

Automation systems Drive solutions

Controls

Inverter

Motors

Gearboxes

Engineering Tools

Motors: IE1 MD three-phase AC motors, IE3 three-phase AC motors m240-P

Gearboxes: g500-H helical gearboxes, g500-S shaft-mounted helical gearbox, g500-B bevel gearbox

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		A matter of principle: the right products for every application.	
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Lenze makes many things easy for you.

With our motivated and committed approach, we work together with you to create the best possible solution and set your ideas in motion - whether you are looking to optimise an existing machine or develop a new one. We always strive to make things easy and seek perfection therein. This is anchored in our thinking, in our services and in every detail of our products. It's as easy as that!

1

Developing ideas

Are you looking to build the best machine possible and already have some initial ideas? Then get these down on paper together with us, starting with small innovative details and stretching all the way to completely new machines. Working together, we will develop an intelligent and sustainable concept that is perfectly aligned with your specific requirements.

2

Drafting concepts

We see welcome challenges in your machine tasks, supporting you with our comprehensive expertise and providing valuable impetus for your innovations. We take a holistic view of the individual motion and control functions here and draw up consistent, end-to-end drive and automation solutions for you - keeping everything as easy as possible and as extensive as necessary.

3

Implementing solutions

Our easy formula for satisfied customers is to establish an active partnership with fast decision making processes and an individually tailored offer. We have been using this principle to meet the ever more specialised customer requirements in the field of machine engineering for many years.

4

Manufacturing machines

Functional diversity in perfect harmony: as one of the few full-range providers in the market, we can provide you with precisely those products that you actually need for any machine task – no more and no less. Our L-force product portfolio, a consistent platform for implementing drive and automation tasks, is invaluable in this regard.

5

Ensuring productivity

Productivity, reliability and new performance peaks on a daily basis – these are our key success factors for your machine. After delivery, we offer you cleverly devised service concepts to ensure continued safe operation. The primary focus here is on technical support, based on the excellent application expertise of our highly-skilled and knowledgeable after-sales team.

A matter of principle: the right products for every application.

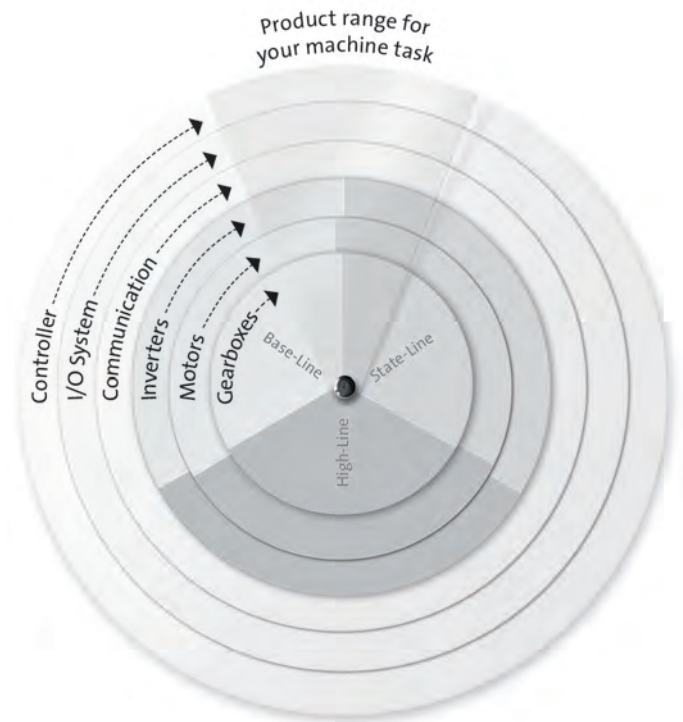
Lenze's extensive L-force product portfolio follows a very simple principle. The functions of our finely scaled products are assigned to the three lines Base-Line, State-Line or High-Line.

But what does this mean for you? It allows you to quickly recognise which products represent the best solution for your own specific requirements.

Powerful products with a major impact:

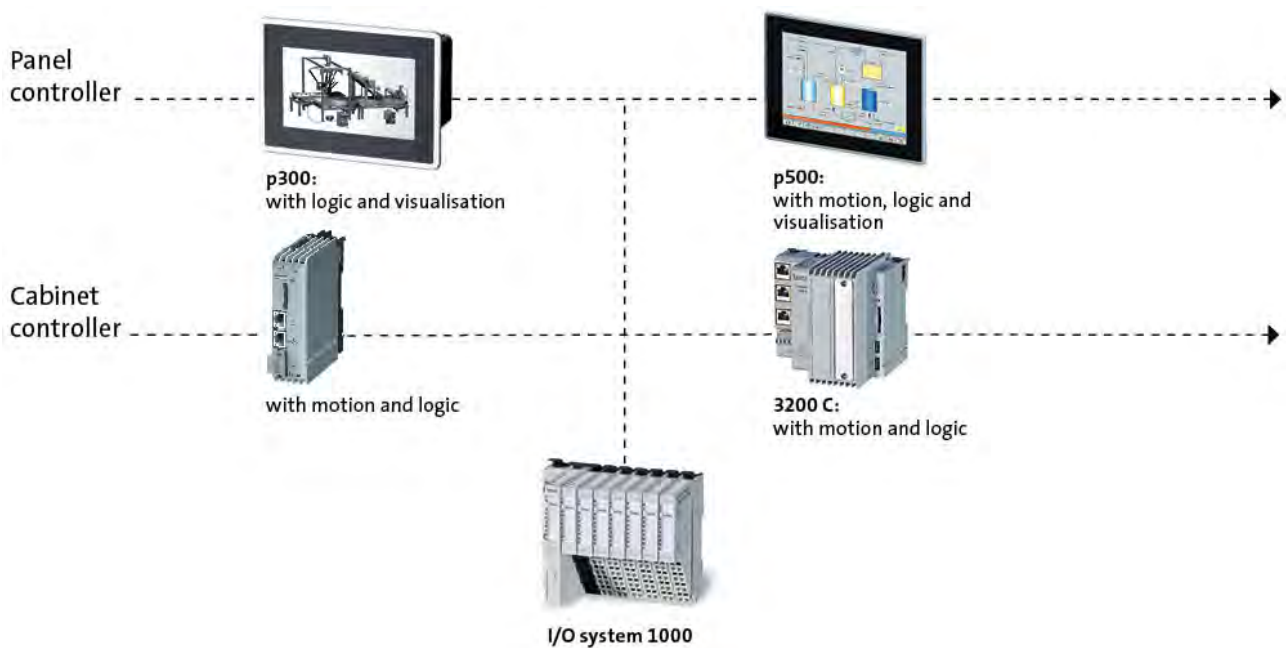
- Easy handling
- High quality and durability
- Reliable technologies in tune with the latest developments

Lenze products undergo the most stringent testing in our own laboratory. This allows us to ensure that you will receive consistently high quality and a long service life. In addition to this, five logistics centres ensure that the Lenze products you select are available for quick delivery anywhere across the globe. It's as easy as that!

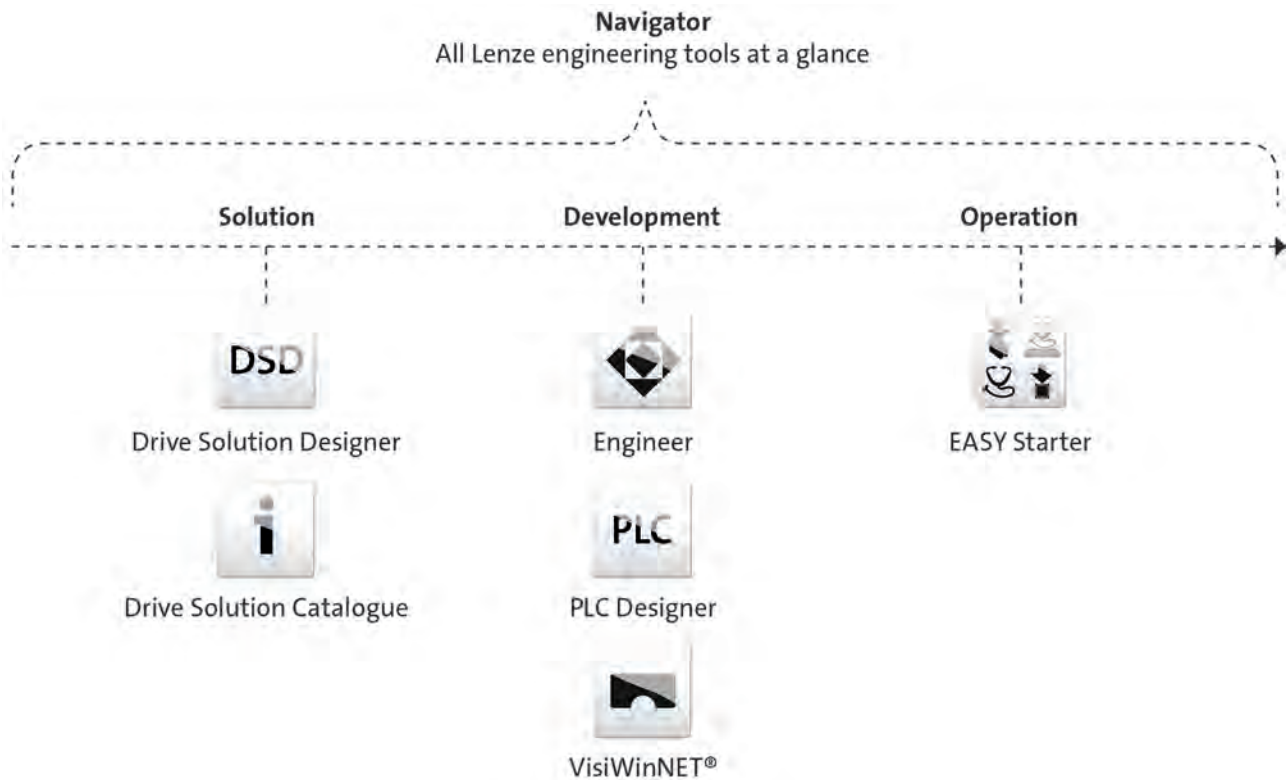


L-force product portfolio

Controls

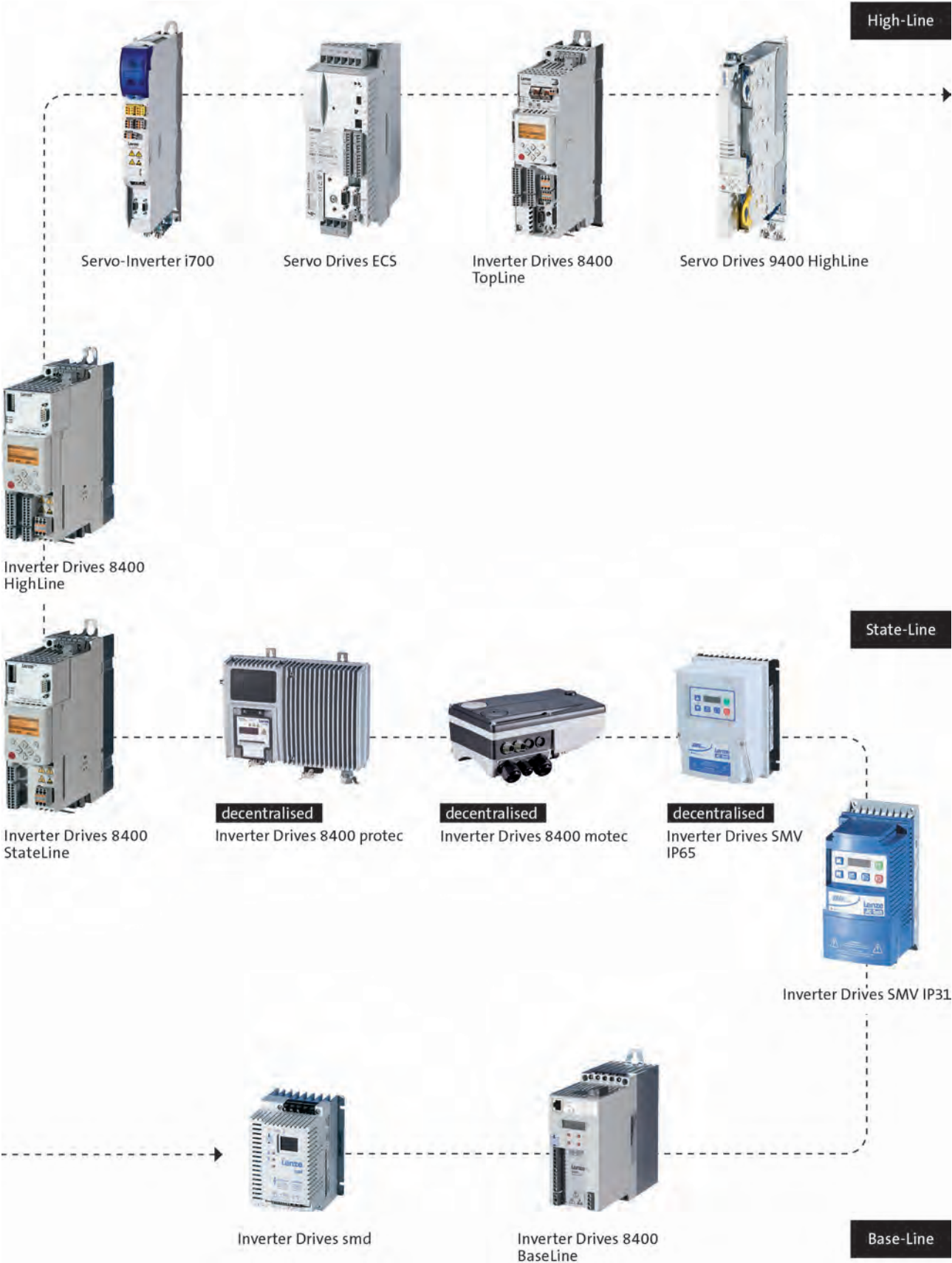


Engineering Tools



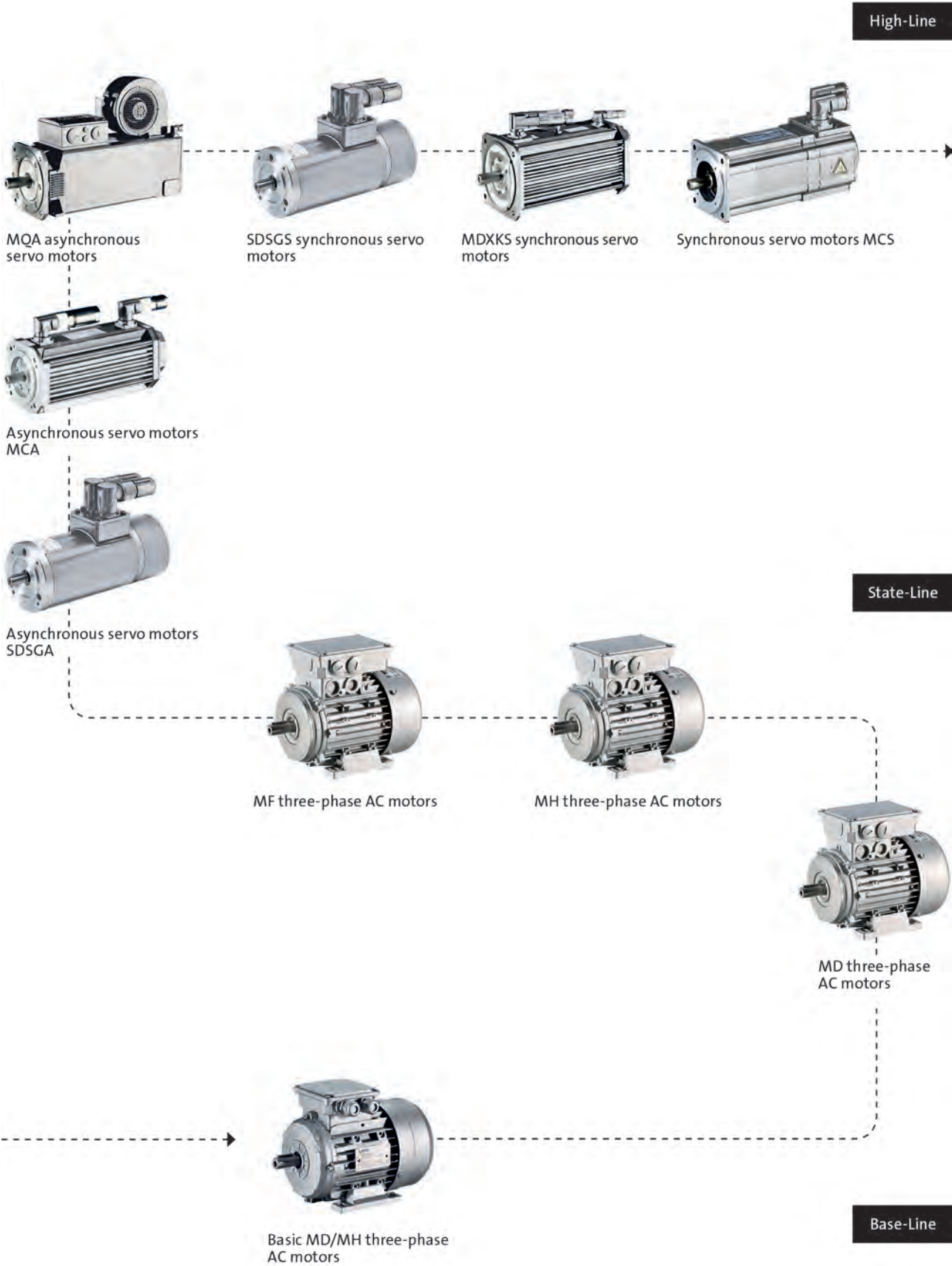
L-force product portfolio

Inverter



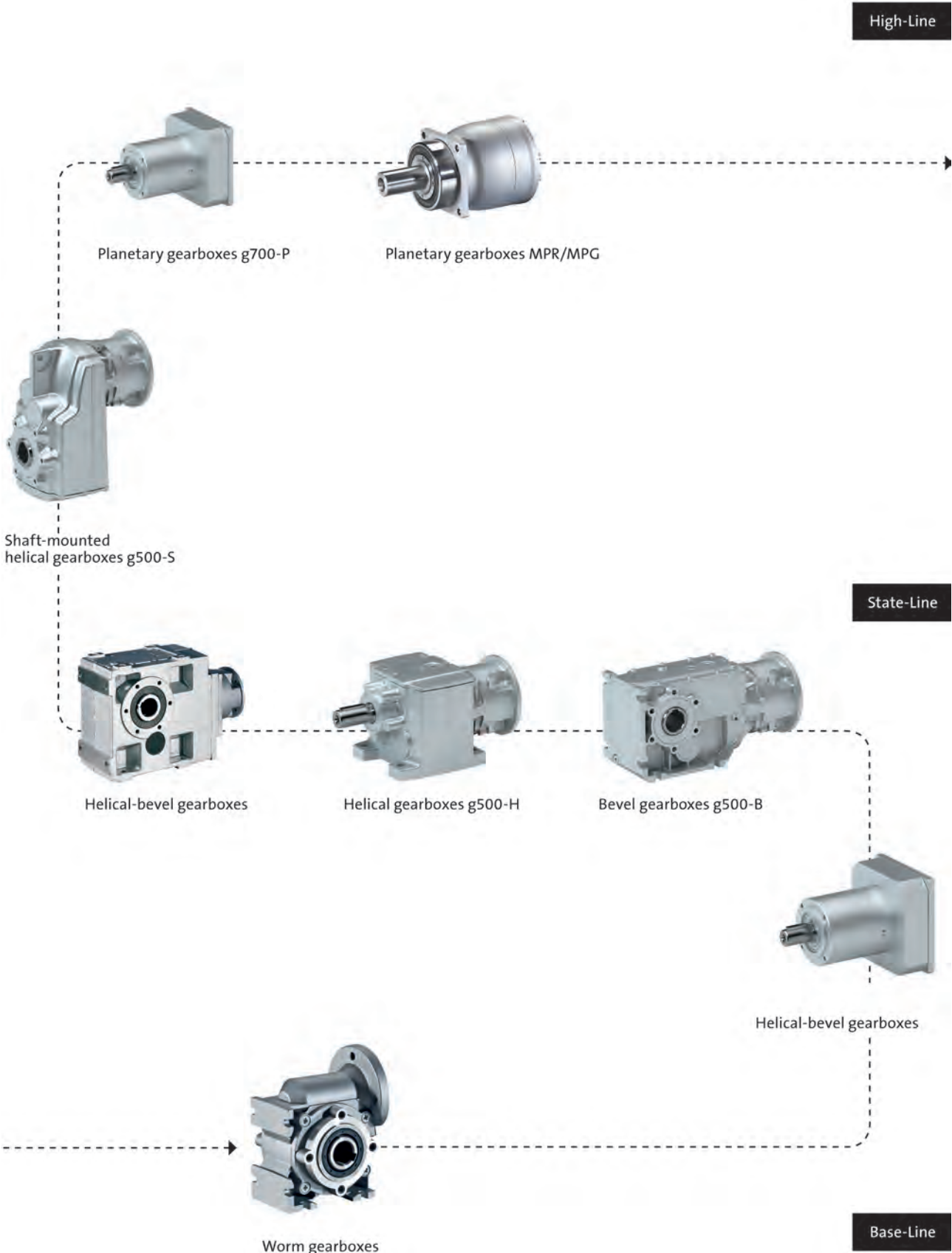
L-force product portfolio

Motors



L-force product portfolio

Gearboxes



g500-H helical geared motors

Mains operation

0.06 ... 0.55 kW (efficiency class IE1)

0.75 ... 7.5 kW (efficiency class IE3)



g500-H helical geared motors

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g500-H helical geared motors

General information



List of abbreviations

α	[rad/s ²]	Max. permissible angular acceleration
$\eta_{50\%}$	[%]	Efficiency
$\eta_{75\%}$	[%]	Efficiency
$\eta_{100\%}$	[%]	Efficiency
η_a		Efficiency
$\eta_{c=1}$		Efficiency
c		Load capacity
$\cos \phi$		Power factor
du/dt	[kV/ μ s]	Insulation resistance
$F_{ax,-}$	[N]	Min. axial force
$F_{ax,+}$	[N]	Max. axial force
$F_{ax,max}$	[N]	Max. axial force
$f_{in,max}$	[Hz]	Max. input frequency
f_{max}	[kHz]	Limit frequency
f_{max}	[kHz]	Max. switching frequency
f_N	[Hz]	Rated frequency
$F_{rad,max}$	[N]	Max. radial force
f_z		Additional radial force factor
H_{max}	[m]	Site altitude
I_0	[A]	Standstill current
i		Ratio
$I_{in,max}$	[A]	Max. input current
I_{max}	[A]	Max. current consumption
I_{max}	[A]	Max. current
I_{max}	[A]	Max. current consumption
I_{max}	[A]	Max. current
I_{max}	[A]	Max. short-time DC-bus current
I_{max}	[A]	Max. DC-bus current
I_N	[A]	Rated current
$I_{N,\Delta}$	[A]	Rated current
$I_{N,Y}$	[A]	Rated current
J	[kgcm ²]	Moment of inertia
J_{MB}	[kgcm ²]	Moment of inertia
$KE_{LL\ 150\ ^\circ C}$	[V / (1000 r/min)]	Voltage constant
$Kt_{0\ 150\ ^\circ C}$	[Nm/A]	Torque constant
L_{10}	[h]	Bearing service life
L	[mH]	Mutual inductance
$L_{1\sigma}$	[mH]	Stator leakage inductance
$L_{2\sigma}$	[mH]	Rotor leakage inductance
L_N	[mH]	Rated inductance
m	[kg]	Mass
M_2	[Nm]	Output torque
M_{22}	[Nm]	Output torque
M_0	[Nm]	Stall torque
$M_{0,max}$	[Nm]	Max. standstill torque
$M_{2,GM}$	[Nm]	Output torque
$M_{2,max}$	[Nm]	Max. output torque
$M_{2,not}$	[Nm]	Emergency off-torque

M_a	[Nm]	Starting torque
$M_{a,1}$	[Nm]	Starting torque
$M_{a,2}$	[Nm]	Starting torque
M_{av}	[Nm]	Average dynamic torque
M_b	[Nm]	Stalling torque
M_B	[Nm]	Braking torque
M_k	[Nm]	Rated torque
M_{max}	[Nm]	Max. torque
M_N	[Nm]	Rated torque
n_2	[r/min]	Output speed
n_{21}	[r/min]	Output speed
n_{22}	[r/min]	Output speed
$n_{1,max}$	[r/min]	Max. gearbox input speed
$n_{1,max\ 50\%}$	[r/min]	Max. gearbox input speed
n_{eto}	[r/min]	Transition speed
n_k	[r/min]	Speed
n_{max}	[r/min]	Max. speed
n_N	[r/min]	Rated speed
P_{max}	[kW]	Max. power input
Q_{BW}	[MJ]	Friction energy
Q_E	[J]	Maximum switching energy
Q_E	[kJ]	Maximum switching energy
R_1	[Ω]	Stator impedance
R_2	[Ω]	Rotor impedance
R	[Ω]	Insulation resistance
R	[Ω]	Min. insulation resistance
$R_{UV\ 150\ ^\circ C}$	[Ω]	Stator impedance
$R_{UV\ 20\ ^\circ C}$	[Ω]	Stator impedance
$S_{h\ddot{u}}$	[1/h]	Transition operating frequency
t_1	[ms]	Engagement time
t_2	[ms]	Disengagement time
t_{11}	[ms]	Delay time
t_{12}	[ms]	Rise time
T	[$^\circ C$]	Max. surface temperature
T	[$^\circ C$]	Min. ambient temperature for transport
T	[$^\circ C$]	Max. ambient temperature for transport
T	[$^\circ C$]	Max. ambient temperature of bearing
T	[$^\circ C$]	Min. ambient storage temperature
T	[$^\circ C$]	Ambient temperature
T	[$^\circ C$]	Operating temperature
T	[$^\circ C$]	Rated temperature
t	[h]	Service life
T_{opr}		Ambient operating temperature
$T_{opr,max}$	[$^\circ C$]	Max. ambient operating temperature
$T_{opr,min}$	[$^\circ C$]	Min. ambient operating temperature
t_{re}	[s]	Recovery time
$t_{\ddot{u}}$	[ms]	Overexcitation time
U_{Δ}	[V]	Voltage range
U_{AC}	[V]	Mains voltage range

g500-H helical geared motors

General information



List of abbreviations

U_{AC}	[V]	Mains voltage
$U_{in,max}$	[V]	Max. input voltage
$U_{in,min}$	[V]	Min. input voltage
U_{max}	[V]	Max. input voltage
U_{max}	[V]	Max. mains voltage
U_{min}	[V]	Min. mains voltage
$U_{N,\Delta}$	[V]	Rated voltage
$U_{N,AC}$	[V]	Rated voltage
$U_{N,DC}$	[V]	Rated voltage
$U_{N,Y}$	[V]	Rated voltage
Z_g		Number of teeth
Z_{ro}	[Ω]	Rotor impedance
Z_{rs}	[Ω]	Impedance
Z_{so}	[Ω]	Stator impedance
Z_t		Number of teeth

CCC	China Compulsory Certificate
CE	Communauté Européenne
CEL	China Energy Label
CSA	Canadian Standards Association
CSAULE	Energy Verified Certificate
cURus	Combined certification marks of UL for the USA and Canada
DIN	Deutsches Institut für Normung e.V.
EAC	Customs union Russia / Belarus / Kazakhstan certificate
EMC	Electromagnetic compatibility
EN	European standard
IM	International Mounting Code
IP	International Protection Code
NEMA	National Electrical Manufacturers Association
UkrSEPRO	Certificate for Ukraine
UL	Underwriters Laboratory Listed Product
UR	Underwriters Laboratory Recognized Product
VDE	Verband deutscher Elektrotechniker (Association of German Electrical Engineers)

g500-H helical geared motors

General information



Product information

In combination with three-phase AC motors, our helical gearboxes form a compact and powerful drive unit. Numerous options at the input and output end provide for the drive to be exactly adapted to your application.

The robust helical gearboxes feature high permissible radial forces, closely stepped ratios and a low backlash. They are available in 2-pole and 3-pole design with a output torque up to 450 Nm and a ratio of up to $i = 370$.

Three-phase AC motors as a basis for geared motors

In a power range of 0.06 to 7.5 kW, Lenze offers mains-operated three-phase AC motors for basic tasks. These drives come in different efficiency classes and can be used for the versions required for mains operation.

- IE1 motors up to a power of 0.55 kW
- IE3 motors from 0.75 kW to 7.5 kW

Versions

- Fine-scaling of size / torque - provides for an optimum machine adaptation
- Standardised shaft and flange dimensions for an easy machine integration
- High efficiency

Customer benefit

- Different efficiency classes for the greatest economic benefit
- Saving of space by compact direct mounting to Lenze gearboxes
- Optimum adaptation of the brake reaction by optional holding brakes and service brakes
- Optional overheat control by temperature monitoring

The product name

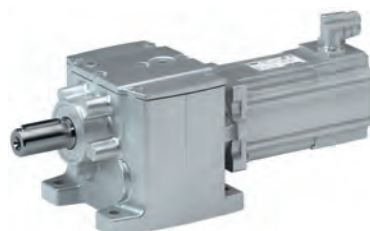
Gearbox type	Product range		Design	Rated torque [Nm]	Product
Helical gearbox	g500	-	H	45	g500-H45
				100	g500-H100
				140	g500-H140
				210	g500-H210
				320	g500-H320
				450	g500-H450



g500-H helical gearbox with m240-P three-phase AC motor



g500-H helical gearbox with m550-P three-phase AC motor and motec



g500-H helical gearbox with MCS servo motor

g500-H helical geared motors

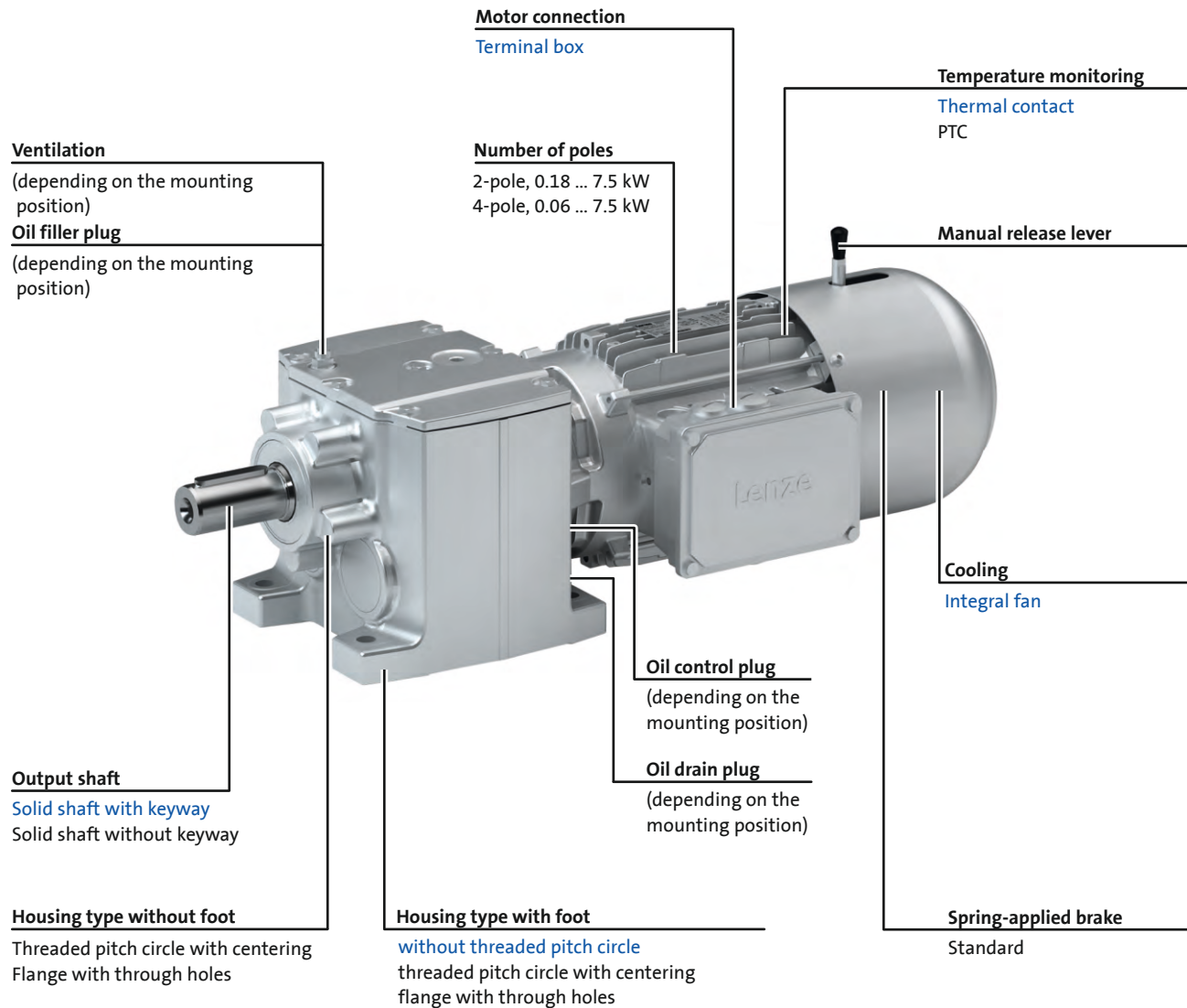
General information



Equipment

Overview

The equipment includes all the options available as standard and all the built-on accessories of the product.



6.3

Standard design



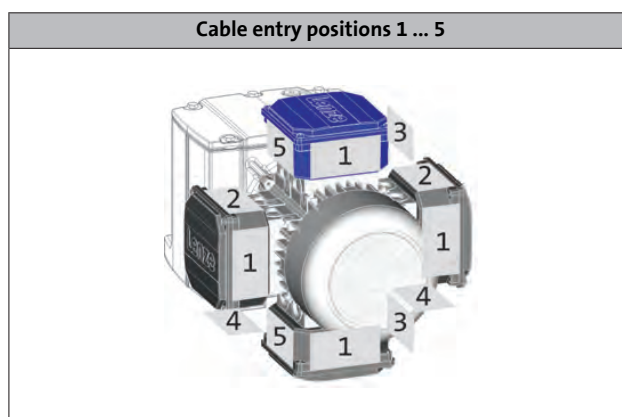
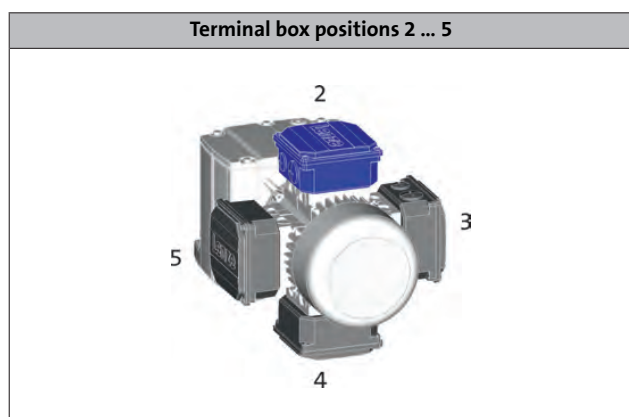
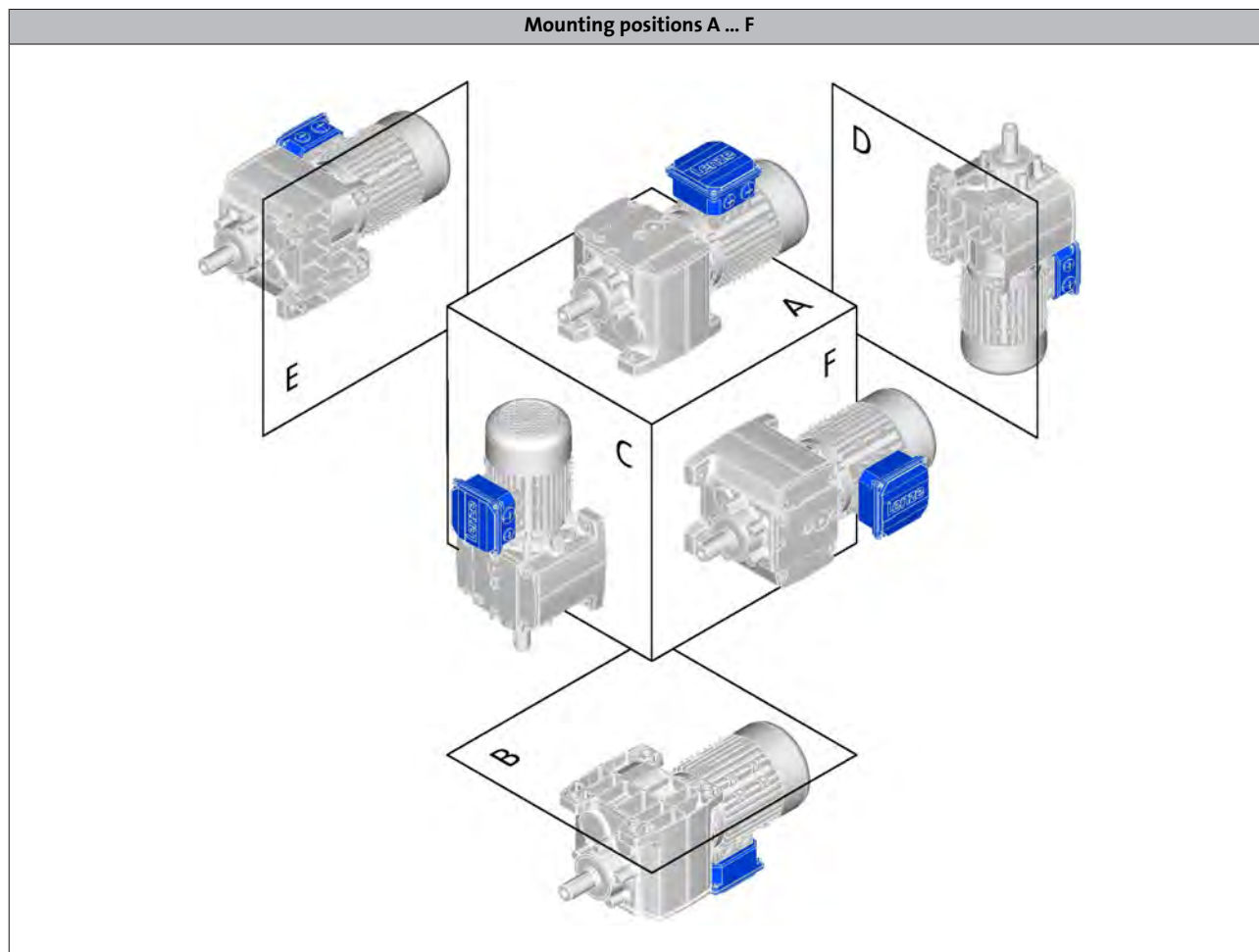
10 - Detailed information on housing type.



Equipment

Mounting position, position of system components

- In the following graphics, the terminal box in position 2 is colour-coded.
If the mounting position (A ... F) changes, the terminal box positions 2 ... 5 are rotated accordingly.
- To reduce the number of different versions, the gearboxes can also be ordered with combined mounting positions:
 - g500-H45 in mounting position ABCDEF
 - g500-H100 ... H450 in mounting position AEF



- For details regarding the cable entry see motor chapter/product extensions.

g500-H helical geared motors

General information



The geared motor kit

Product						
Gearbox	g500-H45	g500-H100	g500-H140	g500-H210	g500-H320	g500-H450
Motor assignment min.	MD□MA□□-063	MD□MA□□-063	MD□MA□□-063	MD□MA□□-063	MD□MA□□-063	MD□MA□□-063
Motor assignment max.	MD□MA□□-071	m240-P90	m240-P90	m240-P100	m240-P112	m240-P132
Technical data						
Output torque max.	45 Nm	100 Nm	140 Nm	210 Nm	320 Nm	450 Nm
Drive power min.	0.06 kW	0.12 kW	0.12 kW	0.12 kW	0.12 kW	0.12 kW
Drive power max.	0.55 kW	1.5 kW	1.5 kW	3.0 kW	4.0 kW	7.5 kW
Dimensions [mm]						
Solid shaft with featherkey	14 x 28 20 x 40	20 x 40	25 x 50	25 x 50	30 x 60	30 x 60 35 x 70
Solid shaft without keyway	20 x 40	20 x 40	25 x 50	25 x 50	30 x 60	35 x 70
Output flange	120/140/160	120/140/160	120/140/160	120/140/160/200	160/200	160/200/250

- Values printed in bold are standard versions.
Values not printed in bold are possible extensions, some for an additional charge.

Design	
Conformity	CE EAC
Approval	48049
Degree of protection	IP55 IP65/IP66
Surface and corrosion protection	Without Different types of OKS
Colour	Not coated Primed/RAL colours
Solid shaft	With keyway Without keyway
Shaft material	Steel stainless steel
Shaft sealing ring material	NBR FKM or FPM (Viton)
Shaft bearings	Normal Reinforced
Paste for shaft mounting	Without Enclosed
Gearbox type	With foot (VBR) With centering (VCR) With foot and centering (VAR) With foot and flange (VAK) With output flange (VCK) With output flange (VCP)
Lubricant	Mineral oil Synthetic oil Food-compatible oil

Design	
Mounting position	A/B/C/D/E/F Combined
Backlash	48063
Power connection	48064
Spring-applied brake	Without Brake design: Standard brake version: Standard
Feedback	48067
Cooling	48068
Temperature monitoring	TKO thermal contact PTC thermistor
Built-on accessories fan side	48071

g500-H helical geared motors

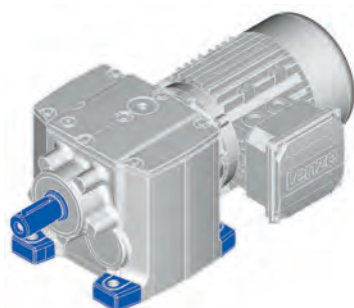
General information



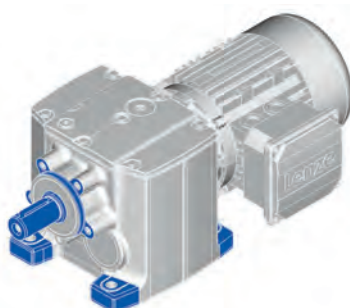
The geared motor kit

Gearbox details

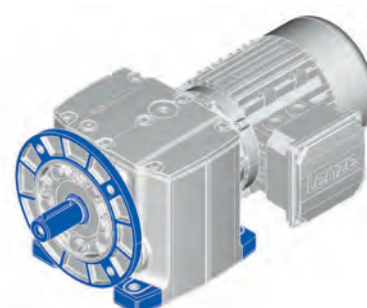
Solid shaft



Foot mounting (VBR)

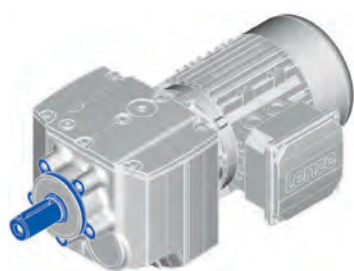


Foot mounting
With centering (VAR)

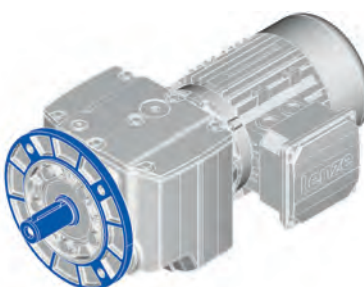


Foot mounting
Flange with through holes (VAK)

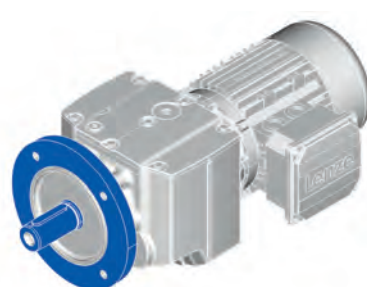
Solid shaft



With centering (VCR)



Flange with through holes (VCK)



Flange with through holes (VCP)

- VCP (reinforced flange) for transmitting particularly high radial and axial forces.



General information about the data provided in this catalogue

The powers, torques and speeds specified in this catalogue are rounded values and are valid under the following conditions:

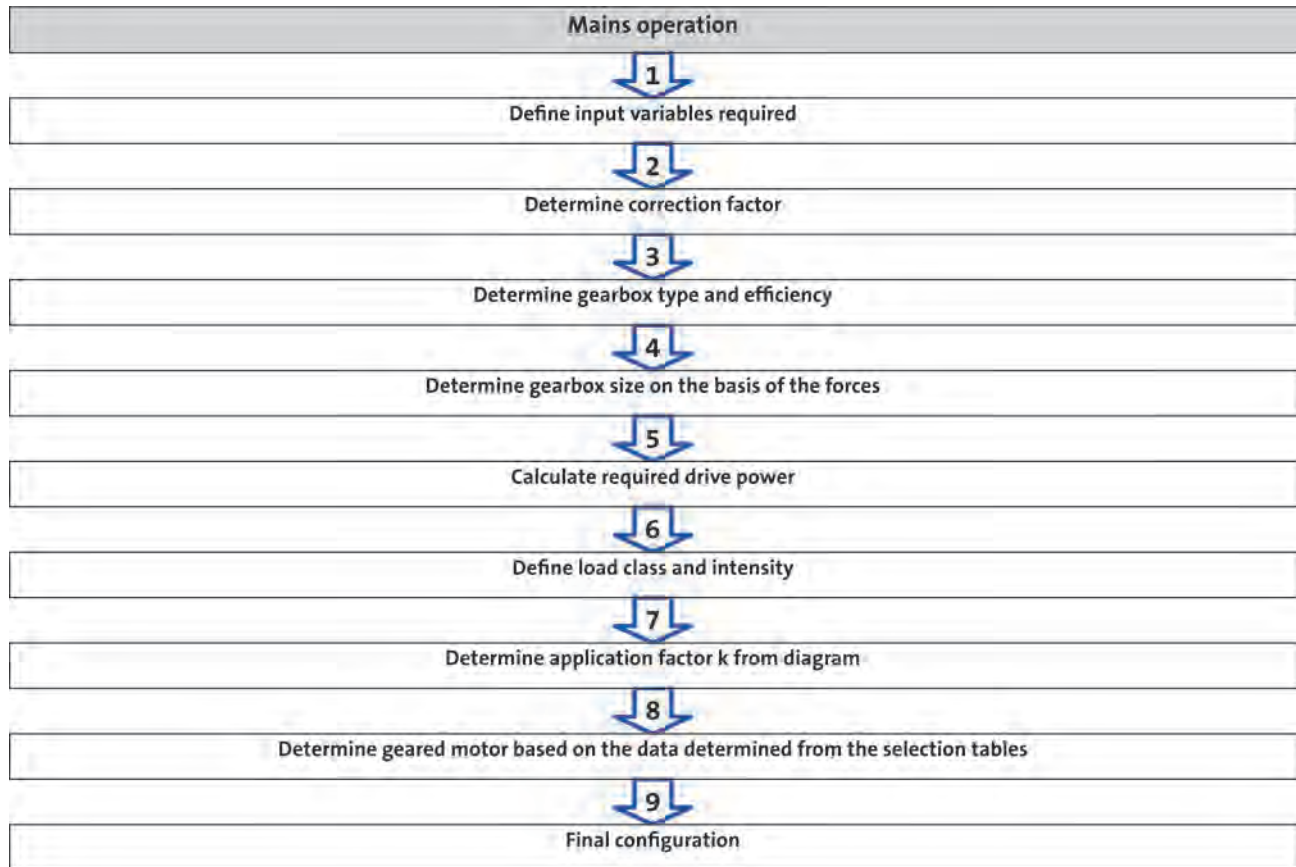
- Operating time/day = 8 h (100% OT)
- Duty class I for up to 10 switching operations/h
- Mounting positions and designs in this catalogue
- Standard lubricant
- $T_{amb} = 30\text{ °C}$ for gearboxes,
 $T_{amb} = 40\text{ °C}$ for motors (in accordance with EN 60034)
- Site altitude $\leq 1000\text{ m amsl}$
- The selection tables provide the permissible mechanical powers and torques. For notes on the thermal power limit, see chapter drive dimensioning.
- The rated power specified for motors and geared motors applies to operating mode S1 (in accordance with EN 60034).

Under different operating conditions, the values obtained may vary from those listed here.

In the case of extreme operating conditions, please consult your Lenze sales office.



Procedure of a configuration process





Procedure of a configuration process

1 required input variables

Load torque		$M_{L,max} =$	[Nm]
	In inverter operation	$M_{L,min} =$	[Nm]
Load speed		$n_{L,max} =$	[r/min]
	In inverter operation	$n_{L,min} =$	[r/min]
External moments of inertia		$J_{ext} =$	[kgcm ²]
Operating time / day		BD =	[h]
Switching operations per h		$S_h =$	[1/h]
Runtime for $M_{L,max}$	In inverter operation		[%]

2 determine correction factor

Operating modes and operating time						
S1	ED	[%]	100			
	$k_L =$		1.0			
S2	ED	[%]	10	30	60	90
	$k_L =$		1.4 - 1.5	1.15 - 1.2	1.07 - 1.1	1.0 - 1.05
S3	ED	[%]	15	25	40	60
	$k_L =$		1.4 - 1.5	1.3 - 1.4	1.15 - 1.2	1.05 - 1.1
S6	ED	[%]	15	25	40	60
	$k_L =$		1.5 - 1.6	1.4 - 1.5	1.3 - 1.4	1.15 - 1.2
Site altitude						
	H	[m]	≤ 1000	≤ 2000	≤ 3000	≤ 4000
	$k_H =$		1	0.95	0.9	0.8
Ambient temperature						
	$T_U =$	[°C]	≤ 40	≤ 45	≤ 50	≤ 55
	$k_{TU} =$		1	0.95	0.9	0.8

19 - Operating modes



Procedure of a configuration process

3 determine gearbox type and efficiency

Gearbox type			Axial gearboxes		Right-angle gearboxes
			Helical gearbox	Shaft-mounted	Bevel gearbox
Product			g500-H	g500-S	g500-B
Gearbox efficiency	2-stage gearboxes	η_G	0.96	0.96	0.96
	3-stage gearboxes	η_G	0.95	0.95	0.95

4 determine gearbox size based on the forces on the output

Transmission element		Gear wheels	Sprockets	Toothed belt pulleys (depending on the initial stress)	Narrow V-belt (depending on the initial stress)
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	[N]	$F_{rad} = 2000 \times \frac{M_{L,max} \times f_z}{d_w}$		$F_{rad} \leq f_w \times F_{rad,max}$	
Axial force	[N]			$F_{ax} \leq F_{rad,max} \times 0.5$	

d_w = effective diameter - transmission element

40 - Permissible radial and axial forces at output

5 calculate drive power

Calculation		
Drive power required	[kW]	$P_1 = \frac{M_{L,max} \times \eta_{L,max}}{9549 \times k_L \times k_H \times k_{Tu} \times \eta_g}$

k_L = Correction factor - operational factor
 k_H = correction factor - installation height
 k_{Tu} = correction factor - ambient temperature



Procedure of a configuration process

6 calculate intensity and determine duty class

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

20 - Duty classes

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

i= gearbox ratio
 J_L = moment of inertia of the load
 J_M = moment of inertia of the motor
 J_B = moment of inertia of the brake
 J_Z = additional moment of inertia (handwheel, 2nd shaft end ...)

7 determine application factor k from diagram

23 - Load capacity and application factor



Procedure of a configuration process

8 determine geared motor based on the data determined from the selection tables

Selection table		Check
Drive power P_N	[kW]	$P_1 \leq P_N$
Output speed n_2	[r/min]	$n_{L,max} \approx n_2$
Output torque M_2	[Nm]	$M_{L,max} \leq M_2$
Load factor c		$k \leq c$
Order information		Example
Number of stages		2
Ratio i		4.000
Product gearbox		g500-H100
Product motor		m240-P80/M2

23 - Load capacity and application factor

Example: structure of a selection table

50 Hz: $P_N = 0.75$ kW ← Rated power P_N

2-stage gearboxes ← Number of the gear stage

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m240	
627	11	5.2	4.600	-H100	-P80/M2	
558	12	4.9	5.167	-H100	-P80/M2	

↑
Output speed n_2

↑
Output torque M_2

↑
Load capacity c

↑
Ratio i

↑
Product
Gearbox

↑
Product
Motor



Procedure of a configuration process

9 Final configuration

More information regarding the final configuration can be found under: - The modular geared motor system - Product extensions for gearboxes, motors	
Check operating conditions	- Operating temperature (observe lubricant, material of shaft sealing ring) - Degree of protection - Supply voltage - Surface protection required - Approvals - Conformity
Check and define connection dimensions	- Driven shaft - Foot, output flange, centering with threaded pitch circle
Determine mounting position and position of the system blocks	- Mounting position A/B/C/D/E/F or combined - Terminal box position, shaft position, flange position
Select product extensions at the gearbox (differing depending on the gearbox type)	- Torque plate at the base, threaded pitch circle, rubber buffer - Hollow shaft cover, shrink disc cover
Select product extensions at the motor	- Connection type (terminal box, connector) - Brake



Standards

Approvals

CCC	China Compulsory Certification documents the compliance with the legal product safety requirements of the PR of China - GB standards.
cCSAus	CSA certificate, tested according to US and Canada standards
CE	Communauté Européenne documents the declaration of the manufacturer that EC Directives are complied with.
CEL	China Energy Label documents the compliance with the legal energy efficiency requirements for motors, tested according to PR of China standards
CSA	Canadian Standards Association CSA - certificate, tested according to Canada standards
CSAULE	Energy Verified Certificate Determining the energy efficiency according to CSA C390 for products within the scope of energy efficiency requirements in the USA and Canada
cULus	UL certificate for products, tested according to US and Canada standards
cURus	UL certificate for components, tested according to US and Canada standards
EAC	Certificate of Russia-Belarus-Kazakhstan Customs Union documents the declaration of the manufacturer that the specifications for the Eurasian conformity (EAC) required for placing electronic and electromechanical products on the market of the entire territory of the Customs Union (Russia, Belarus, Kazakhstan) are complied with.
UL	Underwriters Laboratory Listed Product
UR	Underwriters Laboratory Recognized Product UL certificate for components, tested according to US standards



Standards

Operating modes

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.



Standards

Duty classes

Depending on the load type, the duty classes or impacts are divided as follows:

Duty class	Load type
I	Smooth operation, small or light jolts
II	Uneven operation, average jolts
III	Uneven operation, severe jolts and/or alternating load

In order to support you in classifying your driven machine regarding the right duty class, the following shows sample applications with the corresponding duty class. Depending on, for instance, the operating frequency, driven machines can also have a higher impact. In case of uncertainties, please contact your Lenze sales office.

Drive	Duty class
Construction machines	II
Chemical industry	II
Conveyors	II
Fans	II
Plastics industry	II
Wood working	III
Hoists	III
Metal working	III
Food	II
Paper industry	III
Stones	III
Textile industry	II



Standards

Degrees of protection

The degree of protection indicates the suitability of a motor for specific ambient conditions with regard to humidity as well as the protection against contact and the ingress of foreign particles. The degrees of protection are classified by EN 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 the 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 similar	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 and the like	3	Protection against spraying water, up to 60° to the vertical
4	Protection against granular foreign particles, $d > 1$ mm, keeping away tools, wires and 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).



Thermal power limit

The thermal power limit, defined by the heat balance, limits the permissible gearbox continuous power. It may be less than the mechanical power ratings listed in the selection tables.

The thermal power limit 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
- the ambient conditions: temperature, air circulation, input or dissipation via shafts and the foundation

If the following input speeds n_1 are exceeded, please contact Lenze:

Motor frame size	Mounting position A, B, E, F	Mounting position C, D
063 ... 100	4000 r/min	3000 r/min
112 ... 132	3000 r/min	1500 r/min

- For a short period of time up to 5 min, 30 % higher speeds are permissible

Possible ways of extending the application area

- synthetic lubricant (option)
- shaft sealing rings made from FP material/Viton (option)
- reduction in lubricant quantity
- cooling of the geared motor by means of air convection on the machine/system



Load capacity and application factor

Load capacity c of gearboxes

Rated value for the load capacity of Lenze geared motors.

- c is the ratio of the permissible rated torque of the gearbox to the rated torque supplied by the drive component (e.g. the built-in Lenze motor).
- The value of c must always be greater than the value of the application factor k calculated for the application.

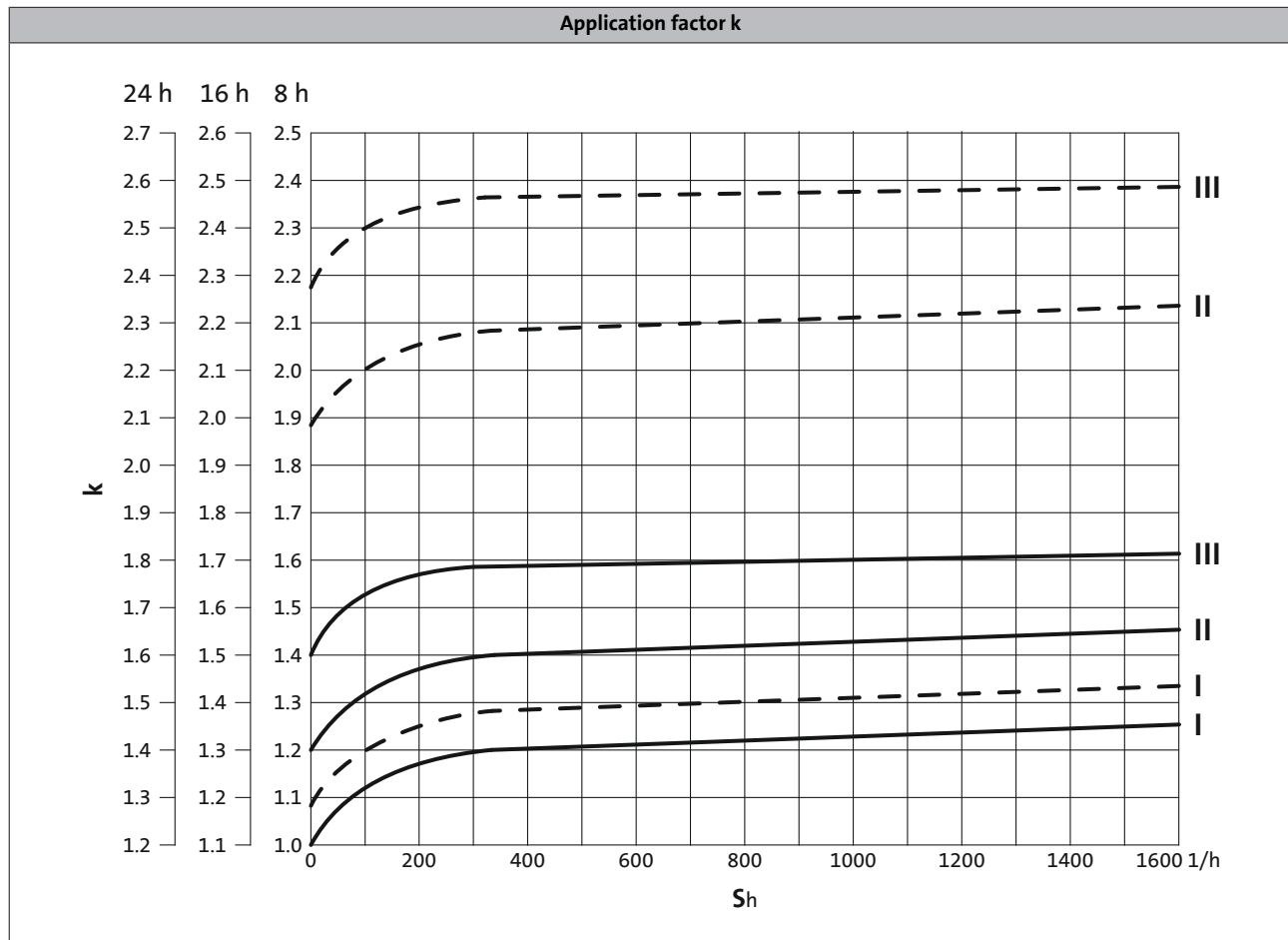
Required: $c \geq k$

Application factor k (according to DIN 3990)

Takes into account the influence of temporally variable loads which are actually present during the anticipated operating time of gearboxes and geared motors.

k is determined by:

- the type of load
- the load intensity
- temporal influences



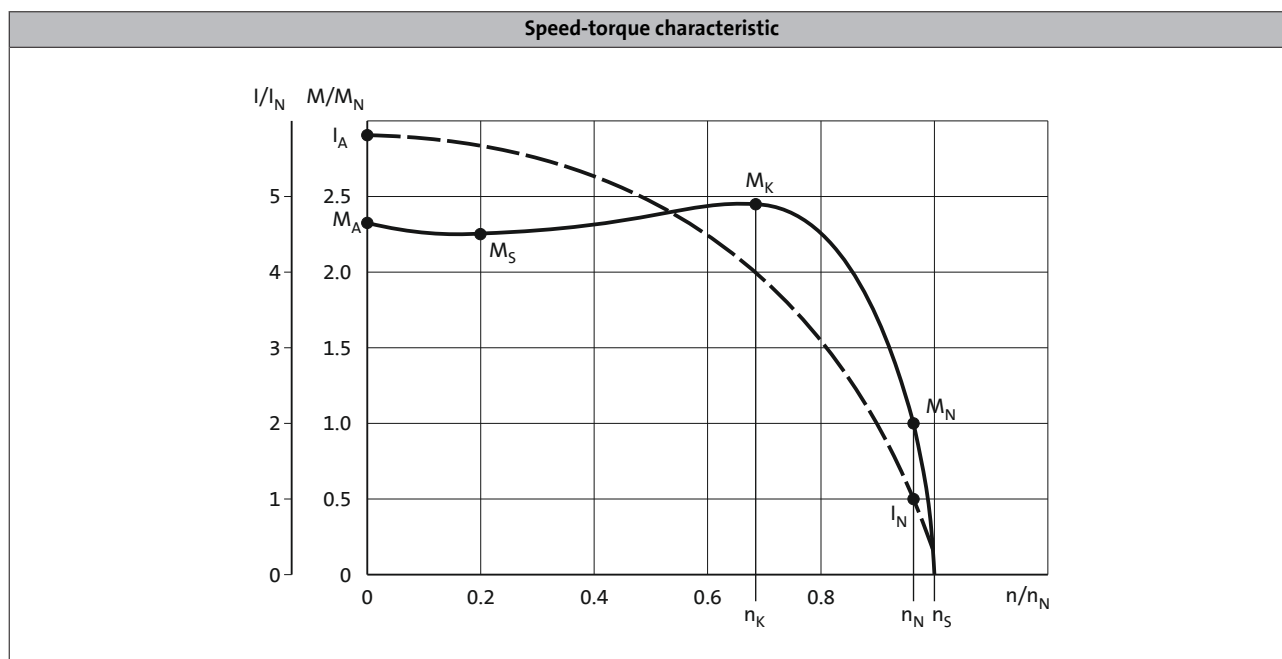
- S_h = switchings/h
- — Three-phase AC motors MD□/MA
- — — Three-phase AC motors m240/m550



Operational performance of three-phase AC geared motors

Mains operation

During mains operation, when switched on, the three-phase AC motor starts up according to the speed-torque characteristic. It passes through this characteristic until it reaches its stable operating point. This operating point has been reached if the load torque or rated torque (M_N) is lower than the starting torque (M_A) and the pull-up torque (M_S). 2-, 4- and 6-pole motors are used. The rated speed (n_{rated}) of the drive is always lower than the calculated synchronous speed (n_s). The difference between rated speed and synchronous speed relating to the synchronous speed is referred to as the "slip".



g500-H helical geared motors

Project planning



Combinatorics of geared motors

The following tables contain the most important data of the gearbox with the motors that can be attached for an approximate dimensioning process of a geared motor. Detailed information can be found in the following chapters.

The data given in the tables apply to

- input speed $n_1 = 1400$ r/min
- 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). These are cancelled values.

The data for the max. radial force refer to

- foot mounting (VBR)
- normal storage
- application factor $c = 1.3$

For further designs see the "Technical data" chapter.

- The rated torque can be gathered from the last digits of the product name e.g. g500-H45 (45 Nm).

g500-H45, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
541	18	1.05	2.597	896	345	470	41	0.18	0.55
412	19	0.84	3.413	256	75	620	39	0.18	0.55
322	21	0.73	4.368	1376	315	670	39	0.18	0.55
265	27	0.77	5.312	1344	253	700	29	0.18	0.55
236	29	0.74	5.965	686	115	720	28	0.18	0.55
201	30	0.65	6.982	384	55	760	28	0.12	0.55
179	32	0.62	7.840	196	25	780	27	0.12	0.55
157	33	0.56	8.935	688	77	810	27	0.12	0.55
140	35	0.53	10.033	301	30	840	27	0.09	0.55
123	35	0.46	11.429	80	7	870	27	0.09	0.55
110	38	0.45	12.833	77	6	900	26	0.09	0.55
95.0	39	0.40	14.836	816	55	950	26	0.09	0.37
84.6	41	0.37	16.660	833	50	1000	26	0.09	0.37
74.2	42	0.34	19.013	1464	77	1050	26	0.06	0.37
66.0	44	0.31	21.350	427	20	1090	26	0.06	0.37
55.7	45	0.27	24.595	2976	121	1170	26	0.06	0.25
49.6	45	0.24	27.618	1519	55	1250	25	0.06	0.25
42.8	45	0.21	32.000	32	1	1340	26	0.06	0.25
38.0	45	0.18	35.933	539	15	1400	25	0.06	0.18
32.9	45	0.16	41.455	456	11	1450	26	0.06	0.18
30.6	45	0.15	46.550	931	20	1470	25	0.06	0.12
26.9	45	0.13	52.909	582	11	1500	26	0.06	0.12
24.0	45	0.12	59.413	4753	80	1500	25	0.06	0.12

g500-H helical geared motors

Project planning



Combinatorics of geared motors

g500-H100, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	$\pm 20\%$ [arcmin]	[kW]	[kW]
430	62	2.88	3.354	161	48	1180	29	0.25	1.50
314	72	2.44	4.600	23	5	1360	28	0.25	1.50
279	75	2.26	5.167	31	6	1410	25	0.25	1.50
245	81	2.14	5.887	989	168	1490	27	0.25	1.50
224	83	2.01	6.440	161	25	1560	27	0.18	1.50
204	86	1.89	7.086	248	35	1620	24	0.25	1.50
176	92	1.74	8.214	115	14	1720	27	0.18	1.50
159	96	1.65	9.068	1333	147	1780	24	0.25	1.50
143	99	1.53	10.063	161	16	1880	27	0.25	1.50
127	100	1.37	11.360	284	25	1980	22	0.18	1.50
114	100	1.23	12.653	620	49	2050	24	0.18	1.50
99.7	100	1.08	14.490	710	49	2160	22	0.18	1.10
93.2	100	1.01	15.500	31	2	2240	23	0.25	1.10
81.7	100	0.88	17.750	71	4	2370	22	0.25	0.75
74.4	100	0.80	19.486	682	35	2460	23	0.12	0.75
65.0	100	0.70	22.314	781	35	2560	22	0.12	0.75
57.8	100	0.62	25.095	527	21	2590	23	0.12	0.75
48.9	100	0.53	28.738	1207	42	2620	22	0.12	0.55
44.3	100	0.48	31.805	2449	77	2640	22	0.12	0.37
38.7	100	0.42	36.422	5609	154	2650	21	0.12	0.37
35.4	100	0.38	39.857	279	7	2650	22	0.12	0.37
30.9	100	0.33	45.643	639	14	2650	21	0.12	0.37
26.0	70	0.20	52.510	2573	49	2650	22	0.12	0.18
22.7	80	0.20	60.133	5893	98	2650	21	0.12	0.18

g500-H helical geared motors

Project planning



Combinatorics of geared motors

g500-H140, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
441	82	3.91	3.267	49	15	1750	25	0.25	1.50
322	94	3.27	4.480	112	25	2000	24	0.25	1.50
252	103	2.80	5.733	86	15	2180	24	0.25	1.50
230	105	2.61	6.272	784	125	2260	23	0.18	1.50
198	106	2.27	7.269	189	26	2370	18	0.25	1.50
180	117	2.28	8.000	8	1	2430	24	0.18	1.50
160	117	2.02	9.029	316	35	2540	19	0.25	1.50
147	125	1.98	9.800	49	5	2630	23	0.25	1.50
125	128	1.72	11.554	3397	294	2800	18	0.25	1.50
114	132	1.63	12.640	316	25	2880	18	0.18	1.50
103	136	1.52	13.957	4536	325	2950	17	0.18	1.50
89.4	140	1.35	16.122	790	49	3050	18	0.18	1.50
81.0	140	1.22	17.802	1620	91	3150	18	0.18	1.50
73.1	140	1.10	19.750	79	4	3210	18	0.25	1.10
66.2	140	1.00	21.808	567	26	3300	17	0.25	1.10
58.4	140	0.88	24.829	869	35	3400	18	0.12	0.75
52.9	140	0.80	27.415	1782	65	3520	17	0.12	0.75
45.3	140	0.68	31.976	1343	42	3630	18	0.12	0.75
41.1	140	0.62	35.308	459	13	3730	17	0.12	0.75
34.8	140	0.53	40.526	6241	154	3850	17	0.12	0.37
31.5	140	0.48	44.748	6399	143	3920	17	0.12	0.37
27.8	129	0.39	50.786	711	14	4000	17	0.12	0.37
25.1	140	0.38	56.077	729	13	4050	17	0.12	0.37
20.4	89	0.20	66.908	6557	98	4100	17	0.12	0.18
18.5	98	0.20	73.879	6723	91	4150	17	0.12	0.18

g500-H helical geared motors

Project planning



Combinatorics of geared motors

g500-H210, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	$\pm 20\%$ [arcmin]	[kW]	[kW]
428	126	5.82	3.389	61	18	1980	23	0.55	3.00
312	143	4.81	4.648	488	105	2250	23	1.10	3.00
260	159	4.45	5.583	67	12	2400	19	0.55	3.00
232	158	3.95	6.250	25	4	2500	18	0.55	3.00
189	172	3.51	7.657	268	35	2680	19	1.10	3.00
169	171	3.12	8.571	60	7	2780	18	1.10	3.00
148	182	2.91	9.799	2881	294	2960	18	0.55	3.00
135	189	2.76	10.720	268	25	3030	18	0.25	3.00
121	186	2.43	12.000	12	1	3200	17	0.25	3.00
106	201	2.30	13.673	670	49	3350	18	0.25	2.20
94.9	200	2.05	15.306	750	49	3470	17	0.25	2.20
86.7	210	1.97	16.750	67	4	3590	18	0.55	2.20
76.9	210	1.74	18.750	75	4	3720	17	0.55	1.50
66.1	210	1.50	21.802	2747	126	3870	18	0.25	1.50
59.1	210	1.34	24.405	1025	42	3900	17	0.25	1.50
53.2	210	1.21	27.119	1139	42	3900	17	0.25	1.50
47.6	210	1.08	30.357	425	14	3900	17	0.25	1.10
41.3	210	0.94	35.095	737	21	3900	17	0.12	0.75
36.9	210	0.84	39.286	275	7	4020	16	0.12	0.75
33.0	183	0.65	42.593	5963	140	4100	17	0.12	0.55
29.5	206	0.66	47.679	1335	28	4220	16	0.12	0.55
25.9	137	0.38	54.438	871	16	4350	17	0.12	0.37
23.1	155	0.39	60.938	975	16	4450	16	0.12	0.37

g500-H helical geared motors

Project planning



Combinatorics of geared motors

g500-H210, 3-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
33.4	210	0.77	43.390	4556	105	4120	17	0.18	0.75
29.9	210	0.69	48.571	340	7	4240	16	0.12	0.75
26.1	210	0.60	55.529	48977	882	4350	17	0.12	0.75
22.6	210	0.52	62.160	18275	294	4470	16	0.12	0.55
19.8	210	0.46	71.026	62645	882	4620	17	0.12	0.55
17.7	210	0.41	79.507	23375	294	4740	16	0.12	0.37
15.3	210	0.35	92.205	19363	210	4800	17	0.12	0.37
13.7	210	0.32	103.214	1445	14	4800	16	0.12	0.37
11.6	210	0.27	118.162	69479	588	4800	17	0.12	0.25
10.4	210	0.24	132.270	25925	196	4800	16	0.12	0.25
9.00	210	0.21	152.853	35309	231	4800	17	0.12	0.25
8.00	210	0.18	171.104	13175	77	4800	16	0.12	0.18
6.90	210	0.16	198.873	12529	63	4800	17	0.12	0.18
6.40	210	0.15	222.619	4675	21	4800	16	0.12	0.12
5.50	210	0.13	257.631	21641	84	4800	17	0.12	0.12
4.90	210	0.11	288.393	8075	28	4800	16	0.12	0.12

g500-H helical geared motors

Project planning



Combinatorics of geared motors

g500-H320, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
429	165	7.65	3.389	61	18	2180	20	0.55	4.00
313	189	6.38	4.648	488	105	2460	20	1.10	4.00
239	227	5.86	6.083	73	12	2670	16	0.55	4.00
210	218	4.95	6.910	539	78	2800	15	0.55	4.00
174	249	4.69	8.343	292	35	2950	16	1.10	4.00
153	238	3.94	9.477	616	65	3100	15	1.10	4.00
136	265	3.89	10.677	3139	294	3250	16	0.55	4.00
124	271	3.64	11.680	292	25	3330	16	0.25	4.00
120	254	3.28	12.128	473	39	3360	15	0.55	4.00
109	262	3.09	13.268	4312	325	3440	15	0.25	3.00
97.3	294	3.08	14.898	730	49	3600	15	0.25	3.00
85.6	281	2.60	16.923	220	13	3760	15	0.25	3.00
79.4	313	2.68	18.250	73	4	3870	15	0.55	3.00
70.0	299	2.26	20.731	539	26	4020	15	0.55	2.20
60.7	320	2.10	23.754	2993	126	4210	15	0.25	1.50
53.4	320	1.84	26.983	3157	117	4420	15	0.25	1.50
48.8	320	1.69	29.548	1241	42	4540	15	0.25	1.50
43.0	320	1.49	33.564	1309	39	4750	15	0.25	1.50
37.9	251	1.03	38.238	803	21	4970	15	0.12	0.75
33.4	285	1.03	43.436	1694	39	5190	14	0.12	0.75
30.3	218	0.71	46.407	6497	140	5310	15	0.12	0.55
26.7	248	0.71	52.715	6853	130	5550	14	0.12	0.55

g500-H helical geared motors

Project planning



Combinatorics of geared motors

g500-H320, 3-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
30.7	320	1.08	47.276	4964	105	5350	15	0.18	0.75
27.0	320	0.95	53.703	10472	195	5570	15	0.18	0.75
24.0	320	0.84	60.502	53363	882	5600	15	0.18	0.75
21.1	320	0.74	68.726	8041	117	5670	15	0.18	0.75
18.7	320	0.66	77.387	68255	882	5680	15	0.12	0.75
16.0	320	0.56	87.906	10285	117	5700	15	0.12	0.55
14.0	320	0.49	100.462	21097	210	5700	15	0.12	0.55
12.4	320	0.43	114.118	22253	195	5700	15	0.12	0.37
11.0	320	0.39	128.743	75701	588	5700	15	0.12	0.37
9.60	320	0.34	146.244	11407	78	5700	15	0.12	0.37
8.50	320	0.30	166.541	38471	231	5700	15	0.12	0.37
6.30	315	0.22	216.683	13651	63	5700	15	0.12	0.25
5.50	320	0.19	246.137	28798	117	5700	14	0.12	0.18
5.10	269	0.15	280.702	23579	84	5700	15	0.12	0.12
4.50	305	0.15	318.859	24871	78	5700	14	0.12	0.12

g500-H helical geared motors

Project planning



Combinatorics of geared motors

g500-H450, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
429	256	11.8	3.444	31	9	2550	19	2.20	7.50
313	293	9.89	4.724	496	105	2850	18	2.20	7.50
260	315	8.85	5.678	511	90	3010	15	2.20	7.50
244	323	8.52	6.045	2666	441	3070	17	1.10	7.50
223	334	8.05	6.613	496	75	3160	17	1.10	7.50
190	354	7.25	7.787	584	75	3350	14	2.20	7.50
168	370	6.69	8.800	44	5	3470	14	2.20	7.50
148	385	6.15	9.965	3139	315	3650	14	1.10	7.50
130	400	5.59	11.262	473	42	3800	14	1.10	5.50
119	411	5.26	12.320	308	25	3900	13	1.10	5.50
105	426	4.83	13.905	292	21	4030	14	0.55	5.50
92.9	441	4.42	15.714	110	7	4240	13	0.55	5.50
85.3	450	4.14	17.033	511	30	4360	14	1.10	4.00
75.5	448	3.65	19.250	77	4	4520	13	1.10	4.00
65.4	450	3.18	22.170	2993	135	4700	14	0.55	3.00
57.8	450	2.81	25.056	451	18	4920	13	0.55	3.00
52.5	450	2.55	27.578	1241	45	5090	13	0.55	3.00
46.6	450	2.26	31.167	187	6	5280	13	0.55	2.20
40.4	450	1.96	35.689	1606	45	5490	13	0.25	1.50
35.8	450	1.74	40.333	121	3	5880	13	0.25	1.50
33.3	322	1.16	43.313	6497	150	6000	13	0.25	1.10
29.5	366	1.16	48.950	979	20	6300	13	0.25	1.10
25.7	270	0.75	54.750	219	4	6500	13	0.25	0.55
22.7	305	0.75	61.875	495	8	6700	13	0.25	0.55

g500-H helical geared motors

Project planning



Combinatorics of geared motors

g500-H450, 3-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
32.7	450	1.61	44.124	9928	225	6050	14	0.25	1.50
28.9	450	1.43	49.867	748	15	6320	13	0.25	1.50
25.5	450	1.26	56.469	53363	945	6550	14	0.25	1.50
23.4	450	1.15	61.774	69496	1125	6700	14	0.18	1.10
20.7	450	1.02	69.813	5236	75	6860	13	0.18	1.10
18.3	450	0.90	78.794	4964	63	7000	14	0.18	1.10
16.3	450	0.80	89.048	1870	21	7100	13	0.18	0.75
15.0	450	0.74	96.522	8687	90	7100	14	0.25	0.75
13.3	450	0.66	109.083	1309	12	7100	13	0.25	0.75
11.6	450	0.57	121.342	27302	225	7100	14	0.12	0.55
10.2	450	0.50	137.133	2057	15	7100	13	0.12	0.55
9.00	450	0.44	156.274	21097	135	7100	14	0.12	0.55
8.00	450	0.39	176.611	3179	18	7100	13	0.12	0.37
7.10	450	0.35	198.059	98039	495	7100	14	0.12	0.37
6.30	450	0.31	223.833	1343	6	7100	13	0.12	0.37
5.50	450	0.27	248.200	1241	5	7100	14	0.12	0.25
4.90	450	0.24	280.500	561	2	7100	13	0.12	0.25
4.20	428	0.20	326.994	103003	315	7100	14	0.12	0.18
3.70	450	0.18	369.548	15521	42	7100	13	0.12	0.18



Surface and corrosion protection

For optimum protection of geared motors against ambient conditions, the surface and corrosion protection system (OKS) offers tailor-made solutions.

Various surface coatings combined with other protective measures ensure that the geared motors operate reliably even at high air humidity, in outdoor installations or in the presence of atmospheric impurities. Any colour from the RAL Classic collection can be chosen for the top coat. The geared motors are also available unpainted (no surface and corrosion protection).

Surface and corrosion protection	Applications	Measures
Without OKS(uncoated)	- Interior installation, no special corrosion protection required - Paint provided by the customer	- Aluminium parts uncoated - Fan covers zinc-coated or primed in grey - Grey cast iron parts primed in grey Note: Slight colour deviation of the components is possible Standard version in case of: - g500-H45 ... H450 - g500-S130 ... 660 - g500-B45 ... 450
OKS-G (primed)	Dependent on subsequent top coat applied	2K PUR priming coat (grey) - Zinc-coated screws - Rust-free breather elements Optional measures - Stainless steel nameplate
OKS-S (small)	- Standard applications - Internal installation in heated buildings - Air humidity up to 90%	- Surface coating corresponding to corrosivity category C1 (subject to EN 12944-2) - Zinc-coated screws - Rust-free breather elements Optional measures - Stainless steel nameplate
OKS-M (medium)	- Internal installation in non-heated buildings - Covered, protected external installation - Air humidity up to 95%	- Surface coating corresponding to corrosivity category C2 (subject to EN 12944-2) - Zinc-coated screws - Rust-free breather elements Optional measures - Stainless steel shaft - Stainless steel nameplate - Rust-free shrink disc (on request)
OKS-L (large)	- External installation - Air humidity above 95% - Chemical industry plants - Food industry	- Surface coating corresponding to corrosivity category C3 (subject to EN 12944-2) - Blower cover and B end shield additionally primed - Cable glands with gaskets - Corrosion-resistant brake with cover ring, stainless friction plate, and chrome-plated armature plate (on request) - All screws/screw plugs zinc-coated - Stainless breather elements - Threaded holes that are not used are closed by means of plastic plugs Optional measures - Sealed recesses on motor (on request) - Stainless steel shaft - Stainless steel nameplate - Rust-free shrink disc (on request) - Additional priming coat on cast iron fan - Oil expansion tank and torque plates painted separately and supplied loose
OKS-XL (extra Large) ¹⁾	- External installation - Air humidity above 95 % - Chemical industry plants - Food industry - Coastal areas with moderate salinity	- Surface coating corresponding to corrosivity category C4 (subject to EN 12944-2) Additional measures for surface and corrosion protection system L: - Rotor package and stator in the inner area primed with finishing varnish - Feedback in protection class IP65

¹⁾ On request



Surface and corrosion protection

Structure of surface coating

Surface and corrosion protection	Corrosivity category	Surface coating	Colour	Coating thickness
	DIN EN ISO 12944-2	Structure		
Without OKS(uncoated)		• Dipping primer of the grey iron parts		30 ... 50 µm
OKS-G (primed)		• Dipping primer of the grey iron parts • 2K PUR priming coat		60 ... 90 µm
OKS-S (small)	Comparable to C1	• Dipping primer of the grey iron parts • 2K-PUR top coat	• Standard: RAL 7012 • Optional: RAL Classic	80 ... 120 µm
OKS-M (medium)	Comparable to C2	• Dipping primer of the grey iron parts		110 ... 160 µm
OKS-L (large)	Comparable to C3	• 2K PUR priming coat • 2K-PUR top coat		140 ... 200 µm
OKS-XL (extra Large) ¹⁾	Comparable to C4	• Dipping primer of the grey iron parts • 2K-EP priming coat (two times) • 2K-PUR top coat		160 ... 240 µm

¹⁾ On request

g500-H helical geared motors

Project planning



Lubricants

Gearboxes and geared motors of Lenze come supplied with a lubricant specifically adapted to the drive and design. When placing the order, the mounting position and design are decisive for the lubricant amount.

The lubricant amount and type contained in the gearbox are indicated on the nameplate.

The following gearboxes are lubricated for life:

- Helical gearbox g500-H45 ... 140
- Shaft-mounted helical gearbox g500-S130
- Bevel gearbox g500-B45 ... 240

The lubricants listed in the lubricant table are approved for Lenze drives.

Lubricant table

Mode	CLP 460	CLP HC 320	CLP HC 220 USDA H1
Ambient temperature [°C]	0 ... +40	-25 ... +50	-20 ... +40
Specification	Mineral based oil with additives	Synthetic-based oil (synthetic hydrocarbon / poly-alpha-olefin oil)	
Changing interval	16000 operating hours not later than after three years (oil temperature 70 to 80 °C)	25000 operating hours not later than after three years (oil temperature 70 to 80 °C)	16000 operating hours not later than after three years (oil temperature 70 to 80 °C)
Fuchs	Fuchs Renolin CLP 460	Fuchs Renolin Unisyn CLP 320	
Klüber	Klüberoil GEM1-460 N	Klübersynth GEM4-320 N	Klüberoil 4 UH1-220 N
Shell	Shell Omala S2 G 460	Shell Omala S4 GX HD 320	
bremer & leguil			Cassida Fluid GL 220

- Please contact your Lenze sales office if you are operating at ambient temperatures in areas up to < -20 °C bzw. > or up to +40°C.

Shaft sealing rings

By default, the gearboxes come with NBR shaft sealing rings at the output end. At high speed and unfavourable ambient conditions as high temperature, reduced circulation of air etc., Lenze recommends the use of Viton shaft sealing rings.

Please consider this in your order.



Ventilation

Non-ventilated gearboxes

No ventilation is required for gearboxes g500-H45 to H210.

Ventilated gearboxes

The g500-H320 H450 gearbox is supplied with a breather element as standard.

Gearbox in combined mounting position

For reducing the number of versions, the gearboxes can also be ordered in a combined mounting position:

- g500-H45 in mounting position ABCDEF
- g500-H100 ... H450 in mounting position AEF

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

A gearbox can be used for several mounting positions.



Ventilation

Position of ventilation, sealing elements and oil level check

► A ... F mounting position

A		B	
C		D	
E		F	
	Filling		Drain
	Ventilation		Check

g500-H helical geared motors

Technical data



Standards and operating conditions

Geared motor data

Product				
Motor			MD□MA□□	m240
Degree of protection				
EN 60529			IP55 ¹⁾ IP65 ¹⁾ IP66 ¹⁾	IP55 ¹⁾
Energy efficiency class				
IEC 60034-30			IE1	IE3
IEC 60034-2-1			Methodology for measuring efficiency	
Conformity				
CE			Low-Voltage Directive	
			2006/95/EC	2014/35/EU
EAC			TP TC 004/2011 (TR CU 004/2011)	
Approval				
CCC			GB Standard 12350-2009	
CSA			CSA 22.2 No. 100	
cURus			UL 1004-1 UL 1004-8 Power Conversion Equipment (File-No. E210321)	
Temperature class				
IEC/EN 60034-1; utilisation			B	
IEC/EN 60034-1; insulation system (enamel-insulated wire)			F	
Min. ambient operating temperature				
	T _{opr,min}	[°C]	-20	
Max. ambient operating temperature				
	T _{opr,max}	[°C]	40	
With power reduction	T _{opr,max}	[°C]	60	
Site altitude				
Amsl	H _{max}	[m]	4000	

¹⁾ Types with deviating degrees of protection:
IP55 with brake (IP54 with manual release lever).

- In the European Union, the ErP Directive stipulates minimum efficiency levels for three-phase AC motors. Geared three-phase AC motors that do not conform with this Directive do not meet CE requirements and must not be marketed in the European Economic Area. For further information about the ErP Directive, the efficiency regulations in other countries and the Lenze products concerned, please refer to the brochure "International efficiency directives for three-phase AC motors".



Permissible radial and axial forces at output

Permissible radial force

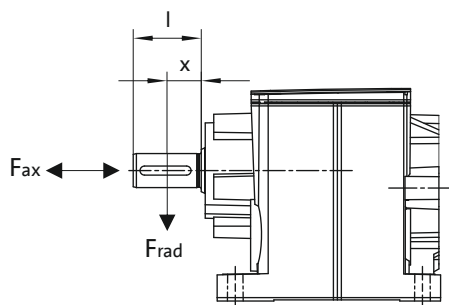
$$F_{\text{rad,perm}} = f_w \times F_{\text{rad,max}}$$

Permissible axial force

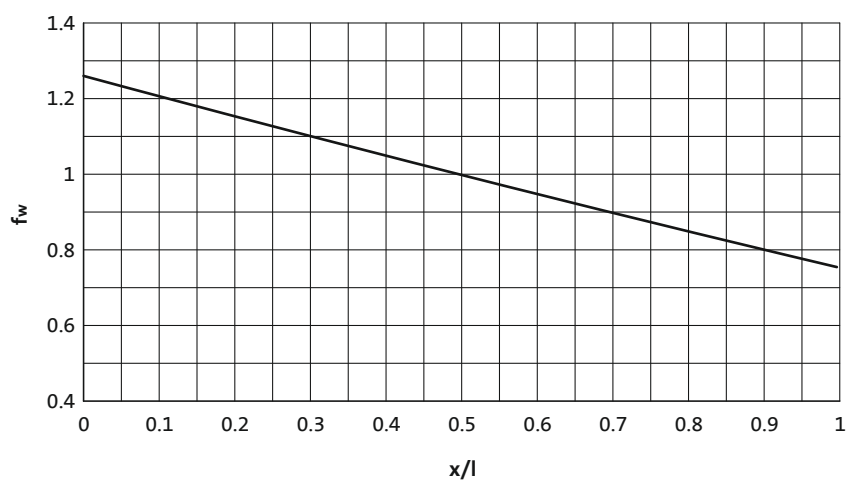
If there is no radial force, the maximum permissible axial force is 50 % of the table value $F_{\text{rad,max}}$

► If F_{rad} and $F_{\text{ax}} \neq 0$, please contact Lenze.

Application of forces



Additional load factor f_w at output shaft



g500-H helical geared motors

Technical data



Permissible radial and axial forces at output

The values given in the table refer to the center 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 for the motor/gearbox combination 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 contact Lenze.

Gearbox with foot with threaded pitch circle (VBR)

Product	n_2 [r/min]									
	1000	630	400	250	160	100	63	40	25	≤16
	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]
g500-H45	300	400	600	700	800	900	1100	1400	1500	1500
g500-H100	800	1000	1200	1500	1800	2100	2600	2700	2700	2700
g500-H140	1000	1400	1800	2200	2500	3000	3300	3700	4100	4200
g500-H210	1200	1600	2000	2400	2800	3400	3900	3900	4400	4800
g500-H320	1500	1900	2200	2600	3000	3500	4100	4800	5600	5700
g500-H450	1900	2200	2600	3000	3500	4100	4700	5500	6600	7100

Reinforced bearings

	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]
g500-H100	1000	1300	1500	1800	2200	2700	3200	3300	3300	3300
g500-H140	1300	1800	2300	2700	3100	3700	4100	4600	5100	5300
g500-H210	1400	2000	2500	3000	3500	4200	4900	4900	5500	6000
g500-H320	1900	2400	2800	3300	3800	4400	5100	6000	7000	7100
g500-H450	2400	2800	3200	3800	4300	5100	5900	6900	8300	8900

Gearbox with/without foot with threaded pitch circle (VAR/VCR)

Gearbox with/without foot with flange (VAK/VCK)

Product	n_2 [r/min]									
	1000	630	400	250	160	100	63	40	25	≤16
	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]
g500-H45	300	400	600	700	800	900	1100	1400	1500	1500
g500-H100	800	1000	1200	1500	1700	1700	1700	1700	1700	1700
g500-H140	1000	1400	1800	2200	2500	2600	2600	2600	2600	2600
g500-H210	1200	1600	2000	2400	2800	3000	3000	3000	3000	3000
g500-H320	1500	1900	2200	2600	3000	3500	3600	3600	3600	3600
g500-H450	1900	2200	2600	3000	3500	4100	4400	4400	4400	4400

Reinforced bearings

	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]	$F_{rad,max}$ [N]
g500-H100	1000	1300	1500	1700	1700	1700	1700	1700	1700	1700
g500-H140	1300	1800	2300	2600	2600	2600	2600	2600	2600	2600
g500-H210	1400	2000	2500	3000	3000	3000	3000	3000	3000	3000
g500-H320	1900	2400	2800	3300	3600	3600	3600	3600	3600	3600
g500-H450	2400	2800	3200	3800	4300	4400	4400	4400	4400	4400

g500-H helical geared motors

Technical data



Permissible radial and axial forces at output

Gearbox without foot with reinforced flange (VCP)

For transmitting particularly high radial and axial forces

Product	n ₂ [r/min]									
	1000	630	400	250	160	100	63	40	25	≤16
	F _{rad,max} [N]	F _{rad,max} [N]	F _{rad,max} [N]	F _{rad,max} [N]	F _{rad,max} [N]	F _{rad,max} [N]	F _{rad,max} [N]	F _{rad,max} [N]	F _{rad,max} [N]	F _{rad,max} [N]
g500-H100	1900	2470	2920	3330	3650	3890	4060	4160	4240	4280
g500-H140	3290	4140	4880	5510	5950	6270	6480	6620	6710	6770
g500-H210	3830	4850	5530	6170	6670	7060	7330	7500	7620	7700
g500-H320	4340	5460	6240	7040	7690	8210	8570	8810	8970	9080
g500-H450	5120	6180	6940	7810	8550	9160	9590	9880	10100	10200

g500-H helical geared motors

Technical data



Selection tables, notes

The selection tables show the available combinations of gearbox type, number of stages, ratio and motor. They are used only to provide basic orientation.

The following legend indicates the structure of the selection tables.

Rated power P_N of the drive motor depending on the rated frequency

50 Hz: $P_N = 0.18 \text{ kW}$

2-stufige Getriebe ← Number of the gear stage of the gearbox

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
141	12	5.8	19.486	-H100	063-11	97
123	14	5.8	22.314	-H100	063-11	97

↑ ↑ ↑ ↑ ↑

Mains operation
Output speed n_2
Output torque M_2

Load capacity c of the gearbox
c is the ratio between the permissible rated torque of the gearbox and the rated torque of the three-phase AC motor (converted to the driven shaft).
c must be always higher than the service factor k determined for the application k.

Ratio i

Product Gearbox

Product Motor

Page number for dimensions

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

Motor voltages

At 50 Hz, the power and torque values indicated in the selection tables relate to the following motor voltages:

- Up to 3 kW: Δ 230 V / Y 400 V
- FROM 4 kW: Δ 400 V

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.18 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
141	12	5.8	19.486	-H100	063-11	
123	14	5.8	22.314	-H100	063-11	
109	15	4.8	25.095	-H100	063-11	
95	17	5.3	28.738	-H100	063-11	
106	19	4.8	31.805	-H100	063-11	
75	22	4.2	36.422	-H100	063-11	
69	24	3.8	39.857	-H100	063-11	
60	28	3.6	45.643	-H100	063-11	
52	32	2.2	52.510	-H100	063-11	
50	33	4.0	54.438	-H210	063-11	
46	37	2.2	60.133	-H100	063-11	
41	41	2.2	66.908	-H140	063-11	
37	45	2.2	73.879	-H140	063-11	

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.25 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
421	6.0	5.2	6.440	-H100	063-31	
330	7.0	4.9	8.214	-H100	063-31	
239	10	5.2	11.360	-H100	063-31	
214	11	4.9	12.653	-H100	063-31	
187	12	4.9	14.490	-H100	063-31	
168	14	4.9	16.122	-H140	063-31	
152	15	4.9	17.802	-H140	063-31	
139	17	4.1	19.486	-H100	063-31	
121	19	4.1	22.314	-H100	063-31	
108	21	3.4	25.095	-H100	063-31	
118	25	3.8	28.738	-H100	063-31	
107	27	3.4	31.805	-H100	063-31	
74	31	3.0	36.422	-H100	063-31	
68	34	2.7	39.857	-H100	063-31	
59	39	2.6	45.643	-H100	063-31	
53	43	3.0	50.786	-H140	063-31	
52	45	1.6	52.510	-H100	063-31	
50	47	2.8	54.438	-H210	063-31	
48	48	2.9	56.077	-H140	063-31	
45	51	1.6	60.133	-H100	063-31	
45	52	2.8	60.938	-H210	063-31	
41	57	1.6	66.908	-H140	063-31	
37	63	1.6	73.879	-H140	063-31	

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
270	13	5.9	10.063	-H100	071-11	
239	14	5.7	11.360	-H100	071-11	
215	16	5.1	12.653	-H100	071-11	
188	18	4.5	14.490	-H100	071-11	
176	20	4.2	15.500	-H100	071-11	
153	22	3.7	17.750	-H100	071-11	
140	25	3.3	19.486	-H100	071-11	
122	28	2.9	22.314	-H100	071-11	
108	32	2.6	25.095	-H100	071-11	
117	36	2.6	28.738	-H100	071-11	
106	40	2.3	31.805	-H100	071-11	
85	40	3.2	31.976	-H140	071-11	
77	44	2.9	35.308	-H140	071-11	
75	46	2.0	36.422	-H100	071-11	
68	50	1.9	39.857	-H100	071-11	
67	51	2.7	40.526	-H140	071-11	
61	56	2.5	44.748	-H140	071-11	
60	58	1.7	45.643	-H100	071-11	
54	64	2.0	50.786	-H140	071-11	
50	69	2.0	54.438	-H210	071-11	
49	71	2.0	56.077	-H140	071-11	
45	77	2.0	60.938	-H210	071-11	

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
805	6.0	5.1	3.267	-H140	071-31	
784	6.0	5.1	3.354	-H100	071-31	
572	9.0	5.1	4.600	-H100	071-31	
509	10	5.1	5.167	-H100	071-31	
447	11	4.7	5.887	-H100	071-31	
408	12	4.7	6.440	-H100	071-31	
371	14	5.1	7.086	-H100	071-31	
320	16	4.3	8.214	-H100	071-31	
290	18	4.5	9.068	-H100	071-31	
261	19	3.9	10.063	-H100	071-31	
232	22	3.8	11.360	-H100	071-31	
208	25	3.4	12.653	-H100	071-31	
182	28	3.0	14.490	-H100	071-31	
170	30	2.8	15.500	-H100	071-31	
148	34	2.4	17.750	-H100	071-31	
135	38	2.2	19.486	-H100	071-31	
133	38	3.0	19.750	-H140	071-31	
121	42	2.8	21.808	-H140	071-31	
118	43	1.9	22.314	-H100	071-31	
106	48	2.4	24.829	-H140	071-31	
105	49	1.7	25.095	-H100	071-31	
118	53	2.5	27.415	-H140	071-31	
113	56	1.7	28.738	-H100	071-31	
102	62	1.5	31.805	-H100	071-31	
101	62	2.1	31.976	-H140	071-31	
75	68	2.9	35.095	-H210	071-31	
75	68	1.9	35.308	-H140	071-31	
72	71	1.3	36.422	-H100	071-31	
69	74	3.2	38.238	-H320	071-31	
67	76	2.6	39.286	-H210	071-31	
66	77	1.2	39.857	-H100	071-31	
65	79	1.8	40.526	-H140	071-31	
62	83	2.2	42.593	-H210	071-31	
59	87	1.6	44.748	-H140	071-31	
58	88	1.1	45.643	-H100	071-31	
57	90	2.4	46.407	-H320	071-31	
55	92	2.2	47.679	-H210	071-31	

6.3

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.55\text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
52	98	1.3	50.786	-H140	071-31	
50	102	2.4	52.715	-H320	071-31	
48	105	1.3	54.438	-H210	071-31	
48	106	2.6	54.750	-H450	071-31	
47	109	1.3	56.077	-H140	071-31	
43	118	1.3	60.938	-H210	071-31	
43	120	2.6	61.875	-H450	071-31	

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.75 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
627	11	5.2	4.600	-H100	40-P80/M2	
558	12	4.9	5.167	-H100	40-P80/M2	
490	14	4.6	5.887	-H100	40-P80/M2	
448	16	4.3	6.440	-H100	40-P80/M2	
407	17	4.1	7.086	-H100	40-P80/M2	
351	20	3.7	8.214	-H100	40-P80/M2	
318	22	3.5	9.068	-H100	40-P80/M2	
287	24	3.3	10.063	-H100	40-P80/M2	
254	27	2.9	11.360	-H100	40-P80/M2	
228	30	2.6	12.653	-H100	40-P80/M2	
207	34	3.3	13.957	-H140	40-P80/M2	
199	35	2.3	14.490	-H100	40-P80/M2	
186	37	2.2	15.500	-H100	40-P80/M2	
179	39	2.9	16.122	-H140	40-P80/M2	
163	43	1.9	17.750	-H100	40-P80/M2	
162	43	2.6	17.802	-H140	40-P80/M2	
148	47	1.7	19.486	-H100	40-P80/M2	
146	48	2.4	19.750	-H140	40-P80/M2	
132	53	3.2	21.802	-H210	40-P80/M2	
132	53	2.1	21.808	-H140	40-P80/M2	
129	54	1.5	22.314	-H100	40-P80/M2	
118	59	2.9	24.405	-H210	40-P80/M2	
116	60	1.9	24.829	-H140	40-P80/M2	
115	60	1.3	25.095	-H100	40-P80/M2	
106	65	2.9	27.119	-H210	40-P80/M2	
105	66	1.9	27.415	-H140	40-P80/M2	
100	69	1.3	28.738	-H100	40-P80/M2	
95	73	2.6	30.357	-H210	40-P80/M2	
90	77	1.7	31.976	-H140	40-P80/M2	
82	85	2.3	35.095	-H210	40-P80/M2	
82	85	1.5	35.308	-H140	40-P80/M2	
75	92	2.5	38.238	-H320	40-P80/M2	
73	95	2.0	39.286	-H210	40-P80/M2	
68	103	1.8	42.593	-H210	40-P80/M2	
67	104	3.1	43.313	-H450	40-P80/M2	
66	105	2.7	43.436	-H320	40-P80/M2	
62	112	2.0	46.407	-H320	40-P80/M2	

6.3

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: P_N = 0.75 kW

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n ₂ [r/min]	M ₂ [Nm]	c		g500	m2□□	
61	115	1.8	47.679	-H210	40-P80/M2	
59	118	3.1	48.950	-H450	40-P80/M2	
55	127	2.0	52.715	-H320	40-P80/M2	
53	132	2.1	54.750	-H450	40-P80/M2	
47	149	2.1	61.875	-H450	40-P80/M2	

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 1.1 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
889	11	4.7	3.267	-H140	40-P80/L2	
866	12	4.2	3.354	-H100	40-P80/L2	
632	16	3.6	4.600	-H100	40-P80/L2	
562	18	3.3	5.167	-H100	40-P80/L2	
494	21	3.2	5.887	-H100	40-P80/L2	
451	23	3.0	6.440	-H100	40-P80/L2	
410	25	2.8	7.086	-H100	40-P80/L2	
354	29	2.6	8.214	-H100	40-P80/L2	
322	32	3.0	9.029	-H140	40-P80/L2	
320	32	2.4	9.068	-H100	40-P80/L2	
296	34	2.9	9.800	-H140	40-P80/L2	
289	35	2.3	10.063	-H100	40-P80/L2	
256	40	2.0	11.360	-H100	40-P80/L2	
251	41	2.5	11.554	-H140	40-P80/L2	
230	44	2.4	12.640	-H140	40-P80/L2	
230	44	1.8	12.653	-H100	40-P80/L2	
208	49	2.2	13.957	-H140	40-P80/L2	
201	51	1.6	14.490	-H100	40-P80/L2	
190	54	3.0	15.306	-H210	40-P80/L2	
187	54	1.5	15.500	-H100	40-P80/L2	
180	57	2.0	16.122	-H140	40-P80/L2	
173	59	2.9	16.750	-H210	40-P80/L2	
164	62	1.3	17.750	-H100	40-P80/L2	
163	62	1.8	17.802	-H140	40-P80/L2	
155	66	2.6	18.750	-H210	40-P80/L2	
149	68	1.2	19.486	-H100	40-P80/L2	
147	69	1.6	19.750	-H140	40-P80/L2	
133	76	2.2	21.802	-H210	40-P80/L2	
133	77	1.5	21.808	-H140	40-P80/L2	
130	78	1.0	22.314	-H100	40-P80/L2	
122	83	3.1	23.754	-H320	40-P80/L2	
119	86	2.0	24.405	-H210	40-P80/L2	
117	87	1.3	24.829	-H140	40-P80/L2	
116	88	0.9	25.095	-H100	40-P80/L2	
108	95	3.1	26.983	-H320	40-P80/L2	
107	95	2.0	27.119	-H210	40-P80/L2	
106	96	1.3	27.415	-H140	40-P80/L2	

6.3

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 1.1 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
101	101	0.9	28.738	-H100	40-P80/L2	
98	104	2.8	29.548	-H320	40-P80/L2	
96	107	1.8	30.357	-H210	40-P80/L2	
91	112	1.1	31.976	-H140	40-P80/L2	
87	118	2.5	33.564	-H320	40-P80/L2	
83	123	1.6	35.095	-H210	40-P80/L2	
82	124	1.0	35.308	-H140	40-P80/L2	
76	134	1.7	38.238	-H320	40-P80/L2	
74	138	1.4	39.286	-H210	40-P80/L2	
72	141	3.2	40.333	-H450	40-P80/L2	
67	152	2.1	43.313	-H450	40-P80/L2	
67	152	1.9	43.436	-H320	40-P80/L2	
59	172	2.1	48.950	-H450	40-P80/L2	

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 1.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
895	16	4.2	3.267	-H140	40-P90/M2	
872	16	3.1	3.354	-H100	40-P90/M2	
636	22	2.6	4.600	-H100	40-P90/M2	
566	25	2.5	5.167	-H100	40-P90/M2	
510	27	3.0	5.733	-H140	40-P90/M2	
497	28	2.3	5.887	-H100	40-P90/M2	
466	30	2.8	6.272	-H140	40-P90/M2	
454	31	2.2	6.440	-H100	40-P90/M2	
413	34	2.0	7.086	-H100	40-P90/M2	
402	35	2.5	7.269	-H140	40-P90/M2	
366	38	2.5	8.000	-H140	40-P90/M2	
356	39	1.9	8.214	-H100	40-P90/M2	
324	43	2.2	9.029	-H140	40-P90/M2	
323	43	1.8	9.068	-H100	40-P90/M2	
299	47	3.1	9.799	-H210	40-P90/M2	
299	47	2.2	9.800	-H140	40-P90/M2	
291	48	1.7	10.063	-H100	40-P90/M2	
273	51	3.0	10.720	-H210	40-P90/M2	
258	54	1.5	11.360	-H100	40-P90/M2	
253	55	1.9	11.554	-H140	40-P90/M2	
244	57	2.6	12.000	-H210	40-P90/M2	
231	60	1.8	12.640	-H140	40-P90/M2	
231	60	1.3	12.653	-H100	40-P90/M2	
214	65	2.5	13.673	-H210	40-P90/M2	
210	66	1.6	13.957	-H140	40-P90/M2	
202	69	1.2	14.490	-H100	40-P90/M2	
191	73	2.2	15.306	-H210	40-P90/M2	
189	74	1.1	15.500	-H100	40-P90/M2	
181	77	1.5	16.122	-H140	40-P90/M2	
175	80	2.1	16.750	-H210	40-P90/M2	
173	80	2.8	16.923	-H320	40-P90/M2	
165	84	1.0	17.750	-H100	40-P90/M2	
164	85	1.3	17.802	-H140	40-P90/M2	
160	87	2.9	18.250	-H320	40-P90/M2	
156	89	1.9	18.750	-H210	40-P90/M2	
148	94	1.2	19.750	-H140	40-P90/M2	
141	98	2.4	20.731	-H320	40-P90/M2	

6.3

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 1.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
134	104	1.6	21.802	-H210	40-P90/M2	
134	104	1.1	21.808	-H140	40-P90/M2	
123	113	2.3	23.754	-H320	40-P90/M2	
120	116	1.5	24.405	-H210	40-P90/M2	
117	119	3.0	25.056	-H450	40-P90/M2	
108	128	2.3	26.983	-H320	40-P90/M2	
108	129	1.5	27.119	-H210	40-P90/M2	
106	131	3.1	27.578	-H450	40-P90/M2	
99	140	2.1	29.548	-H320	40-P90/M2	
96	144	1.3	30.357	-H210	40-P90/M2	
94	148	2.8	31.167	-H450	40-P90/M2	
87	159	1.8	33.564	-H320	40-P90/M2	
82	170	2.4	35.689	-H450	40-P90/M2	
73	192	2.4	40.333	-H450	40-P90/M2	
68	206	1.6	43.313	-H450	40-P90/M2	
60	233	1.6	48.950	-H450	40-P90/M2	

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 2.2 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
891	23	2.9	3.267	-H140	40-P90/L2	
868	23	2.1	3.354	-H100	40-P90/L2	
650	31	2.4	4.480	-H140	40-P90/L2	
633	32	1.8	4.600	-H100	40-P90/L2	
508	40	2.1	5.733	-H140	40-P90/L2	
495	41	1.6	5.887	-H100	40-P90/L2	
464	44	1.9	6.272	-H140	40-P90/L2	
452	45	1.5	6.440	-H100	40-P90/L2	
380	54	2.6	7.657	-H210	40-P90/L2	
364	56	1.7	8.000	-H140	40-P90/L2	
354	58	1.3	8.214	-H100	40-P90/L2	
340	60	2.3	8.571	-H210	40-P90/L2	
322	63	1.5	9.029	-H140	40-P90/L2	
321	63	1.2	9.068	-H100	40-P90/L2	
307	66	2.9	9.477	-H320	40-P90/L2	
297	69	2.1	9.799	-H210	40-P90/L2	
297	69	1.5	9.800	-H140	40-P90/L2	
289	70	1.1	10.063	-H100	40-P90/L2	
273	75	2.8	10.677	-H320	40-P90/L2	
272	75	2.0	10.720	-H210	40-P90/L2	
256	80	1.0	11.360	-H100	40-P90/L2	
252	81	1.3	11.554	-H140	40-P90/L2	
249	82	2.7	11.680	-H320	40-P90/L2	
243	84	1.8	12.000	-H210	40-P90/L2	
240	85	2.4	12.128	-H320	40-P90/L2	
230	89	1.2	12.640	-H140	40-P90/L2	
230	89	0.9	12.653	-H100	40-P90/L2	
219	93	2.3	13.268	-H320	40-P90/L2	
213	96	1.7	13.673	-H210	40-P90/L2	
209	98	1.1	13.957	-H140	40-P90/L2	
195	104	2.3	14.898	-H320	40-P90/L2	
190	107	1.5	15.306	-H210	40-P90/L2	
185	110	3.2	15.714	-H450	40-P90/L2	
181	113	1.0	16.122	-H140	40-P90/L2	
174	117	1.4	16.750	-H210	40-P90/L2	
172	118	1.9	16.923	-H320	40-P90/L2	
171	119	3.0	17.033	-H450	40-P90/L2	

6.3

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 2.2 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
164	125	0.9	17.802	-H140	40-P90/L2	
160	128	2.0	18.250	-H320	40-P90/L2	
155	131	1.3	18.750	-H210	40-P90/L2	
151	135	2.7	19.250	-H450	40-P90/L2	
147	138	0.8	19.750	-H140	40-P90/L2	
140	145	1.7	20.731	-H320	40-P90/L2	
134	153	1.1	21.802	-H210	40-P90/L2	
131	155	2.3	22.170	-H450	40-P90/L2	
123	166	1.5	23.754	-H320	40-P90/L2	
119	171	1.0	24.405	-H210	40-P90/L2	
116	175	2.1	25.056	-H450	40-P90/L2	
108	189	1.5	26.983	-H320	40-P90/L2	
107	190	1.0	27.119	-H210	40-P90/L2	
106	193	2.1	27.578	-H450	40-P90/L2	
99	207	1.4	29.548	-H320	40-P90/L2	
96	213	0.9	30.357	-H210	40-P90/L2	
93	218	1.9	31.167	-H450	40-P90/L2	
87	235	1.2	33.564	-H320	40-P90/L2	
82	250	1.6	35.689	-H450	40-P90/L2	
72	282	1.6	40.333	-H450	40-P90/L2	
67	303	1.1	43.313	-H450	40-P90/L2	
60	343	1.1	48.950	-H450	40-P90/L2	

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 3.0 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
632	44	2.6	4.648	-H210	40-P100/M2	
352	79	2.5	8.343	-H320	40-P100/M2	
310	90	2.1	9.477	-H320	40-P100/M2	
275	101	2.1	10.677	-H320	40-P100/M2	
274	101	1.5	10.720	-H210	40-P100/M2	
261	107	3.0	11.262	-H450	40-P100/M2	
251	111	2.0	11.680	-H320	40-P100/M2	
242	115	1.8	12.128	-H320	40-P100/M2	
238	117	2.8	12.320	-H450	40-P100/M2	
221	126	1.7	13.268	-H320	40-P100/M2	
215	129	1.2	13.673	-H210	40-P100/M2	
211	132	2.6	13.905	-H450	40-P100/M2	
197	141	1.7	14.898	-H320	40-P100/M2	
192	145	1.1	15.306	-H210	40-P100/M2	
187	149	2.4	15.714	-H450	40-P100/M2	
175	159	1.1	16.750	-H210	40-P100/M2	
174	160	1.4	16.923	-H320	40-P100/M2	
172	161	2.2	17.033	-H450	40-P100/M2	
161	173	1.5	18.250	-H320	40-P100/M2	
157	178	1.0	18.750	-H210	40-P100/M2	
153	182	2.0	19.250	-H450	40-P100/M2	
142	196	1.2	20.731	-H320	40-P100/M2	
132	210	1.7	22.170	-H450	40-P100/M2	
117	237	1.5	25.056	-H450	40-P100/M2	
107	261	1.6	27.578	-H450	40-P100/M2	
94	295	1.4	31.167	-H450	40-P100/M2	

g500-H helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 4.0 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
628	59	2.6	4.648	-H320	40-P112/M2	
441	84	3.2	6.613	-H450	40-P112/M2	
293	127	2.4	9.965	-H450	40-P112/M2	
250	148	1.5	11.680	-H320	40-P112/M2	
237	157	2.1	12.320	-H450	40-P112/M2	
210	177	1.9	13.905	-H450	40-P112/M2	
196	189	1.2	14.898	-H320	40-P112/M2	
186	200	1.8	15.714	-H450	40-P112/M2	
172	215	1.1	16.923	-H320	40-P112/M2	
171	216	1.7	17.033	-H450	40-P112/M2	
152	245	1.5	19.250	-H450	40-P112/M2	
132	282	1.3	22.170	-H450	40-P112/M2	
116	318	1.1	25.056	-H450	40-P112/M2	

g500-H helical geared motors

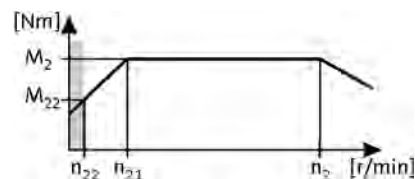
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.06$ kW
87 Hz: $P_N = 0.11$ kW

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n_2 [r/min]	M_2 [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			n_2 [r/min]	M_2 [Nm]	c	g500	MD□MA□□	
			n_{22} [r/min]	M_{22} [Nm]	n_{21} [r/min]	M_2 [Nm]	n_2 [r/min]	M_2 [Nm]	c	n_2 [r/min]	M_2 [Nm]	c						
			9.8	6.0	40	6.0				171	6.0	5.5	14.836	-H45		063-02		
			8.7	6.7	36	7.0				152	7.0	5.8	16.660	-H45		063-02		
75	7.0	5.7	7.6	7.4	32	7.0	75	7.0	5.7	133	8.0	5.2	19.013	-H45		063-02		
67	8.0	5.3	6.8	8.3	28	8.0	67	8.0	5.3	119	9.0	4.9	21.350	-H45		063-02		
58	10	4.7	5.9	9.6	24	10	58	10	4.7	103	10	4.3	24.595	-H45		063-02		
52	11	4.2	5.3	11	22	11	52	11	4.2	92	11	3.9	27.618	-H45		063-02		
45	12	3.6	4.5	13	19	12	45	12	3.6	79	13	3.3	32.000	-H45		063-02		
40	14	3.2	4.0	14	17	14	40	14	3.2	71	14	3.0	35.933	-H45		063-02		
34	16	2.8	3.5	16	15	16	34	16	2.8	61	17	2.6	41.455	-H45		063-02		
31	18	2.5	3.1	18	13	18	31	18	2.5	55	19	2.4	46.550	-H45		063-02		
27	21	2.2	2.7	21	11	21	27	21	2.2	48	21	2.1	52.909	-H45		063-02		
24	23	1.9	2.4	23	10	23	24	23	1.9	43	24	1.9	59.413	-H45		063-02		

g500-H helical geared motors

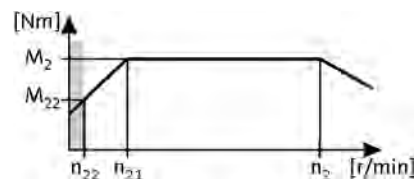
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.09$ kW
87 Hz: $P_N = 0.16$ kW

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c						
137	6.0	5.8	15	6.0	60	6.0	137	6.0	5.8	248	6.0	4.9	10.033	-H45	063-22			
120	7.0	5.1	13	6.8	53	7.0	120	7.0	5.1	217	7.0	4.3	11.429	-H45	063-22			
107	8.0	4.9	11	7.7	47	8.0	107	8.0	4.9	194	8.0	4.2	12.833	-H45	063-22			
93	9.0	4.3	9.8	8.9	40	9.0	93	9.0	4.3	168	9.0	3.7	14.836	-H45	063-22			
83	10	4.1	8.7	10	36	10	83	10	4.1	149	10	4.0	16.660	-H45	063-22			
72	12	3.6	7.6	11	32	11	72	12	3.6	131	11	3.6	19.013	-H45	063-22			
64	13	3.4	6.8	13	28	13	64	13	3.4	116	13	3.3	21.350	-H45	063-22			
56	15	3.0	5.9	15	24	15	56	15	3.0	101	15	3.0	24.595	-H45	063-22			
50	17	2.7	5.3	17	22	16	50	17	2.7	90	16	2.6	27.618	-H45	063-22			
43	19	2.3	4.5	19	19	19	43	19	2.3	78	19	2.3	32.000	-H45	063-22			
38	22	2.1	4.0	21	17	21	38	22	2.1	69	21	2.0	35.933	-H45	063-22			
33	25	1.8	3.5	25	15	25	33	25	1.8	60	25	1.8	41.455	-H45	063-22			
30	28	1.6	3.1	28	13	28	30	28	1.6	53	28	1.6	46.550	-H45	063-22			
26	32	1.4	2.7	32	11	32	26	32	1.4	47	32	1.4	52.909	-H45	063-22			
23	36	1.3	2.4	35	10	35	23	36	1.3	42	35	1.3	59.413	-H45	063-22			

g500-H helical geared motors

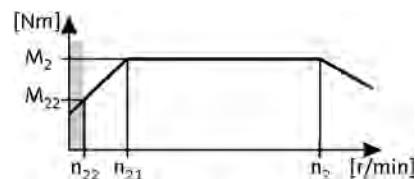
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.12$ kW
87 Hz: $P_N = 0.21$ kW

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c						
204	5.0	5.5	21	4.2	86	5.0	204	5.0	5.5	363	5.0	4.7	6.982	-H45	063-12			
182	6.0	5.2	19	4.7	77	6.0	182	6.0	5.2	323	6.0	4.5	7.840	-H45	063-12			
160	7.0	4.7	16	5.4	67	7.0	160	7.0	4.7	284	7.0	4.0	8.935	-H45	063-12			
142	8.0	4.5	15	6.0	60	8.0	142	8.0	4.5	253	8.0	3.8	10.033	-H45	063-12			
125	9.0	3.9	13	6.9	53	9.0	125	9.0	3.9	222	9.0	3.4	11.429	-H45	063-12			
111	10	3.8	11	7.7	47	10	111	10	3.8	198	10	3.2	12.833	-H45	063-12			
96	12	3.4	9.8	8.9	40	11	96	12	3.4	171	11	2.9	14.836	-H45	063-12			
86	13	3.2	8.7	10	36	13	86	13	3.2	152	13	3.1	16.660	-H45	063-12			
75	15	2.8	7.6	11	32	15	75	15	2.8	133	15	2.8	19.013	-H45	063-12			
73	15	5.5	7.4	12	31	15	73	15	5.5	130	15	4.7	19.486	-H100	063-12			
67	17	2.6	6.8	13	28	16	67	17	2.6	119	16	2.6	21.350	-H45	063-12			
64	17	5.5	6.5	13	27	17	64	17	5.5	114	17	4.7	22.314	-H100	063-12			
58	19	2.4	5.9	15	24	19	58	19	2.4	103	19	2.3	24.595	-H45	063-12			
57	20	4.6	5.8	15	24	19	57	20	4.6	101	19	3.9	25.095	-H100	063-12			
52	22	2.1	5.3	17	22	21	52	22	2.1	92	21	2.0	27.618	-H45	063-12			
50	22	4.5	5.0	17	21	22	50	22	4.5	88	22	4.3	28.738	-H100	063-12			
45	25	4.0	4.6	19	19	24	45	25	4.0	80	24	3.9	31.805	-H100	063-12			
45	25	1.8	4.5	19	19	25	45	25	1.8	79	25	1.8	32.000	-H45	063-12			
40	28	1.6	4.0	22	17	28	40	28	1.6	71	28	1.6	35.933	-H45	063-12			
39	28	3.5	4.0	22	17	28	39	28	3.5	70	28	3.4	36.422	-H100	063-12			
36	31	3.2	3.6	24	15	31	36	31	3.2	64	31	3.1	39.857	-H100	063-12			
34	32	1.4	3.5	25	15	32	34	32	1.4	61	32	1.4	41.455	-H45	063-12			
31	36	2.8	3.2	27	13	35	31	36	2.8	56	35	2.9	45.643	-H100	063-12			
31	36	1.2	3.1	28	13	36	31	36	1.2	55	36	1.3	46.550	-H45	063-12			
27	41	1.7	2.8	32	11	40	27	41	1.7	48	40	1.7	52.510	-H100	063-12			
27	41	1.1	2.7	32	11	41	27	41	1.1	48	41	1.1	52.909	-H45	063-12			
26	42	3.1	2.7	33	11	42	26	42	3.1	47	42	3.2	54.438	-H210	063-12			
25	44	3.2	2.6	34	11	43	25	44	3.2	45	43	3.3	56.077	-H140	063-12			
24	46	1.0	2.4	36	10	46	24	46	1.0	43	46	1.0	59.413	-H45	063-12			
24	47	1.7	2.4	36	10	46	24	47	1.7	42	46	1.7	60.133	-H100	063-12			
23	48	3.1	2.4	37	9.8	47	23	48	3.1	42	47	3.2	60.938	-H210	063-12			
21	52	1.7	2.2	40	9.0	51	21	52	1.7	38	51	1.7	66.908	-H140	063-12			
19	58	1.7	2.0	44	8.1	57	19	58	1.7	34	57	1.7	73.879	-H140	063-12			

3-stage gearboxes

Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
18	61	3.4	1.8	47	7.5	60	18	61	3.4	32	60	3.3	79.507	-H210	063-12	
16	71	3.0	1.6	55	6.5	70	16	71	3.0	28	70	3.0	92.205	-H210	063-12	

g500-H helical geared motors

Technical data

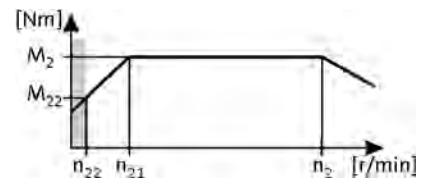


Selection tables, 4-pole motors

50 Hz: $P_N = 0.12$ kW

87 Hz: $P_N = 0.21$ kW

3-stage gearboxes



Mains operation			Inverter operation										i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
14	79	2.7	1.4	61	5.8	78	14	79	2.7	25	78	2.7	103.214	-H210	063-12	
12	91	2.3	1.2	70	5.1	89	12	91	2.3	22	89	2.4	118.162	-H210	063-12	
11	99	3.2	1.1	76	4.7	97	11	99	3.2	20	97	3.3	128.743	-H320	063-12	
11	102	2.1	1.1	78	4.5	100	11	102	2.1	19	100	2.1	132.270	-H210	063-12	
9.7	112	2.9	1.0	87	4.1	111	9.7	112	2.9	17	111	2.9	146.244	-H320	063-12	
9.3	117	1.8	0.9	91	3.9	116	9.3	117	1.8	17	116	1.8	152.853	-H210	063-12	
8.6	128	2.5	0.9	99	3.6	126	8.6	128	2.5	15	126	2.5	166.541	-H320	063-12	
8.3	131	1.6	0.8	101	3.5	129	8.3	131	1.6	15	129	1.6	171.104	-H210	063-12	
7.5	145	2.2	0.8	112	3.2	143	7.5	145	2.2	13	143	2.2	189.179	-H320	063-12	
7.2	152	3.0	0.7	117	3.0	150	7.2	152	3.0	13	150	3.0	198.059	-H450	063-12	
7.2	153	1.4	0.7	118	3.0	150	7.2	153	1.4	13	150	1.4	198.873	-H210	063-12	
6.6	167	1.9	0.7	128	2.8	164	6.6	167	1.9	12	164	1.9	216.683	-H320	063-12	
6.4	171	1.2	0.7	132	2.7	168	6.4	171	1.2	11	168	1.3	222.619	-H210	063-12	
6.4	172	2.6	0.6	133	2.7	169	6.4	172	2.6	11	169	2.7	223.833	-H450	063-12	
5.8	189	1.7	0.6	146	2.4	186	5.8	189	1.7	10	186	1.7	246.137	-H320	063-12	
5.7	191	2.4	0.6	147	2.4	188	5.7	191	2.4	10	188	2.4	248.200	-H450	063-12	
5.5	198	1.1	0.6	153	2.3	195	5.5	198	1.1	9.8	195	1.1	257.631	-H210	063-12	
5.1	216	2.1	0.5	166	2.1	212	5.1	216	2.1	9.0	212	2.1	280.500	-H450	063-12	
5.1	216	1.3	0.5	166	2.1	212	5.1	216	1.3	9.0	212	1.3	280.702	-H320	063-12	
4.9	222	1.0	0.5	171	2.1	218	4.9	222	1.0	8.8	218	1.0	288.393	-H210	063-12	
4.5	245	1.3	0.5	189	1.9	241	4.5	245	1.3	8.0	241	1.3	318.859	-H320	063-12	
4.4	251	1.7	0.4	194	1.8	247	4.4	251	1.7	7.8	247	1.7	326.994	-H450	063-12	
3.9	284	1.6	0.4	219	1.6	279	3.9	284	1.6	6.9	279	1.6	369.548	-H450	063-12	

g500-H helical geared motors

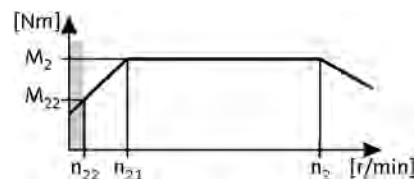
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.18 \text{ kW}$
87 Hz: $P_N = 0.33 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c						
526	3.0	4.7	56	2.4	231	3.0	526	3.0	4.7	953	3.0	3.9	2.597	-H45	063-32			
400	4.0	4.5	43	3.2	176	4.0	400	4.0	4.5	725	4.0	3.7	3.413	-H45	063-32			
313	5.0	3.9	33	4.1	137	5.0	313	5.0	3.9	567	5.0	3.3	4.368	-H45	063-32			
257	6.0	4.2	27	5.0	113	6.0	257	6.0	4.2	466	7.0	3.5	5.312	-H45	063-32			
229	7.0	4.0	24	5.6	101	7.0	229	7.0	4.0	415	7.0	3.3	5.965	-H45	063-32			
212	8.0	4.5	23	6.1	93	8.0	212	8.0	4.5	384	8.0	3.7	6.440	-H100	063-32			
196	9.0	3.5	21	6.6	86	9.0	196	9.0	3.5	355	9.0	2.9	6.982	-H45	063-32			
174	10	3.3	19	7.4	77	10	174	10	3.3	316	10	2.8	7.840	-H45	063-32			
166	10	4.1	18	7.7	73	10	166	10	4.1	301	10	3.5	8.214	-H100	063-32			
153	11	3.0	16	8.4	67	11	153	11	3.0	277	11	2.5	8.935	-H45	063-32			
136	12	2.9	15	9.4	60	12	136	12	2.9	247	12	2.4	10.033	-H45	063-32			
120	14	4.5	13	11	53	14	120	14	4.5	218	14	3.7	11.360	-H100	063-32			
119	14	2.5	13	11	53	14	119	14	2.5	217	14	2.1	11.429	-H45	063-32			
108	15	4.1	12	12	47	15	108	15	4.1	196	16	3.5	12.653	-H100	063-32			
106	16	2.4	11	12	47	16	106	16	2.4	193	16	2.0	12.833	-H45	063-32			
94	18	4.1	10	14	41	18	94	18	4.1	171	18	3.5	14.490	-H100	063-32			
92	18	2.2	9.8	14	40	18	92	18	2.2	167	18	1.8	14.836	-H45	063-32			
85	20	4.1	9.0	15	37	20	85	20	4.1	154	20	3.5	16.122	-H140	063-32			
82	20	2.0	8.7	16	36	20	82	20	2.0	149	21	1.9	16.660	-H45	063-32			
77	22	4.1	8.1	17	34	22	77	22	4.1	139	22	3.5	17.802	-H140	063-32			
72	23	1.8	7.6	18	32	23	72	23	1.8	130	23	1.7	19.013	-H45	063-32			
70	24	3.5	7.4	18	31	24	70	24	3.5	127	24	2.9	19.486	-H100	063-32			
64	26	1.7	6.8	20	28	26	64	26	1.7	116	26	1.6	21.350	-H45	063-32			
61	27	3.5	6.5	21	27	27	61	27	3.5	111	28	2.9	22.314	-H100	063-32			
56	30	1.5	5.9	23	24	30	56	30	1.5	101	30	1.4	24.595	-H45	063-32			
54	31	2.9	5.8	24	24	31	54	31	2.9	99	31	2.5	25.095	-H100	063-32			
49	34	1.3	5.3	26	22	34	49	34	1.3	90	34	1.3	27.618	-H45	063-32			
48	35	2.9	5.0	27	21	35	48	35	2.9	86	36	2.7	28.738	-H100	063-32			
43	39	2.6	4.6	30	19	39	43	39	2.6	78	39	2.4	31.805	-H100	063-32			
43	39	2.9	4.5	30	19	39	43	39	2.9	77	40	2.8	31.976	-H140	063-32			
43	39	1.2	4.5	30	19	39	43	39	1.2	77	40	1.1	32.000	-H45	063-32			
39	43	2.9	4.1	33	17	43	39	43	2.9	71	43	2.8	35.095	-H210	063-32			
39	43	2.9	4.1	33	17	43	39	43	2.9	70	44	2.8	35.308	-H140	063-32			
38	44	1.0	4.0	34	17	44	38	44	1.0	69	44	1.0	35.933	-H45	063-32			
38	44	2.3	4.0	34	17	44	38	44	2.3	68	45	2.1	36.422	-H100	063-32			

g500-H helical geared motors

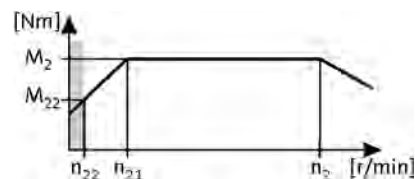
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.18 \text{ kW}$
87 Hz: $P_N = 0.33 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c		g500	MD□MA□□	
36	47	2.9	3.8	36	16	47	36	47	2.9	65	47	2.8	38.238	-H320	063-32	
35	48	2.9	3.7	37	15	48	35	48	2.9	63	49	2.8	39.286	-H210	063-32	
34	49	2.1	3.6	38	15	49	34	49	2.1	62	49	2.0	39.857	-H100	063-32	
34	50	2.6	3.6	38	15	50	34	50	2.6	61	50	2.5	40.526	-H140	063-32	
33	51	0.9	3.5	39	15	51	33	51	0.9	60	51	0.8	41.455	-H45	063-32	
32	52	2.6	3.4	40	14	52	32	52	2.6	58	53	2.5	42.593	-H210	063-32	
31	53	2.9	3.3	41	14	53	31	53	2.9	57	54	2.9	43.436	-H320	063-32	
31	55	2.6	3.2	42	13	55	31	55	2.6	55	55	2.5	44.748	-H140	063-32	
30	56	1.8	3.2	43	13	56	30	56	1.8	54	56	1.8	45.643	-H100	063-32	
29	57	2.6	3.1	44	13	57	29	57	2.6	53	57	2.5	46.407	-H320	063-32	
29	58	2.6	3.0	45	13	58	29	58	2.6	52	59	2.5	47.679	-H210	063-32	
27	62	2.1	2.9	48	12	62	27	62	2.1	49	63	2.1	50.786	-H140	063-32	
26	64	1.1	2.8	49	11	64	26	64	1.1	47	65	1.1	52.510	-H100	063-32	
26	64	2.6	2.8	50	11	64	26	64	2.6	47	65	2.5	52.715	-H320	063-32	
25	67	2.0	2.7	51	11	67	25	67	2.0	46	67	2.0	54.438	-H210	063-32	
24	69	2.0	2.6	53	11	69	24	69	2.0	44	69	2.0	56.077	-H140	063-32	
23	73	1.1	2.4	57	10	73	23	73	1.1	41	74	1.1	60.133	-H100	063-32	
22	74	2.0	2.4	57	9.8	74	22	74	2.0	41	75	2.0	60.938	-H210	063-32	
20	82	1.1	2.2	63	9.0	82	20	82	1.1	37	83	1.1	66.908	-H140	063-32	
19	90	1.1	2.0	70	8.1	90	19	90	1.1	34	91	1.1	73.879	-H140	063-32	

3-stage gearboxes

Mains operation			Inverter operation										i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)						
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
25	67	3.1	2.6	52	11	67	25	67	3.1	45	68	3.0	55.529	-H210	063-32	
22	75	2.8	2.3	58	9.7	75	22	75	2.8	40	76	2.7	62.160	-H210	063-32	
19	85	2.5	2.0	66	8.4	85	19	85	2.5	35	86	2.3	71.026	-H210	063-32	
17	96	2.2	1.8	74	7.5	96	17	96	2.2	31	97	2.1	79.507	-H210	063-32	
16	106	3.0	1.6	82	6.8	106	16	106	3.0	28	107	3.0	87.906	-H320	063-32	
15	111	1.9	1.6	85	6.5	111	15	111	1.9	27	112	1.9	92.205	-H210	063-32	
14	121	2.7	1.4	93	6.0	121	14	121	2.7	25	122	2.6	100.462	-H320	063-32	
13	124	1.7	1.4	96	5.8	124	13	124	1.7	24	126	1.7	103.214	-H210	063-32	
12	137	2.3	1.3	106	5.3	137	12	137	2.3	22	139	2.3	114.118	-H320	063-32	
12	142	1.5	1.2	110	5.1	142	12	142	1.5	21	144	1.5	118.162	-H210	063-32	
11	146	3.1	1.2	112	4.9	146	11	146	3.1	20	148	3.1	121.342	-H450	063-32	
11	155	2.1	1.1	119	4.7	155	11	155	2.1	19	157	2.0	128.743	-H320	063-32	
10	159	1.3	1.1	123	4.5	159	10	159	1.3	19	161	1.3	132.270	-H210	063-32	
10	165	2.7	1.1	127	4.4	165	10	165	2.7	18	167	2.7	137.133	-H450	063-32	
9.3	176	1.8	1.0	136	4.1	176	9.3	176	1.8	17	178	1.8	146.244	-H320	063-32	

g500-H helical geared motors

Technical data

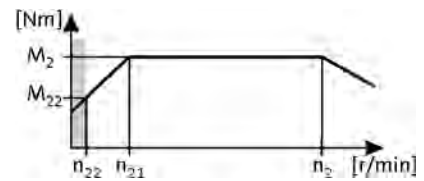


Selection tables, 4-pole motors

50 Hz: $P_N = 0.18 \text{ kW}$

87 Hz: $P_N = 0.33 \text{ kW}$

3-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
8.9	184	1.1	0.9	142	3.9	184	8.9	184	1.1	16	186	1.1	152.853	-H210	063-32	
8.7	188	2.4	0.9	145	3.8	188	8.7	188	2.4	16	190	2.4	156.274	-H450	063-32	
8.2	200	1.6	0.9	154	3.6	200	8.2	200	1.6	15	203	1.6	166.541	-H320	063-32	
8.0	206	1.0	0.8	159	3.5	206	8.0	206	1.0	15	208	1.0	171.104	-H210	063-32	
7.7	213	2.1	0.8	164	3.4	213	7.7	213	2.1	14	215	2.1	176.611	-H450	063-32	
7.2	228	1.4	0.8	175	3.2	228	7.2	228	1.4	13	230	1.4	189.179	-H320	063-32	
6.9	238	1.9	0.7	184	3.0	238	6.9	238	1.9	13	241	1.9	198.059	-H450	063-32	
6.9	239	0.9	0.7	184	3.0	239	6.9	239	0.9	12	242	0.9	198.873	-H210	063-32	
6.3	261	1.2	0.7	201	2.8	261	6.3	261	1.2	11	264	1.2	216.683	-H320	063-32	
6.1	269	1.7	0.6	207	2.7	269	6.1	269	1.7	11	272	1.7	223.833	-H450	063-32	
5.5	296	1.1	0.6	228	2.4	296	5.5	296	1.1	10	299	1.1	246.137	-H320	063-32	
5.5	299	1.5	0.6	230	2.4	299	5.5	299	1.5	10	302	1.5	248.200	-H450	063-32	
4.9	338	1.3	0.5	260	2.1	338	4.9	338	1.3	8.8	341	1.3	280.500	-H450	063-32	
4.2	394	1.1	0.4	303	1.8	394	4.2	394	1.1	7.6	398	1.1	326.994	-H450	063-32	
3.7	445	1.0	0.4	342	1.6	445	3.7	445	1.0	6.7	450	1.0	369.548	-H450	063-32	

g500-H helical geared motors

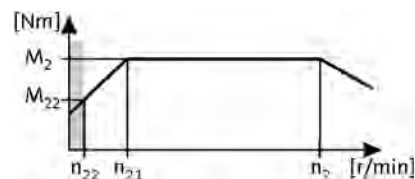
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.25 \text{ kW}$
87 Hz: $P_N = 0.45 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c						
528	4.0	4.1	56	3.4	231	4.0	528	4.0	4.1	955	4.0	3.5	2.597	-H45	063-42			
419	6.0	5.6	44	4.3	184	5.0	419	6.0	5.6	759	5.0	4.8	3.267	-H140	063-42			
408	6.0	5.6	43	4.4	179	6.0	408	6.0	5.6	739	6.0	4.8	3.354	-H100	063-42			
401	6.0	3.3	43	4.4	176	6.0	401	6.0	3.3	727	6.0	2.8	3.413	-H45	063-42			
314	7.0	2.8	33	5.7	137	7.0	314	7.0	2.8	568	7.0	2.4	4.368	-H45	063-42			
298	8.0	5.6	32	6.0	130	8.0	298	8.0	5.6	539	8.0	4.8	4.600	-H100	063-42			
265	9.0	5.6	28	6.7	116	9.0	265	9.0	5.6	480	9.0	4.8	5.167	-H100	063-42			
258	9.0	3.0	27	6.9	113	9.0	258	9.0	3.0	467	9.0	2.6	5.312	-H45	063-42			
233	10	5.2	25	7.7	102	10	233	10	5.2	421	10	4.4	5.887	-H100	063-42			
230	10	2.9	24	7.8	101	10	230	10	2.9	416	10	2.5	5.965	-H45	063-42			
213	11	5.2	23	8.4	93	11	213	11	5.2	385	11	4.4	6.440	-H100	063-42			
196	12	2.5	21	9.1	86	12	196	12	2.5	355	12	2.2	6.982	-H45	063-42			
193	12	5.6	21	9.2	85	12	193	12	5.6	350	12	4.8	7.086	-H100	063-42			
175	13	2.4	19	10	77	13	175	13	2.4	316	13	2.1	7.840	-H45	063-42			
167	14	4.8	18	11	73	14	167	14	4.8	302	14	4.1	8.214	-H100	063-42			
153	15	2.2	16	12	67	15	153	15	2.2	278	15	1.9	8.935	-H45	063-42			
151	15	5.2	16	12	66	15	151	15	5.2	274	15	4.4	9.068	-H100	063-42			
137	17	2.1	15	13	60	17	137	17	2.1	247	17	1.8	10.033	-H45	063-42			
136	17	4.3	14	13	60	17	136	17	4.3	247	17	3.7	10.063	-H100	063-42			
121	19	5.2	13	15	53	19	121	19	5.2	218	19	4.4	11.360	-H100	063-42			
120	19	1.8	13	15	53	19	120	19	1.8	217	19	1.5	11.429	-H45	063-42			
108	21	4.7	12	17	47	21	108	21	4.7	196	21	4.0	12.653	-H100	063-42			
107	22	1.8	11	17	47	22	107	22	1.8	193	22	1.5	12.833	-H45	063-42			
95	24	4.1	10	19	41	24	95	24	4.1	171	24	3.5	14.490	-H100	063-42			
92	25	1.6	9.8	19	40	25	92	25	1.6	167	25	1.3	14.836	-H45	063-42			
88	26	3.8	9.4	20	39	26	88	26	3.8	160	26	3.3	15.500	-H100	063-42			
82	28	1.5	8.7	22	36	28	82	28	1.5	149	28	1.4	16.660	-H45	063-42			
77	30	3.3	8.2	23	34	30	77	30	3.3	140	30	2.8	17.750	-H100	063-42			
72	32	1.3	7.6	25	32	32	72	32	1.3	130	32	1.3	19.013	-H45	063-42			
70	33	3.0	7.4	25	31	33	70	33	3.0	127	33	2.6	19.486	-H100	063-42			
64	36	1.2	6.8	28	28	36	64	36	1.2	116	36	1.2	21.350	-H45	063-42			
			6.6	28	28	37				114	37	3.2	21.808	-H140	063-42			
61	38	2.7	6.5	29	27	38	61	38	2.7	111	38	2.3	22.314	-H100	063-42			
56	42	1.1	5.9	32	24	41	56	42	1.1	101	41	1.1	24.595	-H45	063-42			
			5.8	32	24	42				100	42	2.8	24.829	-H140	063-42			

g500-H helical geared motors

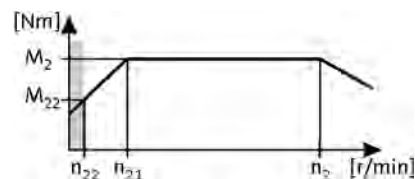
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.25 \text{ kW}$
87 Hz: $P_N = 0.45 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂₂ [r/min]	M ₂₂ [Nm]	c	n ₂₁ [r/min]	M ₂₁ [Nm]	n ₂ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
55	42	2.4	5.8	33	24	42	55	42	2.4	99	42	2.0	25.095	-H100	063-42	
50	46	3.0	5.3	36	22	46	50	46	3.0	91	46	2.9	27.415	-H140	063-42	
50	47	1.0	5.3	36	22	46	50	47	1.0	90	46	0.9	27.618	-H45	063-42	
48	49	2.1	5.0	37	21	48	48	49	2.1	86	48	2.0	28.738	-H100	063-42	
43	54	1.9	4.6	41	19	53	43	54	1.9	78	53	1.8	31.805	-H100	063-42	
43	54	2.6	4.5	42	19	54	43	54	2.6	78	54	2.5	31.976	-H140	063-42	
43	54	0.8	4.5	42	19	54	43	54	0.8	78	54	0.8	32.000	-H45	063-42	
			4.1	46	17	59				71	59	3.2	35.095	-H210	063-42	
39	60	2.4	4.1	46	17	59	39	60	2.4	70	59	2.3	35.308	-H140	063-42	
38	62	1.6	4.0	47	17	61	38	62	1.6	68	61	1.6	36.422	-H100	063-42	
			3.8	50	16	64				65	64	3.2	38.238	-H320	063-42	
35	66	3.2	3.7	51	15	66	35	66	3.2	63	66	3.1	39.286	-H210	063-42	
34	67	1.2	3.6	52	15	67	34	67	1.2	62	67	1.2	39.857	-H100	063-42	
34	69	2.0	3.6	53	15	68	34	69	2.0	61	68	2.1	40.526	-H140	063-42	
32	72	2.5	3.4	55	14	72	32	72	2.5	58	72	2.6	42.593	-H210	063-42	
32	73	3.2	3.3	56	14	73	32	73	3.2	57	73	3.2	43.313	-H450	063-42	
31	76	1.9	3.2	58	13	75	31	76	1.9	55	75	1.9	44.748	-H140	063-42	
30	77	1.2	3.2	59	13	77	30	77	1.2	54	77	1.2	45.643	-H100	063-42	
30	78	2.8	3.1	60	13	78	30	78	2.8	53	78	2.8	46.407	-H320	063-42	
29	81	2.6	3.0	62	13	80	29	81	2.6	52	80	2.6	47.679	-H210	063-42	
28	83	3.2	3.0	64	12	82	28	83	3.2	51	82	3.2	48.950	-H450	063-42	
27	86	1.2	2.9	66	12	85	27	86	1.2	49	85	1.2	50.786	-H140	063-42	
26	89	2.8	2.8	69	11	89	26	89	2.8	47	89	2.8	52.715	-H320	063-42	
25	92	1.4	2.7	71	11	92	25	92	1.4	46	92	1.4	54.438	-H210	063-42	
25	93	2.6	2.6	71	11	92	25	93	2.6	45	92	2.6	54.750	-H450	063-42	
24	95	1.2	2.6	73	11	94	24	95	1.2	44	94	1.2	56.077	-H140	063-42	
23	103	1.4	2.4	79	9.8	102	23	103	1.4	41	102	1.4	60.938	-H210	063-42	
22	105	2.6	2.3	81	9.7	104	22	105	2.6	40	104	2.6	61.875	-H450	063-42	

3-stage gearboxes

Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	Ɛ	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	Ɛ	n ₂ [r/min]	M ₂ [Nm]	Ɛ				
32	72	2.9	3.3	56	14	72	32	72	2.9	57	72	2.5	43.390	-H210	063-42	
28	81	2.6	3.0	62	12	80	28	81	2.6	51	80	2.5	48.571	-H210	063-42	
25	92	2.3	2.6	71	11	92	25	92	2.3	45	92	2.2	55.529	-H210	063-42	
23	101	3.2	2.4	78	9.9	100	23	101	3.2	41	100	3.1	60.502	-H320	063-42	
22	104	2.0	2.3	80	9.7	103	22	104	2.0	40	103	2.0	62.160	-H210	063-42	
20	114	2.8	2.1	88	8.7	114	20	114	2.8	36	114	2.7	68.726	-H320	063-42	
19	118	1.8	2.0	91	8.4	118	19	118	1.8	35	118	1.7	71.026	-H210	063-42	

g500-H helical geared motors

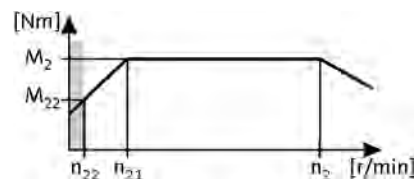
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.25 \text{ kW}$
87 Hz: $P_N = 0.45 \text{ kW}$

3-stage gearboxes



Mains operation			Inverter operation										i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
18	129	2.5	1.9	99	7.8	128	18	129	2.5	32	128	2.4	77.387	-H320	063-42	
17	132	1.6	1.8	102	7.5	132	17	132	1.6	31	132	1.5	79.507	-H210	063-42	
16	146	2.2	1.6	113	6.8	146	16	146	2.2	28	146	2.2	87.906	-H320	063-42	
15	148	3.0	1.6	114	6.7	147	15	148	3.0	28	147	3.1	89.048	-H450	063-42	
15	154	1.4	1.6	118	6.5	153	15	154	1.4	27	153	1.4	92.205	-H210	063-42	
14	161	2.8	1.5	124	6.2	160	14	161	2.8	26	160	2.8	96.522	-H450	063-42	
14	167	1.9	1.4	129	6.0	166	14	167	1.9	25	166	1.9	100.462	-H320	063-42	
13	172	1.2	1.4	132	5.8	171	13	172	1.2	24	171	1.2	103.214	-H210	063-42	
13	182	2.5	1.3	140	5.5	181	13	182	2.5	23	181	2.5	109.083	-H450	063-42	
12	190	1.7	1.3	146	5.3	189	12	190	1.7	22	189	1.7	114.118	-H320	063-42	
12	197	1.1	1.2	152	5.1	196	12	197	1.1	21	196	1.1	118.162	-H210	063-42	
11	202	2.2	1.2	156	4.9	201	11	202	2.2	20	201	2.2	121.342	-H450	063-42	
11	214	1.5	1.1	165	4.7	213	11	214	1.5	19	213	1.5	128.743	-H320	063-42	
10	220	1.0	1.1	170	4.5	219	10	220	1.0	19	219	1.0	132.270	-H210	063-42	
10	228	2.0	1.1	176	4.4	227	10	228	2.0	18	227	2.0	137.133	-H450	063-42	
9.4	244	1.3	1.0	188	4.1	242	9.4	244	1.3	17	242	1.3	146.244	-H320	063-42	
9.0	255	0.8	0.9	196	3.9	253	9.0	255	0.8	16	253	0.8	152.853	-H210	063-42	
8.8	260	1.7	0.9	200	3.8	259	8.8	260	1.7	16	259	1.7	156.274	-H450	063-42	
8.2	277	1.2	0.9	214	3.6	276	8.2	277	1.2	15	276	1.2	166.541	-H320	063-42	
7.8	294	1.5	0.8	227	3.4	292	7.8	294	1.5	14	292	1.5	176.611	-H450	063-42	
7.2	315	1.0	0.8	243	3.2	313	7.2	315	1.0	13	313	1.0	189.179	-H320	063-42	
6.9	330	1.4	0.7	254	3.0	328	6.9	330	1.4	13	328	1.4	198.059	-H450	063-42	
6.3	361	0.9	0.7	278	2.8	359	6.3	361	0.9	11	359	0.9	216.683	-H320	063-42	
6.1	373	1.2	0.6	287	2.7	371	6.1	373	1.2	11	371	1.2	223.833	-H450	063-42	
5.5	413	1.1	0.6	318	2.4	411	5.5	413	1.1	10	411	1.1	248.200	-H450	063-42	
4.9	467	1.0	0.5	360	2.1	464	4.9	467	1.0	8.8	464	1.0	280.500	-H450	063-42	

g500-H helical geared motors

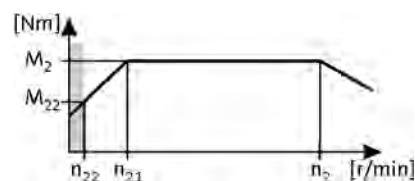
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$
87 Hz: $P_N = 0.66 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c						
543	6.0	2.9	56	4.9	231	6.0	543	6.0	2.9	970	6.0	2.4	2.597	-H45	071-32			
432	8.0	4.9	44	6.1	184	8.0	432	8.0	4.9	771	8.0	4.1	3.267	-H140	071-32			
420	8.0	4.9	43	6.3	179	8.0	420	8.0	4.9	751	8.0	4.1	3.354	-H100	071-32			
413	8.0	2.3	43	6.4	176	8.0	413	8.0	2.3	738	8.0	1.9	3.413	-H45	071-32			
323	11	2.0	33	8.2	137	11	323	11	2.0	577	11	1.7	4.368	-H45	071-32			
307	11	4.9	32	8.6	130	11	307	11	4.9	548	11	4.1	4.600	-H100	071-32			
273	13	4.9	28	9.7	116	13	273	13	4.9	488	13	4.1	5.167	-H100	071-32			
265	13	2.1	27	9.9	113	13	265	13	2.1	474	13	1.8	5.312	-H45	071-32			
240	14	4.5	25	11	102	14	240	14	4.5	428	14	3.8	5.887	-H100	071-32			
236	15	2.0	24	11	101	14	236	15	2.0	422	14	1.7	5.965	-H45	071-32			
219	16	4.5	23	12	93	16	219	16	4.5	391	16	3.8	6.440	-H100	071-32			
202	17	1.8	21	13	86	17	202	17	1.8	361	17	1.5	6.982	-H45	071-32			
199	17	4.9	21	13	85	17	199	17	4.9	356	17	4.1	7.086	-H100	071-32			
180	19	1.7	19	15	77	19	180	19	1.7	321	19	1.4	7.840	-H45	071-32			
172	20	4.2	18	15	73	20	172	20	4.2	307	20	3.5	8.214	-H100	071-32			
158	22	1.5	16	17	67	22	158	22	1.5	282	22	1.3	8.935	-H45	071-32			
156	22	4.4	16	17	66	22	156	22	4.4	278	22	3.7	9.068	-H100	071-32			
			15	18	61	24				257	24	3.2	9.800	-H140	071-32			
141	24	1.4	15	19	60	24	141	24	1.4	251	24	1.2	10.033	-H45	071-32			
140	24	3.7	14	19	60	24	140	24	3.7	250	24	3.2	10.063	-H100	071-32			
124	28	3.6	13	21	53	28	124	28	3.6	222	28	3.1	11.360	-H100	071-32			
123	28	1.3	13	21	53	28	123	28	1.3	221	28	1.1	11.429	-H45	071-32			
111	31	3.3	12	24	47	31	111	31	3.3	199	31	2.7	12.653	-H100	071-32			
110	31	1.2	11	24	47	31	110	31	1.2	196	31	1.0	12.833	-H45	071-32			
97	35	2.8	10	27	41	35	97	35	2.8	174	35	2.4	14.490	-H100	071-32			
95	36	1.1	9.8	28	40	36	95	36	1.1	170	36	0.9	14.836	-H45	071-32			
91	38	2.7	9.4	29	39	38	91	38	2.7	163	38	2.2	15.500	-H100	071-32			
			9.0	30	37	39				156	39	3.0	16.122	-H140	071-32			
85	41	1.0	8.7	31	36	40	85	41	1.0	151	40	1.0	16.660	-H45	071-32			
79	43	2.3	8.2	33	34	43	79	43	2.3	142	43	2.0	17.750	-H100	071-32			
79	43	3.2	8.1	33	34	43	79	43	3.2	142	43	2.7	17.802	-H140	071-32			
74	46	0.9	7.6	36	32	46	74	46	0.9	133	46	0.9	19.013	-H45	071-32			
72	47	2.1	7.4	37	31	47	72	47	2.1	129	47	1.8	19.486	-H100	071-32			
71	48	2.9	7.3	37	30	48	71	48	2.9	128	48	2.5	19.750	-H140	071-32			
66	52	0.9	6.8	40	28	52	66	52	0.9	118	52	0.8	21.350	-H45	071-32			

g500-H helical geared motors

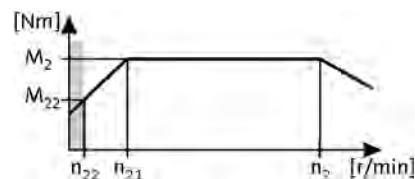
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.37$ kW
87 Hz: $P_N = 0.66$ kW

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n_2 [r/min]	M_2 [Nm]	c	n_{22} [r/min]	M_{22} [Nm]	n_{21} [r/min]	M_2 [Nm]	n_2 [r/min]	M_2 [Nm]	c	n_2 [r/min]	M_2 [Nm]	c	n_2 [r/min]	M_2 [Nm]	c	g500	MD□MA□□	
			6.7	41	28	53				116	53	3.2	21.802	-H210	071-32			
65	53	2.6	6.6	41	28	53	65	53	2.6	116	53	2.2	21.808	-H140	071-32			
63	54	1.8	6.5	42	27	54	63	54	1.8	113	54	1.6	22.314	-H100	071-32			
			6.1	45	25	58				106	58	3.2	23.754	-H320	071-32			
			5.9	46	25	59				103	59	3.0	24.405	-H210	071-32			
57	60	2.3	5.8	47	24	60	57	60	2.3	102	60	2.0	24.829	-H140	071-32			
56	61	1.6	5.8	47	24	61	56	61	1.6	100	61	1.4	25.095	-H100	071-32			
52	66	3.2	5.3	51	22	66	52	66	3.2	93	66	3.0	27.119	-H210	071-32			
51	67	2.1	5.3	51	22	67	51	67	2.1	92	67	2.0	27.415	-H140	071-32			
49	70	1.4	5.0	54	21	70	49	70	1.4	88	70	1.4	28.738	-H100	071-32			
48	72	3.2	4.9	55	20	72	48	72	3.2	85	72	3.0	29.548	-H320	071-32			
46	74	2.9	4.8	57	20	74	46	74	2.9	83	74	2.7	30.357	-H210	071-32			
44	77	1.3	4.6	60	19	77	44	77	1.3	79	77	1.2	31.805	-H100	071-32			
44	78	1.8	4.5	60	19	78	44	78	1.8	79	78	1.7	31.976	-H140	071-32			
42	82	3.2	4.3	63	18	81	42	82	3.2	75	81	3.0	33.564	-H320	071-32			
40	85	2.5	4.1	66	17	85	40	85	2.5	72	85	2.4	35.095	-H210	071-32			
40	86	1.6	4.1	66	17	86	40	86	1.6	71	86	1.6	35.308	-H140	071-32			
40	87	3.2	4.1	67	17	87	40	87	3.2				35.689	-H450	071-32			
39	89	1.1	4.0	68	17	88	39	89	1.1	69	88	1.1	36.422	-H100	071-32			
37	93	2.7	3.8	72	16	93	37	93	2.7	66	93	2.6	38.238	-H320	071-32			
36	96	2.2	3.7	74	15	95	36	96	2.2	64	95	2.1	39.286	-H210	071-32			
35	97	1.0	3.6	75	15	97	35	97	1.0	63	97	1.0	39.857	-H100	071-32			
35	98	3.2	3.6	76	15	98	35	98	3.2				40.333	-H450	071-32			
35	99	1.4	3.6	76	15	98	35	99	1.4	62	98	1.4	40.526	-H140	071-32			
33	104	1.8	3.4	80	14	103	33	104	1.8	59	103	1.8	42.593	-H210	071-32			
33	105	2.8	3.3	81	14	105	33	105	2.8	58	105	2.8	43.313	-H450	071-32			
33	106	2.7	3.3	81	14	105	33	106	2.7	58	105	2.7	43.436	-H320	071-32			
32	109	1.3	3.2	84	13	109	32	109	1.3	56	109	1.3	44.748	-H140	071-32			
31	111	0.9	3.2	85	13	111	31	111	0.9	55	111	0.9	45.643	-H100	071-32			
30	113	1.9	3.1	87	13	113	30	113	1.9	54	113	1.9	46.407	-H320	071-32			
30	116	1.8	3.0	89	13	116	30	116	1.8	53	116	1.8	47.679	-H210	071-32			
29	119	2.8	3.0	92	12	119	29	119	2.8	52	119	2.8	48.950	-H450	071-32			
28	123	1.1	2.9	95	12	123	28	123	1.1	50	123	1.1	50.786	-H140	071-32			
27	128	1.9	2.8	99	11	128	27	128	1.9	48	128	1.9	52.715	-H320	071-32			
26	132	1.0	2.7	102	11	132	26	132	1.0	46	132	1.0	54.438	-H210	071-32			

g500-H helical geared motors

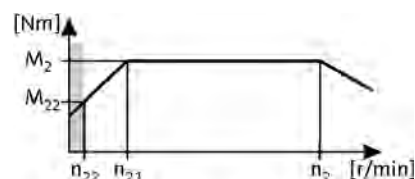
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$
87 Hz: $P_N = 0.66 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n_2 [r/min]	M_2 [Nm]	c	5 Hz - n_{22} [r/min]	M_{22} [Nm]	- 20 Hz n_{21} [r/min]	M_2 [Nm]	- 50 Hz (1:10) n_2 [r/min]	M_2 [Nm]	c	- 87 Hz (1:17.4) n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
26	133	2.1	2.6	103	11	133	26	133	2.1	46	133	2.1	54.750	-H450	071-32	
25	136	1.0	2.6	105	11	136	25	136	1.0	45	136	1.0	56.077	-H140	071-32	
23	148	1.1	2.4	114	9.8	148	23	148	1.1	41	148	1.1	60.938	-H210	071-32	
23	150	2.0	2.3	116	9.7	150	23	150	2.0	41	150	2.0	61.875	-H450	071-32	

3-stage gearboxes

Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n_2 [r/min]	M_2 [Nm]	c	5 Hz - n_{22} [r/min]	M_{22} [Nm]	- 20 Hz n_{21} [r/min]	M_2 [Nm]	- 50 Hz (1:10) n_2 [r/min]	M_2 [Nm]	c	- 87 Hz (1:17.4) n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
33	104	2.0	3.3	80	14	104	33	104	2.0	58	104	1.7	43.390	-H210	071-32	
30	113	2.8	3.1	87	13	113	30	113	2.8	53	113	2.7	47.276	-H320	071-32	
29	116	1.8	3.0	90	12	116	29	116	1.8	52	116	1.7	48.571	-H210	071-32	
26	129	2.5	2.7	99	11	128	26	129	2.5	47	128	2.4	53.703	-H320	071-32	
25	133	1.6	2.6	102	11	133	25	133	1.6	45	133	1.5	55.529	-H210	071-32	
			2.6	104	11	135				45	135	3.2	56.469	-H450	071-32	
23	145	2.2	2.4	112	9.9	145	23	145	2.2	42	145	2.1	60.502	-H320	071-32	
23	148	3.0	2.3	114	9.7	148	23	148	3.0	41	148	2.9	61.774	-H450	071-32	
23	149	1.4	2.3	115	9.7	149	23	149	1.4	41	149	1.4	62.160	-H210	071-32	
21	165	1.9	2.1	127	8.7	164	21	165	1.9	37	164	1.9	68.726	-H320	071-32	
20	167	2.7	2.1	129	8.6	167	20	167	2.7	36	167	2.6	69.813	-H450	071-32	
20	170	1.2	2.0	131	8.4	170	20	170	1.2	36	170	1.2	71.026	-H210	071-32	
18	185	1.7	1.9	143	7.8	185	18	185	1.7	33	185	1.7	77.387	-H320	071-32	
18	189	2.4	1.8	145	7.6	188	18	189	2.4	32	188	2.3	78.794	-H450	071-32	
18	190	1.1	1.8	147	7.5	190	18	190	1.1	32	190	1.1	79.507	-H210	071-32	
16	211	1.5	1.6	162	6.8	210	16	211	1.5	29	210	1.5	87.906	-H320	071-32	
16	213	2.1	1.6	164	6.7	213	16	213	2.1	28	213	2.1	89.048	-H450	071-32	
15	221	1.0	1.6	170	6.5	220	15	221	1.0	27	220	1.0	92.205	-H210	071-32	
15	231	2.0	1.5	178	6.2	231	15	231	2.0	26	231	2.0	96.522	-H450	071-32	
14	241	1.3	1.4	185	6.0	240	14	241	1.3	25	240	1.3	100.462	-H320	071-32	
14	247	0.9	1.4	190	5.8	247	14	247	0.9	24	247	0.9	103.214	-H210	071-32	
13	261	1.7	1.3	201	5.5	261	13	261	1.7	23	261	1.7	109.083	-H450	071-32	
12	273	1.2	1.3	210	5.3	273	12	273	1.2	22	273	1.2	114.118	-H320	071-32	
12	291	1.6	1.2	224	4.9	290	12	291	1.6	21	290	1.6	121.342	-H450	071-32	
11	308	1.0	1.1	237	4.7	308	11	308	1.0	20	308	1.0	128.743	-H320	071-32	
10	328	1.4	1.1	253	4.4	328	10	328	1.4	18	328	1.4	137.133	-H450	071-32	
9.6	350	0.9	1.0	270	4.1	350	9.6	350	0.9	17	350	0.9	146.244	-H320	071-32	
9.0	374	1.2	0.9	288	3.8	374	9.0	374	1.2	16	374	1.2	156.274	-H450	071-32	
8.0	423	1.1	0.8	326	3.4	422	8.0	423	1.1	14	422	1.1	176.611	-H450	071-32	
7.1	474	1.0	0.7	365	3.0	473	7.1	474	1.0	13	473	1.0	198.059	-H450	071-32	
6.3	536	0.8	0.6	413	2.7	535	6.3	536	0.8	11	535	0.8	223.833	-H450	071-32	

g500-H helical geared motors

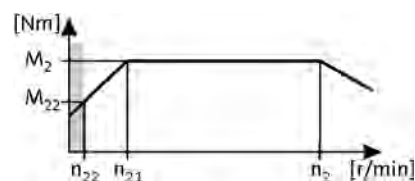
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$
87 Hz: $P_N = 1.0 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
n ₂₂ [r/min]	M ₂₂ [Nm]	c	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c					
541	9.0	1.9	56	7.3	231	10	541	9.0	1.9	968	10	1.6	2.597	-H45	071-42			
430	12	4.5	44	9.1	184	12	430	12	4.5	770	12	3.8	3.267	-H140	071-42			
419	12	4.5	43	9.4	179	12	419	12	4.5	750	12	3.8	3.354	-H100	071-42			
412	12	1.5	43	9.5	176	12	412	12	1.5	737	13	1.3	3.413	-H45	071-42			
322	16	1.3	33	12	137	16	322	16	1.3	576	16	1.1	4.368	-H45	071-42			
305	17	4.3	32	13	130	17	305	17	4.3	547	17	3.6	4.600	-H100	071-42			
272	19	4.0	28	14	116	19	272	19	4.0	487	19	3.3	5.167	-H100	071-42			
265	19	1.4	27	15	113	19	265	19	1.4	473	20	1.2	5.312	-H45	071-42			
239	21	3.8	25	16	102	21	239	21	3.8	427	22	3.1	5.887	-H100	071-42			
236	22	1.3	24	17	101	22	236	22	1.3	422	22	1.1	5.965	-H45	071-42			
218	23	3.6	23	18	93	23	218	23	3.6	391	24	2.9	6.440	-H100	071-42			
201	25	1.2	21	20	86	25	201	25	1.2	360	26	1.0	6.982	-H45	071-42			
198	26	3.4	21	20	85	26	198	26	3.4	355	26	2.8	7.086	-H100	071-42			
179	28	1.1	19	22	77	28	179	28	1.1	321	29	0.9	7.840	-H45	071-42			
			18	22	75	29				314	29	3.2	8.000	-H140	071-42			
171	30	3.1	18	23	73	30	171	30	3.1	306	30	2.6	8.214	-H100	071-42			
157	32	1.0	16	25	67	32	157	32	1.0	282	33	0.8	8.935	-H45	071-42			
			16	25	67	33				279	33	3.0	9.029	-H140	071-42			
155	33	2.9	16	25	66	33	155	33	2.9	277	33	2.4	9.068	-H100	071-42			
			15	27	61	36				257	36	2.8	9.800	-H140	071-42			
140	36	1.0	15	28	60	36	140	36	1.0				10.033	-H45	071-42			
140	36	2.7	14	28	60	36	140	36	2.7	250	37	2.3	10.063	-H100	071-42			
124	41	2.4	13	32	53	41	124	41	2.4	221	42	2.0	11.360	-H100	071-42			
123	41	0.8	13	32	53	41	123	41	0.8				11.429	-H45	071-42			
122	42	3.1	13	32	52	42	122	42	3.1	218	43	2.5	11.554	-H140	071-42			
111	46	2.9	12	35	48	46	111	46	2.9	199	47	2.4	12.640	-H140	071-42			
111	46	2.2	12	35	47	46	111	46	2.2	199	47	1.8	12.653	-H100	071-42			
110	47	0.8	11	36	47	47	110	47	0.8				12.833	-H45	071-42			
101	51	2.7	10	39	43	51	101	51	2.7	180	51	2.2	13.957	-H140	071-42			
97	53	1.9	10	41	41	53	97	53	1.9	174	53	1.6	14.490	-H100	071-42			
			9.5	43	39	56				164	56	3.0	15.306	-H210	071-42			
91	56	1.8	9.4	43	39	56	91	56	1.8	162	57	1.5	15.500	-H100	071-42			
87	58	2.4	9.0	45	37	58	87	58	2.4	156	59	2.0	16.122	-H140	071-42			
			8.7	47	36	62				150	62	2.9	16.750	-H210	071-42			
79	64	1.6	8.2	50	34	64	79	64	1.6	142	65	1.3	17.750	-H100	071-42			

g500-H helical geared motors

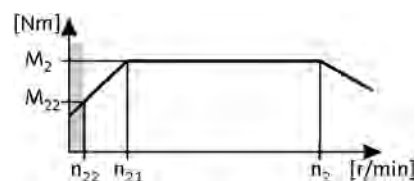
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$
87 Hz: $P_N = 1.0 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation											i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500		MD□MA□□		
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c					
79	65	2.2	8.1	50	34	65	79	65	2.2	141	66	1.8	17.802	-H140	071-42		
			7.9	51	33	67				138	67	3.1	18.250	-H320	071-42		
75	68	3.1	7.7	52	32	68	75	68	3.1	134	69	2.6	18.750	-H210	071-42		
72	71	1.4	7.4	54	31	71	72	71	1.4	129	72	1.2	19.486	-H100	071-42		
71	72	2.0	7.3	55	30	72	71	72	2.0	127	73	1.6	19.750	-H140	071-42		
			7.0	58	29	76				121	76	3.1	20.731	-H320	071-42		
64	79	2.7	6.7	61	28	79	64	79	2.7	115	80	2.2	21.802	-H210	071-42		
64	79	1.8	6.6	61	28	79	64	79	1.8	115	80	1.5	21.808	-H140	071-42		
63	81	1.2	6.5	62	27	81	63	81	1.2	113	82	1.0	22.314	-H100	071-42		
			6.1	66	25	88				106	88	2.8	23.754	-H320	071-42		
58	89	2.4	5.9	68	25	89	58	89	2.4	103	90	2.0	24.405	-H210	071-42		
57	90	1.6	5.8	69	24	90	57	90	1.6	101	91	1.3	24.829	-H140	071-42		
56	91	1.1	5.8	70	24	91	56	91	1.1	100	92	0.9	25.095	-H100	071-42		
			5.4	75	22	99				93	99	3.1	26.983	-H320	071-42		
52	98	2.1	5.3	76	22	100	52	98	2.1	93	100	2.0	27.119	-H210	071-42		
51	99	1.4	5.3	77	22	101	51	99	1.4	92	101	1.3	27.415	-H140	071-42		
51	100	3.2	5.3	77	22	100	51	100	3.2	91	102	3.0	27.578	-H450	071-42		
49	104	1.0	5.0	80	21	104	49	104	1.0	88	106	0.9	28.738	-H100	071-42		
48	107	2.9	4.9	83	20	107	48	107	2.9	85	109	2.7	29.548	-H320	071-42		
46	110	1.9	4.8	85	20	110	46	110	1.9	83	112	1.8	30.357	-H210	071-42		
45	113	3.2	4.7	87	19	113	45	113	3.2	81	115	3.0	31.167	-H450	071-42		
44	116	1.2	4.5	89	19	116	44	116	1.2	79	118	1.1	31.976	-H140	071-42		
42	122	2.6	4.3	94	18	122	42	122	2.6	75	124	2.5	33.564	-H320	071-42		
40	127	1.7	4.1	98	17	127	40	127	1.7	72	129	1.6	35.095	-H210	071-42		
40	128	1.1	4.1	99	17	128	40	128	1.1	71	130	1.0	35.308	-H140	071-42		
39	129	2.9	4.1	100	17	129	39	129	2.9	71	131	2.7	35.689	-H450	071-42		
37	139	1.8	3.8	107	16	139	37	139	1.8	66	141	1.7	38.238	-H320	071-42		
36	142	1.5	3.7	110	15	142	36	142	1.5	64	145	1.4	39.286	-H210	071-42		
35	146	2.9	3.6	113	15	146	35	146	2.9	62	149	2.8	40.333	-H450	071-42		
33	154	1.2	3.4	119	14	154	33	154	1.2	59	157	1.2	42.593	-H210	071-42		
32	157	2.1	3.3	121	14	157	32	157	2.1	58	160	2.0	43.313	-H450	071-42		
32	158	1.8	3.3	121	14	158	32	158	1.8	58	160	1.8	43.436	-H320	071-42		
30	168	1.3	3.1	130	13	168	30	168	1.3	54	171	1.3	46.407	-H320	071-42		
30	173	1.2	3.0	133	13	173	30	173	1.2	53	176	1.2	47.679	-H210	071-42		
29	178	2.1	3.0	137	12	178	29	178	2.1	51	180	2.0	48.950	-H450	071-42		

g500-H helical geared motors

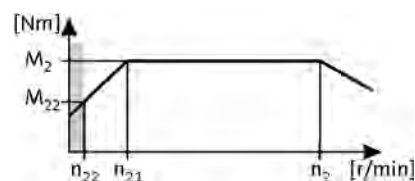
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$
87 Hz: $P_N = 1.0 \text{ kW}$

2-stage gearboxes



Mains operation			Inverter operation										i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
27	191	1.3	2.8	147	11	191	27	191	1.3	48	194	1.3	52.715	-H320	071-42	
26	199	1.4	2.6	153	11	199	26	199	1.4	46	202	1.3	54.750	-H450	071-42	
23	224	1.4	2.3	173	9.7	224	23	224	1.4	41	228	1.3	61.875	-H450	071-42	

3-stage gearboxes

Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
32	155	1.4	3.3	119	14	155	32	155	1.4	58	157	1.1	43.390	-H210	071-42	
32	158	2.9	3.3	121	14	158	32	158	2.9	57	160	2.4	44.124	-H450	071-42	
30	169	1.9	3.1	130	13	169	30	169	1.9	53	172	1.8	47.276	-H320	071-42	
29	174	1.2	3.0	134	12	174	29	174	1.2	52	176	1.1	48.571	-H210	071-42	
28	178	2.5	2.9	137	12	178	28	178	2.5	50	181	2.4	49.867	-H450	071-42	
26	192	1.7	2.7	148	11	192	26	192	1.7	47	195	1.6	53.703	-H320	071-42	
25	198	1.1	2.6	153	11	198	25	198	1.1	45	201	1.0	55.529	-H210	071-42	
25	202	2.2	2.6	155	11	202	25	202	2.2	45	205	2.1	56.469	-H450	071-42	
23	216	1.5	2.4	166	9.9	216	23	216	1.5	42	220	1.4	60.502	-H320	071-42	
23	221	2.0	2.3	170	9.7	221	23	221	2.0	41	224	1.9	61.774	-H450	071-42	
23	222	1.0	2.3	171	9.7	222	23	222	1.0	41	226	0.9	62.160	-H210	071-42	
20	246	1.3	2.1	189	8.7	246	20	246	1.3	37	249	1.2	68.726	-H320	071-42	
20	249	1.8	2.1	192	8.6	249	20	249	1.8	36	253	1.7	69.813	-H450	071-42	
20	254	0.8	2.0	195	8.4	254	20	254	0.8				71.026	-H210	071-42	
18	276	1.2	1.9	213	7.8	276	18	276	1.2	33	281	1.1	77.387	-H320	071-42	
18	281	1.6	1.8	217	7.6	281	18	281	1.6	32	286	1.5	78.794	-H450	071-42	
16	314	1.0	1.6	242	6.8	314	16	314	1.0	29	319	1.0	87.906	-H320	071-42	
16	318	1.4	1.6	245	6.7	318	16	318	1.4	28	323	1.4	89.048	-H450	071-42	
15	345	1.3	1.5	266	6.2	345	15	345	1.3	26	350	1.3	96.522	-H450	071-42	
14	359	0.9	1.4	276	6.0	359	14	359	0.9	25	365	0.9	100.462	-H320	071-42	
13	390	1.2	1.3	300	5.5	390	13	390	1.2	23	396	1.1	109.083	-H450	071-42	
12	433	1.0	1.2	334	4.9	433	12	433	1.0	21	440	1.0	121.342	-H450	071-42	
10	490	0.9	1.1	377	4.4	490	10	490	0.9	18	498	0.9	137.133	-H450	071-42	
9.0	558	0.8	0.9	430	3.8	558	9.0	558	0.8				156.274	-H450	071-42	

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.75 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
442	16	4.3	3.267	-H140	40-P80/M4	
430	16	3.8	3.354	-H100	40-P80/M4	
314	22	3.3	4.600	-H100	40-P80/M4	
279	25	3.0	5.167	-H100	40-P80/M4	
245	28	2.9	5.887	-H100	40-P80/M4	
224	31	2.7	6.440	-H100	40-P80/M4	
204	34	2.5	7.086	-H100	40-P80/M4	
199	35	3.0	7.269	-H140	40-P80/M4	
180	39	3.0	8.000	-H140	40-P80/M4	
176	40	2.3	8.214	-H100	40-P80/M4	
160	43	2.7	9.029	-H140	40-P80/M4	
159	44	2.2	9.068	-H100	40-P80/M4	
147	47	2.7	9.800	-H140	40-P80/M4	
143	48	2.0	10.063	-H100	40-P80/M4	
127	55	1.8	11.360	-H100	40-P80/M4	
125	56	2.3	11.554	-H140	40-P80/M4	
120	58	3.2	12.000	-H210	40-P80/M4	
114	61	2.2	12.640	-H140	40-P80/M4	
114	61	1.6	12.653	-H100	40-P80/M4	
106	66	3.1	13.673	-H210	40-P80/M4	
103	67	2.0	13.957	-H140	40-P80/M4	
100	70	1.4	14.490	-H100	40-P80/M4	
94	74	2.7	15.306	-H210	40-P80/M4	
93	75	1.3	15.500	-H100	40-P80/M4	
90	78	1.8	16.122	-H140	40-P80/M4	
86	81	2.6	16.750	-H210	40-P80/M4	
81	85	1.2	17.750	-H100	40-P80/M4	
81	86	1.6	17.802	-H140	40-P80/M4	
77	90	2.3	18.750	-H210	40-P80/M4	
74	94	1.1	19.486	-H100	40-P80/M4	
73	95	1.5	19.750	-H140	40-P80/M4	
70	100	3.0	20.731	-H320	40-P80/M4	
66	105	2.0	21.802	-H210	40-P80/M4	
66	105	1.3	21.808	-H140	40-P80/M4	
65	107	0.9	22.314	-H100	40-P80/M4	
61	114	2.8	23.754	-H320	40-P80/M4	
59	118	1.8	24.405	-H210	40-P80/M4	

6.3

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.75 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
58	120	1.2	24.829	-H140	40-P80/M4	
58	121	0.8	25.095	-H100	40-P80/M4	
54	130	2.5	26.983	-H320	40-P80/M4	
53	131	1.6	27.119	-H210	40-P80/M4	
53	132	1.1	27.415	-H140	40-P80/M4	
52	133	3.0	27.578	-H450	40-P80/M4	
49	142	2.3	29.548	-H320	40-P80/M4	
48	146	1.4	30.357	-H210	40-P80/M4	
46	150	3.0	31.167	-H450	40-P80/M4	
45	154	0.9	31.976	-H140	40-P80/M4	
43	162	2.0	33.564	-H320	40-P80/M4	
41	169	1.2	35.095	-H210	40-P80/M4	
41	170	0.8	35.308	-H140	40-P80/M4	
40	172	2.6	35.689	-H450	40-P80/M4	
38	184	1.4	38.238	-H320	40-P80/M4	
37	189	1.1	39.286	-H210	40-P80/M4	
36	194	2.3	40.333	-H450	40-P80/M4	
33	209	1.5	43.313	-H450	40-P80/M4	
33	209	1.4	43.436	-H320	40-P80/M4	
30	236	1.6	48.950	-H450	40-P80/M4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
33	206	1.0	43.390	-H210	40-P80/M4	
33	209	2.2	44.124	-H450	40-P80/M4	
31	224	1.4	47.276	-H320	40-P80/M4	
30	230	0.9	48.571	-H210	40-P80/M4	
29	237	1.9	49.867	-H450	40-P80/M4	
27	255	1.3	53.703	-H320	40-P80/M4	
26	268	1.7	56.469	-H450	40-P80/M4	
24	287	1.1	60.502	-H320	40-P80/M4	
23	293	1.5	61.774	-H450	40-P80/M4	
21	326	1.0	68.726	-H320	40-P80/M4	
21	331	1.4	69.813	-H450	40-P80/M4	
19	367	0.9	77.387	-H320	40-P80/M4	
18	374	1.2	78.794	-H450	40-P80/M4	
16	422	1.1	89.048	-H450	40-P80/M4	
15	458	1.0	96.522	-H450	40-P80/M4	
13	517	0.9	109.083	-H450	40-P80/M4	

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 1.1 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
442	23	3.6	3.267	-H140	40-P90/M4	
431	24	2.6	3.354	-H100	40-P90/M4	
323	32	3.0	4.480	-H140	40-P90/M4	
314	32	2.2	4.600	-H100	40-P90/M4	
280	36	2.1	5.167	-H100	40-P90/M4	
252	40	2.6	5.733	-H140	40-P90/M4	
246	42	2.0	5.887	-H100	40-P90/M4	
230	44	2.4	6.272	-H140	40-P90/M4	
224	45	1.8	6.440	-H100	40-P90/M4	
204	50	1.7	7.086	-H100	40-P90/M4	
199	51	2.1	7.269	-H140	40-P90/M4	
189	54	3.2	7.657	-H210	40-P90/M4	
181	56	2.1	8.000	-H140	40-P90/M4	
176	58	1.6	8.214	-H100	40-P90/M4	
169	60	2.8	8.571	-H210	40-P90/M4	
160	64	1.8	9.029	-H140	40-P90/M4	
159	64	1.5	9.068	-H100	40-P90/M4	
148	69	2.6	9.799	-H210	40-P90/M4	
147	69	1.8	9.800	-H140	40-P90/M4	
144	71	1.4	10.063	-H100	40-P90/M4	
135	76	2.5	10.720	-H210	40-P90/M4	
127	80	1.3	11.360	-H100	40-P90/M4	
125	81	1.6	11.554	-H140	40-P90/M4	
120	85	2.2	12.000	-H210	40-P90/M4	
119	86	3.0	12.128	-H320	40-P90/M4	
114	89	1.5	12.640	-H140	40-P90/M4	
114	89	1.1	12.653	-H100	40-P90/M4	
109	94	2.8	13.268	-H320	40-P90/M4	
106	96	2.1	13.673	-H210	40-P90/M4	
104	98	1.4	13.957	-H140	40-P90/M4	
100	102	1.0	14.490	-H100	40-P90/M4	
97	105	2.8	14.898	-H320	40-P90/M4	
94	108	1.9	15.306	-H210	40-P90/M4	
93	109	0.9	15.500	-H100	40-P90/M4	
90	114	1.2	16.122	-H140	40-P90/M4	
86	118	1.8	16.750	-H210	40-P90/M4	
85	119	2.4	16.923	-H320	40-P90/M4	

6.3

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 1.1 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
81	126	1.1	17.802	-H140	40-P90/M4	
79	129	2.4	18.250	-H320	40-P90/M4	
77	132	1.6	18.750	-H210	40-P90/M4	
73	139	1.0	19.750	-H140	40-P90/M4	
70	146	2.1	20.731	-H320	40-P90/M4	
66	154	1.4	21.802	-H210	40-P90/M4	
66	154	0.9	21.808	-H140	40-P90/M4	
65	156	2.9	22.170	-H450	40-P90/M4	
61	168	1.9	23.754	-H320	40-P90/M4	
59	172	1.2	24.405	-H210	40-P90/M4	
58	177	2.6	25.056	-H450	40-P90/M4	
54	190	1.7	26.983	-H320	40-P90/M4	
53	191	1.1	27.119	-H210	40-P90/M4	
52	195	2.3	27.578	-H450	40-P90/M4	
49	208	1.5	29.548	-H320	40-P90/M4	
48	214	1.0	30.357	-H210	40-P90/M4	
46	220	2.1	31.167	-H450	40-P90/M4	
43	237	1.4	33.564	-H320	40-P90/M4	
41	252	1.8	35.689	-H450	40-P90/M4	
36	284	1.6	40.333	-H450	40-P90/M4	
33	305	1.1	43.313	-H450	40-P90/M4	
30	345	1.1	48.950	-H450	40-P90/M4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
33	307	1.5	44.124	-H450	40-P90/M4	
29	346	1.3	49.867	-H450	40-P90/M4	
26	392	1.2	56.469	-H450	40-P90/M4	
23	429	1.1	61.774	-H450	40-P90/M4	
21	485	0.9	69.813	-H450	40-P90/M4	
18	547	0.8	78.794	-H450	40-P90/M4	

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 1.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
439	32	2.6	3.267	-H140	40-P90/L4	
428	32	1.9	3.354	-H100	40-P90/L4	
320	43	2.2	4.480	-H140	40-P90/L4	
312	45	1.6	4.600	-H100	40-P90/L4	
309	45	3.2	4.648	-H210	40-P90/L4	
278	50	1.5	5.167	-H100	40-P90/L4	
257	54	2.9	5.583	-H210	40-P90/L4	
250	56	1.9	5.733	-H140	40-P90/L4	
244	57	1.4	5.887	-H100	40-P90/L4	
230	61	2.6	6.250	-H210	40-P90/L4	
229	61	1.7	6.272	-H140	40-P90/L4	
223	62	1.3	6.440	-H100	40-P90/L4	
203	69	1.3	7.086	-H100	40-P90/L4	
197	70	1.5	7.269	-H140	40-P90/L4	
187	74	2.3	7.657	-H210	40-P90/L4	
179	77	1.5	8.000	-H140	40-P90/L4	
175	80	1.2	8.214	-H100	40-P90/L4	
172	81	3.1	8.343	-H320	40-P90/L4	
167	83	2.1	8.571	-H210	40-P90/L4	
159	87	1.3	9.029	-H140	40-P90/L4	
158	88	1.1	9.068	-H100	40-P90/L4	
151	92	2.6	9.477	-H320	40-P90/L4	
146	95	1.9	9.799	-H210	40-P90/L4	
146	95	1.3	9.800	-H140	40-P90/L4	
143	97	1.0	10.063	-H100	40-P90/L4	
134	103	2.6	10.677	-H320	40-P90/L4	
134	104	1.8	10.720	-H210	40-P90/L4	
126	110	0.9	11.360	-H100	40-P90/L4	
124	112	1.1	11.554	-H140	40-P90/L4	
123	113	2.4	11.680	-H320	40-P90/L4	
120	116	1.6	12.000	-H210	40-P90/L4	
118	117	2.2	12.128	-H320	40-P90/L4	
114	122	1.1	12.640	-H140	40-P90/L4	
113	123	0.8	12.653	-H100	40-P90/L4	
108	128	2.0	13.268	-H320	40-P90/L4	
105	132	1.5	13.673	-H210	40-P90/L4	
103	135	3.2	13.905	-H450	40-P90/L4	

6.3

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 1.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
103	135	1.0	13.957	-H140	40-P90/L4	
96	144	2.0	14.898	-H320	40-P90/L4	
94	148	1.4	15.306	-H210	40-P90/L4	
91	152	2.9	15.714	-H450	40-P90/L4	
89	156	0.9	16.122	-H140	40-P90/L4	
86	162	1.3	16.750	-H210	40-P90/L4	
85	164	1.7	16.923	-H320	40-P90/L4	
84	165	2.7	17.033	-H450	40-P90/L4	
81	172	0.8	17.802	-H140	40-P90/L4	
79	177	1.8	18.250	-H320	40-P90/L4	
77	182	1.2	18.750	-H210	40-P90/L4	
75	186	2.4	19.250	-H450	40-P90/L4	
69	201	1.5	20.731	-H320	40-P90/L4	
66	211	1.0	21.802	-H210	40-P90/L4	
65	215	2.1	22.170	-H450	40-P90/L4	
60	230	1.4	23.754	-H320	40-P90/L4	
59	236	0.9	24.405	-H210	40-P90/L4	
57	243	1.9	25.056	-H450	40-P90/L4	
53	261	1.2	26.983	-H320	40-P90/L4	
52	267	1.7	27.578	-H450	40-P90/L4	
49	286	1.1	29.548	-H320	40-P90/L4	
46	302	1.5	31.167	-H450	40-P90/L4	
43	325	1.0	33.564	-H320	40-P90/L4	
40	346	1.3	35.689	-H450	40-P90/L4	
36	391	1.2	40.333	-H450	40-P90/L4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
33	421	1.1	44.124	-H450	40-P90/L4	
29	476	1.0	49.867	-H450	40-P90/L4	
25	539	0.8	56.469	-H450	40-P90/L4	

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 2.2 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
427	48	2.6	3.389	-H210	40-P100/M4	
311	66	2.2	4.648	-H210	40-P100/M4	
311	66	2.9	4.648	-H320	40-P100/M4	
259	79	2.0	5.583	-H210	40-P100/M4	
238	86	2.7	6.083	-H320	40-P100/M4	
231	88	1.8	6.250	-H210	40-P100/M4	
209	97	2.2	6.910	-H320	40-P100/M4	
189	108	1.6	7.657	-H210	40-P100/M4	
186	110	3.2	7.787	-H450	40-P100/M4	
173	118	2.1	8.343	-H320	40-P100/M4	
169	121	1.4	8.571	-H210	40-P100/M4	
164	124	3.0	8.800	-H450	40-P100/M4	
153	134	1.8	9.477	-H320	40-P100/M4	
148	138	1.3	9.799	-H210	40-P100/M4	
145	140	2.7	9.965	-H450	40-P100/M4	
135	151	1.8	10.677	-H320	40-P100/M4	
135	151	1.3	10.720	-H210	40-P100/M4	
128	159	2.5	11.262	-H450	40-P100/M4	
124	165	1.7	11.680	-H320	40-P100/M4	
121	169	1.1	12.000	-H210	40-P100/M4	
119	171	1.5	12.128	-H320	40-P100/M4	
117	174	2.4	12.320	-H450	40-P100/M4	
109	187	1.4	13.268	-H320	40-P100/M4	
106	193	1.0	13.673	-H210	40-P100/M4	
104	196	2.2	13.905	-H450	40-P100/M4	
97	210	1.4	14.898	-H320	40-P100/M4	
95	216	0.9	15.306	-H210	40-P100/M4	
92	222	2.0	15.714	-H450	40-P100/M4	
86	236	0.9	16.750	-H210	40-P100/M4	
85	239	1.2	16.923	-H320	40-P100/M4	
85	240	1.9	17.033	-H450	40-P100/M4	
79	257	1.2	18.250	-H320	40-P100/M4	
75	271	1.7	19.250	-H450	40-P100/M4	
70	292	1.0	20.731	-H320	40-P100/M4	
65	313	1.4	22.170	-H450	40-P100/M4	
58	353	1.3	25.056	-H450	40-P100/M4	
52	389	1.2	27.578	-H450	40-P100/M4	

6.3

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 2.2\text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
46	439	1.0	31.167	-H450	40-P100/M4	

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 3.0 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
429	65	2.6	3.389	-H320	40-P100/L4	
429	65	1.9	3.389	-H210	40-P100/L4	
313	89	2.1	4.648	-H320	40-P100/L4	
313	89	1.6	4.648	-H210	40-P100/L4	
308	90	3.2	4.724	-H450	40-P100/L4	
260	107	1.5	5.583	-H210	40-P100/L4	
256	109	2.9	5.678	-H450	40-P100/L4	
240	116	2.8	6.045	-H450	40-P100/L4	
239	116	2.0	6.083	-H320	40-P100/L4	
233	120	1.3	6.250	-H210	40-P100/L4	
220	127	2.6	6.613	-H450	40-P100/L4	
210	132	1.7	6.910	-H320	40-P100/L4	
190	146	1.2	7.657	-H210	40-P100/L4	
187	149	2.4	7.787	-H450	40-P100/L4	
174	160	1.6	8.343	-H320	40-P100/L4	
170	164	1.0	8.571	-H210	40-P100/L4	
165	168	2.2	8.800	-H450	40-P100/L4	
153	181	1.3	9.477	-H320	40-P100/L4	
148	187	1.0	9.799	-H210	40-P100/L4	
146	191	2.0	9.965	-H450	40-P100/L4	
136	204	1.3	10.677	-H320	40-P100/L4	
136	205	0.9	10.720	-H210	40-P100/L4	
129	215	1.9	11.262	-H450	40-P100/L4	
124	223	1.2	11.680	-H320	40-P100/L4	
121	230	0.8	12.000	-H210	40-P100/L4	
120	232	1.1	12.128	-H320	40-P100/L4	
118	236	1.7	12.320	-H450	40-P100/L4	
110	254	1.0	13.268	-H320	40-P100/L4	
105	266	1.6	13.905	-H450	40-P100/L4	
98	285	1.0	14.898	-H320	40-P100/L4	
93	301	1.5	15.714	-H450	40-P100/L4	
86	324	0.9	16.923	-H320	40-P100/L4	
85	326	1.4	17.033	-H450	40-P100/L4	
80	349	0.9	18.250	-H320	40-P100/L4	
76	368	1.2	19.250	-H450	40-P100/L4	
66	424	1.1	22.170	-H450	40-P100/L4	
58	479	0.9	25.056	-H450	40-P100/L4	

6.3

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 3.0\text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
53	528	0.9	27.578	-H450	40-P100/L4	

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 4.0 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
423	88	1.9	3.389	-H320	40-P112/M4	
417	89	2.9	3.444	-H450	40-P112/M4	
309	120	1.6	4.648	-H320	40-P112/M4	
304	122	2.4	4.724	-H450	40-P112/M4	
253	147	2.2	5.678	-H450	40-P112/M4	
237	156	2.1	6.045	-H450	40-P112/M4	
236	157	1.5	6.083	-H320	40-P112/M4	
217	171	2.0	6.613	-H450	40-P112/M4	
208	178	1.2	6.910	-H320	40-P112/M4	
184	201	1.8	7.787	-H450	40-P112/M4	
172	215	1.2	8.343	-H320	40-P112/M4	
163	227	1.6	8.800	-H450	40-P112/M4	
151	245	1.0	9.477	-H320	40-P112/M4	
144	257	1.5	9.965	-H450	40-P112/M4	
134	276	1.0	10.677	-H320	40-P112/M4	
127	291	1.4	11.262	-H450	40-P112/M4	
123	302	0.9	11.680	-H320	40-P112/M4	
118	313	0.8	12.128	-H320	40-P112/M4	
117	318	1.3	12.320	-H450	40-P112/M4	
103	359	1.2	13.905	-H450	40-P112/M4	
91	406	1.1	15.714	-H450	40-P112/M4	
84	440	1.0	17.033	-H450	40-P112/M4	
75	497	0.9	19.250	-H450	40-P112/M4	

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 5.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
425	120	2.1	3.444	-H450	40-P132/M4	
310	164	1.8	4.724	-H450	40-P132/M4	
258	197	1.6	5.678	-H450	40-P132/M4	
242	210	1.5	6.045	-H450	40-P132/M4	
222	230	1.5	6.613	-H450	40-P132/M4	
188	271	1.3	7.787	-H450	40-P132/M4	
167	306	1.2	8.800	-H450	40-P132/M4	
147	347	1.1	9.965	-H450	40-P132/M4	
130	392	1.0	11.262	-H450	40-P132/M4	
119	429	1.0	12.320	-H450	40-P132/M4	
105	484	0.9	13.905	-H450	40-P132/M4	
93	547	0.8	15.714	-H450	40-P132/M4	

g500-H helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 7.5\text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
424	164	1.6	3.444	-H450	40-P132/L4	
309	225	1.3	4.724	-H450	40-P132/L4	
257	270	1.2	5.678	-H450	40-P132/L4	
242	288	1.1	6.045	-H450	40-P132/L4	
221	315	1.1	6.613	-H450	40-P132/L4	
188	371	1.0	7.787	-H450	40-P132/L4	
166	419	0.9	8.800	-H450	40-P132/L4	
147	474	0.8	9.965	-H450	40-P132/L4	

g500-H helical geared motors

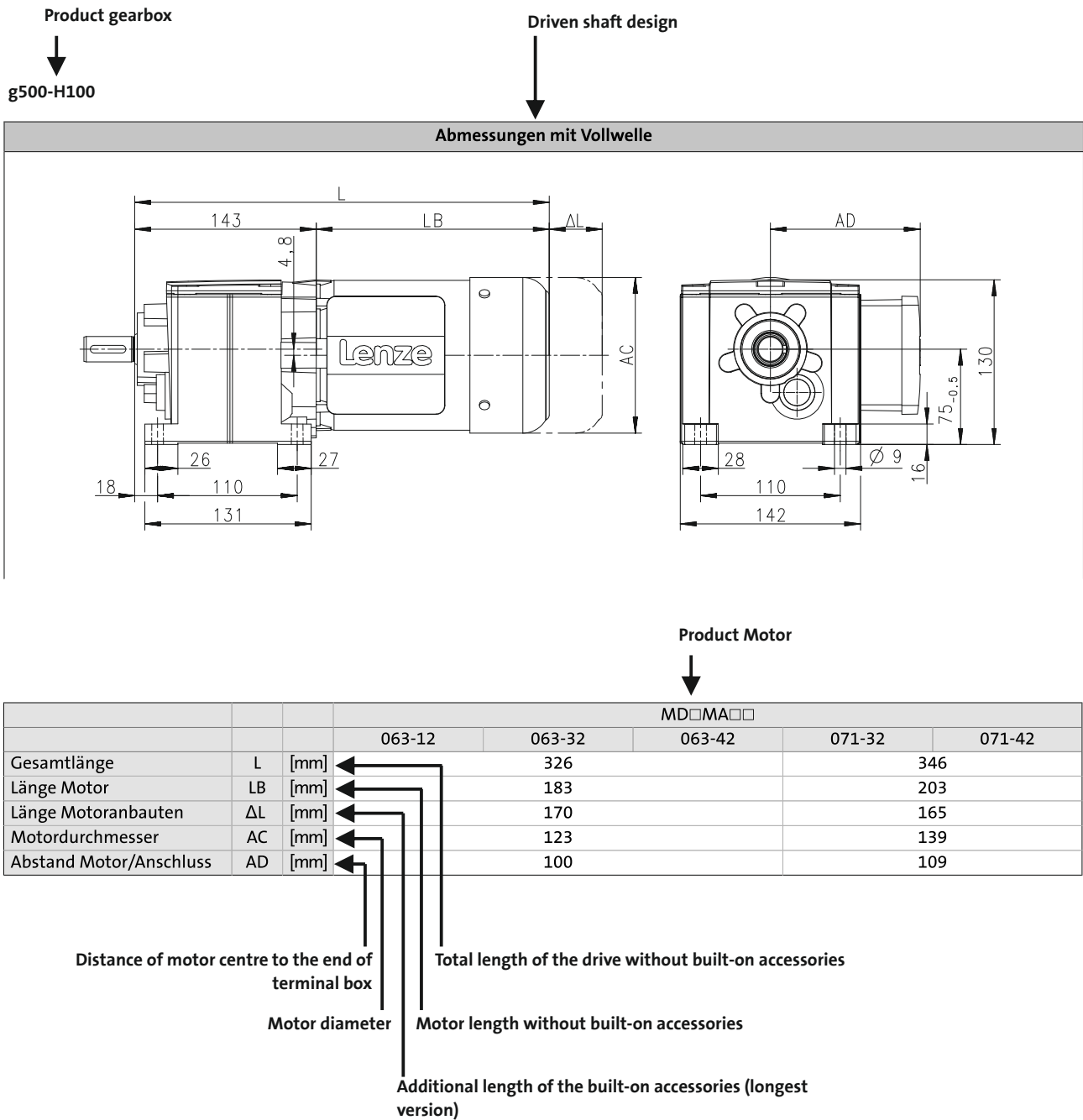
Technical data



Dimensions, notes

Notes on the dimensions

The following legend shows the layout of the dimension sheets.



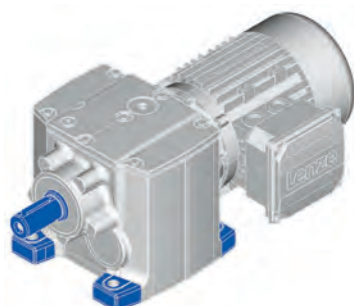
- If the mounting area (foot support) towards the motor is longer than the gearbox foot, some motors collide with the mounting area!



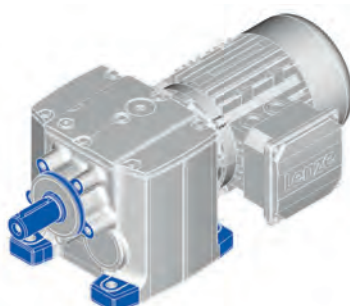
Dimensions, notes

Gearbox designs

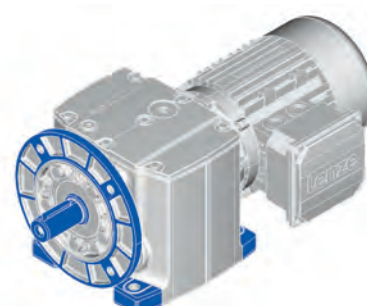
Solid shaft



Foot mounting (VBR)

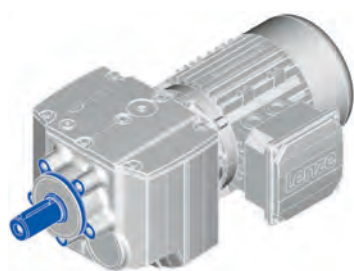


Foot mounting
With centering (VAR)

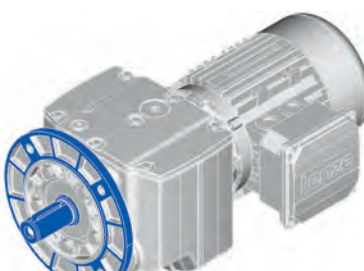


Foot mounting
Flange with through holes (VAK)

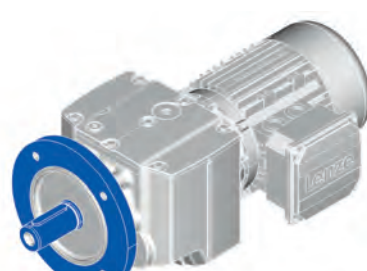
Solid shaft



With centering (VCR)



Flange with through holes (VCK)



Flange with through holes (VCP)

- VCP (reinforced flange) for transmitting particularly high radial and axial forces.

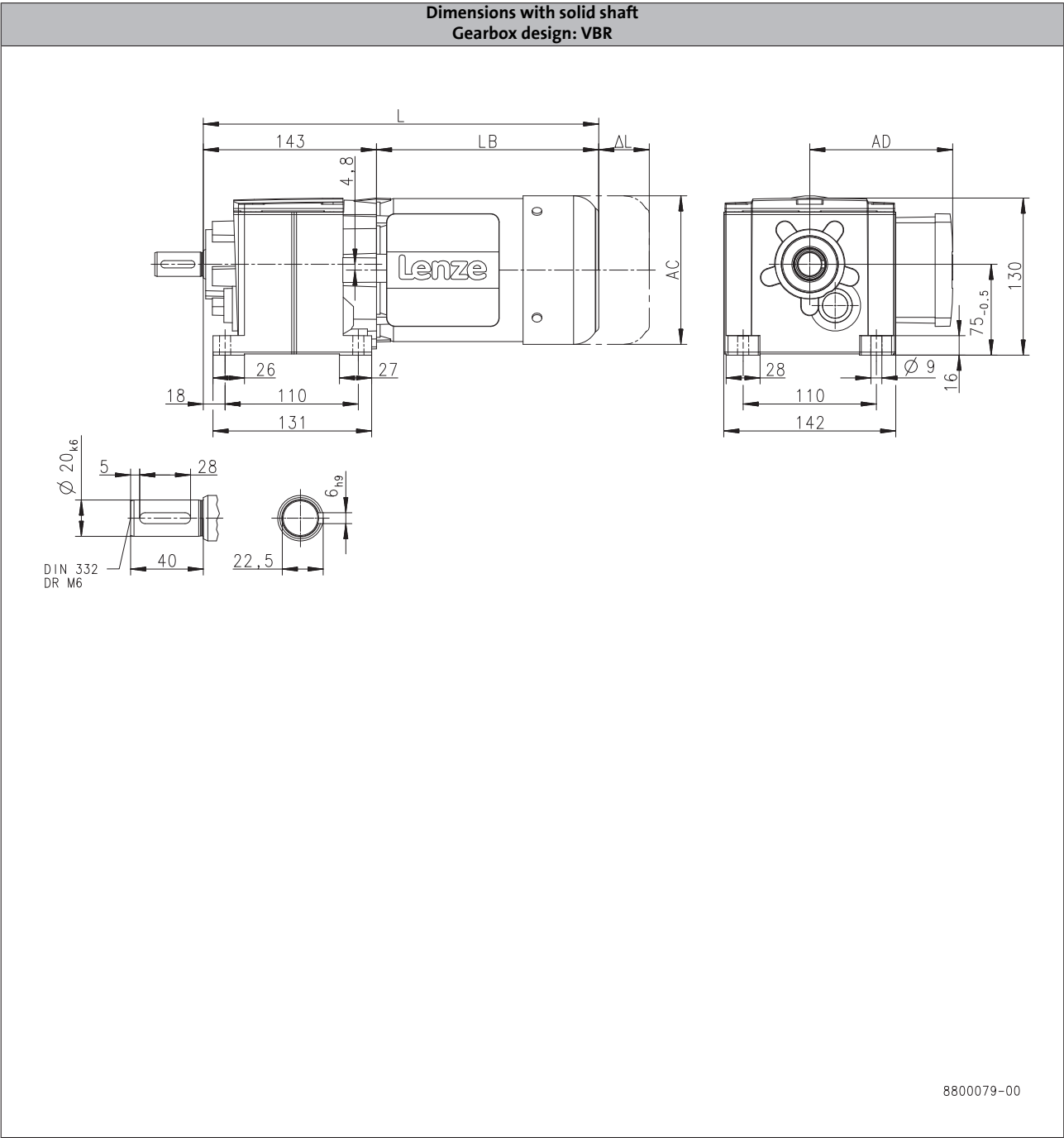
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H100



6.3

		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	326		346	
Motor length	LB [mm]	183		203	
Length of motor options	ΔL [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

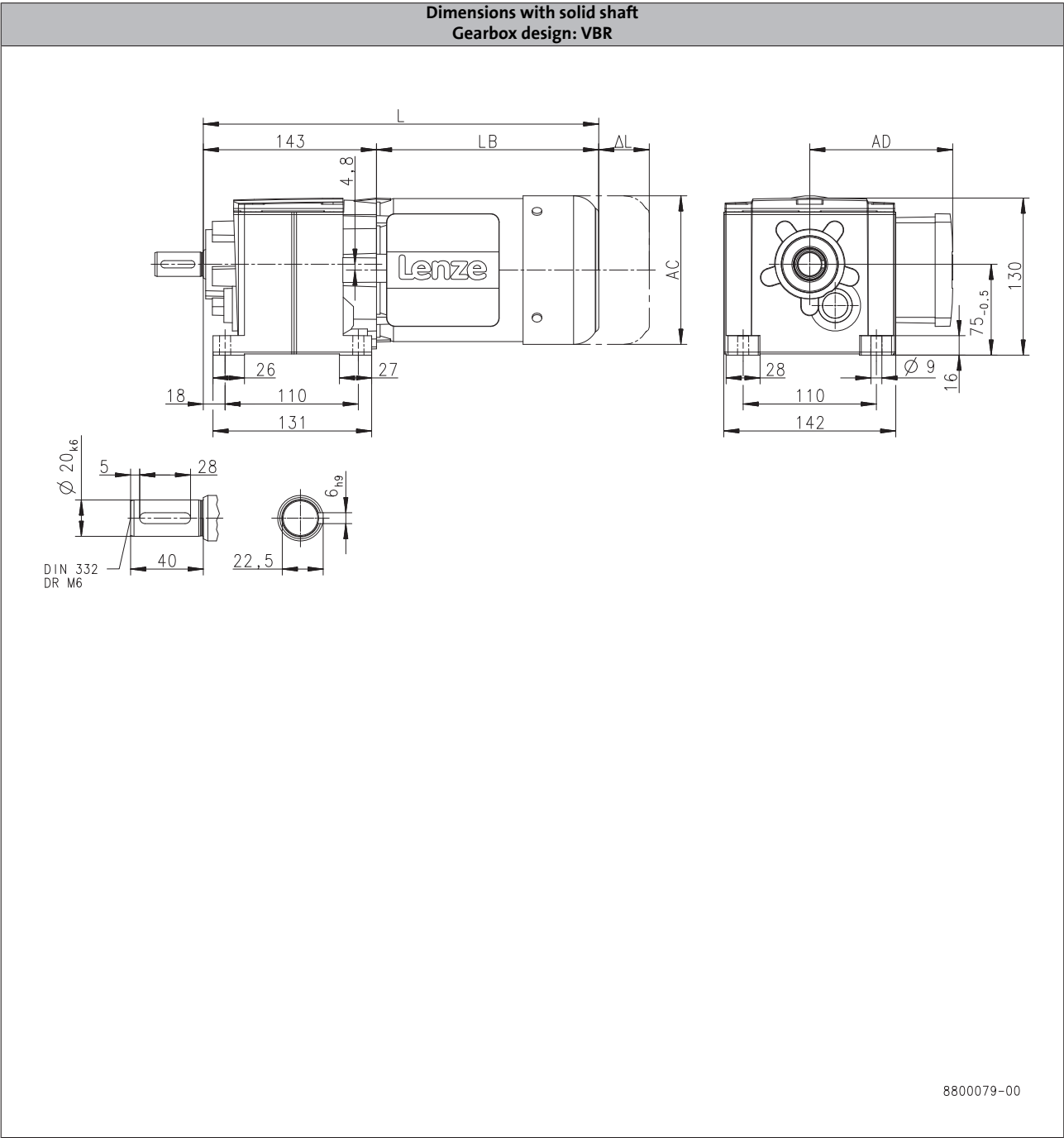
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H100



8800079-00

		m240			
		-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L [mm]	368		437	
Motor length	LB [mm]	225		294	
Length of motor options	ΔL [mm]	107		92.0	
Motor diameter	AC [mm]	158		172	
Distance motor/connection	AD [mm]	148		155	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-H100

[illegible]

8800081-00

			MD□MA□□			
			063-11	063-31	071-11	071-31
Total length	L	[mm]	326		346	
Motor length	LB	[mm]	183		203	
Length of motor options	Δ L	[mm]	40.0		52.0	
Motor diameter	AC	[mm]	123		139	
Distance motor/connection	AD	[mm]	107		118	

6.3 - 92

Lenze | V00-en_GB-05/2016

Dimensions, 2-pole motors

g500-H100

8800081-00

			m240			
			-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L	[mm]	368		437	
Motor length	LB	[mm]	225		294	
Length of motor options	Δ L	[mm]	107		92.0	
Motor diameter	AC	[mm]	158		172	
Distance motor/connection	AD	[mm]	148		155	

6.3

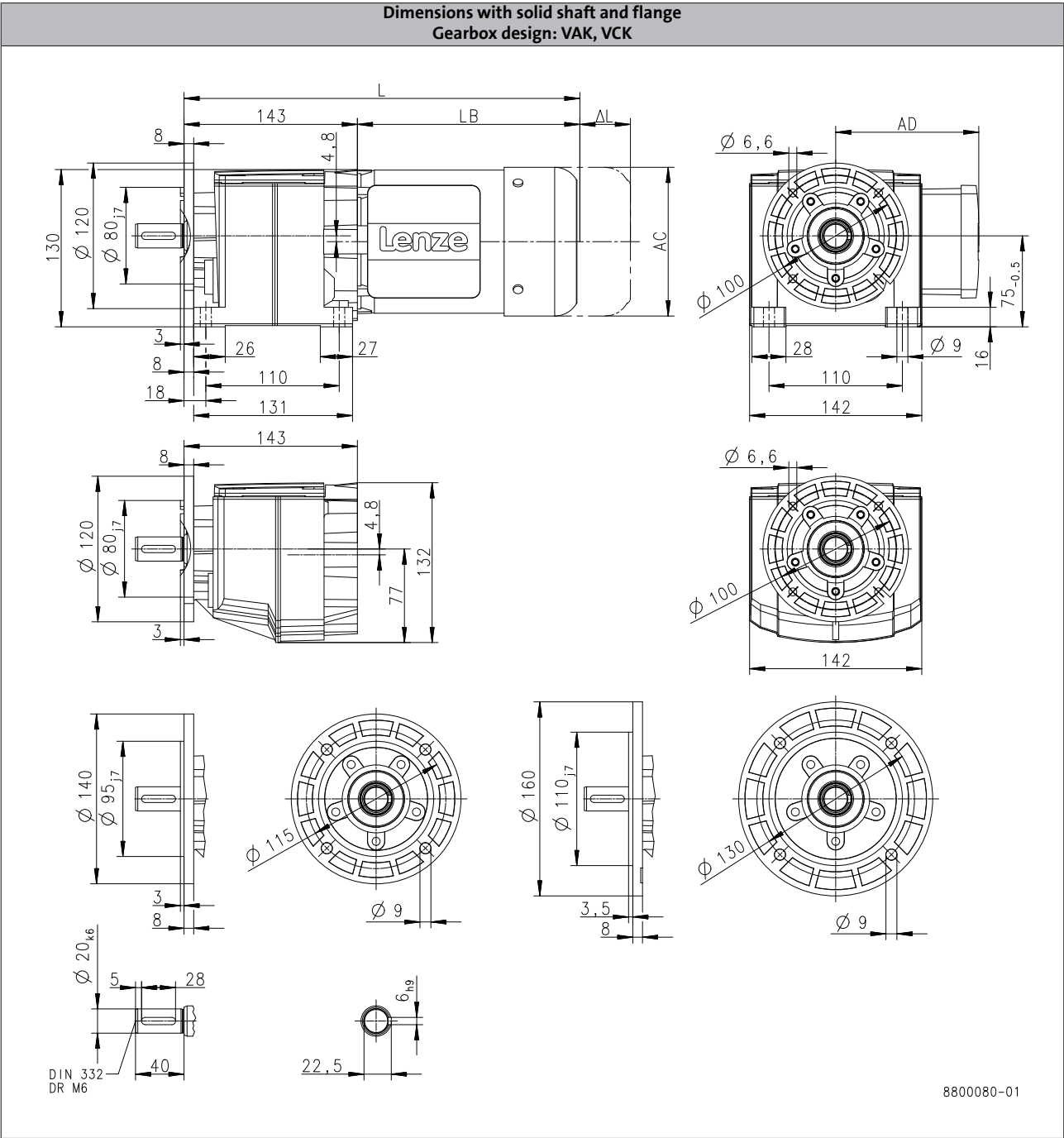
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H100



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	326		346	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

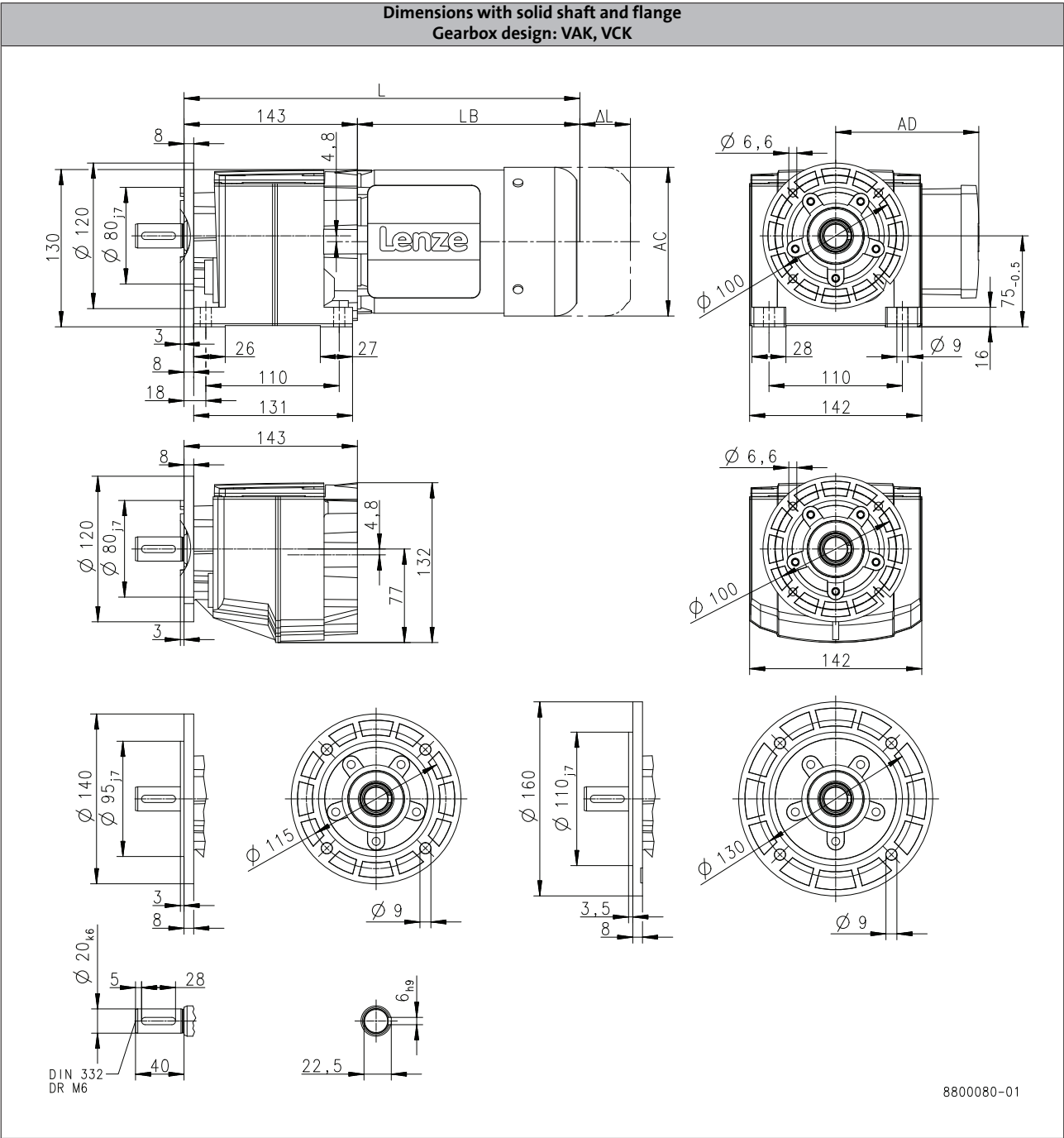
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H100

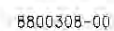


		m240			
		-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L [mm]	368		437	
Motor length	LB [mm]	225		294	
Length of motor options	ΔL [mm]	107		92.0	
Motor diameter	AC [mm]	158		172	
Distance motor/connection	AD [mm]	148		155	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-H100



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

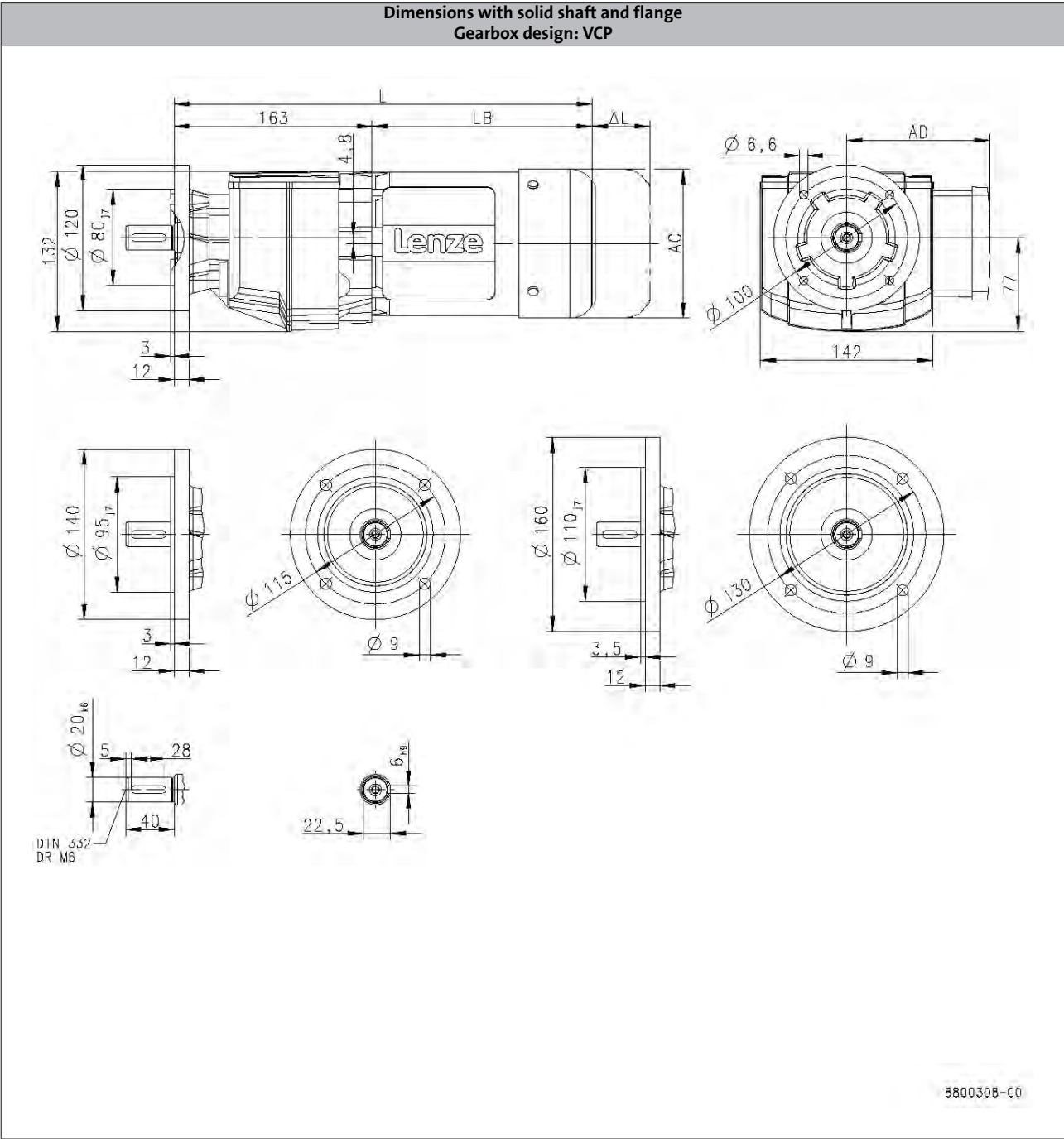
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H100



		m240			
		-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L [mm]	388		457	
Motor length	LB [mm]	225		294	
Length of motor options	Δ L [mm]	107		92.0	
Motor diameter	AC [mm]	158		172	
Distance motor/connection	AD [mm]	148		155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

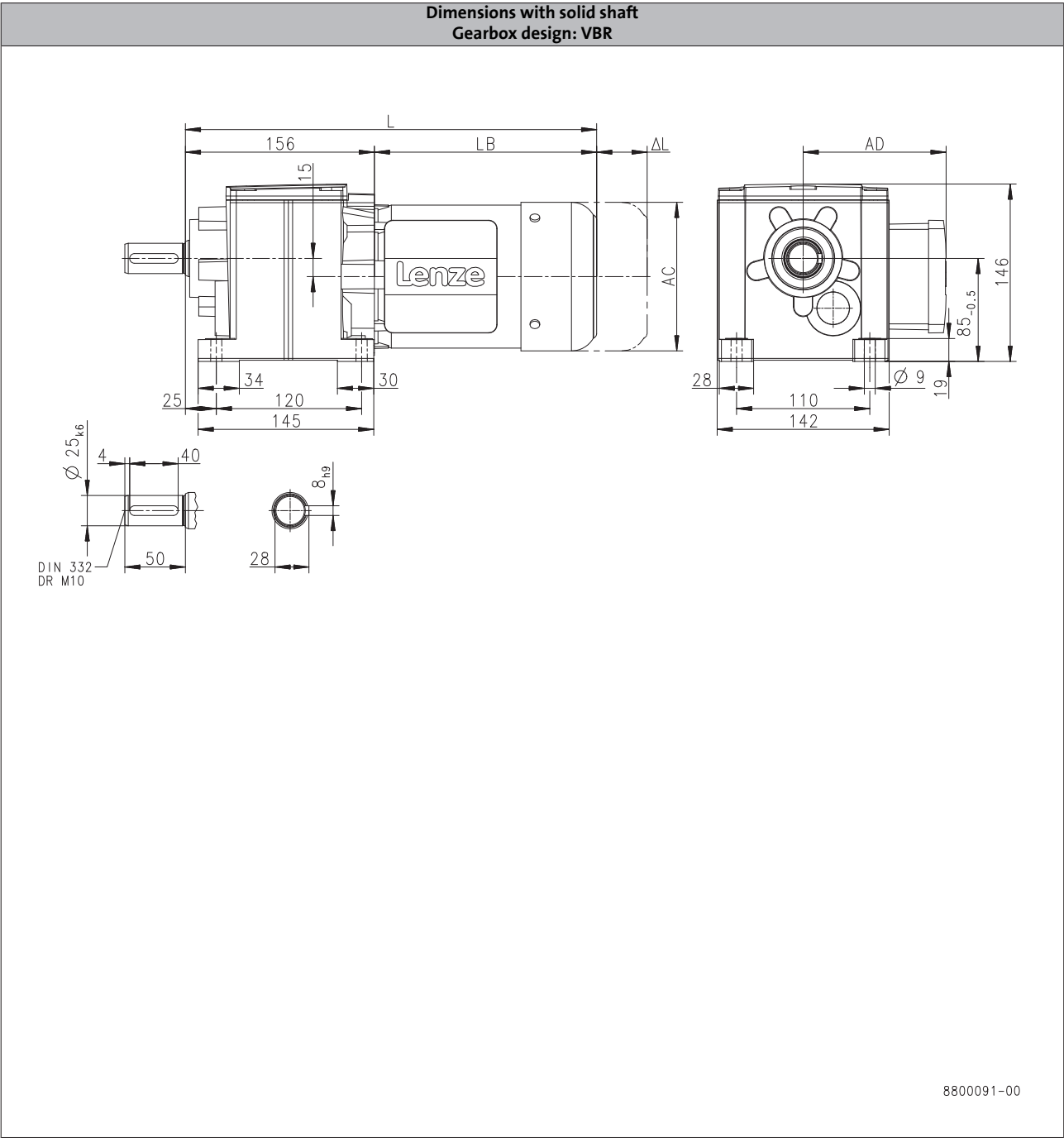
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H140



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	339		359	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-H140

Technical drawing of a Lenze motor showing front, side, and detail views with dimensions.

Front View Dimensions:

- Total width: 156
- Distance from centerline to mounting flange: 15
- Distance from centerline to terminal box: LB
- Terminal box width: ΔL
- Terminal box height: AC
- Mounting flange width: 34
- Mounting flange offset: 25
- Terminal box offset: 30
- Terminal box width: 120
- Total width including offsets: 145

Side View Dimensions:

- Distance from centerline to mounting flange: AD
- Mounting flange height: 146
- Mounting flange offset: 85 $_{-0.5}$
- Terminal box offset: 19
- Terminal box width: 110
- Total width including offsets: 142
- Terminal box height: 28
- Terminal box diameter: $\varnothing 9$

Detail Views:

- Mounting Flange:** DIN 332, DR M10, 25 $\times$ 6, 4, 40, 50.
- Terminal Box:** 28, 8 $_{H9}$.

8800091-00

			m240			
			-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L	[mm]	381		450	
Motor length	LB	[mm]	225		294	
Length of motor options	Δ L	[mm]	107		92.0	
Motor diameter	AC	[mm]	158		172	
Distance motor/connection	AD	[mm]	148		155	

6.3

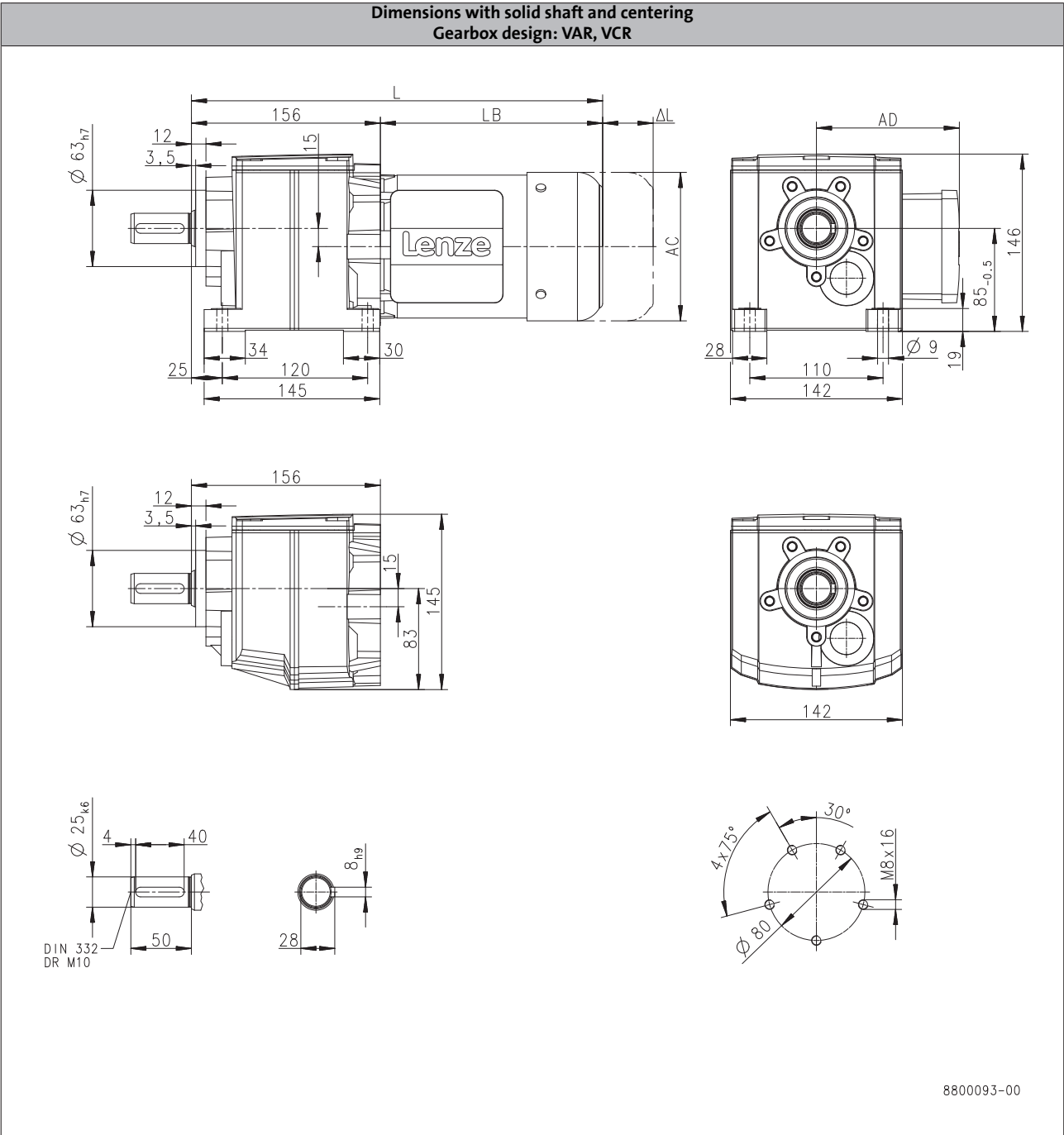
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H140



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	339		359	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

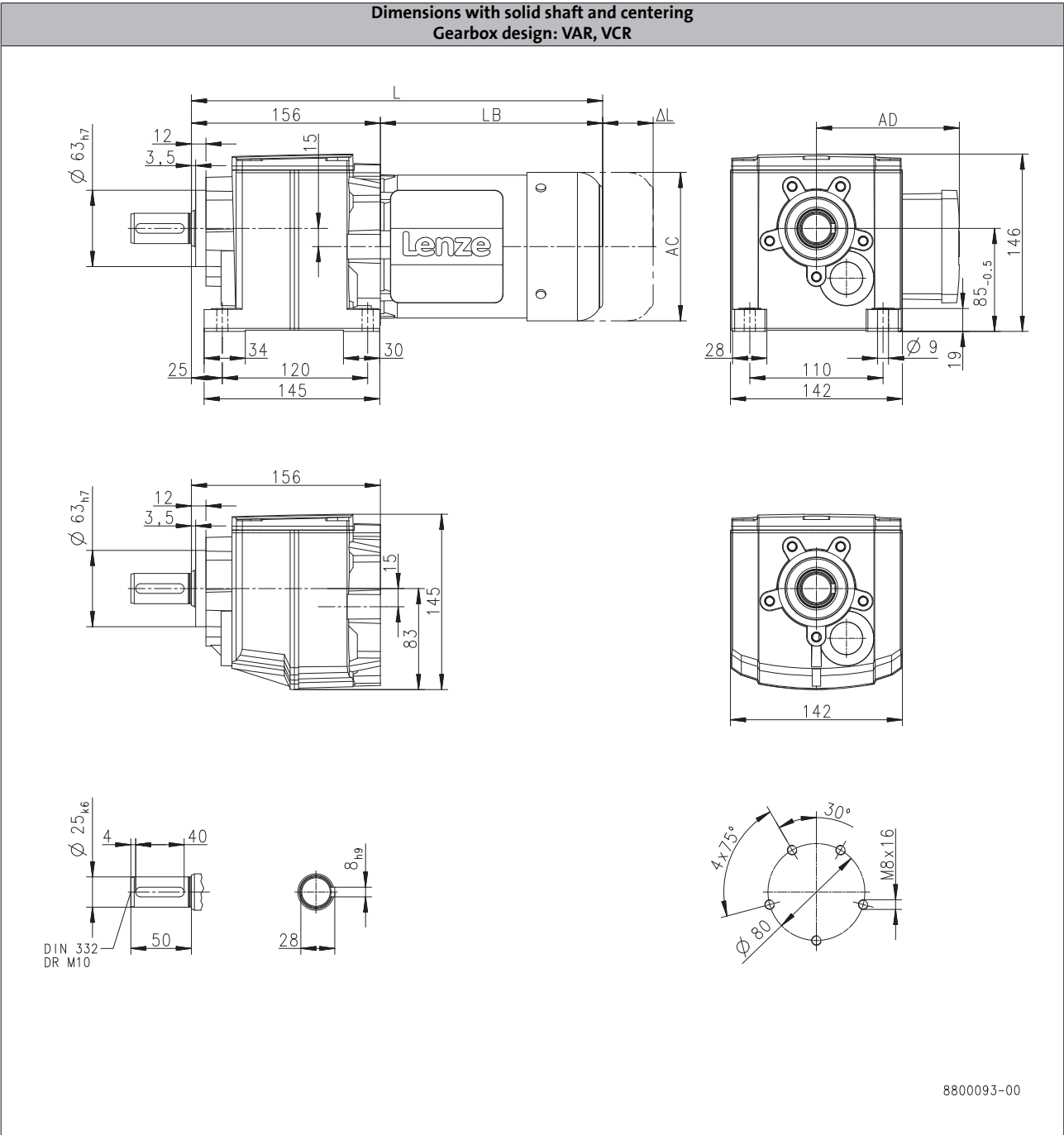
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H140



8800093-00

		m240			
		-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L [mm]	381		450	
Motor length	LB [mm]	225		294	
Length of motor options	Δ L [mm]	107		92.0	
Motor diameter	AC [mm]	158		172	
Distance motor/connection	AD [mm]	148		155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

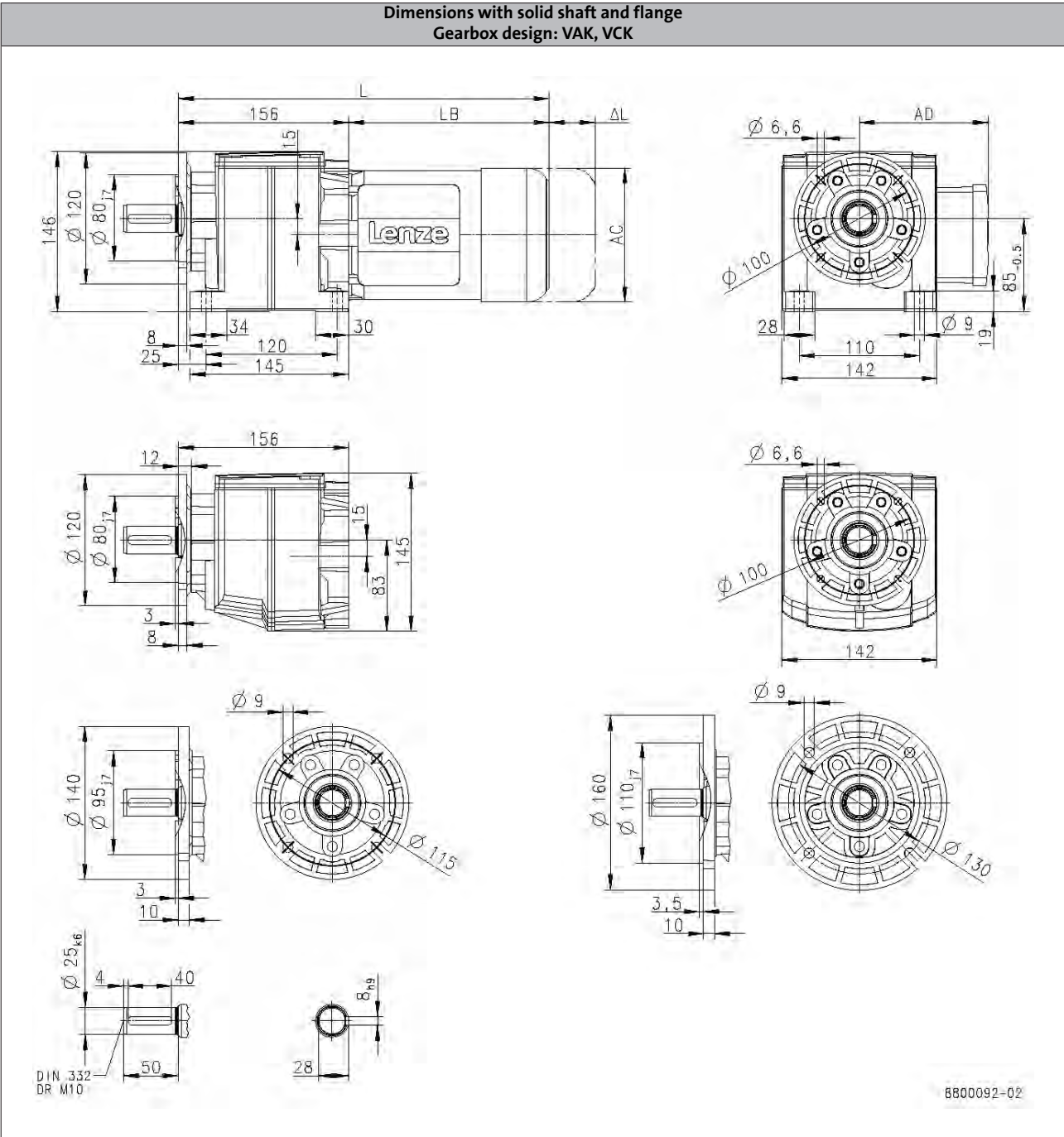
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H140



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	339		359	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

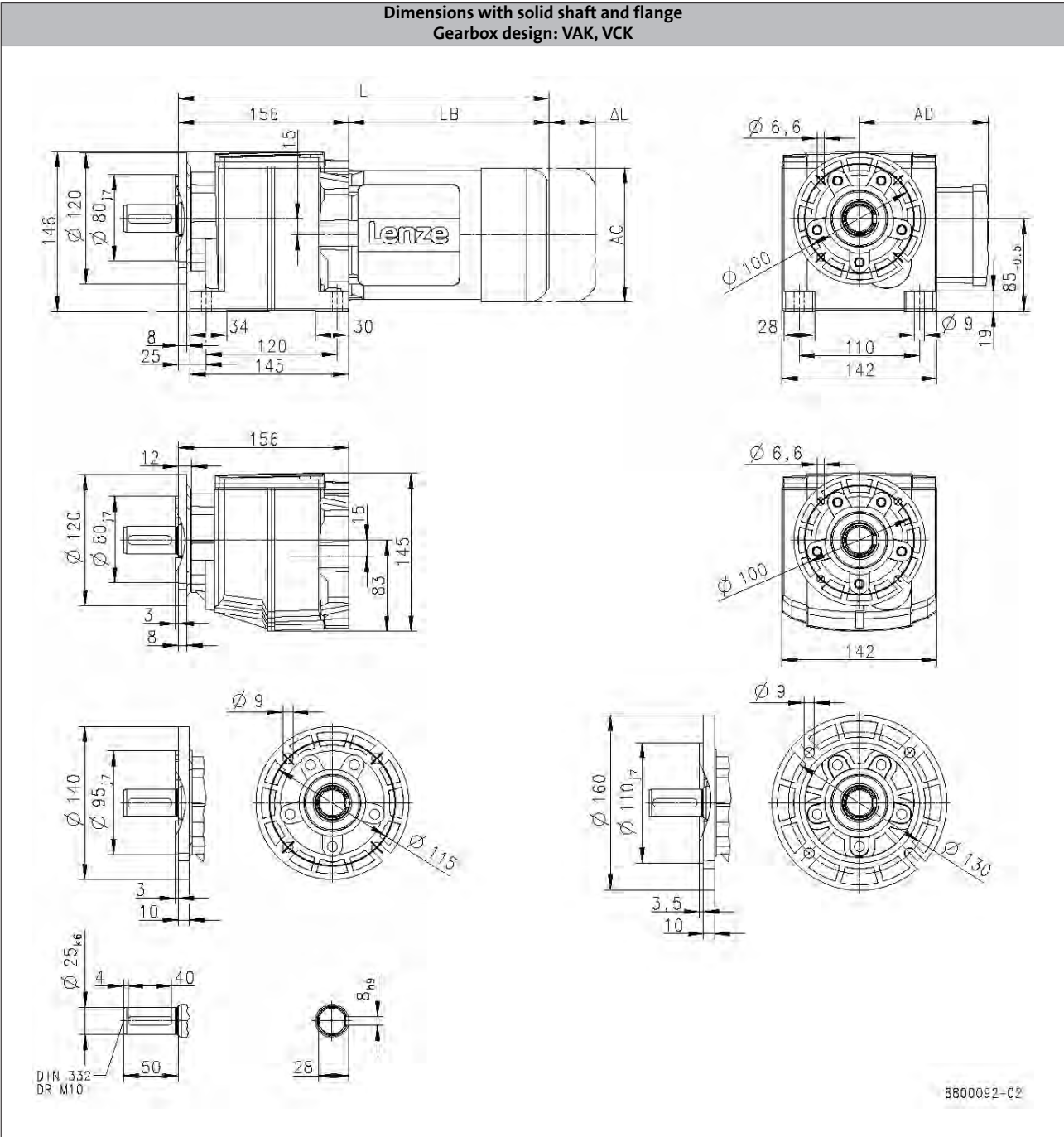
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H140



		m240			
		-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L [mm]	381		450	
Motor length	LB [mm]	225		294	
Length of motor options	Δ L [mm]	107		92.0	
Motor diameter	AC [mm]	158		172	
Distance motor/connection	AD [mm]	148		155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

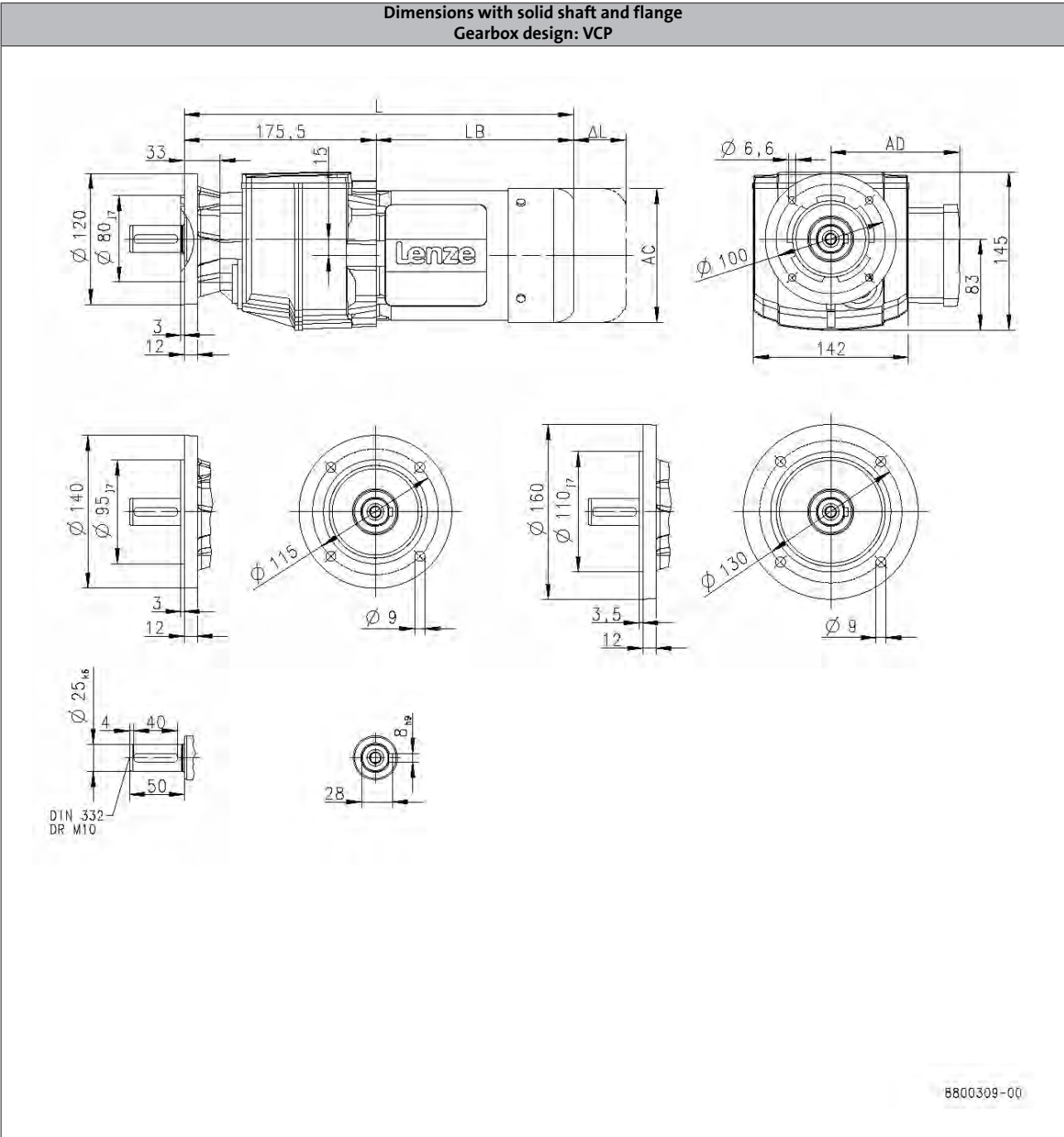
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H140



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	359		379	
Motor length	LB [mm]	183		203	
Length of motor options	ΔL [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

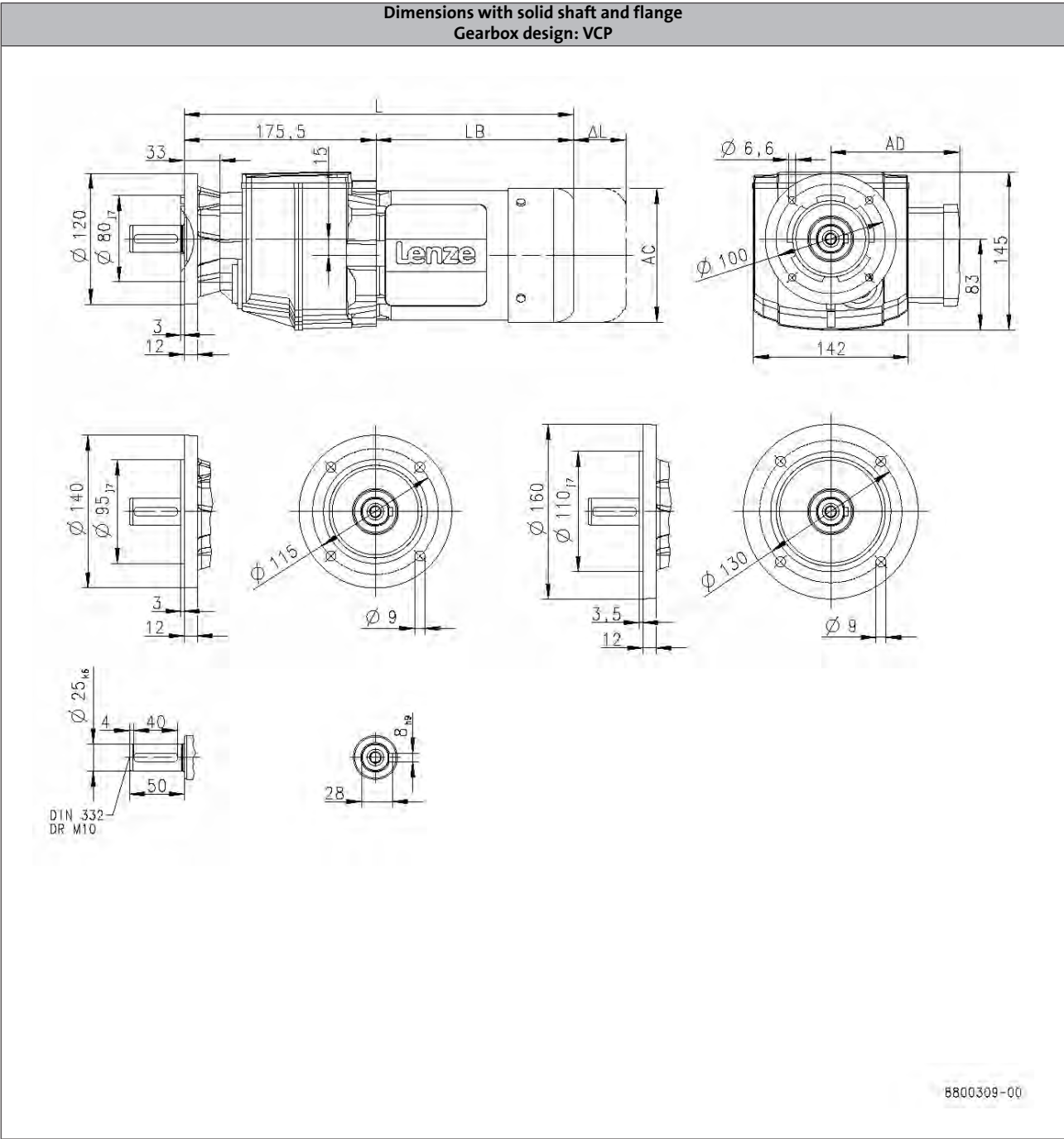
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H140



		m240			
		-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L [mm]	401		470	
Motor length	LB [mm]	225		294	
Length of motor options	Δ L [mm]	107		92.0	
Motor diameter	AC [mm]	158		172	
Distance motor/connection	AD [mm]	148		155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

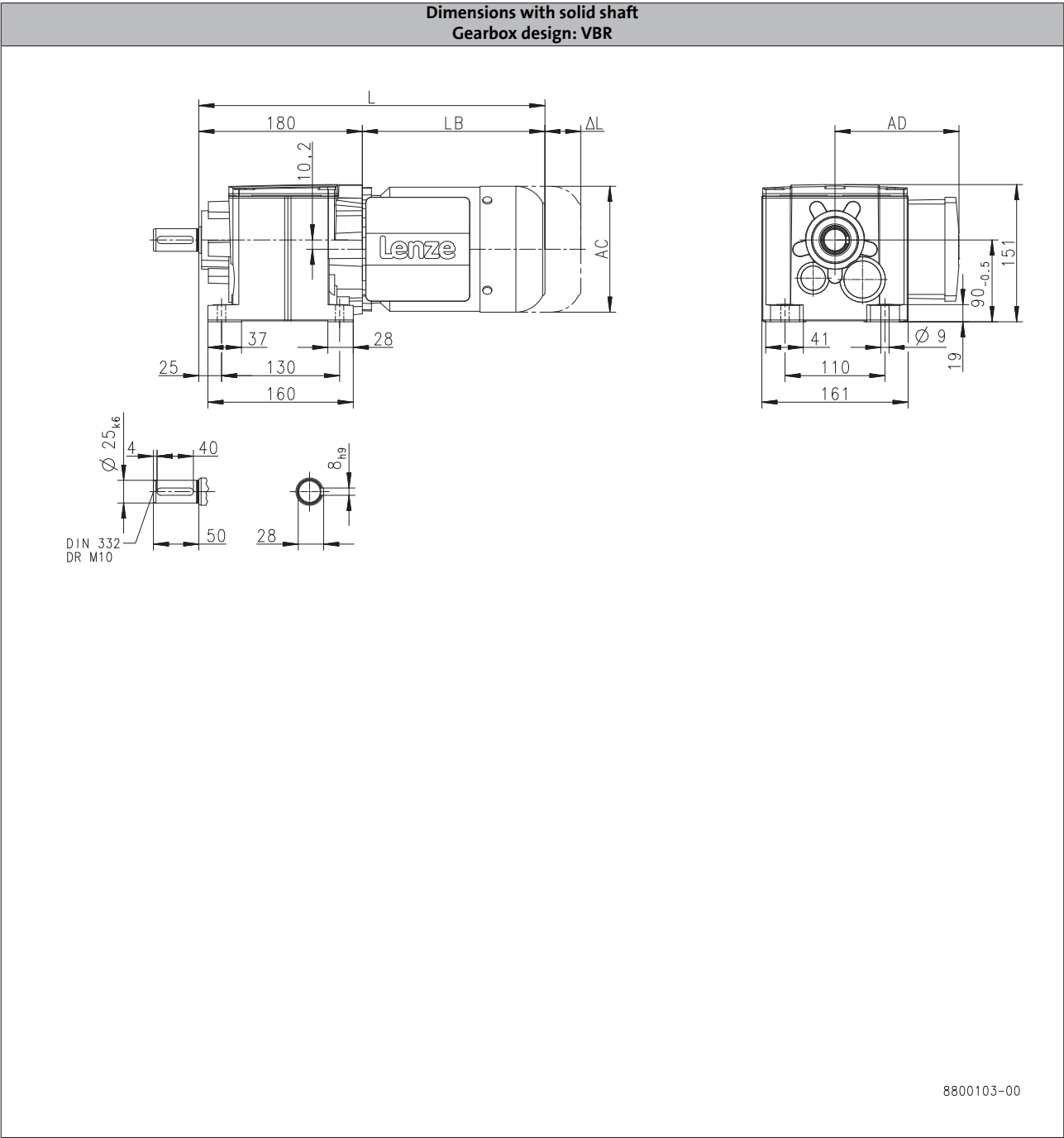
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H210



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	363		383	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

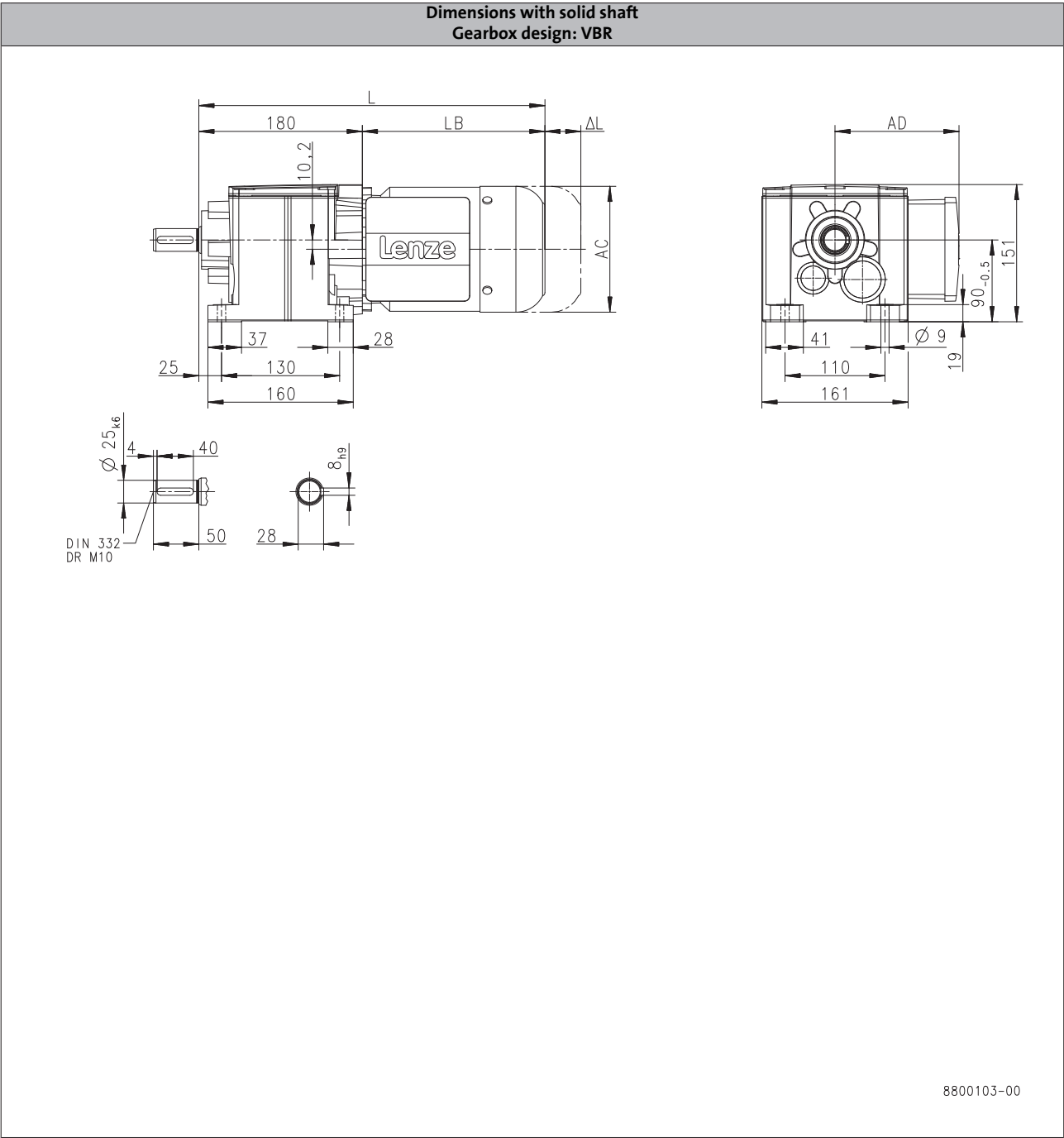
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H210



			m240				
			-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2
Total length	L	[mm]	405		474		536
Motor length	LB	[mm]	225		294		356
Length of motor options	ΔL	[mm]	107		92.0		103
Motor diameter	AC	[mm]	158		172		192
Distance motor/connection	AD	[mm]	148		155		164

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

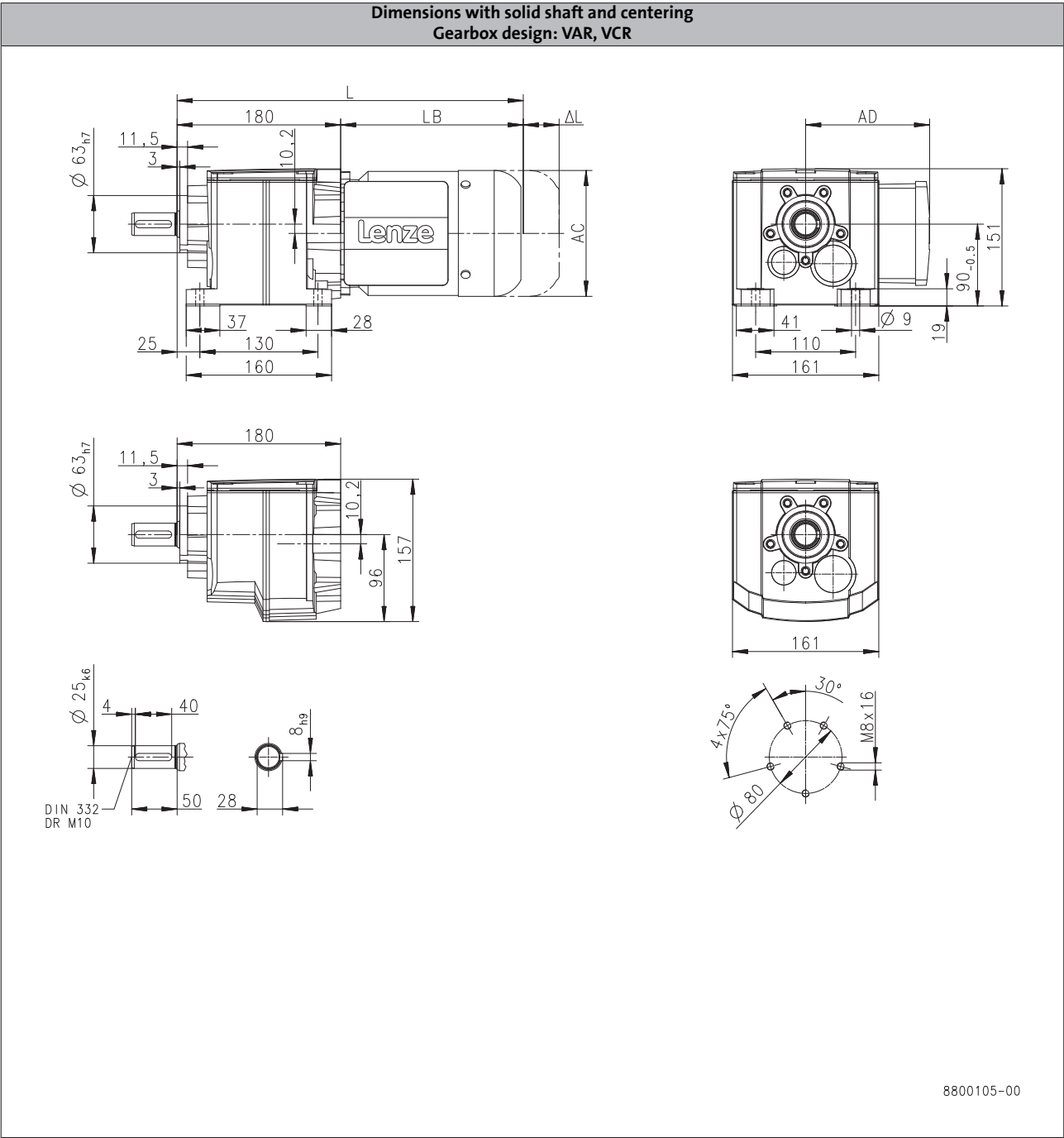
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H210



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	363		383	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

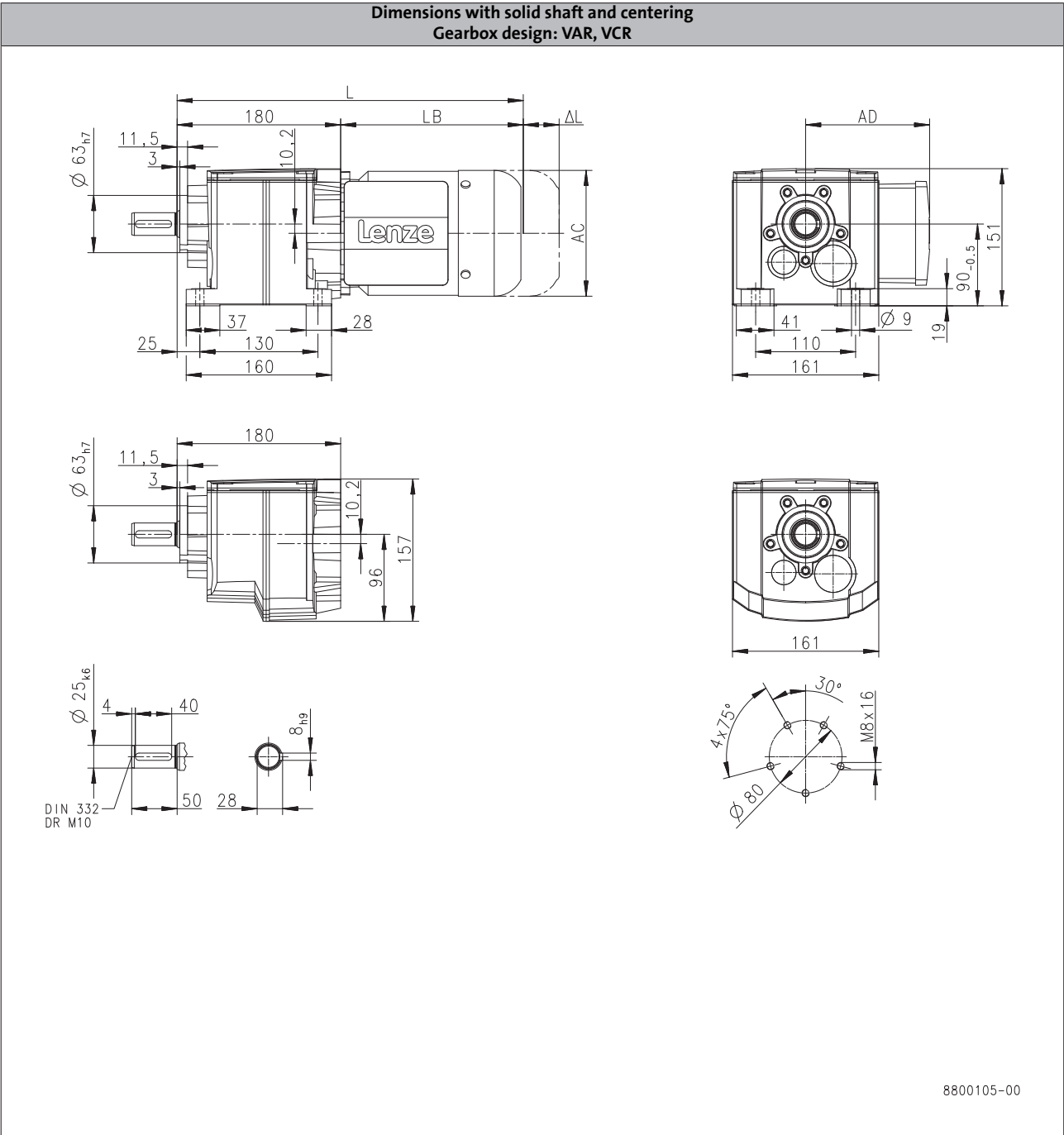
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H210



			m240			
			-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L	[mm]	405		474	536
Motor length	LB	[mm]	225		294	356
Length of motor options	Δ L	[mm]	107		92.0	103
Motor diameter	AC	[mm]	158		172	192
Distance motor/connection	AD	[mm]	148		155	164

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

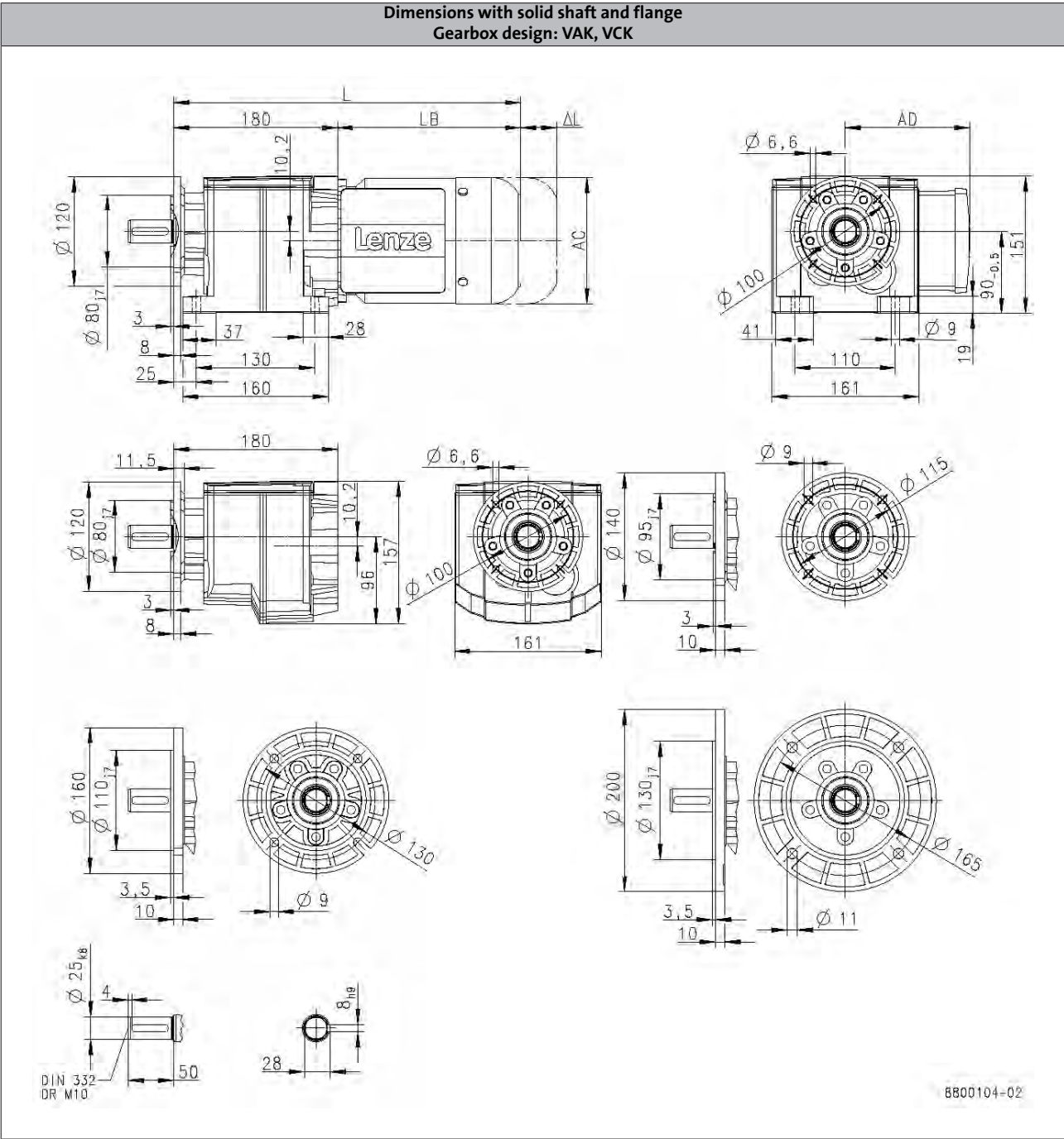
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H210



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	363		383	
Motor length	LB [mm]	183		203	
Length of motor options	ΔL [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-H210

[illegible]

6.3

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

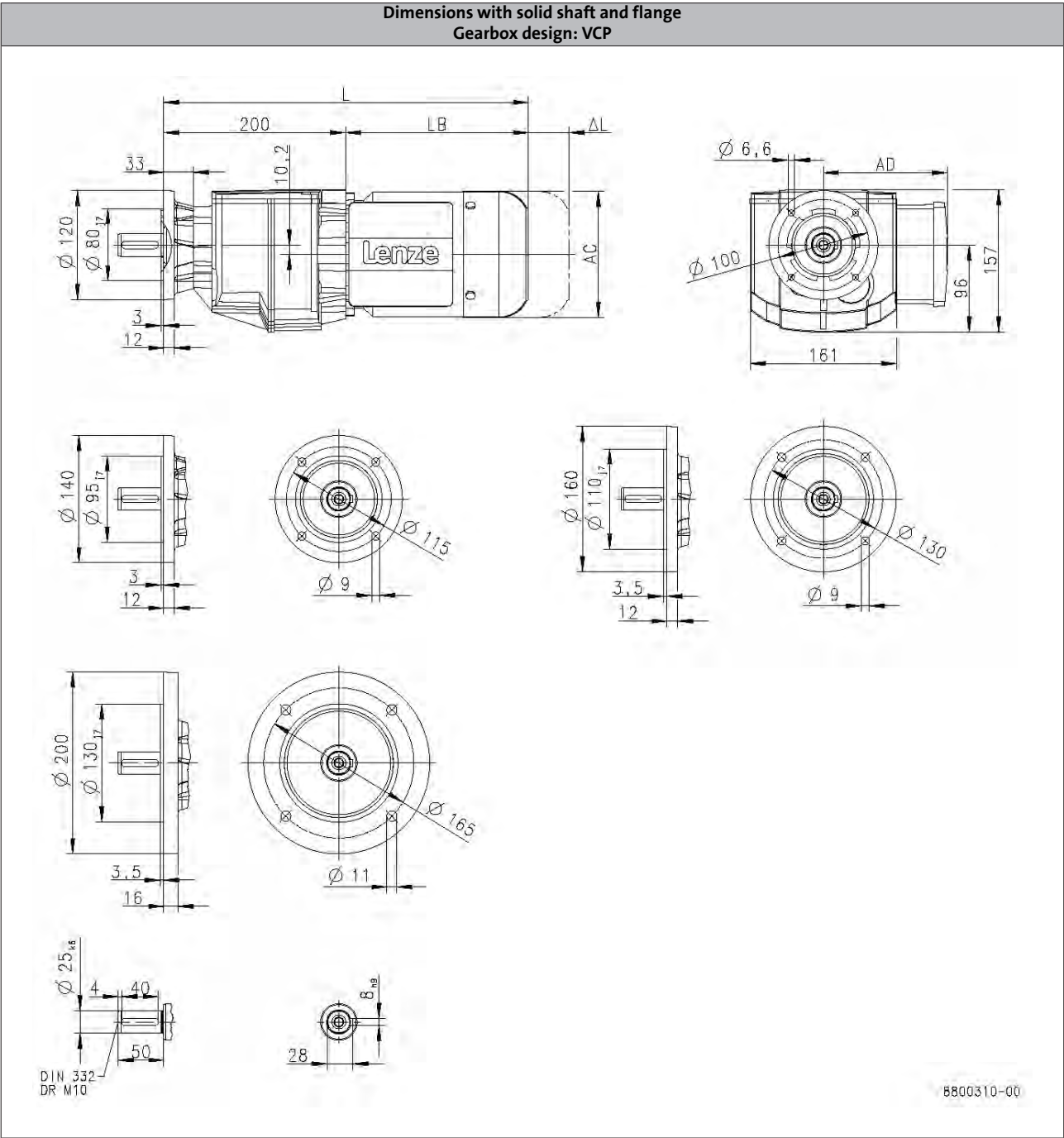
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H210



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	383		403	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

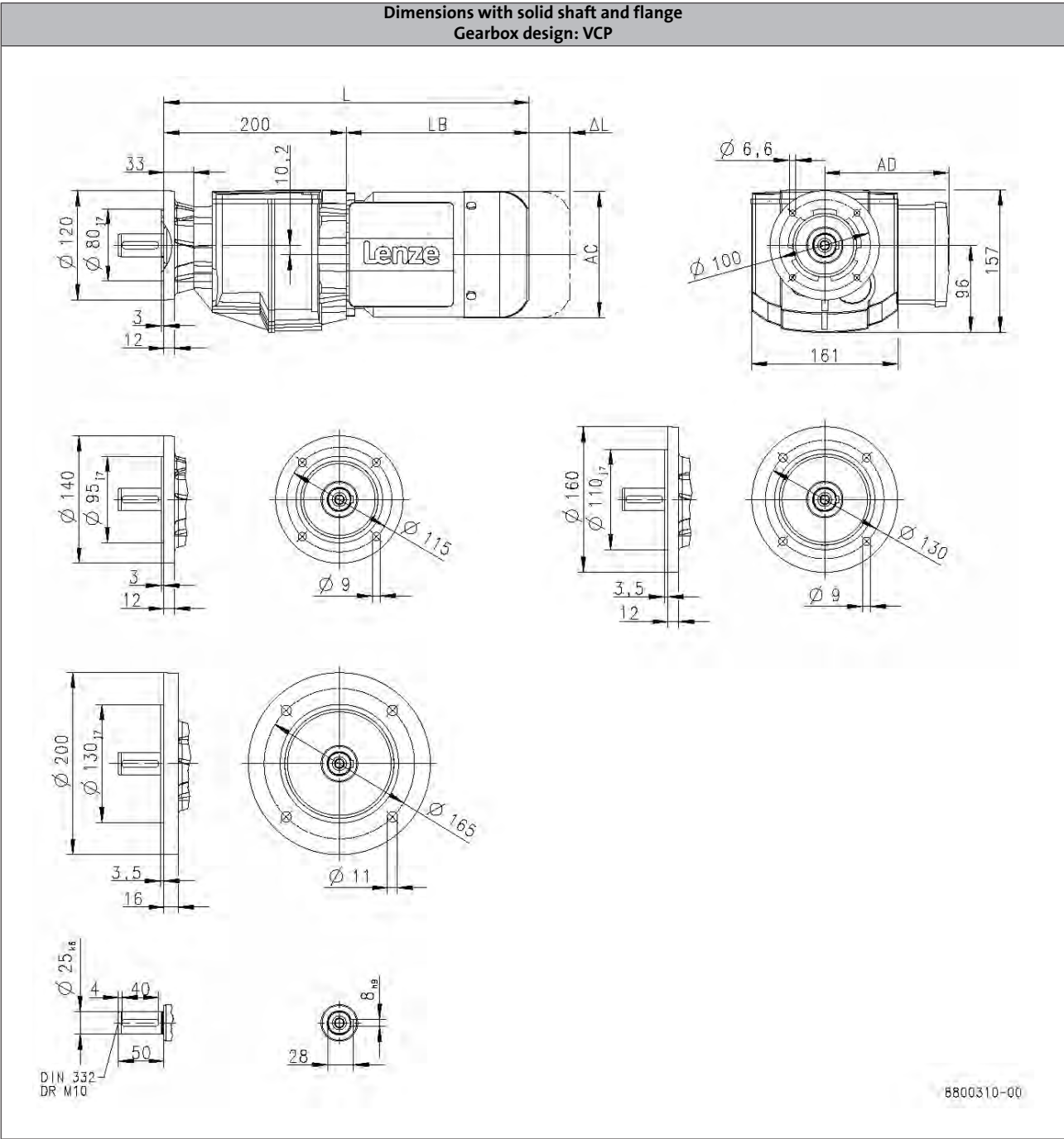
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H210



			m240			
			-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L	[mm]	425		494	556
Motor length	LB	[mm]	225		294	356
Length of motor options	Δ L	[mm]	107		92.0	103
Motor diameter	AC	[mm]	158		172	192
Distance motor/connection	AD	[mm]	148		155	164

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

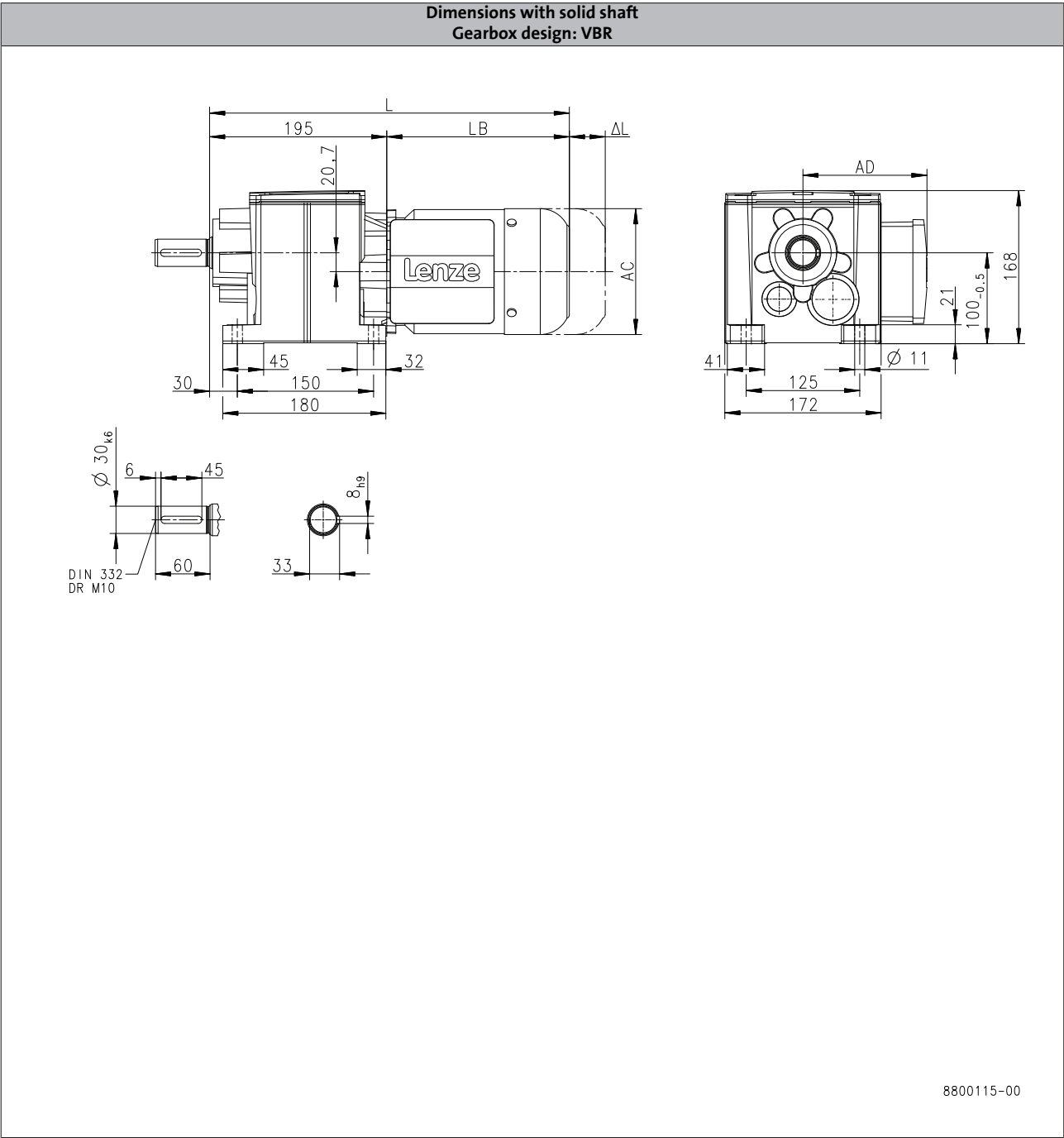
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H320



			MD□MA□□	m240					
			071-31	-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	398	420		489		551	538
Motor length	LB	[mm]	203	225		294		356	343
Length of motor options	Δ L	[mm]	52.0	107		92.0		103	111
Motor diameter	AC	[mm]	139	158		172		192	210
Distance motor/connection	AD	[mm]	118	148		155		164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

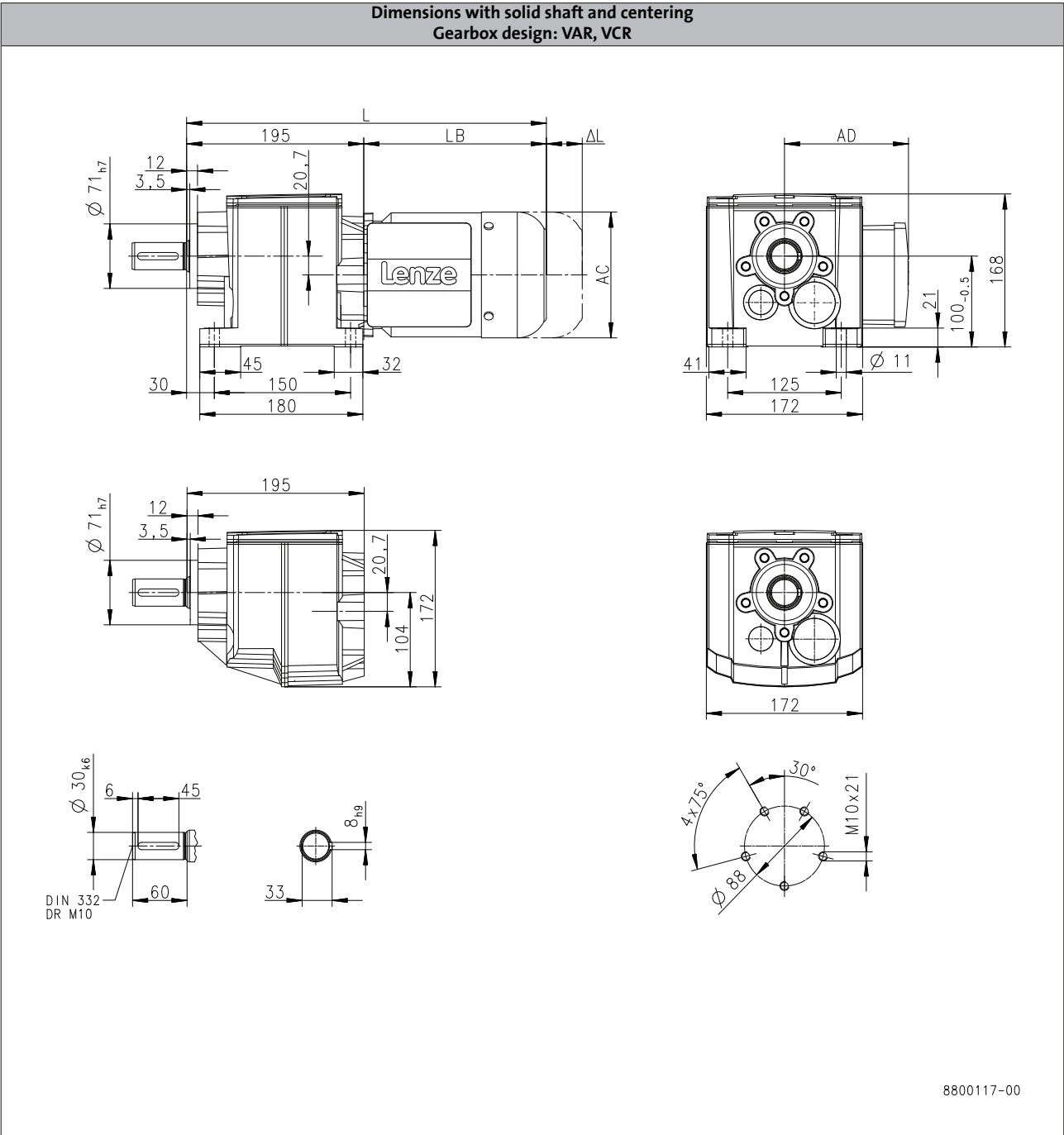
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H320



			MD□MA□□	m240					
			071-31	-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	398	420		489		551	538
Motor length	LB	[mm]	203	225		294		356	343
Length of motor options	Δ L	[mm]	52.0	107		92.0		103	111
Motor diameter	AC	[mm]	139	158		172		192	210
Distance motor/connection	AD	[mm]	118	148		155		164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

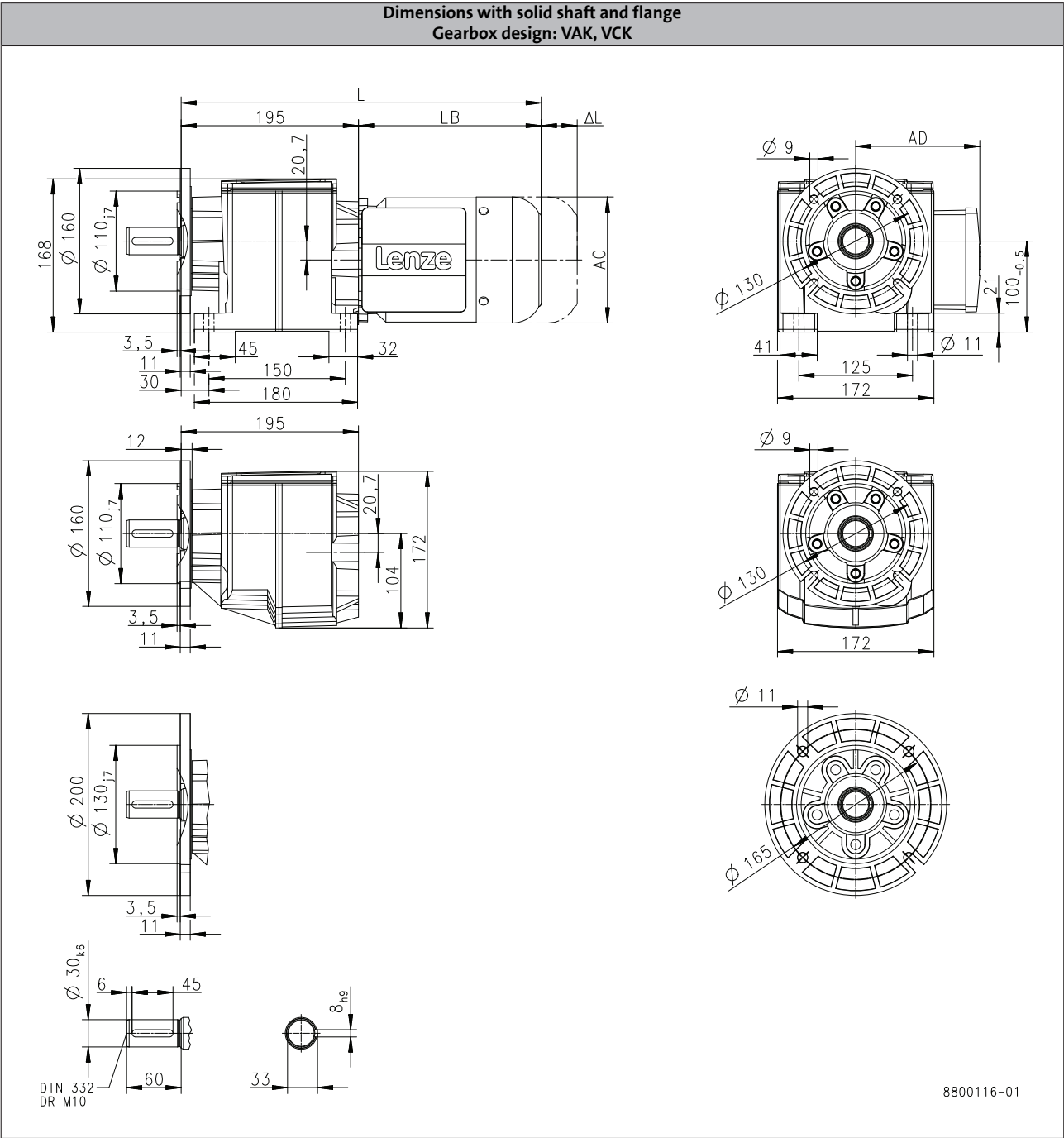
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H320



			MD□MA□□	m240					
			071-31	-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	398	420		489		551	538
Motor length	LB	[mm]	203	225		294		356	343
Length of motor options	Δ L	[mm]	52.0	107		92.0		103	111
Motor diameter	AC	[mm]	139	158		172		192	210
Distance motor/connection	AD	[mm]	118	148		155		164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

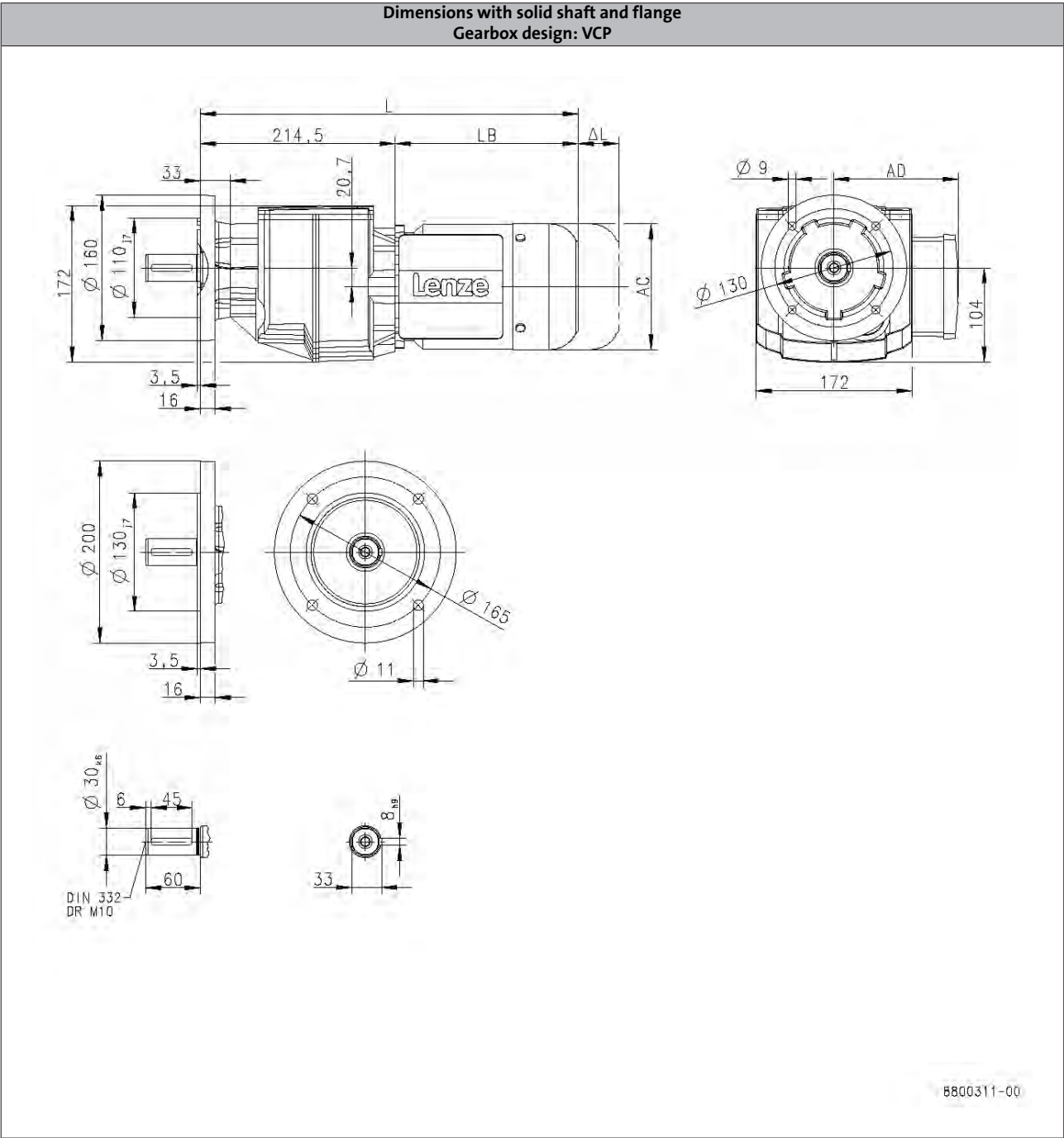
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H320



			MD□MA□□	m240					
			071-31	-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	418	440		509		571	558
Motor length	LB	[mm]	203	225		294		356	343
Length of motor options	Δ L	[mm]	52.0	107		92.0		103	111
Motor diameter	AC	[mm]	139	158		172		192	210
Distance motor/connection	AD	[mm]	118	148		155		164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

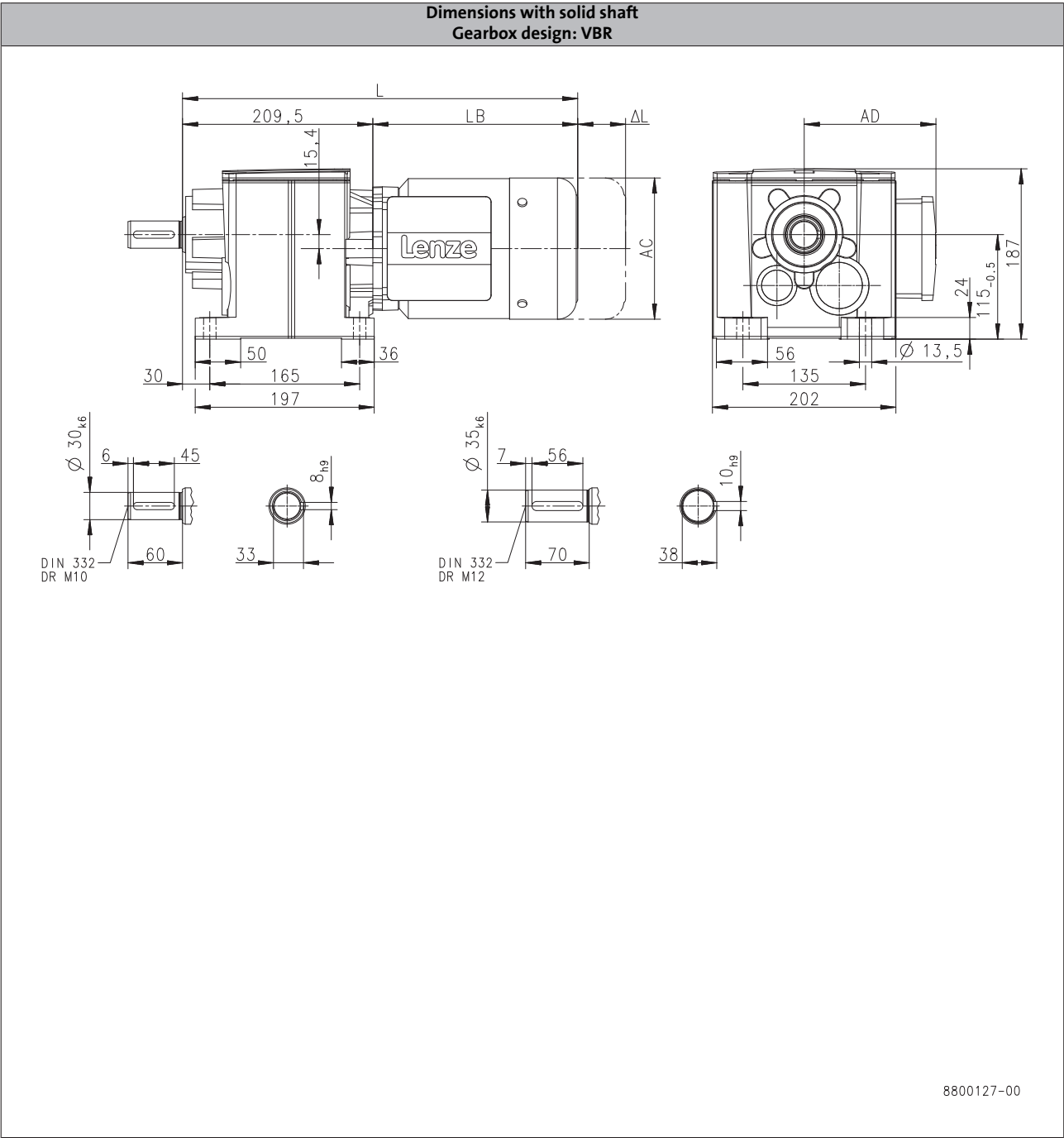
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H450



8800127-00

		MD□MA□□		m240				
		071-31		-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2
Total length	L	[mm]	413	435		504	566	553
Motor length	LB	[mm]	203	225		294	356	343
Length of motor options	Δ L	[mm]	52.0	107		92.0	103	111
Motor diameter	AC	[mm]	139	158		172	192	210
Distance motor/connection	AD	[mm]	118	148		155	164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

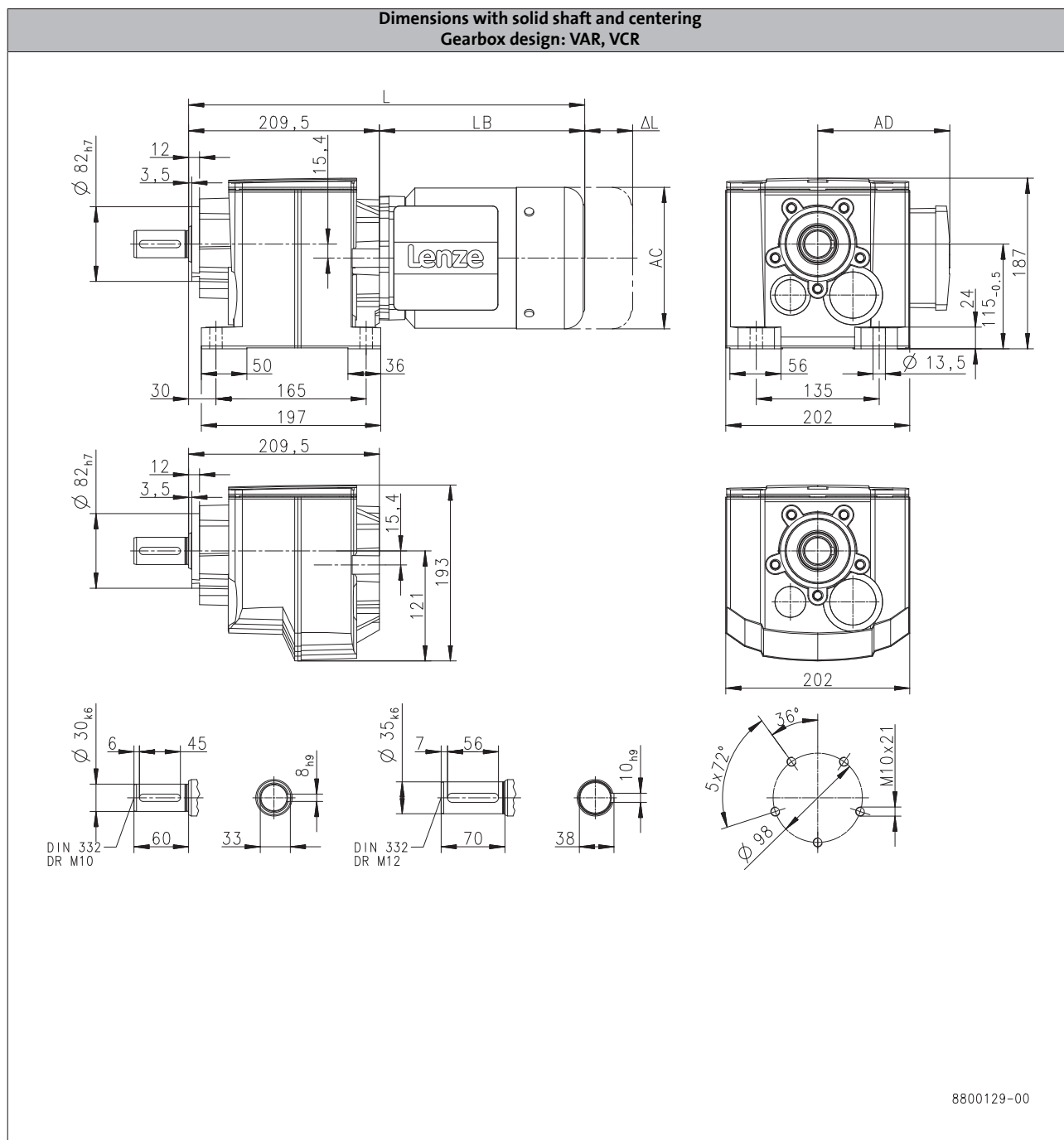
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H450



6.3

			MD□MA□□	m240					
			071-31	-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	413	435		504		566	553
Motor length	LB	[mm]	203	225		294		356	343
Length of motor options	Δ L	[mm]	52.0	107		92.0		103	111
Motor diameter	AC	[mm]	139	158		172		192	210
Distance motor/connection	AD	[mm]	118	148		155		164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-H450

[illegible]

			MD□MA□□	m240					
			071-31	-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	413	435		504		566	553
Motor length	LB	[mm]	203	225		294		356	343
Length of motor options	Δ L	[mm]	52.0	107		92.0		103	111
Motor diameter	AC	[mm]	139	158		172		192	210
Distance motor/connection	AD	[mm]	118	148		155		164	171

6.3 - 120

Lenze | V00-en GB-05/2016

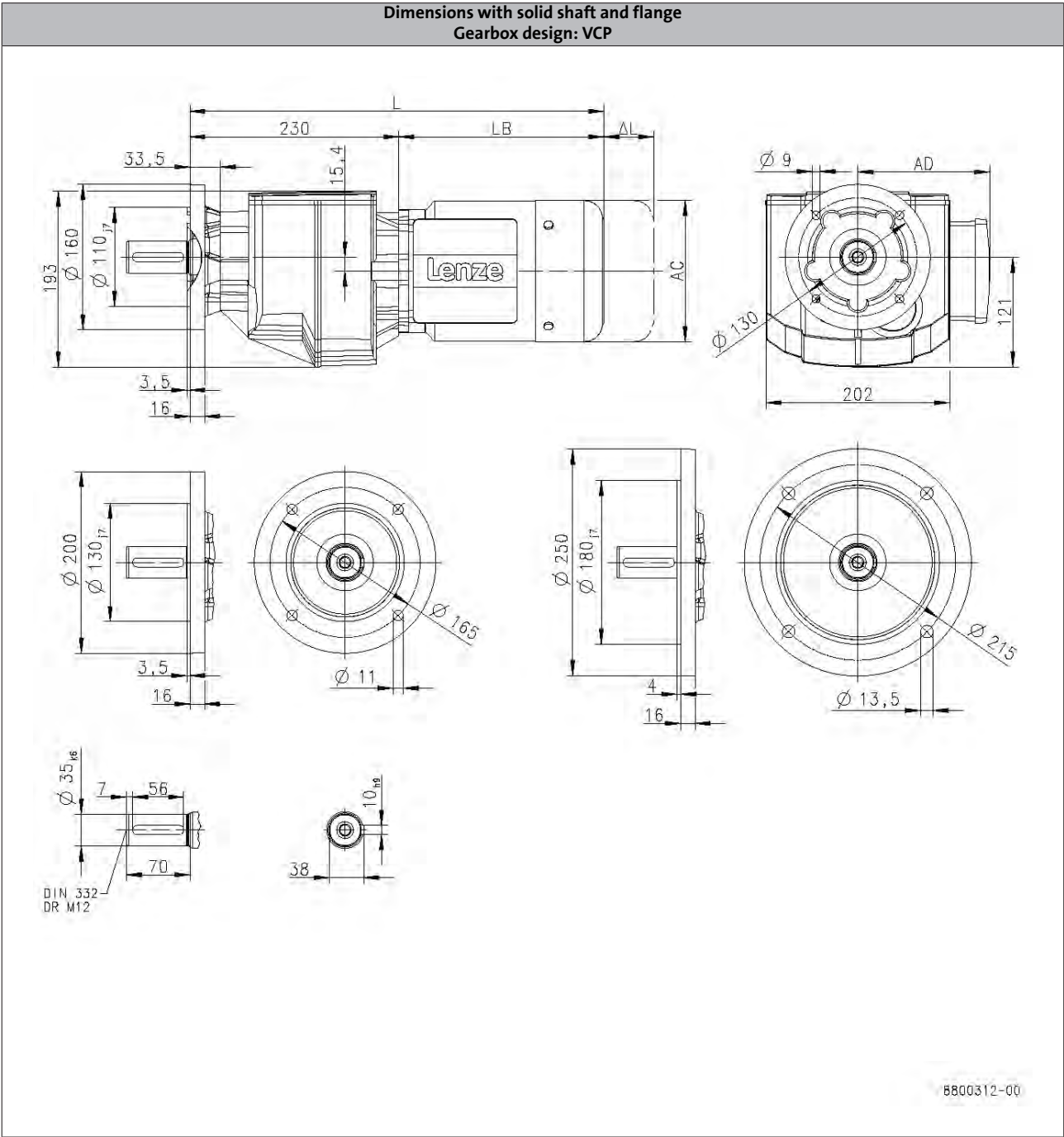
g500-H helical geared motors

Technical data



Dimensions, 2-pole motors

g500-H450



			MD□MA□□	m240					
			071-31	-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	433	455		524		586	573
Motor length	LB	[mm]	203	225		294		356	343
Length of motor options	Δ L	[mm]	52.0	107		92.0		103	111
Motor diameter	AC	[mm]	139	158		172		192	210
Distance motor/connection	AD	[mm]	118	148		155		164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

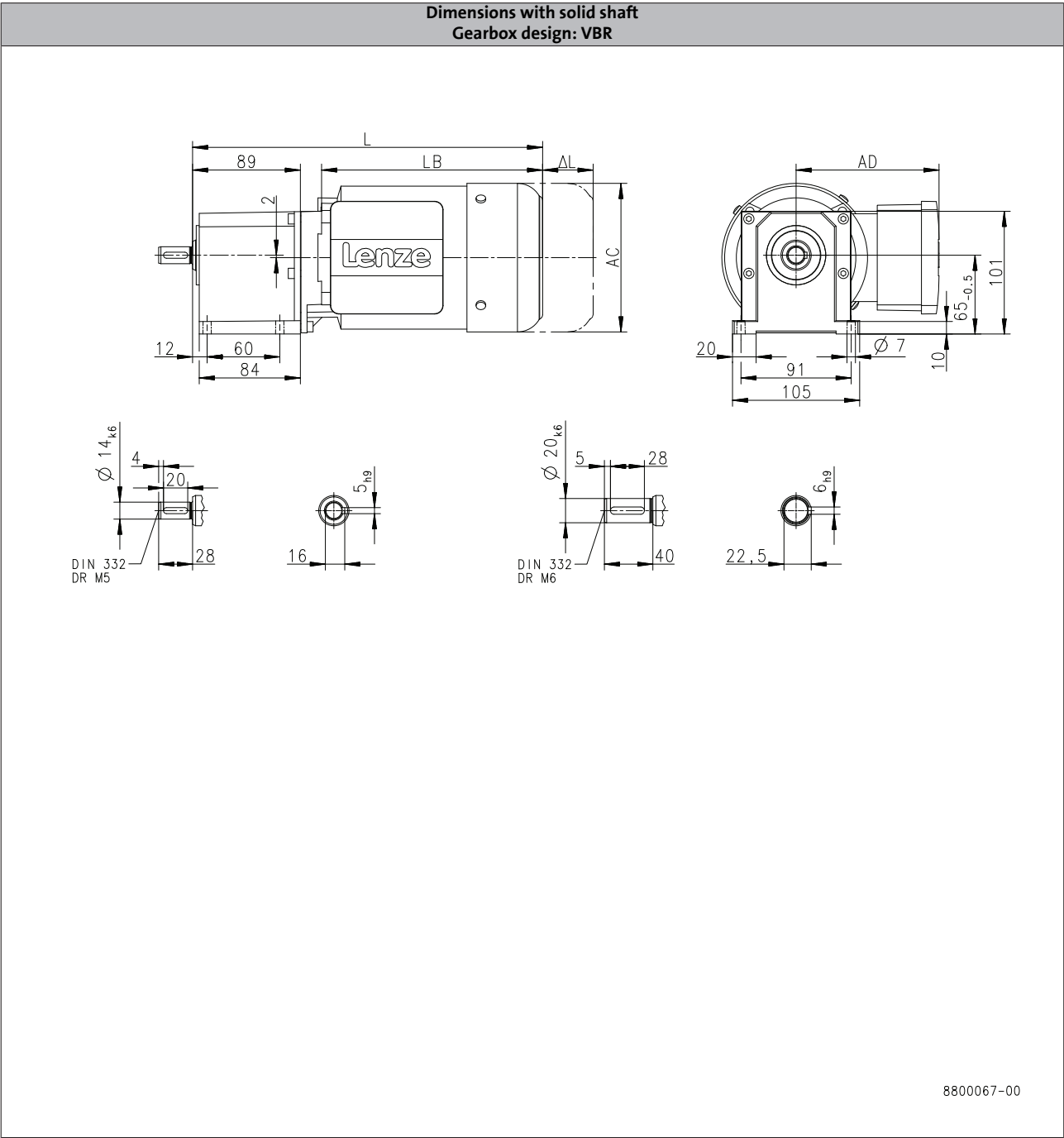
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H45



			MD□MA□□						
			063-02	063-12	063-22	063-32	063-42	071-32	071-42
Total length	L	[mm]	261	288	261	288		308	
Motor length	LB	[mm]	156	183	156	183		203	
Length of motor options	Δ L	[mm]	71.0	40.0	71.0	40.0		52.0	
Motor diameter	AC	[mm]	123					139	
Distance motor/connection	AD	[mm]	107					118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

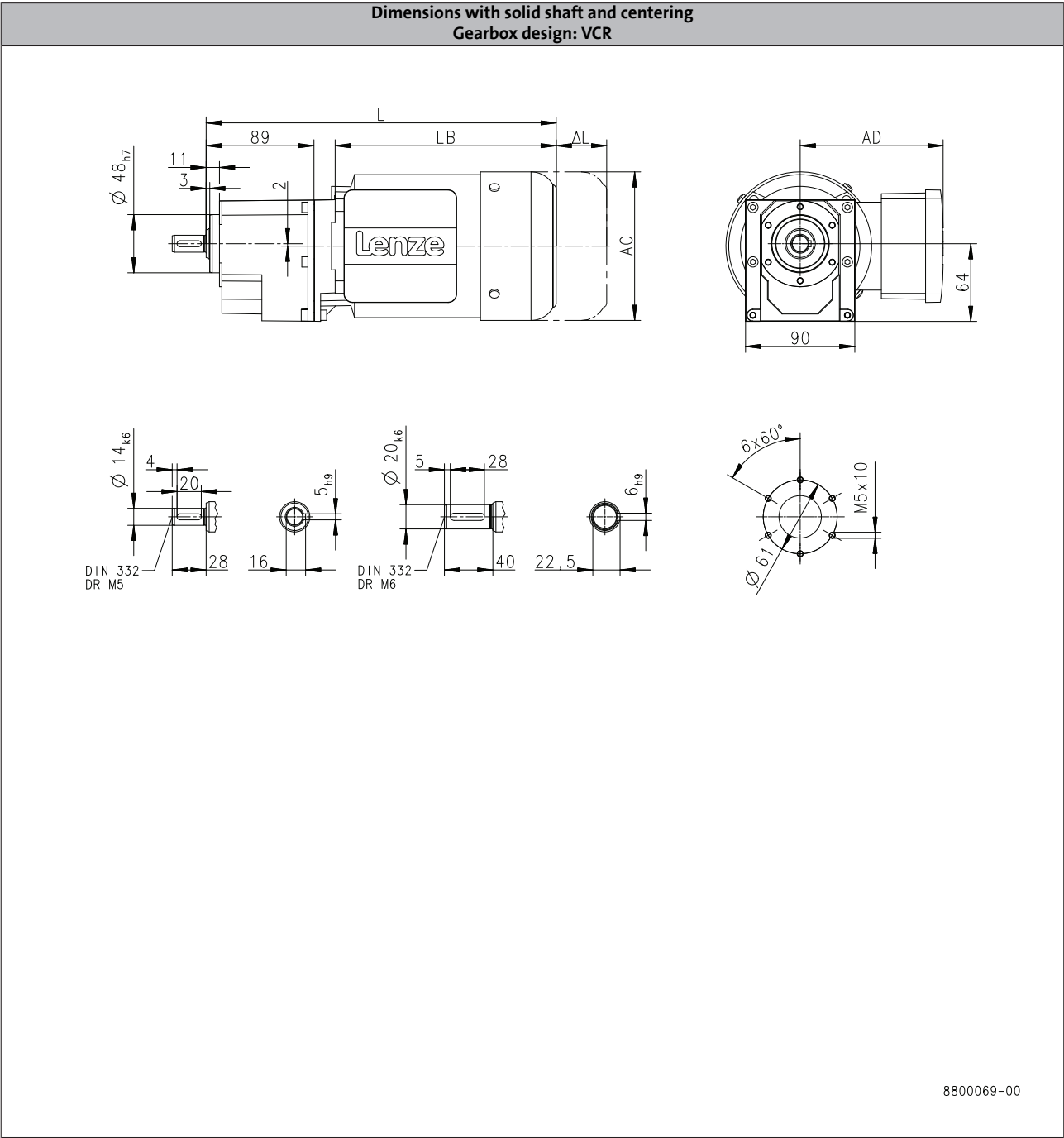
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H45



			MD□MA□□					
			063-02	063-12	063-22	063-32	063-42	071-32 071-42
Total length	L	[mm]	261	288	261	288		308
Motor length	LB	[mm]	156	183	156	183		203
Length of motor options	Δ L	[mm]	71.0	40.0	71.0	40.0		52.0
Motor diameter	AC	[mm]			123			139
Distance motor/connection	AD	[mm]			107			118

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

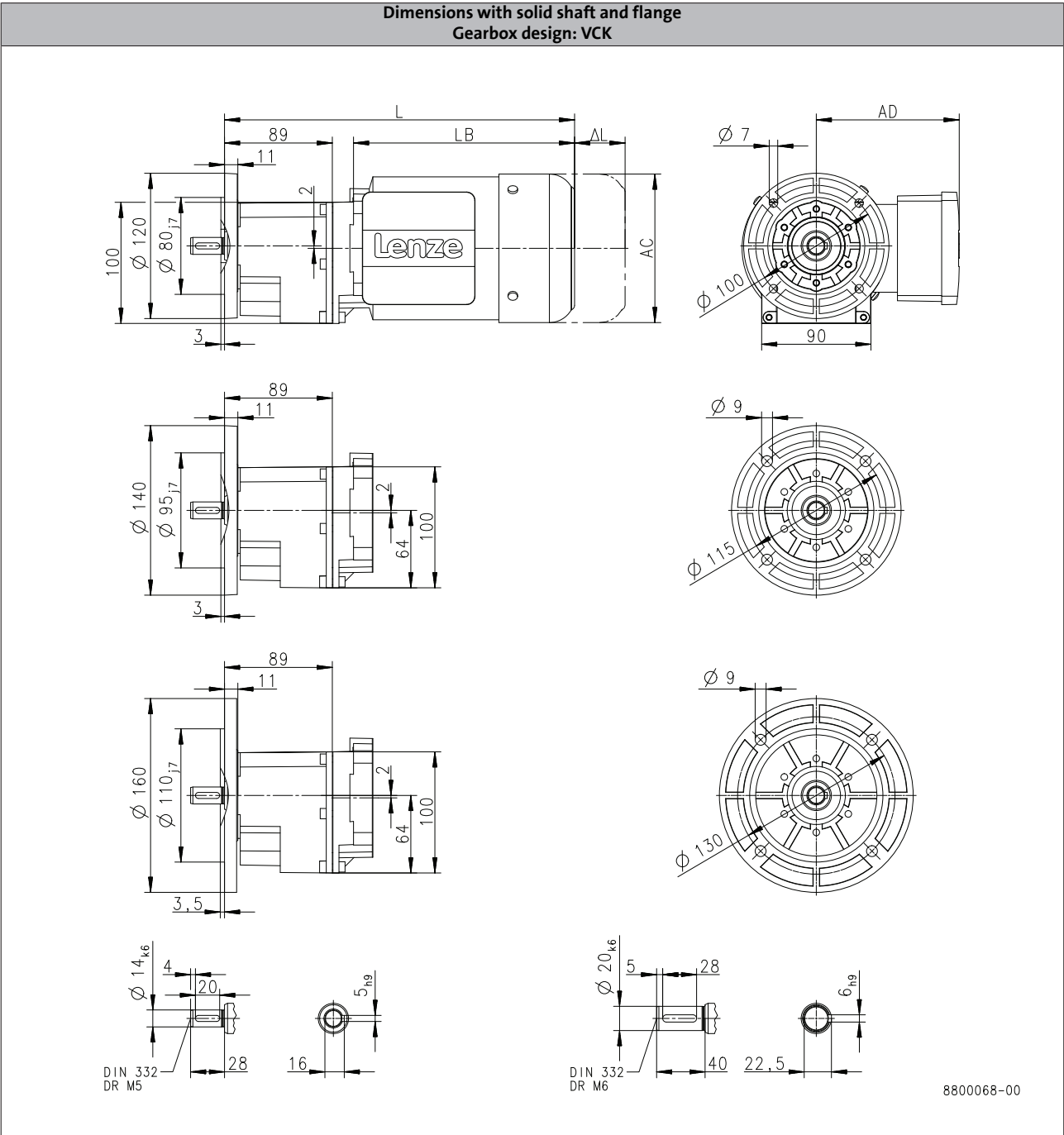
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H45



			MD□MA□□						
			063-02	063-12	063-22	063-32	063-42	071-32	071-42
Total length	L	[mm]	261	288	261	288		308	
Motor length	LB	[mm]	156	183	156	183		203	
Length of motor options	Δ L	[mm]	71.0	40.0	71.0	40.0		52.0	
Motor diameter	AC	[mm]	123					139	
Distance motor/connection	AD	[mm]	107					118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

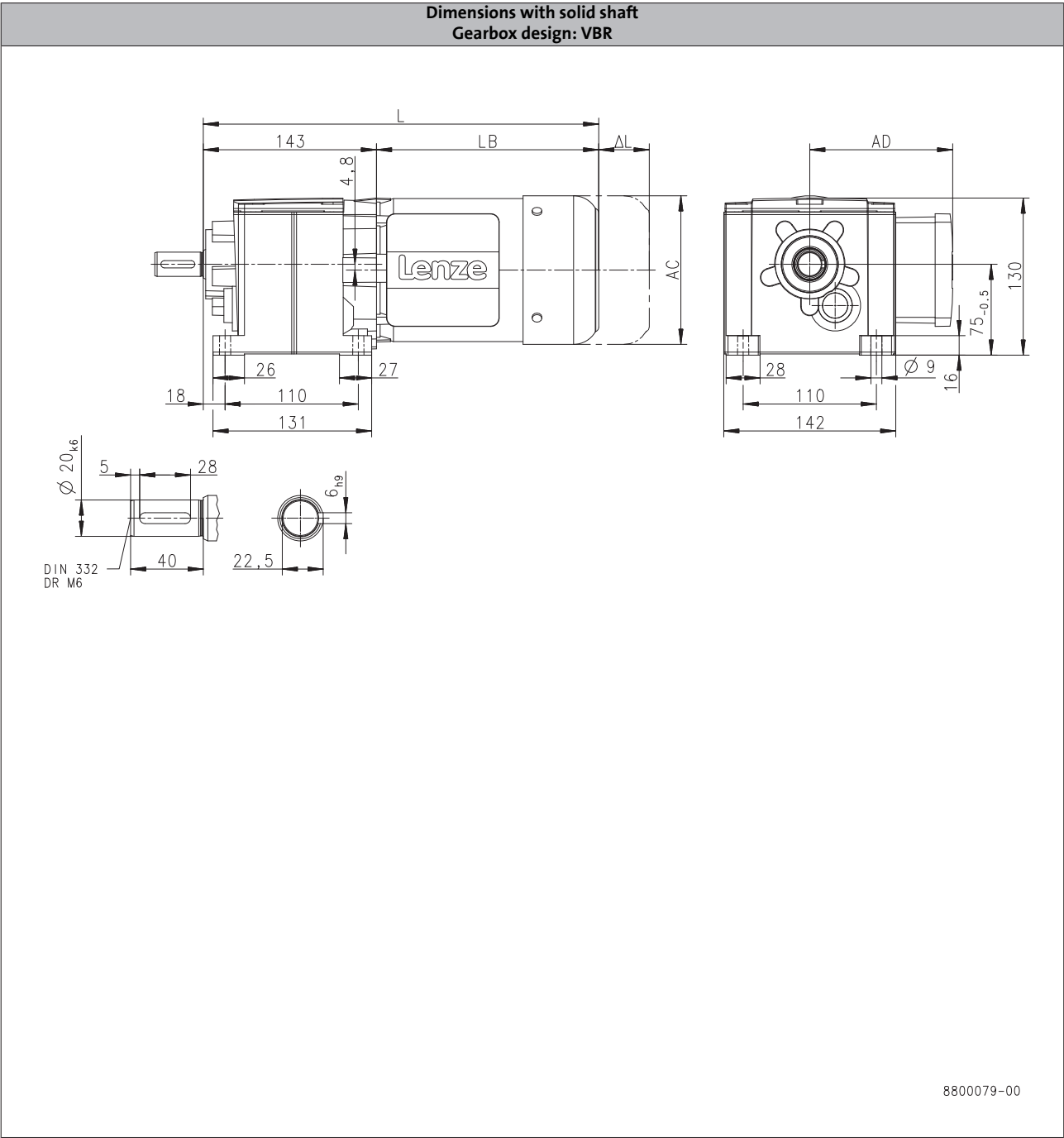
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H100



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	326			346	
Motor length	LB	[mm]	183			203	
Length of motor options	ΔL	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

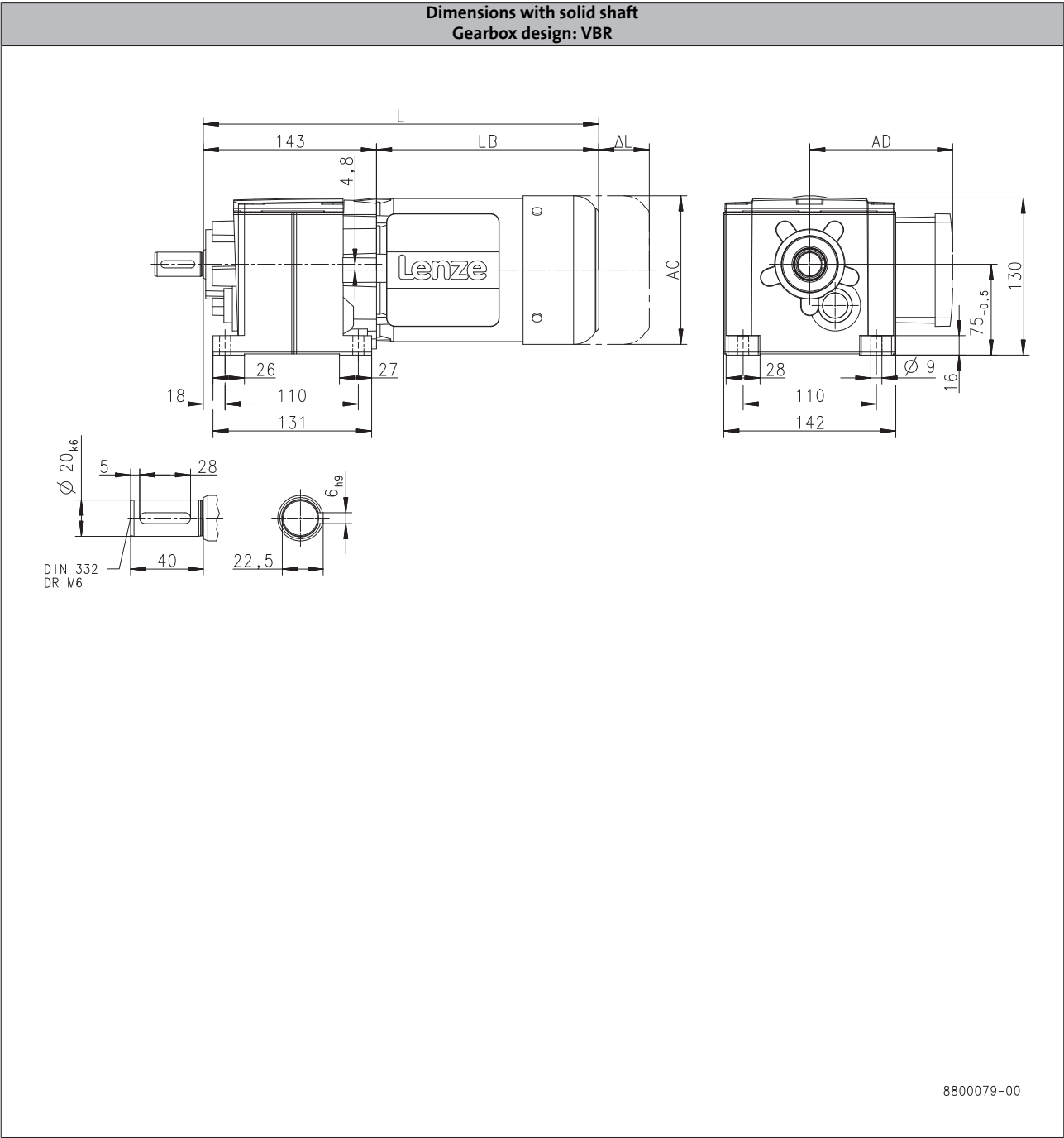
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H100



8800079-00

			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	368	437	
Motor length	LB	[mm]	225	294	
Length of motor options	ΔL	[mm]	107	92.0	
Motor diameter	AC	[mm]	158	172	
Distance motor/connection	AD	[mm]	148	155	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

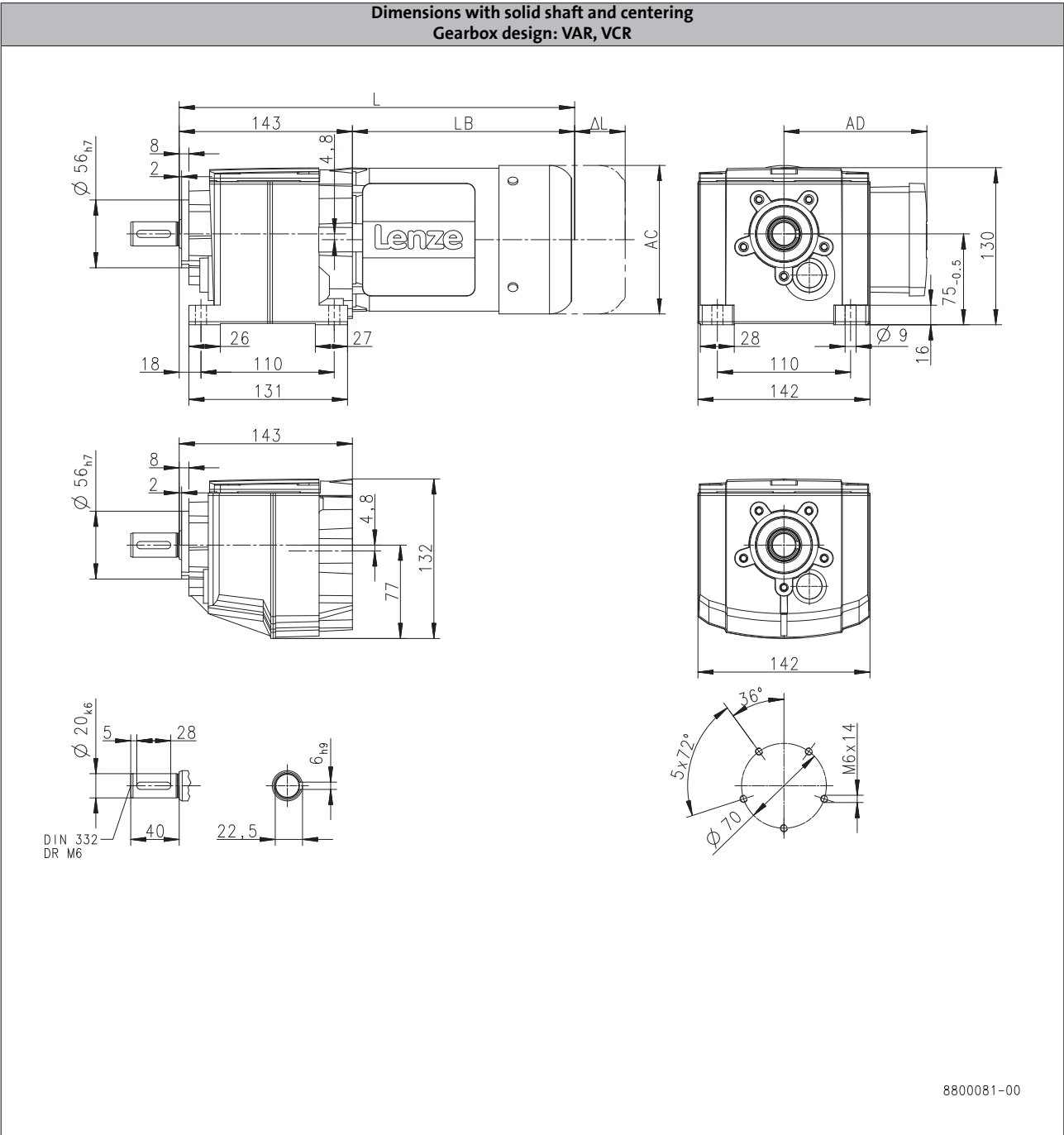
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H100



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	326			346	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-H100

8800081-00

			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	368	437	
Motor length	LB	[mm]	225	294	
Length of motor options	Δ L	[mm]	107	92.0	
Motor diameter	AC	[mm]	158	172	
Distance motor/connection	AD	[mm]	148	155	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-H100

[illegible]

8800080-01

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

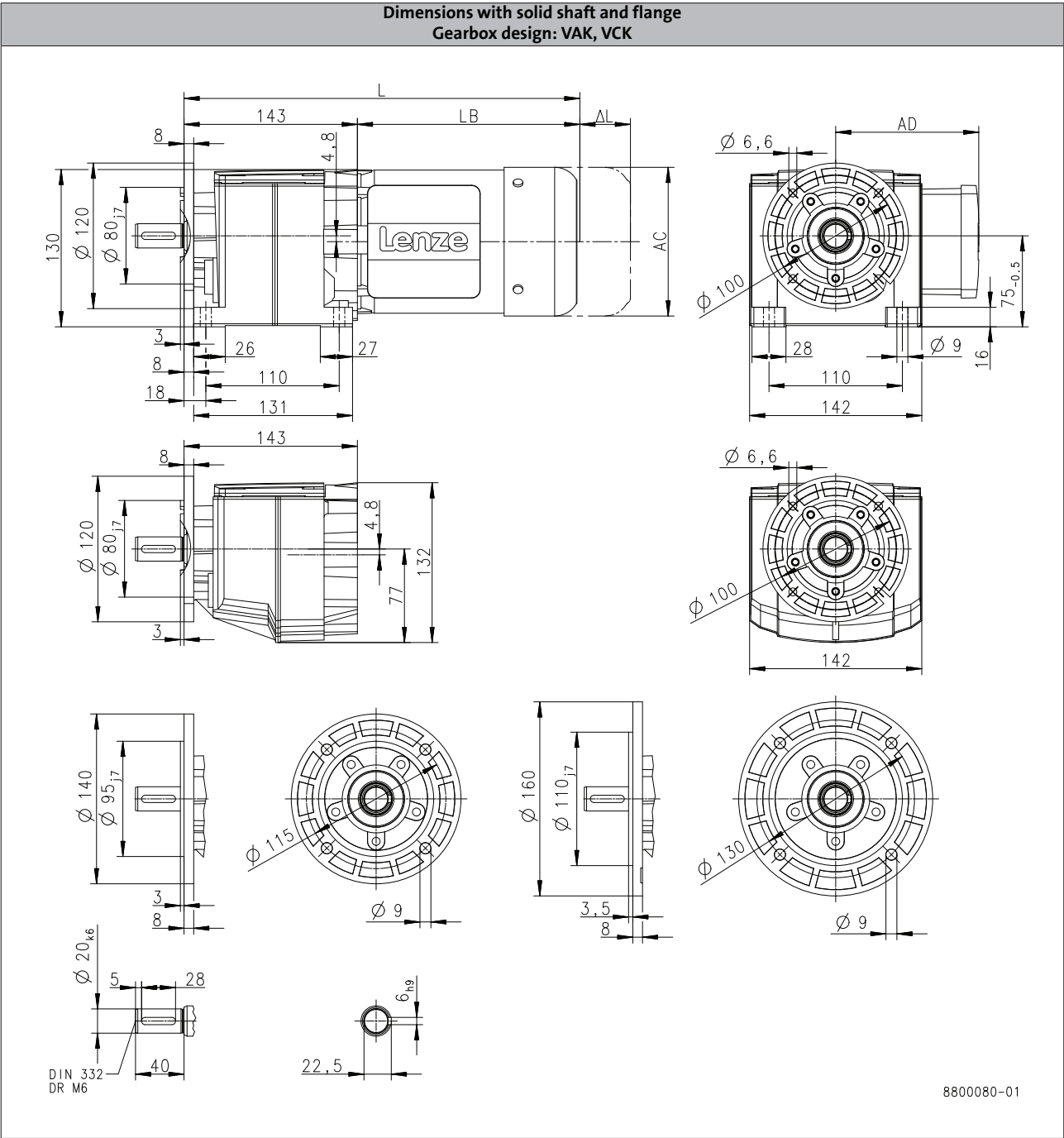
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H100



			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	368		437
Motor length	LB	[mm]	225		294
Length of motor options	Δ L	[mm]	107		92.0
Motor diameter	AC	[mm]	158		172
Distance motor/connection	AD	[mm]	148		155

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-H100



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

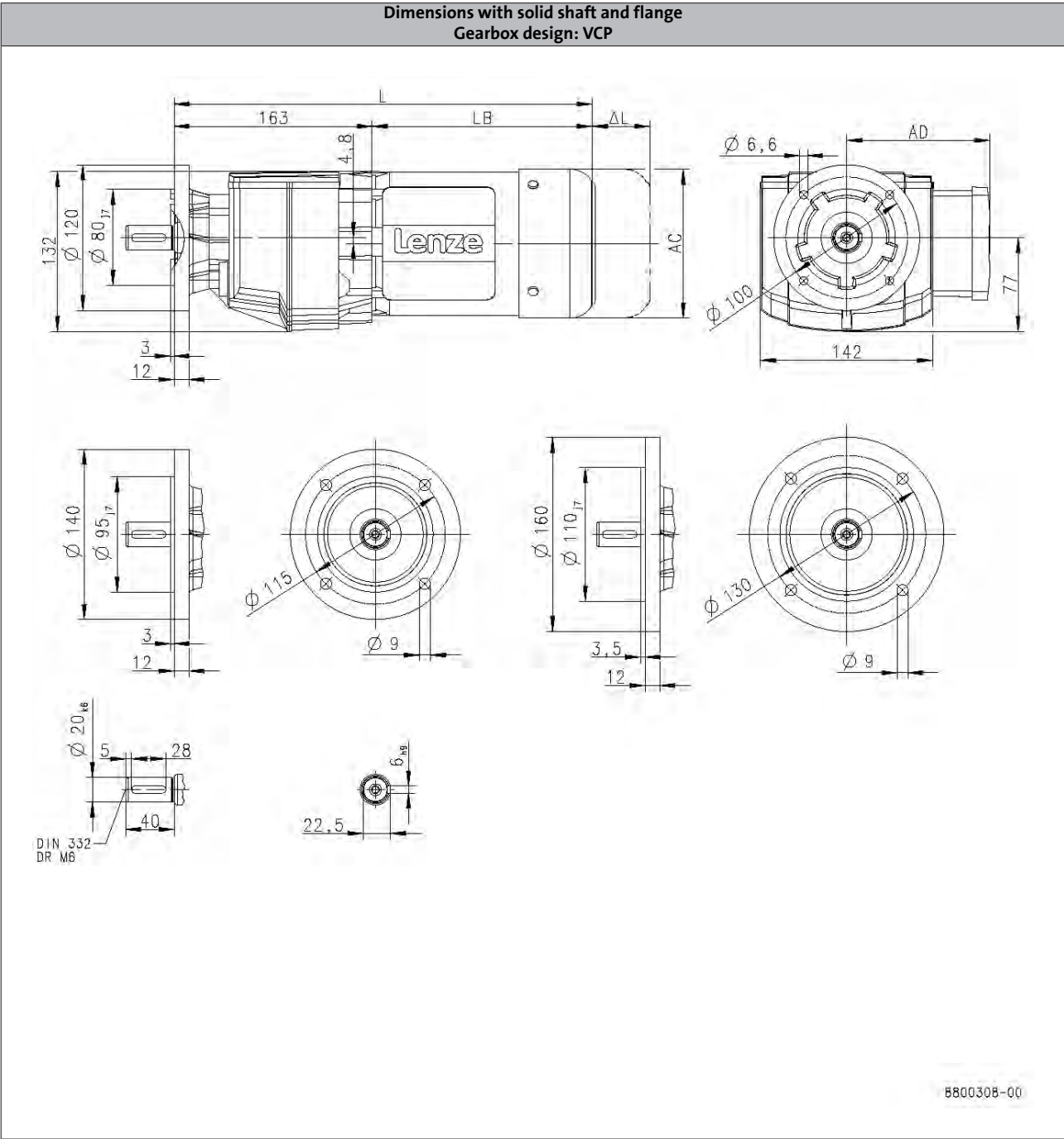
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H100



			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	388	457	
Motor length	LB	[mm]	225	294	
Length of motor options	ΔL	[mm]	107	92.0	
Motor diameter	AC	[mm]	158	172	
Distance motor/connection	AD	[mm]	148	155	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

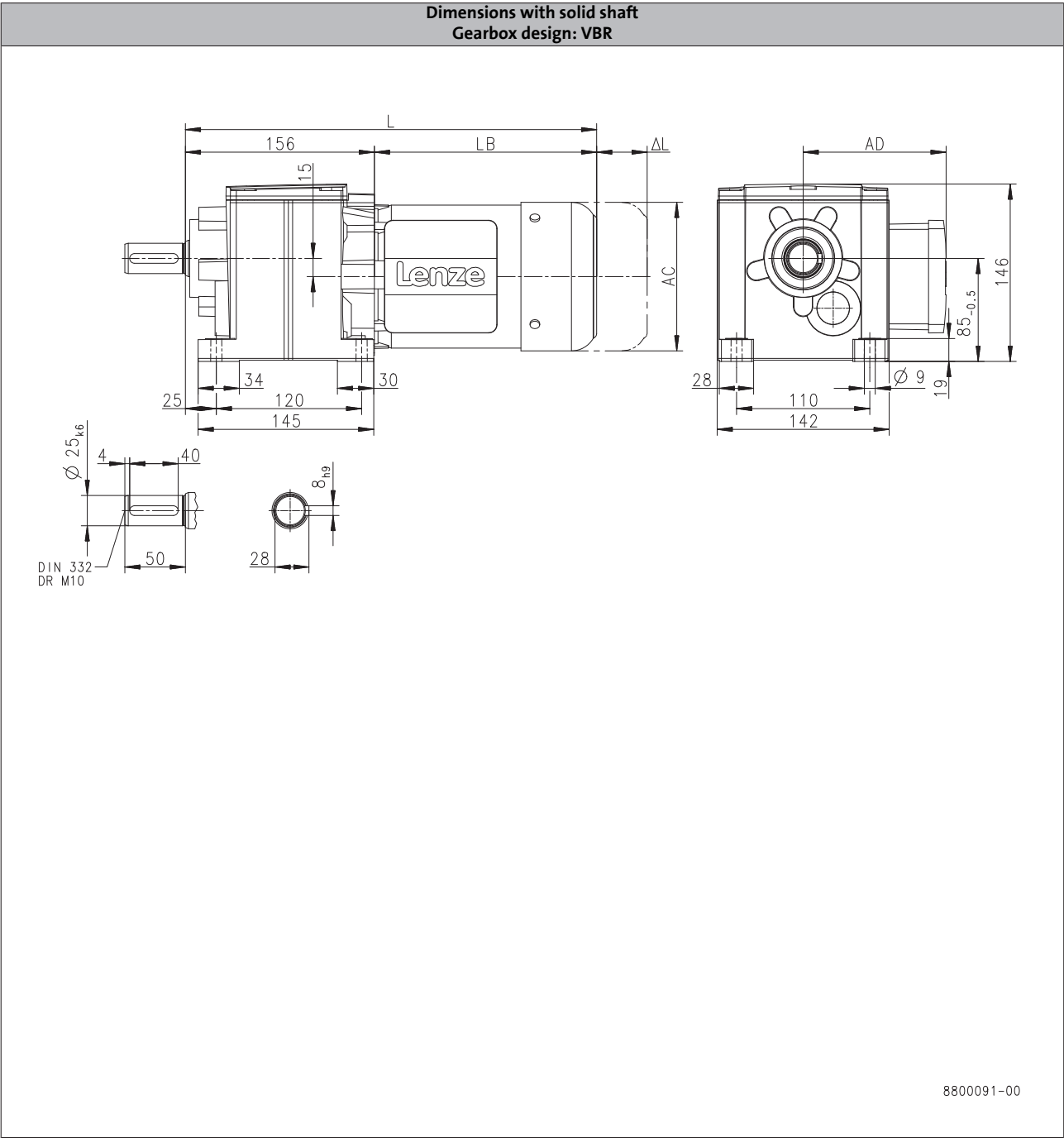
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H140



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	339			359	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-H140

Technical drawing of a Lenze motor showing front, side, and detail views with dimensions.

Front View Dimensions:

- Total width: 156
- Distance from centerline to mounting flange: 15
- Distance from centerline to terminal box: LB
- Terminal box width: ΔL
- Terminal box height: AC
- Mounting flange width: 34
- Mounting flange offset: 25
- Terminal box offset: 30
- Terminal box height: 120
- Terminal box width: 145

Side View Dimensions:

- Distance from centerline to mounting flange: AD
- Mounting flange width: 28
- Terminal box width: 110
- Terminal box height: 142
- Terminal box offset: 19
- Terminal box height: 85 $_{-0.5}^{+0}$
- Terminal box width: $\varnothing 9$
- Terminal box height: 146

Detail Views:

- Mounting flange detail: $\varnothing 25_{k6}$, 4, 40, 50, DIN 332, DR M10
- Terminal box detail: 28, 8 $_{h9}$

8800091-00

			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	381	450	
Motor length	LB	[mm]	225	294	
Length of motor options	Δ L	[mm]	107	92.0	
Motor diameter	AC	[mm]	158	172	
Distance motor/connection	AD	[mm]	148	155	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-H140

8800093-00

			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	339			359	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

6.3

Dimensions, 4-pole motors

g500-H140

Technical drawing of the Lenze 8200 motor showing four views: front, side, top, and detail. The front view shows dimensions: 156, 12, 3.5, 15, 145, 120, 34, 25, 30, 156, LB, AL, AC, and the Lenze logo. The side view shows dimensions: 146, 85-0.5, 19, 110, 142, 28, 9. The top view shows dimensions: 142, 80, 30, 4x75, M8x16. The detail view shows dimensions: 25x6, 4, 40, 50, 8h9, 28, and DIN 332 DP M5.

8800093-00

			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	381	450	
Motor length	LB	[mm]	225	294	
Length of motor options	Δ L	[mm]	107	92.0	
Motor diameter	AC	[mm]	158	172	
Distance motor/connection	AD	[mm]	148	155	

6.3 - 136

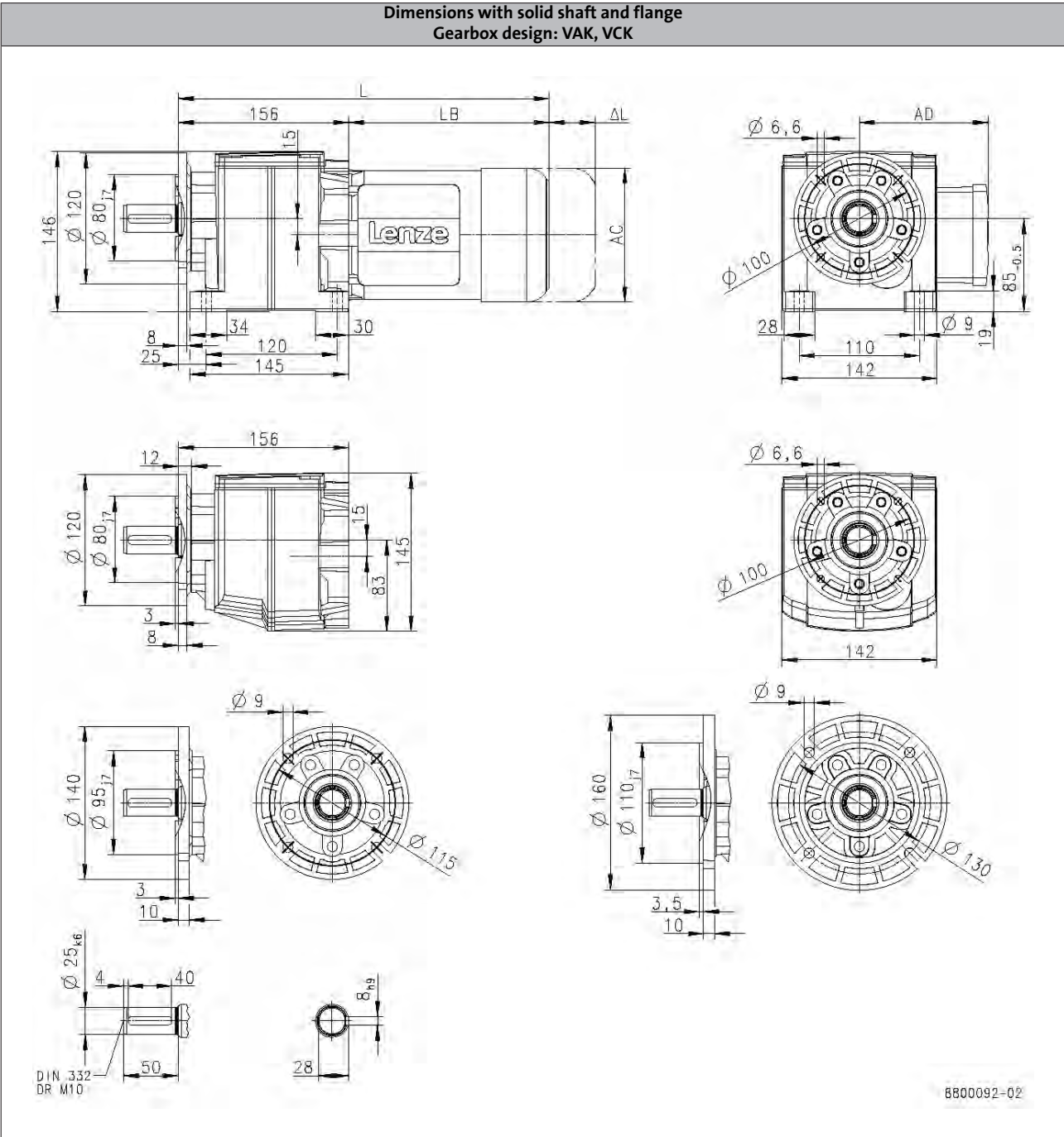
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H140



		MD□MA□□				
		063-12	063-32	063-42	071-32	071-42
Total length	L [mm]	339			359	
Motor length	LB [mm]	183			203	
Length of motor options	Δ L [mm]	40.0			52.0	
Motor diameter	AC [mm]	123			139	
Distance motor/connection	AD [mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

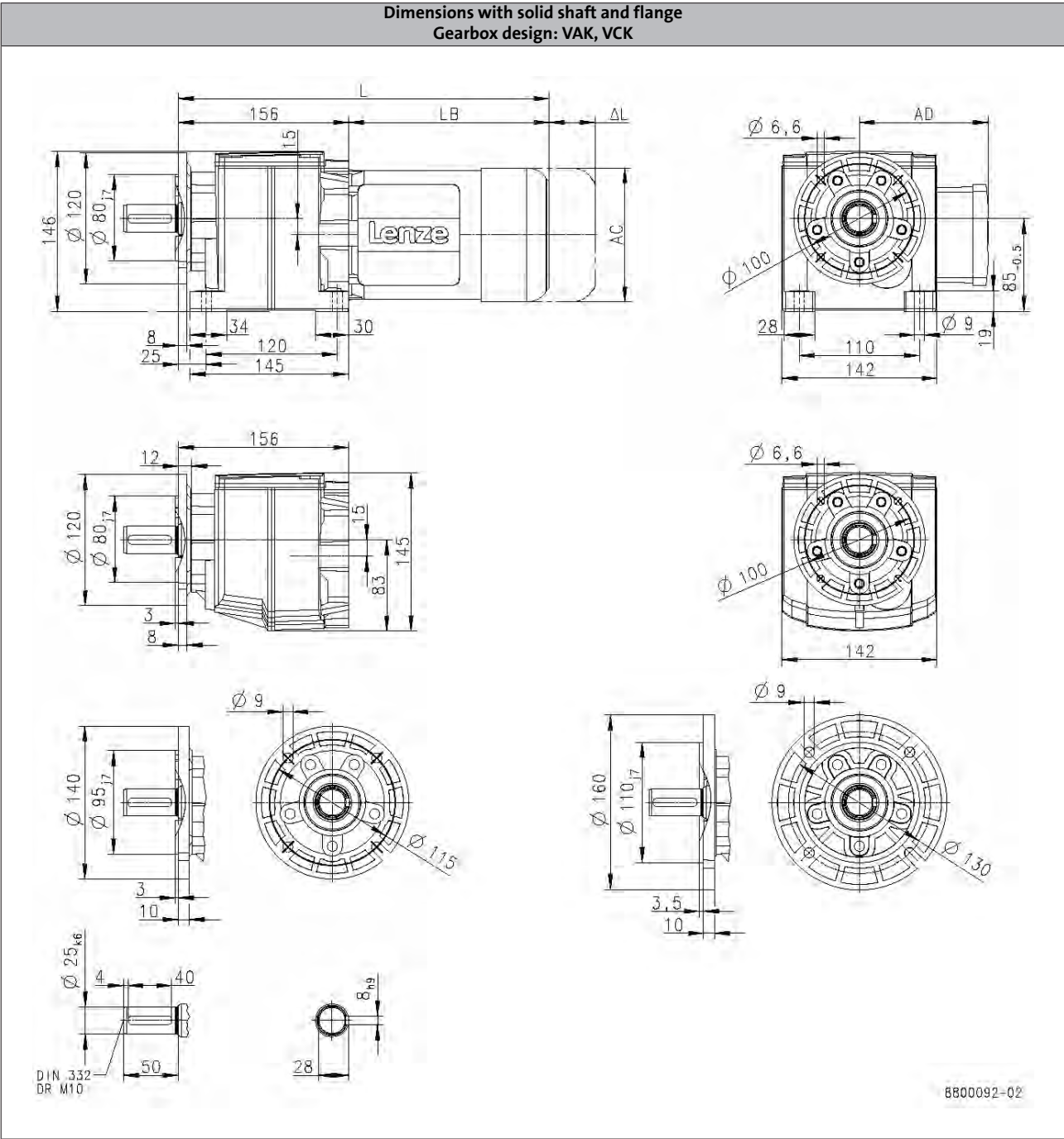
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H140



			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	381		450
Motor length	LB	[mm]	225		294
Length of motor options	Δ L	[mm]	107		92.0
Motor diameter	AC	[mm]	158		172
Distance motor/connection	AD	[mm]	148		155

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-H140

[illegible]

6800309-00

			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	359			379	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

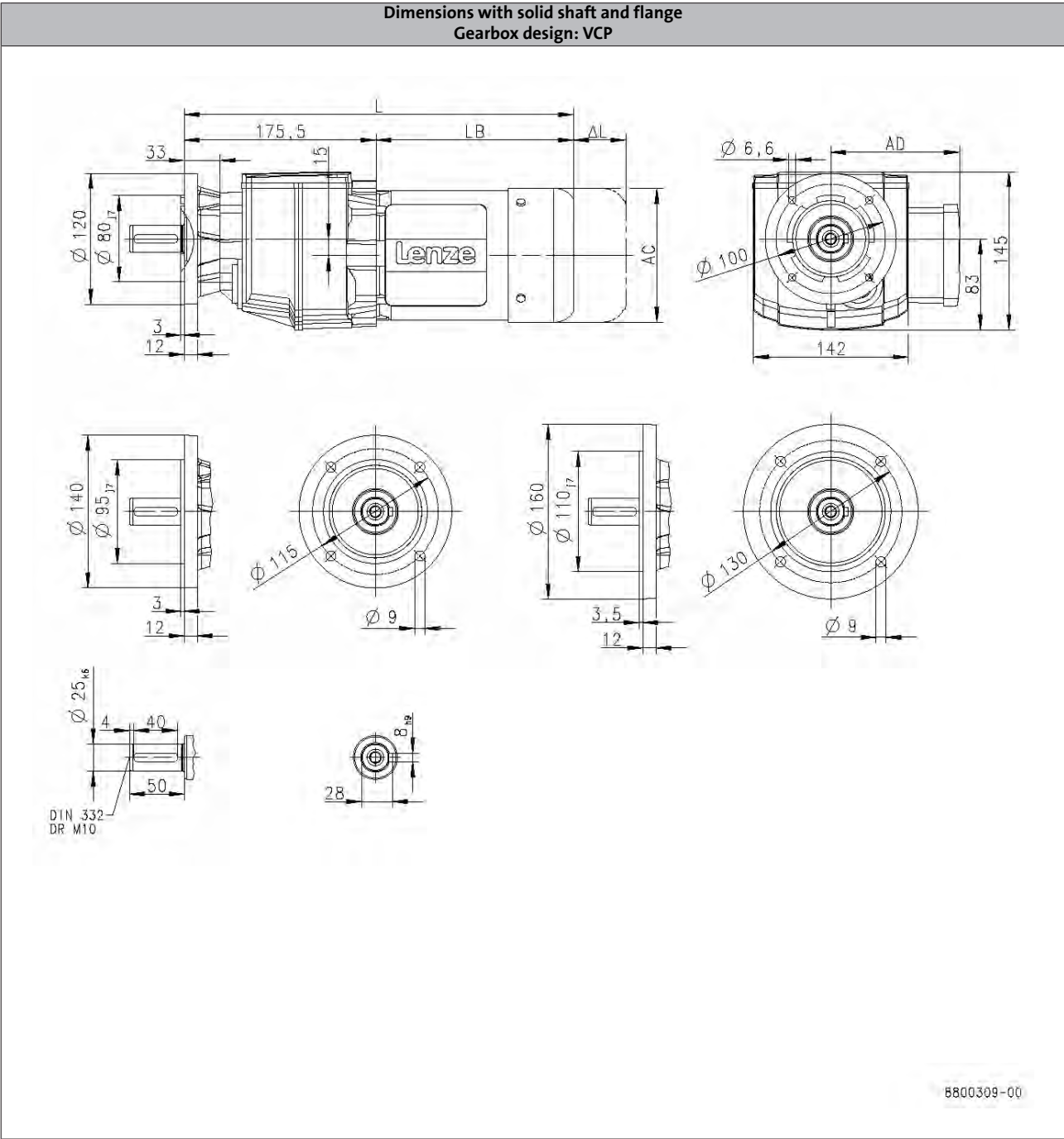
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H140



			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	401	470	
Motor length	LB	[mm]	225	294	
Length of motor options	Δ L	[mm]	107	92.0	
Motor diameter	AC	[mm]	158	172	
Distance motor/connection	AD	[mm]	148	155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

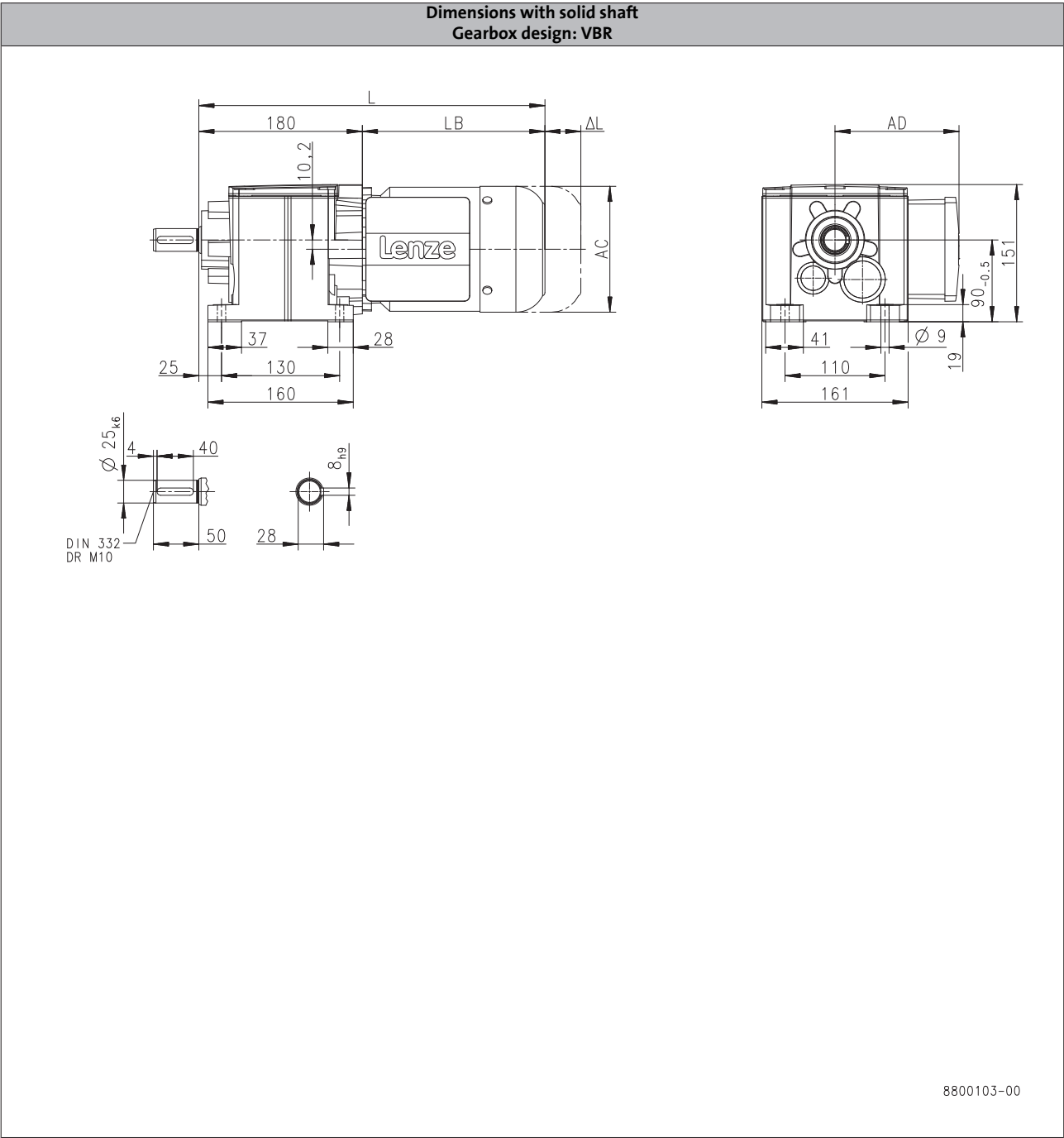
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H210



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	363			383	
Motor length	LB	[mm]	183			203	
Length of motor options	ΔL	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-H210

Technical drawing of the Lenze 8200 motor showing front, top, and detail views with dimensions.

Front View Dimensions:

- Overall length: L
- Motor body length: 180
- Terminal box length: LB
- Terminal box width: AL
- Terminal box height: 10.2
- Motor body height: AC
- Terminal box mounting flange width: 25
- Terminal box mounting flange thickness: 37
- Terminal box mounting flange diameter: 130
- Terminal box mounting flange diameter: 160
- Terminal box mounting flange thickness: 28

Top View Dimensions:

- Overall width: AD
- Terminal box width: 41
- Terminal box height: 110
- Terminal box mounting flange diameter: 161
- Terminal box mounting flange thickness: 19
- Terminal box mounting flange diameter: $\varnothing 9$
- Terminal box mounting flange thickness: 90_{-0.5}
- Terminal box mounting flange diameter: 151

Detail Views:

- Terminal box mounting flange detail: $\varnothing 25_{k6}$, 4, 40, 50
- Terminal box mounting flange detail: 28, 8_{h9}

Other Dimensions:

- Terminal box mounting flange diameter: $\varnothing 25_{k6}$
- Terminal box mounting flange thickness: 4
- Terminal box mounting flange diameter: 40
- Terminal box mounting flange diameter: 50
- Terminal box mounting flange thickness: 28
- Terminal box mounting flange diameter: 8_{h9}

Standards:

- DIN 332
- DR M10

8800103-00

			m240				
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4
Total length	L	[mm]	405	474		536	
Motor length	LB	[mm]	225	294		356	
Length of motor options	Δ L	[mm]	107	92.0		103	
Motor diameter	AC	[mm]	158	172		192	
Distance motor/connection	AD	[mm]	148	155		164	

6.3 - 142

Dimensions, 4-pole motors

g500-H210

8800105-00

			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	363			383	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

6.3

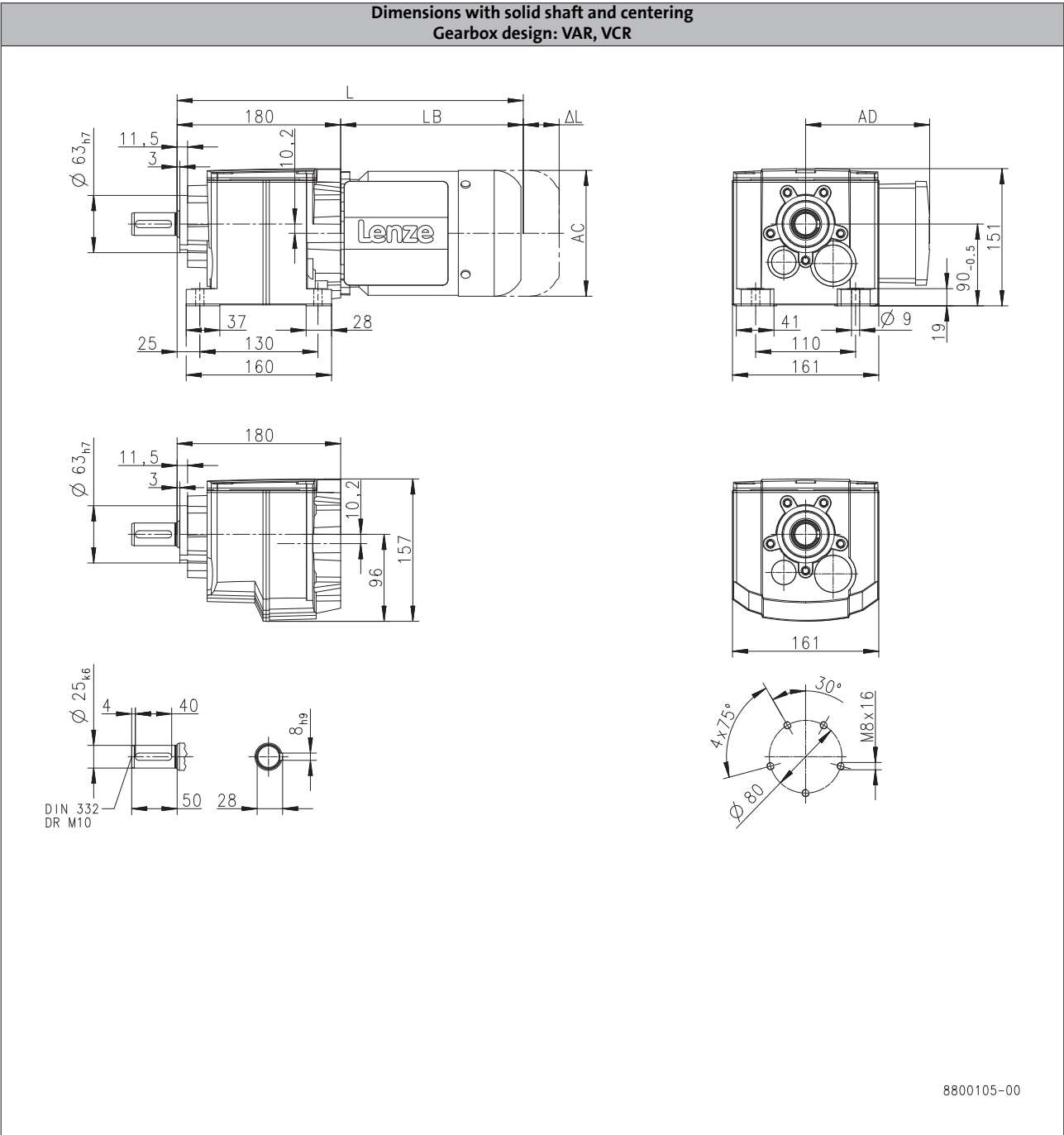
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H210



			m240				
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4
Total length	L	[mm]	405	474		536	
Motor length	LB	[mm]	225	294		356	
Length of motor options	Δ L	[mm]	107	92.0		103	
Motor diameter	AC	[mm]	158	172		192	
Distance motor/connection	AD	[mm]	148	155		164	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

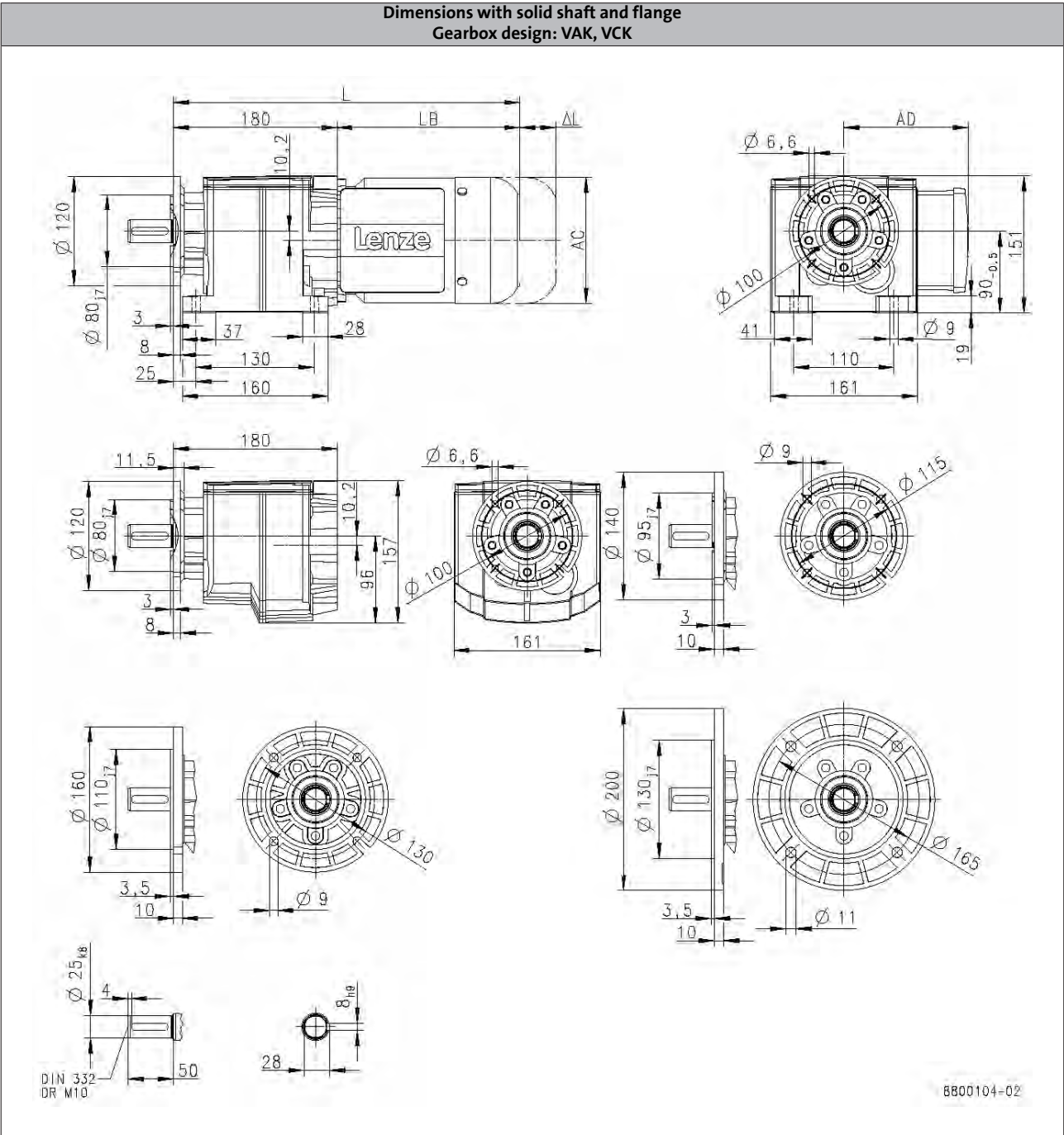
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H210



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]		363		383	
Motor length	LB	[mm]		183		203	
Length of motor options	Δ L	[mm]		40.0		52.0	
Motor diameter	AC	[mm]		123		139	
Distance motor/connection	AD	[mm]		107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

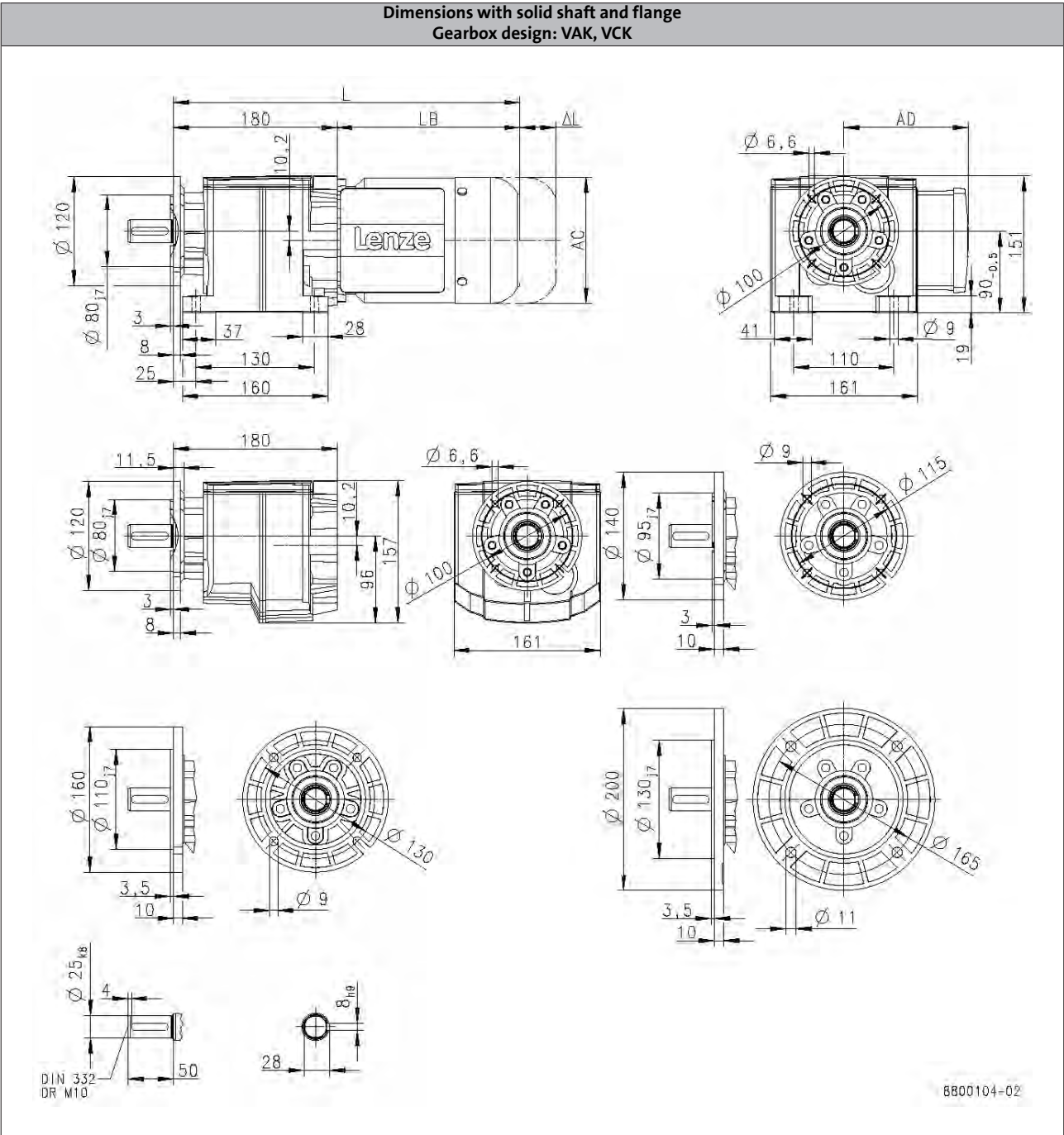
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H210



			m240				
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4
Total length	L	[mm]	405	474		536	
Motor length	LB	[mm]	225	294		356	
Length of motor options	ΔL	[mm]	107	92.0		103	
Motor diameter	AC	[mm]	158	172		192	
Distance motor/connection	AD	[mm]	148	155		164	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

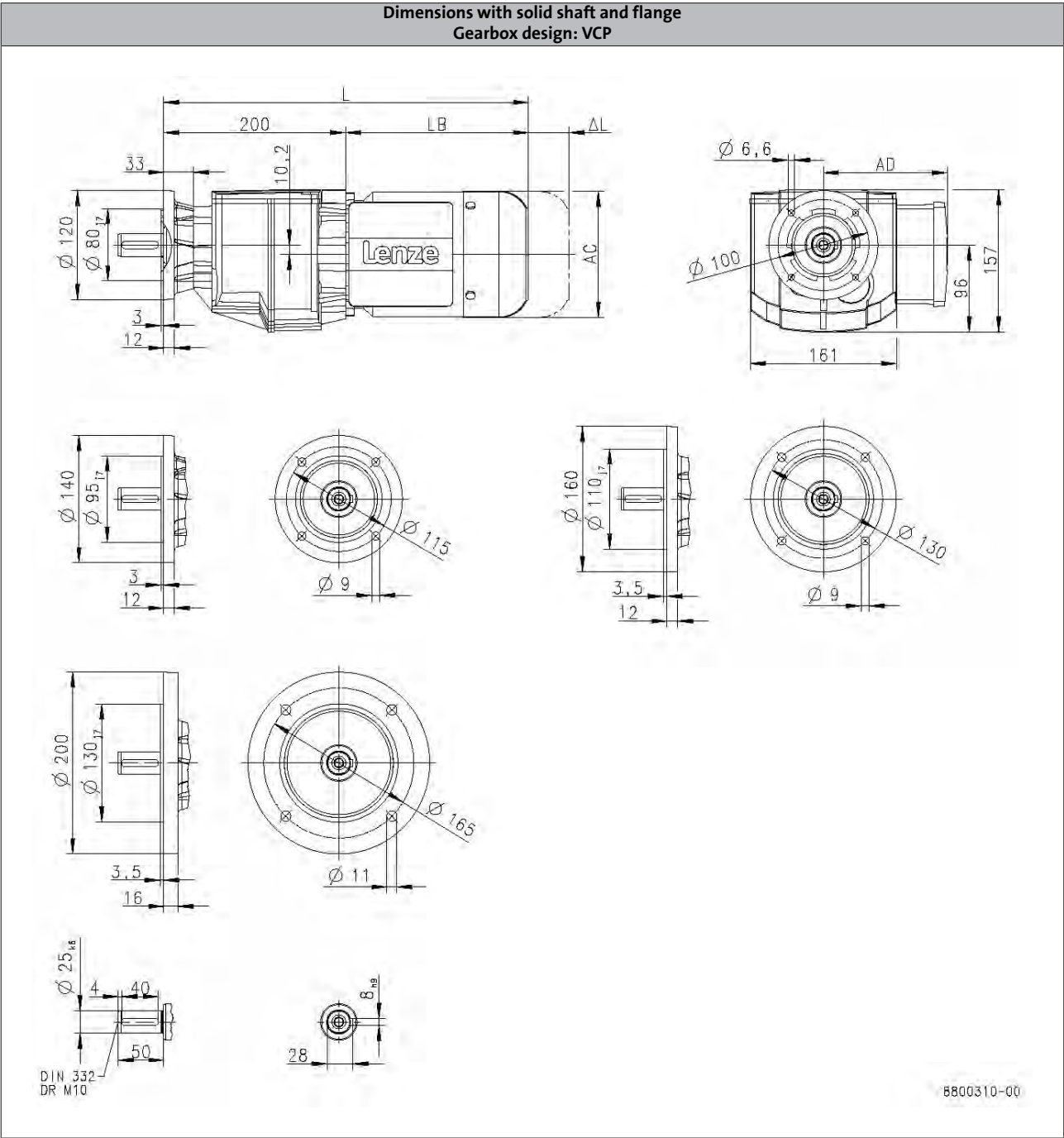
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H210



		MD□MA□□				
			063-12	063-32	063-42	071-32
Total length	L	[mm]		383		403
Motor length	LB	[mm]		183		203
Length of motor options	Δ L	[mm]		40.0		52.0
Motor diameter	AC	[mm]		123		139
Distance motor/connection	AD	[mm]		107		118

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-H210

[illegible]

6800310-00

			m240				
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4
Total length	L	[mm]	425	494		556	
Motor length	LB	[mm]	225	294		356	
Length of motor options	Δ L	[mm]	107	92.0		103	
Motor diameter	AC	[mm]	158	172		192	
Distance motor/connection	AD	[mm]	148	155		164	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

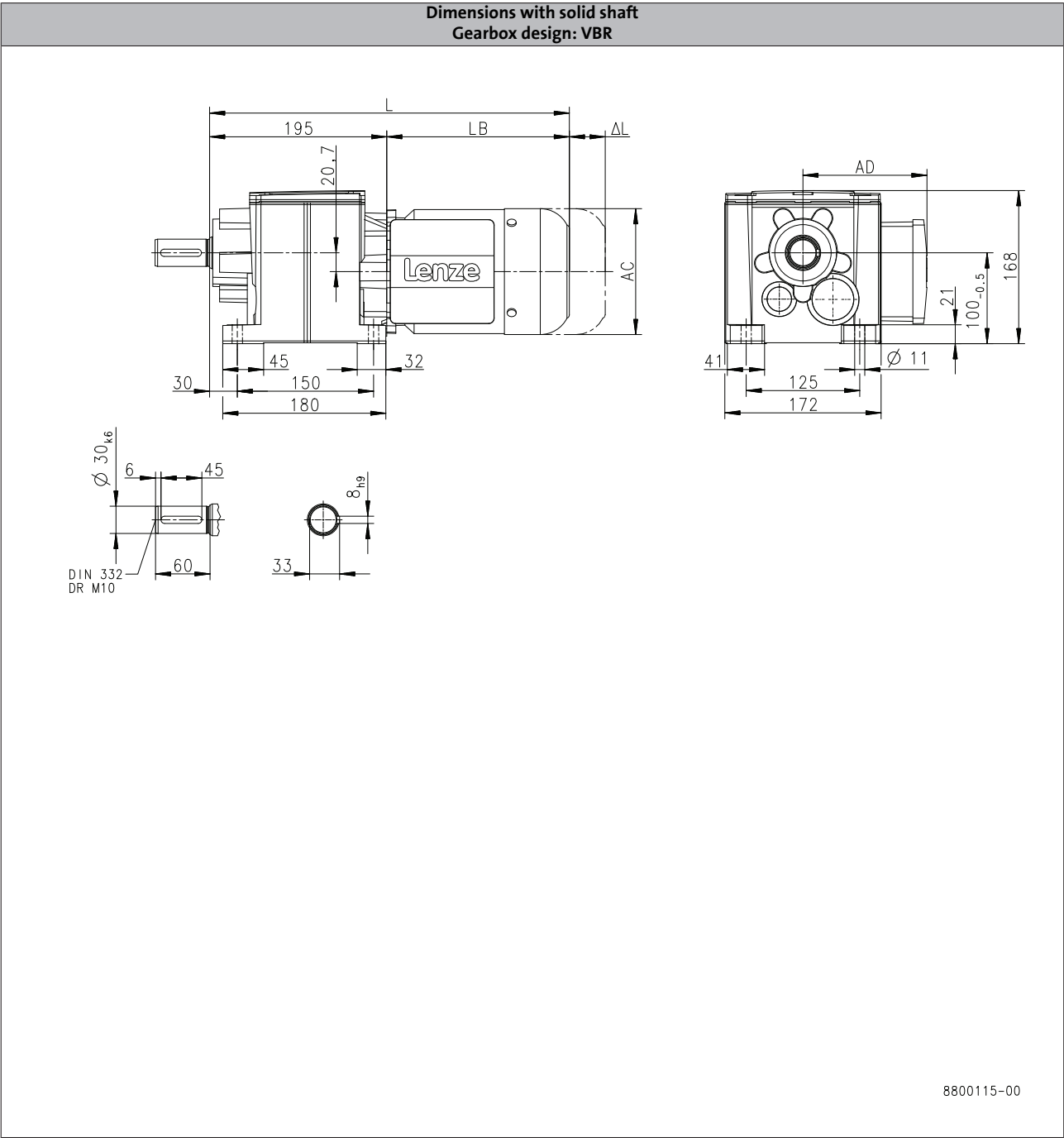
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H320



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	378			398	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

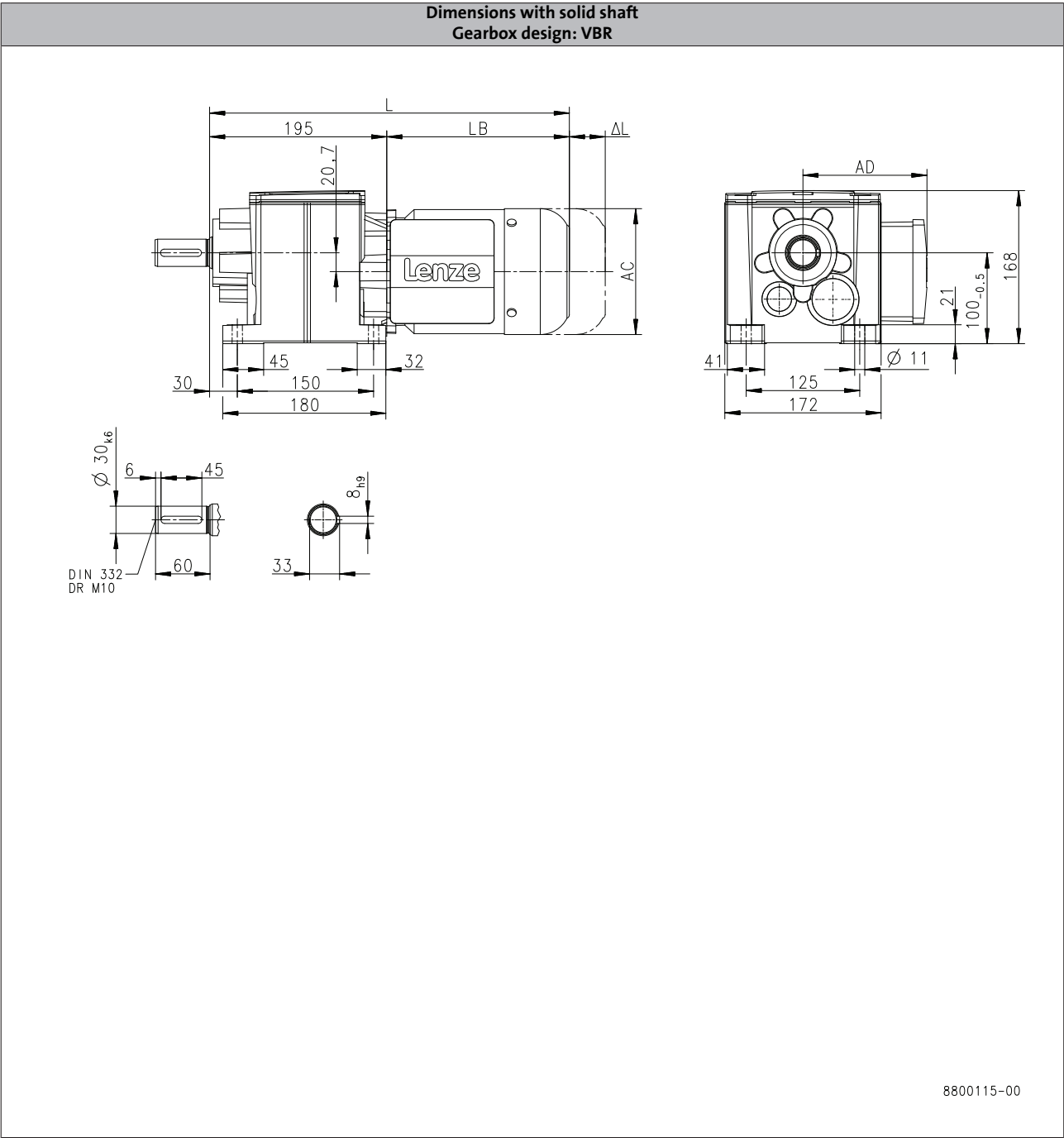
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H320



			m240					
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4
Total length	L	[mm]	420	489		551		538
Motor length	LB	[mm]	225	294		356		343
Length of motor options	Δ L	[mm]	107	92.0		103		111
Motor diameter	AC	[mm]	158	172		192		210
Distance motor/connection	AD	[mm]	148	155		164		171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

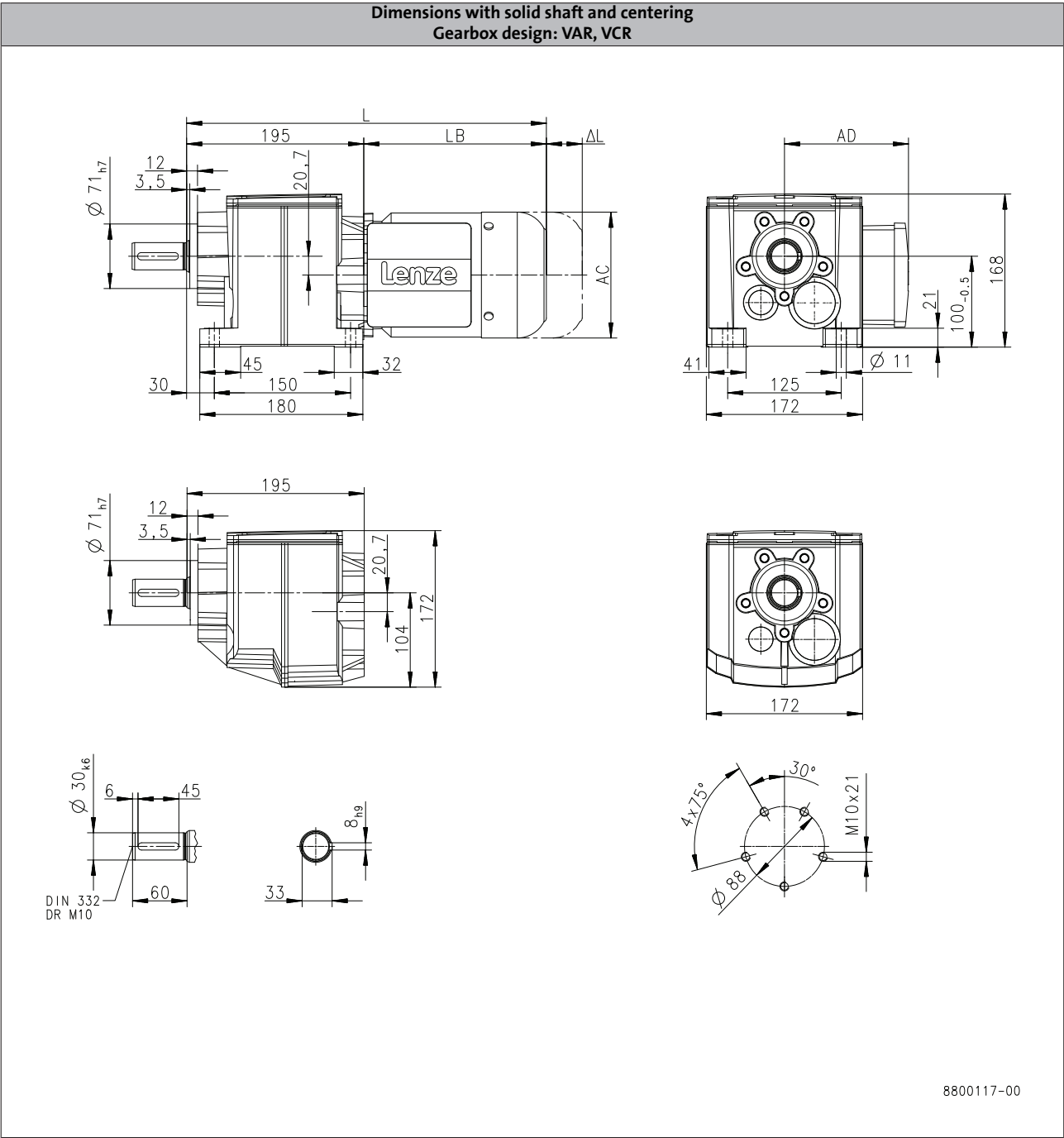
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H320



		MD□MA□□				
		063-12	063-32	063-42	071-32	071-42
Total length	L [mm]	378			398	
Motor length	LB [mm]	183			203	
Length of motor options	Δ L [mm]	40.0			52.0	
Motor diameter	AC [mm]	123			139	
Distance motor/connection	AD [mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

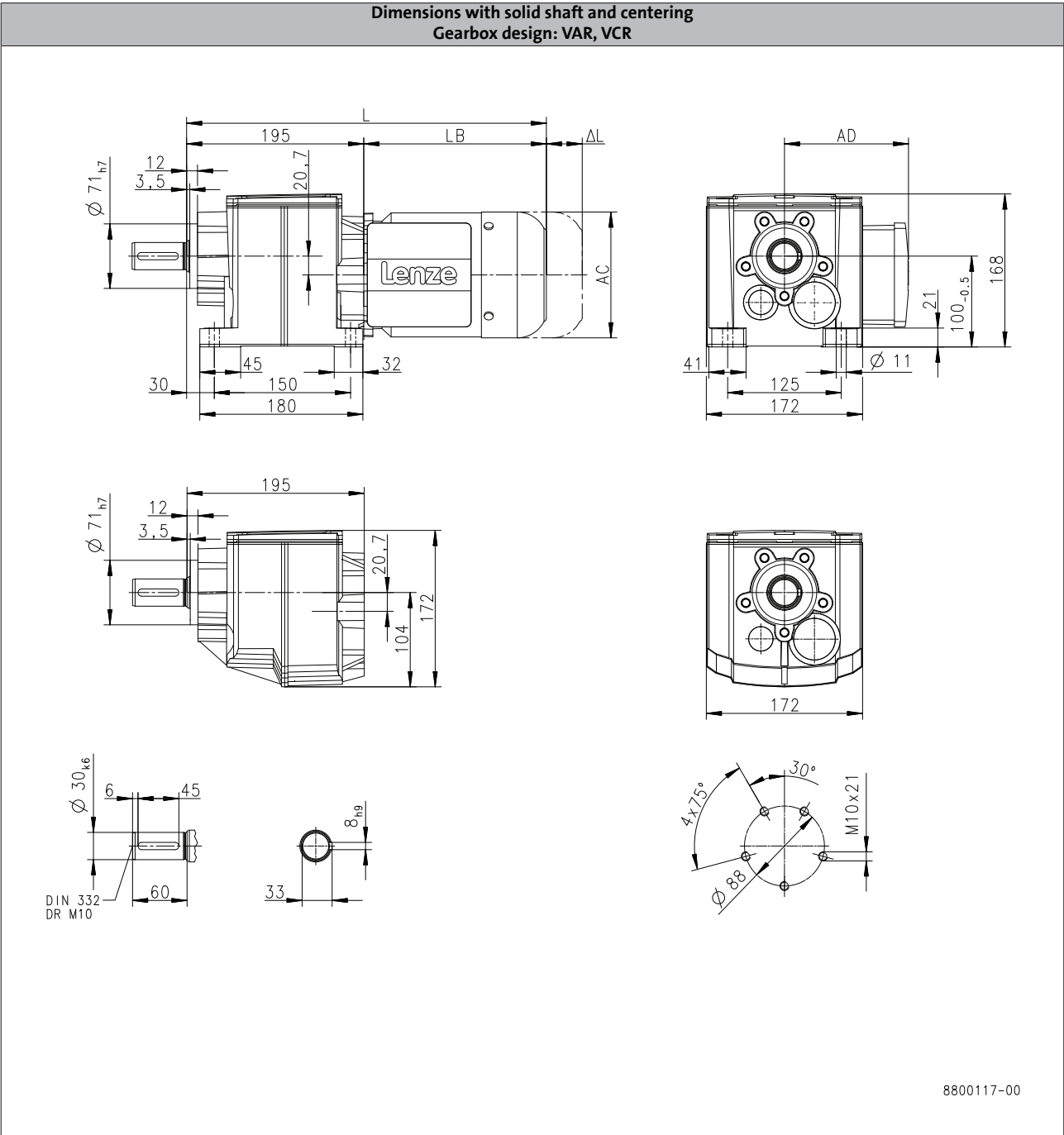
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H320



8800117-00

			m240					
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4
Total length	L	[mm]	420	489		551		538
Motor length	LB	[mm]	225	294		356		343
Length of motor options	Δ L	[mm]	107	92.0		103		111
Motor diameter	AC	[mm]	158	172		192		210
Distance motor/connection	AD	[mm]	148	155		164		171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

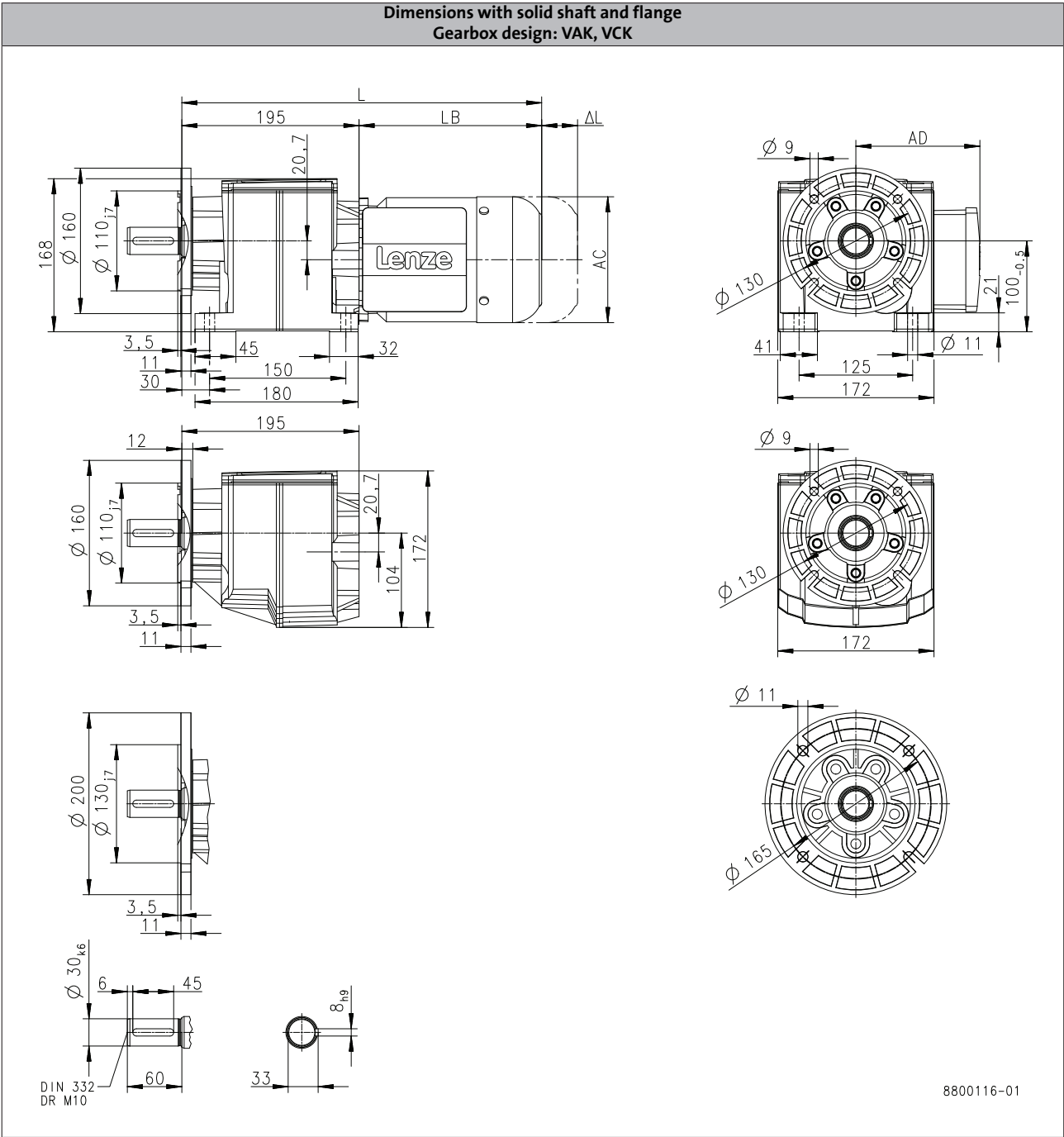
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H320



		MD□MA□□				
		063-12	063-32	063-42	071-32	071-42
Total length	L [mm]		378		398	
Motor length	LB [mm]		183		203	
Length of motor options	ΔL [mm]		40.0		52.0	
Motor diameter	AC [mm]		123		139	
Distance motor/connection	AD [mm]		107		118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

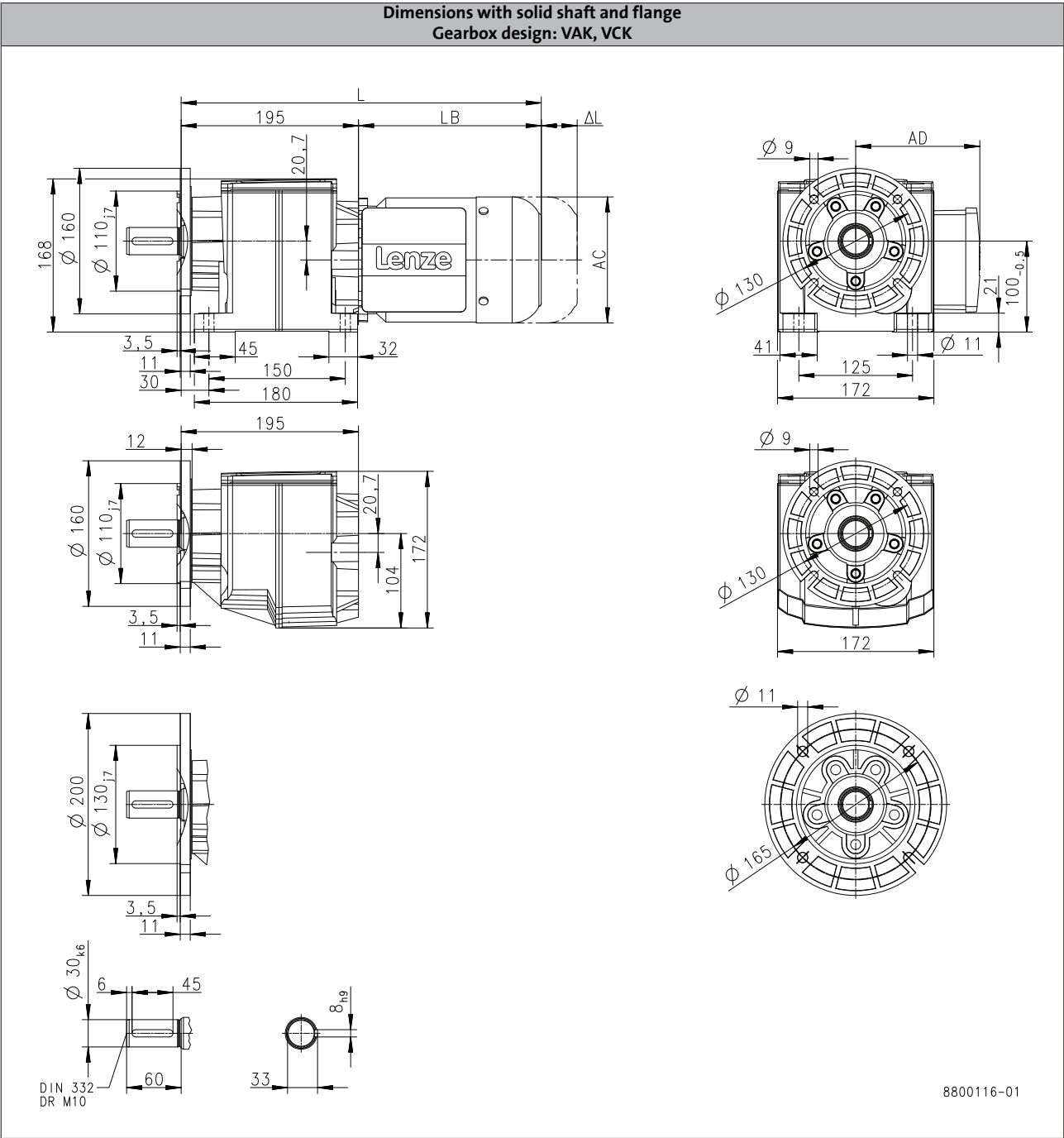
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H320



			m240					
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4
Total length	L	[mm]	420	489		551		538
Motor length	LB	[mm]	225	294		356		343
Length of motor options	Δ L	[mm]	107	92.0		103		111
Motor diameter	AC	[mm]	158	172		192		210
Distance motor/connection	AD	[mm]	148	155		164		171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

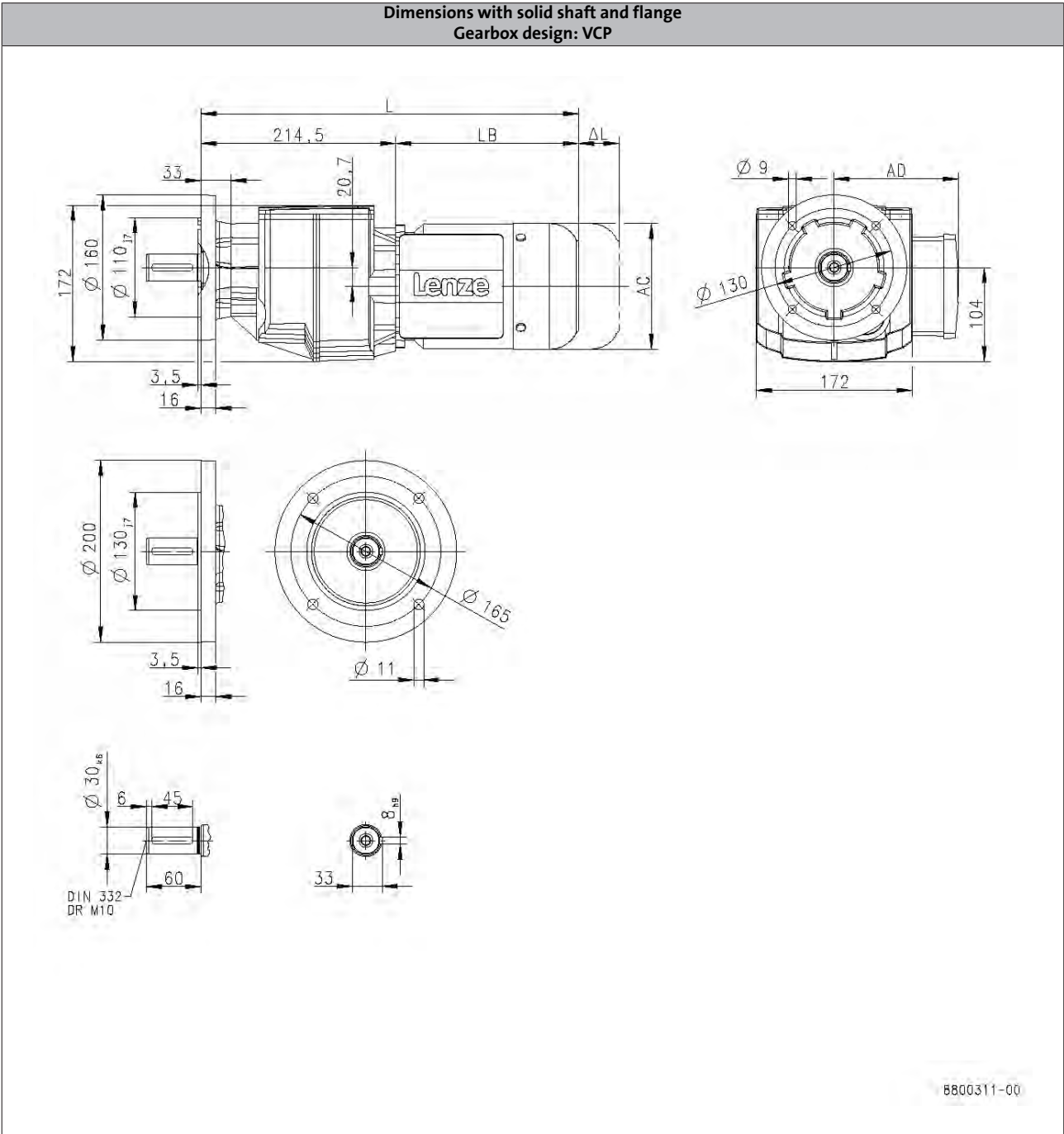
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H320



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	398			418	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

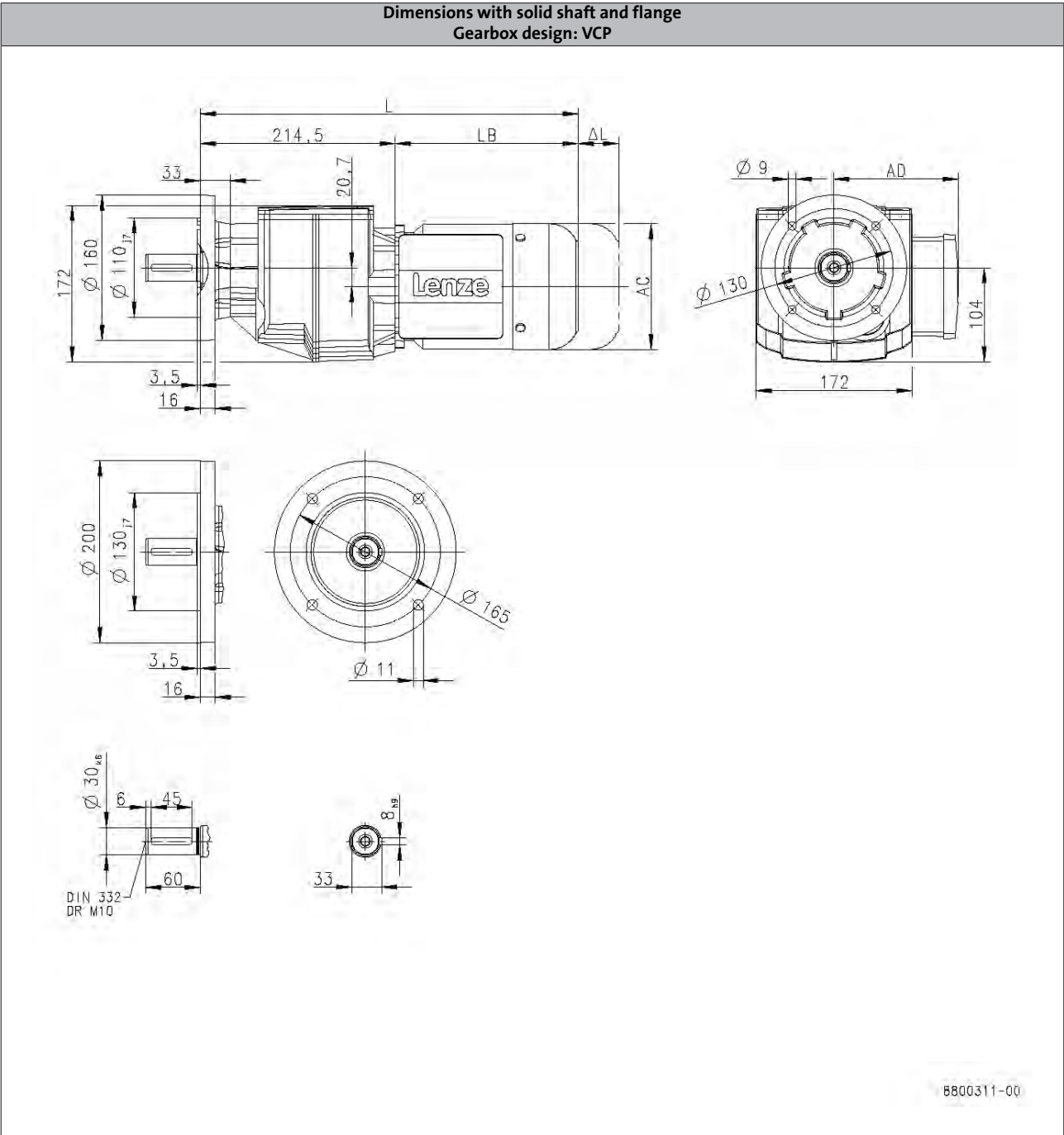
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H320



			m240					
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4
Total length	L	[mm]	440	509		571		558
Motor length	LB	[mm]	225	294		356		343
Length of motor options	Δ L	[mm]	107	92.0		103		111
Motor diameter	AC	[mm]	158	172		192		210
Distance motor/connection	AD	[mm]	148	155		164		171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-H450

Technical drawing of a Lenze motor with dimensions in mm. The drawing includes a side view, a front view, and two detail views of the mounting flange.

Side View Dimensions:

- 209.5
- 15.4
- LB
- ΔL
- AC
- 30
- 50
- 165
- 197
- 36

Front View Dimensions:

- AD
- 56
- 135
- 202
- 24
- 115_{-0.5}
- 187
- $\varnothing 13.5$

Detail View Dimensions (Left):

- $\varnothing 30_{k6}$
- 6
- 45
- 60
- 33
- 8_{h9}

Detail View Dimensions (Right):

- $\varnothing 35_{k6}$
- 7
- 56
- 70
- 38
- 10_{h9}

Other Dimensions:

- 30_{k6}
- 35_{k6}
- 38
- 10_{h9}
- 115_{-0.5}
- 187

Logos and Text:

- Lenze
- DIN 332
- DR M10

8800127-00

			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	393			413	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

6.3

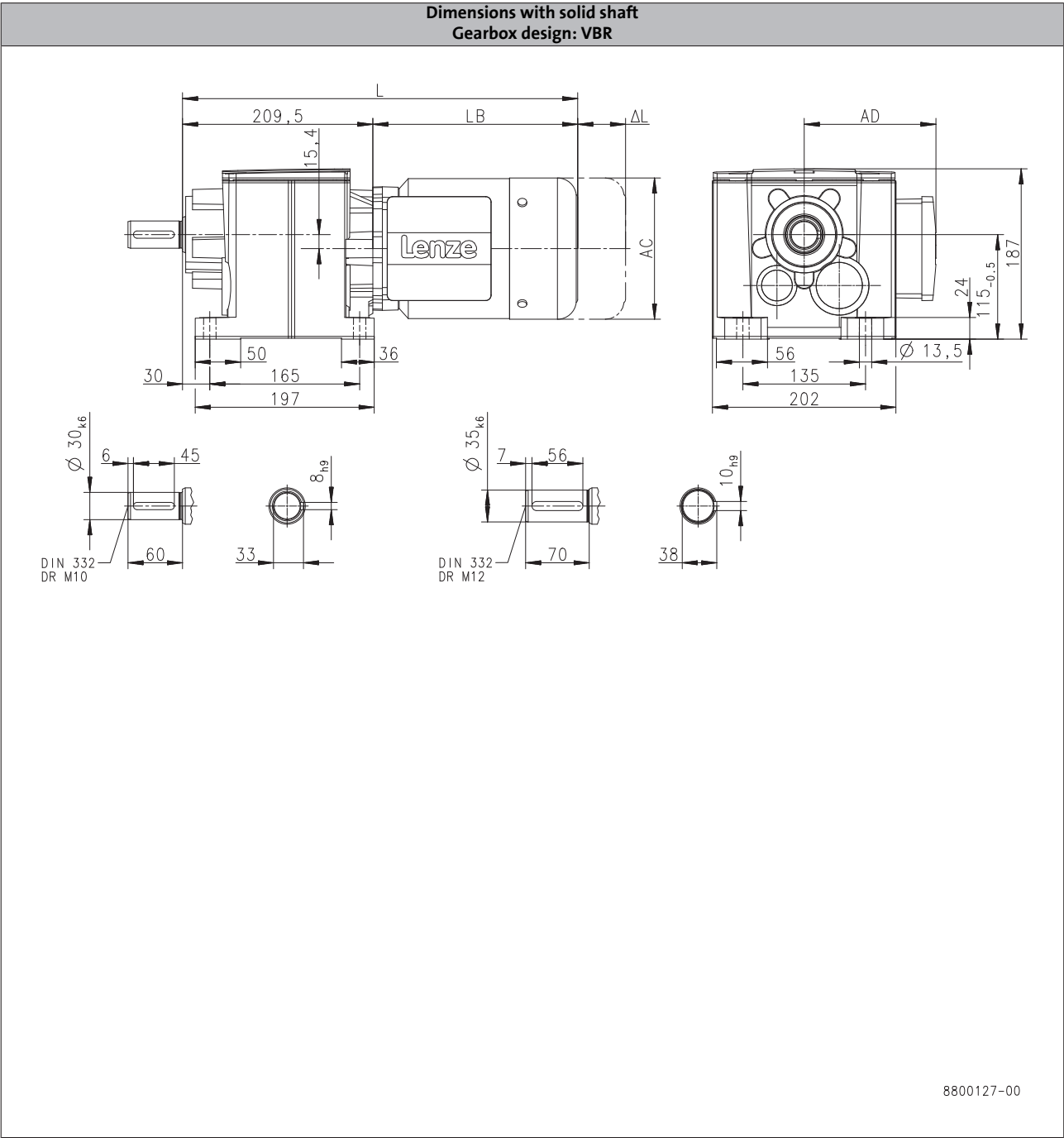
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H450



			m240							
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4	-P132/L4	-P132/M4
Total length	L	[mm]	435	504		566		553	628	
Motor length	LB	[mm]	225	294		356		343	418	
Length of motor options	Δ L	[mm]	107	92.0		103		111	118	
Motor diameter	AC	[mm]	158	172		192		210	281	
Distance motor/connection	AD	[mm]	148	155		164		171	182	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

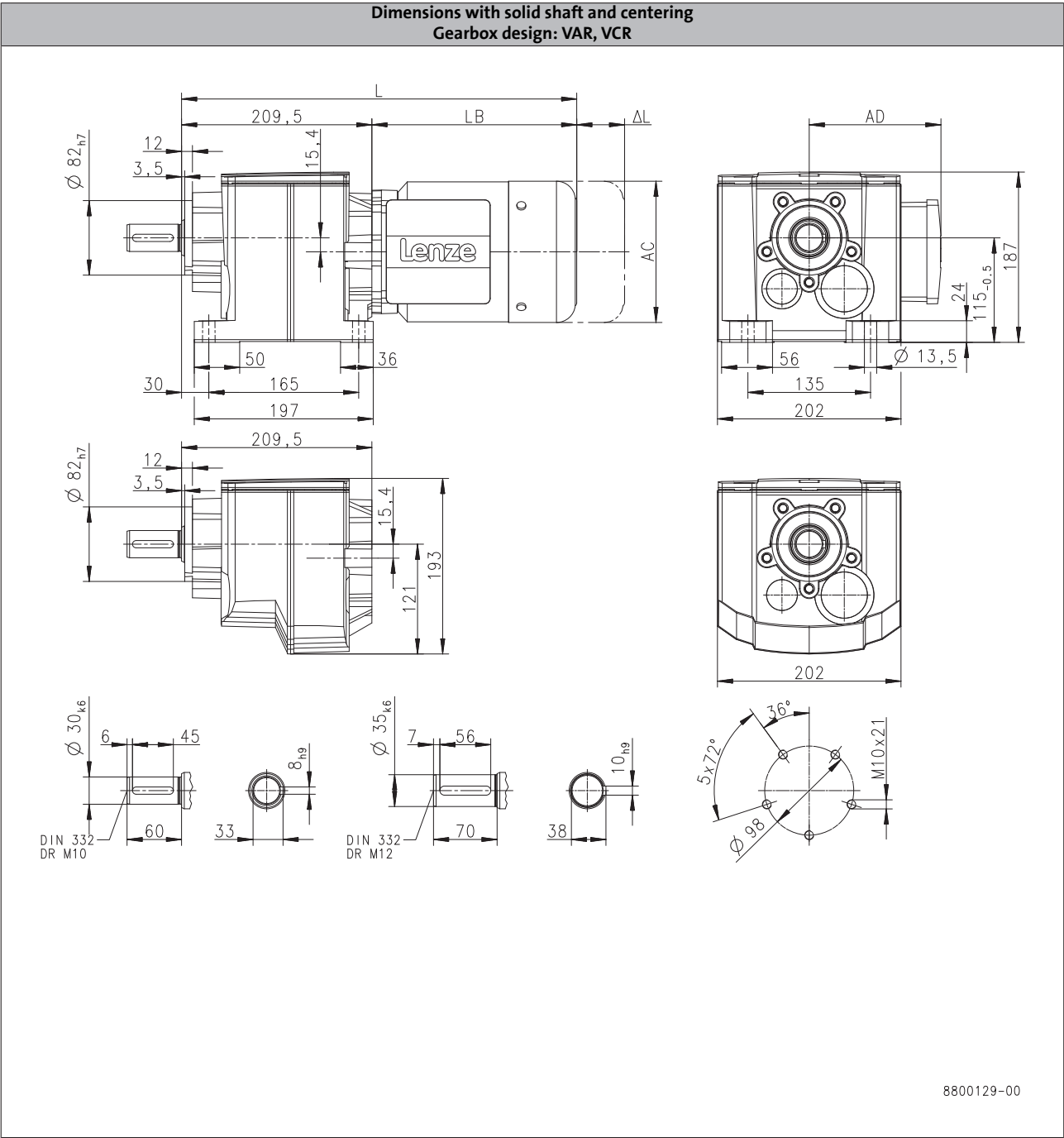
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H450



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	393			413	
Motor length	LB	[mm]	183			203	
Length of motor options	ΔL	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

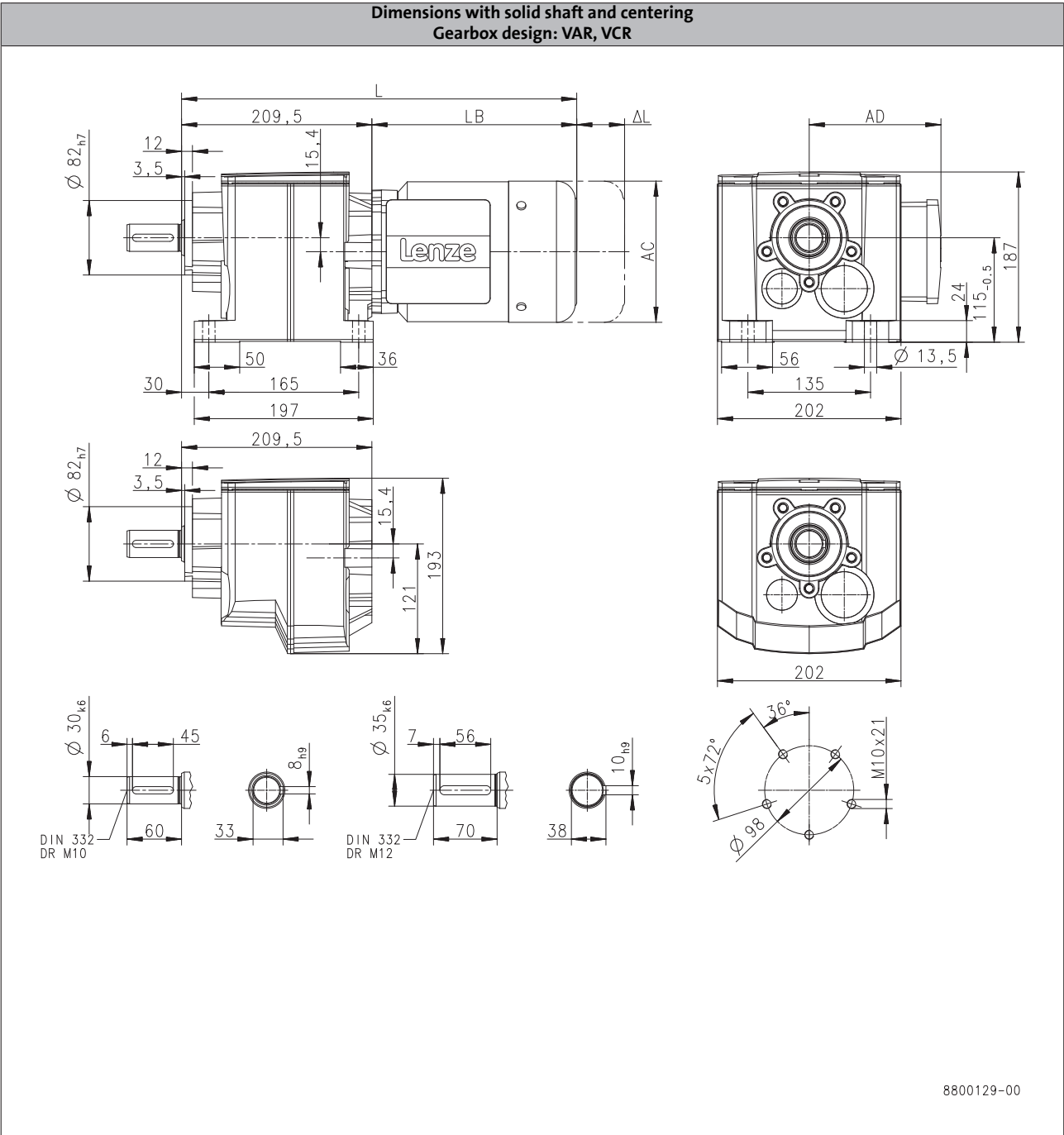
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H450



6.3

			m240							
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4	-P132/L4	-P132/M4
Total length	L	[mm]	435	504		566		553	628	
Motor length	LB	[mm]	225	294		356		343	418	
Length of motor options	Δ L	[mm]	107	92.0		103		111	118	
Motor diameter	AC	[mm]	158	172		192		210	281	
Distance motor/connection	AD	[mm]	148	155		164		171	182	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-H450

[illegible]

			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	393			413	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

6.3

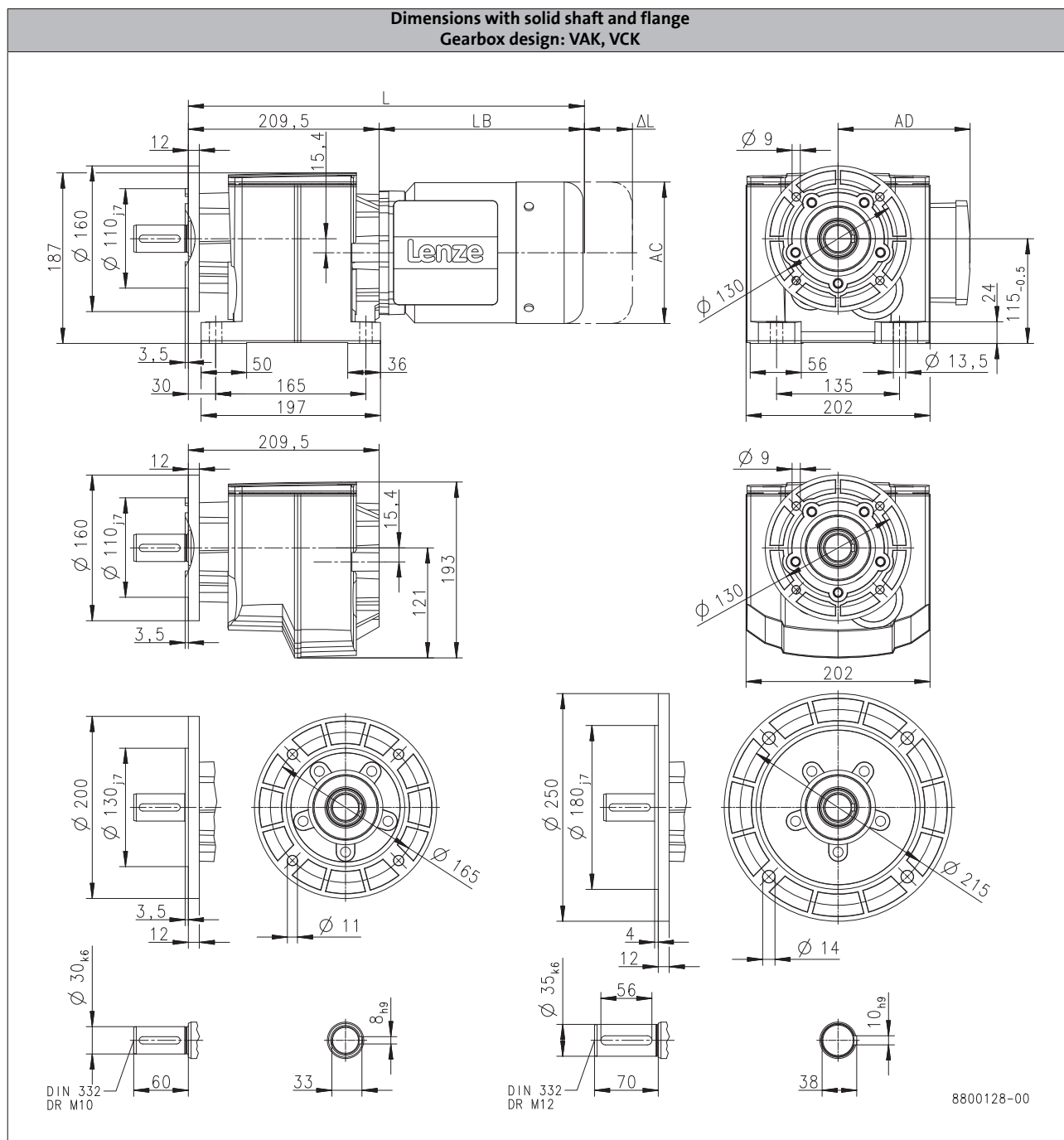
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H450



			m240							
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4	-P132/L4	-P132/M4
Total length	L	[mm]	435	504		566		553	628	
Motor length	LB	[mm]	225	294		356		343	418	
Length of motor options	Δ L	[mm]	107	92.0		103		111	118	
Motor diameter	AC	[mm]	158	172		192		210	281	
Distance motor/connection	AD	[mm]	148	155		164		171	182	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

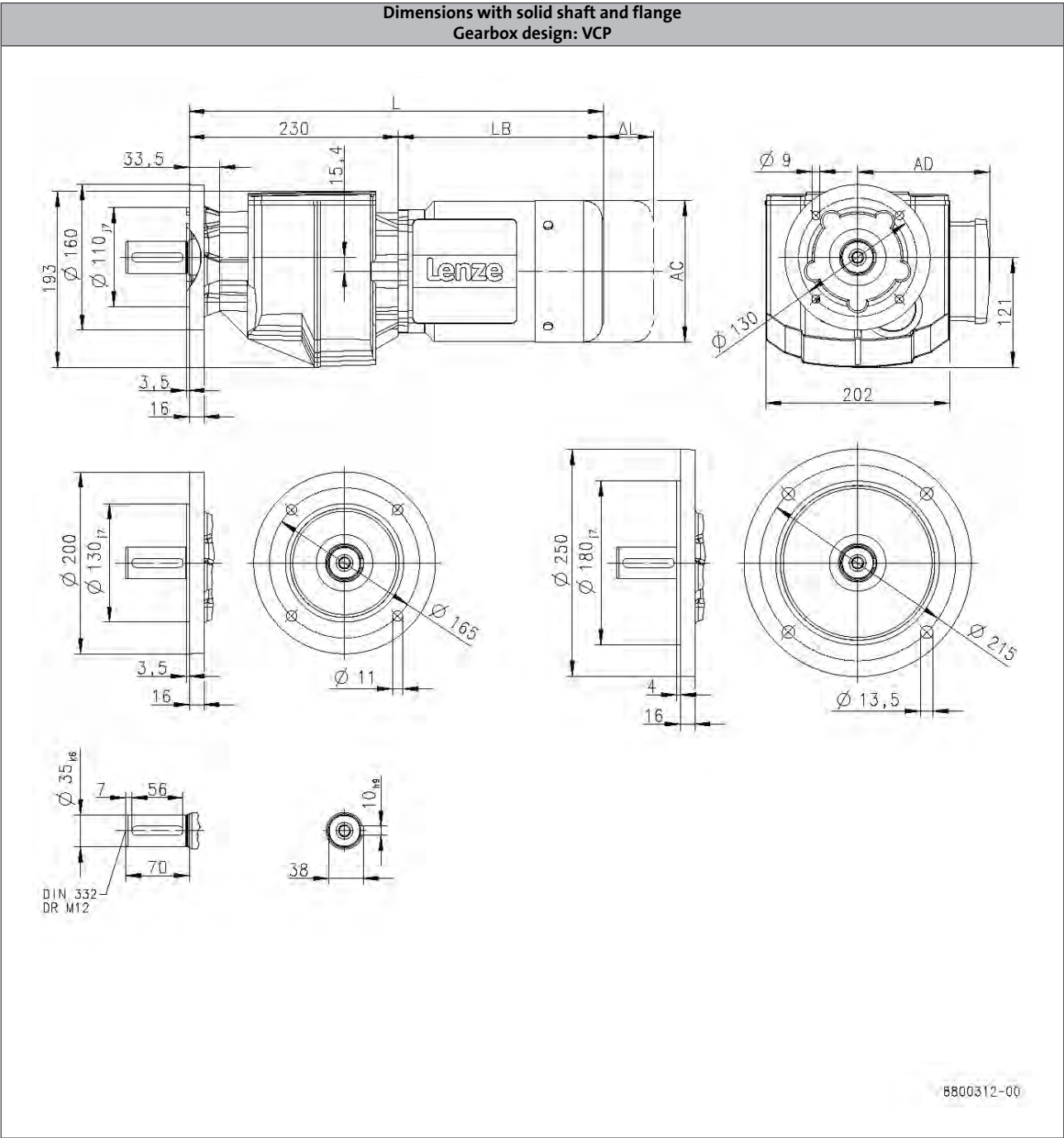
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H450



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	413			433	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

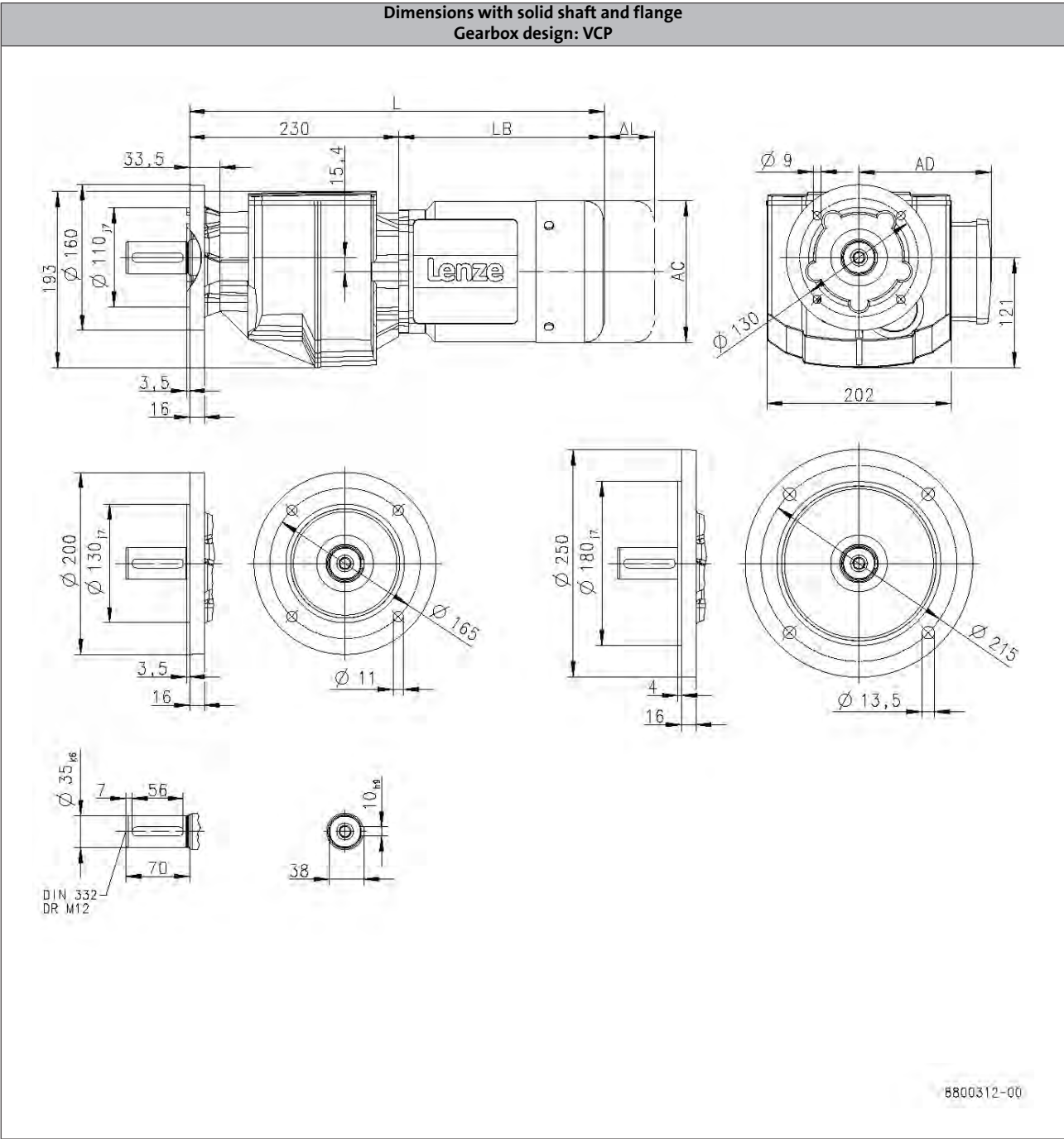
g500-H helical geared motors

Technical data



Dimensions, 4-pole motors

g500-H450



			m240							
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4	-P132/L4	-P132/M4
Total length	L	[mm]	455	524		586		573	648	
Motor length	LB	[mm]	225	294		356		343	418	
Length of motor options	Δ L	[mm]	107	92.0		103		111	118	
Motor diameter	AC	[mm]	158	172		192		210	281	
Distance motor/connection	AD	[mm]	148	155		164		171	182	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

g500-H helical geared motors

Technical data



Weights, 2-pole motors

2-stage gearboxes

Product		Mass
		m
		[kg]
g500-H100	MD□MA□□063-11	7.10
	MD□MA□□063-31	7.00
	MD□MA□□071-11	9.20
	MD□MA□□071-31	9.70
	m240-P80/L2	15.6
	m240-P80/M2	
	m240-P90/L2	21.1
	m240-P90/M2	
g500-H140	MD□MA□□063-11	8.20
	MD□MA□□063-31	8.10
	MD□MA□□071-11	10.3
	MD□MA□□071-31	10.8
	m240-P80/L2	16.7
	m240-P80/M2	
	m240-P90/L2	22.2
	m240-P90/M2	
g500-H210	MD□MA□□063-11	9.50
	MD□MA□□063-31	9.40
	MD□MA□□071-11	11.6
	MD□MA□□071-31	12.1
	m240-P80/L2	18.0
	m240-P80/M2	
	m240-P90/L2	23.5
	m240-P90/M2	
	m240-P100/M2	31.9

Product		Mass
		m
		[kg]
g500-H320	MD□MA□□071-31	14.0
	m240-P80/L2	19.9
	m240-P80/M2	
	m240-P90/L2	25.4
	m240-P90/M2	
	m240-P100/M2	33.8
	m240-P112/M2	38.9
g500-H450	MD□MA□□071-31	17.1
	m240-P80/L2	23.0
	m240-P80/M2	
	m240-P90/L2	28.5
	m240-P90/M2	
	m240-P100/M2	36.9
	m240-P112/M2	42.0

g500-H helical geared motors

Technical data



Weights, 4-pole motors

2-stage gearboxes

Product		Mass
		m
		[kg]
g500-H45	MD□MA□□063-02	5.20
	MD□MA□□063-12	5.50
	MD□MA□□063-22	5.20
	MD□MA□□063-32	5.50
	MD□MA□□063-42	5.80
	MD□MA□□071-32	7.20
	MD□MA□□071-42	7.80
g500-H100	MD□MA□□063-12	7.30
	MD□MA□□063-32	
	MD□MA□□063-42	7.60
	MD□MA□□071-32	9.00
	MD□MA□□071-42	9.60
	m240-P80/M4	18.1
	m240-P90/L4	23.1
g500-H140	m240-P90/M4	22.1
	MD□MA□□063-12	8.40
	MD□MA□□063-32	
	MD□MA□□063-42	8.70
	MD□MA□□071-32	10.1
	MD□MA□□071-42	10.7
	m240-P80/M4	19.2
g500-H210	m240-P90/L4	24.2
	m240-P90/M4	23.2
	MD□MA□□063-12	9.70
	MD□MA□□063-32	
	MD□MA□□063-42	10.0
	MD□MA□□071-32	11.4
	MD□MA□□071-42	12.0
	m240-P80/M4	20.5
	m240-P90/L4	25.5
	m240-P90/M4	24.5
	m240-P100/L4	36.5
	m240-P100/M4	31.5

Product		Mass
		m
		[kg]
g500-H320	MD□MA□□063-32	11.6
	MD□MA□□063-42	11.9
	MD□MA□□071-32	13.3
	MD□MA□□071-42	13.9
	m240-P80/M4	22.4
	m240-P90/L4	27.4
	m240-P90/M4	26.4
	m240-P100/L4	38.4
	m240-P100/M4	33.4
g500-H450	m240-P112/M4	41.4
	MD□MA□□063-42	15.0
	MD□MA□□071-32	16.4
	MD□MA□□071-42	17.0
	m240-P80/M4	25.5
	m240-P90/L4	30.5
	m240-P90/M4	29.5
	m240-P100/L4	41.5
	m240-P100/M4	36.5
	m240-P112/M4	44.5
	m240-P132/L4	67.5
	m240-P132/M4	65.5

g500-H helical geared motors

Technical data



Weights, 4-pole motors

3-stage gearboxes

Product		Mass
		m
		[kg]
g500-H210	MD□MA□□063-12	9.90
	MD□MA□□063-32	
	MD□MA□□063-42	10.2
	MD□MA□□071-32	11.6
	MD□MA□□071-42	12.2
	m240-P80/M4	20.7
g500-H320	MD□MA□□063-12	11.8
	MD□MA□□063-32	
	MD□MA□□063-42	12.1
	MD□MA□□071-32	13.5
	MD□MA□□071-42	14.1
	m240-P80/M4	22.6
g500-H450	MD□MA□□063-32	15.1
	MD□MA□□063-42	15.4
	MD□MA□□071-32	16.8
	MD□MA□□071-42	17.4
	m240-P80/M4	25.9
	m240-P90/L4	30.9
	m240-P90/M4	29.9

g500-H helical geared motors

Technical data



Additional weights for gearboxes

Product			g500-H45	g500-H100	g500-H140	g500-H210	g500-H320	g500-H450
Foot	m	[kg]	0.1	0.1	0.2	0.1	0.1	0.2
Flange	m	[kg]	0.3	0.4	0.6	0.6	0.8	0.9

Additional weights for motors

2-pole motors

Product			MD□MA□□		m240				
			063-11 063-31	071-11 071-31	-P80/L2 -P80/M2	-P90/L2 -P90/M2	-P100/M2	-P112/M2	-P132/L2 -P132/M2
Brake			06	06 08	08 10		10 12	12 14	14 16
	m	[kg]	0.9	0.9 1.5	1.5 2.6		2.6 4.2	4.2 5.8	5.8 8.7

4-pole motors

Product			MD□MA□□			m550				
			063-02 063-22	063-12 063-32 063-42	071-32 071-42	-P80/M4	-P90/L4 -P90/M4	-P100/L4 -P100/M4	-P112/M4	-P132/L4 -P132/M4
Brake			06	06 08	08 10	08 10	10 12	12 14	14 16	
	m	[kg]	0.9	0.9 1.5	1.5 2.6	1.5 2.6	2.6 4.2	4.2 5.8	5.8 8.7	



Gearbox code

Example		G	50	A	H	045	M	V	B	R	2	C
Meaning	Variant											
Product family		G	50									
Generation				A								
				B								
Gearbox type	Helical gearbox				H							
Output torque	45 Nm					045						
	100 Nm					110						
	140 Nm					114						
	210 Nm					121						
	320 Nm					132						
	450 Nm					145						
Mounting	Motor						M					
Shaft type	Solid shaft with feather key							V				
	Solid shaft without keyway							G				
Housing type	Foot mounting + centering								A			
	Foot mounting								B			
	Centering								C			
Flange mounting	Without flange									R		
	Flange with through holes									k		
										P		
Number of stages	2-stage										2	
	3-stage										3	
Motor mounting	Integrated											C
	IEC motor											N

g500-H helical geared motors

Appendix



Motor code

Example		M	D	E	MA	XX	063	-	4	2	C1	C
Meaning	Variant	Motor code										
Product family		M										
Efficiency class	IE1		D									
Cooling	Natural ventilation			S								
	Integral fan			E								
	Blower			F								
Internal key					MA							
Built-on accessories	Without built-on accessories					XX						
	Brake					BR						
	Brake + resolver					BS						
	Brake + incremental encoder					BI						
	Brake + SinCos absolute value encoder					BA						
	Resolver					RS						
	Incremental encoder					IG						
	SinCos absolute value encoder					AG						
Size							063					
							071					
Overall length									0			
									1			
									2			
									3			
									4			
Number of pole pairs	4-pole motors									2		
	2-pole motors									1		
Internal key											C1	
Approval	CE											C
	cURus											U
	CCC											3

g500-H helical geared motors

Appendix



Motor code

Example	M24A	P	080	M	04	5	E	0	0	W	T
Meaning	Variant	Motor code									
Efficiency class	Premium - IE3	P									
Size			080								
			090								
			100								
			112								
			132								
			160								
			180								
			200								
			225								
Overall length	Medium			M							
	Long			L							
	Very long			V							
Number of poles	2-pole				02						
	4-pole				04						
Degree of protection	IP55					5					
Cooling	Integral fan						E				
Brake attachment	Without brake							0			
	Spring-applied brake							F			
Actual value encoder	Without encoder								0		
Approval	CE									C	
	none									N	
Design type	Internal key										T

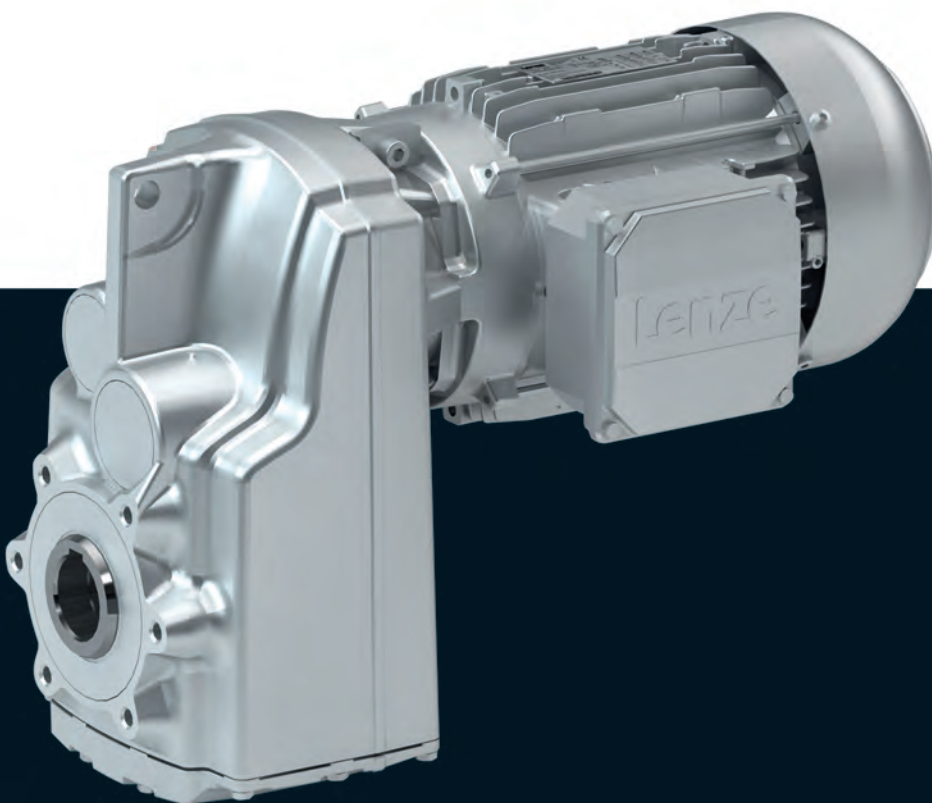


g500-S shaft-mounted helic- al geared motors

Mains operation

0.12 ... 0.55 kW (efficiency class IE1)

0.75 ... 7.5 kW (efficiency class IE3)



g500-S shaft-mounted helical geared motors

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g500-S shaft-mounted helical geared motors

General information



List of abbreviations

α	[rad/s ²]	Max. permissible angular acceleration
$\eta_{50\%}$	[%]	Efficiency
$\eta_{75\%}$	[%]	Efficiency
$\eta_{100\%}$	[%]	Efficiency
η_a		Efficiency
$\eta_{c=1}$		Efficiency
c		Load capacity
$\cos \phi$		Power factor
du/dt	[kV/ μ s]	Insulation resistance
$F_{ax,-}$	[N]	Min. axial force
$F_{ax,+}$	[N]	Max. axial force
$F_{ax,max}$	[N]	Max. axial force
$f_{in,max}$	[Hz]	Max. input frequency
f_{max}	[kHz]	Limit frequency
f_{max}	[kHz]	Max. switching frequency
f_N	[Hz]	Rated frequency
$F_{rad,max}$	[N]	Max. radial force
f_z		Additional radial force factor
H_{max}	[m]	Site altitude
I_0	[A]	Standstill current
i		Ratio
$I_{in,max}$	[A]	Max. input current
I_{max}	[A]	Max. current consumption
I_{max}	[A]	Max. current
I_{max}	[A]	Max. current consumption
I_{max}	[A]	Max. current
I_{max}	[A]	Max. short-time DC-bus current
I_{max}	[A]	Max. DC-bus current
I_N	[A]	Rated current
$I_{N,\Delta}$	[A]	Rated current
$I_{N,Y}$	[A]	Rated current
J	[kgcm ²]	Moment of inertia
J_{MB}	[kgcm ²]	Moment of inertia
$KE_{LL\ 150\ ^\circ C}$	[V / (1000 r/min)]	Voltage constant
$Kt_{0\ 150\ ^\circ C}$	[Nm/A]	Torque constant
L_{10}	[h]	Bearing service life
L	[mH]	Mutual inductance
$L_{1\sigma}$	[mH]	Stator leakage inductance
$L_{2\sigma}$	[mH]	Rotor leakage inductance
L_N	[mH]	Rated inductance
m	[kg]	Mass
M_2	[Nm]	Output torque
M_{22}	[Nm]	Output torque
M_0	[Nm]	Stall torque
$M_{0,max}$	[Nm]	Max. standstill torque
$M_{2,GM}$	[Nm]	Output torque
$M_{2,max}$	[Nm]	Max. output torque
$M_{2,not}$	[Nm]	Emergency off-torque

M_a	[Nm]	Starting torque
$M_{a,1}$	[Nm]	Starting torque
$M_{a,2}$	[Nm]	Starting torque
M_{av}	[Nm]	Average dynamic torque
M_b	[Nm]	Stalling torque
M_B	[Nm]	Braking torque
M_k	[Nm]	Rated torque
M_{max}	[Nm]	Max. torque
M_N	[Nm]	Rated torque
n_2	[r/min]	Output speed
n_{21}	[r/min]	Output speed
n_{22}	[r/min]	Output speed
$n_{1,max}$	[r/min]	Max. gearbox input speed
$n_{1,max\ 50\%}$	[r/min]	Max. gearbox input speed
n_{eto}	[r/min]	Transition speed
n_k	[r/min]	Speed
n_{max}	[r/min]	Max. speed
n_N	[r/min]	Rated speed
P_{max}	[kW]	Max. power input
Q_{BW}	[MJ]	Friction energy
Q_E	[J]	Maximum switching energy
Q_E	[kJ]	Maximum switching energy
R_1	[Ω]	Stator impedance
R_2	[Ω]	Rotor impedance
R	[Ω]	Insulation resistance
R	[Ω]	Min. insulation resistance
$R_{UV\ 150\ ^\circ C}$	[Ω]	Stator impedance
$R_{UV\ 20\ ^\circ C}$	[Ω]	Stator impedance
$S_{h\ddot{u}}$	[1/h]	Transition operating frequency
t_1	[ms]	Engagement time
t_2	[ms]	Disengagement time
t_{11}	[ms]	Delay time
t_{12}	[ms]	Rise time
T	[$^\circ C$]	Max. surface temperature
T	[$^\circ C$]	Min. ambient temperature for transport
T	[$^\circ C$]	Max. ambient temperature for transport
T	[$^\circ C$]	Max. ambient temperature of bearing
T	[$^\circ C$]	Min. ambient storage temperature
T	[$^\circ C$]	Ambient temperature
T	[$^\circ C$]	Operating temperature
T	[$^\circ C$]	Rated temperature
t	[h]	Service life
T_{opr}		Ambient operating temperature
$T_{opr,max}$	[$^\circ C$]	Max. ambient operating temperature
$T_{opr,min}$	[$^\circ C$]	Min. ambient operating temperature
t_{re}	[s]	Recovery time
$t_{\ddot{u}}$	[ms]	Overexcitation time
U_{Δ}	[V]	Voltage range
U_{AC}	[V]	Mains voltage range

g500-S shaft-mounted helical geared motors

General information



List of abbreviations

U_{AC}	[V]	Mains voltage
$U_{in,max}$	[V]	Max. input voltage
$U_{in,min}$	[V]	Min. input voltage
U_{max}	[V]	Max. input voltage
U_{max}	[V]	Max. mains voltage
U_{min}	[V]	Min. mains voltage
$U_{N,\Delta}$	[V]	Rated voltage
$U_{N,AC}$	[V]	Rated voltage
$U_{N,DC}$	[V]	Rated voltage
$U_{N,Y}$	[V]	Rated voltage
Z_g		Number of teeth
Z_{ro}	[Ω]	Rotor impedance
Z_{rs}	[Ω]	Impedance
Z_{so}	[Ω]	Stator impedance
Z_t		Number of teeth

CCC	China Compulsory Certificate
CE	Communauté Européenne
CEL	China Energy Label
CSA	Canadian Standards Association
CSAULE	Energy Verified Certificate
cURus	Combined certification marks of UL for the USA and Canada
DIN	Deutsches Institut für Normung e.V.
EAC	Customs union Russia / Belarus / Kazakhstan certificate
EMC	Electromagnetic compatibility
EN	European standard
IM	International Mounting Code
IP	International Protection Code
NEMA	National Electrical Manufacturers Association
UkrSEPRO	Certificate for Ukraine
UL	Underwriters Laboratory Listed Product
UR	Underwriters Laboratory Recognized Product
VDE	Verband deutscher Elektrotechniker (Association of German Electrical Engineers)

g500-S shaft-mounted helical geared motors

General information



Product information

In combination with three-phase AC motors, our shaft-mounted helical gearboxes form a compact and powerful drive unit. Numerous options at the input and output end provide for the drive to be exactly adapted to your application.

The slim shaft-mounted helical gearboxes feature high reliable radial forces, closely stepped gear reductions and a low backlash. They are available in 2-pole and 3-pole design with a torque up to 660 Nm and a ratio of up to $i = 495$.

Three-phase AC motors as a basis for geared motors

In a power range of 0.06 to 7.5 kW, Lenze offers mains-operated three-phase AC motors for basic tasks. These drives come in different efficiency classes and can be used for the versions required for mains operation.

- IE1 motors up to a power of 0.55 kW
- IE3 motors from 0.75 kW to 7.5 kW

Versions

- Slimline design saves installation space of the machine
- Solid shaft, hollow shaft and shrink disc for direct integration into the machine
- High accuracy with axial output provide for the highest efficiency

Customer benefit

- Different efficiency classes for the greatest economic benefit
- Saving of space by compact direct mounting to Lenze gearboxes
- Optimum adaptation of the brake reaction by optional holding brakes and service brakes
- Optional overheat control by temperature monitoring

The product name

Gearbox type	Product range		Design	Rated torque [Nm]	Product
Shaft-mounted helical gearbox	g500	-	S	130	g500-S130
				220	g500-S220
				400	g500-S400
				660	g500-S660



g500-S shaft-mounted helical gearbox with m240-P three-phase AC motor



g500-S shaft-mounted helical gearbox with m550-P three-phase AC motor and motec



g500-S shaft-mounted helical gearbox with MCS servo motor

g500-S shaft-mounted helical geared motors

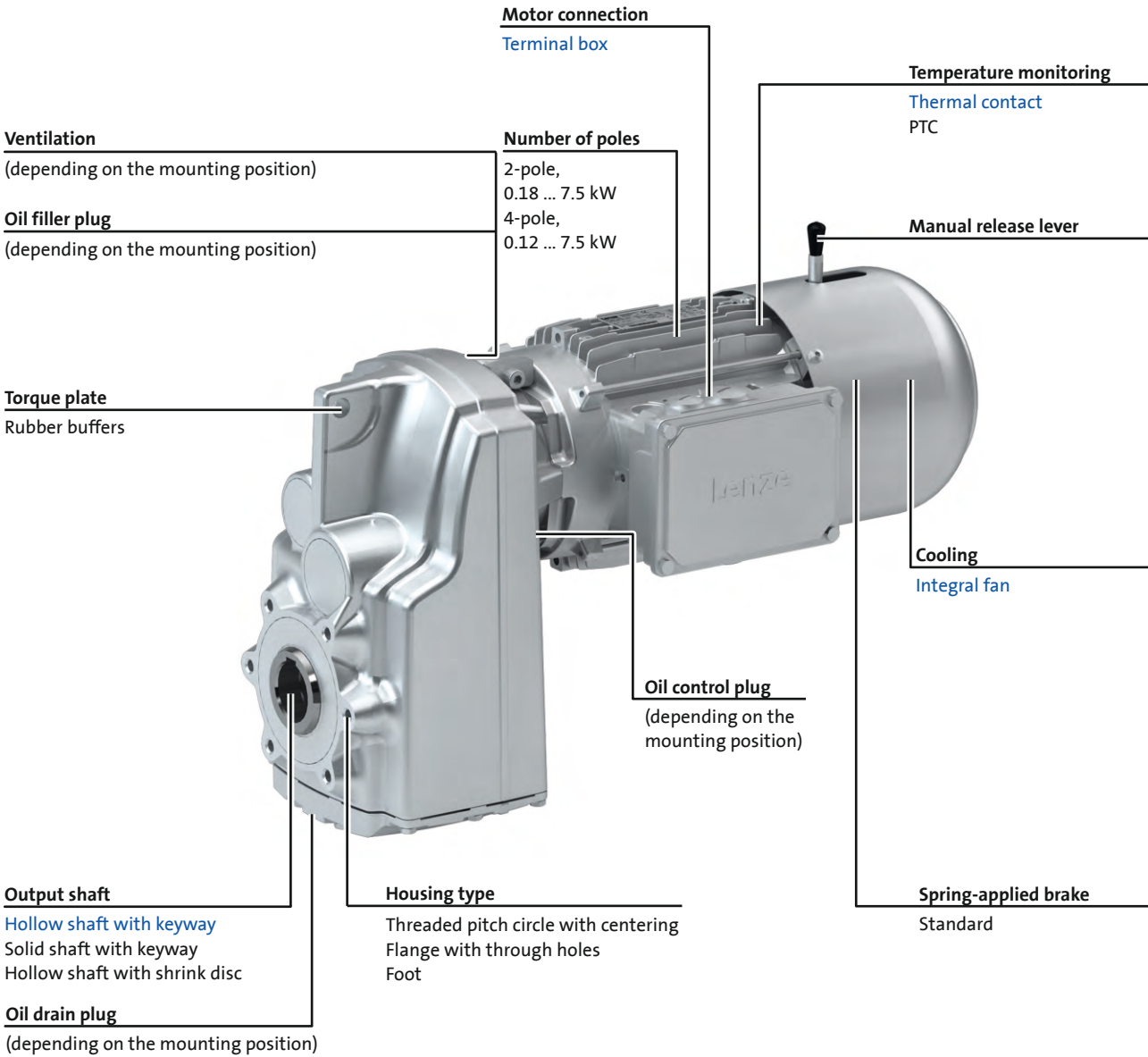
General information



Equipment

Overview

The equipment includes all the options available as standard and all the built-on accessories of the product.



Standard design

11 - Detailed information on housing type.

g500-S shaft-mounted helical geared motors

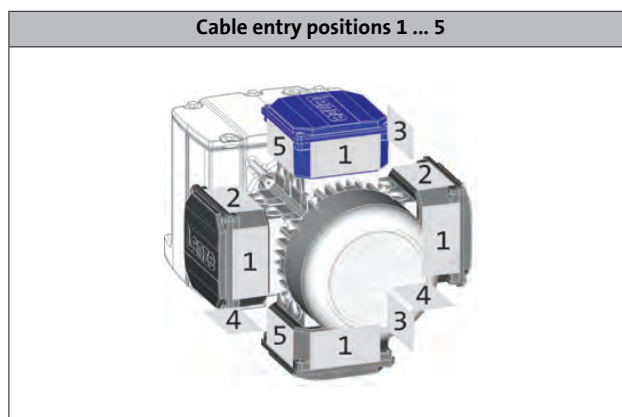
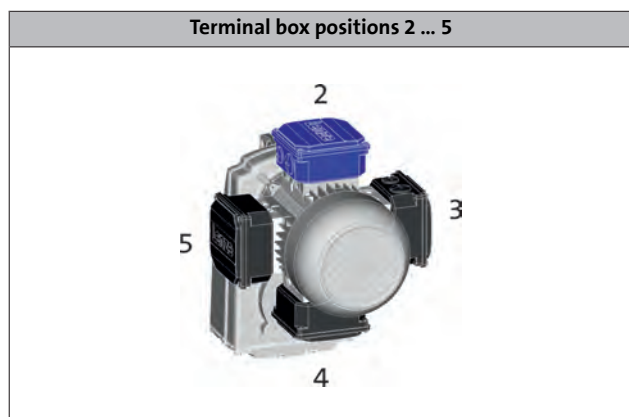
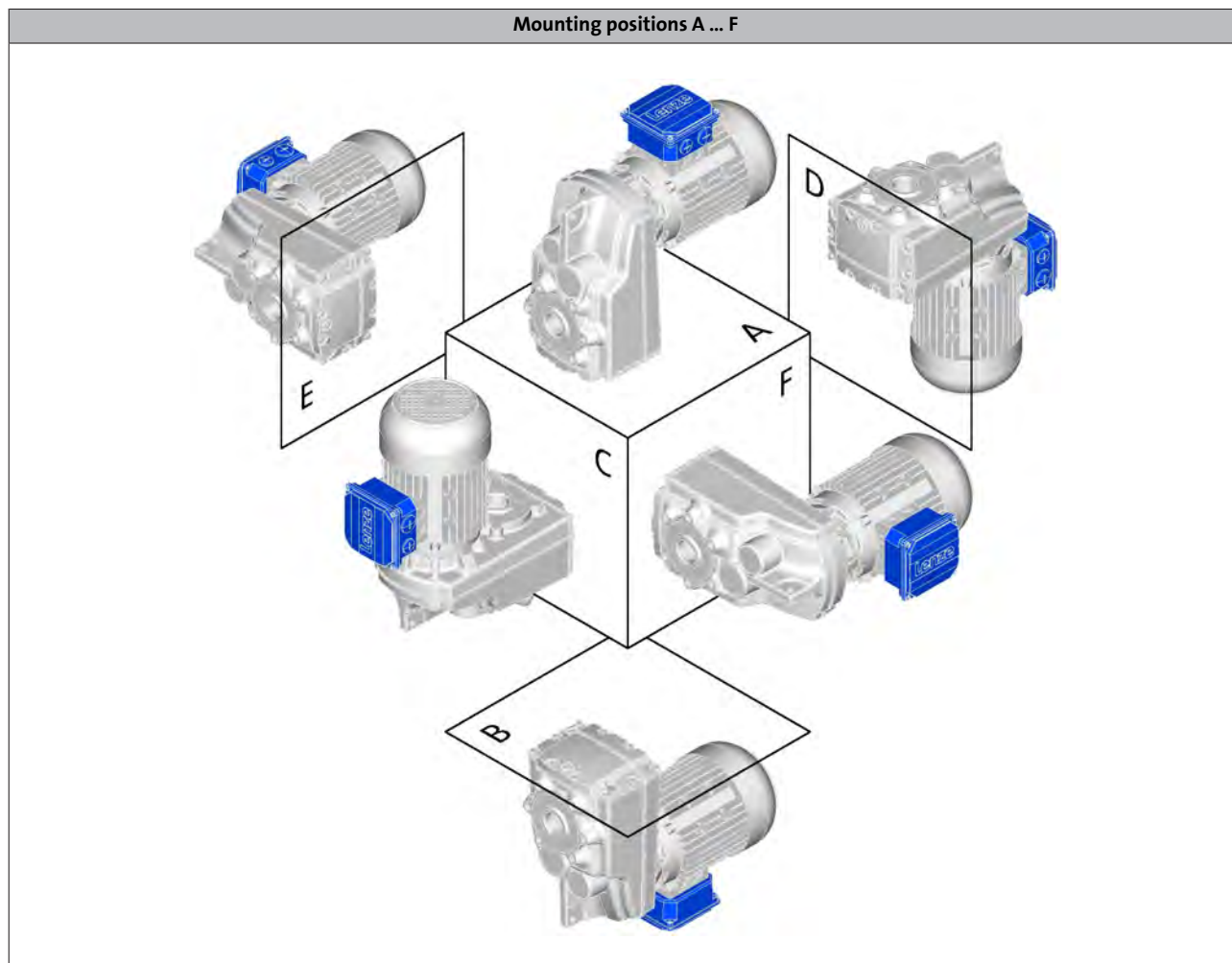
General information



Equipment

Mounting position, position of system components

- In the following graphics, the terminal box in position 2 is colour-coded.
If the mounting position (A ... F) changes, the terminal box positions 2 ... 5 are rotated accordingly.
- To reduce the number of different versions, the gearboxes can also be ordered with combined mounting positions:
- g500-S130 ... S660 in mounting position AEF



- For details regarding the cable entry see motor chapter/product extensions.

g500-S shaft-mounted helical geared motors

General information



Equipment

Mounting position, position of system components

Shrink disc position 1 or 6



- Solid shaft and flange are only possible in position 6.

g500-S shaft-mounted helical geared motors

General information



The geared motor kit

Product	g500-S130	g500-S220	g500-S400	g500-S660
Gearbox				
Motor assignment min.	MD□MA□□-063	MD□MA□□-063	MD□MA□□-063	MD□MA□□-063
Motor assignment max.	m240-P90	m240-P100	m240-P112	m240-P132
Technical data				
Output torque max.	130 Nm	220 Nm	400 Nm	660 Nm
Drive power min.	0.12 kW	0.12 kW	0.12 kW	0.12 kW
Drive power max.	1.5 kW	3.0 kW	4.0 kW	7.5 kW
Dimensions [mm]				
Solid shaft with featherkey	25 x 50	25 x 50	30 x 60	35 x 70 40 x 80
Hollow shaft with keyway	25	25/30	30/35	40/45
Hollow shaft with shrink disc	25	25/30	35	40
Output flange	160	160	200	200/250

- Values printed in bold are standard versions.
Values not printed in bold are possible extensions, some for an additional charge.

Design	
Conformity	CE EAC
Approval	48049
Degree of protection	IP55 IP65/IP66
Surface and corrosion protection	Without Different types of OKS
Colour	Not coated Primed/RAL colours
Hollow shaft	80614
Hollow shaft with shrink disc	- Without keyway
Solid shaft	- With keyway
Shaft material	48054
Shaft sealing ring material	NBR FKM or FPM (Viton)
Shaft bearings	48056
Paste for shaft mounting	Without Enclosed
Gearbox type	Housing (□DR) With foot (VBR) With centering (□CR) With output flange (□CK)
Lubricant	Mineral oil Synthetic oil Food-compatible oil

Design	
Mounting position	A/B/C/D/E/F Combined
Backlash	48063
Power connection	48064
Spring-applied brake	Without Brake design: Standard brake version: Standard
Feedback	48067
Cooling	48068
Temperature monitoring	TKO thermal contact PTC thermistor
Built-on accessories fan side	48071

g500-S shaft-mounted helical geared motors

General information



The gearbox kit

Gearbox details

Solid shaft		
Without centring (VDR)	With centering (VCR)	Flange with through holes (VCK)

Hollow shaft		
Without centring (HDR)	With centering (HCR)	Flange with through holes (HCK)

g500-S shaft-mounted helical geared motors

General information



The gearbox kit

Gearbox details

Hollow shaft with shrink disc

Without centring (SDR)

With centering (SCR)

Flange with through holes (SCK)

Accessories

Foot mounting (VBR)

With rubber buffer

Shrink disc cover



General information about the data provided in this catalogue

The powers, torques and speeds specified in this catalogue are rounded values and are valid under the following conditions:

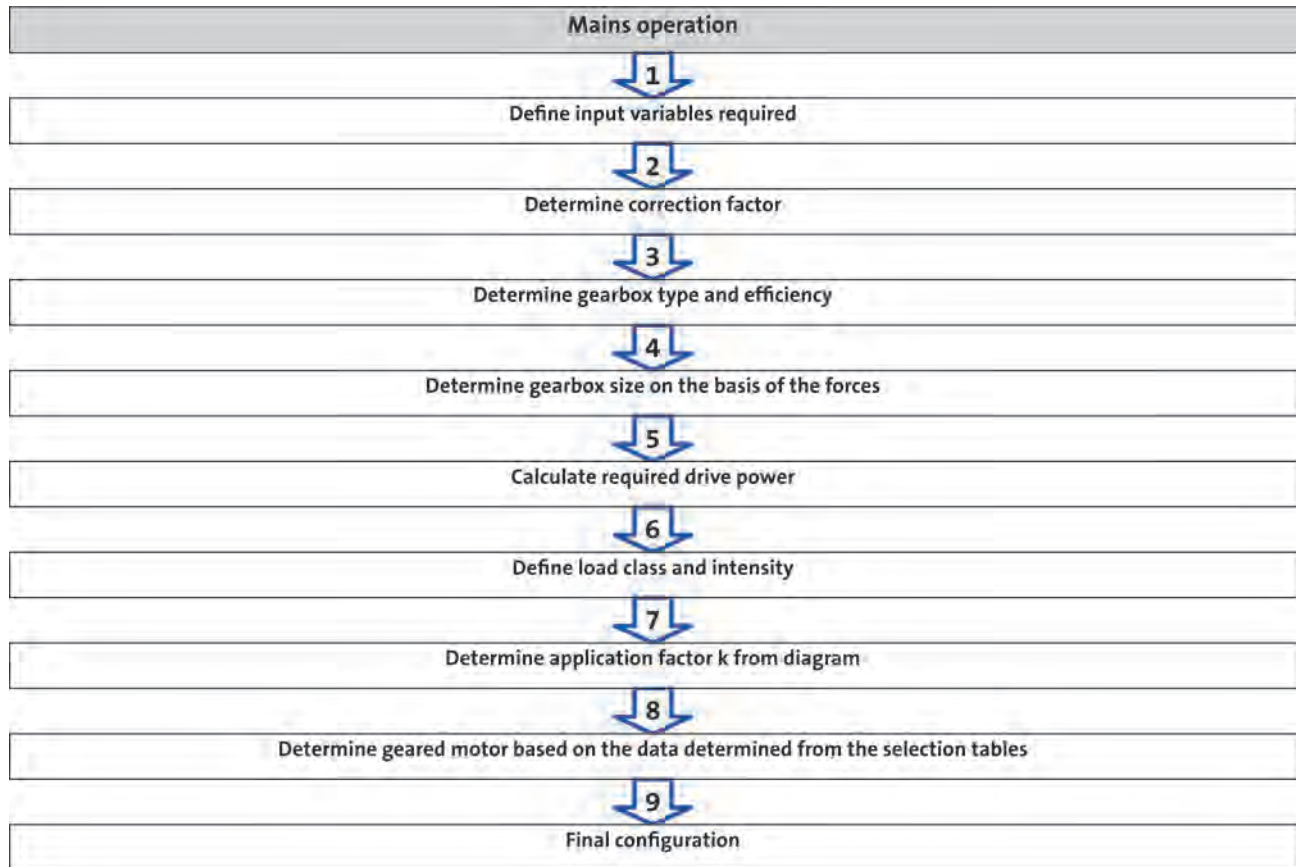
- Operating time/day = 8 h (100% OT)
- Duty class I for up to 10 switching operations/h
- Mounting positions and designs in this catalogue
- Standard lubricant
- $T_{amb} = 30\text{ °C}$ for gearboxes,
 $T_{amb} = 40\text{ °C}$ for motors (in accordance with EN 60034)
- Site altitude $\leq 1000\text{ m amsl}$
- The selection tables provide the permissible mechanical powers and torques. For notes on the thermal power limit, see chapter drive dimensioning.
- The rated power specified for motors and geared motors applies to operating mode S1 (in accordance with EN 60034).

Under different operating conditions, the values obtained may vary from those listed here.

In the case of extreme operating conditions, please consult your Lenze sales office.



Procedure of a configuration process





Procedure of a configuration process

1 required input variables

Load torque		$M_{L,max} =$	[Nm]
	In inverter operation	$M_{L,min} =$	[Nm]
Load speed		$n_{L,max} =$	[r/min]
	In inverter operation	$n_{L,min} =$	[r/min]
External moments of inertia		$J_{ext} =$	[kgcm ²]
Operating time / day		BD =	[h]
Switching operations per h		$S_h =$	[1/h]
Runtime for $M_{L,max}$	In inverter operation		[%]

2 determine correction factor

Operating modes and operating time						
S1	ED	[%]	100			
	$k_L =$		1.0			
S2	ED	[%]	10	30	60	90
	$k_L =$		1.4 - 1.5	1.15 - 1.2	1.07 - 1.1	1.0 - 1.05
S3	ED	[%]	15	25	40	60
	$k_L =$		1.4 - 1.5	1.3 - 1.4	1.15 - 1.2	1.05 - 1.1
S6	ED	[%]	15	25	40	60
	$k_L =$		1.5 - 1.6	1.4 - 1.5	1.3 - 1.4	1.15 - 1.2
Site altitude						
	H	[m]	≤ 1000	≤ 2000	≤ 3000	≤ 4000
	$k_H =$		1	0.95	0.9	0.8
Ambient temperature						
	$T_U =$	[°C]	≤ 40	≤ 45	≤ 50	≤ 55
	$k_{TU} =$		1	0.95	0.9	0.8

21 - Operating modes

g500-S shaft-mounted helical geared motors

Project planning



Procedure of a configuration process

3 determine gearbox type and efficiency

Gearbox type			Axial gearboxes		Right-angle gearboxes
			Helical gearbox	Shaft-mounted	Bevel gearbox
Product			g500-H	g500-S	g500-B
Gearbox efficiency	2-stage gearboxes	η_G	0.96	0.96	0.96
	3-stage gearboxes	η_G	0.95	0.95	0.95

4 determine gearbox size based on the forces on the output

Transmission element		Gear wheels	Sprockets	Toothed belt pulleys (depending on the initial stress)	Narrow V-belt (depending on the initial stress)
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	[N]	$F_{rad} = 2000 \times \frac{M_{L,max} \times f_z}{d_w}$		$F_{rad} \leq f_w \times F_{rad,max}$	
Axial force	[N]			$F_{ax} \leq F_{rad,max} \times 0.5$	

d_w = effective diameter - transmission element



1 - Permissible radial and axial forces at output

5 calculate drive power

		Calculation	
Drive power required	[kW]	$P_1 = \frac{M_{L,max} \times \eta_{L,max}}{9549 \times k_L \times k_H \times k_{Tu} \times \eta_g}$	

k_L = Correction factor - operational factor

k_H = correction factor - installation height

k_{Tu} = correction factor - ambient temperature



Procedure of a configuration process

6 calculate intensity and determine duty class

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

22 - Duty classes

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

i= gearbox ratio
 J_L = moment of inertia of the load
 J_M = moment of inertia of the motor
 J_B = moment of inertia of the brake
 J_Z = additional moment of inertia (handwheel, 2nd shaft end ...)

7 determine application factor k from diagram

25 - Load capacity and application factor



Procedure of a configuration process

8 determine geared motor based on the data determined from the selection tables

Selection table		Check
Drive power P_N	[kW]	$P_1 \leq P_N$
Output speed n_2	[r/min]	$n_{L,max} \approx n_2$
Output torque M_2	[Nm]	$M_{L,max} \leq M_2$
Load factor c		$k \leq c$
Order information		Example
Number of stages		2
Ratio i		4.000
Product gearbox		g500-H100
Product motor		m240-P80/M2

25 - Load capacity and application factor

Example: structure of a selection table

50 Hz: $P_N = 0.75$ kW ← Rated power P_N

2-stage gearboxes ← Number of the gear stage

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m240	
627	11	5.2	4.600	-H100	-P80/M2	
558	12	4.9	5.167	-H100	-P80/M2	

↑
Output speed n_2

↑
Output torque M_2

↑
Load capacity c

↑
Ratio i

↑
Product
Gearbox

↑
Product
Motor



Procedure of a configuration process

9 Final configuration

More information regarding the final configuration can be found under: - The modular geared motor system - Product extensions for gearboxes, motors	
Check operating conditions	- Operating temperature (observe lubricant, material of shaft sealing ring) - Degree of protection - Supply voltage - Surface protection required - Approvals - Conformity
Check and define connection dimensions	- Driven shaft - Foot, output flange, centering with threaded pitch circle
Determine mounting position and position of the system blocks	- Mounting position A/B/C/D/E/F or combined - Terminal box position, shaft position, flange position
Select product extensions at the gearbox (differing depending on the gearbox type)	- Torque plate at the base, threaded pitch circle, rubber buffer - Hollow shaft cover, shrink disc cover
Select product extensions at the motor	- Connection type (terminal box, connector) - Brake

g500-S shaft-mounted helical geared motors

Project planning



Standards

Approvals

CCC	China Compulsory Certification documents the compliance with the legal product safety requirements of the PR of China - GB standards.
cCSAus	CSA certificate, tested according to US and Canada standards
CE	Communauté Européenne documents the declaration of the manufacturer that EC Directives are complied with.
CEL	China Energy Label documents the compliance with the legal energy efficiency requirements for motors, tested according to PR of China standards
CSA	Canadian Standards Association CSA - certificate, tested according to Canada standards
CSAULE	Energy Verified Certificate Determining the energy efficiency according to CSA C390 for products within the scope of energy efficiency requirements in the USA and Canada
cULus	UL certificate for products, tested according to US and Canada standards
cURus	UL certificate for components, tested according to US and Canada standards
EAC	Certificate of Russia-Belarus-Kazakhstan Customs Union documents the declaration of the manufacturer that the specifications for the Eurasian conformity (EAC) required for placing electronic and electromechanical products on the market of the entire territory of the Customs Union (Russia, Belarus, Kazakhstan) are complied with.
UL	Underwriters Laboratory Listed Product
UR	Underwriters Laboratory Recognized Product UL certificate for components, tested according to US standards



Standards

Operating modes

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.

g500-S shaft-mounted helical geared motors

Project planning



Standards

Duty classes

Depending on the load type, the duty classes or impacts are divided as follows:

Duty class	Load type
I	Smooth operation, small or light jolts
II	Uneven operation, average jolts
III	Uneven operation, severe jolts and/or alternating load

In order to support you in classifying your driven machine regarding the right duty class, the following shows sample applications with the corresponding duty class. Depending on, for instance, the operating frequency, driven machines can also have a higher impact. In case of uncertainties, please contact your Lenze sales office.

Drive	Duty class
Construction machines	II
Chemical industry	II
Conveyors	II
Fans	II
Plastics industry	II
Wood working	III
Hoists	III
Metal working	III
Food	II
Paper industry	III
Stones	III
Textile industry	II



Standards

Degrees of protection

The degree of protection indicates the suitability of a motor for specific ambient conditions with regard to humidity as well as the protection against contact and the ingress of foreign particles. The degrees of protection are classified by EN 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 the 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 similar	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 and the like	3	Protection against spraying water, up to 60 ° to the vertical
4	Protection against granular foreign particles, d > 1 mm, keeping away tools, wires and 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).

g500-S shaft-mounted helical geared motors

Project planning



Thermal power limit

The thermal power limit, defined by the heat balance, limits the permissible gearbox continuous power. It may be less than the mechanical power ratings listed in the selection tables.

The thermal power limit 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
- the ambient conditions: temperature, air circulation, input or dissipation via shafts and the foundation

If the following input speeds n_1 are exceeded, please contact Lenze:

Motor frame size	Mounting position A, B, E, F	Mounting position C, D
063 ... 100	4000 r/min	3000 r/min
112 ... 132	3000 r/min	1500 r/min

- For a short period of time up to 5 min, 30 % higher speeds are permissible

Possible ways of extending the application area

- synthetic lubricant (option)
- shaft sealing rings made from FP material/Viton (option)
- reduction in lubricant quantity
- cooling of the geared motor by means of air convection on the machine/system



Load capacity and application factor

Load capacity c of gearboxes

Rated value for the load capacity of Lenze geared motors.

- c is the ratio of the permissible rated torque of the gearbox to the rated torque supplied by the drive component (e.g. the built-in Lenze motor).
- The value of c must always be greater than the value of the application factor k calculated for the application.

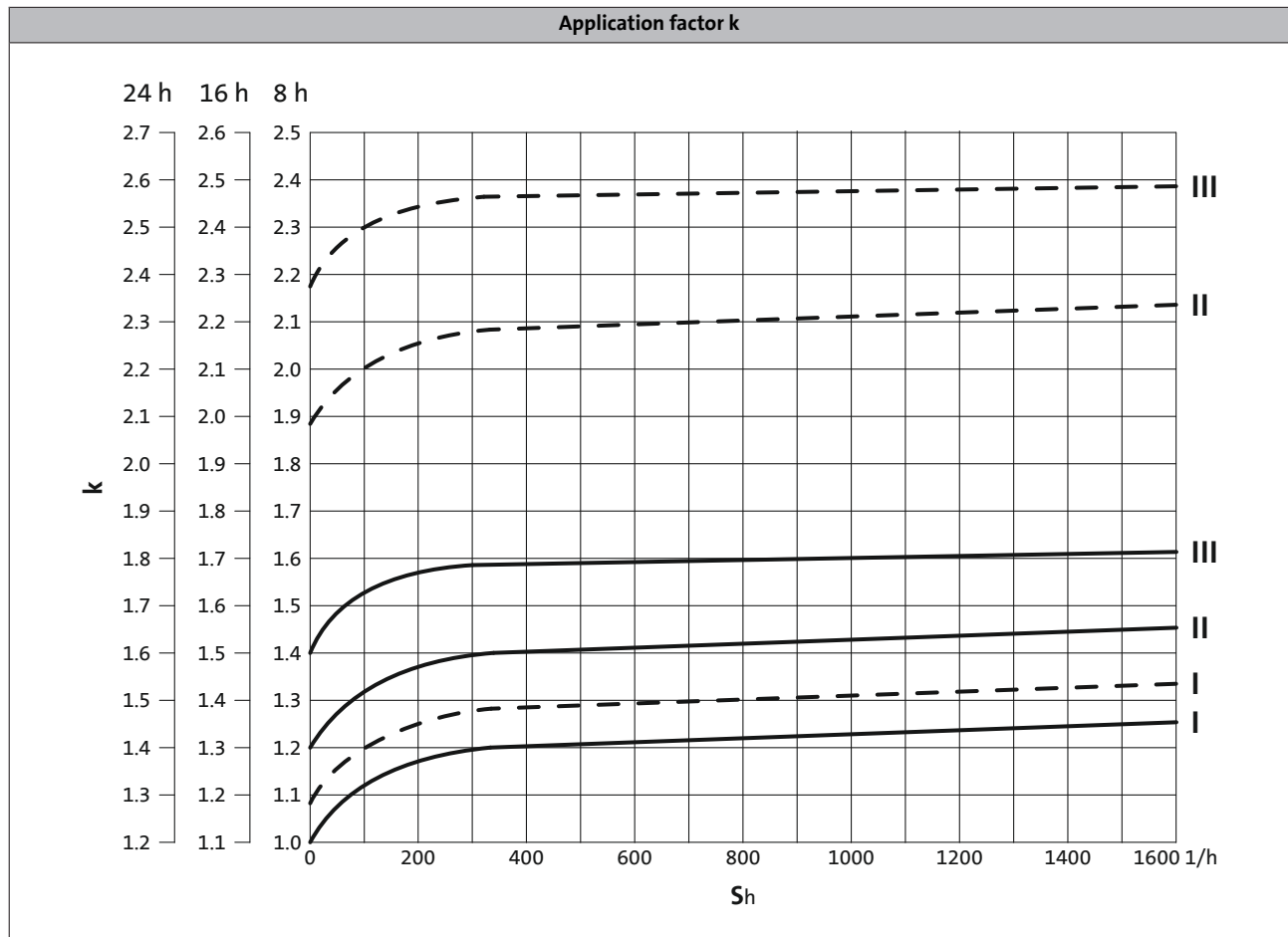
Required: $c \geq k$

Application factor k (according to DIN 3990)

Takes into account the influence of temporally variable loads which are actually present during the anticipated operating time of gearboxes and geared motors.

k is determined by:

- the type of load
- the load intensity
- temporal influences



- S_h = switchings/h
- — Three-phase AC motors MD□/MA
- — Three-phase AC motors m240/m550

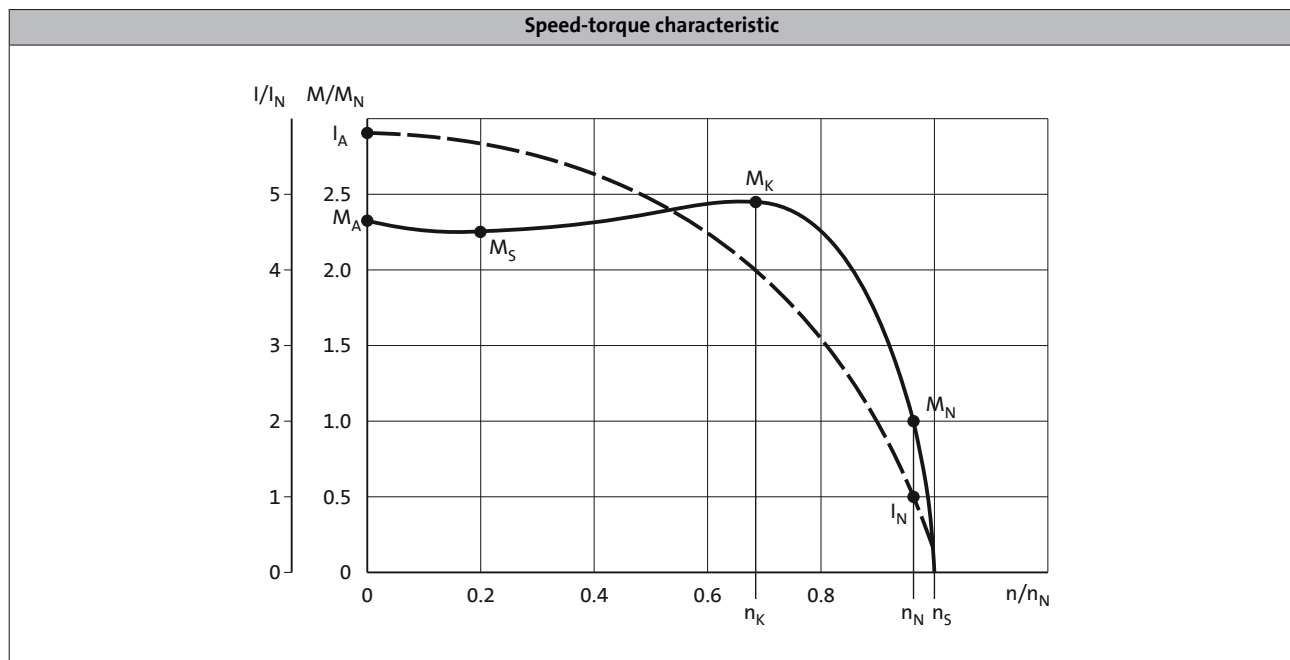


Operational performance of three-phase AC geared motors

The g500 geared motors can be actuated directly on the mains or via an inverter. When actuated in mains operation, the motor runs at a fixed speed, for inverter operation the speed is variable. Thanks to their high degree of protection, the robust three-phase drives can be basically used in a variety of applications.

Mains operation

During mains operation, when switched on, the three-phase AC motor starts up according to the speed-torque characteristic. It passes through this characteristic until it reaches its stable operating point. This operating point has been reached if the load torque or rated torque (M_N) is lower than the starting torque (M_A) and the pull-up torque (M_S). 2-, 4- and 6-pole motors are used. The rated speed (n_{rated}) of the drive is always lower than the calculated synchronous speed (n_s). The difference between rated speed and synchronous speed relating to the synchronous speed is referred to as the "slip".



g500-S shaft-mounted helical geared motors

Project planning



Combinatorics of geared motors

The following tables contain the most important data of the gearbox with the motors that can be attached for an approximate dimensioning process of a geared motor. Detailed information can be found in the following chapters.

The data given in the tables apply to

- input speed $n_1 = 1400$ r/min
- 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). These are cancelled values.

The data for the max. radial force refer to

- solid shaft without flange
- normal storage
- application factor $c = 1.3$

For further designs see the "Technical data" chapter.

- The rated torque can be gathered from the last digits of the product name e.g. g500-S130 (130 Nm).

g500-S130, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
394	63	2.68	3.661	637	174	1350	20	0.25	1.50
287	76	2.36	5.021	728	145	1420	19	0.25	1.50
205	92	2.04	7.029	5096	725	1530	18	0.18	1.50
173	116	2.17	8.322	749	90	1600	13	0.25	1.50
153	125	2.07	9.411	847	90	1660	13	0.25	1.50
224	87	2.11	6.425	559	87	1500	18	0.25	1.50
126	130	1.77	11.413	856	75	1990	13	0.25	1.50
112	130	1.57	12.907	968	75	2100	12	0.25	1.50
98.7	130	1.38	14.606	4601	315	2220	13	0.25	1.50
90.2	130	1.27	15.979	5992	375	2320	13	0.18	1.50
79.9	130	1.12	18.069	6776	375	2460	12	0.18	1.10
70.9	130	0.99	20.381	428	21	2610	13	0.18	1.10
62.9	130	0.88	23.048	484	21	2780	12	0.18	0.75
58.1	130	0.82	24.967	749	30	2890	13	0.25	0.75
51.4	130	0.72	28.233	847	30	3070	12	0.25	0.75
46.2	130	0.65	31.387	2354	75	3240	13	0.12	0.75
39.6	130	0.56	35.493	2662	75	3440	12	0.12	0.55
34.8	130	0.49	40.422	1819	45	3660	13	0.12	0.55
30.8	130	0.43	45.711	2057	45	3860	12	0.12	0.37
27.5	130	0.39	51.230	8453	165	4040	12	0.12	0.37
24.3	130	0.34	57.933	869	15	4230	12	0.12	0.37
22.0	130	0.31	64.200	321	5	4360	12	0.12	0.37
18.9	130	0.27	72.600	363	5	4500	12	0.12	0.25
16.1	102	0.18	84.581	8881	105	4500	12	0.12	0.18

g500-S shaft-mounted helical geared motors

Project planning



Combinatorics of geared motors

g500-S220, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	$\pm 20\%$ [arcmin]	[kW]	[kW]
377	178	7.25	3.840	553	144	2360	16	0.55	3.00
275	181	5.37	5.267	79	15	2650	16	1.10	3.00
214	220	5.08	6.767	203	30	2900	13	0.55	3.00
189	217	4.43	7.667	23	3	3050	12	0.55	3.00
156	220	3.71	9.280	232	25	3250	13	1.10	3.00
138	220	3.27	10.514	368	35	3400	12	1.10	3.00
122	220	2.90	11.876	1247	105	3500	13	0.55	3.00
112	220	2.65	12.992	1624	125	3550	13	0.25	3.00
108	220	2.56	13.456	1978	147	3600	12	0.55	3.00
98.6	220	2.34	14.720	368	25	3600	12	0.25	2.20
87.6	220	2.08	16.571	116	7	3600	12	0.25	2.20
77.3	220	1.84	18.776	920	49	3600	12	0.25	2.20
71.0	220	1.69	20.300	203	10	3600	12	0.55	1.50
62.7	220	1.49	23.000	23	1	3600	12	0.55	1.50
54.6	220	1.30	26.422	1189	45	3600	12	0.25	1.50
48.2	220	1.14	29.937	1886	63	3600	12	0.25	1.10
43.9	220	1.04	32.867	493	15	3600	12	0.25	1.10
38.8	220	0.92	37.238	782	21	3600	12	0.25	1.10
34.1	220	0.81	42.533	638	15	3600	12	0.12	0.75
30.1	220	0.71	48.190	1012	21	3600	12	0.12	0.75
27.2	220	0.65	51.620	2581	50	3600	12	0.12	0.55
24.0	220	0.57	58.486	2047	35	3600	11	0.12	0.55
21.4	171	0.39	65.975	2639	40	3600	12	0.12	0.37
18.9	194	0.40	74.750	299	4	3600	11	0.12	0.37

g500-S shaft-mounted helical geared motors

Project planning



Combinatorics of geared motors

g500-S220, 3-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
35.2	220	0.85	40.012	13804	345	3600	13	0.18	0.37
31.1	220	0.75	45.333	136	3	3600	12	0.18	0.37
27.6	220	0.67	52.587	3944	75	3600	13	0.12	0.75
23.6	220	0.57	59.581	6256	105	3600	12	0.12	0.55
20.9	220	0.50	67.298	21199	315	3600	13	0.12	0.55
18.4	220	0.44	76.249	33626	441	3600	12	0.12	0.55
16.4	220	0.40	86.079	5423	63	3600	13	0.12	0.37
14.5	220	0.35	97.528	43010	441	3600	12	0.12	0.37
12.6	220	0.30	111.747	8381	75	3600	13	0.12	0.37
10.8	220	0.26	126.610	13294	105	3600	12	0.12	0.25
9.60	220	0.23	143.205	30073	210	3600	13	0.12	0.25
8.40	220	0.20	162.252	23851	147	3600	12	0.12	0.25
5.90	220	0.14	241.022	10846	45	3600	13	0.12	0.12
5.20	220	0.13	273.079	17204	63	3600	12	0.12	0.12
4.60	220	0.11	312.233	9367	30	3600	13	0.12	0.12
4.00	220	0.10	353.762	7429	21	3600	12	0.12	0.12

g500-S shaft-mounted helical geared motors

Project planning



Combinatorics of geared motors

g500-S400, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	$\pm 20\%$ [arcmin]	[kW]	[kW]
435	203	9.54	3.339	581	174	2360	16	0.55	4.00
317	243	8.33	4.579	664	145	2560	16	1.10	4.00
248	258	6.89	5.860	3569	609	2750	13	0.55	4.00
227	261	6.39	6.411	4648	725	2820	12	0.25	4.00
195	365	7.66	7.467	112	15	2980	13	0.55	4.00
172	380	7.06	8.436	329	39	3150	12	0.55	4.00
142	400	6.13	10.240	256	25	3450	13	1.10	4.00
126	400	5.42	11.569	752	65	3650	13	1.10	4.00
111	400	4.79	13.105	1376	105	3900	12	0.55	4.00
101	400	4.38	14.336	1792	125	4000	12	0.25	4.00
98.1	400	4.24	14.806	4042	273	4100	12	0.55	4.00
89.7	400	3.87	16.197	5264	325	4200	12	0.25	4.00
79.5	400	3.43	18.286	128	7	4400	12	0.25	4.00
70.1	400	3.03	20.659	1880	91	4650	12	0.25	3.00
64.7	400	2.79	22.400	112	5	4800	12	0.55	3.00
57.3	400	2.47	25.308	329	13	5100	12	0.55	3.00
49.5	400	2.14	29.156	1312	45	5500	12	0.25	1.50
43.8	400	1.89	32.940	3854	117	5750	12	0.25	1.50
39.8	400	1.72	36.267	544	15	5850	12	0.25	1.50
35.2	400	1.52	40.974	1598	39	5980	12	0.25	1.50
30.9	314	1.05	46.933	704	15	6100	12	0.12	0.75
27.3	348	1.03	53.026	2068	39	6200	11	0.12	0.75
24.7	268	0.71	56.960	1424	25	6200	12	0.12	0.55
21.8	303	0.71	64.354	4183	65	6200	11	0.12	0.55

g500-S shaft-mounted helical geared motors

Project planning



Combinatorics of geared motors

g500-S400, 3-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
25.0	400	1.09	58.027	4352	75	6200	11	0.18	0.75
22.1	400	0.97	65.559	12784	195	6200	11	0.18	0.75
19.5	400	0.85	74.260	23392	315	6200	11	0.18	0.75
17.3	400	0.76	83.900	68714	819	6200	11	0.18	0.75
15.3	400	0.67	94.984	5984	63	6200	11	0.12	0.75
13.1	399	0.57	107.314	87890	819	6200	11	0.12	0.55
11.4	400	0.50	123.307	9248	75	6200	11	0.12	0.55
10.1	399	0.44	139.313	27166	195	6200	11	0.12	0.55
8.90	400	0.39	158.019	16592	105	6200	11	0.12	0.37
7.90	400	0.35	178.531	48739	273	6200	11	0.12	0.37
6.90	400	0.30	204.412	33728	165	6200	11	0.12	0.37
5.90	396	0.26	230.946	99076	429	6200	11	0.12	0.25
5.20	388	0.22	265.956	11968	45	6200	11	0.12	0.25
4.50	400	0.20	300.479	35156	117	6200	11	0.12	0.18
4.10	330	0.15	344.533	5168	15	6200	11	0.12	0.12
3.70	373	0.15	389.256	15181	39	6200	11	0.12	0.12

g500-S shaft-mounted helical geared motors

Project planning



Combinatorics of geared motors

g500-S660, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
377	419	17.0	3.920	98	25	3320	14	2.20	7.50
275	492	14.6	5.376	672	125	3580	13	2.20	7.50
230	601	14.9	6.417	77	12	3660	11	2.20	7.50
215	496	11.5	6.880	172	25	3690	13	1.10	7.50
202	593	12.9	7.311	329	45	3720	11	2.20	7.50
168	638	11.6	8.800	44	5	3900	11	2.20	7.50
147	625	9.94	10.027	752	75	4200	10	2.20	7.50
131	660	9.35	11.262	473	42	4500	11	1.10	7.50
120	660	8.54	12.320	308	25	4750	10	1.10	7.50
115	660	8.20	12.832	4042	315	4850	10	1.10	7.50
105	660	7.49	14.037	5264	375	5100	10	1.10	7.50
94.0	660	6.70	15.714	110	7	5450	10	0.55	7.50
81.5	660	5.81	17.905	376	21	5800	10	0.55	5.50
75.8	660	5.40	19.250	77	4	6000	10	1.10	5.50
66.6	660	4.74	21.933	329	15	6450	10	1.10	5.50
58.0	578	3.62	25.056	451	18	7050	10	0.55	4.00
50.9	660	3.63	28.548	3854	135	7700	10	0.55	4.00
46.5	660	3.31	31.167	187	6	8100	10	0.55	3.00
40.8	660	2.91	35.511	1598	45	8500	10	0.55	3.00
35.8	545	2.11	40.333	121	3	8750	10	0.25	1.50
31.4	620	2.10	45.956	2068	45	8850	10	0.25	1.50
29.5	446	1.42	48.950	979	20	8900	10	0.25	1.10
25.9	508	1.42	55.773	4183	75	9000	10	0.25	1.10

g500-S shaft-mounted helical geared motors

Project planning



Combinatorics of geared motors

g500-S660, 3-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
28.9	625	1.98	49.867	748	15	9000	11	0.25	1.50
25.4	650	1.81	56.818	12784	225	9000	10	0.25	1.50
22.6	660	1.63	63.817	8041	126	9000	11	0.25	1.50
20.7	660	1.50	69.813	5236	75	9000	11	0.18	1.50
19.8	660	1.43	72.713	68714	945	9000	10	0.25	1.50
18.1	660	1.31	79.545	89488	1125	9000	10	0.18	1.50
16.2	660	1.17	89.048	1870	21	9000	11	0.18	1.10
14.2	660	1.03	101.460	6392	63	9000	10	0.18	1.10
13.2	660	0.95	109.083	1309	12	9000	11	0.25	1.10
11.7	660	0.85	124.289	5593	45	9000	10	0.25	0.75
10.6	660	0.77	137.133	2057	15	9000	11	0.12	0.75
9.30	660	0.67	156.249	35156	225	9000	10	0.12	0.75
8.00	660	0.58	176.611	3179	18	9000	11	0.12	0.55
7.00	660	0.51	201.230	27166	135	9000	10	0.12	0.55
6.30	660	0.46	223.833	1343	6	9000	11	0.12	0.37
5.50	660	0.40	255.034	126242	495	9000	10	0.12	0.37
5.00	603	0.33	280.500	561	2	9000	11	0.12	0.37
4.40	660	0.32	319.600	1598	5	9000	10	0.12	0.37
3.70	447	0.18	369.548	15521	42	9000	11	0.12	0.18
3.20	511	0.18	421.060	132634	315	9000	10	0.12	0.18

g500-S shaft-mounted helical geared motors

Project planning



Surface and corrosion protection

For optimum protection of geared motors against ambient conditions, the surface and corrosion protection system (OKS) offers tailor-made solutions.

Various surface coatings combined with other protective measures ensure that the geared motors operate reliably even at high air humidity, in outdoor installations or in the presence of atmospheric impurities. Any colour from the RAL Classic collection can be chosen for the top coat. The geared motors are also available unpainted (no surface and corrosion protection).

Surface and corrosion protection	Applications	Measures
Without OKS(uncoated)	- Interior installation, no special corrosion protection required - Paint provided by the customer	- Aluminium parts uncoated - Fan covers zinc-coated or primed in grey - Grey cast iron parts primed in grey Note: Slight colour deviation of the components is possible Standard version in case of: - g500-H45 ... H450 - g500-S130 ... 660 - g500-B45 ... 450
OKS-G (primed)	Dependent on subsequent top coat applied	2K PUR priming coat (grey) - Zinc-coated screws - Rust-free breather elements Optional measures - Stainless steel nameplate
OKS-S (small)	- Standard applications - Internal installation in heated buildings - Air humidity up to 90%	- Surface coating corresponding to corrosivity category C1 (subject to EN 12944-2) - Zinc-coated screws - Rust-free breather elements Optional measures - Stainless steel nameplate
OKS-M (medium)	- Internal installation in non-heated buildings - Covered, protected external installation - Air humidity up to 95%	- Surface coating corresponding to corrosivity category C2 (subject to EN 12944-2) - Zinc-coated screws - Rust-free breather elements Optional measures - Stainless steel shaft - Stainless steel nameplate - Rust-free shrink disc (on request)
OKS-L (large)	- External installation - Air humidity above 95% - Chemical industry plants - Food industry	- Surface coating corresponding to corrosivity category C3 (subject to EN 12944-2) - Blower cover and B end shield additionally primed - Cable glands with gaskets - Corrosion-resistant brake with cover ring, stainless friction plate, and chrome-plated armature plate (on request) - All screws/screw plugs zinc-coated - Stainless breather elements - Threaded holes that are not used are closed by means of plastic plugs Optional measures - Sealed recesses on motor (on request) - Stainless steel shaft - Stainless steel nameplate - Rust-free shrink disc (on request) - Additional priming coat on cast iron fan - Oil expansion tank and torque plates painted separately and supplied loose
OKS-XL (extra Large) ¹⁾	- External installation - Air humidity above 95 % - Chemical industry plants - Food industry - Coastal areas with moderate salinity	- Surface coating corresponding to corrosivity category C4 (subject to EN 12944-2) Additional measures for surface and corrosion protection system L: - Rotor package and stator in the inner area primed with finishing varnish - Feedback in protection class IP65

¹⁾ On request



Surface and corrosion protection

Structure of surface coating

Surface and corrosion protection	Corrosivity category	Surface coating	Colour	Coating thickness
	DIN EN ISO 12944-2	Structure		
Without OKS(uncoated)		• Dipping primer of the grey iron parts		30 ... 50 µm
OKS-G (primed)		• Dipping primer of the grey iron parts • 2K PUR priming coat		60 ... 90 µm
OKS-S (small)	Comparable to C1	• Dipping primer of the grey iron parts • 2K-PUR top coat	• Standard: RAL 7012 • Optional: RAL Classic	80 ... 120 µm
OKS-M (medium)	Comparable to C2	• Dipping primer of the grey iron parts		110 ... 160 µm
OKS-L (large)	Comparable to C3	• 2K PUR priming coat • 2K-PUR top coat		140 ... 200 µm
OKS-XL (extra Large) ¹⁾	Comparable to C4	• Dipping primer of the grey iron parts • 2K-EP priming coat (two times) • 2K-PUR top coat		160 ... 240 µm

¹⁾ On request

g500-S shaft-mounted helical geared motors

Project planning



Lubricants

Gearboxes and geared motors of Lenze come supplied with a lubricant specifically adapted to the drive and design. When placing the order, the mounting position and design are decisive for the lubricant amount.

The lubricant amount and type contained in the gearbox are indicated on the nameplate.

The following gearboxes are lubricated for life:

- Helical gearbox g500-H45 ... 140
- Shaft-mounted helical gearbox g500-S130
- Bevel gearbox g500-B45 ... 240

The lubricants listed in the lubricant table are approved for Lenze drives.

Lubricant table

Mode	CLP 460	CLP HC 320	CLP HC 220 USDA H1
Ambient temperature [°C]	0 ... +40	-25 ... +50	-20 ... +40
Specification	Mineral based oil with additives	Synthetic-based oil (synthetic hydrocarbon / poly-alpha-olefin oil)	
Changing interval	16000 operating hours not later than after three years (oil temperature 70 to 80 °C)	25000 operating hours not later than after three years (oil temperature 70 to 80 °C)	16000 operating hours not later than after three years (oil temperature 70 to 80 °C)
Fuchs	Fuchs Renolin CLP 460	Fuchs Renolin Unisyn CLP 320	
Klüber	Klüberoil GEM1-460 N	Klübersynth GEM4-320 N	Klüberoil 4 UH1-220 N
Shell	Shell Omala S2 G 460	Shell Omala S4 GX HD 320	
bremer & leguil			Cassida Fluid GL 220

- Please contact your Lenze sales office if you are operating at ambient temperatures in areas up to < -20 °C bzw. > or up to +40°C.

Shaft sealing rings

By default, the gearboxes come with NBR shaft sealing rings at the output end. At high speed and unfavourable ambient conditions as high temperature, reduced circulation of air etc., Lenze recommends the use of Viton shaft sealing rings.

Please consider this in your order.



Ventilation

Non-ventilated gearboxes

No ventilation is required for gearboxes g500-S130 to S220.

Ventilated gearboxes

The g500-S400 S660 gearbox is supplied with a breather element as standard.

Gearbox in combined mounting position

For reducing the number of versions, the gearboxes can also be ordered in a combined mounting position:

- g500-S130 ... S660 in mounting position AEF

In these gearboxes, the lubricant amount has been optimised for the use in different mounting positions. -H45 in mounting position ABCDEfg500-H100 ... H450 in mounting position AEF In these gearboxes, the lubricant amount has been optimised for the use in different mounting positions. The breather elements are loosely enclosed and have to be mounted before commissioning depending on the mounting position.

A gearbox can be used for several mounting positions.

g500-S shaft-mounted helical geared motors

Project planning



Ventilation

Position of ventilation, sealing elements and oil level check

► A ... F mounting position

A 	B
C 	D
E 	F
 Filling	 Drain
 Ventilation	 Check

g500-S shaft-mounted helical geared motors

Technical data



Standards and operating conditions

Geared motor data

Product				
Motor			MD□MA□□	m240
Degree of protection				
EN 60529			IP55 ¹⁾ IP65 ¹⁾ IP66 ¹⁾	IP55 ¹⁾
Energy efficiency class				
IEC 60034-30			IE1	IE3
IEC 60034-2-1			Methodology for measuring efficiency	
Conformity				
CE			Low-Voltage Directive	
			2006/95/EC	2014/35/EU
EAC			TP TC 004/2011 (TR CU 004/2011)	
Approval				
CCC			GB Standard 12350-2009	
CSA			CSA 22.2 No. 100	
cURus			UL 1004-1 UL 1004-8 Power Conversion Equipment (File-No. E210321)	
Temperature class				
IEC/EN 60034-1; utilisation			B	
IEC/EN 60034-1; insulation system (enamel-insulated wire)			F	
Min. ambient operating temperature				
	T _{opr,min}	[°C]	-20	
Max. ambient operating temperature				
	T _{opr,max}	[°C]	40	
With power reduction	T _{opr,max}	[°C]	60	
Site altitude				
Amsl	H _{max}	[m]	4000	

¹⁾ Types with deviating degrees of protection:
IP55 with brake (IP54 with manual release lever).

- In the European Union, the ErP Directive stipulates minimum efficiency levels for three-phase AC motors. Geared three-phase AC motors that do not conform with this Directive do not meet CE requirements and must not be marketed in the European Economic Area. For further information about the ErP Directive, the efficiency regulations in other countries and the Lenze products concerned, please refer to the brochure "International efficiency directives for three-phase AC motors".

g500-S shaft-mounted helical geared motors

Technical data



Permissible radial and axial forces at output

Permissible radial force

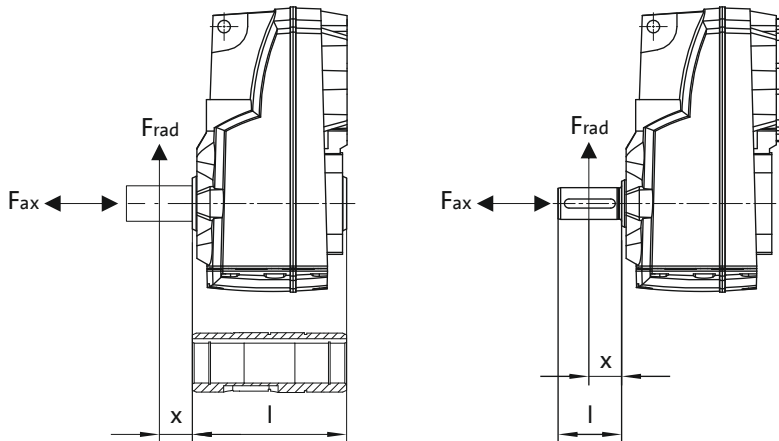
$$F_{rad,perm} = f_w \times F_{rad,max}$$

► If F_{rad} and $F_{ax} \neq 0$, please contact Lenze.

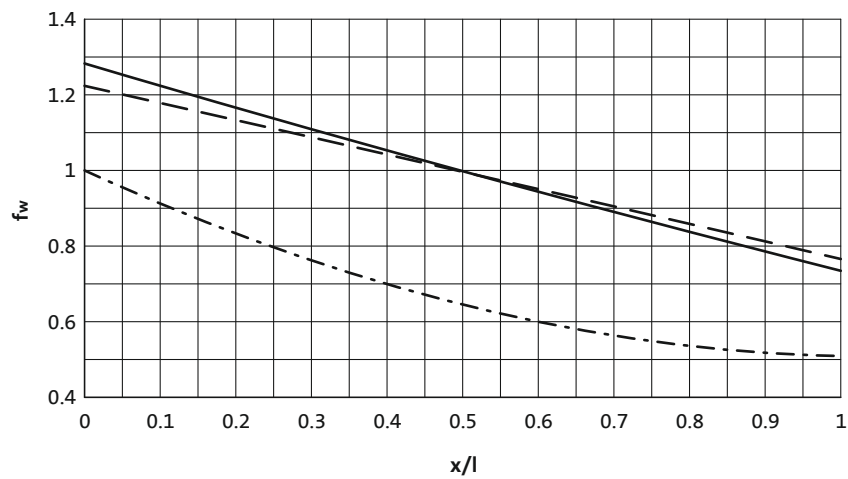
Permissible axial force

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

Application of forces



Additional load factor f_w at output shaft



- Solid shaft
- Solid shaft with flange
- · - Hollow shaft
- Hollow shaft with flange

g500-S shaft-mounted helical geared motors

Technical data



Permissible radial and axial forces at output

The values given in the table refer to the center 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 for the motor/gear-box combination 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 contact Lenze.

- Neither radial nor axial forces are permissible for the hollow shaft with shrink disc.

Product	n_2 [r/min]									
	1000	630	400	250	160	100	63	40	25	≤16

Max. radial force, Hollow shaft										
	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]
g500-S130	1000	1150	1350	1500	1650	2200	2750	3450	4200	4500
g500-S220	2100	2700	2800	3200	3800	4600	5500	6300	7000	7000
g500-S400	1800	2400	3000	3400	4100	5000	6000	7100	8000	8000
g500-S660	2400	3300	4300	4700	5000	6600	8500	10800	12000	12000

Max. radial force, Solid shaft without flange										
	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]
g500-S130	1000	1150	1350	1500	1650	2200	2750	3450	4200	4500
g500-S220	1650	2100	2300	2700	3200	3600	3600	3600	3600	3600
g500-S400	1400	1900	2400	2700	3200	4000	4800	5800	6200	6200
g500-S660	1850	2500	3200	3600	3900	5100	6500	8400	9000	9000

Max. radial force, Solid shaft with flange										
	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]
g500-S130	1000	1150	1350	1500	1650	2200	2750	3450	4200	4500
g500-S220	2300	2800	3200	3700	4400	4600	4600	4600	4600	4600
g500-S400	2900	3700	4300	5100	5900	6800	7000	7000	7000	7000
g500-S660	4000	5000	6100	7000	7800	9600	10000	10000	10000	10000

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, notes

The selection tables show the available combinations of gearbox type, number of stages, ratio and motor. They are used only to provide basic orientation.

The following legend indicates the structure of the selection tables.

Rated power P_N of the drive motor depending on the rated frequency



50 Hz: $P_N = 0.18 \text{ kW}$

2-stufige Getriebe ← Number of the gear stage of the gearbox

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
68	25	5.3	40.422	-S130	063-11	85
60	28	4.7	45.711	-S130	063-11	85



Mains operation
Output speed n_2
Output torque M_2



Load capacity c of the gearbox

c is the ratio between the permissible rated torque of the gearbox and the rated torque of the three-phase AC motor (converted to the driven shaft).

c must be always higher than the service factor k determined for the application k.

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



Ratio i



Product
Gearbox



Product
Motor

Page number
for dimensions

Motor voltages

At 50 Hz, the power and torque values indicated in the selection tables relate to the following motor voltages:

- Up to 3 kW: Δ 230 V / Y 400 V
- FROM 4 kW: Δ 400 V

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.18\text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
68	25	5.3	40.422	-S130	063-11	
60	28	4.7	45.711	-S130	063-11	
54	31	4.2	51.230	-S130	063-11	
47	35	3.7	57.933	-S130	063-11	
43	39	3.3	64.200	-S130	063-11	
38	44	2.9	72.600	-S130	063-11	
32	51	2.0	84.581	-S130	063-11	
29	58	2.0	95.648	-S130	063-11	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.25 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
386	6.0	5.2	7.029	-S130	063-31	
170	14	5.2	15.979	-S130	063-31	
150	15	5.9	18.069	-S130	063-31	
133	17	5.5	20.381	-S130	063-31	
118	20	5.5	23.048	-S130	063-31	
108	27	4.9	31.387	-S130	063-31	
76	30	4.3	35.493	-S130	063-31	
67	35	3.8	40.422	-S130	063-31	
59	39	3.3	45.711	-S130	063-31	
53	44	3.0	51.230	-S130	063-31	
47	50	2.6	57.933	-S130	063-31	
42	55	2.4	64.200	-S130	063-31	
41	56	2.8	65.975	-S220	063-31	
37	62	2.1	72.600	-S130	063-31	
36	64	2.8	74.750	-S220	063-31	
32	72	1.4	84.581	-S130	063-31	
28	82	1.4	95.648	-S130	063-31	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
186	18	5.8	14.606	-S130	071-11	
170	20	5.3	15.979	-S130	071-11	
151	23	5.3	18.069	-S130	071-11	
134	26	4.7	20.381	-S130	071-11	
118	29	4.2	23.048	-S130	071-11	
109	31	3.9	24.967	-S130	071-11	
119	36	3.4	28.233	-S130	071-11	
107	40	3.3	31.387	-S130	071-11	
77	45	2.9	35.493	-S130	071-11	
67	51	2.6	40.422	-S130	071-11	
60	58	2.3	45.711	-S130	071-11	
53	65	2.0	51.230	-S130	071-11	
47	73	1.8	57.933	-S130	071-11	
47	74	3.0	58.486	-S220	071-11	
42	81	1.6	64.200	-S130	071-11	
41	83	2.1	65.975	-S220	071-11	
38	91	1.4	72.600	-S130	071-11	
36	94	2.1	74.750	-S220	071-11	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
718	7.0	5.1	3.661	-S130	071-31	
524	10	5.1	5.021	-S130	071-31	
409	12	4.7	6.425	-S130	071-31	
374	14	4.7	7.029	-S130	071-31	
316	16	5.1	8.322	-S130	071-31	
280	18	5.1	9.411	-S130	071-31	
230	22	4.9	11.413	-S130	071-31	
204	25	4.3	12.907	-S130	071-31	
180	28	3.8	14.606	-S130	071-31	
165	31	3.5	15.979	-S130	071-31	
146	35	3.5	18.069	-S130	071-31	
129	39	3.1	20.381	-S130	071-31	
114	45	2.7	23.048	-S130	071-31	
105	48	2.5	24.967	-S130	071-31	
115	55	2.2	28.233	-S130	071-31	
103	61	2.1	31.387	-S130	071-31	
74	69	1.9	35.493	-S130	071-31	
71	72	3.1	37.238	-S220	071-31	
65	78	1.7	40.422	-S130	071-31	
62	82	2.7	42.533	-S220	071-31	
58	89	1.5	45.711	-S130	071-31	
55	93	2.4	48.190	-S220	071-31	
51	99	1.3	51.230	-S130	071-31	
51	100	2.2	51.620	-S220	071-31	
46	110	2.4	56.960	-S400	071-31	
45	112	1.2	57.933	-S130	071-31	
45	113	1.9	58.486	-S220	071-31	
41	124	1.1	64.200	-S130	071-31	
41	125	2.4	64.354	-S400	071-31	
40	128	1.3	65.975	-S220	071-31	
36	141	0.9	72.600	-S130	071-31	
35	145	1.3	74.750	-S220	071-31	

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g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.75$ kW

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
109	64	3.2	26.422	-S220	40-P80/M2	
96	72	2.8	29.937	-S220	40-P80/M2	
88	79	2.8	32.867	-S220	40-P80/M2	
78	90	2.5	37.238	-S220	40-P80/M2	
68	102	2.2	42.533	-S220	40-P80/M2	
62	113	2.8	46.933	-S400	40-P80/M2	
60	116	1.9	48.190	-S220	40-P80/M2	
56	124	1.8	51.620	-S220	40-P80/M2	
54	128	2.7	53.026	-S400	40-P80/M2	
51	137	2.0	56.960	-S400	40-P80/M2	
49	141	1.6	58.486	-S220	40-P80/M2	
45	155	2.0	64.354	-S400	40-P80/M2	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 1.1 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
794	13	3.9	3.661	-S130	40-P80/L2	
579	18	3.5	5.021	-S130	40-P80/L2	
496	21	4.7	5.860	-S400	40-P80/L2	
452	23	3.1	6.425	-S130	40-P80/L2	
413	25	3.0	7.029	-S130	40-P80/L2	
349	29	3.2	8.322	-S130	40-P80/L2	
309	33	3.0	9.411	-S130	40-P80/L2	
255	40	2.6	11.413	-S130	40-P80/L2	
225	45	2.3	12.907	-S130	40-P80/L2	
199	51	2.0	14.606	-S130	40-P80/L2	
196	52	4.7	14.806	-S400	40-P80/L2	
182	56	1.9	15.979	-S130	40-P80/L2	
175	58	3.0	16.571	-S220	40-P80/L2	
161	63	1.9	18.069	-S130	40-P80/L2	
155	66	3.0	18.776	-S220	40-P80/L2	
143	71	2.8	20.300	-S220	40-P80/L2	
143	72	1.7	20.381	-S130	40-P80/L2	
126	81	2.5	23.000	-S220	40-P80/L2	
126	81	1.5	23.048	-S130	40-P80/L2	
116	88	1.4	24.967	-S130	40-P80/L2	
110	93	2.2	26.422	-S220	40-P80/L2	
103	99	1.2	28.233	-S130	40-P80/L2	
97	105	1.9	29.937	-S220	40-P80/L2	
93	110	1.2	31.387	-S130	40-P80/L2	
88	115	1.9	32.867	-S220	40-P80/L2	
82	125	1.0	35.493	-S130	40-P80/L2	
80	127	3.1	36.267	-S400	40-P80/L2	
78	131	1.7	37.238	-S220	40-P80/L2	
72	142	0.9	40.422	-S130	40-P80/L2	
71	144	2.8	40.974	-S400	40-P80/L2	
68	149	1.5	42.533	-S220	40-P80/L2	
64	160	0.8	45.711	-S130	40-P80/L2	
62	165	1.9	46.933	-S400	40-P80/L2	
60	169	1.3	48.190	-S220	40-P80/L2	
59	172	2.6	48.950	-S660	40-P80/L2	
55	186	1.9	53.026	-S400	40-P80/L2	
52	196	2.6	55.773	-S660	40-P80/L2	

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g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 1.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
799	17	2.9	3.661	-S130	40-P90/M2	
583	24	2.6	5.021	-S130	40-P90/M2	
455	31	2.3	6.425	-S130	40-P90/M2	
416	33	2.2	7.029	-S130	40-P90/M2	
352	40	2.4	8.322	-S130	40-P90/M2	
311	45	2.2	9.411	-S130	40-P90/M2	
278	50	3.5	10.514	-S220	40-P90/M2	
256	54	1.9	11.413	-S130	40-P90/M2	
246	56	3.1	11.876	-S220	40-P90/M2	
227	61	1.7	12.907	-S130	40-P90/M2	
225	62	2.9	12.992	-S220	40-P90/M2	
217	64	2.8	13.456	-S220	40-P90/M2	
200	69	1.5	14.606	-S130	40-P90/M2	
199	70	2.5	14.720	-S220	40-P90/M2	
198	70	4.6	14.806	-S400	40-P90/M2	
183	76	1.4	15.979	-S130	40-P90/M2	
177	79	2.2	16.571	-S220	40-P90/M2	
162	86	1.4	18.069	-S130	40-P90/M2	
156	89	2.2	18.776	-S220	40-P90/M2	
144	96	2.1	20.300	-S220	40-P90/M2	
144	97	1.2	20.381	-S130	40-P90/M2	
127	109	1.8	23.000	-S220	40-P90/M2	
127	110	1.1	23.048	-S130	40-P90/M2	
117	119	1.0	24.967	-S130	40-P90/M2	
116	120	3.0	25.308	-S400	40-P90/M2	
111	126	1.6	26.422	-S220	40-P90/M2	
104	134	0.9	28.233	-S130	40-P90/M2	
100	139	2.6	29.156	-S400	40-P90/M2	
98	142	1.4	29.937	-S220	40-P90/M2	
89	156	1.4	32.867	-S220	40-P90/M2	
89	157	2.6	32.940	-S400	40-P90/M2	
81	172	2.3	36.267	-S400	40-P90/M2	
79	177	1.2	37.238	-S220	40-P90/M2	
73	192	2.8	40.333	-S660	40-P90/M2	
71	195	2.1	40.974	-S400	40-P90/M2	
64	218	2.8	45.956	-S660	40-P90/M2	
60	233	1.9	48.950	-S660	40-P90/M2	

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g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 1.5\text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
52	265	1.9	55.773	-S660	40-P90/M2	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 2.2 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
636	32	4.7	4.579	-S400	40-P90/L2	
497	41	4.4	5.860	-S400	40-P90/L2	
314	65	2.7	9.280	-S220	40-P90/L2	
277	74	2.4	10.514	-S220	40-P90/L2	
245	83	2.1	11.876	-S220	40-P90/L2	
224	91	1.9	12.992	-S220	40-P90/L2	
216	94	1.9	13.456	-S220	40-P90/L2	
203	100	3.2	14.336	-S400	40-P90/L2	
198	103	1.7	14.720	-S220	40-P90/L2	
197	104	3.1	14.806	-S400	40-P90/L2	
180	113	2.8	16.197	-S400	40-P90/L2	
176	116	1.5	16.571	-S220	40-P90/L2	
159	128	2.9	18.286	-S400	40-P90/L2	
155	131	1.5	18.776	-S220	40-P90/L2	
143	142	1.4	20.300	-S220	40-P90/L2	
141	145	2.5	20.659	-S400	40-P90/L2	
130	157	2.3	22.400	-S400	40-P90/L2	
127	161	1.2	23.000	-S220	40-P90/L2	
116	175	3.0	25.056	-S660	40-P90/L2	
115	177	2.1	25.308	-S400	40-P90/L2	
110	185	1.1	26.422	-S220	40-P90/L2	
102	200	3.0	28.548	-S660	40-P90/L2	
100	204	1.8	29.156	-S400	40-P90/L2	
97	210	1.0	29.937	-S220	40-P90/L2	
93	218	3.0	31.167	-S660	40-P90/L2	
89	230	1.0	32.867	-S220	40-P90/L2	
88	231	1.7	32.940	-S400	40-P90/L2	
82	249	2.7	35.511	-S660	40-P90/L2	
80	254	1.6	36.267	-S400	40-P90/L2	
78	261	0.8	37.238	-S220	40-P90/L2	
72	282	1.9	40.333	-S660	40-P90/L2	
71	287	1.4	40.974	-S400	40-P90/L2	
63	322	1.9	45.956	-S660	40-P90/L2	
60	343	1.3	48.950	-S660	40-P90/L2	
52	391	1.3	55.773	-S660	40-P90/L2	

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g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 3.0 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
641	43	4.5	4.579	-S400	40-P100/M2	
558	50	2.9	5.267	-S220	40-P100/M2	
501	55	3.7	5.860	-S400	40-P100/M2	
316	88	2.0	9.280	-S220	40-P100/M2	
254	110	2.9	11.569	-S400	40-P100/M2	
224	124	2.6	13.105	-S400	40-P100/M2	
205	136	2.4	14.336	-S400	40-P100/M2	
198	140	2.3	14.806	-S400	40-P100/M2	
181	153	2.1	16.197	-S400	40-P100/M2	
177	157	1.1	16.571	-S220	40-P100/M2	
164	170	3.1	17.905	-S660	40-P100/M2	
161	173	2.1	18.286	-S400	40-P100/M2	
156	178	1.1	18.776	-S220	40-P100/M2	
145	192	1.0	20.300	-S220	40-P100/M2	
142	196	1.9	20.659	-S400	40-P100/M2	
134	208	2.9	21.933	-S660	40-P100/M2	
131	212	1.7	22.400	-S400	40-P100/M2	
128	218	0.9	23.000	-S220	40-P100/M2	
117	237	2.2	25.056	-S660	40-P100/M2	
116	240	1.5	25.308	-S400	40-P100/M2	
103	270	2.2	28.548	-S660	40-P100/M2	
94	295	2.2	31.167	-S660	40-P100/M2	
83	336	2.0	35.511	-S660	40-P100/M2	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 4.0 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
637	58	3.4	4.579	-S400	40-P112/M2	
498	74	2.8	5.860	-S400	40-P112/M2	
455	81	2.6	6.411	-S400	40-P112/M2	
285	130	2.5	10.240	-S400	40-P112/M2	
252	147	2.2	11.569	-S400	40-P112/M2	
227	163	3.2	12.832	-S660	40-P112/M2	
223	166	1.9	13.105	-S400	40-P112/M2	
208	178	3.0	14.037	-S660	40-P112/M2	
204	182	1.8	14.336	-S400	40-P112/M2	
197	188	1.7	14.806	-S400	40-P112/M2	
186	200	2.7	15.714	-S660	40-P112/M2	
180	206	1.6	16.197	-S400	40-P112/M2	
163	227	2.3	17.905	-S660	40-P112/M2	
160	232	1.6	18.286	-S400	40-P112/M2	
152	245	2.5	19.250	-S660	40-P112/M2	
141	262	1.4	20.659	-S400	40-P112/M2	
133	279	2.2	21.933	-S660	40-P112/M2	
116	318	1.7	25.056	-S660	40-P112/M2	
102	363	1.7	28.548	-S660	40-P112/M2	

g500-S shaft-mounted helical geared motors

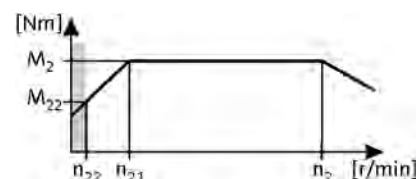
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.12 \text{ kW}$
87 Hz: $P_N = 0.21 \text{ kW}$

2-stage gearboxes



Mains operation			Inverter operation												i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
n ₂ [r/min]	M ₂ [Nm]	ƒ	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	ƒ	n ₂ [r/min]	M ₂ [Nm]	ƒ						
45	24	5.3	4.6	19	19	24	45	24	5.3	81	24	5.4	31.387	-S130	063-12			
40	28	4.7	4.1	21	17	27	40	28	4.7	71	27	4.8	35.493	-S130	063-12			
35	32	4.1	3.6	24	15	31	35	32	4.1	63	31	4.2	40.422	-S130	063-12			
31	36	3.7	3.2	28	13	35	31	36	3.7	56	35	3.7	45.711	-S130	063-12			
28	40	3.3	2.8	31	12	39	28	40	3.3	50	39	3.3	51.230	-S130	063-12			
25	45	2.9	2.5	35	10	44	25	45	2.9	44	44	2.9	57.933	-S130	063-12			
22	50	2.6	2.3	39	9.3	49	22	50	2.6	40	49	2.6	64.200	-S130	063-12			
22	51	3.1	2.2	40	9.1	51	22	51	3.1	38	51	3.2	65.975	-S220	063-12			
20	57	2.3	2.0	44	8.3	56	20	57	2.3	35	56	2.3	72.600	-S130	063-12			
19	58	3.1	1.9	45	8.0	57	19	58	3.1	34	57	3.2	74.750	-S220	063-12			
17	66	1.6	1.7	51	7.1	65	17	66	1.6	30	65	1.6	84.581	-S130	063-12			
15	75	1.5	1.5	58	6.3	73	15	75	1.5	27	73	1.6	95.648	-S130	063-12			

3-stage gearboxes

Mains operation			Inverter operation										i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
15	75	2.9	1.5	58	6.2	74	15	75	2.9	26	74	3.0	97.528	-S220	063-12	
13	86	2.6	1.3	66	5.4	84	13	86	2.6	23	84	2.6	111.747	-S220	063-12	
11	97	2.3	1.1	75	4.7	96	11	97	2.3	20	96	2.3	126.610	-S220	063-12	
10	110	2.0	1.0	85	4.2	108	10	110	2.0	18	108	2.0	143.205	-S220	063-12	
8.8	125	1.8	0.9	96	3.7	123	8.8	125	1.8	16	123	1.8	162.252	-S220	063-12	
8.0	137	2.9	0.8	106	3.4	135	8.0	137	2.9	14	135	3.0	178.531	-S400	063-12	
7.7	142	1.6	0.8	110	3.2	140	7.7	142	1.6	14	140	1.6	185.248	-S220	063-12	
7.0	157	2.6	0.7	121	2.9	155	7.0	157	2.6	12	155	2.6	204.412	-S400	063-12	
6.8	161	1.4	0.7	124	2.9	159	6.8	161	1.4	12	159	1.4	209.887	-S220	063-12	
6.2	177	2.2	0.6	137	2.6	175	6.2	177	2.2	11	175	2.3	230.946	-S400	063-12	
5.9	185	1.2	0.6	143	2.5	182	5.9	185	1.2	11	182	1.2	241.022	-S220	063-12	
5.4	204	1.9	0.5	157	2.3	201	5.4	204	1.9	9.5	201	1.9	265.956	-S400	063-12	
5.2	210	1.1	0.5	162	2.2	206	5.2	210	1.1	9.3	206	1.1	273.079	-S220	063-12	
5.1	216	2.8	0.5	166	2.1	212	5.1	216	2.8	9.0	212	2.8	280.500	-S660	063-12	
4.7	231	1.7	0.5	178	2.0	227	4.7	231	1.7	8.4	227	1.8	300.479	-S400	063-12	
4.6	240	0.9	0.5	185	1.9	236	4.6	240	0.9	8.1	236	0.9	312.233	-S220	063-12	
4.5	246	2.7	0.5	189	1.9	242	4.5	246	2.7	7.9	242	2.7	319.600	-S660	063-12	
4.1	265	1.3	0.4	204	1.7	260	4.1	265	1.3	7.4	260	1.3	344.533	-S400	063-12	
4.0	272	0.8	0.4	209	1.7	267	4.0	272	0.8	7.2	267	0.8	353.762	-S220	063-12	
3.9	284	1.6	0.4	219	1.6	279	3.9	284	1.6	6.9	279	1.6	369.548	-S660	063-12	
3.7	299	1.3	0.4	230	1.5	294	3.7	299	1.3	6.5	294	1.3	389.256	-S400	063-12	
3.4	324	1.6	0.3	249	1.4	318	3.4	324	1.6	6.0	318	1.6	421.060	-S660	063-12	

g500-S shaft-mounted helical geared motors

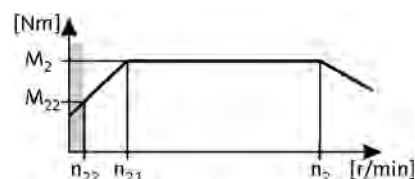
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.18 \text{ kW}$
87 Hz: $P_N = 0.33 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c						
194	9.0	4.5	21	6.6	85	9.0	194	9.0	4.5	352	9.0	3.7	7.029	-S130	063-32			
85	20	4.5	9.1	15	38	20	85	20	4.5	155	20	3.7	15.979	-S130	063-32			
76	22	4.5	8.0	17	33	22	76	22	4.5	137	22	4.2	18.069	-S130	063-32			
67	25	4.1	7.1	19	29	25	67	25	4.1	121	25	3.9	20.381	-S130	063-32			
59	28	4.1	6.3	22	26	28	59	28	4.1	107	28	3.9	23.048	-S130	063-32			
44	38	3.4	4.6	30	19	38	44	38	3.4	79	39	3.4	31.387	-S130	063-32			
39	43	3.0	4.1	33	17	43	39	43	3.0	70	44	3.0	35.493	-S130	063-32			
34	49	2.6	3.6	38	15	49	34	49	2.6	61	50	2.6	40.422	-S130	063-32			
32	52	2.9	3.4	40	14	52	32	52	2.9	58	53	2.9	42.533	-S220	063-32			
30	56	2.3	3.2	43	13	56	30	56	2.3	54	56	2.3	45.711	-S130	063-32			
29	57	2.9	3.1	44	13	57	29	57	2.9	53	58	2.9	46.933	-S400	063-32			
28	59	2.9	3.0	45	13	59	28	59	2.9	51	60	2.9	48.190	-S220	063-32			
27	63	2.1	2.8	48	12	63	27	63	2.1	48	63	2.1	51.230	-S130	063-32			
26	63	2.6	2.8	49	12	63	26	63	2.6	48	64	2.5	51.620	-S220	063-32			
26	65	2.9	2.7	50	11	65	26	65	2.9	47	66	2.9	53.026	-S400	063-32			
24	70	2.6	2.5	54	11	70	24	70	2.6	44	70	2.5	56.960	-S400	063-32			
24	71	1.8	2.5	55	10	71	24	71	1.8	43	72	1.8	57.933	-S130	063-32			
23	71	2.6	2.5	55	10	71	23	71	2.6	42	72	2.5	58.486	-S220	063-32			
21	78	1.7	2.3	60	9.3	78	21	78	1.7	39	79	1.6	64.200	-S130	063-32			
21	79	2.6	2.3	61	9.3	79	21	79	2.6	39	79	2.5	64.354	-S400	063-32			
21	81	2.0	2.2	62	9.1	81	21	81	2.0	38	82	2.0	65.975	-S220	063-32			
19	89	1.5	2.0	68	8.3	89	19	89	1.5	34	90	1.5	72.600	-S130	063-32			
18	91	2.0	1.9	70	8.0	91	18	91	2.0	33	92	2.0	74.750	-S220	063-32			
16	103	1.0	1.7	80	7.1	103	16	103	1.0	29	104	1.0	84.581	-S130	063-32			
14	117	1.0	1.5	90	6.3	117	14	117	1.0	26	118	1.0	95.648	-S130	063-32			

3-stage gearboxes

Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
23	72	3.1	2.4	55	10	72	23	72	3.1	42	72	2.9	59.581	-S220	063-32	
20	81	2.7	2.2	62	8.9	81	20	81	2.7	37	82	2.6	67.298	-S220	063-32	
18	92	2.4	1.9	71	7.9	92	18	92	2.4	33	93	2.4	76.249	-S220	063-32	
16	104	2.1	1.7	80	7.0	104	16	104	2.1	29	105	2.1	86.079	-S220	063-32	
14	117	1.9	1.5	90	6.2	117	14	117	1.9	25	119	1.9	97.528	-S220	063-32	
13	129	3.1	1.4	99	5.6	129	13	129	3.1	23	131	3.1	107.314	-S400	063-32	
12	134	1.6	1.3	104	5.4	134	12	134	1.6	22	136	1.6	111.747	-S220	063-32	
11	148	2.7	1.2	114	4.9	148	11	148	2.7	20	150	2.7	123.307	-S400	063-32	
11	152	1.4	1.1	117	4.7	152	11	152	1.4	20	154	1.4	126.610	-S220	063-32	
9.8	168	2.4	1.0	129	4.3	168	9.8	168	2.4	18	170	2.4	139.313	-S400	063-32	

g500-S shaft-mounted helical geared motors

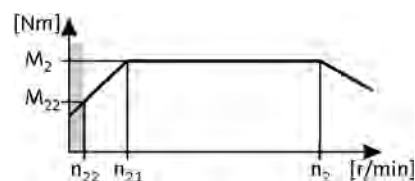
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.18 \text{ kW}$
87 Hz: $P_N = 0.33 \text{ kW}$

3-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c		g500	MD□MA□□	
9.5	172	1.3	1.0	133	4.2	172	9.5	172	1.3	17	174	1.3	143.205	-S220	063-32	
8.6	190	2.1	0.9	146	3.8	190	8.6	190	2.1	16	192	2.1	158.019	-S400	063-32	
8.4	195	1.1	0.9	150	3.7	195	8.4	195	1.1	15	197	1.1	162.252	-S220	063-32	
7.7	213	2.9	0.8	164	3.4	213	7.7	213	2.9	14	215	2.9	176.611	-S660	063-32	
7.6	215	1.9	0.8	165	3.4	215	7.6	215	1.9	14	217	1.8	178.531	-S400	063-32	
7.4	223	1.0	0.8	172	3.2	223	7.4	223	1.0	13	225	1.0	185.248	-S220	063-32	
6.8	242	2.7	0.7	187	3.0	242	6.8	242	2.7	12	245	2.7	201.230	-S660	063-32	
6.7	246	1.6	0.7	189	2.9	246	6.7	246	1.6	12	249	1.6	204.412	-S400	063-32	
6.5	253	0.9	0.7	195	2.9	253	6.5	253	0.9	12	255	0.9	209.887	-S220	063-32	
6.1	269	2.5	0.6	207	2.7	269	6.1	269	2.5	11	272	2.4	223.833	-S660	063-32	
5.9	278	1.4	0.6	214	2.6	278	5.9	278	1.4	11	281	1.4	230.946	-S400	063-32	
5.4	307	2.2	0.6	236	2.4	307	5.4	307	2.2	9.7	310	2.1	255.034	-S660	063-32	
5.1	320	1.2	0.5	246	2.3	320	5.1	320	1.2	9.3	324	1.2	265.956	-S400	063-32	
4.9	338	1.8	0.5	260	2.1	338	4.9	338	1.8	8.8	341	1.8	280.500	-S660	063-32	
4.5	362	1.1	0.5	278	2.0	362	4.5	362	1.1	8.2	366	1.1	300.479	-S400	063-32	
4.3	385	1.7	0.5	296	1.9	385	4.3	385	1.7	7.7	389	1.7	319.600	-S660	063-32	
3.7	445	1.0	0.4	342	1.6	445	3.7	445	1.0	6.7	450	1.0	369.548	-S660	063-32	
3.2	507	1.0	0.3	390	1.4	507	3.2	507	1.0	5.9	512	1.0	421.060	-S660	063-32	

g500-S shaft-mounted helical geared motors

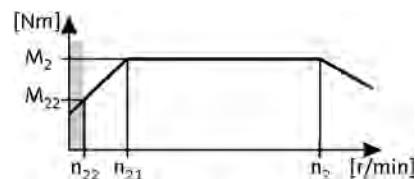
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.25 \text{ kW}$
87 Hz: $P_N = 0.45 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c		g500	MD□MA□□	
374	6.0	5.6	40	4.8	164	6.0	374	6.0	5.6	677	6.0	4.8	3.661	-S130	063-42	
273	8.0	5.6	29	6.5	120	8.0	273	8.0	5.6	494	8.0	4.8	5.021	-S130	063-42	
213	11	5.2	23	8.4	93	11	213	11	5.2	386	11	4.4	6.425	-S130	063-42	
195	12	5.2	21	9.2	85	12	195	12	5.2	353	12	4.4	7.029	-S130	063-42	
165	14	5.6	17	11	72	14	165	14	5.6	298	14	4.8	8.322	-S130	063-42	
146	16	5.6	15	12	64	16	146	16	5.6	264	16	4.8	9.411	-S130	063-42	
120	19	5.6	13	15	53	19	120	19	5.6	217	19	4.8	11.413	-S130	063-42	
106	22	5.6	11	17	47	22	106	22	5.6	192	22	4.8	12.907	-S130	063-42	
94	25	5.2	9.9	19	41	25	94	25	5.2	170	25	4.4	14.606	-S130	063-42	
86	27	4.8	9.1	21	38	27	86	27	4.8	155	27	4.1	15.979	-S130	063-42	
76	31	4.3	8.0	24	33	30	76	31	4.3	137	30	4.1	18.069	-S130	063-42	
67	34	3.8	7.1	27	29	34	67	34	3.8	122	34	3.7	20.381	-S130	063-42	
59	39	3.3	6.3	30	26	39	59	39	3.3	108	39	3.2	23.048	-S130	063-42	
55	42	3.1	5.8	33	24	42	55	42	3.1	99	42	3.0	24.967	-S130	063-42	
49	48	2.7	5.1	37	21	47	49	48	2.7	88	47	2.6	28.233	-S130	063-42	
44	53	2.5	4.6	41	19	53	44	53	2.5	79	53	2.5	31.387	-S130	063-42	
39	60	2.2	4.1	46	17	60	39	60	2.2	70	60	2.2	35.493	-S130	063-42	
34	68	1.9	3.6	53	15	68	34	68	1.9	61	68	1.9	40.422	-S130	063-42	
32	72	3.1	3.4	55	14	72	32	72	3.1	58	72	3.1	42.533	-S220	063-42	
30	77	1.7	3.2	60	13	77	30	77	1.7	54	77	1.7	45.711	-S130	063-42	
28	81	2.7	3.0	63	13	81	28	81	2.7	52	81	2.7	48.190	-S220	063-42	
28	83	3.2	3.0	64	12	82	28	83	3.2	51	82	3.2	48.950	-S660	063-42	
27	87	1.5	2.8	67	12	86	27	87	1.5	48	86	1.5	51.230	-S130	063-42	
27	87	2.5	2.8	67	12	87	27	87	2.5	48	87	2.5	51.620	-S220	063-42	
25	94	3.2	2.6	73	11	94	25	94	3.2	45	94	3.2	55.773	-S660	063-42	
24	96	2.8	2.5	74	11	96	24	96	2.8	44	96	2.8	56.960	-S400	063-42	
24	98	1.3	2.5	75	10	97	24	98	1.3	43	97	1.3	57.933	-S130	063-42	
23	99	2.2	2.5	76	10	98	23	99	2.2	42	98	2.2	58.486	-S220	063-42	
21	109	1.2	2.3	84	9.3	108	21	109	1.2	39	108	1.2	64.200	-S130	063-42	
21	109	2.8	2.3	84	9.3	108	21	109	2.8	39	108	2.8	64.354	-S400	063-42	
21	112	1.4	2.2	86	9.1	111	21	112	1.4	38	111	1.4	65.975	-S220	063-42	
19	123	1.1	2.0	95	8.3	122	19	123	1.1	34	122	1.1	72.600	-S130	063-42	
18	126	1.4	1.9	97	8.0	126	18	126	1.4	33	126	1.4	74.750	-S220	063-42	

6.4

3-stage gearboxes

Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
			30	75	2.9	3.2	58	13	75	30	75	2.9	55			75
26	88	2.5	2.8	67	11	87	26	88	2.5	47	87	2.4	52.587	-S220	063-42	

g500-S shaft-mounted helical geared motors

Technical data

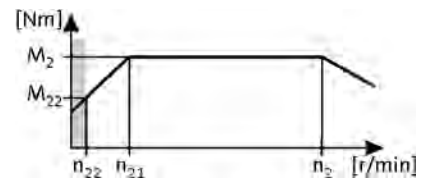


Selection tables, 4-pole motors

50 Hz: $P_N = 0.25 \text{ kW}$

87 Hz: $P_N = 0.45 \text{ kW}$

3-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂₂ [r/min]	M ₂₂ [Nm]		n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
23	99	2.2	2.4	76	10	99	23	99	2.2	42	99	2.1	59.581	-S220	063-42	
20	112	2.0	2.2	86	8.9	111	20	112	2.0	37	111	1.9	67.298	-S220	063-42	
18	124	3.2	2.0	95	8.1	123	18	124	3.2	33	123	3.3	74.260	-S400	063-42	
18	127	1.7	1.9	98	7.9	126	18	127	1.7	33	126	1.7	76.249	-S220	063-42	
16	140	2.9	1.7	108	7.2	139	16	140	2.9	30	139	2.9	83.900	-S400	063-42	
16	143	1.5	1.7	110	7.0	143	16	143	1.5	29	143	1.5	86.079	-S220	063-42	
14	158	2.5	1.5	122	6.3	157	14	158	2.5	26	157	2.5	94.984	-S400	063-42	
14	162	1.4	1.5	125	6.2	161	14	162	1.4	25	161	1.4	97.528	-S220	063-42	
13	179	2.2	1.4	138	5.6	178	13	179	2.2	23	178	2.3	107.314	-S400	063-42	
12	186	1.2	1.3	143	5.4	185	12	186	1.2	22	185	1.2	111.747	-S220	063-42	
11	205	2.0	1.2	158	4.9	204	11	205	2.0	20	204	2.0	123.307	-S400	063-42	
11	207	3.2	1.2	159	4.8	206	11	207	3.2	20	206	3.2	124.289	-S660	063-42	
11	211	1.0	1.1	162	4.7	210	11	211	1.0	20	210	1.1	126.610	-S220	063-42	
10	228	2.9	1.1	176	4.4	227	10	228	2.9	18	227	2.9	137.133	-S660	063-42	
9.8	232	1.7	1.0	179	4.3	231	9.8	232	1.7	18	231	1.7	139.313	-S400	063-42	
9.6	238	0.9	1.0	184	4.2	237	9.6	238	0.9	17	237	0.9	143.205	-S220	063-42	
8.8	260	2.5	0.9	200	3.8	259	8.8	260	2.5	16	259	2.6	156.249	-S660	063-42	
8.7	263	1.5	0.9	203	3.8	262	8.7	263	1.5	16	262	1.5	158.019	-S400	063-42	
8.4	270	0.8	0.9	208	3.7	269	8.4	270	0.8	15	269	0.8	162.252	-S220	063-42	
7.8	294	2.2	0.8	227	3.4	292	7.8	294	2.2	14	292	2.3	176.611	-S660	063-42	
7.7	297	1.3	0.8	229	3.4	296	7.7	297	1.3	14	296	1.4	178.531	-S400	063-42	
6.8	335	2.0	0.7	258	3.0	333	6.8	335	2.0	12	333	2.0	201.230	-S660	063-42	
6.7	340	1.2	0.7	262	2.9	338	6.7	340	1.2	12	338	1.2	204.412	-S400	063-42	
6.1	373	1.8	0.6	287	2.7	371	6.1	373	1.8	11	371	1.8	223.833	-S660	063-42	
5.9	385	1.0	0.6	296	2.6	382	5.9	385	1.0	11	382	1.0	230.946	-S400	063-42	
5.4	425	1.6	0.6	327	2.4	422	5.4	425	1.6	9.7	422	1.6	255.034	-S660	063-42	
5.2	443	0.9	0.5	341	2.3	440	5.2	443	0.9	9.3	440	0.9	265.956	-S400	063-42	
4.9	467	1.2	0.5	360	2.1	464	4.9	467	1.2	8.8	464	1.2	280.500	-S660	063-42	
			0.5	385	2.0	498				8.3	498	0.8	300.479	-S400	063-42	
4.3	532	1.2	0.5	410	1.9	529	4.3	532	1.2	7.8	529	1.2	319.600	-S660	063-42	

g500-S shaft-mounted helical geared motors

Technical data

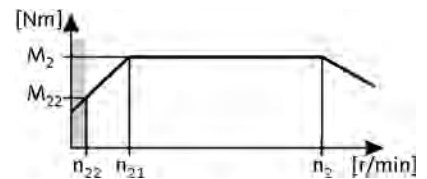


Selection tables, 4-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$

87 Hz: $P_N = 0.66 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
385	9.0	4.9	40	6.9	164	9.0	385	9.0	4.9	688	9.0	4.1	3.661	-S130	071-32	
281	12	4.9	29	9.4	120	12	281	12	4.9	502	12	4.1	5.021	-S130	071-32	
219	16	4.5	23	12	93	16	219	16	4.5	392	16	3.8	6.425	-S130	071-32	
201	17	4.5	21	13	85	17	201	17	4.5	359	17	3.8	7.029	-S130	071-32	
169	20	4.9	17	16	72	20	169	20	4.9	303	20	4.1	8.322	-S130	071-32	
150	23	4.9	15	18	64	23	150	23	4.9	268	23	4.1	9.411	-S130	071-32	
124	28	4.7	13	21	53	28	124	28	4.7	221	28	4.0	11.413	-S130	071-32	
109	31	4.1	11	24	47	31	109	31	4.1	195	31	3.5	12.907	-S130	071-32	
97	36	3.7	9.9	27	41	35	97	36	3.7	173	35	3.1	14.606	-S130	071-32	
88	39	3.4	9.1	30	38	39	88	39	3.4	158	39	2.8	15.979	-S130	071-32	
78	44	3.0	8.0	34	33	44	78	44	3.0	140	44	2.8	18.069	-S130	071-32	
69	50	2.6	7.1	38	29	49	69	50	2.6	124	49	2.5	20.381	-S130	071-32	
61	56	2.3	6.3	43	26	56	61	56	2.3	109	56	2.2	23.048	-S130	071-32	
57	61	2.1	5.8	47	24	61	57	61	2.1	101	61	2.1	24.967	-S130	071-32	
50	69	1.9	5.1	53	21	69	50	69	1.9	89	69	1.8	28.233	-S130	071-32	
47	73	3.0	4.8	56	20	73	47	73	3.0	84	73	2.9	29.937	-S220	071-32	
45	76	1.7	4.6	59	19	76	45	76	1.7	80	76	1.7	31.387	-S130	071-32	
43	80	2.8	4.4	62	18	80	43	80	2.8	77	80	2.8	32.867	-S220	071-32	
40	86	1.5	4.1	66	17	86	40	86	1.5	71	86	1.5	35.493	-S130	071-32	
39	88	3.2	4.0	68	17	88	39	88	3.2				36.267	-S400	071-32	
38	91	2.4	3.9	70	16	90	38	91	2.4	68	90	2.4	37.238	-S220	071-32	
35	98	3.2	3.6	76	15	98	35	98	3.2	63	98	3.2	40.333	-S660	071-32	
35	98	1.3	3.6	76	15	98	35	98	1.3	62	98	1.3	40.422	-S130	071-32	
34	100	3.2	3.5	77	15	100	34	100	3.2				40.974	-S400	071-32	
33	103	2.1	3.4	80	14	103	33	103	2.1	59	103	2.1	42.533	-S220	071-32	
31	111	1.2	3.2	86	13	111	31	111	1.2	55	111	1.2	45.711	-S130	071-32	
31	112	3.2	3.2	86	13	112	31	112	3.2	55	112	3.2	45.956	-S660	071-32	
30	114	2.8	3.1	88	13	114	30	114	2.8	54	114	2.8	46.933	-S400	071-32	
29	117	1.9	3.0	90	13	117	29	117	1.9	52	117	1.9	48.190	-S220	071-32	
29	119	2.8	3.0	92	12	119	29	119	2.8	52	119	2.8	48.950	-S660	071-32	
28	125	1.0	2.8	96	12	124	28	125	1.0	49	124	1.1	51.230	-S130	071-32	
27	126	1.8	2.8	97	12	125	27	126	1.8	49	125	1.8	51.620	-S220	071-32	
27	129	2.7	2.7	99	11	129	27	129	2.7	48	129	2.7	53.026	-S400	071-32	
25	136	2.8	2.6	104	11	135	25	136	2.8	45	135	2.8	55.773	-S660	071-32	
25	138	1.9	2.5	107	11	138	25	138	1.9	44	138	1.9	56.960	-S400	071-32	

g500-S shaft-mounted helical geared motors

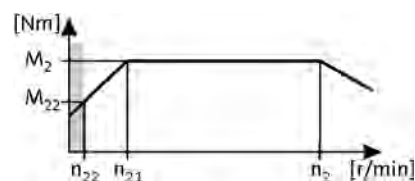
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$
87 Hz: $P_N = 0.66 \text{ kW}$

2-stage gearboxes



Mains operation			Inverter operation										i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
24	141	0.9	2.5	109	10	141	24	141	0.9	44	141	0.9	57.933	-S130	071-32	
24	142	1.6	2.5	110	10	142	24	142	1.6	43	142	1.6	58.486	-S220	071-32	
22	156	0.8	2.3	120	9.3	156	22	156	0.8	39	156	0.8	64.200	-S130	071-32	
22	156	1.9	2.3	121	9.3	156	22	156	1.9	39	156	1.9	64.354	-S400	071-32	
21	160	1.1	2.2	124	9.1	160	21	160	1.1	38	160	1.1	65.975	-S220	071-32	
19	182	1.1	1.9	140	8.0	181	19	182	1.1	34	181	1.1	74.750	-S220	071-32	

3-stage gearboxes

Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
35	96	2.3	3.6	74	15	96	35	96	2.3	63	96	1.9	40.012	-S220	071-32	
31	109	2.0	3.2	84	13	108	31	109	2.0	56	108	1.7	45.333	-S220	071-32	
27	126	1.8	2.8	97	11	126	27	126	1.8	48	126	1.7	52.587	-S220	071-32	
24	139	2.9	2.5	107	10	139	24	139	2.9	43	139	2.8	58.027	-S400	071-32	
24	143	1.5	2.4	110	10	142	24	143	1.5	42	142	1.5	59.581	-S220	071-32	
22	157	2.6	2.2	121	9.2	157	22	157	2.6	38	157	2.4	65.559	-S400	071-32	
21	161	1.4	2.2	124	8.9	161	21	161	1.4	37	161	1.3	67.298	-S220	071-32	
19	178	2.3	2.0	137	8.1	177	19	178	2.3	34	177	2.3	74.260	-S400	071-32	
19	183	1.2	1.9	141	7.9	182	19	183	1.2	33	182	1.2	76.249	-S220	071-32	
17	201	2.0	1.7	155	7.2	201	17	201	2.0	30	201	2.0	83.900	-S400	071-32	
16	206	1.1	1.7	159	7.0	206	16	206	1.1	29	206	1.1	86.079	-S220	071-32	
16	213	3.1	1.6	164	6.7	213	16	213	3.1	28	213	3.1	89.048	-S660	071-32	
15	227	1.8	1.5	175	6.3	227	15	227	1.8	27	227	1.8	94.984	-S400	071-32	
15	234	0.9	1.5	180	6.2	233	15	234	0.9	26	233	0.9	97.528	-S220	071-32	
14	243	2.7	1.4	187	5.9	243	14	243	2.7	25	243	2.7	101.460	-S660	071-32	
13	257	1.6	1.4	198	5.6	256	13	257	1.6	24	256	1.6	107.314	-S400	071-32	
13	261	2.5	1.3	201	5.5	261	13	261	2.5	23	261	2.5	109.083	-S660	071-32	
13	268	0.8	1.3	206	5.4	267	13	268	0.8	23	267	0.8	111.747	-S220	071-32	
11	295	1.4	1.2	227	4.9	295	11	295	1.4	20	295	1.4	123.307	-S400	071-32	
11	298	2.2	1.2	229	4.8	297	11	298	2.2	20	297	2.2	124.289	-S660	071-32	
10	328	2.0	1.1	253	4.4	328	10	328	2.0	18	328	2.0	137.133	-S660	071-32	
10	334	1.2	1.0	257	4.3	333	10	334	1.2	18	333	1.2	139.313	-S400	071-32	
9.0	374	1.8	0.9	288	3.8	373	9.0	374	1.8	16	373	1.8	156.249	-S660	071-32	
8.9	378	1.1	0.9	291	3.8	378	8.9	378	1.1	16	378	1.1	158.019	-S400	071-32	
8.0	423	1.6	0.8	326	3.4	422	8.0	423	1.6	14	422	1.6	176.611	-S660	071-32	
7.9	428	0.9	0.8	329	3.4	427	7.9	428	0.9	14	427	0.9	178.531	-S400	071-32	
7.0	482	1.4	0.7	371	3.0	481	7.0	482	1.4	13	481	1.4	201.230	-S660	071-32	
6.9	490	0.8	0.7	377	2.9	489	6.9	490	0.8	12	489	0.8	204.412	-S400	071-32	
6.3	536	1.2	0.6	413	2.7	535	6.3	536	1.2	11	535	1.2	223.833	-S660	071-32	

g500-S shaft-mounted helical geared motors

Technical data

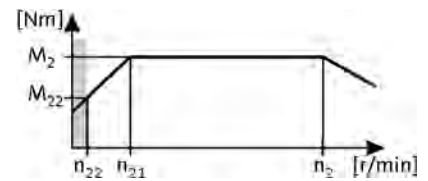


Selection tables, 4-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$

87 Hz: $P_N = 0.66 \text{ kW}$

3-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
5.5	611	1.1	0.6	470	2.4	610	5.5	611	1.1	9.9	610	1.1	255.034	-S660	071-32	
5.0	672	0.9	0.5	517	2.1	670	5.0	672	0.9	9.0	670	0.9	280.500	-S660	071-32	
4.4	765	0.9	0.5	589	1.9	764	4.4	765	0.9	7.9	764	0.9	319.600	-S660	071-32	

g500-S shaft-mounted helical geared motors

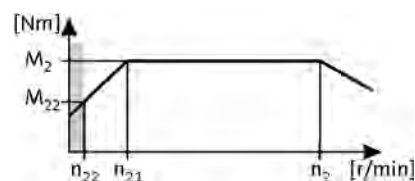
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$
87 Hz: $P_N = 1.0 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c						
384	13	4.5	40	10	164	13	384	13	4.5	687	13	3.8	3.661	-S130	071-42			
280	18	4.2	29	14	120	18	280	18	4.2	501	18	3.5	5.021	-S130	071-42			
240	21	4.5	25	16	102	21	240	21	4.5				5.860	-S400	071-42			
219	23	3.7	23	18	93	23	219	23	3.7	391	24	3.1	6.425	-S130	071-42			
200	25	3.6	21	20	85	25	200	25	3.6	358	26	3.0	7.029	-S130	071-42			
169	30	3.8	17	23	72	30	169	30	3.8	302	31	3.2	8.322	-S130	071-42			
149	34	3.7	15	26	64	34	149	34	3.7	267	35	3.0	9.411	-S130	071-42			
123	41	3.1	13	32	53	41	123	41	3.1	220	42	2.6	11.413	-S130	071-42			
109	47	2.8	11	36	47	47	109	47	2.8	195	48	2.3	12.907	-S130	071-42			
96	53	2.5	9.9	41	41	53	96	53	2.5	172	54	2.0	14.606	-S130	071-42			
95	54	4.5	9.8	41	41	54	95	54	4.5				14.806	-S400	071-42			
88	58	2.2	9.1	45	38	58	88	58	2.2	157	59	1.9	15.979	-S130	071-42			
78	66	2.0	8.0	51	33	66	78	66	2.0	139	67	1.9	18.069	-S130	071-42			
75	68	3.2	7.7	52	32	68	75	68	3.2	134	69	3.0	18.776	-S220	071-42			
69	74	3.0	7.1	57	30	74	69	74	3.0	124	75	2.8	20.300	-S220	071-42			
69	74	1.8	7.1	57	29	74	69	74	1.8	123	75	1.7	20.381	-S130	071-42			
61	83	2.6	6.3	64	26	83	61	83	2.6	109	85	2.5	23.000	-S220	071-42			
61	84	1.6	6.3	64	26	84	61	84	1.6	109	85	1.5	23.048	-S130	071-42			
56	91	1.4	5.8	70	24	91	56	91	1.4	101	92	1.4	24.967	-S130	071-42			
53	96	2.3	5.5	74	23	96	53	96	2.3	95	97	2.2	26.422	-S220	071-42			
50	102	1.3	5.1	79	21	102	50	102	1.3	89	104	1.2	28.233	-S130	071-42			
47	109	2.0	4.8	84	20	109	47	109	2.0	84	110	1.9	29.937	-S220	071-42			
45	113	3.2	4.7	87	19	113	45	113	3.2	81	115	3.1	31.167	-S660	071-42			
45	114	1.1	4.6	88	19	114	45	114	1.1	80	116	1.1	31.387	-S130	071-42			
43	119	1.9	4.4	92	18	119	43	119	1.9	77	121	1.8	32.867	-S220	071-42			
40	129	1.0	4.1	99	17	129	40	129	1.0	71	131	1.0	35.493	-S130	071-42			
40	129	3.2	4.1	99	17	129	40	129	3.2	71	131	3.1	35.511	-S660	071-42			
39	132	2.9	4.0	101	17	132	39	132	2.9	69	134	2.8	36.267	-S400	071-42			
38	135	1.6	3.9	104	16	135	38	135	1.6	68	137	1.6	37.238	-S220	071-42			
35	146	2.9	3.6	113	15	146	35	146	2.9	62	149	2.8	40.333	-S660	071-42			
35	147	0.9	3.6	113	15	147	35	147	0.9	62	149	0.9	40.422	-S130	071-42			
34	149	2.7	3.5	114	15	149	34	149	2.7	61	151	2.7	40.974	-S400	071-42			
33	154	1.4	3.4	119	14	154	33	154	1.4	59	157	1.4	42.533	-S220	071-42			
31	167	2.9	3.2	128	13	167	31	167	2.9	55	169	2.8	45.956	-S660	071-42			
30	170	1.9	3.1	131	13	170	30	170	1.9	54	173	1.8	46.933	-S400	071-42			

g500-S shaft-mounted helical geared motors

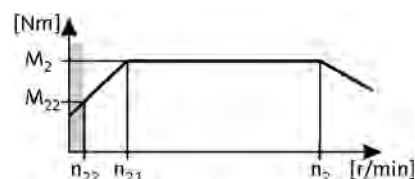
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$
87 Hz: $P_N = 1.0 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
29	175	1.3	3.0	135	13	175	29	175	1.3	52	178	1.2	48.190	-S220	071-42	
29	178	2.4	3.0	137	12	178	29	178	2.4	51	180	2.4	48.950	-S660	071-42	
27	187	1.2	2.8	144	12	187	27	187	1.2	49	190	1.2	51.620	-S220	071-42	
27	192	1.8	2.7	148	11	192	27	192	1.8	47	195	1.8	53.026	-S400	071-42	
25	202	2.4	2.6	156	11	202	25	202	2.4	45	205	2.4	55.773	-S660	071-42	
25	207	1.3	2.5	159	11	207	25	207	1.3	44	210	1.3	56.960	-S400	071-42	
24	212	1.0	2.5	163	10	212	24	212	1.0	43	215	1.0	58.486	-S220	071-42	
22	233	1.3	2.3	180	9.3	233	22	233	1.3	39	237	1.3	64.354	-S400	071-42	

3-stage gearboxes

Mains operation			Inverter operation										i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
25	203	3.2	2.6	156	11	203	25	203	3.2	44	206	3.0	56.818	-S660	071-42	
24	207	1.9	2.5	160	10	207	24	207	1.9	43	211	1.8	58.027	-S400	071-42	
22	228	2.9	2.3	176	9.4	228	22	228	2.9	39	232	2.7	63.817	-S660	071-42	
21	234	1.7	2.2	180	9.2	234	21	234	1.7	38	238	1.6	65.559	-S400	071-42	
20	249	2.7	2.1	192	8.6	249	20	249	2.7	36	253	2.5	69.813	-S660	071-42	
19	260	2.5	2.0	200	8.3	260	19	260	2.5	35	264	2.5	72.713	-S660	071-42	
19	265	1.5	2.0	204	8.1	265	19	265	1.5	34	269	1.5	74.260	-S400	071-42	
18	284	2.3	1.8	219	7.5	284	18	284	2.3	32	289	2.3	79.545	-S660	071-42	
17	300	1.3	1.7	231	7.2	300	17	300	1.3	30	304	1.3	83.900	-S400	071-42	
16	318	2.1	1.6	245	6.7	318	16	318	2.1	28	323	2.0	89.048	-S660	071-42	
15	339	1.2	1.5	261	6.3	339	15	339	1.2	27	345	1.2	94.984	-S400	071-42	
14	362	1.8	1.4	279	5.9	362	14	362	1.8	25	368	1.8	101.460	-S660	071-42	
13	383	1.0	1.4	295	5.6	383	13	383	1.0	23	389	1.0	107.314	-S400	071-42	
13	390	1.7	1.3	300	5.5	390	13	390	1.7	23	396	1.7	109.083	-S660	071-42	
11	441	0.9	1.2	339	4.9	441	11	441	0.9	20	447	0.9	123.307	-S400	071-42	
11	444	1.5	1.2	342	4.8	444	11	444	1.5	20	451	1.5	124.289	-S660	071-42	
10	490	1.4	1.1	377	4.4	490	10	490	1.4	18	498	1.3	137.133	-S660	071-42	
9.0	558	1.2	0.9	430	3.8	558	9.0	558	1.2	16	567	1.2	156.249	-S660	071-42	
8.0	631	1.1	0.8	486	3.4	631	8.0	631	1.1	14	641	1.0	176.611	-S660	071-42	
7.0	719	0.9	0.7	554	3.0	719	7.0	719	0.9	13	730	0.9	201.230	-S660	071-42	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.75 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
394	18	3.6	3.661	-S130	40-P80/M4	
287	24	3.1	5.021	-S130	40-P80/M4	
246	28	4.2	5.860	-S400	40-P80/M4	
225	31	2.8	6.425	-S130	40-P80/M4	
205	34	2.7	7.029	-S130	40-P80/M4	
173	40	2.9	8.322	-S130	40-P80/M4	
153	45	2.8	9.411	-S130	40-P80/M4	
126	55	2.4	11.413	-S130	40-P80/M4	
112	62	2.1	12.907	-S130	40-P80/M4	
99	70	1.9	14.606	-S130	40-P80/M4	
98	71	3.1	14.720	-S220	40-P80/M4	
98	71	4.2	14.806	-S400	40-P80/M4	
90	77	1.7	15.979	-S130	40-P80/M4	
87	80	2.8	16.571	-S220	40-P80/M4	
80	87	1.5	18.069	-S130	40-P80/M4	
77	90	2.4	18.776	-S220	40-P80/M4	
71	98	2.3	20.300	-S220	40-P80/M4	
71	98	1.3	20.381	-S130	40-P80/M4	
63	111	2.0	23.000	-S220	40-P80/M4	
63	111	1.2	23.048	-S130	40-P80/M4	
58	120	1.1	24.967	-S130	40-P80/M4	
55	127	1.7	26.422	-S220	40-P80/M4	
51	136	1.0	28.233	-S130	40-P80/M4	
50	140	2.9	29.156	-S400	40-P80/M4	
48	144	1.5	29.937	-S220	40-P80/M4	
46	150	3.0	31.167	-S660	40-P80/M4	
46	151	0.9	31.387	-S130	40-P80/M4	
44	158	1.4	32.867	-S220	40-P80/M4	
44	159	2.5	32.940	-S400	40-P80/M4	
41	171	3.0	35.511	-S660	40-P80/M4	
40	175	2.3	36.267	-S400	40-P80/M4	
39	179	1.2	37.238	-S220	40-P80/M4	
36	194	2.7	40.333	-S660	40-P80/M4	
35	197	2.0	40.974	-S400	40-P80/M4	
34	205	1.1	42.533	-S220	40-P80/M4	
31	221	2.7	45.956	-S660	40-P80/M4	
31	226	1.4	46.933	-S400	40-P80/M4	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.75 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
30	232	1.0	48.190	-S220	40-P80/M4	
30	236	1.9	48.950	-S660	40-P80/M4	
27	255	1.4	53.026	-S400	40-P80/M4	
26	269	1.9	55.773	-S660	40-P80/M4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
29	237	2.6	49.867	-S660	40-P80/M4	
27	249	0.9	52.587	-S220	40-P80/M4	
25	270	2.4	56.818	-S660	40-P80/M4	
25	275	1.5	58.027	-S400	40-P80/M4	
23	303	2.2	63.817	-S660	40-P80/M4	
22	311	1.3	65.559	-S400	40-P80/M4	
21	331	2.0	69.813	-S660	40-P80/M4	
20	345	1.9	72.713	-S660	40-P80/M4	
19	352	1.1	74.260	-S400	40-P80/M4	
18	377	1.8	79.545	-S660	40-P80/M4	
17	398	1.0	83.900	-S400	40-P80/M4	
16	422	1.6	89.048	-S660	40-P80/M4	
15	451	0.9	94.984	-S400	40-P80/M4	
14	481	1.4	101.460	-S660	40-P80/M4	
13	517	1.3	109.083	-S660	40-P80/M4	
12	590	1.1	124.289	-S660	40-P80/M4	
11	650	1.0	137.133	-S660	40-P80/M4	
9.2	741	0.9	156.249	-S660	40-P80/M4	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 1.1 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
395	26	2.4	3.661	-S130	40-P90/M4	
316	32	5.9	4.579	-S400	40-P90/M4	
288	35	2.2	5.021	-S130	40-P90/M4	
247	41	5.5	5.860	-S400	40-P90/M4	
225	45	1.9	6.425	-S130	40-P90/M4	
206	50	1.9	7.029	-S130	40-P90/M4	
174	59	2.0	8.322	-S130	40-P90/M4	
154	66	1.9	9.411	-S130	40-P90/M4	
137	74	3.0	10.514	-S220	40-P90/M4	
127	80	1.6	11.413	-S130	40-P90/M4	
122	84	2.6	11.876	-S220	40-P90/M4	
112	91	1.4	12.907	-S130	40-P90/M4	
111	92	2.4	12.992	-S220	40-P90/M4	
107	95	2.3	13.456	-S220	40-P90/M4	
99	103	1.3	14.606	-S130	40-P90/M4	
98	104	2.1	14.720	-S220	40-P90/M4	
98	104	3.8	14.806	-S400	40-P90/M4	
90	113	1.2	15.979	-S130	40-P90/M4	
87	117	1.9	16.571	-S220	40-P90/M4	
80	127	1.0	18.069	-S130	40-P90/M4	
79	129	3.1	18.286	-S400	40-P90/M4	
77	132	1.7	18.776	-S220	40-P90/M4	
71	143	1.5	20.300	-S220	40-P90/M4	
71	144	0.9	20.381	-S130	40-P90/M4	
70	146	2.8	20.659	-S400	40-P90/M4	
65	158	2.5	22.400	-S400	40-P90/M4	
63	162	1.4	23.000	-S220	40-P90/M4	
57	178	2.2	25.308	-S400	40-P90/M4	
55	186	1.2	26.422	-S220	40-P90/M4	
50	206	2.0	29.156	-S400	40-P90/M4	
48	211	1.0	29.937	-S220	40-P90/M4	
46	220	3.0	31.167	-S660	40-P90/M4	
44	232	1.0	32.867	-S220	40-P90/M4	
44	232	1.7	32.940	-S400	40-P90/M4	
41	250	2.6	35.511	-S660	40-P90/M4	
40	256	1.6	36.267	-S400	40-P90/M4	
39	263	0.8	37.238	-S220	40-P90/M4	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 1.1 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
36	284	1.9	40.333	-S660	40-P90/M4	
35	289	1.4	40.974	-S400	40-P90/M4	
31	324	1.9	45.956	-S660	40-P90/M4	
30	345	1.3	48.950	-S660	40-P90/M4	
26	393	1.3	55.773	-S660	40-P90/M4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
29	346	1.8	49.867	-S660	40-P90/M4	
25	395	1.7	56.818	-S660	40-P90/M4	
23	443	1.5	63.817	-S660	40-P90/M4	
21	485	1.4	69.813	-S660	40-P90/M4	
20	505	1.3	72.713	-S660	40-P90/M4	
18	553	1.2	79.545	-S660	40-P90/M4	
16	619	1.1	89.048	-S660	40-P90/M4	
14	705	0.9	101.460	-S660	40-P90/M4	
13	758	0.9	109.083	-S660	40-P90/M4	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 1.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
392	35	1.8	3.661	-S130	40-P90/L4	
313	44	4.3	4.579	-S400	40-P90/L4	
286	49	1.6	5.021	-S130	40-P90/L4	
245	57	4.0	5.860	-S400	40-P90/L4	
223	62	1.4	6.425	-S130	40-P90/L4	
204	68	1.4	7.029	-S130	40-P90/L4	
187	74	2.9	7.667	-S220	40-P90/L4	
172	81	1.4	8.322	-S130	40-P90/L4	
155	90	2.5	9.280	-S220	40-P90/L4	
153	91	1.4	9.411	-S130	40-P90/L4	
137	102	2.2	10.514	-S220	40-P90/L4	
126	111	1.2	11.413	-S130	40-P90/L4	
121	115	1.9	11.876	-S220	40-P90/L4	
111	125	1.0	12.907	-S130	40-P90/L4	
111	126	1.8	12.992	-S220	40-P90/L4	
110	127	3.2	13.105	-S400	40-P90/L4	
107	130	1.7	13.456	-S220	40-P90/L4	
100	139	2.9	14.336	-S400	40-P90/L4	
98	141	0.9	14.606	-S130	40-P90/L4	
98	143	1.5	14.720	-S220	40-P90/L4	
97	143	2.8	14.806	-S400	40-P90/L4	
90	155	0.8	15.979	-S130	40-P90/L4	
89	157	2.6	16.197	-S400	40-P90/L4	
87	160	1.4	16.571	-S220	40-P90/L4	
79	177	2.3	18.286	-S400	40-P90/L4	
76	182	1.2	18.776	-S220	40-P90/L4	
71	197	1.1	20.300	-S220	40-P90/L4	
70	200	2.0	20.659	-S400	40-P90/L4	
65	212	3.1	21.933	-S660	40-P90/L4	
64	217	1.8	22.400	-S400	40-P90/L4	
62	223	1.0	23.000	-S220	40-P90/L4	
57	243	2.4	25.056	-S660	40-P90/L4	
57	245	1.6	25.308	-S400	40-P90/L4	
54	256	0.9	26.422	-S220	40-P90/L4	
50	276	2.4	28.548	-S660	40-P90/L4	
49	282	1.4	29.156	-S400	40-P90/L4	
46	302	2.2	31.167	-S660	40-P90/L4	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 1.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
44	319	1.3	32.940	-S400	40-P90/L4	
40	344	1.9	35.511	-S660	40-P90/L4	
40	351	1.1	36.267	-S400	40-P90/L4	
36	391	1.4	40.333	-S660	40-P90/L4	
35	397	1.0	40.974	-S400	40-P90/L4	
31	445	1.4	45.956	-S660	40-P90/L4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
29	476	1.3	49.867	-S660	40-P90/L4	
25	542	1.2	56.818	-S660	40-P90/L4	
23	609	1.1	63.817	-S660	40-P90/L4	
21	666	1.0	69.813	-S660	40-P90/L4	
20	694	1.0	72.713	-S660	40-P90/L4	
18	759	0.9	79.545	-S660	40-P90/L4	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 2.2 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
377	54	3.3	3.840	-S220	40-P100/M4	
369	55	5.6	3.920	-S660	40-P100/M4	
316	65	3.8	4.579	-S400	40-P100/M4	
275	74	2.4	5.267	-S220	40-P100/M4	
247	83	3.1	5.860	-S400	40-P100/M4	
226	90	2.9	6.411	-S400	40-P100/M4	
214	95	2.3	6.767	-S220	40-P100/M4	
194	105	3.5	7.467	-S400	40-P100/M4	
189	108	2.0	7.667	-S220	40-P100/M4	
171	119	3.2	8.436	-S400	40-P100/M4	
156	131	1.7	9.280	-S220	40-P100/M4	
141	144	2.8	10.240	-S400	40-P100/M4	
138	148	1.5	10.514	-S220	40-P100/M4	
125	163	2.5	11.569	-S400	40-P100/M4	
122	167	1.3	11.876	-S220	40-P100/M4	
111	183	1.2	12.992	-S220	40-P100/M4	
110	185	2.2	13.105	-S400	40-P100/M4	
108	190	1.2	13.456	-S220	40-P100/M4	
101	202	2.0	14.336	-S400	40-P100/M4	
98	207	1.1	14.720	-S220	40-P100/M4	
98	209	1.9	14.806	-S400	40-P100/M4	
92	222	3.0	15.714	-S660	40-P100/M4	
89	228	1.8	16.197	-S400	40-P100/M4	
87	234	0.9	16.571	-S220	40-P100/M4	
81	252	2.6	17.905	-S660	40-P100/M4	
79	258	1.6	18.286	-S400	40-P100/M4	
77	265	0.8	18.776	-S220	40-P100/M4	
75	271	2.4	19.250	-S660	40-P100/M4	
70	291	1.4	20.659	-S400	40-P100/M4	
66	309	2.1	21.933	-S660	40-P100/M4	
65	316	1.3	22.400	-S400	40-P100/M4	
58	353	1.6	25.056	-S660	40-P100/M4	
57	357	1.1	25.308	-S400	40-P100/M4	
51	402	1.6	28.548	-S660	40-P100/M4	
46	439	1.5	31.167	-S660	40-P100/M4	
41	501	1.3	35.511	-S660	40-P100/M4	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 3.0 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
435	64	3.2	3.339	-S400	40-P100/L4	
378	73	2.4	3.840	-S220	40-P100/L4	
371	75	4.1	3.920	-S660	40-P100/L4	
317	88	2.8	4.579	-S400	40-P100/L4	
276	101	1.8	5.267	-S220	40-P100/L4	
248	112	2.3	5.860	-S400	40-P100/L4	
227	123	2.1	6.411	-S400	40-P100/L4	
215	129	1.7	6.767	-S220	40-P100/L4	
195	143	2.6	7.467	-S400	40-P100/L4	
190	147	1.5	7.667	-S220	40-P100/L4	
172	161	2.4	8.436	-S400	40-P100/L4	
157	178	1.2	9.280	-S220	40-P100/L4	
142	196	2.0	10.240	-S400	40-P100/L4	
138	201	1.1	10.514	-S220	40-P100/L4	
129	215	3.1	11.262	-S660	40-P100/L4	
126	221	1.8	11.569	-S400	40-P100/L4	
122	227	1.0	11.876	-S220	40-P100/L4	
118	236	2.8	12.320	-S660	40-P100/L4	
113	245	2.7	12.832	-S660	40-P100/L4	
112	249	0.9	12.992	-S220	40-P100/L4	
111	251	1.6	13.105	-S400	40-P100/L4	
108	257	0.9	13.456	-S220	40-P100/L4	
104	269	2.5	14.037	-S660	40-P100/L4	
101	274	1.5	14.336	-S400	40-P100/L4	
98	283	1.4	14.806	-S400	40-P100/L4	
93	301	2.2	15.714	-S660	40-P100/L4	
90	310	1.3	16.197	-S400	40-P100/L4	
81	343	1.9	17.905	-S660	40-P100/L4	
80	350	1.1	18.286	-S400	40-P100/L4	
76	368	1.8	19.250	-S660	40-P100/L4	
70	395	1.0	20.659	-S400	40-P100/L4	
66	420	1.6	21.933	-S660	40-P100/L4	
65	428	0.9	22.400	-S400	40-P100/L4	
58	479	1.2	25.056	-S660	40-P100/L4	
57	484	0.8	25.308	-S400	40-P100/L4	
51	546	1.2	28.548	-S660	40-P100/L4	
47	596	1.1	31.167	-S660	40-P100/L4	

6.4

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 3.0\text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
41	679	1.0	35.511	-S660	40-P100/L4	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 4.0 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
430	86	2.4	3.339	-S400	40-P112/M4	
366	101	3.4	3.920	-S660	40-P112/M4	
313	118	2.1	4.579	-S400	40-P112/M4	
245	151	1.7	5.860	-S400	40-P112/M4	
224	166	1.6	6.411	-S400	40-P112/M4	
209	178	2.8	6.880	-S660	40-P112/M4	
196	189	3.1	7.311	-S660	40-P112/M4	
192	193	1.9	7.467	-S400	40-P112/M4	
170	218	1.7	8.436	-S400	40-P112/M4	
163	227	2.8	8.800	-S660	40-P112/M4	
143	259	2.4	10.027	-S660	40-P112/M4	
140	264	1.5	10.240	-S400	40-P112/M4	
127	291	2.3	11.262	-S660	40-P112/M4	
124	299	1.3	11.569	-S400	40-P112/M4	
117	318	2.1	12.320	-S660	40-P112/M4	
112	331	2.0	12.832	-S660	40-P112/M4	
110	338	1.2	13.105	-S400	40-P112/M4	
102	363	1.8	14.037	-S660	40-P112/M4	
100	370	1.1	14.336	-S400	40-P112/M4	
97	382	1.1	14.806	-S400	40-P112/M4	
91	406	1.6	15.714	-S660	40-P112/M4	
89	418	1.0	16.197	-S400	40-P112/M4	
80	462	1.4	17.905	-S660	40-P112/M4	
79	472	0.9	18.286	-S400	40-P112/M4	
75	497	1.3	19.250	-S660	40-P112/M4	
65	566	1.2	21.933	-S660	40-P112/M4	
57	647	0.9	25.056	-S660	40-P112/M4	
50	737	0.9	28.548	-S660	40-P112/M4	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 5.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
374	136	3.1	3.920	-S660	40-P132/M4	
273	187	2.6	5.376	-S660	40-P132/M4	
228	223	2.7	6.417	-S660	40-P132/M4	
213	239	2.1	6.880	-S660	40-P132/M4	
200	254	2.3	7.311	-S660	40-P132/M4	
167	306	2.1	8.800	-S660	40-P132/M4	
146	349	1.8	10.027	-S660	40-P132/M4	
130	392	1.7	11.262	-S660	40-P132/M4	
119	429	1.5	12.320	-S660	40-P132/M4	
114	446	1.5	12.832	-S660	40-P132/M4	
104	488	1.4	14.037	-S660	40-P132/M4	
93	547	1.2	15.714	-S660	40-P132/M4	
82	623	1.1	17.905	-S660	40-P132/M4	
76	670	1.0	19.250	-S660	40-P132/M4	
67	763	0.9	21.933	-S660	40-P132/M4	

g500-S shaft-mounted helical geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 7.5\text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
372	187	2.3	3.920	-S660	40-P132/L4	
272	256	1.9	5.376	-S660	40-P132/L4	
228	305	2.0	6.417	-S660	40-P132/L4	
212	327	1.5	6.880	-S660	40-P132/L4	
200	348	1.7	7.311	-S660	40-P132/L4	
166	419	1.5	8.800	-S660	40-P132/L4	
146	477	1.3	10.027	-S660	40-P132/L4	
130	536	1.2	11.262	-S660	40-P132/L4	
119	586	1.1	12.320	-S660	40-P132/L4	
114	611	1.1	12.832	-S660	40-P132/L4	
104	668	1.0	14.037	-S660	40-P132/L4	
93	748	0.9	15.714	-S660	40-P132/L4	

g500-S shaft-mounted helical geared motors

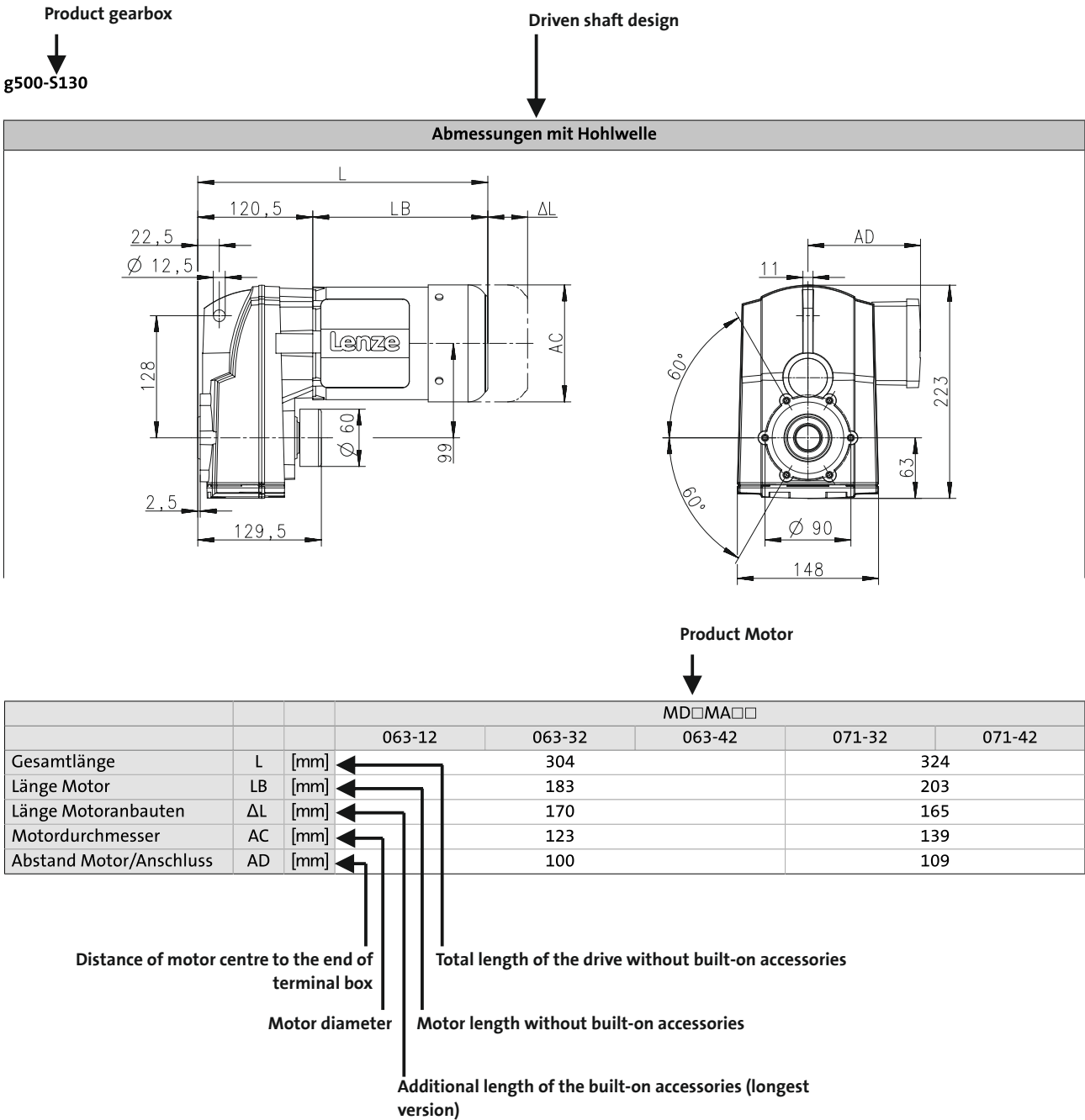
Technical data



Dimensions, notes

Notes on the dimensions

The following legend shows the layout of the dimension sheets.



g500-S shaft-mounted helical geared motors

Technical data



Dimensions, notes

Gearbox designs

Hollow shaft		
Without centring (HDR)	With centering (HCR)	Flange with through holes (HCK)

Hollow shaft with shrink disc		
Without centring (SDR)	With centering (SCR)	Flange with through holes (SCK)

g500-S shaft-mounted helical geared motors

Technical data



Dimensions, notes

Gearbox designs

Solid shaft

Without centring (VDR)

With centering (VCR)

Flange with through holes (VCK)

Solid shaft

Foot mounting (VBR)

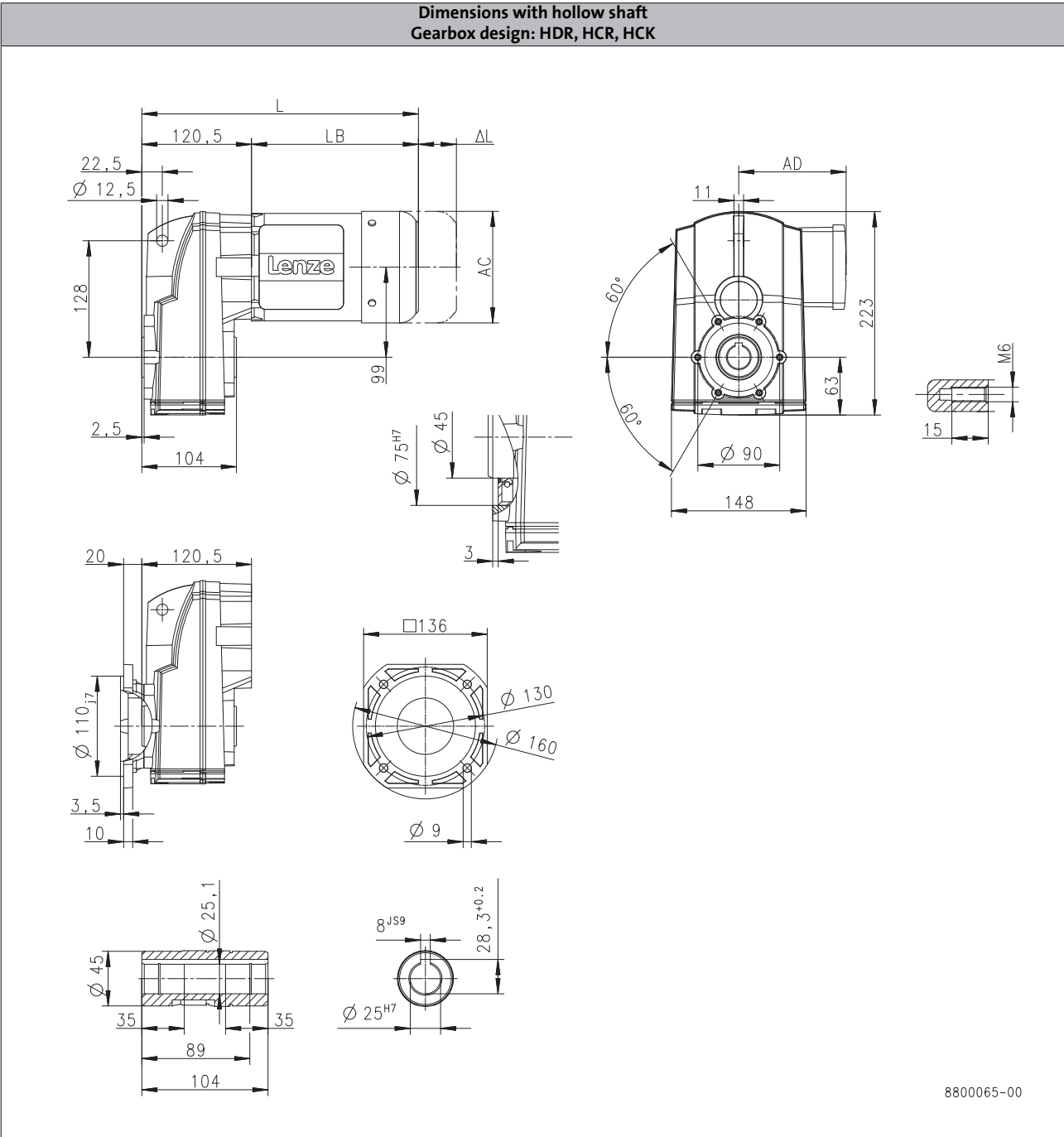
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S130



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	304		324	
Motor length	LB [mm]	183		203	
Length of motor options	ΔL [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

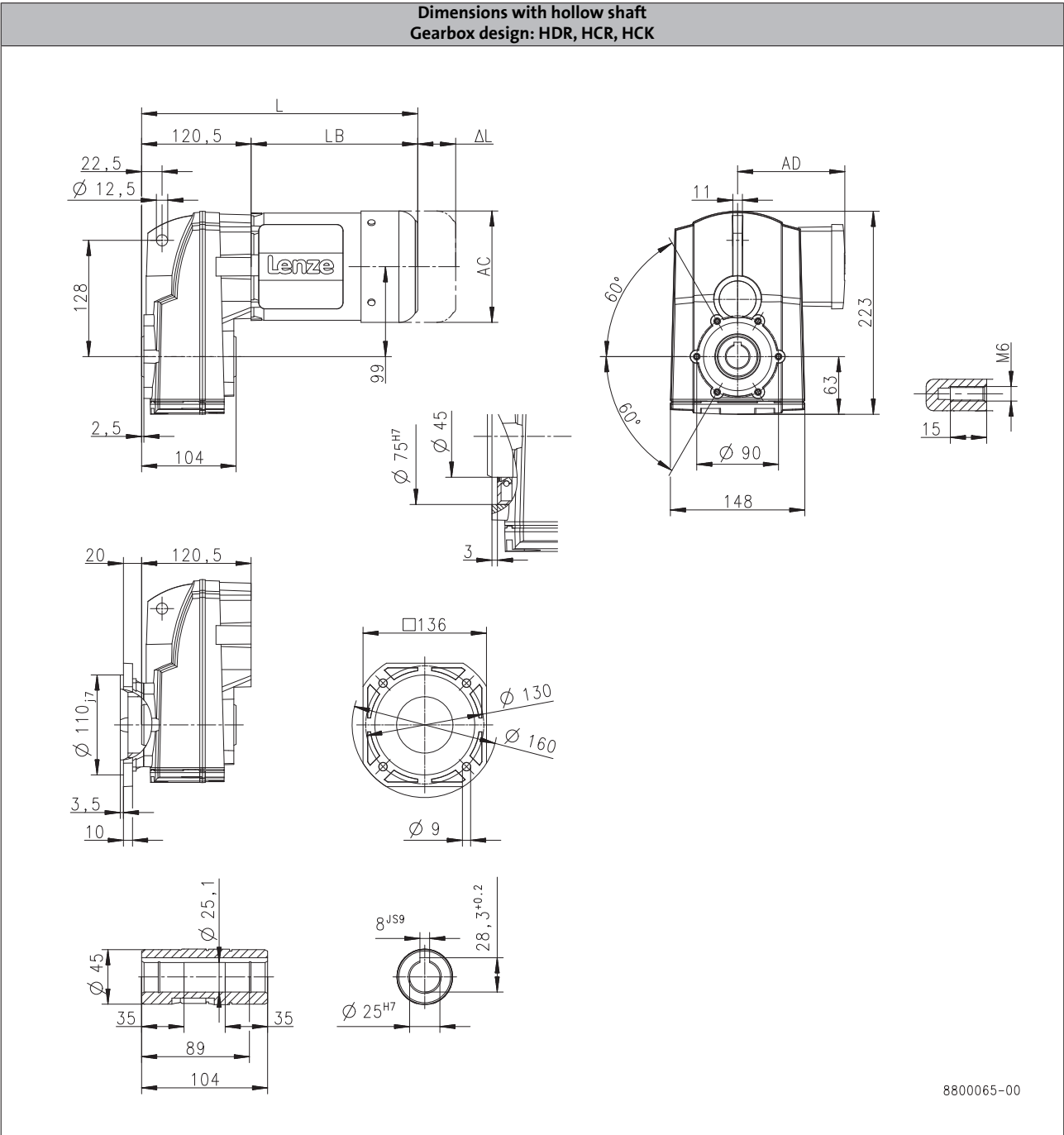
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S130



			m240			
			-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L	[mm]	346		415	
Motor length	LB	[mm]	225		294	
Length of motor options	Δ L	[mm]	107		92.0	
Motor diameter	AC	[mm]	158		172	
Distance motor/connection	AD	[mm]	148		155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

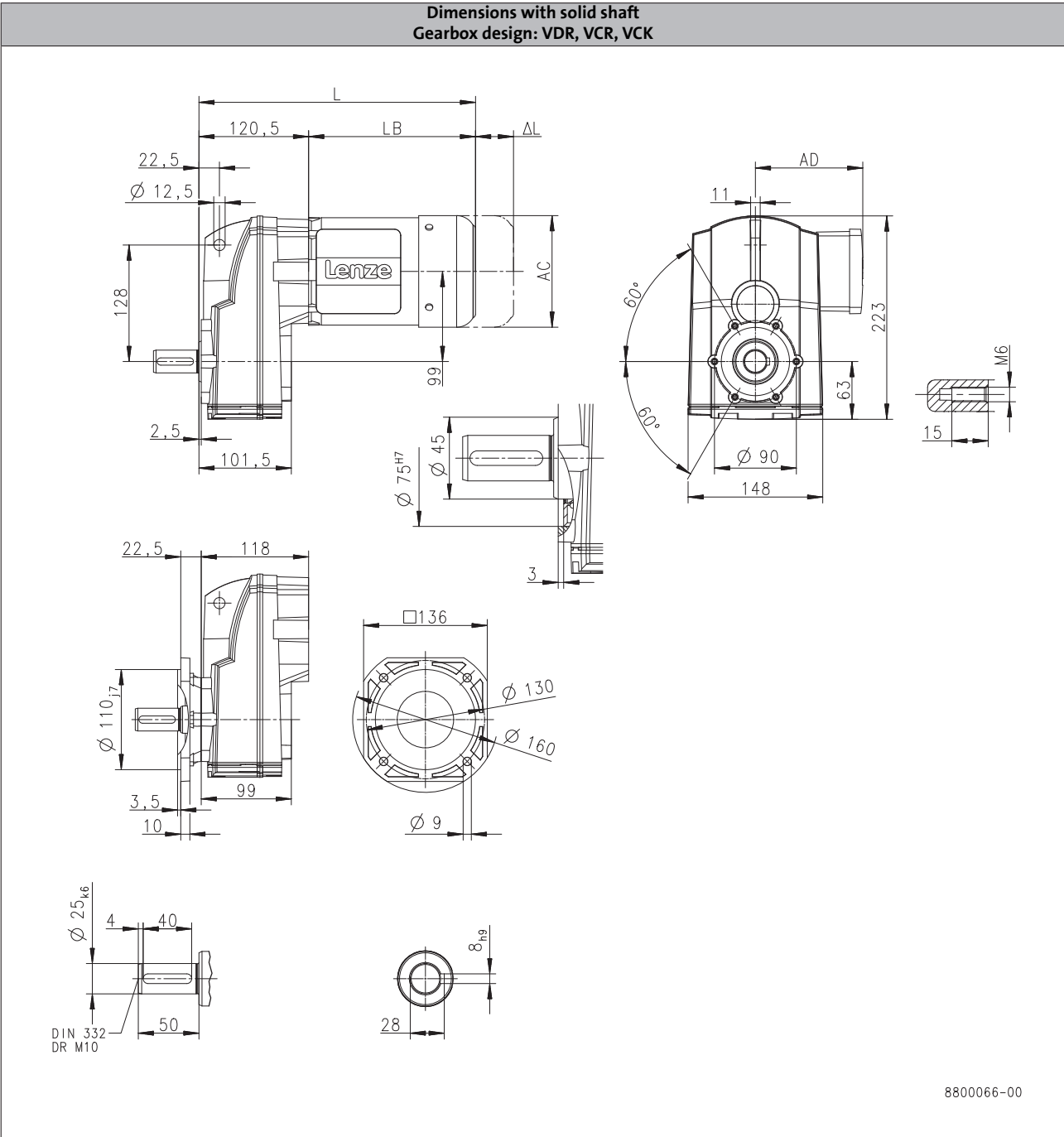
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S130



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	304		324	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

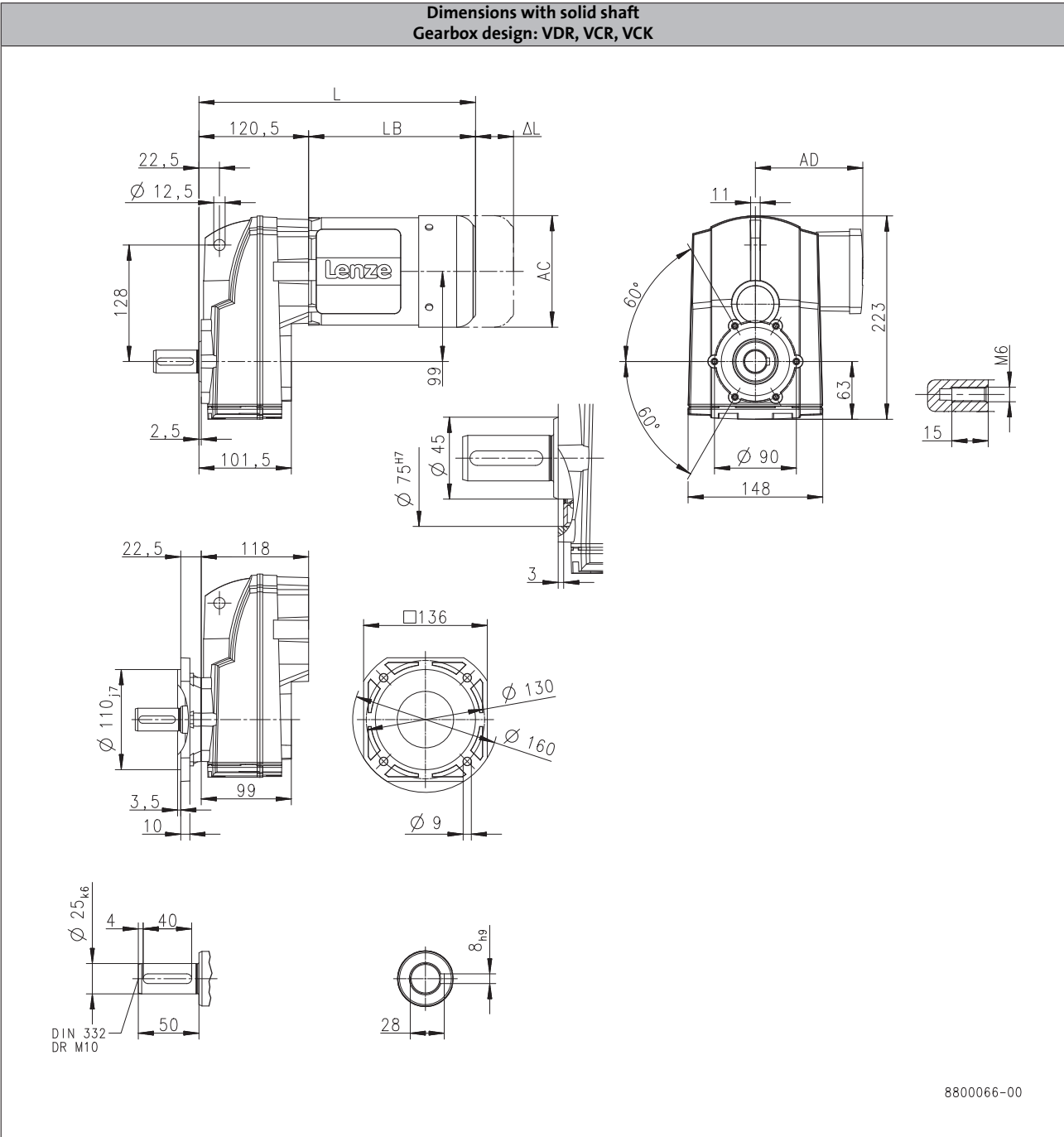
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S130



			m240			
			-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L	[mm]	346		415	
Motor length	LB	[mm]	225		294	
Length of motor options	Δ L	[mm]	107		92.0	
Motor diameter	AC	[mm]	158		172	
Distance motor/connection	AD	[mm]	148		155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

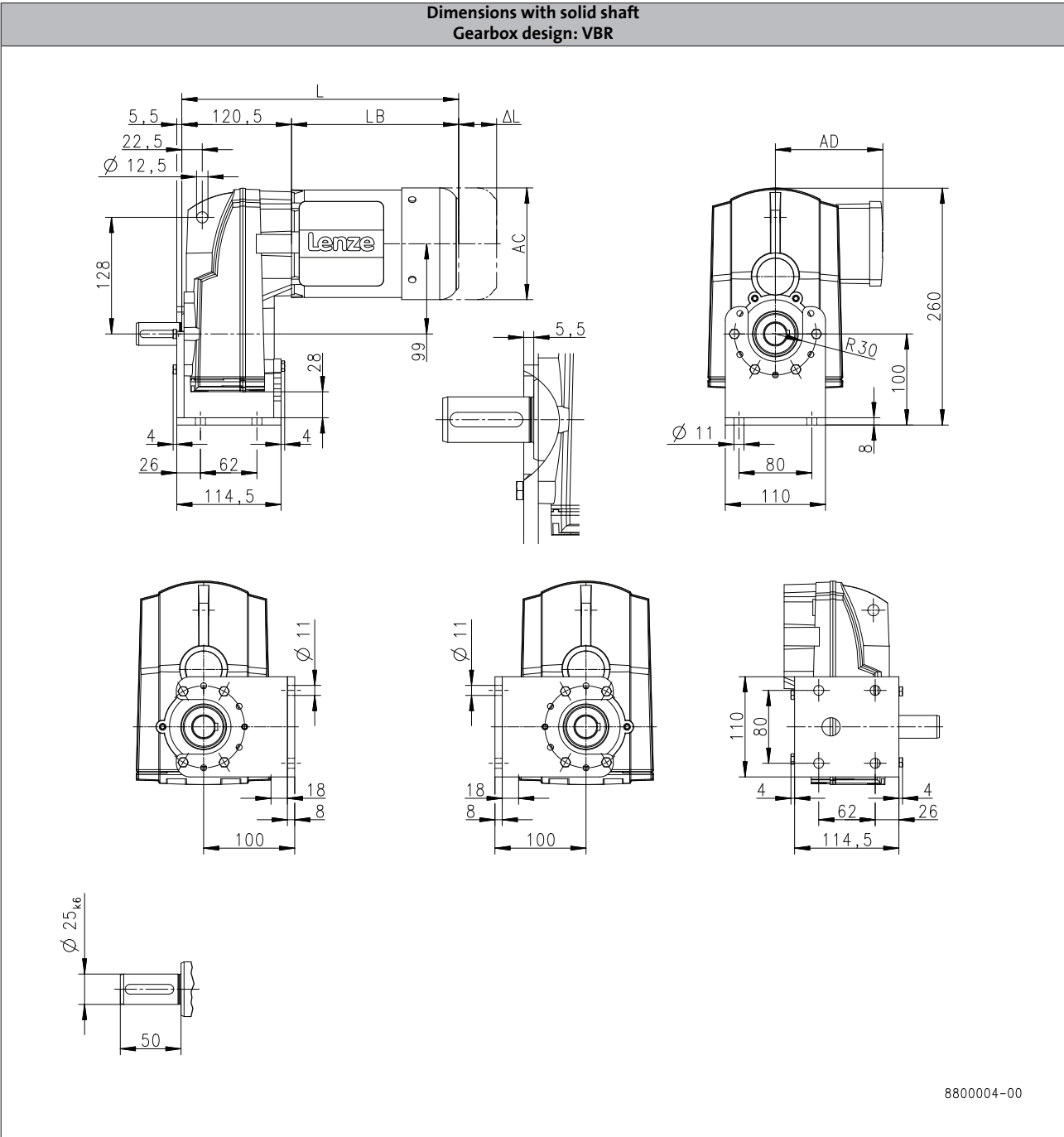
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S130



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	304		324	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

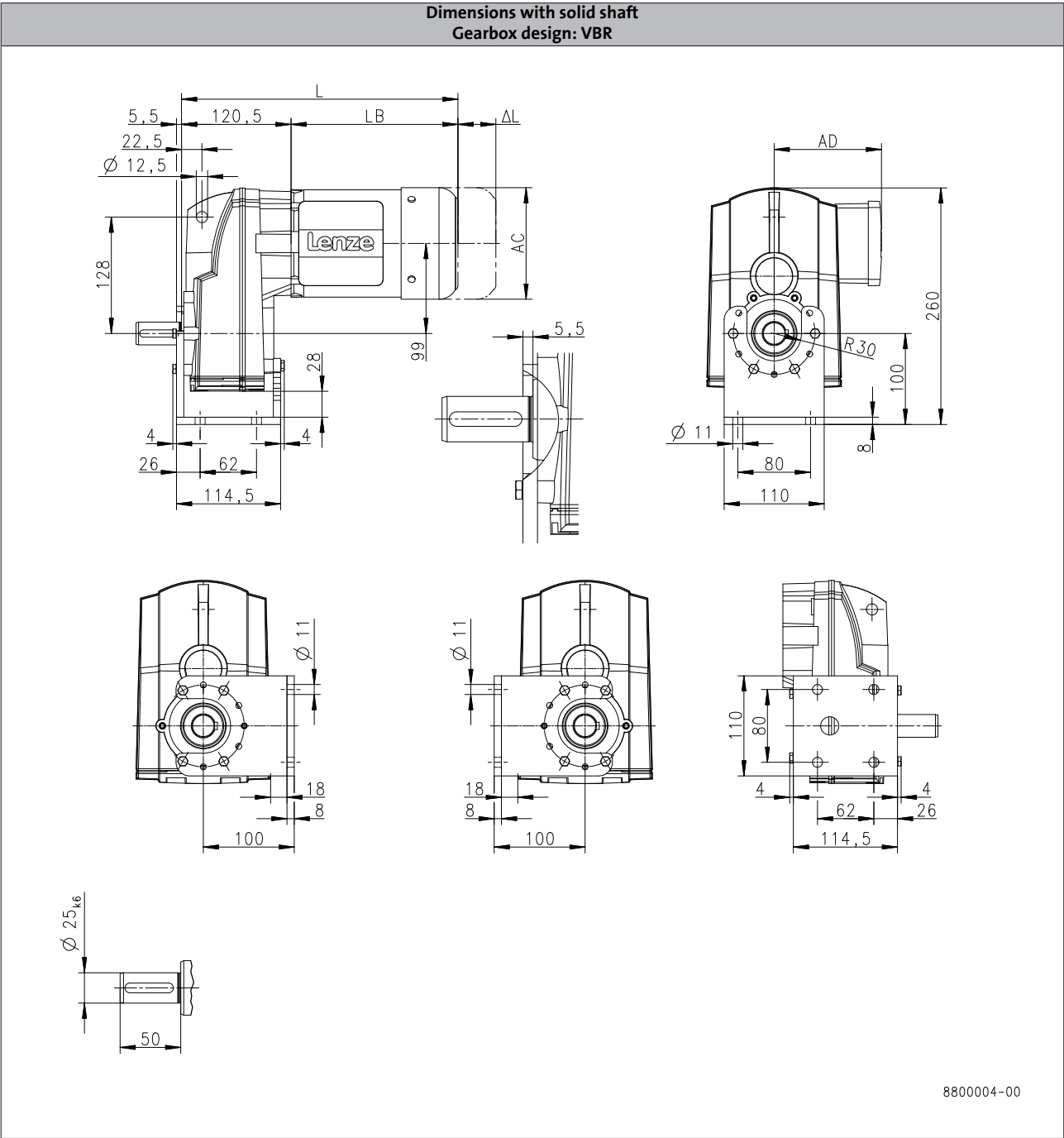
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S130



			m240			
			-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L	[mm]	346		415	
Motor length	LB	[mm]	225		294	
Length of motor options	Δ L	[mm]	107		92.0	
Motor diameter	AC	[mm]	158		172	
Distance motor/connection	AD	[mm]	148		155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

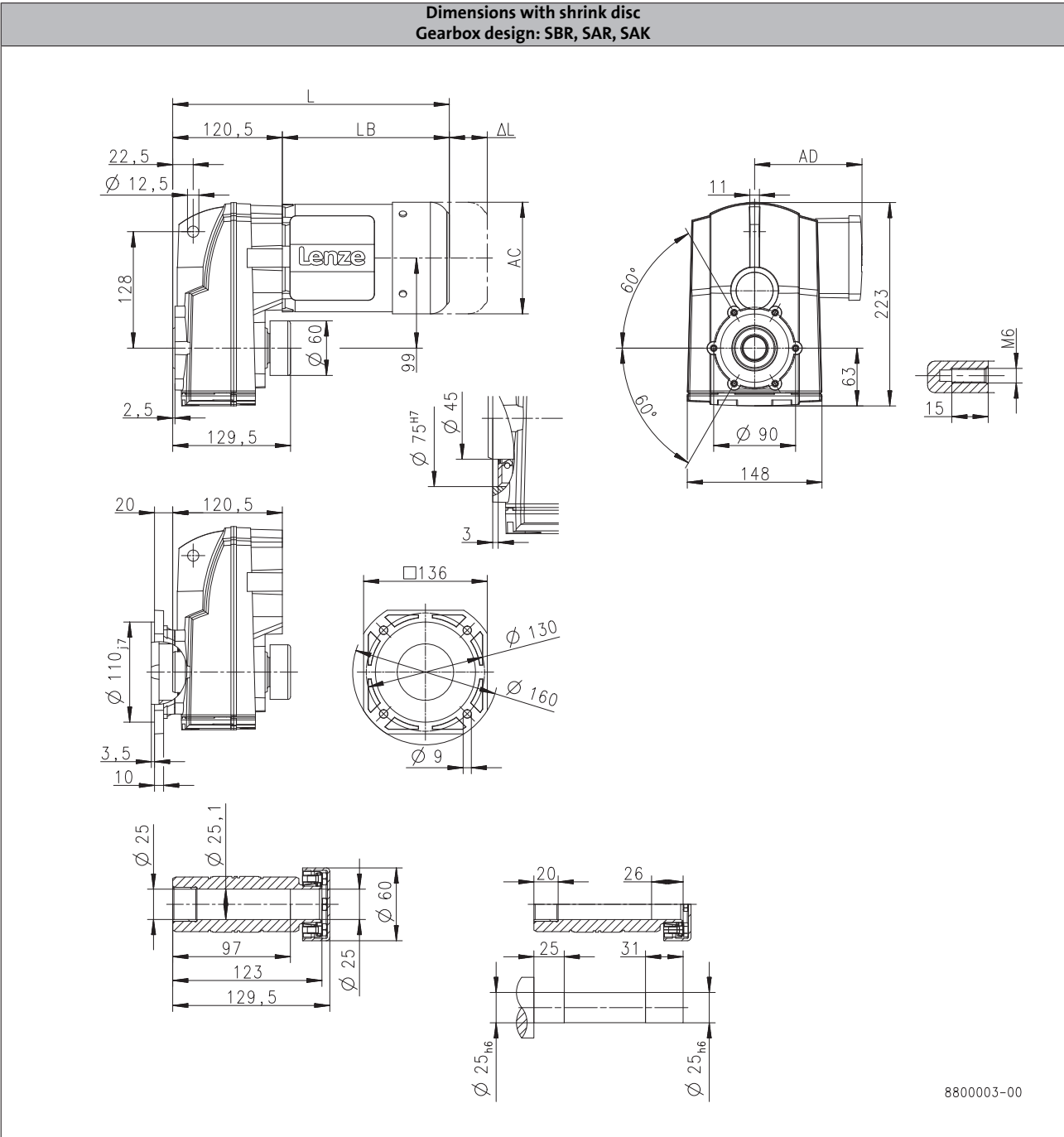
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S130



			MD□MA□□			
			063-11	063-31	071-11	071-31
Total length	L	[mm]	304			324
Motor length	LB	[mm]	183			203
Length of motor options	Δ L	[mm]	40.0			52.0
Motor diameter	AC	[mm]	123			139
Distance motor/connection	AD	[mm]	107			118

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

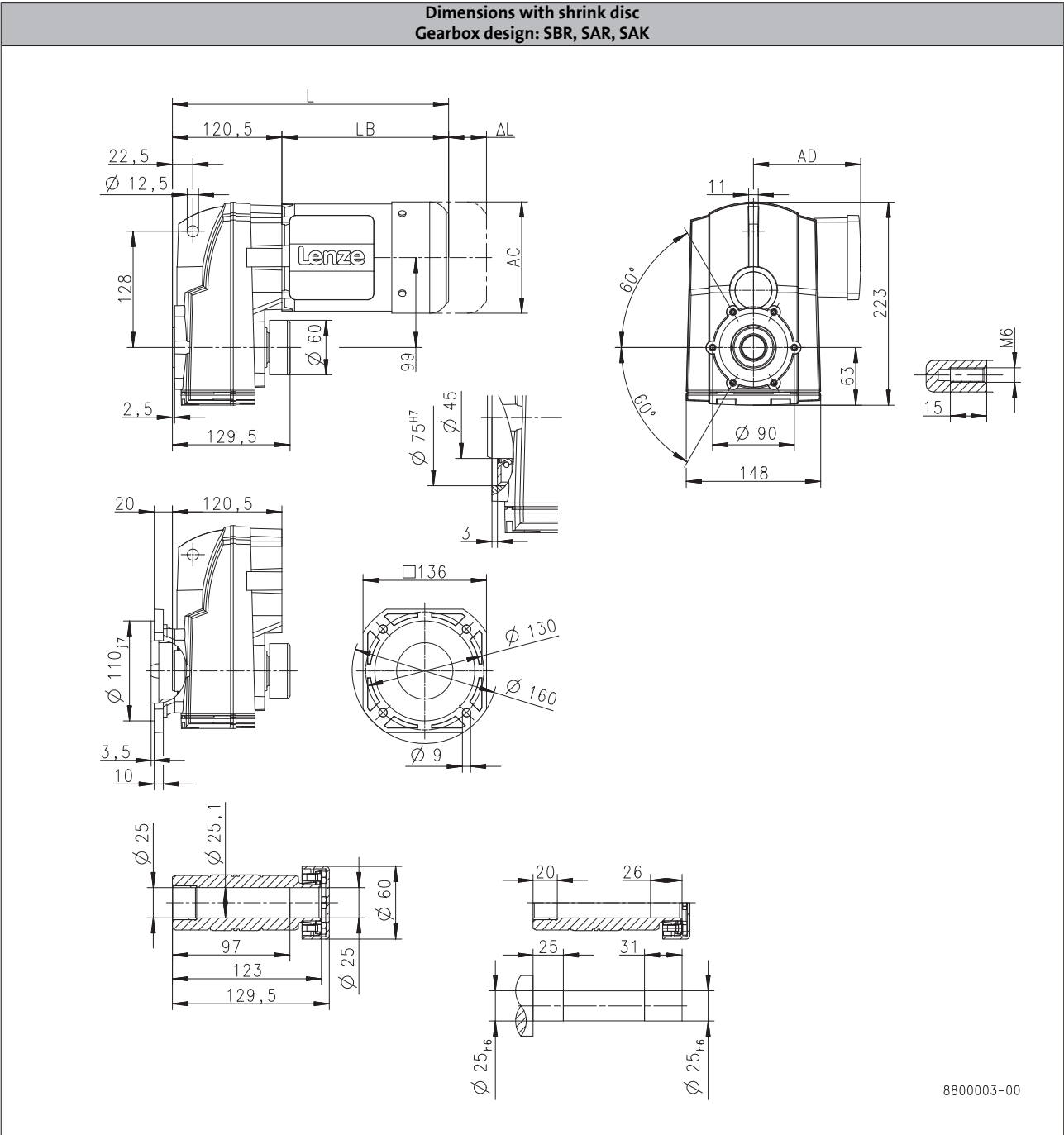
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S130



			m240			
			-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L	[mm]	346		415	
Motor length	LB	[mm]	225		294	
Length of motor options	Δ L	[mm]	107		92.0	
Motor diameter	AC	[mm]	158		172	
Distance motor/connection	AD	[mm]	148		155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

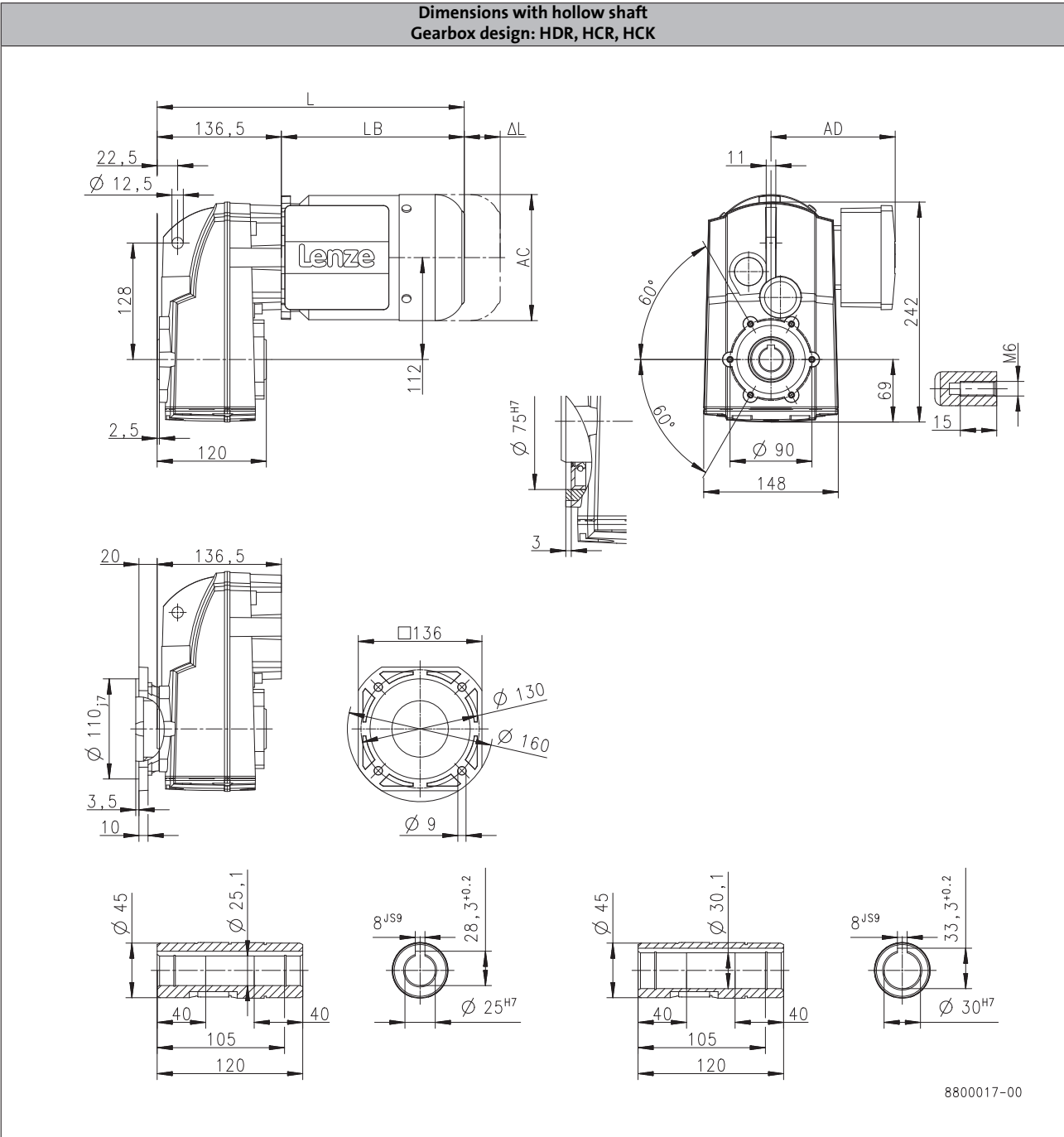
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S220



			MD□MA□□		
			063-31	071-11	071-31
Total length	L	[mm]	320		340
Motor length	LB	[mm]	183		203
Length of motor options	Δ L	[mm]	40.0		52.0
Motor diameter	AC	[mm]	123		139
Distance motor/connection	AD	[mm]	107		118

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-S220

Technical drawing of the Lenze 8JS9 motor, showing front, side, and detail views with dimensions in mm.

Front View Dimensions:

- Overall width: 136,5
- Overall height: 242
- Mounting flange diameter: $\varnothing 130$
- Base diameter: $\varnothing 160$
- Base thickness: 148
- Mounting flange thickness: 11
- Mounting flange hole diameter: $\varnothing 90$
- Mounting flange hole spacing: 60°
- Mounting flange hole diameter: $\varnothing 75^{H7}$
- Mounting flange hole depth: 3
- Mounting flange hole diameter: $\varnothing 9$
- Mounting flange hole depth: 15
- Mounting flange hole diameter: M6

Side View Dimensions:

- Overall width: 136,5
- Overall height: 128
- Mounting flange diameter: $\varnothing 130$
- Base diameter: $\varnothing 160$
- Base thickness: 148
- Mounting flange thickness: 11
- Mounting flange hole diameter: $\varnothing 90$
- Mounting flange hole spacing: 60°
- Mounting flange hole diameter: $\varnothing 75^{H7}$
- Mounting flange hole depth: 3
- Mounting flange hole diameter: $\varnothing 9$
- Mounting flange hole depth: 15
- Mounting flange hole diameter: M6

Detail View Dimensions:

- Overall width: 136,5
- Overall height: 128
- Mounting flange diameter: $\varnothing 130$
- Base diameter: $\varnothing 160$
- Base thickness: 148
- Mounting flange thickness: 11
- Mounting flange hole diameter: $\varnothing 90$
- Mounting flange hole spacing: 60°
- Mounting flange hole diameter: $\varnothing 75^{H7}$
- Mounting flange hole depth: 3
- Mounting flange hole diameter: $\varnothing 9$
- Mounting flange hole depth: 15
- Mounting flange hole diameter: M6

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L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

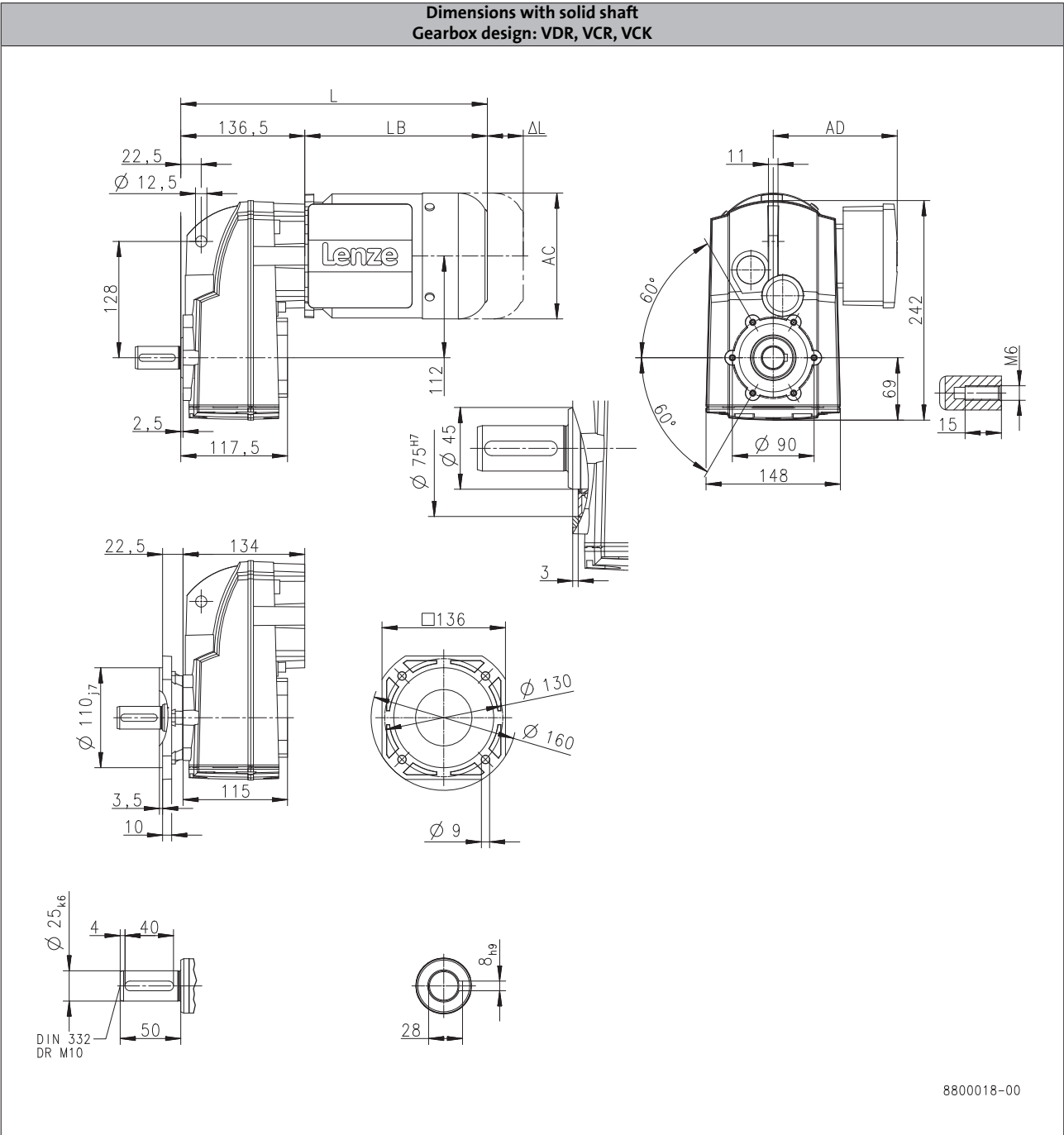
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S220



		MD□MA□□		
		063-31	071-11	071-31
Total length	L [mm]	320	340	
Motor length	LB [mm]	183	203	
Length of motor options	Δ L [mm]	40.0	52.0	
Motor diameter	AC [mm]	123	139	
Distance motor/connection	AD [mm]	107	118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-S220

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L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

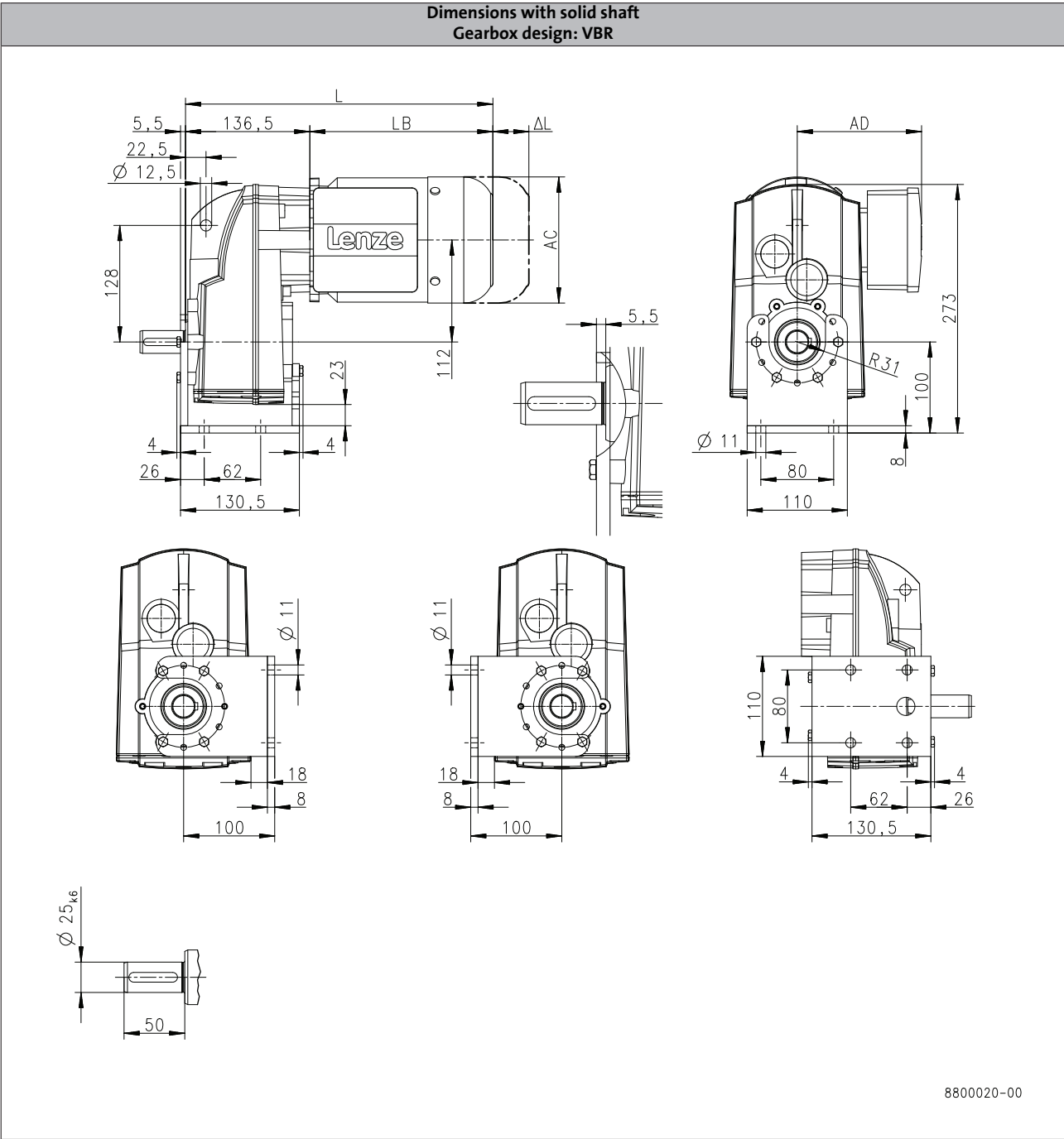
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S220



			MD□MA□□		
			063-31	071-11	071-31
Total length	L	[mm]	320	340	
Motor length	LB	[mm]	183	203	
Length of motor options	Δ L	[mm]	40.0	52.0	
Motor diameter	AC	[mm]	123	139	
Distance motor/connection	AD	[mm]	107	118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

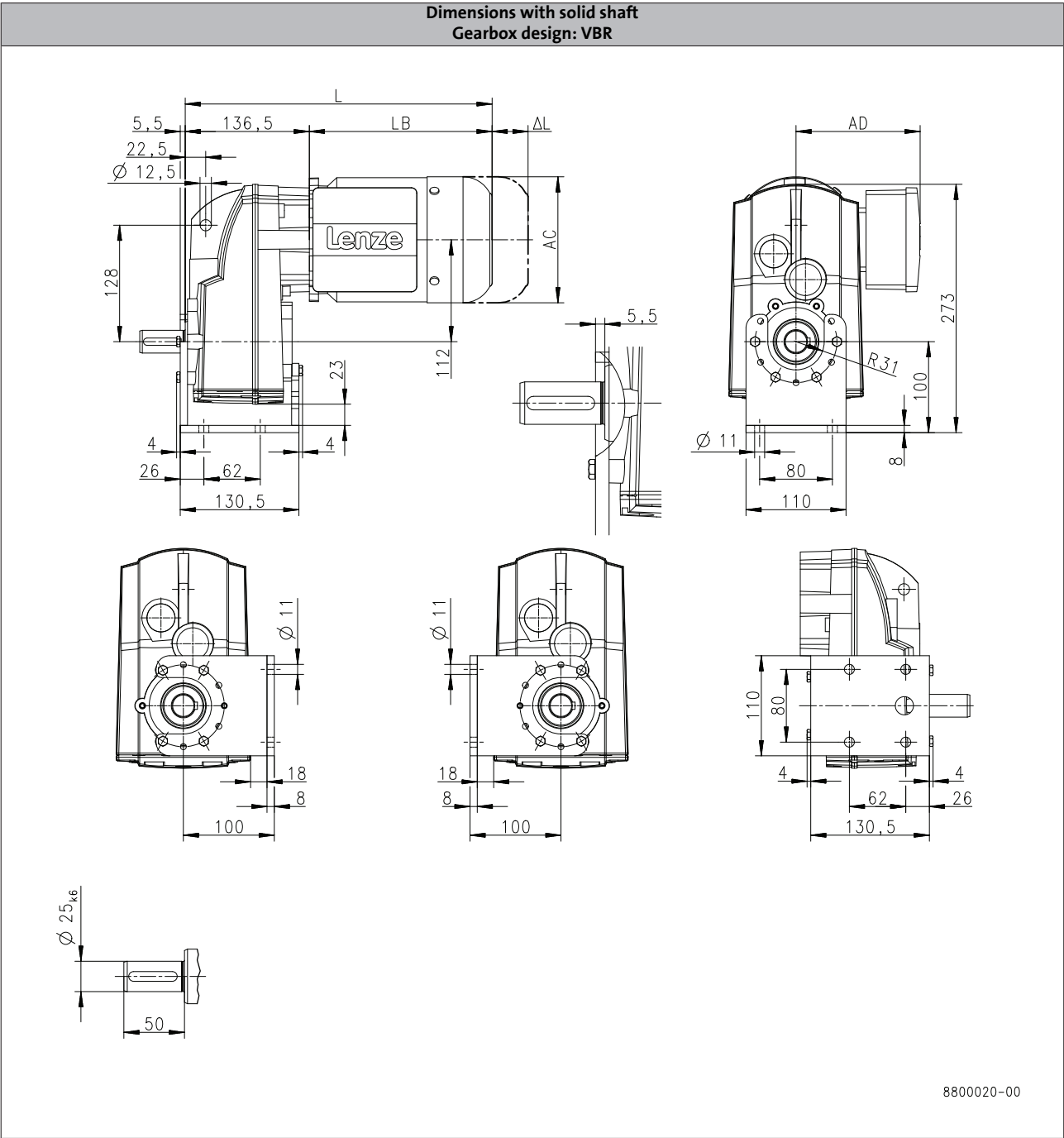
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S220



			m240			
			-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L	[mm]	362		431	493
Motor length	LB	[mm]	225		294	356
Length of motor options	Δ L	[mm]	107		92.0	103
Motor diameter	AC	[mm]	158		172	192
Distance motor/connection	AD	[mm]	148		155	164

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

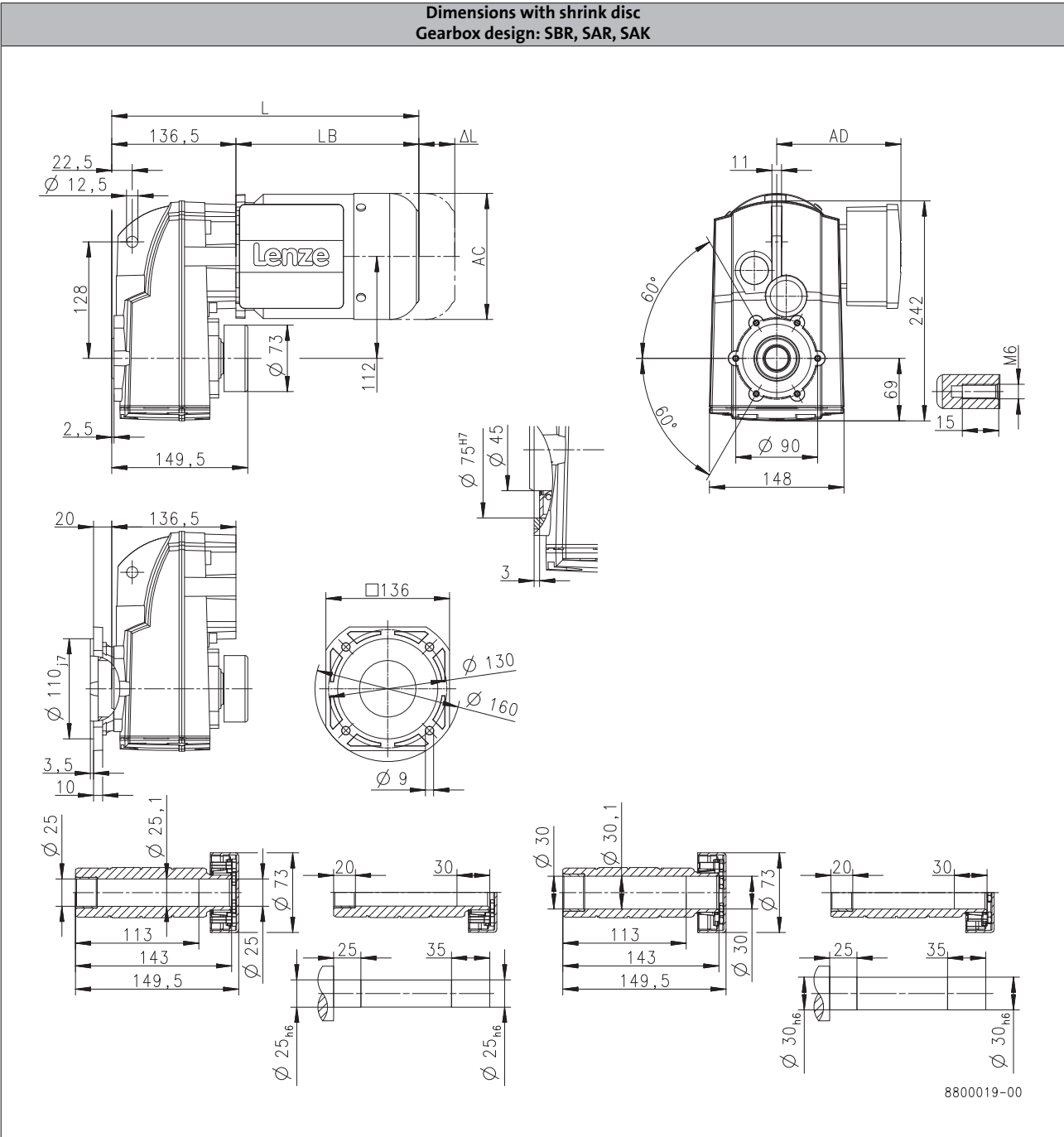
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S220



		MD□MA□□		
			063-31	071-11 071-31
Total length	L	[mm]	320	340
Motor length	LB	[mm]	183	203
Length of motor options	Δ L	[mm]	40.0	52.0
Motor diameter	AC	[mm]	123	139
Distance motor/connection	AD	[mm]	107	118

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

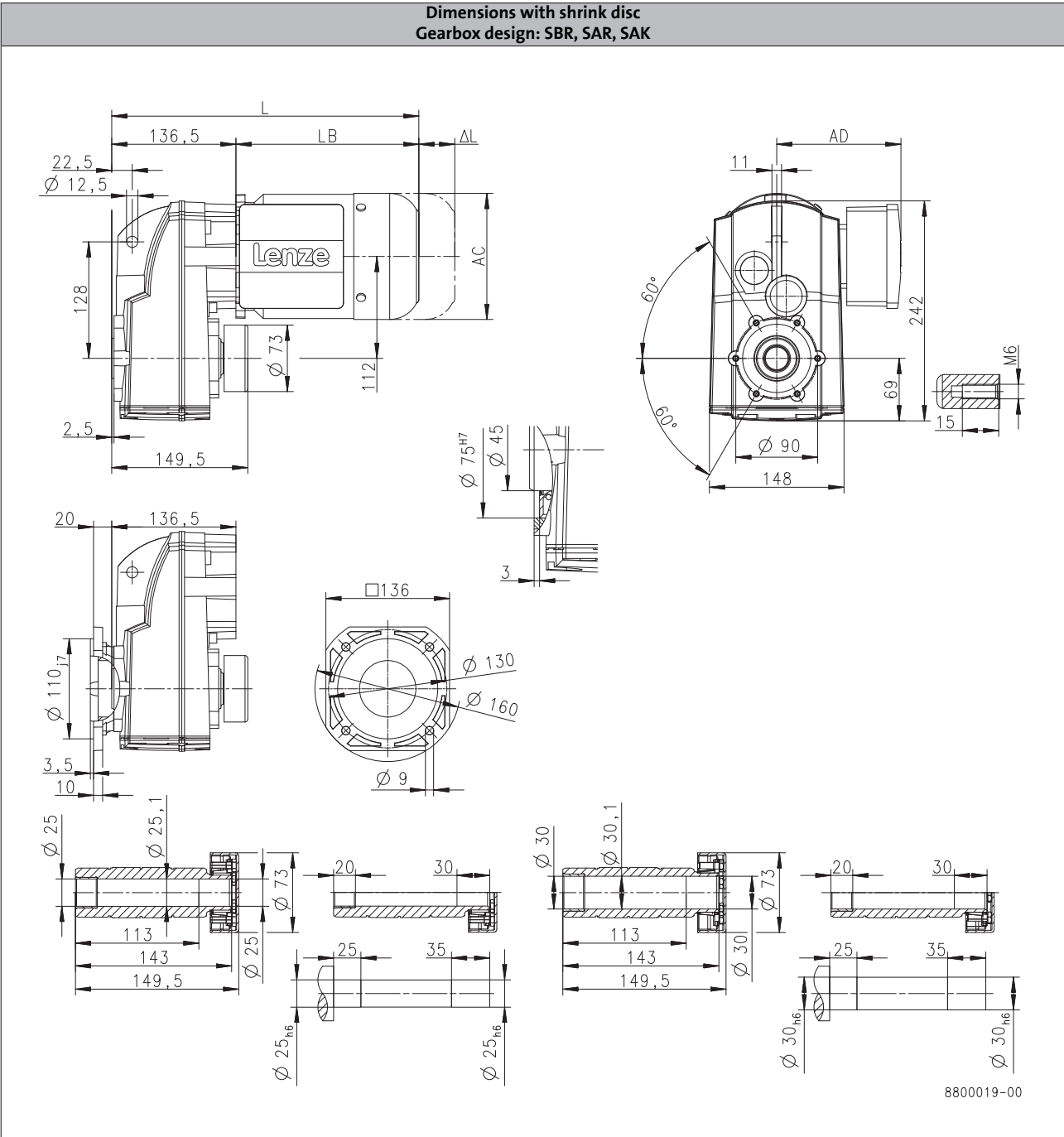
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S220



			m240				
			-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2
Total length	L	[mm]	362		431		493
Motor length	LB	[mm]	225		294		356
Length of motor options	ΔL	[mm]	107		92.0		103
Motor diameter	AC	[mm]	158		172		192
Distance motor/connection	AD	[mm]	148		155		164

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

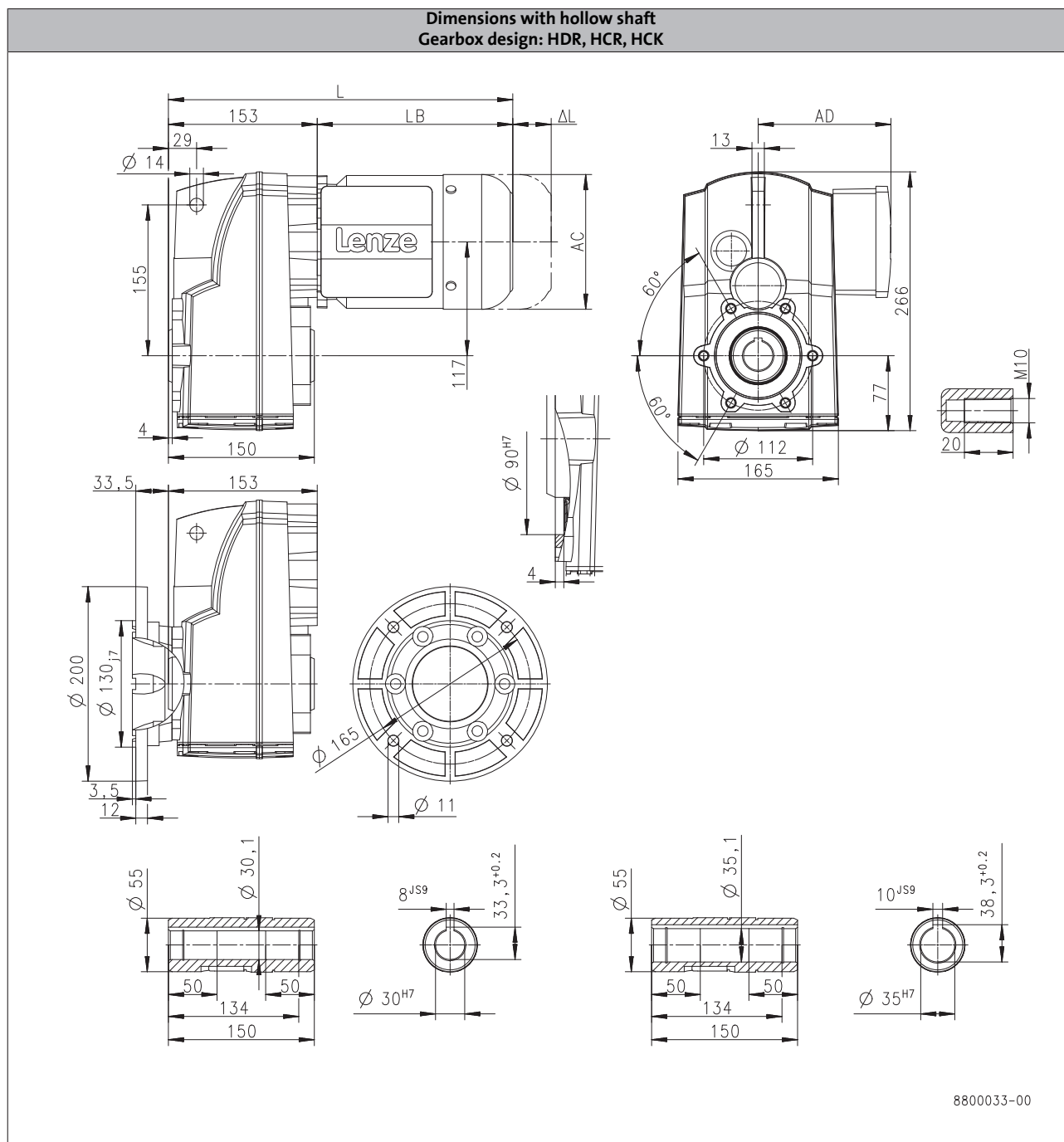
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S400



			MD□MA□□	m240					
			071-31	-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	356	378		447		509	496
Motor length	LB	[mm]	203	225		294		356	343
Length of motor options	Δ L	[mm]	52.0	107		92.0		103	111
Motor diameter	AC	[mm]	139	158		172		192	210
Distance motor/connection	AD	[mm]	118	148		155		164	171

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

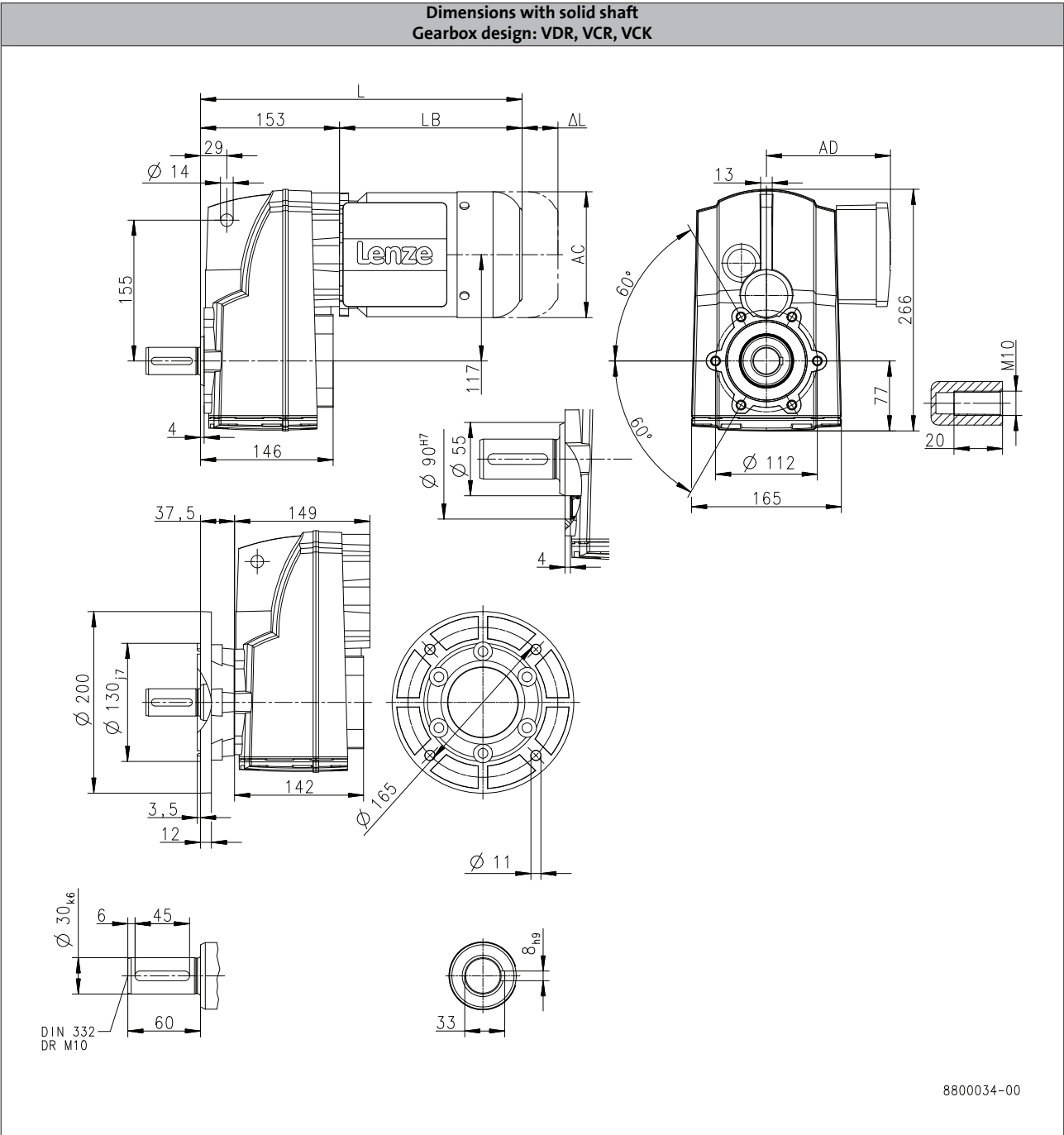
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S400



8800034-00

		MD□MA□□		m240				
		071-31		-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2
Total length	L	[mm]	356	378		447	509	496
Motor length	LB	[mm]	203	225	294	356	343	
Length of motor options	Δ L	[mm]	52.0	107	92.0	103	111	
Motor diameter	AC	[mm]	139	158	172	192	210	
Distance motor/connection	AD	[mm]	118	148	155	164	171	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

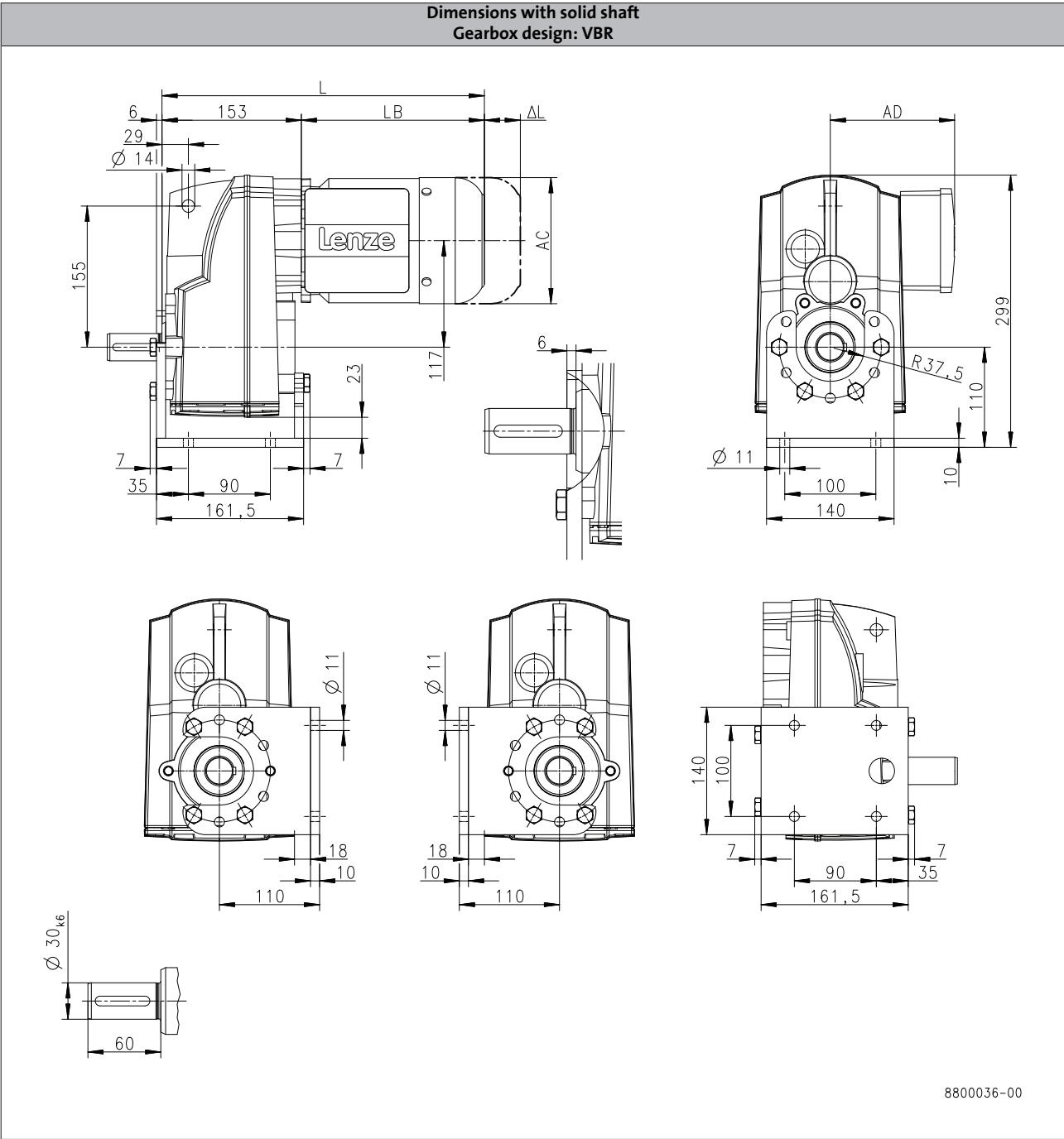
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S400

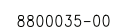


			MD□MA□□	m240					
			071-31	-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	356	378		447		509	496
Motor length	LB	[mm]	203	225		294		356	343
Length of motor options	Δ L	[mm]	52.0	107		92.0		103	111
Motor diameter	AC	[mm]	139	158		172		192	210
Distance motor/connection	AD	[mm]	118	148		155		164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-S400



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

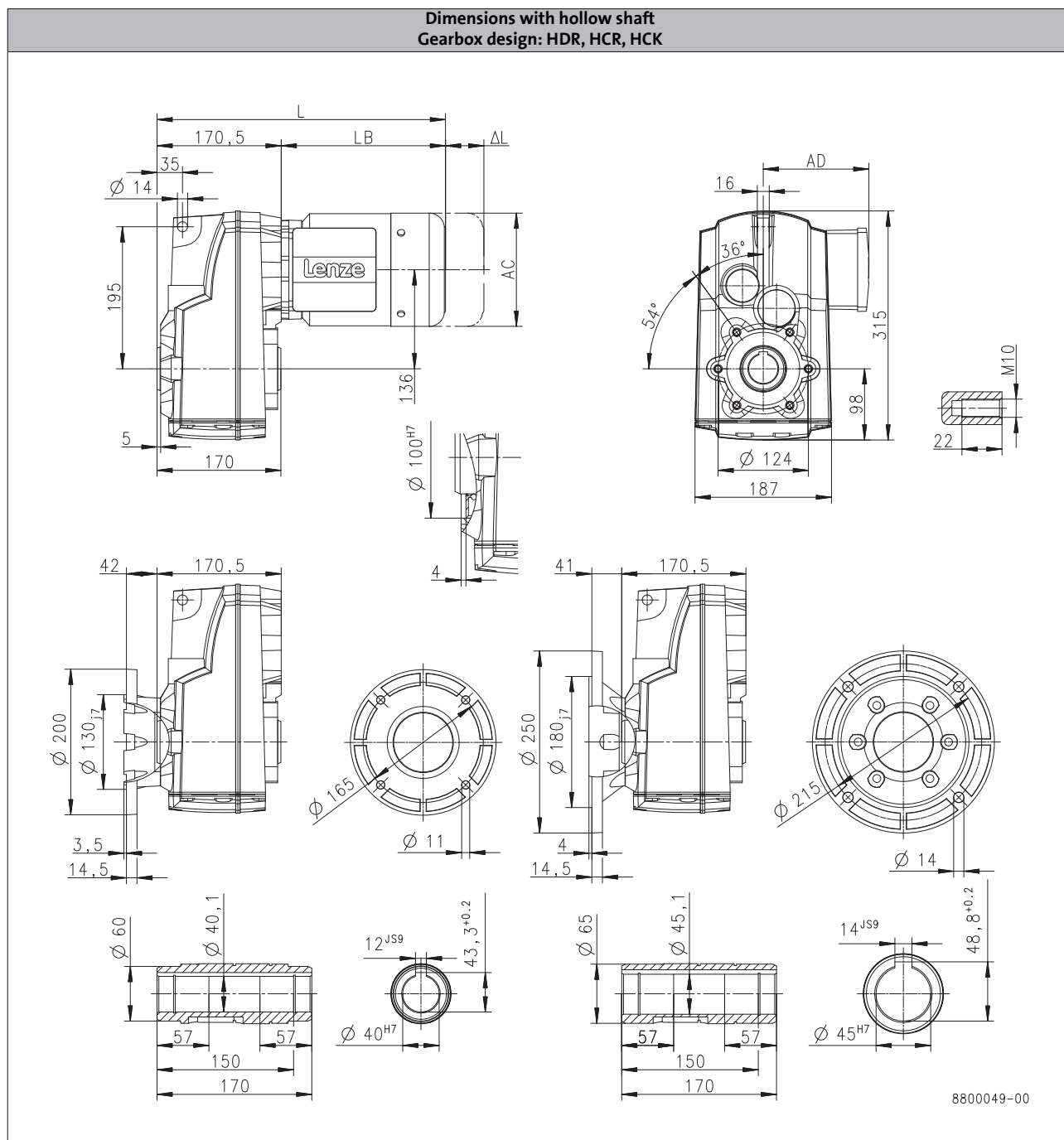
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S660



			m240			
			-P80/L2	-P90/L2	-P90/M2	-P100/M2
Total length	L	[mm]	396	465	527	514
Motor length	LB	[mm]	225	294	356	343
Length of motor options	Δ L	[mm]	107	92.0	103	111
Motor diameter	AC	[mm]	158	172	192	210
Distance motor/connection	AD	[mm]	148	155	164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

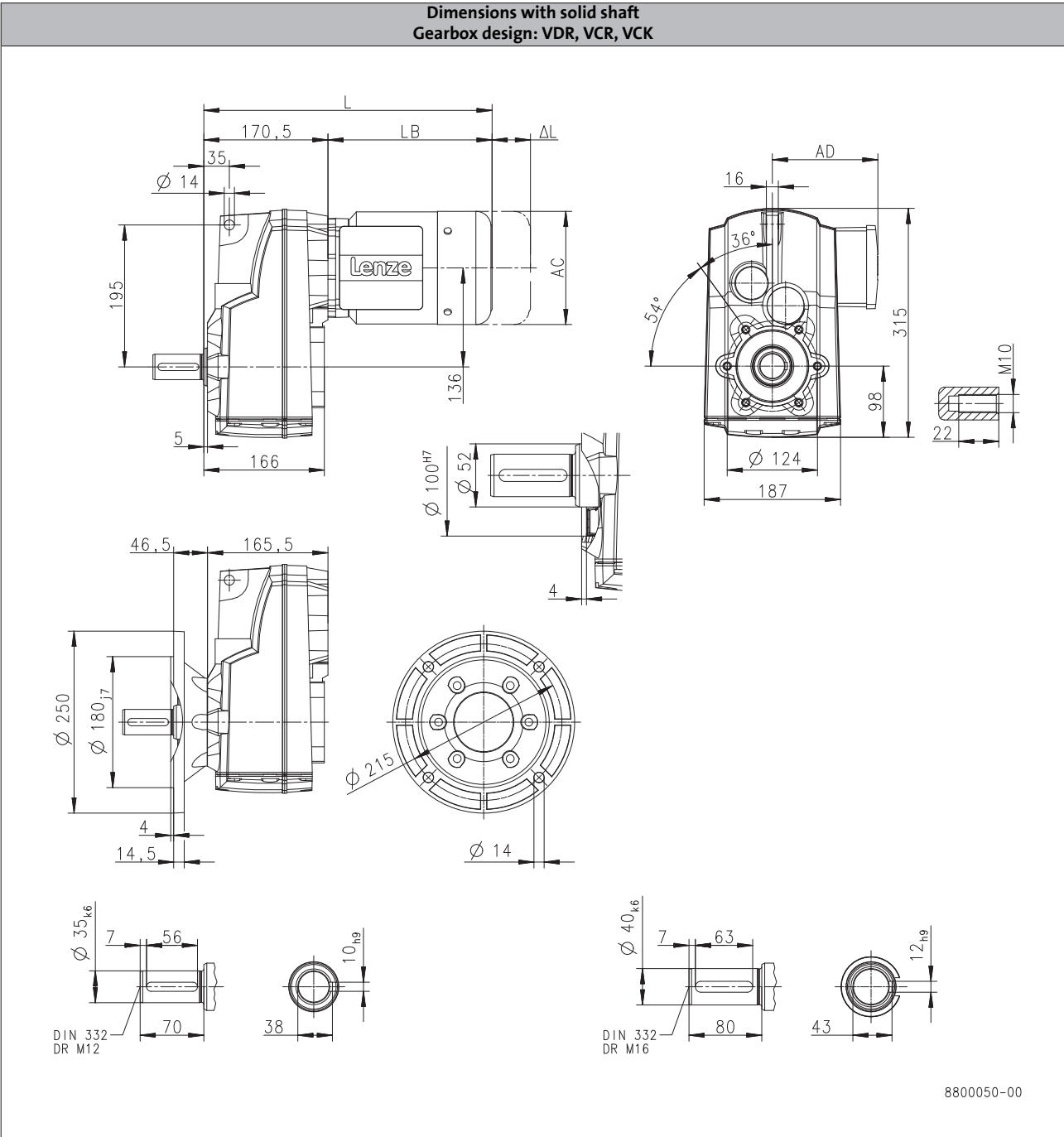
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S660



			m240				
			-P80/L2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	396	465		527	514
Motor length	LB	[mm]	225	294		356	343
Length of motor options	ΔL	[mm]	107	92.0		103	111
Motor diameter	AC	[mm]	158	172		192	210
Distance motor/connection	AD	[mm]	148	155		164	171

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

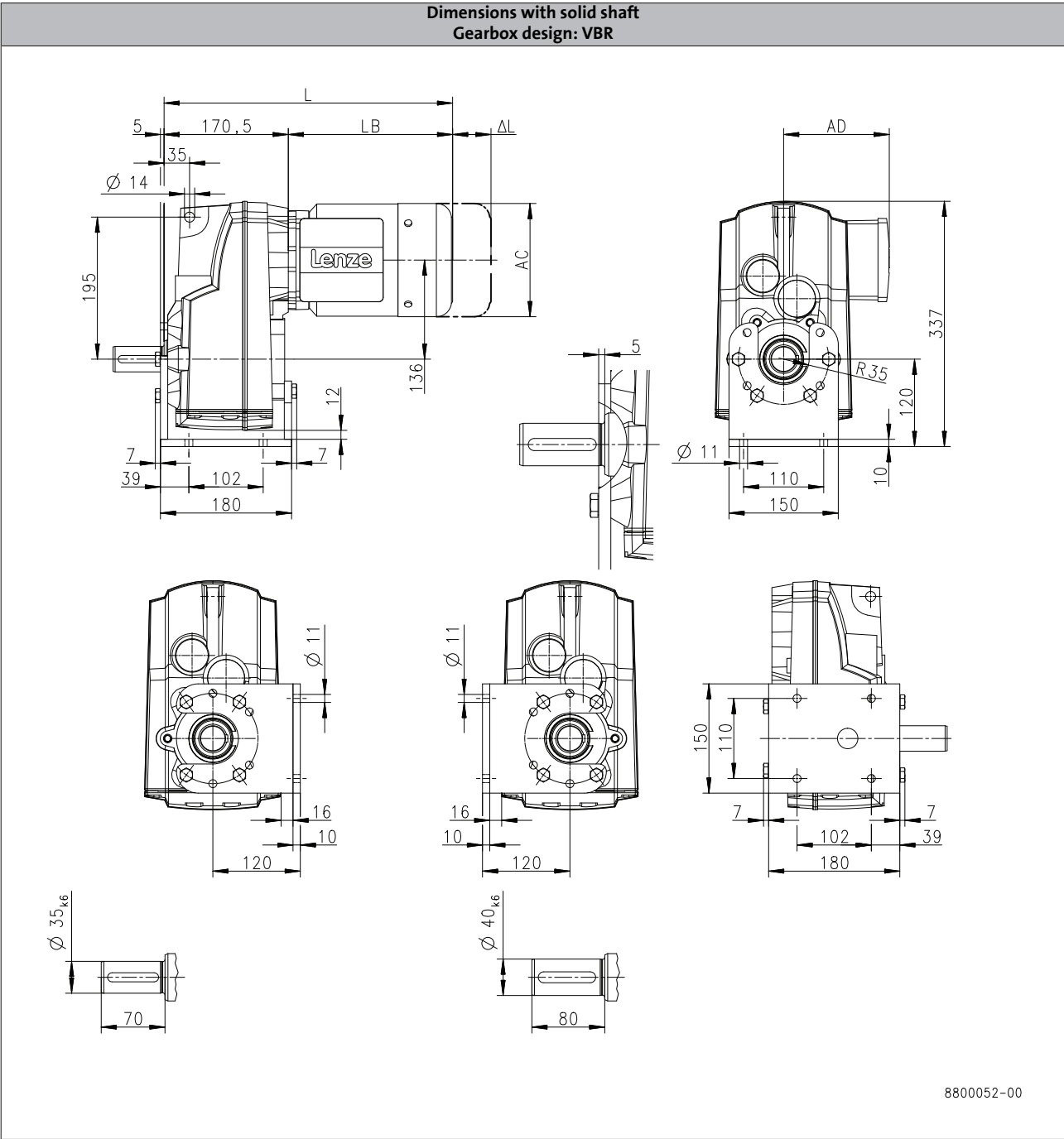
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S660



			m240				
			-P80/L2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	396	465		527	514
Motor length	LB	[mm]	225	294		356	343
Length of motor options	ΔL	[mm]	107	92.0		103	111
Motor diameter	AC	[mm]	158	172		192	210
Distance motor/connection	AD	[mm]	148	155		164	171

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

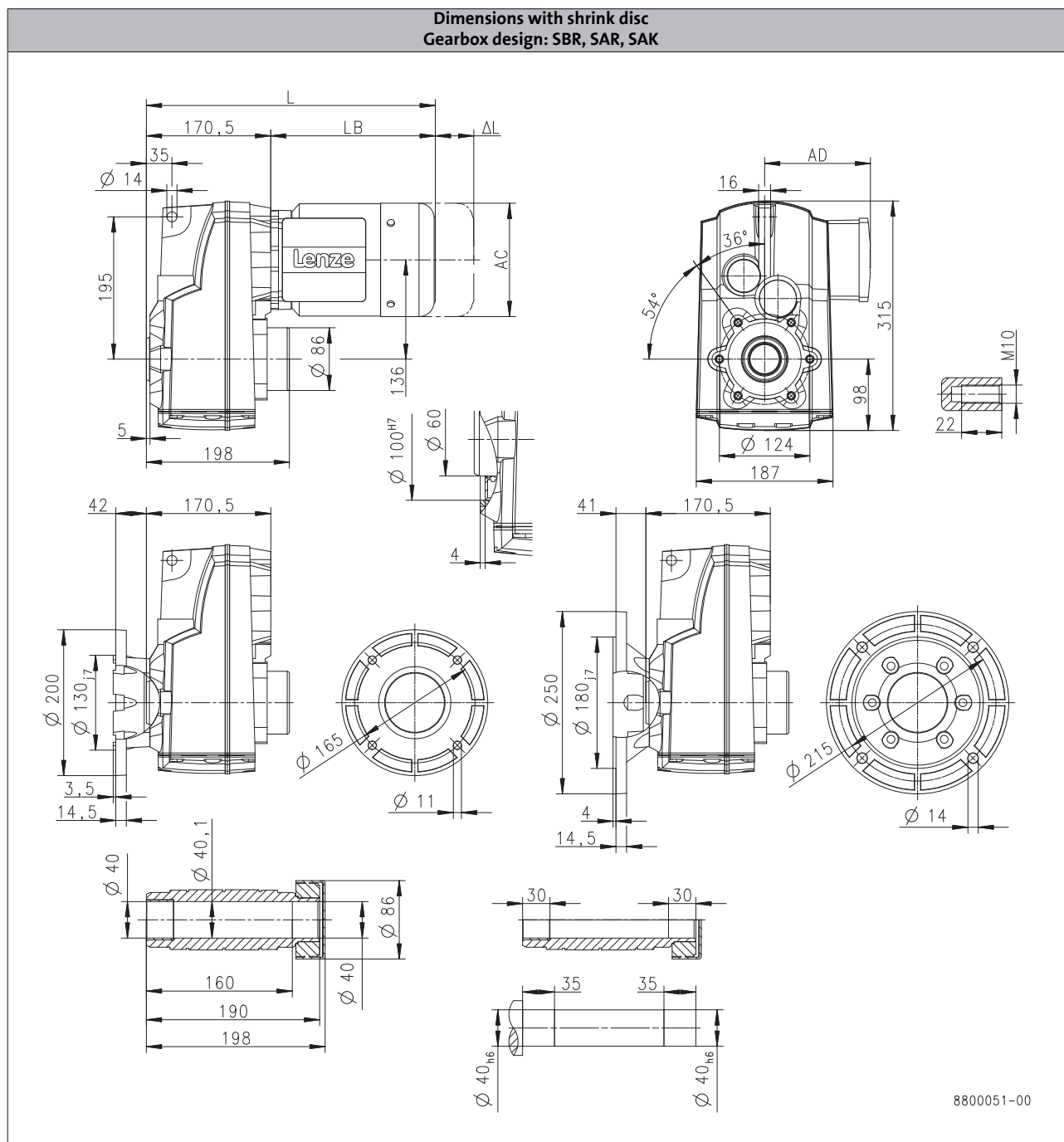
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 2-pole motors

g500-S660



			m240				
			-P80/L2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	396	465		527	514
Motor length	LB	[mm]	225	294		356	343
Length of motor options	Δ L	[mm]	107	92.0		103	111
Motor diameter	AC	[mm]	158	172		192	210
Distance motor/connection	AD	[mm]	148	155		164	171

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

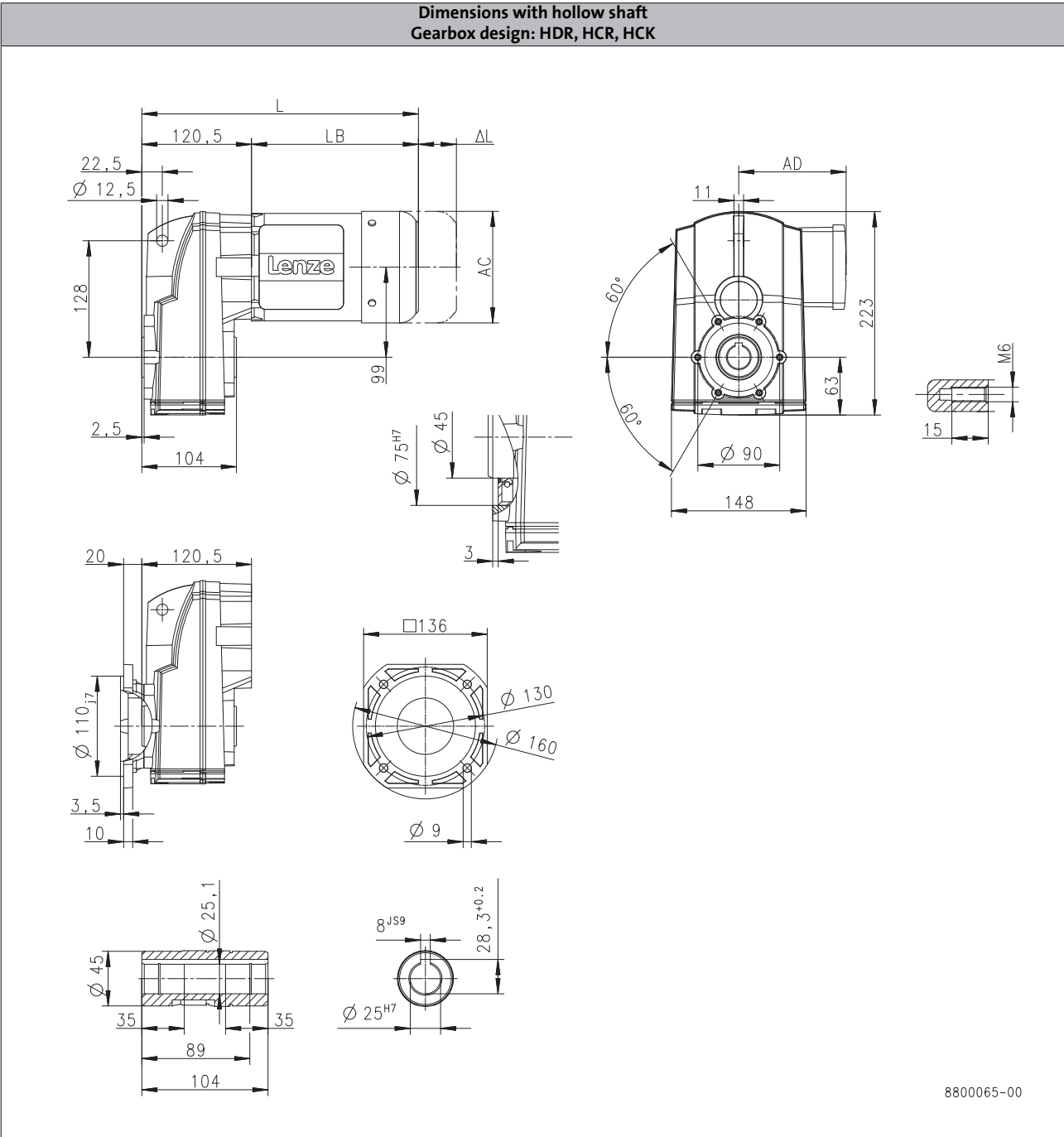
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S130



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	304				324
Motor length	LB	[mm]	183				203
Length of motor options	Δ L	[mm]	40.0				52.0
Motor diameter	AC	[mm]	123				139
Distance motor/connection	AD	[mm]	107				118

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

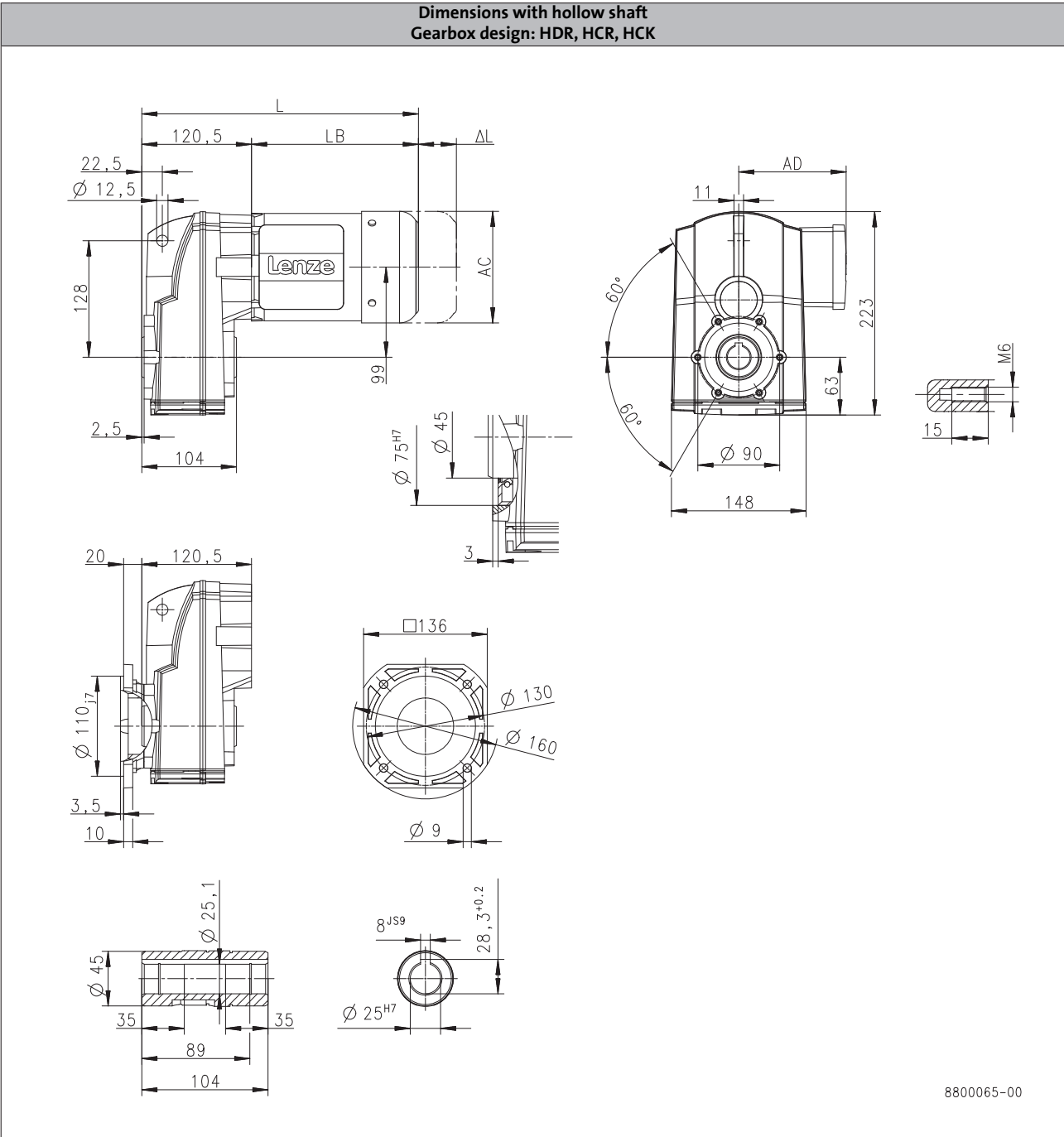
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S130

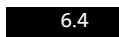


			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	346	415	
Motor length	LB	[mm]	225	294	
Length of motor options	Δ L	[mm]	107	92.0	
Motor diameter	AC	[mm]	158	172	
Distance motor/connection	AD	[mm]	148	155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S130



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

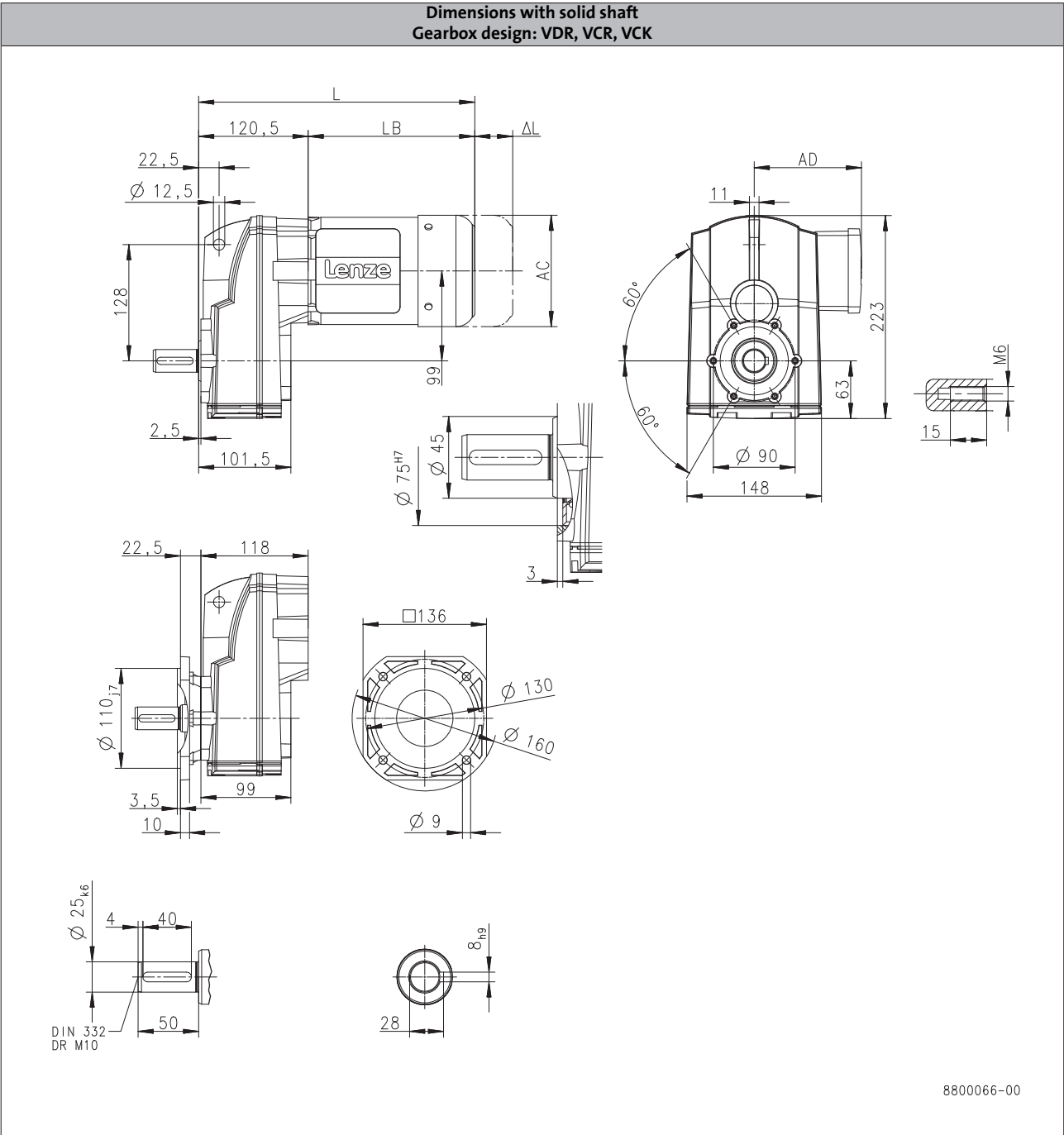
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S130



			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	346	415	
Motor length	LB	[mm]	225	294	
Length of motor options	Δ L	[mm]	107	92.0	
Motor diameter	AC	[mm]	158	172	
Distance motor/connection	AD	[mm]	148	155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S130

8800004-00

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S130

8800004-00

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

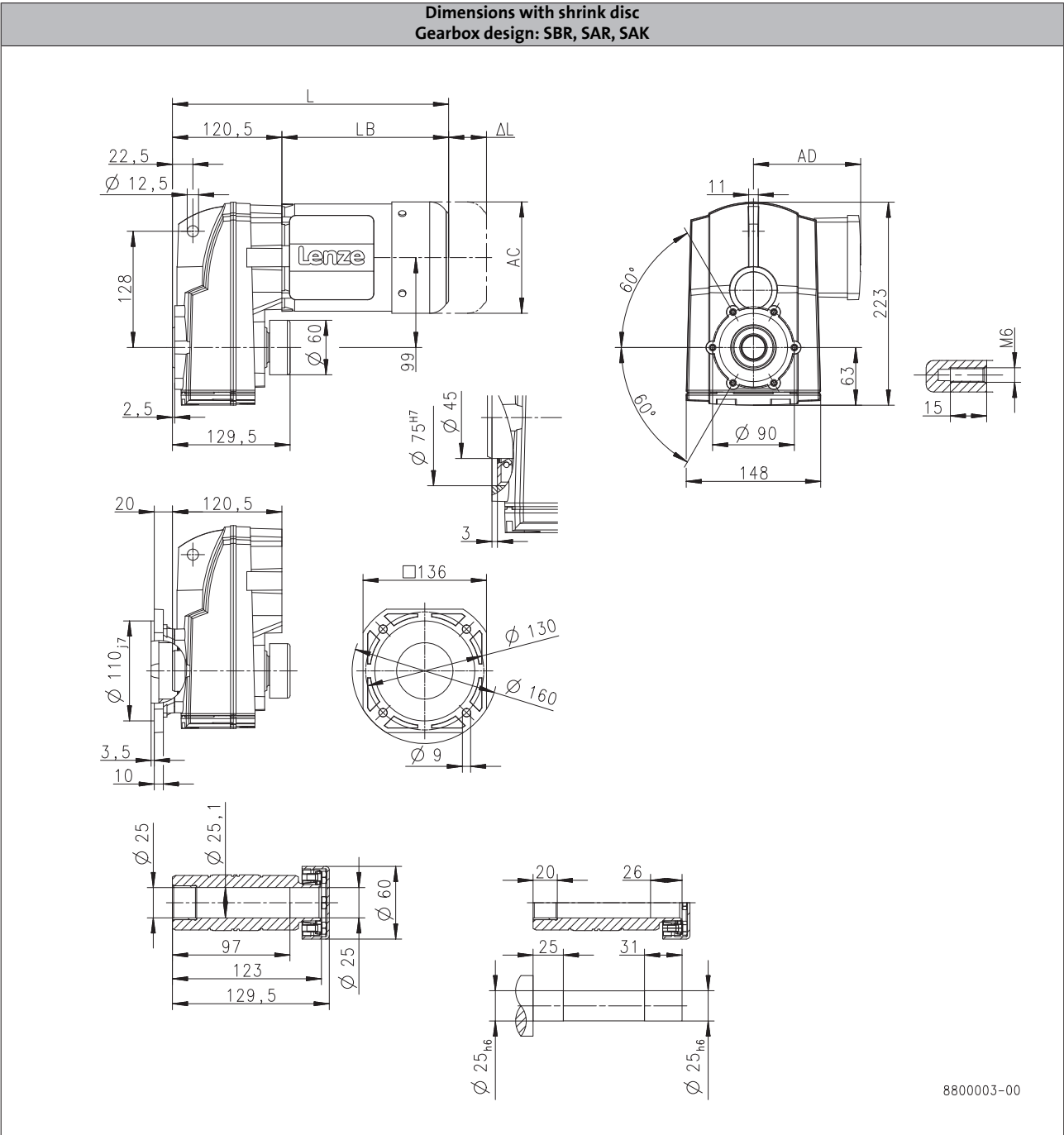
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S130



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]		304		324	
Motor length	LB	[mm]		183		203	
Length of motor options	Δ L	[mm]		40.0		52.0	
Motor diameter	AC	[mm]		123		139	
Distance motor/connection	AD	[mm]		107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

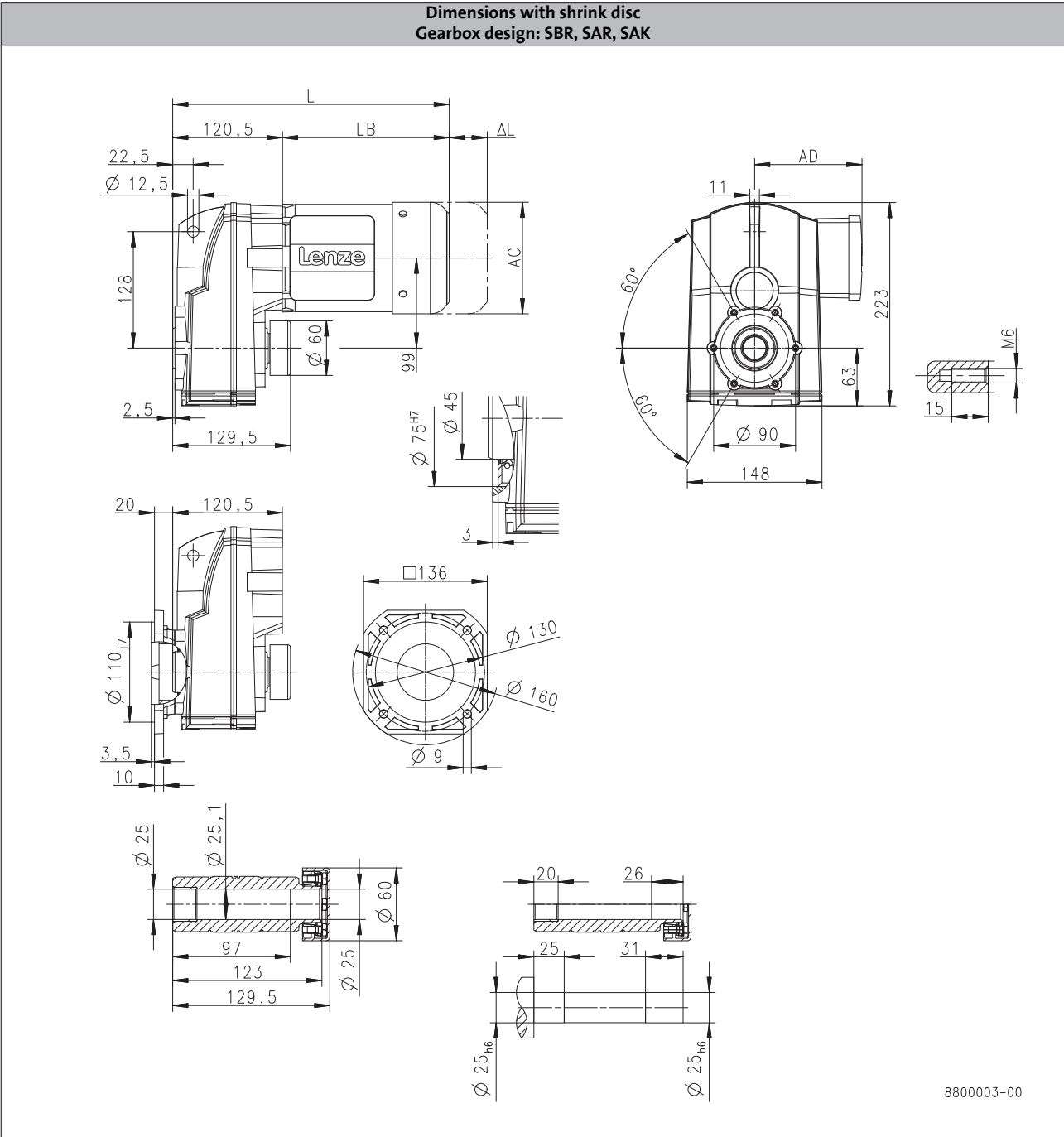
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S130



			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	346		415
Motor length	LB	[mm]	225		294
Length of motor options	Δ L	[mm]	107		92.0
Motor diameter	AC	[mm]	158		172
Distance motor/connection	AD	[mm]	148		155

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S220

Technical drawing of the Lenze 8200 motor, showing front, side, and detail views with dimensions.

Front View Dimensions:

- Overall width: 136,5
- Overall height: 242
- Mounting flange diameter: $\varnothing 130$
- Base diameter: $\varnothing 160$
- Base thickness: 148
- Mounting flange thickness: 11
- Base mounting holes: 6 holes, $\varnothing 9$
- Base mounting hole spacing: 60°
- Base mounting hole diameter: $\varnothing 9$
- Base mounting hole depth: 69
- Base mounting hole position: 15
- Base mounting hole thread: M6

Side View Dimensions:

- Overall width: 136,5
- Overall height: 128
- Mounting flange diameter: $\varnothing 110_{j7}$
- Base diameter: $\varnothing 9$
- Base thickness: 10
- Base mounting holes: 6 holes, $\varnothing 9$
- Base mounting hole spacing: 60°
- Base mounting hole diameter: $\varnothing 9$
- Base mounting hole depth: 3,5
- Base mounting hole position: 10
- Base mounting hole thread: M6

Detail View Dimensions:

- Overall width: 136,5
- Overall height: 128
- Mounting flange diameter: $\varnothing 110_{j7}$
- Base diameter: $\varnothing 9$
- Base thickness: 10
- Base mounting holes: 6 holes, $\varnothing 9$
- Base mounting hole spacing: 60°
- Base mounting hole diameter: $\varnothing 9$
- Base mounting hole depth: 3,5
- Base mounting hole position: 10
- Base mounting hole thread: M6

8800017-00

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

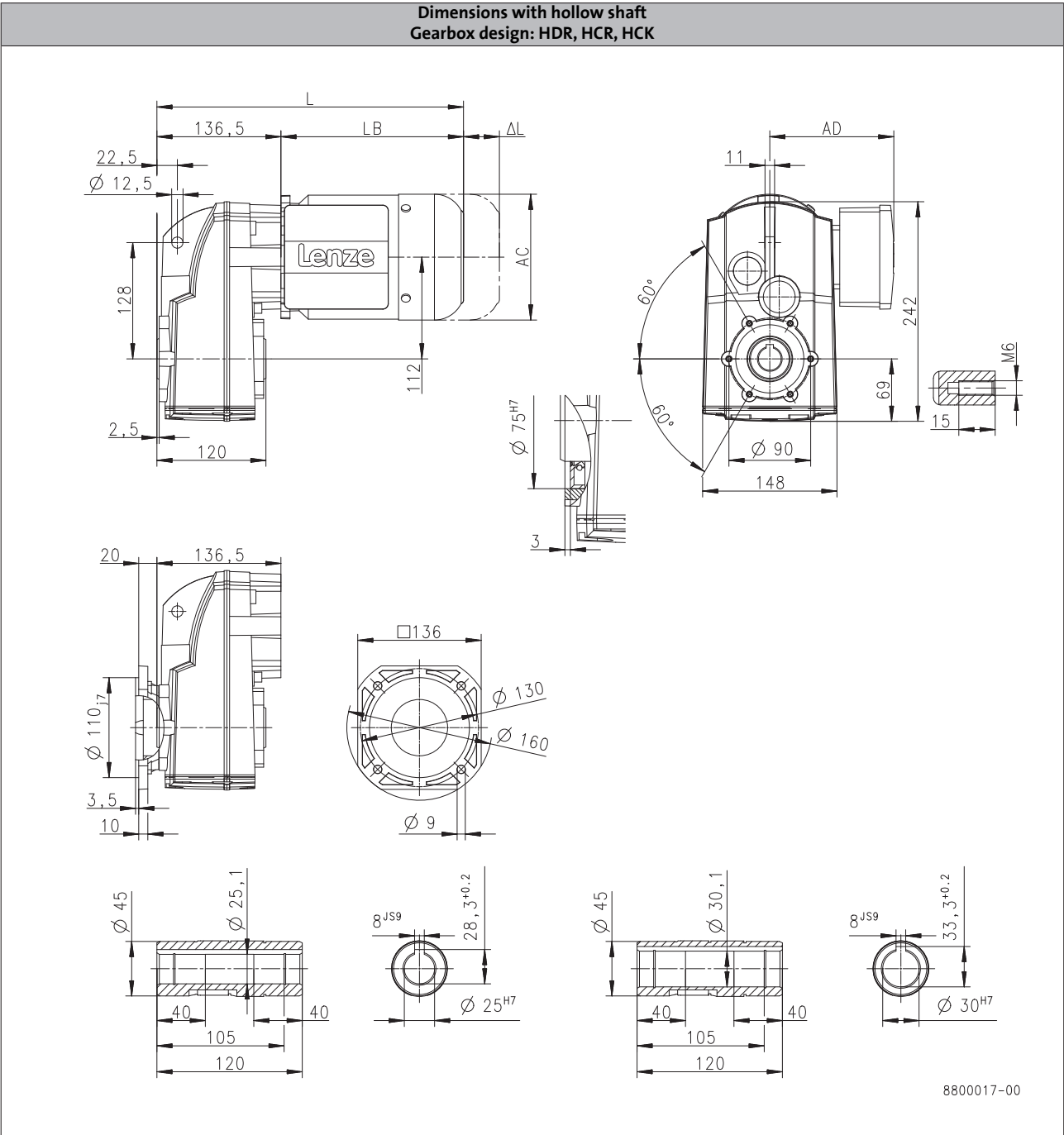
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S220



			m240				
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4
Total length	L	[mm]	362	431		493	
Motor length	LB	[mm]	225	294		356	
Length of motor options	Δ L	[mm]	107	92.0		103	
Motor diameter	AC	[mm]	158	172		192	
Distance motor/connection	AD	[mm]	148	155		164	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

Dimensions with solid shaft
Gearbox design: VDR, VCR, VCK



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S220

[illegible]

8800018-00

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S220

8800020-00

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S220

8800020-00

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S220

[illegible]

8800019-00

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

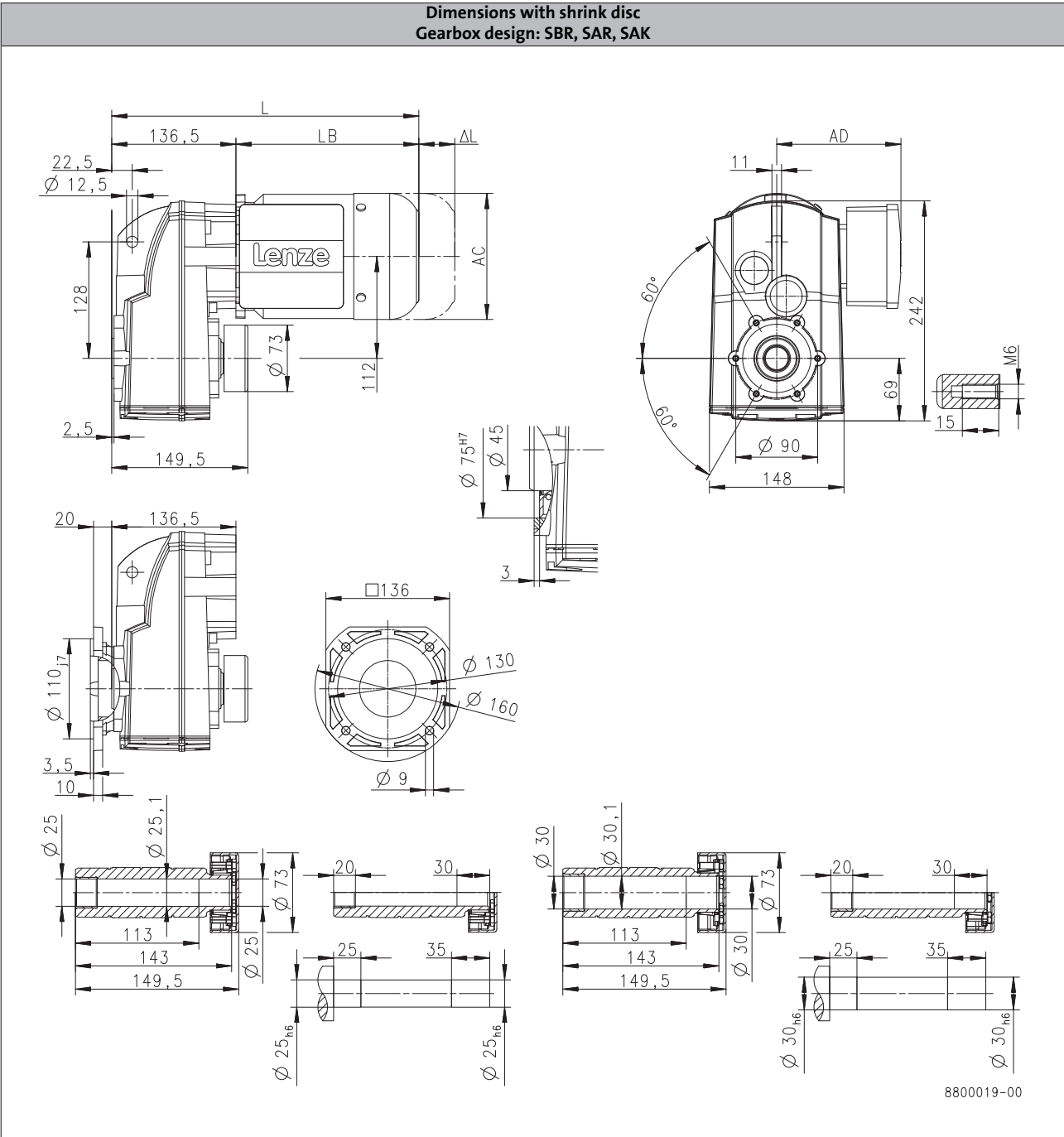
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S220



			m240				
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4
Total length	L	[mm]	362	431		493	
Motor length	LB	[mm]	225	294		356	
Length of motor options	Δ L	[mm]	107	92.0		103	
Motor diameter	AC	[mm]	158	172		192	
Distance motor/connection	AD	[mm]	148	155		164	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

[illegible]

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S400



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

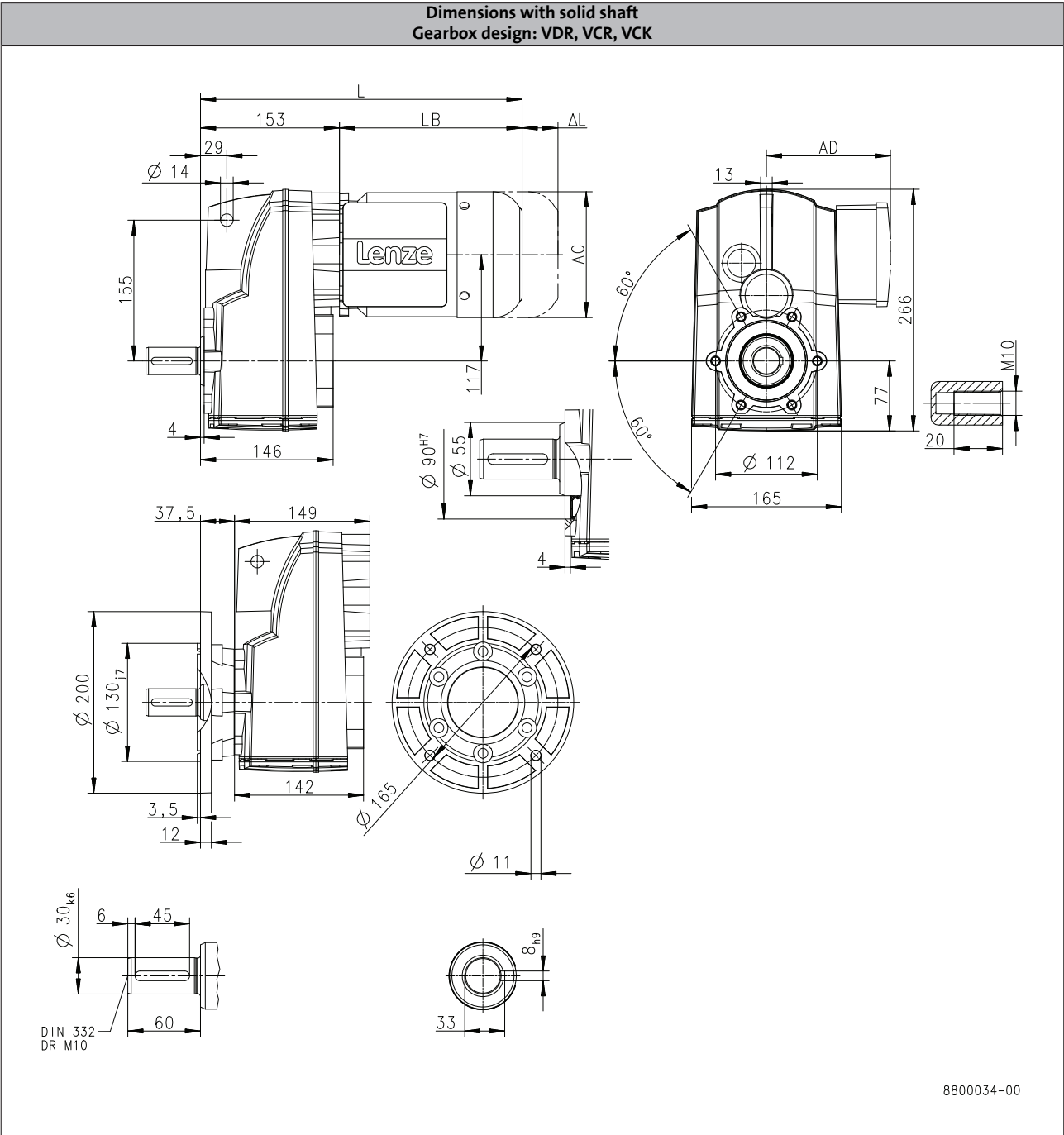
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S400



8800034-00

			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]		336		356	
Motor length	LB	[mm]		183		203	
Length of motor options	Δ L	[mm]		40.0		52.0	
Motor diameter	AC	[mm]		123		139	
Distance motor/connection	AD	[mm]		107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

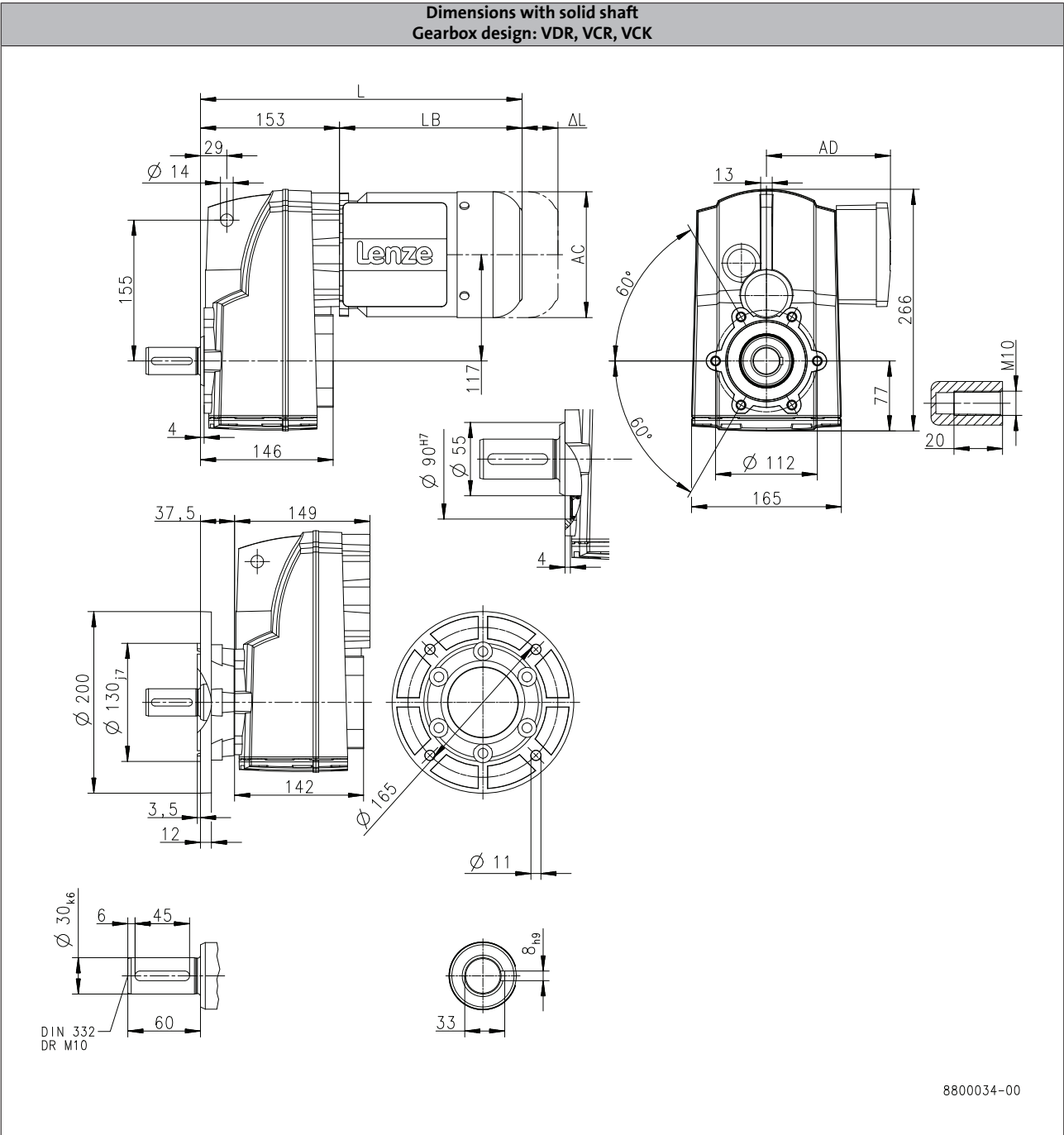
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S400



			m240					
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4
Total length	L	[mm]	378	447		509		496
Motor length	LB	[mm]	225	294		356		343
Length of motor options	Δ L	[mm]	107	92.0		103		111
Motor diameter	AC	[mm]	158	172		192		210
Distance motor/connection	AD	[mm]	148	155		164		171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

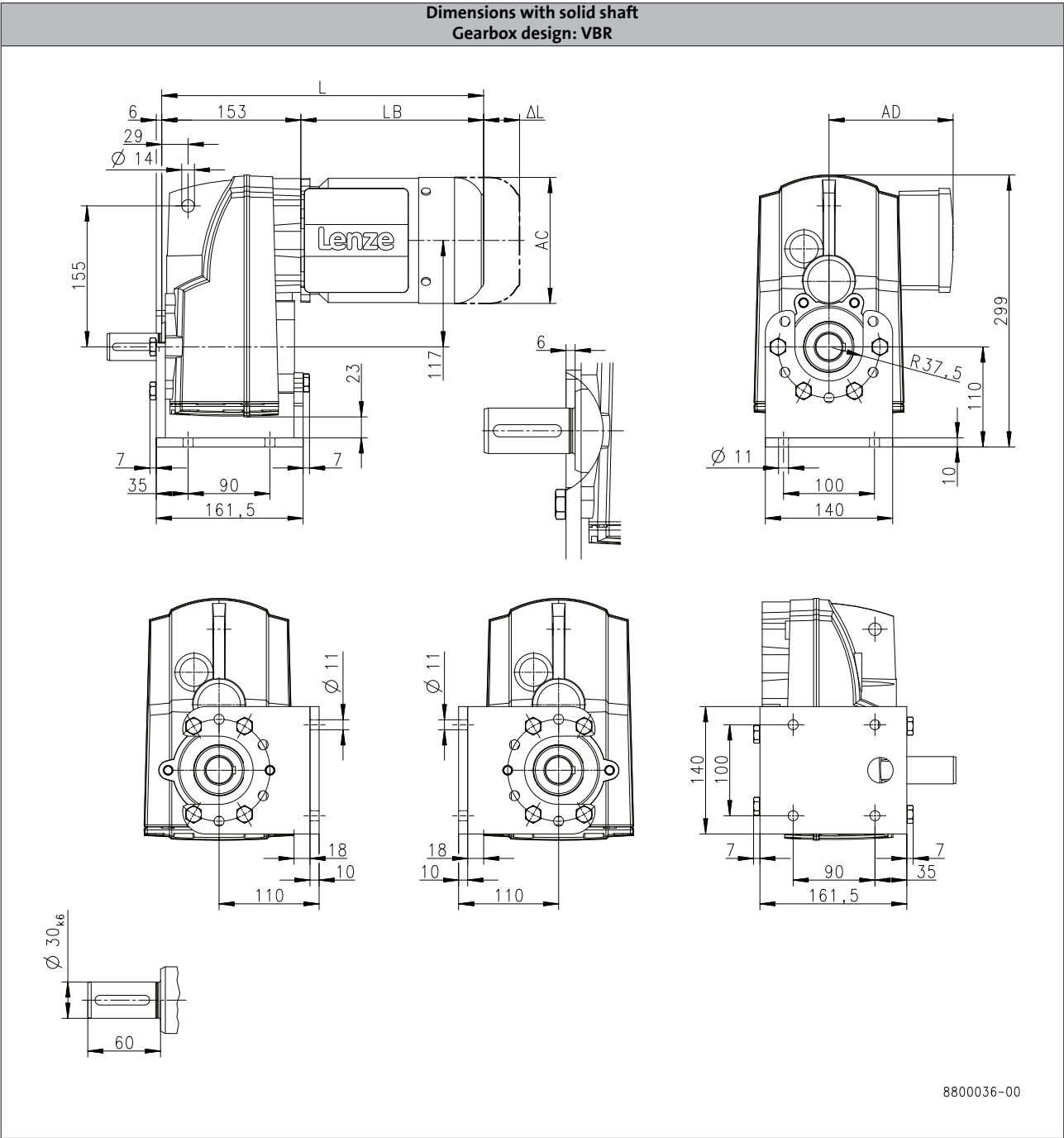
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S400



		MD□MA□□				
		063-12	063-32	063-42	071-32	071-42
Total length	L [mm]	336			356	
Motor length	LB [mm]	183			203	
Length of motor options	Δ L [mm]	40.0			52.0	
Motor diameter	AC [mm]	123			139	
Distance motor/connection	AD [mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

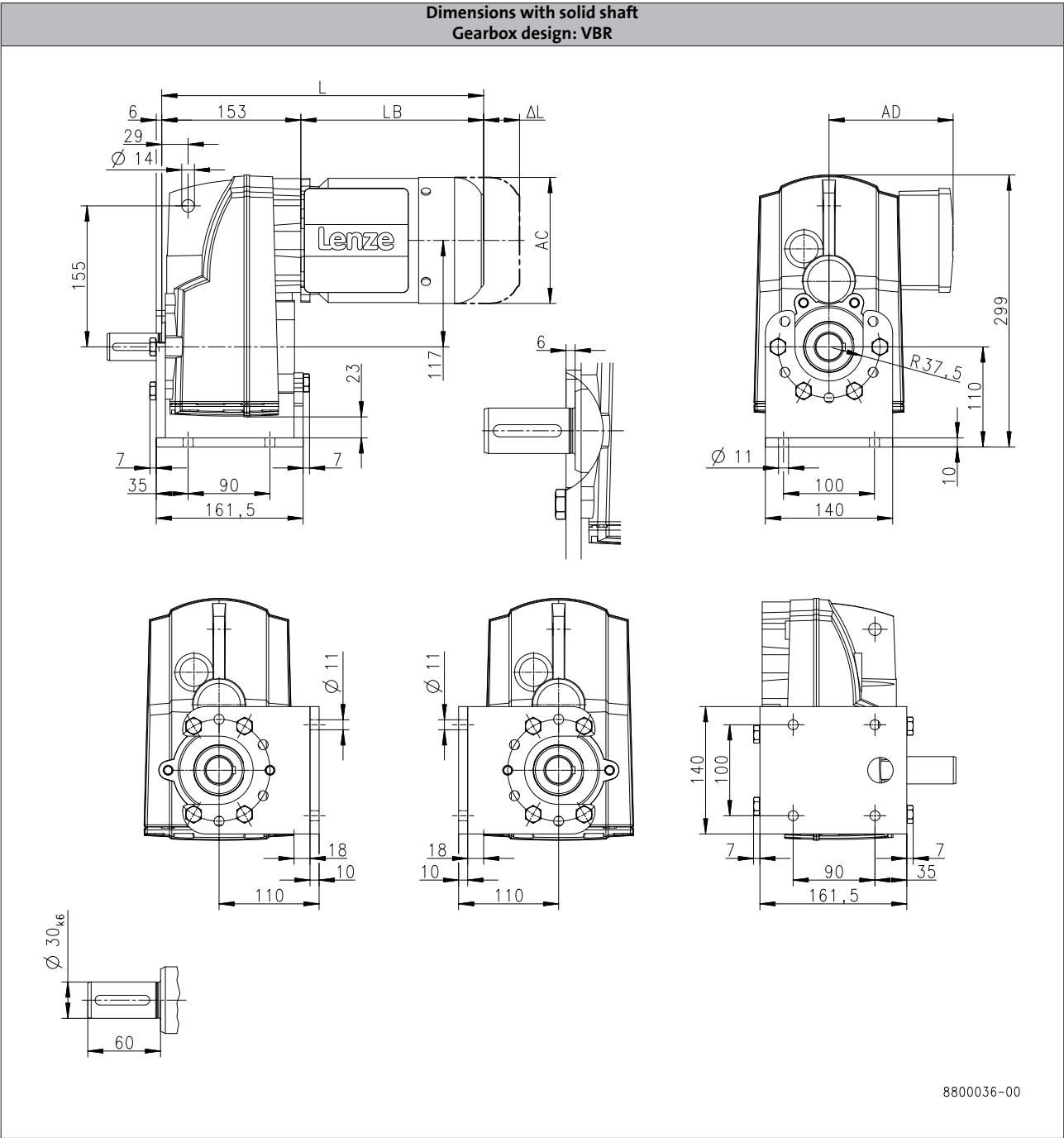
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S400



			m240					
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4
Total length	L	[mm]	378	447		509		496
Motor length	LB	[mm]	225	294		356		343
Length of motor options	Δ L	[mm]	107	92.0		103		111
Motor diameter	AC	[mm]	158	172		192		210
Distance motor/connection	AD	[mm]	148	155		164		171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S400



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

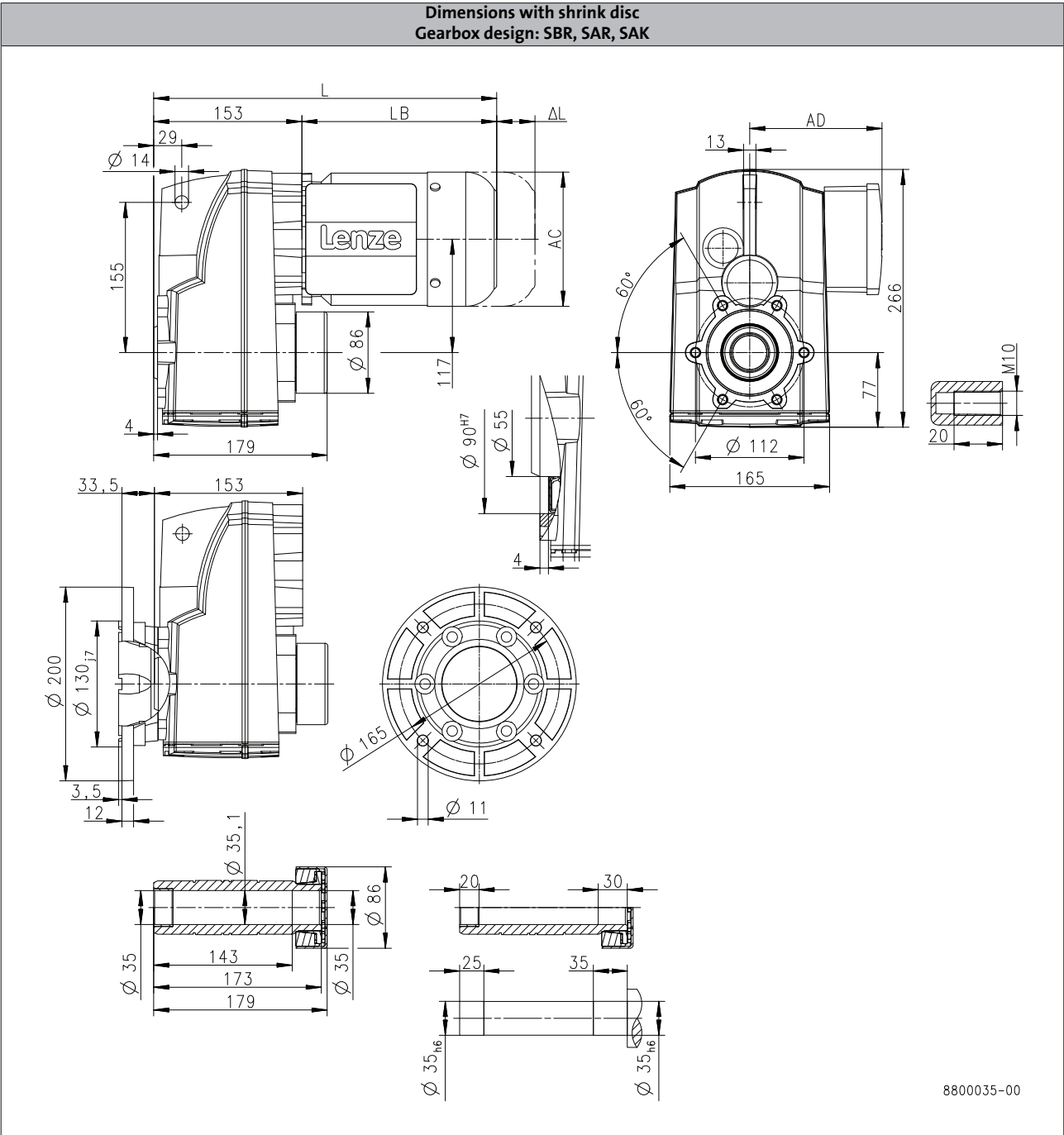
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S400



			m240					
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4
Total length	L	[mm]	378	447		509		496
Motor length	LB	[mm]	225	294		356		343
Length of motor options	Δ L	[mm]	107	92.0		103		111
Motor diameter	AC	[mm]	158	172		192		210
Distance motor/connection	AD	[mm]	148	155		164		171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S660

[illegible]

			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	354			374	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

6.4

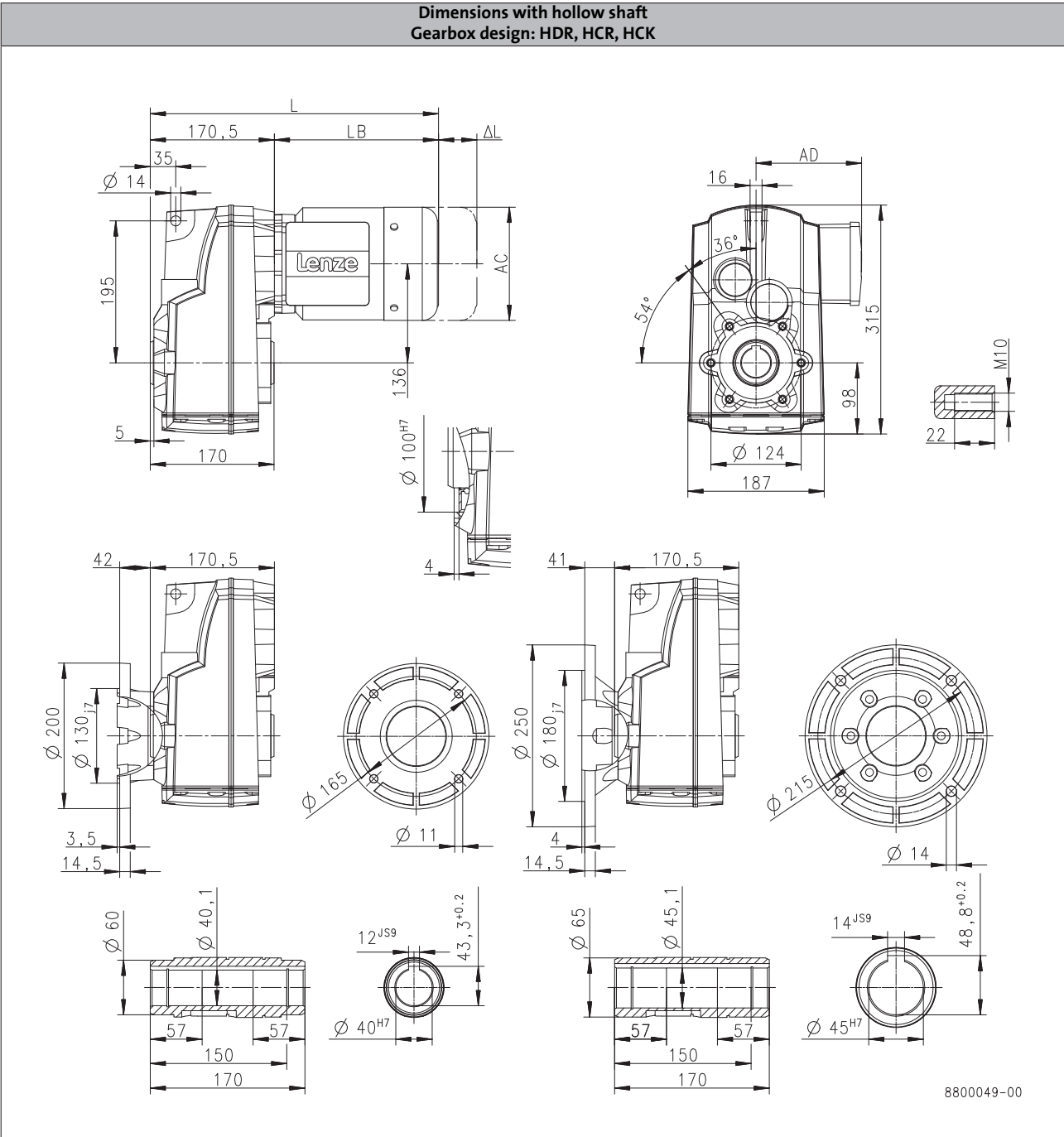
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S660



			m240							
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4	-P132/L4	-P132/M4
Total length	L	[mm]	396	465		527		514	589	
Motor length	LB	[mm]	225	294		356		343	418	
Length of motor options	Δ L	[mm]	107	92.0		103		111	118	
Motor diameter	AC	[mm]	158	172		192		210	281	
Distance motor/connection	AD	[mm]	148	155		164		171	182	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S660



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

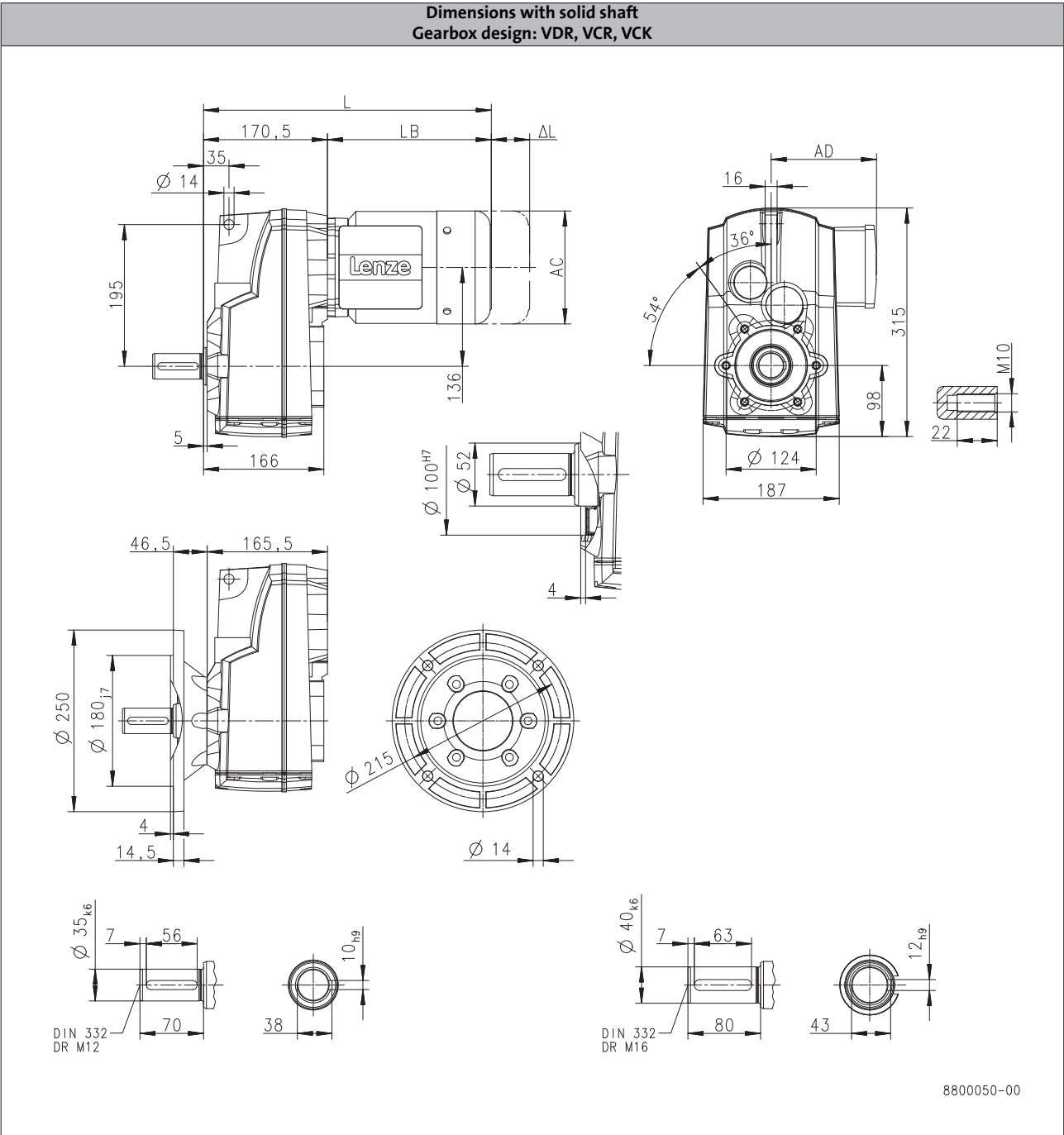
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S660



			m240							
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4	-P132/L4	-P132/M4
Total length	L	[mm]	396	465		527		514	589	
Motor length	LB	[mm]	225	294		356		343	418	
Length of motor options	Δ L	[mm]	107	92.0		103		111	118	
Motor diameter	AC	[mm]	158	172		192		210	281	
Distance motor/connection	AD	[mm]	148	155		164		171	182	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S660

8800052-00

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-S660

[illegible]

8800052-00

			m240							
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4	-P132/L4	-P132/M4
Total length	L	[mm]	396	465		527		514		589
Motor length	LB	[mm]	225	294		356		343		418
Length of motor options	Δ L	[mm]	107	92.0		103		111		118
Motor diameter	AC	[mm]	158	172		192		210		281
Distance motor/connection	AD	[mm]	148	155		164		171		182

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

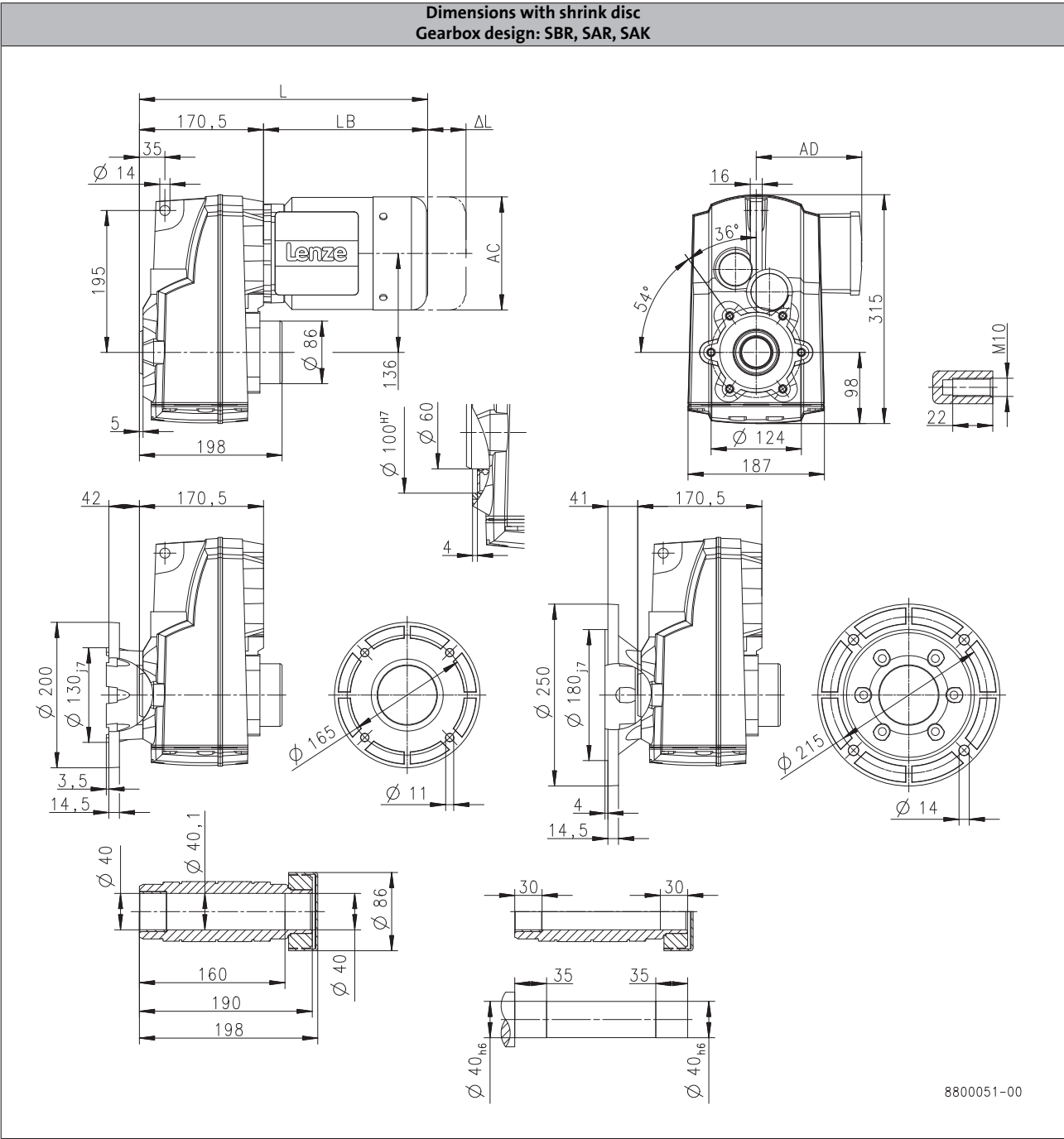
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S660



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	354			374	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

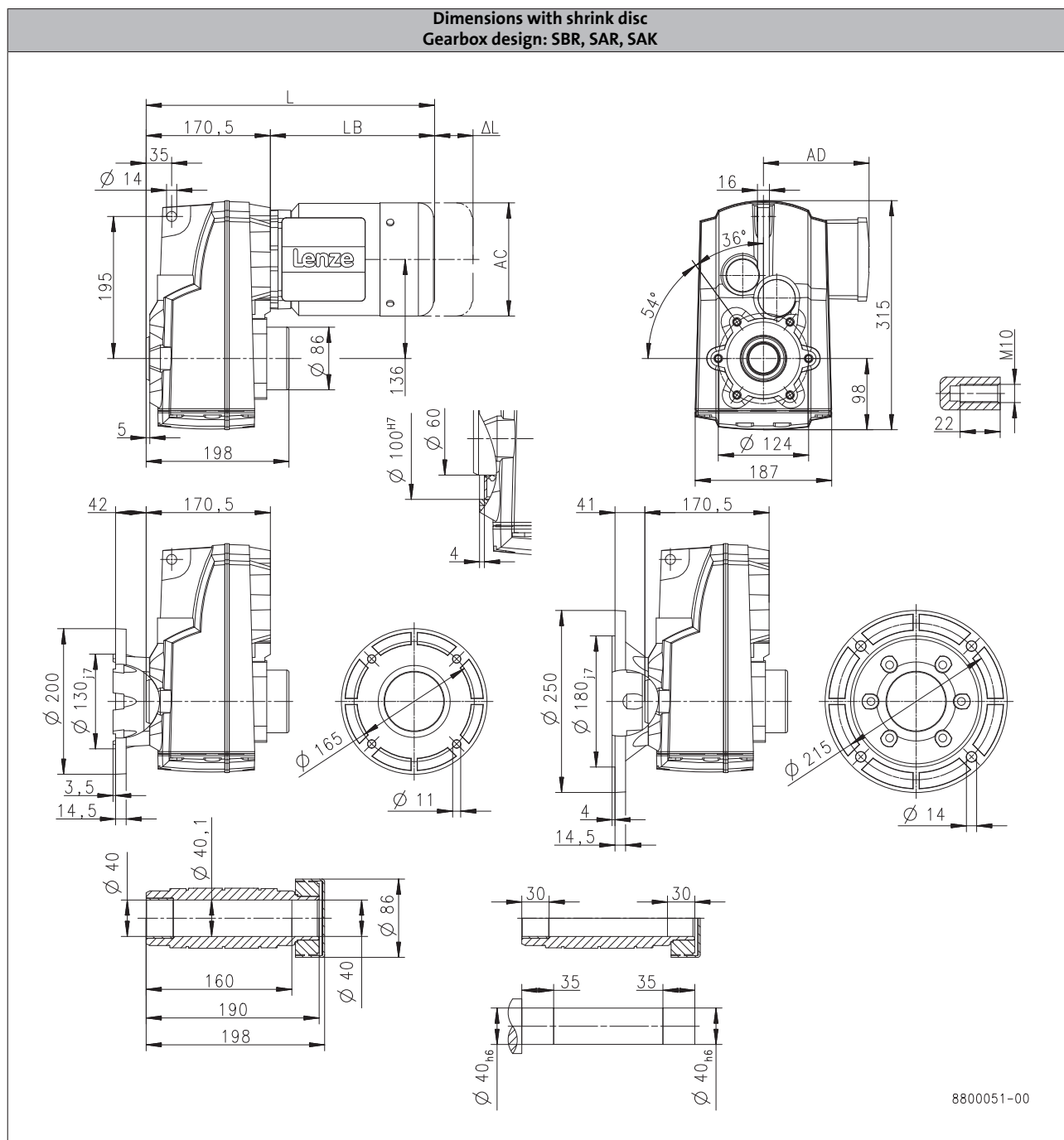
g500-S shaft-mounted helical geared motors

Technical data



Dimensions, 4-pole motors

g500-S660



			m240							
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4	-P132/L4	-P132/M4
Total length	L	[mm]	396	465		527		514		589
Motor length	LB	[mm]	225	294		356		343		418
Length of motor options	Δ L	[mm]	107	92.0		103		111		118
Motor diameter	AC	[mm]	158	172		192		210		281
Distance motor/connection	AD	[mm]	148	155		164		171		182

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

g500-S shaft-mounted helical geared motors

Technical data



Weights, 2-pole motors

2-stage gearboxes

Product		Mass
		m
		[kg]
g500-S130	MD□MA□□063-11	9.00
	MD□MA□□063-31	8.90
	MD□MA□□071-11	11.1
	MD□MA□□071-31	11.6
	m240-P80/L2	17.5
	m240-P80/M2	
	m240-P90/L2	23.0
	m240-P90/M2	
g500-S220	MD□MA□□063-31	10.3
	MD□MA□□071-11	12.5
	MD□MA□□071-31	13.0
	m240-P80/L2	18.9
	m240-P80/M2	
	m240-P90/L2	24.4
	m240-P90/M2	
	m240-P100/M2	32.8

Product		Mass
		m
		[kg]
g500-S400	MD□MA□□071-31	16.1
	m240-P80/L2	22.0
	m240-P80/M2	
	m240-P90/L2	27.5
	m240-P90/M2	
	m240-P100/M2	35.9
	m240-P112/M2	41.0
g500-S660	m240-P80/L2	26.4
	m240-P90/L2	31.9
	m240-P90/M2	
	m240-P100/M2	40.3
	m240-P112/M2	45.4

g500-S shaft-mounted helical geared motors

Technical data



Weights, 4-pole motors

2-stage gearboxes

Product		Mass
		m
		[kg]
g500-S130	MD□MA□□063-12	9.20
	MD□MA□□063-32	
	MD□MA□□063-42	9.50
	MD□MA□□071-32	10.9
	MD□MA□□071-42	11.5
	m240-P80/M4	20.0
	m240-P90/L4	25.0
	m240-P90/M4	24.0
g500-S220	MD□MA□□063-12	10.6
	MD□MA□□063-32	
	MD□MA□□063-42	10.9
	MD□MA□□071-32	12.3
	MD□MA□□071-42	12.9
	m240-P80/M4	21.4
	m240-P90/L4	26.4
	m240-P90/M4	25.4
	m240-P100/L4	37.4
	m240-P100/M4	32.4
g500-S400	MD□MA□□063-32	13.7
	MD□MA□□063-42	14.0
	MD□MA□□071-32	15.4
	MD□MA□□071-42	16.0
	m240-P80/M4	24.5
	m240-P90/L4	29.5
	m240-P90/M4	28.5
	m240-P100/L4	40.5
	m240-P100/M4	35.5
	m240-P112/M4	43.5

Product		Mass
		m
		[kg]
g500-S660	MD□MA□□063-42	18.4
	MD□MA□□071-32	19.8
	MD□MA□□071-42	20.4
	m240-P80/M4	28.9
	m240-P90/L4	33.9
	m240-P90/M4	32.9
	m240-P100/L4	44.9
	m240-P100/M4	39.9
	m240-P112/M4	47.9
	m240-P132/L4	70.9
	m240-P132/M4	68.9

g500-S shaft-mounted helical geared motors

Technical data



Weights, 4-pole motors

3-stage gearboxes

Product		Mass
		m
		[kg]
g500-S220	MD□MA□□063-12	10.8
	MD□MA□□063-32	
	MD□MA□□063-42	11.1
	MD□MA□□071-32	12.5
	MD□MA□□071-42	13.1
	m240-P80/M4	21.6
g500-S400	MD□MA□□063-12	13.9
	MD□MA□□063-32	
	MD□MA□□063-42	14.2
	MD□MA□□071-32	15.6
	MD□MA□□071-42	16.2
	m240-P80/M4	24.7
g500-S660	MD□MA□□063-12	18.5
	MD□MA□□063-32	
	MD□MA□□063-42	18.8
	MD□MA□□071-32	20.2
	MD□MA□□071-42	20.8
	m240-P80/M4	29.3
	m240-P90/L4	34.3
	m240-P90/M4	33.3

g500-S shaft-mounted helical geared motors

Technical data



Additional weights for gearboxes

Product			g500-S130	g500-S220	g500-S400	g500-S660
Mass						
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

Additional weights for motors

2-pole motors

Product			MD□MA□□		m240				
			063-11 063-31	071-11 071-31	-P80/L2 -P80/M2	-P90/L2 -P90/M2	-P100/M2	-P112/M2	-P132/L2 -P132/M2
Brake			06	06 08	08 10	10 12	12	14	16
	m	[kg]	0.9	0.9 1.5	1.5 2.6	2.6 4.2	4.2	5.8	8.7

4-pole motors

Product			MD□MA□□			m550				
			063-02 063-22	063-12 063-32 063-42	071-32 071-42	-P80/M4	-P90/L4 -P90/M4	-P100/L4 -P100/M4	-P112/M4	-P132/L4 -P132/M4
Brake			06	06 08	08 10	10 12	12	14	16	
	m	[kg]	0.9	0.9 1.5	1.5 2.6	2.6 4.2	4.2	5.8	8.7	

g500-S shaft-mounted helical gearbox

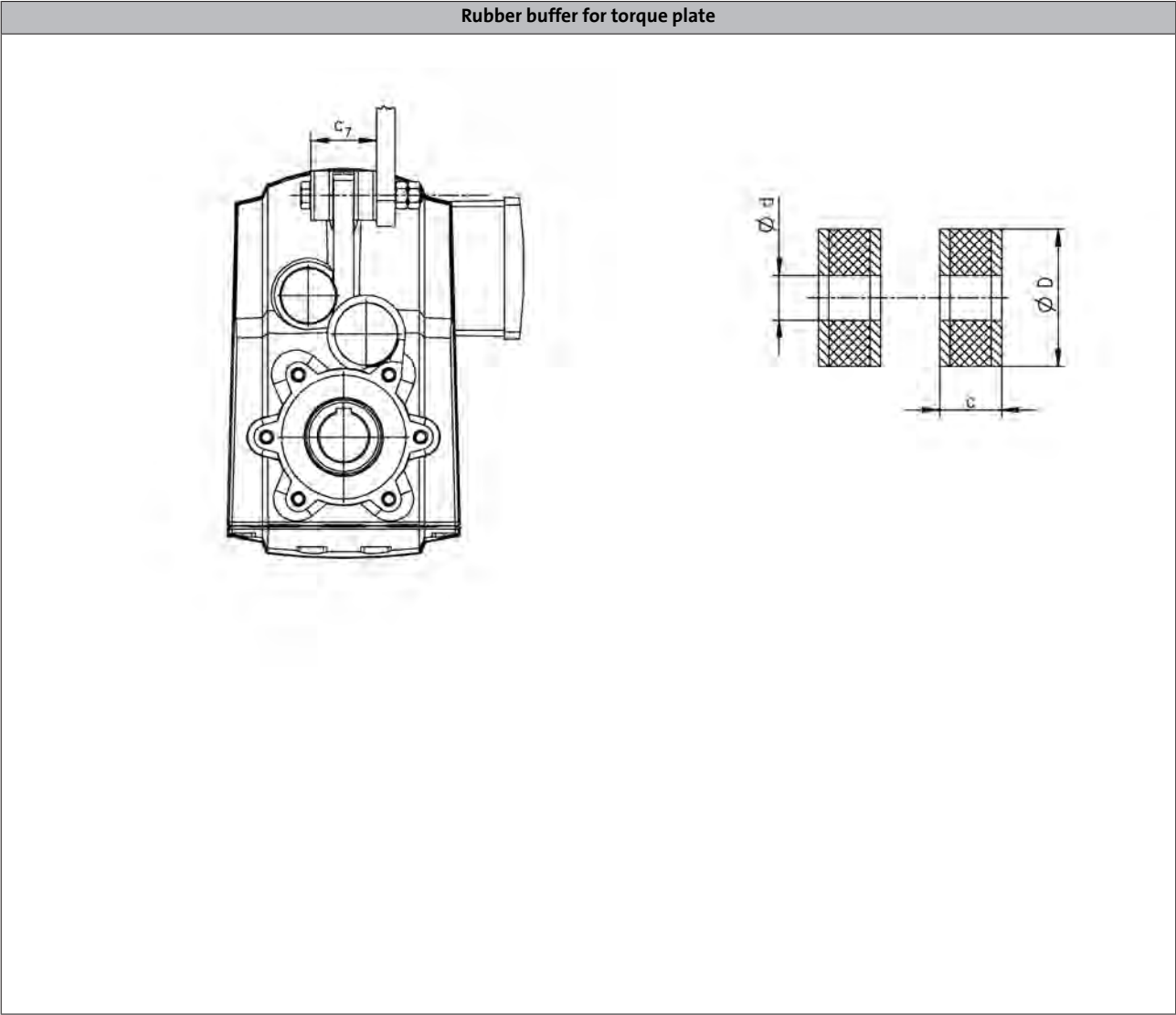
Product extensions



Torque plate

The torque is usually supported via the foot or the flange. Another simple option is the integrated torque plate at the housing. Here, the torque is supported only via one point and is, among other things, suitable for shaft-mounted gearboxes. Moreover, the suitable rubber buffers provide for a low-tension installation and absorb slight shocks.

The rubber buffers can be ordered optionally.



6.4

Product	Dimensions				Mass
	d	D	c	c ₇	m
	[mm]	[mm]	[mm]	[mm]	[kg]
g500-S130	11.0	30.0	17.0	45.0	0.1
g500-S220	11.0	30.0	17.0	45.0	0.1
g500-S400	13.0	40.0	18.0	49.0	0.1
g500-S660	13.0	40.0	18.0	52.0	0.1

g500-S shaft-mounted helical gearbox

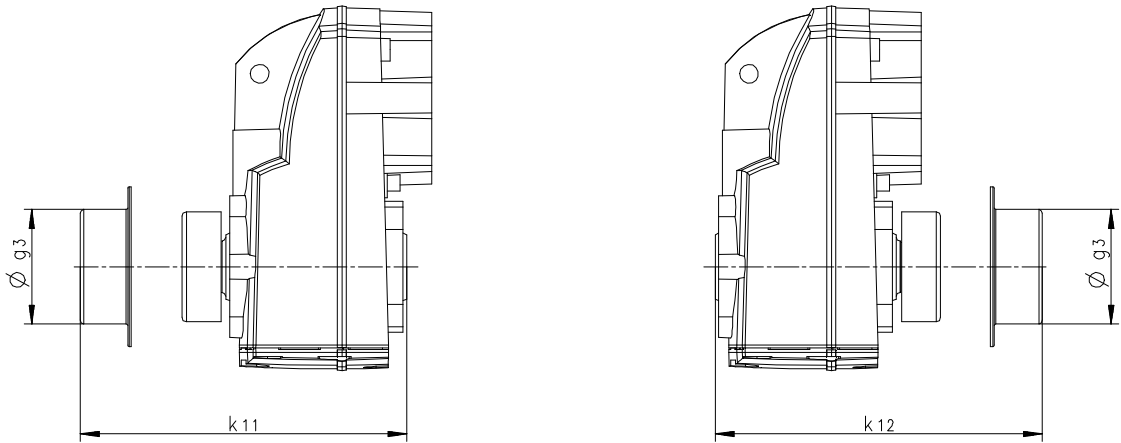
Product extensions



Shaft cover

Shrink disc cover

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



Product	Dimensions			Mass
	g_3 [mm]	k_{11} [mm]	k_{12} [mm]	m [kg]
g500-S130	63.0	132	132	0.1
g500-S220	76.0	152	152	0.1
g500-S400	90.0	182	182	0.1
g500-S660	90.0	200	202	0.1

g500-S shaft-mounted helical geared motors

Appendix



Gearbox code

Example		G	50	B	S	113	M	H	D	R	2	C
Meaning	Variant											
Product family		G	50									
Generation				B								
Gearbox type	Shaft-mounted helical gearbox				S							
Output torque	130 Nm					113						
	220 Nm					122						
	400 Nm					140						
	660 Nm					166						
Mounting	Motor						M					
Shaft type	Solid shaft with feather key							V				
	Hollow shaft with keyway							H				
	Hollow shaft with shrink disc							S				
Housing type	Foot mounting + centering								A			
	Foot mounting								B			
	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	
Motor mounting	Integrated											C
	IEC motor											N

g500-S shaft-mounted helical geared motors

Appendix



Motor code

Example		M	D	E	MA	XX	063	-	4	2	C1	C
Meaning	Variant	Motor code										
Product family		M										
Efficiency class	IE1		D									
Cooling	Natural ventilation			S								
	Integral fan			E								
	Blower			F								
Internal key					MA							
Built-on accessories	Without built-on accessories					XX						
	Brake					BR						
	Brake + resolver					BS						
	Brake + incremental encoder					BI						
	Brake + SinCos absolute value encoder					BA						
	Resolver					RS						
	Incremental encoder					IG						
	SinCos absolute value encoder					AG						
Size							063					
							071					
Overall length									0			
									1			
									2			
									3			
									4			
Number of pole pairs	4-pole motors									2		
	2-pole motors									1		
Internal key											C1	
Approval	CE											C
	cURus											U
	CCC											3

g500-S shaft-mounted helical geared motors

Appendix



Motor code

Example	M24A	P	080	M	04	5	E	0	0	W	T
Meaning	Variant	Motor code									
Efficiency class	Premium - IE3	P									
Size			080								
			090								
			100								
			112								
			132								
			160								
			180								
			200								
			225								
Overall length	Medium			M							
	Long			L							
	Very long			V							
Number of poles	2-pole				02						
	4-pole				04						
Degree of protection	IP55					5					
Cooling	Integral fan						E				
Brake attachment	Without brake							0			
	Spring-applied brake							F			
Actual value encoder	Without encoder								0		
Approval	CE									C	
	none									N	
Design type	Internal key										T

g500-S shaft-mounted helical geared motors

Technical data

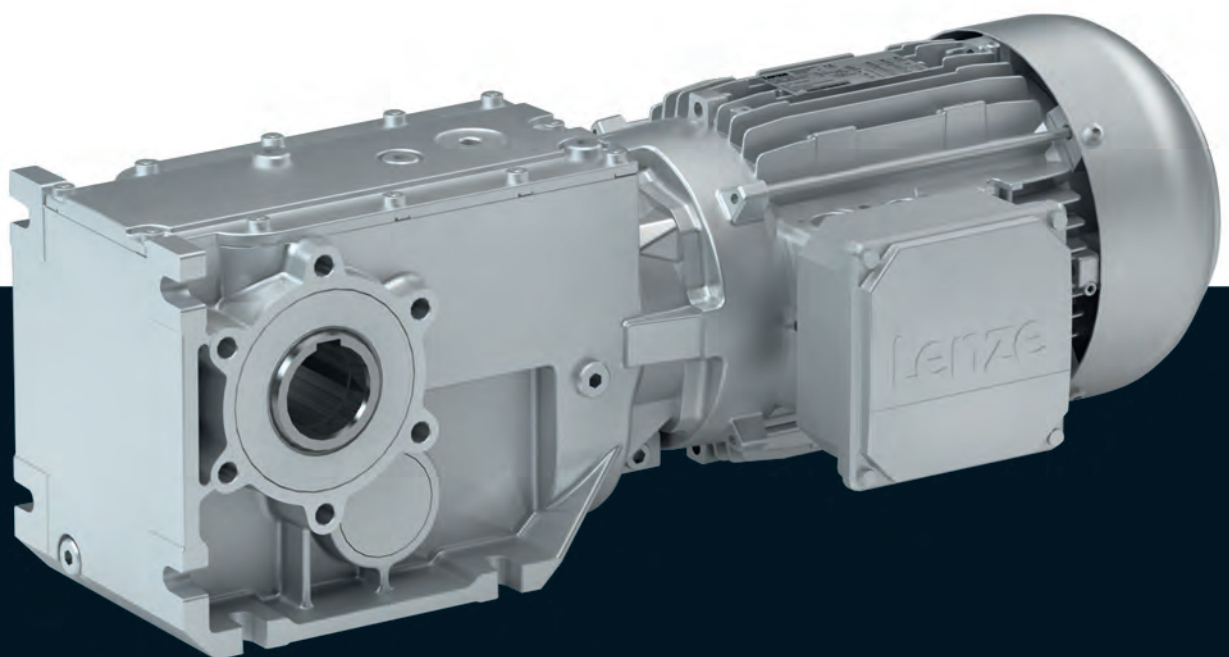


g500-B bevel geared motors

Mains operation

0.06 ... 0.55 kW (efficiency class IE1)

0.75 ... 7.5 kW (efficiency class IE3)



g500-B bevel geared motors

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g500-B bevel geared motors

General information



List of abbreviations

α	[rad/s ²]	Max. permissible angular acceleration
$\eta_{50\%}$	[%]	Efficiency
$\eta_{75\%}$	[%]	Efficiency
$\eta_{100\%}$	[%]	Efficiency
η_a		Efficiency
$\eta_{c=1}$		Efficiency
c		Load capacity
$\cos \phi$		Power factor
du/dt	[kV/ μ s]	Insulation resistance
$F_{ax,-}$	[N]	Min. axial force
$F_{ax,+}$	[N]	Max. axial force
$F_{ax,max}$	[N]	Max. axial force
$f_{in,max}$	[Hz]	Max. input frequency
f_{max}	[kHz]	Limit frequency
f_{max}	[kHz]	Max. switching frequency
f_N	[Hz]	Rated frequency
$F_{rad,max}$	[N]	Max. radial force
f_z		Additional radial force factor
H_{max}	[m]	Site altitude
I_0	[A]	Standstill current
i		Ratio
$I_{in,max}$	[A]	Max. input current
I_{max}	[A]	Max. current consumption
I_{max}	[A]	Max. current
I_{max}	[A]	Max. current consumption
I_{max}	[A]	Max. current
I_{max}	[A]	Max. short-time DC-bus current
I_{max}	[A]	Max. DC-bus current
I_N	[A]	Rated current
$I_{N,\Delta}$	[A]	Rated current
$I_{N,Y}$	[A]	Rated current
J	[kgcm ²]	Moment of inertia
J_{MB}	[kgcm ²]	Moment of inertia
$KE_{LL\ 150\ ^\circ C}$	[V / (1000 r/min)]	Voltage constant
$Kt_{0\ 150\ ^\circ C}$	[Nm/A]	Torque constant
L_{10}	[h]	Bearing service life
L	[mH]	Mutual inductance
$L_{1\sigma}$	[mH]	Stator leakage inductance
$L_{2\sigma}$	[mH]	Rotor leakage inductance
L_N	[mH]	Rated inductance
m	[kg]	Mass
M_2	[Nm]	Output torque
M_{22}	[Nm]	Output torque
M_0	[Nm]	Stall torque
$M_{0,max}$	[Nm]	Max. standstill torque
$M_{2,GM}$	[Nm]	Output torque
$M_{2,max}$	[Nm]	Max. output torque
$M_{2,not}$	[Nm]	Emergency off-torque

M_a	[Nm]	Starting torque
$M_{a,1}$	[Nm]	Starting torque
$M_{a,2}$	[Nm]	Starting torque
M_{av}	[Nm]	Average dynamic torque
M_b	[Nm]	Stalling torque
M_B	[Nm]	Braking torque
M_k	[Nm]	Rated torque
M_{max}	[Nm]	Max. torque
M_N	[Nm]	Rated torque
n_2	[r/min]	Output speed
n_{21}	[r/min]	Output speed
n_{22}	[r/min]	Output speed
$n_{1,max}$	[r/min]	Max. gearbox input speed
$n_{1,max\ 50\%}$	[r/min]	Max. gearbox input speed
n_{eto}	[r/min]	Transition speed
n_k	[r/min]	Speed
n_{max}	[r/min]	Max. speed
n_N	[r/min]	Rated speed
P_{max}	[kW]	Max. power input
Q_{BW}	[MJ]	Friction energy
Q_E	[J]	Maximum switching energy
Q_E	[kJ]	Maximum switching energy
R_1	[Ω]	Stator impedance
R_2	[Ω]	Rotor impedance
R	[Ω]	Insulation resistance
R	[Ω]	Min. insulation resistance
$R_{UV\ 150\ ^\circ C}$	[Ω]	Stator impedance
$R_{UV\ 20\ ^\circ C}$	[Ω]	Stator impedance
$S_{h\ddot{u}}$	[1/h]	Transition operating frequency
t_1	[ms]	Engagement time
t_2	[ms]	Disengagement time
t_{11}	[ms]	Delay time
t_{12}	[ms]	Rise time
T	[$^\circ C$]	Max. surface temperature
T	[$^\circ C$]	Min. ambient temperature for transport
T	[$^\circ C$]	Max. ambient temperature for transport
T	[$^\circ C$]	Max. ambient temperature of bearing
T	[$^\circ C$]	Min. ambient storage temperature
T	[$^\circ C$]	Ambient temperature
T	[$^\circ C$]	Operating temperature
T	[$^\circ C$]	Rated temperature
t	[h]	Service life
T_{opr}		Ambient operating temperature
$T_{opr,max}$	[$^\circ C$]	Max. ambient operating temperature
$T_{opr,min}$	[$^\circ C$]	Min. ambient operating temperature
t_{re}	[s]	Recovery time
$t_{\ddot{u}}$	[ms]	Overexcitation time
U_{Δ}	[V]	Voltage range
U_{AC}	[V]	Mains voltage range



List of abbreviations

U_{AC}	[V]	Mains voltage
$U_{in,max}$	[V]	Max. input voltage
$U_{in,min}$	[V]	Min. input voltage
U_{max}	[V]	Max. input voltage
U_{max}	[V]	Max. mains voltage
U_{min}	[V]	Min. mains voltage
$U_{N,\Delta}$	[V]	Rated voltage
$U_{N,AC}$	[V]	Rated voltage
$U_{N,DC}$	[V]	Rated voltage
$U_{N,Y}$	[V]	Rated voltage
Z_g		Number of teeth
Z_{ro}	[Ω]	Rotor impedance
Z_{rs}	[Ω]	Impedance
Z_{so}	[Ω]	Stator impedance
Z_t		Number of teeth

CCC	China Compulsory Certificate
CE	Communauté Européenne
CEL	China Energy Label
CSA	Canadian Standards Association
CSAULE	Energy Verified Certificate
cURus	Combined certification marks of UL for the USA and Canada
DIN	Deutsches Institut für Normung e.V.
EAC	Customs union Russia / Belarus / Kazakhstan certificate
EMC	Electromagnetic compatibility
EN	European standard
IM	International Mounting Code
IP	International Protection Code
NEMA	National Electrical Manufacturers Association
UkrSEPRO	Certificate for Ukraine
UL	Underwriters Laboratory Listed Product
UR	Underwriters Laboratory Recognized Product
VDE	Verband deutscher Elektrotechniker (Association of German Electrical Engineers)

g500-B bevel geared motors

General information



Product information

In combination with three-phase AC motors, our bevel gearboxes form a compact and powerful drive unit. Numerous options at the input and output end provide for the drive to be exactly adapted to your application.

The efficient bevel gearboxes feature high reliable radial forces, closely stepped gear reductions and a low backlash. They are available in 2-pole and 3-pole design with a torque up to 450 Nm and a ratio of up to $i = 360$.

Three-phase AC motors as a basis for geared motors

In a power range of 0.06 to 7.5 kW, Lenze offers mains-operated three-phase AC motors for basic tasks. These drives come in different efficiency classes and can be used for the versions required for mains operation.

- IE1 motors up to a power of 0.55 kW
- IE3 motors from 0.75 kW to 7.5 kW

Versions

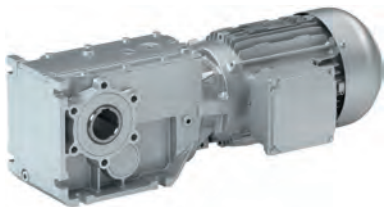
- High-efficient right-angle gearbox in a compact design for space-saving installation
- Standardised shaft and flange dimensions for an easy machine integration
- Low backlash and high torsional stiffness provide for exact results in positioning applications

Customer benefit

- Different efficiency classes for the greatest economic benefit
- Saving of space by compact direct mounting to Lenze gearboxes
- Optimum adaptation of the brake reaction by optional holding brakes and service brakes
- Optional overheat control by temperature monitoring

The product name

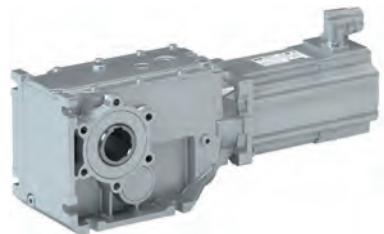
Gearbox type	Product range		Design	Rated torque [Nm]	Product
Bevel gearbox	g500	-	B	45	g500-B45
				110	g500-B110
				240	g500-B240
				450	g500-B450



g500-B bevel gearbox with m240-P three-phase AC motor



g500-B bevel gearbox with m550-P three-phase AC motor and motec



g500-B bevel gearbox with MCS servo motor

g500-B bevel geared motors

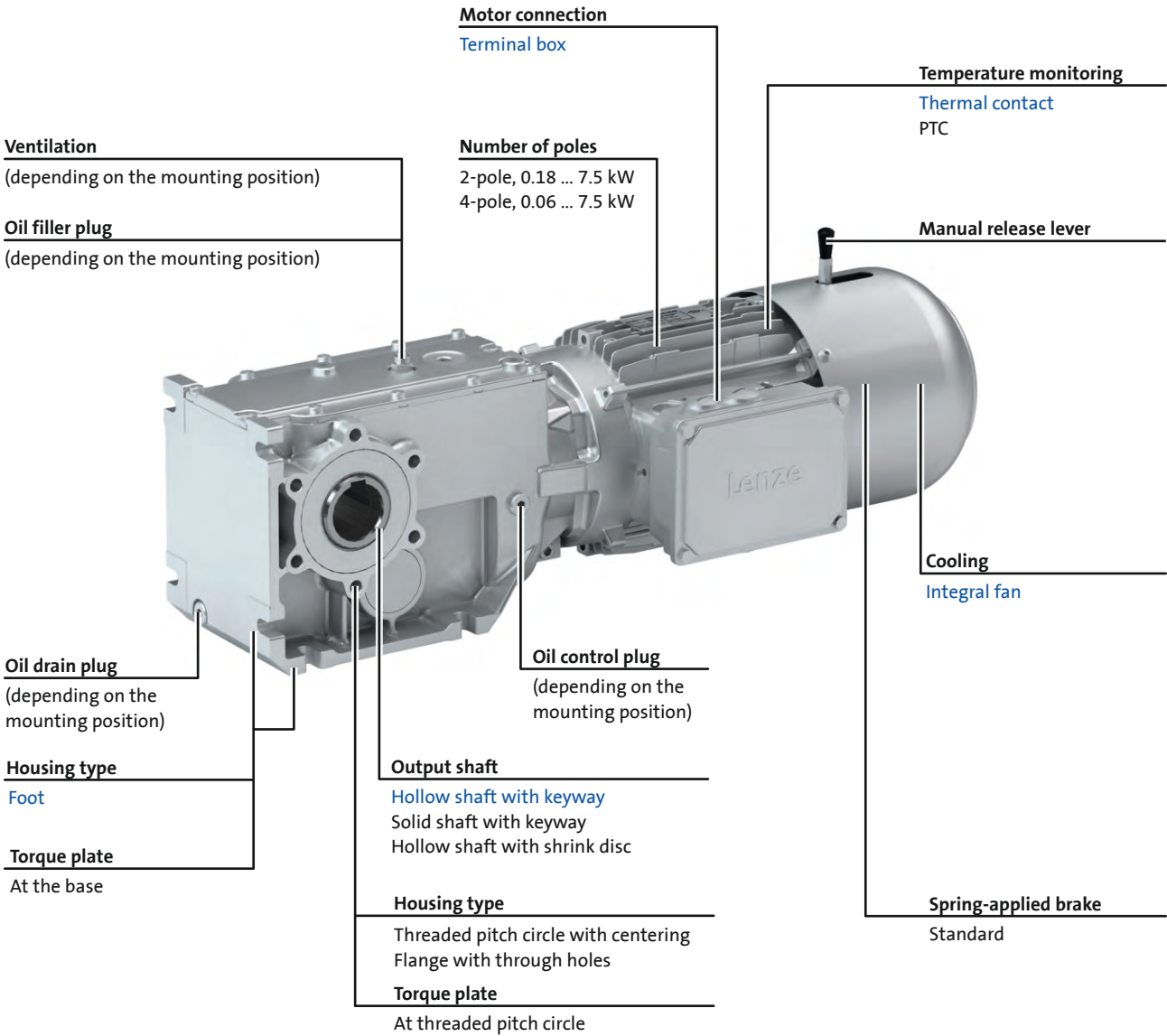
General information



Equipment

Overview

The equipment includes all the options available as standard and all the built-on accessories of the product.



Standard design



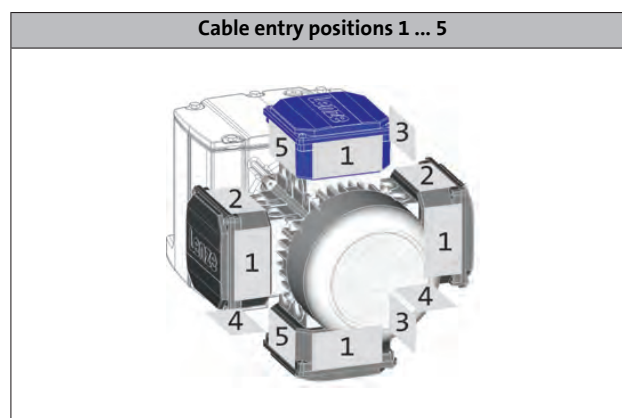
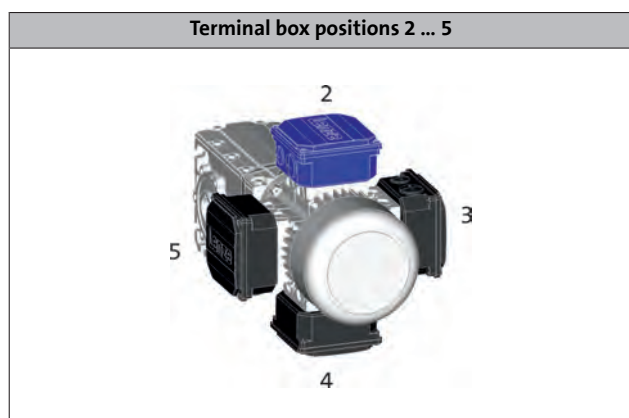
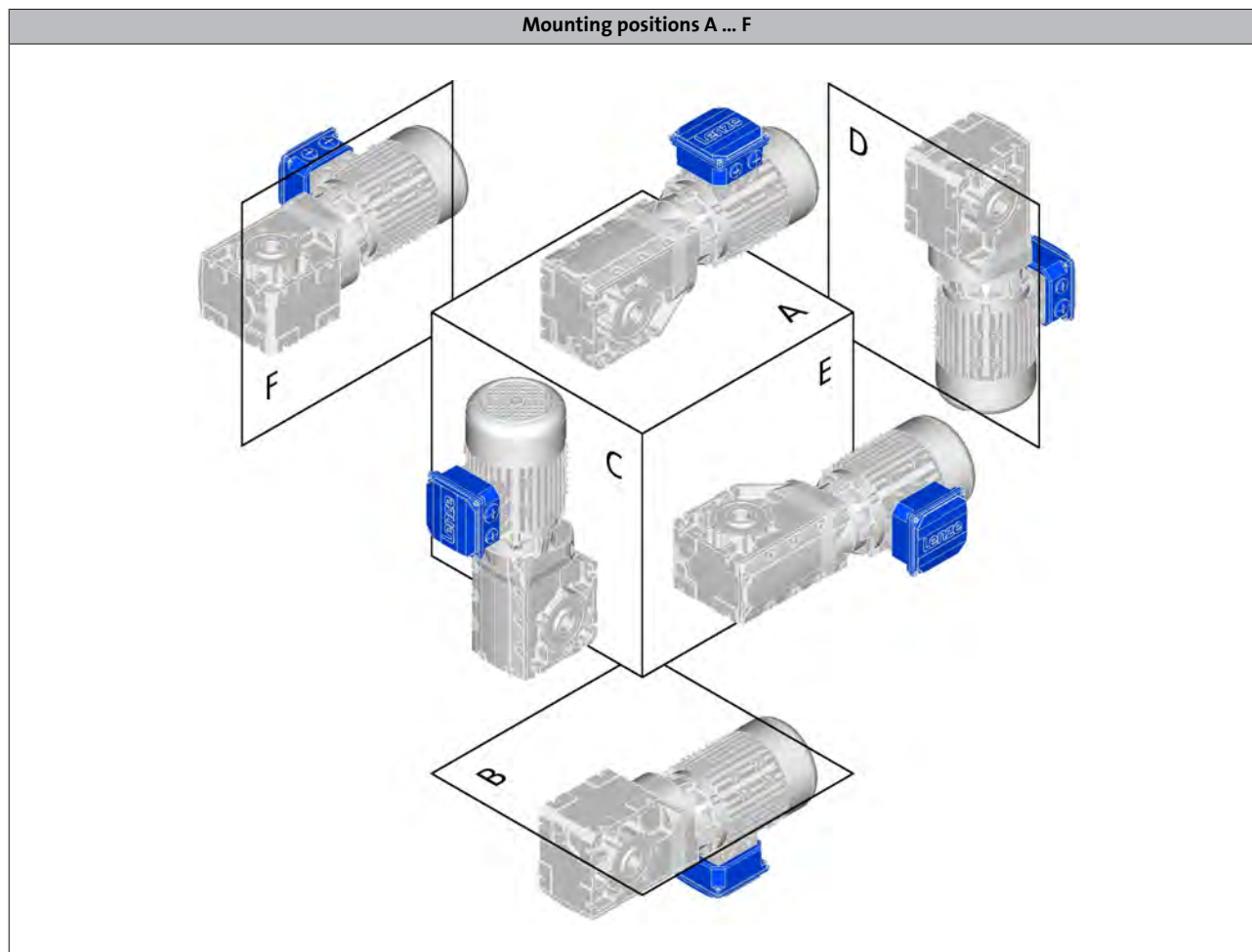
11 - Detailed information on housing type.



Equipment

Mounting position, position of system components

- In the following graphics, the terminal box in position 2 is colour-coded.
If the mounting position (A ... F) changes, the terminal box positions 2 ... 5 are rotated accordingly.
- To reduce the number of different versions, the gearboxes can also be ordered with combined mounting positions:
 - g500-B45 in mounting position ABCDEF
 - g500-B110 ... B450 in mounting position AEF



- For details regarding the cable entry see motor chapter/product extensions.

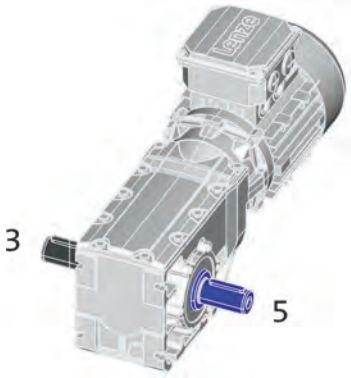
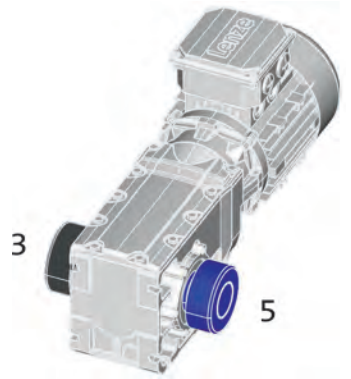
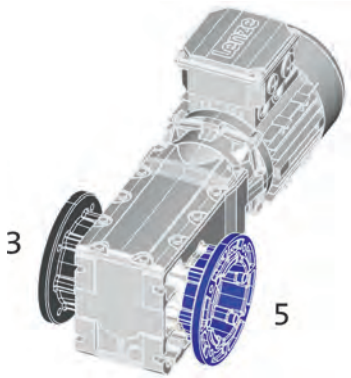
g500-B bevel geared motors

General information



Equipment

Mounting position, position of system components

Solid shaft position 3 or 5

Shrink disc position 3 or 5

Flange position 3 or 5


g500-B bevel geared motors

General information



The geared motor kit

Product	g500-B45	g500-B110	g500-B240	g500-B450
Gearbox				
Motor assignment min.	MD□MA□□-063	MD□MA□□-063	MD□MA□□-063	MD□MA□□-063
Motor assignment max.	MD□MA□□-071	m240-P90	m240-P100	m240-P132
Technical data				
Output torque max.	45 Nm	110 Nm	240 Nm	450 Nm
Drive power min.	0.06 kW	0.12 kW	0.12 kW	0.12 kW
Drive power max.	0.55 kW	1.5 kW	3.0 kW	7.5 kW
Dimensions [mm]				
Solid shaft with featherkey	20 x 40	20 x 40	30 x 60	30 x 60
Hollow shaft with keyway	18/20	20/25	30/35	35/40
Hollow shaft with shrink disc	20	20	30/35	35
Output flange	110/120	120/160	160/200	200

- Values printed in bold are standard versions.
Values not printed in bold are possible extensions, some for an additional charge.

Design	
Conformity	CE EAC
Approval	48049
Degree of protection	IP55 IP65/IP66
Surface and corrosion protection	Without Different types of OKS
Colour	Not coated Primed/RAL colours
Hollow shaft	80614
Hollow shaft with shrink disc	- Without keyway
Solid shaft	- With keyway
Shaft material	Steel stainless steel
Shaft sealing ring material	NBR FKM or FPM (Viton)
Shaft bearings	48056
Paste for shaft mounting	Without Enclosed
Gearbox type	With foot (□BR) With centering (□AR) With output flange (□AK)
Lubricant	Mineral oil Synthetic oil Food-compatible oil

Design	
Mounting position	A/B/C/D/E/F Combined
Backlash	48063
Power connection	48064
Spring-applied brake	Without Brake design: Standard brake version: Standard
Feedback	48067
Cooling	48068
Temperature monitoring	TKO thermal contact PTC thermistor
Built-on accessories fan side	48071

g500-B bevel geared motors

General information



The geared motor kit

Gearbox details

Solid shaft		
Without centring (VBR)	With centering (VAR)	Flange with through holes (VAK)
Hollow shaft		
Without centring (HBR)	With centering (HAR)	Flange with through holes (HAK)
Hollow shaft with shrink disc		
Without centring (SBR)	With centering (SAR)	Flange with through holes (SAK)

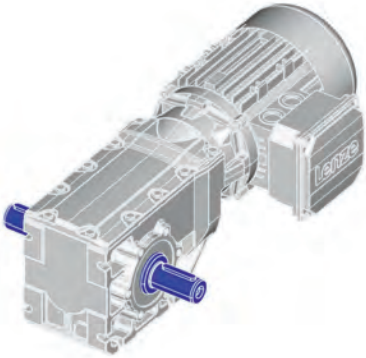
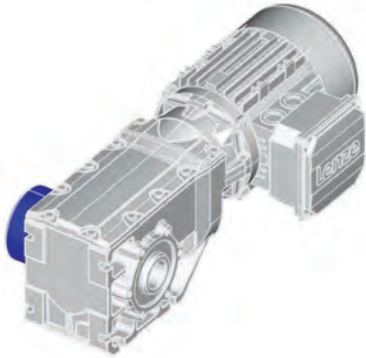
g500-B bevel geared motors

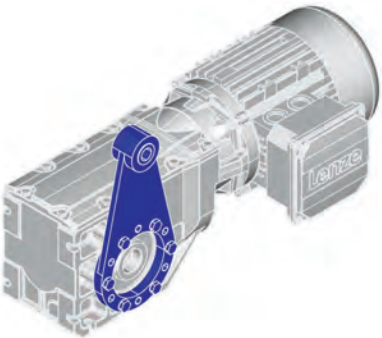
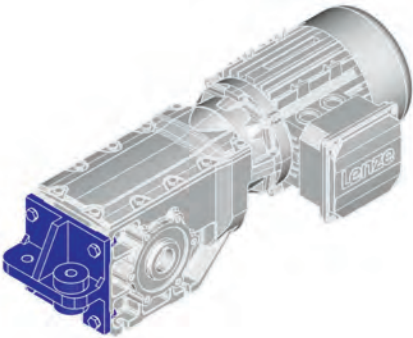
General information



The geared motor kit

Gearbox details

Accessories	
	
2nd output shaft end	Cover Hollow shaft/shrink disc

Accessories	
	
Torque plate at threaded pitch circle	Torque plate at foot



General information about the data provided in this catalogue

The powers, torques and speeds specified in this catalogue are rounded values and are valid under the following conditions:

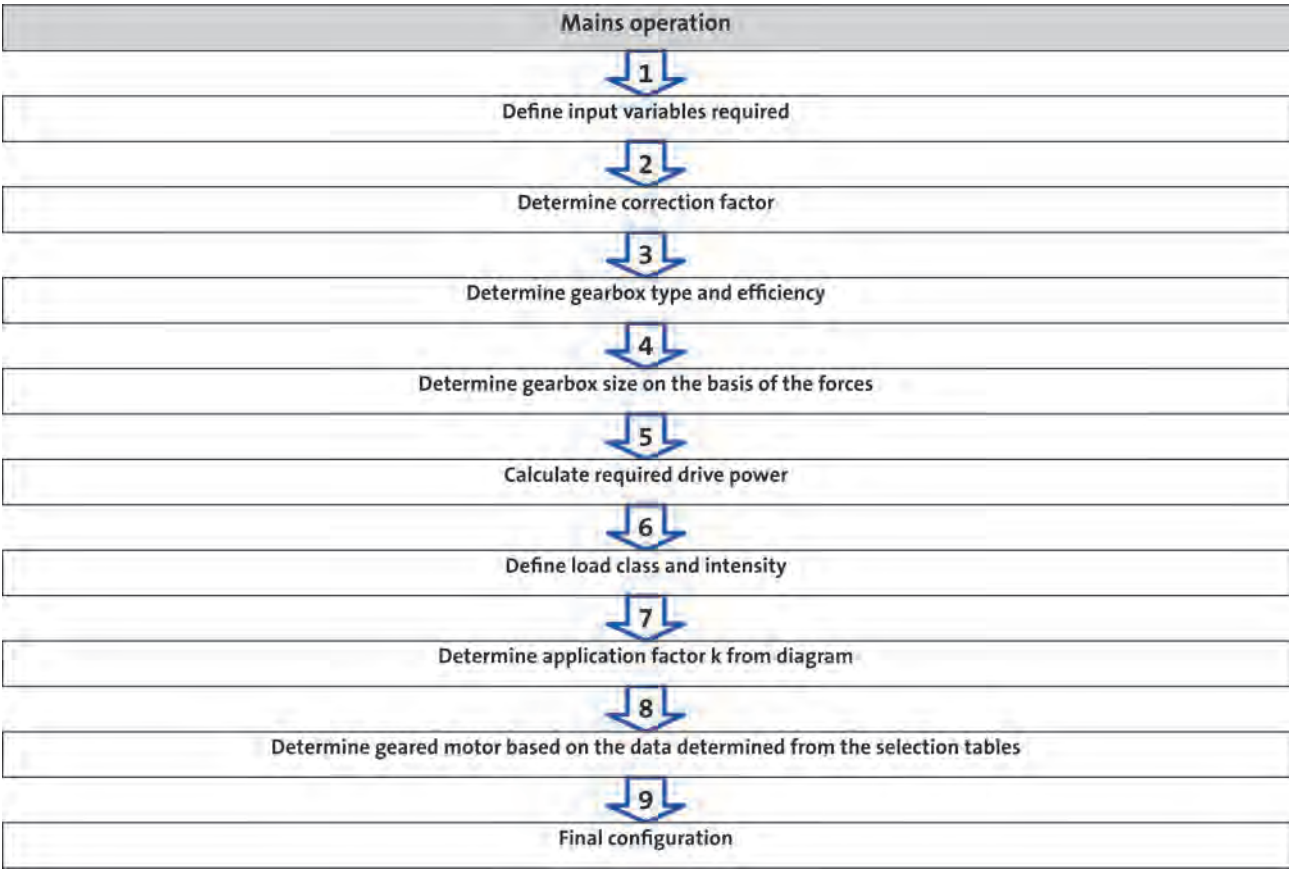
- Operating time/day = 8 h (100% OT)
- Duty class I for up to 10 switching operations/h
- Mounting positions and designs in this catalogue
- Standard lubricant
- $T_{amb} = 30\text{ °C}$ for gearboxes,
 $T_{amb} = 40\text{ °C}$ for motors (in accordance with EN 60034)
- Site altitude $\leq 1000\text{ m amsl}$
- The selection tables provide the permissible mechanical powers and torques. For notes on the thermal power limit, see chapter drive dimensioning.
- The rated power specified for motors and geared motors applies to operating mode S1 (in accordance with EN 60034).

Under different operating conditions, the values obtained may vary from those listed here.

In the case of extreme operating conditions, please consult your Lenze sales office.



Procedure of a configuration process





Procedure of a configuration process

1 required input variables

Load torque		$M_{L,max} =$	[Nm]
	In inverter operation	$M_{L,min} =$	[Nm]
Load speed		$n_{L,max} =$	[r/min]
	In inverter operation	$n_{L,min} =$	[r/min]
External moments of inertia		$J_{ext} =$	[kgcm ²]
Operating time / day		BD =	[h]
Switching operations per h		$S_h =$	[1/h]
Runtime for $M_{L,max}$	In inverter operation		[%]

2 determine correction factor

Operating modes and operating time						
S1	ED	[%]	100			
	$k_L =$		1.0			
S2	ED	[%]	10	30	60	90
	$k_L =$		1.4 - 1.5	1.15 - 1.2	1.07 - 1.1	1.0 - 1.05
S3	ED	[%]	15	25	40	60
	$k_L =$		1.4 - 1.5	1.3 - 1.4	1.15 - 1.2	1.05 - 1.1
S6	ED	[%]	15	25	40	60
	$k_L =$		1.5 - 1.6	1.4 - 1.5	1.3 - 1.4	1.15 - 1.2
Site altitude						
	H	[m]	≤ 1000	≤ 2000	≤ 3000	≤ 4000
	$k_H =$		1	0.95	0.9	0.8
Ambient temperature						
	$T_U =$	[°C]	≤ 40	≤ 45	≤ 50	≤ 55
	$k_{TU} =$		1	0.95	0.9	0.8

21 - Operating modes



Procedure of a configuration process

3 determine gearbox type and efficiency

Gearbox type			Axial gearboxes		Right-angle gearboxes
			Helical gearbox	Shaft-mounted	Bevel gearbox
Product			g500-H	g500-S	g500-B
Gearbox efficiency	2-stage gearboxes	η_G	0.96	0.96	0.96
	3-stage gearboxes	η_G	0.95	0.95	0.95

4 determine gearbox size based on the forces on the output

Transmission element		Gear wheels	Sprockets	Toothed belt pulleys (depending on the initial stress)	Narrow V-belt (depending on the initial stress)
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	[N]	$F_{rad} = 2000 \times \frac{M_{L,max} \times f_z}{d_w}$		$F_{rad} \leq f_w \times F_{rad,max}$	
Axial force	[N]			$F_{ax} \leq F_{rad,max} \times 0.5$	

d_w = effective diameter - transmission element

1 - Permissible radial and axial forces at output

5 calculate drive power

		Calculation	
Drive power required	[kW]	$P_1 = \frac{M_{L,max} \times \eta_{L,max}}{9549 \times k_L \times k_H \times k_{Tu} \times \eta_g}$	

k_L = Correction factor - operational factor

k_H = correction factor - installation height

k_{Tu} = correction factor - ambient temperature



Procedure of a configuration process

6 calculate intensity and determine duty class

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

22 - Duty classes

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

i= gearbox ratio
 J_L = moment of inertia of the load
 J_M = moment of inertia of the motor
 J_B = moment of inertia of the brake
 J_Z = additional moment of inertia (handwheel, 2nd shaft end ...)

7 determine application factor k from diagram

25 - Load capacity and application factor



Procedure of a configuration process

8 determine geared motor based on the data determined from the selection tables

Selection table		Check
Drive power P_N	[kW]	$P_1 \leq P_N$
Output speed n_2	[r/min]	$n_{L,max} \approx n_2$
Output torque M_2	[Nm]	$M_{L,max} \leq M_2$
Load factor c		$k \leq c$
Order information		Example
Number of stages		2
Ratio i		4.000
Product gearbox		g500-H100
Product motor		m240-P80/M2

25 - Load capacity and application factor

Example: structure of a selection table

50 Hz: $P_N = 0.75$ kW ← Rated power P_N

2-stage gearboxes ← Number of the gear stage

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m240	
627	11	5.2	4.600	-H100	-P80/M2	
558	12	4.9	5.167	-H100	-P80/M2	

↑
Output speed n_2

↑
Output torque M_2

↑
Load capacity c

↑
Ratio i

↑
Product
Gearbox

↑
Product
Motor



Procedure of a configuration process

9 Final configuration

More information regarding the final configuration can be found under: - The modular geared motor system - Product extensions for gearboxes, motors	
Check operating conditions	- Operating temperature (observe lubricant, material of shaft sealing ring) - Degree of protection - Supply voltage - Surface protection required - Approvals - Conformity
Check and define connection dimensions	- Driven shaft - Foot, output flange, centering with threaded pitch circle
Determine mounting position and position of the system blocks	- Mounting position A/B/C/D/E/F or combined - Terminal box position, shaft position, flange position
Select product extensions at the gearbox (differing depending on the gearbox type)	- Torque plate at the base, threaded pitch circle, rubber buffer - Hollow shaft cover, shrink disc cover
Select product extensions at the motor	- Connection type (terminal box, connector) - Brake



Standards

Approvals

CCC	China Compulsory Certification documents the compliance with the legal product safety requirements of the PR of China - GB standards.
cCSAus	CSA certificate, tested according to US and Canada standards
CE	Communauté Européenne documents the declaration of the manufacturer that EC Directives are complied with.
CEL	China Energy Label documents the compliance with the legal energy efficiency requirements for motors, tested according to PR of China standards
CSA	Canadian Standards Association CSA - certificate, tested according to Canada standards
CSAULE	Energy Verified Certificate Determining the energy efficiency according to CSA C390 for products within the scope of energy efficiency requirements in the USA and Canada
cULus	UL certificate for products, tested according to US and Canada standards
cURus	UL certificate for components, tested according to US and Canada standards
EAC	Certificate of Russia-Belarus-Kazakhstan Customs Union documents the declaration of the manufacturer that the specifications for the Eurasian conformity (EAC) required for placing electronic and electromechanical products on the market of the entire territory of the Customs Union (Russia, Belarus, Kazakhstan) are complied with.
UL	Underwriters Laboratory Listed Product
UR	Underwriters Laboratory Recognized Product UL certificate for components, tested according to US standards



Standards

Operating modes

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.



Standards

Duty classes

Depending on the load type, the duty classes or impacts are divided as follows:

Duty class	Load type
I	Smooth operation, small or light jolts
II	Uneven operation, average jolts
III	Uneven operation, severe jolts and/or alternating load

In order to support you in classifying your driven machine regarding the right duty class, the following shows sample applications with the corresponding duty class. Depending on, for instance, the operating frequency, driven machines can also have a higher impact. In case of uncertainties, please contact your Lenze sales office.

Drive	Duty class
Construction machines	II
Chemical industry	II
Conveyors	II
Fans	II
Plastics industry	II
Wood working	III
Hoists	III
Metal working	III
Food	II
Paper industry	III
Stones	III
Textile industry	II



Standards

Degrees of protection

The degree of protection indicates the suitability of a motor for specific ambient conditions with regard to humidity as well as the protection against contact and the ingress of foreign particles. The degrees of protection are classified by EN 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 the 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 similar	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 and the like	3	Protection against spraying water, up to 60° to the vertical
4	Protection against granular foreign particles, $d > 1$ mm, keeping away tools, wires and 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).



Thermal power limit

The thermal power limit, defined by the heat balance, limits the permissible gearbox continuous power. It may be less than the mechanical power ratings listed in the selection tables.

The thermal power limit 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
- the ambient conditions: temperature, air circulation, input or dissipation via shafts and the foundation

If the following input speeds n_1 are exceeded, please contact Lenze:

Motor frame size	Mounting position A, B, E, F	Mounting position C, D
063 ... 100	4000 r/min	3000 r/min
112 ... 132	3000 r/min	1500 r/min

- For a short period of time up to 5 min, 30 % higher speeds are permissible

Possible ways of extending the application area

- synthetic lubricant (option)
- shaft sealing rings made from FP material/Viton (option)
- reduction in lubricant quantity
- cooling of the geared motor by means of air convection on the machine/system



Load capacity and application factor

Load capacity c of gearboxes

Rated value for the load capacity of Lenze geared motors.

- c is the ratio of the permissible rated torque of the gearbox to the rated torque supplied by the drive component (e.g. the built-in Lenze motor).
- The value of c must always be greater than the value of the application factor k calculated for the application.

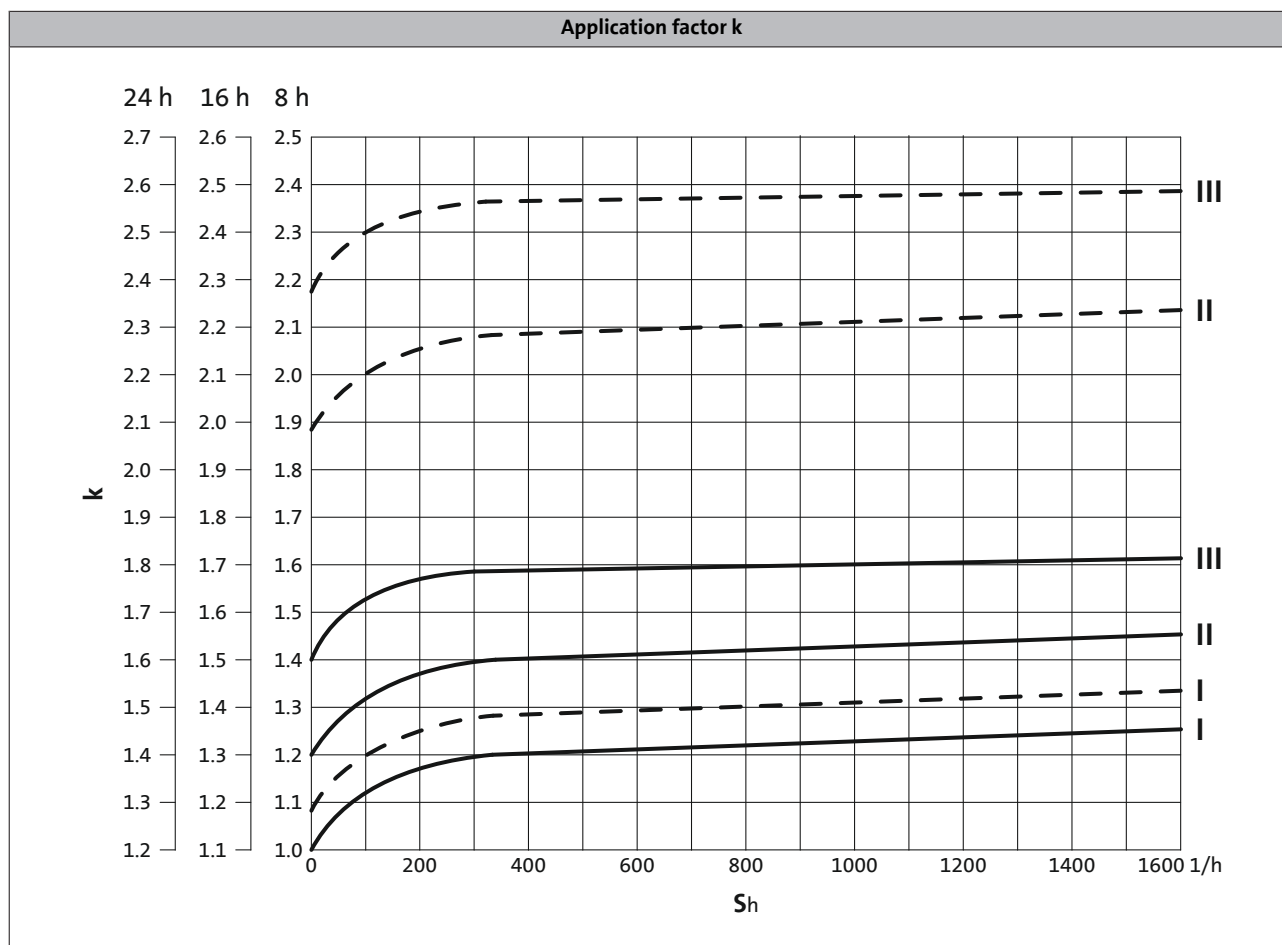
Required: $c \geq k$

Application factor k (according to DIN 3990)

Takes into account the influence of temporally variable loads which are actually present during the anticipated operating time of gearboxes and geared motors.

k is determined by:

- the type of load
- the load intensity
- temporal influences



- S_h = switchings/h
- — Three-phase AC motors MD□/MA
- — Three-phase AC motors m240/m550

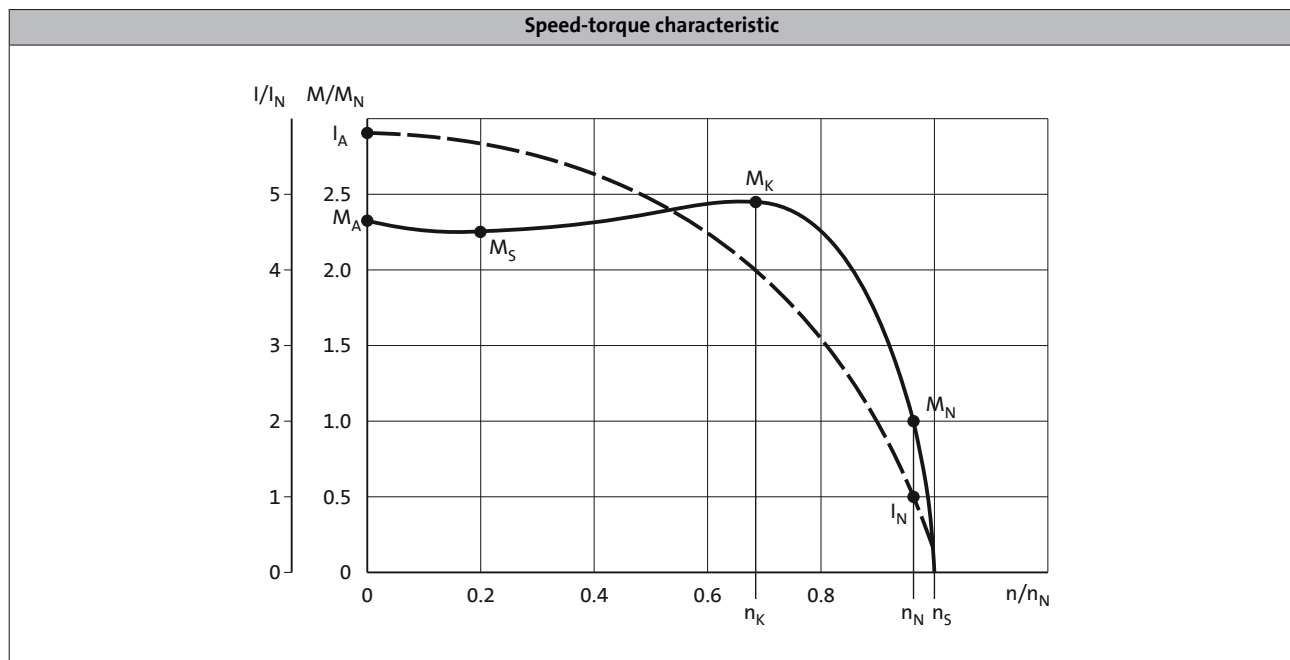


Operational performance of three-phase AC geared motors

The g500 geared motors can be actuated directly on the mains or via an inverter. When actuated in mains operation, the motor runs at a fixed speed, for inverter operation the speed is variable. Thanks to their high degree of protection, the robust three-phase drives can be basically used in a variety of applications.

Mains operation

During mains operation, when switched on, the three-phase AC motor starts up according to the speed-torque characteristic. It passes through this characteristic until it reaches its stable operating point. This operating point has been reached if the load torque or rated torque (M_N) is lower than the starting torque (M_A) and the pull-up torque (M_S). 2-, 4- and 6-pole motors are used. The rated speed (n_{rated}) of the drive is always lower than the calculated synchronous speed (n_s). The difference between rated speed and synchronous speed relating to the synchronous speed is referred to as the "slip".



g500-B bevel geared motors

Project planning



Combinatorics of geared motors

The following tables contain the most important data of the gearbox with the motors that can be attached for an approximate dimensioning process of a geared motor. Detailed information can be found in the following chapters.

The data given in the tables apply to

- input speed $n_1 = 1400$ r/min
- 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). These are cancelled values.

The data for the max. radial force refer to

- solid shaft without flange
- normal storage
- application factor $c = 1.3$

For further designs see the "Technical data" chapter.

- The rated torque can be gathered from the last digits of the product name e.g. g500-B45 (45 Nm).

g500-B45, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
260	39	1.12	5.411	1120	207	2080	27	0.18	0.55
226	41	1.01	6.222	56	9	2180	26	0.18	0.55
198	43	0.94	7.111	64	9	2280	26	0.18	0.55
172	44	0.83	8.178	368	45	2360	25	0.18	0.55
154	45	0.77	9.101	1720	189	2440	25	0.18	0.55
134	45	0.67	10.466	1978	189	2580	24	0.12	0.55
121	45	0.60	11.640	2200	189	2660	24	0.12	0.55
105	45	0.52	13.386	2530	189	2770	23	0.09	0.55
93.0	45	0.46	15.111	136	9	2840	24	0.09	0.55
81.1	45	0.40	17.378	782	45	2900	23	0.09	0.37
72.8	45	0.36	19.365	1220	63	2950	24	0.09	0.37
63.3	45	0.31	22.270	1403	63	3000	23	0.06	0.37
54.7	45	0.27	25.051	2480	99	3000	23	0.06	0.25
47.6	45	0.24	28.808	2852	99	3000	22	0.06	0.25
42.0	45	0.21	32.593	880	27	3000	23	0.06	0.25
36.4	45	0.18	37.481	1012	27	3000	23	0.06	0.18
32.3	45	0.16	42.222	380	9	3000	23	0.06	0.18
29.3	45	0.15	48.556	437	9	3000	22	0.06	0.12
26.4	45	0.13	53.889	485	9	3000	23	0.06	0.12
23.0	45	0.11	61.972	2231	36	3000	22	0.06	0.12

g500-B bevel geared motors

Project planning



Combinatorics of geared motors

g500-B110, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
278	69	2.12	5.185	140	27	2450	21	0.25	1.50
242	72	1.92	5.963	161	27	2530	21	0.25	1.50
203	77	1.72	7.111	64	9	2620	20	0.25	1.50
176	81	1.57	8.178	368	45	2670	20	0.25	1.50
159	84	1.47	9.101	1720	189	2730	20	0.25	1.50
138	89	1.35	10.466	1978	189	2830	20	0.25	1.50
126	90	1.25	11.449	2576	225	2890	20	0.18	1.50
114	90	1.13	12.698	800	63	2950	20	0.18	1.10
98.9	90	0.98	14.603	920	63	3000	20	0.18	1.10
92.8	92	0.94	15.556	140	9	3000	20	0.25	1.10
81.1	96	0.86	17.889	161	9	3000	20	0.25	0.75
74.1	100	0.82	19.556	176	9	3000	20	0.12	0.75
64.5	104	0.74	22.489	1012	45	3000	19	0.12	0.75
57.6	108	0.69	25.185	680	27	3000	20	0.12	0.75
50.1	110	0.61	28.963	782	27	3000	19	0.12	0.75
44.2	108	0.53	31.919	3160	99	3000	19	0.12	0.37
38.4	110	0.47	36.707	3634	99	3000	19	0.12	0.37
37.7	106	0.44	37.400	187	5	3000	19	0.12	0.37
35.3	100	0.39	40.000	40	1	3000	19	0.12	0.37
30.7	110	0.37	46.000	46	1	3000	19	0.12	0.37
29.3	110	0.36	48.167	289	6	3000	18	0.12	0.37
25.9	69	0.20	52.698	3320	63	3000	19	0.12	0.18
22.5	79	0.20	60.603	3818	63	3000	18	0.12	0.18
22.4	110	0.27	61.045	1343	22	3000	18	0.12	0.25
17.9	110	0.22	76.500	153	2	3000	18	0.12	0.25
13.5	110	0.16	100.786	1411	14	3000	18	0.12	0.18

g500-B bevel geared motors

Project planning



Combinatorics of geared motors

g500-B240, 2-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20\%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
407	138	6.18	3.565	385	108	3030	16	0.55	3.00
296	147	4.80	4.889	44	9	3450	16	1.10	3.00
232	156	3.98	6.257	2365	378	3860	16	0.55	3.00
211	179	4.15	6.883	413	60	4070	12	0.55	3.00
185	187	3.82	7.817	469	60	4300	12	0.55	3.00
154	191	3.23	9.440	236	25	4600	12	1.10	3.00
135	204	3.04	10.720	268	25	4740	12	1.10	3.00
120	208	2.75	12.081	2537	210	4860	12	0.55	3.00
106	217	2.53	13.719	2881	210	4980	12	0.55	3.00
96.7	223	2.38	15.008	1876	125	5180	11	0.25	2.20
86.1	240	2.28	16.857	118	7	5440	12	0.25	2.20
75.9	240	2.01	19.143	134	7	5710	11	0.25	2.20
70.3	240	1.86	20.650	413	20	5860	12	0.55	2.20
61.5	240	1.63	23.450	469	20	6070	11	0.55	1.50
53.7	240	1.42	26.878	2419	90	6230	12	0.25	1.50
47.2	240	1.25	30.522	2747	90	6370	11	0.25	1.50
43.2	240	1.14	33.433	1003	30	6500	11	0.25	1.10
38.0	240	1.01	37.967	1139	30	6500	11	0.25	1.10
33.5	240	0.89	43.267	649	15	6500	11	0.12	0.75
29.5	240	0.78	49.133	737	15	6500	11	0.12	0.75
26.8	233	0.69	52.510	5251	100	6500	11	0.12	0.55
23.6	240	0.62	59.630	5963	100	6500	11	0.12	0.55
21.0	178	0.41	67.113	5369	80	6500	11	0.12	0.37
18.5	202	0.41	76.213	6097	80	6500	11	0.12	0.37

g500-B bevel geared motors

Project planning



Combinatorics of geared motors

g500-B240, 3-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	Motor	
							$\pm 20 \%$	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	[arcmin]	[kW]	[kW]
20.5	240	0.56	68.459	43129	630	6500	13	0.12	0.55
18.1	240	0.49	77.741	48977	630	6500	13	0.12	0.55
16.1	240	0.44	87.563	11033	126	6500	13	0.12	0.37
14.2	240	0.39	99.437	12529	126	6500	13	0.12	0.37
12.4	240	0.34	113.673	17051	150	6500	13	0.12	0.37
10.9	240	0.30	129.087	19363	150	6500	13	0.12	0.37
9.40	240	0.26	145.674	61183	420	6500	13	0.12	0.25
8.30	240	0.23	165.426	69479	420	6500	13	0.12	0.25
7.20	240	0.20	188.442	31093	165	6500	13	0.12	0.18
6.40	240	0.17	213.994	35309	165	6500	13	0.12	0.18
5.60	240	0.15	245.178	11033	45	6500	13	0.12	0.18
5.10	240	0.14	278.422	12529	45	6500	13	0.12	0.12
4.50	240	0.12	317.617	19057	60	6500	13	0.12	0.12
4.00	240	0.11	360.683	21641	60	6500	13	0.12	0.12

g500-B bevel geared motors

Project planning



Combinatorics of geared motors

g500-B450, 3-stage gearboxes

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
n_2	$M_{2, \max}$	$P_{1, \max}$	i	z_g	z_t	$F_{\text{rad, max}}$	Standard	$P_{N, \min}$	$P_{N, \max}$
[r/min]	[Nm]	[kW]				[N]	$\pm 20\%$ [arcmin]	[kW]	[kW]
295	280	9.12	5.002	2401	480	3760	21	0.55	7.50
215	308	7.31	6.860	343	50	4030	21	1.10	7.50
159	368	6.43	9.315	3577	384	4370	15	0.55	7.50
143	384	6.05	10.328	2107	204	4500	14	0.55	7.50
114	404	5.09	12.775	511	40	4830	15	1.10	5.50
103	422	4.80	14.165	1204	85	5010	14	1.10	5.50
88.9	434	4.25	16.349	3139	192	5280	15	0.55	4.00
81.2	446	3.99	17.885	3577	200	5470	15	0.25	4.00
73.3	450	3.64	19.831	8428	425	5710	14	0.25	4.00
63.5	450	3.15	22.813	365	16	6060	15	0.25	3.00
57.3	450	2.84	25.294	430	17	6340	14	0.25	3.00
51.9	450	2.57	27.945	3577	128	6640	15	0.55	3.00
46.9	450	2.33	30.985	2107	68	6960	14	0.55	2.20
39.6	450	1.96	36.373	20951	576	7520	14	0.25	1.50
35.8	450	1.78	40.330	12341	306	7800	14	0.25	1.50
31.9	450	1.58	45.245	8687	192	7800	14	0.25	1.50
28.7	450	1.42	50.167	301	6	7800	14	0.25	1.50
25.7	450	1.28	56.154	730	13	7800	13	0.25	1.50
23.2	450	1.15	62.262	13760	221	7800	12	0.25	1.10
21.0	450	1.04	68.788	3577	52	7800	13	0.55	1.10
18.9	450	0.94	76.271	16856	221	7800	12	0.55	1.10
16.2	450	0.80	89.534	20951	234	7800	13	0.25	0.75
14.6	450	0.72	99.274	197456	1989	7800	12	0.25	0.75
13.0	450	0.64	111.372	8687	78	7800	13	0.25	0.75
11.4	450	0.57	123.487	4816	39	7800	12	0.25	0.55
9.70	450	0.48	144.128	5621	39	7800	13	0.12	0.55
8.80	450	0.44	159.807	105952	663	7800	12	0.12	0.37
8.10	450	0.40	174.919	45479	260	7800	13	0.12	0.37
7.30	450	0.36	193.948	214312	1105	7800	12	0.12	0.37
6.30	450	0.31	223.563	3577	16	7800	13	0.12	0.37
5.50	450	0.27	247.882	4214	17	7800	12	0.12	0.25



Surface and corrosion protection

For optimum protection of geared motors against ambient conditions, the surface and corrosion protection system (OKS) offers tailor-made solutions.

Various surface coatings combined with other protective measures ensure that the geared motors operate reliably even at high air humidity, in outdoor installations or in the presence of atmospheric impurities. Any colour from the RAL Classic collection can be chosen for the top coat. The geared motors are also available unpainted (no surface and corrosion protection).

Surface and corrosion protection	Applications	Measures
Without OKS(uncoated)	- Interior installation, no special corrosion protection required - Paint provided by the customer	- Aluminium parts uncoated - Fan covers zinc-coated or primed in grey - Grey cast iron parts primed in grey Note: Slight colour deviation of the components is possible Standard version in case of: - g500-H45 ... H450 - g500-S130 ... 660 - g500-B45 ... 450
OKS-G (primed)	Dependent on subsequent top coat applied	2K PUR priming coat (grey) - Zinc-coated screws - Rust-free breather elements Optional measures - Stainless steel nameplate
OKS-S (small)	- Standard applications - Internal installation in heated buildings - Air humidity up to 90%	- Surface coating corresponding to corrosivity category C1 (subject to EN 12944-2) - Zinc-coated screws - Rust-free breather elements Optional measures - Stainless steel nameplate
OKS-M (medium)	- Internal installation in non-heated buildings - Covered, protected external installation - Air humidity up to 95%	- Surface coating corresponding to corrosivity category C2 (subject to EN 12944-2) - Zinc-coated screws - Rust-free breather elements Optional measures - Stainless steel shaft - Stainless steel nameplate - Rust-free shrink disc (on request)
OKS-L (large)	- External installation - Air humidity above 95% - Chemical industry plants - Food industry	- Surface coating corresponding to corrosivity category C3 (subject to EN 12944-2) - Blower cover and B end shield additionally primed - Cable glands with gaskets - Corrosion-resistant brake with cover ring, stainless friction plate, and chrome-plated armature plate (on request) - All screws/screw plugs zinc-coated - Stainless breather elements - Threaded holes that are not used are closed by means of plastic plugs Optional measures - Sealed recesses on motor (on request) - Stainless steel shaft - Stainless steel nameplate - Rust-free shrink disc (on request) - Additional priming coat on cast iron fan - Oil expansion tank and torque plates painted separately and supplied loose
OKS-XL (extra Large) ¹⁾	- External installation - Air humidity above 95 % - Chemical industry plants - Food industry - Coastal areas with moderate salinity	- Surface coating corresponding to corrosivity category C4 (subject to EN 12944-2) Additional measures for surface and corrosion protection system L: - Rotor package and stator in the inner area primed with finishing varnish - Feedback in protection class IP65

¹⁾ On request



Surface and corrosion protection

Structure of surface coating

Surface and corrosion protection	Corrosivity category	Surface coating	Colour	Coating thickness
	DIN EN ISO 12944-2	Structure		
Without OKS(uncoated)		• Dipping primer of the grey iron parts		30 ... 50 µm
OKS-G (primed)		• Dipping primer of the grey iron parts • 2K PUR priming coat		60 ... 90 µm
OKS-S (small)	Comparable to C1	• Dipping primer of the grey iron parts • 2K-PUR top coat		80 ... 120 µm
OKS-M (medium)	Comparable to C2	• Dipping primer of the grey iron parts		110 ... 160 µm
OKS-L (large)	Comparable to C3	• 2K PUR priming coat • 2K-PUR top coat	• Standard: RAL 7012 • Optional: RAL Classic	140 ... 200 µm
OKS-XL (extra Large) ¹⁾	Comparable to C4	• Dipping primer of the grey iron parts • 2K-EP priming coat (two times) • 2K-PUR top coat		160 ... 240 µm

¹⁾ On request

g500-B bevel geared motors

Project planning



Lubricants

Gearboxes and geared motors of Lenze come supplied with a lubricant specifically adapted to the drive and design. When placing the order, the mounting position and design are decisive for the lubricant amount.

The lubricant amount and type contained in the gearbox are indicated on the nameplate.

The following gearboxes are lubricated for life:

- Helical gearbox g500-H45 ... 140
- Shaft-mounted helical gearbox g500-S130
- Bevel gearbox g500-B45 ... 240

The lubricants listed in the lubricant table are approved for Lenze drives.

Lubricant table

Mode	CLP 460	CLP HC 320	CLP HC 220 USDA H1
Ambient temperature [°C]	0 ... +40	-25 ... +50	-20 ... +40
Specification	Mineral based oil with additives	Synthetic-based oil (synthetic hydrocarbon / poly-alpha-olefin oil)	
Changing interval	16000 operating hours not later than after three years (oil temperature 70 to 80 °C)	25000 operating hours not later than after three years (oil temperature 70 to 80 °C)	16000 operating hours not later than after three years (oil temperature 70 to 80 °C)
Fuchs	Fuchs Renolin CLP 460	Fuchs Renolin Unisyn CLP 320	
Klüber	Klüberoil GEM1-460 N	Klübersynth GEM4-320 N	Klüberoil 4 UH1-220 N
Shell	Shell Omala S2 G 460	Shell Omala S4 GX HD 320	
bremer & leguil			Cassida Fluid GL 220

- Please contact your Lenze sales office if you are operating at ambient temperatures in areas up to < -20 °C bzw. > or up to +40°C.

Shaft sealing rings

By default, the gearboxes come with NBR shaft sealing rings at the output end. At high speed and unfavourable ambient conditions as high temperature, reduced circulation of air etc., Lenze recommends the use of Viton shaft sealing rings.

Please consider this in your order.



Ventilation

Gearboxes without ventilation

The g500-B45 ... B240 gearboxes do not require any ventilation measures.

Gearboxes with ventilation

The g500-B240 gearbox can be optionally ordered with ventilation units.

The g500-B450 gearbox is generally delivered with ventilation units.

Gearbox in combined mounting position

For reducing the number of versions, the gearboxes can also be ordered in a combined mounting position:

- g500-B45 in mounting position ABCDEF
- g500-B110 ... B450 in mounting position AEF

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

A gearbox can be used for several mounting positions.



Ventilation

g500-B240

► A ... F mounting position

A	B
C	D
E	F

	Filler		Drain
	Breather element		Check



Ventilation

g500-B450

► A ... F mounting position

A		B	
C		D	
E		F	
	Filler		Drain
	Breather element		Check

g500-B bevel geared motors

Project planning



g500-B bevel geared motors

Technical data



Standards and operating conditions

Geared motor data

Product				
Motor			MD□MA□□	m240
Degree of protection				
EN 60529			IP55 ¹⁾ IP65 ¹⁾ IP66 ¹⁾	IP55 ¹⁾
Energy efficiency class				
IEC 60034-30			IE1	IE3
IEC 60034-2-1			Methodology for measuring efficiency	
Conformity				
CE			Low-Voltage Directive	
			2006/95/EC	2014/35/EU
EAC			TP TC 004/2011 (TR CU 004/2011)	
Approval				
CCC			GB Standard 12350-2009	
CSA			CSA 22.2 No. 100	
cURus			UL 1004-1 UL 1004-8 Power Conversion Equipment (File-No. E210321)	
Temperature class				
IEC/EN 60034-1; utilisation			B	
IEC/EN 60034-1; insulation system (enamel-insulated wire)			F	
Min. ambient operating temperature				
	T _{opr,min}	[°C]	-20	
Max. ambient operating temperature				
	T _{opr,max}	[°C]	40	
With power reduction	T _{opr,max}	[°C]	60	
Site altitude				
Amsl	H _{max}	[m]	4000	

¹⁾ Types with deviating degrees of protection:
IP55 with brake (IP54 with manual release lever).

- In the European Union, the ErP Directive stipulates minimum efficiency levels for three-phase AC motors. Geared three-phase AC motors that do not conform with this Directive do not meet CE requirements and must not be marketed in the European Economic Area. For further information about the ErP Directive, the efficiency regulations in other countries and the Lenze products concerned, please refer to the brochure "International efficiency directives for three-phase AC motors".



Permissible radial and axial forces at output

Permissible radial force

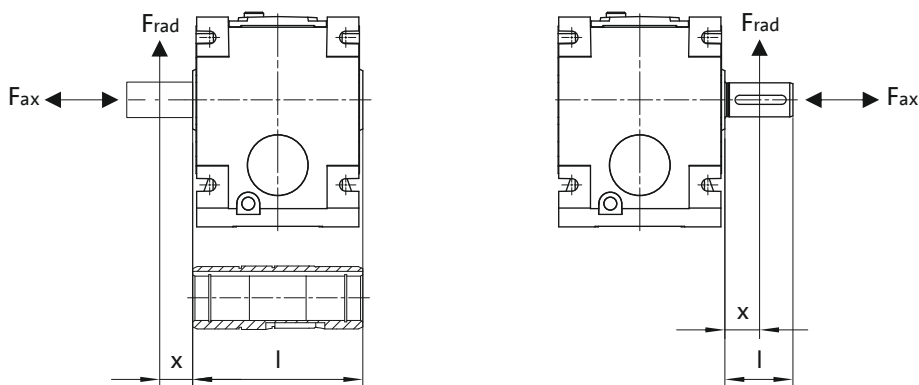
$$F_{rad,perm} = f_w \times F_{rad,max}$$

► If F_{rad} and $F_{ax} \neq 0$, please contact Lenze.

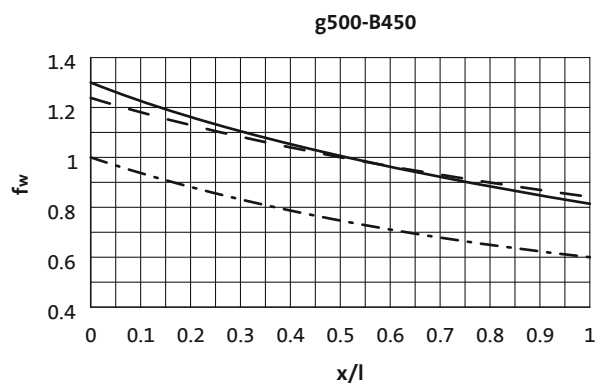
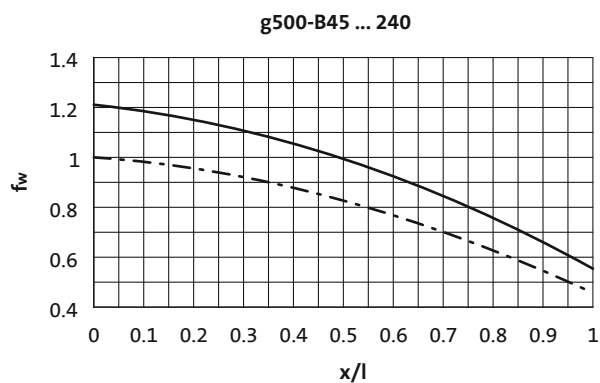
Permissible axial force

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

Application of forces



Additional load factor f_w at output shaft



— Solid shaft
 - - Solid shaft with flange
 - · - Hollow shaft



Permissible radial and axial forces at output

The values given in the table refer to the center 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 for the motor/gear-box combination 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 contact Lenze.

- Neither radial nor axial forces are permissible for the hollow shaft with shrink disc.

Product	n_2 [r/min]									
	1000	630	400	250	160	100	63	40	25	≤16

Max. radial force, Hollow shaft										
	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]
g500-B45	900	1200	2200	2500	2800	3000	3000	3000	3000	3000
g500-B110	1000	2200	2550	3000	3300	3600	3600	3600	3600	3600
g500-B240	1500	2250	3800	4500	5100	6200	7400	7800	7800	7800
g500-B450	3000	3800	5000	5200	5200	5500	7000	9000	9000	9000

Max. radial force, Solid shaft without flange										
	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]
g500-B45	900	1200	1800	2100	2400	2800	3000	3000	3000	3000
g500-B110	1000	1800	2100	2500	2700	3000	3000	3000	3000	3000
g500-B240	1500	2350	3000	3600	4500	5000	6000	6500	6500	6500
g500-B450	1800	2800	3600	3900	4300	5000	6000	7600	7800	7800

Max. radial force, Solid shaft with flange										
	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$	$F_{rad,max}$
	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]	[N]
g500-B45	900	1200	1800	2100	2400	2800	3000	3000	3000	3000
g500-B110	1000	1800	2100	2500	2700	3000	3000	3000	3000	3000
g500-B240	2400	3600	5200	6000	6500	6500	6500	6500	6500	6500
g500-B450	3000	4000	4700	5100	5600	6400	7700	7800	7800	7800



Selection tables, notes

The selection tables show the available combinations of gearbox type, number of stages, ratio and motor. They are used only to provide basic orientation.

The following legend indicates the structure of the selection tables.

Rated power P_N of the drive motor depending on the rated frequency

50 Hz: $P_N = 0.18 \text{ kW}$

2-stufige Getriebe ← Number of the gear stage of the gearbox

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
239	7.0	5.7	11.449	-B110	063-11	72
216	8.0	5.3	12.698	-B110	063-11	72

↑ ↑ ↑ ↑ ↑

Mains operation
Output speed n_2
Output torque M_2

Load capacity c of the gearbox
c is the ratio between the permissible rated torque of the gearbox and the rated torque of the three-phase AC motor (converted to the driven shaft).
c must be always higher than the service factor k determined for the application k.

Ratio i

Product Gearbox

Product Motor

Page number for dimensions

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

Motor voltages

At 50 Hz, the power and torque values indicated in the selection tables relate to the following motor voltages:

- Up to 3 kW: Δ 230 V / Y 400 V
- FROM 4 kW: Δ 400 V

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.18 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
140	12	5.8	19.556	-B110	063-11	
122	13	5.8	22.489	-B110	063-11	
109	15	4.8	25.185	-B110	063-11	
116	17	4.8	28.963	-B110	063-11	
106	19	4.2	31.919	-B110	063-11	
73	22	3.9	37.400	-B110	063-11	
69	24	3.9	40.000	-B110	063-11	
60	27	3.7	46.000	-B110	063-11	
52	31	2.0	52.698	-B110	063-11	
45	36	2.2	60.603	-B110	063-11	
45	36	3.0	61.045	-B110	063-11	
36	46	2.4	76.500	-B110	063-11	
27	60	1.8	100.786	-B110	063-11	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
40	40	5.6	68.459	-B240	063-11	
31	51	4.4	87.563	-B240	063-11	
24	66	3.6	113.673	-B240	063-11	
21	75	3.2	129.087	-B240	063-11	
19	85	2.8	145.674	-B240	063-11	
17	96	2.5	165.426	-B240	063-11	
15	109	2.2	188.442	-B240	063-11	
14	116	3.9	193.948	-B450	063-11	
13	124	1.9	213.994	-B240	063-11	
11	142	1.7	245.178	-B240	063-11	
11	148	3.1	247.882	-B450	063-11	
12	162	1.5	278.422	-B240	063-11	
11	185	1.3	317.617	-B240	063-11	
7.6	210	1.2	360.683	-B240	063-11	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.25 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
237	10	5.2	11.449	-B110	063-31	
213	11	4.9	12.698	-B110	063-31	
186	12	4.9	14.603	-B110	063-31	
139	16	4.1	19.556	-B110	063-31	
121	19	4.1	22.489	-B110	063-31	
108	21	3.4	25.185	-B110	063-31	
117	24	3.4	28.963	-B110	063-31	
106	27	3.0	31.919	-B110	063-31	
74	31	2.9	36.707	-B110	063-31	
73	31	2.8	37.400	-B110	063-31	
68	33	2.8	40.000	-B110	063-31	
59	38	2.7	46.000	-B110	063-31	
56	40	2.6	48.167	-B110	063-31	
51	44	1.5	52.698	-B110	063-31	
45	51	1.6	60.603	-B110	063-31	
44	51	2.2	61.045	-B110	063-31	
40	56	2.8	67.113	-B240	063-31	
36	64	2.8	76.213	-B240	063-31	
35	64	1.7	76.500	-B110	063-31	
27	84	1.3	100.786	-B110	063-31	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
40	56	4.0	68.459	-B240	063-31	
31	71	3.1	87.563	-B240	063-31	
27	81	2.8	99.437	-B240	063-31	
24	93	2.6	113.673	-B240	063-31	
21	105	2.3	129.087	-B240	063-31	
19	119	2.0	145.674	-B240	063-31	
16	135	1.8	165.426	-B240	063-31	
16	146	3.1	174.919	-B450	063-31	
14	154	1.6	188.442	-B240	063-31	
14	162	2.8	193.948	-B450	063-31	
13	175	1.4	213.994	-B240	063-31	
12	187	2.4	223.563	-B450	063-31	
11	200	1.2	245.178	-B240	063-31	
11	207	2.2	247.882	-B450	063-31	
12	227	1.1	278.422	-B240	063-31	
11	259	0.9	317.617	-B240	063-31	
7.5	294	0.8	360.683	-B240	063-31	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
260	13	5.7	10.466	-B110	071-11	
238	14	5.2	11.449	-B110	071-11	
214	16	4.7	12.698	-B110	071-11	
186	18	4.1	14.603	-B110	071-11	
175	19	3.9	15.556	-B110	071-11	
152	22	3.6	17.889	-B110	071-11	
139	24	3.4	19.556	-B110	071-11	
121	28	3.1	22.489	-B110	071-11	
108	31	2.9	25.185	-B110	071-11	
116	36	2.5	28.963	-B110	071-11	
105	39	2.3	31.919	-B110	071-11	
74	45	2.0	36.707	-B110	071-11	
73	46	1.9	37.400	-B110	071-11	
68	49	1.9	40.000	-B110	071-11	
59	57	1.8	46.000	-B110	071-11	
57	59	1.7	48.167	-B110	071-11	
46	74	3.0	59.630	-B240	071-11	
45	75	1.5	61.045	-B110	071-11	
41	83	2.2	67.113	-B240	071-11	
36	94	2.2	76.213	-B240	071-11	
36	94	1.2	76.500	-B110	071-11	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
40	82	2.7	68.459	-B240	071-11	
35	94	2.4	77.741	-B240	071-11	
31	105	2.1	87.563	-B240	071-11	
27	120	1.9	99.437	-B240	071-11	
24	137	1.8	113.673	-B240	071-11	
22	152	3.0	123.487	-B450	071-11	
21	155	1.6	129.087	-B240	071-11	
19	178	2.5	144.128	-B450	071-11	
19	175	1.4	145.674	-B240	071-11	
17	197	2.3	159.807	-B450	071-11	
16	199	1.2	165.426	-B240	071-11	
16	216	2.1	174.919	-B450	071-11	
14	227	1.1	188.442	-B240	071-11	
14	239	1.9	193.948	-B450	071-11	
13	257	0.9	213.994	-B240	071-11	
12	276	1.6	223.563	-B450	071-11	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
11	295	0.8	245.178	-B240	071-11	
11	306	1.5	247.882	-B450	071-11	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
507	10	5.1	5.185	-B110	071-31	
441	11	5.1	5.963	-B110	071-31	
370	13	4.7	7.111	-B110	071-31	
322	16	4.3	8.178	-B110	071-31	
289	17	4.0	9.101	-B110	071-31	
251	20	3.7	10.466	-B110	071-31	
230	22	3.4	11.449	-B110	071-31	
207	24	3.1	12.698	-B110	071-31	
180	28	2.7	14.603	-B110	071-31	
169	30	2.6	15.556	-B110	071-31	
147	34	2.4	17.889	-B110	071-31	
135	37	2.2	19.556	-B110	071-31	
117	43	2.0	22.489	-B110	071-31	
104	48	1.9	25.185	-B110	071-31	
112	55	1.7	28.963	-B110	071-31	
102	61	1.5	31.919	-B110	071-31	
79	63	3.1	33.433	-B240	071-31	
72	70	1.3	36.707	-B110	071-31	
70	71	1.2	37.400	-B110	071-31	
69	72	2.8	37.967	-B240	071-31	
66	76	1.2	40.000	-B110	071-31	
61	82	2.8	43.267	-B240	071-31	
57	87	1.2	46.000	-B110	071-31	
55	91	1.1	48.167	-B110	071-31	
54	93	2.4	49.133	-B240	071-31	
50	100	2.2	52.510	-B240	071-31	
44	113	2.0	59.630	-B240	071-31	
43	116	1.0	61.045	-B110	071-31	
39	127	1.4	67.113	-B240	071-31	
35	145	1.4	76.213	-B240	071-31	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
38	127	1.8	68.459	-B240	071-31	
34	144	1.6	77.741	-B240	071-31	
30	162	1.4	87.563	-B240	071-31	
29	170	2.5	89.534	-B450	071-31	
27	188	2.3	99.274	-B450	071-31	
26	184	1.2	99.437	-B240	071-31	
24	211	2.1	111.372	-B450	071-31	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	MD□MA□□	
23	210	1.1	113.673	-B240	071-31	
21	234	1.9	123.487	-B450	071-31	
20	239	1.0	129.087	-B240	071-31	
18	273	1.7	144.128	-B450	071-31	
18	269	0.9	145.674	-B240	071-31	
17	303	1.5	159.807	-B450	071-31	
15	332	1.4	174.919	-B450	071-31	
14	368	1.2	193.948	-B450	071-31	
12	424	1.1	223.563	-B450	071-31	
11	470	1.0	247.882	-B450	071-31	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.75 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
556	12	4.5	5.185	-B110	40-P80/M2	
484	14	4.1	5.963	-B110	40-P80/M2	
406	17	3.7	7.111	-B110	40-P80/M2	
353	19	3.4	8.178	-B110	40-P80/M2	
317	21	3.2	9.101	-B110	40-P80/M2	
276	25	2.9	10.466	-B110	40-P80/M2	
252	27	2.7	11.449	-B110	40-P80/M2	
227	30	2.4	12.698	-B110	40-P80/M2	
198	34	2.1	14.603	-B110	40-P80/M2	
186	37	2.0	15.556	-B110	40-P80/M2	
161	42	1.8	17.889	-B110	40-P80/M2	
148	46	1.7	19.556	-B110	40-P80/M2	
128	53	1.6	22.489	-B110	40-P80/M2	
115	59	1.5	25.185	-B110	40-P80/M2	
107	63	3.0	26.878	-B240	40-P80/M2	
100	68	1.3	28.963	-B110	40-P80/M2	
95	72	2.7	30.522	-B240	40-P80/M2	
86	79	2.5	33.433	-B240	40-P80/M2	
77	88	1.0	37.400	-B110	40-P80/M2	
76	90	2.2	37.967	-B240	40-P80/M2	
67	102	2.2	43.267	-B240	40-P80/M2	
60	114	0.9	48.167	-B110	40-P80/M2	
59	116	1.9	49.133	-B240	40-P80/M2	
55	124	1.7	52.510	-B240	40-P80/M2	
48	141	1.6	59.630	-B240	40-P80/M2	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
72	95	4.3	40.330	-B450	40-P80/M2	
51	132	3.1	56.154	-B450	40-P80/M2	
46	147	2.8	62.262	-B450	40-P80/M2	
42	157	1.4	68.459	-B240	40-P80/M2	
42	162	2.5	68.788	-B450	40-P80/M2	
38	180	2.3	76.271	-B450	40-P80/M2	
37	179	1.2	77.741	-B240	40-P80/M2	
33	201	1.1	87.563	-B240	40-P80/M2	
32	211	2.0	89.534	-B450	40-P80/M2	
29	234	1.8	99.274	-B450	40-P80/M2	
29	229	1.0	99.437	-B240	40-P80/M2	
26	263	1.7	111.372	-B450	40-P80/M2	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 0.75\text{ kW}$

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
25	261	0.9	113.673	-B240	40-P80/M2	
23	291	1.6	123.487	-B450	40-P80/M2	
22	297	0.8	129.087	-B240	40-P80/M2	
20	340	1.3	144.128	-B450	40-P80/M2	
18	377	1.2	159.807	-B450	40-P80/M2	
17	412	1.1	174.919	-B450	40-P80/M2	
15	457	1.0	193.948	-B450	40-P80/M2	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 1.1 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
815	12	5.3	3.565	-B240	40-P80/L2	
560	18	3.1	5.185	-B110	40-P80/L2	
487	20	2.8	5.963	-B110	40-P80/L2	
464	21	4.7	6.257	-B240	40-P80/L2	
409	24	2.5	7.111	-B110	40-P80/L2	
355	28	2.3	8.178	-B110	40-P80/L2	
319	31	2.2	9.101	-B110	40-P80/L2	
278	36	2.0	10.466	-B110	40-P80/L2	
254	39	1.8	11.449	-B110	40-P80/L2	
229	44	1.7	12.698	-B110	40-P80/L2	
199	50	1.4	14.603	-B110	40-P80/L2	
162	61	1.3	17.889	-B110	40-P80/L2	
152	66	2.9	19.143	-B240	40-P80/L2	
149	67	1.2	19.556	-B110	40-P80/L2	
141	71	2.7	20.650	-B240	40-P80/L2	
129	77	1.1	22.489	-B110	40-P80/L2	
124	81	2.4	23.450	-B240	40-P80/L2	
115	87	1.0	25.185	-B110	40-P80/L2	
108	92	2.1	26.878	-B240	40-P80/L2	
100	99	0.9	28.963	-B110	40-P80/L2	
95	105	1.8	30.522	-B240	40-P80/L2	
87	115	1.7	33.433	-B240	40-P80/L2	
77	130	1.5	37.967	-B240	40-P80/L2	
67	149	1.5	43.267	-B240	40-P80/L2	
59	169	1.3	49.133	-B240	40-P80/L2	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
80	125	2.9	36.373	-B450	40-P80/L2	
72	139	3.0	40.330	-B450	40-P80/L2	
64	155	2.6	45.245	-B450	40-P80/L2	
58	172	2.4	50.167	-B450	40-P80/L2	
52	193	2.1	56.154	-B450	40-P80/L2	
47	214	1.9	62.262	-B450	40-P80/L2	
42	229	1.0	68.459	-B240	40-P80/L2	
42	236	1.7	68.788	-B450	40-P80/L2	
38	262	1.6	76.271	-B450	40-P80/L2	
37	260	0.8	77.741	-B240	40-P80/L2	
32	308	1.3	89.534	-B450	40-P80/L2	
29	341	1.2	99.274	-B450	40-P80/L2	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: P_N = 1.1 kW

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n ₂ [r/min]	M ₂ [Nm]	c		g500	m2□□	
26	383	1.2	111.372	-B450	40-P80/L2	
24	424	1.1	123.487	-B450	40-P80/L2	
20	495	0.9	144.128	-B450	40-P80/L2	
18	549	0.8	159.807	-B450	40-P80/L2	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 1.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
564	24	2.3	5.185	-B110	40-P90/M2	
491	28	2.1	5.963	-B110	40-P90/M2	
468	29	4.3	6.257	-B240	40-P90/M2	
411	33	1.9	7.111	-B110	40-P90/M2	
358	38	1.7	8.178	-B110	40-P90/M2	
321	42	1.6	9.101	-B110	40-P90/M2	
280	49	1.5	10.466	-B110	40-P90/M2	
256	53	1.4	11.449	-B110	40-P90/M2	
242	56	3.0	12.081	-B240	40-P90/M2	
230	59	1.2	12.698	-B110	40-P90/M2	
213	64	2.7	13.719	-B240	40-P90/M2	
200	68	1.1	14.603	-B110	40-P90/M2	
195	70	2.6	15.008	-B240	40-P90/M2	
188	72	1.0	15.556	-B110	40-P90/M2	
174	78	2.5	16.857	-B240	40-P90/M2	
164	83	0.9	17.889	-B110	40-P90/M2	
153	89	2.2	19.143	-B240	40-P90/M2	
142	96	2.0	20.650	-B240	40-P90/M2	
125	109	1.8	23.450	-B240	40-P90/M2	
109	125	1.5	26.878	-B240	40-P90/M2	
96	142	1.4	30.522	-B240	40-P90/M2	
88	156	1.2	33.433	-B240	40-P90/M2	
77	177	1.1	37.967	-B240	40-P90/M2	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
116	118	3.1	25.294	-B450	40-P90/M2	
105	130	2.8	27.945	-B450	40-P90/M2	
94	144	2.5	30.985	-B450	40-P90/M2	
80	169	2.1	36.373	-B450	40-P90/M2	
73	188	2.2	40.330	-B450	40-P90/M2	
65	210	1.9	45.245	-B450	40-P90/M2	
58	233	1.8	50.167	-B450	40-P90/M2	
52	261	1.6	56.154	-B450	40-P90/M2	
47	290	1.4	62.262	-B450	40-P90/M2	
43	320	1.3	68.788	-B450	40-P90/M2	
38	355	1.2	76.271	-B450	40-P90/M2	
33	416	1.0	89.534	-B450	40-P90/M2	
30	462	0.9	99.274	-B450	40-P90/M2	
26	518	0.9	111.372	-B450	40-P90/M2	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 2.2 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
817	24	4.5	3.565	-B240	40-P90/L2	
465	43	2.9	6.257	-B240	40-P90/L2	
320	62	1.1	9.101	-B110	40-P90/L2	
308	65	2.4	9.440	-B240	40-P90/L2	
272	74	2.2	10.720	-B240	40-P90/L2	
241	83	2.0	12.081	-B240	40-P90/L2	
229	87	0.8	12.698	-B110	40-P90/L2	
212	94	1.9	13.719	-B240	40-P90/L2	
194	103	1.7	15.008	-B240	40-P90/L2	
173	116	1.7	16.857	-B240	40-P90/L2	
152	131	1.5	19.143	-B240	40-P90/L2	
141	142	1.4	20.650	-B240	40-P90/L2	
124	161	1.2	23.450	-B240	40-P90/L2	
108	184	1.0	26.878	-B240	40-P90/L2	
95	209	0.9	30.522	-B240	40-P90/L2	
87	229	0.8	33.433	-B240	40-P90/L2	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
178	112	3.1	16.349	-B450	40-P90/L2	
163	123	2.9	17.885	-B450	40-P90/L2	
147	136	2.7	19.831	-B450	40-P90/L2	
128	156	2.3	22.813	-B450	40-P90/L2	
115	173	2.1	25.294	-B450	40-P90/L2	
104	192	1.9	27.945	-B450	40-P90/L2	
94	212	1.7	30.985	-B450	40-P90/L2	
80	249	1.5	36.373	-B450	40-P90/L2	
72	276	1.5	40.330	-B450	40-P90/L2	
64	310	1.3	45.245	-B450	40-P90/L2	
58	344	1.2	50.167	-B450	40-P90/L2	
52	385	1.1	56.154	-B450	40-P90/L2	
42	472	0.9	68.788	-B450	40-P90/L2	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 3.0 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
601	45	2.6	4.889	-B240	40-P100/M2	
469	58	2.2	6.257	-B240	40-P100/M2	
174	156	1.2	16.857	-B240	40-P100/M2	
153	177	1.1	19.143	-B240	40-P100/M2	
142	191	1.0	20.650	-B240	40-P100/M2	
125	217	0.9	23.450	-B240	40-P100/M2	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
230	118	2.7	12.775	-B450	40-P100/M2	
207	131	2.6	14.165	-B450	40-P100/M2	
180	152	2.3	16.349	-B450	40-P100/M2	
164	166	2.2	17.885	-B450	40-P100/M2	
148	184	2.0	19.831	-B450	40-P100/M2	
129	211	1.7	22.813	-B450	40-P100/M2	
116	234	1.5	25.294	-B450	40-P100/M2	
105	259	1.4	27.945	-B450	40-P100/M2	
95	287	1.3	30.985	-B450	40-P100/M2	

g500-B bevel geared motors

Technical data



Selection tables, 2-pole motors

50 Hz: $P_N = 4.0 \text{ kW}$

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
425	85	2.9	6.860	-B450	40-P112/M2	
228	159	2.0	12.775	-B450	40-P112/M2	
178	203	1.7	16.349	-B450	40-P112/M2	
163	222	1.6	17.885	-B450	40-P112/M2	
147	247	1.5	19.831	-B450	40-P112/M2	
128	284	1.3	22.813	-B450	40-P112/M2	
115	315	1.2	25.294	-B450	40-P112/M2	

g500-B bevel geared motors

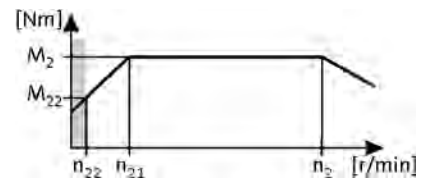
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.06$ kW
87 Hz: $P_N = 0.11$ kW

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
			8.3	6.8	35	7.0				146	7.0	5.5	17.378	-B45	063-02	
			7.5	7.6	31	8.0				131	8.0	5.0	19.365	-B45	063-02	
64	9.0	5.3	6.5	8.5	27	9.0	64	9.0	5.3	114	9.0	4.3	22.270	-B45	063-02	
57	10	4.7	5.8	9.6	24	10	57	10	4.7	101	10	4.4	25.051	-B45	063-02	
50	11	4.1	5.0	11	21	11	50	11	4.1	88	11	3.8	28.808	-B45	063-02	
44	12	3.6	4.4	12	18	12	44	12	3.6	78	13	3.4	32.593	-B45	063-02	
38	14	3.1	3.9	14	16	14	38	14	3.1	68	15	2.9	37.481	-B45	063-02	
34	16	2.8	3.4	16	14	16	34	16	2.8	60	17	2.7	42.222	-B45	063-02	
29	19	2.4	3.0	19	12	19	29	19	2.4	52	19	2.4	48.556	-B45	063-02	
26	21	2.2	2.7	21	11	21	26	21	2.2	47	21	2.1	53.889	-B45	063-02	
23	24	1.9	2.3	24	9.7	24	23	24	1.9	41	24	1.8	61.972	-B45	063-02	

g500-B bevel geared motors

Technical data

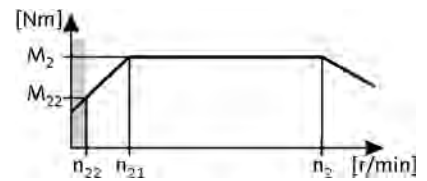


Selection tables, 4-pole motors

50 Hz: $P_N = 0.09 \text{ kW}$

87 Hz: $P_N = 0.16 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
			13	6.8	52	7.0				214	7.0	5.6	11.640	-B45	063-22	
103	8.0	5.7	11	7.8	45	8.0	103	8.0	5.7	186	8.0	4.9	13.386	-B45	063-22	
91	9.0	5.0	9.6	8.8	40	9.0	91	9.0	5.0	164	9.0	4.3	15.111	-B45	063-22	
79	10	4.4	8.3	10	35	10	79	10	4.4	143	10	3.8	17.378	-B45	063-22	
71	11	3.9	7.5	11	31	11	71	11	3.9	128	11	3.4	19.365	-B45	063-22	
62	13	3.4	6.5	13	27	13	62	13	3.4	112	13	2.9	22.270	-B45	063-22	
55	15	3.0	5.8	15	24	15	55	15	3.0	99	15	3.0	25.051	-B45	063-22	
48	17	2.6	5.0	17	21	17	48	17	2.6	86	17	2.6	28.808	-B45	063-22	
42	19	2.3	4.4	19	18	19	42	19	2.3	76	19	2.3	32.593	-B45	063-22	
37	22	2.0	3.9	22	16	22	37	22	2.0	66	22	2.0	37.481	-B45	063-22	
33	25	1.8	3.4	25	14	25	33	25	1.8	59	25	1.8	42.222	-B45	063-22	
28	29	1.6	3.0	28	12	28	28	29	1.6	51	28	1.6	48.556	-B45	063-22	
26	32	1.4	2.7	32	11	31	26	32	1.4	46	31	1.4	53.889	-B45	063-22	
22	37	1.2	2.3	36	9.7	36	22	37	1.2	40	36	1.2	61.972	-B45	063-22	

g500-B bevel geared motors

Technical data

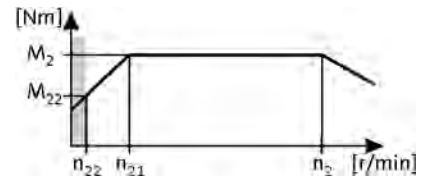


Selection tables, 4-pole motors

50 Hz: $P_N = 0.12$ kW

87 Hz: $P_N = 0.21$ kW

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
			20	4.2	84	5.0				357	5.0	6.0	7.111	-B45	063-12	
			18	4.8	73	6.0				310	6.0	6.0	8.178	-B45	063-12	
			16	5.4	66	7.0				279	7.0	5.5	9.101	-B45	063-12	
136	8.0	5.6	14	6.2	57	8.0	136	8.0	5.6	242	8.0	4.8	10.466	-B45	063-12	
			13	6.7	52	9.0				221	9.0	6.0	11.449	-B110	063-12	
122	9.0	5.1	13	6.8	52	9.0	122	9.0	5.1	218	9.0	4.3	11.640	-B45	063-12	
			11	7.5	47	10				200	10	5.5	12.698	-B110	063-12	
107	10	4.4	11	7.9	45	10	107	10	4.4	189	10	3.8	13.386	-B45	063-12	
			9.9	8.6	41	11				174	11	5.5	14.603	-B110	063-12	
94	12	3.9	9.6	8.9	40	11	94	12	3.9	168	11	3.3	15.111	-B45	063-12	
82	13	3.4	8.3	10	35	13	82	13	3.4	146	13	2.9	17.378	-B45	063-12	
74	15	3.0	7.5	11	31	15	74	15	3.0	131	15	2.6	19.365	-B45	063-12	
73	15	5.5	7.4	12	31	15	73	15	5.5	130	15	4.7	19.556	-B110	063-12	
64	17	2.6	6.5	13	27	17	64	17	2.6	114	17	2.3	22.270	-B45	063-12	
63	17	5.5	6.4	13	27	17	63	17	5.5	113	17	4.7	22.489	-B110	063-12	
57	19	2.4	5.8	15	24	19	57	19	2.4	101	19	2.3	25.051	-B45	063-12	
57	19	4.6	5.8	15	24	19	57	19	4.6	101	19	3.9	25.185	-B110	063-12	
50	22	2.0	5.0	17	21	22	50	22	2.0	88	22	2.0	28.808	-B45	063-12	
49	22	4.6	5.0	17	21	22	49	22	4.6	88	22	3.9	28.963	-B110	063-12	
45	24	4.0	4.5	19	19	24	45	24	4.0	79	24	3.4	31.919	-B110	063-12	
44	25	1.8	4.4	19	18	24	44	25	1.8	78	24	1.8	32.593	-B45	063-12	
38	29	3.7	3.9	22	16	28	38	29	3.7	68	28	3.2	37.400	-B110	063-12	
38	29	1.6	3.9	22	16	28	38	29	1.6	68	28	1.5	37.481	-B45	063-12	
36	31	3.3	3.6	24	15	30	36	31	3.3	63	30	3.2	40.000	-B110	063-12	
34	32	1.4	3.4	25	14	32	34	32	1.4	60	32	1.4	42.222	-B45	063-12	
31	35	3.1	3.2	27	13	35	31	35	3.1	55	35	3.0	46.000	-B110	063-12	
30	37	3.0	3.0	28	13	36	30	37	3.0	53	36	2.9	48.167	-B110	063-12	
29	37	1.2	3.0	29	12	36	29	37	1.2	52	36	1.2	48.556	-B45	063-12	
27	40	1.7	2.8	31	11	40	27	40	1.7	48	40	1.7	52.698	-B110	063-12	
26	41	1.1	2.7	32	11	40	26	41	1.1	47	40	1.1	53.889	-B45	063-12	
24	46	1.7	2.4	36	9.9	46	24	46	1.7	42	46	1.7	60.603	-B110	063-12	
23	47	2.4	2.4	36	9.8	46	23	47	2.4	42	46	2.4	61.045	-B110	063-12	
23	47	1.0	2.3	37	9.7	47	23	47	1.0	41	47	1.0	61.972	-B45	063-12	
21	51	3.1	2.2	40	8.9	50	21	51	3.1	38	50	3.2	67.113	-B240	063-12	
19	58	3.1	1.9	45	7.9	57	19	58	3.1	33	57	3.2	76.213	-B240	063-12	

g500-B bevel geared motors

Technical data

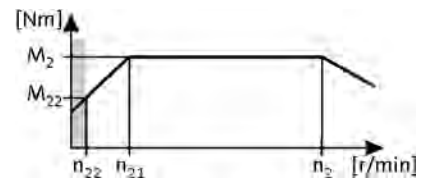


Selection tables, 4-pole motors

50 Hz: $P_N = 0.12$ kW

87 Hz: $P_N = 0.21$ kW

2-stage gearboxes



Mains operation			Inverter operation										i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
19	58	1.9	1.9	45	7.8	57	19	58	1.9	33	57	1.9	76.500	-B110	063-12	
14	77	1.4	1.4	59	6.0	76	14	77	1.4	25	76	1.5	100.786	-B110	063-12	

3-stage gearboxes

Mains operation			Inverter operation										i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
21	51	4.7	2.1	39	8.8	50	21	51	4.7	37	50	4.6	68.459	-B240	063-12	
16	65	3.7	1.7	50	6.9	64	16	65	3.7	29	64	3.6	87.563	-B240	063-12	
14	74	3.2	1.5	57	6.0	73	14	74	3.2	26	73	3.1	99.437	-B240	063-12	
13	85	2.8	1.3	65	5.3	83	13	85	2.8	22	83	2.9	113.673	-B240	063-12	
11	96	2.5	1.1	74	4.6	95	11	96	2.5	20	95	2.5	129.087	-B240	063-12	
9.8	108	2.2	1.0	84	4.1	107	9.8	108	2.2	17	107	2.3	145.674	-B240	063-12	
8.6	123	2.0	0.9	95	3.6	121	8.6	123	2.0	15	121	2.0	165.426	-B240	063-12	
7.6	140	1.7	0.8	108	3.2	138	7.6	140	1.7	14	138	1.7	188.442	-B240	063-12	
7.3	148	3.0	0.7	114	3.1	146	7.3	148	3.0	13	146	3.1	193.948	-B450	063-12	
6.7	159	1.5	0.7	123	2.8	157	6.7	159	1.5	12	157	1.5	213.994	-B240	063-12	
6.4	171	2.6	0.6	132	2.7	168	6.4	171	2.6	11	168	2.7	223.563	-B450	063-12	
5.8	183	1.3	0.6	141	2.4	180	5.8	183	1.3	10	180	1.3	245.178	-B240	063-12	
5.7	189	2.4	0.6	146	2.4	186	5.7	189	2.4	10	186	2.4	247.882	-B450	063-12	
5.1	207	1.2	0.5	160	2.2	204	5.1	207	1.2	9.1	204	1.2	278.422	-B240	063-12	
4.5	237	1.0	0.5	182	1.9	233	4.5	237	1.0	8.0	233	1.0	317.617	-B240	063-12	
4.0	269	0.9	0.4	207	1.7	264	4.0	269	0.9	7.0	264	0.9	360.683	-B240	063-12	

g500-B bevel geared motors

Technical data

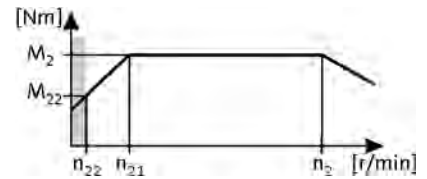


Selection tables, 4-pole motors

50 Hz: $P_N = 0.18 \text{ kW}$

87 Hz: $P_N = 0.33 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c	g500	MD□MA□□				
252	6.0	4.7	27	5.0	111	6.0	252	6.0	4.7	457	7.0	3.9	5.411	-B45	063-32			
219	7.0	4.7	23	5.7	96	7.0	219	7.0	4.7	398	8.0	3.9	6.222	-B45	063-32			
192	9.0	4.5	20	6.6	84	9.0	192	9.0	4.5	348	9.0	3.7	7.111	-B45	063-32			
167	10	4.5	18	7.5	73	10	167	10	4.5	303	10	3.7	8.178	-B45	063-32			
150	11	4.1	16	8.4	66	11	150	11	4.1	272	11	3.5	9.101	-B45	063-32			
130	13	3.6	14	9.6	57	13	130	13	3.6	237	13	3.0	10.466	-B45	063-32			
119	14	4.5	13	11	52	14	119	14	4.5	216	14	3.7	11.449	-B110	063-32			
117	14	3.2	13	11	52	14	117	14	3.2	213	14	2.7	11.640	-B45	063-32			
108	15	4.1	11	12	47	15	108	15	4.1	195	15	3.5	12.698	-B110	063-32			
102	16	2.8	11	12	45	16	102	16	2.8	185	16	2.4	13.386	-B45	063-32			
94	17	4.1	9.9	14	41	17	94	17	4.1	170	18	3.5	14.603	-B110	063-32			
90	18	2.5	9.6	14	40	18	90	18	2.5	164	18	2.1	15.111	-B45	063-32			
79	21	2.2	8.3	16	35	21	79	21	2.2	142	21	1.8	17.378	-B45	063-32			
71	23	1.9	7.5	18	31	23	71	23	1.9	128	23	1.6	19.365	-B45	063-32			
70	23	3.5	7.4	18	31	23	70	23	3.5	127	24	2.9	19.556	-B110	063-32			
61	27	1.7	6.5	21	27	27	61	27	1.7	111	27	1.4	22.270	-B45	063-32			
61	27	3.5	6.4	21	27	27	61	27	3.5	110	27	2.9	22.489	-B110	063-32			
55	30	1.5	5.8	23	24	30	55	30	1.5	99	30	1.4	25.051	-B45	063-32			
54	30	2.9	5.8	23	24	30	54	30	2.9	98	30	2.5	25.185	-B110	063-32			
47	34	1.3	5.0	27	21	34	47	34	1.3	86	35	1.2	28.808	-B45	063-32			
47	35	2.9	5.0	27	21	35	47	35	2.9	86	35	2.5	28.963	-B110	063-32			
43	38	2.6	4.5	29	19	38	43	38	2.6	78	39	2.2	31.919	-B110	063-32			
42	39	1.2	4.4	30	18	39	42	39	1.2	76	39	1.1	32.593	-B45	063-32			
37	44	2.5	4.0	34	16	44	37	44	2.5	67	44	2.1	36.707	-B110	063-32			
37	45	2.4	3.9	35	16	45	37	45	2.4	66	45	2.0	37.400	-B110	063-32			
36	45	1.0	3.9	35	16	45	36	45	1.0	66	45	1.0	37.481	-B45	063-32			
34	48	2.1	3.6	37	15	48	34	48	2.1	62	48	2.0	40.000	-B110	063-32			
32	51	0.9	3.4	39	14	51	32	51	0.9	59	51	0.9	42.222	-B45	063-32			
32	52	2.9	3.4	40	14	52	32	52	2.9	57	52	2.8	43.267	-B240	063-32			
30	55	2.0	3.2	42	13	55	30	55	2.0	54	56	1.9	46.000	-B110	063-32			
28	58	1.9	3.0	44	13	58	28	58	1.9	51	58	1.8	48.167	-B110	063-32			
28	59	2.9	3.0	45	12	59	28	59	2.9	50	59	2.8	49.133	-B240	063-32			
26	63	2.6	2.8	48	11	63	26	63	2.6	47	64	2.4	52.510	-B240	063-32			
26	63	1.1	2.8	49	11	63	26	63	1.1	47	64	1.0	52.698	-B110	063-32			
23	71	2.6	2.4	55	10	71	23	71	2.6	42	72	2.4	59.630	-B240	063-32			

g500-B bevel geared motors

Technical data

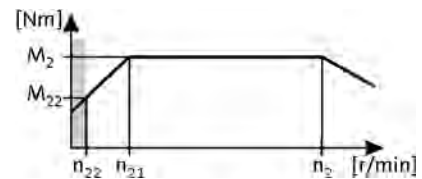


Selection tables, 4-pole motors

50 Hz: $P_N = 0.18 \text{ kW}$

87 Hz: $P_N = 0.33 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
23	73	1.1	2.4	56	9.9	73	23	73	1.1	41	73	1.1	60.603	-B110	063-32	
22	73	1.5	2.4	56	9.8	73	22	73	1.5	41	74	1.5	61.045	-B110	063-32	
20	80	2.0	2.2	62	8.9	80	20	80	2.0	37	81	2.0	67.113	-B240	063-32	
18	91	2.0	1.9	70	7.9	91	18	91	2.0	33	92	2.0	76.213	-B240	063-32	
18	92	1.2	1.9	71	7.8	92	18	92	1.2	32	93	1.2	76.500	-B110	063-32	
14	121	0.9	1.4	93	6.0	121	14	121	0.9	25	122	0.9	100.786	-B110	063-32	

3-stage gearboxes

Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
20	80	3.0	2.1	62	8.8	80	20	80	3.0	36	81	2.9	68.459	-B240	063-32	
18	91	2.7	1.9	70	7.7	91	18	91	2.7	32	92	2.5	77.741	-B240	063-32	
16	102	2.4	1.7	79	6.9	102	16	102	2.4	28	103	2.2	87.563	-B240	063-32	
14	116	2.1	1.5	89	6.0	116	14	116	2.1	25	117	2.0	99.437	-B240	063-32	
12	133	1.8	1.3	102	5.3	133	12	133	1.8	22	134	1.8	113.673	-B240	063-32	
11	151	1.6	1.1	116	4.6	151	11	151	1.6	19	152	1.6	129.087	-B240	063-32	
9.5	172	2.6	1.0	133	4.2	172	9.5	172	2.6	17	174	2.6	144.128	-B450	063-32	
9.4	170	1.4	1.0	131	4.1	170	9.4	170	1.4	17	172	1.4	145.674	-B240	063-32	
8.5	191	2.4	0.9	147	3.8	191	8.5	191	2.4	16	193	2.3	159.807	-B450	063-32	
8.3	193	1.2	0.9	149	3.6	193	8.3	193	1.2	15	195	1.2	165.426	-B240	063-32	
7.8	209	2.2	0.8	161	3.4	209	7.8	209	2.2	14	212	2.1	174.919	-B450	063-32	
7.2	220	1.1	0.8	169	3.2	220	7.2	220	1.1	13	222	1.1	188.442	-B240	063-32	
7.0	232	1.9	0.7	179	3.1	232	7.0	232	1.9	13	235	1.9	193.948	-B450	063-32	
6.4	250	1.0	0.7	192	2.8	250	6.4	250	1.0	12	252	1.0	213.994	-B240	063-32	
6.1	267	1.7	0.6	206	2.7	267	6.1	267	1.7	11	270	1.7	223.563	-B450	063-32	
5.6	286	0.8	0.6	220	2.4	286	5.6	286	0.8	10	289	0.8	245.178	-B240	063-32	
5.5	296	1.5	0.6	228	2.4	296	5.5	296	1.5	10	300	1.5	247.882	-B450	063-32	

g500-B bevel geared motors

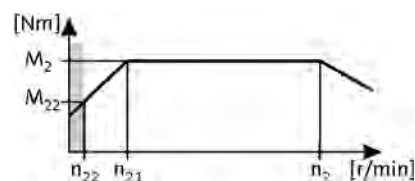
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.25 \text{ kW}$
87 Hz: $P_N = 0.45 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c						
264	9.0	5.6	28	6.6	116	9.0	264	9.0	5.6	478	9.0	4.8	5.185	-B110	063-42			
253	9.0	4.4	27	6.9	111	9.0	253	9.0	4.4	458	9.0	3.7	5.411	-B45	063-42			
230	10	5.6	24	7.6	101	10	230	10	5.6	416	10	4.8	5.963	-B110	063-42			
220	10	3.9	23	7.9	96	10	220	10	3.9	399	10	3.3	6.222	-B45	063-42			
193	12	3.7	20	9.1	84	12	193	12	3.7	349	12	3.1	7.111	-B45	063-42			
193	12	5.6	20	9.1	84	12	193	12	5.6	349	12	4.8	7.111	-B110	063-42			
168	14	3.3	18	10	73	13	168	14	3.3	303	13	2.8	8.178	-B45	063-42			
168	14	5.6	18	10	73	13	168	14	5.6	303	13	4.8	8.178	-B110	063-42			
151	15	3.0	16	12	66	15	151	15	3.0	273	15	2.5	9.101	-B45	063-42			
151	15	5.2	16	12	66	15	151	15	5.2	273	15	4.4	9.101	-B110	063-42			
131	17	2.6	14	13	57	17	131	17	2.6	237	17	2.2	10.466	-B45	063-42			
131	17	5.1	14	13	57	17	131	17	5.1	237	17	4.4	10.466	-B110	063-42			
120	19	4.8	13	15	52	19	120	19	4.8	217	19	4.0	11.449	-B110	063-42			
118	19	2.3	13	15	52	19	118	19	2.3	213	19	2.0	11.640	-B45	063-42			
108	21	4.3	11	16	47	21	108	21	4.3	195	21	3.6	12.698	-B110	063-42			
102	22	2.0	11	17	45	22	102	22	2.0	185	22	1.7	13.386	-B45	063-42			
94	24	3.7	9.9	19	41	24	94	24	3.7	170	24	3.2	14.603	-B110	063-42			
91	25	1.8	9.6	19	40	25	91	25	1.8	164	25	1.5	15.111	-B45	063-42			
88	26	3.6	9.3	20	39	26	88	26	3.6	159	26	3.0	15.556	-B110	063-42			
79	29	1.6	8.3	22	35	29	79	29	1.6	143	29	1.3	17.378	-B45	063-42			
77	30	3.2	8.1	23	34	29	77	30	3.2	139	29	2.8	17.889	-B110	063-42			
71	32	1.4	7.5	25	31	32	71	32	1.4	128	32	1.2	19.365	-B45	063-42			
70	32	3.1	7.4	25	31	32	70	32	3.1	127	32	2.6	19.556	-B110	063-42			
62	37	1.2	6.5	28	27	37	62	37	1.2	111	37	1.0	22.270	-B45	063-42			
61	37	2.8	6.4	29	27	37	61	37	2.8	110	37	2.4	22.489	-B110	063-42			
55	41	1.1	5.8	32	24	41	55	41	1.1	99	41	1.1	25.051	-B45	063-42			
54	42	2.6	5.8	32	24	41	54	42	2.6	99	41	2.2	25.185	-B110	063-42			
48	48	0.9	5.0	37	21	47	48	48	0.9	86	47	0.9	28.808	-B45	063-42			
47	48	2.3	5.0	37	21	48	47	48	2.3	86	48	2.0	28.963	-B110	063-42			
43	53	2.0	4.5	41	19	53	43	53	2.0	78	53	1.7	31.919	-B110	063-42			
42	54	0.8	4.4	42	18	54	42	54	0.8	76	54	0.8	32.593	-B45	063-42			
			4.3	43	18	55				74	55	3.1	33.433	-B240	063-42			
37	61	1.8	4.0	47	16	60	37	61	1.8	68	60	1.5	36.707	-B110	063-42			
37	62	1.7	3.9	48	16	62	37	62	1.7	66	62	1.5	37.400	-B110	063-42			
			3.8	48	16	62				65	62	3.1	37.967	-B240	063-42			

g500-B bevel geared motors

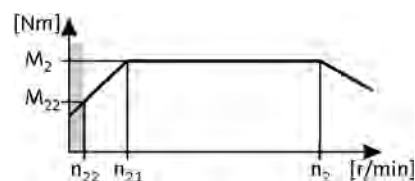
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.25$ kW
87 Hz: $P_N = 0.45$ kW

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
34	66	1.2	3.6	51	15	66	34	66	1.2	62	66	1.2	40.000	-B110	063-42	
			3.4	55	14	71				57	71	3.2	43.267	-B240	063-42	
30	76	1.2	3.2	59	13	76	30	76	1.2	54	76	1.2	46.000	-B110	063-42	
28	80	1.4	3.0	61	13	79	28	80	1.4	52	79	1.3	48.167	-B110	063-42	
28	81	3.0	3.0	63	12	81	28	81	3.0	51	81	2.9	49.133	-B240	063-42	
26	87	2.7	2.8	67	11	86	26	87	2.7	47	86	2.6	52.510	-B240	063-42	
23	99	2.4	2.4	76	10	98	23	99	2.4	42	98	2.4	59.630	-B240	063-42	
22	101	1.1	2.4	78	9.8	100	22	101	1.1	41	100	1.1	61.045	-B110	063-42	
20	111	1.4	2.2	86	8.9	110	20	111	1.4	37	110	1.4	67.113	-B240	063-42	
18	126	1.4	1.9	97	7.9	125	18	126	1.4	33	125	1.4	76.213	-B240	063-42	
18	127	0.9	1.9	98	7.8	126	18	127	0.9	32	126	0.9	76.500	-B110	063-42	

3-stage gearboxes

Mains operation			Inverter operation										i	Product		
400 V, 50 Hz			5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
n ₂ [r/min]	M ₂ [Nm]	c	n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
20	110	2.2	2.1	85	8.8	110	20	110	2.2	36	110	2.1	68.459	-B240	063-42	
18	125	1.9	1.9	97	7.7	125	18	125	1.9	32	125	1.9	77.741	-B240	063-42	
16	141	1.7	1.7	109	6.9	140	16	141	1.7	28	140	1.6	87.563	-B240	063-42	
15	148	3.0	1.6	114	6.7	147	15	148	3.0	28	147	2.9	89.534	-B450	063-42	
14	164	2.7	1.5	127	6.0	163	14	164	2.7	25	163	2.7	99.274	-B450	063-42	
14	160	1.5	1.5	124	6.0	160	14	160	1.5	25	160	1.5	99.437	-B240	063-42	
12	184	2.4	1.3	142	5.4	183	12	184	2.4	22	183	2.5	111.372	-B450	063-42	
12	183	1.3	1.3	141	5.3	182	12	183	1.3	22	182	1.3	113.673	-B240	063-42	
11	204	2.2	1.2	157	4.9	203	11	204	2.2	20	203	2.2	123.487	-B450	063-42	
11	208	1.2	1.1	160	4.6	207	11	208	1.2	19	207	1.2	129.087	-B240	063-42	
9.5	239	1.9	1.0	184	4.2	237	9.5	239	1.9	17	237	1.9	144.128	-B450	063-42	
9.4	235	1.0	1.0	181	4.1	234	9.4	235	1.0	17	234	1.0	145.674	-B240	063-42	
8.6	265	1.7	0.9	204	3.8	263	8.6	265	1.7	16	263	1.7	159.807	-B450	063-42	
8.3	267	0.9	0.9	206	3.6	265	8.3	267	0.9	15	265	0.9	165.426	-B240	063-42	
7.8	290	1.6	0.8	223	3.4	288	7.8	290	1.6	14	288	1.6	174.919	-B450	063-42	
7.1	321	1.4	0.7	247	3.1	319	7.1	321	1.4	13	319	1.4	193.948	-B450	063-42	
6.1	370	1.2	0.6	285	2.7	368	6.1	370	1.2	11	368	1.2	223.563	-B450	063-42	
5.5	410	1.1	0.6	316	2.4	408	5.5	410	1.1	10	408	1.1	247.882	-B450	063-42	

g500-B bevel geared motors

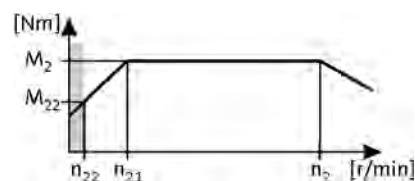
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$
87 Hz: $P_N = 0.66 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation												i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)			g500	MD□MA□□				
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c						
272	12	4.9	28	9.5	116	12	272	12	4.9				5.185	-B110	071-32			
261	13	3.0	27	9.9	111	13	261	13	3.0	466	13	2.6	5.411	-B45	071-32			
237	14	4.9	24	11	101	14	237	14	4.9				5.963	-B110	071-32			
227	15	2.7	23	11	96	15	227	15	2.7	405	15	2.3	6.222	-B45	071-32			
198	17	2.5	20	13	84	17	198	17	2.5	354	17	2.1	7.111	-B45	071-32			
198	17	4.6	20	13	84	17	198	17	4.6				7.111	-B110	071-32			
172	19	2.3	18	15	73	19	172	19	2.3	308	19	1.9	8.178	-B45	071-32			
172	19	4.2	18	15	73	19	172	19	4.2				8.178	-B110	071-32			
155	22	2.1	16	17	66	22	155	22	2.1	277	22	1.8	9.101	-B45	071-32			
155	22	3.9	16	17	66	22	155	22	3.9				9.101	-B110	071-32			
135	25	1.8	14	19	57	25	135	25	1.8	241	25	1.5	10.466	-B45	071-32			
135	25	3.6	14	19	57	25	135	25	3.6				10.466	-B110	071-32			
123	27	3.3	13	21	52	27	123	27	3.3				11.449	-B110	071-32			
121	28	1.6	13	21	52	28	121	28	1.6	217	28	1.4	11.640	-B45	071-32			
111	30	3.0	11	23	47	30	111	30	3.0	198	30	2.5	12.698	-B110	071-32			
105	32	1.4	11	25	45	32	105	32	1.4	188	32	1.2	13.386	-B45	071-32			
97	35	2.6	9.9	27	41	35	97	35	2.6	173	35	2.2	14.603	-B110	071-32			
93	36	1.3	9.6	28	40	36	93	36	1.3	167	36	1.1	15.111	-B45	071-32			
91	37	2.5	9.3	29	39	37	91	37	2.5	162	37	2.1	15.556	-B110	071-32			
81	41	1.1	8.3	32	35	41	81	41	1.1	145	41	0.9	17.378	-B45	071-32			
79	43	2.3	8.1	33	34	43	79	43	2.3	141	43	1.9	17.889	-B110	071-32			
73	46	1.0	7.5	36	31	46	73	46	1.0	130	46	0.8	19.365	-B45	071-32			
72	47	2.2	7.4	36	31	46	72	47	2.2	129	46	1.8	19.556	-B110	071-32			
63	53	0.9	6.5	41	27	53	63	53	0.9				22.270	-B45	071-32			
63	54	1.9	6.4	41	27	53	63	54	1.9	112	53	1.6	22.489	-B110	071-32			
56	60	1.8	5.8	46	24	60	56	60	1.8	100	60	1.5	25.185	-B110	071-32			
			5.4	49	22	64				94	64	3.2	26.878	-B240	071-32			
49	69	1.6	5.0	53	21	69	49	69	1.6	87	69	1.3	28.963	-B110	071-32			
			4.8	56	20	73				83	73	2.8	30.522	-B240	071-32			
44	76	1.4	4.5	59	19	76	44	76	1.4	79	76	1.2	31.919	-B110	071-32			
42	80	3.0	4.3	61	18	79	42	80	3.0	75	79	2.5	33.433	-B240	071-32			
38	87	1.3	4.0	67	16	87	38	87	1.3	69	87	1.1	36.707	-B110	071-32			
38	89	1.2	3.9	69	16	89	38	89	1.2	67	89	1.0	37.400	-B110	071-32			
37	90	2.7	3.8	70	16	90	37	90	2.7	66	90	2.2	37.967	-B240	071-32			
35	95	1.1	3.6	73	15	95	35	95	1.1	63	95	1.0	40.000	-B110	071-32			

g500-B bevel geared motors

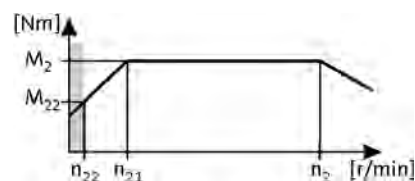
Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.37 \text{ kW}$
87 Hz: $P_N = 0.66 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
33	103	2.3	3.4	79	14	103	33	103	2.3	58	103	2.2	43.267	-B240	071-32	
31	110	1.0	3.2	84	13	109	31	110	1.0	55	109	1.0	46.000	-B110	071-32	
29	115	1.0	3.0	88	13	114	29	115	1.0	52	114	0.9	48.167	-B110	071-32	
29	117	2.1	3.0	90	12	117	29	117	2.1	51	117	2.0	49.133	-B240	071-32	
27	125	1.9	2.8	96	11	125	27	125	1.9	48	125	1.8	52.510	-B240	071-32	
24	142	1.7	2.4	109	10	142	24	142	1.7	42	142	1.6	59.630	-B240	071-32	
21	160	1.1	2.2	123	8.9	159	21	160	1.1	38	159	1.1	67.113	-B240	071-32	
19	181	1.1	1.9	140	7.9	181	19	181	1.1	33	181	1.1	76.213	-B240	071-32	

3-stage gearboxes

Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
			4.0	67	17	86				69	86	3.2	36.373	-B450	071-32	
31	108	3.2	3.2	83	13	107	31	108	3.2	56	107	3.0	45.245	-B450	071-32	
28	119	3.2	2.9	92	12	119	28	119	3.2	50	119	3.0	50.167	-B450	071-32	
			2.6	103	11	133				45	133	3.2	56.154	-B450	071-32	
23	148	3.0	2.3	114	9.6	148	23	148	3.0	41	148	2.9	62.262	-B450	071-32	
21	159	1.5	2.1	122	8.8	159	21	159	1.5	37	159	1.5	68.459	-B240	071-32	
18	180	1.3	1.9	139	7.7	180	18	180	1.3	32	180	1.3	77.741	-B240	071-32	
16	203	1.2	1.7	157	6.9	203	16	203	1.2	29	203	1.1	87.563	-B240	071-32	
16	213	2.1	1.6	164	6.7	213	16	213	2.1	28	213	2.0	89.534	-B450	071-32	
14	236	1.9	1.5	182	6.0	236	14	236	1.9	25	236	1.8	99.274	-B450	071-32	
14	231	1.0	1.5	178	6.0	230	14	231	1.0	25	230	1.0	99.437	-B240	071-32	
13	265	1.7	1.3	204	5.4	265	13	265	1.7	23	265	1.7	111.372	-B450	071-32	
12	264	0.9	1.3	203	5.3	263	12	264	0.9	22	263	0.9	113.673	-B240	071-32	
11	294	1.5	1.2	226	4.9	293	11	294	1.5	20	293	1.5	123.487	-B450	071-32	
9.8	343	1.3	1.0	264	4.2	342	9.8	343	1.3	18	342	1.3	144.128	-B450	071-32	
8.8	380	1.2	0.9	293	3.8	380	8.8	380	1.2	16	380	1.2	159.807	-B450	071-32	
8.1	416	1.1	0.8	321	3.4	416	8.1	416	1.1	14	416	1.1	174.919	-B450	071-32	
7.3	462	1.0	0.7	356	3.1	461	7.3	462	1.0	13	461	1.0	193.948	-B450	071-32	
6.3	532	0.9	0.6	410	2.7	531	6.3	532	0.9	11	531	0.9	223.563	-B450	071-32	

g500-B bevel geared motors

Technical data

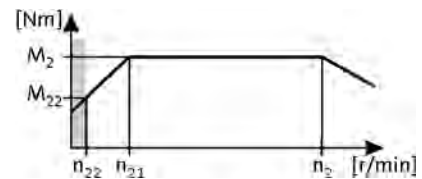


Selection tables, 4-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$

87 Hz: $P_N = 1.0 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
394	13	5.1	41	9.7	168	13	394	13	5.1	706	13	4.3	3.565	-B240	071-42	
271	18	3.8	28	14	116	18	271	18	3.8				5.185	-B110	071-42	
260	19	2.0	27	15	111	19	260	19	2.0	465	20	1.7	5.411	-B45	071-42	
236	21	3.4	24	16	101	21	236	21	3.4				5.963	-B110	071-42	
226	22	1.8	23	17	96	22	226	22	1.8	404	22	1.5	6.222	-B45	071-42	
225	22	4.5	23	17	96	22	225	22	4.5	402	23	3.7	6.257	-B240	071-42	
198	25	1.7	20	19	84	25	198	25	1.7	354	26	1.4	7.111	-B45	071-42	
198	25	3.1	20	19	84	25	198	25	3.1	354	26	2.5	7.111	-B110	071-42	
172	29	1.5	18	22	73	29	172	29	1.5	308	29	1.3	8.178	-B45	071-42	
172	29	2.8	18	22	73	29	172	29	2.8	308	29	2.3	8.178	-B110	071-42	
154	32	1.4	16	25	66	32	154	32	1.4	276	33	1.2	9.101	-B45	071-42	
154	32	2.6	16	25	66	32	154	32	2.6	276	33	2.2	9.101	-B110	071-42	
134	37	1.2	14	29	57	37	134	37	1.2	240	38	1.0	10.466	-B45	071-42	
134	37	2.4	14	29	57	37	134	37	2.4	240	38	2.0	10.466	-B110	071-42	
123	41	2.2	13	31	52	41	123	41	2.2	220	41	1.8	11.449	-B110	071-42	
121	41	1.1	13	32	52	41	121	41	1.1	216	42	0.9	11.640	-B45	071-42	
111	45	2.0	11	35	47	45	111	45	2.0	198	46	1.7	12.698	-B110	071-42	
105	48	1.0	11	37	45	48	105	48	1.0				13.386	-B45	071-42	
96	52	1.7	9.9	40	41	52	96	52	1.7	172	53	1.4	14.603	-B110	071-42	
93	54	0.8	9.6	41	40	54	93	54	0.8				15.111	-B45	071-42	
90	55	1.7	9.3	43	39	55	90	55	1.7	162	56	1.4	15.556	-B110	071-42	
79	64	1.5	8.1	49	34	64	79	64	1.5	141	65	1.3	17.889	-B110	071-42	
			7.6	52	31	69				131	69	2.9	19.143	-B240	071-42	
72	69	1.4	7.4	54	31	69	72	69	1.4	129	71	1.2	19.556	-B110	071-42	
			7.0	57	29	74				122	74	2.7	20.650	-B240	071-42	
63	80	1.3	6.4	62	27	80	63	80	1.3	112	81	1.1	22.489	-B110	071-42	
60	83	2.9	6.2	64	26	83	60	83	2.9	107	85	2.4	23.450	-B240	071-42	
56	89	1.2	5.8	69	24	89	56	89	1.2	100	91	1.0	25.185	-B110	071-42	
52	95	2.5	5.4	74	22	95	52	95	2.5	94	97	2.1	26.878	-B240	071-42	
49	103	1.1	5.0	79	21	103	49	103	1.1	87	104	0.9	28.963	-B110	071-42	
46	108	2.2	4.8	84	20	108	46	108	2.2	82	110	1.8	30.522	-B240	071-42	
42	119	2.0	4.3	91	18	119	42	119	2.0	75	121	1.7	33.433	-B240	071-42	
37	135	1.8	3.8	104	16	135	37	135	1.8	66	137	1.5	37.967	-B240	071-42	
33	154	1.6	3.4	118	14	154	33	154	1.6	58	156	1.5	43.267	-B240	071-42	
29	174	1.4	3.0	134	12	174	29	174	1.4	51	177	1.3	49.133	-B240	071-42	

g500-B bevel geared motors

Technical data

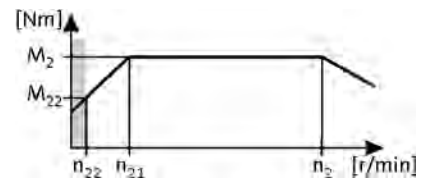


Selection tables, 4-pole motors

50 Hz: $P_N = 0.55 \text{ kW}$

87 Hz: $P_N = 1.0 \text{ kW}$

2-stage gearboxes



Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
27	186	1.3	2.8	144	11	186	27	186	1.3	48	189	1.2	52.510	-B240	071-42	
24	212	1.1	2.4	163	10	212	24	212	1.1	42	215	1.1	59.630	-B240	071-42	

3-stage gearboxes

Mains operation 400 V, 50 Hz			Inverter operation										i	Product		
n ₂ [r/min]	M ₂ [Nm]	c	5 Hz -		- 20 Hz		- 50 Hz (1:10)			- 87 Hz (1:17.4)				g500	MD□MA□□	
			n ₂₂ [r/min]	M ₂₂ [Nm]	n ₂₁ [r/min]	M ₂ [Nm]	n ₂ [r/min]	M ₂ [Nm]	c	n ₂ [r/min]	M ₂ [Nm]	c				
			5.2	76	22	101				90	101	3.1	27.945	-B450	071-42	
			4.7	85	19	112				81	112	3.1	30.985	-B450	071-42	
			4.0	99	17	131				69	131	2.8	36.373	-B450	071-42	
35	143	3.1	3.6	110	15	143	35	143	3.1	62	145	3.0	40.330	-B450	071-42	
31	161	2.8	3.2	124	13	161	31	161	2.8	56	163	2.6	45.245	-B450	071-42	
28	178	2.5	2.9	137	12	178	28	178	2.5	50	181	2.4	50.167	-B450	071-42	
25	199	2.3	2.6	154	11	199	25	199	2.3	45	203	2.1	56.154	-B450	071-42	
23	221	2.0	2.3	170	9.6	221	23	221	2.0	40	225	1.9	62.262	-B450	071-42	
21	237	1.0	2.1	183	8.8	237	21	237	1.0				68.459	-B240	071-42	
20	244	1.8	2.1	188	8.7	244	20	244	1.8	37	248	1.7	68.788	-B450	071-42	
18	271	1.7	1.9	209	7.9	271	18	271	1.7	33	275	1.6	76.271	-B450	071-42	
18	269	0.9	1.9	207	7.7	269	18	269	0.9				77.741	-B240	071-42	
16	318	1.4	1.6	245	6.7	318	16	318	1.4	28	323	1.3	89.534	-B450	071-42	
14	352	1.3	1.5	271	6.0	352	14	352	1.3	25	358	1.2	99.274	-B450	071-42	
13	395	1.1	1.3	305	5.4	395	13	395	1.1	23	402	1.1	111.372	-B450	071-42	
11	438	1.0	1.2	338	4.9	438	11	438	1.0	20	445	1.0	123.487	-B450	071-42	
9.7	512	0.9	1.0	394	4.2	512	9.7	512	0.9	17	520	0.9	144.128	-B450	071-42	

g500-B bevel geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.75 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
405	17	4.8	3.565	-B240	40-P80/M4	
278	24	2.8	5.185	-B110	40-P80/M4	
242	28	2.6	5.963	-B110	40-P80/M4	
231	30	4.2	6.257	-B240	40-P80/M4	
203	34	2.3	7.111	-B110	40-P80/M4	
177	39	2.1	8.178	-B110	40-P80/M4	
159	43	2.0	9.101	-B110	40-P80/M4	
138	49	1.8	10.466	-B110	40-P80/M4	
126	54	1.7	11.449	-B110	40-P80/M4	
114	60	1.5	12.698	-B110	40-P80/M4	
99	69	1.3	14.603	-B110	40-P80/M4	
96	71	3.2	15.008	-B240	40-P80/M4	
93	73	1.3	15.556	-B110	40-P80/M4	
86	79	3.0	16.857	-B240	40-P80/M4	
81	84	1.1	17.889	-B110	40-P80/M4	
75	90	2.7	19.143	-B240	40-P80/M4	
74	92	1.1	19.556	-B110	40-P80/M4	
70	97	2.5	20.650	-B240	40-P80/M4	
64	106	1.0	22.489	-B110	40-P80/M4	
62	111	2.2	23.450	-B240	40-P80/M4	
57	119	0.9	25.185	-B110	40-P80/M4	
54	127	1.9	26.878	-B240	40-P80/M4	
50	137	0.8	28.963	-B110	40-P80/M4	
47	144	1.7	30.522	-B240	40-P80/M4	
43	158	1.5	33.433	-B240	40-P80/M4	
38	179	1.3	37.967	-B240	40-P80/M4	
33	204	1.2	43.267	-B240	40-P80/M4	
29	232	1.0	49.133	-B240	40-P80/M4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
47	146	3.1	30.985	-B450	40-P80/M4	
40	171	2.6	36.373	-B450	40-P80/M4	
36	190	2.4	40.330	-B450	40-P80/M4	
32	213	2.1	45.245	-B450	40-P80/M4	
29	237	1.9	50.167	-B450	40-P80/M4	
26	265	1.7	56.154	-B450	40-P80/M4	
23	294	1.5	62.262	-B450	40-P80/M4	
21	324	1.4	68.788	-B450	40-P80/M4	
19	360	1.3	76.271	-B450	40-P80/M4	

g500-B bevel geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 0.75\text{ kW}$

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
16	422	1.1	89.534	-B450	40-P80/M4	
15	468	1.0	99.274	-B450	40-P80/M4	
13	525	0.9	111.372	-B450	40-P80/M4	

g500-B bevel geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 1.1 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
405	25	5.6	3.565	-B240	40-P90/M4	
279	36	1.9	5.185	-B110	40-P90/M4	
242	41	1.8	5.963	-B110	40-P90/M4	
231	43	3.6	6.257	-B240	40-P90/M4	
203	49	1.6	7.111	-B110	40-P90/M4	
177	56	1.4	8.178	-B110	40-P90/M4	
159	63	1.3	9.101	-B110	40-P90/M4	
153	65	2.9	9.440	-B240	40-P90/M4	
138	72	1.2	10.466	-B110	40-P90/M4	
135	74	2.8	10.720	-B240	40-P90/M4	
126	79	1.1	11.449	-B110	40-P90/M4	
120	83	2.5	12.081	-B240	40-P90/M4	
114	88	1.0	12.698	-B110	40-P90/M4	
105	95	2.3	13.719	-B240	40-P90/M4	
99	101	0.9	14.603	-B110	40-P90/M4	
96	104	2.2	15.008	-B240	40-P90/M4	
93	107	0.9	15.556	-B110	40-P90/M4	
86	116	2.1	16.857	-B240	40-P90/M4	
76	132	1.8	19.143	-B240	40-P90/M4	
70	143	1.7	20.650	-B240	40-P90/M4	
62	162	1.5	23.450	-B240	40-P90/M4	
54	186	1.3	26.878	-B240	40-P90/M4	
47	211	1.1	30.522	-B240	40-P90/M4	
43	231	1.0	33.433	-B240	40-P90/M4	
38	262	0.9	37.967	-B240	40-P90/M4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
63	158	2.9	22.813	-B450	40-P90/M4	
57	175	2.6	25.294	-B450	40-P90/M4	
52	193	2.3	27.945	-B450	40-P90/M4	
47	214	2.1	30.985	-B450	40-P90/M4	
40	251	1.8	36.373	-B450	40-P90/M4	
36	278	1.6	40.330	-B450	40-P90/M4	
32	312	1.4	45.245	-B450	40-P90/M4	
29	346	1.3	50.167	-B450	40-P90/M4	
26	388	1.2	56.154	-B450	40-P90/M4	
23	430	1.1	62.262	-B450	40-P90/M4	
21	475	1.0	68.788	-B450	40-P90/M4	
19	527	0.9	76.271	-B450	40-P90/M4	

g500-B bevel geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 1.5 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
403	34	4.1	3.565	-B240	40-P90/L4	
294	46	3.2	4.889	-B240	40-P90/L4	
277	49	1.4	5.185	-B110	40-P90/L4	
241	57	1.3	5.963	-B110	40-P90/L4	
229	59	2.6	6.257	-B240	40-P90/L4	
209	65	2.7	6.883	-B240	40-P90/L4	
202	67	1.1	7.111	-B110	40-P90/L4	
184	74	2.5	7.817	-B240	40-P90/L4	
176	78	1.0	8.178	-B110	40-P90/L4	
158	86	1.0	9.101	-B110	40-P90/L4	
152	90	2.1	9.440	-B240	40-P90/L4	
137	99	0.9	10.466	-B110	40-P90/L4	
134	102	2.0	10.720	-B240	40-P90/L4	
125	109	0.8	11.449	-B110	40-P90/L4	
119	115	1.8	12.081	-B240	40-P90/L4	
105	130	1.7	13.719	-B240	40-P90/L4	
96	142	1.6	15.008	-B240	40-P90/L4	
85	160	1.5	16.857	-B240	40-P90/L4	
75	182	1.3	19.143	-B240	40-P90/L4	
70	196	1.2	20.650	-B240	40-P90/L4	
61	222	1.1	23.450	-B240	40-P90/L4	
53	255	0.9	26.878	-B240	40-P90/L4	
47	289	0.8	30.522	-B240	40-P90/L4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
101	134	3.1	14.165	-B450	40-P90/L4	
88	155	2.8	16.349	-B450	40-P90/L4	
80	170	2.6	17.885	-B450	40-P90/L4	
72	188	2.4	19.831	-B450	40-P90/L4	
63	216	2.1	22.813	-B450	40-P90/L4	
57	240	1.9	25.294	-B450	40-P90/L4	
51	265	1.7	27.945	-B450	40-P90/L4	
46	294	1.5	30.985	-B450	40-P90/L4	
40	345	1.3	36.373	-B450	40-P90/L4	
36	382	1.2	40.330	-B450	40-P90/L4	
32	429	1.1	45.245	-B450	40-P90/L4	
29	476	1.0	50.167	-B450	40-P90/L4	
26	532	0.9	56.154	-B450	40-P90/L4	

g500-B bevel geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 2.2 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
406	49	2.8	3.565	-B240	40-P100/M4	
296	67	2.2	4.889	-B240	40-P100/M4	
231	86	1.8	6.257	-B240	40-P100/M4	
210	95	1.9	6.883	-B240	40-P100/M4	
185	108	1.7	7.817	-B240	40-P100/M4	
153	130	1.5	9.440	-B240	40-P100/M4	
135	148	1.4	10.720	-B240	40-P100/M4	
120	167	1.3	12.081	-B240	40-P100/M4	
105	189	1.2	13.719	-B240	40-P100/M4	
96	207	1.1	15.008	-B240	40-P100/M4	
86	233	1.0	16.857	-B240	40-P100/M4	
76	264	0.9	19.143	-B240	40-P100/M4	
70	285	0.8	20.650	-B240	40-P100/M4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
211	95	3.3	6.860	-B450	40-P100/M4	
155	129	2.9	9.315	-B450	40-P100/M4	
140	143	2.7	10.328	-B450	40-P100/M4	
113	176	2.3	12.775	-B450	40-P100/M4	
102	195	2.2	14.165	-B450	40-P100/M4	
88	226	1.9	16.349	-B450	40-P100/M4	
81	247	1.8	17.885	-B450	40-P100/M4	
73	274	1.6	19.831	-B450	40-P100/M4	
63	315	1.4	22.813	-B450	40-P100/M4	
57	349	1.3	25.294	-B450	40-P100/M4	
52	386	1.2	27.945	-B450	40-P100/M4	
47	428	1.1	30.985	-B450	40-P100/M4	

g500-B bevel geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 3.0 \text{ kW}$

2-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
408	67	2.1	3.565	-B240	40-P100/L4	
297	92	1.6	4.889	-B240	40-P100/L4	
232	117	1.3	6.257	-B240	40-P100/L4	
211	129	1.4	6.883	-B240	40-P100/L4	
186	146	1.3	7.817	-B240	40-P100/L4	
154	177	1.1	9.440	-B240	40-P100/L4	
136	201	1.0	10.720	-B240	40-P100/L4	
120	226	0.9	12.081	-B240	40-P100/L4	
106	257	0.8	13.719	-B240	40-P100/L4	

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
291	94	3.0	5.002	-B450	40-P100/L4	
212	128	2.4	6.860	-B450	40-P100/L4	
156	174	2.1	9.315	-B450	40-P100/L4	
141	193	2.0	10.328	-B450	40-P100/L4	
114	239	1.7	12.775	-B450	40-P100/L4	
103	265	1.6	14.165	-B450	40-P100/L4	
89	306	1.4	16.349	-B450	40-P100/L4	
81	335	1.3	17.885	-B450	40-P100/L4	
73	371	1.2	19.831	-B450	40-P100/L4	
64	427	1.1	22.813	-B450	40-P100/L4	
57	474	1.0	25.294	-B450	40-P100/L4	
52	523	0.9	27.945	-B450	40-P100/L4	

g500-B bevel geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: P_N = 4.0 kW

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n ₂ [r/min]	M ₂ [Nm]	c		g500	m2□□	
287	126	2.2	5.002	-B450	40-P112/M4	
209	173	1.8	6.860	-B450	40-P112/M4	
154	236	1.6	9.315	-B450	40-P112/M4	
139	261	1.5	10.328	-B450	40-P112/M4	
112	323	1.3	12.775	-B450	40-P112/M4	
101	358	1.2	14.165	-B450	40-P112/M4	
88	413	1.1	16.349	-B450	40-P112/M4	
80	452	1.0	17.885	-B450	40-P112/M4	
72	501	0.9	19.831	-B450	40-P112/M4	

g500-B bevel geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 5.5 \text{ kW}$

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
293	170	1.6	5.002	-B450	40-P132/M4	
214	234	1.3	6.860	-B450	40-P132/M4	
157	317	1.2	9.315	-B450	40-P132/M4	
142	352	1.1	10.328	-B450	40-P132/M4	
115	435	0.9	12.775	-B450	40-P132/M4	
103	482	0.9	14.165	-B450	40-P132/M4	

g500-B bevel geared motors

Technical data



Selection tables, 4-pole motors

50 Hz: $P_N = 7.5\text{ kW}$

3-stage gearboxes

Mains operation 400 V, 50 Hz			i	Product		
n_2 [r/min]	M_2 [Nm]	c		g500	m2□□	
292	233	1.2	5.002	-B450	40-P132/L4	
213	320	1.0	6.860	-B450	40-P132/L4	
157	434	0.9	9.315	-B450	40-P132/L4	

g500-B bevel geared motors

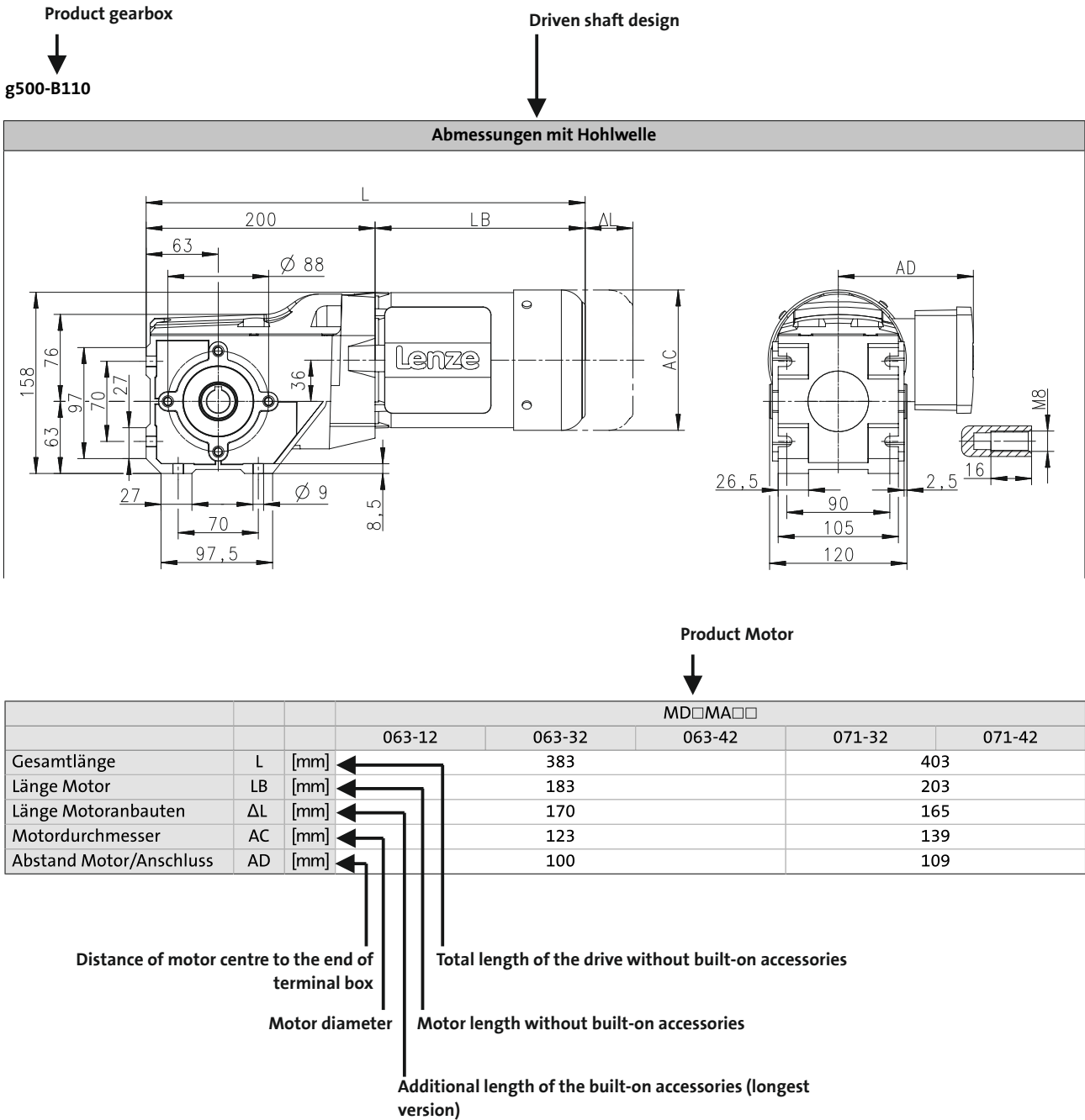
Technical data



Dimensions, notes

Notes on the dimensions

The following legend shows the layout of the dimension sheets.



g500-B bevel geared motors

Technical data



Dimensions, notes

Gearbox designs

Hollow shaft		
Without centring (HBR)	With centering (HAR)	Flange with through holes (HAK)
Solid shaft		
Without centring (VBR)	With centering (VAR)	Flange with through holes (VAK)
Hollow shaft with shrink disc		
Without centring (SBR)	With centering (SAR)	Flange with through holes (SAK)

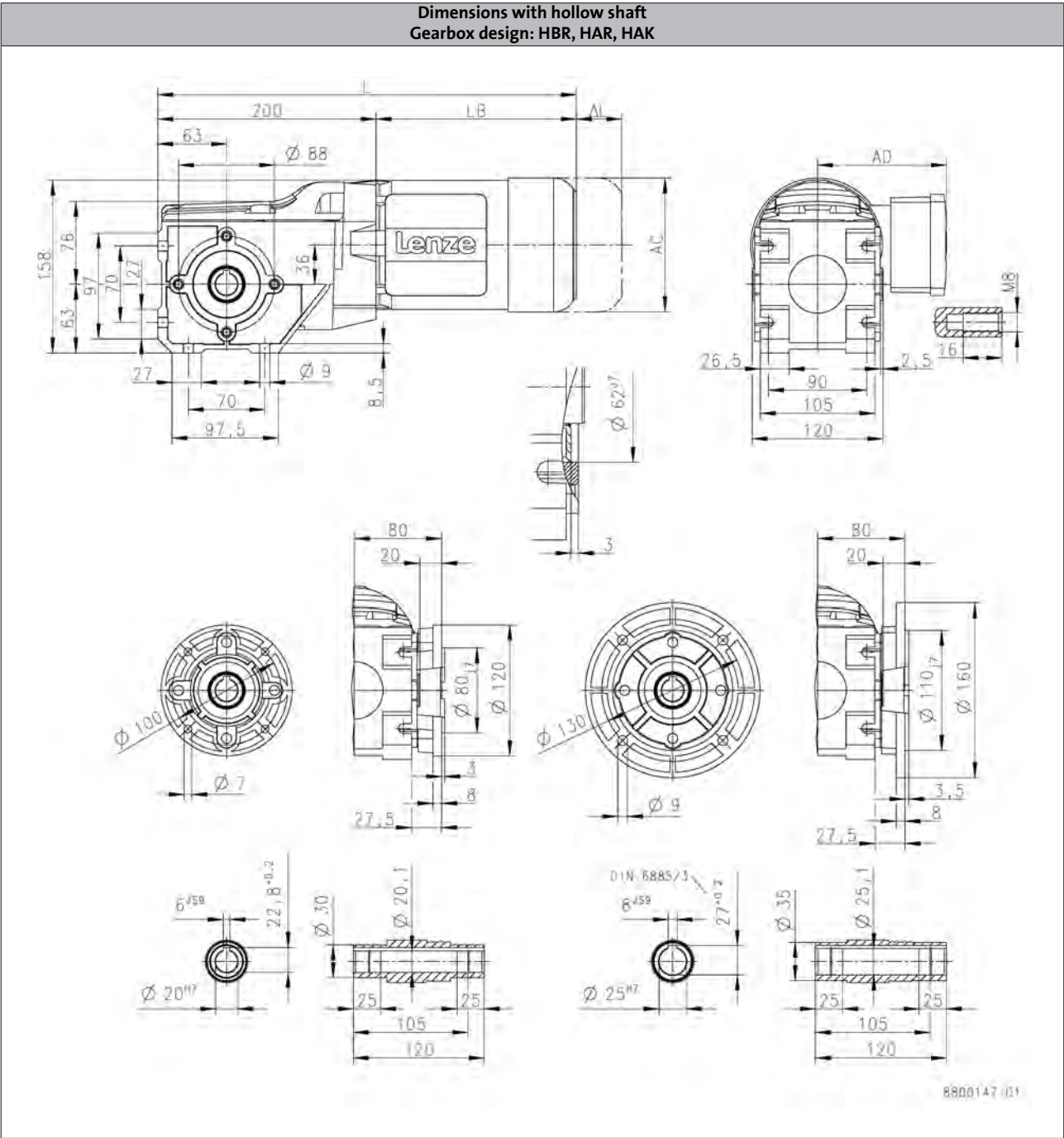
g500-B bevel geared motors

Technical data



Dimensions, 2-pole motors

g500-B110



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	383		403	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-B110



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

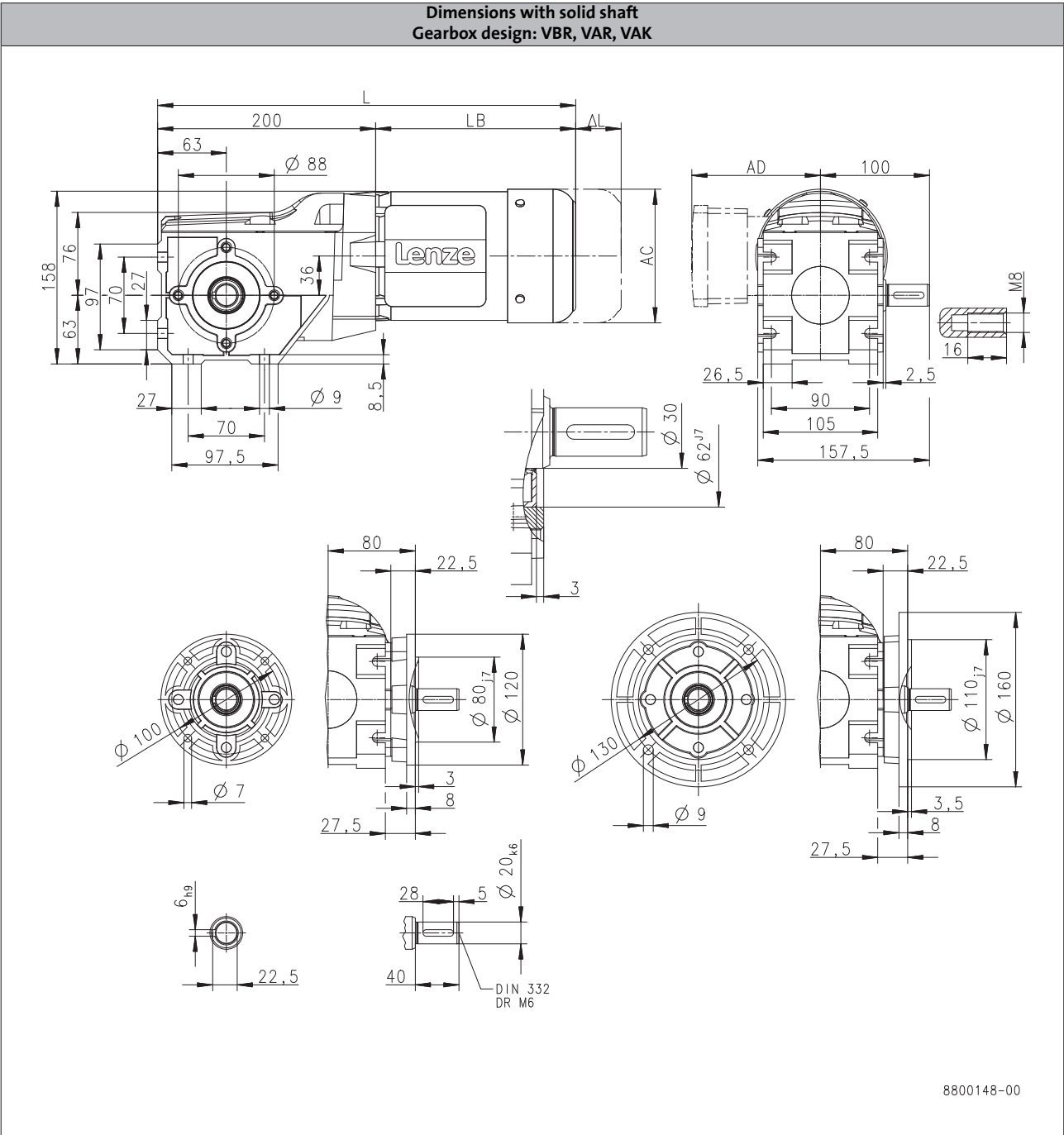
g500-B bevel geared motors

Technical data



Dimensions, 2-pole motors

g500-B110



6.5

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		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	383		403	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

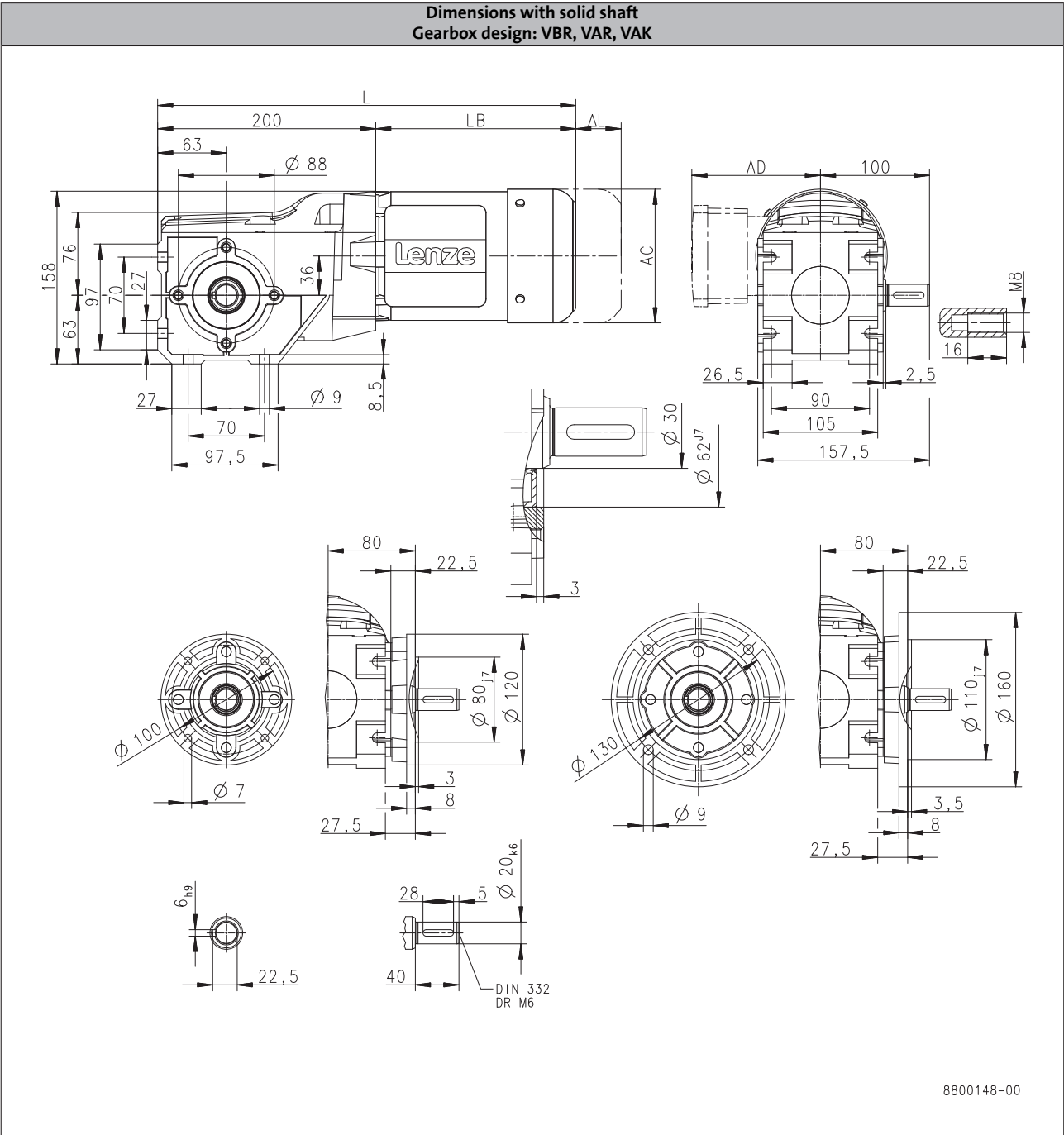
g500-B bevel geared motors

Technical data



Dimensions, 2-pole motors

g500-B110



		m240			
		-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L [mm]	425		494	
Motor length	LB [mm]	225		294	
Length of motor options	Δ L [mm]	107		92.0	
Motor diameter	AC [mm]	158		172	
Distance motor/connection	AD [mm]	148		155	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

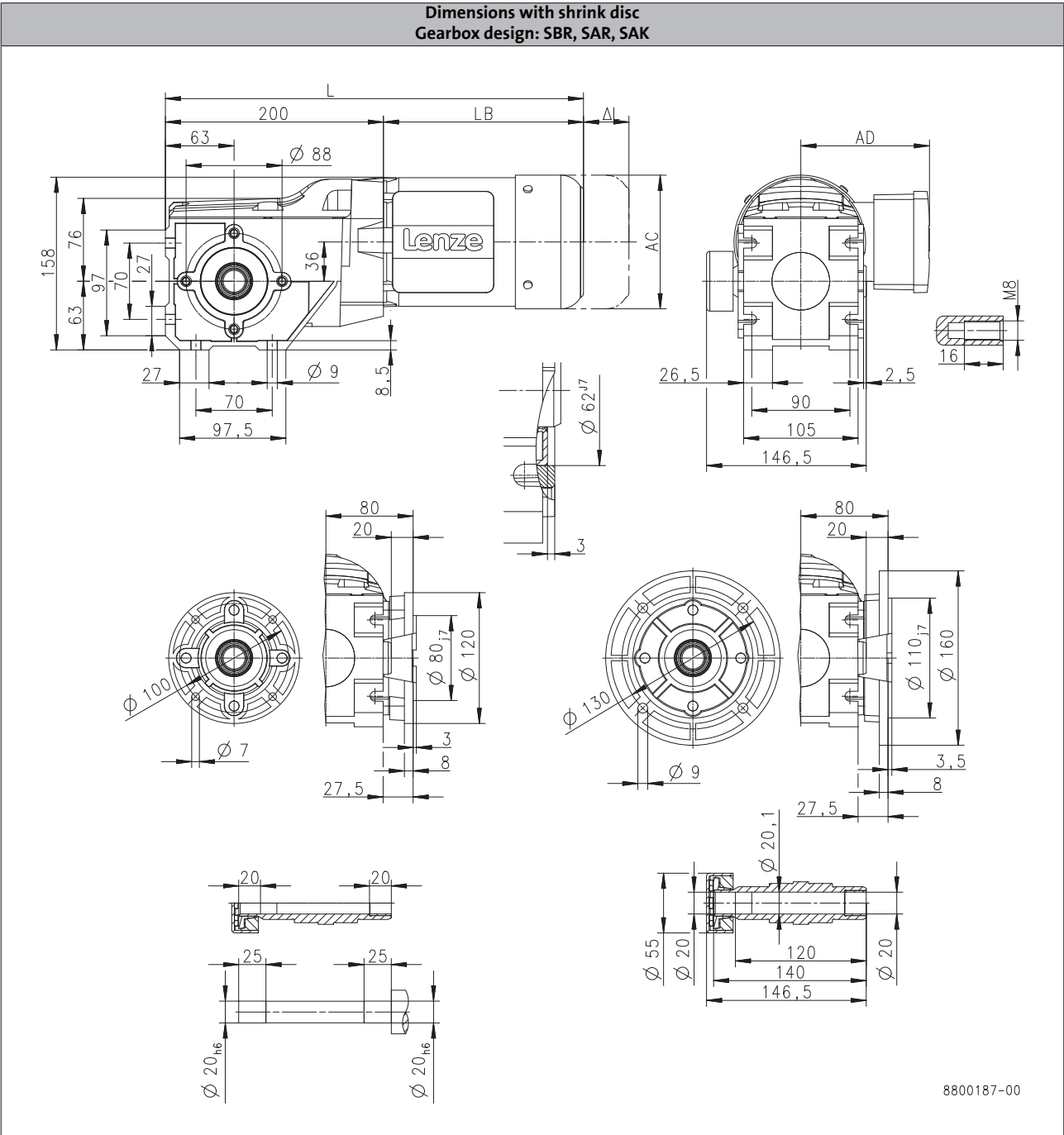
g500-B bevel geared motors

Technical data



Dimensions, 2-pole motors

g500-B110



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	383		403	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-B110



			m240			
			-P80/L2	-P80/M2	-P90/L2	-P90/M2
Total length	L	[mm]	425		494	
Motor length	LB	[mm]	225		294	
Length of motor options	Δ L	[mm]	107		92.0	
Motor diameter	AC	[mm]	158		172	
Distance motor/connection	AD	[mm]	148		155	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-B240

[illegible]

8800155-00

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-B240

[illegible]

8800155-00

6.5

			m240				
			-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2
Total length	L	[mm]	485		554		616
Motor length	LB	[mm]	225		294		356
Length of motor options	Δ L	[mm]	107		92.0		103
Motor diameter	AC	[mm]	158		172		192
Distance motor/connection	AD	[mm]	148		155		164

Lenze | V00-en GB-05/2016

Dimensions, 2-pole motors

g500-B240



			MD□MA□□			
			063-11	063-31	071-11	071-31
Total length	L	[mm]	443		463	
Motor length	LB	[mm]	183		203	
Length of motor options	Δ L	[mm]	40.0		52.0	
Motor diameter	AC	[mm]	123		139	
Distance motor/connection	AD	[mm]	107		118	

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 2-pole motors

g500-B240



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

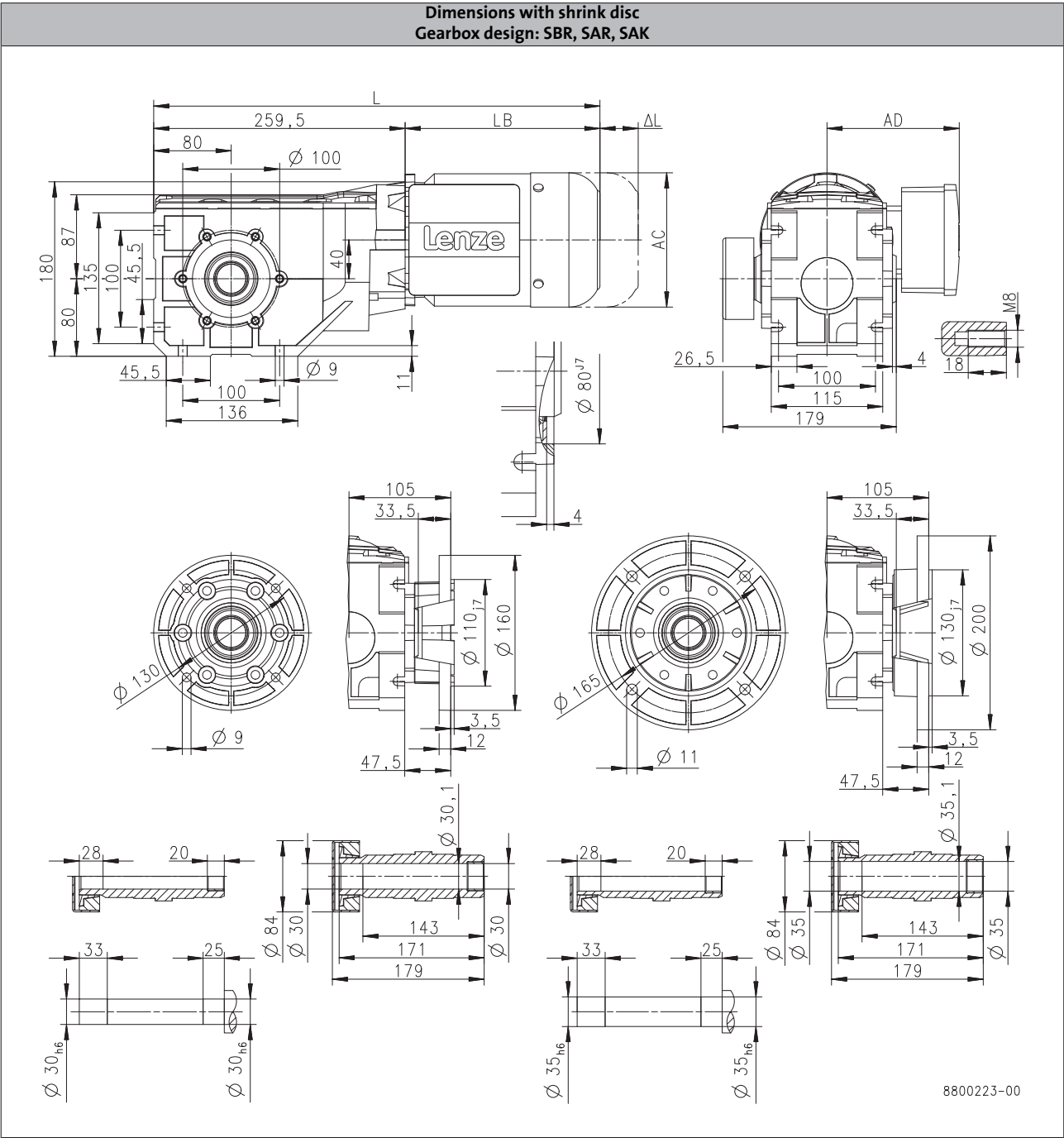
g500-B bevel geared motors

Technical data



Dimensions, 2-pole motors

g500-B240



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	443		463	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

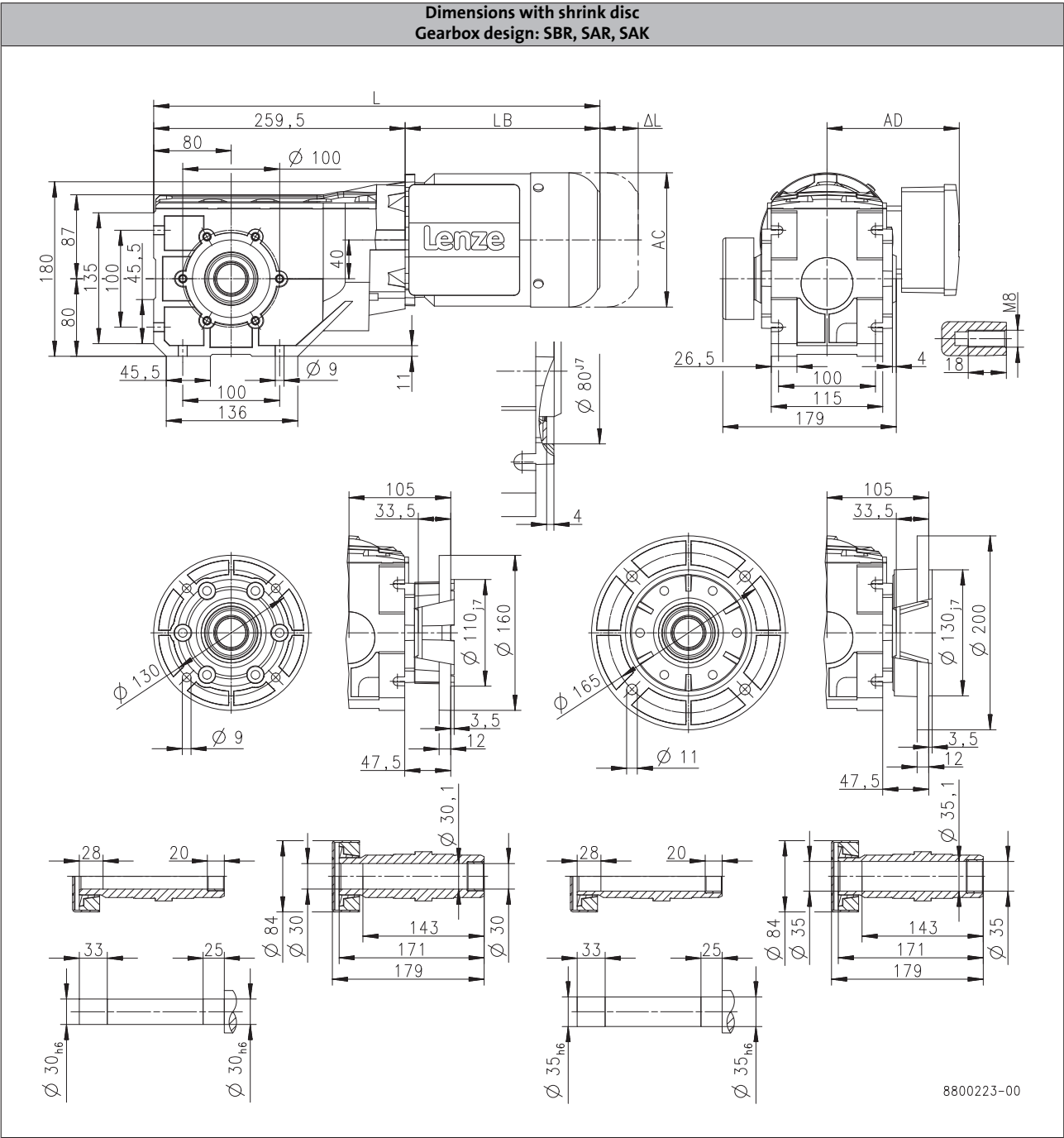
g500-B bevel geared motors

Technical data



Dimensions, 2-pole motors

g500-B240



			m240				
			-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2
Total length	L	[mm]	485		554		616
Motor length	LB	[mm]	225		294		356
Length of motor options	Δ L	[mm]	107		92.0		103
Motor diameter	AC	[mm]	158		172		192
Distance motor/connection	AD	[mm]	148		155		164

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

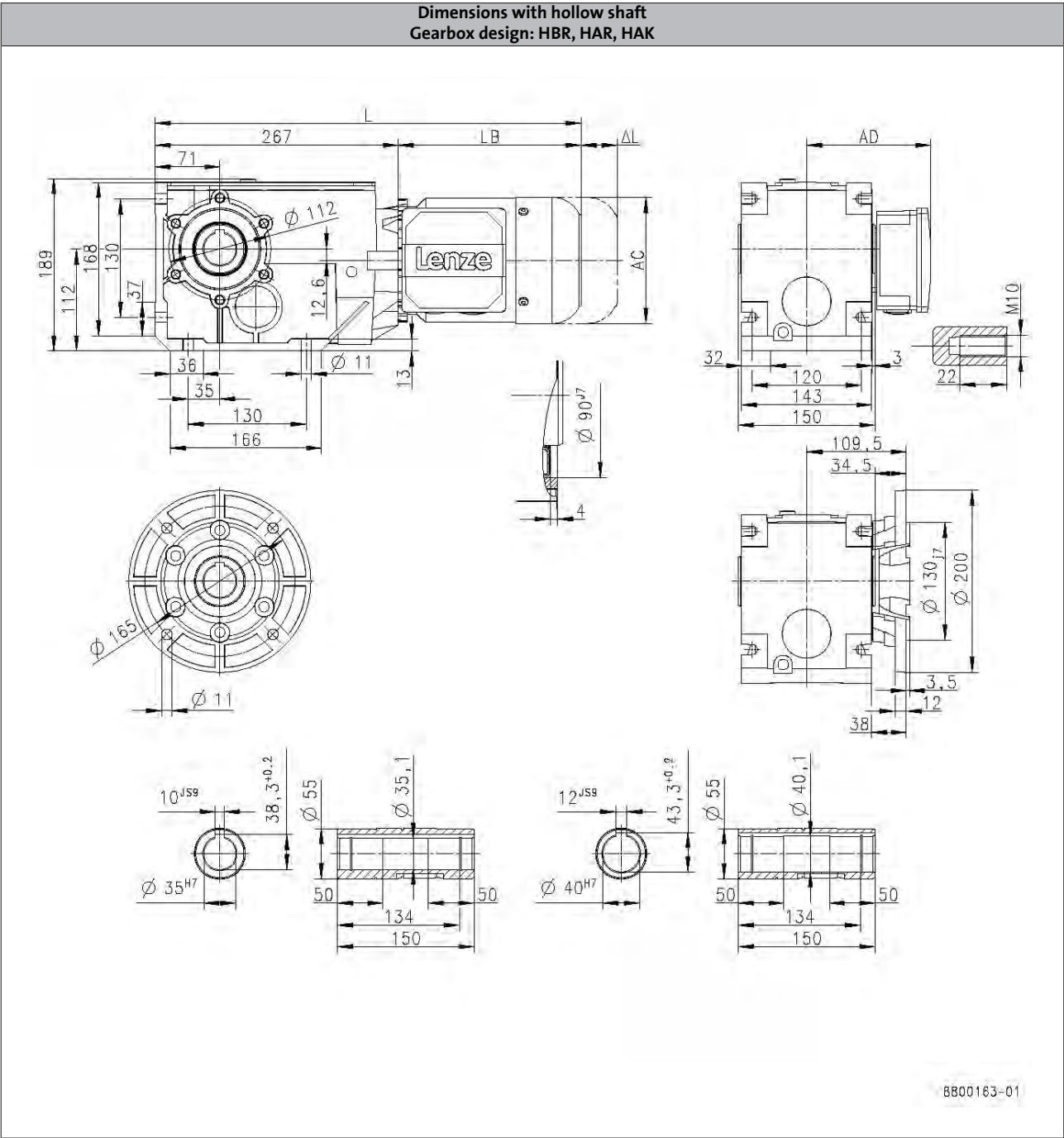
g500-B bevel geared motors

Technical data



Dimensions, 2-pole motors

g500-B450



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8800163-01

		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	450		470	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

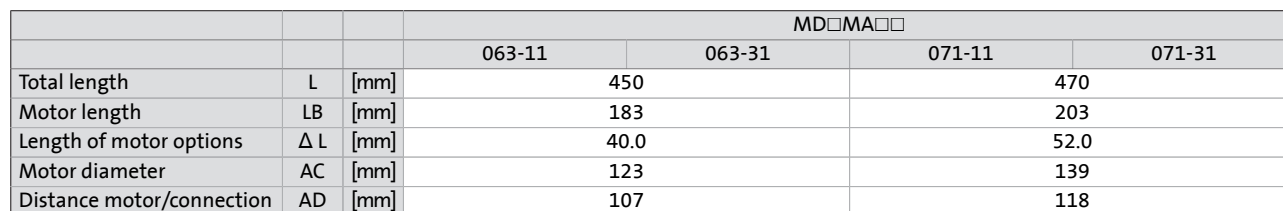
Dimensions, 2-pole motors

g500-B450



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

g500-B450



Lenze | V00-en_GB-05/2016

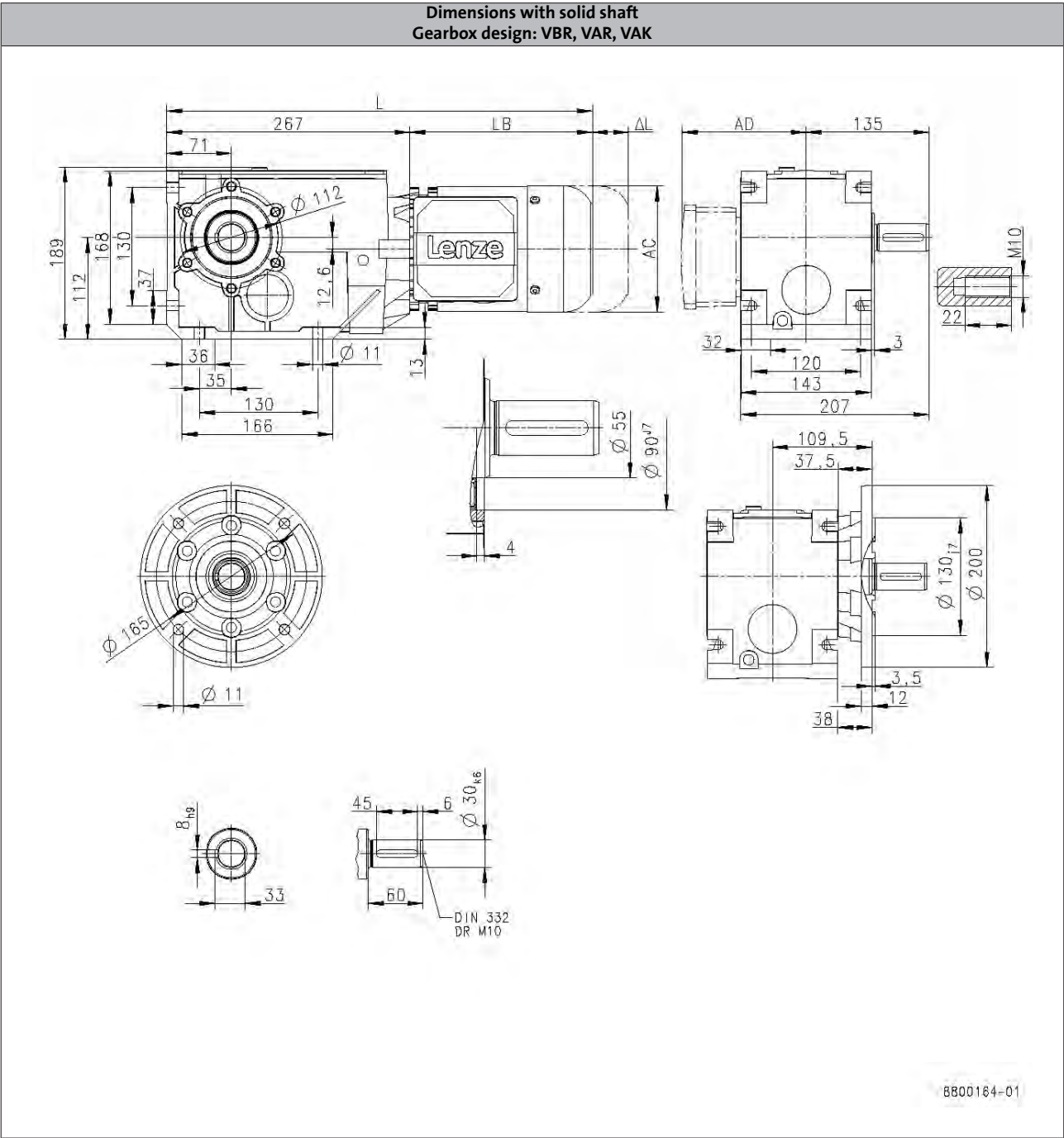
g500-B bevel geared motors

Technical data



Dimensions, 2-pole motors

g500-B450



			m240					
			-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	492		561		623	610
Motor length	LB	[mm]	225		294		356	343
Length of motor options	Δ L	[mm]	107		92.0		103	111
Motor diameter	AC	[mm]	158		172		192	210
Distance motor/connection	AD	[mm]	148		155		164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

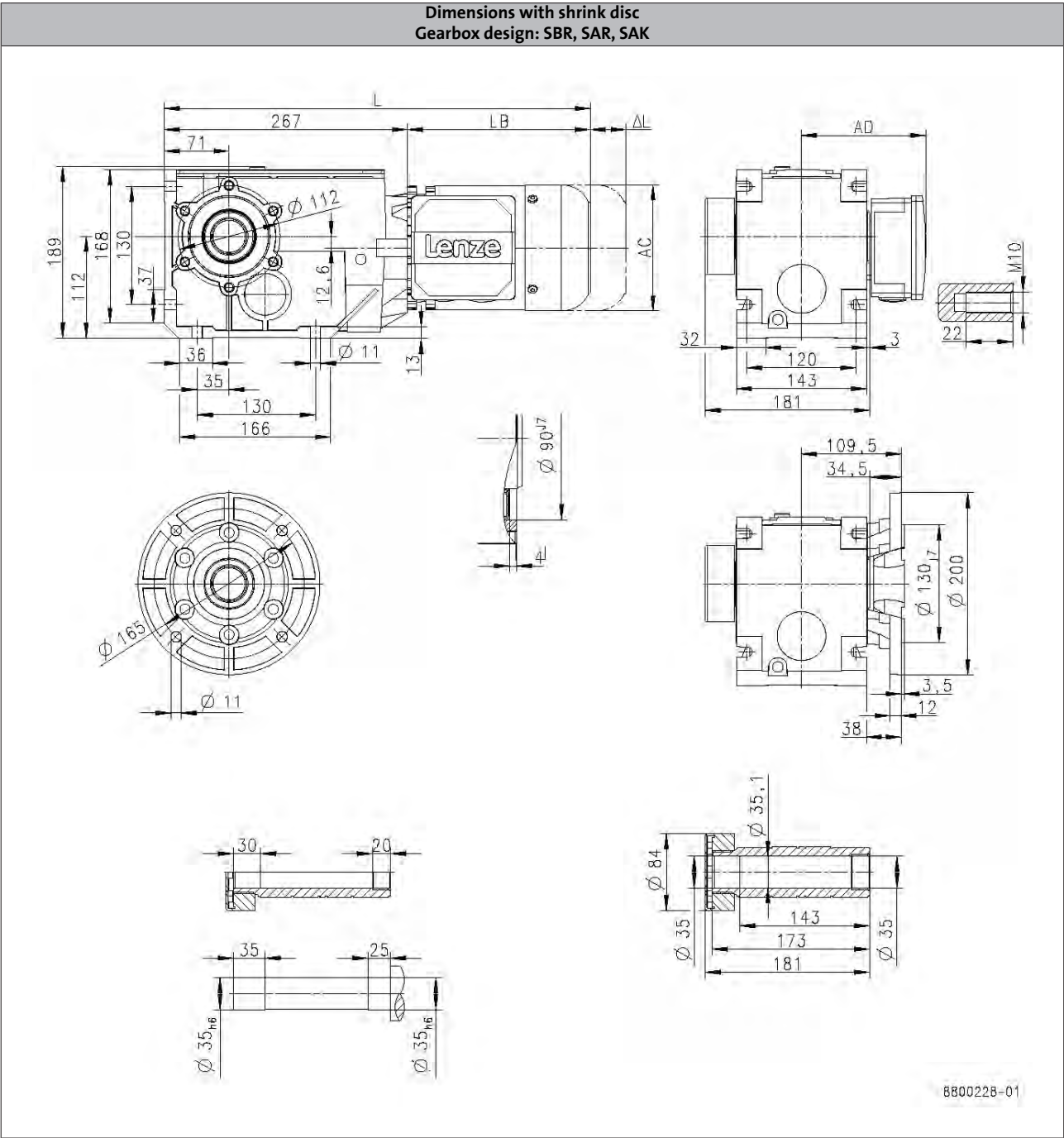
g500-B bevel geared motors

Technical data



Dimensions, 2-pole motors

g500-B450



		MD□MA□□			
		063-11	063-31	071-11	071-31
Total length	L [mm]	450		470	
Motor length	LB [mm]	183		203	
Length of motor options	Δ L [mm]	40.0		52.0	
Motor diameter	AC [mm]	123		139	
Distance motor/connection	AD [mm]	107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

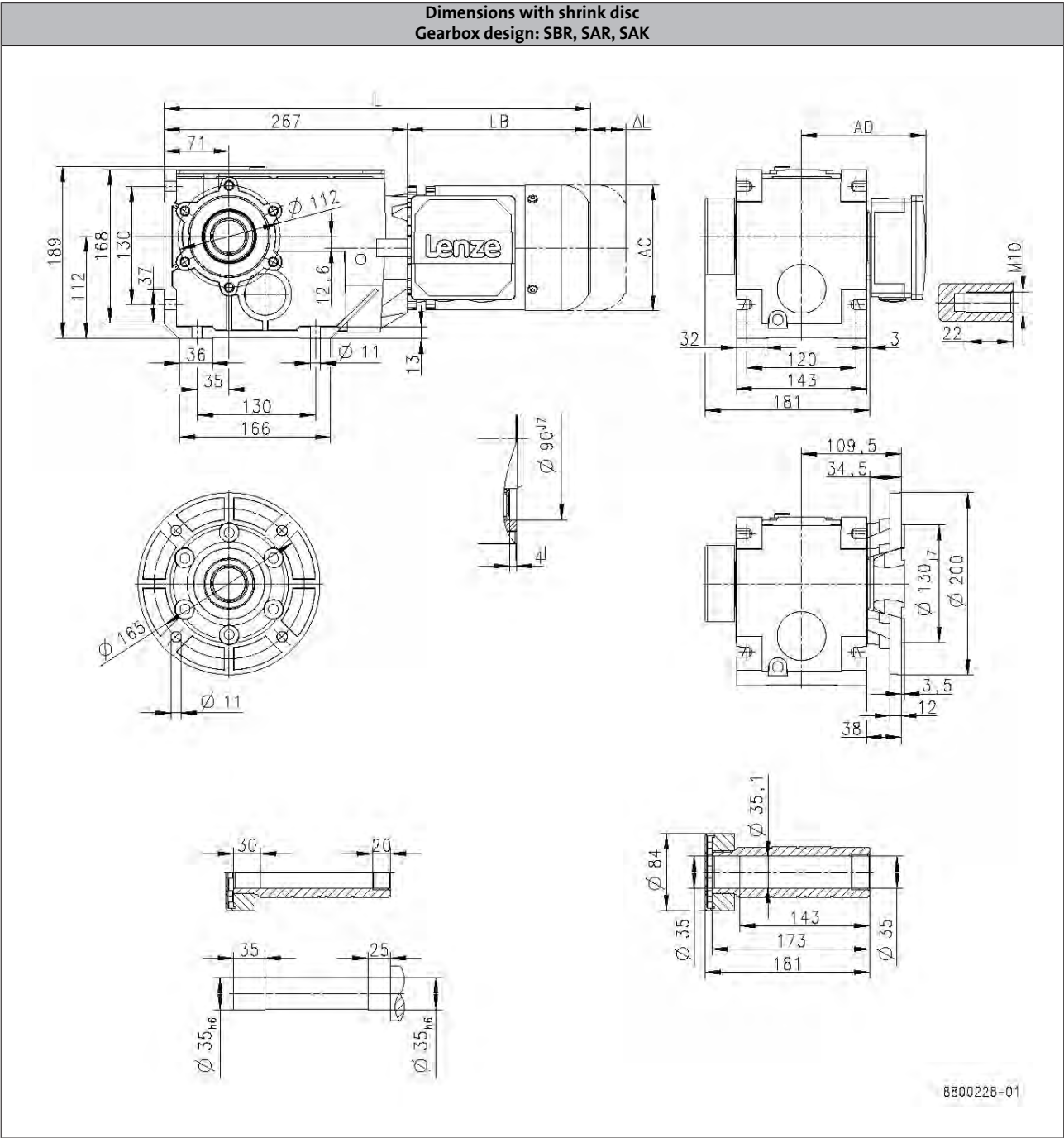
g500-B bevel geared motors

Technical data



Dimensions, 2-pole motors

g500-B450



			m240					
			-P80/L2	-P80/M2	-P90/L2	-P90/M2	-P100/M2	-P112/M2
Total length	L	[mm]	492		561		623	610
Motor length	LB	[mm]	225		294		356	343
Length of motor options	Δ L	[mm]	107		92.0		103	111
Motor diameter	AC	[mm]	158		172		192	210
Distance motor/connection	AD	[mm]	148		155		164	171

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

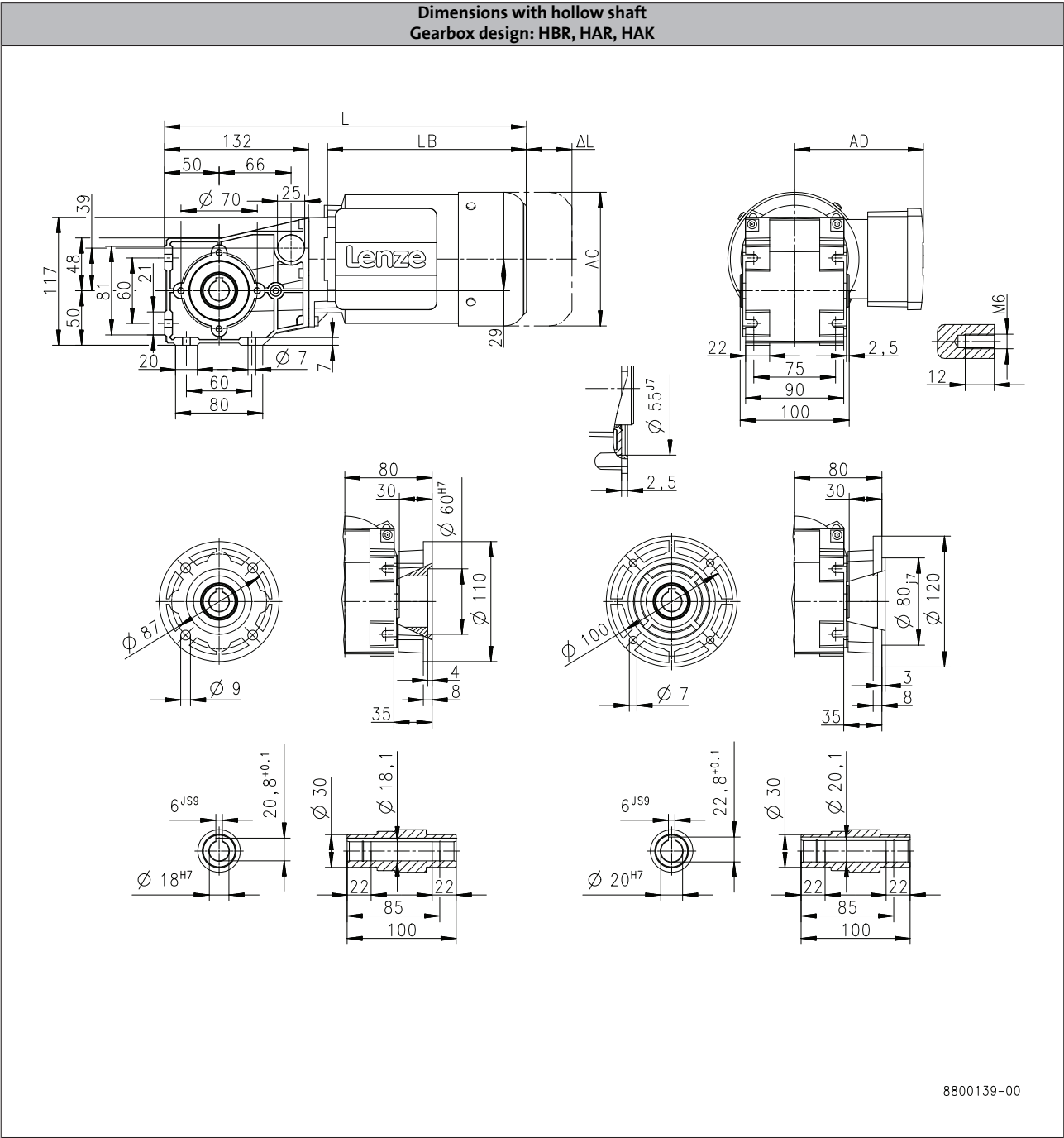
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B45



6.5

8800139-00

			MD□MA□□						
			063-02	063-12	063-22	063-32	063-42	071-32	071-42
Total length	L	[mm]	305	332	305	332		352	
Motor length	LB	[mm]	156	183	156	183		203	
Length of motor options	Δ L	[mm]	71.0	40.0	71.0	40.0		52.0	
Motor diameter	AC	[mm]	123			139			
Distance motor/connection	AD	[mm]	107					118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

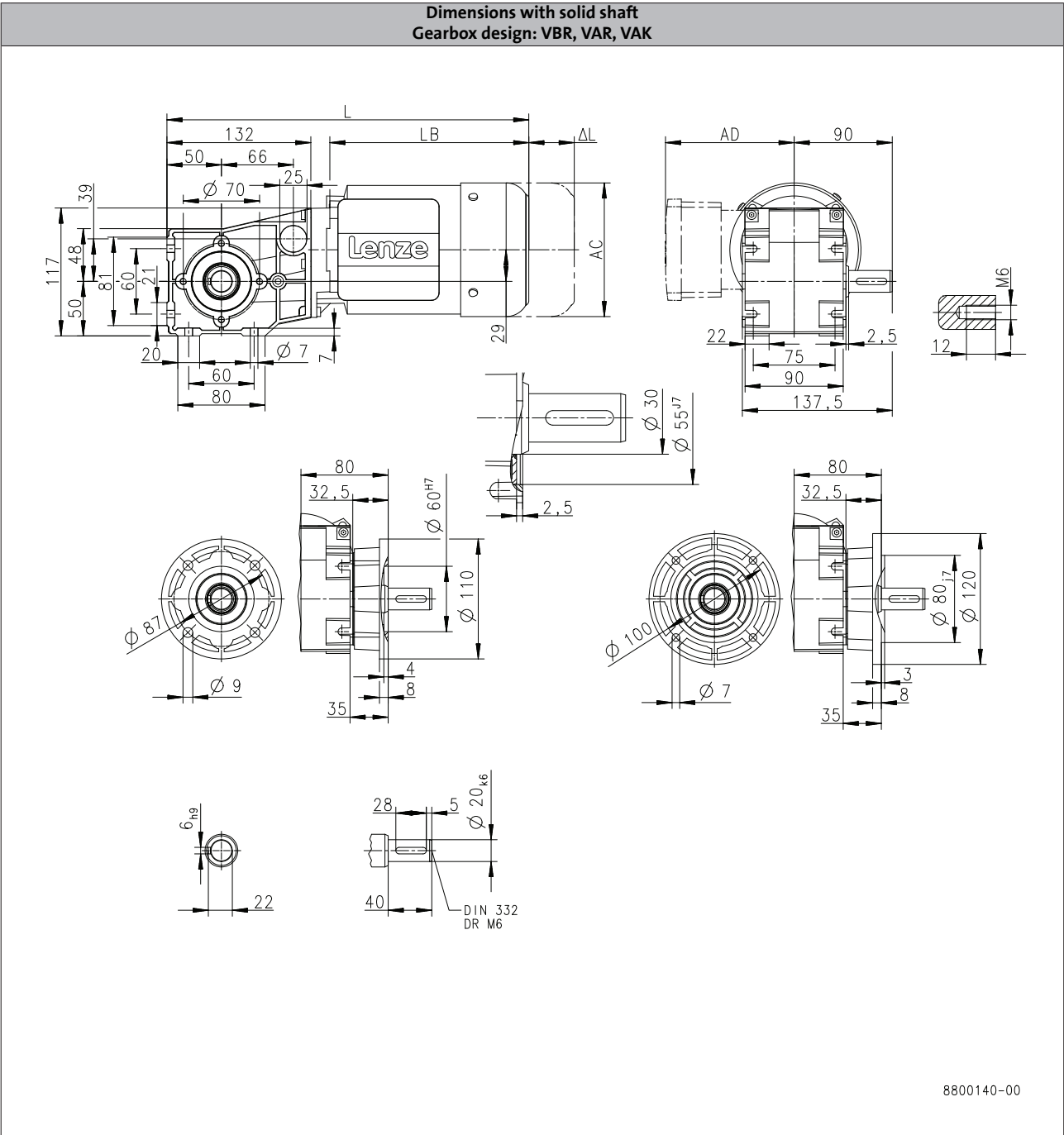
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B45



8800140-00

			MD□MA□□						
			063-02	063-12	063-22	063-32	063-42	071-32	071-42
Total length	L	[mm]	305	332	305	332		352	
Motor length	LB	[mm]	156	183	156	183		203	
Length of motor options	Δ L	[mm]	71.0	40.0	71.0	40.0		52.0	
Motor diameter	AC	[mm]	123			139			
Distance motor/connection	AD	[mm]	107					118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

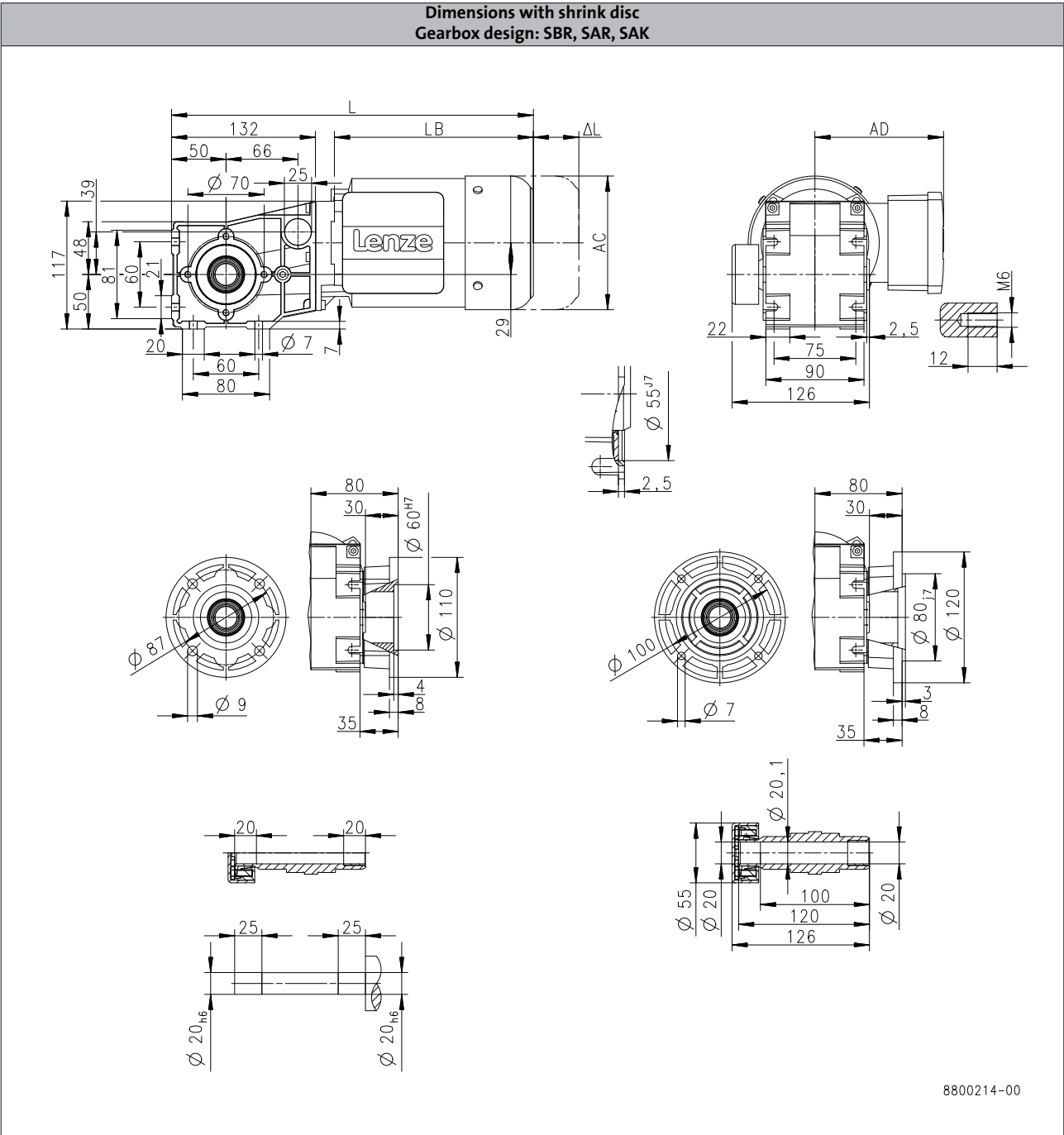
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B45



6.5

8800214-00

			MD□MA□□						
			063-02	063-12	063-22	063-32	063-42	071-32	071-42
Total length	L	[mm]	305	332	305	332		352	
Motor length	LB	[mm]	156	183	156	183		203	
Length of motor options	Δ L	[mm]	71.0	40.0	71.0	40.0		52.0	
Motor diameter	AC	[mm]	123					139	
Distance motor/connection	AD	[mm]	107					118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

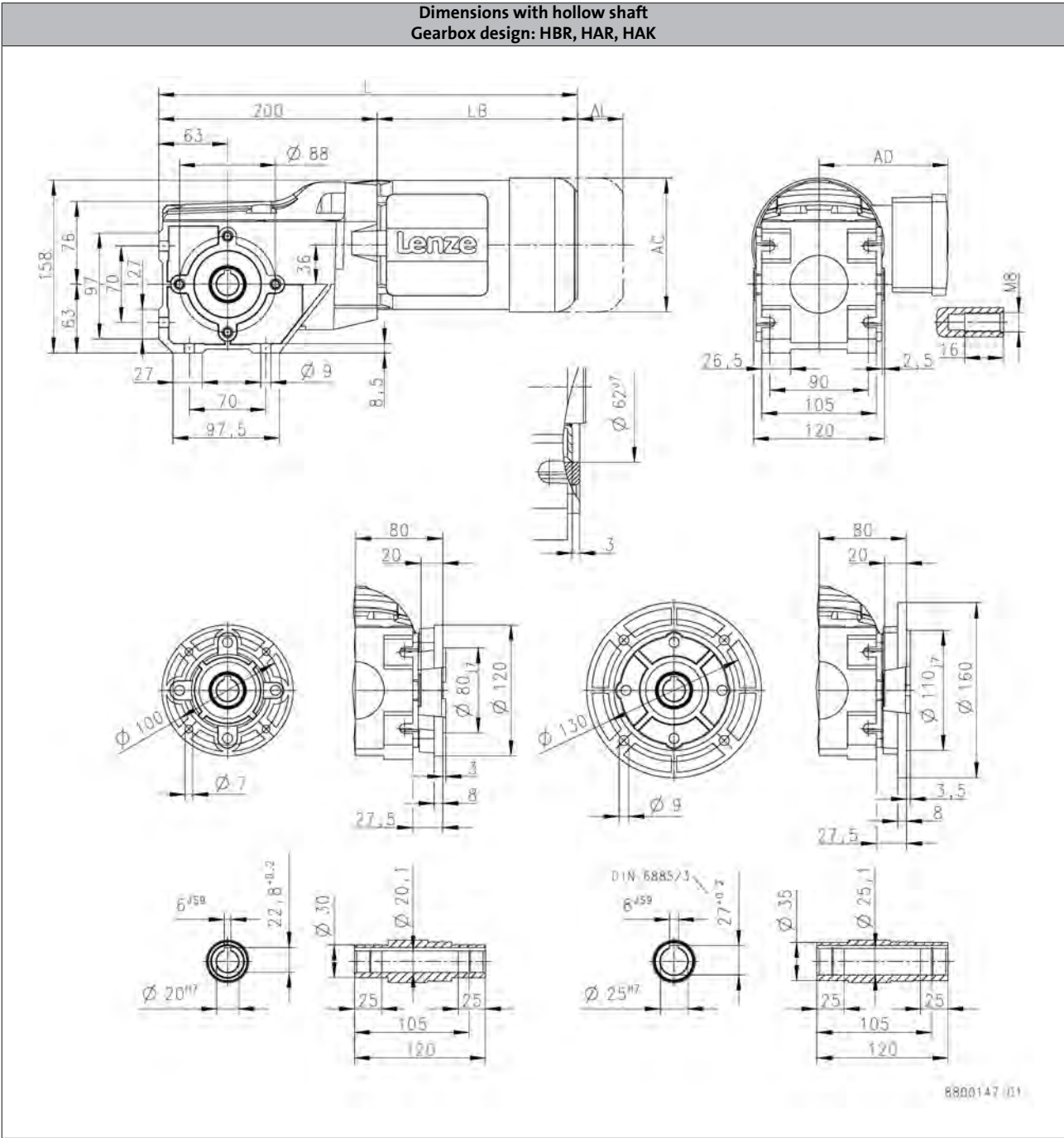
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B110



		MD□MA□□				
			063-12	063-32	063-42	071-32
						071-42
Total length	L	[mm]		383		403
Motor length	LB	[mm]		183		203
Length of motor options	Δ L	[mm]		40.0		52.0
Motor diameter	AC	[mm]		123		139
Distance motor/connection	AD	[mm]		107		118

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

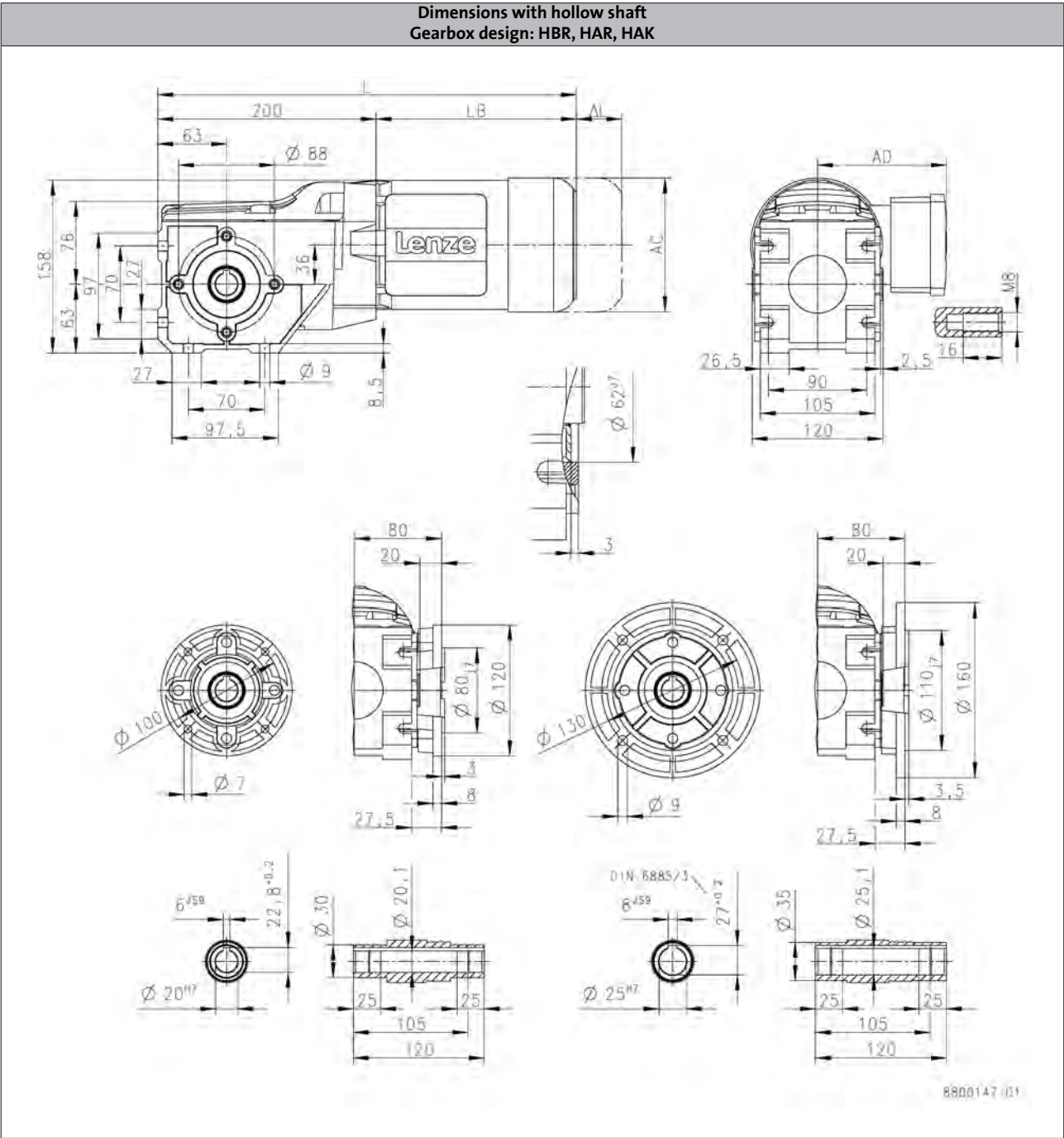
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B110



			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	425		494
Motor length	LB	[mm]	225		294
Length of motor options	Δ L	[mm]	107		92.0
Motor diameter	AC	[mm]	158		172
Distance motor/connection	AD	[mm]	148		155

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-B110



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

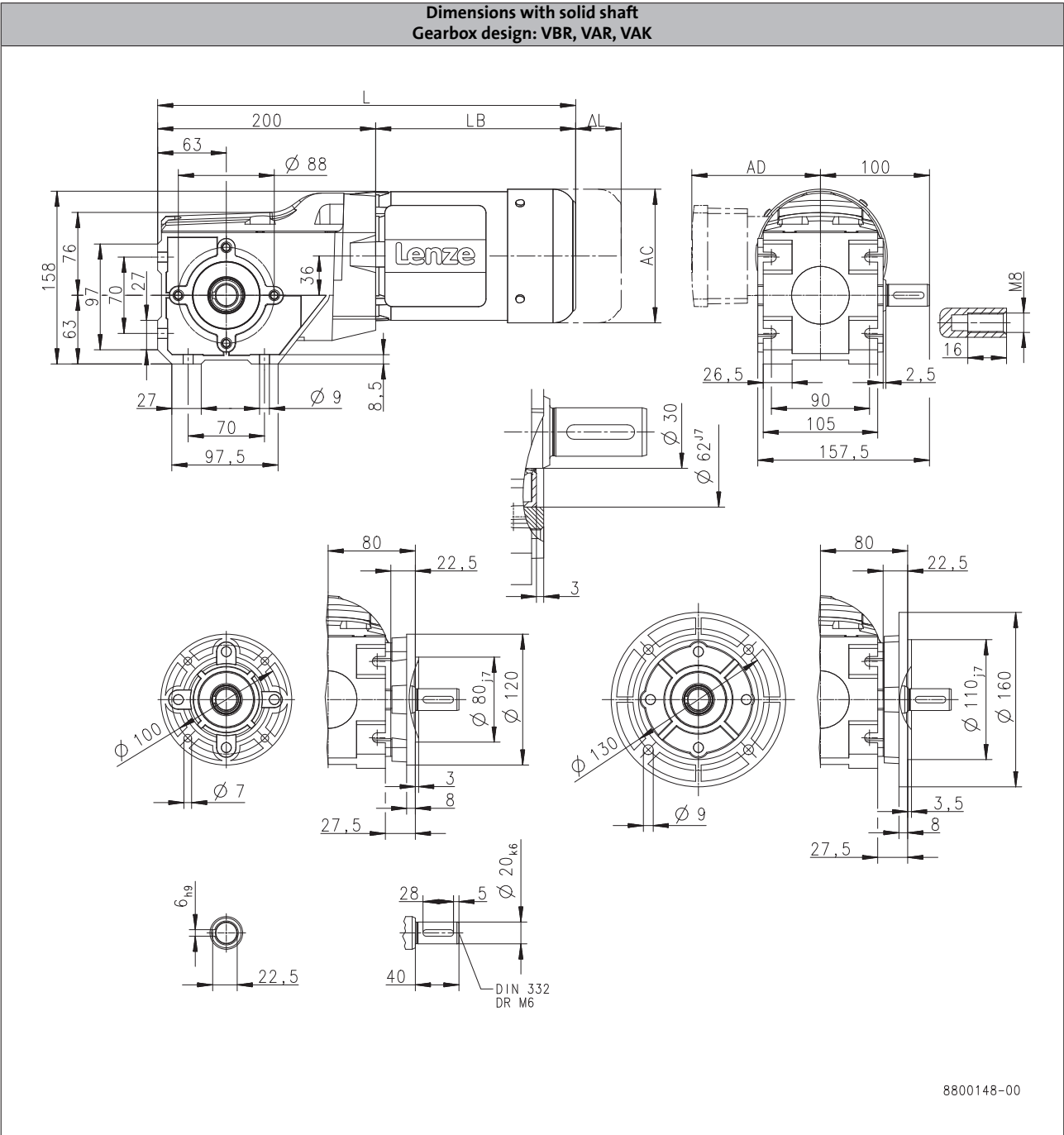
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B110



6.5

			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	425		494
Motor length	LB	[mm]	225		294
Length of motor options	Δ L	[mm]	107		92.0
Motor diameter	AC	[mm]	158		172
Distance motor/connection	AD	[mm]	148		155

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

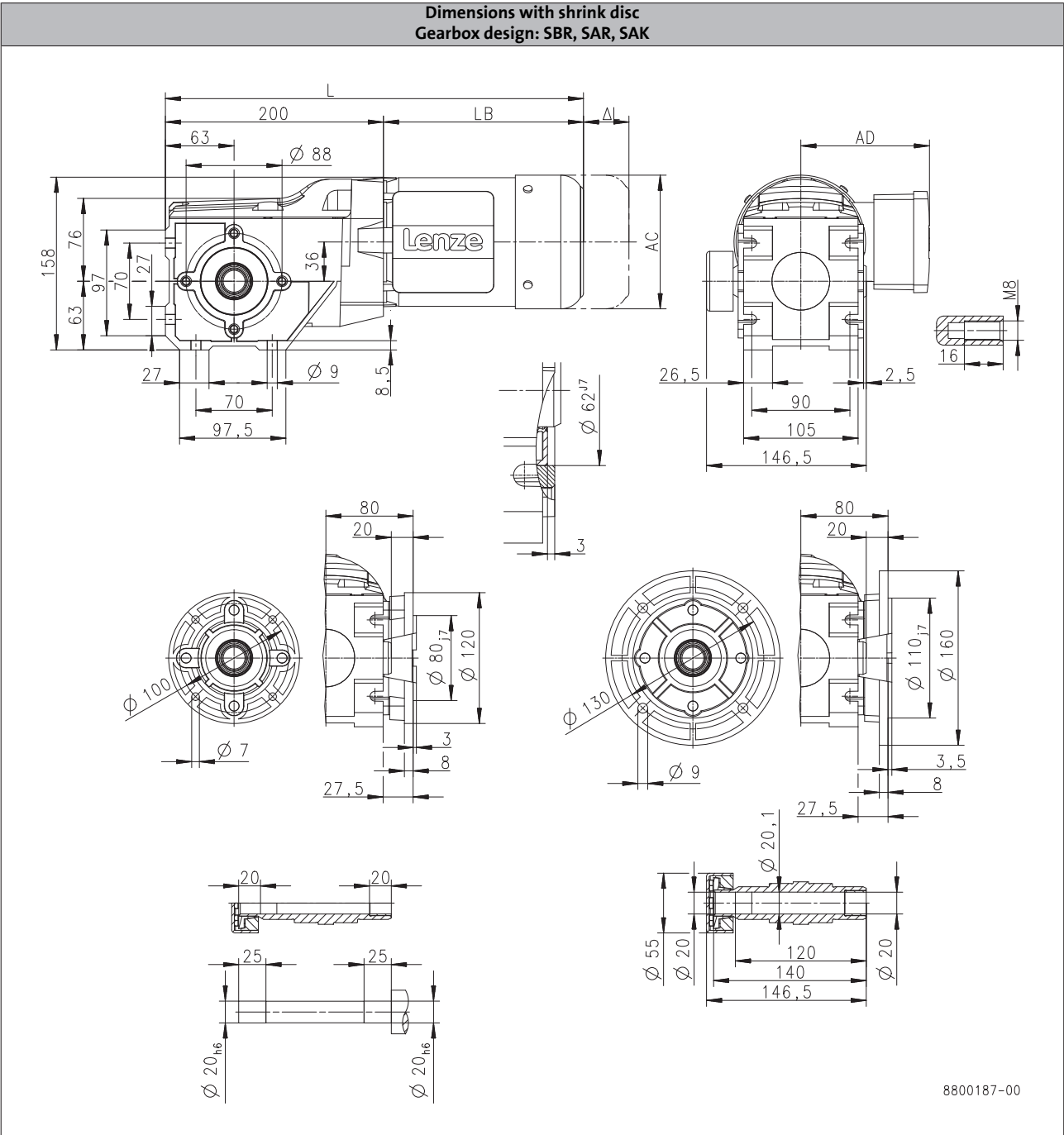
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B110

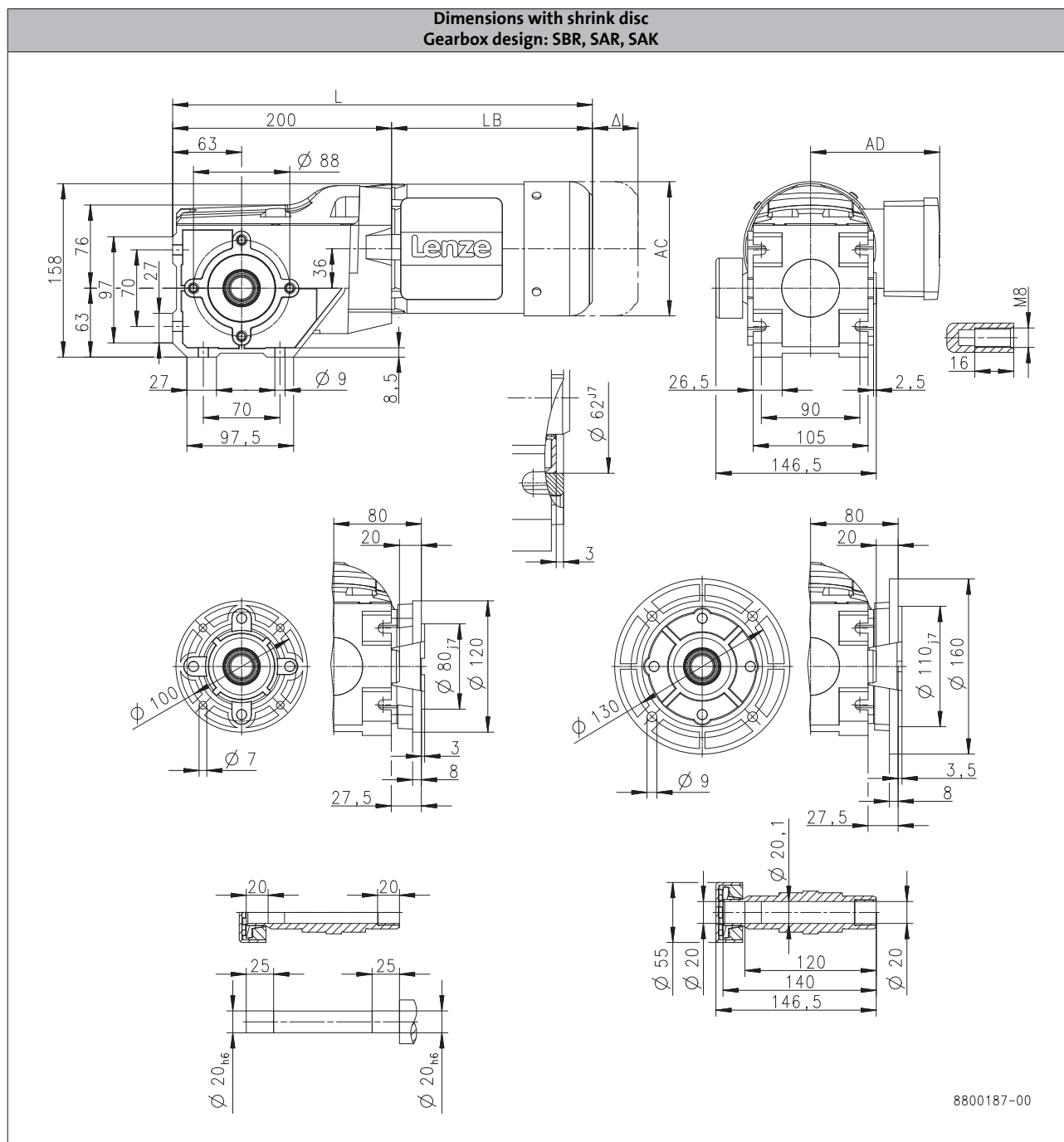


		MD□MA□□				
		063-12	063-32	063-42	071-32	071-42
Total length	L [mm]		383		403	
Motor length	LB [mm]		183		203	
Length of motor options	Δ L [mm]		40.0		52.0	
Motor diameter	AC [mm]		123		139	
Distance motor/connection	AD [mm]		107		118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-B110



			m240		
			-P80/M4	-P90/L4	-P90/M4
Total length	L	[mm]	425	494	
Motor length	LB	[mm]	225	294	
Length of motor options	Δ L	[mm]	107	92.0	
Motor diameter	AC	[mm]	158	172	
Distance motor/connection	AD	[mm]	148	155	

6.5 - 106

Lenze | V00-en_GB-05/2016

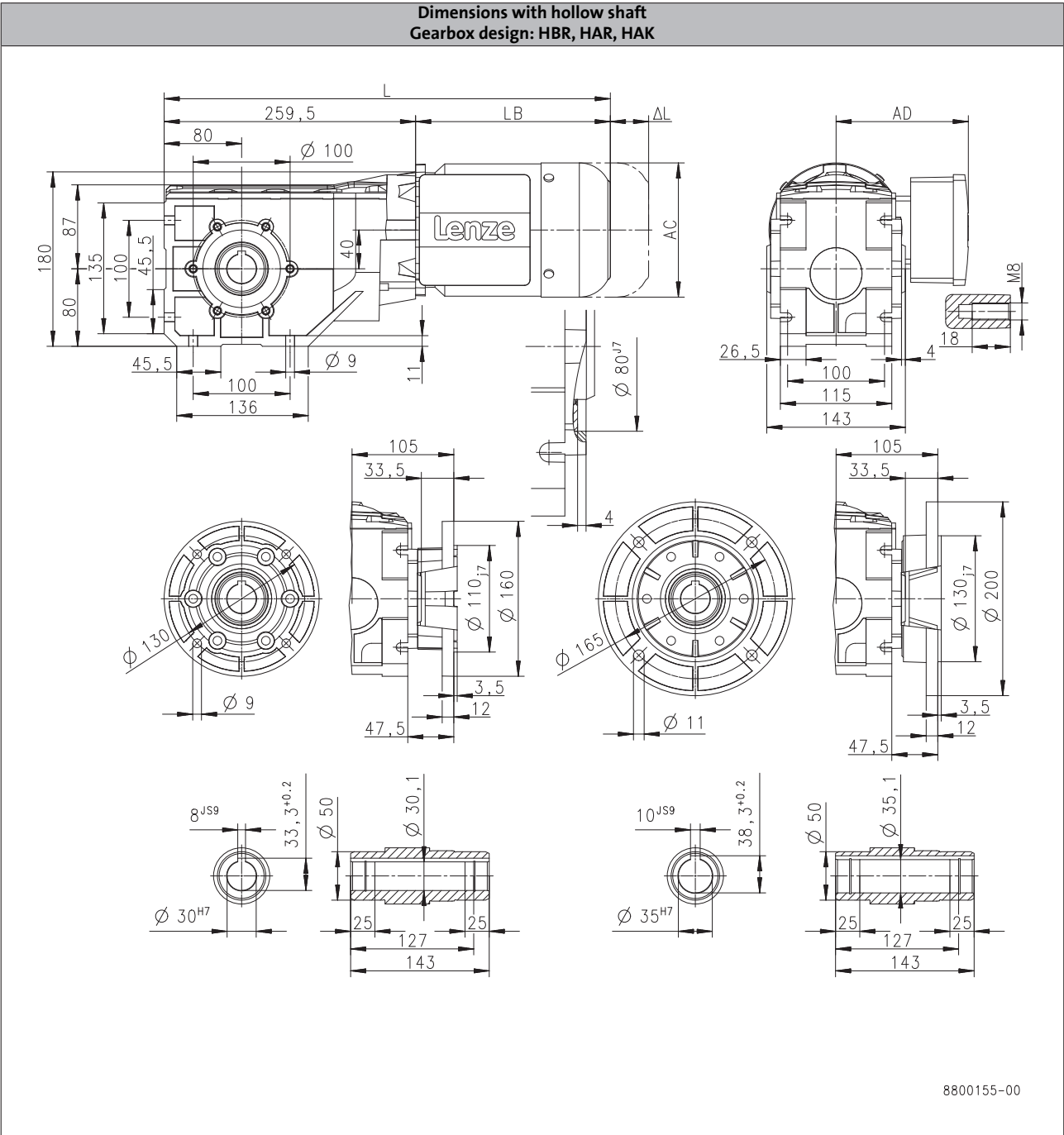
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B240



			MD□MA□□				
			063-12	063-32	063-42	071-32	071-42
Total length	L	[mm]	443			463	
Motor length	LB	[mm]	183			203	
Length of motor options	Δ L	[mm]	40.0			52.0	
Motor diameter	AC	[mm]	123			139	
Distance motor/connection	AD	[mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-B240

[illegible]

8800155-00

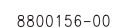
			m240				
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4
Total length	L	[mm]	485	554		616	
Motor length	LB	[mm]	225	294		356	
Length of motor options	Δ L	[mm]	107	92.0		103	
Motor diameter	AC	[mm]	158	172		192	
Distance motor/connection	AD	[mm]	148	155		164	

6.5 - 108

Lenze | V00-en GB-05/2016

Dimensions, 4-pole motors

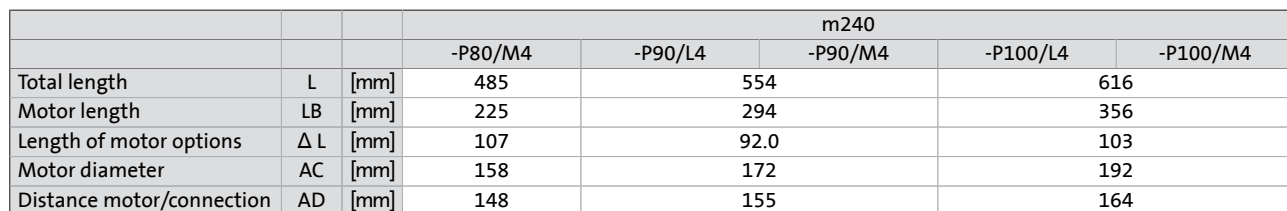
g500-B240



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-B240



6.5 - 110

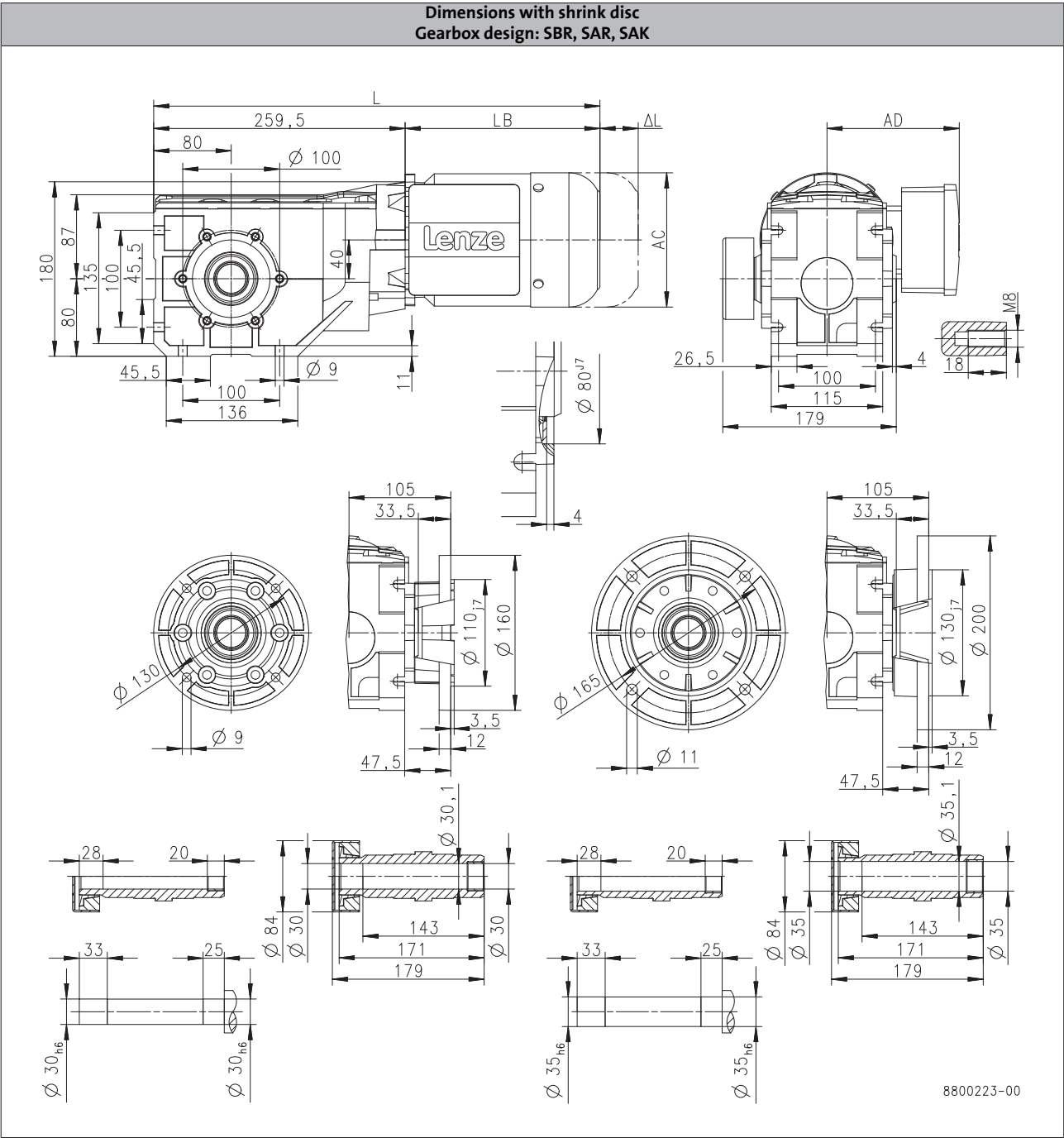
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B240



		MD□MA□□				
			063-12	063-32	063-42	071-32
						071-42
Total length	L	[mm]		443		463
Motor length	LB	[mm]		183		203
Length of motor options	Δ L	[mm]		40.0		52.0
Motor diameter	AC	[mm]		123		139
Distance motor/connection	AD	[mm]		107		118

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-B240

[illegible]

8800223-00

			m240				
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4
Total length	L	[mm]	485	554		616	
Motor length	LB	[mm]	225	294		356	
Length of motor options	Δ L	[mm]	107	92.0		103	
Motor diameter	AC	[mm]	158	172		192	
Distance motor/connection	AD	[mm]	148	155		164	

6.5 - 112

Lenze | V00-en GB-05/2016

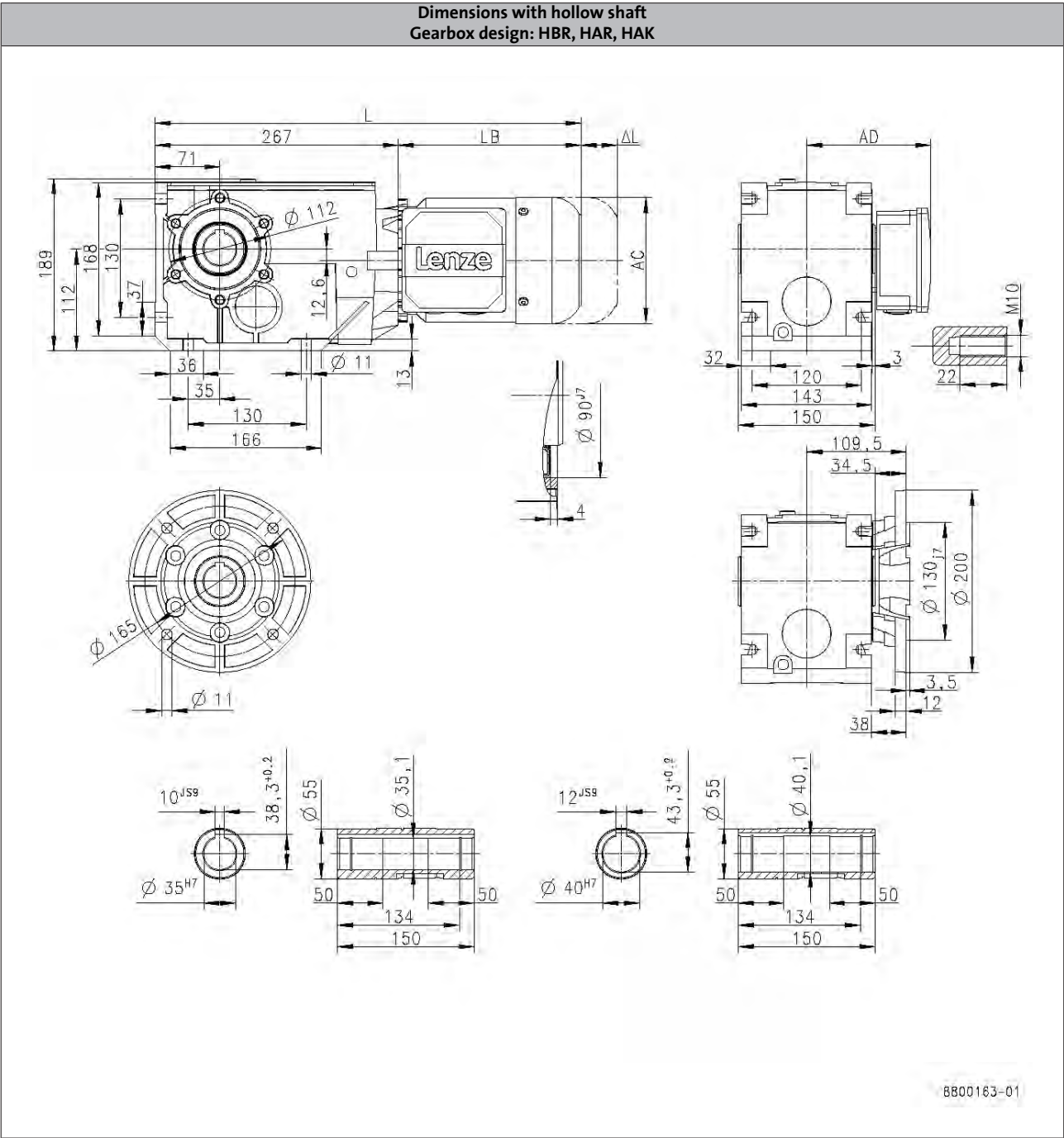
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B450



		MD□MA□□				
		063-12	063-32	063-42	071-32	071-42
Total length	L [mm]	450			470	
Motor length	LB [mm]	183			203	
Length of motor options	Δ L [mm]	40.0			52.0	
Motor diameter	AC [mm]	123			139	
Distance motor/connection	AD [mm]	107			118	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

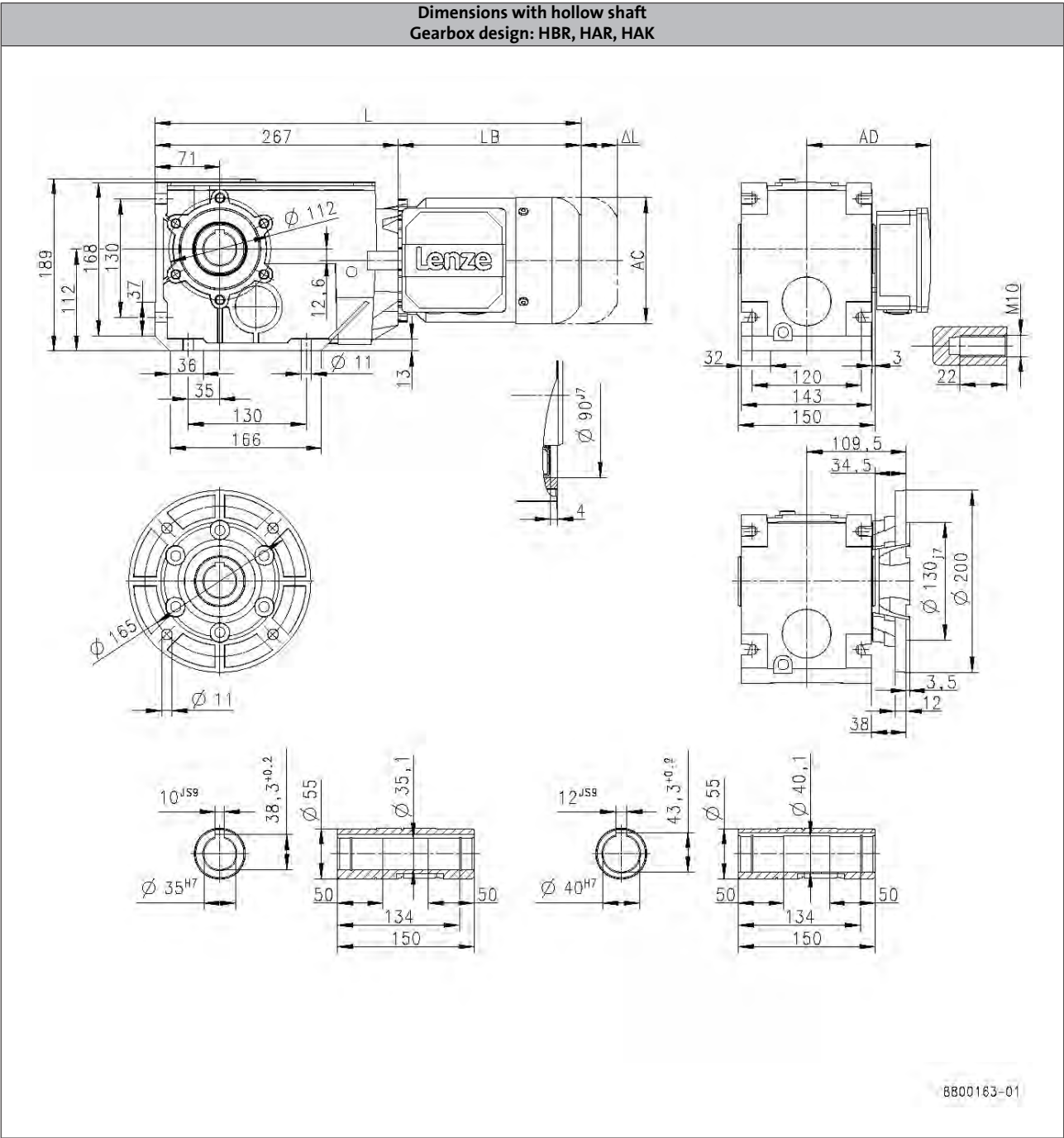
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

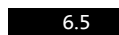
g500-B450



			m240							
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4	-P132/L4	-P132/M4
Total length	L	[mm]	492	561		623		610	685	
Motor length	LB	[mm]	225	294		356		343	418	
Length of motor options	Δ L	[mm]	107	92.0		103		111	118	
Motor diameter	AC	[mm]	158	172		192		210	281	
Distance motor/connection	AD	[mm]	148	155		164		171	182	

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

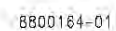
g500-B450



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-B450



L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

Dimensions, 4-pole motors

g500-B450

Technical drawing of a Lenze motor with dimensions in mm. The drawing includes a front view, a top view, a side view, and a detail view of the mounting flange. Dimensions are given in mm. The motor is labeled 'Lenze'.

Front View Dimensions:

- Overall length: 267
- Distance from mounting flange to center of motor: 71
- Distance from mounting flange to center of motor: 112
- Distance from mounting flange to center of motor: 168
- Distance from mounting flange to center of motor: 130
- Distance from mounting flange to center of motor: 37
- Distance from mounting flange to center of motor: 12.6
- Distance from mounting flange to center of motor: 13
- Distance from mounting flange to center of motor: 36
- Distance from mounting flange to center of motor: 35
- Distance from mounting flange to center of motor: 130
- Distance from mounting flange to center of motor: 166
- Distance from mounting flange to center of motor: 11
- Distance from mounting flange to center of motor: 112
- Distance from mounting flange to center of motor: 168
- Distance from mounting flange to center of motor: 130
- Distance from mounting flange to center of motor: 37
- Distance from mounting flange to center of motor: 12.6
- Distance from mounting flange to center of motor: 13
- Distance from mounting flange to center of motor: 36
- Distance from mounting flange to center of motor: 35
- Distance from mounting flange to center of motor: 130
- Distance from mounting flange to center of motor: 166
- Distance from mounting flange to center of motor: 11

Top View Dimensions:

- Overall width: 189
- Distance from mounting flange to center of motor: 112
- Distance from mounting flange to center of motor: 168
- Distance from mounting flange to center of motor: 130
- Distance from mounting flange to center of motor: 37
- Distance from mounting flange to center of motor: 12.6
- Distance from mounting flange to center of motor: 13
- Distance from mounting flange to center of motor: 36
- Distance from mounting flange to center of motor: 35
- Distance from mounting flange to center of motor: 130
- Distance from mounting flange to center of motor: 166
- Distance from mounting flange to center of motor: 11

Side View Dimensions:

- Overall height: 189
- Distance from mounting flange to center of motor: 112
- Distance from mounting flange to center of motor: 168
- Distance from mounting flange to center of motor: 130
- Distance from mounting flange to center of motor: 37
- Distance from mounting flange to center of motor: 12.6
- Distance from mounting flange to center of motor: 13
- Distance from mounting flange to center of motor: 36
- Distance from mounting flange to center of motor: 35
- Distance from mounting flange to center of motor: 130
- Distance from mounting flange to center of motor: 166
- Distance from mounting flange to center of motor: 11

Detail View Dimensions:

- Overall width: 189
- Distance from mounting flange to center of motor: 112
- Distance from mounting flange to center of motor: 168
- Distance from mounting flange to center of motor: 130
- Distance from mounting flange to center of motor: 37
- Distance from mounting flange to center of motor: 12.6
- Distance from mounting flange to center of motor: 13
- Distance from mounting flange to center of motor: 36
- Distance from mounting flange to center of motor: 35
- Distance from mounting flange to center of motor: 130
- Distance from mounting flange to center of motor: 166
- Distance from mounting flange to center of motor: 11

6800228-01

L = length of the motor without built-on accessories
 ΔL = additional length of the built-on accessories (with brake)

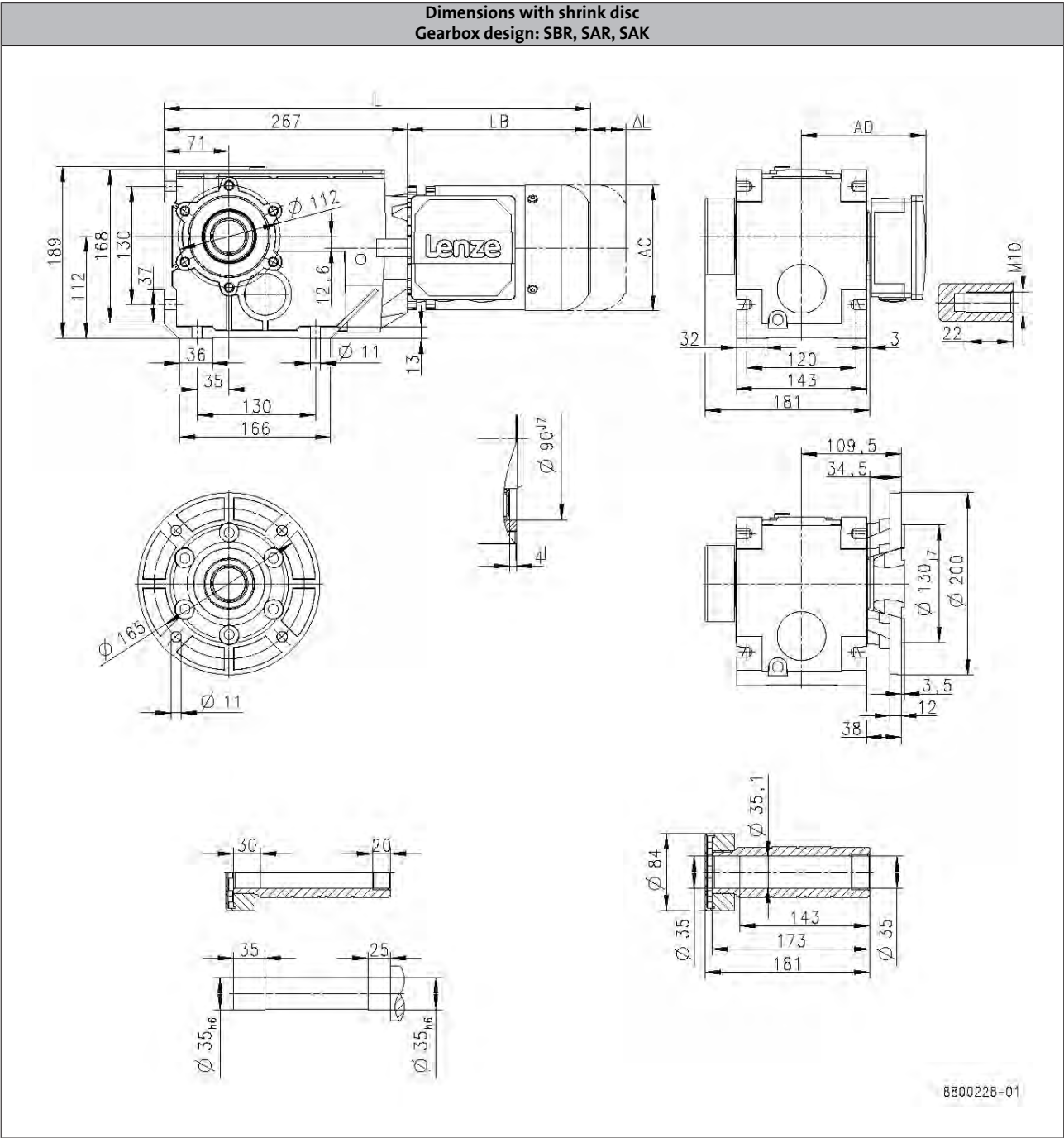
g500-B bevel geared motors

Technical data



Dimensions, 4-pole motors

g500-B450



			m240							
			-P80/M4	-P90/L4	-P90/M4	-P100/L4	-P100/M4	-P112/M4	-P132/L4	-P132/M4
Total length	L	[mm]	492	561		623		610		685
Motor length	LB	[mm]	225	294		356		343		418
Length of motor options	Δ L	[mm]	107	92.0		103		111		118
Motor diameter	AC	[mm]	158	172		192		210		281
Distance motor/connection	AD	[mm]	148	155		164		171		182

L = length of the motor without built-on accessories
ΔL = additional length of the built-on accessories (with brake)

g500-B bevel geared motors

Technical data



Weights, 2-pole motors

2-stage gearboxes

Product		Mass
		m
		[kg]
g500-B110	MD□MA□□063-11	8.40
	MD□MA□□063-31	8.30
	MD□MA□□071-11	10.5
	MD□MA□□071-31	11.0
	m240-P80/L2	16.9
	m240-P80/M2	
	m240-P90/L2	22.4
	m240-P90/M2	
g500-B240	MD□MA□□063-31	12.1
	MD□MA□□071-11	14.3
	MD□MA□□071-31	14.8
	m240-P80/L2	20.7
	m240-P80/M2	
	m240-P90/L2	26.2
	m240-P90/M2	
	m240-P100/M2	34.6

3-stage gearboxes

Product		Mass
		m
		[kg]
g500-B240	MD□MA□□063-31	12.3
	MD□MA□□071-11	14.5
	MD□MA□□071-31	15.0
	m240-P80/L2	20.9
	m240-P80/M2	
g500-B450	MD□MA□□063-11	15.4
	MD□MA□□063-31	15.3
	MD□MA□□071-11	17.5
	MD□MA□□071-31	18.0
	m240-P80/L2	23.9
	m240-P80/M2	
	m240-P90/L2	29.4
	m240-P90/M2	
	m240-P100/M2	37.8
	m240-P112/M2	42.9

g500-B bevel geared motors

Technical data



Weights, 4-pole motors

2-stage gearboxes

Product		Mass
		m
		[kg]
g500-B45	MD□MA□□063-02	6.70
	MD□MA□□063-12	7.00
	MD□MA□□063-22	6.70
	MD□MA□□063-32	7.00
	MD□MA□□063-42	7.30
	MD□MA□□071-32	8.70
	MD□MA□□071-42	9.30
g500-B110	MD□MA□□063-12	8.60
	MD□MA□□063-32	
	MD□MA□□063-42	8.90
	MD□MA□□071-32	10.3
	MD□MA□□071-42	10.9
	m240-P80/M4	19.4
	m240-P90/L4	24.4
	m240-P90/M4	23.4
g500-B240	MD□MA□□063-12	12.4
	MD□MA□□063-32	
	MD□MA□□063-42	12.7
	MD□MA□□071-32	14.1
	MD□MA□□071-42	14.7
	m240-P80/M4	23.2
	m240-P90/L4	28.2
	m240-P90/M4	27.2
	m240-P100/L4	39.2
	m240-P100/M4	34.2

g500-B bevel geared motors

Technical data



Weights, 4-pole motors

3-stage gearboxes

Product		Mass
		m
		[kg]
g500-B240	MD□MA□□063-12	12.6
	MD□MA□□063-32	
	MD□MA□□063-42	12.9
	MD□MA□□071-32	14.3
	MD□MA□□071-42	14.9
g500-B450	MD□MA□□063-12	15.6
	MD□MA□□063-32	
	MD□MA□□063-42	15.9
	MD□MA□□071-32	17.3
	MD□MA□□071-42	17.9
	m240-P80/M4	26.4
	m240-P90/L4	31.4
	m240-P90/M4	30.4
	m240-P100/L4	42.4
	m240-P100/M4	37.4
	m240-P112/M4	45.4
	m240-P132/L4	68.4
	m240-P132/M4	66.4

g500-B bevel geared motors

Technical data



Additional weights for gearboxes

Product			g500-B45	g500-B110	g500-B240	g500-B450
Mass						
Solid shaft	m	[kg]	0.4	0.5	1.4	1.3
Shrink disc	m	[kg]	0.2	0.2	0.7	0.6
Flange	m	[kg]	0.3	0.4	0.7	0.9

Additional weights for motors

2-pole motors

Product			MD□MA□□		m240				
			063-11 063-31	071-11 071-31	-P80/L2 -P80/M2	-P90/L2 -P90/M2	-P100/M2	-P112/M2	-P132/L2 -P132/M2
Brake			06	06 08	08 10		10 12	12 14	14 16
	m	[kg]	0.9	0.9 1.5	1.5 2.6		2.6 4.2	4.2 5.8	5.8 8.7

4-pole motors

Product			MD□MA□□			m550				
			063-02 063-22	063-12 063-32 063-42	071-32 071-42	-P80/M4	-P90/L4 -P90/M4	-P100/L4 -P100/M4	-P112/M4	-P132/L4 -P132/M4
Brake			06		06 08	08 10		10 12	12 14	14 16
	m	[kg]	0.9		0.9 1.5	1.5 2.6		2.6 4.2	4.2 5.8	5.8 8.7



Torque plate

Torque support is usually effected by means of the foot or flange. Another simple possibility is provided by the attachable torque plates. Here, torque support is implemented solely via one point, which, among other things, is suitable for shaft-mounted gearboxes. Supplied rubber buffers provide for mounting with minimum stress and absorb light shocks.

The torque plates are available in two designs, for mounting on the available threaded pitch circle, or for the gearbox foot.

In addition, torque support for the g500-B45 gearbox can be effected via the holding fixture of the housing, which is integrated on both sides, by means of a rubber buffer.

The rubber buffers can be ordered optionally.

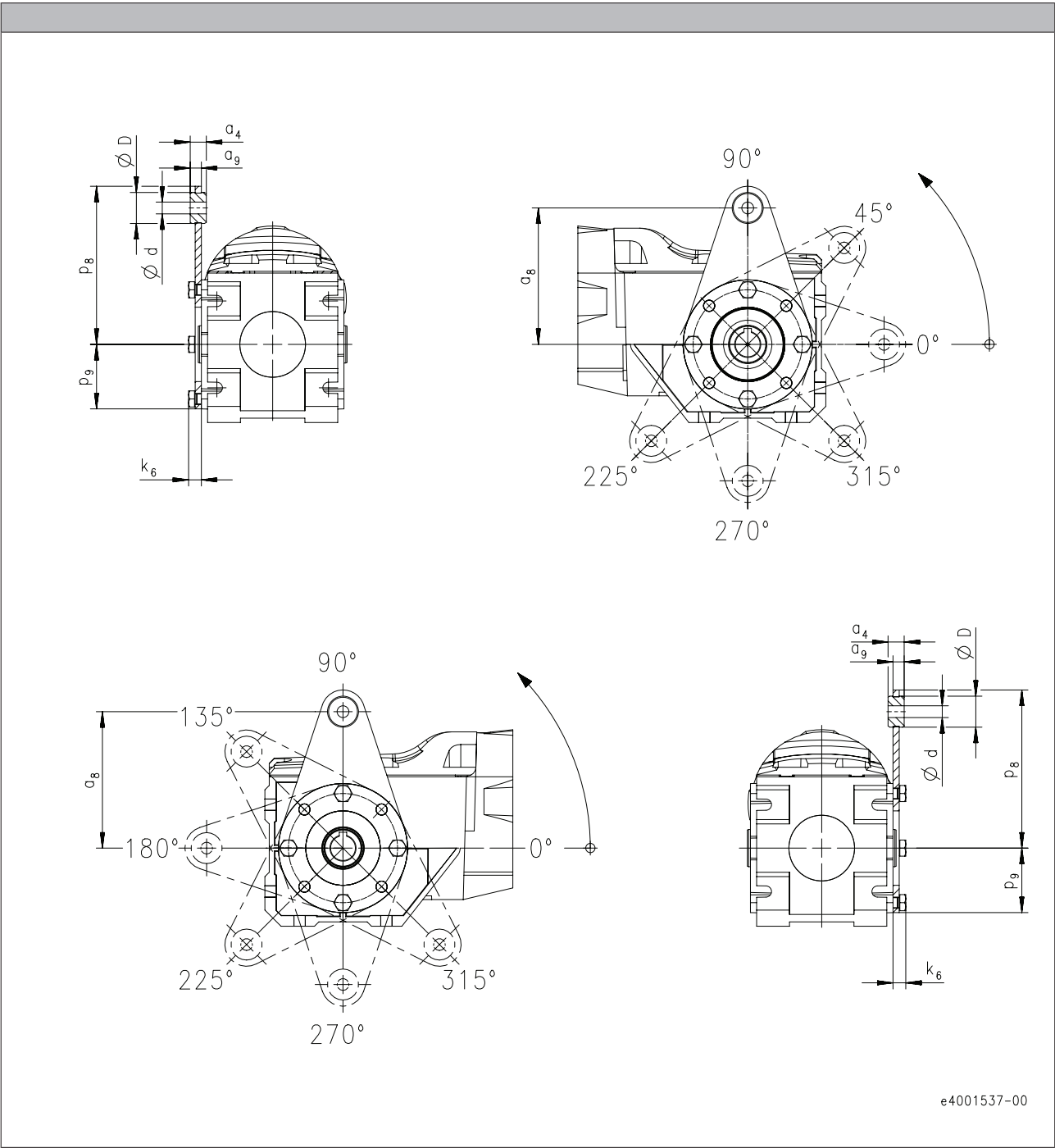
g500-B bevel gearbox

Product extensions



Torque plate

Torque plate on threaded pitch circle



6.5

Product	Dimensions								Mass
	a ₄	a ₈	a ₉	d	D	p ₈	p ₉	k ₆	m
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
g500-B45	12.0	100	8.0	8.0	20.0	115	42.0	9.0	0.3
g500-B110	13.0	110	9.0	10.0	25.0	128	54.0	11.0	0.5

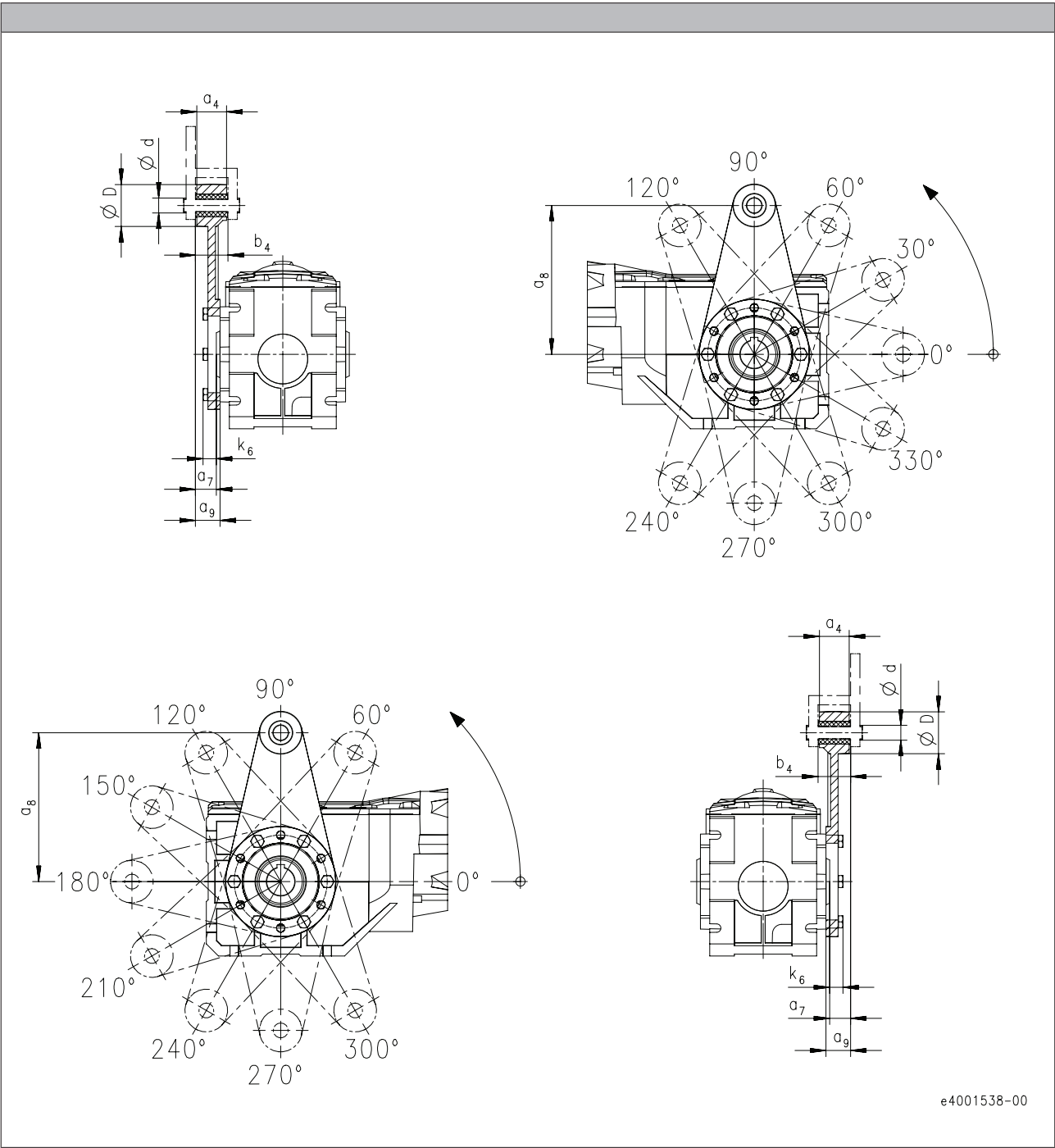
g500-B bevel gearbox

Product extensions



Torque plate

Torque plate on threaded pitch circle



e4001538-00

Product	Dimensions								Mass
	a ₄	a ₇	a ₈	a ₉	b ₄	d	D	k ₆	m
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
g500-B240	34.0	23.5	160	27.5	38.5	16.0	45.0	15.0	1.3
g500-B450	40.0	29.0	200	32.0	44.5	20.0	50.0	18.0	2.5

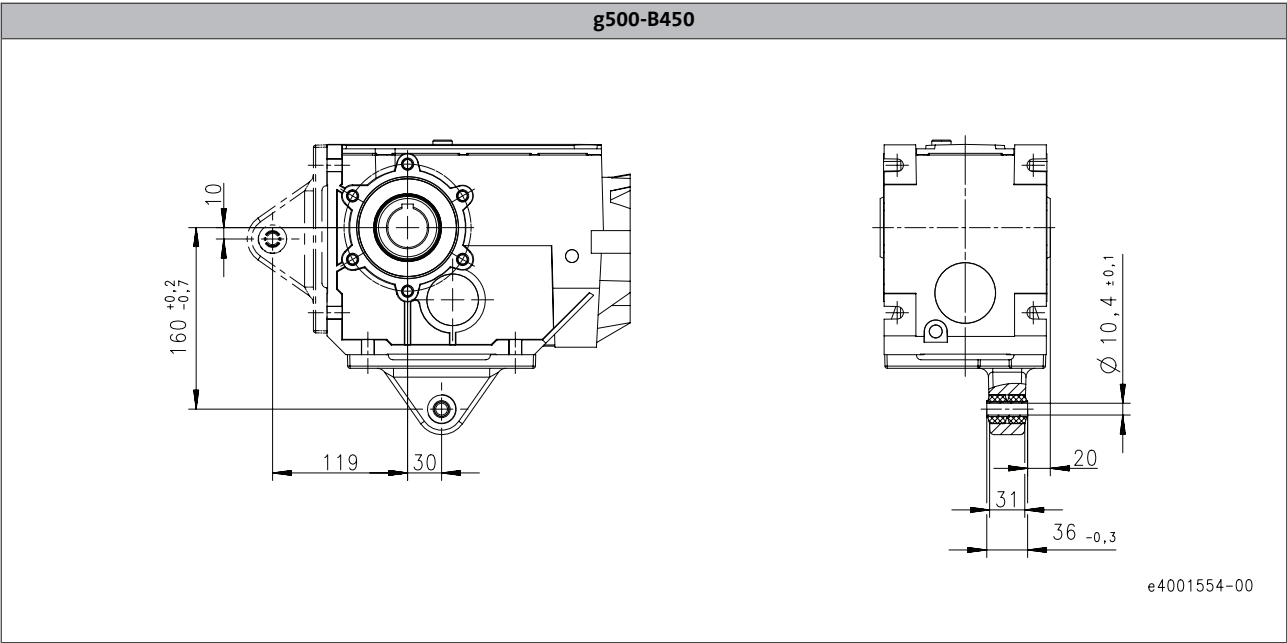
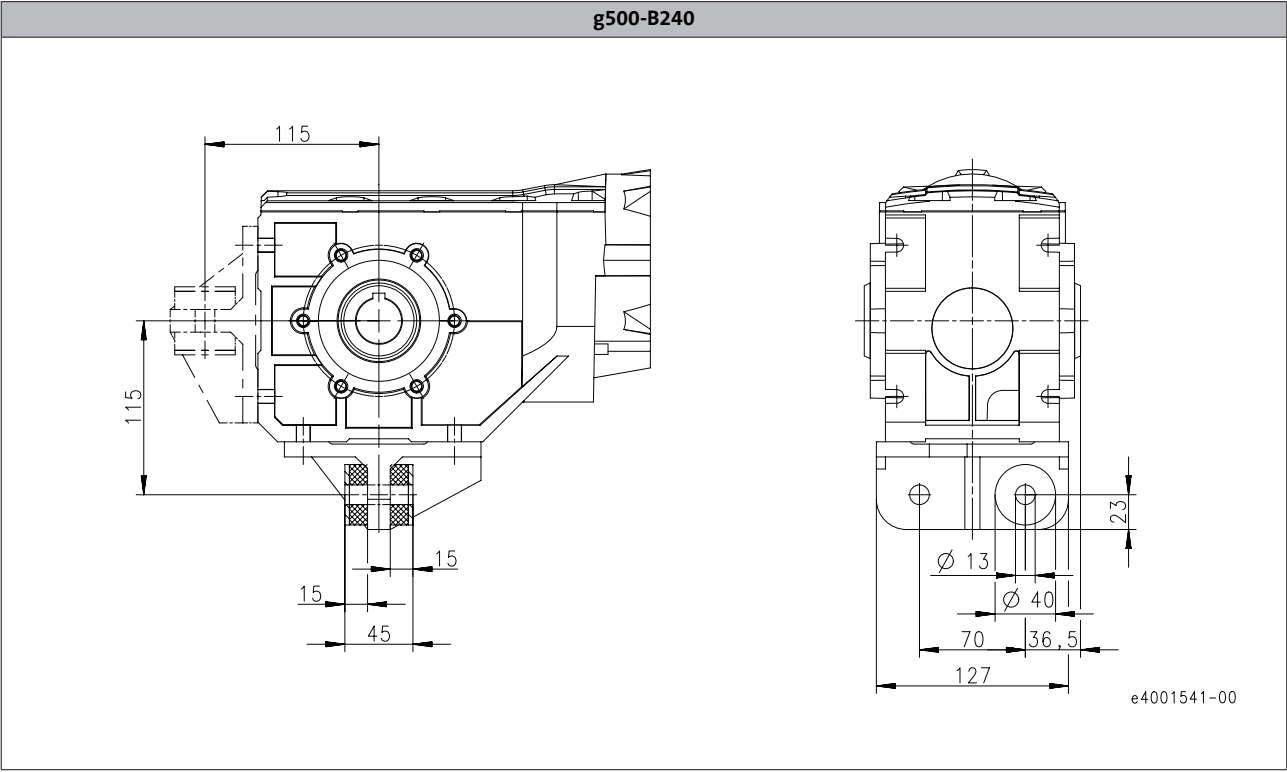
g500-B bevel gearbox

Product extensions



Torque plate

Torque plate at housing foot

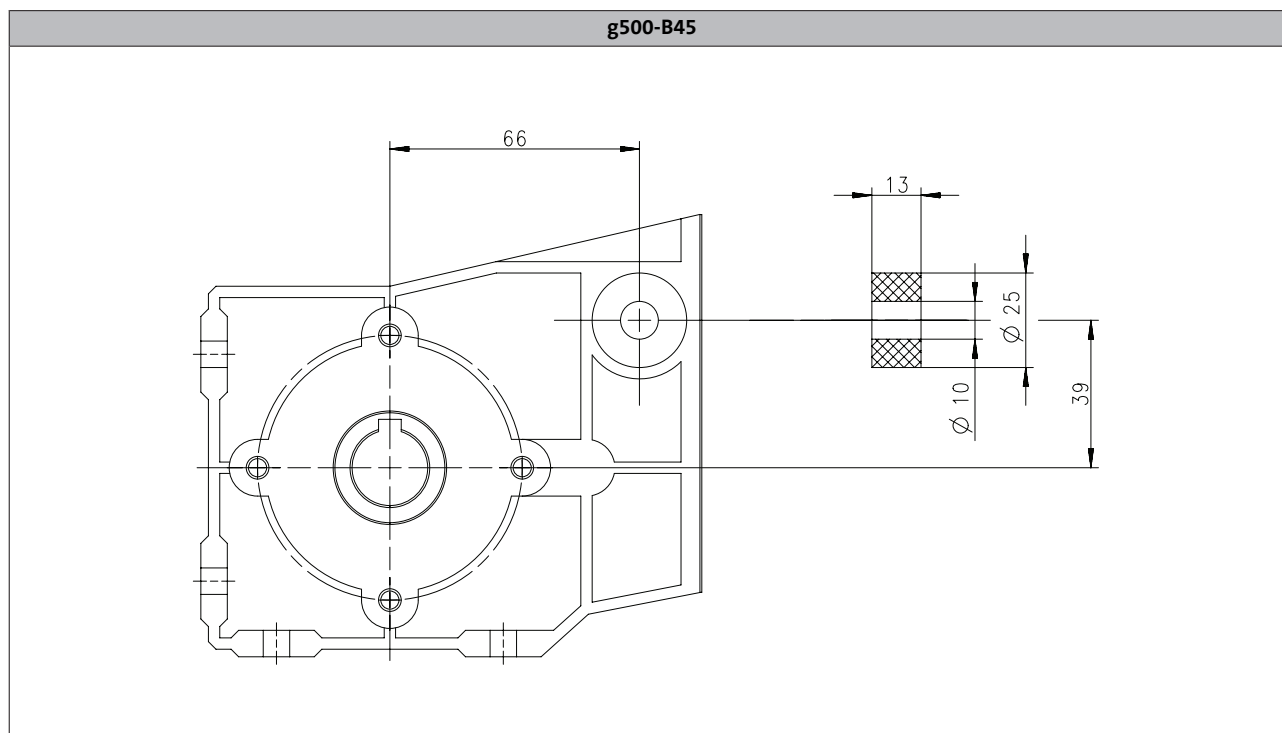


Product	Mass
	m
	[kg]
g500-B240	2.4
g500-B450	1.1



Torque plate

Rubber buffer for torque plate



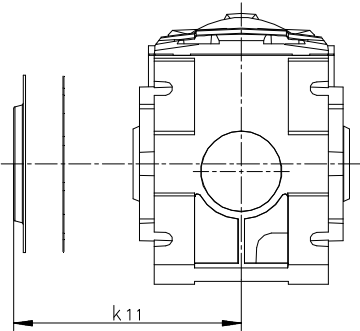


Shaft cover

Hoseproof hollow shaft cover

The cover protects the hollow shaft from objects falling in. It is sealed by a flat gasket between cover and housing. Thus, the hollow shaft is protected from dust and water jets.

The cover is loosely enclosed and can be mounted on both sides of the hollow shaft bore.



Product	Dimensions	Mass
	k ₁₁	m
	[mm]	[kg]
g500-B45	55.0	0.1
g500-B110	65.0	0.1
g500-B240	75.0	0.1
g500-B450	79.5	0.2

g500-B bevel gearbox

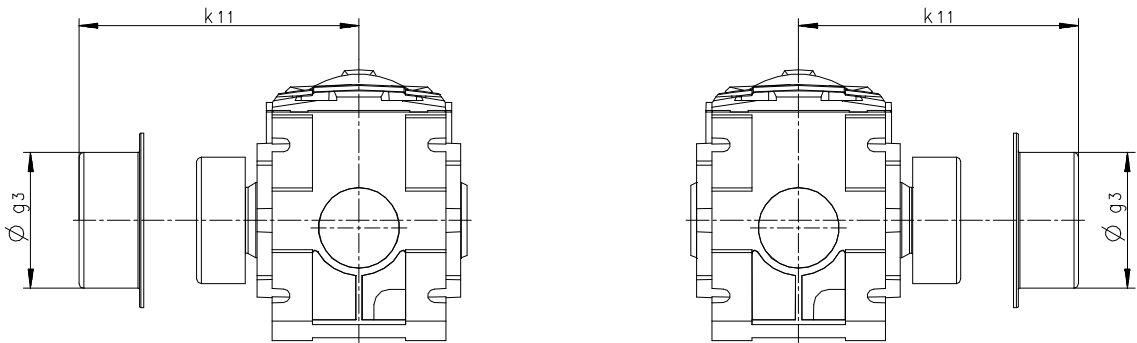
Product extensions



Shaft cover

Shrink disc cover

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



Product	Dimensions		Mass
	g ₃ [mm]	k ₁₁ [mm]	m [kg]
g500-B45	65.0	87.5	0.1
g500-B110	79.0	97.5	0.1
g500-B240	90.0	111	0.1
g500-B450	90.0	108	0.1

g500-B bevel gearbox

Product extensions



g500-B bevel geared motors

Appendix



Gearbox code

Example		G	50	A	B	045	M	H	B	R	2	C
Meaning	Variant											
Product family		G	50									
Generation				A								
				B								
Gearbox type	Bevel gearbox				B							
Output torque	45 Nm					045						
	110 Nm					111						
	240 Nm					124						
	450 Nm					145						
Mounting	Motor						M					
Shaft type	Solid shaft with feather key							V				
	Hollow shaft with keyway							H				
	Hollow shaft with shrink disc							S				
Housing type	Foot mounting + centering								A			
	Foot mounting								B			
	Centering								C			
Flange mounting	Without flange									R		
	Flange with through holes									k		
Number of stages	2-stage										2	
	3-stage										3	
Motor mounting	Integrated											C
	IEC motor											N

g500-B bevel geared motors

Appendix



Motor code

Example		M	D	E	MA	XX	063	-	4	2	C1	C
Meaning	Variant	Motor code										
Product family		M										
Efficiency class	IE1		D									
Cooling	Natural ventilation			S								
	Integral fan			E								
	Blower			F								
Internal key					MA							
Built-on accessories	Without built-on accessories					XX						
	Brake					BR						
	Brake + resolver					BS						
	Brake + incremental encoder					BI						
	Brake + SinCos absolute value encoder					BA						
	Resolver					RS						
	Incremental encoder					IG						
	SinCos absolute value encoder					AG						
Size							063					
							071					
Overall length									0			
									1			
									2			
									3			
									4			
Number of pole pairs	4-pole motors									2		
	2-pole motors									1		
Internal key											C1	
Approval	CE											C
	cURus											U
	CCC											3



Motor code

Example	M24A	P	080	M	04	5	E	0	0	W	T
Meaning	Variant	Motor code									
Efficiency class	Premium - IE3	P									
Size			080								
			090								
			100								
			112								
			132								
			160								
			180								
			200								
			225								
Overall length	Medium			M							
	Long			L							
	Very long			V							
Number of poles	2-pole				02						
	4-pole				04						
Degree of protection	IP55					5					
Cooling	Integral fan						E				
Brake attachment	Without brake							0			
	Spring-applied brake							F			
Actual value encoder	Without encoder								0		
Approval	CE									C	
	none									N	
Design type	Internal key										T

g500-B bevel gearbox

Product extensions



g500-B bevel gearbox

Product extensions

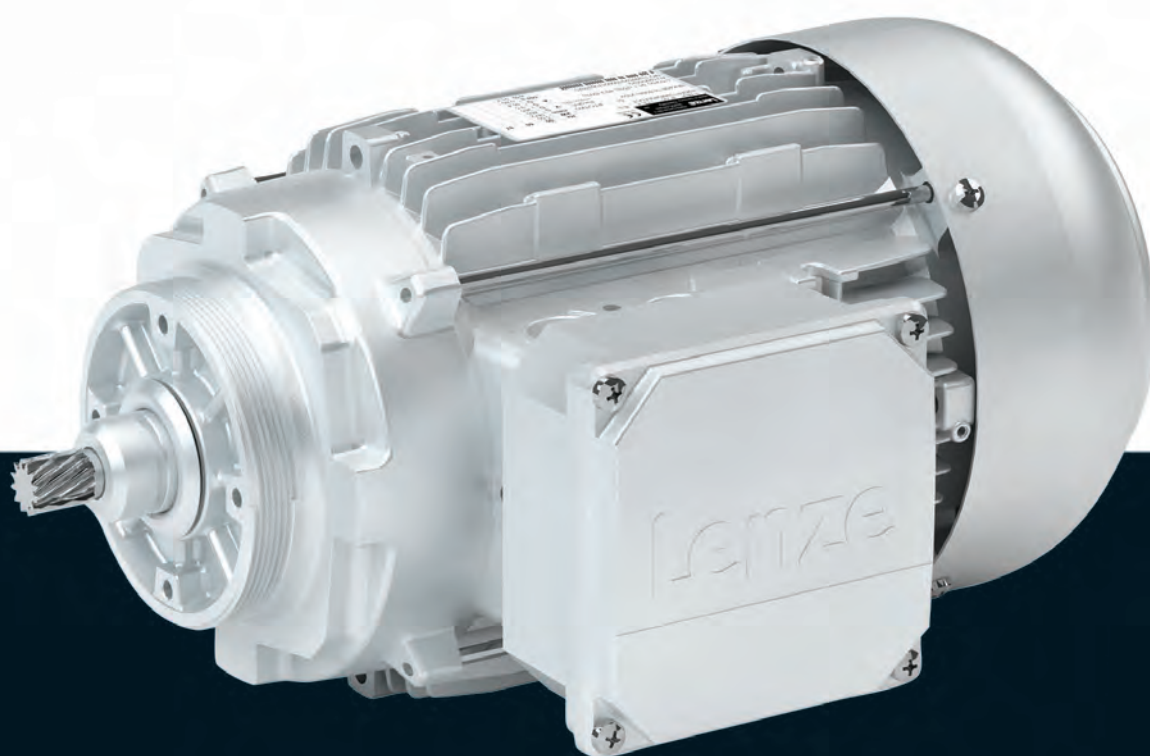


g500-B bevel gearbox

Product extensions



Motor data



Motor data

Contents



Technical data	Rated data for 50 Hz	6.6 - 4
Product extensions	Motor connection	6.6 - 9
	Connection via terminal box	6.6 - 11
	Spring-applied brake	6.6 - 14
	Temperature monitoring	6.6 - 27

Motor data

Technical data



Rated data for 50 Hz

2-pole motors

Product	P_N	n_N	n_{max}	$U_{N,\Delta}$	$I_{N,\Delta}$	$U_{N,Y}$	$I_{N,Y}$	I_a/I_N
				$\pm 10\%$		$\pm 10\%$		
	[kW]	[r/min]	[r/min]	[V]	[A]	[V]	[A]	
MD□MA□□063-11	0.060	1425	4500	230	0.42	400	0.24	3.5
MD□MA□□063-31	0.090	1375	4500	230	0.48	400	0.28	2.9
MD□MA□□071-11	0.12	1425	4500	230	0.85	400	0.49	3.1
MD□MA□□071-31	0.18	1365	4500	230	1.00	400	0.58	2.7

Product	M_N	M_a	M_b	$\cos \phi$	$\eta_{75\%}$	$\eta_{100\%}$	$J^{1)}$	$m^{1)}$
	[Nm]	[Nm]	[Nm]		[%]	[%]	[kgcm ²]	[kg]
MD□MA□□063-11	0.40	1.30	1.36	0.57	59.0	63.0	1.70	3.90
MD□MA□□063-31	0.63	1.30	1.39	0.71	63.0	65.0	1.70	3.80
MD□MA□□071-11	0.80	2.50	2.64	0.56	58.0	63.0	5.10	6.00
MD□MA□□071-31	1.26	2.50	2.61	0.70	63.0	64.0	5.10	6.50

¹⁾ Without accessories

Motor data

Technical data



Rated data for 50 Hz

2-pole motors

Product	P_N	n_N	$U_{N,\Delta}$	$I_{N,\Delta}$	$U_{N,Y}$	$I_{N,Y}$	I_a/I_N
	[kW]	[r/min]	[V]	[A]	[V]	[A]	
m240-P80/M2	0.75	2885	230	2.90	400	1.70	9.1
m240-P80/L2	1.10	2905	230	3.80	400	2.20	10.2
m240-P90/M2	1.50	2925	230	5.50	400	3.20	9.3
m240-P90/L2	2.20	2911	230	7.50	400	4.30	9.2
m240-P100/M2	3.00	2936	230	9.20	400	5.30	8.4
m240-P112/M2	4.00	2917	400	7.30			11.0
m240-P132/M2	5.50	2930	400	9.70			11.4
m240-P132/L2	7.50	2935	400	13.2			10.3

Product	M_N	M_a	M_b	$\cos \phi$	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	$J^{1)}$	$m^{1)}$
	[Nm]	[Nm]	[Nm]		[%]	[%]	[%]	[kgcm ²]	[kg]
m240-P80/M2	2.50	11.3	12.5	0.86	74.4	78.9	80.7	19.0	12.5
m240-P80/L2	3.60	14.4	19.1	0.86	77.5	81.5	82.9	15.0	12.5
m240-P90/M2	4.90	19.6	18.6	0.84	81.2	83.8	84.2	22.7	18.0
m240-P90/L2	7.20	21.6	25.2	0.88	83.7	84.9	85.9	26.0	18.0
m240-P100/M2	9.80	39.2	49.0	0.93	85.9	87.8	87.1	50.9	26.4
m240-P112/M2	13.1	48.5	72.0	0.90	85.7	87.9	88.4	49.0	31.5
m240-P132/M2	18.0	57.6	70.2	0.91	86.7	88.9	89.2	141	47.0
m240-P132/L2	24.5	103	120	0.91	88.9	90.1	90.1	160	53.0

¹⁾ Without accessories

Motor data

Technical data



Rated data for 50 Hz

4-pole motors

Product	P_N	n_N	n_{max}	$U_{N,\Delta}$	$I_{N,\Delta}$	$U_{N,Y}$	$I_{N,Y}$	I_a/I_N
				$\pm 10\%$		$\pm 10\%$		
	[kW]	[r/min]	[r/min]	[V]	[A]	[V]	[A]	
MD□MA□□063-02	0.060	1425	4500	230	0.42	400	0.24	3.5
MD□MA□□063-22	0.090	1375	4500	230	0.48	400	0.28	2.9
MD□MA□□063-12	0.12	1425	4500	230	0.85	400	0.49	3.1
MD□MA□□063-32	0.18	1365	4500	230	1.00	400	0.58	2.7
MD□MA□□063-42	0.25	1370	4500	230	1.40	400	0.82	2.9
MD□MA□□071-32	0.37	1410	4500	230	1.60	400	0.95	3.3
MD□MA□□071-42	0.55	1405	4500	230	2.40	400	1.40	3.5

Product	M_N	M_a	M_b	$\cos \phi$	$\eta_{75\%}$	$\eta_{100\%}$	$J^{1)}$	$m^{1)}$
	[Nm]	[Nm]	[Nm]		[%]	[%]	[kgcm ²]	[kg]
MD□MA□□063-02	0.40	1.30	1.36	0.57	59.0	63.0	3.30	3.90
MD□MA□□063-22	0.63	1.30	1.39	0.71	63.0	65.0	3.30	3.90
MD□MA□□063-12	0.80	2.50	2.64	0.56	58.0	63.0	3.30	4.10
MD□MA□□063-32	1.26	2.50	2.61	0.70	63.0	64.0	3.30	4.10
MD□MA□□063-42	1.74	3.80	4.10	0.67	65.0	66.0	3.70	4.40
MD□MA□□071-32	2.51	4.76	5.81	0.77	73.0	73.0	10.7	5.80
MD□MA□□071-42	3.74	7.85	9.12	0.77	74.0	74.0	12.8	6.40

¹⁾ Without accessories

Motor data

Technical data



Rated data for 50 Hz

4-pole motors

Product	P_N	n_N	$U_{N,\Delta}$	$I_{N,\Delta}$	$U_{N,Y}$	$I_{N,Y}$	I_a/I_N
	[kW]	[r/min]	[V]	[A]	[V]	[A]	
m240-P80/M4	0.75	1443	230	2.90	400	1.70	6.9
m240-P90/M4	1.10	1445	230	4.20	400	2.40	7.2
m240-P90/L4	1.50	1435	230	5.80	400	3.30	7.5
m240-P100/M4	2.20	1446	230	7.80	400	4.50	8.0
m240-P100/L4	3.00	1453	230	10.9	400	6.30	9.5
m240-P112/M4	4.00	1435	400	8.00			8.8
m240-P132/M4	5.50	1465	400	11.1			8.7
m240-P132/L4	7.50	1460	400	14.8			9.5

Product	M_N	M_a	M_b	$\cos \phi$	$\eta_{50\%}$	$\eta_{75\%}$	$\eta_{100\%}$	$J^{1)}$	$m^{1)}$
	[Nm]	[Nm]	[Nm]		[%]	[%]	[%]	[kgcm ²]	[kg]
m240-P80/M4	5.00	14.7	17.7	0.78	80.2	82.4	82.5	26.8	15.0
m240-P90/M4	7.30	22.6	27.7	0.77	80.8	83.5	84.1	42.6	19.0
m240-P90/L4	10.0	35.0	40.0	0.77	81.5	84.2	85.3	48.1	20.0
m240-P100/M4	14.5	31.9	39.2	0.83	83.8	85.7	86.7	81.7	26.0
m240-P100/L4	19.7	51.2	55.2	0.80	83.9	86.2	87.7	99.4	31.0
m240-P112/M4	26.4	84.2	97.3	0.83	87.2	88.3	88.6	112	34.0
m240-P132/M4	36.2	116	156	0.79	86.9	89.1	89.6	276	55.0
m240-P132/L4	49.4	158	222	0.81	88.0	89.9	90.4	298	57.0

¹⁾ Without accessories

Motor data

Technical data





Motor connection

Assignment: motor terminal box - built-on accessories

- Depending on the motor version, terminal boxes of different sizes (KKA ... KK4) are used.

Product		
	MD□MA□□063-02 MD□MA□□063-11 MD□MA□□063-12 MD□MA□□063-22 MD□MA□□063-31 MD□MA□□063-32 MD□MA□□063-42	MD□MA□□071-11 MD□MA□□071-31 MD□MA□□071-32 MD□MA□□071-42
Built-on accessories with 1 thermal sensor		
Without	KK1	KK1
Brake	KK2	KK2
Built-on accessories with 2 thermal sensors		
Without		
Brake (2-pole terminal)		
Brake (rectifier)		

Product	m240-P80/M2 m240-P80/M4 m240-P80/L2	m240-P90/M2 m240-P90/M4 m240-P90/L2 m240-P90/L4	m240-P100/M2 m240-P100/M4 m240-P100/L4	m240-P112/M2 m240-P112/M4	m240-P132/M2 m240-P132/M4 m240-P132/L2 m240-P132/L4
Built-on accessories with 1 thermal sensor					
Without	KKA	KKA	KKA	KKA	KKA
Brake	KK2	KK2	KK2	KK2	KK3
Built-on accessories with 2 thermal sensors					
Without	KKA	KKA	KKA	KKA	KKA
Brake (2-pole terminal)	KK2	KK2	KK2	KK2	KK3
Brake (rectifier)	KK3	KK3	KK3	KK3	KK3

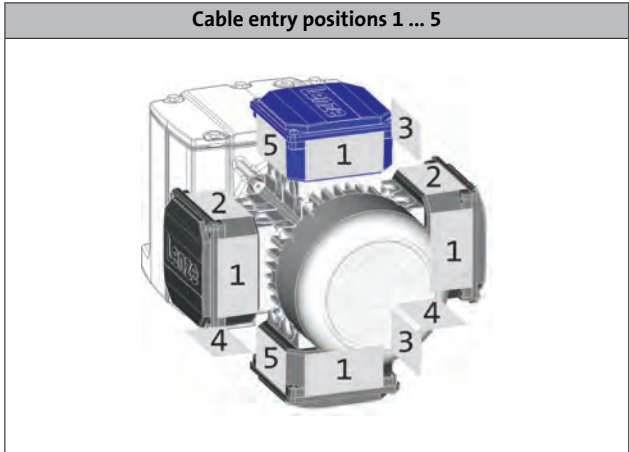
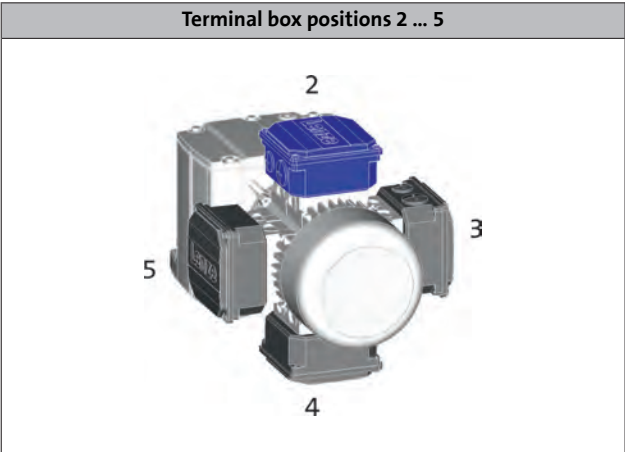
Product	m240-P160/M4 m240-P160/L4	m240-P180/M4 m240-P180/L4 m240-P180/V4
Built-on accessories with 1 thermal sensor		
Without	KKA	KKA
Brake	KK4	KK4
Built-on accessories with 2 thermal sensors		
Without	KKA	KKA
Brake (2-pole terminal)	KK4	KK4
Brake (rectifier)	KK4	KK4



Motor connection

Position of the cable entry

For geared motors, the position of the cable entry must be selected as a function of the terminal box position.



Terminal box position	2	3	4	5
	Cable entry positions			
KK A	1/3/5*	1/2*/4	1/3*/5	1/2/4*
KK 1	1/3/5*	1/2*/4	1/3*/5	1/2/4*
KK 2	3+5	2+4	3+5	2+4
KK 3	3+5	2+4	3+5	2+4

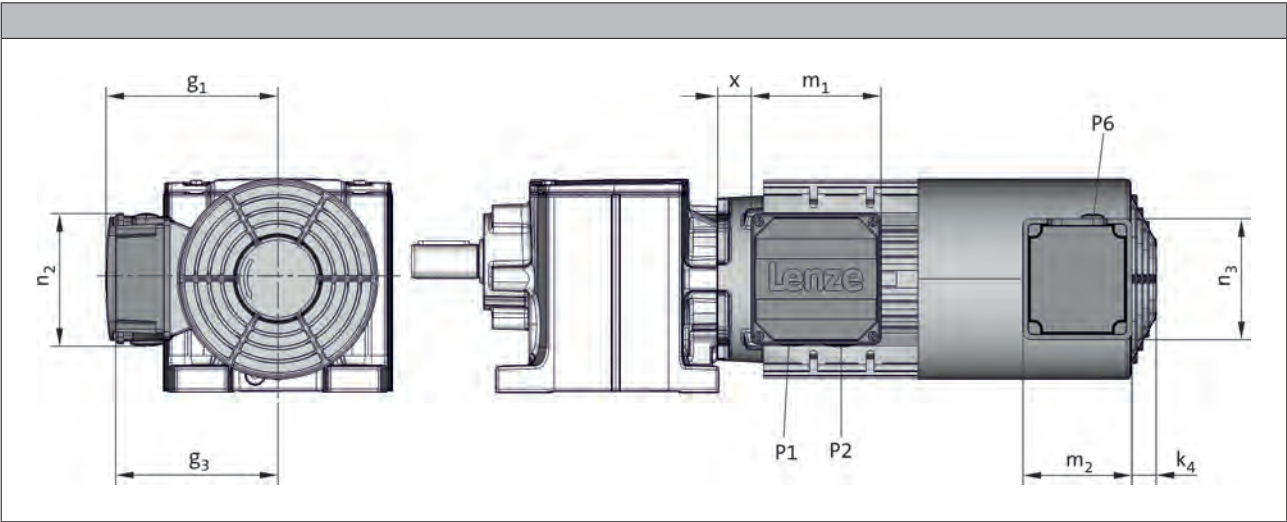
- If preferred positions are not specified in the order, the cable entry will be positioned as indicated by * on the diagram below.



Connection via terminal box

Dimensions KKA+KK1

The connection in the terminal box is implemented by means of conventional cable glands.



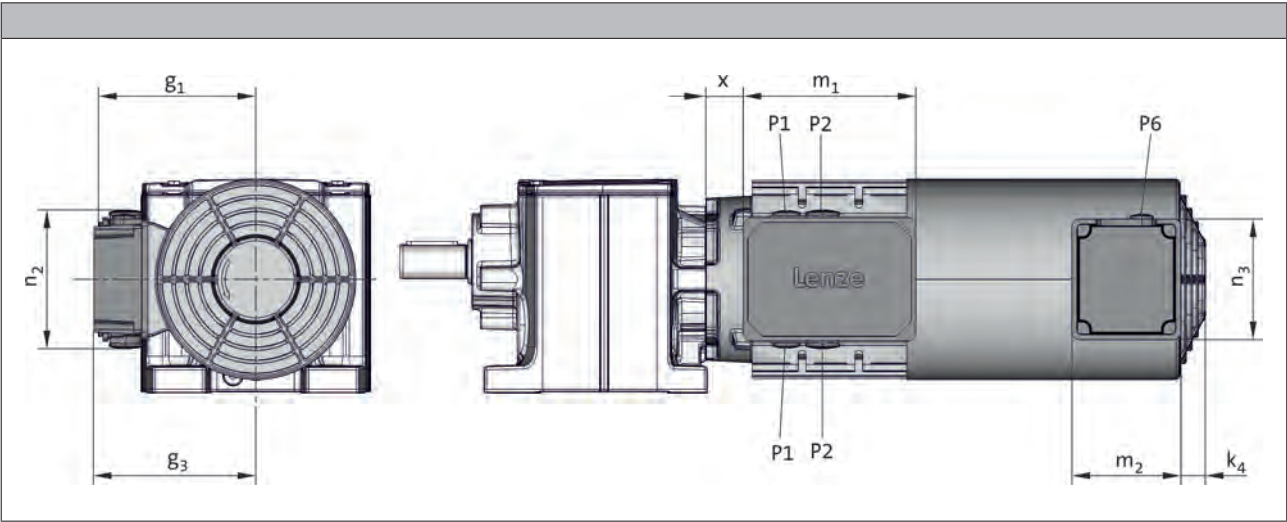
Product			MD□MA□□		m240				
			063-02 063-11 063-12 063-22 063-31 063-32 063-42	071-11 071-31 071-32 071-42	-P80/L2 -P80/M2 -P80/M4	-P90/L2 -P90/L4 -P90/M2 -P90/M4	-P100/L4 -P100/M2 -P100/M4	-P112/M2 -P112/M4	-P132/L2 -P132/L4 -P132/M2 -P132/M4
Dimensions									
	x	[mm]	17.0	20.0	27.0	40.0	50.0	46.0	66.0
	g ₁	[mm]	100	109	136	146	143	163	180
	m ₁	[mm]	75.0		94.0	110			127
	n ₂	[mm]	75.0		94.0	110			127
	P ₁	[mm]	M16x1.5		M20x1.5	M25x1.5		M32x1.5	
	P ₂	[mm]	M20x1.5			M25x1.5		M32x1.5	



Connection via terminal box

Dimensions of KK2

The connection in the terminal box is implemented by means of conventional cable glands.



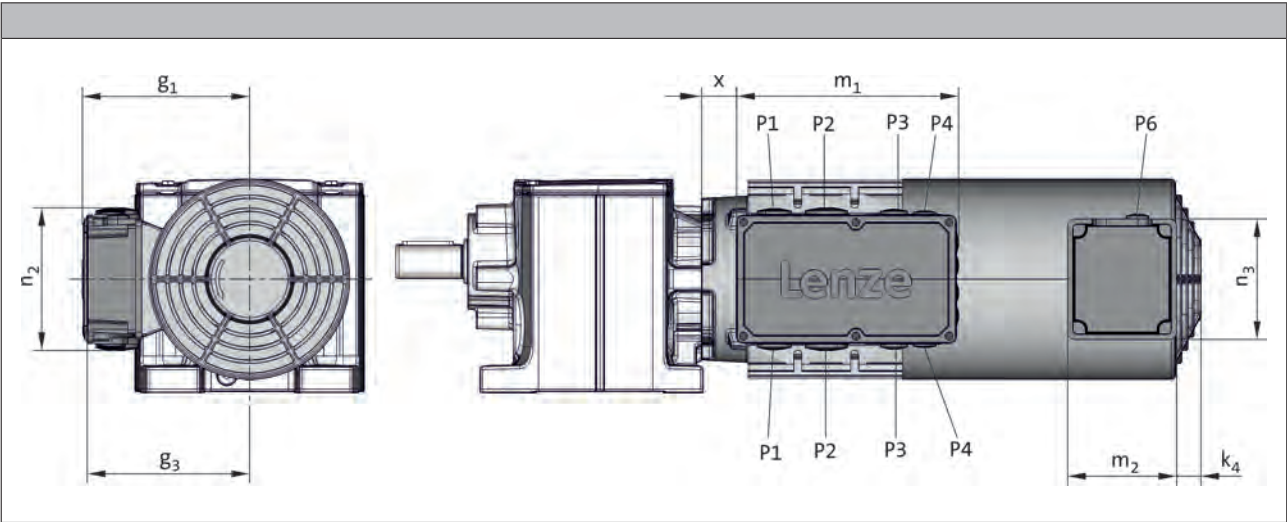
Product			MD□MA□□		m240			
			063-02	071-11	-P80/L2	-P90/L2	-P100/L4	-P112/M2
			063-11	071-31	-P80/M2	-P90/L4	-P100/M2	-P112/M4
			063-12	071-32	-P80/M4	-P90/M2	-P100/M4	
			063-22	071-42		-P90/M4		
			063-31					
			063-32					
			063-42					
Dimensions								
	x	[mm]	9.00	11.0	20.0	41.0	51.0	47.0
	g ₁	[mm]	107	118	137	144	153	161
	m ₁	[mm]	136		152			
	n ₂	[mm]	103		121			
	P ₁	[mm]	M16x1.5		M20x1.5			
	P ₂	[mm]	M20x1.5		M25x1.5			



Connection via terminal box

Dimensions of KK3

The connection in the terminal box is implemented by means of conventional cable glands.



Product			m240				
			-P80/L2 -P80/M2 -P80/M4	-P90/L2 -P90/L4 -P90/M2 -P90/M4	-P100/L4 -P100/M2 -P100/M4	-P112/M2 -P112/M4	-P132/L2 -P132/L4 -P132/M2 -P132/M4
Dimensions							
	x	[mm]	19.0	40.0	50.0	46.0	76.0
	g ₁	[mm]	147	154	163	171	182
	m ₁	[mm]	198				
	n ₂	[mm]	125				
	P ₁	[mm]	M25x1.5				
	P ₂	[mm]	M32x1.5				
	P ₃	[mm]	M20x1.5				
	P ₄	[mm]	M20x1.5				M16x1.5



Spring-applied brake

The three-phase AC motors can be equipped with a spring-applied brake which is active when the supply voltage has been switched off (closed-circuit principle). In the deenergised state, the brake is applied. This prevents possible movement of the motor shaft with regard to the load after switch-off or in the event of a power failure.

For optimum adaptation of the brake motor to the application, several brake sizes and control variants are provided for each motor.

Types

- **Standard**
 - 1×10^6 repeating switching cycles
 - 1×10^6 reversing switching cycles

Control

- DC supply
- AC supply via rectifiers in the terminal box

Degree of protection

- Without manual release IP55
- With manual release IP54

Friction lining

- Asbestos-free, low-wear

Options

- Manual release

Braking torques

In addition to the standard braking torque, depending on the brake size, the possibility of choosing between a reduced and an increased braking torque is provided.

- When the braking torque is reduced, great wear reserves can be attained. This is enabled by a reduction of the spring rate.
- In order to obtain a greater braking torque, the spring rate is increased. This is practical, for instance, for hoists, since here the gravity acts as an additional acceleration in the negative direction.

Manual release

By using the manual release lever, the brake can be released manually in deenergised operating state. The manual release makes positioning and maintenance work easier.



Spring-applied brake

Direct connection without rectifier

If the brake is activated directly without a rectifier, a freewheeling diode or a spark suppressor is required for protection against induction peaks.

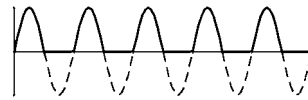
- Supply voltages
DC 24 V

Connection via mains voltage with brake rectifier

If the brake is not directly supplied with DC voltage, a rectifier is required. This is included in the scope of supply and is located in the terminal box of the motor. The rectifier converts the AC voltage of the connection into DC voltage. The following rectifiers are available:

Half-wave rectifier, 6-pole

- Supply voltage / brake coil voltage ratio = 2.22
- Supply voltages
AC 400 V



Bridge rectifier, 6-pole

- Ratio of supply voltage to brake coil voltage = 1.11
- Supply voltage
AC 230 V





Spring-applied brake

Assignment of 2-pole motors and brakes

Design	Standard		LongLife	
Product	Size	Rated torque	Size	Rated torque
	Brake		Brake	
		M_k		M_k
		[Nm]		[Nm]
MD□MA□□063-11	06	2.50	06	2.50
MD□MA□□063-31	06	4.00	06	4.00
MD□MA□□071-11	06	2.50	06	4.00
MD□MA□□071-31	06	4.00	08	3.50
	08	3.50		
m240-P80/M2	08	3.50		
m240-P80/L2	08	8.00		
	10	7.00		
m240-P90/M2	08	3.50		
m240-P90/L2	08	8.00		
	10	7.00		
	10	16.0		
m240-P100/M2	10	7.00		
	10	16.0		
	12	14.0		
	12	32.0		
m240-P112/M2	12	14.0		
	12	32.0		
	14	35.0		
	14	60.0		
m240-P132/M2	14	35.0		
m240-P132/L2	14	60.0		
	16	60.0		
	16	80.0		



Spring-applied brake

Assignment of 4-pole motors and brakes

Design	Standard		LongLife	
Product	Size	Rated torque	Size	Rated torque
	Brake		Brake	
		M_k		M_k
		[Nm]		[Nm]
MD□MA□□063-02 MD□MA□□063-12 MD□MA□□063-22 MD□MA□□063-32 MD□MA□□063-42	06 06	2.50 4.00	06	4.00
MD□MA□□071-32	06 06 08	2.50 4.00 3.50	06 08	4.00 3.50
MD□MA□□071-42	06 06 08 08	2.50 4.00 3.50 8.00	06 08 08	4.00 3.50 8.00
m240-P80/M4	08 08 10	3.50 8.00 7.00		
m240-P90/M4 m240-P90/L4	08 08 10 10 10	3.50 8.00 7.00 16.0 23.0		
m240-P100/M4	10 10 12 12	7.00 16.0 14.0 32.0		
m240-P100/L4	10 10 12 12 12	7.00 16.0 14.0 32.0 46.0		
m240-P112/M4	12 12 14 14	14.0 32.0 35.0 60.0		
m240-P132/M4	14 14 16 16	35.0 60.0 60.0 80.0		
m240-P132/L4	14 14 16 16 16	35.0 60.0 60.0 80.0 100		



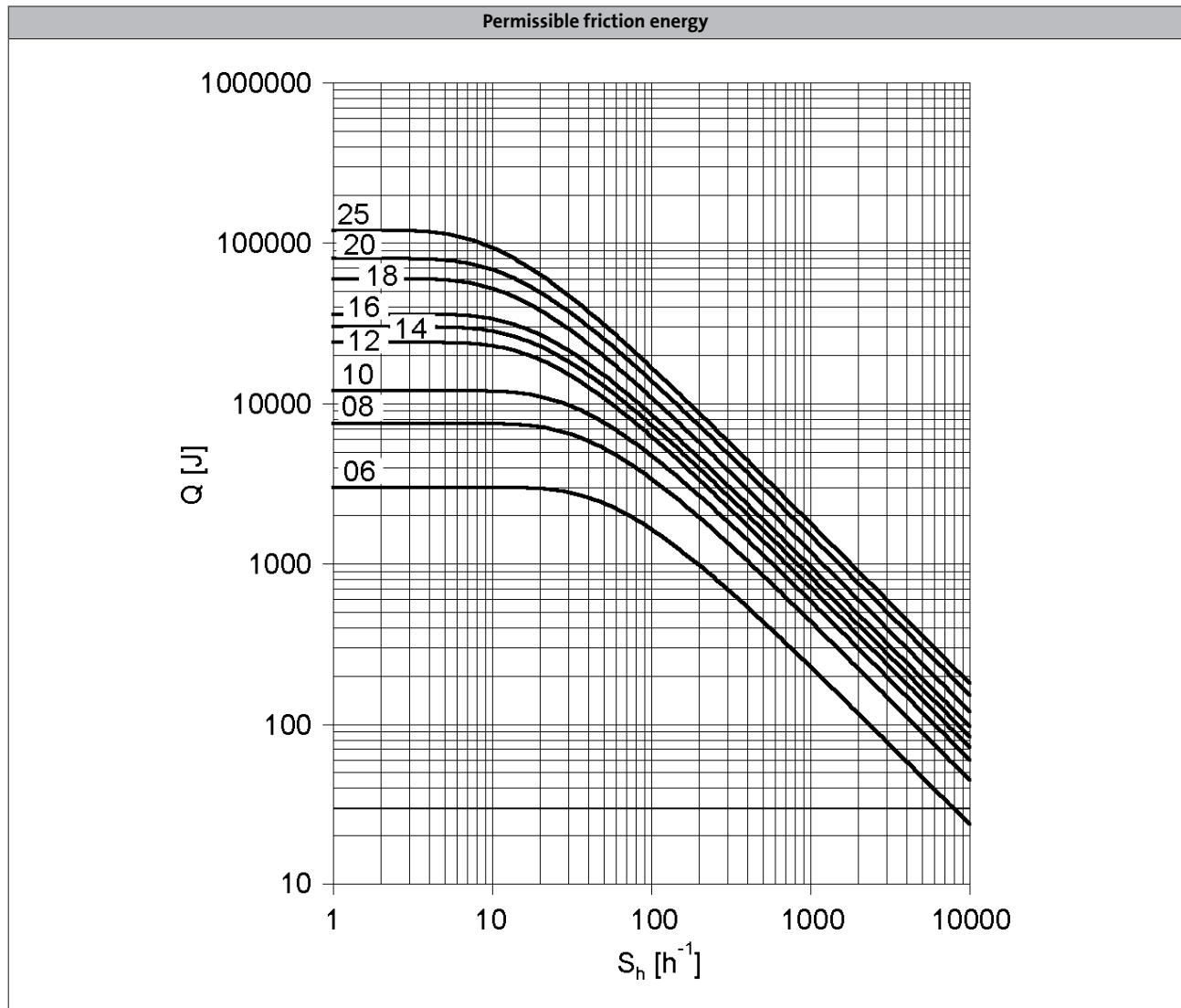
Spring-applied brake

Assignment of 4-pole motors and brakes

Design	Standard		LongLife	
Product	Size	Rated torque	Size	Rated torque
	Brake		Brake	
		M_k		M_k
		[Nm]		[Nm]
m240-P160/M4	16	60.0		
	16	80.0		
	18	80.0		
	18	150		
m240-P160/L4	18	80.0		
	18	150		
	18	200		
m240-P180/M4	18	80.0		
	18	150		
	20	145		
	20	260		
m240-P180/L4	18	80.0		
	18	150		
	20	145		
	20	260		
	20	315		
m240-P180/V4 m240-P200/M4	18	80.0		
	18	150		
	20	145		
	20	260		
	20	315		
m240-P225/M4	25	265		
	25	400		
	25	490		
m240-P225/L4	25	265		
	25	400		
	25	490		
	25	600		



Spring-applied brake



Q = Switching energy per switching cycle

S_h = Operating frequency

Brake size = 06 to 25



Spring-applied brake

Rated data with reduced braking torque

- In case of the braking torque and the maximum switching energy, the unit for the values (100 ... 3600) is rpm.
- Please enquire for braking torques and maximum switching work values not listed here.

Size			06	08	10	12	14	16	18	20	25
Power input											
	P_{in}	[kW]	0.020	0.025	0.030	0.040	0.050	0.055	0.085	0.10	0.11
Braking torque											
100	M_B	[Nm]	2.50	3.50	7.00	14.0	35.0	60.0	80.0	145	265
1000	M_B	[Nm]	2.30	3.10	6.10	12.0	30.0	50.0	65.0	115	203
1200	M_B	[Nm]	2.30	3.10	6.00	12.0	29.0	48.0	63.0	112	199
1500	M_B	[Nm]	2.20	3.00	5.80	11.0	28.0	47.0	61.0	109 ¹⁾	193 ¹⁾
1800	M_B	[Nm]	2.10	2.90	5.70	11.0	28.0	46.0	60.0 ¹⁾		
3000	M_B	[Nm]	2.00	2.80	5.30	10.0	26.0 ¹⁾	43.0 ¹⁾			
3600	M_B	[Nm]	2.00	2.70	5.20	10.0 ¹⁾					
Maximum switching energy											
100	Q_E	[KJ]	3.00	7.50	12.0	24.0	30.0	36.0	60.0	80.0	120
1000	Q_E	[KJ]	3.00	7.50	12.0	24.0	30.0	36.0	60.0	80.0	120
1200	Q_E	[KJ]	3.00	7.50	12.0	24.0	30.0	36.0	60.0	80.0	120
1500	Q_E	[KJ]	3.00	7.50	12.0	24.0	30.0	36.0	60.0	24.0 ¹⁾	36.0 ¹⁾
1800	Q_E	[KJ]	3.00	7.50	12.0	24.0	30.0	36.0	36.0 ¹⁾		
3000	Q_E	[KJ]	3.00	7.50	12.0	24.0	18.0 ¹⁾	11.0 ¹⁾			
3600	Q_E	[KJ]	3.00	7.50	12.0	7.00 ¹⁾					
Transition operating frequency											
	$S_{h\ddot{u}}$	[1/h]	79.0	50.0	40.0	30.0	28.0	27.0	20.0	19.0	15.0
Moment of inertia											
	J	[kgcm ²]	0.15	0.61	2.00	4.50	6.30	15.0	29.0	73.0	200
Mass											
	m	[kg]	0.90	1.50	2.60	4.20	5.80	8.70	12.6	19.5	31.0

¹⁾ In the region of the load limit the value for friction energy Q_{BW} can be reduced to 40 %.



Spring-applied brake

Rated data with reduced braking torque

- Activation via half-wave or bridge rectifier

Size			06	08	10	12	14	16	18	20	25
Friction energy											
	Q_{BW}	[MJ]	113	210	264	706	761	966	1542	2322	3522
Delay time											
Engaging	t_{11}	[ms]	11.0	14.0	20.0	21.0	37.0	53.0	32.0	47.0	264
Rise time											
Braking torque	t_{12}	[ms]	13.0	10.0	17.0	19.0	22.0	30.0	20.0	100	120
Engagement time											
	t_1	[ms]	24.0	37.0	40.0	59.0	83.0	52.0	147	384	
Disengagement time											
	t_2	[ms]	35.0	37.0	57.0	65.0	148	169	230	207	269

- The brake response and application times are guide values. The engagement time is 10 times longer with AC-side switching. With the maximum air gap the disengagement time t_2 – depending on the brake and control – is up to 4 times longer than the disengagement time with the rated air gap.



Spring-applied brake

Rated data with standard braking torque

- In case of the braking torque and the maximum switching energy, the unit for the values (100 ... 3600) is rpm.
- Please enquire for braking torques and maximum switching work values not listed here.

Size			06	08	10	12	14	16	18	20	25
Power input											
	P_{in}	[kW]	0.020	0.025	0.030	0.040	0.050	0.055	0.085	0.10	0.11
Braking torque											
100	M_B	[Nm]	4.00	8.00	16.0	32.0	60.0	80.0	150	260	400
1000	M_B	[Nm]	3.70	7.20	14.0	27.0	51.0	66.0	121	206	307
1200	M_B	[Nm]	3.60	7.00	14.0	27.0	50.0	65.0	118	201	300
1500	M_B	[Nm]	3.50	6.80	13.0	26.0	48.0	63.0	115	195 ¹⁾	291 ¹⁾
1800	M_B	[Nm]	3.40	6.70	13.0	26.0	47.0	61.0	112 ¹⁾		
3000	M_B	[Nm]	3.20	6.30	12.0	24.0	44.0 ¹⁾	57.0 ¹⁾			
3600	M_B	[Nm]	3.20	6.10	12.0	23.0 ¹⁾					
Maximum switching energy											
100	Q_E	[KJ]	3.00	7.50	12.0	24.0	30.0	36.0	60.0	80.0	120
1000	Q_E	[KJ]	3.00	7.50	12.0	24.0	30.0	36.0	60.0	80.0	120
1200	Q_E	[KJ]	3.00	7.50	12.0	24.0	30.0	36.0	60.0	80.0	120
1500	Q_E	[KJ]	3.00	7.50	12.0	24.0	30.0	36.0	60.0	24.0 ¹⁾	36.0 ¹⁾
1800	Q_E	[KJ]	3.00	7.50	12.0	24.0	30.0	36.0	36.0 ¹⁾		
3000	Q_E	[KJ]	3.00	7.50	12.0	24.0	18.0 ¹⁾	11.0 ¹⁾			
3600	Q_E	[KJ]	3.00	7.50	12.0	7.00 ¹⁾					
Transition operating frequency											
	$S_{h\ddot{u}}$	[1/h]	79.0	50.0	40.0	30.0	28.0	27.0	20.0	19.0	15.0
Moment of inertia											
	J	[kgcm ²]	0.15	0.61	2.00	4.50	6.30	15.0	29.0	73.0	200
Mass											
	m	[kg]	0.90	1.50	2.60	4.20	5.80	8.70	12.6	19.5	31.0

¹⁾ In the region of the load limit the value for friction energy Q_{BW} can be reduced to 40 %.



Spring-applied brake

Rated data with standard braking torque

- Activation via half-wave or bridge rectifier

Size			06	08	10	12	14	16	18	20	25
Friction energy	Q_{BW}	[MJ]	85.0	158	264	530	571	966	1542	2322	3522
Delay time											
Engaging	t_{11}	[ms]	15.0		28.0		17.0	27.0	33.0	65.0	110
Rise time											
Braking torque	t_{12}	[ms]	13.0	16.0	19.0	25.0		30.0	45.0	100	120
Engagement time											
	t_1	[ms]	28.0	31.0	47.0	53.0	42.0	57.0	78.0	165	230
Disengagement time											
	t_2	[ms]	45.0	57.0	76.0	115	210	220	270	340	390

- The brake response and application times are guide values. The engagement time is 10 times longer with AC-side switching. With the maximum air gap the disengagement time t_2 – depending on the brake and control – is up to 4 times longer than the disengagement time with the rated air gap.



Spring-applied brake

Rated data with increased braking torque

- In case of the braking torque and the maximum switching energy, the unit for the values (100 ... 3600) is rpm.
- Please enquire for braking torques and maximum switching work values not listed here.

Size			10	12	14	16	16	18	20	20	25	25
Power input												
	P _{in}	[kW]	0.030	0.040	0.050	0.055	0.055	0.085	0.10	0.10	0.11	0.11
Braking torque												
100	M _B	[Nm]	23.0	46.0	75.0	100	125	200	315	400	490	600
1000	M _B	[Nm]	20.0	39.0	64.0	83.0	103	162	249	317	376	461
1200	M _B	[Nm]	20.0	39.0	62.0	81.0	101	158	244	309	367	449
1500	M _B	[Nm]	19.0	38.0	60.0	78.0	98.0	153	237 ¹⁾	300 ¹⁾	356 ¹⁾	436 ¹⁾
1800	M _B	[Nm]	19.0	37.0	59.0	77.0	96.0	150 ¹⁾				
3000	M _B	[Nm]	17.0	34.0	55.0 ¹⁾	71.0 ¹⁾	89.0 ¹⁾					
3600	M _B	[Nm]	17.0	33.0 ¹⁾								
Maximum switching energy												
100	Q _E	[KJ]	12.0	24.0	30.0	36.0	36.0	60.0	80.0	80.0	120	120
1000	Q _E	[KJ]	12.0	24.0	30.0	36.0	36.0	60.0	80.0	80.0	120	120
1200	Q _E	[KJ]	12.0	24.0	30.0	36.0	36.0	60.0	80.0	80.0	120	120
1500	Q _E	[KJ]	12.0	24.0	30.0	36.0	36.0	60.0	24.0 ¹⁾	24.0 ¹⁾	36.0 ¹⁾	36.0 ¹⁾
1800	Q _E	[KJ]	12.0	24.0	30.0	36.0	36.0	36.0 ¹⁾				
3000	Q _E	[KJ]	12.0	24.0	18.0 ¹⁾	11.0 ¹⁾	11.0 ¹⁾					
3600	Q _E	[KJ]	12.0	7.00 ¹⁾								
Transition operating frequency												
	S _{hü}	[1/h]	40.0	30.0	28.0	27.0	27.0	20.0	19.0	19.0	15.0	15.0
Moment of inertia												
	J	[kgcm ²]	2.00	4.50	6.30	15.0	15.0	29.0	73.0	73.0	200	200
Mass												
	m	[kg]	2.60	4.20	5.80	8.70	8.70	12.6	19.5	19.5	31.0	31.0

¹⁾ In the region of the load limit the value for friction energy Q_{BW} can be reduced to 40 %.

- Activation via half-wave or bridge rectifier

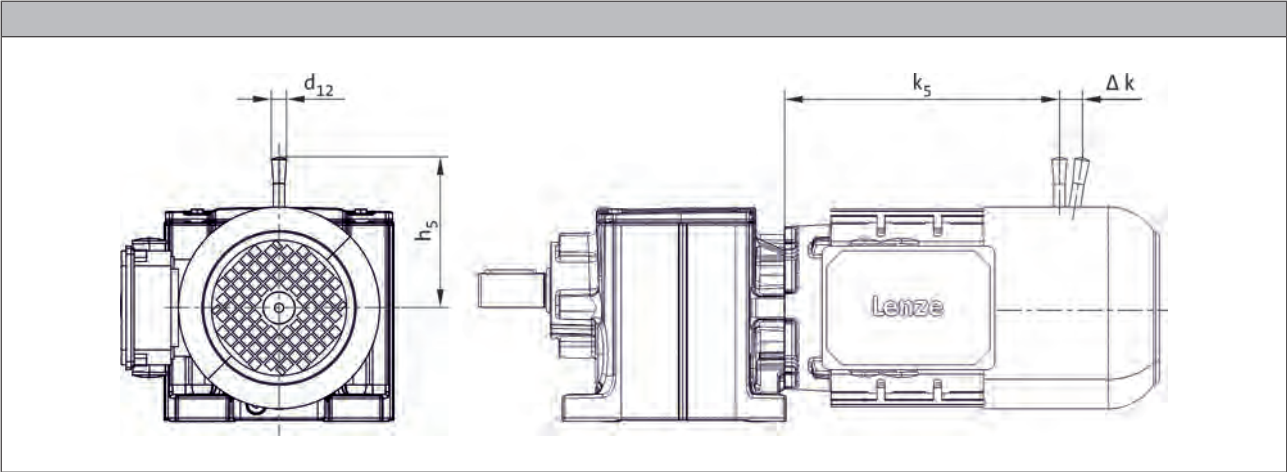
Size												
			10	12	14	16		18	20		25	
Friction energy												
	Q _{BW}	[MJ]	198	353	253	563	241	578	1596	580	2465	1409
Delay time												
Engaging	t ₁₁	[ms]	10.0	16.0	11.0	22.0	17.0	24.0	46.0	17.0	77.0	38.0
Rise time												
Braking torque	t ₁₂	[ms]	19.0	25.0		30.0		45.0	100		120	
Engagement time												
	t ₁	[ms]	29.0	41.0	36.0	52.0	47.0	69.0	146	117	197	158
Disengagement time												
	t ₂	[ms]	109	193	308	297	435	356	378	470	451	532



Spring-applied brake

Manual release for 2-pole motors

By using the manual release lever, the brake can be released manually in deenergised operating state. The manual release makes positioning and maintenance work easier.

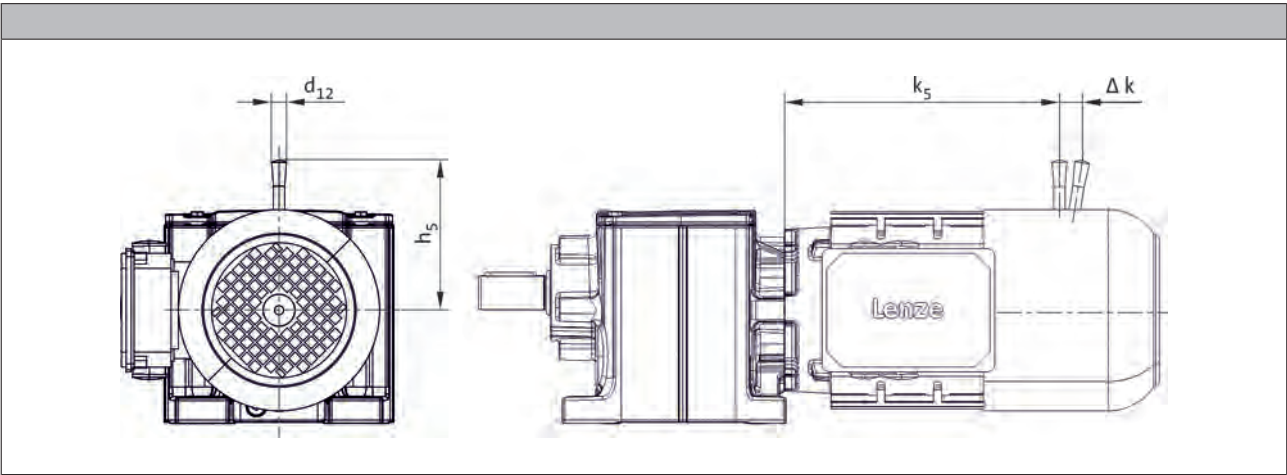


Product	Size Brake	Dimensions			
		k ₅ [mm]	Δ k [mm]	h ₅ [mm]	d ₁₂ [mm]
MD□MA□□063-11	06	169	29	107	13.0
MD□MA□□063-31	06	182	29	107	13.0
MD□MA□□071-11	08	183	27	116	13.0
MD□MA□□071-31	08	183	27	116	13.0
m240-P80/M2	10	243	27	116	13.0
m240-P80/L2	10	254	28	132	13.0
m240-P90/M2	10	291	27	116	13.0
m240-P90/L2	10	302	28	132	13.0
m240-P100/M2	12	355	28	132	13.0
m240-P100/M2	12	359	37	161	13.0
m240-P112/M2	14	366	37	161	13.0
m240-P112/M2	14	368	41	195	24.0
m240-P132/M2	16	428	41	195	24.0
m240-P132/L2	16	431	55	240	24.0



Spring-applied brake

Manual release for 4-pole motors



Product	Size Brake	Dimensions			
		k ₅ [mm]	Δ k [mm]	h ₅ [mm]	d ₁₂ [mm]
MD□MA□□063-02 MD□MA□□063-22	06	185	29	107	13.0
MD□MA□□063-12 MD□MA□□063-32 MD□MA□□063-42	06	169	29	107	13.0
MD□MA□□071-32 MD□MA□□071-42	06	182	29	107	13.0
	08	183	27	116	13.0
m240-P80/M4	08	243	27	116	13.0
	10	254	28	132	13.0
m240-P90/M4 m240-P90/L4	08	291	27	116	13.0
	10	302	28	132	13.0
m240-P100/M4 m240-P100/L4	10	355	28	132	13.0
	12	359	37	161	13.0
m240-P112/M4	12	366	37	161	13.0
	14	368	41	195	24.0
m240-P132/M4 m240-P132/L4	14	428	41	195	24.0
	16	431	55	240	24.0



Temperature monitoring

To protect the motor against overheating, the following thermal sensors are provided.
The thermal sensors are integrated into the windings. We recommend using an additional motor protection switch.

TKO thermal contacts

The TCO thermal contact (thermal NC contact) is a bimetallic-element switch. The TCO monitors the motor winding temperature; at too high temperatures, the motor relay switches. The motor is disconnected from the mains.

Function	Operating temperature	Min. reset temperature	Max. reset temperature	Max. input current	Max. input voltage
					AC
	T	$T_{\min}$	$T_{\max}$	$I_{\text{in,max}}$	$U_{\text{in,max}}$
	-5 ... 5				
	[°C]	[°C]	[°C]	[A]	[V]
NC contact	150	90.0	135	2.50	250

PTC thermistor

The PTC thermistor is actuated in connection with a tripping unit. If the motor gets too hot, the motor can be switched off by means of a contactor. In contrast to the thermal contact, quick restart is possible.

Function	Operating temperature	Rated resistance			Standard
		155 °C	-20 °C	140 °C	
	T	R_N	R_N	R_N	
	-5 ... 5				
	[°C]	[Ω]	[Ω]	[Ω]	
Sudden change in resistance	150	550	30.0	250	DIN 44080 DIN VDE 0660 Part 303

Motor data

Product extensions



13511801

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