	713	2.6	91.2	746	2.4	203.493	28.275	g500-S2100	m550-P112/M4	2	108
5.1	504	21.0	720	51.5	720	0.9	90.4	753	0.8	198.609	28.548	g500-S660	m550-P112/M4	2	56
5.1	504	21.0	720	51.5	720	1.3	90.4	753	1.2	199.763	28.548	g500-S950	m550-P112/M4	2	76
5.0	521	20.3	744	49.8	744	3.3	87.4	779	3.0	216.441	29.511	g500-S4500	m550-P112/M4	2	220
4.7	552	19.2	789	47.0	789	1.2	82.5	825	1.2	199.259	31.267	g500-S950	m550-P112/M4	2	76
4.7	555	19.1	793	46.8	793	2.6	82.1	829	2.5	203.288	31.422	g500-S2100	m550-P112/M4	2	108
4.5	574	18.5	820	45.2	820	2.8	79.4	857	2.6	212.132	32.489	g500-S4500	m550-P112/M4	2	220
4.4	588	18.0	840	44.2	840	2.6	77.5	878	2.5	204.806	33.289	g500-S3100	m550-P112/M4	2	147
4.3	606	17.5	866	42.8	866	2.2	75.1	906	2.1	202.120	34.333	g500-S2100	m550-P112/M4	2	108
4.2	618	17.1	883	42.0	883	1.1	73.7	923	1.0	199.214	34.989	g500-S950	m550-P112/M4	2	76
4.1	640	16.5	915	40.5	915	2.8	71.1	957	2.6	211.495	36.267	g500-S4500	m550-P112/M4	2	220
3.9	663	15.8	946	38.6	946	4.3	67.7	990	3.4	214.465	38.090	g500-S4500	m550-P112/M4	3	223
3.9	665	15.9	950	39.0	950	2.6	68.5	993	2.5	204.332	37.644	g500-S3100	m550-P112/M4	2	147
3.9	674	15.7	963	38.5	963	2.1	67.6	1007	2.0	201.981	38.156	g500-S2100	m550-P112/M4	2	108
3.7	697	15.0	995	36.7	995	2.0	64.4	1041	1.6	202.782	40.056	g500-S2100	m550-P112/M4	3	109
3.6	714	14.8	1020	36.4	1020	2.2	63.8	1067	2.1	203.010	40.422	g500-S3100	m550-P112/M4	2	147
3.5	740	14.1	1057	34.6	1057	4.1	60.7	1105	3.2	214.002	42.520	g500-S4500	m550-P112/M4	3	223
3.5	742	14.3	1061	35.0	1061	2.2	61.4	1110	2.1	206.966	42.044	g500-S4500	m550-P112/M4	2	220
3.3	774	13.5	1106	33.0	1106	1.9	58.0	1157	1.5	202.679	44.515	g500-S2100	m550-P112/M4	3	109
3.3	785	13.5	1121	33.1	1121	1.8	58.1	1173	1.7	200.619	44.431	g500-S2100	m550-P112/M4	2	108
3.2	807	13.1	1153	32.2	1153	2.2	56.4	1206	2.1	202.689	45.711	g500-S3100	m550-P112/M4	2	147
3.1	820	12.7	1172	31.2	1172	2.5	54.7	1226	2.0	203.519	47.159	g500-S3100	m550-P112/M4	3	148
3.1	829	12.8	1184	31.3	1184	2.2	55.0	1239	2.1	206.586	46.933	g500-S4500	m550-P112/M4	2	220
3.0	872	12.2	1246	29.8	1246	1.7	52.3	1303	1.6	200.536	49.378	g500-S2100	m550-P112/M4	2	108
2.9	901	11.8	1287	28.8	1287	1.9	50.6	1347	1.8	204.505	51.027	g500-S4500	m550-P112/M4	2	220
2.8	918	11.4	1312	27.8	1312	3.4	48.9	1372	3.1	208.018	52.794	g500-S4500	m550-P112/M4	3	223
2.8	924	11.5	1320	28.1	1320	1.8	49.3	1380	1.7	201.151	52.311	g500-S3100	m550-P112/M4	2	147
2.8	928	11.3	1325	27.6	1325	2.3	48.4	1386	2.1	203.283	53.330	g500-S3100	m550-P112/M4	3	148
2.7	952	11.1	1360	27.3	1360	1.4	47.8	1423	1.4	199.911	53.924	g500-S2100	m550-P112/M4	2	108
2.7	956	10.9	1365	26.8	1365	1.5	47.0	1428	1.4	201.127	54.933	g500-S2100	m550-P112/M4	3	109
2.6	1006	10.5	1437	25.8	1437	1.9	45.3	1503	1.8	204.247	56.960	g500-S4500	m550-P112/M4	2	220
2.5	1025	10.2	1464	24.9	1464	3.1	43.8	1532	2.8	207.777	58.933	g500-S4500	m550-P112/M4	3	223
2.5	1045	10.1	1492	24.8	1492	1.8	43.6	1561	1.7	200.959	59.156	g500-S3100	m550-P112/M4	2	147

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
2.5	1058	10.0	1512	24.5	1512	1.4	43.1	1581	1.3	199.854	59.927	g500-S2100	m550-P112/M4	2	108
2.4	1062	9.8	1517	24.1	1517	1.4	42.3	1587	1.2	201.072	61.049	g500-S2100	m550-P112/M4	3	109
2.3	1121	9.5	1602	23.2	1602	1.4	40.6	1675	1.3	200.272	63.487	g500-S3100	m550-P112/M4	2	147
2.3	1125	9.3	1607	22.7	1607	1.9	39.9	1681	1.8	201.519	64.676	g500-S3100	m550-P112/M4	3	148
2.3	1130	9.2	1615	22.6	1615	2.8	39.7	1689	2.5	205.202	64.978	g500-S4500	m550-P112/M4	3	223
2.3	1139	9.3	1627	22.8	1627	1.5	40.0	1702	1.4	202.248	64.500	g500-S4500	m550-P112/M4	2	220
2.1	1223	8.5	1747	20.9	1747	1.2	36.7	1827	1.1	200.179	70.302	g500-S2100	m550-P112/M4	3	109
2.0	1262	8.3	1802	20.3	1802	2.5	35.6	1885	2.4	205.043	72.533	g500-S4500	m550-P112/M4	3	223
2.0	1266	8.2	1808	20.2	1808	2.5	35.5	1892	2.4	203.875	72.775	g500-S4500	m550-P112/M4	3	223
2.0	1268	8.4	1811	20.5	1811	1.3	35.9	1895	1.3	200.141	71.793	g500-S3100	m550-P112/M4	2	147
2.0	1271	8.3	1816	20.4	1816	1.4	35.8	1900	1.4	202.087	72.000	g500-S4500	m550-P112/M4	2	220
2.0	1272	8.2	1817	20.1	1817	1.7	35.3	1901	1.6	201.394	73.138	g500-S3100	m550-P112/M4	3	148
1.9	1338	7.8	1911	19.1	1911	1.1	33.5	1999	1.0	199.932	76.907	g500-S2100	m550-P112/M4	3	109
1.9	1359	7.7	1941	18.8	1941	1.1	33.0	2031	1.0	200.146	78.128	g500-S2100	m550-P112/M4	3	109
1.8	1413	7.4	2019	18.1	2019	2.2	31.8	2112	2.1	203.749	81.237	g500-S4500	m550-P112/M4	3	223
1.8	1440	7.2	2057	17.8	2057	1.5	31.2	2152	1.4	200.418	82.769	g500-S3100	m550-P112/M4	3	148
1.7	1487	7.0	2124	17.2	2124	1.0	30.2	2222	0.9	199.904	85.468	g500-S2100	m550-P112/M4	3	109
1.6	1575	6.6	2250	16.2	2250	1.4	28.5	2354	1.3	200.132	90.546	g500-S3100	m550-P112/M4	3	148
1.6	1615	6.5	2306	15.8	2306	2.0	27.8	2413	1.9	202.077	92.825	g500-S4500	m550-P112/M4	3	223
1.6	1628	6.4	2326	15.7	2326	1.3	27.6	2433	1.3	200.342	93.599	g500-S3100	m550-P112/M4	3	148
1.5	1706	6.1	2437	15.0	2437	0.8	26.3	2550	0.8	199.396	98.095	g500-S2100	m550-P112/M4	3	109
1.4	1781	5.9	2544	14.4	2544	1.2	25.2	2662	1.2	200.068	102.393	g500-S3100	m550-P112/M4	3	148
1.4	1802	5.8	2575	14.2	2575	1.8	24.9	2694	1.7	201.999	103.619	g500-S4500	m550-P112/M4	3	223
1.3	1978	5.3	2825	12.9	2825	1.6	22.7	2956	1.5	201.064	113.711	g500-S4500	m550-P112/M4	3	223
1.3	2009	5.2	2870	12.7	2870	1.1	22.3	3002	1.0	199.519	115.492	g500-S3100	m550-P112/M4	3	148
1.2	2208	4.7	3154	11.6	3154	1.4	20.3	3300	1.4	201.012	126.933	g500-S4500	m550-P112/M4	3	223
1.1	2272	4.6	3245	11.3	3245	1.0	19.8	3395	0.9	199.480	130.603	g500-S3100	m550-P112/M4	3	148
1.0	2461	4.2	3515	10.4	3515	0.9	18.2	3678	0.8	199.158	141.478	g500-S3100	m550-P112/M4	3	148
1.0	2574	4.1	3678	9.9	3678	1.2	17.4	3847	1.2	200.052	148.005	g500-S4500	m550-P112/M4	3	223
0.9	2874	3.6	4105	8.9	4105	1.1	15.6	4295	1.1	200.022	165.215	g500-S4500	m550-P112/M4	3	223
0.8	3155	3.3	4507	8.1	4507	1.0	14.2	4715	1.0	199.407	181.396	g500-S4500	m550-P112/M4	3	223
0.7	3522	3.0	5031	7.3	5031	0.9	12.7	5264	0.9	199.386	202.489	g500-S4500	m550-P112/M4	3	223

50 Hz: 5.5 kW

87 Hz: 9.6 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
37.8	94.3	153	135	378	135	3.1	661	135	2.6	479.401	3.920	g500-S660	m550-P132/M4	2	78
33.8	105	137	151	338	151	4.1	591	150	3.4	483.717	4.380	g500-S950	m550-P132/M4	2	97
27.5	129	112	185	275	185	2.7	482	185	2.2	475.864	5.376	g500-S660	m550-P132/M4	2	78
27.5	130	111	186	275	186	3.7	480	185	3.1	479.848	5.391	g500-S950	m550-P132/M4	2	97
24.5	145	99.4	208	245	208	3.5	429	207	2.9	478.106	6.038	g500-S950	m550-P132/M4	2	97
23.1	154	93.5	221	231	221	2.7	404	220	2.3	476.081	6.417	g500-S660	m550-P132/M4	2	78
21.5	166	87.2	237	215	237	2.1	377	236	1.8	474.084	6.880	g500-S660	m550-P132/M4	2	78
20.2	176	82.1	252	202	252	2.4	354	251	2.0	475.496	7.311	g500-S660	m550-P132/M4	2	78
19.2	185	77.9	265	192	265	3.0	336	265	2.5	475.680	7.702	g500-S950	m550-P132/M4	2	97
16.8	212	68.2	303	168	303	2.1	294	302	1.8	474.099	8.800	g500-S660	m550-P132/M4	2	78
16.3	219	65.9	313	163	313	3.0	285	313	2.5	478.872	9.100	g500-S950	m550-P132/M4	2	97
14.8	241	59.8	345	148	345	1.8	258	344	1.5	473.788	10.027	g500-S660	m550-P132/M4	2	78
14.5	245	58.9	351	145	351	2.7	254	350	2.3	478.344	10.183	g500-S950	m550-P132/M4	2	97
13.2	270	53.6	386	132	386	2.5	231	385	2.1	476.649	11.200	g500-S950	m550-P132/M4	2	97
13.1	271	53.3	388	131	388	1.7	230	387	1.4	473.006	11.262	g500-S660	m550-P132/M4	2	78
12.0	296	48.7	424	120	424	1.6	210	423	1.3	472.722	12.320	g500-S660	m550-P132/M4	2	78
11.9	299	48.4	427	119	427	4.8	209	426	4.0	490.940	12.406	g500-S2100	m550-P132/M4	2	130
11.8	302	47.8	432	118	432	2.2	207	431	1.8	475.556	12.544	g500-S950	m550-P132/M4	2	97
11.5	309	46.8	442	115	442	1.5	202	441	1.3	472.816	12.832	g500-S660	m550-P132/M4	2	78
10.7	332	43.5	475	107	475	4.3	188	474	3.6	489.874	13.787	g500-S2100	m550-P132/M4	2	130
10.5	338	42.7	483	105	483	1.4	185	482	1.1	472.563	14.037	g500-S660	m550-P132/M4	2	78
10.5	338	42.7	483	105	483	2.0	185	482	1.6	475.278	14.037	g500-S950	m550-P132/M4	2	97
10.5	340	42.4	487	105	487	4.2	183	486	3.5	486.315	14.137	g500-S2100	m550-P132/M4	2	130
9.4	378	38.2	541	94.2	541	1.2	165	540	1.0	472.113	15.714	g500-S660	m550-P132/M4	2	78
9.4	378	38.2	541	94.2	541	3.8	165	540	3.2	485.494	15.711	g500-S2100	m550-P132/M4	2	130
9.3	385	37.5	551	92.5	551	1.7	162	550	1.4	474.112	16.000	g500-S950	m550-P132/M4	2	97
8.7	410	35.2	586	86.9	586	3.5	152	585	2.9	482.669	17.022	g500-S2100	m550-P132/M4	2	130
8.3	431	33.5	617	82.7	617	1.1	145	615	0.9	472.015	17.905	g500-S660	m550-P132/M4	2	78
8.3	431	33.5	617	82.7	617	1.5	145	615	1.3	473.942	17.905	g500-S950	m550-P132/M4	2	97
7.9	453	31.9	648	78.6	648	4.8	138	646	4.5	489.670	18.822	g500-S3100	m550-P132/M4	2	169
7.8	455	31.7	652	78.2	652	3.2	137	650	3.0	482.103	18.917	g500-S2100	m550-P132/M4	2	130
7.7	463	31.2	663	76.9	663	1.0	135	661	1.0	471.754	19.250	g500-S660	m550-P132/M4	2	78
7.6	472	30.6	675	75.5	675	1.4	132	673	1.3	473.288	19.600	g500-S950	m550-P132/M4	2	97
7.4	482	29.9	690	73.8	690	4.5	129	688	4.3	486.290	20.041	g500-S3100	m550-P132/M4	2	169
7.1	502	28.8	719	70.9	719	2.9	124	717	2.7	479.769	20.869	g500-S2100	m550-P132/M4	2	130
6.7	528	27.4	755	67.5	755	0.9	118	753	0.8	471.689	21.933	g500-S660	m550-P132/M4	2	78
6.7	528	27.4	755	67.5	755	1.3	118	753	1.2	473.174	21.933	g500-S950	m550-P132/M4	2	97
6.5	545	26.5	781	65.3	781	4.0	114	778	3.8	484.983	22.663	g500-S3100	m550-P132/M4	2	169
6.4	558	25.9	799	63.8	799	2.6	112	797	2.4	479.392	23.193	g500-S2100	m550-P132/M4	2	130
6.0	591	24.4	846	60.2	846	3.7	105	844	3.5	482.178	24.570	g500-S3100	m550-P132/M4	2	169
5.8	614	23.5	879	58.0	879	1.1	102	876	1.0	472.430	25.511	g500-S950	m550-P132/M4	2	97
5.6	636	22.7	911	56.0	911	4.9	98.0	908	4.7	490.002	26.437	g500-S4500	m550-P132/M4	2	242
5.3	669	21.6	957	53.3	957	3.2	93.2	954	3.1	481.308	27.785	g500-S3100	m550-P132/M4	2	169
5.2	680	21.2	974	52.3	974	2.1	91.6	971	2.0	476.093	28.275	g500-S2100	m550-P132/M4	2	130
5.2	687	21.0	983	51.8	983	1.0	90.7	981	0.9	472.363	28.548	g500-S950	m550-P132/M4	2	97
5.0	710	20.3	1016	50.2	1016	4.4	87.8	1014	4.2	489.041	29.511	g500-S4500	m550-P132/M4	2	242
4.7	756	19.1	1082	47.1	1082	1.9	82.4	1079	1.9	475.888	31.422	g500-S2100	m550-P132/M4	2	130
4.6	782	18.5	1119	45.6	1119	4.0	79.7	1116	4.0	484.732	32.489	g500-S4500	m550-P132/M4	2	242
4.4	801	18.0	1147	44.5	1147	2.7	77.8	1143	2.7	477.406	33.289	g500-S3100	m550-P132/M4	2	169
4.3	826	17.5	1183	43.1	1183	1.7	75.4	1179	1.7	474.720	34.333	g500-S2100	m550-P132/M4	2	130

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
4.1	873	16.5	1249	40.8	1249	3.6	71.4	1246	3.6	484.095	36.267	g500-S4500	m550-P132/M4	2	242
3.9	903	15.8	1292	38.9	1292	3.2	68.0	1289	2.7	487.065	38.090	g500-S4500	m550-P132/M4	3	245
3.9	906	15.9	1297	39.3	1297	2.4	68.8	1293	2.4	476.932	37.644	g500-S3100	m550-P132/M4	2	169
3.9	918	15.7	1314	38.8	1314	1.6	67.9	1310	1.6	474.581	38.156	g500-S2100	m550-P132/M4	2	130
3.7	949	15.0	1359	36.9	1359	1.4	64.7	1355	1.2	475.382	40.056	g500-S2100	m550-P132/M4	3	130
3.7	973	14.8	1392	36.6	1392	2.2	64.1	1388	2.2	475.610	40.422	g500-S3100	m550-P132/M4	2	169
3.5	1008	14.1	1443	34.8	1443	3.0	60.9	1438	2.5	486.602	42.520	g500-S4500	m550-P132/M4	3	245
3.5	1012	14.3	1448	35.2	1448	2.8	61.6	1444	2.8	479.566	42.044	g500-S4500	m550-P132/M4	2	242
3.3	1055	13.5	1510	33.2	1510	1.4	58.2	1506	1.1	475.279	44.515	g500-S2100	m550-P132/M4	3	130
3.2	1100	13.1	1574	32.4	1574	2.0	56.7	1570	2.0	475.289	45.711	g500-S3100	m550-P132/M4	2	169
3.1	1118	12.7	1600	31.4	1600	1.9	54.9	1595	1.6	476.119	47.159	g500-S3100	m550-P132/M4	3	170
3.2	1129	12.8	1617	31.5	1617	2.7	55.2	1612	2.7	479.186	46.933	g500-S4500	m550-P132/M4	2	242
2.9	1228	11.8	1758	29.0	1758	2.1	50.8	1753	2.1	477.105	51.027	g500-S4500	m550-P132/M4	2	242
2.8	1251	11.4	1791	28.0	1791	2.5	49.1	1786	2.4	480.618	52.794	g500-S4500	m550-P132/M4	3	245
2.8	1264	11.3	1809	27.8	1809	1.7	48.6	1804	1.6	475.883	53.330	g500-S3100	m550-P132/M4	3	170
2.7	1302	10.9	1864	26.9	1864	1.1	47.1	1858	1.0	473.727	54.933	g500-S2100	m550-P132/M4	3	130
2.6	1371	10.5	1962	26.0	1962	2.0	45.5	1956	2.0	476.847	56.960	g500-S4500	m550-P132/M4	2	242
2.5	1397	10.2	1999	25.1	1999	2.3	43.9	1994	2.1	480.377	58.933	g500-S4500	m550-P132/M4	3	245
2.4	1447	9.8	2071	24.2	2071	1.0	42.4	2065	0.9	473.672	61.049	g500-S2100	m550-P132/M4	3	130
2.3	1533	9.3	2194	22.9	2194	1.4	40.0	2188	1.3	474.119	64.676	g500-S3100	m550-P132/M4	3	170
2.3	1540	9.2	2204	22.8	2204	2.0	39.9	2198	1.9	477.802	64.978	g500-S4500	m550-P132/M4	3	245
2.1	1666	8.5	2385	21.1	2385	0.9	36.8	2378	0.9	472.779	70.302	g500-S2100	m550-P132/M4	3	130
2.0	1719	8.3	2461	20.4	2461	1.8	35.7	2454	1.8	477.643	72.533	g500-S4500	m550-P132/M4	3	245
2.0	1725	8.2	2469	20.3	2469	1.8	35.6	2462	1.8	476.475	72.775	g500-S4500	m550-P132/M4	3	245
2.0	1733	8.2	2481	20.2	2481	1.3	35.4	2474	1.3	473.994	73.138	g500-S3100	m550-P132/M4	3	170
1.8	1925	7.4	2756	18.2	2756	1.6	31.9	2748	1.6	476.349	81.237	g500-S4500	m550-P132/M4	3	245
1.8	1962	7.2	2808	17.9	2808	1.1	31.3	2800	1.1	473.018	82.769	g500-S3100	m550-P132/M4	3	170
1.6	2146	6.6	3072	16.3	3072	1.0	28.6	3063	1.0	472.732	90.546	g500-S3100	m550-P132/M4	3	170
1.6	2200	6.5	3149	15.9	3149	1.4	27.9	3140	1.4	474.677	92.825	g500-S4500	m550-P132/M4	3	245
1.6	2218	6.4	3175	15.8	3175	1.0	27.7	3167	1.0	472.942	93.599	g500-S3100	m550-P132/M4	3	170
1.4	2427	5.9	3474	14.5	3474	0.9	25.3	3464	0.9	472.668	102.393	g500-S3100	m550-P132/M4	3	170
1.4	2456	5.8	3515	14.3	3515	1.3	25.0	3506	1.3	474.599	103.619	g500-S4500	m550-P132/M4	3	245
1.3	2695	5.3	3858	13.0	3858	1.2	22.8	3847	1.2	473.664	113.711	g500-S4500	m550-P132/M4	3	245
1.2	3008	4.7	4306	11.7	4306	1.0	20.4	4294	1.1	473.612	126.933	g500-S4500	m550-P132/M4	3	245
1.0	3508	4.1	5021	10.0	5021	0.9	17.5	5007	0.9	472.652	148.005	g500-S4500	m550-P132/M4	3	245
0.9	3916	3.6	5605	9.0	5605	0.8	15.7	5589	0.8	472.622	165.215	g500-S4500	m550-P132/M4	3	245

50 Hz: 7.5 kW

87 Hz: 13.1 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
37.8	129	153	184	378	184	2.3	661	184	1.9	494.701	3.920	g500-S660	m550-P132/L4	2	80
33.8	144	137	206	338	206	3.0	591	205	2.5	499.017	4.380	g500-S950	m550-P132/L4	2	100
27.5	177	112	252	275	252	2.0	482	252	1.6	491.164	5.376	g500-S660	m550-P132/L4	2	80
27.5	177	111	253	275	253	2.7	480	253	2.3	495.148	5.391	g500-S950	m550-P132/L4	2	100
24.5	198	99.5	283	246	283	4.8	430	283	4.0	515.132	6.029	g500-S2100	m550-P132/L4	2	132
24.5	199	99.4	284	245	284	2.6	429	283	2.2	493.406	6.038	g500-S950	m550-P132/L4	2	100
23.1	211	93.5	301	231	301	2.0	404	301	1.7	491.381	6.417	g500-S660	m550-P132/L4	2	80
22.8	214	92.3	305	228	305	4.8	399	305	4.0	536.553	6.499	g500-S3100	m550-P132/L4	2	171
21.5	226	87.3	323	215	323	4.6	377	322	3.9	508.462	6.870	g500-S2100	m550-P132/L4	2	132
21.5	226	87.2	323	215	323	1.5	377	322	1.3	489.384	6.880	g500-S660	m550-P132/L4	2	80
20.2	241	82.1	343	202	343	1.7	354	343	1.4	490.796	7.311	g500-S660	m550-P132/L4	2	80
20.0	244	81.0	348	200	348	4.8	350	347	4.0	524.959	7.406	g500-S3100	m550-P132/L4	2	171
19.2	253	77.9	362	192	362	2.2	336	361	1.8	490.980	7.702	g500-S950	m550-P132/L4	2	100
17.9	272	72.5	388	179	388	3.8	313	388	3.2	502.692	8.272	g500-S2100	m550-P132/L4	2	132
16.8	289	68.2	413	168	413	1.5	294	412	1.3	489.399	8.800	g500-S660	m550-P132/L4	2	80
16.6	293	67.3	419	166	419	4.4	291	418	3.7	514.071	8.917	g500-S3100	m550-P132/L4	2	171
16.3	299	65.9	427	163	427	2.2	285	426	1.9	494.172	9.100	g500-S950	m550-P132/L4	2	100
15.7	311	63.5	444	157	444	4.2	274	443	3.5	516.132	9.452	g500-S2100	m550-P132/L4	2	132
14.8	330	59.8	471	148	471	1.3	258	470	1.1	489.088	10.027	g500-S660	m550-P132/L4	2	80
14.5	335	58.9	478	145	478	2.0	254	477	1.7	493.644	10.183	g500-S950	m550-P132/L4	2	100
14.1	346	57.1	493	141	493	3.8	247	492	3.2	514.296	10.504	g500-S2100	m550-P132/L4	2	132
13.5	360	54.9	513	135	513	3.8	237	512	3.2	505.782	10.932	g500-S3100	m550-P132/L4	2	171
13.2	368	53.6	526	132	526	1.8	231	525	1.5	491.949	11.200	g500-S950	m550-P132/L4	2	100
13.1	370	53.3	529	131	529	1.3	230	528	1.0	488.306	11.262	g500-S660	m550-P132/L4	2	80
12.0	405	48.7	579	120	579	1.1	210	577	1.0	488.022	12.320	g500-S660	m550-P132/L4	2	80
11.9	408	48.4	583	119	583	3.5	209	581	2.9	506.240	12.406	g500-S2100	m550-P132/L4	2	132
11.8	413	47.8	589	118	589	1.6	207	588	1.4	490.856	12.544	g500-S950	m550-P132/L4	2	100
11.5	422	46.8	603	115	603	1.1	202	601	0.9	488.116	12.832	g500-S660	m550-P132/L4	2	80
10.7	454	43.5	647	107	647	3.2	188	646	2.6	505.174	13.787	g500-S2100	m550-P132/L4	2	132
10.5	462	42.7	659	105	659	1.0	185	658	0.8	487.863	14.037	g500-S660	m550-P132/L4	2	80
10.5	462	42.7	659	105	659	1.4	185	658	1.2	490.578	14.037	g500-S950	m550-P132/L4	2	100
10.5	465	42.4	664	105	664	3.1	183	662	2.6	501.615	14.137	g500-S2100	m550-P132/L4	2	132
10.1	480	41.1	686	101	686	4.5	177	684	3.8	513.057	14.606	g500-S3100	m550-P132/L4	2	171
9.4	517	38.2	738	94.2	738	0.9	165	736	0.8	487.413	15.714	g500-S660	m550-P132/L4	2	80
9.4	517	38.2	738	94.2	738	2.8	165	736	2.3	500.794	15.711	g500-S2100	m550-P132/L4	2	132
9.3	526	37.5	751	92.5	751	1.3	162	750	1.1	489.412	16.000	g500-S950	m550-P132/L4	2	100
9.0	539	36.6	769	90.3	769	4.8	158	768	4.0	527.158	16.381	g500-S4500	m550-P132/L4	2	244
9.0	543	36.3	776	89.6	776	4.0	157	774	3.3	510.596	16.517	g500-S3100	m550-P132/L4	2	171
8.9	547	36.0	782	88.9	782	4.0	156	780	3.3	506.865	16.644	g500-S3100	m550-P132/L4	2	171
8.7	560	35.2	799	86.9	799	2.6	152	798	2.1	497.969	17.022	g500-S2100	m550-P132/L4	2	132
8.3	589	33.5	841	82.7	841	1.1	145	839	0.9	489.242	17.905	g500-S950	m550-P132/L4	2	100
8.1	601	32.8	859	80.9	859	4.8	142	857	4.6	524.654	18.286	g500-S4500	m550-P132/L4	2	244
7.9	619	31.9	884	78.6	884	3.5	138	882	3.3	504.970	18.822	g500-S3100	m550-P132/L4	2	171
7.8	622	31.7	888	78.2	888	2.3	137	887	2.2	497.403	18.917	g500-S2100	m550-P132/L4	2	132
7.6	645	30.6	920	75.5	920	1.0	132	918	1.0	488.588	19.600	g500-S950	m550-P132/L4	2	100
7.4	659	29.9	941	73.8	941	3.3	129	939	3.1	501.590	20.041	g500-S3100	m550-P132/L4	2	171
7.4	660	29.9	942	73.8	942	4.2	129	940	4.0	516.727	20.067	g500-S4500	m550-P132/L4	2	244
7.1	686	28.8	980	70.9	980	2.1	124	978	2.0	495.069	20.869	g500-S2100	m550-P132/L4	2	132
6.7	721	27.4	1030	67.5	1030	0.9	118	1028	0.9	488.474	21.933	g500-S950	m550-P132/L4	2	100
6.6	737	26.8	1052	66.1	1052	4.2	116	1050	4.0	515.059	22.400	g500-S4500	m550-P132/L4	2	244

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
6.5	745	26.5	1064	65.3	1064	2.9	114	1062	2.8	500.283	22.663	g500-S3100	m550-P132/L4	2	171
6.4	763	25.9	1089	63.8	1089	1.9	112	1087	1.8	494.692	23.193	g500-S2100	m550-P132/L4	2	132
6.0	808	24.4	1154	60.2	1154	2.7	105	1151	2.6	497.478	24.570	g500-S3100	m550-P132/L4	2	171
5.6	870	22.7	1241	56.0	1241	3.6	98.0	1239	3.4	505.302	26.437	g500-S4500	m550-P132/L4	2	244
5.3	914	21.6	1305	53.3	1305	2.4	93.2	1302	2.3	496.608	27.785	g500-S3100	m550-P132/L4	2	171
5.2	930	21.2	1328	52.3	1328	1.5	91.6	1325	1.5	491.393	28.275	g500-S2100	m550-P132/L4	2	132
5.0	971	20.3	1386	50.2	1386	3.3	87.8	1383	3.1	504.341	29.511	g500-S4500	m550-P132/L4	2	244
4.7	1034	19.1	1476	47.1	1476	1.4	82.4	1473	1.4	491.188	31.422	g500-S2100	m550-P132/L4	2	132
4.6	1069	18.5	1526	45.6	1526	3.0	79.7	1522	3.0	500.032	32.489	g500-S4500	m550-P132/L4	2	244
4.4	1095	18.0	1563	44.5	1563	2.0	77.8	1560	2.0	492.706	33.289	g500-S3100	m550-P132/L4	2	171
4.3	1129	17.5	1612	43.1	1612	1.3	75.4	1609	1.3	490.020	34.333	g500-S2100	m550-P132/L4	2	132
4.1	1193	16.5	1703	40.8	1703	2.6	71.4	1700	2.7	499.395	36.267	g500-S4500	m550-P132/L4	2	244
3.9	1234	15.8	1762	38.9	1762	2.4	68.0	1758	2.0	502.365	38.090	g500-S4500	m550-P132/L4	3	247
3.9	1238	15.9	1768	39.3	1768	1.8	68.8	1764	1.8	492.232	37.644	g500-S3100	m550-P132/L4	2	171
3.9	1255	15.7	1792	38.8	1792	1.1	67.9	1788	1.2	489.881	38.156	g500-S2100	m550-P132/L4	2	132
3.7	1298	15.0	1853	36.9	1853	1.1	64.7	1849	0.9	490.682	40.056	g500-S2100	m550-P132/L4	3	133
3.7	1330	14.8	1898	36.6	1898	1.6	64.1	1894	1.6	490.910	40.422	g500-S3100	m550-P132/L4	2	171
3.5	1378	14.1	1967	34.8	1967	2.2	60.9	1963	1.8	501.902	42.520	g500-S4500	m550-P132/L4	3	247
3.5	1383	14.3	1974	35.2	1974	2.1	61.6	1970	2.1	494.866	42.044	g500-S4500	m550-P132/L4	2	244
3.3	1442	13.5	2059	33.2	2059	1.0	58.2	2055	0.8	490.579	44.515	g500-S2100	m550-P132/L4	3	133
3.2	1504	13.1	2147	32.4	2147	1.4	56.7	2142	1.5	490.589	45.711	g500-S3100	m550-P132/L4	2	171
3.1	1528	12.7	2181	31.4	2181	1.4	54.9	2177	1.1	491.419	47.159	g500-S3100	m550-P132/L4	3	172
3.2	1544	12.8	2204	31.5	2204	2.0	55.2	2199	2.0	494.486	46.933	g500-S4500	m550-P132/L4	2	244
2.9	1678	11.8	2396	29.0	2396	1.5	50.8	2391	1.5	492.405	51.027	g500-S4500	m550-P132/L4	2	244
2.8	1710	11.4	2442	28.0	2442	1.8	49.1	2437	1.8	495.918	52.794	g500-S4500	m550-P132/L4	3	247
2.8	1728	11.3	2467	27.8	2467	1.2	48.6	2462	1.2	491.183	53.330	g500-S3100	m550-P132/L4	3	172
2.7	1780	10.9	2541	26.9	2541	0.8	47.1	2536	0.8	489.027	54.933	g500-S2100	m550-P132/L4	3	133
2.6	1874	10.5	2675	26.0	2675	1.5	45.5	2669	1.5	492.147	56.960	g500-S4500	m550-P132/L4	2	244
2.5	1909	10.2	2726	25.1	2726	1.7	43.9	2720	1.6	495.677	58.933	g500-S4500	m550-P132/L4	3	247
2.3	2095	9.3	2992	22.9	2992	1.0	40.0	2985	1.0	489.419	64.676	g500-S3100	m550-P132/L4	3	172
2.3	2105	9.2	3006	22.8	3006	1.5	39.9	2999	1.4	493.102	64.978	g500-S4500	m550-P132/L4	3	247
2.0	2350	8.3	3355	20.4	3355	1.3	35.7	3348	1.3	492.943	72.533	g500-S4500	m550-P132/L4	3	247
2.0	2358	8.2	3366	20.3	3366	1.3	35.6	3359	1.3	491.775	72.775	g500-S4500	m550-P132/L4	3	247
2.0	2370	8.2	3383	20.2	3383	0.9	35.4	3376	0.9	489.294	73.138	g500-S3100	m550-P132/L4	3	172
1.8	2632	7.4	3758	18.2	3758	1.2	31.9	3750	1.2	491.649	81.237	g500-S4500	m550-P132/L4	3	247
1.8	2682	7.2	3828	17.9	3828	0.8	31.3	3821	0.8	488.318	82.769	g500-S3100	m550-P132/L4	3	172
1.6	3007	6.5	4294	15.9	4294	1.1	27.9	4285	1.1	489.977	92.825	g500-S4500	m550-P132/L4	3	247
1.4	3357	5.8	4793	14.3	4793	0.9	25.0	4783	0.9	489.899	103.619	g500-S4500	m550-P132/L4	3	247
1.3	3684	5.3	5260	13.0	5260	0.9	22.8	5249	0.9	488.964	113.711	g500-S4500	m550-P132/L4	3	247

50 Hz: 11 kW

87 Hz: 19.2 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
32.4	221	131	315	323	315	4.2	565	315	3.5	1405.551	4.593	g500-S2100	m550-P160/M4	2	236
24.7	290	99.5	414	246	414	3.6	430	414	3.0	1389.232	6.029	g500-S2100	m550-P160/M4	2	236
22.9	312	92.3	446	229	446	4.7	399	446	3.9	1410.653	6.499	g500-S3100	m550-P160/M4	2	275
21.7	330	87.3	471	216	471	3.2	378	471	2.6	1382.562	6.870	g500-S2100	m550-P160/M4	2	236
20.1	356	81.0	508	201	508	4.4	350	508	3.7	1399.059	7.406	g500-S3100	m550-P160/M4	2	275
18.0	397	72.5	567	180	567	2.6	314	567	2.2	1376.792	8.272	g500-S2100	m550-P160/M4	2	236
16.7	428	67.3	612	167	612	3.7	291	612	3.1	1388.171	8.917	g500-S3100	m550-P160/M4	2	275
15.8	454	63.5	648	157	648	2.9	275	648	2.4	1390.232	9.452	g500-S2100	m550-P160/M4	2	236
14.2	505	57.1	721	141	721	2.6	247	721	2.2	1388.396	10.504	g500-S2100	m550-P160/M4	2	236
13.6	525	54.9	750	136	750	3.0	237	750	2.5	1379.882	10.932	g500-S3100	m550-P160/M4	2	275
13.4	534	53.9	763	133	763	4.0	233	763	3.3	1401.977	11.128	g500-S3100	m550-P160/M4	2	275
12.0	596	48.4	851	120	851	2.4	209	851	2.0	1380.340	12.406	g500-S2100	m550-P160/M4	2	236
11.8	604	47.7	863	118	863	3.4	206	863	2.9	1397.737	12.584	g500-S3100	m550-P160/M4	2	275
10.8	662	43.5	946	108	946	2.2	188	946	1.8	1379.274	13.787	g500-S2100	m550-P160/M4	2	236
10.5	679	42.4	970	105	970	2.1	184	970	1.8	1375.715	14.137	g500-S2100	m550-P160/M4	2	236
10.4	689	41.9	983	104	983	4.6	181	983	3.8	1415.433	14.336	g500-S4500	m550-P160/M4	2	348
10.2	702	41.1	1002	102	1002	3.1	178	1002	2.6	1387.157	14.606	g500-S3100	m550-P160/M4	2	275
9.5	755	38.2	1078	94.5	1078	1.9	165	1078	1.6	1374.894	15.711	g500-S2100	m550-P160/M4	2	236
9.1	787	36.6	1124	90.7	1124	4.0	158	1124	3.3	1401.258	16.381	g500-S4500	m550-P160/M4	2	348
9.0	793	36.3	1133	89.9	1133	2.7	157	1133	2.3	1384.696	16.517	g500-S3100	m550-P160/M4	2	275
9.0	799	36.0	1142	89.2	1142	2.7	156	1142	2.3	1380.965	16.644	g500-S3100	m550-P160/M4	2	275
8.8	818	35.2	1168	87.2	1168	1.8	152	1168	1.5	1372.069	17.022	g500-S2100	m550-P160/M4	2	236
8.1	878	32.8	1254	81.2	1254	3.6	142	1254	3.4	1398.754	18.286	g500-S4500	m550-P160/M4	2	348
7.9	904	31.9	1291	78.9	1291	2.4	138	1291	2.3	1379.070	18.822	g500-S3100	m550-P160/M4	2	275
7.9	909	31.7	1298	78.5	1298	1.6	137	1298	1.5	1371.503	18.917	g500-S2100	m550-P160/M4	2	236
7.4	963	29.9	1375	74.1	1375	2.3	130	1375	2.1	1375.690	20.041	g500-S3100	m550-P160/M4	2	275
7.4	964	29.9	1376	74.0	1376	3.3	129	1376	3.1	1390.827	20.067	g500-S4500	m550-P160/M4	2	348
7.1	1002	28.8	1432	71.2	1432	1.4	124	1432	1.4	1369.169	20.869	g500-S2100	m550-P160/M4	2	236
6.7	1076	26.8	1537	66.3	1537	2.9	116	1537	2.8	1389.159	22.400	g500-S4500	m550-P160/M4	2	348
6.6	1088	26.5	1555	65.5	1555	2.0	115	1555	1.9	1374.383	22.663	g500-S3100	m550-P160/M4	2	275
6.4	1114	25.9	1591	64.0	1591	1.3	112	1591	1.2	1368.792	23.193	g500-S2100	m550-P160/M4	2	236
6.1	1180	24.4	1685	60.4	1685	1.8	106	1685	1.7	1371.578	24.570	g500-S3100	m550-P160/M4	2	275
5.6	1270	22.7	1813	56.2	1813	2.5	98.2	1813	2.4	1379.402	26.437	g500-S4500	m550-P160/M4	2	348
5.4	1334	21.6	1906	53.4	1906	1.6	93.4	1906	1.5	1370.708	27.785	g500-S3100	m550-P160/M4	2	275
5.0	1417	20.3	2024	50.3	2024	2.2	87.9	2024	2.1	1378.441	29.511	g500-S4500	m550-P160/M4	2	348
4.6	1560	18.5	2229	45.7	2229	2.0	79.9	2229	2.0	1374.132	32.489	g500-S4500	m550-P160/M4	2	348
4.1	1742	16.5	2488	40.9	2488	1.8	71.6	2488	1.8	1373.495	36.267	g500-S4500	m550-P160/M4	2	348
3.9	1802	15.8	2574	39.0	2574	1.6	68.1	2574	1.3	1376.465	38.090	g500-S4500	m550-P160/M4	3	351
3.5	2011	14.1	2873	34.9	2873	1.5	61.0	2873	1.2	1376.002	42.520	g500-S4500	m550-P160/M4	3	351
2.8	2498	11.4	3567	28.1	3567	1.3	49.2	3567	1.2	1370.018	52.794	g500-S4500	m550-P160/M4	3	351
2.5	2788	10.2	3982	25.2	3982	1.1	44.0	3982	1.1	1369.777	58.933	g500-S4500	m550-P160/M4	3	351
2.3	3074	9.2	4390	22.9	4390	1.0	39.9	4390	1.0	1367.202	64.978	g500-S4500	m550-P160/M4	3	351
2.1	3431	8.3	4901	20.5	4901	0.9	35.8	4901	0.9	1367.043	72.533	g500-S4500	m550-P160/M4	3	351
2.0	3443	8.2	4917	20.4	4917	0.9	35.7	4917	0.9	1365.875	72.775	g500-S4500	m550-P160/M4	3	351
1.8	3843	7.4	5489	18.3	5489	0.8	31.9	5489	0.8	1365.749	81.237	g500-S4500	m550-P160/M4	3	351

50 Hz: 15 kW

87 Hz: 26.3 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
32.4	301	131	430	323	430	3.1	565	431	2.6	1595.551	4.593	g500-S2100	m550-P160/L4	2	251
30.3	322	122	460	302	460	4.6	528	462	3.8	1711.684	4.914	g500-S4500	m550-P160/L4	2	363
30.1	324	121	464	300	464	4.0	524	465	3.3	1632.458	4.951	g500-S3100	m550-P160/L4	2	290
24.7	395	99.5	564	246	564	2.6	430	566	2.2	1579.232	6.029	g500-S2100	m550-P160/L4	2	251
23.1	422	93.0	604	230	604	4.1	402	606	3.4	1651.485	6.450	g500-S4500	m550-P160/L4	2	363
22.9	426	92.3	608	229	608	3.5	399	610	2.9	1600.653	6.499	g500-S3100	m550-P160/L4	2	290
21.7	450	87.3	643	216	643	2.3	378	645	1.9	1572.562	6.870	g500-S2100	m550-P160/L4	2	251
21.1	462	85.0	661	211	661	3.8	368	663	3.2	1635.966	7.056	g500-S4500	m550-P160/L4	2	363
20.1	485	81.0	693	201	693	3.2	350	696	2.7	1589.059	7.406	g500-S3100	m550-P160/L4	2	290
18.0	542	72.5	775	180	775	1.9	314	777	1.6	1566.792	8.272	g500-S2100	m550-P160/L4	2	251
16.7	584	67.3	835	167	835	2.7	291	837	2.3	1578.171	8.917	g500-S3100	m550-P160/L4	2	290
16.7	586	67.1	837	166	837	4.6	290	840	3.8	1657.127	8.944	g500-S4500	m550-P160/L4	2	363
15.8	619	63.5	885	157	885	2.1	275	888	1.8	1580.232	9.452	g500-S2100	m550-P160/L4	2	251
14.9	654	60.1	935	149	935	4.5	260	938	3.7	1648.730	9.984	g500-S4500	m550-P160/L4	2	363
14.2	688	57.1	983	141	983	1.9	247	987	1.6	1578.396	10.504	g500-S2100	m550-P160/L4	2	251
13.6	716	54.9	1024	136	1024	2.2	237	1027	1.9	1569.882	10.932	g500-S3100	m550-P160/L4	2	290
13.4	729	53.9	1042	133	1042	2.9	233	1045	2.4	1591.977	11.128	g500-S3100	m550-P160/L4	2	290
12.7	769	51.1	1099	127	1099	4.1	221	1103	3.4	1619.818	11.740	g500-S4500	m550-P160/L4	2	363
12.0	813	48.4	1162	120	1162	1.8	209	1165	1.5	1570.340	12.406	g500-S2100	m550-P160/L4	2	251
11.8	824	47.7	1178	118	1178	2.5	206	1182	2.1	1587.737	12.584	g500-S3100	m550-P160/L4	2	290
11.6	841	46.7	1202	116	1202	3.7	202	1206	3.1	1609.505	12.843	g500-S4500	m550-P160/L4	2	363
11.4	858	45.8	1227	113	1227	3.7	198	1231	3.1	1614.945	13.105	g500-S4500	m550-P160/L4	2	363
10.8	903	43.5	1291	108	1291	1.6	188	1295	1.3	1569.274	13.787	g500-S2100	m550-P160/L4	2	251
10.5	926	42.4	1324	105	1324	1.6	184	1328	1.3	1565.715	14.137	g500-S2100	m550-P160/L4	2	251
10.4	939	41.9	1342	104	1342	3.4	181	1346	2.8	1605.433	14.336	g500-S4500	m550-P160/L4	2	363
10.2	957	41.1	1368	102	1368	2.3	178	1372	1.9	1577.157	14.606	g500-S3100	m550-P160/L4	2	290
9.5	1029	38.2	1471	94.5	1471	1.4	165	1476	1.2	1564.894	15.711	g500-S2100	m550-P160/L4	2	251
9.1	1073	36.6	1534	90.7	1534	2.9	158	1538	2.4	1591.258	16.381	g500-S4500	m550-P160/L4	2	363
9.0	1082	36.3	1546	89.9	1546	2.0	157	1551	1.7	1574.696	16.517	g500-S3100	m550-P160/L4	2	290
9.0	1090	36.0	1558	89.2	1558	2.0	156	1563	1.7	1570.965	16.644	g500-S3100	m550-P160/L4	2	290
8.8	1115	35.2	1594	87.2	1594	1.3	152	1599	1.1	1562.069	17.022	g500-S2100	m550-P160/L4	2	251
8.1	1198	32.8	1712	81.2	1712	2.6	142	1717	2.5	1588.754	18.286	g500-S4500	m550-P160/L4	2	363
7.9	1233	31.9	1762	78.9	1762	1.8	138	1768	1.7	1569.070	18.822	g500-S3100	m550-P160/L4	2	290
7.9	1239	31.7	1771	78.5	1771	1.2	137	1777	1.1	1561.503	18.917	g500-S2100	m550-P160/L4	2	251
7.4	1313	29.9	1876	74.1	1876	1.7	130	1882	1.6	1565.690	20.041	g500-S3100	m550-P160/L4	2	290
7.4	1314	29.9	1879	74.0	1879	2.4	129	1885	2.3	1580.827	20.067	g500-S4500	m550-P160/L4	2	363
7.1	1367	28.8	1954	71.2	1954	1.1	124	1960	1.0	1559.169	20.869	g500-S2100	m550-P160/L4	2	251
6.7	1467	26.8	2097	66.3	2097	2.2	116	2104	2.0	1579.159	22.400	g500-S4500	m550-P160/L4	2	363
6.6	1484	26.5	2122	65.5	2122	1.5	115	2129	1.4	1564.383	22.663	g500-S3100	m550-P160/L4	2	290
6.4	1519	25.9	2171	64.0	2171	0.9	112	2178	0.9	1558.792	23.193	g500-S2100	m550-P160/L4	2	251
6.1	1609	24.4	2300	60.4	2300	1.4	106	2308	1.3	1561.578	24.570	g500-S3100	m550-P160/L4	2	290
5.6	1731	22.7	2475	56.2	2475	1.8	98.2	2483	1.7	1569.402	26.437	g500-S4500	m550-P160/L4	2	363
5.4	1820	21.6	2601	53.4	2601	1.2	93.4	2610	1.1	1560.708	27.785	g500-S3100	m550-P160/L4	2	290
5.0	1933	20.3	2763	50.3	2763	1.6	87.9	2772	1.5	1568.441	29.511	g500-S4500	m550-P160/L4	2	363
4.6	2128	18.5	3042	45.7	3042	1.5	79.9	3051	1.5	1564.132	32.489	g500-S4500	m550-P160/L4	2	363
4.1	2375	16.5	3396	40.9	3396	1.3	71.6	3406	1.3	1563.495	36.267	g500-S4500	m550-P160/L4	2	363
3.9	2457	15.8	3513	39.0	3513	1.2	68.1	3524	1.0	1566.465	38.090	g500-S4500	m550-P160/L4	3	366
3.5	2743	14.1	3921	34.9	3921	1.1	61.0	3933	0.9	1566.002	42.520	g500-S4500	m550-P160/L4	3	366
2.8	3406	11.4	4869	28.1	4869	0.9	49.2	4884	0.9	1560.018	52.794	g500-S4500	m550-P160/L4	3	366
2.5	3802	10.2	5435	25.2	5435	0.8	44.0	5452	0.8	1559.777	58.933	g500-S4500	m550-P160/L4	3	366

50 Hz: 18.5 kW

87 Hz: 32.2 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
32.4	371	131	530	323	530	2.5	564	530	2.1	2375.551	4.593	g500-S2100	m550-P180/M4	2	313
30.3	397	122	567	302	567	3.7	527	567	3.1	2491.684	4.914	g500-S4500	m550-P180/M4	2	425
30.1	400	121	572	300	572	3.2	523	572	2.7	2412.458	4.951	g500-S3100	m550-P180/M4	2	352
24.7	487	99.5	696	246	696	2.1	430	696	1.8	2359.232	6.029	g500-S2100	m550-P180/M4	2	313
23.1	521	93.0	745	230	745	3.3	402	745	2.7	2431.485	6.450	g500-S4500	m550-P180/M4	2	425
22.9	525	92.3	750	229	750	2.8	399	750	2.3	2380.653	6.499	g500-S3100	m550-P180/M4	2	352
21.7	555	87.3	793	216	793	1.9	377	793	1.6	2352.562	6.870	g500-S2100	m550-P180/M4	2	313
21.1	570	85.0	815	211	815	3.1	367	815	2.6	2415.966	7.056	g500-S4500	m550-P180/M4	2	425
20.1	599	81.0	855	201	855	2.6	350	855	2.2	2369.059	7.406	g500-S3100	m550-P180/M4	2	352
18.0	669	72.5	955	180	955	1.6	313	955	1.3	2346.792	8.272	g500-S2100	m550-P180/M4	2	313
16.7	721	67.3	1030	167	1030	2.2	291	1030	1.8	2358.171	8.917	g500-S3100	m550-P180/M4	2	352
16.7	723	67.1	1033	166	1033	3.7	290	1033	3.1	2437.127	8.944	g500-S4500	m550-P180/M4	2	425
15.8	764	63.5	1091	157	1091	1.7	274	1091	1.4	2360.232	9.452	g500-S2100	m550-P180/M4	2	313
14.9	807	60.1	1153	149	1153	3.6	259	1153	3.0	2428.730	9.984	g500-S4500	m550-P180/M4	2	425
14.2	849	57.1	1213	141	1213	1.5	247	1213	1.3	2358.396	10.504	g500-S2100	m550-P180/M4	2	313
13.6	884	54.9	1262	136	1262	1.8	237	1262	1.5	2349.882	10.932	g500-S3100	m550-P180/M4	2	352
13.4	899	53.9	1285	133	1285	2.4	233	1285	2.0	2371.977	11.128	g500-S3100	m550-P180/M4	2	352
12.7	949	51.1	1355	127	1355	3.3	221	1355	2.7	2399.818	11.740	g500-S4500	m550-P180/M4	2	425
12.0	1003	48.4	1432	120	1432	1.4	209	1432	1.2	2350.340	12.406	g500-S2100	m550-P180/M4	2	313
11.8	1017	47.7	1453	118	1453	2.0	206	1453	1.7	2367.737	12.584	g500-S3100	m550-P180/M4	2	352
11.6	1038	46.7	1483	116	1483	3.0	202	1483	2.5	2389.505	12.843	g500-S4500	m550-P180/M4	2	425
11.4	1059	45.8	1513	113	1513	3.0	198	1513	2.5	2394.945	13.105	g500-S4500	m550-P180/M4	2	425
10.8	1114	43.5	1592	108	1592	1.3	188	1592	1.1	2349.274	13.787	g500-S2100	m550-P180/M4	2	313
10.5	1143	42.4	1632	105	1632	1.3	183	1632	1.1	2345.715	14.137	g500-S2100	m550-P180/M4	2	313
10.4	1159	41.9	1655	104	1655	2.7	181	1655	2.3	2385.433	14.336	g500-S4500	m550-P180/M4	2	425
10.2	1181	41.1	1686	102	1686	1.8	177	1686	1.5	2357.157	14.606	g500-S3100	m550-P180/M4	2	352
9.5	1270	38.2	1814	94.5	1814	1.1	165	1814	0.9	2344.894	15.711	g500-S2100	m550-P180/M4	2	313
9.1	1324	36.6	1891	90.7	1891	2.4	158	1891	2.0	2371.258	16.381	g500-S4500	m550-P180/M4	2	425
9.0	1335	36.3	1907	89.9	1907	1.6	157	1907	1.4	2354.696	16.517	g500-S3100	m550-P180/M4	2	352
9.0	1345	36.0	1922	89.2	1922	1.6	156	1922	1.3	2350.965	16.644	g500-S3100	m550-P180/M4	2	352
8.8	1376	35.2	1965	87.2	1965	1.0	152	1965	0.9	2342.069	17.022	g500-S2100	m550-P180/M4	2	313
8.1	1478	32.8	2111	81.2	2111	2.1	142	2111	2.0	2368.754	18.286	g500-S4500	m550-P180/M4	2	425
7.9	1521	31.9	2173	78.9	2173	1.4	138	2173	1.4	2349.070	18.822	g500-S3100	m550-P180/M4	2	352
7.9	1529	31.7	2184	78.5	2184	0.9	137	2184	0.9	2341.503	18.917	g500-S2100	m550-P180/M4	2	313
7.4	1620	29.9	2314	74.1	2314	1.3	129	2314	1.3	2345.690	20.041	g500-S3100	m550-P180/M4	2	352
7.4	1622	29.9	2317	74.0	2317	1.9	129	2317	1.8	2360.827	20.067	g500-S4500	m550-P180/M4	2	425
7.1	1687	28.8	2409	71.2	2409	0.9	124	2409	0.8	2339.169	20.869	g500-S2100	m550-P180/M4	2	313
6.7	1810	26.8	2586	66.3	2586	1.7	116	2586	1.7	2359.159	22.400	g500-S4500	m550-P180/M4	2	425
6.6	1832	26.5	2617	65.5	2617	1.2	114	2617	1.1	2344.383	22.663	g500-S3100	m550-P180/M4	2	352
6.1	1986	24.4	2837	60.4	2837	1.1	105	2837	1.0	2341.578	24.570	g500-S3100	m550-P180/M4	2	352
5.6	2137	22.7	3052	56.2	3052	1.5	98.0	3052	1.4	2349.402	26.437	g500-S4500	m550-P180/M4	2	425
5.4	2246	21.6	3208	53.4	3208	1.0	93.2	3208	0.9	2340.708	27.785	g500-S3100	m550-P180/M4	2	352
5.0	2385	20.3	3407	50.3	3407	1.3	87.8	3407	1.3	2348.441	29.511	g500-S4500	m550-P180/M4	2	425
4.6	2626	18.5	3751	45.7	3751	1.2	79.7	3751	1.2	2344.132	32.489	g500-S4500	m550-P180/M4	2	425
4.1	2931	16.5	4187	40.9	4187	1.1	71.4	4187	1.1	2343.495	36.267	g500-S4500	m550-P180/M4	2	425
3.9	3032	15.8	4332	39.0	4332	1.0	68.0	4332	0.8	2346.465	38.090	g500-S4500	m550-P180/M4	3	428
3.5	3385	14.1	4836	34.9	4836	0.9	60.9	4836	0.7	2346.002	42.520	g500-S4500	m550-P180/M4	3	428

50 Hz: 22 kW

87 Hz: 38.5 kW

Inverter operation												Geared motor			
5 Hz -		- 20 Hz		50 Hz (1:10)			87 Hz (1:17.4)								
n_{22}	M_{22}	n_{21}	M_2	n_2	M_2	c	n_2	M_2	c	J	i			z	m
rpm	Nm	rpm	Nm	rpm	Nm		rpm	Nm		kgcm²					kg
32.2	443	131	633	322	633	2.1	564	633	1.8	2445.551	4.593	g500-S2100	m550-P180/L4	2	323
30.1	474	122	677	301	677	3.1	527	677	2.6	2561.684	4.914	g500-S4500	m550-P180/L4	2	435
29.9	478	121	682	299	682	2.7	523	682	2.3	2482.458	4.951	g500-S3100	m550-P180/L4	2	362
24.5	581	99.5	831	246	831	1.8	430	831	1.5	2429.232	6.029	g500-S2100	m550-P180/L4	2	323
22.9	622	93.0	889	230	889	2.8	402	889	2.3	2501.485	6.450	g500-S4500	m550-P180/L4	2	435
22.8	627	92.3	895	228	895	2.4	399	895	2.0	2450.653	6.499	g500-S3100	m550-P180/L4	2	362
21.5	663	87.3	947	215	947	1.6	377	947	1.3	2422.562	6.870	g500-S2100	m550-P180/L4	2	323
21.0	681	85.0	972	210	972	2.6	367	972	2.2	2485.966	7.056	g500-S4500	m550-P180/L4	2	435
20.0	714	81.0	1020	200	1020	2.2	350	1020	1.8	2439.059	7.406	g500-S3100	m550-P180/L4	2	362
17.9	798	72.5	1140	179	1140	1.3	313	1140	1.1	2416.792	8.272	g500-S2100	m550-P180/L4	2	323
16.6	860	67.3	1229	166	1229	1.8	291	1229	1.5	2428.171	8.917	g500-S3100	m550-P180/L4	2	362
16.5	863	67.1	1232	166	1232	3.1	290	1232	2.6	2507.127	8.944	g500-S4500	m550-P180/L4	2	435
15.7	912	63.5	1302	157	1302	1.4	274	1302	1.2	2430.232	9.452	g500-S2100	m550-P180/L4	2	323
14.8	963	60.1	1376	148	1376	3.0	259	1376	2.5	2498.730	9.984	g500-S4500	m550-P180/L4	2	435
14.1	1013	57.1	1447	141	1447	1.3	247	1447	1.1	2428.396	10.504	g500-S2100	m550-P180/L4	2	323
13.5	1054	54.9	1506	135	1506	1.5	237	1506	1.3	2419.882	10.932	g500-S3100	m550-P180/L4	2	362
13.3	1073	53.9	1533	133	1533	2.0	233	1533	1.6	2441.977	11.128	g500-S3100	m550-P180/L4	2	362
12.6	1132	51.1	1617	126	1617	2.8	221	1617	2.3	2469.818	11.740	g500-S4500	m550-P180/L4	2	435
11.9	1197	48.4	1709	119	1709	1.2	209	1709	1.0	2420.340	12.406	g500-S2100	m550-P180/L4	2	323
11.8	1214	47.7	1734	118	1734	1.7	206	1734	1.4	2437.737	12.584	g500-S3100	m550-P180/L4	2	362
11.5	1239	46.7	1769	115	1769	2.5	202	1769	2.1	2459.505	12.843	g500-S4500	m550-P180/L4	2	435
11.3	1264	45.8	1805	113	1805	2.5	198	1805	2.1	2464.945	13.105	g500-S4500	m550-P180/L4	2	435
10.7	1330	43.5	1900	107	1900	1.1	188	1900	0.9	2419.274	13.787	g500-S2100	m550-P180/L4	2	323
10.5	1363	42.4	1948	105	1948	1.1	183	1948	0.9	2415.715	14.137	g500-S2100	m550-P180/L4	2	323
10.3	1383	41.9	1975	103	1975	2.3	181	1975	1.9	2455.433	14.336	g500-S4500	m550-P180/L4	2	435
10.1	1409	41.1	2012	101	2012	1.5	177	2012	1.3	2427.157	14.606	g500-S3100	m550-P180/L4	2	362
9.4	1515	38.2	2165	94.2	2165	1.0	165	2165	0.8	2414.894	15.711	g500-S2100	m550-P180/L4	2	323
9.0	1580	36.6	2257	90.3	2257	2.0	158	2257	1.7	2441.258	16.381	g500-S4500	m550-P180/L4	2	435
9.0	1593	36.3	2276	89.6	2276	1.4	157	2276	1.1	2424.696	16.517	g500-S3100	m550-P180/L4	2	362
8.9	1605	36.0	2293	88.9	2293	1.4	156	2293	1.1	2420.965	16.644	g500-S3100	m550-P180/L4	2	362
8.7	1642	35.2	2345	86.9	2345	0.9	152	2345	0.7	2412.069	17.022	g500-S2100	m550-P180/L4	2	323
8.1	1764	32.8	2519	80.9	2519	1.8	142	2519	1.7	2438.754	18.286	g500-S4500	m550-P180/L4	2	435
7.9	1815	31.9	2593	78.6	2593	1.2	138	2593	1.1	2419.070	18.822	g500-S3100	m550-P180/L4	2	362
7.4	1933	29.9	2761	73.8	2761	1.1	129	2761	1.1	2415.690	20.041	g500-S3100	m550-P180/L4	2	362
7.4	1935	29.9	2765	73.8	2765	1.6	129	2765	1.5	2430.827	20.067	g500-S4500	m550-P180/L4	2	435
6.6	2160	26.8	3086	66.1	3086	1.5	116	3086	1.4	2429.159	22.400	g500-S4500	m550-P180/L4	2	435
6.5	2186	26.5	3122	65.3	3122	1.0	114	3122	0.9	2414.383	22.663	g500-S3100	m550-P180/L4	2	362
6.0	2370	24.4	3385	60.2	3385	0.9	105	3385	0.9	2411.578	24.570	g500-S3100	m550-P180/L4	2	362
5.6	2550	22.7	3642	56.0	3642	1.2	98.0	3642	1.2	2419.402	26.437	g500-S4500	m550-P180/L4	2	435
5.3	2680	21.6	3828	53.3	3828	0.8	93.2	3828	0.8	2410.708	27.785	g500-S3100	m550-P180/L4	2	362
5.0	2846	20.3	4066	50.2	4066	1.1	87.8	4066	1.1	2418.441	29.511	g500-S4500	m550-P180/L4	2	435
4.6	3133	18.5	4476	45.6	4476	1.0	79.7	4476	1.0	2414.132	32.489	g500-S4500	m550-P180/L4	2	435
4.1	3498	16.5	4997	40.8	4997	0.9	71.4	4997	0.9	2413.495	36.267	g500-S4500	m550-P180/L4	2	435
3.9	3618	15.8	5169	38.9	5169	0.8	68.0	5169	0.7	2416.465	38.090	g500-S4500	m550-P180/L4	3	438

7.7 Dimensions

Notes on the basic dimensions

Gearboxes	Without pre-stage	With pre-stage
g500-S130	2-stage	3-stage
g500-S220 ... S4500	2-/3-stage	4-stage

The ratio range of gearboxes with pre-stage is extended via an additional housing with gear stage between the gearbox and motor.

The basic dimensions are shown without pre-stage and are valid up to the following deviating dimensions for gearbox with pre-stage valid:

- Total length “L”
- Center distance “a” (gearbox output shaft – motor shaft)

Deviating dimensions: ▸ Gearbox with pre-stage 🕮 155

The following legend shows the structure of the dimension tables:

Motor	m550-H		
	63/S4	63/M4	63/L4

Table content		Explanation
Total length	L	Total length of the drive without brake/feedback
Motor length	LB	Length of the motor without brake/feedback
Motor diameter	AC	Motor diameter
Motor/connection distance	AD	Distance from center of motor to terminal box end

NOTICE

For gearboxes with hollow shaft and keyway (H□□), the hole fitting H7 is interrupted in the middle area of the hollow shaft length by a free rotation.

Ensure the double-ended control of the machine shaft in the hollow shaft.

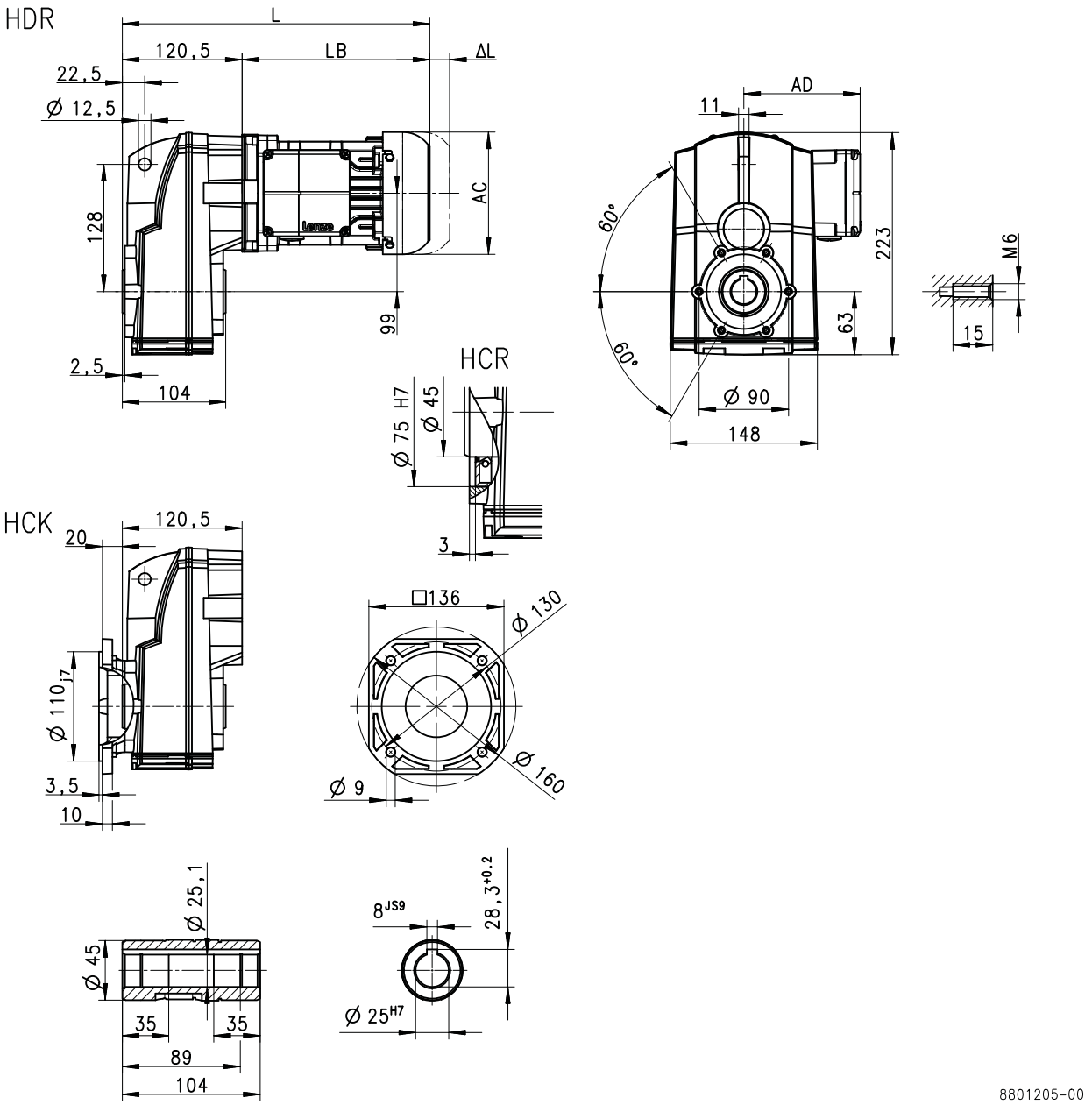
► The specified min. length of the machine shaft must be reached.

Gearboxes	Min. length of the machine shaft
	mm
g500-S130	75
g500-S220	80
g500-S400	100
g500-S660	110
g500-S950	120
g500-S2100	135
g500-S3100	155
g500-S4500	190

7.7.1 Basic dimensions

g500-S130, 2-stage

Gearbox design: Hollow shaft, without foot (HDR/HCR/HCK)



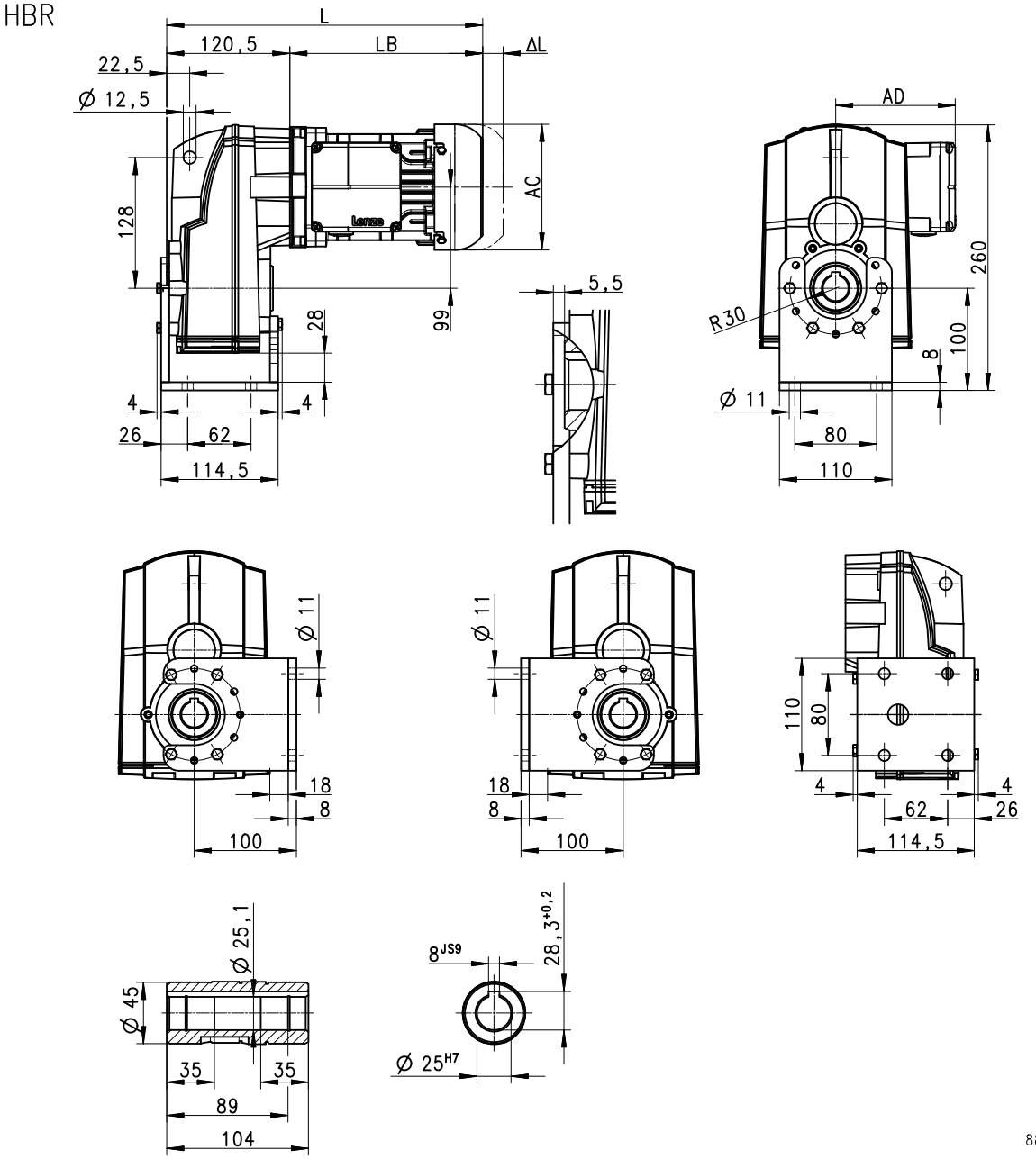
Motor series			m550-H		m550-P	
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**
Total length	L	mm	309	339	363	405
Motor length	LB	mm	189	218	242	285
Motor diameter	AC	mm	123	139	156	177
Motor/connection distance	AD	mm	117	129	145	153

Δ L ▸ Additional lengths 🕮 160

g500-S130, 2-stage

Gearbox design: Hollow shaft, with foot (HBR)

HBR

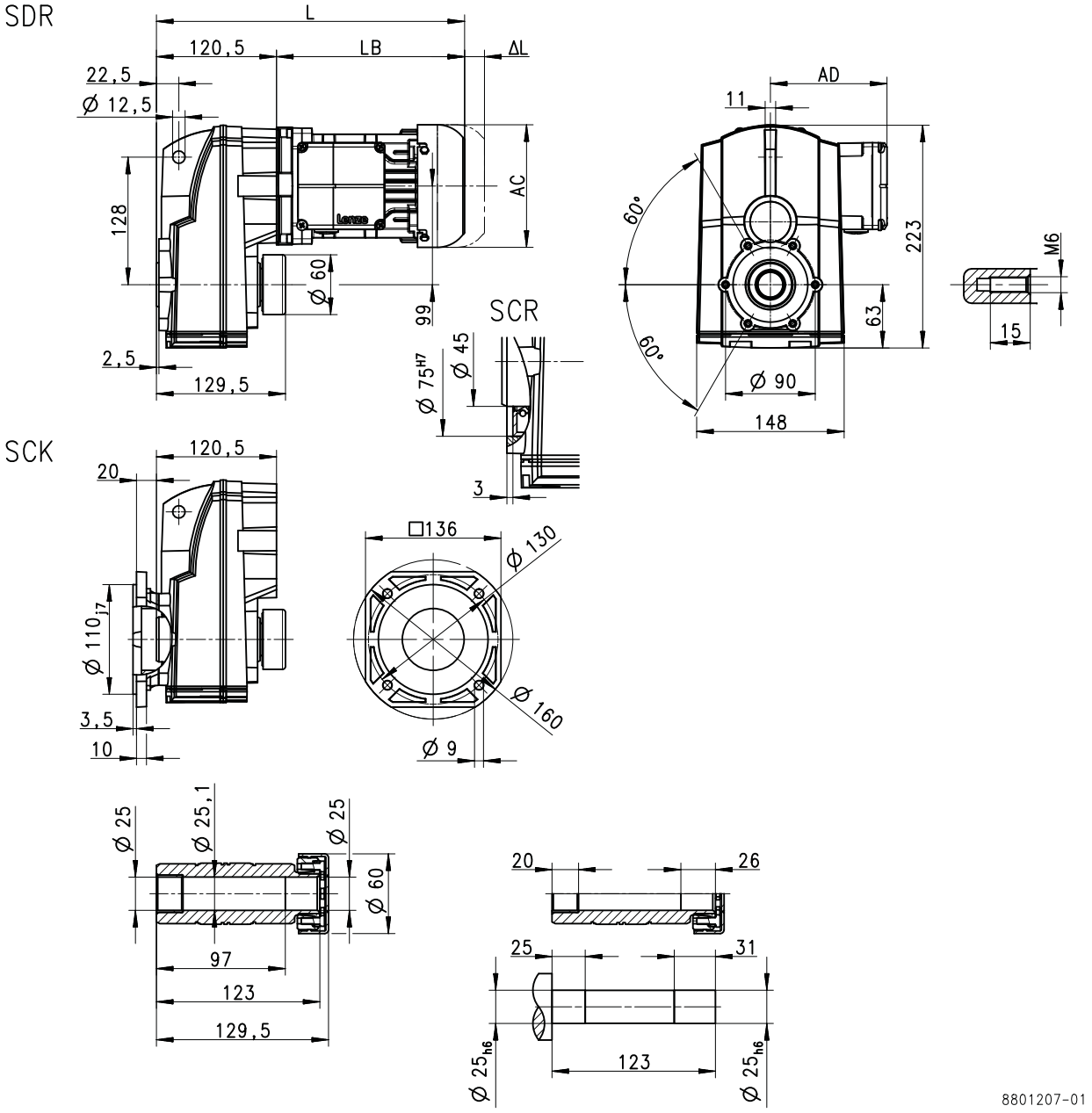


Motor series			m550-H		m550-P	
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**
Total length	L	mm	309	339	363	405
Motor length	LB	mm	189	218	242	285
Motor diameter	AC	mm	123	139	156	177
Motor/connection distance	AD	mm	117	129	145	153

Δ L ▸ Additional lengths 🕮 160

g500-S130, 2-stage

Gearbox design: Hollow shaft with shrink disc, without foot (SDR/SCR/SCK)

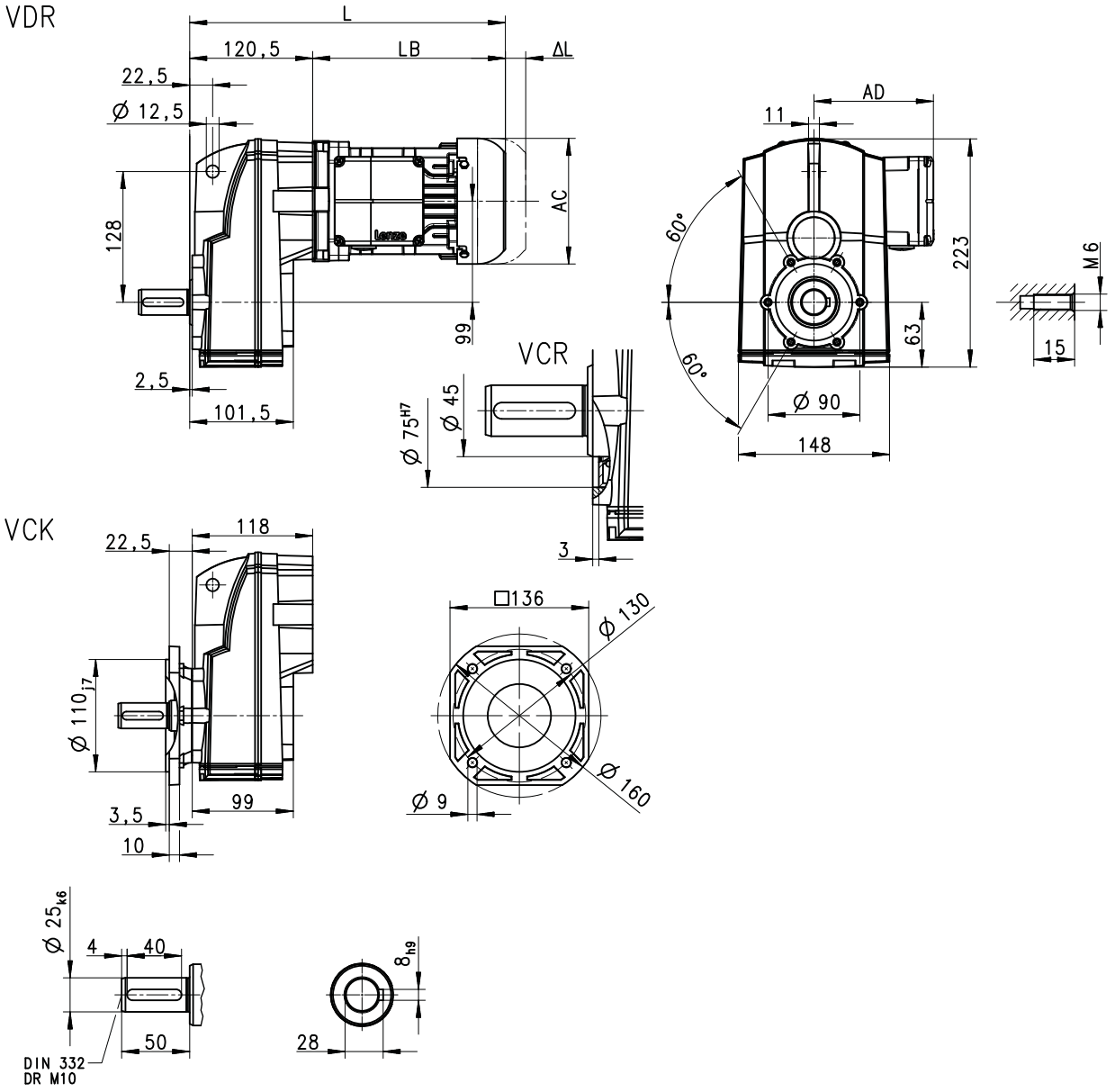


Motor series			m550-H		m550-P	
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**
Total length	L	mm	309	339	363	405
Motor length	LB	mm	189	218	242	285
Motor diameter	AC	mm	123	139	156	177
Motor/connection distance	AD	mm	117	129	145	153

Δ L ▸ Additional lengths 160

g500-S130, 2-stage

Gearbox design: Solid shaft, without foot (VDR/VCR/VCK)



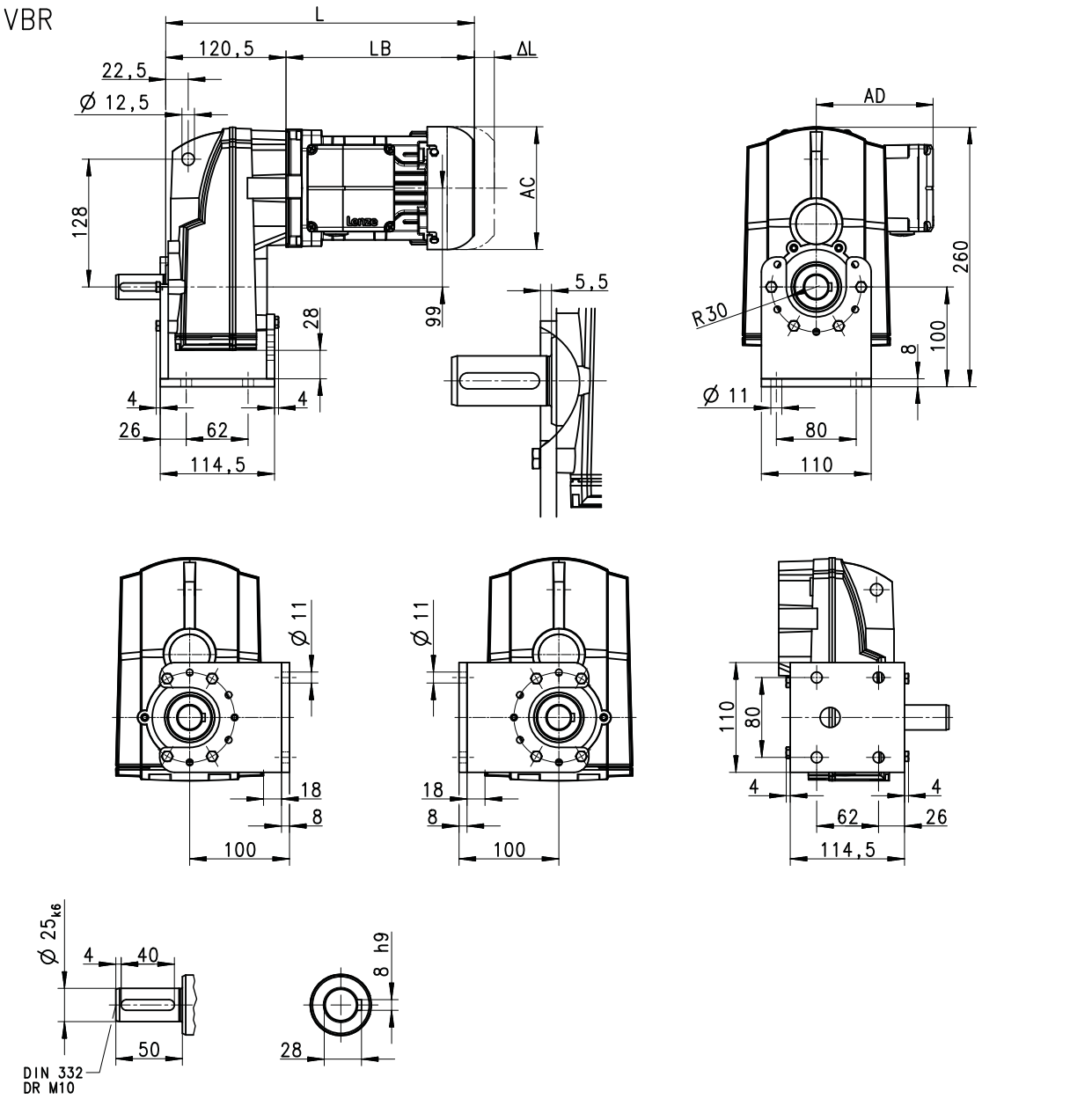
8801206-00

Motor series			m550-H		m550-P	
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**
Total length	L	mm	309	339	363	405
Motor length	LB	mm	189	218	242	285
Motor diameter	AC	mm	123	139	156	177
Motor/connection distance	AD	mm	117	129	145	153

Δ L ▸ Additional lengths 🕮 160

g500-S130, 2-stage

Gearbox design: Solid shaft, with foot (VBR)



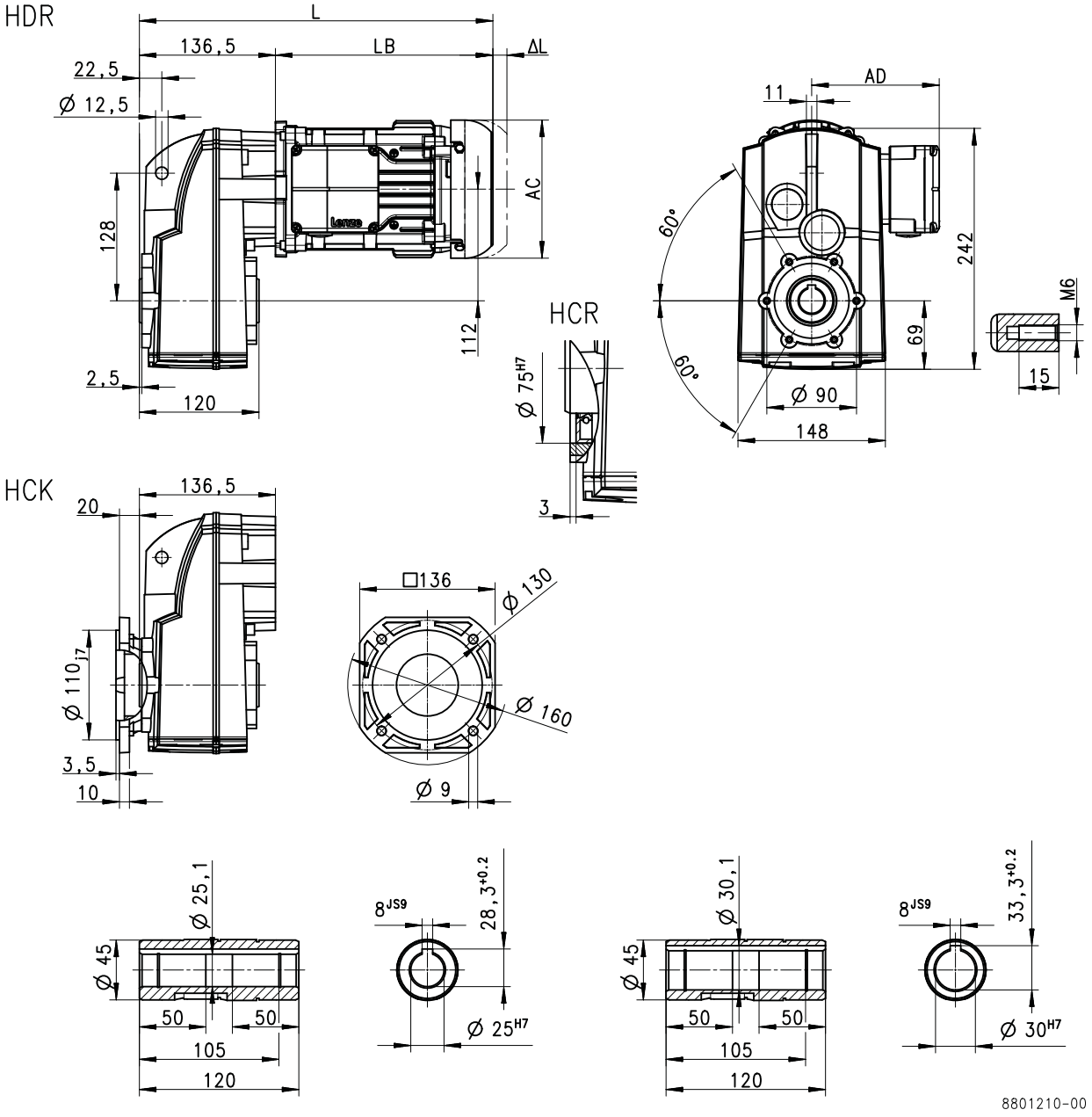
8801208-00

Motor series			m550-H		m550-P	
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**
Total length	L	mm	309	339	363	405
Motor length	LB	mm	189	218	242	285
Motor diameter	AC	mm	123	139	156	177
Motor/connection distance	AD	mm	117	129	145	153

Δ L ▸ Additional lengths 🕮 160

g500-S220, 2-/3-stage

Gearbox design: Hollow shaft, without foot (HDR/HCR/HCK)



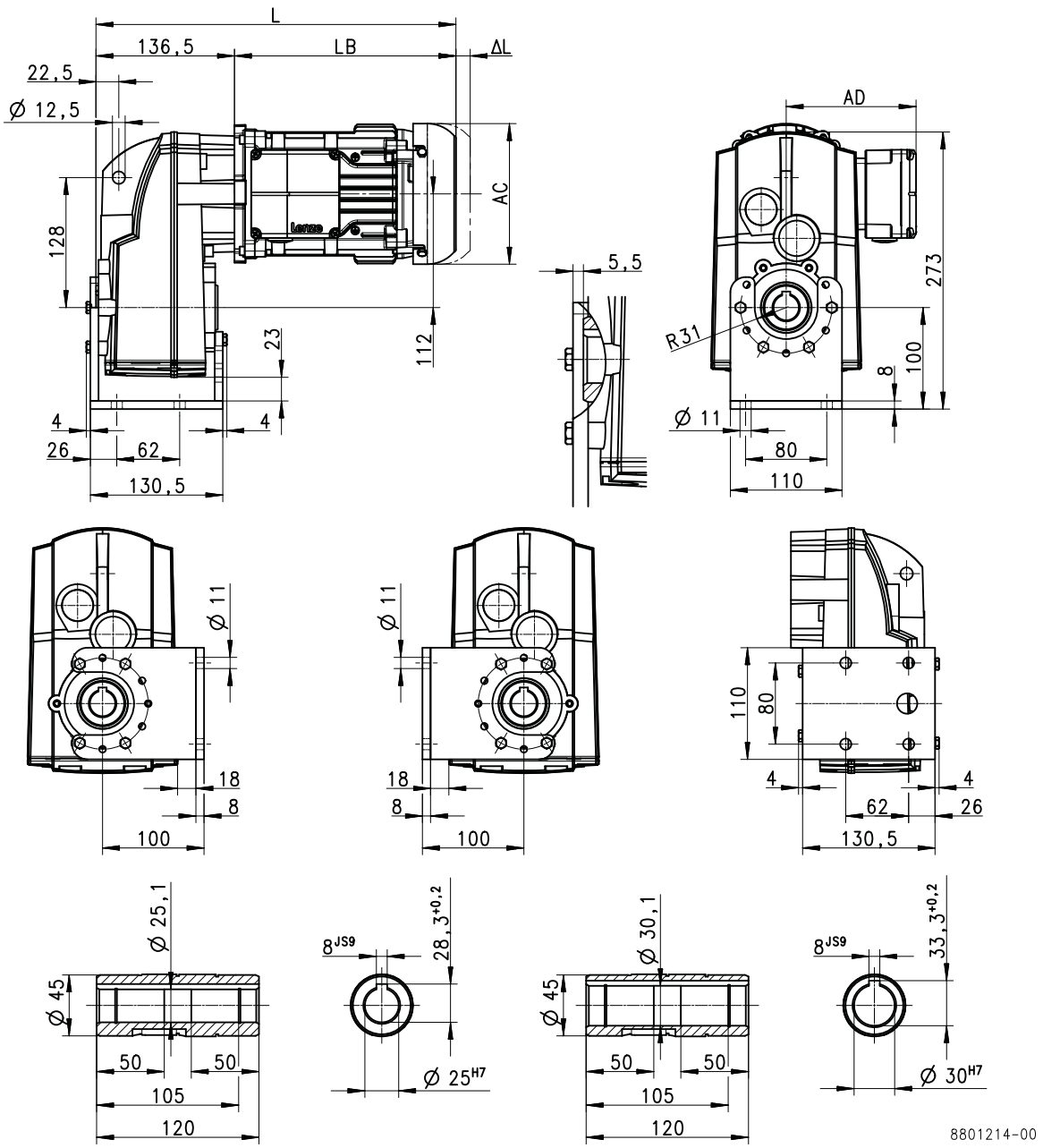
Motor series			m550-H		m550-P		
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**
Total length	L	mm	325	355	379	421	485
Motor length	LB	mm	189	218	242	285	348
Motor diameter	AC	mm	123	139	156	177	194
Motor/connection distance	AD	mm	117	129	145	153	164

Δ L ▸ Additional lengths 🕮 160

g500-S220, 2-/3-stage

Gearbox design: Hollow shaft, with foot (HBR)

HBR

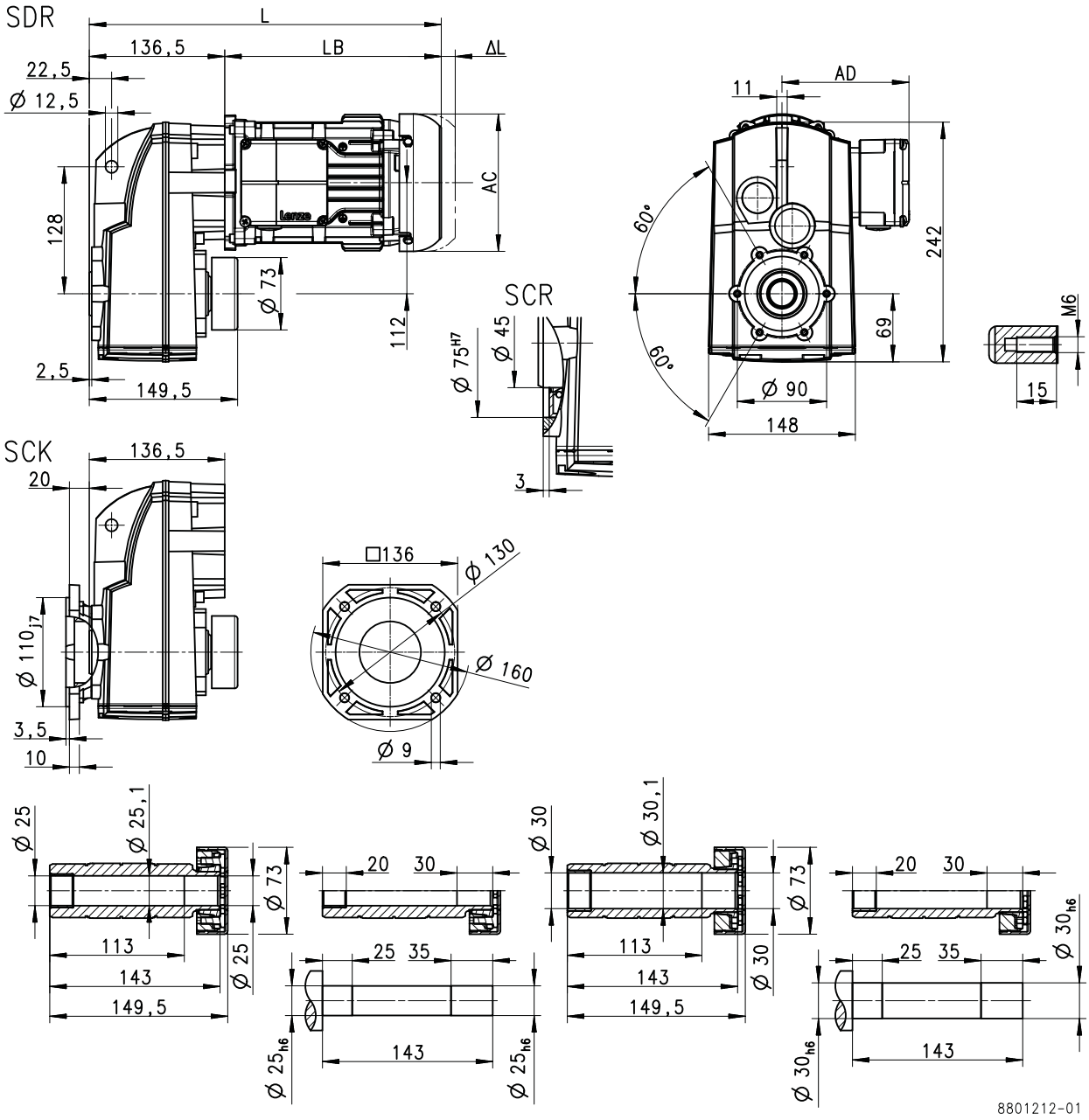


Motor series			m550-H		m550-P		
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**
Total length	L	mm	325	355	379	421	485
Motor length	LB	mm	189	218	242	285	348
Motor diameter	AC	mm	123	139	156	177	194
Motor/connection distance	AD	mm	117	129	145	153	164

Δ L ▸ Additional lengths 🕮 160

g500-S220, 2-/3-stage

Gearbox design: Hollow shaft with shrink disc, without foot (SDR/SCR/SCK)

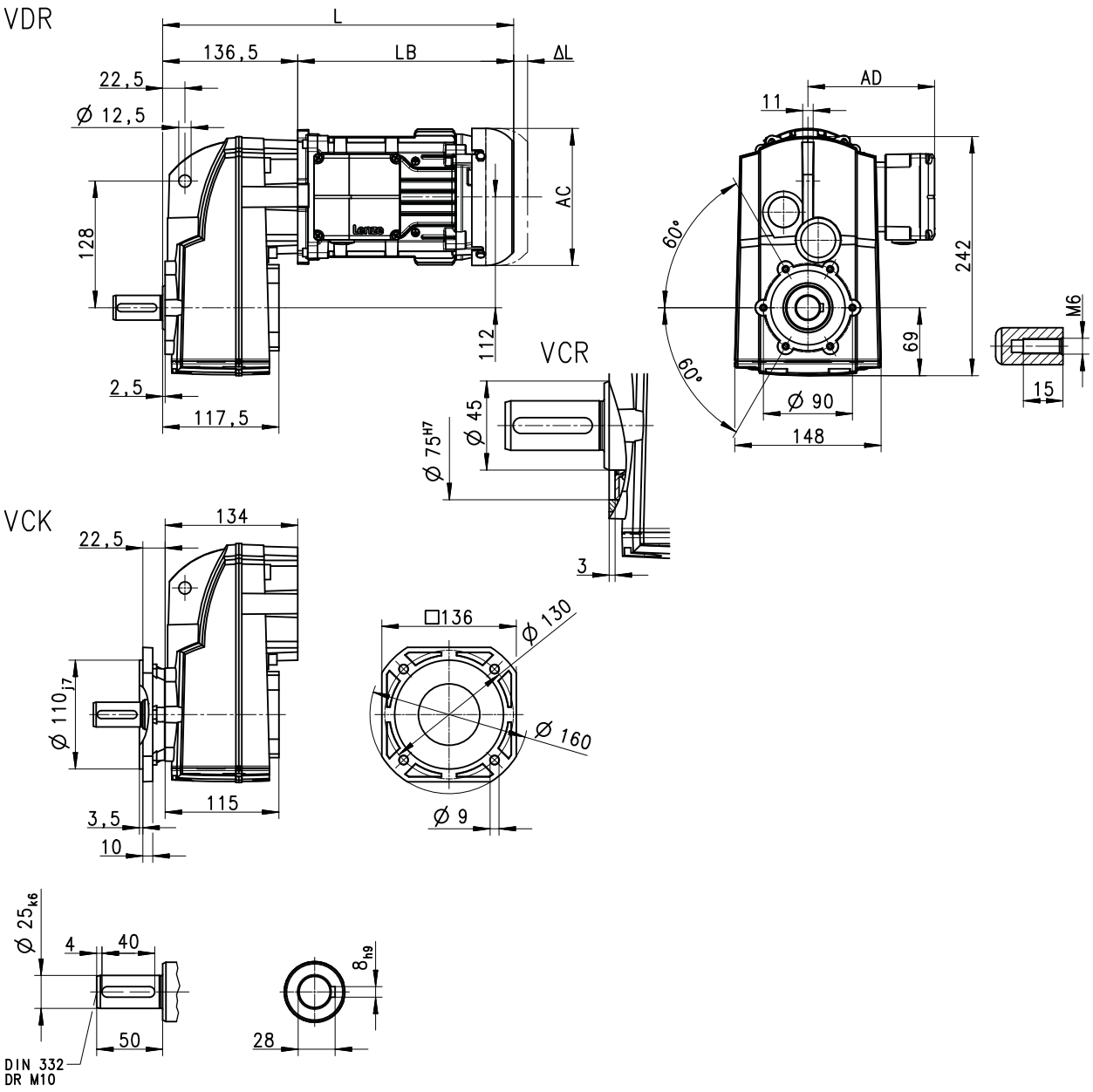


Motor series			m550-H		m550-P		
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**
Total length	L	mm	325	355	379	421	485
Motor length	LB	mm	189	218	242	285	348
Motor diameter	AC	mm	123	139	156	177	194
Motor/connection distance	AD	mm	117	129	145	153	164

Δ L ▸ Additional lengths 🕮 160

g500-S220, 2-/3-stage

Gearbox design: Solid shaft, without foot (VDR/VCR/VCK)

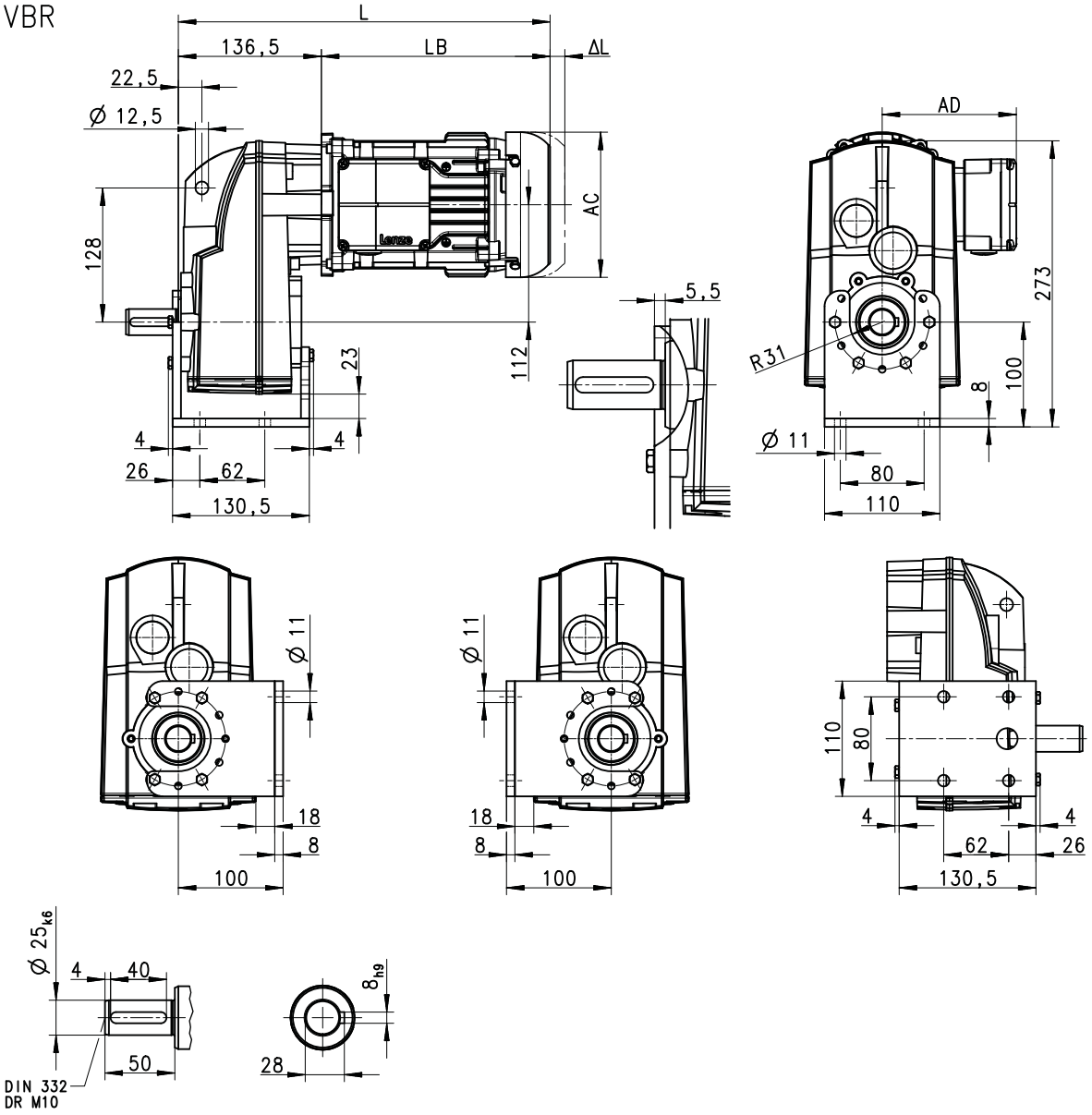


Motor series			m550-H		m550-P		
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**
Total length	L	mm	325	355	379	421	485
Motor length	LB	mm	189	218	242	285	348
Motor diameter	AC	mm	123	139	156	177	194
Motor/connection distance	AD	mm	117	129	145	153	164

Δ L ▸ Additional lengths 🕮 160

g500-S220, 2-/3-stage

Gearbox design: Solid shaft, with foot (VBR)



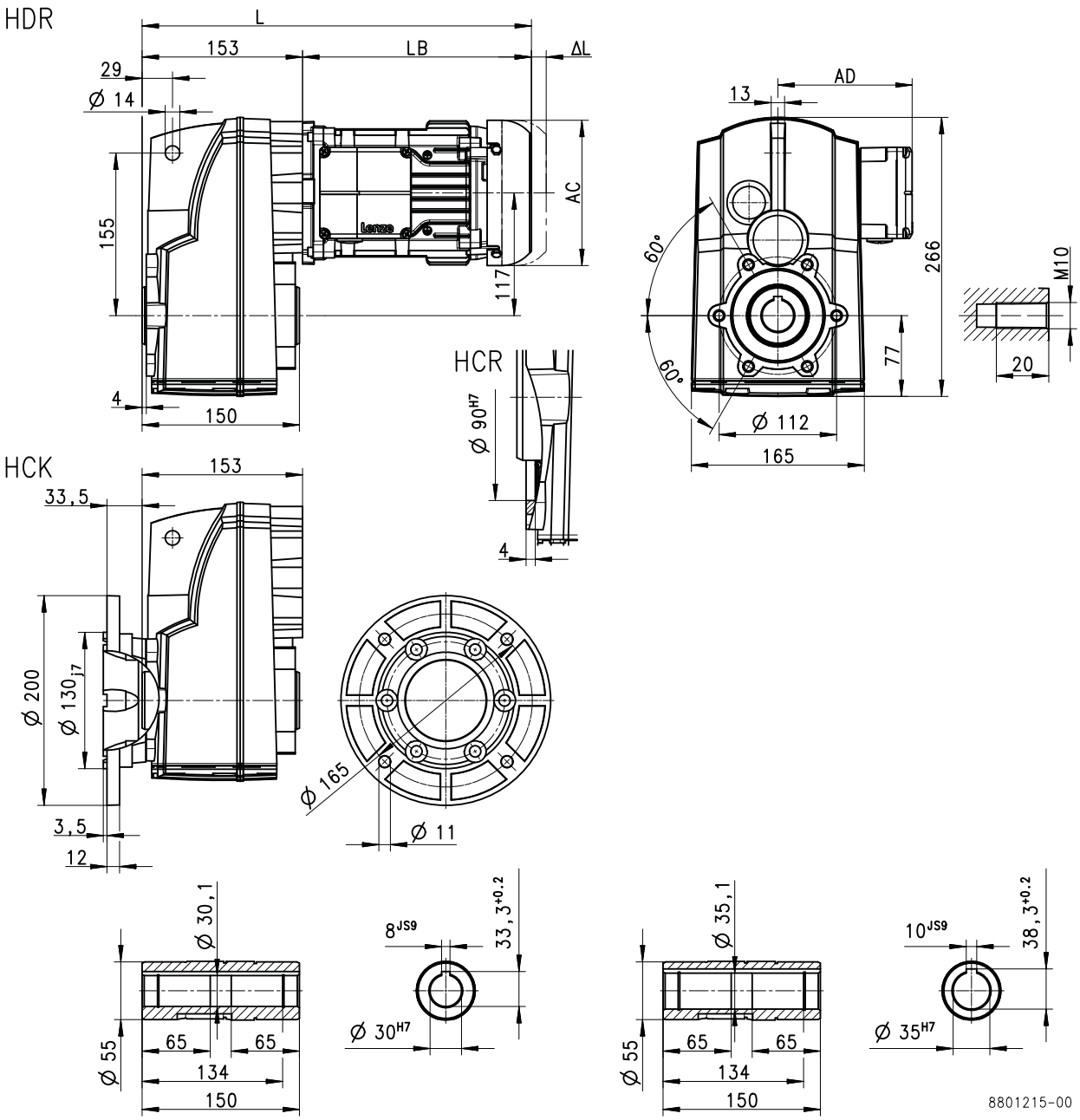
8801213-00

Motor series			m550-H		m550-P		
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**
Total length	L	mm	325	355	379	421	485
Motor length	LB	mm	189	218	242	285	348
Motor diameter	AC	mm	123	139	156	177	194
Motor/connection distance	AD	mm	117	129	145	153	164

Δ L ▸ Additional lengths 160

g500-S400, 2-/3-stage

Gearbox design: Hollow shaft, without foot (HDR/HCR/HCK)



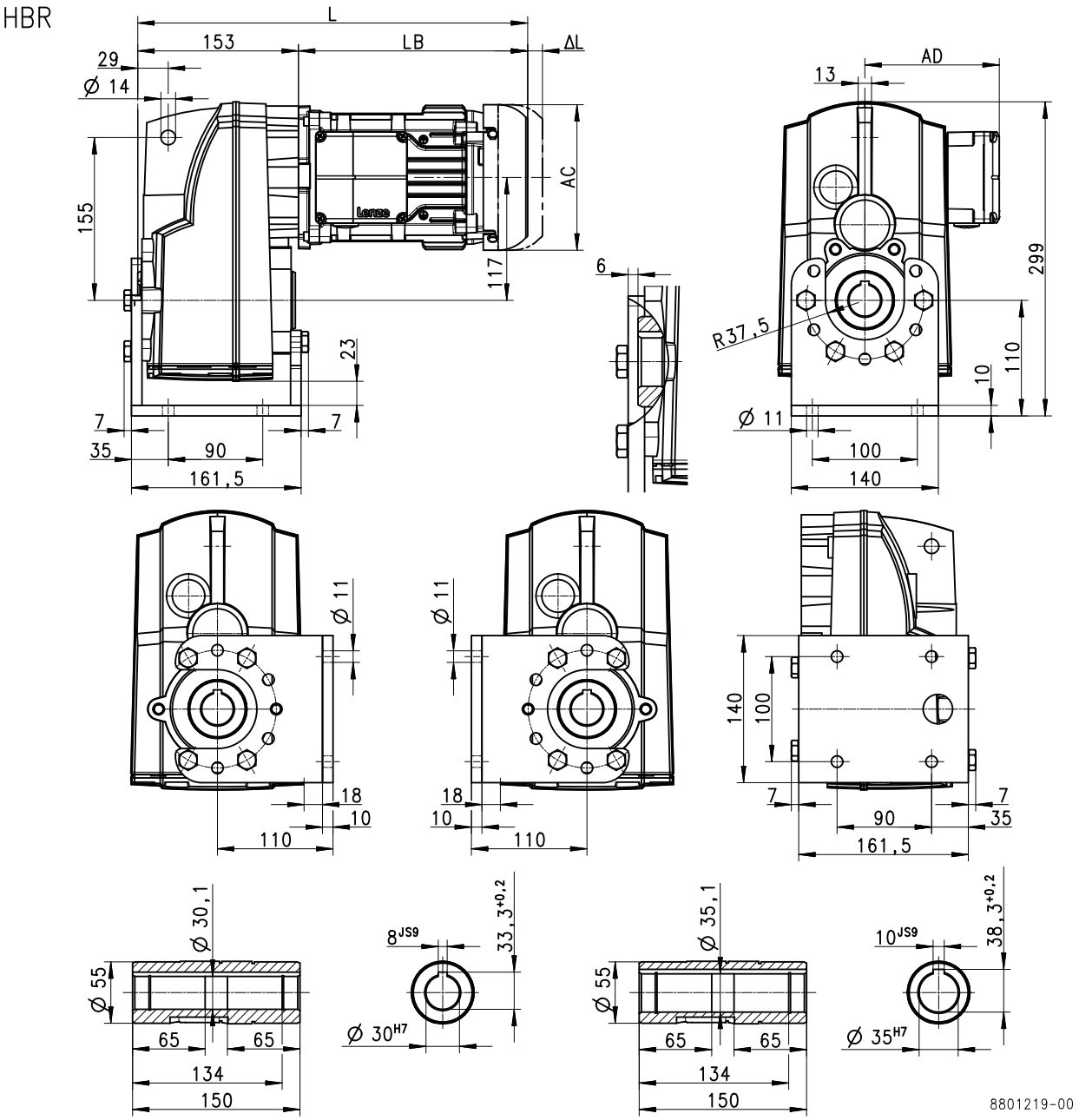
Motor series			m550-H		m550-P			
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**
Total length	L	mm	342	371	395	438	501	514
Motor length	LB	mm	189	218	242	285	348	361
Motor diameter	AC	mm	123	139	156	177	194	220
Motor/connection distance	AD	mm	117	129	145	153	164	169

Δ L ▸ Additional lengths 160

g500-S400, 2-/3-stage

Gearbox design: Hollow shaft, with foot (HBR)

HBR

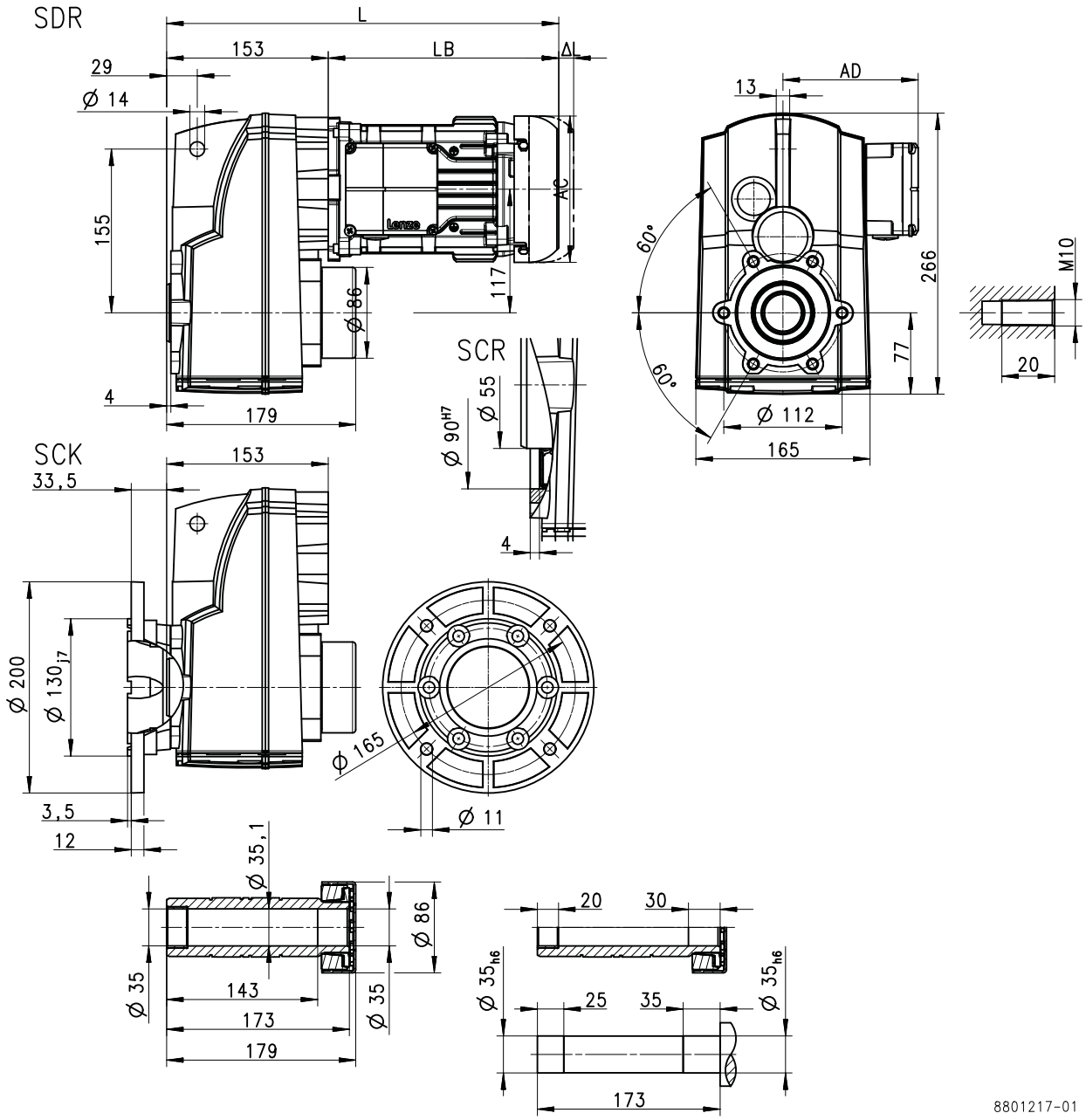


Motor series			m550-H		m550-P			
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**
Total length	L	mm	342	371	395	438	501	514
Motor length	LB	mm	189	218	242	285	348	361
Motor diameter	AC	mm	123	139	156	177	194	220
Motor/connection distance	AD	mm	117	129	145	153	164	169

Δ L ▸ Additional lengths 🕮 160

g500-S400, 2-/3-stage

Gearbox design: Hollow shaft with shrink disc, without foot (SDR/SCR/SCK)

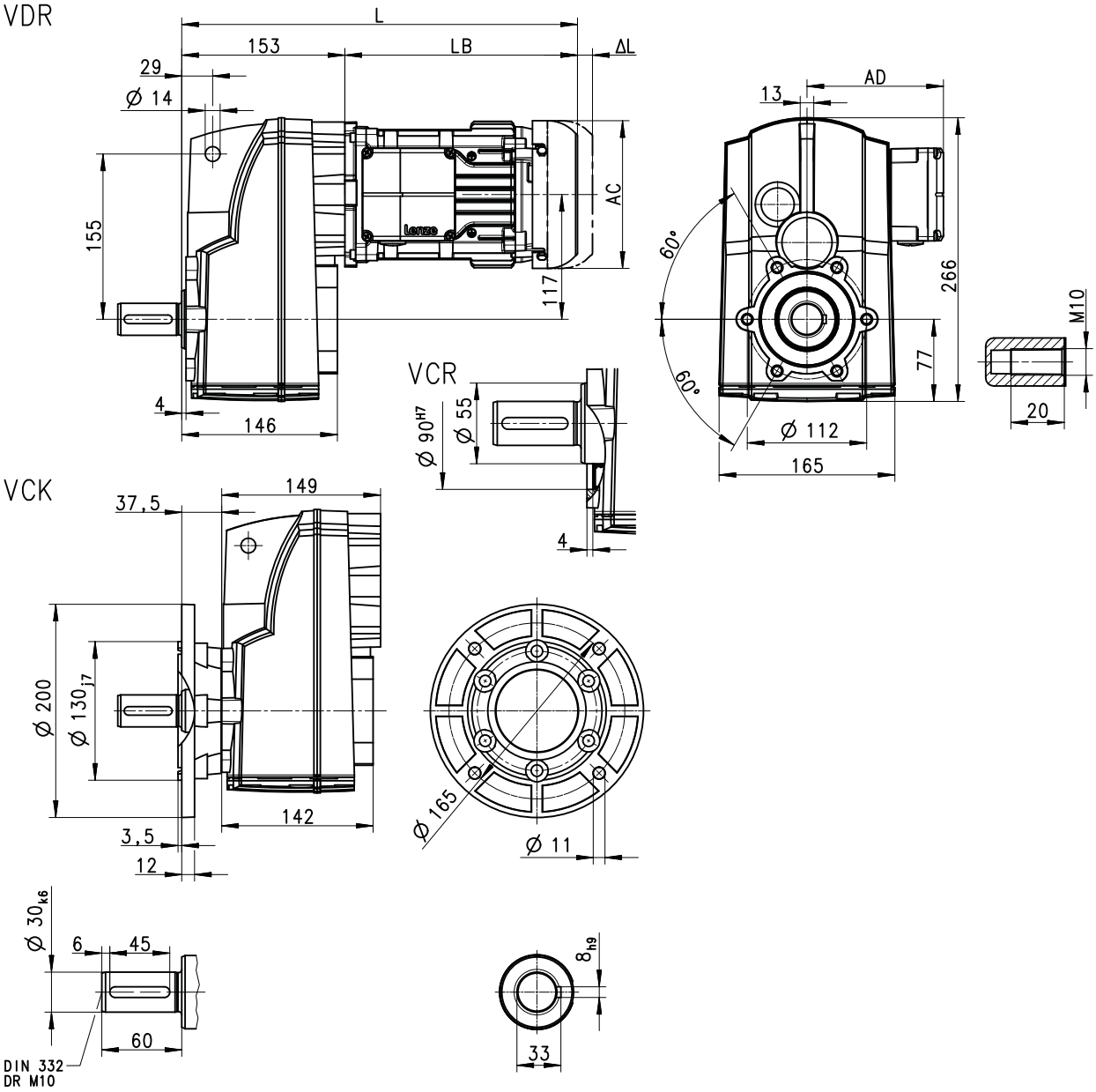


Motor series			m550-H		m550-P			
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**
Total length	L	mm	342	371	395	438	501	514
Motor length	LB	mm	189	218	242	285	348	361
Motor diameter	AC	mm	123	139	156	177	194	220
Motor/connection distance	AD	mm	117	129	145	153	164	169

Δ L ▸ Additional lengths 🕮 160

g500-S400, 2-/3-stage

Gearbox design: Solid shaft, without foot (VDR/VCR/VCK)



8801216-00

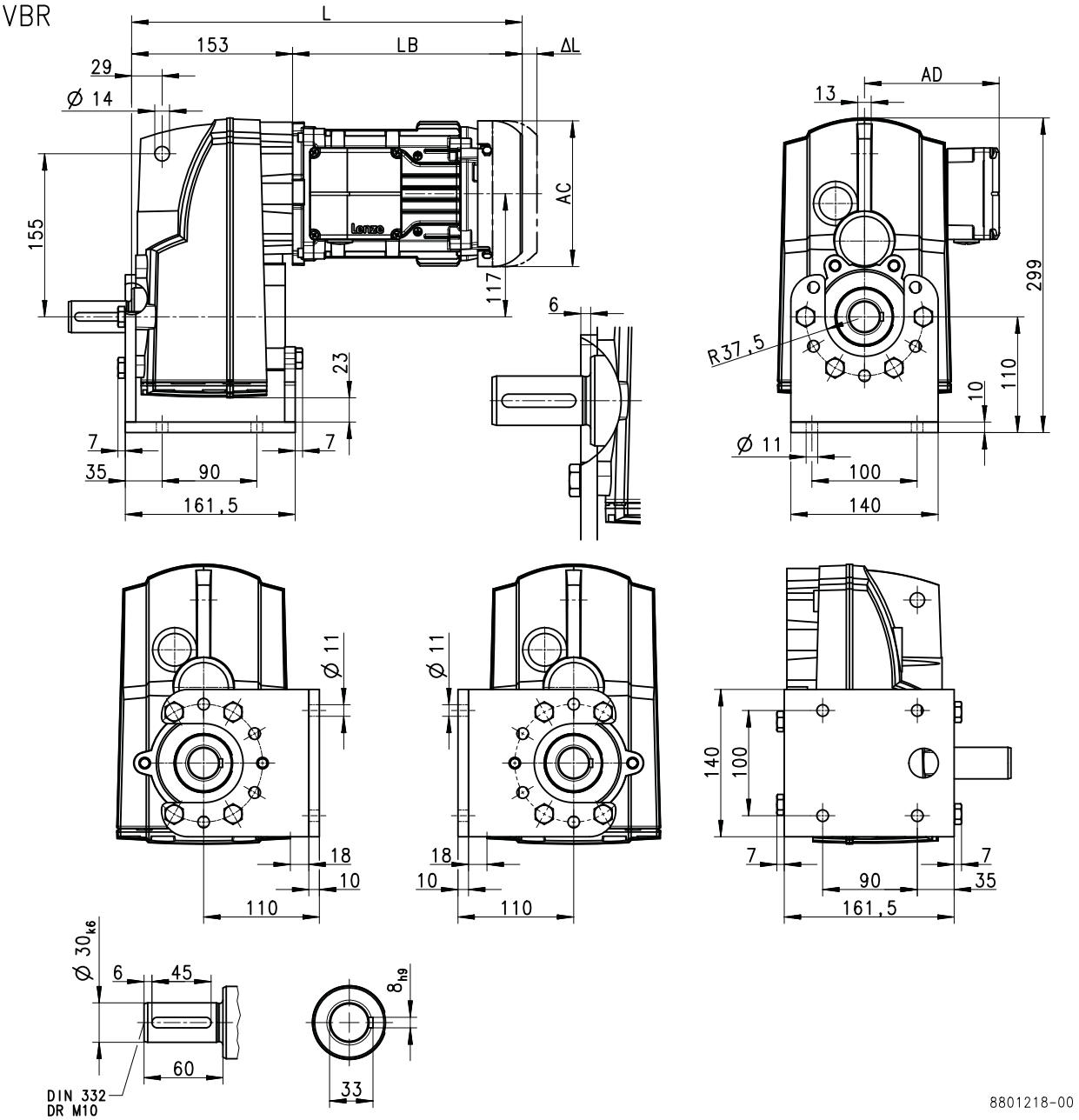
Motor series			m550-H		m550-P			
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**
Total length	L	mm	342	371	395	438	501	514
Motor length	LB	mm	189	218	242	285	348	361
Motor diameter	AC	mm	123	139	156	177	194	220
Motor/connection distance	AD	mm	117	129	145	153	164	169

Δ L ▸ Additional lengths 160

g500-S400, 2-/3-stage

Gearbox design: Solid shaft, with foot (VBR)

VBR

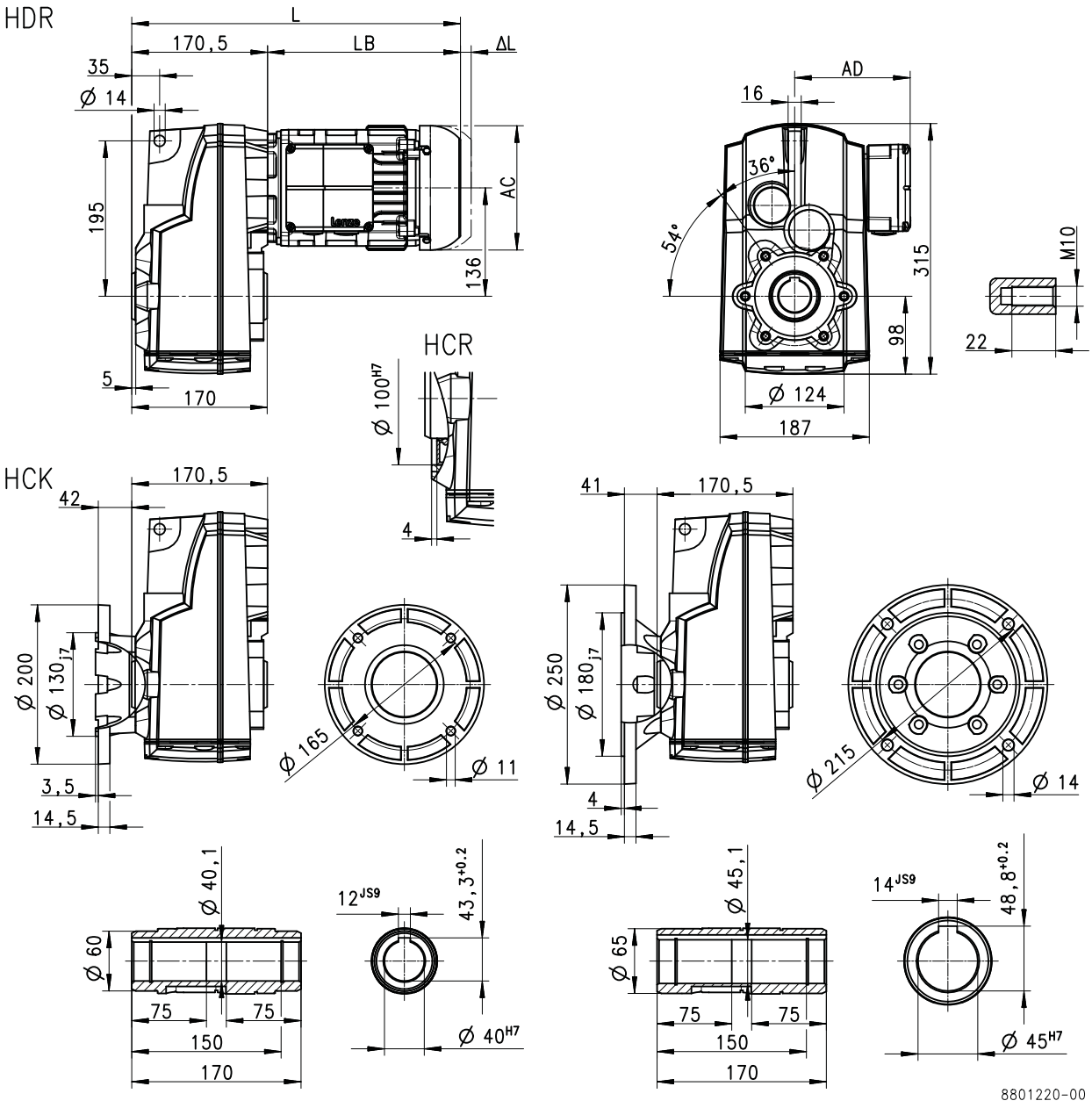


Motor series			m550-H		m550-P			
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**
Total length	L	mm	342	371	395	438	501	514
Motor length	LB	mm	189	218	242	285	348	361
Motor diameter	AC	mm	123	139	156	177	194	220
Motor/connection distance	AD	mm	117	129	145	153	164	169

Δ L ▸ Additional lengths 🕮 160

g500-S660, 2-/3-stage

Gearbox design: Hollow shaft, without foot (HDR/HCR/HCK)

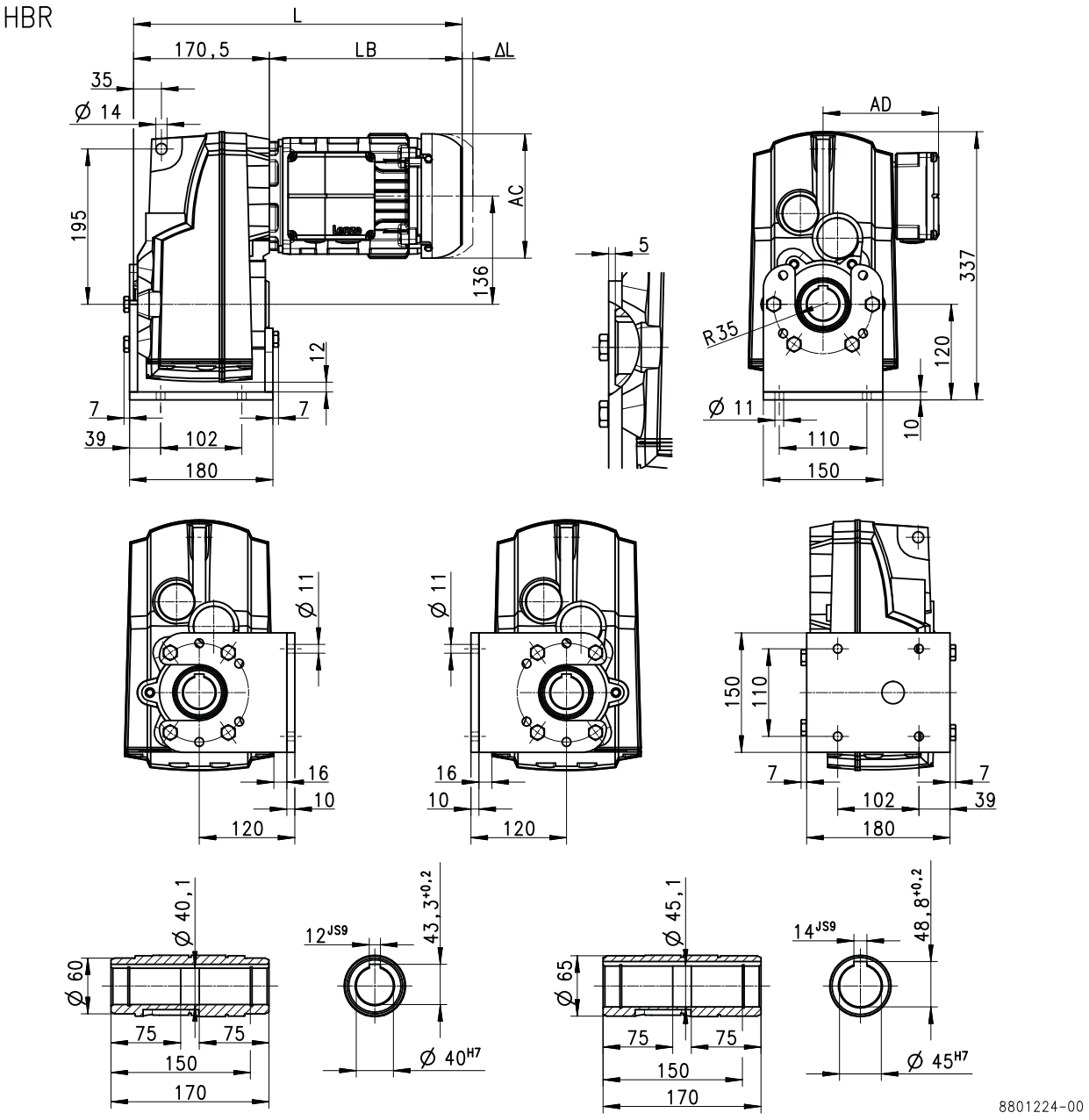


Motor series			m550-H		m550-P				
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**
Total length	L	mm	359	389	413	455	519	531	595
Motor length	LB	mm	189	218	242	285	348	361	425
Motor diameter	AC	mm	123	139	156	177	194	220	258
Motor/connection distance	AD	mm	117	129	145	153	164	169	197

Δ L ▸ Additional lengths 160

g500-S660, 2-/3-stage

Gearbox design: Hollow shaft, with foot (HBR)

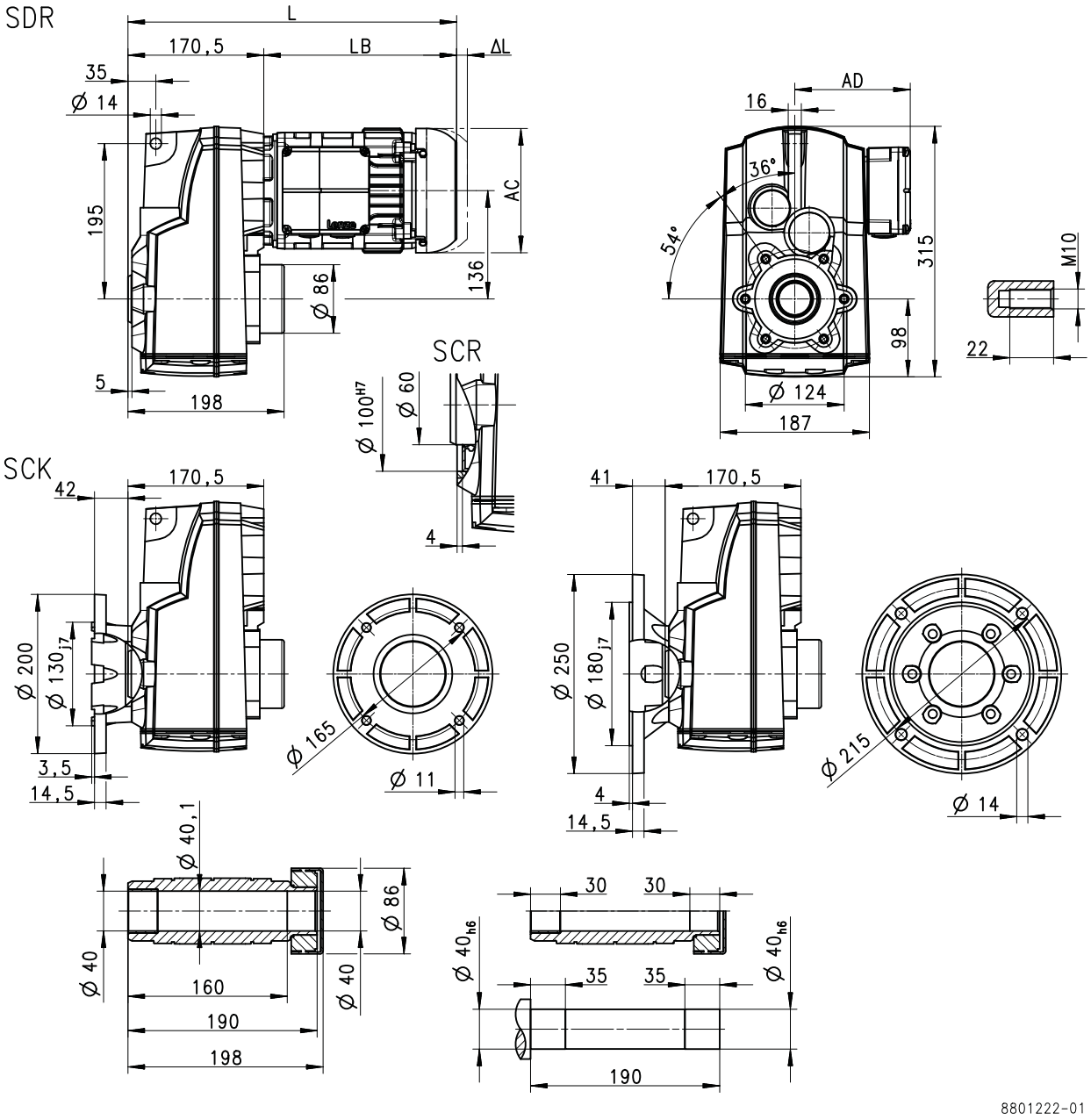


Motor series			m550-H		m550-P				
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**
Total length	L	mm	359	389	413	455	519	531	595
Motor length	LB	mm	189	218	242	285	348	361	425
Motor diameter	AC	mm	123	139	156	177	194	220	258
Motor/connection distance	AD	mm	117	129	145	153	164	169	197

Δ L ▸ Additional lengths 🕮 160

g500-S660, 2-/3-stage

Gearbox design: Hollow shaft with shrink disc, without foot (SDR/SCR/SCK)

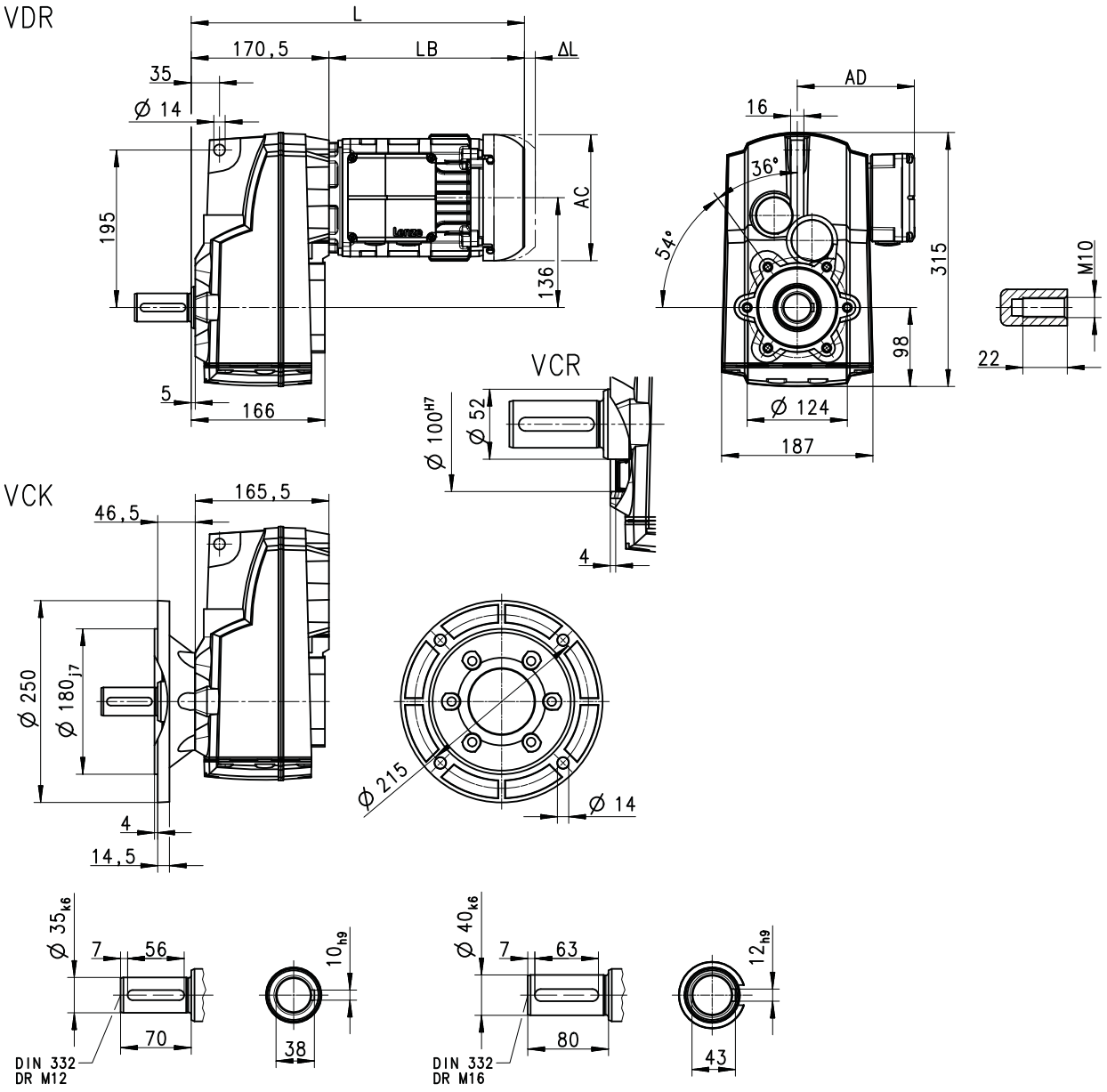


Motor series			m550-H		m550-P				
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**
Total length	L	mm	359	389	413	455	519	531	595
Motor length	LB	mm	189	218	242	285	348	361	425
Motor diameter	AC	mm	123	139	156	177	194	220	258
Motor/connection distance	AD	mm	117	129	145	153	164	169	197

Δ L ▸ Additional lengths 🕮 160

g500-S660, 2-/3-stage

Gearbox design: Solid shaft, without foot (VDR/VCR/VCK)

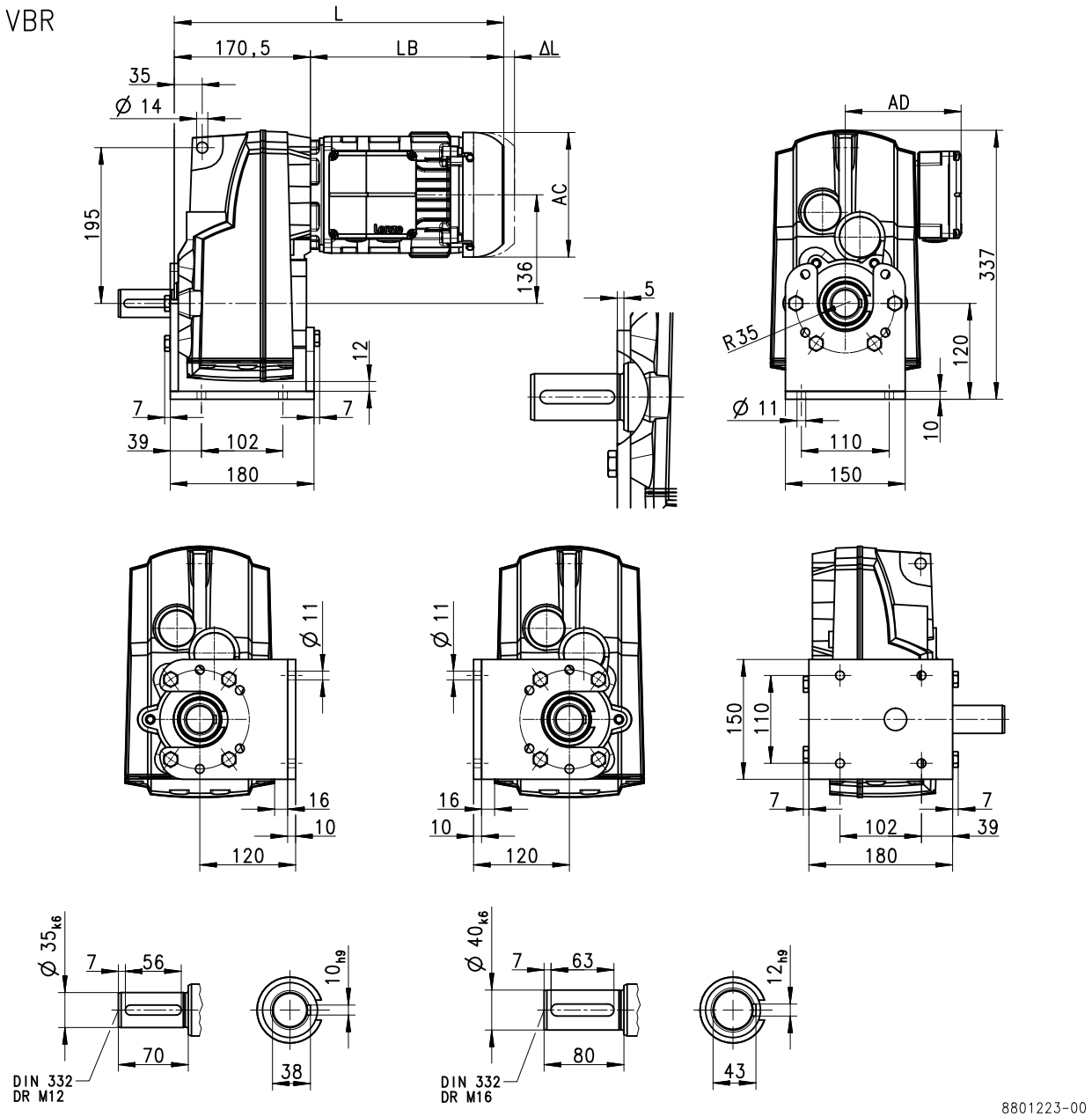


Motor series			m550-H		m550-P				
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**
Total length	L	mm	359	389	413	455	519	531	595
Motor length	LB	mm	189	218	242	285	348	361	425
Motor diameter	AC	mm	123	139	156	177	194	220	258
Motor/connection distance	AD	mm	117	129	145	153	164	169	197

Δ L ▸ Additional lengths 🕮 160

g500-S660, 2-/3-stage

Gearbox design: Solid shaft, with foot (VBR)

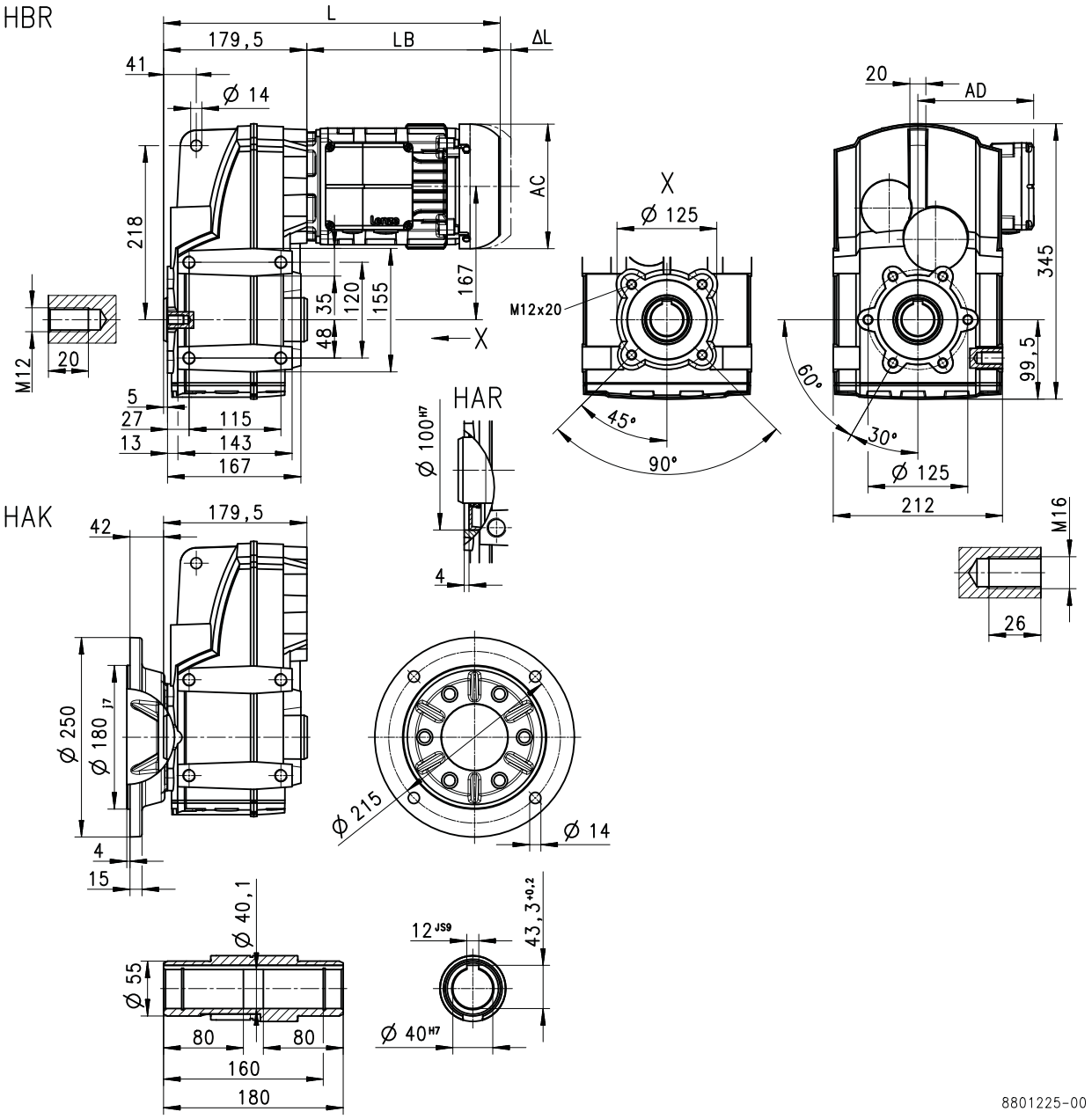


Motor series			m550-H		m550-P				
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**
Total length	L	mm	359	389	413	455	519	531	595
Motor length	LB	mm	189	218	242	285	348	361	425
Motor diameter	AC	mm	123	139	156	177	194	220	258
Motor/connection distance	AD	mm	117	129	145	153	164	169	197

Δ L ▸ Additional lengths 🕮 160

g500-S950, 2-/3-stage

Gearbox design: Hollow shaft, with foot (HBR/HAR/HAK)

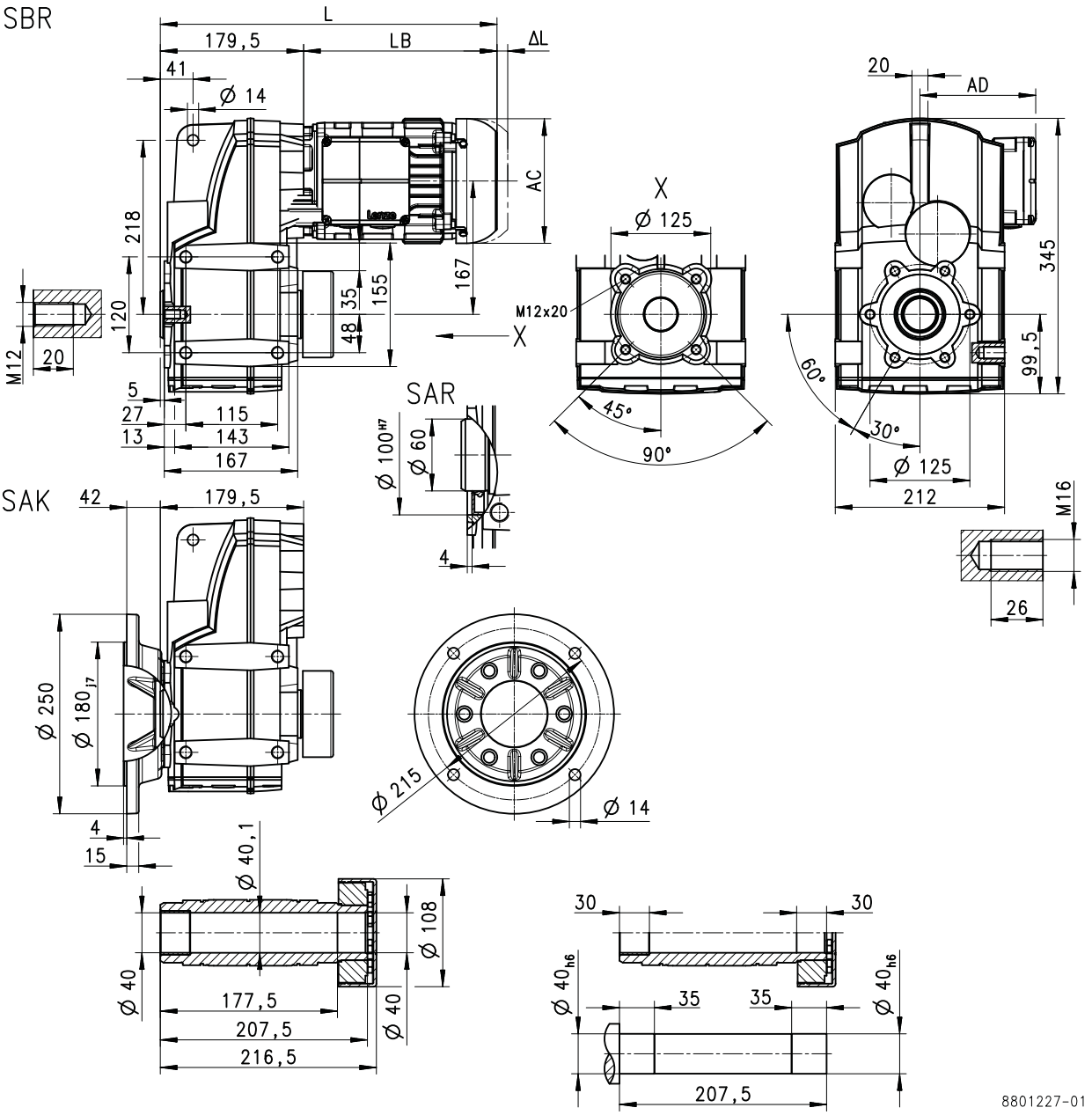


Motor series			m550-H		m550-P				
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**
Total length	L	mm	368	398	422	464	528	540	604
Motor length	LB	mm	189	218	242	285	348	361	425
Motor diameter	AC	mm	123	139	156	177	194	220	258
Motor/connection distance	AD	mm	117	129	145	153	164	169	197

Δ L ▸ Additional lengths 🕮 160

g500-S950, 2-/3-stage

Gearbox design: Hollow shaft with shrink disc, with foot (SBR/SAR/SAK)

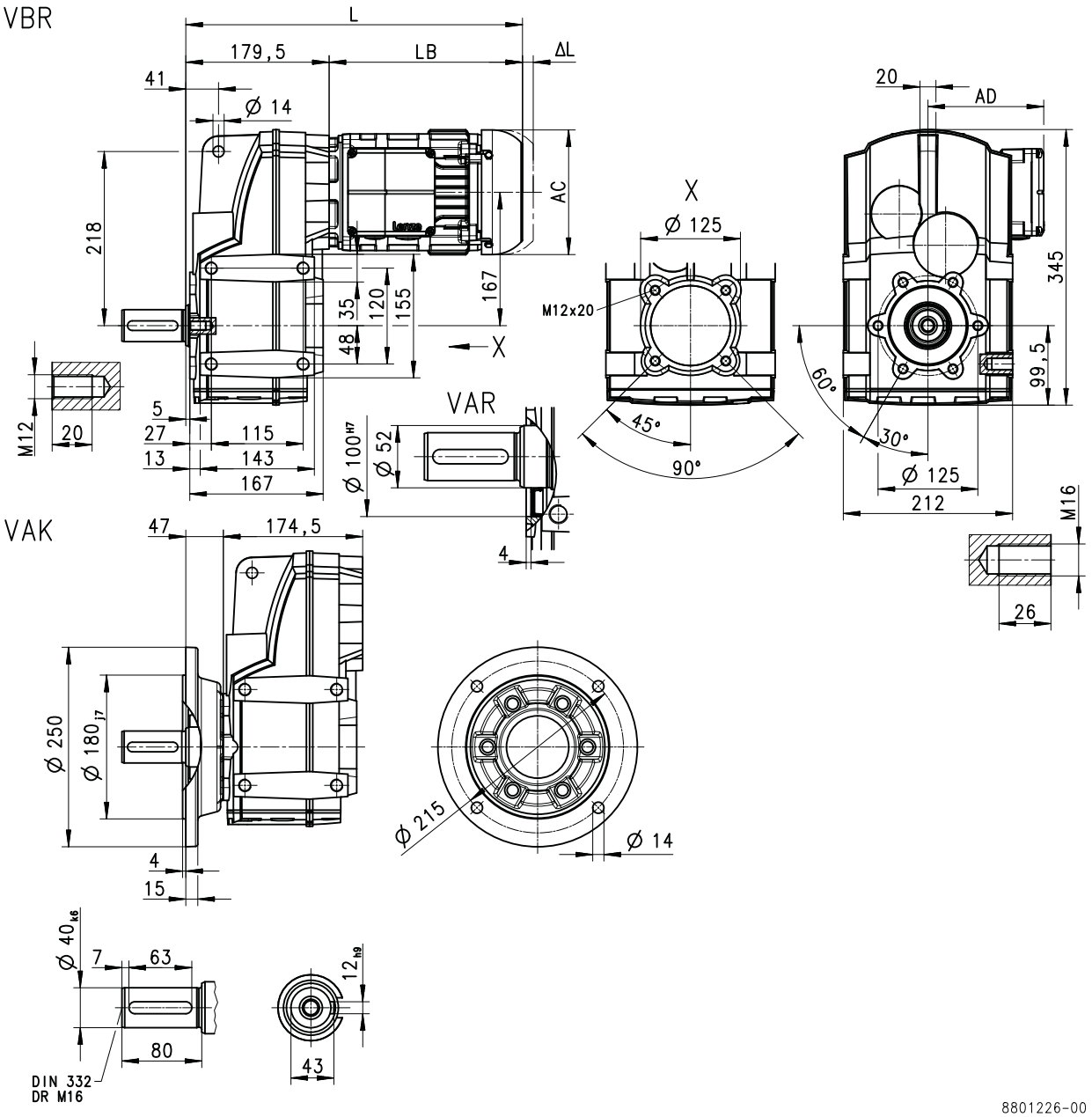


Motor series			m550-H		m550-P				
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**
Total length	L	mm	368	398	422	464	528	540	604
Motor length	LB	mm	189	218	242	285	348	361	425
Motor diameter	AC	mm	123	139	156	177	194	220	258
Motor/connection distance	AD	mm	117	129	145	153	164	169	197

Δ L ▸ Additional lengths 🕮 160

g500-S950, 2-/3-stage

Gearbox design: Solid shaft, with foot (VBR/VAR/VAK)

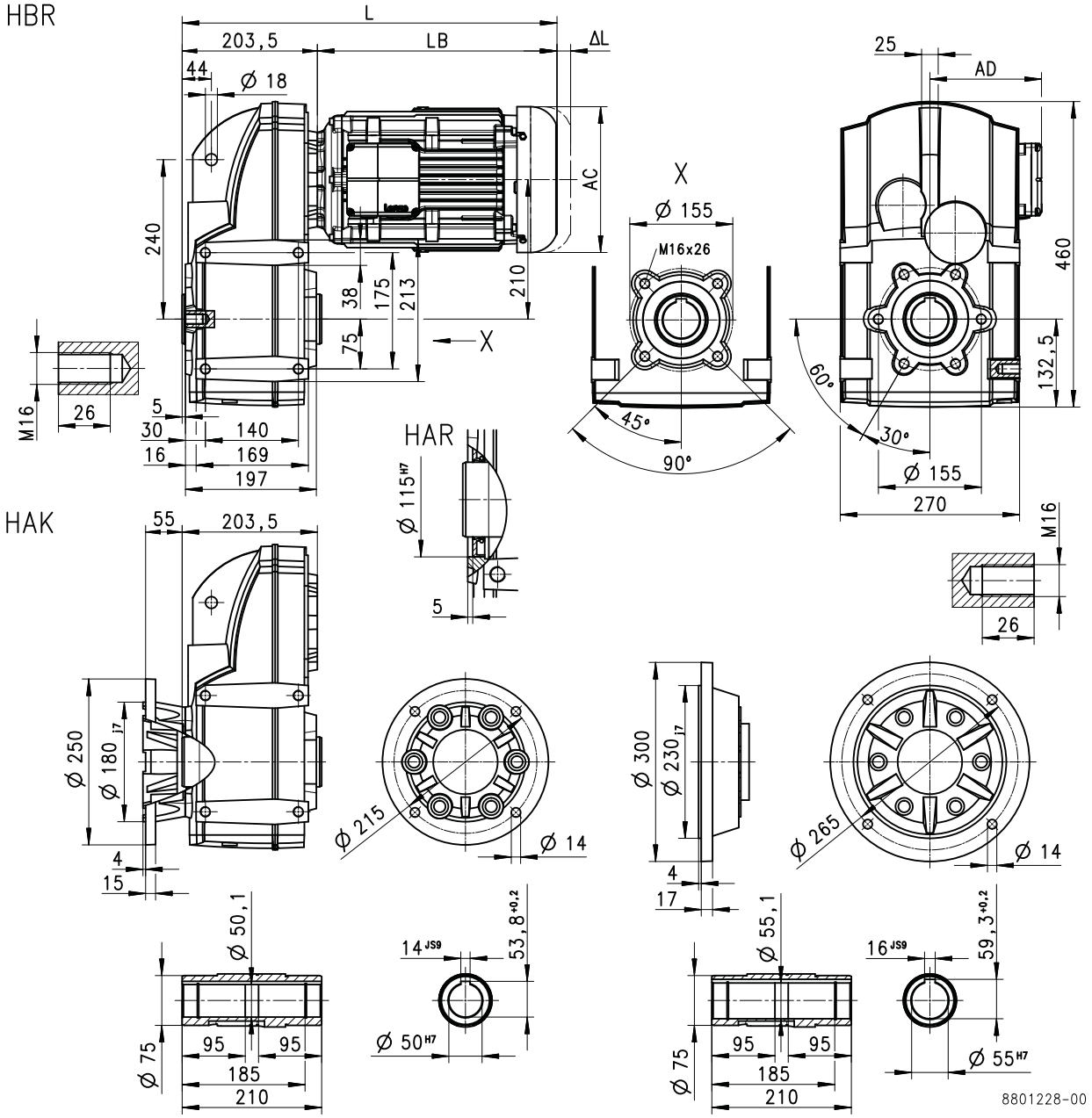


Motor series			m550-H		m550-P				
Motor			**063S4 063M4 063L4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**
Total length	L	mm	368	398	422	464	528	540	604
Motor length	LB	mm	189	218	242	285	348	361	425
Motor diameter	AC	mm	123	139	156	177	194	220	258
Motor/connection distance	AD	mm	117	129	145	153	164	169	197

Δ L ▸ Additional lengths 🕮 160

g500-S2100, 2-/3-stage

Gearbox design: Hollow shaft, with foot (HBR/HAR/HAK)

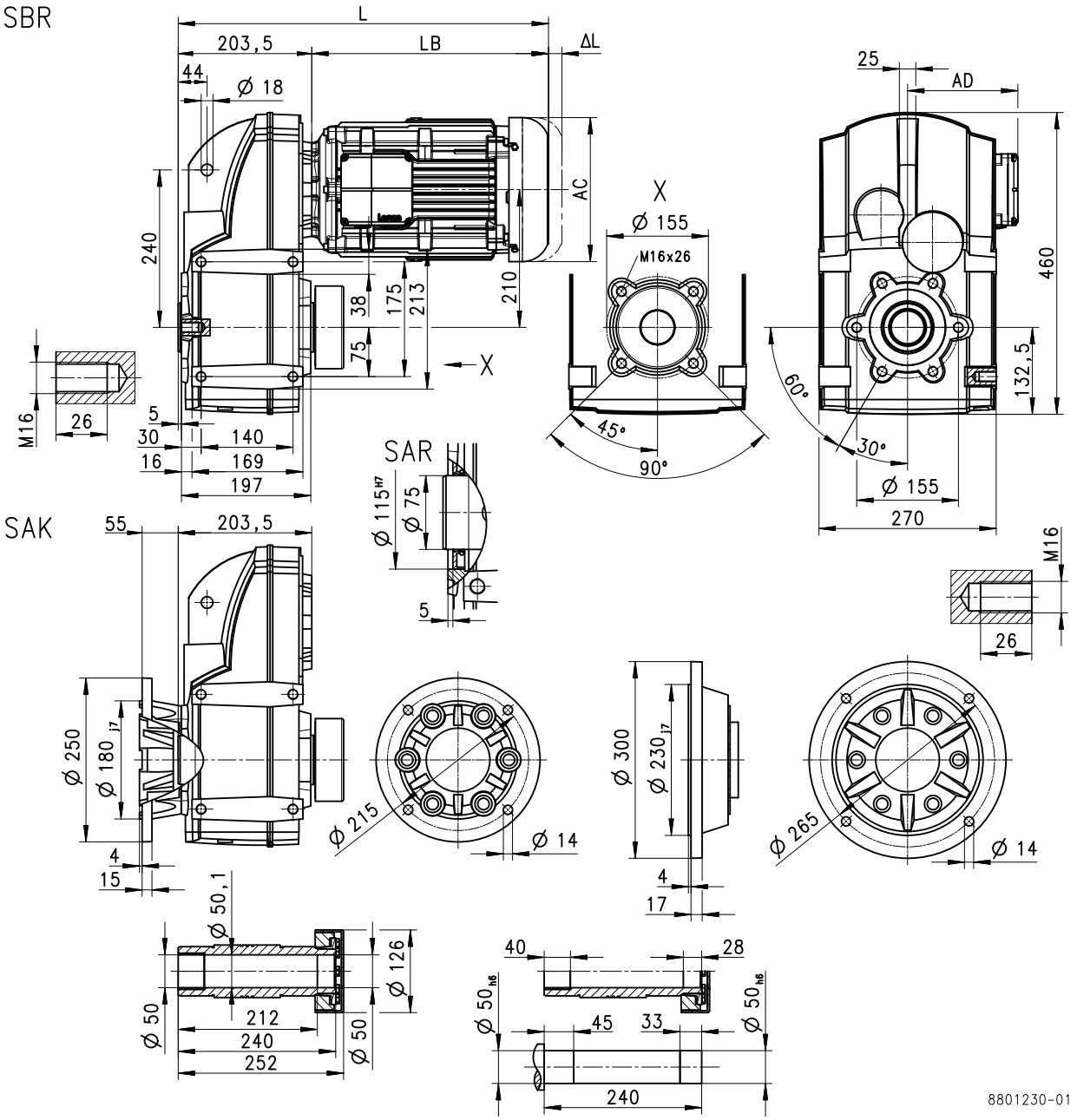


Motor series			m550-H		m550-P						
Motor			**063L4 063S4 063M4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**	**160M4 160L4**	**180M4 180L4**
Total length	L	mm	392	422	446	488	552	564	628	740	817
Motor length	LB	mm	189	218	242	285	348	361	425	536	614
Motor diameter	AC	mm	123	139	156	177	194	220	258	309	349
Motor/connection distance	AD	mm	117	129	145	153	164	169	197	250	272

Δ L ▸ Additional lengths 🕮 160

g500-S2100, 2-/3-stage

Gearbox design: Hollow shaft with shrink disc, with foot (SBR/SAR/SAK)

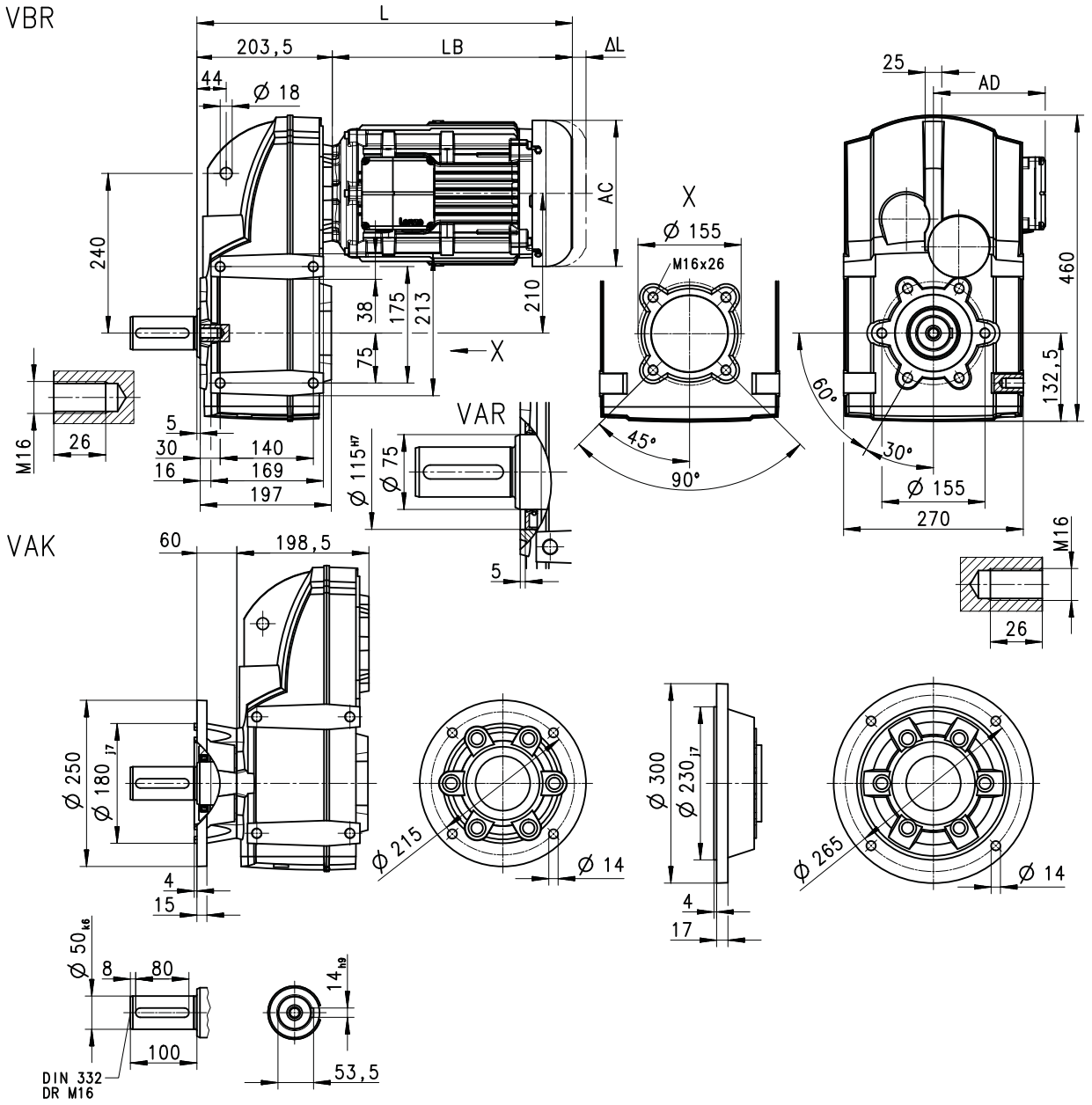


Motor series			m550-H		m550-P						
Motor			**063L4 063S4 063M4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**	**160M4 160L4**	**180M4 180L4**
Total length	L	mm	392	422	446	488	552	564	628	740	817
Motor length	LB	mm	189	218	242	285	348	361	425	536	614
Motor diameter	AC	mm	123	139	156	177	194	220	258	309	349
Motor/connection distance	AD	mm	117	129	145	153	164	169	197	250	272

Δ L ▸ Additional lengths 🕮 160

g500-S2100, 2-/3-stage

Gearbox design: Solid shaft, with foot (VBR/VAR/VAK)

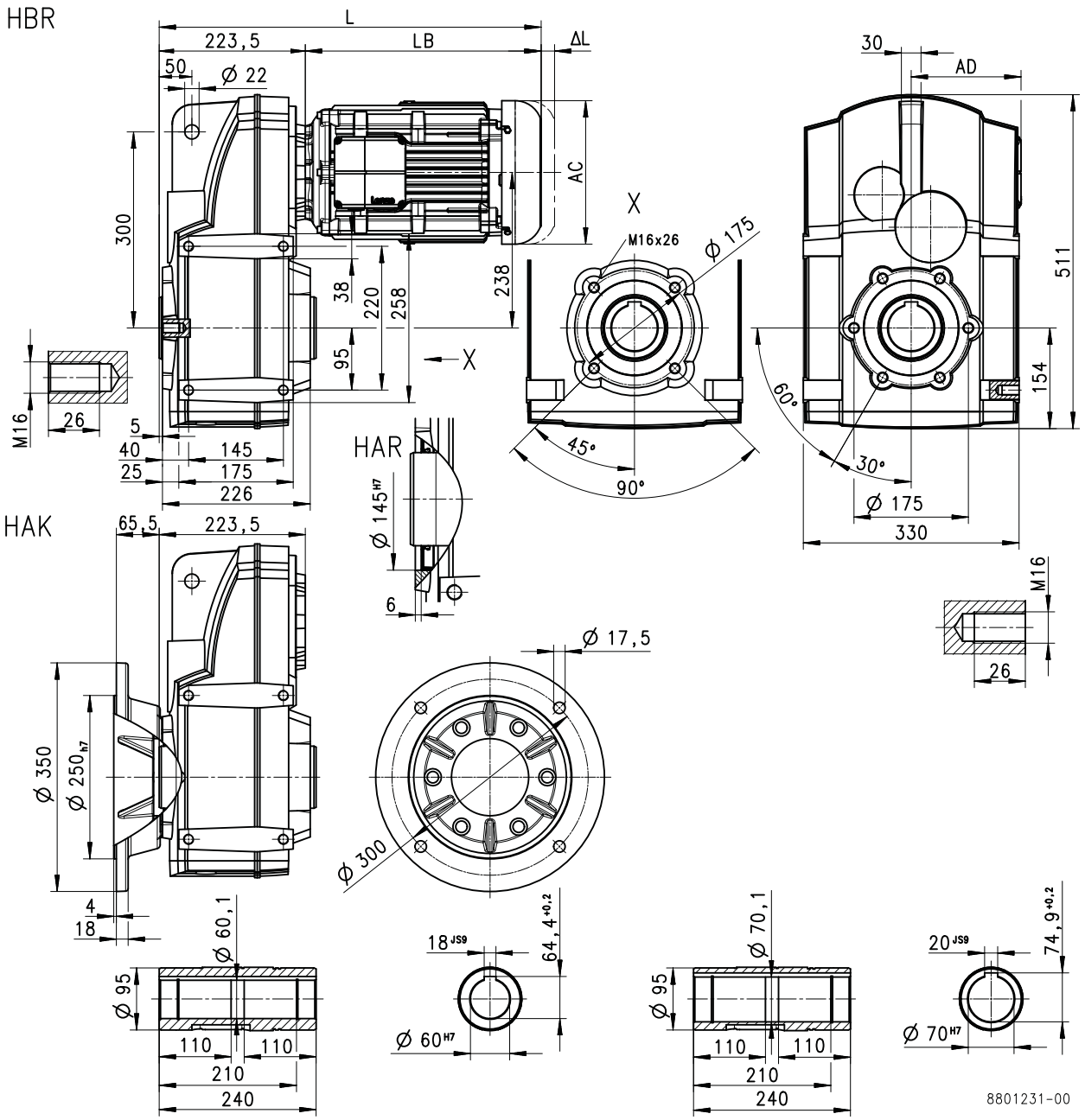


Motor series			m550-H		m550-P						
Motor			**063L4 063S4 063M4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**	**160M4 160L4**	**180M4 180L4**
Total length	L	mm	392	422	446	488	552	564	628	740	817
Motor length	LB	mm	189	218	242	285	348	361	425	536	614
Motor diameter	AC	mm	123	139	156	177	194	220	258	309	349
Motor/connection distance	AD	mm	117	129	145	153	164	169	197	250	272

Δ L ▸ Additional lengths 🕮 160

g500-S3100, 2-/3-stage

Gearbox design: Hollow shaft, with foot (HBR/HAR/HAK)

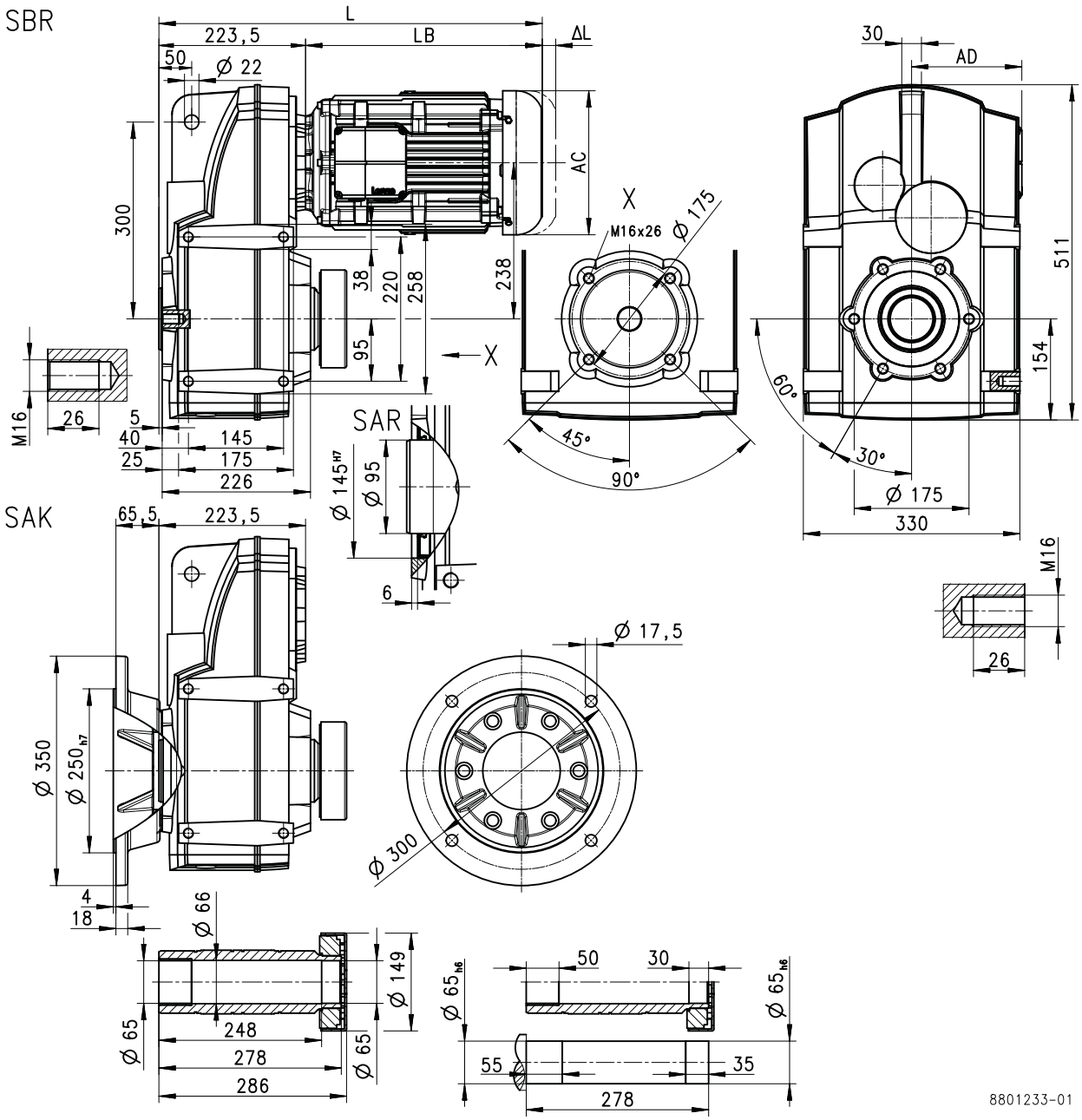


Motor series			m550-H		m550-P						
Motor			**063L4 063S4 063M4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**	**160M4 160L4**	**180M4 180L4**
Total length	L	mm	412	442	466	508	572	584	648	760	837
Motor length	LB	mm	189	218	242	285	348	361	425	536	614
Motor diameter	AC	mm	123	139	156	177	194	220	258	309	349
Motor/connection distance	AD	mm	117	129	145	153	164	169	197	250	272

Δ L ▸ Additional lengths 160

g500-S3100, 2-/3-stage

Gearbox design: Hollow shaft with shrink disc, with foot (SBR/SAR/SAK)

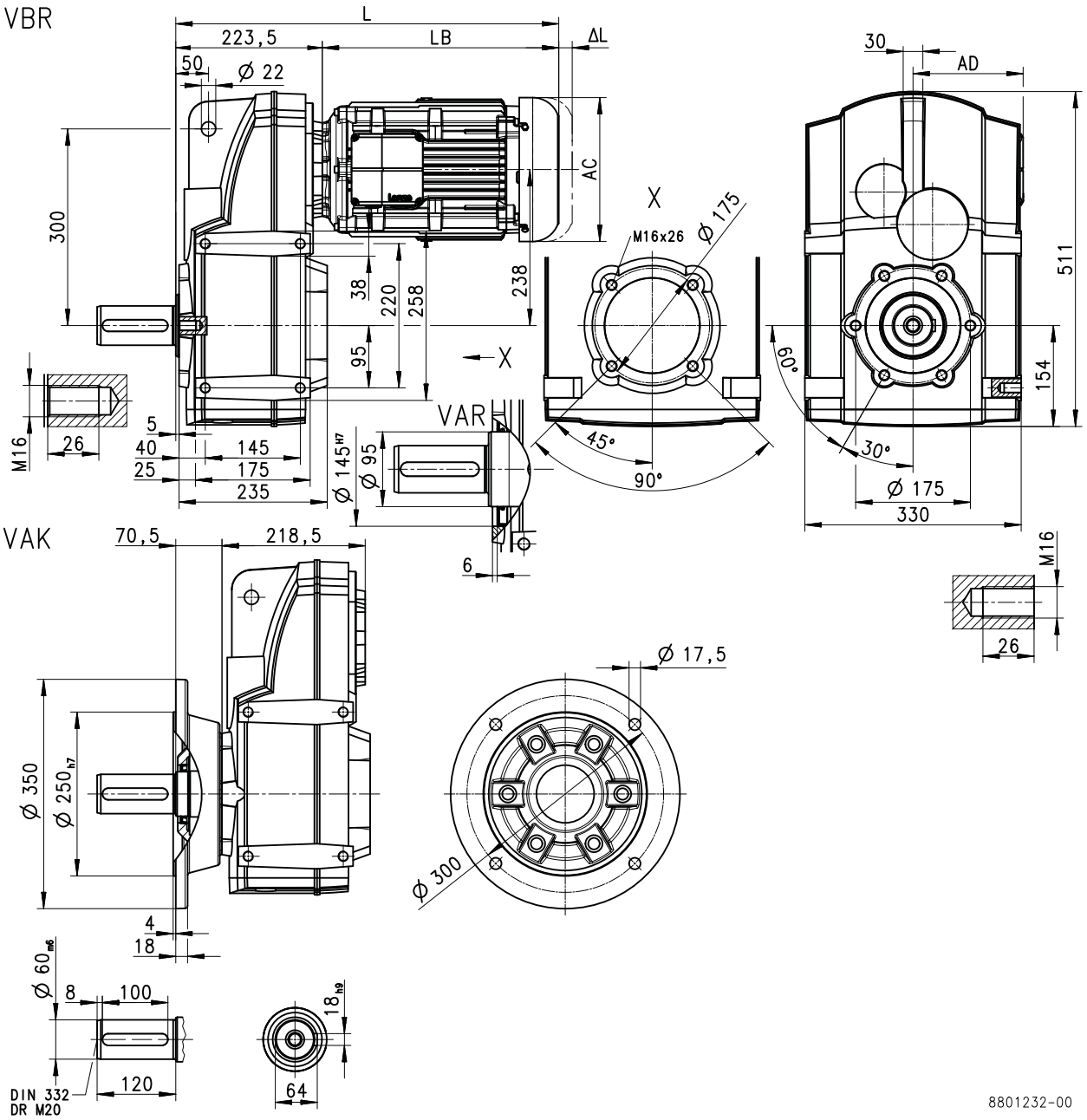


Motor series			m550-H		m550-P						
Motor			**063L4 063S4 063M4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**	**160M4 160L4**	**180M4 180L4**
Total length	L	mm	412	442	466	508	572	584	648	760	837
Motor length	LB	mm	189	218	242	285	348	361	425	536	614
Motor diameter	AC	mm	123	139	156	177	194	220	258	309	349
Motor/connection distance	AD	mm	117	129	145	153	164	169	197	250	272

Δ L ▸ Additional lengths 🕮 160

g500-S3100, 2-/3-stage

Gearbox design: Solid shaft, with foot (VBR/VAR/VAK)

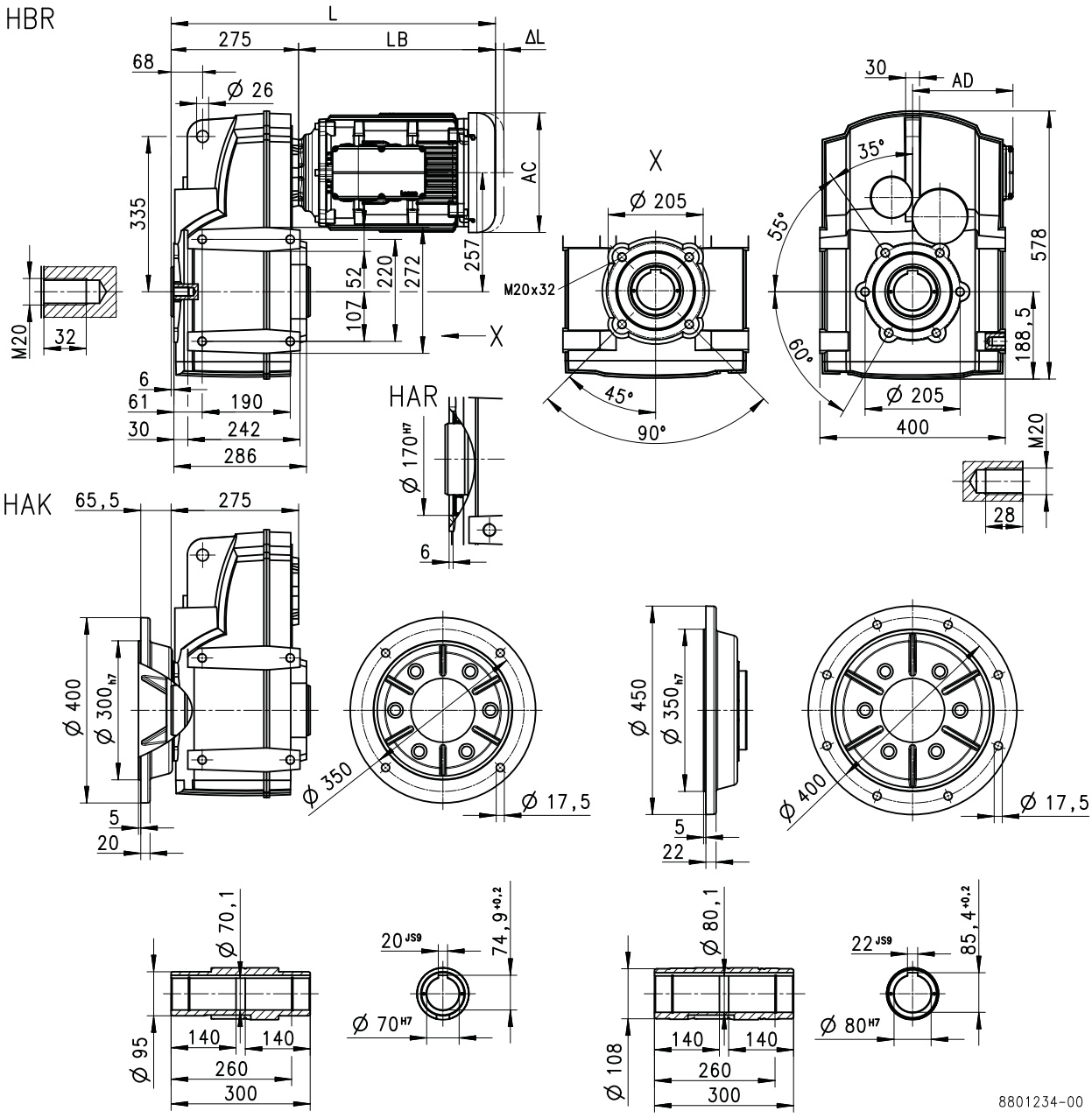


Motor series			m550-H		m550-P						
Motor			**063L4 063S4 063M4**	**071M4 071L4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**	**160M4 160L4**	**180M4 180L4**
Total length	L	mm	412	442	466	508	572	584	648	760	837
Motor length	LB	mm	189	218	242	285	348	361	425	536	614
Motor diameter	AC	mm	123	139	156	177	194	220	258	309	349
Motor/connection distance	AD	mm	117	129	145	153	164	169	197	250	272

Δ L ▸ Additional lengths 🕮 160

g500-S4500, 2-/3-stage

Gearbox design: Hollow shaft, with foot (HBR/HAR/HAK)

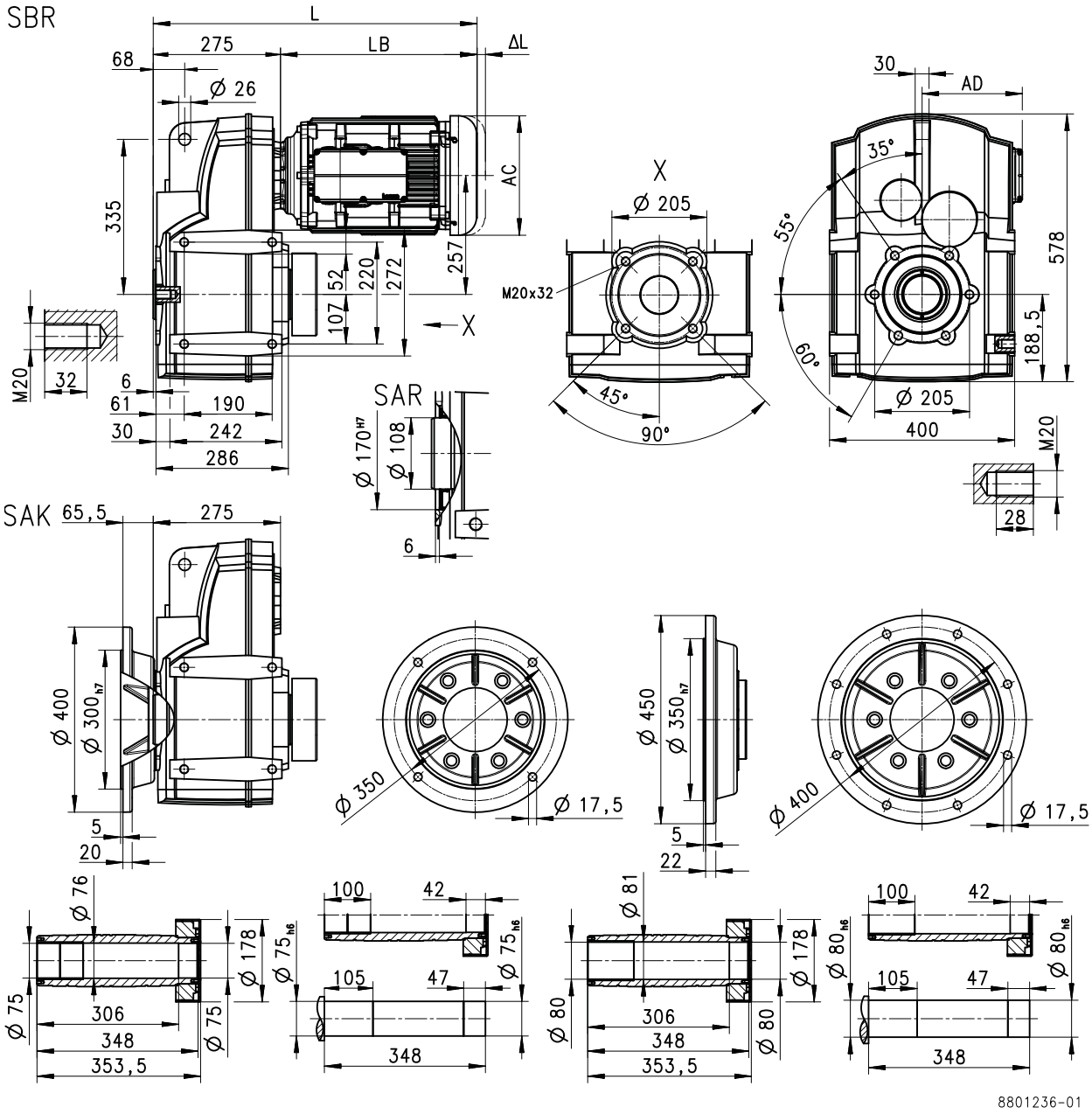


Motor series			m550-H		m550-P						
Motor			**063S4 063M4 063L4**	**071L4 071M4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**	**160M4 160L4**	**180M4 180L4**
Total length	L	mm	464	493	517	560	623	636	700	811	889
Motor length	LB	mm	189	218	242	285	348	361	425	536	614
Motor diameter	AC	mm	123	139	156	177	194	220	258	309	349
Motor/connection distance	AD	mm	117	129	145	153	164	169	197	250	272

Δ L ▸ Additional lengths 160

g500-S4500, 2-/3-stage

Gearbox design: Hollow shaft with shrink disc, with foot (SBR/SAR/SAK)

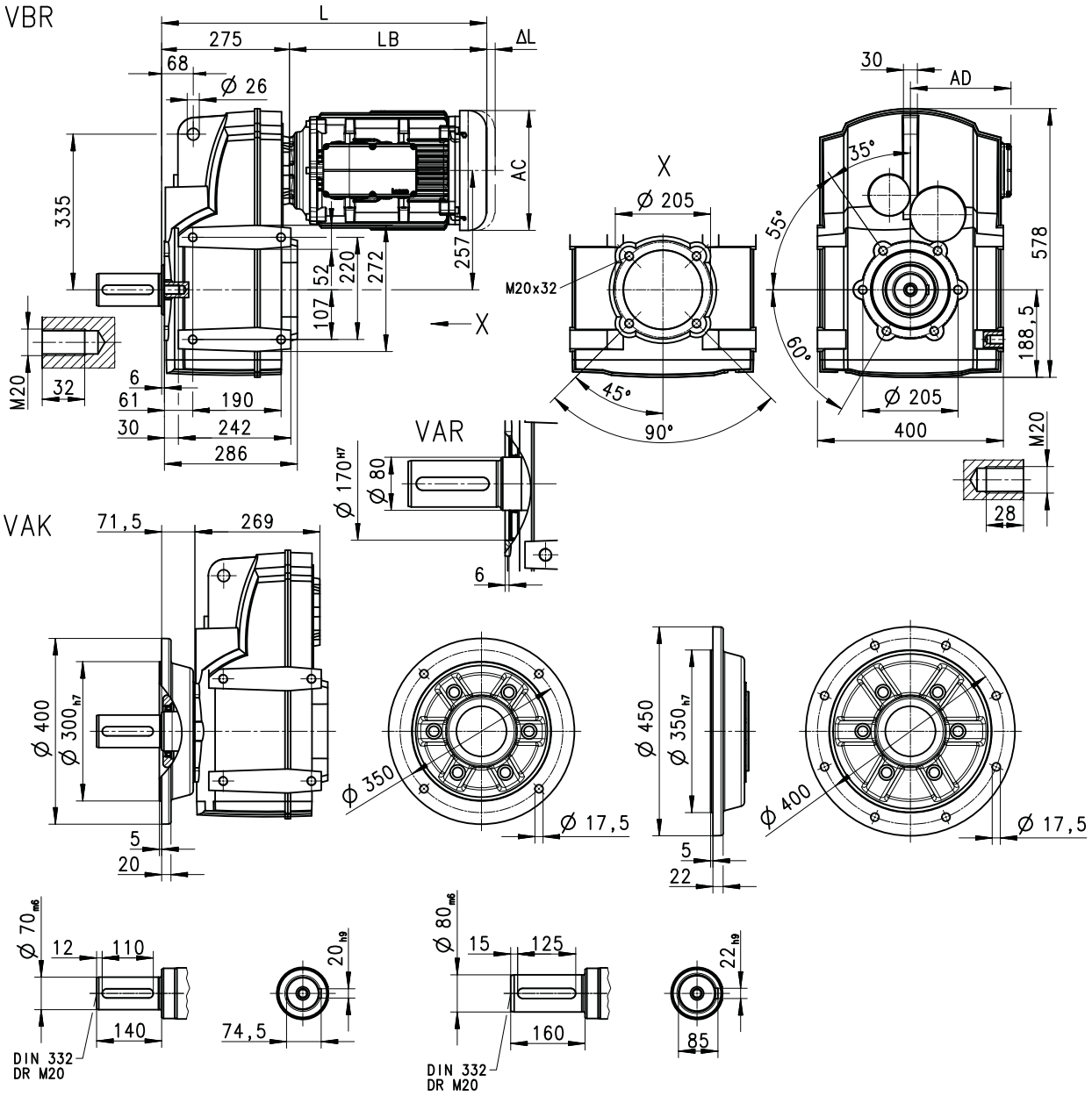


Motor series			m550-H		m550-P						
Motor			**063S4 063M4 063L4**	**071L4 071M4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**	**160M4 160L4**	**180M4 180L4**
Total length	L	mm	464	493	517	560	623	636	700	811	889
Motor length	LB	mm	189	218	242	285	348	361	425	536	614
Motor diameter	AC	mm	123	139	156	177	194	220	258	309	349
Motor/connection distance	AD	mm	117	129	145	153	164	169	197	250	272

Δ L ▸ Additional lengths 📖 160

g500-S4500, 2-/3-stage

Gearbox design: Solid shaft, with foot (VBR/VAR/VAK)



Motor series			m550-H		m550-P						
Motor			**063S4 063M4 063L4**	**071L4 071M4**	**080M4**	**090M4 090L4**	**100M4 100L4**	**112M4**	**132M4 132L4**	**160M4 160L4**	**180M4 180L4**
Total length	L	mm	464	493	517	560	623	636	700	811	889
Motor length	LB	mm	189	218	242	285	348	361	425	536	614
Motor diameter	AC	mm	123	139	156	177	194	220	258	309	349
Motor/connection distance	AD	mm	117	129	145	153	164	169	197	250	272

Δ L ▸ Additional lengths 160

7.7.2 Gearbox with pre-stage

g500-S130, 3-stage

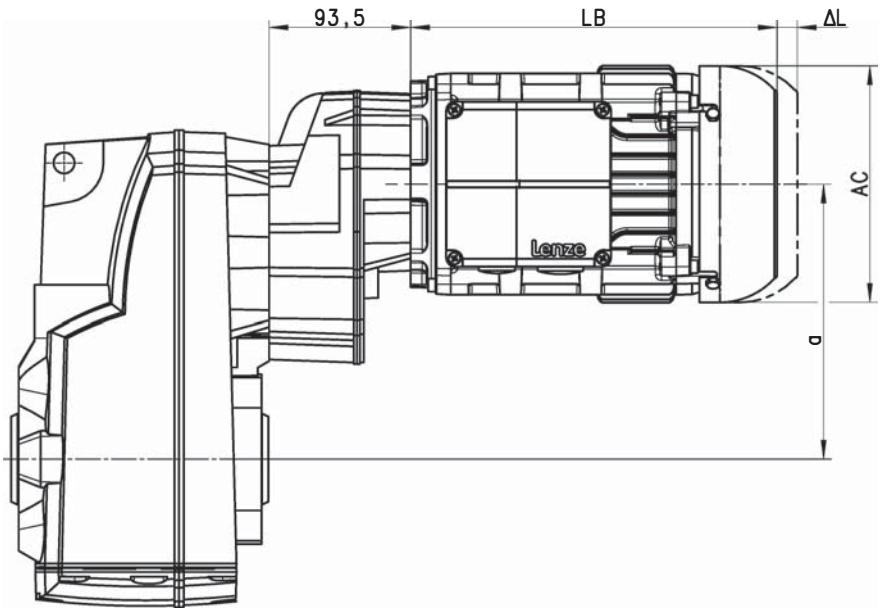
g500-S220 ... S4500, 4-stage

The geared motor dimensions can be found in the basic dimensions, except the total length "L" and the center distance "a".

▸ Basic dimensions 123

The total length "L" in the basic dimensions is extended by the 93.5 mm of the pre-stage.

Pay attention to the altered center distance "a" between the gearbox and motor shaft.



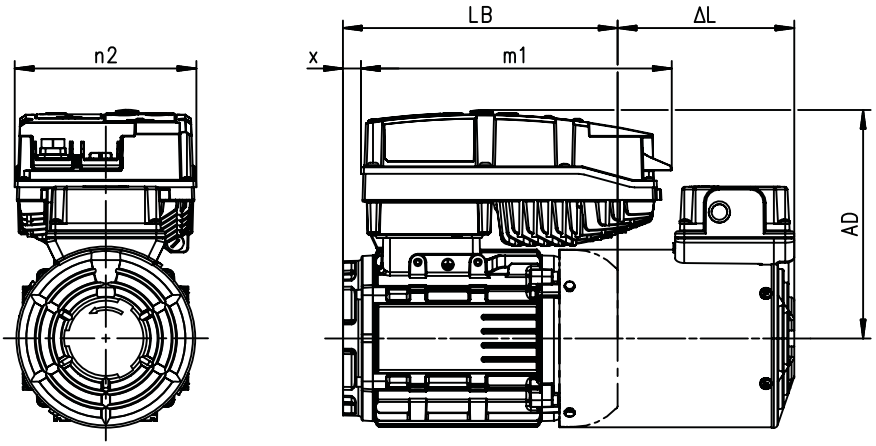
8801278-00

Gearboxes			S130	S220	S400	S660	S950	S2100	S3100	S4500
			3-stage	4-stage						
Center distance	a	mm	144	157	162	181	212	255	283	302

7.7.3 Integrated inverters

i550/i650 motec

Supply voltage 3x 230/240 V



8801670-1

Rated frequency 50/60 Hz

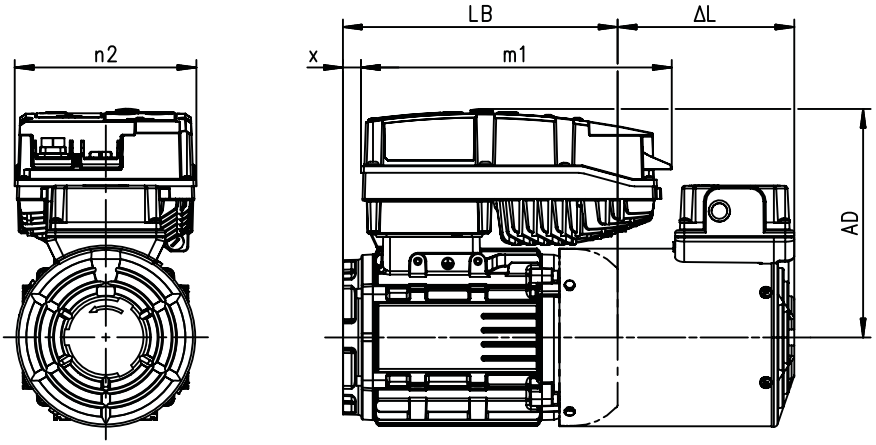
Motor	i550 motec	AD	m1	n2	x
		g_1	m_1	n_2	x
		mm	mm	mm	mm
m550-H63/L4	i550-M0.37/230-3	179	265	159	11
m550-H71/M4	i550-M0.37/230-3	190	265	159	21
m550-H71/L4	i550-M0.55/230-3	190	265	159	21
m550-P80/M4	i550-M0.75/230-3	203	265	159	25
m550-P90/M4	i550-M1.1/230-3	211	265	159	44
m550-P90/L4	i550-M1.5/230-3	229	265	159	44
m550-P100/M4	i550-M2.2/230-3	239	265	159	34
m550-P100/L4	i550-M3.0/230-3	239	265	159	34
m550-P112/M4	i550-M4.0/230-3	269	359	211	39
m550-P132/M4	i550-M5.5/230-3	289	359	211	48
m550-P132/L4	i550-M7.5/230-3	341	443	280	13

Motor	i650 motec	AD	m1	n2	x
		g_1	m_1	n_2	x
		mm	mm	mm	mm
m550-H63/L4	i650-M0.37/230-3	179	265	159	11
m550-H71/M4	i650-M0.37/230-3	190	265	159	21
m550-H71/L4	i650-M0.55/230-3	190	265	159	21
m550-P80/M4	i650-M0.75/230-3	203	265	159	25
m550-P90/M4	i650-M1.1/230-3	211	265	159	44
m550-P90/L4	i650-M1.5/230-3	229	265	159	44
m550-P100/M4	i650-M2.2/230-3	239	265	159	34
m550-P100/L4	i650-M3.0/230-3	239	265	159	34
m550-P112/M4	i650-M4.0/230-3	269	359	211	39
m550-P132/M4	i650-M5.5/230-3	289	359	211	48
m550-P132/L4	i650-M7.5/230-3	341	443	280	13

Dimensions LB and Δ L ▸ Basic dimensions 123

i550/i650 motec

Supply voltage 3x 400/480 V



8801670-1

Rated frequency 50/60 Hz

Motor	i550 motec	AD	m1	n2	x
		g_1	m_1	n_2	x
		mm	mm	mm	mm
m550-H63/L4	i550-M0.37/400-3	179	265	159	11
m550-H71/M4	i550-M0.37/400-3	190	265	159	21
m550-H71/L4	i550-M0.55/400-3	190	265	159	21
m550-P80/M4	i550-M0.75/400-3	203	265	159	25
m550-P90/M4	i550-M1.1/400-3	211	265	159	44
m550-P90/L4	i550-M1.5/400-3	211	265	159	44
m550-P100/M4	i550-M2.2/400-3	221	265	159	34
m550-P100/L4	i550-M3.0/400-3	239	265	159	34
m550-P112/M4	i550-M4.0/400-3	244	265	159	50
m550-P132/M4	i550-M5.5/400-3	264	265	159	59
m550-P132/L4	i550-M7.5/400-3	289	359	211	48

Motor	i650 motec	AD	m1	n2	x
		g_1	m_1	n_2	x
		mm	mm	mm	mm
m550-H63/L4	i650-M0.37/400-3	179	265	159	11
m550-H71/M4	i650-M0.37/400-3	190	265	159	21
m550-H71/L4	i650-M0.55/400-3	190	265	159	21
m550-P80/M4	i650-M0.75/400-3	203	265	159	25
m550-P90/M4	i650-M1.1/400-3	211	265	159	44
m550-P90/L4	i650-M1.5/400-3	211	265	159	44
m550-P100/M4	i650-M2.2/400-3	221	265	159	34
m550-P100/L4	i650-M3.0/400-3	239	265	159	34
m550-P112/M4	i650-M4.0/400-3	244	265	159	50
m550-P132/M4	i650-M5.5/400-3	264	265	159	59
m550-P132/L4	i650-M7.5/400-3	289	359	211	48

Rated frequency 87 Hz

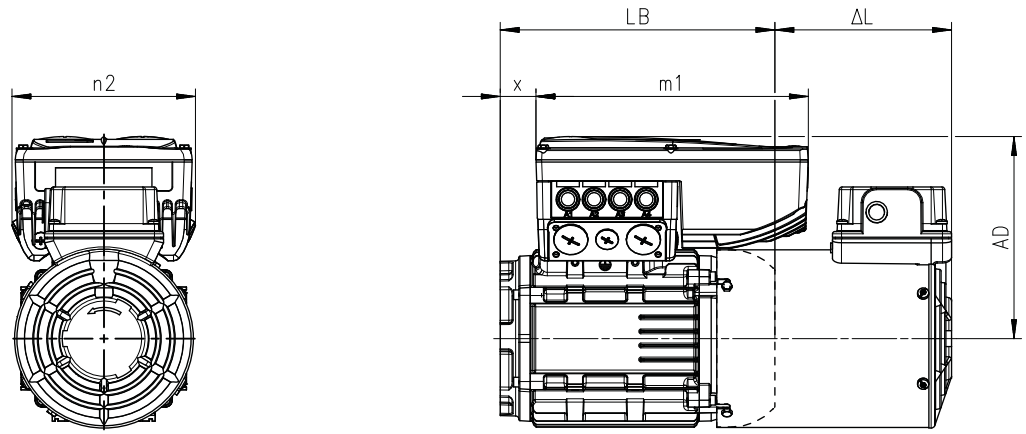
Motor	i550 motec	AD	m1	n2	x
		g_1	m_1	n_2	x
		mm	mm	mm	mm
m550-H63/S4	i550-M0.37/400-3	179	265	159	11
m550-H63/M4	i550-M0.37/400-3	179	265	159	11
m550-H63/L4	i550-M0.55/400-3	179	265	159	11
m550-H71/M4	i550-M0.75/400-3	190	265	159	21
m550-H71/L4	i550-M1.1/400-3	190	265	159	21
m550-P80/M4	i550-M1.5/400-3	203	265	159	25
m550-P90/M4	i550-M2.2/400-3	211	265	159	44
m550-P90/L4	i550-M3.0/400-3	229	265	159	44
m550-P100/M4	i550-M4.0/400-3	239	265	159	34
m550-P100/L4	i550-M5.5/400-3	239	265	159	34
m550-P112/M4	i550-M7.5/400-3	269	359	211	39
m550-P132/M4	i550-M11/400-3	-	-	-	-
m550-P132/L4	i550-M15/400-3	-	-	-	-

Motor	i650 motec	AD	m1	n2	x
		g_1	m_1	n_2	x
		mm	mm	mm	mm
m550-H63/S4	i650-M0.37/400-3	179	265	159	11
m550-H63/M4	i650-M0.37/400-3	179	265	159	11
m550-H63/L4	i650-M0.55/400-3	179	265	159	11
m550-H71/M4	i650-M0.75/400-3	190	265	159	21
m550-H71/L4	i650-M1.1/400-3	190	265	159	21
m550-P80/M4	i650-M1.5/400-3	203	265	159	25
m550-P90/M4	i650-M2.2/400-3	211	265	159	44
m550-P90/L4	i650-M3.0/400-3	229	265	159	44
m550-P100/M4	i650-M4.0/400-3	239	265	159	34
m550-P100/L4	i650-M5.5/400-3	239	265	159	34
m550-P112/M4	i650-M7.5/400-3	269	359	211	39
m550-P132/M4	i650-M11/400-3	-	-	-	-
m550-P132/L4	i650-M15/400-3	-	-	-	-

Dimensions LB and Δ L ▸ Basic dimensions 123

8400 motec

Supply voltage 3x 400/480 V



8801071_00

Rated frequency 50/60 Hz

Motor	8400 motec	AD	m1	n2	x
		g_1	m_1	n_2	x
		mm	mm	mm	mm
m550-H63/L4	E84DVB☐3714S☐☐☐2☐	151	240	161	32
m550-H71/M4	E84DVB☐3714S☐☐☐2☐	172	240	161	41
m550-H71/L4	E84DVB☐5514S☐☐☐2☐	172	240	161	41
m550-P80/M4	E84DVB☐7514S☐☐☐2☐	178	240	161	45
m550-P90/M4	E84DVB☐1124S☐☐☐2☐	186	240	161	64
m550-P90/L4	E84DVB☐1524S☐☐☐2☐	186	240	161	64
m550-P100/M4	E84DVB☐2224S☐☐☐2☐	225	260	176	46
m550-P100/L4	E84DVB☐3024S☐☐☐2☐	225	260	176	46
m550-P112/M4	E84DVB☐4024S☐☐☐2☐	284	325	195	50
m550-P132/M4	E84DVB☐5524S☐☐☐2☐	304	325	195	59
m550-P132/L4	E84DVB☐7524S☐☐☐2☐	304	325	195	59

Rated frequency 87 Hz

Motor	8400 motec	AD	m1	n2	x
		g_1	m_1	n_2	x
		mm	mm	mm	mm
m550-H63/S4	E84DVB☐3714S☐☐☐2☐	151	240	161	32
m550-H63/M4	E84DVB☐3714S☐☐☐2☐	151	240	161	32
m550-H63/L4	E84DVB☐5514S☐☐☐2☐	151	240	161	32
m550-H71/M4	E84DVB☐7514S☐☐☐2☐	172	240	161	41
m550-H71/L4	E84DVB☐1124S☐☐☐2☐	172	240	161	41
m550-P80/M4	E84DVB☐1524S☐☐☐2☐	178	240	161	45
m550-P90/M4	E84DVB☐2224S☐☐☐2☐	186	260	176	56
m550-P90/L4	E84DVB☐3024S☐☐☐2☐	186	260	176	56
m550-P100/M4	E84DVB☐4024S☐☐☐2☐	279	325	195	34
m550-P100/L4	E84DVB☐5524S☐☐☐2☐	279	325	195	34
m550-P112/M4	E84DVB☐7524S☐☐☐2☐	284	325	195	50

Dimensions LB and Δ L ▸ Basic dimensions 123

7.7.4 Additional lengths

Self-ventilated motors

Motor			m550-H		m550-P						
			63/S4	71/M4	80/M4	90/M4	100/M4	112/M4	132/M4	160/M4	180/M4
			63/M4	71/L4		90/L4	100/L4		132/L4	160/L4	180/L4
			63/L4								
Without feedback/brake											
IP54/IP55 protection	Δ L	mm	0	0	0	0	0	0	0	0	0
IP65/IP66 protection	Δ L	mm	23	9	7	7	13	0	9	14	9
With integrated feedback											
IP54/IP55 protection	Δ L	mm	23	9	7	7	13	0	9	14	9
IP65/IP66 protection	Δ L	mm	23	9	7	7	13	0	9	14	9
With mounted feedback											
IP54/IP55 protection	Δ L	mm	85	75	68	63	74	77	91	109	118
IP65/IP66 protection	Δ L	mm	85	75	68	63	74	77	91	109	118
With spring-applied brake											
IP54/IP55 protection	Δ L	mm	61	60	68	63	74	77	91	109	118
IP65/IP66 protection	Δ L	mm	135	128	136	131	145	-	-	-	-
With spring-applied brake and integrated feedback											
IP54/IP55 protection	Δ L	mm	61	60	68	63	74	77	91	109	118
IP65/IP66 protection	Δ L	mm	135	128	136	131	145	-	-	-	-
With spring-applied brake and mounted feedback											
IP54/IP55 protection	Δ L	mm	135	128	136	131	145	148	162	195	195
IP65/IP66 protection	Δ L	mm	135	128	136	131	145	-	-	-	-
With spring-applied double brake											
IP54/IP55 protection	Δ L	mm	-	-	-	-	-	-	-	298	313
With spring-applied double brake and mounted feedback											
IP54/IP55 protection	Δ L	mm	-	-	-	-	-	-	-	298	313

▸ Protection cover 📖 240

▸ Second shaft end 📖 242

▸ Handwheel 📖 243

Forced ventilated motors

Motor			m550-H		m550-P						
			63/S4	71/M4	80/M4	90/M4	100/M4	112/M4	132/M4	160/M4	180/M4
			63/M4	71/L4		90/L4	100/L4		132/L4	160/L4	180/L4
			63/L4								
Without feedback/brake											
IP54/IP55 protection	Δ L	mm	110	102	98	104	105	92	121	158	149
IP65/IP66 protection	Δ L	mm	110	102	98	104	105	92	121	158	149
With integrated feedback											
IP54/IP55 protection	Δ L	mm	110	102	98	104	105	92	121	158	149
IP65/IP66 protection	Δ L	mm	110	102	98	104	105	92	121	158	149
With mounted feedback											
IP54/IP55 protection	Δ L	mm	171	167	156	159	166	169	202	252	257
IP65/IP66 protection	Δ L	mm	171	167	156	159	166	169	202	252	257
With spring-applied brake											
IP54/IP55 protection	Δ L	mm	171	152	156	159	166	169	202	252	257
IP65/IP66 protection	Δ L	mm	217	221	216	227	236	-	-	-	-
With spring-applied brake and integrated feedback											
IP54/IP55 protection	Δ L	mm	171	152	156	159	166	169	202	252	257
IP65/IP66 protection	Δ L	mm	217	221	216	227	236	-	-	-	-
With spring-applied brake and mounted feedback											
IP54/IP55 protection	Δ L	mm	217	221	216	227	236	245	283	343	342
IP65/IP66 protection	Δ L	mm	217	221	216	227	236	-	-	-	-
With spring-applied double brake											
IP54/IP55 protection	Δ L	mm	-	-	-	-	-	-	-	446	460
With spring-applied double brake and mounted feedback											
IP54/IP55 protection	Δ L	mm	-	-	-	-	-	-	-	446	460

▸ Protection cover 🕮 240

7.8 Weights

7.8.1 Basic weights

The basic weights are listed in the selection tables.

Weights with lubricant for mounting position M1, all data approximate values. The exact values can be found in the delivery documents

▸ Selection tables 📖 78

Observe ▸ Additional weights 📖 163!

7.8.2 Additional weights

Add the individual additional weights to the basic weight depending on the design.

Gearboxes

Gearboxes			g500-S130	g500-S220	g500-S400	g500-S660
Solid shaft	m	kg	0.5	0.5	1.7	2.5
Shrink disc	m	kg	0.2	0.4	0.6	0.6
Foot	m	kg	1.7	1.8	3.3	4.3
Flange	m	kg	0.4	0.4	0.9	1.7
Torque plate						
Rubber buffers	m	kg	0.1	0.1	0.1	0.1
Shaft cover						
Shrink disc cover	m	kg	0.1	0.1	0.1	0.1

Gearboxes			g500-S950	g500-S2100	g500-S3100	g500-S4500
Solid shaft	m	kg	3.0	5.5	8.4	19.0
Shrink disc	m	kg	1.2	1.7	2.3	4.3
Foot	m	kg		-	-	-
Flange	m	kg	6.0	11.5	15.0	29.0
Torque plate						
Rubber buffers	m	kg	0.1	0.5	0.5	0.5
Shaft cover						
Shrink disc cover	m	kg	0.1	0.2	0.3	0.4

Motors

Motor			m550-H		m550-P						
			63/S4 63/M4 63/L4	71/M4 71/L4	80/M4	90/M4 90/L4	100/M4 100/L4	112/M4	132/M4 132/L4	160/M4 160/L4	180/M4 180/L4
Self-ventilated fan cover											
Prepared for product extension											
Spring-applied brake Feedback 2. Shaft end/hand wheel	m	kg	0.4	0.4	0.5	0.6	0.7	0.8	1.0	1.8	2.0
Spring-applied double brake Spring-applied double brake with feedback	m	kg	-	-	-	-	-	-	-	2.7	3.2
Blower											
Without product extension	m	kg	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	1.0
Prepared for product extension											
Spring-applied brake Feedback	m	kg	0.6	0.6	0.7	0.8	0.9	1.0	1.3	1.8	3.3
Spring-applied double brake Spring-applied double brake with feedback	m	kg	-	-	-	-	-	-	-	2.9	4.8
Spring-applied brake											
06	m	kg	1.5	1.5							
08	m	kg		2.2	2.2	2.2					
10	m	kg				3.9	3.9				
12	m	kg					5.6	5.6			
14	m	kg						8.5	8.5		
16	m	kg							13.1	13.1	
18	m	kg								19.1	19.1
20	m	kg									25.7
Brake release lever	m	kg	0.1	0.1	0.2	0.2	0.2	0.4	0.5	0.9	1.4
Spring-applied double brake											
18	m	kg	-	-	-	-	-	-	-	33.2	33.2
20	m	kg	-	-	-	-	-	-	-	-	52.2
Brake release lever	m	kg	-	-	-	-	-	-	-	0.4	0.5
Feedback	m	kg	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Protection cover	m	kg	0.2	0.3	0.3	0.4	0.5	0.7	1.3	1.6	2.0
2nd shaft end	m	kg	0.2	0.3	0.3	0.3	0.4	0.4	0.6	-	-
Handwheel	m	kg	0.3	0.7	0.7	0.7	0.8	0.8	1.0	-	-

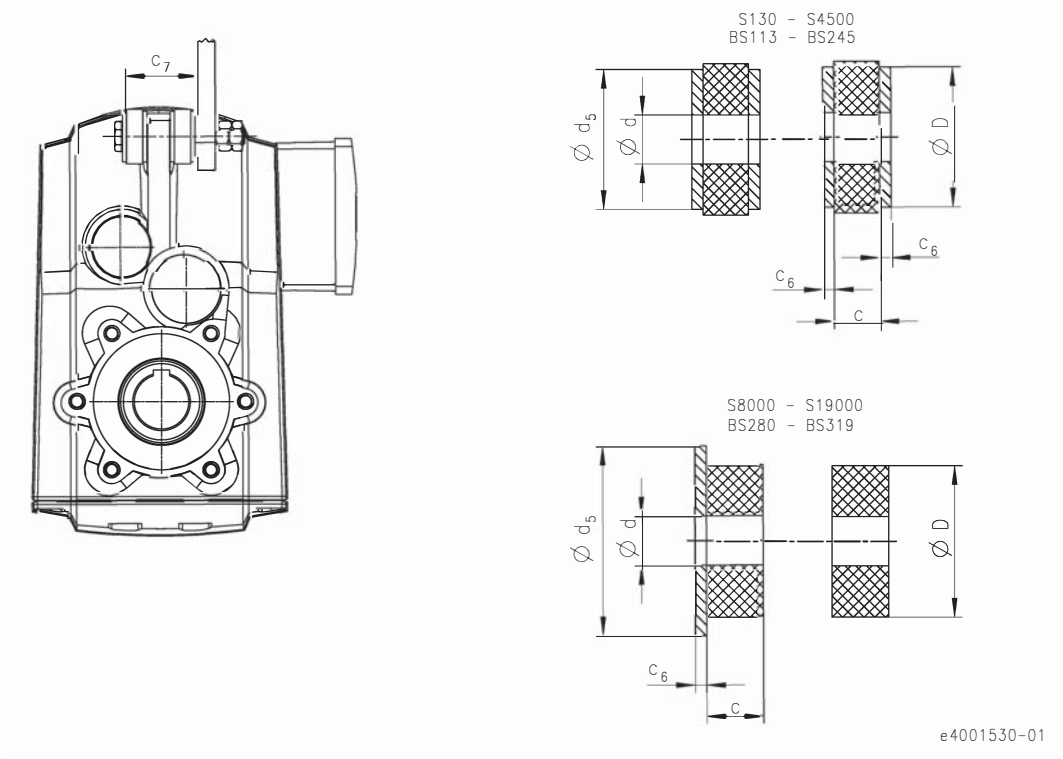
8 Product extensions

8.1 Torque plates

Torque support is usually provided by means of the foot or flange.

The integrated torque plate is another simple possibility. In this case, torque support is provided only via one point and is suitable for shaft-mounted gearboxes, among other things. Moreover, suitable rubber buffers ensure stress-free installation and absorb any slight impacts.

Rubber buffer for torque plate

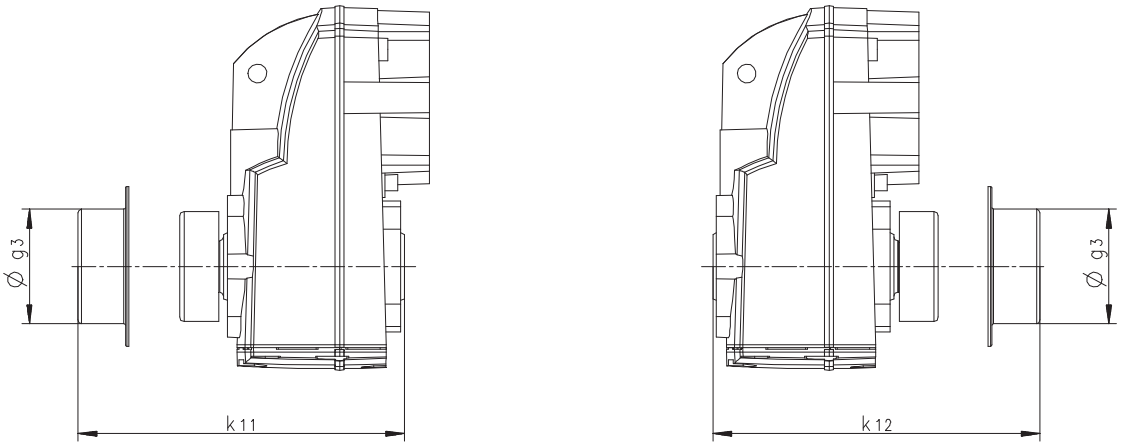


Gearboxes	Dimensions					
	d	D	d_5	c	c_6	c_7
	mm	mm	mm	mm	mm	mm
g500-S130	11.0	30.0	30	12.0	2.50	45.0
g500-S220	11.0	30.0	30	12.0	2.50	45.0
g500-S400	13.0	40,0	37	12.0	3.00	49.0
g500-S660	13.0	40,0	37	12.0	3.00	52.0
g500-S950	13.0	40,0	37	12.0	3.00	56.0
g500-S2100	17.0	50.0	50	24.0	3.00	85.0
g500-S3100	21.0	60.0	60	24.0	4.00	94.0
g500-S4500	26.0	72.0	72	24.0	5.00	98.0

8.2 Shaft covers

The shrink disc cover is provided for the shrink disc to be protected from contact.

Shrink disc cover



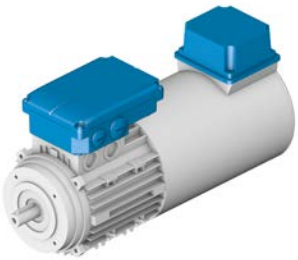
Gearboxes	Dimensions		
	G_3	k_{11}	k_{12}
	mm	mm	mm
g500-S130	63.0	132	132
g500-S220	76.0	152	152
g500-S400	90.0	182	182
g500-S660	90.0	200	202
g500-S950	110	219	219
g500-S2100	127	252	252
g500-S3100	155	290	290
g500-S4500	188	355	357

8.3 Motor connection

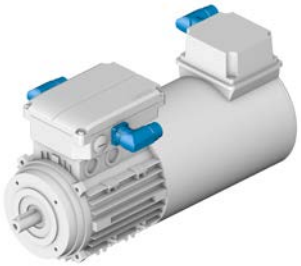
8.3.1 Connection options

The motor are equipped with a terminal box by default.

Alternatively, different connectors can be selected for fast commissioning or maintenance.



Terminal box with cable gland



Terminal box with M23 connector

Han connector

The three-phase AC motors are intended for operation on constant mains and an inverter.

Mains operation

For mains operation, the motors are available in the following mains voltages:

Mains frequency	Mains voltage	Mains voltage range	Circuit
Hz	V	V	
50	400	380 ... 420	Y
	230	220 ... 240	Δ
60	460	440 ... 480	Y

The motors are rated for the specified mains voltage range.

According to EN 60034-1, the motors operate reliably in continuous operation at ±5 % of the line voltage range. This ensures reliable operation in the recommended range ±10 % of the IEC standard voltages 230 V, 400 V and 460 V.

Frequency inverter operation

The base frequencies for frequency inverter operation have been set to the following rated voltages:

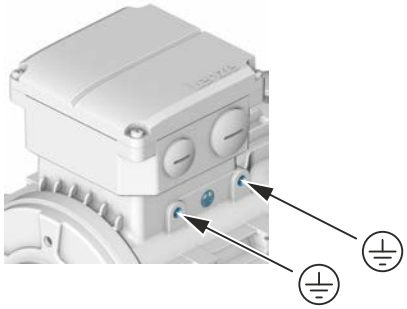
Rated frequency	Rated voltage	Circuit
Hz	V	
50	400	Y
	230	Δ
87	400	Δ

Second ground connection on the motor

According to the EN 61800-5-1 standard, additional measures are required for the protective earth connection if the leakage current is greater than 3.5 mA for alternating current or greater than 10 mA for direct current.

▸ Important notes 🕮 51

A possible measure is the execution via a second ground connection.



Scope of delivery when a second ground connection is selected:

- Toothed lock washer
- Washer
- Fixing screw

An additional grounding cable is not included in the scope of delivery.

The dimensioning of the grounding is done by the customer.

8.3.2 Assignment of the terminal boxes

Depending on the product extension of the motor, different terminal box sizes (S, M or L) are used.

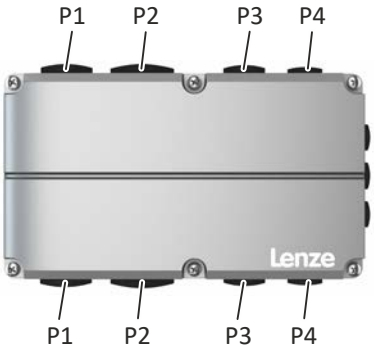
The M23 and M12 connectors are mounted on the terminal boxes (S,M and L) in the positions described. The connector for the separate fan connection is located on the separate fan terminal box.

When brake monitoring is selected, the motor is always supplied with the L terminal box.

Terminal box S

Terminal box M

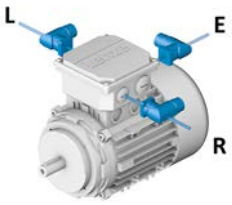
Terminal box L



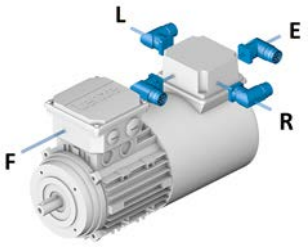
Motor	m550-H		m550-P						
	63/S4 63/M4 63/L4	71/M4 71/L4	80/M4	90/M4 90/L4	100/M4 100/L4	112/M4	132/M4 132/L4	160/M4 160/L4	180/M4 180/L4
Without product extensions									
Terminal box	S	S	S	S	S	S	L	L	L
Power: M23 connector	P1	P1	P1	P1	P1	P1	P1	-	-
Product extension - brake									
Terminal box	M	M	M	M	M	M	L	L	L
Power + brake: M23 connector	P2	P2	P1	P1	P1	P1	P1	-	-
Product extension - feedback									
Terminal box	M	M	M	M	M	M	L	L	L
Power: M23 connector	P2	P2	P1	P1	P1	P1	P1	-	-
Feedback: M23 connector	P2	P2	P2	P2	P2	P2	P3	P3	P3
Feedback: M12 connector	P1	P1	P2	P2	P2	P2	P4	P4	P4
Product extension - brake + feedback									
Terminal box	L	L	L	L	L	L	L	L	L
Power + brake: M23 connector	P1	P1	P1	P1	P1	P1	P1	-	-
Feedback: M23 connector	P3	P3	P3	P3	P3	P3	P3	P3	P3
Feedback: M12 connector	P4	P4	P4	P4	P4	P4	P4	P4	P4
Product extension - separate fan									
M17 connector	●	●	●	●	●	●	●	●	●

Connection positions

Positions on the motor terminal box

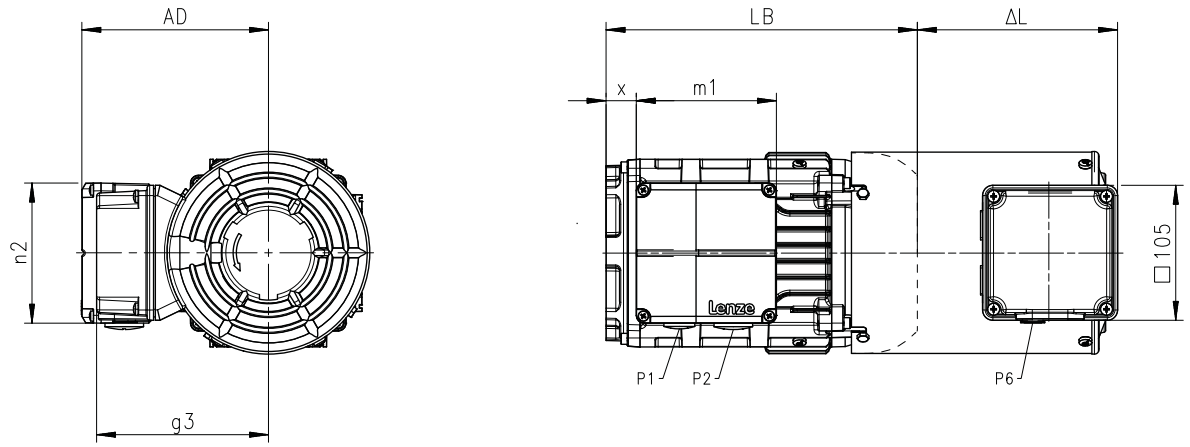


Positions on the blower terminal box



Terminal box	Positions	Note
Motor terminal box S		
Cable glands	L, E or R	
M23 connector: Power	L, E or R	
Motor terminal box M		
Cable glands	L and R	
M23 connector: Power/brake Feedback	L or R R or L	The feedback connector is on the opposite side to the power connector.
M12 connector: Feedback	R or L	
Motor terminal box L		
Cable glands	L and R	
M23 connector: Power/brake Feedback	L or R L or R	The connectors for power/brake and feedback can be arranged on the same or on the opposite side
M12 connector: Feedback	L or R	
Blower terminal box		
Cable glands	L, E or R	
M23 connector	L, E or R	

Power terminal box “S” dimensions



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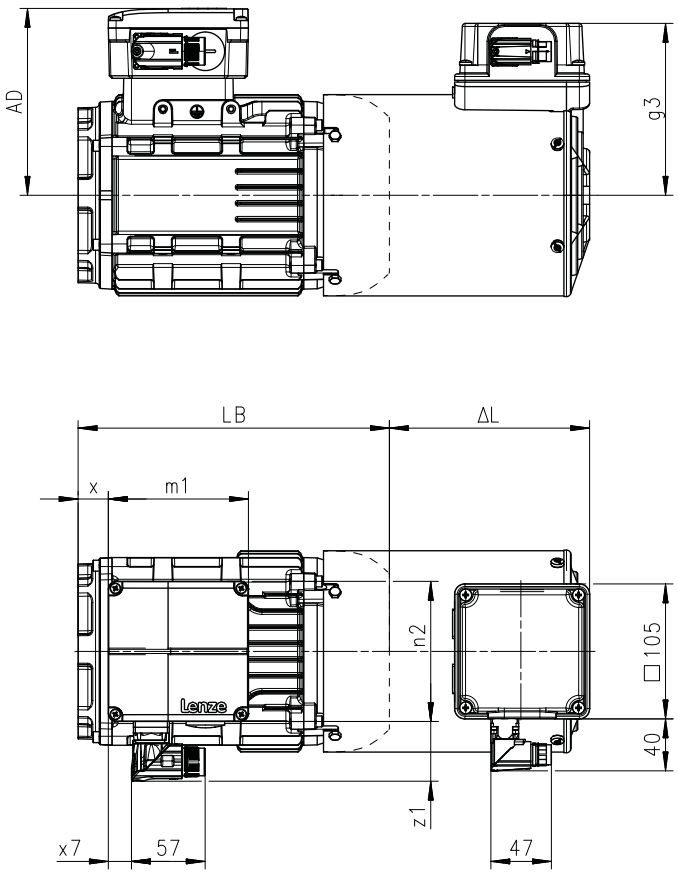
Motor		m550-H		m550-P			
		63/S4 63/M4 63/L4	71/M4 71/L4	80/M4	90/M4 90/L4	100/M4 100/L4	112/M4
Motor terminal box							
AD	mm	117	128	145	153	163	168
x	mm	22	17	24	30	39	45
m_1	mm	87	87	109	109	109	109
n_2	mm	87	87	109	109	109	109
P_1	mm	M20x1.5	M20x1.5	M20x1.5	M20x1.5	M20x1.5	M20x1.5
P_2	mm	-	-	M25x1.5	M25x1.5	M25x1.5	M25x1.5
Blower terminal box							
G_3	mm	118	124	134	143	152	164
P_6	mm	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5

Dimensions LB ▸ Basic dimensions 123

Dimensions Δ L ▸ Additional lengths 160

Power terminal box “S” dimensions with M23 connector



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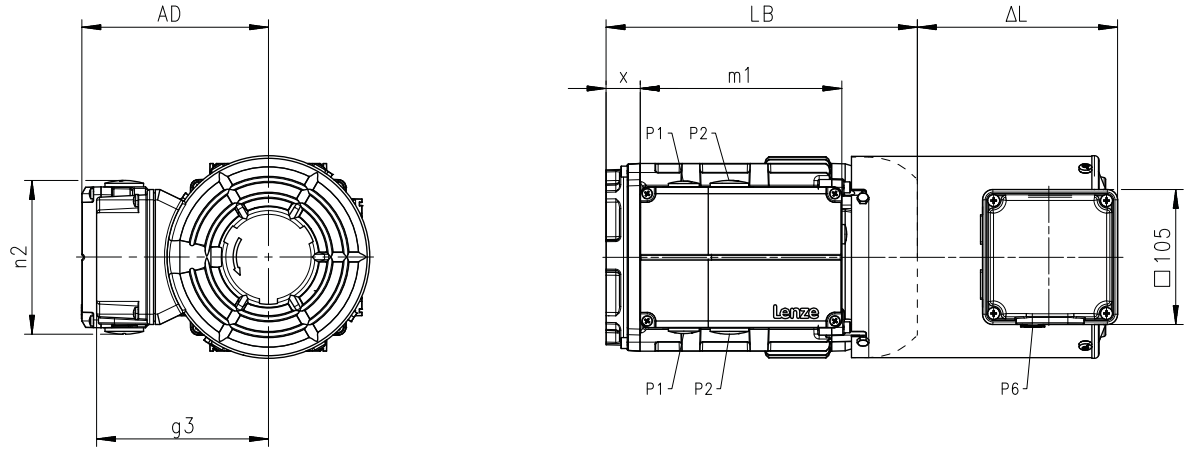
Motor		m550-H		m550-P			
		63/S4 63/M4 63/L4	71/M4 71/L4	80/M4	90/M4 90/L4	100/M4 100/L4	112/M4
Motor terminal box							
AD	mm	117	128	145	153	163	168
x	mm	22	17	24	30	39	45
m_1	mm	87	87	109	109	109	109
n_2	mm	87	87	109	109	109	109
M23 connector Power							
x_7	mm	13	13	18	18	18	18
z_1	mm	42	42	42	42	42	42
Blower terminal box							
G_3	mm	118	124	134	143	152	164

Dimensions LB ▸ Basic dimensions 123

Dimensions Δ L ▸ Additional lengths 160

Power terminal box “M” dimensions



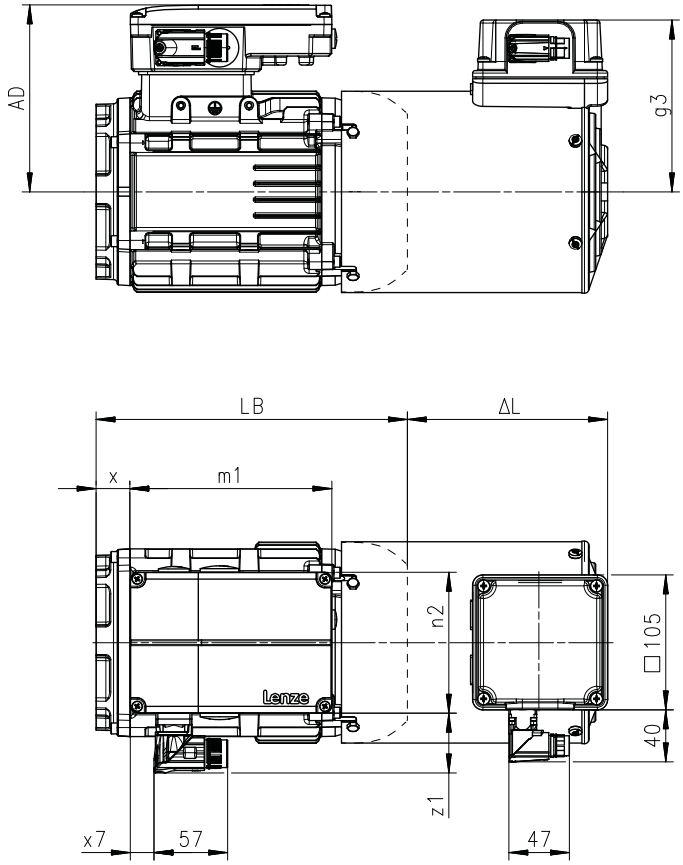
8801073_00

Motor		m550-H		m550-P			
		63/S4 63/M4 63/L4	71/M4 71/L4	80/M4	90/M4 90/L4	100/M4 100/L4	112/M4
Motor terminal box							
AD	mm	113	124	145	153	163	168
x	mm	21	16	27	34	43	49
m_1	mm	141	141	157	157	157	157
n_2	mm	110	110	110	110	110	110
P_1	mm	M16x1.5	M16x1.5	M20x1.5	M20x1.5	M20x1.5	M20x1.5
P_2	mm	M20x1.5	M20x1.5	M25x1.5	M25x1.5	M25x1.5	M25x1.5
Blower terminal box							
G_3	mm	118	124	134	143	152	164
P_6	mm	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5

Dimensions LB ▸ Basic dimensions 123

Dimensions Δ L ▸ Additional lengths 160

Power terminal box “M” dimensions with M23 connector



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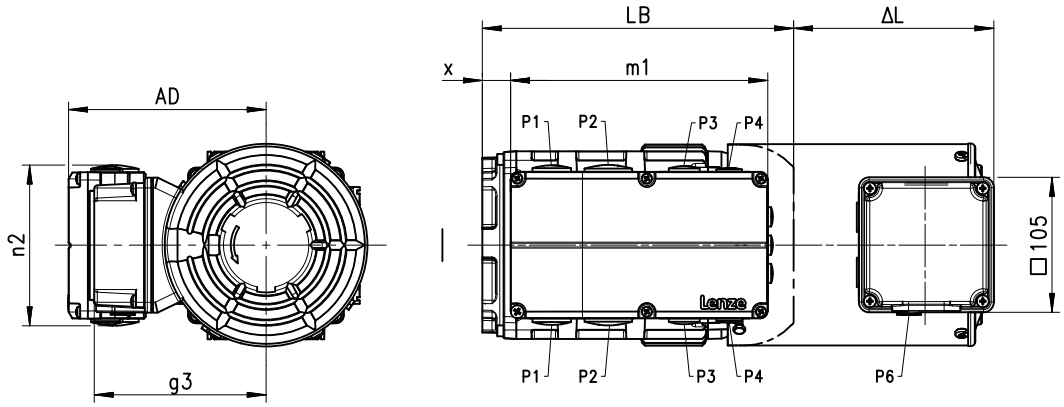
Motor		m550-H		m550-P			
		63/S4 63/M4 63/L4	71/M4 71/L4	80/M4	90/M4 90/L4	100/M4 100/L4	112/M4
Motor terminal box							
AD	mm	113	124	145	153	163	168
x	mm	21	16	27	34	43	49
m_1	mm	141	141	157	157	157	157
n_2	mm	110	110	110	110	110	110
M23 connector Power/brake							
x_7	mm	45.3	45.3	18	18	18	18
z_1	mm	42	42	42	42	42	42
M23 connector Feedback							
x_7	mm	45.3	45.3	53.5	53.5	53.5	53.5
z_1	mm	42	42	46	46	46	46
Blower terminal box							
G_3	mm	118	124	134	143	152	164

Dimensions LB ▸ Basic dimensions 🕮 123

Dimensions Δ L ▸ Additional lengths 🕮 160

Power terminal box “L” dimensions



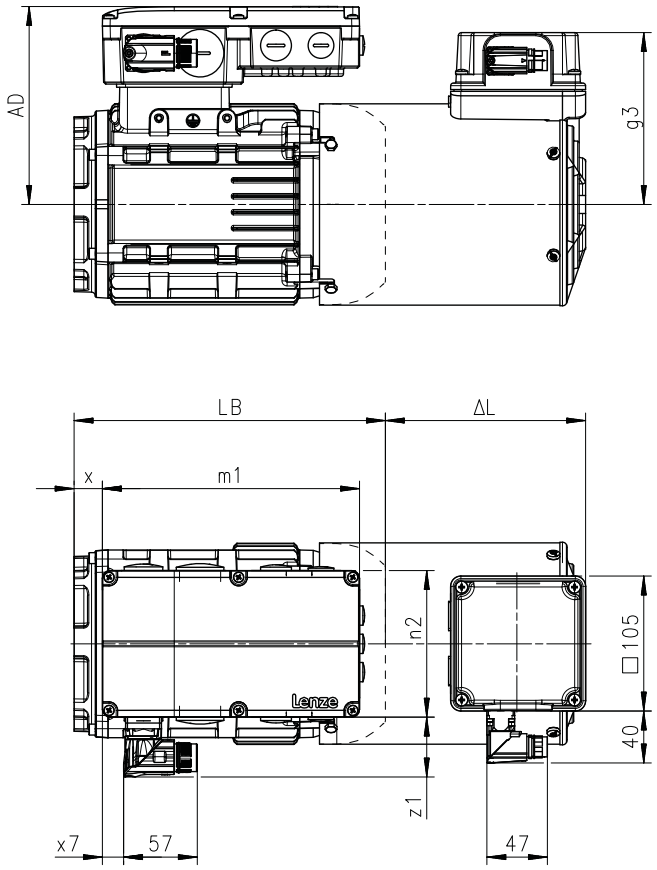
8801074-02

Motor		m550-H		m550-P						
		63/S4 63/M4 63/L4	71/M4 71/L4	80/M4	90/M4 90/L4	100/M4 100/L4	112/M4	132/M4 132/L4	160/M4 160/L4	180/M4 180/L4
Motor terminal box										
AD	mm	113	141	154	162	172	177	197	251	271
x	mm	9	4	22	29	39	44	73	111	139
m_1	mm	141	200	200	200	200	200	200	253	253
n_2	mm	110	114	114	114	114	114	114	143	143
P_1	mm	M25x1.5	M25x1.5	M25x1.5	M25x1.5	M25x1.5	M25x1.5	M25x1.5	M50x1.5	M50x1.5
P_2	mm	M32x1.5	M32x1.5	M32x1.5	M32x1.5	M32x1.5	M32x1.5	M32x1.5	M40x1.5	M40x1.5
P_3	mm	M20x1.5	M20x1.5	M20x1.5	M20x1.5	M20x1.5	M20x1.5	M20x1.5	M20x1.5	M20x1.5
P_4	mm	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5
Blower terminal box										
G_3	mm	118	124	134	143	152	164	185	211	211
P_6	mm	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5	M16x1.5

Dimensions LB ▸ Basic dimensions 🕮 123

Dimensions Δ L ▸ Additional lengths 🕮 160

Power terminal box “L” dimensions with M23 connector



8801077_00

Motor		m550-H		m550-P						
		63/S4 63/M4 63/L4	71/M4 71/L4	80/M4	90/M4 90/L4	100/M4 100/L4	112/M4	132/M4 132/L4	160/M4 160/L4	180/M4 180/L4
Motor terminal box										
AD	mm	113	141	154	162	172	177	197	251	271
x	mm	9	4	22	29	39	44	73	111	139
m_1	mm	141	200	200	200	200	200	200	253	253
n_2	mm	110	114	114	114	114	114	114	143	143
M23 connector Power/brake										
x_7	mm	16	16	16	16	16	16	16	-	-
z_1	mm	46	46	46	46	46	46	46	-	-
M23 connector Feedback										
x_7	mm	120	120	120	120	120	120	120	168	168
z_1	mm	42	42	42	42	42	42	42	42	42
Blower terminal box										
g_3	mm	118	124	134	143	152	164	185	211	211

Dimensions LB ▸ Basic dimensions 123

Dimensions Δ L ▸ Additional lengths 160

8.3.3 Assignment of the connectors Han

The power, brake and temperature monitoring can be connected in the Han connector.

The designs Han 10E or Han modular with two power modules (16 A or 40 A) are available.

The Han 10E connector is only available for motors with the connection method Y/Δ.

An additional rectifier can be connected with Han modular.

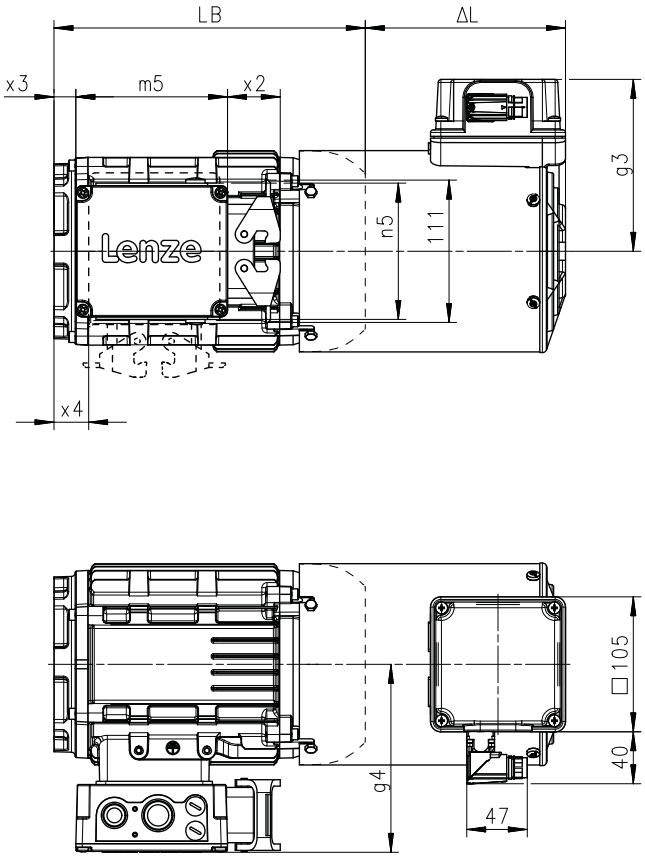
Feedback in conjunction with the Han plug connector or the integrated i550 motec and 8400 motec is only available with the IG128-24V-H add-on incremental encoder (with 0.5 m cable and M12 plug connector).

Motor	m550-H		m550-P						
	63/S4 63/M4 63/L4	71/M4 71/L4	80/S4 80/M4	90/M4 90/L4	100/M4 100/L4	112/M4	132/M4 132/L4	160/M4 160/L4	180/M4 180/L4
HAN 10E connector									
Connection: • Power • Brake • Temperature monitoring TK0 or PT1000	•	•	•	•	•	•	-	-	-
HAN modular connector									
Connection: • Power • Brake • Temperature monitoring TK0 or PT1000	•	•	•	•	•	•	•	-	-

Positions of the connectors

Positions of the Han connector

Dimensions of Han connector



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Motor		m550-H		m550-P				
		63/S4 63/M4 63/L4	71/M4 71/L4	80/S4 80/M4 80/L4	90/M4 90/L4	100/M4 100/L4	112/M4	132/M4 132/L4
Han connector Power/brake								
G_4	mm	123	134	147	155	165	170	237
x_2	mm	41	41	41	41	41	41	47
x_3	mm	6	1	19	25	34.5	40	39
m_5	mm	118	118	118	118	118	118	120
x_4	mm	7	2	20	26	35.5	41	9
n_5	mm	106	106	106	106	106	106	180
Blower terminal box								
G_3	mm	118	124	134	143	152	164	185

Dimensions LB ▸ Basic dimensions 123

Dimensions Δ L ▸ Additional lengths 160

8.3.4 Connection via terminal box

Cable glands

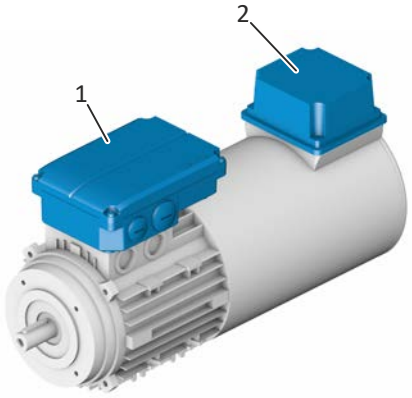
The opening cutouts for the cable glands are closed with plugs.

As the cable glands are only arranged on one side of the motor terminal box "S", the position of the cable glands must be specified.

The motor terminal box "M" and "L" have openings on both sides.

The cable glands on the blower terminal box are only arranged on one side. If required, the terminal box can be rotated step by step by 90 ° after loosening the screws in the terminal box.

Position of the connections

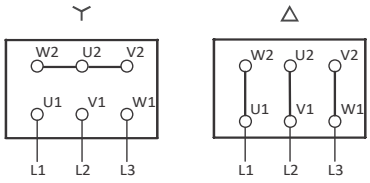


Position	Meaning	Note
1	Power connection Brake connection PE connection Feedback connection Connection of temperature monitoring	For the "S" terminal box, specify the position of the "L", "R" or "E" line connections.
2	Blower connection	When ordering, specify the mounting position of the terminal box: • Shown here: "T" • "L", "R" or "B" If required, the terminal box can be rotated step by step by 90 ° after loosening the screws in the terminal box.

Power connection

Bridge arrangement

Y/Δ circuit

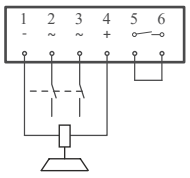


Terminal box, power		
Contact	**Name**	**Meaning**
U1	L1	Motor winding phase
V1	L2	
PE	PE	PE conductor
W1	L3	Motor winding phase

DC brake connection

Contact	Name	Meaning
BD1	+	Brake +
BD2	-	Brake -

Connection of brake AC



Connection via rectifiers		
Contact	**Name**	**Meaning**
~	L1	Mains
~	N	
+	+	Holding brake (factory-wired)
-	-	
		Switching contact - DC switching

Feedback connection

Resolver		
Contact	**Name**	**Meaning**
B1	+Ref	Transformer windings (reference windings)
B2	-Ref	
B3	+VCC ETS	Power supply: electronic nameplate (Only for model with electronic nameplate ETS)
B4	+COS	Cosine stator winding
B5	-COS	
B6	+SIN	Sine stator winding
B7	-SIN	
B8		Not assigned

Incremental encoder HTL/TTL		
Contact	**Name**	**Meaning**
+	+ UB	Supply +
-	GND	Mass
A	A/+COS	Track A / + COS
A^-	A^-/Ref COS	Track A inverse / - COS
B	B/+SIN	Track B / + SIN
B^-	B^-/Ref SIN	Track B inverse/-SIN
0	0	Zero track / + RS485
0^-	0^-	Zero track inverse / - RS485

Incremental encoder SinCos absolute value encoder with Hiperface©		
Contact	**Designation**	**Meaning**
B1	+ UB	Supply +
B2	GND	Mass
B3	A	Track A/+COS
B4	A^-	Track A inverse/-COS
B5	B	Track B/+SIN
B6	B^-	Track B inverse/-SIN
B7	Z	Zero track/+RS485
B8	Z^-	Zero track inverse/-RS485
B10		Incremental encoder shield

Connection of temperature monitoring

Contact	Name	Meaning
TB1		Thermal contact TCO
TB2		
1TP1		PTC thermistor 150
1TP2		
2TP1		PTC thermistor 130
2TP2		
R1	+	Thermal detectors PT1000 +
R2	-	Thermal detectors PT1000 -

Blower connection

1-phase		
Contact	**Name**	**Meaning**
PE	PE	PE conductor
U1	L1	Mains connection
U2	N	

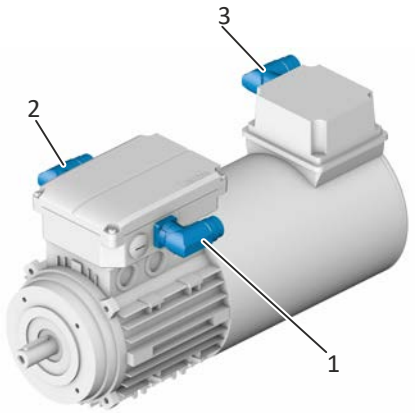
three-phase			
Contact	**Name**	**Meaning**	**Note**
PE	PE	PE conductor	
U1	L1	Mains connection	Pay attention to the direction of rotation! Swap L1 and L2 if the direction of rotation is incorrect.
V1	L2		
W1	L3		

8.3.5 Connection via connector

Preassembled Lenze system cables are available for fast and error-free connection of Lenze motors to Lenze inverters.

Details and data can be found in the "Accessories" brochure on the Internet.

Position of the connections

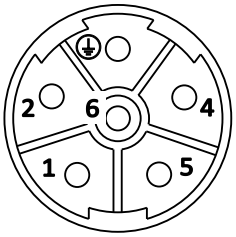


Position	Meaning	Note
1	M23 6-pin connector • Power connection • Brake connection • PE connection	Indicate the mounting position of connectors in the order: • Shown “R” • On the opposite side “L”
	Additionally for M23 8-pin connector: • Thermal contact temperature monitoring connection	Caution: Max. Brake connection voltage ≤ 230 V
2	M23 connector • Feedback connection • PT1000 temperature sensor connection	The mounting position for the feedback connector is on the opposite side to the power connection (position L/R).
3	M17 connector • Blower connection	Indicate the mounting position of terminal boxes in the order: • Shown “T” • L, R or B If required, the terminal box cover can be gradually rotated by 90° after loosening the screws on the terminal box.

Power and brake connection

ICN-M23 connector assignment

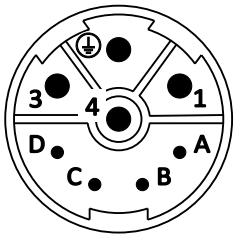
6-pole



M23 6-pole		
Contact	**Name**	**Meaning**
1	BD1	DC +/AC brake
2	BD2	DC -/AC brake
4	U	Power phase U
5	V	Power phase V
6	W	Power phase W
PE	PE	PE conductor

M23 connector assignment

8-pole

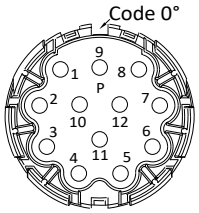


M23 8-pole		
Contact	**Name**	**Meaning**
D	BD2 / BA2	Brake DC-/AC ≤ 230V
PE	PE	PE conductor
B	TB2	Temperature monitoring: TCO
A	TB1	Temperature monitoring: TCO
C	BD1 / BA1	Brake DC +/AC ≤ 230 V
1	U	Power phase U
3	W	Power phase W
4	V	Power phase V

Feedback and temperature monitoring connection

ICN-M23 connector assignment

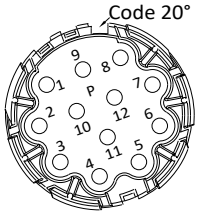
Resolver



M23 for resolvers		
Contact	**Name**	**Meaning**
1	+Ref	Transformer windings
2	-Ref	Transformer windings
3	+VCC ETS	Supply: Electronic nameplate (Only for motors and inverters that support this function)
4	+COS	Cosine stator windings
5	-COS	Cosine stator windings
6	+SIN	Sine stator windings
7	-SIN	Sine stator windings
8		Not assigned
9		Not assigned
10		Not assigned
11	+	Temperature monitoring: PT1000
12	-	Temperature monitoring: PT1000

ICN-M23 connector assignment

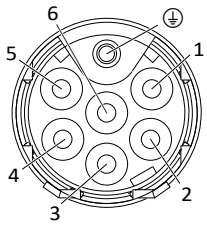
Incremental and SinCos absolute value encoder Hiperface©



ICN M23 for encoders		
Contact	**Name**	**Meaning**
1	B	Track B / +SIN
2	A^-	Track A inverse /-COS
3	A	Track A / + COS
4	+UB	Supply +
5	GND	Mass
6	Z^-	Zero track inverse /-RS485
7	Z	Zero track / + RS485
8		Not assigned
9	B^-	Track B inverse/-SIN
10		Not assigned
11	+	Temperature monitoring: PT1000
12	-	Temperature monitoring: PT1000

Blower

Pin assignment ICN-M17

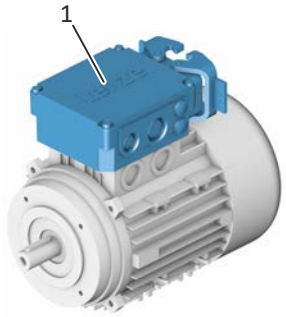


M17 for blowers 1-ph		
Contact	**Name**	**Meaning**
1	U1	Fan
2	U2	Fan
3		Not assigned
4		Not assigned
5		Not assigned
6		Not assigned
PE	PE	PE conductor

M17 for blowers 3-ph		
Contact	**Name**	**Meaning**
1	U	Power phase U
2		Not assigned
3	V	Power phase V
4		Not assigned
5		Not assigned
6	W	Power phase W
PE	PE	PE conductor

8.3.6 Connection via Han connector

Position of the connections



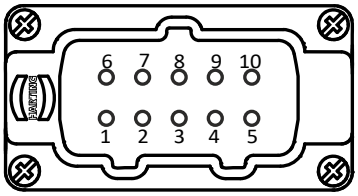
Position	Meaning
1	Power connection Brake connection PE connection Temperature monitoring connection
	Additionally for the Han-Modular: • Rectifier connection

HAN 10E connector

The motor connection is specified in the counter plug.

The connector is only suitable for motors with the connection method Y/Δ.

HAN 10E connector assignment



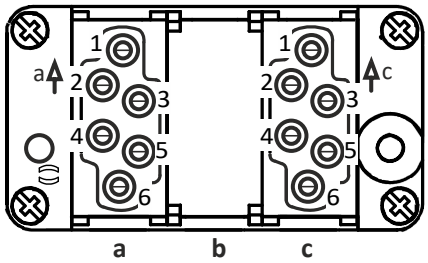
Bridge arrangement in the HAN 10E mating connector		
Contact	**Name**	**Meaning**
6-7-8	Y	Connection
1-6 2-7 3-8	Δ	

Han 10 E		
Contact	**Name**	**Meaning**
1	U1	Motor winding phase
2	V1	
3	W1	
4	+/AC	Brake
5	-/AC	
6	W2	Motor winding phase
7	U2	
8	V2	
9	TKO/+PT1000	Temperature monitoring
10	TKO/-PT1000	

Han-Modular connector

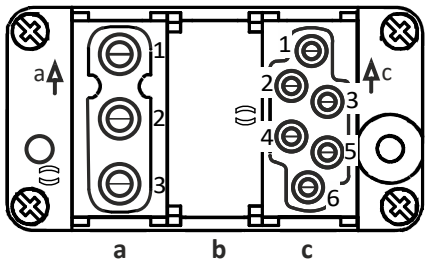
The motor circuit is defined in the terminal box.

Han-Modular 16 A connector assignment



Han-modular 16 A			
Module	**Contact**	**Name**	**Meaning**
a	1	U1	Motor winding phase
	2	V1	
	3	W1	
b			Blank module
c	1	TKO	Temperature monitoring
	2	+/AC	Brake
	3	-/AC	
	4	Schaltkontakt	Rectifier
	5		
	6	TKO	Temperature monitoring

Han-Modular 40 A connector assignment

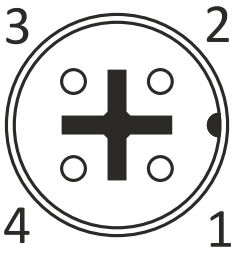


Han-modular 40 A			
Module	**Contact**	**Name**	**Meaning**
a	1	U1	Motor winding phase
	2	V1	
	3	W1	
b			Blank module
c	1	TKO	Temperature monitoring
	2	+/AC	Brake
	3	-/AC	
	4	Schaltkontakt	Rectifier
	5		
	6	TKO	Temperature monitoring

8.3.7 Connection via M12 connector

M12 pin assignment

Incr. encoder IG128-24V-H



ICN M12		
Contact	**Name**	**Meaning**
1	+UB	Supply +
2	B	Track B
3	GND	Mass
4	A	Track A

8.4 Spring-applied brakes

The motors can be ordered with a spring-applied brake to allow stopping or deceleration of the moving masses. The spring-applied brake operates according to the closed-circuit principle. In the deenergized state, the brake is closed. The spring-applied brakes can be used as holding brakes, application brakes or safety brakes.

Overview

The following table shows the possible versions of the spring-applied brakes.

Versions	Holding brake	Application brake		
	Single brake IP54/55	Single brake IP65/66	Single brake IP54/55	Double brake IP54/55
Standard	●	●	●	●
LongLife			●	
Supply voltages				
DC supply				
DC 24 V ±10 %	●	●	●	●
DC 180 V ±10%		●	●	●
DC 205 V ±10%		●	●	●
DC 180 V … 205 V ±10%	●	●	●	●
AC supply via rectifier in the terminal box				
AC 115 V ±10 %		●	●	●
AC 230 V ±10 %	●	●	●	●
AC 400 V ±10 %		●	●	●
AC 460 V ±10 %		●	●	●
AC 400 V … 460 V ±10 %	●	●	●	●
Friction lining				
Standard	●	●	●	●
Low-wear		●	●	●
Options				
Manual release	●	●	●	●
UL/CSA-approved	●	●	●	●
Low noise during operation (noise-reduced rotor)	●	●	●	●
Low noise during operation and switching on (noise-reduced rotor and armature plate)		●	●	●
Cover ring	●	●	●	●
Air gap control (from brake size ABR 12)			●	
Wear control (from brake size ABR 12)			●	
Cold-Brake		●	●	●
Overexcitation of brake coil		●	●	●

8.4.1 Information on project planning

Important notes

⚠ DANGER!

Malfunction of the brake

Even small amounts of oil or grease on the friction surfaces reduce the braking torque considerably.

Possible consequences: Death or severe injuries

► Always keep the friction surfaces free of oil and grease.

Emergency stops

A maximum of 100 emergency stops are possible from n= 2700 rpm.

Connection

NOTICE

If used as a service brake, the braking torques are dependent on the motor speed to be braked.

► During braking from a high speed and in the event of emergency stops, the braking torque is significantly reduced.

Connection of the spring-applied brake

The spring-applied brakes can be ordered for connection to AC or DC voltage.

Connection to AC voltage

- A rectifier is required to convert the AC voltage into a DC voltage.
- The rectifier is included in the scope of supply. It is mounted in the terminal box of the motor.
- Available rectifiers:
  - Half-wave rectifier, 6-pole
  - Bridge rectifier, 6-pole
  - Bridge/half-wave rectifier, 6-pole

    With the holding current reduction or overexcitation option

Connection to DC voltage

- No rectifier is required.
- A freewheeling diode or a spark suppressor must be used to prevent high induction peaks.

Motor supply cables

If long motor supply cables are used, pay attention to the ohmic voltage drop along the cable and compensate for it with a higher voltage at the input end of the cable.

The following applies to Lenze system cables:

$U[V] = U_B[V] + 0.08\frac{[V]}{[A]\times[m]} \times I_{Lg}[m] \times I_B[A]$	U	V	Resulting supply voltage
	U_B	V	Rated voltage of the brake
	I_{Lg}	m	Cable length
	I_B	A	Rated current of the brake

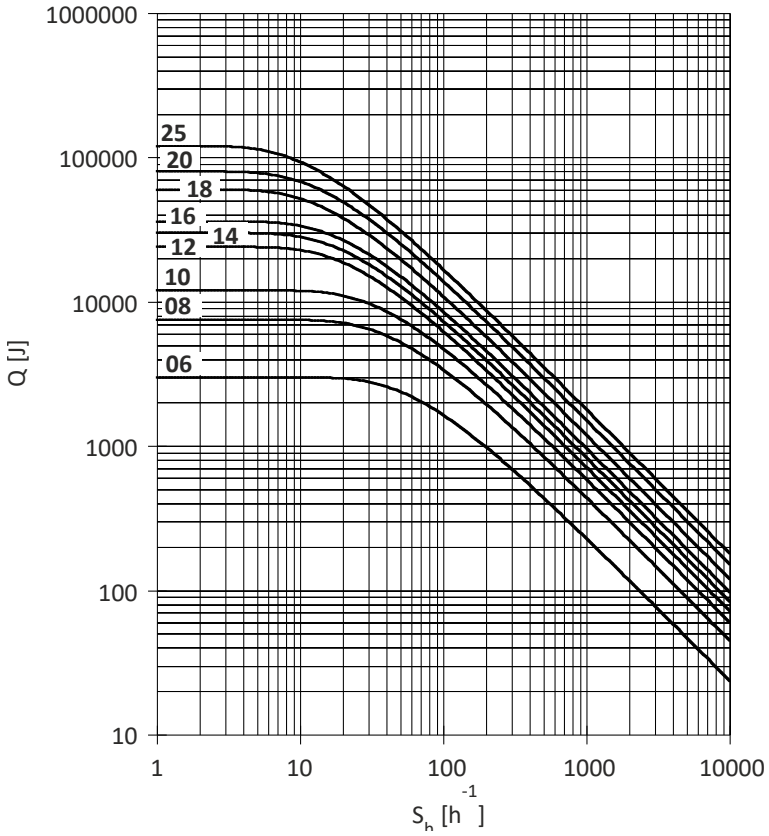
AC or DC voltage switching

Brakes can be switched both before the rectifier (AC voltage switching) as well as after the rectifier (DC voltage switching). The choice of control system influences the engagement time of the armature plate, inter alia.

AC switching increases the engagement time by a factor of 5 to 10 compared to DC switching. This is to be observed taken into account when choosing the control system. DC switching is possible by simply removing a bridge and using the switching contact connection. However, this calls for two additional cores in the control cabinet.

DC switching is particularly expedient for lifting applications because a short engagement time is necessary here to guarantee a secure hold without any prior slipping of the load.

Permissible friction energy



Q	Switching energy per switching cycle
S_h	Switching rate
06 ... 25	Brake size

8.4.2 Spring-applied holding brake

8.4.2.1 Assignment of braking torques

For optimum adaptation of the brake motor to the application, spring-applied brakes with several braking torques are available for each motor frame size.

Motor	Single brake						
	HBR 06	HBR 08	HBR 10	HBR 12	HBR 14	HBR 16	HBR 18
	Nm	Nm	Nm	Nm	Nm	Nm	Nm
m550-H63/S4	4						
m550-H63/M4							
m550-H63/L4							
m550-H71/M4							
m550-H71/L4							
m550-P80/M4		8					
m550-P90/M4							
m550-P90/L4			16				
m550-P100/M4			23				
m550-P100/L4							
m550-P112/M4				32			
m550-P132/M4					60		
m550-P132/L4							
m550-P160/M4						80	
m550-P160/L4							150
m550-P180/M4							
m550-P180/L4							

8.4.2.2 Rated data

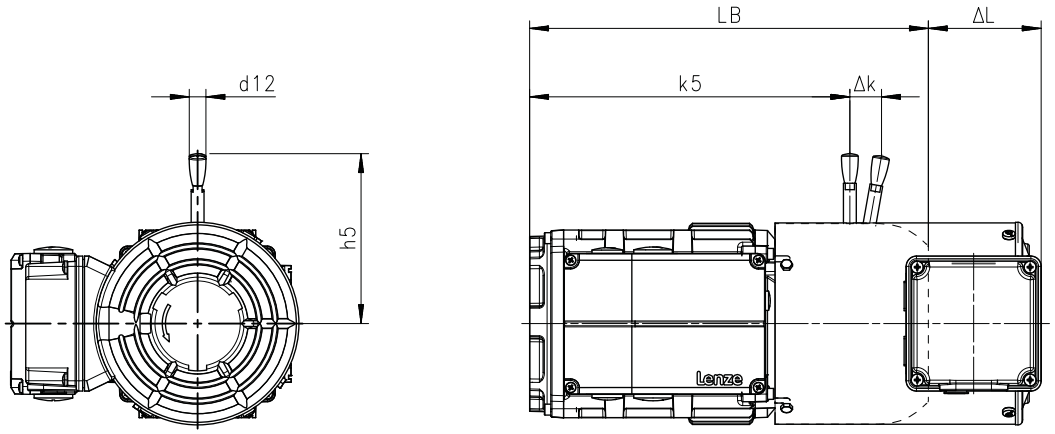
Holding brake		HBR 06	HBR 08	HBR 10	HBR 10	HBR 12	HBR 14	HBR 16	HBR 18
Moment of inertia	kgcm²	0.128	0.401	2	2	4.5	6.3	15	29
Power input									
DC 24 V	W	20	25	30	30	40	50	55	85
DC 180 V … 205 V	W	20	25	30	30	40	53	56	85
AC 230 V	W	20	25	30	30	40	53	56	85
AC 400 V … 460 V	W	20	25	30	30	40	53	56	85
Braking torque is static	Nm	4	8	16	23	32	60	80	150
Min. static braking torque tolerance	%	0	0	0	0	0	0	0	0
Max. static braking torque tolerance	%	80	80	80	80	80	80	80	80
Reversing cycles		1000000	1000000	1000000	1000000	1000000	1000000	1000000	1000000
Repetitive cycles		1000000	1000000	1000000	1000000	1000000	1000000	1000000	1000000
Maximum switching energy	J	3000	7500	12000	12000	24000	30000	36000	60000

Option: Manual release

The brake can be ordered with a manual release lever to facilitate positioning and maintenance work. The brake can be released manually in deenergized mode by actuating the manual release lever.

A lockable manual release lever can be ordered as an option. This is equipped with a clamping device to hold the brake in the released position.

Dimensions of the manual release lever



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Motor	Brake	Dimensions			
		k_5	Δ k	H_5	d_{12}
		mm	mm	mm	mm
m550-H63/S4 m550-H63/M4 m550-H63/L4	HBR 06	193	25	107	13
m550-H71/M4 m550-H71/L4	HBR 06	211	25	107	13
m550-P80/M4	HBR 08	231	27	116	13
m550-P90/M4	HBR 08	270	27	116	13
m550-P90/L4	HBR 10	286	23	131	13
m550-P100/M4 m550-P100/L4	HBR 10	344	23	131	13
m550-P112/M4	HBR 12	345	37	161	13
m550-P132/M4 m550-P132/L4	HBR 14	408	53	229	20
m550-P160/M4	HBR 16	556	67	267	20
m550-P160/L4	HBR 18		100	347	25
m550-P180/M4 m550-P180/L4	HBR 18	627	100	347	25

Dimensions LB ▸ Basic dimensions 123

Dimensions Δ L ▸ Additional lengths 160

8.4.3 Spring-applied application brake, IP54/IP55 single brake

The spring-applied brakes can be used as service brakes or holding brakes. Emergency stops are possible.

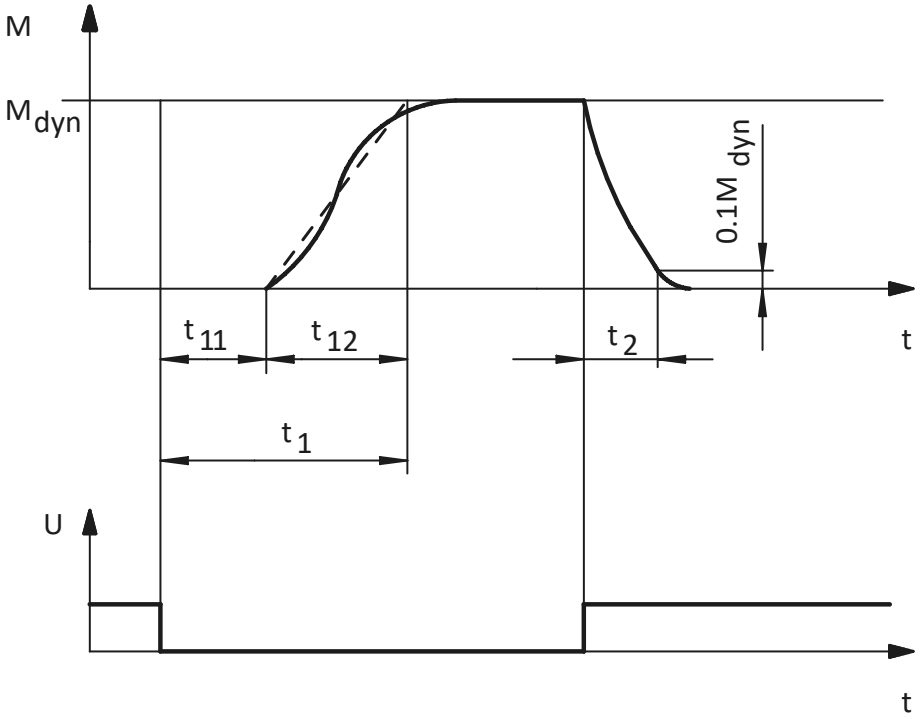
8.4.3.1 Assignment of braking torques

For optimum adaptation of the brake motor to the application, spring-applied brakes with several braking torques are available for each motor frame size.

Motor	Single brake							
	ABR 06	ABR 08	ABR 10	ABR 12	ABR 14	ABR 16	ABR 18	ABR 20
	Nm	Nm	Nm	Nm	Nm	Nm	Nm	Nm
m550-H63/S4	2.5 4							
m550-H63/M4								
m550-H63/L4								
m550-H71/M4		8						
m550-H71/L4								
m550-P80/M4		3.5 8	16					
m550-P90/M4								
m550-P90/L4		8	16 23					
m550-P100/M4				32				
m550-P100/L4				46				
m550-P112/M4				14 32	60			
m550-P132/M4					35 60	80		
m550-P132/L4						100		
m550-P160/M4						60 80	150	
m550-P160/L4							80 150 200	
m550-P180/M4							80 150	260
m550-P180/L4								315

8.4.3.2 Rated data

Switching times of the spring-applied brakes



t_1	Engagement time	t_{11}	Delay time during linking
t_2	Disengagement time (up to M = 0.1 M_{dyn})	t_{12}	Rise time of the braking torque
M_{dyn}	Braking torque at constant speed	U	Voltage

Rated data, Single brake, IP54/55

Application brake ABR 06, ABR 08

Application brake		**ABR 06**				**ABR 08**			
Braking torque									
Standard friction lining	**Nm**	**2.5**		**4**		**3.5**		**8**	
Low-wear friction lining	**Nm**		**2.5**		**4**		**3.5**		**8**
Power input									
DC 24 V	W	20	20	20	20	25	25	25	25
DC 180 V	W	20	20	20	20	25	25	25	25
DC 205 V	W	20	20	20	20	25	25	25	25
DC 180 V … 205 V	W	20	20	20	20	25	25	25	25
AC 115 V	W	20	20	20	20	25	25	25	25
AC 230 V	W	20	20	20	20	25	25	25	25
AC 400 V	W	20	20	20	20	25	25	25	25
AC 460 V	W	20	20	20	20	25	25	25	25
AC 400 V … 460 V	W	20	20	20	20	25	25	25	25
Cold Brake AC 230V	W	20	20	20	20	25	25	25	25
Cold Brake AC 400V	W	23	23	23	23	27	27	27	27
Overexcitation AC 230 V	W	20	20	20	20	25	25	25	25
Overexcitation AC 400 V	W	20	20	20	20	25	25	25	25
Moment of inertia	$kgcm^2$	0.15	0.15	0.15	0.15	0.61	0.61	0.61	0.61
Braking torque is static	Nm	2.5	2.5	4	4	3.5	3.5	8	8
Min. static braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25
Max. static braking torque tolerance	%	35	35	35	35	35	35	35	35
Dynamic braking torque									
100 rpm	Nm	2.5	2.5	4.0	4.0	3.5	3.5	8.0	8.0
1000 rpm	Nm	2.3	2.3	3.7	3.7	3.1	3.1	7.1	7.1
1200 rpm	Nm	2.3	2.3	3.6	3.6	3.0	3.0	7.0	7.0
1500 rpm	Nm	2.2	2.2	3.5	3.5	3.0	3.0	6.8	6.8
1800 rpm	Nm	2.2	2.2	3.4	3.4	2.9	2.9	6.6	6.6
2500 rpm	Nm	2.1	2.1	3.3	3.3	2.8	2.8	6.4	6.4
3000 rpm	Nm	2.0	2.0	3.2	3.2	2.7	2.7	6.2	6.2
3600 rpm	Nm	2.0	2.0	3.2	3.2	2.7	2.7	6.1	6.1
Min. dynamic braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25
Max. dynamic braking torque tolerance	%	35	35	35	35	35	35	35	35
Friction energy									
100 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1000 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1200 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1500 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1800 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
2500 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
3000 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
3600 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
Maximum speed - operation	rpm	6000	3600	6000	3600	5000	3600	5000	3600
Maximum speed - idle state	rpm	10000	10000	10000	10000	10000	10000	10000	10000

Rated data, Single brake, IP54/55

Application brake ABR 06, ABR 08

Application brake		ABR 06				ABR 08			
Braking torque									
Standard friction lining	**Nm**	**2.5**		**4**		**3.5**		**8**	
Low-wear friction lining	**Nm**		**2.5**		**4**		**3.5**		**8**
Delay time t11									
DC voltage	ms	25	25	15	15	14	14	15	15
AC mains voltage	ms	25	25	15	15	14	14	15	15
Cold Brake AC 230V	ms	24	24	16	16	22	22	25	25
Cold Brake AC 400V	ms	27	27	19	19	28	28	28	28
Overexcitation AC 230 V	ms	31	31	20	20	33	33	31	31
Overexcitation AC 400 V	ms	31	31	20	20	33	33	31	31
Rise time t12									
DC voltage	ms	13	13	13	13	10	10	16	16
AC mains voltage	ms	13	13	13	13	10	10	16	16
Cold Brake AC 230V	ms	12	12	14	14	16	16	27	27
Cold Brake AC 400V	ms	14	14	16	16	20	20	30	30
Overexcitation AC 230 V	ms	16	16	17	17	24	24	33	33
Overexcitation AC 400 V	ms	16	16	17	17	24	24	33	33
Engagement time t1									
DC voltage	ms	38	38	28	28	24	24	31	31
AC mains voltage	ms	38	38	28	28	24	24	31	31
Cold Brake AC 230V	ms	36	36	30	30	38	38	52	52
Cold Brake AC 400V	ms	41	41	35	35	48	48	58	58
Overexcitation AC 230 V	ms	47	47	37	37	57	57	64	64
Overexcitation AC 400 V	ms	47	47	37	37	57	57	64	64
Disengagement time t2									
DC voltage	ms	30	30	45	45	37	37	57	57
AC mains voltage	ms	30	30	45	45	37	37	57	57
Cold Brake AC 230V	ms	30	30	45	45	37	37	57	57
Cold Brake AC 400V	ms	21	21	30	30	24	24	36	36
Overexcitation AC 230 V	ms	17	17	22	22	18	18	26	26
Overexcitation AC 400 V	ms	17	17	22	22	18	18	26	26
Overexcitation time									
Cold Brake AC 230V	ms	300	300	300	300	300	300	300	300
Cold Brake AC 400V	ms	300	300	300	300	300	300	300	300
Overexcitation AC 230 V	ms	300	300	300	300	300	300	300	300
Overexcitation AC 400 V	ms	300	300	300	300	300	300	300	300
Friction energy QBW									
DC voltage	MJ	56.5	113.1	42.4	84.8	92.1	210.4	69.1	157.8
AC mains voltage	MJ	56.5	113.1	42.4	84.8	92.1	210.4	69.1	157.8
Cold Brake AC 230V	MJ	56.5	113.1	42.4	84.8	92.1	210.4	69.1	157.8
Cold Brake AC 400V	MJ	56.5	113.1	56.5	113.1	92.1	210.4	92.1	210.4
Overexcitation AC 230 V	MJ	56.5	113.1	56.5	113.1	92.1	210.4	92.1	210.4
Overexcitation AC 400 V	MJ	56.5	113.1	56.5	113.1	92.1	210.4	92.1	210.4
Reversing cycles		$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$
Repetitive cycles		$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$

Rated data, Single brake, IP54/55

Application brake ABR 10, ABR 12

Application brake		**ABR 10**				**ABR 12**					
Braking torque											
Standard friction lining	**Nm**	**16**		**23**		**14**		**32**		**46**	
Low-wear friction lining	**Nm**		**16**		**23**		**14**		**32**		**46**
Power input											
DC 24 V	W	30	30	30	30	40	40	40	40	40	40
DC 180 V	W	32	32	32	32	40	40	40	40	40	40
DC 205 V	W	33	33	33	33	40	40	40	40	40	40
DC 180 V … 205 V	W	33	33	33	33	40	40	40	40	40	40
AC 115 V	W	32	32	32	32	40	40	40	40	40	40
AC 230 V	W	33	33	33	33	40	40	40	40	40	40
AC 400 V	W	32	32	32	32	40	40	40	40	40	40
AC 460 V	W	33	33	33	33	40	40	40	40	40	40
AC 400 V … 460 V	W	33	33	33	33	40	40	40	40	40	40
Cold Brake AC 230V	W	33	33	33	33	40	40	40	40	40	40
Cold Brake AC 400V	W	30	30	30	30	42	42	42	42	42	42
Overexcitation AC 230 V	W	32	32	32	32	40	40	40	40	40	40
Overexcitation AC 400 V	W	32	32	32	32	40	40	40	40	40	40
Moment of inertia	kgcm²	2	2	2	2	4.5	4.5	4.5	4.5	4.5	4.5
Braking torque is static	Nm	16	16	23	23	14	14	32	32	46	46
Min. static braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
Max. static braking torque tolerance	%	35	35	35	35	35	35	35	35	35	35
Dynamic braking torque											
100 rpm	Nm	16	16	23	23	14	14	32	32	46	46
1000 rpm	Nm	14	14	20	20	12	12	28	28	40	40
1200 rpm	Nm	14	14	20	20	12	12	27	27	39	39
1500 rpm	Nm	13	13	19	19	11	11	26	26	38	38
1800 rpm	Nm	13	13	19	19	11	11	26	26	37	37
2500 rpm	Nm	12	12	18	18	11	11	24	24	35	35
3000 rpm	Nm	12	12	17	17	11	11	24	24	35	35
3600 rpm	Nm	12	12	17	17	10	10	23	23	34	34
Min. dynamic braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
Max. dynamic braking torque tolerance	%	35	35	35	35	35	35	35	35	35	35
Friction energy											
100 rpm	kJ	12	12	12	12	24	24	24	24	24	24
1000 rpm	kJ	12	12	12	12	24	24	24	24	24	24
1200 rpm	kJ	12	12	12	12	24	24	24	24	24	24
1500 rpm	kJ	12	12	12	12	24	24	24	24	24	24
1800 rpm	kJ	12	12	12	12	24	24	24	24	24	24
2500 rpm	kJ	12	12	12	12	24	24	24	24	24	24
3000 rpm	kJ	12	12	12	12	24	24	24	24	24	24
3600 rpm	kJ	12	12	12	12	24	7	24	7	24	7
Maximum speed - operation	rpm	4000	3600	4000	3600	3600	3600	3600	3600	3600	3600
Maximum speed - idle state	rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

Rated data, Single brake, IP54/55

Application brake ABR 10, ABR 12

Application brake		ABR 10				ABR 12					
Braking torque											
Standard friction lining	Nm	16		23		14		32		46	
Low-wear friction lining	Nm		16		23		14		32		46
Delay time t11											
DC voltage	ms	28	28	10	10	21	21	28	28	16	16
AC mains voltage	ms	28	28	10	10	21	21	28	28	16	16
Cold Brake AC 230V	ms	31	31	24	24	49	49	48	48	27	27
Cold Brake AC 400V	ms	34	34	27	27	64	64	55	55	42	42
Overexcitation AC 230 V	ms	44	44	29	29	73	73	62	62	54	54
Overexcitation AC 400 V	ms	44	44	29	29	73	73	62	62	54	54
Rise time t12											
DC voltage	ms	19	19	19	19	19	19	25	25	25	25
AC mains voltage	ms	19	19	19	19	19	19	25	25	25	25
Cold Brake AC 230V	ms	21	21	46	46	44	44	43	43	42	42
Cold Brake AC 400V	ms	23	23	51	51	58	58	49	49	66	66
Overexcitation AC 230 V	ms	30	30	55	55	66	66	55	55	84	84
Overexcitation AC 400 V	ms	30	30	55	55	66	66	55	55	84	84
Engagement time t1											
DC voltage	ms	47	47	29	29	40	40	53	53	41	41
AC mains voltage	ms	47	47	29	29	40	40	53	53	41	41
Cold Brake AC 230V	ms	52	52	70	70	93	93	91	91	69	69
Cold Brake AC 400V	ms	57	57	78	78	122	122	104	104	108	108
Overexcitation AC 230 V	ms	74	74	84	84	139	139	117	117	138	138
Overexcitation AC 400 V	ms	74	74	84	84	139	139	117	117	138	138
Disengagement time t2											
DC voltage	ms	76	76	109	109	65	65	115	115	193	193
AC mains voltage	ms	76	76	109	109	65	65	115	115	193	193
Cold Brake AC 230V	ms	76	76	109	109	65	65	115	115	193	193
Cold Brake AC 400V	ms	53	53	72	72	48	48	78	78	114	114
Overexcitation AC 230 V	ms	41	41	53	53	38	38	59	59	81	81
Overexcitation AC 400 V	ms	41	41	53	53	38	38	59	59	81	81
Overexcitation time											
Cold Brake AC 230V	ms	300	300	300	300	300	300	300	300	300	300
Cold Brake AC 400V	ms	300	300	300	300	300	300	300	300	300	300
Overexcitation AC 230 V	ms	300	300	300	300	300	300	300	300	300	300
Overexcitation AC 400 V	ms	300	300	300	300	300	300	300	300	300	300
Friction energy QBW											
DC voltage	MJ	98	264	50.3	198	236.4	706.2	177.3	529.6	75.7	353.1
AC mains voltage	MJ	98	264	50.3	198	236.4	706.2	177.3	529.6	75.7	353.1
Cold Brake AC 230V	MJ	98	264	50.3	198	236.4	706.2	177.3	529.6	75.7	353.1
Cold Brake AC 400V	MJ	98	264	67.1	264	236.4	706.2	236.4	706.2	151.4	706.2
Overexcitation AC 230 V	MJ	98	264	67.1	264	236.4	706.2	236.4	706.2	151.4	706.2
Overexcitation AC 400 V	MJ	98	264	67.1	264	236.4	706.2	236.4	706.2	151.4	706.2
Reversing cycles		$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$
Repetitive cycles		$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$

Rated data, Single brake, IP54/55

Application brake ABR 14, ABR 16

Application brake		**ABR 14**				**ABR 16**					
Braking torque											
Standard friction lining	**Nm**	**35**		**60**		**60**		**80**		**100**	
Low-wear friction lining	**Nm**		**35**		**60**		**60**		**80**		**100**
Power input											
DC 24 V	W	50	50	50	50	55	55	55	55	55	55
DC 180 V	W	53	53	53	53	55	55	55	55	55	55
DC 205 V	W	53	53	53	53	56	56	56	56	56	56
DC 180 V … 205 V	W	53	53	53	53	56	56	56	56	56	56
AC 115 V	W	53	53	53	53	56	56	56	56	56	56
AC 230 V	W	53	53	53	53	56	56	56	56	56	56
AC 400 V	W	53	53	53	53	55	55	55	55	55	55
AC 460 V	W	53	53	53	53	56	56	56	56	56	56
AC 400 V … 460 V	W	53	53	53	53	56	56	56	56	56	56
Cold Brake AC 230V	W	53	53	53	53	56	56	56	56	56	56
Cold Brake AC 400V	W	54	54	54	54	55	55	55	55	55	55
Overexcitation AC 230 V	W	53	53	53	53	56	56	56	56	56	56
Overexcitation AC 400 V	W	53	53	53	53	55	55	55	55	55	55
Moment of inertia	kgcm²	6.3	6.3	6.3	6.3	15	15	15	15	15	15
Braking torque is static	Nm	35	35	60	60	60	60	80	80	100	100
Min. static braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
Max. static braking torque tolerance	%	35	35	35	35	35	35	35	35	35	35
Dynamic braking torque											
100 rpm	Nm	35	35	60	60	60	60	80	80	100	100
1000 rpm	Nm	30	30	51	51	50	50	66	66	83	83
1200 rpm	Nm	29	29	50	50	49	49	65	65	81	81
1500 rpm	Nm	28	28	49	49	47	47	63	62	78	78
1800 rpm	Nm	28	28	47	47	46	46	62	62	77	77
2500 rpm	Nm	26	26	45	45	44	44	58	58	73	73
3000 rpm	Nm	26	26	44	44	43	43	57	57	71	71
3600 rpm	Nm	25	-	43	-	42	-	56	-	70	-
Min. dynamic braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
Max. dynamic braking torque tolerance	%	35	35	35	35	35	35	35	35	35	35
Friction energy											
100 rpm	kJ	30	30	30	30	36	36	36	36	36	36
1000 rpm	kJ	30	30	30	30	36	36	36	36	36	36
1200 rpm	kJ	30	30	30	30	36	36	36	36	36	36
1500 rpm	kJ	30	30	30	30	36	36	36	36	36	36
1800 rpm	kJ	30	30	30	30	36	36	36	36	36	36
2500 rpm	kJ	30	30	30	30	36	36	36	36	36	36
3000 rpm	kJ	30	18	30	18	36	11	36	11	36	11
3600 rpm	kJ	30	-	30	-	36	-	36	-	36	-
Maximum speed - operation	rpm	3600	3000	3600	3000	3600	3000	3600	3000	3600	3000
Maximum speed - idle state	rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

Rated data, Single brake, IP54/55

Application brake ABR 14, ABR 16

Application brake		ABR 14				ABR 16					
Braking torque											
Standard friction lining	**Nm**	**35**		**60**		**60**		**80**		**100**	
Low-wear friction lining	**Nm**		**35**		**60**		**60**		**80**		**100**
Delay time t11											
DC voltage	ms	37	37	17	17	53	53	27	27	22	22
AC mains voltage	ms	37	37	17	17	53	53	27	27	22	22
Cold Brake AC 230V	ms	61	61	33	33	114	114	58	58	41	41
Cold Brake AC 400V	ms	69	69	43	43	133	133	74	74	56	56
Overexcitation AC 230 V	ms	76	76	47	47	145	145	89	89	70	70
Overexcitation AC 400 V	ms	76	76	47	47	145	145	89	89	70	70
Rise time t12											
DC voltage	ms	22	22	25	25	30	30	30	30	30	30
AC mains voltage	ms	22	22	25	25	30	30	30	30	30	30
Cold Brake AC 230V	ms	36	36	47	47	65	65	64	64	56	56
Cold Brake AC 400V	ms	41	41	63	63	75	75	82	82	76	76
Overexcitation AC 230 V	ms	45	45	69	69	82	82	99	99	95	95
Overexcitation AC 400 V	ms	45	45	69	69	82	82	99	99	95	95
Engagement time t1											
DC voltage	ms	59	59	42	42	83	83	57	57	52	52
AC mains voltage	ms	59	59	42	42	83	83	57	57	52	52
Cold Brake AC 230V	ms	97	97	80	80	179	179	122	122	97	97
Cold Brake AC 400V	ms	110	110	106	106	208	208	156	156	132	132
Overexcitation AC 230 V	ms	121	121	116	116	227	227	188	188	165	165
Overexcitation AC 400 V	ms	121	121	116	116	227	227	188	188	165	165
Disengagement time t2											
DC voltage	ms	148	148	210	210	169	169	220	220	297	297
AC mains voltage	ms	148	148	210	210	169	169	220	220	297	297
Cold Brake AC 230V	ms	148	148	210	210	169	169	220	220	297	297
Cold Brake AC 400V	ms	98	98	131	131	125	125	154	154	191	191
Overexcitation AC 230 V	ms	71	71	92	92	100	100	119	119	141	141
Overexcitation AC 400 V	ms	71	71	92	92	100	100	119	119	141	141
Overexcitation time											
Cold Brake AC 230V	ms	300	300	300	300	1300	1300	1300	1300	1300	1300
Cold Brake AC 400V	ms	300	300	300	300	300	300	300	300	300	300
Overexcitation AC 230 V	ms	300	300	300	300	300	300	300	300	300	300
Overexcitation AC 400 V	ms	300	300	300	300	300	300	300	300	300	300
Friction energy QBW											
DC voltage	MJ	238.2	761.4	178.7	571	257.9	965.7	257.9	965.7	120.5	643.8
AC mains voltage	MJ	238.2	761.4	178.7	571	257.9	965.7	257.9	965.7	120.5	643.8
Cold Brake AC 230V	MJ	238.2	761.4	178.7	571	257.9	965.7	257.9	965.7	120.5	643.8
Cold Brake AC 400V	MJ	238.2	761.4	238.2	761.4	257.9	965.7	257.9	965.7	180.8	965.7
Overexcitation AC 230 V	MJ	238.2	761.4	238.2	761.4	257.9	965.7	257.9	965.7	180.8	965.7
Overexcitation AC 400 V	MJ	238.2	761.4	238.2	761.4	257.9	965.7	257.9	965.7	180.8	965.7
Reversing cycles		$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$
Repetitive cycles		$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$

Rated data, Single brake, IP54/55

Application brake ABR 18, ABR 20

Application brake		**ABR 18**						**ABR 20**			
Braking torque											
Standard friction lining	**Nm**	**80**		**150**		**200**		**260**		**315**	
Low-wear friction lining	**Nm**		**80**		**150**		**200**		**260**		**315**
Power input											
DC 24 V	W	85	85	85	85	85	85	100	100	100	100
DC 180 V	W	85	85	85	85	85	85	100	100	100	100
DC 205 V	W	85	85	85	85	85	85	100	100	100	100
DC 180 V … 205 V	W	85	85	85	85	85	85	100	100	100	100
AC 115 V	W	85	85	85	85	85	85	100	100	100	100
AC 230 V	W	85	85	85	85	85	85	100	100	100	100
AC 400 V	W	85	85	85	85	85	85	100	100	100	100
AC 460 V	W	85	85	85	85	85	85	100	100	100	100
AC 400 V … 460 V	W	85	85	85	85	85	85	100	100	100	100
Cold Brake AC 230V	W	85	85	85	85	85	85	100	100	100	100
Cold Brake AC 400V	W	85	85	85	85	85	85	100	100	100	100
Overexcitation AC 230 V	W	85	85	85	85	85	85	100	100	100	100
Overexcitation AC 400 V	W	85	85	85	85	85	85	100	100	100	100
Moment of inertia	kgcm²	29	29	29	29	29	29	73	73	73	73
Braking torque is static	Nm	80	80	150	150	200	200	260	260	315	315
Min. static braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
Max. static braking torque tolerance	%	35	35	35	35	35	35	35	35	35	35
Dynamic braking torque											
100 rpm	Nm	80	80	150	150	200	200	260	260	315	315
1000 rpm	Nm	65	65	122	122	162	162	205	205	249	249
1200 rpm	Nm	63	63	119	119	158	158	200	200	243	243
1500 rpm	Nm	62	62	116	116	154	154	195	195	236	236
1800 rpm	Nm	60	60	113	113	150	150	190	-	230	-
2500 rpm	Nm	58	-	108	-	144	-	182	-	221	-
3000 rpm	Nm	56	-	105	-	140	-	177	-	214	-
3600 rpm	Nm	54	-	102	-	136	-	172	-	208	-
Min. dynamic braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
Max. dynamic braking torque tolerance	%	35	35	35	35	35	35	35	35	35	35
Friction energy											
100 rpm	kJ	60	60	60	60	60	60	80	80	80	80
1000 rpm	kJ	60	60	60	60	60	60	80	80	80	80
1200 rpm	kJ	60	60	60	60	60	60	80	80	80	80
1500 rpm	kJ	60	60	60	60	60	60	80	24	80	24
1800 rpm	kJ	60	36	60	36	60	36	80	-	80	-
2500 rpm	kJ	60	-	60	-	60	-	80	-	80	-
3000 rpm	kJ	60	-	60	-	60	-	80	-	80	-
3600 rpm	kJ	60	-	60	-	60	-	80	-	80	-
Maximum speed - operation	rpm	3600	1800	3600	1800	3600	1800	3600	1500	3600	1500
Maximum speed - idle state	rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

Rated data, Single brake, IP54/55

Application brake ABR 18, ABR 20

Application brake		ABR 18						ABR 20			
Braking torque											
Standard friction lining	**Nm**	**80**		**150**		**200**		**260**		**315**	
Low-wear friction lining	**Nm**		**80**		**150**		**200**		**260**		**315**
Delay time t11											
DC voltage	ms	77	77	33	33	24	24	65	65	46	46
AC mains voltage	ms	77	77	33	33	24	24	65	65	46	46
Cold Brake AC 230V	ms	145	145	80	80	60	60	102	102	69	69
Cold Brake AC 400V	ms	160	160	93	93	72	72	121	121	88	88
Overexcitation AC 230 V	ms	174	174	108	108	86	86	133	133	103	103
Overexcitation AC 400 V	ms	174	174	108	108	86	86	133	133	103	103
Rise time t12											
DC voltage	ms	20	20	45	45	45	45	100	100	100	100
AC mains voltage	ms	20	20	45	45	45	45	100	100	100	100
Cold Brake AC 230V	ms	38	38	109	109	113	113	157	157	150	150
Cold Brake AC 400V	ms	42	42	127	127	135	135	186	186	191	191
Overexcitation AC 230 V	ms	45	45	147	147	161	161	205	205	224	224
Overexcitation AC 400 V	ms	45	45	147	147	161	161	205	205	224	224
Engagement time t1											
DC voltage	ms	97	97	78	78	69	69	165	165	146	146
AC mains voltage	ms	97	97	78	78	69	69	165	165	146	146
Cold Brake AC 230V	ms	183	183	189	189	173	173	259	259	219	219
Cold Brake AC 400V	ms	202	202	220	220	207	207	307	307	279	279
Overexcitation AC 230 V	ms	219	219	255	255	247	247	338	338	327	327
Overexcitation AC 400 V	ms	219	219	255	255	247	247	338	338	327	327
Disengagement time t2											
DC voltage	ms	179	179	270	270	356	356	340	340	378	378
AC mains voltage	ms	179	179	270	270	356	356	340	340	378	378
Cold Brake AC 230V	ms	179	179	270	270	356	356	340	340	378	378
Cold Brake AC 400V	ms	129	129	179	179	215	215	218	218	229	229
Overexcitation AC 230 V	ms	101	101	132	132	151	151	157	157	160	160
Overexcitation AC 400 V	ms	101	101	132	132	151	151	157	157	160	160
Overexcitation time											
Cold Brake AC 230V	ms	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
Cold Brake AC 400V	ms	300	300	300	300	300	300	300	300	300	300
Overexcitation AC 230 V	ms	300	300	300	300	300	300	300	300	300	300
Overexcitation AC 400 V	ms	300	300	300	300	300	300	300	300	300	300
Friction energy QBW											
DC voltage	MJ	358.2	1542.1	358.2	1542.1	81.9	578.3	474.7	2322.1	246.6	1741.6
AC mains voltage	MJ	358.2	1542.1	358.2	1542.1	81.9	578.3	474.7	2322.1	246.6	1741.6
Cold Brake AC 230V	MJ	358.2	1542.1	358.2	1542.1	81.9	578.3	474.7	2322.1	246.6	1741.6
Cold Brake AC 400V	MJ	358.2	1542.1	358.2	1542.1	218.3	1542.1	474.7	2322.1	328.8	2322.1
Overexcitation AC 230 V	MJ	358.2	1542.1	358.2	1542.1	218.3	1542.1	474.7	2322.1	328.8	2322.1
Overexcitation AC 400 V	MJ	358.2	1542.1	358.2	1542.1	218.3	1542.1	474.7	2322.1	328.8	2322.1
Reversing cycles		$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$
Repetitive cycles		$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$

Option: Friction lining

Friction linings are available for the application brake in standard or low-wear versions.

Standard friction lining

- Can be used as a holding brake or service brake in highly dynamic applications
- Short run-in process
- Wide speed range

Low-wear friction lining

- Can be used as a holding brake or service brake in applications with low but frequent loads of approx. 5 ... 10 % Q_E
- Short run-in process
- Higher friction work until the brake is replaced
- Lower maximum speed during operation

Option: Reduction of the holding current (cold brake)

By reducing the holding current, the bridge/half-wave rectifier reduces the power consumption of the open brake. As the brake heats up less, this control is referred to as a “Cold Brake”. This is necessary at low speeds in order to counteract impermissible heating. This means that no blower is required even with a speed setting range below 14 Hz. In addition, only a quarter of the braking power is required, thus saving energy.

Option: Short-time overexcitation of the brake coil

The disengagement time can be reduced by triggering the brake coil with twice the rated voltage for an overexcitation time. The brake releases much faster and the wear on the friction lining decreases. As a result of these features, this control variant is particularly ideal for hoist applications.

Option: Brake monitoring

The application brake is optionally available with a microswitch to monitor the air gap or wear. It is connected in the motor terminal box.

Wear control

A microswitch monitors the wear at the friction lining. If the wear limit is exceeded, the microswitch opens, the motor contactor is not triggered and the motor does not start.

Monitoring of the air gap

A microswitch monitors the air gap between the armature plate and the stator.

If the microswitch is activated, it e.g. triggers a motor contactor and the motor starts up.

If the brake is switched off, the microswitch opens, the motor contactor is not triggered and the motor does not start up.

This is used for machines and aggregates that require a precisely defined start-up and brake reaction and for the error monitoring of defective rectifiers, broken connecting cables, defective coils, and an excessively large air gap.

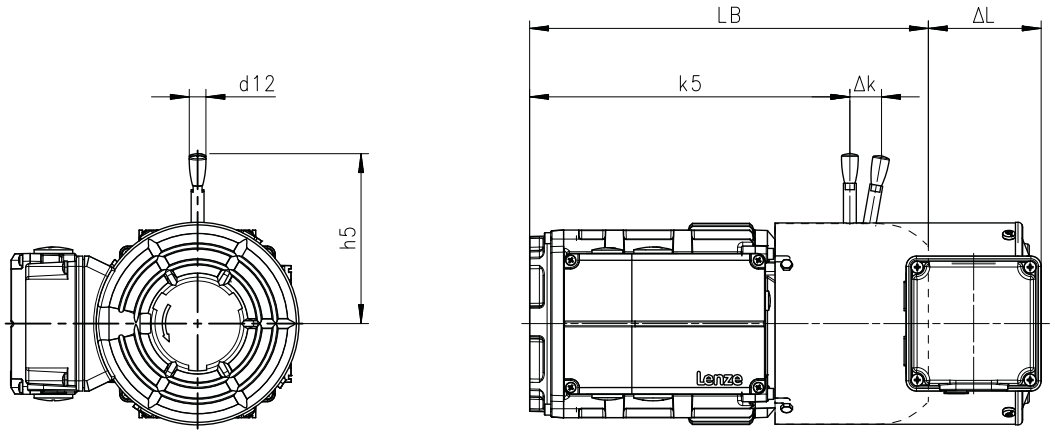
Option: Manual release

The brake can be ordered with a manual release lever to facilitate positioning and maintenance work. The brake can be released manually in deenergized mode by actuating the manual release lever.

A lockable manual release lever can be ordered as an option. This is equipped with a clamping device to hold the brake in the released position.

Dimensions of the manual release lever

Standard design, degree of protection IP54/55



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Motor	Brake	Dimensions			
		k_5	Δ k	H_5	d_{12}
		mm	mm	mm	mm
m550-H63/S4 m550-H63/M4 m550-H63/L4	ABR 06	193	25	107	13
m550-H71/M4 m550-H71/L4	ABR 06	211	25	107	13
	ABR 08	212	27	116	13
m550-P80/M4	ABR 08	231	27	116	13
	ABR 10	242	30	132	13
m550-P90/M4 m550-P90/L4	ABR 08	270	27	116	13
	ABR 10	281	30	132	13
m550-P100/M4 m550-P100/L4	ABR 10	346	30	132	13
	ABR 12	348	37	161	13
m550-P112/M4	ABR 12	345	37	161	13
	ABR 14	350	45	195	24
m550-P132/M4 m550-P132/L4	ABR 14	416	45	195	24
	ABR 16	419	55	240	24
m550-P160/M4	ABR 16	551	55	240	24
	ABR 18	565	64	279	24
m550-P160/L4	ABR 18	565	64	279	24
m550-P180/M4 m550-P180/L4	ABR 18	626	64	279	24
	ABR 20	632	74	319	24

Dimensions LB ▸ Basic dimensions 123

Dimensions Δ L ▸ Additional lengths 160

8.4.4 Spring-applied application brake, IP65/IP66 single brake

The spring-applied brakes with increased protection class can be used as service brakes or holding brakes. Emergency stops are possible.

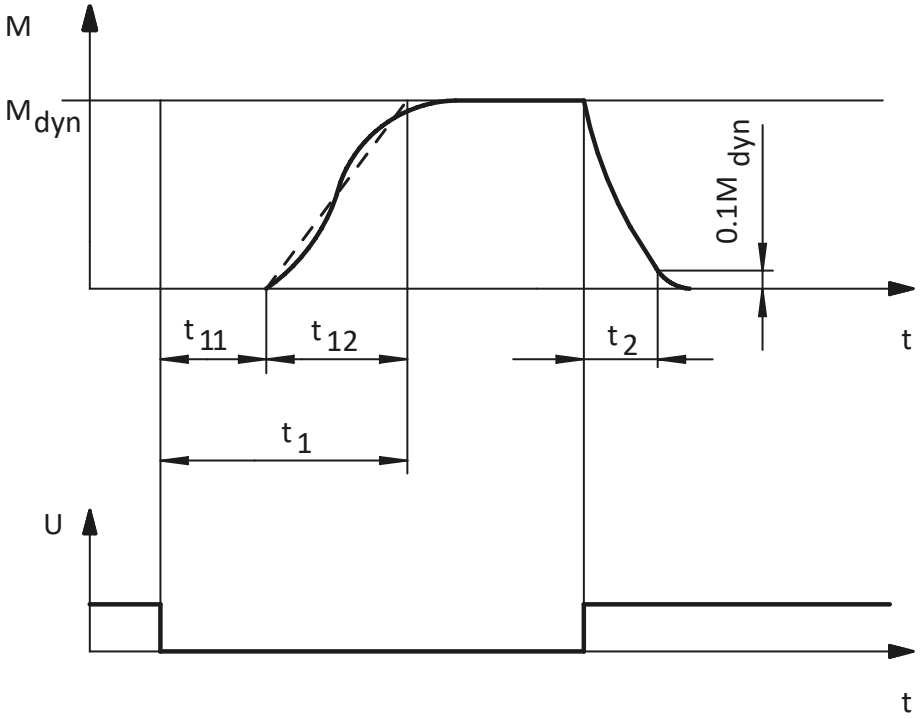
8.4.4.1 Assignment of braking torques

For optimum adaptation of the brake motor to the application, spring-applied brakes with several braking torques are available for each motor frame size.

Motor	Single brake			
	ABR 06	ABR 08	ABR 10	ABR 12
	Nm	Nm	Nm	Nm
m550-H63/S4	2.5 4			
m550-H63/M4				
m550-H63/L4				
m550-H71/M4		8		
m550-H71/L4				
m550-P80/M4		3.5 8	16	
m550-P90/M4				
m550-P90/L4		8	16 23	
m550-P100/M4				32
m550-P100/L4				46

8.4.4.2 Rated data

Switching times of the spring-applied brakes



t_1	Engagement time	t_{11}	Delay time during linking
t_2	Disengagement time (up to M = 0.1 M_{dyn})	t_{12}	Rise time of the braking torque
M_{dyn}	Braking torque at constant speed	U	Voltage

Rated data, Single brake, IP65/66

Application brake ABR 06, ABR 08

Application brake		**ABR 06**				**ABR 08**			
Braking torque									
Standard friction lining	**Nm**	**2.5**		**4**		**3.5**		**8**	
Low-wear friction lining	**Nm**		**2.5**		**4**		**3.5**		**8**
Power input									
DC 24 V	W	20	20	20	20	25	25	25	25
DC 180 V	W	20	20	20	20	25	25	25	25
DC 205 V	W	20	20	20	20	25	25	25	25
DC 180 V … 205 V	W	20	20	20	20	25	25	25	25
AC 115 V	W	20	20	20	20	25	25	25	25
AC 230 V	W	20	20	20	20	25	25	25	25
AC 400 V	W	20	20	20	20	25	25	25	25
AC 460 V	W	20	20	20	20	25	25	25	25
AC 400 V … 460 V	W	20	20	20	20	25	25	25	25
Cold Brake AC 230V	W	20	20	20	20	25	25	25	25
Cold Brake AC 400V	W	23	23	23	23	27	27	27	27
Overexcitation AC 230 V	W	20	20	20	20	25	25	25	25
Overexcitation AC 400 V	W	20	20	20	20	25	25	25	25
Moment of inertia	$kgcm^2$	0.15	0.15	0.15	0.15	0.61	0.61	0.61	0.61
Braking torque is static	Nm	2.5	2.5	4	4	3.5	3.5	8	8
Min. static braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25
Max. static braking torque tolerance	%	35	35	35	35	35	35	35	35
Dynamic braking torque									
100 rpm	Nm	2.5	2.5	4.0	4.0	3.5	3.5	8.0	8.0
1000 rpm	Nm	2.3	2.3	3.7	3.7	3.1	3.1	7.1	7.1
1200 rpm	Nm	2.3	2.3	3.6	3.6	3.0	3.0	7.0	7.0
1500 rpm	Nm	2.2	2.2	3.5	3.5	3.0	3.0	6.8	6.8
1800 rpm	Nm	2.2	2.2	3.4	3.4	2.9	2.9	6.6	6.6
2500 rpm	Nm	2.1	2.1	3.3	3.3	2.8	2.8	6.4	6.4
3000 rpm	Nm	2.0	2.0	3.2	3.2	2.7	2.7	6.2	6.2
3600 rpm	Nm	2.0	2.0	3.2	3.2	2.7	2.7	6.1	6.1
Min. dynamic braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25
Max. dynamic braking torque tolerance	%	35	35	35	35	35	35	35	35
Friction energy									
100 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1000 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1200 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1500 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1800 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
2500 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
3000 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
3600 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
Maximum speed - operation	rpm	6000	3600	6000	3600	5000	3600	5000	3600
Maximum speed - idle state	rpm	10000	10000	10000	10000	10000	10000	10000	10000

Rated data, Single brake, IP65/66

Application brake ABR 06, ABR 08

Application brake		ABR 06				ABR 08			
Braking torque									
Standard friction lining	**Nm**	**2.5**		**4**		**3.5**		**8**	
Low-wear friction lining	**Nm**		**2.5**		**4**		**3.5**		**8**
Delay time t11									
DC voltage	ms	24	24	16	16	38	38	30	30
AC mains voltage	ms	24	24	16	16	38	38	30	30
Cold Brake AC 230V	ms	26	26	17	17	41	41	32	32
Cold Brake AC 400V	ms	28	28	18	18	44	44	34	34
Overexcitation AC 230 V	ms	29	29	19	19	46	46	36	36
Overexcitation AC 400 V	ms	29	29	19	19	46	46	36	36
Rise time t12									
DC voltage	ms	34	34	25	25	46	46	26	26
AC mains voltage	ms	34	34	25	25	46	46	26	26
Cold Brake AC 230V	ms	43	43	31	31	58	58	33	33
Cold Brake AC 400V	ms	43	43	31	31	58	58	33	33
Overexcitation AC 230 V	ms	43	43	31	31	58	58	33	33
Overexcitation AC 400 V	ms	43	43	31	31	58	58	33	33
Engagement time t1									
DC voltage	ms	58	58	41	41	84	84	56	56
AC mains voltage	ms	58	58	41	41	84	84	56	56
Cold Brake AC 230V	ms	69	69	48	48	99	99	65	65
Cold Brake AC 400V	ms	71	71	49	49	102	102	67	67
Overexcitation AC 230 V	ms	72	72	50	50	104	104	69	69
Overexcitation AC 400 V	ms	72	72	50	50	104	104	69	69
Disengagement time t2									
DC voltage	ms	30	30	32	32	32	32	52	52
AC mains voltage	ms	30	30	32	32	32	32	52	52
Cold Brake AC 230V	ms	30	30	32	32	32	32	52	52
Cold Brake AC 400V	ms	20	20	21	21	21	21	35	35
Overexcitation AC 230 V	ms	15	15	16	16	16	16	26	26
Overexcitation AC 400 V	ms	15	15	16	16	16	16	26	26
Overexcitation time									
Cold Brake AC 230V	ms	300	300	300	300	300	300	300	300
Cold Brake AC 400V	ms	300	300	300	300	300	300	300	300
Overexcitation AC 230 V	ms	300	300	300	300	300	300	300	300
Overexcitation AC 400 V	ms	300	300	300	300	300	300	300	300
Friction energy QBW									
DC voltage	MJ	56.5	113.1	42.4	84.8	92.1	210.4	69.1	157.8
AC mains voltage	MJ	56.5	113.1	42.4	84.8	92.1	210.4	69.1	157.8
Cold Brake AC 230V	MJ	56.5	113.1	42.4	84.8	92.1	210.4	69.1	157.8
Cold Brake AC 400V	MJ	56.5	113.1	56.5	113.1	92.1	210.4	92.1	210.4
Overexcitation AC 230 V	MJ	56.5	113.1	56.5	113.1	92.1	210.4	92.1	210.4
Overexcitation AC 400 V	MJ	56.5	113.1	56.5	113.1	92.1	210.4	92.1	210.4
Reversing cycles		$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$
Repetitive cycles		$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$

Rated data, Single brake, IP65/66

Application brake ABR 10, ABR 12

Application brake		**ABR 10**				**ABR 12**			
Braking torque									
Standard friction lining	**Nm**	**16**		**23**		**32**		**46**	
Low-wear friction lining	**Nm**		**16**		**23**		**32**		**46**
Power input									
DC 24 V	W	30	30	30	30	40	40	40	40
DC 180 V	W	32	32	32	32	40	40	40	40
DC 205 V	W	33	33	33	33	40	40	40	40
DC 180 V … 205 V	W	33	33	33	33	40	40	40	40
AC 115 V	W	32	32	32	32	40	40	40	40
AC 230 V	W	33	33	33	33	40	40	40	40
AC 400 V	W	32	32	32	32	40	40	40	40
AC 460 V	W	33	33	33	33	40	40	40	40
AC 400 V … 460 V	W	33	33	33	33	40	40	40	40
Cold Brake AC 230V	W	33	33	33	33	40	40	40	40
Cold Brake AC 400V	W	30	30	30	30	42	42	42	42
Overexcitation AC 230 V	W	32	32	32	32	40	40	40	40
Overexcitation AC 400 V	W	32	32	32	32	40	40	40	40
Moment of inertia	kgcm²	2	2	2	2	4.5	4.5	4.5	4.5
Braking torque is static	Nm	16	16	23	23	32	32	46	46
Min. static braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25
Max. static braking torque tolerance	%	35	35	35	35	35	35	35	35
Dynamic braking torque									
100 rpm	Nm	16	16	23	23	32	32	46	46
1000 rpm	Nm	14	14	20	20	28	28	40	40
1200 rpm	Nm	14	14	20	20	27	27	39	39
1500 rpm	Nm	13	13	19	19	26	26	38	38
1800 rpm	Nm	13	13	19	19	26	26	37	37
2500 rpm	Nm	12	12	18	18	24	24	35	35
3000 rpm	Nm	12	12	17	17	24	24	35	35
3600 rpm	Nm	12	12	17	17	23	23	34	34
Min. dynamic braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25
Max. dynamic braking torque tolerance	%	35	35	35	35	35	35	35	35
Friction energy									
100 rpm	kJ	12	12	12	12	24	24	24	24
1000 rpm	kJ	12	12	12	12	24	24	24	24
1200 rpm	kJ	12	12	12	12	24	24	24	24
1500 rpm	kJ	12	12	12	12	24	24	24	24
1800 rpm	kJ	12	12	12	12	24	24	24	24
2500 rpm	kJ	12	12	12	12	24	24	24	24
3000 rpm	kJ	12	12	12	12	24	24	24	24
3600 rpm	kJ	12	12	12	12	24	7	24	7
Maximum speed - operation	rpm	4000	3600	4000	3600	3600	3600	3600	3600
Maximum speed - idle state	rpm	10000	10000	10000	10000	10000	10000	10000	10000

Rated data, Single brake, IP65/66

Application brake ABR 10, ABR 12

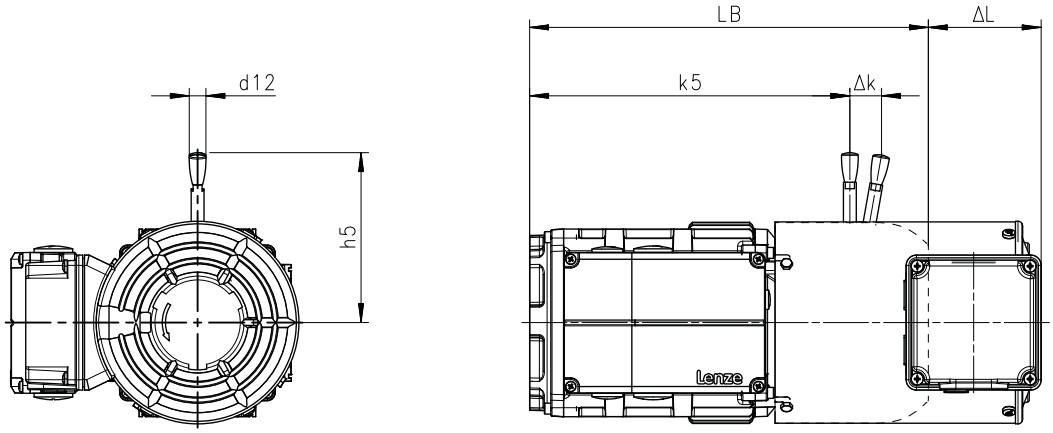
Application brake		ABR 10				ABR 12			
Braking torque									
Standard friction lining	**Nm**	**16**		**23**		**32**		**46**	
Low-wear friction lining	**Nm**		**16**		**23**		**32**		**46**
Delay time t11									
DC voltage	ms	40	40	23	23	47	47	65	65
AC mains voltage	ms	40	40	23	23	47	47	65	65
Cold Brake AC 230V	ms	43	43	25	25	50	50	70	70
Cold Brake AC 400V	ms	46	46	27	27	53	53	74	74
Overexcitation AC 230 V	ms	48	48	28	28	56	56	78	78
Overexcitation AC 400 V	ms	48	48	28	28	56	56	78	78
Rise time t12									
DC voltage	ms	46	46	46	46	34	34	34	34
AC mains voltage	ms	46	46	46	46	34	34	34	34
Cold Brake AC 230V	ms	58	58	58	58	43	43	43	43
Cold Brake AC 400V	ms	58	58	58	58	43	43	43	43
Overexcitation AC 230 V	ms	58	58	58	58	43	43	43	43
Overexcitation AC 400 V	ms	58	58	58	58	43	43	43	43
Engagement time t1									
DC voltage	ms	86	86	69	69	81	81	99	99
AC mains voltage	ms	86	86	69	69	81	81	99	99
Cold Brake AC 230V	ms	101	101	83	83	93	93	113	113
Cold Brake AC 400V	ms	104	104	85	85	96	96	117	117
Overexcitation AC 230 V	ms	106	106	86	86	99	99	121	121
Overexcitation AC 400 V	ms	106	106	86	86	99	99	121	121
Disengagement time t2									
DC voltage	ms	107	107	154	154	121	121	135	135
AC mains voltage	ms	107	107	154	154	121	121	135	135
Cold Brake AC 230V	ms	107	107	154	154	121	121	135	135
Cold Brake AC 400V	ms	71	71	103	103	81	81	90	90
Overexcitation AC 230 V	ms	54	54	77	77	61	61	68	68
Overexcitation AC 400 V	ms	54	54	77	77	61	61	68	68
Overexcitation time									
Cold Brake AC 230V	ms	300	300	300	300	300	300	300	300
Cold Brake AC 400V	ms	300	300	300	300	300	300	300	300
Overexcitation AC 230 V	ms	300	300	300	300	300	300	300	300
Overexcitation AC 400 V	ms	300	300	300	300	300	300	300	300
Friction energy QBW									
DC voltage	MJ	73.5	198	30.7	121	118.2	353.1	64.1	298.8
AC mains voltage	MJ	73.5	198	30.7	121	118.2	353.1	64.1	298.8
Cold Brake AC 230V	MJ	73.5	198	30.7	121	118.2	353.1	64.1	298.8
Cold Brake AC 400V	MJ	98	264	62.9	247.5	216.7	647.3	134	624.7
Overexcitation AC 230 V	MJ	98	264	67.1	264	216.7	647.3	138.8	647.3
Overexcitation AC 400 V	MJ	98	264	67.1	264	216.7	647.3	138.8	647.3
Reversing cycles		$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$
Repetitive cycles		$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$	$2x\ 10^6$

Option: Manual release

The brake can be ordered with a manual release lever to facilitate positioning and maintenance work. The brake can be released manually in deenergized mode by actuating the manual release lever.

A lockable manual release lever can be ordered as an option. This is equipped with a clamping device to hold the brake in the released position.

Standard design, degree of protection IP65/66



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Motor	Brake	Dimensions			
		k_5	Δ k	H_5	d_{12}
		mm	mm	mm	mm
m550-H63/S4 m550-H63/M4 m550-H63/L4	ABR 06	200	22	112	8
m550-H71/M4 m550-H71/L4	ABR 06	218	22	112	8
	ABR 08	223	23	120	8
m550-P80/M4	ABR 08	242	23	120	8
	ABR 10	244	20	143	10
m550-P90/M4 m550-P90/L4	ABR 08	281	23	120	8
	ABR 10	283	20	143	10
m550-P100/M4 m550-P100/L4	ABR 10	348	25	143	10
	ABR 12	352	34	175	12

Dimensions LB ▸ Basic dimensions 🕮 123

Dimensions Δ L ▸ Additional lengths 🕮 160

8.4.5 Spring-applied application brake, IP54/IP55 single brake LongLife

The spring-applied brakes can be used as service brakes or holding brakes. Emergency stops are possible.

The spring-applied brake is available as a LongLife version for applications with very high switching frequencies.

The brake mechanism is reinforced. Up to 10 million repetitive or 15 million reversing switching cycles are possible.

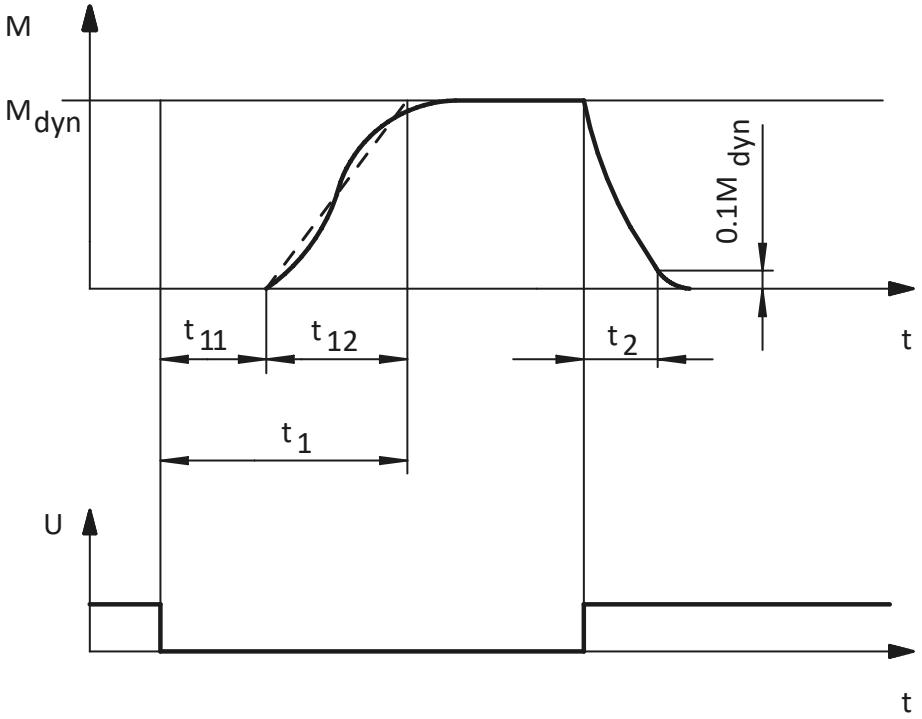
8.4.5.1 Assignment of braking torques

For optimum adaptation of the brake motor to the application, spring-applied brakes with several braking torques are available for each motor frame size.

<table>
<tr><th rowspan="3">Motor</th><th colspan="4">Single brake LongLife</th></tr>
<tr><th>ABR 06</th><th>ABR 08</th><th>ABR 10</th><th>ABR 12</th></tr>
<tr><th>Nm</th><th>Nm</th><th>Nm</th><th>Nm</th></tr>
<tr><td>m550-H63/S4</td><td rowspan="5">2.5
4</td><td rowspan="3"></td><td rowspan="4"></td><td rowspan="7"></td></tr>
<tr><td>m550-H63/M4</td></tr>
<tr><td>m550-H63/L4</td></tr>
<tr><td>m550-H71/M4</td><td rowspan="2">8</td></tr>
<tr><td>m550-H71/L4</td></tr>
<tr><td>m550-P80/M4</td><td rowspan="6"></td><td>3.5
8</td><td rowspan="4">16</td></tr>
<tr><td>m550-P90/M4</td><td rowspan="2">8</td></tr>
<tr><td>m550-P90/L4</td></tr>
<tr><td>m550-P100/M4</td><td rowspan="3"></td><td>32</td></tr>
<tr><td>m550-P100/L4</td><td></td></tr>
<tr><td>m550-P112/M4</td><td></td><td>14
32</td></tr>
</table>

8.4.5.2 Rated data

Switching times of the spring-applied brakes



t_1	Engagement time	t_{11}	Delay time during linking
t_2	Disengagement time (up to M = 0.1 M_{dyn})	t_{12}	Rise time of the braking torque
M_{dyn}	Braking torque at constant speed	U	Voltage

Rated data, Single brake LongLife, IP54/55

Application brake ABR 06, ABR 08

Application brake		**ABR 06**				**ABR 08**			
Braking torque									
Standard friction lining	**Nm**	**2.5**		**4**		**3.5**		**8**	
Low-wear friction lining	**Nm**		**2.5**		**4**		**3.5**		**8**
Power input									
DC 24 V	W	20	20	20	20	25	25	25	25
DC 180 V	W	20	20	20	20	25	25	25	25
DC 205 V	W	20	20	20	20	25	25	25	25
DC 180 V … 205 V	W	20	20	20	20	25	25	25	25
AC 115 V	W	20	20	20	20	25	25	25	25
AC 230 V	W	20	20	20	20	25	25	25	25
AC 400 V	W	20	20	20	20	25	25	25	25
AC 460 V	W	20	20	20	20	25	25	25	25
AC 400 V … 460 V	W	20	20	20	20	25	25	25	25
Cold Brake AC 230V	W	20	20	20	20	25	25	25	25
Cold Brake AC 400V	W	23	23	23	23	27	27	27	27
Overexcitation AC 230 V	W	20	20	20	20	25	25	25	25
Overexcitation AC 400 V	W	20	20	20	20	25	25	25	25
Moment of inertia	kgcm²	0.15	0.15	0.15	0.15	0.61	0.61	0.61	0.61
Braking torque is static	Nm	2.5	2.5	4	4	3.5	3.5	8	8
Min. static braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25
Max. static braking torque tolerance	%	35	35	35	35	35	35	35	35
Dynamic braking torque									
100 rpm	Nm	2.5	2.5	4.0	4.0	3.5	3.5	8.0	8.0
1000 rpm	Nm	2.3	2.3	3.7	3.7	3.1	3.1	7.1	7.1
1200 rpm	Nm	2.3	2.3	3.6	3.6	3.0	3.0	7.0	7.0
1500 rpm	Nm	2.2	2.2	3.5	3.5	3.0	3.0	6.8	6.8
1800 rpm	Nm	2.2	2.2	3.4	3.4	2.9	2.9	6.6	6.6
2500 rpm	Nm	2.1	2.1	3.3	3.3	2.8	2.8	6.4	6.4
3000 rpm	Nm	2.0	2.0	3.2	3.2	2.7	2.7	6.2	6.2
3600 rpm	Nm	2.0	2.0	3.2	3.2	2.7	2.7	6.1	6.1
Min. dynamic braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25
Max. dynamic braking torque tolerance	%	35	35	35	35	35	35	35	35
Friction energy									
100 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1000 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1200 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1500 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
1800 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
2500 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
3000 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
3600 rpm	kJ	3	3	3	3	7.5	7.5	7.5	7.5
Maximum speed - operation	rpm	6000	3600	6000	3600	5000	3600	5000	3600
Maximum speed - idle state	rpm	10000	10000	10000	10000	10000	10000	10000	10000

Rated data, Single brake LongLife, IP54/55

Application brake ABR 06, ABR 08

Application brake		**ABR 06**				**ABR 08**			
Braking torque									
Standard friction lining	**Nm**	**2.5**		**4**		**3.5**		**8**	
Low-wear friction lining	**Nm**		**2.5**		**4**		**3.5**		**8**
Delay time t11									
DC voltage	ms	25	25	15	15	14	14	15	15
AC mains voltage	ms	25	25	15	15	14	14	15	15
Cold Brake AC 230V	ms	24	24	16	16	22	22	25	25
Cold Brake AC 400V	ms	27	27	19	19	28	28	28	28
Overexcitation AC 230 V	ms	31	31	20	20	33	33	31	31
Overexcitation AC 400 V	ms	31	31	20	20	33	33	31	31
Rise time t12									
DC voltage	ms	13	13	13	13	10	10	16	16
AC mains voltage	ms	13	13	13	13	10	10	16	16
Cold Brake AC 230V	ms	12	12	14	14	16	16	27	27
Cold Brake AC 400V	ms	14	14	16	16	20	20	30	30
Overexcitation AC 230 V	ms	16	16	17	17	24	24	33	33
Overexcitation AC 400 V	ms	16	16	17	17	24	24	33	33
Engagement time t1									
DC voltage	ms	38	38	28	28	24	24	31	31
AC mains voltage	ms	38	38	28	28	24	24	31	31
Cold Brake AC 230V	ms	36	36	30	30	38	38	52	52
Cold Brake AC 400V	ms	41	41	35	35	48	48	58	58
Overexcitation AC 230 V	ms	47	47	37	37	57	57	64	64
Overexcitation AC 400 V	ms	47	47	37	37	57	57	64	64
Disengagement time t2									
DC voltage	ms	30	30	45	45	37	37	57	57
AC mains voltage	ms	30	30	45	45	37	37	57	57
Cold Brake AC 230V	ms	30	30	45	45	37	37	57	57
Cold Brake AC 400V	ms	21	21	30	30	24	24	36	36
Overexcitation AC 230 V	ms	17	17	22	22	18	18	26	26
Overexcitation AC 400 V	ms	17	17	22	22	18	18	26	26
Overexcitation time									
Cold Brake AC 230V	ms	300	300	300	300	300	300	300	300
Cold Brake AC 400V	ms	300	300	300	300	300	300	300	300
Overexcitation AC 230 V	ms	300	300	300	300	300	300	300	300
Overexcitation AC 400 V	ms	300	300	300	300	300	300	300	300
Friction energy QBW									
DC voltage	MJ	56.5	113.1	42.4	84.8	92.1	210.4	69.1	157.8
AC mains voltage	MJ	56.5	113.1	42.4	84.8	92.1	210.4	69.1	157.8
Cold Brake AC 230V	MJ	56.5	113.1	42.4	84.8	92.1	210.4	69.1	157.8
Cold Brake AC 400V	MJ	56.5	113.1	56.5	113.1	92.1	210.4	92.1	210.4
Overexcitation AC 230 V	MJ	56.5	113.1	56.5	113.1	92.1	210.4	92.1	210.4
Overexcitation AC 400 V	MJ	56.5	113.1	56.5	113.1	92.1	210.4	92.1	210.4
Reversing cycles		$15x\ 10^6$	$15x\ 10^6$	$15x\ 10^6$	$15x\ 10^6$	$15x\ 10^6$	$15x\ 10^6$	$15x\ 10^6$	$15x\ 10^6$
Repetitive cycles		$10x\ 10^6$	$10x\ 10^6$	$10x\ 10^6$	$10x\ 10^6$	$10x\ 10^6$	$10x\ 10^6$	$10x\ 10^6$	$10x\ 10^6$

Rated data, Single brake LongLife, IP54/55

Application brake ABR 10, ABR 12

Application brake		ABR 10		ABR 12			
Braking torque							
Standard friction lining	**Nm**	**16**		**14**		**32**	
Low-wear friction lining	**Nm**		**16**		**14**		**32**
Power input							
DC 24 V	W	30	30	40	40	40	40
DC 180 V	W	32	32	40	40	40	40
DC 205 V	W	33	33	40	40	40	40
DC 180 V … 205 V	W	33	33	40	40	40	40
AC 115 V	W	32	32	40	40	40	40
AC 230 V	W	33	33	40	40	40	40
AC 400 V	W	32	32	40	40	40	40
AC 460 V	W	33	33	40	40	40	40
AC 400 V … 460 V	W	33	33	40	40	40	40
Cold Brake AC 230V	W	33	33	40	40	40	40
Cold Brake AC 400V	W	30	30	42	42	42	42
Overexcitation AC 230 V	W	32	32	40	40	40	40
Overexcitation AC 400 V	W	32	32	40	40	40	40
Moment of inertia	kgcm²	2	2	4.5	4.5	4.5	4.5
Braking torque is static	Nm	16	16	14	14	32	32
Min. static braking torque tolerance	%	-25	-25	-25	-25	-25	-25
Max. static braking torque tolerance	%	35	35	35	35	35	35
Dynamic braking torque							
100 rpm	Nm	16	16	14	14	32	32
1000 rpm	Nm	14	14	12	12	28	28
1200 rpm	Nm	14	14	12	12	27	27
1500 rpm	Nm	13	13	11	11	26	26
1800 rpm	Nm	13	13	11	11	26	26
2500 rpm	Nm	12	12	11	11	24	24
3000 rpm	Nm	12	12	11	11	24	24
3600 rpm	Nm	12	12	10	10	23	23
Min. dynamic braking torque tolerance	%	-25	-25	-25	-25	-25	-25
Max. dynamic braking torque tolerance	%	35	35	35	35	35	35
Friction energy							
100 rpm	kJ	12	12	24	24	24	24
1000 rpm	kJ	12	12	24	24	24	24
1200 rpm	kJ	12	12	24	24	24	24
1500 rpm	kJ	12	12	24	24	24	24
1800 rpm	kJ	12	12	24	24	24	24
2500 rpm	kJ	12	12	24	24	24	24
3000 rpm	kJ	12	12	24	24	24	24
3600 rpm	kJ	12	12	24	7	24	7
Maximum speed - operation	rpm	4000	3600	3600	3600	3600	3600
Maximum speed - idle state	rpm	10000	10000	10000	10000	10000	10000

Rated data, Single brake LongLife, IP54/55

Application brake ABR 10, ABR 12

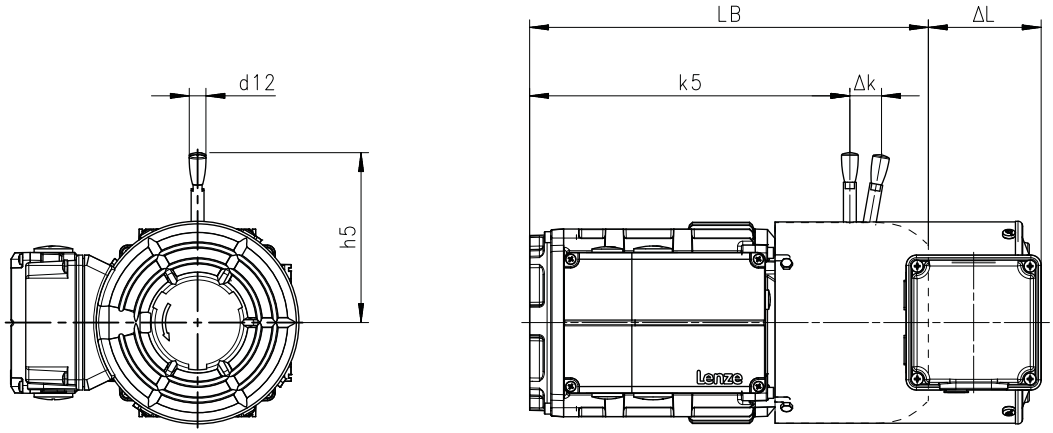
Application brake		**ABR 10**		**ABR 12**			
Braking torque							
Standard friction lining	**Nm**	**16**		**14**		**32**	
Low-wear friction lining	**Nm**		**16**		**14**		**32**
Delay time t11							
DC voltage	ms	28	28	21	21	28	28
AC mains voltage	ms	28	28	21	21	28	28
Cold Brake AC 230V	ms	31	31	49	49	48	48
Cold Brake AC 400V	ms	34	34	64	64	55	55
Overexcitation AC 230 V	ms	44	44	73	73	62	62
Overexcitation AC 400 V	ms	44	44	73	73	62	62
Rise time t12							
DC voltage	ms	19	19	19	19	25	25
AC mains voltage	ms	19	19	19	19	25	25
Cold Brake AC 230V	ms	21	21	44	44	43	43
Cold Brake AC 400V	ms	23	23	58	58	49	49
Overexcitation AC 230 V	ms	30	30	66	66	55	55
Overexcitation AC 400 V	ms	30	30	66	66	55	55
Engagement time t1							
DC voltage	ms	47	47	40	40	53	53
AC mains voltage	ms	47	47	40	40	53	53
Cold Brake AC 230V	ms	52	52	93	93	91	91
Cold Brake AC 400V	ms	57	57	122	122	104	104
Overexcitation AC 230 V	ms	74	74	139	139	117	117
Overexcitation AC 400 V	ms	74	74	139	139	117	117
Disengagement time t2							
DC voltage	ms	76	76	65	65	115	115
AC mains voltage	ms	76	76	65	65	115	115
Cold Brake AC 230V	ms	76	76	65	65	115	115
Cold Brake AC 400V	ms	53	53	48	48	78	78
Overexcitation AC 230 V	ms	41	41	38	38	59	59
Overexcitation AC 400 V	ms	41	41	38	38	59	59
Overexcitation time							
Cold Brake AC 230V	ms	300	300	300	300	300	300
Cold Brake AC 400V	ms	300	300	300	300	300	300
Overexcitation AC 230 V	ms	300	300	300	300	300	300
Overexcitation AC 400 V	ms	300	300	300	300	300	300
Friction energy QBW							
DC voltage	MJ	98	264	236.4	706.2	177.3	529.6
AC mains voltage	MJ	98	264	236.4	706.2	177.3	529.6
Cold Brake AC 230V	MJ	98	264	236.4	706.2	177.3	529.6
Cold Brake AC 400V	MJ	98	264	236.4	706.2	236.4	706.2
Overexcitation AC 230 V	MJ	98	264	236.4	706.2	236.4	706.2
Overexcitation AC 400 V	MJ	98	264	236.4	706.2	236.4	706.2
Reversing cycles		$15x\ 10^6$	$15x\ 10^6$	$15x\ 10^6$	$15x\ 10^6$	$15x\ 10^6$	$15x\ 10^6$
Repetitive cycles		$10x\ 10^6$	$10x\ 10^6$	$10x\ 10^6$	$10x\ 10^6$	$10x\ 10^6$	$10x\ 10^6$

Option: Manual release

The brake can be ordered with a manual release lever to facilitate positioning and maintenance work. The brake can be released manually in deenergized mode by actuating the manual release lever.

A lockable manual release lever can be ordered as an option. This is equipped with a clamping device to hold the brake in the released position.

Longlife design, degree of protection IP54/55



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Motor	Brake	Dimensions			
		k_5	Δ k	H_5	d_{12}
		mm	mm	mm	mm
m550-H63/S4 m550-H63/M4 m550-H63/L4	ABR 06	198	25	107	13
m550-H71/M4 m550-H71/L4	ABR 06	216	25	107	13
	ABR 08	217	27	116	13
m550-P80/M4	ABR 08	236	27	116	13
	ABR 10	250	30	132	13
m550-P90/M4 m550-P90/L4	ABR 08	275	27	116	13
	ABR 10	289	30	132	13
m550-P100/M4 m550-P100/L4	ABR 10	354	30	132	13
	ABR 12	355	37	161	13
m550-P112/M4	ABR 12	353	37	161	13

Dimensions LB ▸ Basic dimensions 123

Dimensions Δ L ▸ Additional lengths 160

8.4.6 Spring-applied application brake, IP54/IP55 double brake

Double brake

With the double brake, two application brakes are arranged one behind the other.

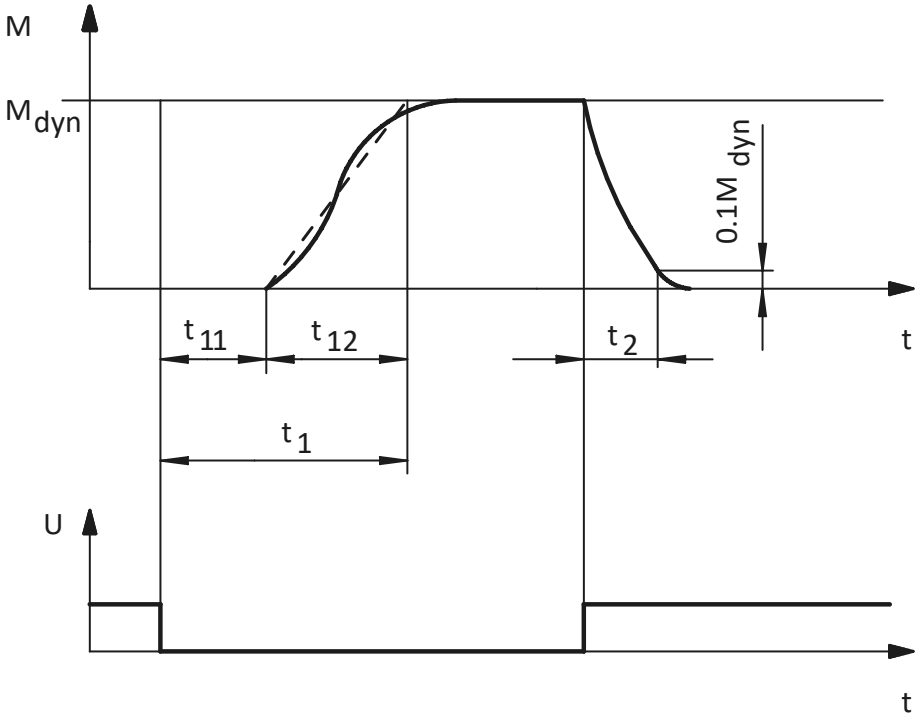
8.4.6.1 Assignment of braking torques

For optimum adaptation of the brake motor to the application, spring-applied brakes with several braking torques are available for each motor frame size.

Motor	Double brake		
	ABR 16	ABR 18	ABR 20
	Nm	Nm	Nm
m550-P160/M4	90 110	130 160	
m550-P160/L4		130 160 200	230
m550-P180/M4			
m550-P180/L4			

8.4.6.2 Rated data

Switching times of the spring-applied brakes



t_1	Engagement time	t_{11}	Delay time during linking
t_2	Disengagement time (up to M = 0.1 M_{dyn})	t_{12}	Rise time of the braking torque
M_{dyn}	Braking torque at constant speed	U	Voltage

Rated data, Double brake, IP54/55

Application brake ABR 16, ABR 18

Application brake		**ABR 16**				**ABR 18**					
Braking torque											
Standard friction lining	**Nm**	**90**		**110**		**130**		**160**		**200**	
Low-wear friction lining	**Nm**		**90**		**110**		**130**		**160**		**200**
Power input											
DC 24 V	W	110	110	110	110	170	170	170	170	170	170
DC 180 V	W	110	110	110	110	170	170	170	170	170	170
DC 205 V	W	112	112	112	112	170	170	170	170	170	170
DC 180 V … 205 V	W	112	112	112	112	170	170	170	170	170	170
AC 115 V	W	112	112	112	112	170	170	170	170	170	170
AC 230 V	W	112	112	112	112	170	170	170	170	170	170
AC 400 V	W	110	110	110	110	170	170	170	170	170	170
AC 460 V	W	112	112	112	112	170	170	170	170	170	170
AC 400 V … 460 V	W	112	112	112	112	170	170	170	170	170	170
Cold Brake AC 230V	W	112	112	112	112	170	170	170	170	170	170
Cold Brake AC 400V	W	110	110	110	110	170	170	170	170	170	170
Overexcitation AC 230 V	W	112	112	112	112	170	170	170	170	170	170
Overexcitation AC 400 V	W	110	110	110	110	170	170	170	170	170	170
Moment of inertia	kgcm²	30	30	30	30	58	58	58	58	58	58
Braking torque is static	Nm	90	90	110	110	130	130	160	160	200	200
Min. static braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
Max. static braking torque tolerance	%	35	35	35	35	35	35	35	35	35	35
Dynamic braking torque											
100 rpm	Nm	90	90	110	110	130	130	160	160	200	200
1000 rpm	Nm	75	75	91	91	105	105	130	130	162	162
1200 rpm	Nm	73	73	89	89	103	103	126	126	158	158
1500 rpm	Nm	70	70	86	86	100	100	123	123	154	154
1800 rpm	Nm	69	69	85	85	98	98	120	120	150	150
2500 rpm	Nm	66	66	80	80	94	-	115	-	144	-
3000 rpm	Nm	64	64	78	78	91	-	112	-	140	-
3600 rpm	Nm	63	-	77	77	88	-	109	-	136	-
Min. dynamic braking torque tolerance	%	-25	-25	-25	-25	-25	-25	-25	-25	-25	-25
Max. dynamic braking torque tolerance	%	35	35	35	35	35	35	35	35	35	35
Friction energy											
100 rpm	kJ	72	72	72	72	120	120	120	120	120	120
1000 rpm	kJ	72	72	72	72	120	120	120	120	120	120
1200 rpm	kJ	72	72	72	72	120	120	120	120	120	120
1500 rpm	kJ	72	72	72	72	120	120	120	120	120	120
1800 rpm	kJ	72	72	72	72	120	72	120	72	120	72
2500 rpm	kJ	72	72	72	72	120	-	120	-	120	-
3000 rpm	kJ	72	22	72	22	120	-	120	-	120	-
3600 rpm	kJ	72	-	72	22	120	-	120	-	120	-
Maximum speed - operation	rpm	3600	3000	3600	3000	3600	1800	3600	1800	3600	1800
Maximum speed - idle state	rpm	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

Rated data, Double brake, IP54/55

Application brake ABR 16, ABR 18

Application brake		ABR 16				ABR 18					
Braking torque											
Standard friction lining	**Nm**	**90**		**110**		**130**		**160**		**200**	
Low-wear friction lining	**Nm**		**90**		**110**		**130**		**160**		**200**
Delay time t11											
DC voltage	ms	72	72	59	59	35	35	77	77	64	64
AC mains voltage	ms	72	72	59	59	35	35	77	77	64	64
Cold Brake AC 230V	ms	157	157	129	129	101	101	145	145	126	126
Cold Brake AC 400V	ms	178	178	148	148	120	120	160	160	141	141
Overexcitation AC 230 V	ms	186	186	159	159	136	136	174	174	156	156
Overexcitation AC 400 V	ms	186	186	159	159	136	136	174	174	156	156
Rise time t12											
DC voltage	ms	25	25	30	30	35	35	20	20	45	45
AC mains voltage	ms	25	25	30	30	35	35	20	20	45	45
Cold Brake AC 230V	ms	55	55	66	66	101	101	38	38	89	89
Cold Brake AC 400V	ms	62	62	75	75	120	120	42	42	99	99
Overexcitation AC 230 V	ms	65	65	81	81	136	136	45	45	110	110
Overexcitation AC 400 V	ms	65	65	81	81	136	136	45	45	110	110
Engagement time t1											
DC voltage	ms	97	97	89	89	70	70	97	97	109	109
AC mains voltage	ms	97	97	89	89	70	70	97	97	109	109
Cold Brake AC 230V	ms	212	212	195	195	202	202	183	183	215	215
Cold Brake AC 400V	ms	240	240	223	223	240	240	202	202	240	240
Overexcitation AC 230 V	ms	251	251	240	240	272	272	219	219	266	266
Overexcitation AC 400 V	ms	251	251	240	240	272	272	219	219	266	266
Disengagement time t2											
DC voltage	ms	135	135	158	158	205	205	179	179	203	203
AC mains voltage	ms	135	135	158	158	205	205	179	179	203	203
Cold Brake AC 230V	ms	135	135	158	158	205	205	179	179	203	203
Cold Brake AC 400V	ms	104	104	118	118	139	139	129	129	143	143
Overexcitation AC 230 V	ms	86	86	95	95	103	103	101	101	110	110
Overexcitation AC 400 V	ms	86	86	95	95	103	103	101	101	110	110
Overexcitation time											
Cold Brake AC 230V	ms	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
Cold Brake AC 400V	ms	300	300	300	300	300	300	300	300	300	300
Overexcitation AC 230 V	ms	300	300	300	300	300	300	300	300	300	300
Overexcitation AC 400 V	ms	300	300	300	300	300	300	300	300	300	300
Friction energy QBW											
DC voltage	MJ	515.8	1931.4	515.8	1931.4	716.4	3084.2	716.4	3084.2	716.4	3084.2
AC mains voltage	MJ	515.8	1931.4	515.8	1931.4	716.4	3084.2	716.4	3084.2	716.4	3084.2
Cold Brake AC 230V	MJ	515.8	1931.4	515.8	1931.4	716.4	3084.2	716.4	3084.2	716.4	3084.2
Cold Brake AC 400V	MJ	515.8	1931.4	515.8	1931.4	716.4	3084.2	716.4	3084.2	716.4	3084.2
Overexcitation AC 230 V	MJ	515.8	1931.4	515.8	1931.4	716.4	3084.2	716.4	3084.2	716.4	3084.2
Overexcitation AC 400 V	MJ	515.8	1931.4	515.8	1931.4	716.4	3084.2	716.4	3084.2	716.4	3084.2
Wear limit of brake pad	MJ	3000	11260	3000	11260	2680	11560	2680	11560	2680	11560
Reversing cycles		$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$
Repetitive cycles		$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$	$1x\ 10^6$

Rated data, Double brake, IP54/55

Application brake ABR 20

Application brake		**ABR 20**	
Braking torque			
Standard friction lining	**Nm**	**230**	
Low-wear friction lining	**Nm**		**230**
Power input			
DC 24 V	W	200	200
DC 180 V	W	200	200
DC 205 V	W	200	200
DC 180 V … 205 V	W	200	200
AC 115 V	W	200	200
AC 230 V	W	200	200
AC 400 V	W	200	200
AC 460 V	W	200	200
AC 400 V … 460 V	W	200	200
Cold Brake AC 230V	W	200	200
Cold Brake AC 400V	W	200	200
Overexcitation AC 230 V	W	200	200
Overexcitation AC 400 V	W	200	200
Moment of inertia	kgcm²	146	146
Braking torque is static	Nm	230	230
Min. static braking torque tolerance	%	-25	-25
Max. static braking torque tolerance	%	35	35
Dynamic braking torque			
100 rpm	Nm	230	230
1000 rpm	Nm	182	182
1200 rpm	Nm	177	177
1500 rpm	Nm	173	173
1800 rpm	Nm	168	-
2500 rpm	Nm	161	-
3000 rpm	Nm	156	-
3600 rpm	Nm	152	-
Min. dynamic braking torque tolerance	%	-25	-25
Max. dynamic braking torque tolerance	%	35	35
Friction energy			
100 rpm	kJ	160	160
1000 rpm	kJ	160	160
1200 rpm	kJ	160	160
1500 rpm	kJ	160	48
1800 rpm	kJ	160	-
2500 rpm	kJ	160	-
3000 rpm	kJ	160	-
3600 rpm	kJ	160	-
Maximum speed - operation	rpm	3600	1500
Maximum speed - idle state	rpm	10000	10000

Rated data, Double brake, IP54/55

Application brake ABR 20

Application brake		**ABR 20**	
Braking torque			
Standard friction lining	**Nm**	**230**	
Low-wear friction lining	**Nm**		**230**
Delay time t11			
DC voltage	ms	53	53
AC mains voltage	ms	53	53
Cold Brake AC 230V	ms	151	151
Cold Brake AC 400V	ms	173	173
Overexcitation AC 230 V	ms	195	195
Overexcitation AC 400 V	ms	195	195
Rise time t12			
DC voltage	ms	100	100
AC mains voltage	ms	100	100
Cold Brake AC 230V	ms	285	285
Cold Brake AC 400V	ms	326	326
Overexcitation AC 230 V	ms	368	368
Overexcitation AC 400 V	ms	368	368
Engagement time t1			
DC voltage	ms	153	153
AC mains voltage	ms	153	153
Cold Brake AC 230V	ms	436	436
Cold Brake AC 400V	ms	499	499
Overexcitation AC 230 V	ms	563	563
Overexcitation AC 400 V	ms	563	563
Disengagement time t2			
DC voltage	ms	181	181
AC mains voltage	ms	181	181
Cold Brake AC 230V	ms	181	181
Cold Brake AC 400V	ms	124	124
Overexcitation AC 230 V	ms	93	93
Overexcitation AC 400 V	ms	93	93
Overexcitation time			
Cold Brake AC 230V	ms	1300	1300
Cold Brake AC 400V	ms	300	300
Overexcitation AC 230 V	ms	300	300
Overexcitation AC 400 V	ms	300	300
Friction energy QBW			
DC voltage	MJ	949.4	4644.2
AC mains voltage	MJ	949.4	4644.2
Cold Brake AC 230V	MJ	949.4	4644.2
Cold Brake AC 400V	MJ	949.4	4644.2
Overexcitation AC 230 V	MJ	949.4	4644.2
Overexcitation AC 400 V	MJ	949.4	4644.2
Wear limit of brake pad	MJ	4740	23220
Reversing cycles		$1x\ 10^6$	$1x\ 10^6$
Repetitive cycles		$1x\ 10^6$	$1x\ 10^6$

Option: Reduction of the holding current (cold brake)

By reducing the holding current, the bridge/half-wave rectifier reduces the power consumption of the open brake. As the brake heats up less, this control is referred to as a “Cold Brake”. This is necessary at low speeds in order to counteract impermissible heating. This means that no blower is required even with a speed setting range below 14 Hz. In addition, only a quarter of the braking power is required, thus saving energy.

Option: Short-time overexcitation of the brake coil

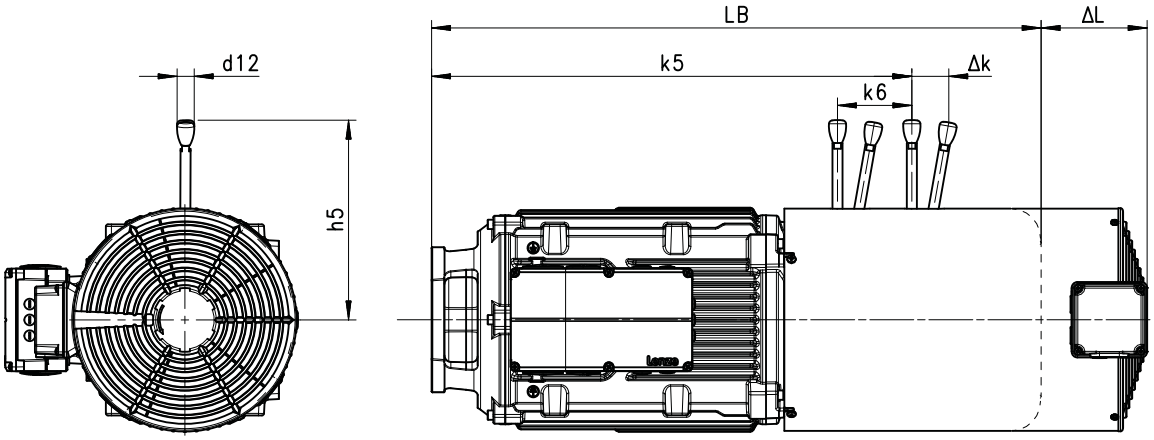
The disengagement time can be reduced by triggering the brake coil with twice the rated voltage for an overexcitation time. The brake releases much faster and the wear on the friction lining decreases. As a result of these features, this control variant is particularly ideal for hoist applications.

Option: Manual release

The brake can be ordered with a manual release lever to facilitate positioning and maintenance work. The brake can be released manually in deenergized mode by actuating the manual release lever.

A lockable manual release lever can be ordered as an option. This is equipped with a clamping device to hold the brake in the released position.

Double brake, degree of protection IP54/55



Motor	Brake	Dimensions				
		k_5	k_6	Δ k	h_5	d_{12}
		mm	mm	mm	mm	mm
m550-P160/M4	ABR 16	560	93	45	240	24
	ABR 18	565	104	50	279	24
m550-P160/L4	ABR 18	565	104	50	279	24
m550-P180/M4	ABR 18	626	104	50	279	24
m550-P180/L4	ABR 20	632	118	58	319	24

Dimensions LB ▸ Basic dimensions 123

Dimensions Δ L ▸ Additional lengths 160

8.4.7 Spring-applied safety brake, IP54/IP55 single brake

The spring-applied brakes are application brakes for use in safety applications.

ABRS1 spring-applied safety brakes achieve safety level SIL 1. These can be used together with the Safe Brake Control (SBC) function.

Preconditions

It should be noted that the safety brake is selected so that 80 % of the characteristic torque is sufficient for the safety-related function.

General information:

- The microswitch option is not protected
- The permissible ambient temperature is -20 to +40°C
- The relative humidity during operation must be < 85 % and must not be condensing
- Maintenance of these brakes must be carried out by Lenze Service

For detailed information on the safety brake, please contact your Lenze representative.

8.4.8 Spring-applied safety brake, IP54/IP55 double brake

The spring-applied brakes are application brakes for use in safety applications.

ABRS2 double brakes achieve safety level SIL1 or SIL2. These can be used together with the Safe Brake Control (SBC) function.

Preconditions

It should be noted that the safety brake is selected so that 80 % of the characteristic torque is sufficient for the safety-related function.

General information:

- The microswitch option is not protected
- The permissible ambient temperature is -20 to +40°C
- The relative humidity during operation must be < 85 % and must not be condensing
- Maintenance of these brakes must be carried out by Lenze Service

For detailed information on the safety brake, please contact your Lenze representative.

8.5 Feedback

A resolver, incremental encoder and SinCos absolute value encoder are optionally available to evaluate the speed and position of the motor shaft.

The resolver can be used to measure an absolute value within one revolution of the rotor. A SinCos absolute value encoder is used if not only the angle within one revolution is to be made available immediately but also the revolution within a set range. The SinCos absolute value encoder detects not only the speed and rotor position but also the position of the machine. It consists of a speed sensor system, for example TTL, and an absolute value information recorder, for example Hyperface.

The HTL incremental encoder is used in the frequency inverter range for less dynamic applications.

The TTL incremental encoder can generate a higher number of pulses. It is used for dynamic applications with very high requirements regarding accuracy. If the absolute angular position of the drive is required directly after the system is switched on without performing additional homing, this can be realized via a resolver or SinCos absolute value encoder.

Resolver, absolute encoder and the IG128-24V-H add-on incremental encoder are mounted behind the B-bearing shield under the fan cover.

All other incremental encoders are integrated in the B-bearing shield, which usually makes the drive shorter.

Feedbacks in the environment of functional safety

Motors can perform speed-dependent safety functions for safe speed and/or safe relative position monitoring in a drive system by Lenze inverters or Controllers. In case of inverters, these functions are implemented by integrable safety modules and in case of Controllers by the additionally required Safety Controller.

When planning systems/installations of this kind, always observe the following:

- When using just one single feedback system in the environment of these safety applications, the applicable safety engineering standard EN 61800-5-2 (adjustable speed electrical power drive systems - Part: 5-2: Safety requirements - Functional) stipulates special requirements for the connection between feedback system and motor shaft.
- This is due to the fact that two-channel safety systems at this point in the mechanical system are actually designed as single-channel systems. If this mechanical connection is designed with considerable overdimensioning, the standard permits exclusion of the fault "encoder-shaft breakage" or "encoder-shaft slip". As such, the permissible angular acceleration limit values must not be exceeded for the individual drive solutions.

You can find the limit values in the corresponding feedback data of the individual motor ranges.

Speed-dependent safety functions

Examples of speed-dependent safety functions:

- Safe stop 1 (SS1)
- Safe operational stop (SOS)
- Safely limited speed (SLS)
- Safe maximum speed (SMS)
- Safe direction (SDI)
- Operation mode selector (OMS) with confirmation (ES)
- Safe speed monitor (SSM)
- Safely limited increment (SLI)

8.5.1 Resolver

The stator-supplied, 2-pole resolver with two stator windings shifted by 90 degrees and a rotor winding with a transformer winding can record both the speed and the rotor position, just like a single-turn absolute value encoder. The rotor position can be determined within one mechanical motor revolution after a voltage failure.

Feedback type			**Resolver**
Feedback			**RS1**
Speed-dependent safety functions			Nein
Design			Mounting
Resolution - angle		'	0.8
Min. accuracy		'	-10
Max. accuracy		'	10
Absolute positioning			1 revolution
Max. speed	n_{max}	rpm	8000
Max. DC input voltage	$V_{in,max}$	V	10
Max. input frequency	$f_{in,max}$	kHz	4
Ratio stator/rotor			0.3
Min ratio tolerance		%	-5
Max ratio tolerance		%	5
Rotor impedance	Z_{ro}	Ω	51+j90
Stator impedance	Z_{so}	Ω	102+j150
Impedance	Z_{rs}	Ω	44+j76
Min. insulation resistance at DC 500 V	R_{min}	MΩ	10
Number of pole pairs			1
Max. angle error Min		'	-10
Max. angle error Max		'	10

8.5.2 Incremental encoder

Incremental encoders can be used for speed measurement. Homing is required in order to enable positioning later.

Incremental HTL encoder

Feedback in conjunction with the HAN plug connector or the integrated i550 motec and 8400 motec is only available with the IG128-24V-H add-on incremental encoder (with 0.5 m cable and M12 plug connector).

Feedback type			**Encoder**			
Feedback			**IG128-24V-H**		**IG1024-24V-H**	**IG2048-24V-H**
Design			Mounting	integrated	integrated	integrated
Pulses			128	128	1024	2048
Output signals			HTL	HTL	HTL	HTL
Interfaces			A, B	A, B	A, B; N; Ai, Bi; Ni	A, B; N; Ai, Bi; Ni
Absolute revolution			0	0	0	0
Min. accuracy		'	-22.5	-2	-2	-2
Max. accuracy		'	22.5	2	2	2
Min. DC input voltage	$V_{in,min}$	V	8	10	10	10
Max. DC input voltage	$V_{in,max}$	V	26	30	30	30
Max. current consumption	I_{max}	A	0.04	0.15	0.15	0.15
Cut-off frequency	f_{max}	kHz	30	200	200	200

TTL incremental encoder

Feedback type			**Encoder**	
Feedback			**IG1024-5V-T**	**IG2048-5V-T**
Design			integrated	
Pulses			1024	2048
Output signals			TTL	TTL
Interfaces			A, B; N; Ai, Bi; Ni	A, B; N; Ai, Bi; Ni
Absolute revolution			0	0
Min. accuracy		'	-2	-2
Max. accuracy		'	2	2
Min. DC input voltage	$V_{in,min}$	V	4.75	4.75
Max. DC input voltage	$V_{in,max}$	V	5.5	5.5
Max. current consumption	I_{max}	A	0.15	0.15
Cut-off frequency	f_{max}	kHz	300	300

SinCos-incremental encoder with safety functions

The connection of the safety sensors to the terminal box is only available in conjunction with a M23 connector.

Feedback type			Encoder	
Feedback			**IG2048-5V-V2**	**IG2048-5V-V3**
Design			Mounting	
Pulses			2048	2048
Output signals			SinCos 1 Vss	SinCos 1 Vss
Interfaces			SinCos	SinCos
Absolute revolution			0	0
Min. accuracy			-	-
Max. accuracy			-	-
Min. DC input voltage	$V_{in,min}$	V	4.75	4.75
Max. DC input voltage	$V_{in,max}$	V	5.25	5.25
Max. current consumption	I_{max}	A	0.07	0.07
Cut-off frequency	f_{max}	kHz	400	400
Max. Safety Integrity Level			SIL 2	SIL 3
Max. Safety Performance Level			d	e

8.5.3 Absolute value encoder

Absolute value encoders can detect the speed, the rotor position, and the machine position with a very high resolution. They are used for the positioning of dynamic applications and do not require homing.

SinCos absolute value encoder

Feedback type			SinCos absolute value encoder
Feedback			**AM1024-8V-H**
Speed-dependent safety functions			Nein
Design			Mounting
Encoder type			Multi-turn
Resolution		bit	-
Pulses			1024
Output signals			SinCos 1 Vss
Interfaces			Hiperface
Absolute revolution			4096
Resolution - angle			0.4
Min. accuracy		'	-0.8
Max. accuracy		'	0.8
Fehlergrenze Positionswert			
System accuracy			-
Integral nonlinearity			-
Min. DC input voltage	$V_{in,min}$	V	7
Max. DC input voltage	$V_{in,max}$	V	12
Max. current consumption	I_{max}	A	0.08
Cut-off frequency	f_{max}	kHz	200

8.6 Blower

The motor is optionally available with a blower for operation with the rated torque and low motor speeds or a higher switching frequency.

The blower cools the motor independent of the motor speed.

If a blower is used, the torque does not have to be reduced if operated below 20 Hz.

A higher powered motor with simultaneous derating can be used in many cases instead of a blower.

Torque reduction at low motor frequencies ▸ General information 28

8.6.1 Standard version

Rated data 50Hz, 230/400V

Motor series			m550-H						m550-P		
Size			063			071			080		
Number of phases			1	3	3	1	3	3	1	3	3
Wiring			-	Delta	Star	-	Delta	Star	-	Delta	Star
Rated voltage	V_{rated}	V	230	230	400	230	230	400	230	230	400
Rated power	P_{rated}	kW	0.034	0.015	0.015	0.035	0.016	0.016	0.036	0.02	0.02
Rated current	I_{rated}	A	0.15	0.08	0.05	0.15	0.08	0.05	0.16	0.09	0.05

Motor series			m550-P								
Size			090			100			112		
Number of phases			1	3	3	1	3	3	1	3	3
Wiring			-	Delta	Star	-	Delta	Star	-	Delta	Star
Rated voltage	V_{rated}	V	230	230	400	230	230	400	230	230	400
Rated power	P_{rated}	kW	0.038	0.036	0.036	0.044	0.043	0.043	0.05	0.054	0.054
Rated current	I_{rated}	A	0.19	0.19	0.11	0.2	0.19	0.11	0.23	0.20	0.11

Motor series			m550-P								
Size			132			160			180		
Number of phases			1	3	3	1	3	3	1	3	3
Wiring			-	Delta	Star	-	Delta	Star	-	Delta	Star
Rated voltage	V_{rated}	V	230	230	400	230	230	400	230	230	400
Rated power	P_{rated}	kW	0.089	0.082	0.082	0.210	0.205	0.205	0.210	0.205	0.205
Rated current	I_{rated}	A	0.39	0.34	0.19	0.92	0.70	0.40	0.92	0.70	0.40

Rated data 50Hz, 115/200V

Motor series			m550-H						m550-P		
Size			063			071			080		
Number of phases			1	3	3	1	3	3	1	3	3
Wiring			-	Delta	Star	-	Delta	Star	-	Delta	Star
Rated voltage	V_{rated}	V	115	115	200	115	115	200	115	115	200
Rated power	P_{rated}	kW	0.047	0.040	0.040	0.047	0.042	0.042	0.048	0.046	0.046
Rated current	I_{rated}	A	0.68	0.67	0.38	0.65	0.67	0.37	0.65	0.66	0.38

Motor series			m550-P								
Size			090			100			112		
Number of phases			1	3	3	1	3	3	1	3	3
Wiring			-	Delta	Star	-	Delta	Star	-	Delta	Star
Rated voltage	V_{rated}	V	115	115	200	115	115	200	115	115	200
Rated power	P_{rated}	kW	0.051	0.053	0.053	0.057	0.062	0.062	0.063	0.074	0.074
Rated current	I_{rated}	A	0.63	0.64	0.37	0.66	0.65	0.38	0.67	0.64	0.37

Rated data 60Hz, 115/200V

Motor series			m550-H						m550-P		
Size			063			071			080		
Number of phases			1	3	3	1	3	3	1	3	3
Wiring			-	Delta	Star	-	Delta	Star	-	Delta	Star
Rated voltage	V_{rated}	V	115	115	200	115	115	200	115	115	200
Rated power	P_{rated}	kW	0.036	0.031	0.031	0.04	0.036	0.036	0.044	0.040	0.04
Rated current	I_{rated}	A	0.42	0.47	0.27	0.43	0.46	0.27	0.45	0.47	0.27

Motor series			m550-P								
Size			090			100			112		
Number of phases			1	3	3	1	3	3	1	3	3
Wiring			-	Delta	Star	-	Delta	Star	-	Delta	Star
Rated voltage	V_{rated}	V	115	115	200	115	115	200	115	115	200
Rated power	P_{rated}	kW	0.051	0.051	0.051	0.063	0.067	0.067	0.078	0.079	0.079
Rated current	I_{rated}	A	0.49	0.49	0.28	0.59	0.53	0.31	0.71	0.55	0.32

Rated data 60Hz, 265/460V

Motor series			m550-H						m550-P		
Size			063			071			080		
Number of phases			1	3	3	1	3	3	1	3	3
Wiring			-	Delta	Star	-	Delta	Star	-	Delta	Star
Rated voltage	V_{rated}	V	265	265	460	265	265	460	265	265	460
Rated power	P_{rated}	kW	0.05	0.018	0.018	0.052	0.02	0.02	0.055	0.028	0.028
Rated current	I_{rated}	A	0.19	0.08	0.05	0.2	0.08	0.05	0.21	0.09	0.05

Motor series			m550-P								
Size			090			100			112		
Number of phases			1	3	3	1	3	3	1	3	3
Wiring			-	Delta	Star	-	Delta	Star	-	Delta	Star
Rated voltage	V_{rated}	V	265	265	460	265	265	460	265	265	460
Rated power	P_{rated}	kW	0.058	0.047	0.047	0.069	0.059	0.059	0.085	0.074	0.074
Rated current	I_{rated}	A	0.22	0.19	0.11	0.26	0.20	0.11	0.32	0.21	0.12

Motor series			m550-P								
Size			132			160			180		
Number of phases			1	3	3	1	3	3	1	3	3
Wiring			-	Delta	Star	-	Delta	Star	-	Delta	Star
Rated voltage	V_{rated}	V	265	265	460	265	265	460	265	265	460
Rated power	P_{rated}	kW	0.144	0.118	0.118	0.359	0.308	0.308	0.359	0.308	0.308
Rated current	I_{rated}	A	0.55	0.36	0.21	1.36	0.81	0.47	1.36	0.81	0.47

8.6.2 Heavy-duty blower

The heavy-duty blower is an optional fan design for operation in environments with higher dust and fiber contamination, e.g. in the textile industry.

Heavy-duty blowers have the same electrical data and dimensions as the standard design.

8.7 Temperature monitoring

The thermal sensors are integrated in the windings. We recommend the use of an additional motor protection switch.

Only one temperature monitoring device can be connected with the M23 8-pin and Han 10E/modular connectors.

The following temperature monitoring systems are available to protect the motor from overheating:

Connection via cable gland in the terminal box

- TCO thermal contact
- TCO thermal contact and PT1000 temperature sensor

Connection via M23 or Han connector

- TCO thermal contact
- Thermal detectors PT1000

8.7.1 Thermal contacts TC0

The TCO thermal contact (thermal break contact) is a bimetallic switch. The thermal contact monitors the motor winding temperature; e.g., at excessively high temperatures, it switches the upstream motor relay. The motor is disconnected from the line voltage and coasts down via the relay.

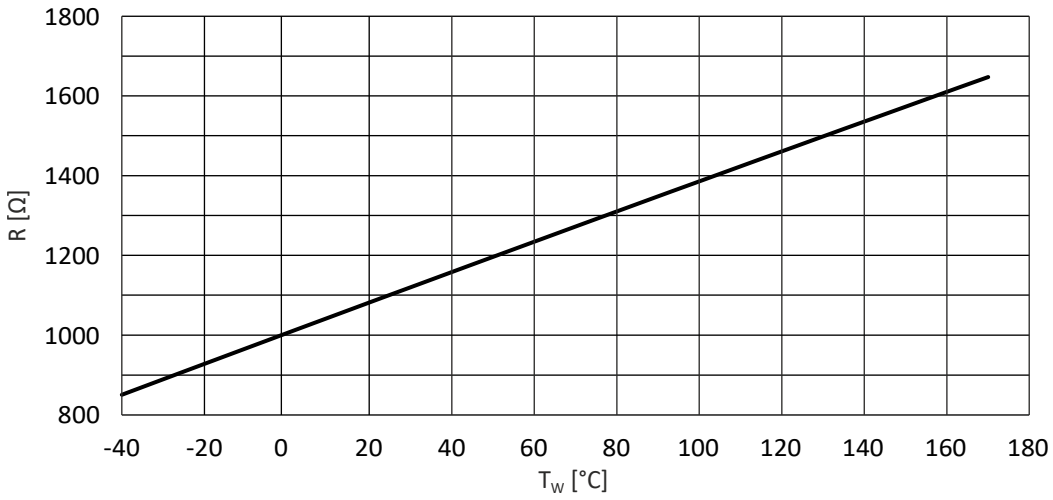
Functional principle			Normally-closed contact
Operating temperature		°C	150
Min. switching temperature		°C	145
Max. switching temperature		°C	155
Min. reset temperature		°C	90
Max. reset temperature		°C	135
Max. AC switching current		A	2.5
Max. AC switching voltage		V	250
Max. DC switching current		A	2.5
Max. DC switching voltage		V	12

8.7.2 Thermal detectors PT1000

The thermal detector used continuously monitors the motor temperature. The temperature information is transferred to the inverter using the system cable of the feedback system. **This is not a full motor protection!**

This makes it possible to determine the motor temperature in the permissible operating range with great accuracy.

When supplying the thermal sensors with a measurement current of 1 mA, the relationship between the temperature and the resistance measured applies.

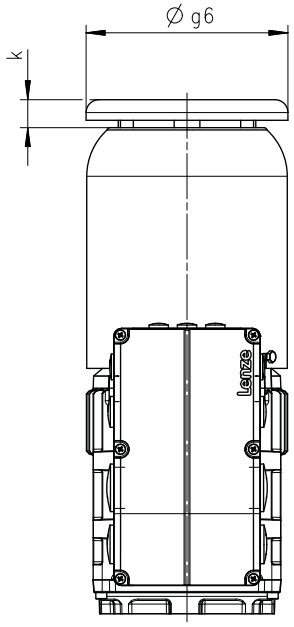


R	Resistance
T_W	Winding temperature

8.8 Protection cover

If the motor is installed vertically with the shaft end pointing down, a protection cover is recommended for the fan cover to prevent any foreign bodies falling into the fan.

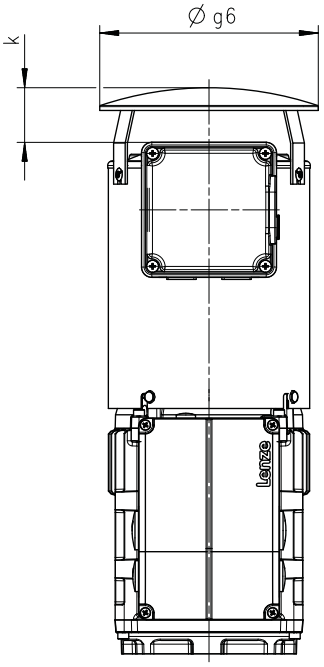
Protection cover for self-ventilated motors



8801079_00

Motor series			m550-H		m550-P						
Motor			**63/S4 63/M4 63/L4**	**71/M4 71/L4**	**80/M4**	**90/M4 90/L4**	**100/M4 100/L4**	**112/M4**	**132/M4 132/L4**	**160/M4 160/L4**	**180/M4 180/L4**
Additional length	k	mm	25	25	25	25	30	30	30	35	35
Diameter	g_6	mm	124	138	157	177	196	218	260	310	348

Protection cover for forced ventilation motors

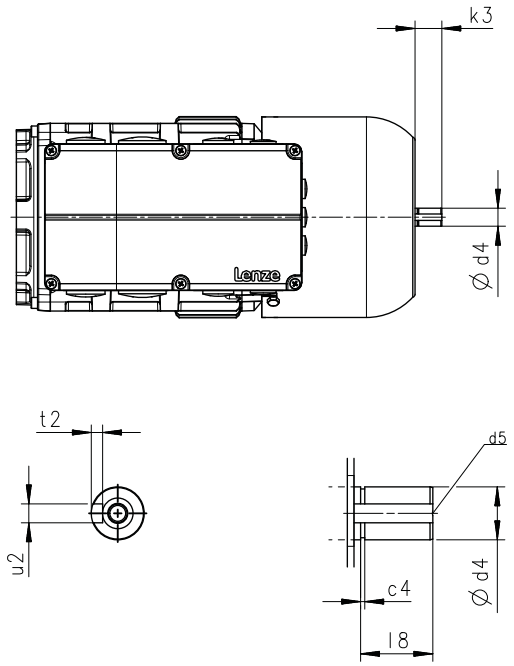


8801083_00

Motor series			m550-H		m550-P						
Motor			**63/S4 63/M4 63/L4**	**71/M4 71/L4**	**80/M4**	**90/M4 90/L4**	**100/M4 100/L4**	**112/M4**	**132/M4 132/L4**	**160/M4 160/L4**	**180/M4 180/L4**
Additional length	k	mm	32	32	32	32	32	42	56	56	56
Diameter	g_6	mm	133	150	170	188	210	249	300	338	338

8.9 Second shaft end

The second motor shaft end on the drive side is intended for customer applications (e.g. further feedback systems).



8801082_00

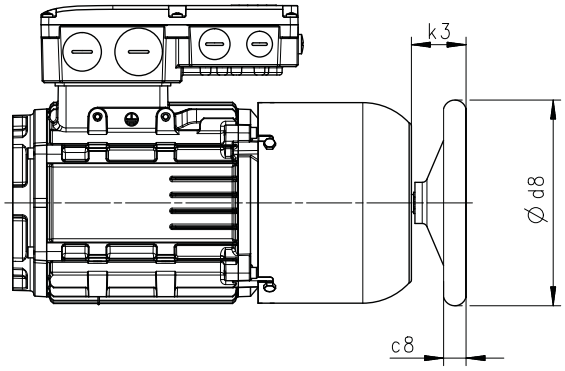
Motor series			m550-H		m550-P				
Motor			**63/S4 63/M4 63/L4**	**71/M4 71/L4**	**80/M4**	**90/M4 90/L4**	**100/M4 100/L4**	**112/M4**	**132/M4 132/L4**
Shaft length	k_3	mm	18	18	20.5	24	28	28	32.5
Shaft diameter	d_4	mm	14	14	14	14	14	14	25
	l_8	mm	15	15	19	19	23	23	27
	c_4	mm	1.1	1.1	1.1	1.1	1.1	1.1	
Keyway width	u_2	mm	5	5	5	5	5	5	8
Keyway depth	t_2	mm	3	3	3	3	3	3	4.5
	d_5		M5	M5	M5	M5	M5	M5	M10

8.10 Handwheel

In a deenergized state or during emergency operation, the motor shaft can be rotated with the hand wheel and the machine can be set up.

The hand wheel is made of a light alloy and has a smooth surface.

Pay attention to the higher moment of inertia during configuration! With frequent switching operations, in particular when changing the direction of rotation, please contact your Lenze representative.



8801080_00

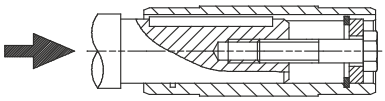
Motor		m550-H		m550-P				
		63/S4 63/M4 63/L4	71/M4 71/L4	80/M4	90/M4 90/L4	100/M4 100/L4	112/M4	132/M4 132/L4
Dimensions								
k_3	mm	29	40	40	40	45	45	50
d_8	mm	80	160	160	160	200	200	250
c_8	mm	14	18	18	18	22	22	26
Moment of inertia								
J	$kgcm^2$	0.6	18.5	18.5	18.5	25.8	25.8	155.4

9 Accessories

9.1 Hollow shaft mounting kit

A mounting kit is available for easy installation of the hollow shaft.

Scope of supply



- Hexagon head screw
- Circlip
- Washer

Mounting set		Solid shaft	Hollow shaft diameter g500-												
Name	Material number	Thread	S130	S220		S400		S660		S950	S2100		S3100		S4500	
			25	25	30	30	35	40	45	40	50	55	60	70	70	80
Mounting kit B18	415783	M6														
Mounting kit B20	407309	M6														
Mounting kit B25	395903	M10	●	●												
Mounting kit B30	395904	M10			●	●										
Mounting kit B35	395905	M12					●									
Mounting kit B40	395906	M16						●		●						
Mounting kit B45	395907	M16							●							
Mounting kit B50	395908	M16									●					
Mounting kit B55	395909	M20										●				
Mounting kit B60	395910	M20											●			
Mounting kit B70	395911	M20												●	●	
Mounting kit B80	395912	M20														●

10 Product codes

Gearbox product code

Example		G	50	B	S	113	M	H	D	R	2	C	1B
Product type	Gearbox	G											
Product family			50										
Version				B									
Gearbox type	Shaft-mounted helical gearbox				S								
Output torque	130 Nm					113							
	220 Nm					122							
	400 Nm					140							
	660 Nm					166							
	950 Nm					195							
	2100 Nm					221							
	3100 Nm					231							
	4500 Nm					245							
	8000 Nm					280							
	14000 Nm					314							
	19000 Nm					319							
Type of construction	Geared motor						M						
	Gearbox						N						
Shaft design	Solid shaft with featherkey							V					
	Hollow shaft with keyway							H					
	Hollow shaft with shrink disc							S					
Housing type	Foot mounting + centering								A				
	Foot mounting								B				
	With centering								C				
	Threaded pitch circle								D				
Flange mounting	Without flange									R			
	Flange with through holes									K			
Number of stages	2-stage										2		
	3-stage										3		
	4-stage										4		
Motor mounting	Integrated motor											C	
	IEC adapter with jaw coupling											N U	
	IEC adapter with plug-in hollow shaft											H	
	NEMA adapter with jaw coupling											A	
	NEMA adapter with plug-in hollow shaft											B	
	Servo motor adapter with plug-in hollow shaft											S	
	Servo motor adapter with jaw coupling											E D G	
Drive size													1A ... □H 08 ... 82

Motor product code

Example		M	55	B	H	063	S	04	5	E	0	0	C	C
Product type	Motor	M												
Product family			55											
Version				B										
Efficiency class	IE2				H									
	IE3				P									
Size						063 071 080 090 100 112 132 160 180								
Overall length	Short						S							
	Medium						M							
	Long						L							
Number of poles	4-pole							04						
Degree of protection	IP54/IP55								5					
	IP65/IP66								6					
Cooling	Self-ventilation									E				
	Forced ventilation									F				
Brake	Without										0			
	Spring-applied brakes										F			
Feedback	Without											0		
	Absolute value encoder											A		
	Incremental encoder											E		
	Resolver											R		
Approvals	None												N	
	CE												C	
	CE, CCC												3	
	CE, cULus												L	
	CE, cULus, CCC												5	
	CE, cURus												U	
	CE, cURus, CCC												W	
Design type	Internal key													C

11 Motor data

11.1 Rated data

11.1.1 Rated data 50 Hz

Motor			m550-H				
			63/S4	63/M4	63/L4	71/M4	71/L4
Rated power	P_{rated}	kW	0.12	0.18	0.25	0.37	0.55
Rated speed	n_{rated}	rpm	1415	1400	1390	1425	1430
Max. speed	n_{max}	rpm	4500	4500	4500	4500	4500
Max. torque	M_{max}	Nm	3.20	4.90	6.90	9.90	14.7
Rated voltage							
Delta	$V_{N, \Delta}$	V	230	230	230	230	230
Star	$V_{N, Y}$	V	400	400	400	400	400
Rated current							
230 V	$I_{N, \Delta}$	A	0.710	1.07	1.18	1.71	2.34
400 V	$I_{N, Y}$	A	0.410	0.620	0.680	0.990	1.35
Starting current	I_a	A	1.40	1.94	2.60	4.23	6.32
Rated torque	M_{rated}	Nm	0.810	1.23	1.72	2.48	3.67
Starting torque	M_a	Nm	1.54	2.46	3.44	4.45	6.95
Stalling torque	M_b	Nm	1.94	2.83	3.78	6.92	11.3
Power factor	cos ϕ		0.67	0.65	0.72	0.70	0.71
Efficiency							
at 50% P_{rated}	η		0.549	0.625	0.695	0.695	0.758
at 75% P_{rated}	η		0.591	0.647	0.685	0.727	0.771
at 100% P_{rated}	η		0.591	0.647	0.685	0.727	0.771
Moment of inertia	J	kgcm²	2.4	2.9	3.7	9.1	13.3
Weight	m	kg	4.4	4.8	5.8	7.8	9

Motor data
Rated data
Rated data 50 Hz

Motor			m550-P				
			80/M4	90/M4	90/L4	100/M4	100/L4
Rated power	P_{rated}	kW	0.75	1.1	1.5	2.2	3
Rated speed	n_{rated}	rpm	1455	1465	1465	1470	1470
Max. speed	n_{max}	rpm	4500	4500	4500	4500	4500
Max. torque	M_{max}	Nm	19.7	28.7	39.1	57.2	78.0
Rated voltage							
Delta	$V_{N, \Delta}$	V	230	230	230	230	230
Star	$V_{N, Y}$	V	400	400	400	400	400
Rated current							
230 V	$I_{N, \Delta}$	A	2.77	4.00	5.51	7.72	10.6
400 V	$I_{N, Y}$	A	1.60	2.31	3.18	4.46	6.10
Starting current	I_a	A	8.91	16.4	22.5	35.8	47.1
Rated torque	M_{rated}	Nm	4.92	7.17	9.78	14.3	19.5
Starting torque	M_a	Nm	7.38	14.4	20.6	31.3	43.1
Stalling torque	M_b	Nm	16.2	25.2	34.3	49.8	66.6
Power factor	cos ϕ		0.77	0.79	0.78	0.77	0.79
Efficiency							
at 50% P_{rated}	η		0.826	0.844	0.851	0.879	0.883
at 75% P_{rated}	η		0.825	0.841	0.853	0.867	0.877
at 100% P_{rated}	η		0.825	0.841	0.853	0.867	0.877
Moment of inertia	J	kgcm²	27.2	53.8	58.3	123	130.3
Weight	m	kg	12.3	17.4	18.5	31	32

Motor			m550-P				
			112/M4	132/M4	132/L4	160/M4	160/L4
Rated power	P_{rated}	kW	4	5.5	7.5	11	15
Rated speed	n_{rated}	rpm	1470	1480	1480	1485	1485
Max. speed	n_{max}	rpm	4500	4500	4500	4500	4500
Max. torque	M_{max}	Nm	104	142	194	283	386
Rated voltage							
Delta	$V_{N, \Delta}$	V	230	230	230	230	230
Star	$V_{N, Y}$	V	400	400	400	400	400
Rated current							
230 V	$I_{N, \Delta}$	A	13.5	18.3	25.4	36.0	49.2
400 V	$I_{N, Y}$	A	7.82	10.6	14.6	20.8	28.4
Starting current	I_a	A	58.3	84.9	117	163	228
Rated torque	M_{rated}	Nm	26.0	35.5	48.4	70.7	96.5
Starting torque	M_a	Nm	44.1	53.3	77.6	98.9	144
Stalling torque	M_b	Nm	83.1	131	179	226	308
Power factor	cos ϕ		0.82	0.82	0.82	0.82	0.84
Efficiency							
at 50% P_{rated}	η		0.898	0.903	0.908	0.920	0.928
at 75% P_{rated}	η		0.886	0.896	0.904	0.914	0.921
at 100% P_{rated}	η		0.886	0.896	0.904	0.914	0.921
Moment of inertia	J	kgcm²	198	470.6	485.9	1360	1550
Weight	m	kg	41	62	65	169	184

Motor			m550-P	
			180/M4	180/L4
Rated power	P_{rated}	kW	18.5	22
Rated speed	n_{rated}	rpm	1485	1480
Max. speed	n_{max}	rpm	4500	4500
Max. torque	M_{max}	Nm	476	568
Rated voltage				
Delta	$V_{N, \Delta}$	V	230	230
Star	$V_{N, Y}$	V	400	400
Rated current				
230 V	$I_{N, \Delta}$	A	57.6	67.2
400 V	$I_{N, Y}$	A	33.3	38.8
Starting current	I_a	A	315	312
Rated torque	M_{rated}	Nm	119	142
Starting torque	M_a	Nm	251	241
Stalling torque	M_b	Nm	465	467
Power factor	cos ϕ		0.88	0.88
Efficiency				
at 50% P_{rated}	η		0.932	0.937
at 75% P_{rated}	η		0.926	0.930
at 100% P_{rated}	η		0.926	0.930
Moment of inertia	J	$kgcm^2$	2330	2400
Weight	m	kg	250	260

11.1.2 Rated data 60 Hz

Motor			m550-H				
			63/S4	63/M4	63/L4	71/M4	71/L4
Rated power	P_{rated}	kW	0.12	0.18	0.25	0.37	0.55
Rated speed	n_{rated}	rpm	1725	1715	1710	1735	1740
Max. speed	n_{max}	rpm	4500	4500	4500	4500	4500
Max. torque	M_{max}	Nm	3.20	4.90	6.90	9.90	14.7
Rated voltage							
Star	$V_{N, Y}$	V	460	460	460	460	460
Rated current							
460 V	$I_{N, Y}$	A	0.370	0.560	0.600	0.880	1.21
Starting current	I_a	A	1.47	2.07	2.68	4.28	6.32
Rated torque	M_{rated}	Nm	0.700	1.00	1.40	2.00	3.00
Starting torque	M_a	Nm	1.54	2.32	3.08	3.88	5.74
Stalling torque	M_b	Nm	2.01	2.83	3.78	6.94	10.9
Power factor	cos ϕ		0.60	0.58	0.66	0.65	0.67
Efficiency							
at 50% P_{rated}	η		0.564	0.640	0.704	0.708	0.762
at 75% P_{rated}	η		0.637	0.680	0.700	0.720	0.755
at 100% P_{rated}	η		0.640	0.680	0.700	0.720	0.755
Moment of inertia	J	kgcm²	2.4	2.9	3.7	9.1	13.3
Weight	m	kg	4.4	4.8	5.8	7.8	9

Motor			m550-P				
			80/M4	90/M4	90/L4	100/M4	100/L4
Rated power	P_{rated}	kW	0.75	1.1	1.5	2.2	3
Rated speed	n_{rated}	rpm	1760	1770	1770	1775	1770
Max. speed	n_{max}	rpm	4500	4500	4500	4500	4500
Max. torque	M_{max}	Nm	19.7	28.7	39.1	57.2	78.0
Rated voltage							
Star	$V_{N, Y}$	V	460	460	460	460	460
Rated current							
460 V	$I_{N, Y}$	A	1.40	2.02	2.78	3.93	5.31
Starting current	I_a	A	8.71	16.2	22.0	35.6	46.1
Rated torque	M_{rated}	Nm	4.10	5.90	8.10	11.8	16.2
Starting torque	M_a	Nm	6.09	12.5	17.8	27.3	37.1
Stalling torque	M_b	Nm	15.8	23.8	32.4	46.2	62.9
Power factor	cos ϕ		0.74	0.77	0.76	0.75	0.77
Efficiency							
at 50% P_{rated}	η		0.831	0.846	0.855	0.880	0.885
at 75% P_{rated}	η		0.852	0.865	0.865	0.895	0.895
at 100% P_{rated}	η		0.855	0.865	0.865	0.895	0.895
Moment of inertia	J	kgcm²	27.2	53.8	58.3	123	130.3
Weight	m	kg	12.3	17.4	18.5	31	32

Motor			m550-P				
			112/M4	132/M4	132/L4	160/M4	160/L4
Rated power	P_{rated}	kW	4	5.5	7.5	11	15
Rated speed	n_{rated}	rpm	1775	1780	1780	1785	1785
Max. speed	n_{max}	rpm	4500	4500	4500	4500	4500
Max. torque	M_{max}	Nm	104	142	194	283	386
Rated voltage							
Star	$V_{N, Y}$	V	460	460	460	460	460
Rated current							
460 V	$I_{N, Y}$	A	6.82	9.26	12.8	18.2	24.7
Starting current	I_a	A	57.2	81.3	112	156	216
Rated torque	M_{rated}	Nm	21.5	29.5	40.2	58.8	80.2
Starting torque	M_a	Nm	38.7	44.2	64.5	82.1	120
Stalling torque	M_b	Nm	79.6	121	169	205	281
Power factor	cos ϕ		0.81	0.81	0.81	0.81	0.83
Efficiency							
at 50% P_{rated}	η		0.901	0.902	0.909	0.919	0.926
at 75% P_{rated}	η		0.895	0.914	0.917	0.924	0.930
at 100% P_{rated}	η		0.895	0.917	0.917	0.924	0.930
Moment of inertia	J	kgcm²	198	470.6	485.9	1360	1550
Weight	m	kg	41	62	65	169	184

Motor data
Rated data
Rated data 60 Hz

Motor			m550-P	
			180/M4	180/L4
Rated power	P_{rated}	kW	18.5	22
Rated speed	n_{rated}	rpm	1785	1780
Max. speed	n_{max}	rpm	4500	4500
Max. torque	M_{max}	Nm	476	568
Rated voltage				
Star	$V_{N, Y}$	V	460	460
Rated current				
460 V	$I_{N, Y}$	A	29.0	33.8
Starting current	I_a	A	305	304
Rated torque	M_{rated}	Nm	99.0	118
Starting torque	M_a	Nm	208	212
Stalling torque	M_b	Nm	425	423
Power factor	cos ϕ		0.87	0.88
Efficiency				
at 50% P_{rated}	η		0.929	0.936
at 75% P_{rated}	η		0.936	0.936
at 100% P_{rated}	η		0.936	0.936
Moment of inertia	J	$kgcm^2$	2330	2400
Weight	m	kg	250	260

11.1.3 Rated data 87 Hz

Motor			m550-H				
			63/S4	63/M4	63/L4	71/M4	71/L4
Rated power	P_{rated}	kW	0.21	0.33	0.45	0.66	1
Rated speed	n_{rated}	rpm	2525	2505	2500	2535	2540
Max. speed	n_{max}	rpm	4500	4500	4500	4500	4500
Max. torque	M_{max}	Nm	3.20	4.90	6.90	9.90	14.7
Rated voltage							
Delta	$V_{N, \Delta}$	V	400	400	400	400	400
Rated current							
400 V	$I_{N, \Delta}$	A	0.740	1.11	1.19	1.75	2.42
Rated torque	M_{rated}	Nm	0.794	1.26	1.72	2.49	3.76
Power factor	cos ϕ		0.6	0.6	0.72	0.7	0.74
Efficiency							
at 50% P_{rated}	η		0.598	0.675	0.729	0.730	0.781
at 75% P_{rated}	η		0.670	0.726	0.768	0.777	0.816
at 100% P_{rated}	η		0.702	0.744	0.776	0.792	0.826
Moment of inertia	J	$kgcm^2$	2.4	2.9	3.7	9.1	13.3
Weight	m	kg	4.4	4.8	5.8	7.8	9

Motor data
Rated data
Rated data 87 Hz

Motor			m550-P				
			80/M4	90/M4	90/L4	100/M4	100/L4
Rated power	P_{rated}	kW	1.35	1.9	2.6	3.9	5.2
Rated speed	n_{rated}	rpm	2565	2575	2575	2580	2580
Max. speed	n_{max}	rpm	4500	4500	4500	4500	4500
Max. torque	M_{max}	Nm	19.7	28.7	39.1	57.2	78.0
Rated voltage							
Delta	$V_{N, \Delta}$	V	400	400	400	400	400
Rated current							
400 V	$I_{N, \Delta}$	A	2.82	3.94	5.48	7.83	10.4
Rated torque	M_{rated}	Nm	5.03	7.05	9.64	14.4	19.2
Power factor	cos ϕ		0.83	0.82	0.8	0.83	0.82
Efficiency							
at 50% P_{rated}	η		0.845	0.855	0.864	0.889	0.893
at 75% P_{rated}	η		0.865	0.878	0.883	0.904	0.906
at 100% P_{rated}	η		0.868	0.882	0.886	0.906	0.907
Moment of inertia	J	$kgcm^2$	27.2	53.8	58.3	123	130.3
Weight	m	kg	12.3	17.4	18.5	31	32

Motor			m550-P				
			112/M4	132/M4	132/L4	160/M4	160/L4
Rated power	P_{rated}	kW	7.35	9.6	13.1	19.2	26.3
Rated speed	n_{rated}	rpm	2580	2590	2590	2595	2595
Max. speed	n_{max}	rpm	4500	4500	4500	4500	4500
Max. torque	M_{max}	Nm	104	142	194	283	386
Rated voltage							
Delta	$V_{N, \Delta}$	V	400	400	400	400	400
Rated current							
400 V	$I_{N, \Delta}$	A	14.1	18.4	25.4	36.1	49.2
Rated torque	M_{rated}	Nm	27.2	35.4	48.3	70.7	96.8
Power factor	cos ϕ		0.86	0.85	0.84	0.85	0.847
Efficiency							
at 50% P_{rated}	η		0.909	0.908	0.914	0.922	0.929
at 75% P_{rated}	η		0.917	0.920	0.925	0.934	0.939
at 100% P_{rated}	η		0.913	0.922	0.925	0.935	0.940
Moment of inertia	J	$kgcm^2$	198	470.6	485.9	1360	1550
Weight	m	kg	41	62	65	169	184

Motor			**m550-P**	
			180/M4	**180/L4**
Rated power	P_{rated}	kW	32.2	38.5
Rated speed	n_{rated}	rpm	2590	2590
Max. speed	n_{max}	rpm	4500	4500
Max. torque	M_{max}	Nm	476	568
Rated voltage				
Delta	$V_{N, \Delta}$	V	400	400
Rated current				
400 V	$I_{N, \Delta}$	A	57.5	67.6
Rated torque	M_{rated}	Nm	119	142
Power factor	cos ϕ		0.892	0.906
Efficiency				
at 50% P_{rated}	η		0.932	0.939
at 75% P_{rated}	η		0.941	0.945
at 100% P_{rated}	η		0.942	0.944
Moment of inertia	J	$kgcm^2$	2330	2400
Weight	m	kg	250	260

11.2 Ecodesign Directive

Product information acc. to REGULATION (EU) 2019/1781 (ANNEX I, Section 2)

Legend

Efficiency (η_{rated}, η)	The efficiency refers to the rated voltage and an ambient reference temperature of 25 °C.
Operating points (n; M)	n = Speed as a percentage of the rated speed n_{rated}; M= Torque as a percentage of the rated torque M_{rated}
Power losses P_V (n; M)	Power losses as a percentage of the rated output power P_{rated} for the operating points (n; M).

Rated efficiency at full load	η_{rated}	%	59.1	64	64.7	68	68.5	70	72.7	72
Efficiency at 75 % rated load	η	%	59.1	63.7	64.7	68	68.5	70	72.7	72
Efficiency at 50 % rated load	η	%	54.9	56.4	62.5	64	69.5	70.4	69.5	70.8
Efficiency level			IE2							
Manufacturer's name			Lenze SE · Hans-Lenze-Str. 1 · 31855 Aerzen · GERMANY							
Commercial register number			Hannover HRB 204803							
Product's model identifier			M55BH063S04		M55BH063M04		M55BH063L04		M55BH071M04	
Number of poles of the motor			4							
Rated output power	P_{rated}	kW	0.12		0.18		0.25		0.37	
Rated input frequency	f_{rated}	Hz	50	60	50	60	50	60	50	60
Rated voltage	V_{rated}	V	400	460	400	460	400	460	400	460
Rated speed	n_{rated}	rpm	1415	1725	1400	1715	1390	1710	1425	1735
Number of motor phases			Three-phase motor							
Altitudes above sea level		m	0 ... 1000							
Ambient air temperature		°C	-30 ... +40							
Maximum operating temperature		°C	155							
Potentially explosive atmospheres			Operation in explosive atmospheres not permitted							
Power losses										
25; 25	P_V (n; M)	%	31.7	32.5	27.8	28.8	16.8	16.8	14.9	14.8
25; 100	P_V (n; M)	%	45	38.5	41.1	34.8	36.8	28.3	27	21.6
50; 25	P_V (n; M)	%	34.2	36.2	31.1	33.4	17.6	18.4	14.9	15.6
50; 50	P_V (n; M)	%	34.2	35.3	31.1	32.4	20	19.5	15.9	15.8
50; 100	P_V (n; M)	%	46.7	41.8	42.8	38.2	35.6	28.6	27.6	22.6
90; 50	P_V (n; M)	%	41.7	46.5	38.3	42.7	24	26.4	20	23.1
90; 100	P_V (n; M)	%	54.2	53.4	49.4	48.6	38.8	35.6	31.1	29

Rated efficiency at full load	η_{rated}	%	77.1	75.5	82.5	85.5	84.1	86.5	85.3	86.5
Efficiency at 75 % rated load	η	%	77.1	75.5	82.5	85.2	84.1	86.5	85.3	86.5
Efficiency at 50 % rated load	η	%	75.8	76.2	82.6	83.1	84.4	84.6	85.1	85.5
Efficiency level			IE2		IE3					
Manufacturer's name			Lenze SE · Hans-Lenze-Str. 1 · 31855 Aerzen · GERMANY							
Commercial register number			Hannover HRB 204803							
Product's model identifier			M55BH071L04		M55BP080M04		M55BP090M04		M55BP090L04	
Number of poles of the motor			4							
Rated output power	P_{rated}	kW	0.55		0.75		1.1		1.5	
Rated input frequency	f_{rated}	Hz	50	60	50	60	50	60	50	60
Rated voltage	V_{rated}	V	400	460	400	460	400	460	400	460
Rated speed	n_{rated}	rpm	1430	1740	1455	1760	1465	1770	1465	1770
Number of motor phases			Three-phase motor							
Altitudes above sea level		m	0 ... 1000							
Ambient air temperature		°C	-30 ... +40							
Maximum operating temperature		°C	155							
Potentially explosive atmospheres			Operation in explosive atmospheres not permitted							
Power losses										
25; 25	P_V (n; M)	%	9.1	9.1	5.9	5.7	4.5	4.4	4.9	4.9
25; 100	P_V (n; M)	%	20	15.9	17.3	13.1	13.1	10	13.8	10.6
50; 25	P_V (n; M)	%	10	10.6	6.3	6.5	5.1	5.4	5.4	5.7
50; 50	P_V (n; M)	%	11.6	11.5	8.1	7.7	6.5	6.3	6.8	6.5
50; 100	P_V (n; M)	%	21.1	17.5	17.2	13.5	13.5	10.8	14.1	11.3
90; 50	P_V (n; M)	%	15.1	16.9	10.3	11.2	8.7	9.7	9	10
90; 100	P_V (n; M)	%	24.4	22.5	18.9	16.8	15.6	14.3	16.3	14.8

Rated efficiency at full load	η_{rated}	%	86.7	89.5	87.7	89.5	88.6	89.5	89.6	91.7
Efficiency at 75 % rated load	η	%	86.7	89.5	87.7	89.5	88.6	89.5	89.6	91.4
Efficiency at 50 % rated load	η	%	87.9	88	88.3	88.5	89.8	90.1	90.3	90.2
Efficiency level			IE3							
Manufacturer's name			Lenze SE · Hans-Lenze-Str. 1 · 31855 Aerzen · GERMANY							
Commercial register number			Hannover HRB 204803							
Product's model identifier			M55BP100M04		M55BP100L04		M55BP112M04		M55BP132M04	
Number of poles of the motor			4							
Rated output power	P_{rated}	kW	2.2		3		4		5.5	
Rated input frequency	f_{rated}	Hz	50	60	50	60	50	60	50	60
Rated voltage	V_{rated}	V	400	460	400	460	400	460	400	460
Rated speed	n_{rated}	rpm	1470	1775	1470	1770	1470	1775	1480	1780
Number of motor phases			Three-phase motor							
Altitudes above sea level		m	0 ... 1000							
Ambient air temperature		°C	-30 ... +40							
Maximum operating temperature		°C	155							
Potentially explosive atmospheres			Operation in explosive atmospheres not permitted							
Power losses										
25; 25	P_V (n; M)	%	3.1	3.1	3.4	3.3	2.7	2.7	1.6	1.7
25; 100	P_V (n; M)	%	9.2	7.2	10.7	8.2	11	8	6.2	4.8
50; 25	P_V (n; M)	%	3.8	4.1	4	4.2	3.2	3.4	2.2	2.4
50; 50	P_V (n; M)	%	4.9	4.8	5.3	5.1	4.5	4.2	3.1	3
50; 100	P_V (n; M)	%	10	8.2	11.2	9	10.9	8.4	6.8	5.6
90; 50	P_V (n; M)	%	6.9	7.7	7.1	7.7	6	6.4	4.4	4.8
90; 100	P_V (n; M)	%	12	11.1	13	11.8	12.3	10.8	8.2	7.4

Rated efficiency at full load	η_{rated}	%	90.4	91.7	91.4	92.4	92.1	93	92.6	93.6
Efficiency at 75 % rated load	η	%	90.4	91.7	91.4	92.4	92.1	93	92.6	93.6
Efficiency at 50 % rated load	η	%	90.8	90.9	92	91.9	92.8	92.6	93.2	92.9
Efficiency level			IE3							
Manufacturer's name			Lenze SE · Hans-Lenze-Str. 1 · 31855 Aerzen · GERMANY							
Commercial register number			Hannover HRB 204803							
Product's model identifier			M55BP132L04		M55BP160M04		M55BP160L04		M55BP180M04	
Number of poles of the motor			4							
Rated output power	P_{rated}	kW	7.5		11		15		18.5	
Rated input frequency	f_{rated}	Hz	50	60	50	60	50	60	50	60
Rated voltage	V_{rated}	V	400	460	400	460	400	460	400	460
Rated speed	n_{rated}	rpm	1480	1780	1485	1785	1485	1785	1485	1785
Number of motor phases			Three-phase motor							
Altitudes above sea level		m	0 ... 1000							
Ambient air temperature		°C	-30 ... +40							
Maximum operating temperature		°C	155							
Potentially explosive atmospheres			Operation in explosive atmospheres not permitted							
Power losses										
25; 25	P_V (n; M)	%	1.8	1.8	1.1	1.1	0.9	0.9	0.9	0.9
25; 100	P_V (n; M)	%	7	5.2	4.2	3.2	4.4	3.2	4.3	3.2
50; 25	P_V (n; M)	%	2.3	2.5	1.6	1.8	1.3	1.5	1.4	1.6
50; 50	P_V (n; M)	%	3.2	3	2.2	2.2	1.9	1.9	2	2
50; 100	P_V (n; M)	%	7.3	5.8	4.5	3.8	4.8	3.8	4.7	3.9
90; 50	P_V (n; M)	%	4.4	4.6	3.4	3.8	2.9	3.2	3.2	3.6
90; 100	P_V (n; M)	%	8.8	7.9	6.2	6.1	6.1	5.5	6.2	5.8

Rated efficiency at full load	η_{rated}	%	93	93.6
Efficiency at 75 % rated load	η	%	93	93.6
Efficiency at 50 % rated load	η	%	93.7	93.6
Efficiency level			IE3	
Manufacturer's name			Lenze SE · Hans-Lenze-Str. 1 · 31855 Aerzen · GERMANY	
Commercial register number			Hannover HRB 204803	
Product's model identifier			M55BP180L04	
Number of poles of the motor			4	
Rated output power	P_{rated}	kW	22	
Rated input frequency	f_{rated}	Hz	50	60
Rated voltage	V_{rated}	V	400	460
Rated speed	n_{rated}	rpm	1480	1780
Number of motor phases			Three-phase motor	
Altitudes above sea level		m	0 ... 1000	
Ambient air temperature		°C	-30 ... +40	
Maximum operating temperature		°C	155	
Potentially explosive atmospheres			Operation in explosive atmospheres not permitted	
Power losses				
25; 25	P_V (n; M)	%	0.8	0.9
25; 100	P_V (n; M)	%	4.4	3.2
50; 25	P_V (n; M)	%	1.3	1.5
50; 50	P_V (n; M)	%	1.9	1.9
50; 100	P_V (n; M)	%	4.8	3.8
90; 50	P_V (n; M)	%	3	3.3
90; 100	P_V (n; M)	%	6	5.5

12 Environmental notes and recycling

Lenze products are intended for use by companies in industrial environments. This means that they are also subject to requirements regarding recycling and disposal. Both mechanical and electrical components such as electric motors, gearboxes, and inverters contain valuable raw materials that can be recycled and reused. Proper recycling is important and sensible from both an economic and ecological perspective.

For information on the proper disposal and legal requirements of our products, please refer to the information on the respective product page on the Internet:

https://www.lenze.com/en-de/products

If you require support, please contact your local branch:

https://www.lenze.com/en-de/company/global-presence

Note: By disposing of devices and packaging properly, you are helping us to protect the environment and conserve resources.

Further information on Lenze's environmental and climate responsibility and on the topic of energy efficiency can be found on the Internet:

https://www.lenze.com/en-de/company/sustainability

13 Appendix

13.1 Good to know

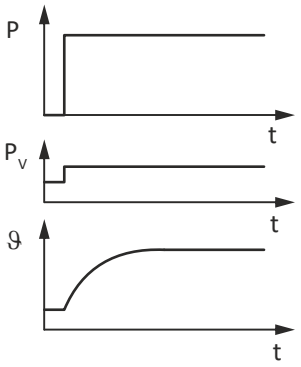
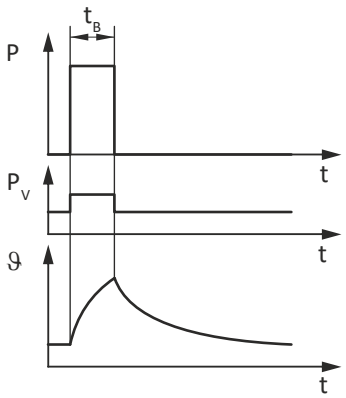
13.1.1 Operating modes of the motor

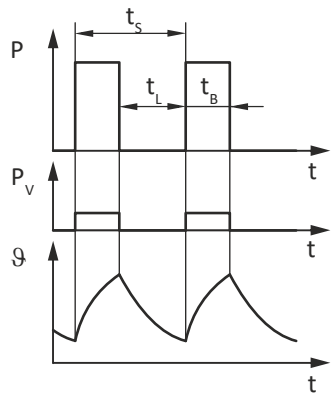
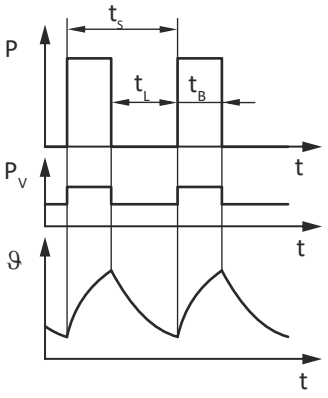
Operating modes S1 ... S10 as specified by EN 60034-1 describe the basic stress of an electrical machine.

In continuous operation a motor reaches its permissible temperature limit if it outputs the rated power dimensioned for continuous operation. However, if the motor is only subjected to load for a short time, the power output by the motor may be greater without the motor reaching its permissible temperature limit. This behaviour is referred to as overload capacity.

Depending on the duration of the load and the resulting temperature rise, the required motor can be selected reduced by the overload capacity.

The most important operating modes

Continuous operation S1	**Short-time operation S2**
	
Operation with a constant load until the motor reaches the thermal steady state. The motor may be actuated continuously with its rated power.	Operation with constant load; however, the motor does not reach the thermal steady state. During the following standstill, the motor winding cools down to the ambient temperature again. The increase in power depends on the load duration.

Intermittent operation S3	Non-intermittent periodic operation S6
	
Sequence of identical duty cycles comprising operation with a constant load and subsequent standstill. Start-up and braking processes do not have an impact on the winding temperature. The steady-state is not reached. The guide values apply to a cycle duration of 10 minutes. The power increase depends on the cycle duration and on the load period/ downtime ratio.	Sequence of identical duty cycles comprising operation with a constant load and subsequent no-load operation. The motor cools down during the no-load phase. Start-up and braking processes do not have an impact on the winding temperature. The steady-state is not reached. The guide values apply to a cycle duration of 10 minutes. The power increase depends on the cycle duration and on the load period/idle time ratio.

P	Power	P_V	Power loss
t	Time	t_B	Load period
t_L	Idle time	t_S	Cycle duration
ϑ	Temperature		

13.1.2 Enclosures

The protection class indicates the suitability of a product for specific ambient conditions with regard to humidity as well as the protection against contact and the ingress of foreign particles. The protection classes are classified in the EN IEC 60034-5/EN IEC 60529.

The first code number after the code letters IP indicates the protection against the ingress of foreign particles and dust. The second code number refers to the protection against the ingress of humidity.

Code number 1	Degree of protection	Code number 2	Degree of protection
0	No protection	0	No protection
1	Protection against the ingress of foreign particles d > 50 mm. No protection in case of deliberate access.	1	Protection against vertically dripping water (dripping water).
2	Protection against medium-sized foreign particles, d > 12 mm, keeping away fingers or the like.	2	Protection against diagonally falling water (dripping water), 15 ° compared to normal service position.
3	Protection against small foreign particles d > 2.5 mm. Keeping away tools, wires or the like.	3	Protection against spraying water, up to 60 ° from vertical.
4	Protection against granular foreign particles, d > 1 mm, keeping away tools, wire or the like.	4	Protection against spraying water from all directions.
5	Protection against dust deposits (dust-protected), complete protection against contact.	5	Protection against water jets from all directions.
6	Protection against the ingress of dust (dust-proof), complete protection against contact.	6	Protection against choppy seas or heavy water jets (flood protection).

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