Project planning EN

Geared servo motors

Shaft-mounted helical geared servo motor g500-S / MCA

Lenze

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Contents

About this document

Document description

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

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

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

NOTICE

Please observe the notes in the following chapters!

▸ Safety instructions 📖 19
▸ Information on mechanical installation 📖 37
▸ Information on electrical installation 📖 38

Further documents

Information and tools with regard to the Lenze products can be found on the Internet: http://www.lenze.com → Download

Notations and conventions

This document uses the following conventions to distinguish different types of information:

Numeric notation			
	Decimal separator	Point	The decimal point is always used. Example: 1 234.56
Warning			
	UL warning	UL	Are used in English and French.
	UR warning	UR	
Text			
	Engineering tools	» «	Software Example: »Engineer«, »EASY Starter«
Icons			
	Page reference	🕮	Reference to another page with additional information Example: 🕮 16 = see page 16
	Documentation reference	ⓓ	Reference to another documentation with additional information Example: ⓓ EDKxxx = see documentation EDKxxx

Layout of the safety instructions

⚠DANGER!

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

⚠WARNING!

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

⚠CAUTION!

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

NOTICE

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

Product information

Product description

In combination with servo 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 a 2-stage and 3-stage design with a torque of up to 4500 Nm and a ratio of up to i= 430.

Designs

- 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

Asynchronous servo motors as a basis for geared motors

In a power range of 0.8 to 20.3 kW, Lenze offers servo motors with a scalable modular design.

The drives are designed for the open-loop or closed-loop controlled servo inverter operation.

These motors feature a high dynamic performance and a wide speed setting range.

Customer benefit

- High dynamic performance thanks to low moments of inertia
- High efficiency
- Wide speed setting range
- Field weakening operation usable
- Space-saving thanks to compact direct attachment to Lenze gearboxes
- Can be used universally for a wide range of machine tasks due to the market-oriented modular system

Fig. 1: MCA13I asynchronous servo motor - g500-S660 shaft-mounted helical gearbox

Identification of the products

Gearbox product name

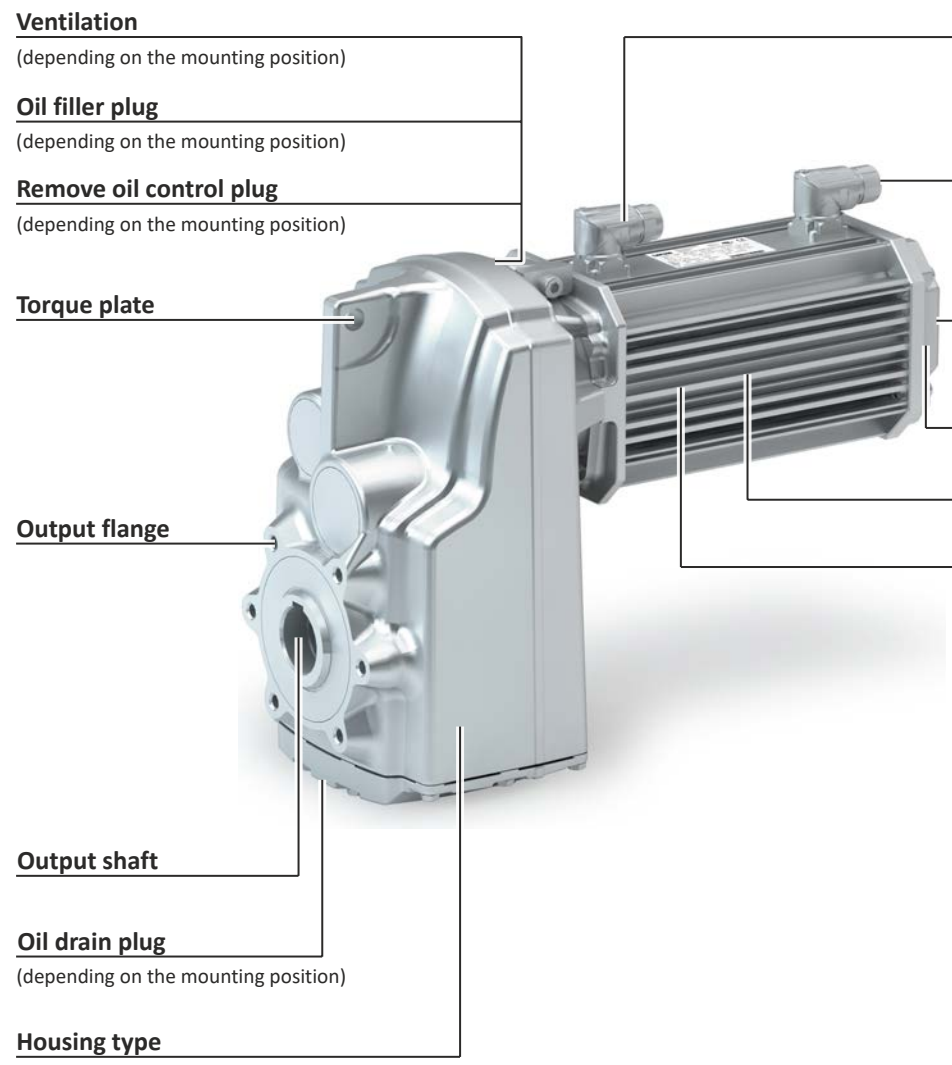
Gearbox type	Product series		Type	Rated torque Nm	Product
Shaft-mounted helical gearbox	g500	-	S	130	g500-S130
				220	g500-S220
				400	g500-S400
				660	g500-S660
				950	g500-S950
				2100	g500-S2100
				3100	g500-S3100
				4500	g500-S4500

Servo motor product name

	Motor				
Example	MCA	10	I	40	-

Meaning	Variant					
Product family		MCA				
Size			10 13 14 17 19 21			
Overall length				I ... X		
Rated speed	rpm x 100				16 ... 42	
Mains voltage	3 x 400 V, IP54/IP65					-

Features


Ventilation
(depending on the mounting position)
Oil filler plug
(depending on the mounting position)
Remove oil control plug
(depending on the mounting position)
Torque plate
Output flange
Output shaft
Oil drain plug
(depending on the mounting position)
Housing type
Motor connection
Power
Brake
Motor connection
Feedback
Temperature monitoring
Cooling
Feedback
Temperature monitoring
Permanent magnet brake

The modular system

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

Geared motors up to 660 Nm

Gearbox		**g500-S130**	**g500-S220**	**g500-S400**	**g500-S660**
Min. motor assignment		**MCA10**	**MCA10**	**MCA10**	**MCA10**
Max. motor assignment		**MCA13**	**MCA14**	**MCA17**	**MCA19**
Technical data					
Max. output torque	Nm	130	220	400	660
Min. drive torque	Nm	0.8	0.8	0.8	0.8
Max. drive torque	Nm	6.3	12.0	21.5	36
Mounting position					
Standard		**A/B/C/D/E/F**			
Combined		AEF			
Colour		**Primed** Painted in RAL colours			
Surface and corrosion protection		**OKS-G** Different types of OKS			
Output shaft					
Solid shaft with featherkey (V)	mm	25 x 50	25 x 50	30 x 60	35 x 70 40 x 80
Hollow shaft with keyway (H)	mm	25	25/30	30/35	40/45
Hollow shaft with shrink disc (S)	mm	25	25/30	35	40
Shaft material		**Steel** Stainless steel			
Shaft sealing ring material		**NBR** FKM (Viton)			
Output shaft bearing		Normal			
Gearbox version		With foot (HBR/VBR) **Without foot and centring (HCR)**/(VCR/SCR) With centring (HCR/VCR/SCR) With output flange (HCK/VCK/SCK)			
Output flange (K)	mm	160	160	200	200/250
Lubricant		**Synthetic oil** Food-compatible oil			
Cooling		**Self-ventilated** Forced-ventilated			
Torque plate		Rubber buffers			
Shaft cover		Shrink disc cover			
Motor connection		**Connectors** Terminal box			
Permanent magnet holding brake		**Without** Brake design: Standard			
Feedback		**Resolver** Absolute value encoder Incremental encoder			
Temperature monitoring		**Thermal detectors PT1000**			

Geared motors from 950 Nm to 4500 Nm

Gearbox		**g500-S950**	**g500-S2100**	**g500-S3100**	**g500-S4500**
Min. motor assignment		**MCA10**	**MCA10**	**MCA10**	**MCA10**
Max. motor assignment		**MCA19**	**MCA19**	**MCA19**	**MCA19**
Technical data					
Max. output torque	Nm	950	2100	3100	4500
Min. drive torque	Nm	0.8	0.8	0.8	0.8
Max. drive torque	Nm	36	36	36	36
Mounting position					
Standard		**A/B/C/D/E/F**			
Combined					
Colour		**Primed** Painted in RAL colours			
Surface and corrosion protection		**OKS-G** Different types of OKS			
Output shaft					
Solid shaft with featherkey (V)	mm	40 x 80	50 x 100	60 x 120	70 x 140 80 x 160
Hollow shaft with keyway (H)	mm	40	50/55	60/70	70/80
Hollow shaft with shrink disc (S)	mm	40	50	65	75/80
Shaft material		**Steel** Stainless steel			
Shaft sealing ring material		**NBR** FKM (Viton)			
Output shaft bearing		Normal			
Gearbox version		**With foot (HBR)**/(VBR/SBR) With foot and centring (HAR/VAR(SAR) With foot and output flange (HAK/VAK/SAK)			
Output flange (K)	mm	250	250/300	350	400/450
Lubricant		**Synthetic oil** Food-compatible oil			
Cooling		**Self-ventilated** Forced-ventilated			
Torque plate		Rubber buffers			
Shaft cover		Shrink disc cover			
Motor connection		**Connectors** Terminal box			
Permanent magnet holding brake		**Without** Brake design: Standard			
Feedback		**Resolver** Absolute value encoder Incremental encoder			
Temperature monitoring		**Thermal detectors PT1000**			

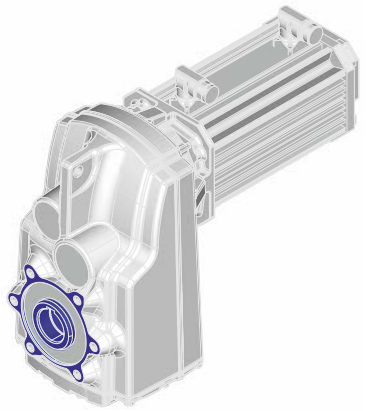
Models at the output

Please observe the available gearbox designs!

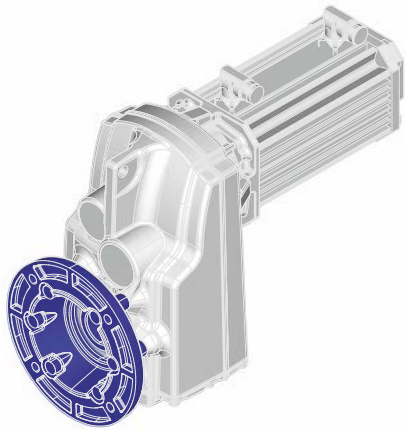
Gearbox designs g500-S130 ... S660

Hollow shaft, without foot

Without centring (HDR)

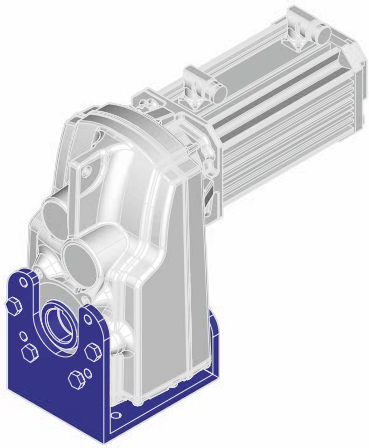


With centering (HCR)



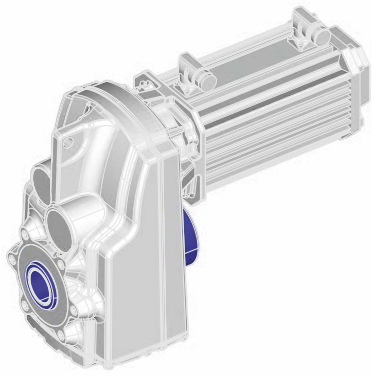
Flange with through holes (HCK)

Hollow shaft, with foot

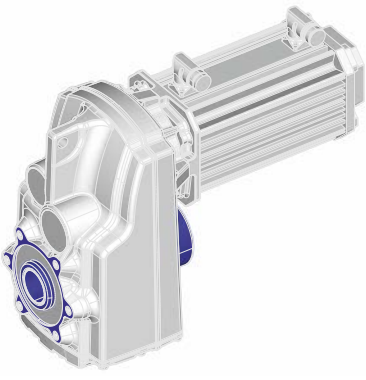


Without centring (HBR)

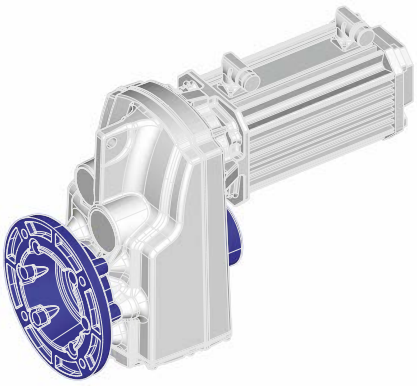
Hollow shaft with shrink disc, without foot



Without centring (SDR)

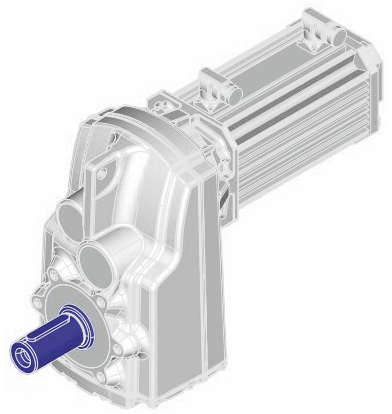


With centring (SCR)

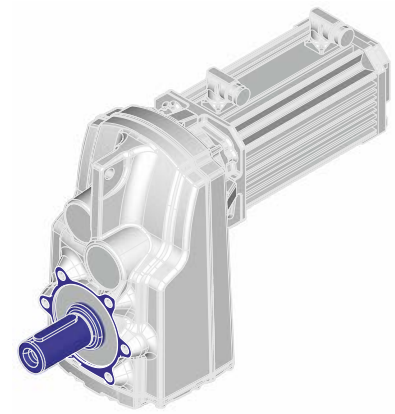


Flange with through holes (SCK)

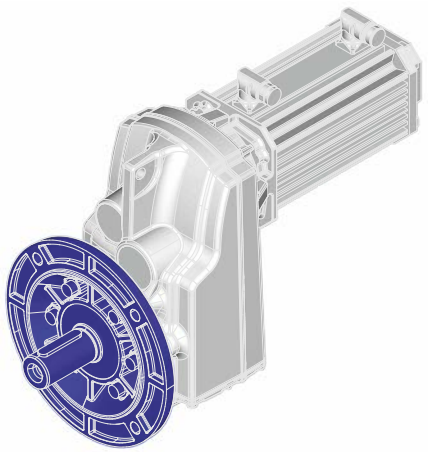
Solid shaft, without foot



Without centring (VDR)

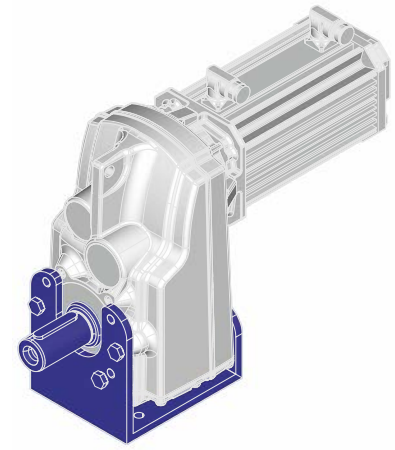


With centering (VCR)



Flange with through holes (VCK)

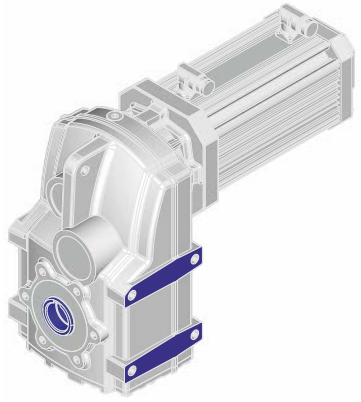
Solid shaft, with foot



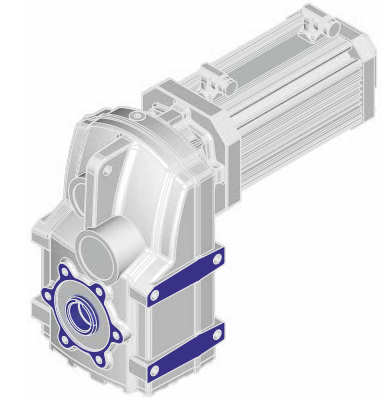
Without centring (VBR)

Gearbox designs g500-S950 ... S4500

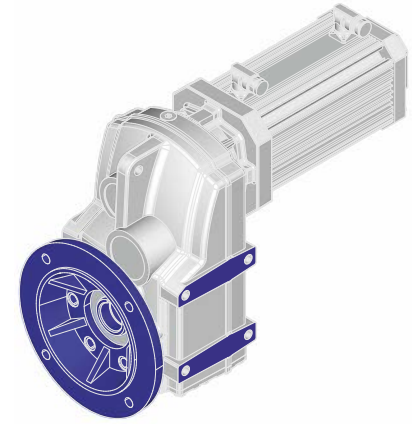
Hollow shaft, with foot



Without centring (HBR)

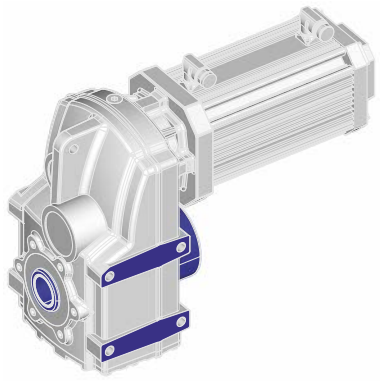


With centring (HAR)

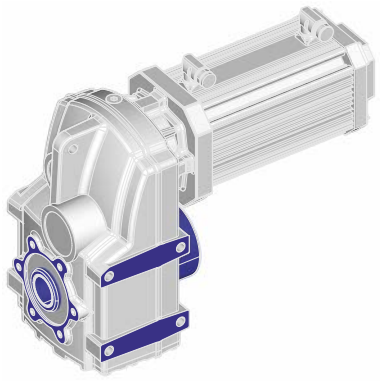


Flange with through holes (HAK)

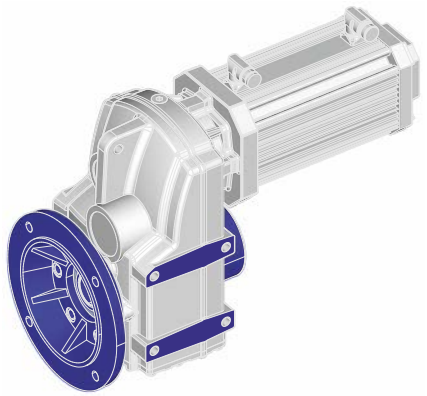
Hollow shaft with shrink disc, with foot



Without centring (SBR)

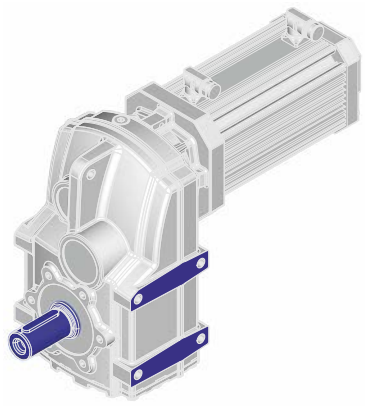


With centring (SAR)

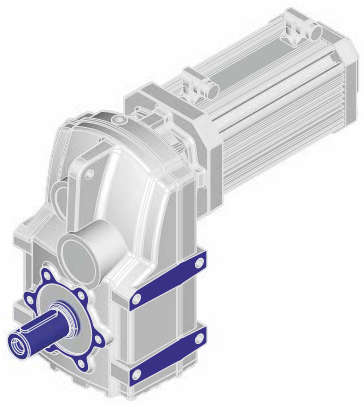


Flange with through holes (SAK)

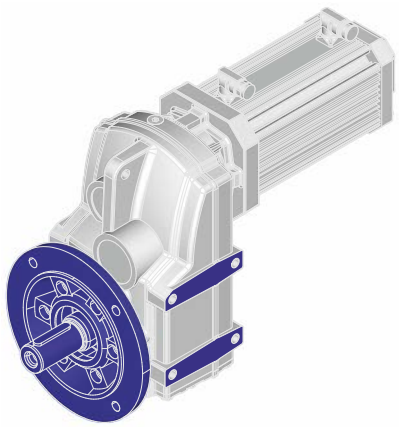
Solid shaft, with foot



Without centring (VBR)

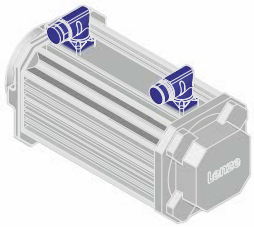


With centring (VAR)

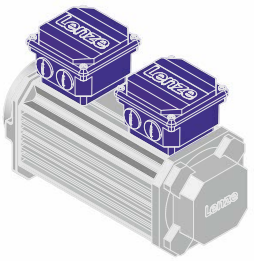


Flange with through holes (VAK)

Models at the output
Motor connection

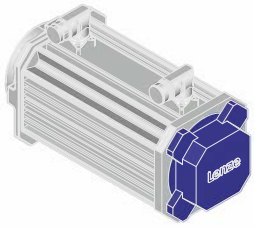


Connectors

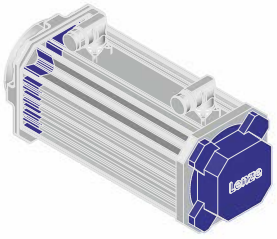


Terminal box

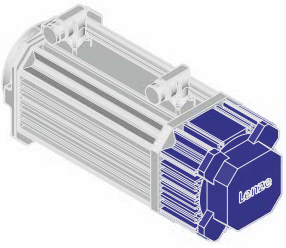
Cooling: self-ventilated



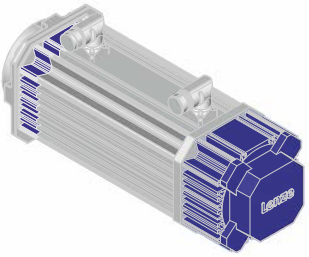
Resolver



Resolver and brake

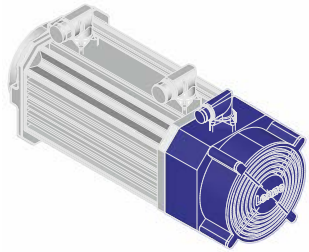


Absolute value/incremental encoder

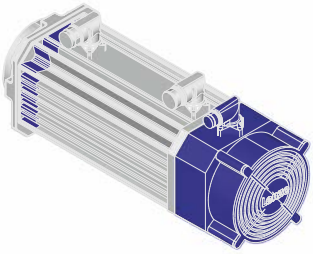


Absolute value/incremental encoder and brake

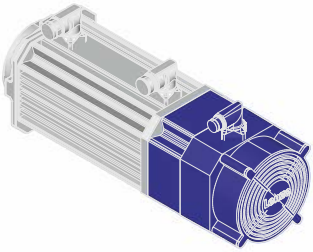
Cooling: forced ventilated



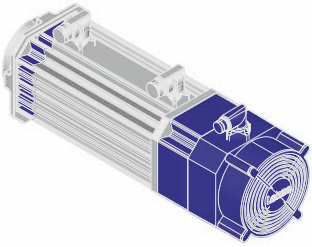
Resolver



Resolver and brake



Absolute value/incremental encoder



Absolute value/incremental encoder and brake

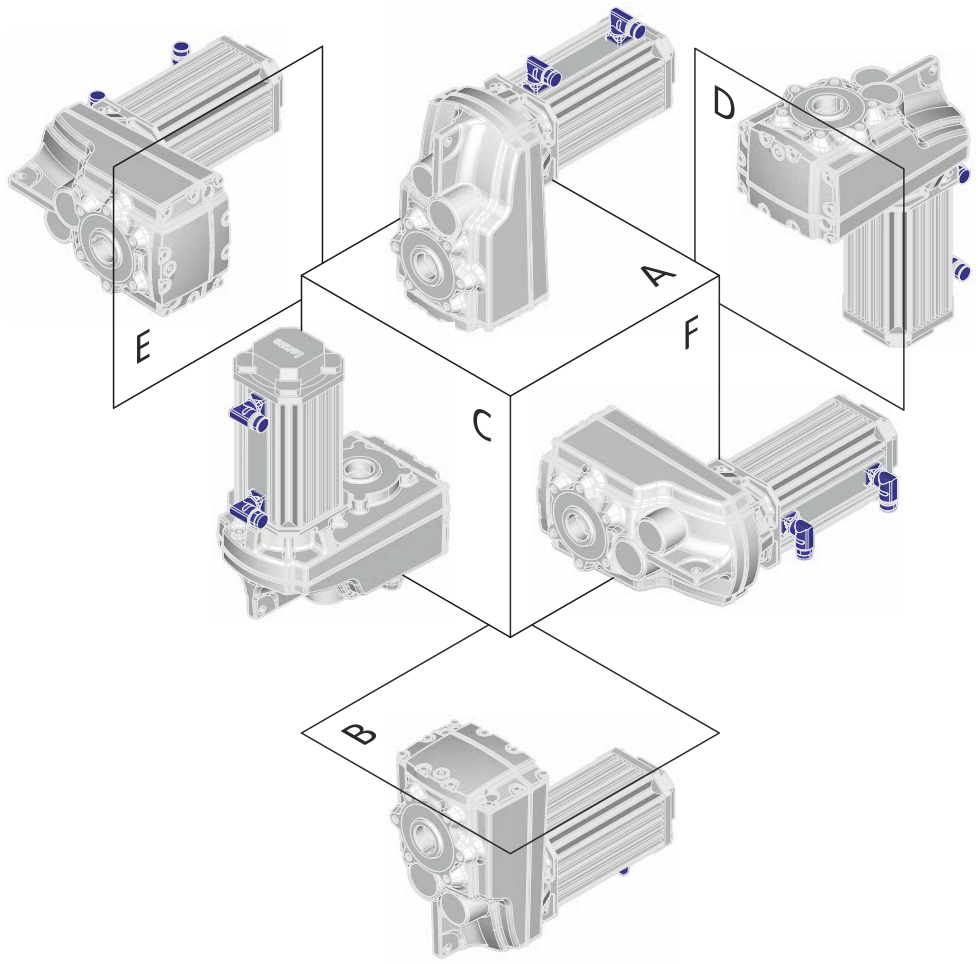
Mounting positions

Geared motors

In the following graphics, the connector in position 2 is colour-coded. If the mounting position (A … F) changes, the connector positions or terminal box positions (2 … 5) are rotated accordingly.

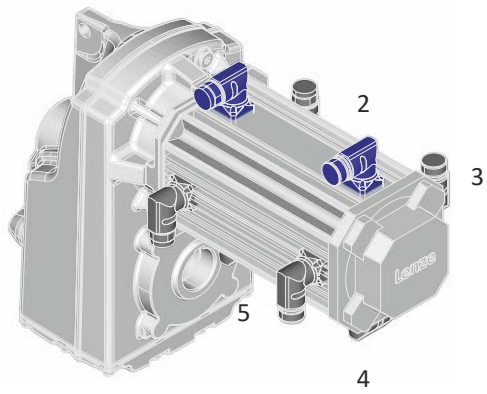
To reduce the number of different versions, the gearboxes can also be ordered with combined mounting positions:

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



Connector/terminal box

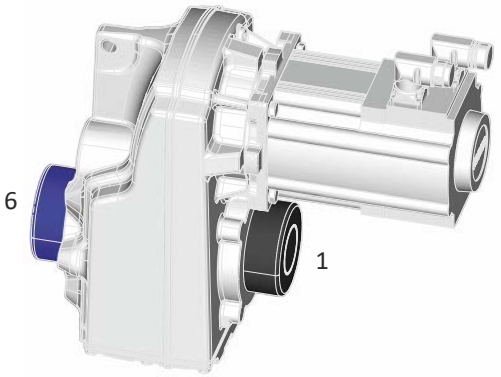
The connector or terminal box position (2 ... 5) must be given as a function of the mounting position.



Shrink disc

Please specify the shrink disc position 1 or 6 when ordering.

It is not possible to have the flange and the shrink disc in the same position.



Information on project planning

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

With the» Drive Solution Designer« you can carry out the drive dimensioning process quickly and with top quality. The software contains profound and proven expertise with regard to drive applications and mechatronic drive components.

Please refer to your competent Lenze sales company.

Safety instructions

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

Observe all specifications of the corresponding documentation supplied. This is the precondition for safe and trouble-free operation and for obtaining the product features specified.

Please observe the specific safety information in the other sections!

Basic safety instructions

Personnel

The product must only be used by qualified personnel. IEC 60364 or CENELEC HD 384 define the skills of these persons:

- They are familiar with installing, mounting, commissioning, and operating the product.
- They have the corresponding qualifications for their work.
- They know and can apply all regulations for the prevention of accidents, directives, and laws applicable at the place of use.

Process engineering

The procedural notes and circuit details described are only proposals. It is up to the user to check whether they can be adapted to the particular applications. Lenze does not take any responsibility for the suitability of the procedures and circuit proposals described.

Application as directed

- The product must only be actuated under the operating conditions and power limits specified in this documentation.
- The product meets the protection requirements of 2014/35/EU: Low-Voltage Directive.
- The product is not a machine in terms of 2006/42/EU: Machinery Directive.
- Commissioning or starting the operation as directed of a machine with the product is not permitted until it has been ensured that the machine meets the regulations of the EC Directive 2006/42/EU: Machinery Directive; observe EN 60204−1.
- Commissioning or starting operation as directed is only permissible if the EMC Directive 2014/30/EU is complied with.
- The product is not a household appliance, but is only designed as a component for commercial or professional use in terms of EN 61000−3−2.
- The product can be used according to the technical data if drive systems have to comply with categories according to EN 61800−3.
- In residential areas, the product may cause EMC interferences. The operator is responsible for taking interference suppression measures.
- Do not use the built-in brakes as fail-safe brakes. Disruptive factors that cannot be influenced may cause the braking torque to be reduced.
- The product must only be actuated with inverters.

Foreseeable misuse

- Actuate directly on the mains voltage
- Use in potentially explosive areas
- Use in aggressive environments
- Use under water
- Use under radiation
- Use in generator mode

Residual hazards

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

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

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

Protection of persons

- The product does not provide safety-related functions.
  - A higher-level safety system must be implemented.
  - Additional monitoring and protective equipment complying with the safety regulations applicable in each case must be used.
- The power terminals may carry voltage in the switched-off state or when the motor is stopped.
  - Before working, check whether all power terminals are deenergised.
- Voltages may occur on the drive components (e.g. capacitive, caused by inverter supply).
  - Careful earthing in the marked positions of the components must be carried out.
- Risk of burns may be caused by hot surfaces!
  - Provide for a protection against accidental contact.
  - Use the personal protective equipment or wait until the components have cooled down completely!
  - Prevent contact with flammable substances.
- There is a risk of injury due to rotating parts.
  - Before working on the drive system, ensure that the motor is at a standstill.
- There is a danger of unintentional starting or electrical shocks!
- Installed brakes are no fail-safe brakes.
  - The torque may be reduced by disruptive factors that cannot be influenced such as ingressing oil.

Motor protection

- Design with plug:
  - Never disconnect the plug when energised! Otherwise, the plug can be destroyed.
  - Switch off power supply and disable inverter prior to disconnecting the plug.
- Installed thermal detectors are no full protection for the machine.
  - If required, limit the maximum current. Parameterise the inverter so that it will be switched off after seconds of operation with $I > I_N$, especially if there is the danger of blocking.
  - The installed overload protection does not prevent an overload under any conditions.
- The fuses are no motor protection.
  - Use a current-dependent motor protection switch.
  - Use the built-in thermal detectors.
- Too high torques cause a fraction of the motor shaft.
  - The maximum torques according to catalogue must not be exceeded.
- Lateral forces from the motor shaft may occur.
  - Align the shafts of motor and driven machine exactly to each other.

Gearbox protection

- Excessive torques lead to breakage of the gearbox shaft.
  - Do not exceed the maximum output torques specified in this documentation.
- Excessive input speeds lead to increased temperatures.
  - Do not exceed the maximum input speeds specified in this documentation.
- Lateral forces on the gearbox shaft are possible.
  - Ensure the exact alignment of the shafts of the gearbox and the machine driven.
- Geared parts can be damaged due to insufficient lubricant.
  - Install the gearbox with the mounting position(s) specified on the nameplate.
  - When replacing lubricant, use the lubricant type and lubricant amount specified on the nameplate.

Drive dimensioning

NOTICE

The dimensioning is suitable for the operating modes S1, S2, S3 and S6

The following 3 elements are taken into consideration in the dimensioning process :

Drive function

On the basis of the values required for the process that are specified, a drive is selected, for which all operating points are within the speed-torque characteristic curve of the motor.

As a result, a motor with a suitable speed with an inverter with a sufficient maximum current is selected. Further limits (maximum speed, installation height...) are specified in tables.

Mechanical strength

On the basis of the forces and torques which build, a drive is selected that has a sufficient mechanic strength (endurance strength for the periodically occurring torques and fatique strength for the sporadically occurring torques).

Thermal dimensioning

For the inverter, the thermal dimensioning process is carried out on the basis of the continuous inverter current or on the basis of the continuous torque from the motor-inverter combination, which can be reached.

The motor is thermally dimensioned on the basis of the mean speed and the effective torque.

The thermal dimensioning of the gearbox is based on the medium speed and the permanent torque of the motor/gearbox combination. The thermal limit speed is to be understood as a recommendation.

The mean speed of the drive should not exceed the values specified.

If dimensioning processes are complex or reach limit loads, please refer to your Lenze branch office

Operation chart

S1 operation	S2,S3 and S6 operation
↓	↓
Check operating conditions	
↓	
Define required input variables	
↓	
Determine correction factor	
Operating modes and operating time	Operating modes and operating time
Ambient temperature and installation height	Ambient temperature and installation height
Mounting position	Mounting position
	Mean speed utilisation
	Mean speed
↓	
Determine gearbox on the basis of the acting forces	
↓	↓
↓	Determine gearbox efficiency
↓	↓
Determine required gearbox load capacity	
↓	
Calculate required drive power	
↓	
Check and select geared motor	
↓	↓
↓	Check servo motor based on the motor torque characteristic
↓	↓
Final configuration	

Check operating conditions

Check
Approvals
Conformity declarations
Supply voltage
Enclosure
Ambient temperature
Surface protection

▸ Conformities/approvals 📖 40

▸ Environmental conditions 📖 30

Define required input variables

Necessary input variables	Note	Symbol	Unit
Operating time / day		BD	h
Mean speed utilisation of the geared motor	Relating to the load speed n_L		%
Ambient temperature		T_U	°C
Site altitude Amsl		H	m
Radial force		F_{rad}	N
Axial force		F_{ax}	N
Transmission element at the output	Gear wheels, sprockets …		
Effective diameter of the transmission element		d_w	mm
Load torque	Only with S1, S2, S3, and S6 operating modes	M_L	Nm
Load speed	Only with S1, S2, S3, and S6 operating modes	n_L	rpm
Short-time maximum torque	Emergency off, quick stop, occasional high starting duty	$M_{L,max}$	Nm
Runtime with maximum torque		t_L	%

Determine correction factor

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

▸ Operating modes of the motor 📖 280

Ambient temperature and installation height				
Ambient temperature	Installation height amsl			
	≤ 1000 m	≤ 2000 m	≤ 3000 m	≤ 4000 m
	Correction factor			
T_U	k_H	k_H	k_H	k_H
≤ 20 °C	1.15	1.06	0.97	0.89
30 °C	1.07	0.99	0.90	0.83
40 °C	1.00	0.92	0.83	0.77
50 °C	0.92	0.85	0.76	0.71
60 °C	0.83	0.77	0.70	0.65

Mounting position						
Gearbox	Mounting position					
	A	B	C	D	E	F
	Correction factor					
	k_E	k_E	k_E	k_E	k_E	k_E
g500-H	1.00	0.80	0.80	0.70	1.00	1.00
g500-S	1.00	0.80	0.85	0.70	0.90	0.80
g500-B	1.00	0.80	0.80	0.70	0.80	0.80

▸ Mounting positions 📖 16

Mean speed utilisation					
Daily operating time	Mean speed utilisation relating to the load speed n_L				
	100 %	80 %	60 %	50 %	25 %
	Correction factor				
	k_N	k_N	k_N	k_N	k_N
1.0 h	1.29	1.33	1.38	1.42	1.55
2.0 h	1.15	1.20	1.25	1.29	1.42
3.0 h	1.08	1.12	1.17	1.21	1.34
4.0 h	1.02	1.06	1.12	1.15	1.29
5.5 h	0.96	1.00	1.06	1.09	1.22
8.0 h	0.89	0.93	0.99	1.02	1.15
12.0 h	0.81	0.85	0.91	0.94	1.08
16.0 h	0.76	0.80	0.85	0.89	1.02
22.0 h	0.71	0.76	0.81	0.85	0.98
24.0 h	0.68	0.72	0.78	0.81	0.94

Mean speed					
Operating mode S2		Operating mode S3		Operating mode S6	
ED	k_M	ED	k_M	ED	k_M
min		%		%]	
10	0.16	15	0.15	15	1.00
30	0.50	25	0.25	25	
60	1.00	40	0.40	40	
90		60	0.60	60	

Determine product on the basis of the forces

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

dw Effective diameter of transmission element

▸ Radial forces and axial forces 52

Max. gearbox output torque

Gearbox	Max. output torque	Gearbox	Max. output torque
	$M_{2,GN}$		$M_{2,GN}$
	Nm		Nm
g500-S130	≤ 130	g500-S950	≤ 950
g500-S220	≤ 220	g500-S2100	≤ 2100
g500-S400	≤ 400	g500-S3100	≤ 3100
g500-S660	≤ 660	g500-S4500	≤ 4500

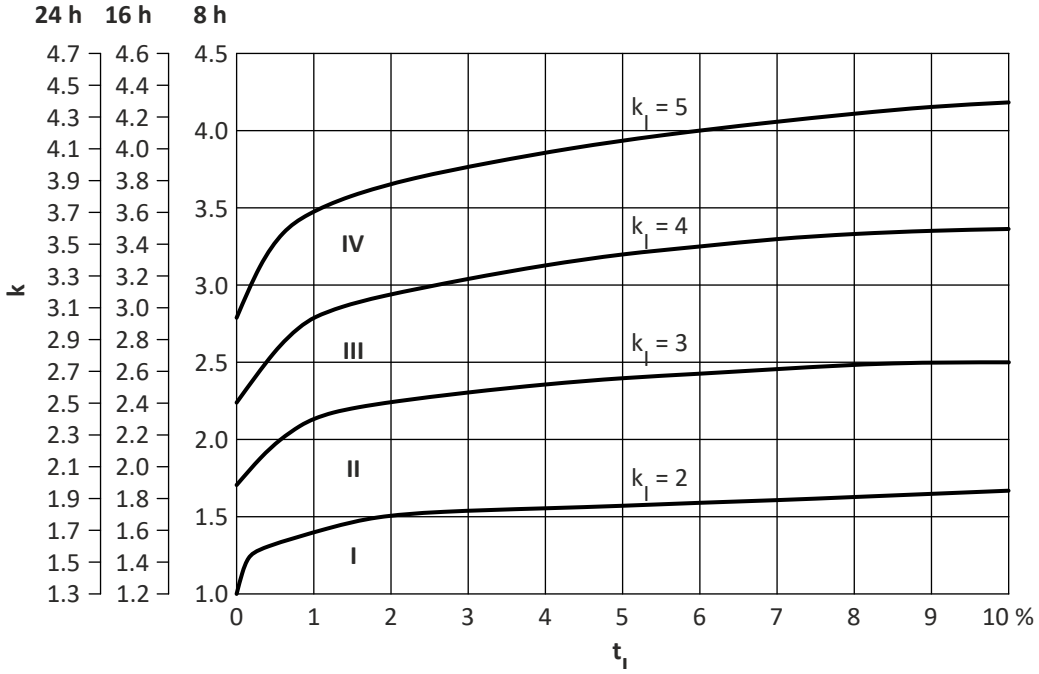
Determine gearbox efficiency

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

Determination of the required gearbox load capacity

Define the required load factor at runtime t_L		
Runtime $t_L \leq 10$ %	Take the load factor k from diagram into account	
Runtime $t_L > 10$ %	Take intensity k_I from calculation into account	
Calculate intensity		
no alternating load	$k_I = M_{L,max} / M_L$	$k_I =$
at alternating load	$k_I = M_{L,max} / M_L \times 1.4$	$k_I =$

Load factor k



Operating mode S1

Calculation of the required drive power			
	Calculation	**Result**	**Unit**
Output torque	$M_r \geq M_L / (k_L \times k_H)$	M_r =	Nm
Output speed	$n_r \geq n_L / k_E$	n_r =	rpm
Drive power	$P_r \geq M_r \times n_r / 9549$	p_r =	kW

Check geared servo motor and determine from the selection table			
	Check	**Selection**	**Unit**
Drive power	$P_1 \geq P_r$	p_1 =	kW
Output torque	$M_2 \geq M_L$	M_2 =	Nm
Output speed	$n_{2,th} \geq n_L$	$n_{2,th}$ =	rpm
Load capacity of the geared motor	$c \geq k$ $c \geq k_I$	c =	
Short-time maximum torque			
no alternating load	$M_{2,max} \geq M_{L,max}$	$M_{2,max}$ =	Nm
at alternating load	$M_{2,max} \times 1.5 \geq M_{L,max}$	$M_{2,max}$ =	Nm
Ratio		i =	
Geared motor		g500-....	

▸ Selection tables 📖 54

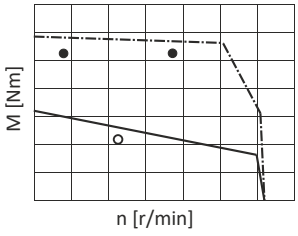
Order data			
	Ratio i	**Geared motor**	
Example	4.600	g500-H100	MCS06C40
Example	4.600	g500-H100	MCA10I40

Operating modes S2, S3, and S6

Calculation of the required drive power			
	Calculation	**Result**	**Unit**
Output torque	$M_r \geq M_L / (k_L \times k_H)$	M_r =	Nm
Output speed	$n_r \geq (n_L \times k_M) / (k_E \times k_N)$	n_r =	rpm
Drive power	$P_r \geq M_r \times n_r / 9549$	p_r =	kW

Check geared servo motor and determine from the selection table			
	Check	**Selection**	**Unit**
Drive power	$P_1 \geq P_r$	p_1 =	kW
Output torque	$M_2 \geq M_L$	M_2 =	Nm
Output speed	$n_2 \geq n_L$	n_2 =	rpm
Load capacity of the geared motor	$c \geq k$ $c \geq k_I$	c =	
Short-time maximum torque			
no alternating load	$M_{2,max} \geq M_{L,max}$	$M_{2,max}$ =	Nm
at alternating load	$M_{2,max} \times 1.5 \geq M_{L,max}$	$M_{2,max}$ =	Nm
Ratio		i =	
Geared motor		g500-....	

▸ Selection tables 📖 54

Check servo motor based on the motor torque characteristic		
Gearbox efficiency	$\eta_G = \eta_{c1} - (c - 1) \times 0.01$	η_G =
All operating points (●)		
Below the maximum torque characteristic of the servo motor-inverter combination, taking $M_{L,max}$ into consideration		$i \times n_L$ $M_L / (i \times \eta_G)$
Thermally effective operating point (○)		$(i \times n_L \times k_M) / (k_E \times k_N)$
Below the S1 torque characteristic of the servo motor		$M_L / (k_L \times k_H \times i \times \eta_G)$

▸ Torque characteristics 📖 269

Order data			
	Ratio i	**Geared motor**	
Example	4.600	g500-H100	MCS06C40
Example	4.600	g500-H100	MCA10I40

Final configuration

	Check
Connection dimensions	Output shaft Output flange/foot
Mounting position	Geared motor Connector/terminal box Driven shaft/output flange
Product extensions	Torque plate Shaft cover Connector/terminal box Brake Feedback Temperature monitoring

More information about the final configuration:

▸ The modular system 🕮 10

▸ Product extensions 🕮 244

Environmental conditions

Surface and corrosion protection

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

Various surface coatings ensure that the motors operate reliably even at high air humidity, in outdoor installation or in the presence of atmospheric impurities. Any colour from the "RAL Classic" collection can be chosen for the top coat.

The OKS-XL (extra Large) version requires a check by your responsible Lenze subsidiary.

Surface and corrosion protection	Applications	Product	
		g500-H45 ... H450 g500-S130 ... S660 g500-B45 ... B450	**g500-H600 ... H3000 g500-S950 ... S4500 g500-B600 ... B4300**
OKS-G (primed)	• Dependent on subsequent top coat applied	Standard	Standard
OKS-S (small)	• Standard applications • Internal installation in heated buildings • Air humidity up to 90%	Optional	Optional
OKS-M (medium)	• Internal installation in non-heated buildings • Covered, protected external installation • Air humidity up to 95 %	Optional	Optional
OKS-L (large)	• External installation • Air humidity above 95 % • Chemical industrial plants • Food industry		
OKS-XL (extra Large)	• External installation • Air humidity above 95 % • Chemical industrial plants • Food industry • Coastal areas with moderate salinity		

Surface and corrosion protection	Corrosivity category	Surface coating	Colour	Coating thickness
	DIN EN ISO 12944-2	**Design**		
OKS-G (primed)		• 2K PUR priming coat		60 ... 90 µm
OKS-S (small)	Comparable to C1	• 2K-PUR top coat	• Standard: RAL 7012 • Optional: RAL Classic	80 ... 120 µm
OKS-M (medium)	Comparable to C2	• 2K PUR priming coat • 2K-PUR top coat		110 ... 160 µm
OKS-L (large)	Comparable to C3			140 ... 200 µm
OKS-XL (extra Large)	Comparable to C4	• 2K-EP priming coat (two times) • 2K-PUR top coat		160 ... 240 µm

Lubricants

In case of ambient temperatures < -20 °C or > +40 °C, please contact your responsible Lenze sales company

The following gearboxes are lubricated for life:

- g500-S130

Recommended lubricants:

Lubricant	**CLP HC 220**	**CLP HC 320**	**CLP HC 220 USDA H1**
Specification	Synthetic oil (polyalfaolefins basis)		
Changing interval			
Operating hours	25000	25000	16000
Not later than after	4 years	4 years	3 years
At an oil temperature of	70 ... 80 C°		
Fuchs	Renolin Unisyn CLP 220 XT 220	Renolin Unisyn CLP 320 XT 320	Cassida Fluid GL 220
Klüber	Klübersynth GEM4-220 N	Klübersynth GEM4-320 N	Klüberoil 4 UH1-220 N
Shell	Shell Omala S4 GX HD 220	Shell Omala S4 GX HD 320	

Free spaces

Ventilation

For the gearboxes g500-S130 … S220, no ventilation measures are required.

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

From g500-S400 onwards, the gearboxes are generally outfitted with breather elements.

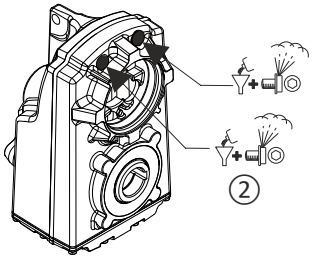
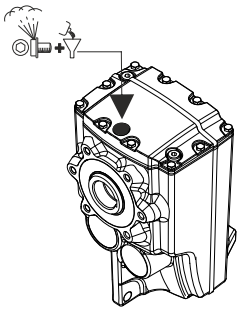
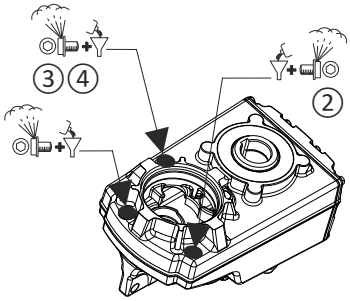
Gearbox in combined mounting position

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

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

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

g500-S220 ... S660

Mounting position A	Mounting position B	Mounting position C
Filling and ventilation		
		
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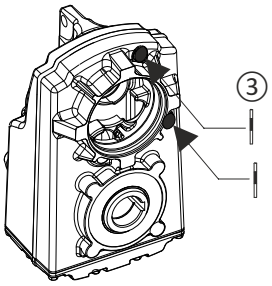
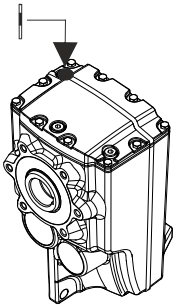
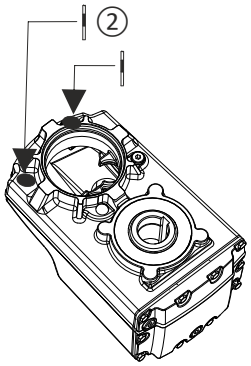
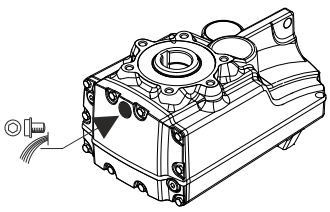
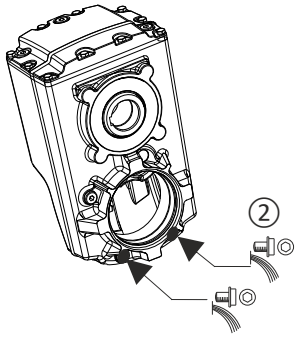
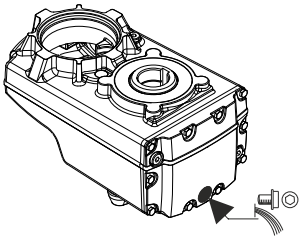
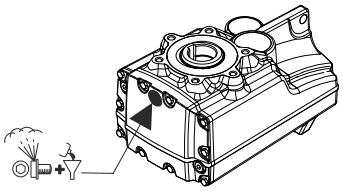
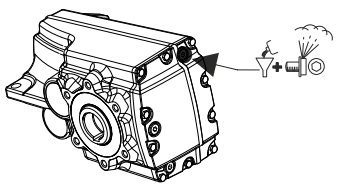
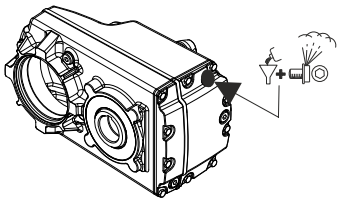
		
Drain		
		

② g500-S220
③ g500-S400
④ g500-S660

Mounting position D	Mounting position E	Mounting position F
Filling and ventilation		
		
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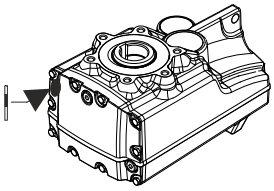	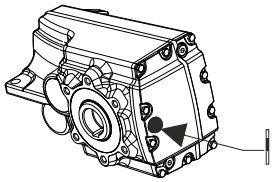	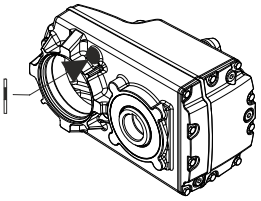
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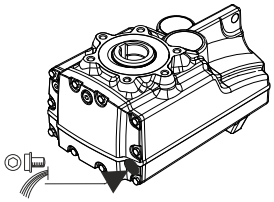
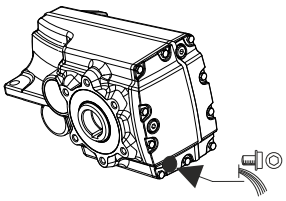
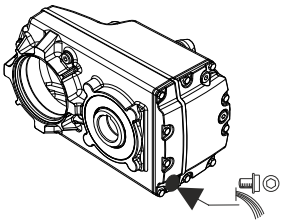
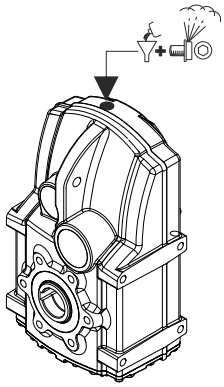
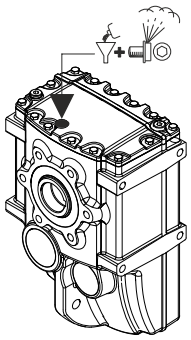
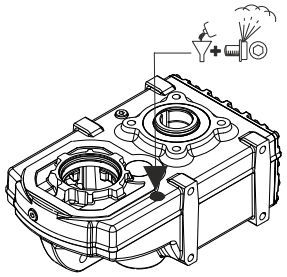
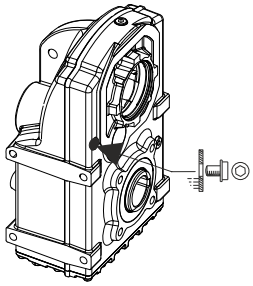
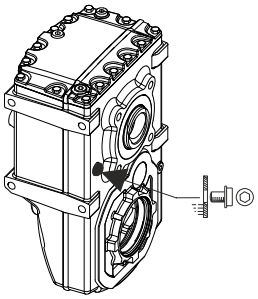
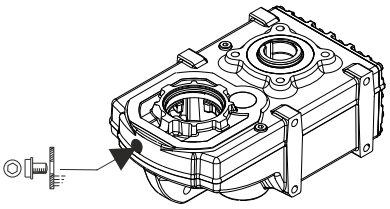
		

g500-S950 ... S4500

Mounting position A	Mounting position B	Mounting position C
Filling and ventilation		
		
Check		
		
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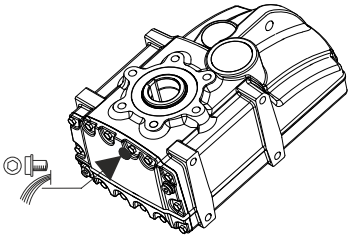
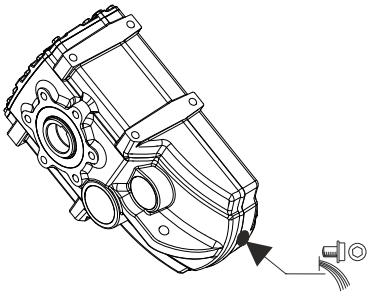
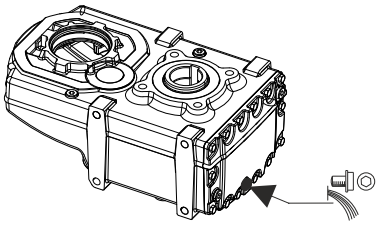
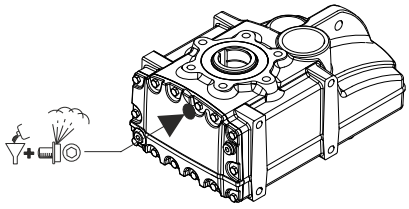
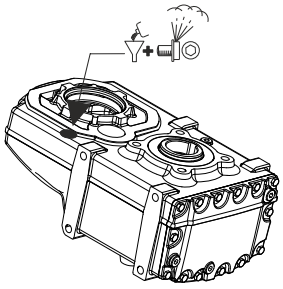
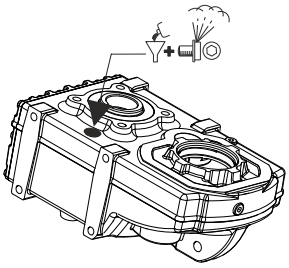
		

Mounting position D	Mounting position E	Mounting position F
Filling and ventilation		
		
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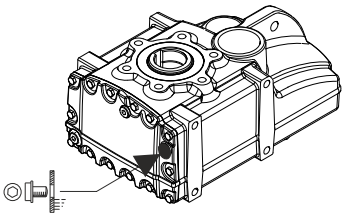	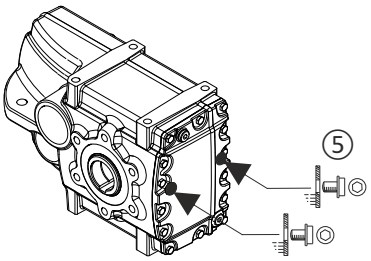	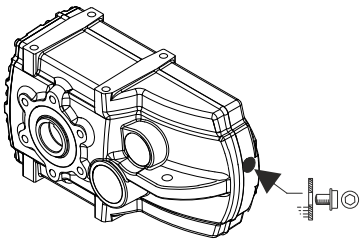
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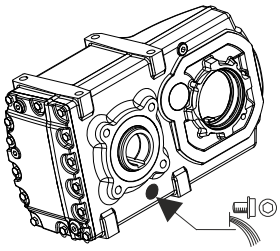
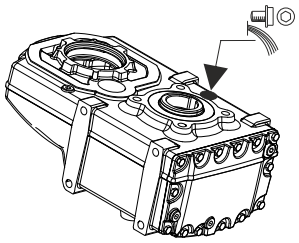
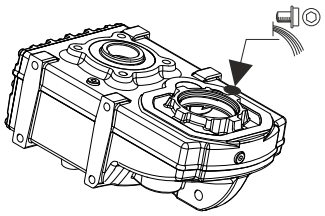
		

⑤ g500-S3100

Information on mechanical installation

Important notes

- You must install the product according to specifications in the chapter "standard and operating" conditions.

  ▸ Standards and operating conditions 📖 40
- The technical data and the data regarding the supply conditions can be found on the nameplate and in this documentation.
- Observe the information relating to the surface and corrosion protection.

  ▸ Environmental conditions 📖 30
- Ambient media − especially chemically aggressive ones − may damage shaft sealing rings, lacquers and plastics. If required, contact your responsible Lenze subsidiary.

NOTICE

Bearing damage caused by unbalance!

Shafts with keyway are balanced with a half featherkey!

▸ Balance transmission elements with a half featherkey!

Transport

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

Installation

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

Information on electrical installation

Important notes

⚠ DANGER!

Hazardous voltage!

On the power connections even when disconnected from the mains: residual voltage >60 V!

- ▸ Disconnect the product from the mains and wait until the motor is at a standstill.
- ▸ Make sure that the product is safely isolated from supply!

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

Preparation

The notes for the electrical connection can be found in the enclosed mounting instructions.

EMC-compliant wiring

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

Technical data

Notes regarding the given data

Catalog data

The power, torque, and speed values specified in the configuration are rounded values and apply for

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

NOTICE

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

▶ In case of extreme operating conditions, please contact your responsible Lenze sales company.

Thermal power limit

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

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

NOTICE

A thermal check with the Drive Solution Designer (DSD) contacting the Lenze office responsible for you is required if

▶ the input speed n_1 > 1500 rpm is exceeded in case of the gearbox ratios given in the following.

▶ The drive speeds given in the following are exceeded as a function of the mounting position. Temporarily up to 5 min, 30 % higher speeds are permissible.

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

Motor	Mounting position A	Mounting position B, E, F	Mounting position C, D
MCA10 to 14	4000 r/min	3500 rpm	3000 r/min
MCA17 ... 21	3000 r/min	2600 rpm	1500 r/min

Possible ways of extending the application area

- Shaft sealing ring made of FKM material/Viton (option)
- Reducing the lubricant amount (after consultation with Lenze)
- Cooling the geared motor by means of air convection on the machine/ system

Standards and operating conditions

Conformities/approvals

Conformity		
CE	2014/35/EU	Low-Voltage Directive
	2014/30/EU	EMC Directive (reference: CE-typical drive system)
EAC	TR TC 004/2011	Eurasian conformity: safety of low voltage equipment
	TP TC 020/2011	Eurasian conformity: electromagnetic compatibility of technical means
Approval		
cURus	UL 1004-1 UL 1004-6	for USA and Canada (requirements of the CSA 22.2 No.100) Industrial Control Equipment, Lenze File No. E210321
UkrSepro		for Ukraine

Protection of persons and device protection

Enclosure		
IP54	EN 60034-5	Self-ventilated: MCA10 ... MCA21 Forced ventilated: MCA13 ... MCA21
IP65	EN 60034-5	Self-ventilated: MCA10 ... MCA21
Temperature class		
F (155 °C)	EN 60034-1	
Max. voltage load		
Limit curve A	IEC/TS 60034-25:2007	
IVIC C/B/B@500V	IEC 60034-18-41	

EMC data

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

Environmental conditions

Climate		
1K3 (-20 °C ... +60 °C)	EN 60721-3-1	Storage, < 3 months
1K3 (-20 °C ... +40 °C)	EN 60721-3-1	Storage, > 3 months
2K3 (-20 °C ... +70 °C)	EN 60721-3-2	Transport
3K3 (0 °C ... -+40 °C)	EN 60721-3-3	operation
Site altitude		
0 … 1000 m a.m.s.l.		Without power reduction
1000 … 4000 m a.m.s.l.		Reduce rated output current by 5 %/1000 m

Data overview

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

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

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

The data for the max. radial force refer to

- Gearbox design: Solid shaft without flange
- output shaft bearing: normal bearing
- Application factor c= 1.3

Further designs ▸ Radial forces and axial forces 52

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 rounded values.

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

g500-S130, 2-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
382	63	2.60	3.661	637	174	1350	20	1.70	2.20
279	76	2.29	5.021	728	145	1420	19	0.80	2.20
218	87	2.05	6.425	559	87	1500	18	0.80	2.20
199	92	1.98	7.029	5096	725	1530	18	0.80	2.20
168	116	2.11	8.322	749	90	1600	13	0.80	2.20
149	125	2.01	9.411	847	90	1660	13	0.80	2.20
123	130	1.72	11.413	856	75	1990	13	0.80	2.20
109	130	1.52	12.907	968	75	2100	12	0.80	2.20
96	130	1.34	14.606	4601	315	2220	13	0.80	2.20
88	130	1.23	15.979	5992	375	2320	13	0.80	2.20
78	130	1.09	18.069	6776	375	2460	12	0.80	2.20
69	130	0.96	20.381	428	21	2610	13	0.80	1.70
61	130	0.85	23.048	484	21	2780	12	0.80	1.70
56	130	0.79	24.967	749	30	2890	13	0.80	1.70
50	130	0.70	28.233	847	30	3070	12	0.80	0.80
45	130	0.63	31.387	2354	75	3240	13	0.80	0.80
39	130	0.55	35.493	2662	75	3440	12	0.80	0.80
35	130	0.49	40.422	1819	45	3660	13	0.80	0.80
31	130	0.43	45.711	2057	45	3860	12	0.80	0.80

g500-S220, 2-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
365	178	7.00	3.840	553	144	2360	16	2.10	3.90
266	181	5.19	5.267	79	15	2650	16	1.40	3.90
207	220	4.91	6.767	203	30	2900	13	1.40	3.90
183	217	4.28	7.667	23	3	3050	12	1.40	3.90
151	220	3.58	9.280	232	25	3250	13	1.40	3.90
133	220	3.16	10.514	368	35	3,400	12	1.40	3.90
118	220	2.80	11.876	1247	105	3500	13	1.40	3.90
108	220	2.56	12.992	1624	125	3550	13	1.40	3.90
104	220	2.47	13.456	1978	147	3600	12	1.40	3.90
95	220	2.26	14.720	368	25	3600	12	0.80	3.90
85	220	2.01	16.571	116	7	3600	12	0.80	2.30
75	220	1.77	18.776	920	49	3600	12	0.80	2.30
69	220	1.64	20.300	203	10	3600	12	0.80	2.30
61	220	1.45	23.000	23	1	3600	12	0.80	2.30
53	220	1.26	26.422	1189	45	3600	12	0.80	2.20
47	220	1.11	29.937	1886	63	3600	12	0.80	2.20
43	220	1.01	32.867	493	15	3600	12	0.80	2.20
38	220	0.89	37.238	782	21	3600	12	0.80	1.70
33	220	0.78	42.533	638	15	3600	12	0.80	0.80
29	220	0.69	48.190	1012	21	3600	12	0.80	0.80
27	220	0.64	51.620	2581	50	3600	12	0.80	0.80
24	220	0.57	58.486	2047	35	3600	11	0.80	0.80

g500-S220, 3-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
27	220	0.64	52.587	3944	75	3600	13	0.80	0.80
24	220	0.57	59.581	6256	105	3600	12	0.80	0.80
21	220	0.50	67.298	21199	315	3600	13	0.80	0.80
18	220	0.44	76.249	33626	441	3600	12	0.80	0.80
16	220	0.39	86.079	5423	63	3600	13	0.80	0.80
14	220	0.35	97.528	43010	441	3600	12	0.80	0.80

g500-S400, 2-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
419	203	9.20	3.339	581	174	2360	16	2.10	6.90
306	243	8.03	4.579	664	145	2560	16	2.10	6.90
239	258	6.64	5.860	3569	609	2750	13	2.10	6.90
218	261	6.16	6.411	4648	725	2820	12	1.40	6.90
188	365	7.38	7.467	112	15	2980	13	2.10	6.90
166	380	6.80	8.436	329	39	3150	12	2.10	6.90
137	400	5.90	10.240	256	25	3450	13	1.40	6.90
121	400	5.22	11.569	752	65	3650	13	1.40	6.90
107	400	4.61	13.105	1376	105	3900	12	1.40	6.90
98	400	4.22	14.336	1792	125	4000	12	1.40	6.90
95	400	4.08	14.806	4042	273	4100	12	1.40	6.90
86	400	3.73	16.197	5264	325	4200	12	1.40	6.90
77	400	3.31	18.286	128	7	4400	12	1.40	6.90
68	400	2.93	20.659	1880	91	4650	12	1.40	4.10
63	400	2.70	22.400	112	5	4800	12	1.40	3.90
55	400	2.39	25.308	329	13	5100	12	1.40	3.90
48	400	2.07	29.156	1312	45	5500	12	0.80	2.20
43	400	1.83	32.940	3854	117	5750	12	0.80	2.20
39	400	1.67	36.267	544	15	5850	12	0.80	2.20
34	400	1.48	40.974	1598	39	5980	12	0.80	2.20
30	314	1.01	46.933	704	15	6100	12	0.80	0.80
26	348	0.99	53.026	2068	39	6200	11	0.80	0.80
25	268	0.71	56.960	1424	25	6200	12	0.80	0.80
22	303	0.71	64.354	4183	65	6200	11	0.80	0.80

g500-S400, 3-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
24	400	1.06	58.027	4352	75	6200	11	0.80	0.80
21	400	0.94	65.559	12784	195	6200	11	0.80	0.80
19	400	0.83	74.260	23392	315	6200	11	0.80	0.80
17	400	0.73	83.900	68714	819	6200	11	0.80	0.80
15	400	0.65	94.984	5984	63	6200	11	0.80	0.80
13	399	0.57	107.314	87890	819	6200	11	0.80	0.80
11	400	0.50	123.307	9248	75	6200	11	0.80	0.80
10	399	0.44	139.313	27166	195	6200	11	0.80	0.80

g500-S660, 2-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
357	419	16.15	3.920	98	25	3320	14	3.80	13.20
260	492	13.83	5.376	672	125	3580	13	3.80	13.20
218	601	14.15	6.417	77	12	3660	11	3.80	13.20
204	496	10.89	6.880	172	25	3690	13	2.10	13.20
192	593	12.26	7.311	329	45	3720	11	3.80	13.20
159	638	10.96	8.800	44	5	3900	11	3.80	13.20
140	625	9.42	10.027	752	75	4200	10	2.10	13.20
124	660	8.86	11.262	473	42	4500	11	2.10	13.20
114	660	8.10	12.320	308	25	4750	10	2.10	13.20
109	660	7.77	12.832	4042	315	4850	10	2.10	13.20
100	660	7.10	14.037	5264	375	5100	10	2.10	13.20
89	660	6.35	15.714	110	7	5450	10	1.40	6.90
78	660	5.57	17.905	376	21	5800	10	1.40	6.90
73	660	5.18	19.250	77	4	6000	10	1.40	6.90
64	660	4.55	21.933	329	15	6450	10	1.40	6.90
56	578	3.49	25.056	451	18	7050	10	1.40	6.90
49	660	3.49	28.548	3854	135	7700	10	1.40	6.90
45	660	3.20	31.167	187	6	8100	10	1.40	3.90
39	660	2.81	35.511	1598	45	8500	10	1.40	3.90
35	545	2.04	40.333	121	3	8750	10	1.70	2.20
31	620	2.04	45.956	2068	45	8850	10	1.70	2.20
29	446	1.38	48.950	979	20	8900	10	0.80	2.20
25	508	1.38	55.773	4183	75	9000	10	0.80	2.20

g500-S660, 3-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
28	625	1.92	49.867	748	15	9000	11	0.80	2.20
25	650	1.75	56.818	12784	225	9000	10	0.80	2.20
22	660	1.59	63.817	8041	126	9000	11	0.80	2.20
20	660	1.45	69.813	5236	75	9000	11	0.80	2.20
19	660	1.39	72.713	68714	945	9000	10	0.80	2.20
18	660	1.27	79.545	89488	1125	9000	10	0.80	2.20
16	660	1.14	89.048	1870	21	9000	11	0.80	2.20
14	660	1.00	101.460	6392	63	9000	10	0.80	2.20
13	660	0.93	109.083	1309	12	9000	11	0.80	1.70
11	660	0.81	124.289	5593	45	9000	10	0.80	1.70
10	660	0.74	137.133	2057	15	9000	11	0.80	0.80
9	660	0.65	156.249	35156	225	9000	10	0.80	0.80
8	660	0.57	176.611	3179	18	9000	11	0.80	0.80
7	660	0.50	201.230	27166	135	9000	10	0.80	0.80

g500-S950, 2-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
320	621	21.42	4.380	403	92	8430	16	3.80	13.20
260	691	19.37	5.391	124	23	9100	15	3.80	13.20
232	732	18.32	6.038	3472	575	9490	15	3.80	13.20
182	783	15.36	7.702	1240	161	10300	14	2.10	13.20
154	950	15.77	9.100	91	10	10300	10	3.80	13.20
138	950	14.10	10.183	611	60	10300	10	3.80	13.20
125	950	12.82	11.200	56	5	10300	10	3.80	13.20
112	950	11.44	12.544	1568	125	10300	10	3.80	13.20
100	950	10.23	14.037	5264	375	10300	10	2.10	13.20
88	950	8.97	16.000	16	1	10300	10	2.10	13.20
78	950	8.02	17.905	376	21	10300	10	2.10	13.20
71	950	7.32	19.600	98	5	10300	10	2.10	13.20
64	950	6.54	21.933	329	15	10300	9	2.10	13.20
55	950	5.63	25.511	1148	45	10300	10	1.40	6.90
49	950	5.03	28.548	3854	135	10300	9	1.40	6.90
45	950	4.59	31.267	469	15	10300	9	1.40	6.90
40	950	4.10	34.989	3149	90	10300	9	1.40	6.90
34	950	3.50	41.067	616	15	10300	9	1.40	3.90
31	950	3.12	45.956	2068	45	10300	9	1.40	3.90
28	924	2.80	49.840	1246	25	10300	9	0.80	3.90
25	950	2.57	55.773	4183	75	10300	9	0.80	3.90
22	668	1.60	63.000	63	1	10300	9	0.80	2.20
20	736	1.58	70.500	141	2	10300	9	0.80	2.20

g500-S950, 3-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
28	950	2.91	50.027	3752	75	10300	10	1.40	4.10
25	950	2.60	55.982	12596	225	10300	10	1.40	4.10
22	950	2.28	64.022	2881	45	10300	10	1.40	4.10
20	950	2.08	70.037	26264	375	10300	10	1.40	4.10
20	950	2.03	71.644	135407	1890	10300	10	1.40	4.10
18	950	1.86	78.375	88172	1125	10300	10	0.80	4.10
16	950	1.63	89.333	268	3	10300	10	0.80	4.10
14	950	1.46	99.968	6298	63	10300	10	0.80	2.30
13	950	1.33	109.433	3283	30	10300	10	0.80	2.30
11	950	1.19	122.461	22043	180	10300	10	0.80	2.30
10	950	1.02	142.437	19229	135	10300	10	0.80	2.20
9	950	0.91	159.394	129109	810	10300	10	0.80	1.70
8	950	0.82	177.178	7973	45	10300	10	0.80	1.70
7	950	0.74	198.270	53533	270	10300	10	0.80	1.70
6	950	0.64	229.289	10318	45	10300	10	0.80	0.80
6	950	0.57	256.585	34639	135	10300	10	0.80	0.80
5	950	0.52	278.273	41741	150	10300	10	0.80	0.80
5	950	0.47	311.401	280261	900	10300	10	0.80	0.80

g500-S2100, 2-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
305	1331	43.79	4.593	689	150	10430	12	11.00	20.30
232	1487	37.27	6.029	2279	378	11540	12	3.80	20.30
204	1487	32.70	6.870	371	54	12110	11	3.80	20.30
169	1487	27.16	8.272	3127	378	12980	11	3.80	20.30
148	1866	29.83	9.452	4017	425	13630	8	6.40	20.30
133	1872	26.93	10.504	1313	125	14180	8	6.40	20.30
113	2030	24.72	12.406	4429	357	15080	8	3.80	20.30
102	2047	22.43	13.787	4343	315	15680	8	3.80	20.30
99	2050	21.91	14.137	721	51	15700	8	3.80	20.30
89	2050	19.72	15.711	707	45	15700	8	3.80	20.30
82	2050	18.20	17.022	6077	357	15700	7	3.80	20.30
74	2050	16.38	18.917	5959	315	15700	7	3.80	20.30
67	2050	14.84	20.869	3193	153	15700	7	3.80	20.30
60	2050	13.36	23.193	3131	135	15700	7	3.80	20.30
50	2050	10.96	28.275	1442	51	15700	8	2.10	13.20
45	2050	9.86	31.422	1414	45	15700	8	2.10	13.20
41	2050	9.02	34.333	103	3	15700	8	2.10	13.20
37	2050	8.12	38.156	1717	45	15700	8	2.10	13.20
32	1849	6.29	44.431	2266	51	15700	8	1.40	6.90
28	2050	6.27	49.378	2222	45	15700	7	1.40	6.90
26	1878	5.26	53.924	9167	170	15700	7	1.40	6.90
23	2050	5.17	59.927	8989	150	15700	7	1.40	6.90
21	1454	3.22	68.162	4635	68	15700	7	1.40	3.90
19	1576	3.14	75.750	303	4	15700	7	1.40	3.90

g500-S2100, 3-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
35	1945	7.45	40.056	721	18	15700	8	2.10	13.20
32	2050	7.06	44.515	12019	270	15700	8	2.10	13.20
26	2050	5.72	54.933	824	15	15700	8	1.40	6.90
23	2050	5.15	61.049	13736	225	15700	8	1.40	6.90
20	2050	4.47	70.302	4429	63	15700	8	1.40	6.90
18	2050	4.09	76.907	5768	75	15700	8	1.40	6.90
18	2050	4.03	78.128	73831	945	15700	8	1.40	6.90
16	2050	3.68	85.468	96152	1125	15700	8	1.40	6.90
14	2050	3.21	98.095	2060	21	15700	8	1.40	6.90
13	2050	2.88	109.016	6868	63	15700	8	1.40	5.20
12	2050	2.62	120.167	721	6	15700	8	1.40	5.20
11	2050	2.35	133.544	12019	90	15700	8	1.40	5.20
9	2050	2.01	156.407	4223	27	15700	8	1.40	4.10
8	2050	1.81	173.820	70397	405	15700	8	0.80	4.10
7	2050	1.62	194.556	1751	9	15700	8	0.80	2.30
7	2050	1.45	216.215	29189	135	15700	8	0.80	2.30
6	2050	1.25	251.778	2266	9	15700	8	0.80	2.20
5	2050	1.12	279.807	37774	135	15700	8	0.80	2.20
5	2050	1.03	305.567	9167	30	15700	8	0.80	2.20
4	2050	0.93	339.584	152813	450	15700	8	0.80	1.70
4	2050	0.81	386.250	1545	4	15700	8	0.80	0.80
3	2050	0.73	429.250	1717	4	15700	8	0.80	0.80

g500-S3100, 2-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
283	1629	49.70	4.951	2847	575	14000	10	11.00	20.30
215	1797	41.78	6.499	3139	483	15000	10	3.80	20.30
189	1875	38.26	7.406	511	69	16000	10	3.80	20.30
157	1973	33.43	8.917	4307	483	16500	10	3.80	20.30
128	2079	28.74	10.932	2263	207	16800	10	3.80	20.30
126	3022	41.04	11.128	1391	125	17000	7	11.00	20.30
111	2965	35.60	12.584	1573	125	17500	7	11.00	20.30
96	3100	32.07	14.606	4601	315	18000	6	3.80	20.30
85	3100	28.36	16.517	5203	315	18200	6	3.80	20.30
84	3100	28.14	16.644	749	45	18600	6	3.80	20.30
74	3100	24.89	18.822	847	45	19000	6	3.80	20.30
70	3100	23.37	20.041	6313	315	19400	6	3.80	20.30
62	3100	20.67	22.663	7139	315	19800	6	3.80	20.30
57	3100	19.07	24.570	3317	135	19800	6	3.80	20.30
50	3100	16.86	27.785	3751	135	19800	6	3.80	20.30
42	3100	14.07	33.289	1498	45	19800	6	2.10	13.20
37	3100	12.44	37.644	1694	45	19800	6	2.10	13.20
35	3100	11.59	40.422	1819	45	19800	6	2.10	13.20
31	3100	10.25	45.711	2057	45	19800	6	2.10	13.20
27	2176	6.29	52.311	2354	45	19800	6	1.40	6.90
24	2461	6.29	59.156	2662	45	19800	6	1.40	6.90
22	2211	5.26	63.487	9523	150	19800	6	1.40	6.90
20	2408	5.07	71.793	10769	150	19800	6	1.40	6.90

g500-S3100, 3-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
30	2958	9.62	47.159	12733	270	19800	7	2.10	13.20
26	3054	8.79	53.330	14399	270	19800	7	2.10	13.20
22	3100	7.35	64.676	14552	225	19800	7	2.10	13.20
19	3100	6.50	73.138	16456	225	19800	7	2.10	13.20
17	3100	5.75	82.769	78217	945	19800	7	1.40	13.20
16	3100	5.25	90.546	101864	1125	19800	7	1.40	6.90
15	3100	5.08	93.599	88451	945	19800	7	1.40	6.90
14	3100	4.64	102.393	115192	1125	19800	6	1.40	6.90
12	3100	4.12	115.492	7276	63	19800	7	1.40	6.90
11	3100	3.64	130.603	8228	63	19800	6	1.40	6.90
10	3100	3.36	141.478	12733	90	19800	6	1.40	6.90
9	3100	2.97	159.989	14399	90	19800	6	1.40	6.90
8	3100	2.58	184.146	74579	405	19800	6	1.40	4.10
7	3100	2.28	208.240	84337	405	19800	6	1.40	4.10
6	3100	2.08	229.059	30923	135	19800	6	1.40	3.90
5	3100	1.84	259.030	34969	135	19800	6	0.80	3.90
5	3100	1.60	296.430	40018	135	19800	6	0.80	2.20
4	3100	1.42	335.215	45254	135	19800	6	0.80	2.20
4	3100	1.32	359.758	161891	450	19800	6	0.80	2.20
3	3100	1.17	406.829	183073	450	19800	6	0.80	2.20

g500-S4500, 2-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
285	2026	62.31	4.914	2457	500	16500	9	20.30	20.30
217	2234	52.34	6.450	129	20	18500	9	11.00	20.30
198	2307	49.41	7.056	882	125	19000	9	11.00	20.30
157	3688	62.31	8.944	1118	125	14000	6	20.30	20.30
140	4117	62.31	9.984	1248	125	16000	5	20.30	20.30
119	4066	52.34	11.740	3698	315	17000	6	11.00	20.30
109	4199	49.41	12.843	4816	375	18000	5	11.00	20.30
107	4500	51.89	13.105	1376	105	18500	5	11.00	20.30
98	4500	47.43	14.336	1792	125	19000	5	11.00	20.30
86	4498	41.49	16.381	344	21	21000	5	3.80	20.30
77	4500	37.19	18.286	128	7	22000	5	3.80	20.30
70	4500	33.89	20.067	301	15	23500	5	6.40	20.30
63	4500	30.36	22.400	112	5	25000	4	6.40	20.30
53	4500	25.72	26.437	3569	135	27000	5	3.80	20.30
47	4500	23.04	29.511	1328	45	29000	4	3.80	20.30
43	4500	20.93	32.489	1462	45	30000	5	3.80	20.30
39	4500	18.75	36.267	544	15	30000	4	3.80	20.30
33	4101	14.74	42.044	1892	45	30000	5	2.10	13.20
30	4394	14.15	46.933	704	15	30000	4	2.10	13.20
27	3653	10.82	51.027	3827	75	30000	5	1.40	13.20
25	3946	10.47	56.960	1424	25	30000	4	1.40	13.20
22	2252	5.28	64.500	129	2	30000	5	1.40	6.90
19	2514	5.28	72.000	72	1	30000	4	1.40	6.90

g500-S4500, 3-stage

Output speed	Max. output torque	Max. drive power	Ratio	Number of teeth		Max. radial force	Backlash	Rated power	
							Standard	Motor	
n_2	$M_{2,max}$	$P_{1,max}$	i	z_g	z_t	$F_{rad,max}$			
							± 20 %		
rpm	Nm	kW				N	arcmin	kW	kW
37	4150	16.71	38.090	49708	1305	30000	6	3.80	20.30
33	4291	15.48	42.520	18496	435	30000	5	3.80	20.30
27	4500	13.08	52.794	9503	180	30000	5	3.80	20.30
24	4500	11.71	58.933	884	15	30000	5	3.80	20.30
22	4500	10.62	64.978	2924	45	30000	5	3.80	20.30
19	4500	9.52	72.533	1088	15	30000	5	2.10	20.30
19	4500	9.49	72.775	81872	1125	30000	5	2.10	20.30
17	4500	8.50	81.237	30464	375	30000	5	2.10	13.20
15	4500	7.44	92.825	5848	63	30000	5	2.10	13.20
14	4500	6.66	103.619	2176	21	30000	5	2.10	13.20
12	4500	6.07	113.711	5117	45	30000	5	2.10	13.20
11	4500	5.44	126.933	1904	15	30000	5	1.40	6.90
10	4500	4.66	148.005	59942	405	30000	5	1.40	6.90
9	4500	4.18	165.215	22304	135	30000	5	1.40	6.90
8	4500	3.81	181.396	48977	270	30000	5	1.40	6.90
7	4500	3.41	202.489	9112	45	30000	5	1.40	6.90
6	4500	2.90	238.252	32164	135	30000	5	1.40	3.90
5	4500	2.60	265.956	11968	45	30000	5	1.40	3.90
5	4500	2.39	289.151	65059	225	30000	5	0.80	3.90
4	4500	2.14	322.773	24208	75	30000	5	0.80	3.90
4	3962	1.66	365.500	731	2	30000	5	0.80	2.20
3	4410	1.66	408.000	408	1	30000	5	0.80	2.20

Radial forces and axial forces

Permissible radial force

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

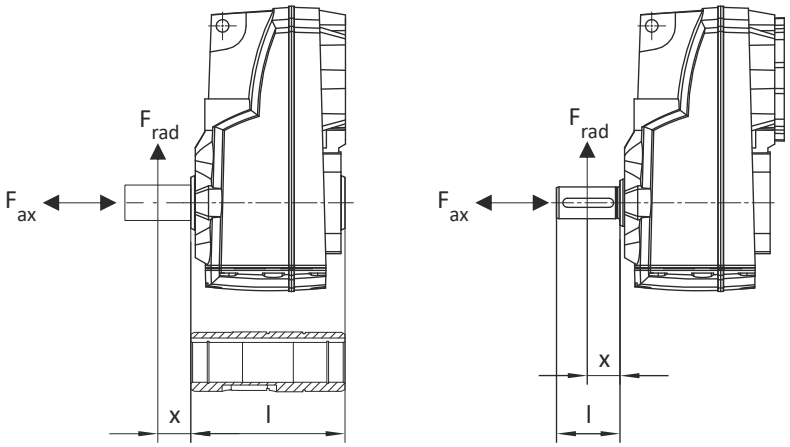
$F_{rad,\,perm} = f_w \times F_{rad,max}$

Permissible axial force

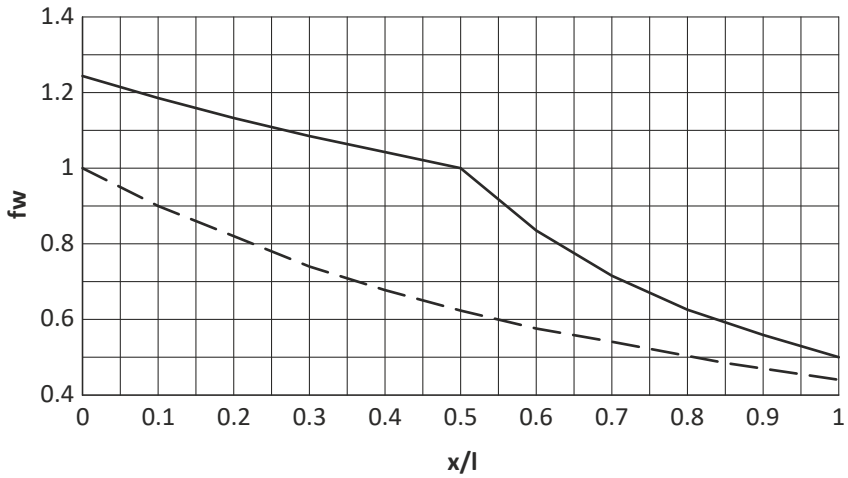
If there is no radial force, the maximum axial force is 50% of the value in the table $F_{rad,max}$

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

Application of forces



Additional load factor f_w on the drive shaft



Solid shaft

Hollow shaft

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

In case of different operating conditions, considerably higher forces can be transmitted. Please contact Lenze.

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

Max. radial force, gearbox with hollow shaft (HAR/HBR/HDR/HAK)

Gearbox	Output speed n_2 [rpm]									
	1000	630	400	250	160	100	63	40	25	≤ 16
	Max. radial force $F_{rad,max}$ [N]									
g500-S130	1000	1100	1300	1500	1650	2200	2750	3450	4200	4500
g500-S220	2100	2300	2800	3200	3800	4600	5500	6300	7000	7000
g500-S400	2200	2500	3000	3,400	4100	5000	6000	7100	8000	8000
g500-S660	2500	2900	3500	4000	5000	6600	8500	10800	12000	12000
g500-S950	3,400	4000	4300	5000	6000	8000	10300	11500	12500	13000
g500-S2100	4500	5100	6200	6500	7500	10000	12000	15700	15700	16000
g500-S3100	5200	5700	7000	8000	9000	12500	15000	17000	19800	19800
g500-S4500	11100	12900	15000	17500	19000	20000	23000	30000	30000	30000

Max. radial force, gearbox with solid shaft, without flange (VAR/VBR/VDR)

Gearbox	Output speed n_2 [rpm]									
	1000	630	400	250	160	100	63	40	25	≤ 16
	Max. radial force $F_{rad,max}$ [N]									
g500-S130	1000	1100	1300	1500	1650	2200	2750	3450	4200	4500
g500-S220	1700	1,900	2300	2700	3200	3600	3600	3600	3600	3600
g500-S400	1700	1,900	2300	2700	3200	4000	4800	5800	6200	6200
g500-S660	2300	2600	3100	3600	3900	5100	6500	8400	9000	9000
g500-S950	6100	6800	8200	9500	10300	10300	10300	10300	10300	10300
g500-S2100	7500	8200	10000	11500	13600	15700	15700	15700	15700	15700
g500-S3100	9400	10300	12600	14500	16500	18000	19800	19800	19800	19800
g500-S4500	12000	13100	16100	18500	20000	22000	25000	30000	30000	30000

Max. radial force, gearbox with solid shaft and flange (VAK)

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

Selection tables

Notes on the selection tables

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

The following legend shows the layout of the selection tables:

Example

Inverter mains connection 400 V, self-ventilated

0.8 kW

Explanation

Voltag of inverter mains connection, motor cooling type

Rated motor power

Inverter operation						i	Geared motor		Number of stages
M_2	n_2	c	$M_{2,max}$	$n_{2,th}$	J		g500-	MCA	
Nm	rpm		Nm	rpm	$kgcm^2$				
10.0	787	5.7	49.0	787	3.287	5.021	S130	10I40-	2
12.0	615	5.1	62.0	615	2.973	6.425	S130	10I40-	2
14.0	562	4.9	68.0	562	2.888	7.029	S130	10I40-	2
16.0	475	5.2	81.0	437	3.085	8.322	S130	10I40-	2

Number of gear stages

Product name of the motor

Gearbox product name

Ratio

Moment of inertia
With feedback, without brake

Thermal output speed

Max. permissible acceleration torque
Inverter-dependent

Load capacity of the gearbox
c is the ratio of permissible rated torque of the gearbox to the rated torque of the motor (converted to the driven shaft). **c** must always be higher than the application factor detected for the application **k**.

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

Output speed

Output torque

Inverter mains connection 400 V, Self-ventilated

0.8 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
10.0	787	5.7	49.0	787	3.287	5.021	S130	10I40-	2
12.0	615	5.1	62.0	615	2.973	6.425	S130	10I40-	2
14.0	562	4.9	68.0	562	2.888	7.029	S130	10I40-	2
16.0	475	5.2	81.0	437	3.085	8.322	S130	10I40-	2
18.0	420	5.0	91.0	383	3.430	9.411	S130	10I40-	2
22.0	346	4.3	111	340	2.821	11.413	S130	10I40-	2
25.0	306	3.8	125	295	3.004	12.907	S130	10I40-	2
28.0	270	3.3	130	270	2.688	14.606	S130	10I40-	2
29.0	268	5.6	143	268	2.983	14.720	S220	10I40-	2
31.0	247	3.0	130	247	2.650	15.979	S130	10I40-	2
32.0	238	5.0	161	238	2.842	16.571	S220	10I40-	2
35.0	219	3.1	130	219	2.744	18.069	S130	10I40-	2
36.0	210	5.0	182	210	2.818	18.776	S220	10I40-	2
39.0	195	4.6	197	195	2.736	20.300	S220	10I40-	2
40.0	194	2.7	130	194	2.575	20.381	S130	10I40-	2
45.0	172	4.1	220	172	2.720	23.000	S220	10I40-	2
45.0	171	2.4	130	171	2.632	23.048	S130	10I40-	2
48.0	158	2.2	130	158	2.531	24.967	S130	10I40-	2
51.0	150	3.5	220	150	2.609	26.422	S220	10I40-	2
55.0	140	2.0	130	140	2.569	28.233	S130	10I40-	2
57.0	136	5.8	283	136	2.644	29.156	S400	10I40-	2
58.0	132	3.1	220	132	2.599	29.937	S220	10I40-	2
61.0	126	2.0	130	126	2.487	31.387	S130	10I40-	2
64.0	120	3.2	220	120	2.551	32.867	S220	10I40-	2
64.0	120	5.7	320	120	2.628	32.940	S400	10I40-	2
69.0	111	1.7	130	111	2.511	35.493	S130	10I40-	2
70.0	109	5.2	352	109	2.574	36.267	S400	10I40-	2
72.0	106	2.8	220	106	2.545	37.238	S220	10I40-	2
78.0	97.7	1.5	130	97.7	2.459	40.422	S130	10I40-	2
80.0	96.4	4.6	398	96.4	2.564	40.974	S400	10I40-	2
83.0	92.9	2.4	220	92.9	2.495	42.533	S220	10I40-	2
89.0	86.4	1.3	130	86.4	2.474	45.711	S130	10I40-	2
91.0	84.2	3.2	314	84.2	2.509	46.933	S400	10I40-	2
94.0	82.0	2.2	220	82.0	2.491	48.190	S220	10I40-	2
95.0	80.7	4.3	446	80.7	2.611	48.950	S660	10I40-	2
95.0	79.2	5.4	477	79.2	2.790	49.867	S660	10I40-	3
97.0	79.3	5.9	484	79.3	2.978	49.840	S950	10I40-	2
100	76.5	2.0	220	76.5	2.469	51.620	S220	10I40-	2
101	75.1	1.8	220	75.1	2.534	52.587	S220	10I40-	3
103	74.5	3.1	348	74.5	2.503	53.026	S400	10I40-	2
108	70.8	4.3	508	70.8	2.601	55.773	S660	10I40-	2
108	70.8	5.9	541	70.8	2.960	55.773	S950	10I40-	2
109	69.5	4.9	543	69.5	2.781	56.818	S660	10I40-	3
111	69.3	2.2	268	69.3	2.479	56.960	S400	10I40-	2
111	68.1	3.0	400	68.1	2.542	58.027	S400	10I40-	3
113	67.5	1.8	220	67.5	2.467	58.486	S220	10I40-	2
114	66.3	1.6	220	66.3	2.531	59.581	S220	10I40-	3
122	62.7	4.7	611	62.7	2.772	63.000	S950	10I40-	2
122	61.9	4.5	610	61.9	2.670	63.817	S660	10I40-	3
125	61.4	2.2	302	61.4	2.474	64.354	S400	10I40-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
125	60.3	2.6	400	60.3	2.539	65.559	S400	10I40-	3
129	58.7	1.4	220	58.7	2.492	67.298	S220	10I40-	3
133	56.6	4.1	660	56.6	2.635	69.813	S660	10I40-	3
137	56.0	4.7	684	56.0	2.761	70.500	S950	10I40-	2
139	54.3	4.3	660	54.3	2.664	72.713	S660	10I40-	3
142	53.2	2.6	400	53.2	2.498	74.260	S400	10I40-	3
146	51.8	1.4	220	51.8	2.491	76.249	S220	10I40-	3
150	50.4	5.8	749	50.4	3.034	78.375	S950	10I40-	3
152	49.7	4.0	660	49.7	2.630	79.545	S660	10I40-	3
160	47.1	2.3	400	47.1	2.495	83.900	S400	10I40-	3
165	45.9	1.2	220	45.9	2.462	86.079	S220	10I40-	3
170	44.4	3.5	660	44.4	2.565	89.048	S660	10I40-	3
171	44.2	5.1	854	44.2	2.855	89.333	S950	10I40-	3
182	41.6	2.0	400	41.6	2.466	94.984	S400	10I40-	3
186	40.5	1.1	220	40.5	2.461	97.528	S220	10I40-	3
191	39.5	4.5	950	39.5	2.849	99.968	S950	10I40-	3
194	38.9	3.1	660	38.9	2.562	101.460	S660	10I40-	3
205	36.8	1.8	399	36.8	2.464	107.314	S400	10I40-	3
208	36.2	2.9	660	36.2	2.525	109.083	S660	10I40-	3
209	36.1	4.1	950	36.1	2.745	109.433	S950	10I40-	3
214	35.3	0.9	220	35.3	2.444	111.747	S220	10I40-	3
234	32.3	3.7	950	32.3	2.741	122.461	S950	10I40-	3
236	32.0	1.6	400	32.0	2.446	123.307	S400	10I40-	3
238	31.8	2.5	660	31.8	2.523	124.289	S660	10I40-	3
242	31.2	0.8	220	31.2	2.443	126.610	S220	10I40-	3
262	28.8	2.3	660	28.8	2.483	137.133	S660	10I40-	3
266	28.4	1.4	399	28.4	2.445	139.313	S400	10I40-	3
272	27.7	3.2	950	27.7	2.614	142.437	S950	10I40-	3
299	25.3	2.0	660	25.3	2.482	156.249	S660	10I40-	3
305	24.8	2.9	950	24.8	2.612	159.394	S950	10I40-	3
332	22.7	5.6	1661	22.7	2.995	173.820	S2100	10I40-	3
338	22.4	1.8	660	22.4	2.456	176.611	S660	10I40-	3
339	22.3	2.6	950	22.3	2.554	177.178	S950	10I40-	3
372	20.3	5.0	1859	20.3	2.837	194.556	S2100	10I40-	3
379	19.9	2.3	950	19.9	2.553	198.270	S950	10I40-	3
385	19.6	1.6	660	19.6	2.456	201.230	S660	10I40-	3
413	18.3	4.5	2050	18.3	2.833	216.215	S2100	10I40-	3
438	17.2	2.0	950	17.2	2.497	229.289	S950	10I40-	3
481	15.7	3.9	2050	15.7	2.672	251.778	S2100	10I40-	3
490	15.4	1.8	950	15.4	2.496	256.585	S950	10I40-	3
495	15.2	5.7	2475	15.2	2.858	259.030	S3100	10I40-	3
532	14.2	1.6	950	14.2	2.471	278.273	S950	10I40-	3
535	14.1	3.5	2050	14.1	2.670	279.807	S2100	10I40-	3
553	13.7	5.9	2763	13.7	3.036	289.151	S4500	10I40-	3
567	13.3	5.0	2833	13.3	2.691	296.430	S3100	10I40-	3
584	12.9	3.2	2050	12.9	2.599	305.567	S2100	10I40-	3
595	12.7	1.5	950	12.7	2.470	311.401	S950	10I40-	3
617	12.2	5.9	3085	12.2	3.028	322.773	S4500	10I40-	3
641	11.8	4.4	3100	11.8	2.685	335.215	S3100	10I40-	3
649	11.6	2.9	2050	11.6	2.597	339.584	S2100	10I40-	3
688	11.0	4.1	3100	11.0	2.611	359.758	S3100	10I40-	3
699	10.8	4.7	3493	10.8	2.808	365.500	S4500	10I40-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
738	10.2	2.5	2050	10.2	2.529	386.250	S2100	10I40-	3
778	9.7	3.6	3100	9.7	2.607	406.829	S3100	10I40-	3
780	9.7	4.7	3899	9.7	2.803	408.000	S4500	10I40-	3
820	9.2	2.3	2050	9.2	2.527	429.250	S2100	10I40-	3

1.4 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
34.0	380	4.8	181	380	20.744	5.267	S220	14L20-	2
42.0	312	5.7	261	312	20.776	6.411	S400	14L20-	2
44.0	296	4.5	220	296	20.841	6.767	S220	14L20-	2
50.0	261	4.0	217	261	20.699	7.667	S220	14L20-	2
60.0	216	3.3	220	216	20.236	9.280	S220	14L20-	2
67.0	195	5.5	400	195	20.522	10.240	S400	14L20-	2
68.0	190	2.9	220	190	20.161	10.514	S220	14L20-	2
75.0	173	4.8	400	173	20.398	11.569	S400	14L20-	2
77.0	168	2.6	220	168	19.919	11.876	S220	14L20-	2
84.0	154	2.4	220	154	19.821	12.992	S220	14L20-	2
85.0	153	4.3	400	153	20.093	13.105	S400	14L20-	2
87.0	149	2.3	220	149	19.873	13.456	S220	14L20-	2
93.0	140	3.9	400	140	19.967	14.336	S400	14L20-	2
96.0	136	2.1	220	136	19.783	14.720	S220	14L20-	2
96.0	135	3.8	400	135	20.017	14.806	S400	14L20-	2
102	127	5.9	660	127	20.713	15.714	S660	14L20-	2
105	124	3.5	400	124	19.904	16.197	S400	14L20-	2
108	121	1.9	220	121	19.642	16.571	S220	14L20-	2
116	112	5.2	660	112	20.615	17.905	S660	14L20-	2
119	109	3.4	400	109	19.731	18.286	S400	14L20-	2
122	107	1.8	220	107	19.618	18.776	S220	14L20-	2
125	104	5.3	660	104	20.354	19.250	S660	14L20-	2
132	98.5	1.7	220	98.5	19.536	20.300	S220	14L20-	2
134	96.8	3.0	400	96.8	19.692	20.659	S400	14L20-	2
143	91.2	4.6	660	91.2	20.289	21.933	S660	14L20-	2
146	89.3	2.8	400	89.3	19.596	22.400	S400	14L20-	2
150	87.0	1.5	220	87.0	19.520	23.000	S220	14L20-	2
163	79.8	3.6	578	79.8	19.847	25.056	S660	14L20-	2
165	79.0	2.4	400	79.0	19.570	25.308	S400	14L20-	2
166	78.4	5.7	950	78.4	21.030	25.511	S950	14L20-	2
186	70.1	3.6	660	70.1	19.809	28.548	S660	14L20-	2
186	70.1	5.1	950	70.1	20.963	28.548	S950	14L20-	2
203	64.2	3.3	660	64.2	19.667	31.167	S660	14L20-	2
203	64.0	4.7	950	64.0	20.459	31.267	S950	14L20-	2
227	57.2	4.2	950	57.2	20.414	34.989	S950	14L20-	2
231	56.3	2.9	660	56.3	19.642	35.511	S660	14L20-	2
267	48.7	3.6	950	48.7	19.987	41.067	S950	14L20-	2
289	45.0	5.5	1579	45.0	21.819	44.431	S2100	14L20-	2
299	43.5	3.2	950	43.5	19.961	45.956	S950	14L20-	2
320	40.0	3.0	950	40.0	20.278	50.027	S950	14L20-	3
321	40.5	5.5	1755	40.5	21.736	49.378	S2100	14L20-	2
324	40.1	2.9	924	40.1	19.778	49.840	S950	14L20-	2
332	39.2	5.7	1892	39.2	25.705	51.027	S4500	14L20-	2
340	38.2	5.5	1860	38.2	22.351	52.311	S3100	14L20-	2
351	37.1	4.6	1605	37.1	21.111	53.924	S2100	14L20-	2
352	36.4	5.8	2050	36.4	22.327	54.933	S2100	14L20-	3
358	35.7	2.7	950	35.7	20.261	55.982	S950	14L20-	3
363	35.9	2.6	950	35.9	19.760	55.773	S950	14L20-	2
370	35.1	5.7	2112	35.1	25.447	56.960	S4500	14L20-	2
385	33.8	5.5	2103	33.8	22.159	59.156	S3100	14L20-	2
390	33.4	4.6	1784	33.4	21.054	59.927	S2100	14L20-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
391	32.8	5.2	2050	32.8	22.272	61.049	S2100	14L20-	3
410	31.2	2.3	950	31.2	19.944	64.022	S950	14L20-	3
413	31.5	4.6	1890	31.5	21.472	63.487	S3100	14L20-	2
419	31.0	4.6	1922	31.0	23.448	64.500	S4500	14L20-	2
443	29.3	3.3	1454	29.3	20.459	68.162	S2100	14L20-	2
448	28.6	2.1	950	28.6	19.843	70.037	S950	14L20-	3
450	28.4	4.6	2050	28.4	21.379	70.302	S2100	14L20-	3
459	27.9	2.1	950	27.9	19.934	71.644	S950	14L20-	3
467	27.9	4.6	2137	27.9	21.341	71.793	S3100	14L20-	2
468	27.8	4.6	2146	27.8	23.287	72.000	S4500	14L20-	2
492	26.4	3.2	1576	26.4	20.424	75.750	S2100	14L20-	2
492	26.0	4.2	2050	26.0	21.132	76.907	S2100	14L20-	3
500	25.6	4.1	2050	25.6	21.346	78.128	S2100	14L20-	3
502	25.5	1.9	950	25.5	19.834	78.375	S950	14L20-	3
530	24.2	5.9	3100	24.2	21.618	82.769	S3100	14L20-	3
547	23.4	3.8	2050	23.4	21.104	85.468	S2100	14L20-	3
572	22.4	1.7	950	22.4	19.655	89.333	S950	14L20-	3
580	22.1	5.4	3100	22.1	21.332	90.546	S3100	14L20-	3
599	21.4	5.2	3100	21.4	21.542	93.599	S3100	14L20-	3
628	20.4	3.3	2050	20.4	20.596	98.095	S2100	14L20-	3
640	20.0	1.5	950	20.0	19.649	99.968	S950	14L20-	3
656	19.5	4.7	3100	19.5	21.268	102.393	S3100	14L20-	3
698	18.3	2.9	2050	18.3	20.579	109.016	S2100	14L20-	3
701	18.3	1.4	950	18.3	19.545	109.433	S950	14L20-	3
739	17.3	4.2	3100	17.3	20.719	115.492	S3100	14L20-	3
769	16.6	2.7	2050	16.6	20.276	120.167	S2100	14L20-	3
784	16.3	1.2	950	16.3	19.541	122.461	S950	14L20-	3
813	15.8	5.5	4500	15.8	22.212	126.933	S4500	14L20-	3
836	15.3	3.7	3100	15.3	20.680	130.603	S3100	14L20-	3
855	15.0	2.4	2050	15.0	20.265	133.544	S2100	14L20-	3
906	14.1	3.4	3100	14.1	20.358	141.478	S3100	14L20-	3
948	13.5	4.8	4500	13.5	21.252	148.005	S4500	14L20-	3
1001	12.8	2.1	2050	12.8	19.801	156.407	S2100	14L20-	3
1024	12.5	3.0	3100	12.5	20.332	159.989	S3100	14L20-	3
1058	12.1	4.3	4500	12.1	21.222	165.215	S4500	14L20-	3
1113	11.5	1.8	2050	11.5	19.795	173.820	S2100	14L20-	3
1161	11.0	3.9	4500	11.0	20.607	181.396	S4500	14L20-	3
1179	10.9	2.6	3100	10.9	19.902	184.146	S3100	14L20-	3
1246	10.3	1.7	2050	10.3	19.637	194.556	S2100	14L20-	3
1297	9.9	3.5	4500	9.9	20.586	202.489	S4500	14L20-	3
1333	9.6	2.3	3100	9.6	19.887	208.240	S3100	14L20-	3
1384	9.3	1.5	2050	9.3	19.633	216.215	S2100	14L20-	3
1467	8.7	2.1	3100	8.7	19.668	229.059	S3100	14L20-	3
1526	8.4	3.0	4500	8.4	20.073	238.252	S4500	14L20-	3
1659	7.7	1.9	3100	7.7	19.658	259.030	S3100	14L20-	3
1703	7.5	2.6	4500	7.5	20.061	265.956	S4500	14L20-	3
1851	6.9	2.4	4500	6.9	19.836	289.151	S4500	14L20-	3
2067	6.2	2.2	4500	6.2	19.828	322.773	S4500	14L20-	3

1.7 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
14.0	1106	3.2	63.0	907	9.863	3.661	S130	13I41-	2
19.0	807	2.8	76.0	720	9.187	5.021	S130	13I41-	2
25.0	630	2.5	87.0	630	8.873	6.425	S130	13I41-	2
27.0	576	2.4	92.0	576	8.788	7.029	S130	13I41-	2
30.0	528	5.2	217	397	9.799	7.667	S220	13I41-	2
32.0	487	2.6	116	383	8.985	8.322	S130	13I41-	2
36.0	436	4.4	220	372	9.336	9.280	S220	13I41-	2
37.0	430	2.5	125	335	9.330	9.411	S130	13I41-	2
41.0	385	3.9	220	320	9.261	10.514	S220	13I41-	2
44.0	355	2.1	130	301	8.721	11.413	S130	13I41-	2
46.0	341	3.4	220	303	9.019	11.876	S220	13I41-	2
50.0	314	1.9	130	255	8.904	12.907	S130	13I41-	2
50.0	312	3.1	220	283	8.921	12.992	S220	13I41-	2
51.0	309	5.7	400	299	9.193	13.105	S400	13I41-	2
52.0	301	3.0	220	262	8.973	13.456	S220	13I41-	2
56.0	283	5.2	400	279	9.067	14.336	S400	13I41-	2
57.0	277	1.7	130	250	8.588	14.606	S130	13I41-	2
57.0	275	2.8	220	244	8.883	14.720	S220	13I41-	2
57.0	274	5.0	400	260	9.117	14.806	S400	13I41-	2
62.0	254	1.5	130	228	8.550	15.979	S130	13I41-	2
63.0	250	4.6	400	242	9.004	16.197	S400	13I41-	2
64.0	244	2.5	220	244	8.742	16.571	S220	13I41-	2
70.0	224	1.5	130	202	8.644	18.069	S130	13I41-	2
71.0	222	4.6	400	222	8.831	18.286	S400	13I41-	2
73.0	216	2.5	220	216	8.718	18.776	S220	13I41-	2
79.0	200	2.3	220	200	8.636	20.300	S220	13I41-	2
79.0	199	1.3	130	195	8.475	20.381	S130	13I41-	2
80.0	196	4.1	400	196	8.792	20.659	S400	13I41-	2
87.0	181	3.8	400	181	8.696	22.400	S400	13I41-	2
89.0	176	2.0	220	176	8.620	23.000	S220	13I41-	2
89.0	176	1.2	130	164	8.532	23.048	S130	13I41-	2
97.0	162	1.1	130	162	8.431	24.967	S130	13I41-	2
97.0	162	4.9	578	162	8.947	25.056	S660	13I41-	2
98.0	160	3.3	400	160	8.670	25.308	S400	13I41-	2
103	153	1.8	220	153	8.509	26.422	S220	13I41-	2
110	143	1.0	130	141	8.469	28.233	S130	13I41-	2
111	142	4.9	660	142	8.909	28.548	S660	13I41-	2
113	139	2.9	400	139	8.544	29.156	S400	13I41-	2
116	135	1.6	220	135	8.499	29.937	S220	13I41-	2
121	130	4.9	660	130	8.767	31.167	S660	13I41-	2
128	123	1.6	220	123	8.451	32.867	S220	13I41-	2
128	123	2.8	400	123	8.528	32.940	S400	13I41-	2
138	114	4.3	660	114	8.742	35.511	S660	13I41-	2
141	112	2.6	400	112	8.474	36.267	S400	13I41-	2
145	109	1.4	220	109	8.445	37.238	S220	13I41-	2
157	100	3.2	545	100	8.590	40.333	S660	13I41-	2
159	98.8	2.3	400	98.8	8.464	40.974	S400	13I41-	2
159	98.6	5.1	889	98.6	9.087	41.067	S950	13I41-	2
178	88.1	3.2	620	88.1	8.575	45.956	S660	13I41-	2
178	88.1	4.8	950	88.1	9.061	45.956	S950	13I41-	2
190	82.7	2.1	446	82.7	8.511	48.950	S660	13I41-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
191	81.2	2.7	625	81.2	8.690	49.867	S660	13I41-	3
191	81.0	4.1	950	81.0	9.378	50.027	S950	13I41-	3
193	81.3	4.2	903	81.3	8.878	49.840	S950	13I41-	2
214	72.3	3.6	950	72.3	9.361	55.982	S950	13I41-	3
216	72.6	2.1	508	72.6	8.501	55.773	S660	13I41-	2
216	72.6	4.0	950	72.6	8.860	55.773	S950	13I41-	2
217	71.3	2.4	650	71.3	8.681	56.818	S660	13I41-	3
244	64.3	2.5	668	64.3	8.672	63.000	S950	13I41-	2
244	63.5	2.2	660	63.5	8.570	63.817	S660	13I41-	3
245	63.3	3.2	950	63.3	9.044	64.022	S950	13I41-	3
267	58.0	2.0	660	58.0	8.535	69.813	S660	13I41-	3
268	57.8	3.2	950	57.8	8.943	70.037	S950	13I41-	3
274	57.4	2.4	736	57.4	8.661	70.500	S950	13I41-	2
274	56.5	3.1	950	56.5	9.034	71.644	S950	13I41-	3
278	55.7	2.2	660	55.7	8.564	72.713	S660	13I41-	3
300	51.7	2.9	950	51.7	8.934	78.375	S950	13I41-	3
304	50.9	2.0	660	50.9	8.530	79.545	S660	13I41-	3
327	47.4	5.7	2050	47.4	10.204	85.468	S2100	13I41-	3
340	45.5	1.8	660	45.5	8.465	89.048	S660	13I41-	3
341	45.3	2.5	950	45.3	8.755	89.333	S950	13I41-	3
375	41.3	5.0	2050	41.3	9.696	98.095	S2100	13I41-	3
382	40.5	2.3	950	40.5	8.749	99.968	S950	13I41-	3
388	39.9	1.5	660	39.9	8.462	101.460	S660	13I41-	3
417	37.2	4.5	2050	37.2	9.679	109.016	S2100	13I41-	3
417	37.1	1.4	660	37.1	8.425	109.083	S660	13I41-	3
418	37.0	2.1	950	37.0	8.645	109.433	S950	13I41-	3
459	33.7	4.0	2050	33.7	9.376	120.167	S2100	13I41-	3
468	33.1	1.8	950	33.1	8.641	122.461	S950	13I41-	3
475	32.6	1.3	660	32.6	8.423	124.289	S660	13I41-	3
499	31.0	5.6	3100	31.0	9.780	130.603	S3100	13I41-	3
510	30.3	3.6	2050	30.3	9.365	133.544	S2100	13I41-	3
541	28.6	5.2	3100	28.6	9.458	141.478	S3100	13I41-	3
544	28.4	1.6	950	28.4	8.514	142.437	S950	13I41-	3
598	25.9	3.1	2050	25.9	8.901	156.407	S2100	13I41-	3
609	25.4	1.4	950	25.4	8.512	159.394	S950	13I41-	3
612	25.3	4.6	3100	25.3	9.432	159.989	S3100	13I41-	3
664	23.3	2.8	2050	23.3	8.895	173.820	S2100	13I41-	3
677	22.9	1.3	950	22.9	8.454	177.178	S950	13I41-	3
693	22.3	5.9	4500	22.3	9.707	181.396	S4500	13I41-	3
704	22.0	4.0	3100	22.0	9.002	184.146	S3100	13I41-	3
744	20.8	2.5	2050	20.8	8.737	194.556	S2100	13I41-	3
758	20.4	1.1	950	20.4	8.453	198.270	S950	13I41-	3
774	20.0	5.3	4500	20.0	9.686	202.489	S4500	13I41-	3
796	19.4	3.5	3100	19.4	8.987	208.240	S3100	13I41-	3
827	18.7	2.2	2050	18.7	8.733	216.215	S2100	13I41-	3
876	17.7	3.2	3100	17.7	8.768	229.059	S3100	13I41-	3
911	17.0	4.5	4500	17.0	9.173	238.252	S4500	13I41-	3
962	16.1	1.9	2050	16.1	8.572	251.778	S2100	13I41-	3
990	15.6	2.8	3100	15.6	8.758	259.030	S3100	13I41-	3
1017	15.2	4.0	4500	15.2	9.161	265.956	S4500	13I41-	3
1070	14.5	1.7	2050	14.5	8.570	279.807	S2100	13I41-	3
1105	14.0	3.7	4500	14.0	8.936	289.151	S4500	13I41-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
1133	13.7	2.5	3100	13.7	8.591	296.430	S3100	13I41-	3
1168	13.3	1.6	2050	13.3	8.499	305.567	S2100	13I41-	3
1234	12.5	3.3	4500	12.5	8.928	322.773	S4500	13I41-	3
1281	12.1	2.2	3100	12.1	8.585	335.215	S3100	13I41-	3
1298	11.9	1.4	2050	11.9	8.497	339.584	S2100	13I41-	3
1375	11.3	2.0	3100	11.3	8.511	359.758	S3100	13I41-	3
1397	11.1	2.6	3962	11.1	8.708	365.500	S4500	13I41-	3
1555	10.0	1.8	3100	10.0	8.507	406.829	S3100	13I41-	3
1560	9.9	2.6	4410	9.9	8.703	408.000	S4500	13I41-	3

2.3 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
28.0	779	4.7	181	663	20.744	5.267	S220	14L41-	2
34.0	640	5.6	261	560	20.776	6.411	S400	14L41-	2
35.0	606	4.4	220	436	20.841	6.767	S220	14L41-	2
40.0	535	3.9	217	374	20.699	7.667	S220	14L41-	2
49.0	442	3.2	220	351	20.236	9.280	S220	14L41-	2
54.0	400	5.3	400	349	20.522	10.240	S400	14L41-	2
55.0	390	2.9	220	302	20.161	10.514	S220	14L41-	2
61.0	354	4.7	400	302	20.398	11.569	S400	14L41-	2
62.0	345	2.5	220	287	19.919	11.876	S220	14L41-	2
68.0	316	2.3	220	268	19.821	12.992	S220	14L41-	2
69.0	313	4.2	400	274	20.093	13.105	S400	14L41-	2
70.0	305	2.2	220	247	19.873	13.456	S220	14L41-	2
75.0	286	3.8	400	250	19.967	14.336	S400	14L41-	2
77.0	279	2.0	220	231	19.783	14.720	S220	14L41-	2
78.0	277	3.7	400	243	20.017	14.806	S400	14L41-	2
82.0	261	5.7	660	229	20.713	15.714	S660	14L41-	2
85.0	253	3.4	400	222	19.904	16.197	S400	14L41-	2
87.0	247	1.8	220	217	19.642	16.571	S220	14L41-	2
94.0	229	5.0	660	201	20.615	17.905	S660	14L41-	2
96.0	224	3.4	400	196	19.731	18.286	S400	14L41-	2
98.0	218	1.8	220	191	19.618	18.776	S220	14L41-	2
101	213	5.3	660	187	20.354	19.250	S660	14L41-	2
106	202	1.7	220	177	19.536	20.300	S220	14L41-	2
108	199	3.0	400	174	19.692	20.659	S400	14L41-	2
115	187	4.7	660	164	20.289	21.933	S660	14L41-	2
117	183	2.8	400	160	19.596	22.400	S400	14L41-	2
121	178	1.5	220	156	19.520	23.000	S220	14L41-	2
131	164	3.6	578	143	19.847	25.056	S660	14L41-	2
133	162	2.5	400	142	19.570	25.308	S400	14L41-	2
134	161	5.8	950	141	21.030	25.511	S950	14L41-	2
150	144	3.6	660	126	19.809	28.548	S660	14L41-	2
150	144	5.2	950	126	20.963	28.548	S950	14L41-	2
163	132	3.6	660	115	19.667	31.167	S660	14L41-	2
164	131	5.2	950	115	20.459	31.267	S950	14L41-	2
183	117	4.7	950	103	20.414	34.989	S950	14L41-	2
186	116	3.2	660	101	19.642	35.511	S660	14L41-	2
215	99.8	4.0	950	87.4	19.987	41.067	S950	14L41-	2
241	89.2	3.6	950	78.1	19.961	45.956	S950	14L41-	2
258	82.0	3.0	950	71.8	20.278	50.027	S950	14L41-	3
261	82.3	3.2	924	72.0	19.778	49.840	S950	14L41-	2
283	76.0	5.1	1605	66.6	21.111	53.924	S2100	14L41-	2
283	74.6	5.9	2050	65.4	22.327	54.933	S2100	14L41-	3
289	73.2	2.7	950	64.1	20.261	55.982	S950	14L41-	3
292	73.5	2.9	950	64.4	19.760	55.773	S950	14L41-	2
314	68.4	5.1	1784	59.9	21.054	59.927	S2100	14L41-	2
315	67.2	5.3	2050	58.8	22.272	61.049	S2100	14L41-	3
330	64.0	2.3	950	56.1	19.944	64.022	S950	14L41-	3
333	64.6	5.1	1890	56.6	21.472	63.487	S3100	14L41-	2
338	63.6	5.1	1922	55.7	23.448	64.500	S4500	14L41-	2
357	60.2	3.7	1454	52.7	20.459	68.162	S2100	14L41-	2
361	58.5	2.4	950	51.3	19.843	70.037	S950	14L41-	3

Technical data

Selection tables

Inverter mains connection 400 V, Self-ventilated

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
363	58.3	5.1	2050	51.1	21.379	70.302	S2100	14L41-	3
370	57.2	2.3	950	50.1	19.934	71.644	S950	14L41-	3
376	57.1	5.1	2137	50.0	21.341	71.793	S3100	14L41-	2
377	56.9	5.1	2146	49.9	23.287	72.000	S4500	14L41-	2
397	54.1	3.6	1576	47.4	20.424	75.750	S2100	14L41-	2
397	53.3	4.7	2050	46.7	21.132	76.907	S2100	14L41-	3
403	52.5	4.6	2050	46.0	21.346	78.128	S2100	14L41-	3
404	52.3	2.1	950	45.8	19.834	78.375	S950	14L41-	3
441	48.0	4.2	2050	42.0	21.104	85.468	S2100	14L41-	3
461	45.9	1.9	950	40.2	19.655	89.333	S950	14L41-	3
467	45.3	6.0	3100	39.7	21.332	90.546	S3100	14L41-	3
483	43.8	5.8	3100	38.4	21.542	93.599	S3100	14L41-	3
506	41.8	3.7	2050	36.6	20.596	98.095	S2100	14L41-	3
516	41.0	1.7	950	35.9	19.649	99.968	S950	14L41-	3
528	40.0	5.3	3100	35.1	21.268	102.393	S3100	14L41-	3
563	37.6	3.3	2050	32.9	20.579	109.016	S2100	14L41-	3
565	37.5	1.5	950	32.8	19.545	109.433	S950	14L41-	3
596	35.5	4.7	3100	31.1	20.719	115.492	S3100	14L41-	3
620	34.1	3.0	2050	29.9	20.276	120.167	S2100	14L41-	3
632	33.5	1.4	950	29.3	19.541	122.461	S950	14L41-	3
674	31.4	4.1	3100	27.5	20.680	130.603	S3100	14L41-	3
689	30.7	2.7	2050	26.9	20.265	133.544	S2100	14L41-	3
730	29.0	3.8	3100	25.4	20.358	141.478	S3100	14L41-	3
764	27.7	5.3	4500	24.3	21.252	148.005	S4500	14L41-	3
807	26.2	2.3	2050	23.0	19.801	156.407	S2100	14L41-	3
826	25.6	3.4	3100	22.4	20.332	159.989	S3100	14L41-	3
853	24.8	4.8	4500	21.7	21.222	165.215	S4500	14L41-	3
897	23.6	2.1	2050	20.7	19.795	173.820	S2100	14L41-	3
936	22.6	4.3	4500	19.8	20.607	181.396	S4500	14L41-	3
950	22.3	2.9	3100	19.5	19.902	184.146	S3100	14L41-	3
1004	21.1	1.8	2050	18.5	19.637	194.556	S2100	14L41-	3
1045	20.2	3.9	4500	17.7	20.586	202.489	S4500	14L41-	3
1075	19.7	2.6	3100	17.2	19.887	208.240	S3100	14L41-	3
1116	19.0	1.7	2050	16.6	19.633	216.215	S2100	14L41-	3
1182	17.9	2.4	3100	15.7	19.668	229.059	S3100	14L41-	3
1230	17.2	3.3	4500	15.1	20.073	238.252	S4500	14L41-	3
1337	15.8	2.1	3100	13.9	19.658	259.030	S3100	14L41-	3
1372	15.4	3.0	4500	13.5	20.061	265.956	S4500	14L41-	3
1492	14.2	2.7	4500	12.4	19.836	289.151	S4500	14L41-	3
1666	12.7	2.4	4500	11.1	19.828	322.773	S4500	14L41-	3

2.6 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
35.0	689	5.0	203	689	41.160	3.339	S400	17N23-	2
48.0	502	4.4	243	502	38.907	4.579	S400	17N23-	2
61.0	393	3.6	258	393	37.861	5.860	S400	17N23-	2
67.0	359	3.4	261	359	37.576	6.411	S400	17N23-	2
72.0	334	5.9	493	334	39.484	6.880	S660	17N23-	2
78.0	308	4.0	365	308	38.179	7.467	S400	17N23-	2
81.0	299	5.9	548	299	41.080	7.702	S950	17N23-	2
88.0	273	3.7	380	273	37.945	8.436	S400	17N23-	2
105	229	5.2	625	229	39.188	10.027	S660	17N23-	2
107	225	3.2	400	225	37.322	10.240	S400	17N23-	2
118	204	4.9	660	204	38.406	11.262	S660	17N23-	2
121	199	2.9	400	199	37.198	11.569	S400	17N23-	2
129	187	4.4	660	187	38.122	12.320	S660	17N23-	2
134	179	4.3	660	179	38.216	12.832	S660	17N23-	2
137	176	2.5	400	176	36.893	13.105	S400	17N23-	2
147	164	3.9	660	164	37.963	14.037	S660	17N23-	2
147	164	5.6	950	164	40.678	14.037	S950	17N23-	2
150	160	2.3	400	160	36.767	14.336	S400	17N23-	2
155	155	2.2	400	155	36.817	14.806	S400	17N23-	2
165	146	3.5	660	146	37.513	15.714	S660	17N23-	2
168	144	4.9	950	144	39.512	16.000	S950	17N23-	2
170	142	2.0	400	142	36.704	16.197	S400	17N23-	2
188	129	3.1	660	129	37.415	17.905	S660	17N23-	2
188	129	4.4	950	129	39.342	17.905	S950	17N23-	2
192	126	2.1	400	126	36.531	18.286	S400	17N23-	2
202	120	3.2	660	120	37.154	19.250	S660	17N23-	2
205	117	4.6	950	117	38.688	19.600	S950	17N23-	2
216	111	1.8	400	111	36.492	20.659	S400	17N23-	2
230	105	2.8	660	105	37.089	21.933	S660	17N23-	2
230	105	4.1	950	105	38.574	21.933	S950	17N23-	2
263	91.8	2.2	578	91.8	36.647	25.056	S660	17N23-	2
267	90.2	3.5	950	90.2	37.830	25.511	S950	17N23-	2
296	81.3	5.7	1722	81.3	41.493	28.275	S2100	17N23-	2
299	80.6	2.2	660	80.6	36.609	28.548	S660	17N23-	2
299	80.6	3.1	950	80.6	37.763	28.548	S950	17N23-	2
328	73.6	2.9	950	73.6	37.259	31.267	S950	17N23-	2
329	73.2	5.8	1914	73.2	41.288	31.422	S2100	17N23-	2
349	69.1	5.8	2027	69.1	42.806	33.289	S3100	17N23-	2
360	67.0	5.0	1784	67.0	40.120	34.333	S2100	17N23-	2
367	65.7	2.6	950	65.7	37.214	34.989	S950	17N23-	2
394	61.1	5.8	2293	61.1	42.332	37.644	S3100	17N23-	2
400	60.3	5.0	1983	60.3	39.981	38.156	S2100	17N23-	2
413	57.4	4.1	1945	57.4	40.782	40.056	S2100	17N23-	3
424	56.9	5.0	2101	56.9	41.010	40.422	S3100	17N23-	2
441	54.7	5.0	2181	54.7	44.966	42.044	S4500	17N23-	2
459	51.7	3.9	2050	51.7	40.679	44.515	S2100	17N23-	3
466	51.8	4.0	1848	51.8	38.619	44.431	S2100	17N23-	2
479	50.3	5.0	2375	50.3	40.689	45.711	S3100	17N23-	2
487	48.8	5.3	2958	48.8	41.519	47.159	S3100	17N23-	3
492	49.0	5.0	2435	49.0	44.586	46.933	S4500	17N23-	2
516	46.0	1.8	950	46.0	37.078	50.027	S950	17N23-	3

Technical data

Selection tables

Inverter mains connection 400 V, Self-ventilated

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
517	46.6	4.0	2050	46.6	38.536	49.378	S2100	17N23-	2
535	45.1	4.2	2216	45.1	42.505	51.027	S4500	17N23-	2
548	44.0	4.0	2176	44.0	39.151	52.311	S3100	17N23-	2
550	43.1	5.5	3054	43.1	41.283	53.330	S3100	17N23-	3
565	42.7	3.3	1878	42.7	37.911	53.924	S2100	17N23-	2
567	41.9	3.6	2050	41.9	39.127	54.933	S2100	17N23-	3
578	41.1	1.6	950	41.1	37.061	55.982	S950	17N23-	3
597	40.4	4.2	2474	40.4	42.247	56.960	S4500	17N23-	2
620	38.9	4.0	2461	38.9	38.959	59.156	S3100	17N23-	2
628	38.4	3.3	2050	38.4	37.854	59.927	S2100	17N23-	2
630	37.7	3.2	2050	37.7	39.072	61.049	S2100	17N23-	3
661	35.9	1.4	950	35.9	36.744	64.022	S950	17N23-	3
665	36.2	3.3	2211	36.2	38.272	63.487	S3100	17N23-	2
668	35.6	4.6	3100	35.6	39.519	64.676	S3100	17N23-	3
676	35.7	3.3	2252	35.7	40.248	64.500	S4500	17N23-	2
723	32.8	1.3	950	32.8	36.643	70.037	S950	17N23-	3
726	32.7	2.8	2050	32.7	38.179	70.302	S2100	17N23-	3
739	32.1	1.3	950	32.1	36.734	71.644	S950	17N23-	3
751	31.6	6.0	4500	31.6	41.875	72.775	S4500	17N23-	3
752	32.0	3.2	2408	32.0	38.141	71.793	S3100	17N23-	2
754	31.9	3.3	2514	31.9	40.087	72.000	S4500	17N23-	2
755	31.4	4.1	3100	31.4	39.394	73.138	S3100	17N23-	3
794	29.9	2.6	2050	29.9	37.932	76.907	S2100	17N23-	3
806	29.4	2.5	2050	29.4	38.146	78.128	S2100	17N23-	3
809	29.3	1.2	950	29.3	36.634	78.375	S950	17N23-	3
838	28.3	5.4	4500	28.3	41.749	81.237	S4500	17N23-	3
854	27.8	3.6	3100	27.8	38.418	82.769	S3100	17N23-	3
882	26.9	2.3	2050	26.9	37.904	85.468	S2100	17N23-	3
922	25.7	1.0	950	25.7	36.455	89.333	S950	17N23-	3
935	25.4	3.3	3100	25.4	38.132	90.546	S3100	17N23-	3
958	24.8	4.7	4500	24.8	40.077	92.825	S4500	17N23-	3
966	24.6	3.2	3100	24.6	38.342	93.599	S3100	17N23-	3
1012	23.4	2.0	2050	23.4	37.396	98.095	S2100	17N23-	3
1032	23.0	0.9	950	23.0	36.449	99.968	S950	17N23-	3
1057	22.5	2.9	3100	22.5	38.068	102.393	S3100	17N23-	3
1069	22.2	4.2	4500	22.2	39.999	103.619	S4500	17N23-	3
1125	21.1	1.8	2050	21.1	37.379	109.016	S2100	17N23-	3
1174	20.2	3.8	4500	20.2	39.064	113.711	S4500	17N23-	3
1192	19.9	2.6	3100	19.9	37.519	115.492	S3100	17N23-	3
1240	19.1	1.7	2050	19.1	37.076	120.167	S2100	17N23-	3
1310	18.1	3.4	4500	18.1	39.012	126.933	S4500	17N23-	3
1348	17.6	2.3	3100	17.6	37.480	130.603	S3100	17N23-	3
1378	17.2	1.5	2050	17.2	37.065	133.544	S2100	17N23-	3
1460	16.3	2.1	3100	16.3	37.158	141.478	S3100	17N23-	3
1528	15.5	3.0	4500	15.5	38.052	148.005	S4500	17N23-	3
1614	14.7	1.3	2050	14.7	36.601	156.407	S2100	17N23-	3
1651	14.4	1.9	3100	14.4	37.132	159.989	S3100	17N23-	3
1705	13.9	2.6	4500	13.9	38.022	165.215	S4500	17N23-	3
1794	13.2	1.1	2050	13.2	36.595	173.820	S2100	17N23-	3
1872	12.7	2.4	4500	12.7	37.407	181.396	S4500	17N23-	3
1901	12.5	1.6	3100	12.5	36.702	184.146	S3100	17N23-	3
2090	11.4	2.2	4500	11.4	37.386	202.489	S4500	17N23-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
2149	11.0	1.4	3100	11.0	36.687	208.240	S3100	17N23-	3

4 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
62.0	597	5.8	419	597	80.801	3.920	S660	19S23-	2
85.0	435	5.0	492	435	77.264	5.376	S660	19S23-	2
101	365	5.1	601	365	77.481	6.417	S660	19S23-	2
109	340	3.9	496	340	75.484	6.880	S660	19S23-	2
116	320	4.4	593	320	76.896	7.311	S660	19S23-	2
122	304	5.5	783	304	77.080	7.702	S950	19S23-	2
139	266	4.0	638	266	75.499	8.800	S660	19S23-	2
144	257	5.7	950	257	80.272	9.100	S950	19S23-	2
159	233	3.4	625	233	75.188	10.027	S660	19S23-	2
161	230	5.1	950	230	79.744	10.183	S950	19S23-	2
177	209	4.6	950	209	78.049	11.200	S950	19S23-	2
178	208	3.2	660	208	74.406	11.262	S660	19S23-	2
195	190	2.9	660	190	74.122	12.320	S660	19S23-	2
198	187	4.1	950	187	76.956	12.544	S950	19S23-	2
203	182	2.8	660	182	74.216	12.832	S660	19S23-	2
222	167	2.6	660	167	73.963	14.037	S660	19S23-	2
222	167	3.7	950	167	76.678	14.037	S950	19S23-	2
249	149	2.3	660	149	73.513	15.714	S660	19S23-	2
253	146	3.2	950	146	75.512	16.000	S950	19S23-	2
283	131	2.0	660	131	73.415	17.905	S660	19S23-	2
283	131	2.9	950	131	75.342	17.905	S950	19S23-	2
304	122	2.1	660	122	73.154	19.250	S660	19S23-	2
310	119	3.0	950	119	74.688	19.600	S950	19S23-	2
347	107	1.9	660	107	73.089	21.933	S660	19S23-	2
347	107	2.7	950	107	74.574	21.933	S950	19S23-	2
367	101	5.5	2050	101	80.792	23.193	S2100	19S23-	2
403	91.7	2.3	950	91.7	73.830	25.511	S950	19S23-	2
447	82.8	4.5	2050	82.8	77.493	28.275	S2100	19S23-	2
451	82.0	2.1	950	82.0	73.763	28.548	S950	19S23-	2
497	74.5	4.1	2050	74.5	77.288	31.422	S2100	19S23-	2
526	70.3	5.9	3100	70.3	78.806	33.289	S3100	19S23-	2
543	68.2	3.8	2050	68.2	76.120	34.333	S2100	19S23-	2
595	62.2	5.2	3100	62.2	78.332	37.644	S3100	19S23-	2
603	61.3	3.4	2050	61.3	75.981	38.156	S2100	19S23-	2
624	58.4	2.7	1945	58.4	76.782	40.056	S2100	19S23-	3
639	57.9	4.9	3100	57.9	77.010	40.422	S3100	19S23-	2
662	55.0	5.6	4291	55.0	88.002	42.520	S4500	19S23-	3
693	52.6	2.6	2050	52.6	76.679	44.515	S2100	19S23-	3
723	51.2	4.3	3100	51.2	76.689	45.711	S3100	19S23-	2
735	49.6	3.5	2958	49.6	77.519	47.159	S3100	19S23-	3
742	49.9	5.9	4394	49.9	80.586	46.933	S4500	19S23-	2
807	45.9	4.5	3653	45.9	78.505	51.027	S4500	19S23-	2
822	44.3	5.4	4500	44.3	82.018	52.794	S4500	19S23-	3
831	43.9	3.6	3054	43.9	77.283	53.330	S3100	19S23-	3
856	42.6	2.4	2050	42.6	75.127	54.933	S2100	19S23-	3
901	41.1	4.4	3946	41.1	78.247	56.960	S4500	19S23-	2
918	39.7	4.8	4500	39.7	81.777	58.933	S4500	19S23-	3
951	38.3	2.1	2050	38.3	75.072	61.049	S2100	19S23-	3
1007	36.2	3.0	3100	36.2	75.519	64.676	S3100	19S23-	3
1012	36.0	4.4	4500	36.0	79.202	64.978	S4500	19S23-	3
1095	33.3	1.9	2050	33.3	74.179	70.302	S2100	19S23-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
1130	32.3	4.0	4500	32.3	79.043	72.533	S4500	19S23-	3
1134	32.2	4.0	4500	32.2	77.875	72.775	S4500	19S23-	3
1139	32.0	2.7	3100	32.0	75.394	73.138	S3100	19S23-	3
1198	30.4	1.7	2050	30.4	73.932	76.907	S2100	19S23-	3
1217	30.0	1.7	2050	30.0	74.146	78.128	S2100	19S23-	3
1265	28.8	3.6	4500	28.8	77.749	81.237	S4500	19S23-	3
1289	28.3	2.4	3100	28.3	74.418	82.769	S3100	19S23-	3
1331	27.4	1.5	2050	27.4	73.904	85.468	S2100	19S23-	3
1410	25.8	2.2	3100	25.8	74.132	90.546	S3100	19S23-	3
1446	25.2	3.1	4500	25.2	76.077	92.825	S4500	19S23-	3
1458	25.0	2.1	3100	25.0	74.342	93.599	S3100	19S23-	3
1528	23.9	1.3	2050	23.9	73.396	98.095	S2100	19S23-	3
1595	22.9	1.9	3100	22.9	74.068	102.393	S3100	19S23-	3
1614	22.6	2.8	4500	22.6	75.999	103.619	S4500	19S23-	3
1698	21.5	1.2	2050	21.5	73.379	109.016	S2100	19S23-	3
1771	20.6	2.5	4500	20.6	75.064	113.711	S4500	19S23-	3
1799	20.3	1.7	3100	20.3	73.519	115.492	S3100	19S23-	3
1872	19.5	1.1	2050	19.5	73.076	120.167	S2100	19S23-	3
1977	18.4	2.3	4500	18.4	75.012	126.933	S4500	19S23-	3
2034	17.9	1.5	3100	17.9	73.480	130.603	S3100	19S23-	3
2080	17.5	1.0	2050	17.5	73.065	133.544	S2100	19S23-	3
2204	16.5	1.4	3100	16.5	73.158	141.478	S3100	19S23-	3
2306	15.8	2.0	4500	15.8	74.052	148.005	S4500	19S23-	3
2492	14.6	1.2	3100	14.6	73.132	159.989	S3100	19S23-	3
2574	14.2	1.8	4500	14.2	74.022	165.215	S4500	19S23-	3

4.1 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
31.0	1231	4.7	203	894	41.160	3.339	S400	17N41-	2
42.0	898	4.1	243	679	38.907	4.579	S400	17N41-	2
54.0	701	3.4	258	531	37.861	5.860	S400	17N41-	2
59.0	641	3.2	261	485	37.576	6.411	S400	17N41-	2
63.0	597	5.6	493	452	39.484	6.880	S660	17N41-	2
69.0	550	3.8	365	383	38.179	7.467	S400	17N41-	2
71.0	534	5.5	548	404	41.080	7.702	S950	17N41-	2
78.0	487	3.5	380	333	37.945	8.436	S400	17N41-	2
81.0	467	5.6	638	344	39.499	8.800	S660	17N41-	2
92.0	410	4.8	625	293	39.188	10.027	S660	17N41-	2
94.0	401	3.0	400	304	37.322	10.240	S400	17N41-	2
104	365	4.5	660	276	38.406	11.262	S660	17N41-	2
107	355	2.7	400	269	37.198	11.569	S400	17N41-	2
114	334	4.2	660	253	38.122	12.320	S660	17N41-	2
116	328	5.9	950	243	40.956	12.544	S950	17N41-	2
118	320	4.0	660	243	38.216	12.832	S660	17N41-	2
121	314	2.4	400	237	36.893	13.105	S400	17N41-	2
129	293	3.7	660	222	37.963	14.037	S660	17N41-	2
129	293	5.3	950	213	40.678	14.037	S950	17N41-	2
132	287	2.2	400	217	36.767	14.336	S400	17N41-	2
136	278	2.1	400	210	36.817	14.806	S400	17N41-	2
145	262	3.3	660	198	37.513	15.714	S660	17N41-	2
147	257	4.6	950	194	39.512	16.000	S950	17N41-	2
149	254	1.9	400	192	36.704	16.197	S400	17N41-	2
165	230	2.9	660	174	37.415	17.905	S660	17N41-	2
165	230	4.1	950	174	39.342	17.905	S950	17N41-	2
169	225	1.9	400	170	36.531	18.286	S400	17N41-	2
177	214	3.0	660	162	37.154	19.250	S660	17N41-	2
181	210	4.3	950	159	38.688	19.600	S950	17N41-	2
190	199	1.7	400	151	36.492	20.659	S400	17N41-	2
202	187	2.7	660	142	37.089	21.933	S660	17N41-	2
202	187	3.8	950	142	38.574	21.933	S950	17N41-	2
231	164	2.0	578	124	36.647	25.056	S660	17N41-	2
235	161	3.3	950	122	37.830	25.511	S950	17N41-	2
261	145	5.4	1722	110	41.493	28.275	S2100	17N41-	2
263	144	2.0	660	109	36.609	28.548	S660	17N41-	2
263	144	2.9	950	109	37.763	28.548	S950	17N41-	2
288	131	3.0	950	99.5	37.259	31.267	S950	17N41-	2
290	131	6.0	1914	99.0	41.288	31.422	S2100	17N41-	2
307	124	6.0	2027	93.5	42.806	33.289	S3100	17N41-	2
316	120	5.1	1784	90.6	40.120	34.333	S2100	17N41-	2
322	118	2.7	950	88.9	37.214	34.989	S950	17N41-	2
347	109	6.0	2293	82.6	42.332	37.644	S3100	17N41-	2
352	108	5.1	1983	81.5	39.981	38.156	S2100	17N41-	2
364	103	3.8	1945	77.7	40.782	40.056	S2100	17N41-	3
373	102	5.1	2101	77.0	41.010	40.422	S3100	17N41-	2
388	97.8	5.1	2181	74.0	44.966	42.044	S4500	17N41-	2
404	92.3	3.6	2050	69.8	40.679	44.515	S2100	17N41-	3
410	92.5	4.1	1848	70.0	38.619	44.431	S2100	17N41-	2
421	89.9	5.1	2375	68.1	40.689	45.711	S3100	17N41-	2
428	87.2	4.9	2958	66.0	41.519	47.159	S3100	17N41-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
433	87.6	5.1	2435	66.3	44.586	46.933	S4500	17N41-	2
454	82.2	1.7	950	62.2	37.078	50.027	S950	17N41-	3
455	83.2	4.1	2050	63.0	38.536	49.378	S2100	17N41-	2
470	80.5	4.2	2216	61.0	42.505	51.027	S4500	17N41-	2
482	78.6	4.1	2176	59.5	39.151	52.311	S3100	17N41-	2
484	77.1	5.1	3054	58.3	41.283	53.330	S3100	17N41-	3
497	76.2	3.4	1878	57.7	37.911	53.924	S2100	17N41-	2
499	74.8	3.3	2050	56.6	39.127	54.933	S2100	17N41-	3
508	73.4	1.5	950	55.6	37.061	55.982	S950	17N41-	3
525	72.2	4.2	2474	54.6	42.247	56.960	S4500	17N41-	2
545	69.5	4.1	2461	52.6	38.959	59.156	S3100	17N41-	2
552	68.6	3.3	2050	51.9	37.854	59.927	S2100	17N41-	2
554	67.3	3.0	2050	51.0	39.072	61.049	S2100	17N41-	3
581	64.2	1.3	950	48.6	36.744	64.022	S950	17N41-	3
585	64.7	3.4	2211	49.0	38.272	63.487	S3100	17N41-	2
587	63.5	4.3	3100	48.1	39.519	64.676	S3100	17N41-	3
595	63.7	3.4	2252	48.2	40.248	64.500	S4500	17N41-	2
636	58.7	1.4	950	44.4	36.643	70.037	S950	17N41-	3
638	58.5	2.9	2050	44.3	38.179	70.302	S2100	17N41-	3
650	57.4	1.3	950	43.4	36.734	71.644	S950	17N41-	3
662	57.2	3.3	2408	43.3	38.141	71.793	S3100	17N41-	2
664	57.1	3.4	2514	43.2	40.087	72.000	S4500	17N41-	2
664	56.2	4.2	3100	42.5	39.394	73.138	S3100	17N41-	3
698	53.4	2.6	2050	40.5	37.932	76.907	S2100	17N41-	3
709	52.6	2.6	2050	39.8	38.146	78.128	S2100	17N41-	3
712	52.4	1.2	950	39.7	36.634	78.375	S950	17N41-	3
738	50.6	5.5	4500	38.3	41.749	81.237	S4500	17N41-	3
751	49.7	3.7	3100	37.6	38.418	82.769	S3100	17N41-	3
776	48.1	2.4	2050	36.4	37.904	85.468	S2100	17N41-	3
811	46.0	1.1	950	34.8	36.455	89.333	S950	17N41-	3
822	45.4	3.4	3100	34.4	38.132	90.546	S3100	17N41-	3
843	44.3	4.8	4500	33.5	40.077	92.825	S4500	17N41-	3
850	43.9	3.3	3100	33.2	38.342	93.599	S3100	17N41-	3
891	41.9	2.1	2050	31.7	37.396	98.095	S2100	17N41-	3
908	41.1	0.9	950	31.1	36.449	99.968	S950	17N41-	3
930	40.1	3.0	3100	30.4	38.068	102.393	S3100	17N41-	3
941	39.7	4.3	4500	30.0	39.999	103.619	S4500	17N41-	3
990	37.7	1.9	2050	28.5	37.379	109.016	S2100	17N41-	3
1032	36.1	3.9	4500	27.4	39.064	113.711	S4500	17N41-	3
1049	35.6	2.7	3100	26.9	37.519	115.492	S3100	17N41-	3
1091	34.2	1.7	2050	25.9	37.076	120.167	S2100	17N41-	3
1152	32.4	3.5	4500	24.5	39.012	126.933	S4500	17N41-	3
1186	31.5	2.4	3100	23.8	37.480	130.603	S3100	17N41-	3
1212	30.8	1.5	2050	23.3	37.065	133.544	S2100	17N41-	3
1284	29.1	2.2	3100	22.0	37.158	141.478	S3100	17N41-	3
1344	27.8	3.0	4500	21.0	38.052	148.005	S4500	17N41-	3
1420	26.3	1.3	2050	19.9	36.601	156.407	S2100	17N41-	3
1453	25.7	1.9	3100	19.4	37.132	159.989	S3100	17N41-	3
1500	24.9	2.7	4500	18.8	38.022	165.215	S4500	17N41-	3
1578	23.6	1.2	2050	17.9	36.595	173.820	S2100	17N41-	3
1647	22.7	2.5	4500	17.2	37.407	181.396	S4500	17N41-	3
1672	22.3	1.7	3100	16.9	36.702	184.146	S3100	17N41-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
1838	20.3	2.2	4500	15.4	37.386	202.489	S4500	17N41-	3
1891	19.7	1.5	3100	14.9	36.687	208.240	S3100	17N41-	3

5.2 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
63.0	772	5.6	492	456	77.264	5.376	S660	19S42-	2
75.0	647	5.7	601	382	77.481	6.417	S660	19S42-	2
80.0	603	4.4	496	356	75.484	6.880	S660	19S42-	2
85.0	568	5.0	593	335	76.896	7.311	S660	19S42-	2
102	472	4.4	638	278	75.499	8.800	S660	19S42-	2
117	414	3.8	625	244	75.188	10.027	S660	19S42-	2
119	408	5.7	950	241	79.744	10.183	S950	19S42-	2
130	371	5.2	950	219	78.049	11.200	S950	19S42-	2
131	369	3.6	660	217	74.406	11.262	S660	19S42-	2
143	337	3.3	660	199	74.122	12.320	S660	19S42-	2
146	331	4.6	950	195	76.956	12.544	S950	19S42-	2
149	323	3.2	660	191	74.216	12.832	S660	19S42-	2
163	296	2.9	660	174	73.963	14.037	S660	19S42-	2
163	296	4.1	950	174	76.678	14.037	S950	19S42-	2
183	264	2.6	660	156	73.513	15.714	S660	19S42-	2
186	259	3.6	950	153	75.512	16.000	S950	19S42-	2
208	232	2.3	660	137	73.415	17.905	S660	19S42-	2
208	232	3.3	950	137	75.342	17.905	S950	19S42-	2
224	216	2.4	660	127	73.154	19.250	S660	19S42-	2
228	212	3.4	950	125	74.688	19.600	S950	19S42-	2
255	189	2.1	660	112	73.089	21.933	S660	19S42-	2
255	189	3.0	950	112	74.574	21.933	S950	19S42-	2
297	163	2.6	950	96.0	73.830	25.511	S950	19S42-	2
329	147	5.0	2050	86.6	77.493	28.275	S2100	19S42-	2
332	145	2.3	950	85.8	73.763	28.548	S950	19S42-	2
366	132	5.0	2050	77.9	77.288	31.422	S2100	19S42-	2
400	121	4.6	2050	71.3	76.120	34.333	S2100	19S42-	2
444	109	4.1	2050	64.2	75.981	38.156	S2100	19S42-	2
459	104	3.0	1945	61.1	76.782	40.056	S2100	19S42-	3
471	103	5.9	3100	60.6	77.010	40.422	S3100	19S42-	2
510	93.2	2.9	2050	55.0	76.679	44.515	S2100	19S42-	3
532	90.8	5.2	3100	53.6	76.689	45.711	S3100	19S42-	2
541	88.0	3.9	2958	51.9	77.519	47.159	S3100	19S42-	3
594	81.3	5.5	3653	48.0	78.505	51.027	S4500	19S42-	2
612	77.8	4.0	3054	45.9	77.283	53.330	S3100	19S42-	3
630	75.5	2.6	2050	44.6	75.127	54.933	S2100	19S42-	3
663	72.9	5.3	3946	43.0	78.247	56.960	S4500	19S42-	2
676	70.4	5.4	4500	41.5	81.777	58.933	S4500	19S42-	3
700	68.0	2.4	2050	40.1	75.072	61.049	S2100	19S42-	3
742	64.2	3.4	3100	37.9	75.519	64.676	S3100	19S42-	3
745	63.9	4.9	4500	37.7	79.202	64.978	S4500	19S42-	3
806	59.0	2.3	2050	34.8	74.179	70.302	S2100	19S42-	3
832	57.2	4.9	4500	33.8	79.043	72.533	S4500	19S42-	3
835	57.0	4.8	4500	33.6	77.875	72.775	S4500	19S42-	3
839	56.7	3.3	3100	33.5	75.394	73.138	S3100	19S42-	3
882	54.0	2.1	2050	31.8	73.932	76.907	S2100	19S42-	3
896	53.1	2.1	2050	31.3	74.146	78.128	S2100	19S42-	3
932	51.1	4.3	4500	30.1	77.749	81.237	S4500	19S42-	3
949	50.1	2.9	3100	29.6	74.418	82.769	S3100	19S42-	3
980	48.6	1.9	2050	28.6	73.904	85.468	S2100	19S42-	3
1038	45.8	2.7	3100	27.0	74.132	90.546	S3100	19S42-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
1065	44.7	3.8	4500	26.4	76.077	92.825	S4500	19S42-	3
1073	44.3	2.6	3100	26.2	74.342	93.599	S3100	19S42-	3
1125	42.3	1.6	2050	25.0	73.396	98.095	S2100	19S42-	3
1174	40.5	2.4	3100	23.9	74.068	102.393	S3100	19S42-	3
1188	40.1	3.4	4500	23.6	75.999	103.619	S4500	19S42-	3
1250	38.1	1.5	2050	22.5	73.379	109.016	S2100	19S42-	3
1304	36.5	3.1	4500	21.5	75.064	113.711	S4500	19S42-	3
1324	35.9	2.1	3100	21.2	73.519	115.492	S3100	19S42-	3
1378	34.5	1.3	2050	20.4	73.076	120.167	S2100	19S42-	3
1456	32.7	2.8	4500	19.3	75.012	126.933	S4500	19S42-	3
1498	31.8	1.9	3100	18.7	73.480	130.603	S3100	19S42-	3
1531	31.1	1.2	2050	18.3	73.065	133.544	S2100	19S42-	3
1622	29.3	1.7	3100	17.3	73.158	141.478	S3100	19S42-	3
1697	28.0	2.4	4500	16.5	74.052	148.005	S4500	19S42-	3
1835	25.9	1.5	3100	15.3	73.132	159.989	S3100	19S42-	3
1895	25.1	2.1	4500	14.8	74.022	165.215	S4500	19S42-	3

6.4 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
296	201	5.8	2030	162	200.340	12.406	S2100	21X25-	2
329	181	5.3	2047	146	199.274	13.787	S2100	21X25-	2
337	176	5.1	2050	142	195.715	14.137	S2100	21X25-	2
375	159	4.6	2050	128	194.894	15.711	S2100	21X25-	2
406	146	4.3	2050	118	192.069	17.022	S2100	21X25-	2
452	132	4.4	2050	106	191.503	18.917	S2100	21X25-	2
498	119	4.0	2050	96.5	189.169	20.869	S2100	21X25-	2
541	110	5.5	3100	88.8	194.383	22.663	S3100	21X25-	2
554	107	3.6	2050	86.8	188.792	23.193	S2100	21X25-	2
586	101	5.1	3100	82.0	191.578	24.570	S3100	21X25-	2
663	89.6	4.5	3100	72.5	190.708	27.785	S3100	21X25-	2
775	76.6	5.8	4500	62.0	194.132	32.489	S4500	21X25-	2
866	68.7	5.2	4500	55.5	193.495	36.267	S4500	21X25-	2
895	65.4	3.9	4150	52.9	196.465	38.090	S4500	21X25-	3
1000	58.6	3.6	4291	47.4	196.002	42.520	S4500	21X25-	3
1241	47.2	3.5	4500	38.1	190.018	52.794	S4500	21X25-	3
1385	42.3	3.1	4500	34.2	189.777	58.933	S4500	21X25-	3
1528	38.3	2.8	4500	31.0	187.202	64.978	S4500	21X25-	3
1705	34.3	2.6	4500	27.8	187.043	72.533	S4500	21X25-	3
1711	34.2	2.6	4500	27.7	185.875	72.775	S4500	21X25-	3
1910	30.7	2.4	4500	24.8	185.749	81.237	S4500	21X25-	3

7.4 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
259	265	5.6	2050	128	194.894	15.711	S2100	21X42-	2
281	244	5.2	2050	118	192.069	17.022	S2100	21X42-	2
312	220	5.3	2050	106	191.503	18.917	S2100	21X42-	2
344	199	4.8	2050	96.5	189.169	20.869	S2100	21X42-	2
383	179	4.3	2050	86.8	188.792	23.193	S2100	21X42-	2
458	150	5.5	3100	72.5	190.708	27.785	S3100	21X42-	2
619	109	4.8	4150	52.9	196.465	38.090	S4500	21X42-	3
691	97.8	4.4	4291	47.4	196.002	42.520	S4500	21X42-	3
858	78.8	4.2	4500	38.1	190.018	52.794	S4500	21X42-	3
957	70.6	3.8	4500	34.2	189.777	58.933	S4500	21X42-	3
1056	64.0	3.5	4500	31.0	187.202	64.978	S4500	21X42-	3
1178	57.4	3.4	4500	27.8	187.043	72.533	S4500	21X42-	3
1182	57.2	3.4	4500	27.7	185.875	72.775	S4500	21X42-	3
1320	51.2	3.1	4500	24.8	185.749	81.237	S4500	21X42-	3

Inverter mains connection 400 V, Forced ventilated

2.1 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
39.0	490	4.9	194	490	24.360	3.339	S400	14L16-	2
45.0	426	3.9	178	426	21.796	3.840	S220	14L16-	2
53.0	357	4.4	243	357	22.107	4.579	S400	14L16-	2
61.0	310	2.9	181	310	20.744	5.267	S220	14L16-	2
68.0	279	3.7	258	279	21.061	5.860	S400	14L16-	2
75.0	255	3.4	261	255	20.776	6.411	S400	14L16-	2
79.0	242	2.7	220	242	20.841	6.767	S220	14L16-	2
80.0	238	5.1	401	238	22.684	6.880	S660	14L16-	2
87.0	219	4.1	365	219	21.379	7.467	S400	14L16-	2
89.0	213	2.4	217	213	20.699	7.667	S220	14L16-	2
90.0	212	5.1	448	212	24.280	7.702	S950	14L16-	2
98.0	194	3.8	380	194	21.145	8.436	S400	14L16-	2
108	176	2.0	220	176	20.236	9.280	S220	14L16-	2
117	163	5.2	584	163	22.388	10.027	S660	14L16-	2
119	160	3.3	400	160	20.522	10.240	S400	14L16-	2
122	156	1.8	220	156	20.161	10.514	S220	14L16-	2
131	145	4.9	656	145	21.606	11.262	S660	14L16-	2
135	141	2.9	400	141	20.398	11.569	S400	14L16-	2
138	138	1.6	220	138	19.919	11.876	S220	14L16-	2
143	133	4.5	660	133	21.322	12.320	S660	14L16-	2
149	127	4.3	660	127	21.416	12.832	S660	14L16-	2
151	126	1.4	220	126	19.821	12.992	S220	14L16-	2
153	125	2.6	400	125	20.093	13.105	S400	14L16-	2
157	122	1.4	220	122	19.873	13.456	S220	14L16-	2
163	117	3.9	660	117	21.163	14.037	S660	14L16-	2
163	117	5.7	817	117	23.878	14.037	S950	14L16-	2
167	114	2.3	400	114	19.967	14.336	S400	14L16-	2
171	111	1.3	220	111	19.783	14.720	S220	14L16-	2
172	110	2.3	400	110	20.017	14.806	S400	14L16-	2
183	104	3.5	660	104	20.713	15.714	S660	14L16-	2
186	102	5.0	931	102	22.712	16.000	S950	14L16-	2
189	101	2.1	400	101	19.904	16.197	S400	14L16-	2
193	98.7	1.1	220	98.7	19.642	16.571	S220	14L16-	2
208	91.3	3.1	660	91.3	20.615	17.905	S660	14L16-	2
208	91.3	4.4	950	91.3	22.542	17.905	S950	14L16-	2
213	89.4	1.9	400	89.4	19.731	18.286	S400	14L16-	2
219	87.1	1.0	220	87.1	19.618	18.776	S220	14L16-	2
224	84.9	2.9	660	84.9	20.354	19.250	S660	14L16-	2
228	83.4	4.2	950	83.4	21.888	19.600	S950	14L16-	2
236	80.5	0.9	220	80.5	19.536	20.300	S220	14L16-	2
241	79.1	1.7	400	79.1	19.692	20.659	S400	14L16-	2
255	74.5	2.6	660	74.5	20.289	21.933	S660	14L16-	2
255	74.5	3.7	950	74.5	21.774	21.933	S950	14L16-	2
261	73.0	1.5	400	73.0	19.596	22.400	S400	14L16-	2
268	71.1	0.8	220	71.1	19.520	23.000	S220	14L16-	2
292	65.3	2.0	578	65.3	19.847	25.056	S660	14L16-	2
295	64.6	1.4	400	64.6	19.570	25.308	S400	14L16-	2
297	64.1	3.2	950	64.1	21.030	25.511	S950	14L16-	2
329	57.8	4.5	1471	57.8	24.693	28.275	S2100	14L16-	2
332	57.3	2.0	660	57.3	19.809	28.548	S660	14L16-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
332	57.3	2.9	950	57.3	20.963	28.548	S950	14L16-	2
363	52.5	1.8	660	52.5	19.667	31.167	S660	14L16-	2
364	52.3	2.6	950	52.3	20.459	31.267	S950	14L16-	2
366	52.0	4.5	1635	52.0	24.488	31.422	S2100	14L16-	2
388	49.1	4.5	1732	49.1	26.006	33.289	S3100	14L16-	2
400	47.6	3.8	1525	47.6	23.320	34.333	S2100	14L16-	2
407	46.7	2.3	950	46.7	20.414	34.989	S950	14L16-	2
413	46.0	1.6	660	46.0	19.642	35.511	S660	14L16-	2
438	43.4	4.5	1958	43.4	25.532	37.644	S3100	14L16-	2
444	42.9	3.8	1694	42.9	23.181	38.156	S2100	14L16-	2
459	40.8	4.1	1945	40.8	23.982	40.056	S2100	14L16-	3
471	40.4	3.8	1795	40.4	24.210	40.422	S3100	14L16-	2
478	39.8	2.0	950	39.8	19.987	41.067	S950	14L16-	2
490	38.9	3.8	1863	38.9	28.166	42.044	S4500	14L16-	2
510	36.7	3.9	2050	36.7	23.879	44.515	S2100	14L16-	3
517	36.8	3.1	1579	36.8	21.819	44.431	S2100	14L16-	2
532	35.8	3.8	2030	35.8	23.889	45.711	S3100	14L16-	2
535	35.6	1.8	950	35.6	19.961	45.956	S950	14L16-	2
541	34.7	5.3	2704	34.7	24.719	47.159	S3100	14L16-	3
546	34.8	3.8	2079	34.8	27.786	46.933	S4500	14L16-	2
574	32.7	1.7	950	32.7	20.278	50.027	S950	14L16-	3
575	33.1	3.1	1755	33.1	21.736	49.378	S2100	14L16-	2
580	32.8	1.6	924	32.8	19.778	49.840	S950	14L16-	2
594	32.0	3.2	1892	32.0	25.705	51.027	S4500	14L16-	2
609	31.3	3.1	1860	31.3	22.351	52.311	S3100	14L16-	2
612	30.7	5.0	3054	30.7	24.483	53.330	S3100	14L16-	3
628	30.3	2.6	1605	30.3	21.111	53.924	S2100	14L16-	2
630	29.8	3.3	2050	29.8	22.327	54.933	S2100	14L16-	3
642	29.2	1.5	950	29.2	20.261	55.982	S950	14L16-	3
649	29.3	1.5	950	29.3	19.760	55.773	S950	14L16-	2
663	28.7	3.2	2112	28.7	25.447	56.960	S4500	14L16-	2
689	27.6	3.1	2103	27.6	22.159	59.156	S3100	14L16-	2
698	27.3	2.6	1784	27.3	21.054	59.927	S2100	14L16-	2
700	26.8	2.9	2050	26.8	22.272	61.049	S2100	14L16-	3
734	25.5	1.3	950	25.5	19.944	64.022	S950	14L16-	3
739	25.8	2.6	1890	25.8	21.472	63.487	S3100	14L16-	2
742	25.3	4.2	3100	25.3	22.719	64.676	S3100	14L16-	3
751	25.3	2.6	1922	25.3	23.448	64.500	S4500	14L16-	2
794	24.0	1.8	1454	24.0	20.459	68.162	S2100	14L16-	2
803	23.3	1.2	950	23.3	19.843	70.037	S950	14L16-	3
806	23.3	2.5	2050	23.3	21.379	70.302	S2100	14L16-	3
822	22.8	1.2	950	22.8	19.934	71.644	S950	14L16-	3
832	22.5	5.4	4159	22.5	26.243	72.533	S4500	14L16-	3
835	22.5	5.4	4173	22.5	25.075	72.775	S4500	14L16-	3
836	22.8	2.6	2137	22.8	21.341	71.793	S3100	14L16-	2
838	22.7	2.6	2146	22.7	23.287	72.000	S4500	14L16-	2
839	22.4	3.7	3100	22.4	22.594	73.138	S3100	14L16-	3
882	21.6	1.8	1576	21.6	20.424	75.750	S2100	14L16-	2
882	21.3	2.3	2050	21.3	21.132	76.907	S2100	14L16-	3
896	20.9	2.3	2050	20.9	21.346	78.128	S2100	14L16-	3
899	20.9	1.1	950	20.9	19.834	78.375	S950	14L16-	3
932	20.1	4.8	4500	20.1	24.949	81.237	S4500	14L16-	3

Technical data

Selection tables

Inverter mains connection 400 V, Forced ventilated

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
949	19.8	3.3	3100	19.8	21.618	82.769	S3100	14L16-	3
980	19.1	2.1	2050	19.1	21.104	85.468	S2100	14L16-	3
1024	18.3	0.9	950	18.3	19.655	89.333	S950	14L16-	3
1038	18.1	3.0	3100	18.1	21.332	90.546	S3100	14L16-	3
1065	17.6	4.2	4500	17.6	23.277	92.825	S4500	14L16-	3
1073	17.5	2.9	3100	17.5	21.542	93.599	S3100	14L16-	3
1125	16.7	1.8	2050	16.7	20.596	98.095	S2100	14L16-	3
1146	16.4	0.8	950	16.4	19.649	99.968	S950	14L16-	3
1174	16.0	2.6	3100	16.0	21.268	102.393	S3100	14L16-	3
1188	15.8	3.8	4500	15.8	23.199	103.619	S4500	14L16-	3
1250	15.0	1.6	2050	15.0	20.579	109.016	S2100	14L16-	3
1255	14.9	0.8	950	14.9	19.545	109.433	S950	14L16-	3
1304	14.4	3.5	4500	14.4	22.264	113.711	S4500	14L16-	3
1324	14.2	2.3	3100	14.2	20.719	115.492	S3100	14L16-	3
1378	13.6	1.5	2050	13.6	20.276	120.167	S2100	14L16-	3
1404	13.4	0.7	950	13.4	19.541	122.461	S950	14L16-	3
1456	12.9	3.1	4500	12.9	22.212	126.933	S4500	14L16-	3
1498	12.5	2.1	3100	12.5	20.680	130.603	S3100	14L16-	3
1531	12.2	1.3	2050	12.2	20.265	133.544	S2100	14L16-	3
1622	11.6	1.9	3100	11.6	20.358	141.478	S3100	14L16-	3
1697	11.0	2.7	4500	11.0	21.252	148.005	S4500	14L16-	3
1794	10.5	1.1	2050	10.5	19.801	156.407	S2100	14L16-	3
1835	10.2	1.7	3100	10.2	20.332	159.989	S3100	14L16-	3
1895	9.9	2.4	4500	9.9	21.222	165.215	S4500	14L16-	3
1993	9.4	1.0	2050	9.4	19.795	173.820	S2100	14L16-	3
2080	9.0	2.2	4500	9.0	20.607	181.396	S4500	14L16-	3
2112	8.9	1.5	3100	8.9	19.902	184.146	S3100	14L16-	3
2231	8.4	0.9	2050	8.4	19.637	194.556	S2100	14L16-	3
2322	8.1	1.9	4500	8.1	20.586	202.489	S4500	14L16-	3
2388	7.9	1.3	3100	7.9	19.887	208.240	S3100	14L16-	3
2480	7.6	0.8	2050	7.6	19.633	216.215	S2100	14L16-	3
2627	7.1	1.2	3100	7.1	19.668	229.059	S3100	14L16-	3
2732	6.9	1.7	4500	6.9	20.073	238.252	S4500	14L16-	3
2971	6.3	1.0	3100	6.3	19.658	259.030	S3100	14L16-	3
3050	6.1	1.5	4500	6.1	20.061	265.956	S4500	14L16-	3
3316	5.7	1.4	4500	5.7	19.836	289.151	S4500	14L16-	3
3702	5.1	1.2	4500	5.1	19.828	322.773	S4500	14L16-	3

2.2 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
20.0	1021	5.1	104	908	13.460	3.339	S400	13I34-	2
22.0	932	2.1	63.0	837	9.863	3.661	S130	13I34-	2
23.0	888	5.1	119	790	10.896	3.840	S220	13I34-	2
28.0	745	5.1	142	745	11.207	4.579	S400	13I34-	2
31.0	679	1.9	76.0	660	9.187	5.021	S130	13I34-	2
32.0	648	4.3	164	648	9.844	5.267	S220	13I34-	2
36.0	582	4.7	182	582	10.161	5.860	S400	13I34-	2
39.0	532	4.5	199	532	9.876	6.411	S400	13I34-	2
39.0	531	1.7	87.0	531	8.873	6.425	S130	13I34-	2
41.0	504	4.1	210	428	9.941	6.767	S220	13I34-	2
42.0	496	5.1	214	496	11.784	6.880	S660	13I34-	2
43.0	485	1.6	92.0	485	8.788	7.029	S130	13I34-	2
46.0	457	5.1	232	406	10.479	7.467	S400	13I34-	2
47.0	445	3.5	217	368	9.799	7.667	S220	13I34-	2
47.0	443	5.1	239	443	13.380	7.702	S950	13I34-	2
51.0	410	1.7	116	337	8.985	8.322	S130	13I34-	2
52.0	404	5.1	262	360	10.245	8.436	S400	13I34-	2
57.0	368	3.0	220	344	9.336	9.280	S220	13I34-	2
58.0	362	1.7	125	290	9.330	9.411	S130	13I34-	2
63.0	333	4.9	318	333	9.622	10.240	S400	13I34-	2
64.0	324	2.6	220	296	9.261	10.514	S220	13I34-	2
69.0	303	5.1	350	303	10.706	11.262	S660	13I34-	2
70.0	299	1.4	130	254	8.721	11.413	S130	13I34-	2
71.0	295	4.3	359	295	9.498	11.569	S400	13I34-	2
73.0	287	2.3	220	282	9.019	11.876	S220	13I34-	2
75.0	277	5.1	383	277	10.422	12.320	S660	13I34-	2
78.0	266	5.1	398	266	10.516	12.832	S660	13I34-	2
79.0	264	1.3	130	213	8.904	12.907	S130	13I34-	2
79.0	263	2.1	220	263	8.921	12.992	S220	13I34-	2
80.0	260	3.8	400	260	9.193	13.105	S400	13I34-	2
82.0	253	2.0	220	243	8.973	13.456	S220	13I34-	2
86.0	243	5.1	436	243	10.263	14.037	S660	13I34-	2
88.0	238	3.5	400	238	9.067	14.336	S400	13I34-	2
89.0	234	1.1	130	207	8.588	14.606	S130	13I34-	2
90.0	232	1.9	220	223	8.883	14.720	S220	13I34-	2
90.0	230	3.4	400	230	9.117	14.806	S400	13I34-	2
96.0	217	4.7	488	217	9.813	15.714	S660	13I34-	2
98.0	213	1.0	130	193	8.550	15.979	S130	13I34-	2
98.0	213	5.1	497	213	11.812	16.000	S950	13I34-	2
99.0	211	3.1	400	211	9.004	16.197	S400	13I34-	2
101	206	1.7	220	206	8.742	16.571	S220	13I34-	2
109	191	4.6	556	191	9.715	17.905	S660	13I34-	2
109	191	5.1	556	191	11.642	17.905	S950	13I34-	2
110	189	1.0	130	171	8.644	18.069	S130	13I34-	2
112	187	3.1	400	187	8.831	18.286	S400	13I34-	2
115	182	1.7	220	182	8.718	18.776	S220	13I34-	2
118	177	4.6	598	177	9.454	19.250	S660	13I34-	2
124	168	1.5	220	168	8.636	20.300	S220	13I34-	2
125	167	0.9	130	158	8.475	20.381	S130	13I34-	2
126	165	2.7	400	165	8.792	20.659	S400	13I34-	2
134	156	4.3	660	156	9.389	21.933	S660	13I34-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
137	152	2.5	400	152	8.696	22.400	S400	13I34-	2
141	148	1.4	220	148	8.620	23.000	S220	13I34-	2
141	148	0.8	130	124	8.532	23.048	S130	13I34-	2
153	137	0.7	130	121	8.431	24.967	S130	13I34-	2
153	136	3.3	578	136	8.947	25.056	S660	13I34-	2
155	135	2.2	400	135	8.670	25.308	S400	13I34-	2
156	134	4.6	792	134	10.130	25.511	S950	13I34-	2
162	129	1.2	220	129	8.509	26.422	S220	13I34-	2
173	121	0.7	130	94.5	8.469	28.233	S130	13I34-	2
174	119	3.3	660	119	8.909	28.548	S660	13I34-	2
174	119	4.6	886	119	10.063	28.548	S950	13I34-	2
178	117	1.9	400	117	8.544	29.156	S400	13I34-	2
183	114	1.0	220	114	8.499	29.937	S220	13I34-	2
191	109	3.3	660	109	8.767	31.167	S660	13I34-	2
191	109	4.3	862	109	9.559	31.267	S950	13I34-	2
201	104	1.1	220	104	8.451	32.867	S220	13I34-	2
201	104	1.9	400	104	8.528	32.940	S400	13I34-	2
214	97.5	4.3	950	97.5	9.514	34.989	S950	13I34-	2
217	96.0	2.9	660	96.0	8.742	35.511	S660	13I34-	2
222	94.0	1.7	400	94.0	8.474	36.267	S400	13I34-	2
228	91.6	0.9	220	91.6	8.445	37.238	S220	13I34-	2
247	84.5	2.1	545	84.5	8.590	40.333	S660	13I34-	2
250	83.2	1.5	400	83.2	8.464	40.974	S400	13I34-	2
251	83.0	3.4	889	83.0	9.087	41.067	S950	13I34-	2
281	74.2	2.1	620	74.2	8.575	45.956	S660	13I34-	2
281	74.2	3.2	950	74.2	9.061	45.956	S950	13I34-	2
299	69.7	1.4	446	69.7	8.511	48.950	S660	13I34-	2
300	68.4	1.8	625	68.4	8.690	49.867	S660	13I34-	3
301	68.2	2.7	950	68.2	9.378	50.027	S950	13I34-	3
305	68.4	2.8	903	68.4	8.878	49.840	S950	13I34-	2
337	60.9	2.4	950	60.9	9.361	55.982	S950	13I34-	3
341	61.1	1.4	508	61.1	8.501	55.773	S660	13I34-	2
341	61.1	2.7	950	61.1	8.860	55.773	S950	13I34-	2
342	60.0	1.6	650	60.0	8.681	56.818	S660	13I34-	3
384	53.4	1.5	660	53.4	8.570	63.817	S660	13I34-	3
385	54.1	1.7	668	54.1	8.672	63.000	S950	13I34-	2
385	53.3	2.1	950	53.3	9.044	64.022	S950	13I34-	3
420	48.8	1.4	660	48.8	8.535	69.813	S660	13I34-	3
422	48.7	2.2	950	48.7	8.943	70.037	S950	13I34-	3
423	48.5	4.6	2050	48.5	10.479	70.302	S2100	13I34-	3
431	48.4	1.6	736	48.4	8.661	70.500	S950	13I34-	2
431	47.6	2.1	950	47.6	9.034	71.644	S950	13I34-	3
438	46.9	1.4	660	46.9	8.564	72.713	S660	13I34-	3
463	44.3	4.2	2050	44.3	10.232	76.907	S2100	13I34-	3
470	43.6	4.2	2050	43.6	10.446	78.128	S2100	13I34-	3
472	43.5	1.9	950	43.5	8.934	78.375	S950	13I34-	3
479	42.9	1.3	660	42.9	8.530	79.545	S660	13I34-	3
498	41.2	6.0	2531	41.2	10.718	82.769	S3100	13I34-	3
515	39.9	3.8	2050	39.9	10.204	85.468	S2100	13I34-	3
536	38.3	1.2	660	38.3	8.465	89.048	S660	13I34-	3
538	38.2	1.7	950	38.2	8.755	89.333	S950	13I34-	3
545	37.7	5.5	2769	37.7	10.432	90.546	S3100	13I34-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
564	36.4	5.3	2862	36.4	10.642	93.599	S3100	13I34-	3
591	34.8	3.3	2050	34.8	9.696	98.095	S2100	13I34-	3
602	34.1	1.5	950	34.1	8.749	99.968	S950	13I34-	3
611	33.6	1.0	660	33.6	8.462	101.460	S660	13I34-	3
616	33.3	4.8	3100	33.3	10.368	102.393	S3100	13I34-	3
656	31.3	3.0	2050	31.3	9.679	109.016	S2100	13I34-	3
657	31.3	1.0	660	31.3	8.425	109.083	S660	13I34-	3
659	31.2	1.4	950	31.2	8.645	109.433	S950	13I34-	3
695	29.5	4.3	3100	29.5	9.819	115.492	S3100	13I34-	3
723	28.4	2.7	2050	28.4	9.376	120.167	S2100	13I34-	3
737	27.8	1.2	950	27.8	8.641	122.461	S950	13I34-	3
748	27.4	0.9	660	27.4	8.423	124.289	S660	13I34-	3
786	26.1	3.8	3100	26.1	9.780	130.603	S3100	13I34-	3
804	25.5	2.4	2050	25.5	9.365	133.544	S2100	13I34-	3
852	24.1	3.5	3100	24.1	9.458	141.478	S3100	13I34-	3
858	23.9	1.1	950	23.9	8.514	142.437	S950	13I34-	3
891	23.0	4.8	4500	23.0	10.352	148.005	S4500	13I34-	3
942	21.8	2.1	2050	21.8	8.901	156.407	S2100	13I34-	3
960	21.4	1.0	950	21.4	8.512	159.394	S950	13I34-	3
963	21.3	3.1	3100	21.3	9.432	159.989	S3100	13I34-	3
995	20.6	4.3	4500	20.6	10.322	165.215	S4500	13I34-	3
1047	19.6	1.9	2050	19.6	8.895	173.820	S2100	13I34-	3
1067	19.2	0.9	950	19.2	8.454	177.178	S950	13I34-	3
1092	18.8	4.0	4500	18.8	9.707	181.396	S4500	13I34-	3
1109	18.5	2.7	3100	18.5	9.002	184.146	S3100	13I34-	3
1171	17.5	1.7	2050	17.5	8.737	194.556	S2100	13I34-	3
1194	17.2	0.8	950	17.2	8.453	198.270	S950	13I34-	3
1219	16.8	3.5	4500	16.8	9.686	202.489	S4500	13I34-	3
1254	16.4	2.4	3100	16.4	8.987	208.240	S3100	13I34-	3
1302	15.8	1.5	2050	15.8	8.733	216.215	S2100	13I34-	3
1379	14.9	2.2	3100	14.9	8.768	229.059	S3100	13I34-	3
1434	14.3	3.0	4500	14.3	9.173	238.252	S4500	13I34-	3
1516	13.5	1.3	2050	13.5	8.572	251.778	S2100	13I34-	3
1560	13.2	1.9	3100	13.2	8.758	259.030	S3100	13I34-	3
1601	12.8	2.7	4500	12.8	9.161	265.956	S4500	13I34-	3
1685	12.2	1.2	2050	12.2	8.570	279.807	S2100	13I34-	3
1741	11.8	2.5	4500	11.8	8.936	289.151	S4500	13I34-	3
1785	11.5	1.7	3100	11.5	8.591	296.430	S3100	13I34-	3
1840	11.2	1.1	2050	11.2	8.499	305.567	S2100	13I34-	3
1943	10.6	2.2	4500	10.6	8.928	322.773	S4500	13I34-	3
2018	10.2	1.5	3100	10.2	8.585	335.215	S3100	13I34-	3
2045	10.0	1.0	2050	10.0	8.497	339.584	S2100	13I34-	3
2166	9.5	1.4	3100	9.5	8.511	359.758	S3100	13I34-	3
2201	9.3	1.7	3962	9.3	8.708	365.500	S4500	13I34-	3
2449	8.4	1.2	3100	8.4	8.507	406.829	S3100	13I34-	3
2456	8.4	1.7	4410	8.4	8.703	408.000	S4500	13I34-	3

3.8 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
70.0	503	2.8	203	503	41.160	3.339	S400	17N17-	2
82.0	429	3.9	332	429	44.801	3.920	S660	17N17-	2
91.0	384	4.8	425	384	49.117	4.380	S950	17N17-	2
96.0	367	2.5	243	367	38.907	4.579	S400	17N17-	2
112	313	3.9	455	313	41.264	5.376	S660	17N17-	2
112	312	4.2	491	312	45.248	5.391	S950	17N17-	2
122	287	2.0	258	287	37.861	5.860	S400	17N17-	2
126	279	5.3	585	279	65.232	6.029	S2100	17N17-	2
126	278	3.9	511	278	43.506	6.038	S950	17N17-	2
134	262	1.9	261	262	37.576	6.411	S400	17N17-	2
134	262	3.9	543	262	41.481	6.417	S660	17N17-	2
136	259	5.3	631	259	86.653	6.499	S3100	17N17-	2
143	245	4.8	667	245	58.562	6.870	S2100	17N17-	2
144	244	3.3	493	244	39.484	6.880	S660	17N17-	2
153	230	3.7	593	230	40.896	7.311	S660	17N17-	2
154	227	4.8	719	227	75.059	7.406	S3100	17N17-	2
156	225	2.3	365	225	38.179	7.467	S400	17N17-	2
161	218	3.3	548	218	41.080	7.702	S950	17N17-	2
173	203	4.2	750	203	52.792	8.272	S2100	17N17-	2
176	199	2.1	380	199	37.945	8.436	S400	17N17-	2
184	191	3.4	638	191	39.499	8.800	S660	17N17-	2
186	188	4.2	809	188	64.171	8.917	S3100	17N17-	2
190	185	4.8	883	185	44.272	9.100	S950	17N17-	2
209	168	2.9	625	168	39.188	10.027	S660	17N17-	2
212	165	4.3	950	165	43.744	10.183	S950	17N17-	2
214	164	1.8	400	164	37.322	10.240	S400	17N17-	2
228	154	3.6	851	154	55.882	10.932	S3100	17N17-	2
234	150	3.9	950	150	42.049	11.200	S950	17N17-	2
235	149	2.7	660	149	38.406	11.262	S660	17N17-	2
241	145	1.6	400	145	37.198	11.569	S400	17N17-	2
257	136	2.5	660	136	38.122	12.320	S660	17N17-	2
259	135	5.3	1204	135	56.340	12.406	S2100	17N17-	2
262	134	3.5	950	134	40.956	12.544	S950	17N17-	2
268	131	2.4	660	131	38.216	12.832	S660	17N17-	2
273	128	1.4	400	128	36.893	13.105	S400	17N17-	2
288	122	5.3	1338	122	55.274	13.787	S2100	17N17-	2
293	120	2.2	660	120	37.963	14.037	S660	17N17-	2
293	120	3.1	950	120	40.678	14.037	S950	17N17-	2
295	119	4.8	1372	119	51.715	14.137	S2100	17N17-	2
299	117	1.3	400	117	36.767	14.336	S400	17N17-	2
305	115	5.3	1417	115	63.157	14.606	S3100	17N17-	2
309	114	1.3	400	114	36.817	14.806	S400	17N17-	2
328	107	1.9	660	107	37.513	15.714	S660	17N17-	2
328	107	4.8	1524	107	50.894	15.711	S2100	17N17-	2
334	105	2.7	950	105	39.512	16.000	S950	17N17-	2
338	104	1.1	400	104	36.704	16.197	S400	17N17-	2
342	103	5.2	1589	103	77.258	16.381	S4500	17N17-	2
345	102	5.3	1603	102	60.696	16.517	S3100	17N17-	2
347	101	4.8	1615	101	56.965	16.644	S3100	17N17-	2
355	98.7	4.2	1544	98.7	48.069	17.022	S2100	17N17-	2
373	93.8	1.7	660	93.8	37.415	17.905	S660	17N17-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
373	93.8	2.5	950	93.8	39.342	17.905	S950	17N17-	2
381	91.9	1.1	400	91.9	36.531	18.286	S400	17N17-	2
381	91.9	5.4	1774	91.9	74.754	18.286	S4500	17N17-	2
393	89.3	5.0	1826	89.3	55.070	18.822	S3100	17N17-	2
395	88.8	4.4	1716	88.8	47.503	18.917	S2100	17N17-	2
402	87.3	1.6	660	87.3	37.154	19.250	S660	17N17-	2
409	85.7	2.3	950	85.7	38.688	19.600	S950	17N17-	2
418	83.8	4.4	1818	83.8	51.690	20.041	S3100	17N17-	2
431	81.3	0.9	400	81.3	36.492	20.659	S400	17N17-	2
435	80.5	3.7	1624	80.5	45.169	20.869	S2100	17N17-	2
458	76.6	1.4	660	76.6	37.089	21.933	S660	17N17-	2
458	76.6	2.1	950	76.6	38.574	21.933	S950	17N17-	2
473	74.1	4.4	2056	74.1	50.383	22.663	S3100	17N17-	2
484	72.4	3.7	1804	72.4	44.792	23.193	S2100	17N17-	2
513	68.4	3.7	1912	68.4	47.578	24.570	S3100	17N17-	2
523	67.1	1.1	578	67.1	36.647	25.056	S660	17N17-	2
532	65.9	1.8	950	65.9	37.830	25.511	S950	17N17-	2
551	63.5	3.7	2046	63.5	55.402	26.437	S4500	17N17-	2
580	60.5	3.7	2162	60.5	46.708	27.785	S3100	17N17-	2
590	59.4	2.9	1722	59.4	41.493	28.275	S2100	17N17-	2
596	58.8	1.1	660	58.8	36.609	28.548	S660	17N17-	2
596	58.8	1.6	950	58.8	37.763	28.548	S950	17N17-	2
616	56.9	3.7	2283	56.9	54.441	29.511	S4500	17N17-	2
652	53.7	1.5	950	53.7	37.259	31.267	S950	17N17-	2
655	53.5	2.9	1914	53.5	41.288	31.422	S2100	17N17-	2
678	51.7	3.1	2105	51.7	50.132	32.489	S4500	17N17-	2
694	50.5	2.9	2027	50.5	42.806	33.289	S3100	17N17-	2
716	48.9	2.5	1784	48.9	40.120	34.333	S2100	17N17-	2
730	48.0	1.3	950	48.0	37.214	34.989	S950	17N17-	2
757	46.3	3.1	2350	46.3	49.495	36.267	S4500	17N17-	2
783	44.1	4.8	3640	44.1	52.465	38.090	S4500	17N17-	3
785	44.6	2.9	2293	44.6	42.332	37.644	S3100	17N17-	2
796	44.0	2.5	1983	44.0	39.981	38.156	S2100	17N17-	2
823	41.9	2.3	1945	41.9	40.782	40.056	S2100	17N17-	3
843	41.6	2.5	2101	41.6	41.010	40.422	S3100	17N17-	2
874	39.5	4.7	4063	39.5	52.002	42.520	S4500	17N17-	3
877	40.0	2.5	2181	40.0	44.966	42.044	S4500	17N17-	2
915	37.7	2.2	2050	37.7	40.679	44.515	S2100	17N17-	3
927	37.8	2.0	1848	37.8	38.619	44.431	S2100	17N17-	2
954	36.8	2.5	2375	36.8	40.689	45.711	S3100	17N17-	2
969	35.6	2.9	2958	35.6	41.519	47.159	S3100	17N17-	3
979	35.8	2.5	2435	35.8	44.586	46.933	S4500	17N17-	2
1028	33.6	0.9	950	33.6	37.078	50.027	S950	17N17-	3
1030	34.0	2.0	2050	34.0	38.536	49.378	S2100	17N17-	2
1064	32.9	2.1	2216	32.9	42.505	51.027	S4500	17N17-	2
1085	31.8	4.2	4500	31.8	46.018	52.794	S4500	17N17-	3
1091	32.1	2.0	2176	32.1	39.151	52.311	S3100	17N17-	2
1096	31.5	2.8	3054	31.5	41.283	53.330	S3100	17N17-	3
1125	31.2	1.7	1878	31.2	37.911	53.924	S2100	17N17-	2
1129	30.6	1.8	2050	30.6	39.127	54.933	S2100	17N17-	3
1150	30.0	0.8	950	30.0	37.061	55.982	S950	17N17-	3
1188	29.5	2.1	2474	29.5	42.247	56.960	S4500	17N17-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
1211	28.5	3.7	4500	28.5	45.777	58.933	S4500	17N17-	3
1234	28.4	2.0	2461	28.4	38.959	59.156	S3100	17N17-	2
1250	28.0	1.6	2050	28.0	37.854	59.927	S2100	17N17-	2
1254	27.5	1.6	2050	27.5	39.072	61.049	S2100	17N17-	3
1315	26.2	0.7	950	26.2	36.744	64.022	S950	17N17-	3
1324	26.5	1.7	2211	26.5	38.272	63.487	S3100	17N17-	2
1329	26.0	2.3	3100	26.0	39.519	64.676	S3100	17N17-	3
1335	25.9	3.4	4500	25.9	43.202	64.978	S4500	17N17-	3
1345	26.0	1.7	2252	26.0	40.248	64.500	S4500	17N17-	2
1439	24.0	0.7	950	24.0	36.643	70.037	S950	17N17-	3
1444	23.9	1.4	2050	23.9	38.179	70.302	S2100	17N17-	3
1472	23.4	0.7	950	23.4	36.734	71.644	S950	17N17-	3
1490	23.2	3.0	4500	23.2	43.043	72.533	S4500	17N17-	3
1495	23.1	3.0	4500	23.1	41.875	72.775	S4500	17N17-	3
1498	23.4	1.6	2408	23.4	38.141	71.793	S3100	17N17-	2
1502	23.3	1.7	2514	23.3	40.087	72.000	S4500	17N17-	2
1503	23.0	2.1	3100	23.0	39.394	73.138	S3100	17N17-	3
1580	21.8	1.3	2050	21.8	37.932	76.907	S2100	17N17-	3
1605	21.5	1.3	2050	21.5	38.146	78.128	S2100	17N17-	3
1610	21.4	0.6	950	21.4	36.634	78.375	S950	17N17-	3
1669	20.7	2.7	4500	20.7	41.749	81.237	S4500	17N17-	3
1701	20.3	1.8	3100	20.3	38.418	82.769	S3100	17N17-	3
1756	19.7	1.2	2050	19.7	37.904	85.468	S2100	17N17-	3
1836	18.8	0.5	950	18.8	36.455	89.333	S950	17N17-	3
1860	18.6	1.7	3100	18.6	38.132	90.546	S3100	17N17-	3
1907	18.1	2.4	4500	18.1	40.077	92.825	S4500	17N17-	3
1923	17.9	1.6	3100	17.9	38.342	93.599	S3100	17N17-	3
2016	17.1	1.0	2050	17.1	37.396	98.095	S2100	17N17-	3
2104	16.4	1.5	3100	16.4	38.068	102.393	S3100	17N17-	3
2129	16.2	2.1	4500	16.2	39.999	103.619	S4500	17N17-	3
2240	15.4	0.9	2050	15.4	37.379	109.016	S2100	17N17-	3
2336	14.8	1.9	4500	14.8	39.064	113.711	S4500	17N17-	3
2373	14.5	1.3	3100	14.5	37.519	115.492	S3100	17N17-	3
2469	14.0	0.8	2050	14.0	37.076	120.167	S2100	17N17-	3
2608	13.2	1.7	4500	13.2	39.012	126.933	S4500	17N17-	3
2683	12.9	1.2	3100	12.9	37.480	130.603	S3100	17N17-	3
2744	12.6	0.8	2050	12.6	37.065	133.544	S2100	17N17-	3
2907	11.9	1.1	3100	11.9	37.158	141.478	S3100	17N17-	3
3041	11.4	1.5	4500	11.4	38.052	148.005	S4500	17N17-	3
3214	10.7	0.6	2050	10.7	36.601	156.407	S2100	17N17-	3
3287	10.5	0.9	3100	10.5	37.132	159.989	S3100	17N17-	3
3395	10.2	1.3	4500	10.2	38.022	165.215	S4500	17N17-	3
3571	9.7	0.6	2050	9.7	36.595	173.820	S2100	17N17-	3
3727	9.3	1.2	4500	9.3	37.407	181.396	S4500	17N17-	3
3784	9.1	0.8	3100	9.1	36.702	184.146	S3100	17N17-	3
4161	8.3	1.1	4500	8.3	37.386	202.489	S4500	17N17-	3
4279	8.1	0.7	3100	8.1	36.687	208.240	S3100	17N17-	3

3.9 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
35.0	1035	4.2	194	874	24.360	3.339	S400	14L35-	2
40.0	900	3.4	178	726	21.796	3.840	S220	14L35-	2
41.0	881	5.2	228	658	28.001	3.920	S660	14L35-	2
48.0	755	3.8	243	735	22.107	4.579	S400	14L35-	2
55.0	656	2.5	181	586	20.744	5.267	S220	14L35-	2
56.0	643	5.2	313	556	24.464	5.376	S660	14L35-	2
56.0	641	5.6	314	540	28.448	5.391	S950	14L35-	2
61.0	590	3.2	258	590	21.061	5.860	S400	14L35-	2
63.0	572	5.2	352	494	26.706	6.038	S950	14L35-	2
67.0	539	3.0	261	539	20.776	6.411	S400	14L35-	2
67.0	538	5.2	374	402	24.681	6.417	S660	14L35-	2
71.0	511	2.4	220	382	20.841	6.767	S220	14L35-	2
72.0	502	4.4	401	487	22.684	6.880	S660	14L35-	2
77.0	473	5.2	426	353	24.096	7.311	S660	14L35-	2
78.0	463	3.5	365	378	21.379	7.467	S400	14L35-	2
80.0	451	2.1	217	327	20.699	7.667	S220	14L35-	2
81.0	449	4.4	448	437	24.280	7.702	S950	14L35-	2
87.0	418	5.6	482	352	35.992	8.272	S2100	14L35-	2
88.0	410	3.3	380	329	21.145	8.436	S400	14L35-	2
92.0	393	5.2	512	339	22.699	8.800	S660	14L35-	2
93.0	388	5.6	519	326	47.371	8.917	S3100	14L35-	2
97.0	372	1.7	220	292	20.236	9.280	S220	14L35-	2
105	345	4.5	584	289	22.388	10.027	S660	14L35-	2
107	337	2.8	400	309	20.522	10.240	S400	14L35-	2
110	329	1.5	220	241	20.161	10.514	S220	14L35-	2
117	309	5.6	652	260	25.249	11.200	S950	14L35-	2
118	307	4.2	656	295	21.606	11.262	S660	14L35-	2
121	299	2.5	400	267	20.398	11.569	S400	14L35-	2
124	291	1.3	220	227	19.919	11.876	S220	14L35-	2
129	280	3.9	660	274	21.322	12.320	S660	14L35-	2
131	275	5.2	730	238	24.156	12.544	S950	14L35-	2
134	269	3.7	660	252	21.416	12.832	S660	14L35-	2
136	266	1.2	220	209	19.821	12.992	S220	14L35-	2
137	264	2.2	400	253	20.093	13.105	S400	14L35-	2
141	257	1.2	220	190	19.873	13.456	S220	14L35-	2
147	246	3.4	660	234	21.163	14.037	S660	14L35-	2
147	246	4.9	817	210	23.878	14.037	S950	14L35-	2
150	241	2.0	400	237	19.967	14.336	S400	14L35-	2
154	235	1.1	220	176	19.783	14.720	S220	14L35-	2
155	233	2.0	400	219	20.017	14.806	S400	14L35-	2
165	220	3.0	660	220	20.713	15.714	S660	14L35-	2
168	216	4.3	931	209	22.712	16.000	S950	14L35-	2
170	213	1.8	400	199	19.904	16.197	S400	14L35-	2
174	209	1.0	220	170	19.642	16.571	S220	14L35-	2
178	203	5.6	991	171	31.269	17.022	S2100	14L35-	2
188	193	2.7	660	193	20.615	17.905	S660	14L35-	2
188	193	3.8	950	183	22.542	17.905	S950	14L35-	2
192	189	1.8	400	189	19.731	18.286	S400	14L35-	2
197	184	1.0	220	151	19.618	18.776	S220	14L35-	2
202	180	2.8	660	180	20.354	19.250	S660	14L35-	2
205	176	4.0	950	176	21.888	19.600	S950	14L35-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
213	170	0.9	220	148	19.536	20.300	S220	14L35-	2
216	167	1.6	400	167	19.692	20.659	S400	14L35-	2
230	158	2.5	660	158	20.289	21.933	S660	14L35-	2
230	158	3.6	950	158	21.774	21.933	S950	14L35-	2
235	154	1.5	400	154	19.596	22.400	S400	14L35-	2
241	150	0.8	220	115	19.520	23.000	S220	14L35-	2
263	138	1.9	578	138	19.847	25.056	S660	14L35-	2
265	137	1.3	400	137	19.570	25.308	S400	14L35-	2
267	135	3.1	950	135	21.030	25.511	S950	14L35-	2
296	122	4.3	1471	122	24.693	28.275	S2100	14L35-	2
299	121	1.9	660	121	19.809	28.548	S660	14L35-	2
299	121	2.7	950	121	20.963	28.548	S950	14L35-	2
327	111	1.9	660	111	19.667	31.167	S660	14L35-	2
328	111	2.8	950	111	20.459	31.267	S950	14L35-	2
329	110	4.7	1635	110	24.488	31.422	S2100	14L35-	2
349	104	4.7	1732	104	26.006	33.289	S3100	14L35-	2
360	101	4.0	1525	101	23.320	34.333	S2100	14L35-	2
367	98.7	2.5	950	98.7	20.414	34.989	S950	14L35-	2
372	97.3	1.7	660	97.3	19.642	35.511	S660	14L35-	2
394	91.8	4.7	1958	91.8	25.532	37.644	S3100	14L35-	2
400	90.6	4.0	1694	90.6	23.181	38.156	S2100	14L35-	2
413	86.3	3.6	1945	77.3	23.982	40.056	S2100	14L35-	3
424	85.5	4.0	1795	85.5	24.210	40.422	S3100	14L35-	2
430	84.1	2.1	950	84.1	19.987	41.067	S950	14L35-	2
441	82.2	4.0	1863	82.2	28.166	42.044	S4500	14L35-	2
459	77.6	3.4	2050	68.8	23.879	44.515	S2100	14L35-	3
466	77.8	3.2	1579	77.8	21.819	44.431	S2100	14L35-	2
479	75.6	4.0	2030	75.6	23.889	45.711	S3100	14L35-	2
482	75.2	1.9	950	75.2	19.961	45.956	S950	14L35-	2
487	73.3	4.6	2704	69.3	24.719	47.159	S3100	14L35-	3
492	73.6	4.0	2079	73.6	27.786	46.933	S4500	14L35-	2
516	69.1	1.6	950	67.4	20.278	50.027	S950	14L35-	3
517	70.0	3.2	1755	70.0	21.736	49.378	S2100	14L35-	2
522	69.3	1.7	924	69.3	19.778	49.840	S950	14L35-	2
535	67.7	3.4	1892	67.7	25.705	51.027	S4500	14L35-	2
548	66.0	3.2	1860	66.0	22.351	52.311	S3100	14L35-	2
550	64.8	4.8	3054	61.7	24.483	53.330	S3100	14L35-	3
565	64.1	2.7	1605	64.1	21.111	53.924	S2100	14L35-	2
567	62.9	3.1	2050	62.9	22.327	54.933	S2100	14L35-	3
578	61.7	1.4	950	56.8	20.261	55.982	S950	14L35-	3
584	61.9	1.6	950	61.9	19.760	55.773	S950	14L35-	2
597	60.7	3.4	2112	60.7	25.447	56.960	S4500	14L35-	2
620	58.4	3.2	2103	58.4	22.159	59.156	S3100	14L35-	2
628	57.7	2.7	1784	57.7	21.054	59.927	S2100	14L35-	2
630	56.6	2.8	2050	56.0	22.272	61.049	S2100	14L35-	3
661	54.0	1.2	950	52.8	19.944	64.022	S950	14L35-	3
665	54.4	2.7	1890	54.4	21.472	63.487	S3100	14L35-	2
668	53.4	4.0	3100	53.4	22.719	64.676	S3100	14L35-	3
671	53.2	5.8	3726	53.2	26.402	64.978	S4500	14L35-	3
676	53.6	2.7	1922	53.6	23.448	64.500	S4500	14L35-	2
714	50.7	1.9	1454	50.7	20.459	68.162	S2100	14L35-	2
723	49.3	1.3	950	49.3	19.843	70.037	S950	14L35-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
726	49.1	2.7	2050	49.1	21.379	70.302	S2100	14L35-	3
739	48.2	1.2	950	47.0	19.934	71.644	S950	14L35-	3
749	47.6	5.7	4159	47.6	26.243	72.533	S4500	14L35-	3
751	47.5	5.7	4173	47.5	25.075	72.775	S4500	14L35-	3
752	48.1	2.7	2137	48.1	21.341	71.793	S3100	14L35-	2
754	48.0	2.7	2146	48.0	23.287	72.000	S4500	14L35-	2
755	47.2	3.9	3100	47.2	22.594	73.138	S3100	14L35-	3
794	45.6	1.9	1576	45.6	20.424	75.750	S2100	14L35-	2
794	44.9	2.5	2050	44.9	21.132	76.907	S2100	14L35-	3
806	44.2	2.4	2050	44.2	21.346	78.128	S2100	14L35-	3
809	44.1	1.1	950	43.6	19.834	78.375	S950	14L35-	3
838	42.5	5.1	4500	42.5	24.949	81.237	S4500	14L35-	3
854	41.7	3.5	3100	41.7	21.618	82.769	S3100	14L35-	3
882	40.4	2.2	2050	40.4	21.104	85.468	S2100	14L35-	3
922	38.7	1.0	950	38.7	19.655	89.333	S950	14L35-	3
935	38.2	3.2	3100	38.2	21.332	90.546	S3100	14L35-	3
958	37.2	4.5	4500	37.2	23.277	92.825	S4500	14L35-	3
966	36.9	3.1	3100	36.9	21.542	93.599	S3100	14L35-	3
1012	35.2	1.9	2050	35.2	20.596	98.095	S2100	14L35-	3
1032	34.6	0.9	950	33.6	19.649	99.968	S950	14L35-	3
1057	33.7	2.8	3100	33.7	21.268	102.393	S3100	14L35-	3
1069	33.3	4.0	4500	33.3	23.199	103.619	S4500	14L35-	3
1125	31.7	1.7	2050	31.7	20.579	109.016	S2100	14L35-	3
1129	31.6	0.8	950	31.6	19.545	109.433	S950	14L35-	3
1174	30.4	3.7	4500	30.4	22.264	113.711	S4500	14L35-	3
1192	29.9	2.5	3100	29.9	20.719	115.492	S3100	14L35-	3
1240	28.8	1.6	2050	28.8	20.276	120.167	S2100	14L35-	3
1264	28.2	0.7	950	25.6	19.541	122.461	S950	14L35-	3
1310	27.2	3.3	4500	27.2	22.212	126.933	S4500	14L35-	3
1348	26.5	2.2	3100	26.5	20.680	130.603	S3100	14L35-	3
1378	25.9	1.4	2050	25.9	20.265	133.544	S2100	14L35-	3
1460	24.4	2.0	3100	24.4	20.358	141.478	S3100	14L35-	3
1528	23.3	2.8	4500	23.3	21.252	148.005	S4500	14L35-	3
1614	22.1	1.2	2050	22.1	19.801	156.407	S2100	14L35-	3
1651	21.6	1.8	3100	21.6	20.332	159.989	S3100	14L35-	3
1705	20.9	2.5	4500	20.9	21.222	165.215	S4500	14L35-	3
1794	19.9	1.1	2050	19.9	19.795	173.820	S2100	14L35-	3
1872	19.0	2.3	4500	19.0	20.607	181.396	S4500	14L35-	3
1901	18.8	1.6	3100	18.8	19.902	184.146	S3100	14L35-	3
2008	17.8	1.0	2050	17.8	19.637	194.556	S2100	14L35-	3
2090	17.1	2.1	4500	17.1	20.586	202.489	S4500	14L35-	3
2149	16.6	1.4	3100	16.6	19.887	208.240	S3100	14L35-	3
2232	16.0	0.9	2050	16.0	19.633	216.215	S2100	14L35-	3
2364	15.1	1.3	3100	15.1	19.668	229.059	S3100	14L35-	3
2459	14.5	1.8	4500	14.5	20.073	238.252	S4500	14L35-	3
2674	13.3	1.1	3100	13.3	19.658	259.030	S3100	14L35-	3
2745	13.0	1.6	4500	13.0	20.061	265.956	S4500	14L35-	3
2984	11.9	1.4	4500	11.9	19.836	289.151	S4500	14L35-	3
3331	10.7	1.3	4500	10.7	19.828	322.773	S4500	14L35-	3

6.4 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
138	434	2.9	419	434	80.801	3.920	S660	19S17-	2
154	388	3.9	621	388	85.117	4.380	S950	19S17-	2
189	316	2.5	492	316	77.264	5.376	S660	19S17-	2
190	315	3.5	691	315	81.248	5.391	S950	19S17-	2
213	282	3.3	732	282	79.506	6.038	S950	19S17-	2
226	265	2.6	601	265	77.481	6.417	S660	19S17-	2
242	247	5.9	1200	247	94.562	6.870	S2100	19S17-	2
242	247	2.0	496	247	75.484	6.880	S660	19S17-	2
257	233	2.2	593	233	76.896	7.311	S660	19S17-	2
261	230	6.0	1293	230	111.059	7.406	S3100	19S17-	2
271	221	2.8	783	221	77.080	7.702	S950	19S17-	2
291	206	4.9	1445	206	88.792	8.272	S2100	19S17-	2
310	193	2.0	638	193	75.499	8.800	S660	19S17-	2
314	191	5.3	1557	191	100.171	8.917	S3100	19S17-	2
320	187	2.8	950	187	80.272	9.100	S950	19S17-	2
333	180	5.4	1651	180	102.232	9.452	S2100	19S17-	2
353	170	1.7	625	170	75.188	10.027	S660	19S17-	2
359	167	2.5	950	167	79.744	10.183	S950	19S17-	2
370	162	4.9	1834	162	100.396	10.504	S2100	19S17-	2
385	156	4.5	1807	156	91.882	10.932	S3100	19S17-	2
394	152	2.3	950	152	78.049	11.200	S950	19S17-	2
397	151	1.6	660	151	74.406	11.262	S660	19S17-	2
434	138	1.5	660	138	74.122	12.320	S660	19S17-	2
437	137	4.5	2030	137	92.340	12.406	S2100	19S17-	2
442	136	2.1	950	136	76.956	12.544	S950	19S17-	2
452	133	1.4	660	133	74.216	12.832	S660	19S17-	2
486	123	4.0	2047	123	91.274	13.787	S2100	19S17-	2
494	121	1.3	660	121	73.963	14.037	S660	19S17-	2
494	121	1.8	950	121	76.678	14.037	S950	19S17-	2
498	120	4.0	2050	120	87.715	14.137	S2100	19S17-	2
514	116	5.8	2551	116	99.157	14.606	S3100	19S17-	2
553	108	1.1	660	108	73.513	15.714	S660	19S17-	2
553	108	3.6	2050	108	86.894	15.711	S2100	19S17-	2
564	106	1.6	950	106	75.512	16.000	S950	19S17-	2
582	103	5.1	2885	103	96.696	16.517	S3100	19S17-	2
586	102	5.1	2907	102	92.965	16.644	S3100	19S17-	2
600	99.9	3.3	2050	99.9	84.069	17.022	S2100	19S17-	2
631	94.9	1.0	660	94.9	73.415	17.905	S660	19S17-	2
631	94.9	1.4	950	94.9	75.342	17.905	S950	19S17-	2
663	90.3	4.7	3100	90.3	91.070	18.822	S3100	19S17-	2
666	89.9	3.1	2050	89.9	83.503	18.917	S2100	19S17-	2
678	88.3	1.0	660	88.3	73.154	19.250	S660	19S17-	2
690	86.7	1.4	950	86.7	74.688	19.600	S950	19S17-	2
706	84.8	4.4	3100	84.8	87.690	20.041	S3100	19S17-	2
707	84.7	5.6	3504	84.7	102.827	20.067	S4500	19S17-	2
735	81.5	2.8	2050	81.5	81.169	20.869	S2100	19S17-	2
772	77.5	0.9	660	77.5	73.089	21.933	S660	19S17-	2
772	77.5	1.2	950	77.5	74.574	21.933	S950	19S17-	2
789	75.9	5.6	3912	75.9	101.159	22.400	S4500	19S17-	2
798	75.0	3.9	3100	75.0	86.383	22.663	S3100	19S17-	2
817	73.3	2.5	2050	73.3	80.792	23.193	S2100	19S17-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
865	69.2	3.6	3100	69.2	83.578	24.570	S3100	19S17-	2
898	66.6	1.1	950	66.6	73.830	25.511	S950	19S17-	2
931	64.3	4.7	4347	64.3	91.402	26.437	S4500	19S17-	2
979	61.2	3.2	3100	61.2	82.708	27.785	S3100	19S17-	2
996	60.1	2.1	2050	60.1	77.493	28.275	S2100	19S17-	2
1005	59.5	0.9	950	59.5	73.763	28.548	S950	19S17-	2
1039	57.6	4.3	4500	57.6	90.441	29.511	S4500	19S17-	2
1107	54.1	1.9	2050	54.1	77.288	31.422	S2100	19S17-	2
1144	52.3	3.9	4473	52.3	86.132	32.489	S4500	19S17-	2
1172	51.1	2.6	3100	51.1	78.806	33.289	S3100	19S17-	2
1209	49.5	1.7	2050	49.5	76.120	34.333	S2100	19S17-	2
1277	46.9	3.5	4500	46.9	85.495	36.267	S4500	19S17-	2
1321	44.6	3.0	4150	44.6	88.465	38.090	S4500	19S17-	3
1326	45.2	2.3	3100	45.2	78.332	37.644	S3100	19S17-	2
1344	44.6	1.5	2050	44.6	75.981	38.156	S2100	19S17-	2
1390	42.4	1.3	1945	42.4	76.782	40.056	S2100	19S17-	3
1424	42.1	2.2	3100	42.1	77.010	40.422	S3100	19S17-	2
1475	40.0	2.8	4291	40.0	88.002	42.520	S4500	19S17-	3
1481	40.4	2.8	4101	40.4	80.966	42.044	S4500	19S17-	2
1544	38.2	1.3	2050	38.2	76.679	44.515	S2100	19S17-	3
1610	37.2	1.9	3100	37.2	76.689	45.711	S3100	19S17-	2
1636	36.0	1.7	2958	36.0	77.519	47.159	S3100	19S17-	3
1653	36.2	2.7	4394	36.2	80.586	46.933	S4500	19S17-	2
1797	33.3	2.0	3653	33.3	78.505	51.027	S4500	19S17-	2
1831	32.2	2.5	4500	32.2	82.018	52.794	S4500	19S17-	3
1850	31.9	1.7	3054	31.9	77.283	53.330	S3100	19S17-	3
1906	30.9	1.1	2050	30.9	75.127	54.933	S2100	19S17-	3
2006	29.8	2.0	3946	29.8	78.247	56.960	S4500	19S17-	2
2044	28.8	2.2	4500	28.8	81.777	58.933	S4500	19S17-	3
2118	27.8	1.0	2050	27.8	75.072	61.049	S2100	19S17-	3
2244	26.3	1.4	3100	26.3	75.519	64.676	S3100	19S17-	3
2254	26.2	2.0	4500	26.2	79.202	64.978	S4500	19S17-	3
2439	24.2	0.8	2050	24.2	74.179	70.302	S2100	19S17-	3
2516	23.4	1.8	4500	23.4	79.043	72.533	S4500	19S17-	3
2525	23.4	1.8	4500	23.4	77.875	72.775	S4500	19S17-	3
2537	23.2	1.2	3100	23.2	75.394	73.138	S3100	19S17-	3
2668	22.1	0.8	2050	22.1	73.932	76.907	S2100	19S17-	3
2710	21.8	0.8	2050	21.8	74.146	78.128	S2100	19S17-	3
2818	20.9	1.6	4500	20.9	77.749	81.237	S4500	19S17-	3
2871	20.5	1.1	3100	20.5	74.418	82.769	S3100	19S17-	3
2965	19.9	0.7	2050	19.9	73.904	85.468	S2100	19S17-	3
3141	18.8	1.0	3100	18.8	74.132	90.546	S3100	19S17-	3
3220	18.3	1.4	4500	18.3	76.077	92.825	S4500	19S17-	3
3247	18.2	1.0	3100	18.2	74.342	93.599	S3100	19S17-	3
3403	17.3	0.6	2050	17.3	73.396	98.095	S2100	19S17-	3
3552	16.6	0.9	3100	16.6	74.068	102.393	S3100	19S17-	3
3595	16.4	1.3	4500	16.4	75.999	103.619	S4500	19S17-	3
3782	15.6	0.5	2050	15.6	73.379	109.016	S2100	19S17-	3
3945	15.0	1.1	4500	15.0	75.064	113.711	S4500	19S17-	3
4007	14.7	0.8	3100	14.7	73.519	115.492	S3100	19S17-	3
4403	13.4	1.0	4500	13.4	75.012	126.933	S4500	19S17-	3
4531	13.0	0.7	3100	13.0	73.480	130.603	S3100	19S17-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
4908	12.0	0.6	3100	12.0	73.158	141.478	S3100	19S17-	3
5134	11.5	0.9	4500	11.5	74.052	148.005	S4500	19S17-	3
5550	10.6	0.6	3100	10.6	73.132	159.989	S3100	19S17-	3
5731	10.3	0.8	4500	10.3	74.022	165.215	S4500	19S17-	3

6.9 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
62.0	1042	2.5	203	785	41.160	3.339	S400	17N35-	2
72.0	888	3.5	332	604	44.801	3.920	S660	17N35-	2
81.0	794	4.3	425	556	49.117	4.380	S950	17N35-	2
84.0	760	2.2	243	655	38.907	4.579	S400	17N35-	2
99.0	647	3.5	455	512	41.264	5.376	S660	17N35-	2
99.0	646	3.7	491	497	45.248	5.391	S950	17N35-	2
108	594	1.8	258	529	37.861	5.860	S400	17N35-	2
111	577	4.7	585	377	65.232	6.029	S2100	17N35-	2
111	576	3.5	511	455	43.506	6.038	S950	17N35-	2
118	543	1.7	261	485	37.576	6.411	S400	17N35-	2
118	542	3.5	543	369	41.481	6.417	S660	17N35-	2
120	536	4.7	631	349	86.653	6.499	S3100	17N35-	2
127	507	4.2	667	354	58.562	6.870	S2100	17N35-	2
127	506	2.9	493	448	39.484	6.880	S660	17N35-	2
135	476	3.3	593	321	40.896	7.311	S660	17N35-	2
137	470	4.2	719	328	75.059	7.406	S3100	17N35-	2
138	466	2.0	365	334	38.179	7.467	S400	17N35-	2
142	452	2.9	548	403	41.080	7.702	S950	17N35-	2
152	421	3.7	750	323	52.792	8.272	S2100	17N35-	2
156	413	1.8	380	284	37.945	8.436	S400	17N35-	2
162	396	3.0	638	303	39.499	8.800	S660	17N35-	2
164	390	3.7	809	300	64.171	8.917	S3100	17N35-	2
168	382	4.3	883	268	44.272	9.100	S950	17N35-	2
185	347	2.6	625	257	39.188	10.027	S660	17N35-	2
188	342	3.8	950	234	43.744	10.183	S950	17N35-	2
189	340	1.6	400	255	37.322	10.240	S400	17N35-	2
202	318	3.2	851	258	55.882	10.932	S3100	17N35-	2
206	311	3.5	950	236	42.049	11.200	S950	17N35-	2
208	309	2.4	660	263	38.406	11.262	S660	17N35-	2
213	301	1.4	400	212	37.198	11.569	S400	17N35-	2
227	283	2.2	660	244	38.122	12.320	S660	17N35-	2
229	281	4.7	1204	183	56.340	12.406	S2100	17N35-	2
231	277	3.1	950	214	40.956	12.544	S950	17N35-	2
237	271	2.1	660	224	38.216	12.832	S660	17N35-	2
242	266	1.3	400	199	36.893	13.105	S400	17N35-	2
254	252	4.7	1338	165	55.274	13.787	S2100	17N35-	2
259	248	1.9	660	207	37.963	14.037	S660	17N35-	2
259	248	2.8	950	187	40.678	14.037	S950	17N35-	2
261	246	4.2	1372	172	51.715	14.137	S2100	17N35-	2
264	243	1.1	400	185	36.767	14.336	S400	17N35-	2
269	238	4.7	1417	155	63.157	14.606	S3100	17N35-	2
273	235	1.1	400	168	36.817	14.806	S400	17N35-	2
290	222	1.7	660	195	37.513	15.714	S660	17N35-	2
290	222	4.2	1524	155	50.894	15.711	S2100	17N35-	2
295	218	2.4	950	187	39.512	16.000	S950	17N35-	2
299	215	1.0	400	156	36.704	16.197	S400	17N35-	2
302	212	4.6	1589	138	77.258	16.381	S4500	17N35-	2
304	211	4.7	1603	137	60.696	16.517	S3100	17N35-	2
307	209	4.2	1615	146	56.965	16.644	S3100	17N35-	2
314	204	3.7	1544	157	48.069	17.022	S2100	17N35-	2
330	194	1.5	660	161	37.415	17.905	S660	17N35-	2

Technical data

Selection tables

Inverter mains connection 400 V, Forced ventilated

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
330	194	2.2	950	163	39.342	17.905	S950	17N35-	2
337	190	1.0	400	162	36.531	18.286	S400	17N35-	2
337	190	5.2	1774	127	74.754	18.286	S4500	17N35-	2
347	185	4.8	1826	133	55.070	18.822	S3100	17N35-	2
349	184	4.2	1716	145	47.503	18.917	S2100	17N35-	2
355	181	1.6	660	162	37.154	19.250	S660	17N35-	2
361	178	2.3	950	159	38.688	19.600	S950	17N35-	2
369	174	4.2	1818	137	51.690	20.041	S3100	17N35-	2
381	168	0.9	400	128	36.492	20.659	S400	17N35-	2
385	167	3.6	1624	139	45.169	20.869	S2100	17N35-	2
404	159	1.4	660	142	37.089	21.933	S660	17N35-	2
404	159	2.0	950	142	38.574	21.933	S950	17N35-	2
418	154	4.2	2056	121	50.383	22.663	S3100	17N35-	2
428	150	3.6	1804	125	44.792	23.193	S2100	17N35-	2
453	142	3.6	1912	118	47.578	24.570	S3100	17N35-	2
462	139	1.1	578	124	36.647	25.056	S660	17N35-	2
470	136	1.7	950	122	37.830	25.511	S950	17N35-	2
487	132	3.6	2046	109	55.402	26.437	S4500	17N35-	2
512	125	3.6	2162	104	46.708	27.785	S3100	17N35-	2
521	123	2.8	1722	110	41.493	28.275	S2100	17N35-	2
526	122	1.1	660	109	36.609	28.548	S660	17N35-	2
526	122	1.6	950	109	37.763	28.548	S950	17N35-	2
544	118	3.6	2283	98.0	54.441	29.511	S4500	17N35-	2
576	111	1.6	950	99.5	37.259	31.267	S950	17N35-	2
579	111	3.1	1914	99.0	41.288	31.422	S2100	17N35-	2
599	107	3.4	2105	95.8	50.132	32.489	S4500	17N35-	2
614	105	3.1	2027	93.5	42.806	33.289	S3100	17N35-	2
633	101	2.7	1784	90.6	40.120	34.333	S2100	17N35-	2
645	99.5	1.4	950	88.9	37.214	34.989	S950	17N35-	2
669	96.0	3.4	2350	85.8	49.495	36.267	S4500	17N35-	2
692	91.4	4.3	3640	72.1	52.465	38.090	S4500	17N35-	3
694	92.4	3.1	2293	82.6	42.332	37.644	S3100	17N35-	2
703	91.2	2.7	1983	81.5	39.981	38.156	S2100	17N35-	2
727	86.9	2.0	1945	67.9	40.782	40.056	S2100	17N35-	3
745	86.1	2.7	2101	77.0	41.010	40.422	S3100	17N35-	2
772	81.8	4.2	4063	64.4	52.002	42.520	S4500	17N35-	3
775	82.8	2.7	2181	74.0	44.966	42.044	S4500	17N35-	2
808	78.2	1.9	2050	59.8	40.679	44.515	S2100	17N35-	3
819	78.3	2.2	1848	70.0	38.619	44.431	S2100	17N35-	2
843	76.1	2.7	2375	68.1	40.689	45.711	S3100	17N35-	2
856	73.8	2.6	2958	61.3	41.519	47.159	S3100	17N35-	3
865	74.1	2.7	2435	66.3	44.586	46.933	S4500	17N35-	2
908	69.6	0.9	950	48.5	37.078	50.027	S950	17N35-	3
910	70.5	2.1	2050	63.0	38.536	49.378	S2100	17N35-	2
941	68.2	2.2	2216	61.0	42.505	51.027	S4500	17N35-	2
959	65.9	4.0	4500	58.9	46.018	52.794	S4500	17N35-	3
964	66.5	2.2	2176	59.5	39.151	52.311	S3100	17N35-	2
968	65.3	2.7	3054	54.7	41.283	53.330	S3100	17N35-	3
994	64.5	1.8	1878	57.7	37.911	53.924	S2100	17N35-	2
997	63.3	1.8	2050	54.0	39.127	54.933	S2100	17N35-	3
1017	62.2	0.8	950	38.7	37.061	55.982	S950	17N35-	3
1050	61.1	2.2	2474	54.6	42.247	56.960	S4500	17N35-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
1070	59.0	3.6	4500	51.8	45.777	58.933	S4500	17N35-	3
1090	58.8	2.2	2461	52.6	38.959	59.156	S3100	17N35-	2
1105	58.1	1.8	2050	51.9	37.854	59.927	S2100	17N35-	2
1109	57.0	1.6	2050	45.8	39.072	61.049	S2100	17N35-	3
1163	54.4	0.7	950	34.0	36.744	64.022	S950	17N35-	3
1170	54.8	1.8	2211	49.0	38.272	63.487	S3100	17N35-	2
1174	53.8	2.3	3100	48.1	39.519	64.676	S3100	17N35-	3
1180	53.6	3.3	4500	47.9	43.202	64.978	S4500	17N35-	3
1189	54.0	1.8	2252	48.2	40.248	64.500	S4500	17N35-	2
1272	49.7	0.7	950	33.3	36.643	70.037	S950	17N35-	3
1277	49.5	1.5	2050	44.3	38.179	70.302	S2100	17N35-	3
1301	48.6	0.7	950	30.1	36.734	71.644	S950	17N35-	3
1317	48.0	3.3	4500	42.9	43.043	72.533	S4500	17N35-	3
1321	47.8	3.2	4500	42.7	41.875	72.775	S4500	17N35-	3
1323	48.5	1.7	2408	43.3	38.141	71.793	S3100	17N35-	2
1327	48.3	1.8	2514	43.2	40.087	72.000	S4500	17N35-	2
1328	47.6	2.2	3100	42.5	39.394	73.138	S3100	17N35-	3
1396	45.2	1.4	2050	40.5	37.932	76.907	S2100	17N35-	3
1419	44.5	1.4	2050	38.3	38.146	78.128	S2100	17N35-	3
1423	44.4	0.6	950	26.6	36.634	78.375	S950	17N35-	3
1475	42.8	2.9	4500	38.3	41.749	81.237	S4500	17N35-	3
1503	42.0	2.0	3100	37.6	38.418	82.769	S3100	17N35-	3
1552	40.7	1.3	2050	35.1	37.904	85.468	S2100	17N35-	3
1622	39.0	0.6	950	23.8	36.455	89.333	S950	17N35-	3
1644	38.4	1.8	3100	34.4	38.132	90.546	S3100	17N35-	3
1686	37.5	2.5	4500	33.5	40.077	92.825	S4500	17N35-	3
1700	37.2	1.7	3100	33.2	38.342	93.599	S3100	17N35-	3
1781	35.5	1.1	2050	31.7	37.396	98.095	S2100	17N35-	3
1859	34.0	1.6	3100	30.4	38.068	102.393	S3100	17N35-	3
1881	33.6	2.3	4500	30.0	39.999	103.619	S4500	17N35-	3
1979	31.9	1.0	2050	28.5	37.379	109.016	S2100	17N35-	3
2065	30.6	2.1	4500	27.4	39.064	113.711	S4500	17N35-	3
2097	30.1	1.4	3100	26.9	37.519	115.492	S3100	17N35-	3
2182	29.0	0.9	2050	25.9	37.076	120.167	S2100	17N35-	3
2305	27.4	1.9	4500	24.5	39.012	126.933	S4500	17N35-	3
2371	26.6	1.2	3100	23.8	37.480	130.603	S3100	17N35-	3
2425	26.1	0.8	2050	21.8	37.065	133.544	S2100	17N35-	3
2569	24.6	1.2	3100	22.0	37.158	141.478	S3100	17N35-	3
2687	23.5	1.6	4500	21.0	38.052	148.005	S4500	17N35-	3
2840	22.2	0.7	2050	19.9	36.601	156.407	S2100	17N35-	3
2905	21.8	1.0	3100	19.4	37.132	159.989	S3100	17N35-	3
3000	21.1	1.4	4500	18.8	38.022	165.215	S4500	17N35-	3
3156	20.0	0.6	2050	17.9	36.595	173.820	S2100	17N35-	3
3294	19.2	1.3	4500	17.2	37.407	181.396	S4500	17N35-	3
3344	18.9	0.9	3100	16.9	36.702	184.146	S3100	17N35-	3
3677	17.2	1.2	4500	15.4	37.386	202.489	S4500	17N35-	3
3781	16.7	0.8	3100	14.9	36.687	208.240	S3100	17N35-	3

11 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
274	372	4.7	1331	372	225.551	4.593	S2100	21X17-	2
295	345	5.3	1441	345	262.458	4.951	S3100	21X17-	2
359	284	4.0	1487	284	209.232	6.029	S2100	21X17-	2
384	265	5.6	1877	265	281.485	6.450	S4500	21X17-	2
387	263	4.4	1797	263	230.653	6.499	S3100	21X17-	2
409	249	3.5	1487	249	202.562	6.870	S2100	21X17-	2
420	242	5.3	2054	242	265.966	7.056	S4500	21X17-	2
441	231	4.1	1875	231	219.059	7.406	S3100	21X17-	2
493	207	2.9	1487	207	196.792	8.272	S2100	21X17-	2
531	192	3.6	1973	192	208.171	8.917	S3100	21X17-	2
563	181	3.2	1866	181	210.232	9.452	S2100	21X17-	2
626	163	2.9	1872	163	208.396	10.504	S2100	21X17-	2
651	156	3.1	2079	156	199.882	10.932	S3100	21X17-	2
663	154	4.4	3022	154	221.977	11.128	S3100	21X17-	2
699	146	5.6	3417	146	249.818	11.740	S4500	21X17-	2
739	138	2.6	2030	138	200.340	12.406	S2100	21X17-	2
750	136	3.8	2965	136	217.737	12.584	S3100	21X17-	2
765	133	5.3	3738	133	239.505	12.843	S4500	21X17-	2
781	131	5.5	3814	131	244.945	13.105	S4500	21X17-	2
821	124	2.4	2047	124	199.274	13.787	S2100	21X17-	2
842	121	2.3	2050	121	195.715	14.137	S2100	21X17-	2
854	119	5.0	4173	119	235.433	14.336	S4500	21X17-	2
870	117	3.4	3100	117	207.157	14.606	S3100	21X17-	2
936	109	2.1	2050	109	194.894	15.711	S2100	21X17-	2
976	104	4.4	4498	104	221.258	16.381	S4500	21X17-	2
984	104	3.0	3100	104	204.696	16.517	S3100	21X17-	2
992	103	3.0	3100	103	200.965	16.644	S3100	21X17-	2
1014	101	1.9	2050	101	192.069	17.022	S2100	21X17-	2
1089	93.5	4.1	4500	93.5	218.754	18.286	S4500	21X17-	2
1121	90.9	2.8	3100	90.9	199.070	18.822	S3100	21X17-	2
1127	90.4	1.8	2050	90.4	191.503	18.917	S2100	21X17-	2
1194	85.3	2.6	3100	85.3	195.690	20.041	S3100	21X17-	2
1195	85.2	3.8	4500	85.2	210.827	20.067	S4500	21X17-	2
1243	81.9	1.7	2050	81.9	189.169	20.869	S2100	21X17-	2
1334	76.3	3.4	4500	76.3	209.159	22.400	S4500	21X17-	2
1350	75.5	2.3	3100	75.5	194.383	22.663	S3100	21X17-	2
1382	73.7	1.5	2050	73.7	188.792	23.193	S2100	21X17-	2
1464	69.6	2.1	3100	69.6	191.578	24.570	S3100	21X17-	2
1575	64.7	2.9	4500	64.7	199.402	26.437	S4500	21X17-	2
1655	61.5	1.9	3100	61.5	190.708	27.785	S3100	21X17-	2
1758	57.9	2.6	4500	57.9	198.441	29.511	S4500	21X17-	2
1935	52.6	2.3	4500	52.6	194.132	32.489	S4500	21X17-	2
2160	47.2	2.1	4500	47.2	193.495	36.267	S4500	21X17-	2
2235	44.9	1.8	4150	44.9	196.465	38.090	S4500	21X17-	3
2495	40.2	1.7	4291	40.2	196.002	42.520	S4500	21X17-	3
3098	32.4	1.5	4500	32.4	190.018	52.794	S4500	21X17-	3
3458	29.0	1.3	4500	29.0	189.777	58.933	S4500	21X17-	3
3813	26.3	1.2	4500	26.3	187.202	64.978	S4500	21X17-	3
4256	23.6	1.1	4500	23.6	187.043	72.533	S4500	21X17-	3
4270	23.5	1.1	4500	23.5	185.875	72.775	S4500	21X17-	3
4767	21.0	0.9	4500	21.0	185.749	81.237	S4500	21X17-	3

13.2 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
137	895	2.3	419	551	80.801	3.920	S660	19S35-	2
153	801	3.1	621	517	85.117	4.380	S950	19S35-	2
160	764	5.2	802	445	117.551	4.593	S2100	19S35-	2
173	709	5.2	865	413	154.458	4.951	S3100	19S35-	2
188	653	2.0	492	453	77.264	5.376	S660	19S35-	2
188	651	2.8	691	454	81.248	5.391	S950	19S35-	2
211	582	4.9	1053	379	101.232	6.029	S2100	19S35-	2
211	581	2.6	732	406	79.506	6.038	S950	19S35-	2
224	547	2.0	601	326	77.481	6.417	S660	19S35-	2
227	540	4.9	1135	352	122.653	6.499	S3100	19S35-	2
240	511	4.7	1200	356	94.562	6.870	S2100	19S35-	2
240	510	1.6	496	356	75.484	6.880	S660	19S35-	2
246	497	5.2	1232	290	157.966	7.056	S4500	19S35-	2
255	480	1.8	593	265	76.896	7.311	S660	19S35-	2
259	474	4.7	1293	331	111.059	7.406	S3100	19S35-	2
269	456	2.2	783	318	77.080	7.702	S950	19S35-	2
289	424	3.9	1445	296	88.792	8.272	S2100	19S35-	2
307	399	1.6	638	242	75.499	8.800	S660	19S35-	2
311	394	4.2	1557	275	100.171	8.917	S3100	19S35-	2
318	386	2.3	950	232	80.272	9.100	S950	19S35-	2
330	371	4.3	1651	207	102.232	9.452	S2100	19S35-	2
350	350	1.3	625	196	75.188	10.027	S660	19S35-	2
356	345	2.0	950	202	79.744	10.183	S950	19S35-	2
367	334	3.8	1834	182	100.396	10.504	S2100	19S35-	2
382	321	3.6	1807	224	91.882	10.932	S3100	19S35-	2
389	315	5.2	1943	184	113.977	11.128	S3100	19S35-	2
391	313	1.8	950	198	78.049	11.200	S950	19S35-	2
393	312	1.3	660	196	74.406	11.262	S660	19S35-	2
430	285	1.2	660	180	74.122	12.320	S660	19S35-	2
433	283	3.5	2030	172	92.340	12.406	S2100	19S35-	2
438	280	1.6	950	174	76.956	12.544	S950	19S35-	2
440	279	5.1	2198	161	109.737	12.584	S3100	19S35-	2
448	274	1.1	660	161	74.216	12.832	S660	19S35-	2
449	273	5.2	2243	160	131.505	12.843	S4500	19S35-	2
482	255	3.2	2047	151	91.274	13.787	S2100	19S35-	2
490	250	1.0	660	149	73.963	14.037	S660	19S35-	2
490	250	1.5	950	146	76.678	14.037	S950	19S35-	2
494	248	3.1	2050	161	87.715	14.137	S2100	19S35-	2
501	245	5.2	2504	143	127.433	14.336	S4500	19S35-	2
510	240	4.6	2551	154	99.157	14.606	S3100	19S35-	2
549	223	0.9	660	140	73.513	15.714	S660	19S35-	2
549	223	2.8	2050	141	86.894	15.711	S2100	19S35-	2
559	219	1.3	950	140	75.512	16.000	S950	19S35-	2
572	214	4.9	2861	140	113.258	16.381	S4500	19S35-	2
577	213	4.1	2885	133	96.696	16.517	S3100	19S35-	2
581	211	4.0	2907	144	92.965	16.644	S3100	19S35-	2
595	206	2.6	2050	144	84.069	17.022	S2100	19S35-	2
625	196	0.8	660	108	73.415	17.905	S660	19S35-	2
625	196	1.1	950	118	75.342	17.905	S950	19S35-	2
639	192	5.6	3193	129	110.754	18.286	S4500	19S35-	2
657	187	4.0	3100	128	91.070	18.822	S3100	19S35-	2

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
661	186	2.7	2050	129	83.503	18.917	S2100	19S35-	2
672	182	0.8	660	121	73.154	19.250	S660	19S35-	2
685	179	1.2	950	125	74.688	19.600	S950	19S35-	2
700	175	3.8	3100	122	87.690	20.041	S3100	19S35-	2
701	175	4.8	3504	122	102.827	20.067	S4500	19S35-	2
729	168	2.4	2050	117	81.169	20.869	S2100	19S35-	2
766	160	0.7	660	93.4	73.089	21.933	S660	19S35-	2
766	160	1.1	950	107	74.574	21.933	S950	19S35-	2
782	157	4.8	3912	109	101.159	22.400	S4500	19S35-	2
792	155	3.4	3100	108	86.383	22.663	S3100	19S35-	2
810	151	2.2	2050	106	80.792	23.193	S2100	19S35-	2
858	143	3.1	3100	99.7	83.578	24.570	S3100	19S35-	2
891	138	0.9	950	96.0	73.830	25.511	S950	19S35-	2
923	133	4.0	4347	92.6	91.402	26.437	S4500	19S35-	2
970	126	2.7	3100	88.1	82.708	27.785	S3100	19S35-	2
988	124	1.8	2050	86.6	77.493	28.275	S2100	19S35-	2
997	123	0.8	950	78.5	73.763	28.548	S950	19S35-	2
1031	119	3.7	4500	83.0	90.441	29.511	S4500	19S35-	2
1098	112	1.8	2050	77.9	77.288	31.422	S2100	19S35-	2
1135	108	3.7	4473	75.4	86.132	32.489	S4500	19S35-	2
1163	105	2.5	3100	73.6	78.806	33.289	S3100	19S35-	2
1199	102	1.6	2050	71.3	76.120	34.333	S2100	19S35-	2
1267	96.8	3.4	4500	67.5	85.495	36.267	S4500	19S35-	2
1310	92.1	2.4	4150	62.8	88.465	38.090	S4500	19S35-	3
1315	93.2	2.2	3100	65.0	78.332	37.644	S3100	19S35-	2
1333	92.0	1.5	2050	64.2	75.981	38.156	S2100	19S35-	2
1378	87.6	1.1	1945	48.7	76.782	40.056	S2100	19S35-	3
1412	86.8	2.1	3100	60.6	77.010	40.422	S3100	19S35-	2
1463	82.6	2.2	4291	55.2	88.002	42.520	S4500	19S35-	3
1469	83.5	2.7	4101	58.2	80.966	42.044	S4500	19S35-	2
1531	78.9	1.0	2050	42.8	76.679	44.515	S2100	19S35-	3
1597	76.8	1.8	3100	53.6	76.689	45.711	S3100	19S35-	2
1622	74.4	1.4	2958	46.8	77.519	47.159	S3100	19S35-	3
1639	74.8	2.5	4394	52.2	80.586	46.933	S4500	19S35-	2
1782	68.8	2.0	3653	48.0	78.505	51.027	S4500	19S35-	2
1816	66.5	2.1	4500	46.4	82.018	52.794	S4500	19S35-	3
1835	65.8	1.4	3054	42.2	77.283	53.330	S3100	19S35-	3
1890	63.9	0.9	2050	37.6	75.127	54.933	S2100	19S35-	3
1990	61.6	1.9	3946	43.0	78.247	56.960	S4500	19S35-	2
2028	59.6	1.9	4500	41.5	81.777	58.933	S4500	19S35-	3
2100	57.5	0.8	2050	30.5	75.072	61.049	S2100	19S35-	3
2225	54.3	1.2	3100	37.3	75.519	64.676	S3100	19S35-	3
2236	54.0	1.7	4500	37.7	79.202	64.978	S4500	19S35-	3
2419	49.9	0.8	2050	29.3	74.179	70.302	S2100	19S35-	3
2495	48.4	1.7	4500	33.8	79.043	72.533	S4500	19S35-	3
2504	48.2	1.7	4500	33.6	77.875	72.775	S4500	19S35-	3
2516	48.0	1.2	3100	32.7	75.394	73.138	S3100	19S35-	3
2646	45.6	0.7	2050	25.9	73.932	76.907	S2100	19S35-	3
2688	44.9	0.7	2050	23.7	74.146	78.128	S2100	19S35-	3
2795	43.2	1.5	4500	30.1	77.749	81.237	S4500	19S35-	3
2848	42.4	1.0	3100	29.6	74.418	82.769	S3100	19S35-	3
2940	41.1	0.7	2050	20.9	73.904	85.468	S2100	19S35-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
3115	38.8	0.9	3100	27.0	74.132	90.546	S3100	19S35-	3
3194	37.8	1.3	4500	26.4	76.077	92.825	S4500	19S35-	3
3220	37.5	0.9	3100	25.0	74.342	93.599	S3100	19S35-	3
3375	35.8	0.6	2050	18.5	73.396	98.095	S2100	19S35-	3
3523	34.3	0.8	3100	22.1	74.068	102.393	S3100	19S35-	3
3565	33.9	1.2	4500	23.6	75.999	103.619	S4500	19S35-	3
3751	32.2	0.5	2050	15.0	73.379	109.016	S2100	19S35-	3
3912	30.9	1.1	4500	21.5	75.064	113.711	S4500	19S35-	3
3973	30.4	0.7	3100	20.2	73.519	115.492	S3100	19S35-	3
4367	27.7	1.0	4500	19.3	75.012	126.933	S4500	19S35-	3
4493	26.9	0.7	3100	15.8	73.480	130.603	S3100	19S35-	3
4867	24.8	0.6	3100	15.4	73.158	141.478	S3100	19S35-	3
5092	23.7	0.8	4500	16.5	74.052	148.005	S4500	19S35-	3
5504	21.9	0.5	3100	15.3	73.132	159.989	S3100	19S35-	3
5684	21.2	0.8	4500	14.8	74.022	165.215	S4500	19S35-	3

20.3 kW

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
245	766	4.1	1331	422	225.551	4.593	S2100	21X35-	2
262	716	5.8	1430	357	341.684	4.914	S4500	21X35-	2
264	711	4.6	1441	402	262.458	4.951	S3100	21X35-	2
322	584	3.5	1487	334	209.232	6.029	S2100	21X35-	2
344	546	4.9	1877	304	281.485	6.450	S4500	21X35-	2
347	542	3.9	1797	310	230.653	6.499	S3100	21X35-	2
367	512	3.1	1487	293	202.562	6.870	S2100	21X35-	2
377	499	4.6	2054	283	265.966	7.056	S4500	21X35-	2
395	475	3.6	1875	272	219.059	7.406	S3100	21X35-	2
441	426	2.5	1487	243	196.792	8.272	S2100	21X35-	2
476	395	3.1	1973	226	208.171	8.917	S3100	21X35-	2
477	394	5.8	2603	196	287.127	8.944	S4500	21X35-	2
504	372	2.8	1866	187	210.232	9.452	S2100	21X35-	2
533	353	5.8	2906	176	278.730	9.984	S4500	21X35-	2
561	335	2.5	1872	164	208.396	10.504	S2100	21X35-	2
583	322	2.7	2079	184	199.882	10.932	S3100	21X35-	2
594	316	3.8	3022	172	221.977	11.128	S3100	21X35-	2
626	300	4.9	3417	167	249.818	11.740	S4500	21X35-	2
662	284	2.3	2030	156	200.340	12.406	S2100	21X35-	2
672	280	3.3	2965	147	217.737	12.584	S3100	21X35-	2
685	274	4.6	3738	155	239.505	12.843	S4500	21X35-	2
699	269	4.8	3814	149	244.945	13.105	S4500	21X35-	2
736	255	2.1	2047	137	199.274	13.787	S2100	21X35-	2
754	249	2.0	2050	142	195.715	14.137	S2100	21X35-	2
765	246	4.4	4173	138	235.433	14.336	S4500	21X35-	2
779	241	3.0	3100	138	207.157	14.606	S3100	21X35-	2
838	224	1.8	2050	125	194.894	15.711	S2100	21X35-	2
874	215	3.9	4498	123	221.258	16.381	S4500	21X35-	2
881	213	2.7	3100	121	204.696	16.517	S3100	21X35-	2
888	212	2.6	3100	121	200.965	16.644	S3100	21X35-	2
908	207	1.7	2050	118	192.069	17.022	S2100	21X35-	2
976	193	3.9	4500	110	218.754	18.286	S4500	21X35-	2
1004	187	2.6	3100	107	199.070	18.822	S3100	21X35-	2
1009	186	1.7	2050	106	191.503	18.917	S2100	21X35-	2
1069	176	2.5	3100	101	195.690	20.041	S3100	21X35-	2
1071	175	3.6	4500	100	210.827	20.067	S4500	21X35-	2
1114	169	1.6	2050	96.5	189.169	20.869	S2100	21X35-	2
1195	157	3.2	4500	89.9	209.159	22.400	S4500	21X35-	2
1209	155	2.2	3100	88.8	194.383	22.663	S3100	21X35-	2
1238	152	1.4	2050	86.8	188.792	23.193	S2100	21X35-	2
1311	143	2.0	3100	82.0	191.578	24.570	S3100	21X35-	2
1411	133	2.7	4500	76.2	199.402	26.437	S4500	21X35-	2
1483	127	1.8	3100	72.5	190.708	27.785	S3100	21X35-	2
1575	119	2.4	4500	68.2	198.441	29.511	S4500	21X35-	2
1734	108	2.5	4500	62.0	194.132	32.489	S4500	21X35-	2
1935	97.1	2.2	4500	55.5	193.495	36.267	S4500	21X35-	2
2002	92.4	1.6	4150	51.9	196.465	38.090	S4500	21X35-	3
2235	82.8	1.4	4291	44.5	196.002	42.520	S4500	21X35-	3
2775	66.7	1.4	4500	38.1	190.018	52.794	S4500	21X35-	3
3098	59.7	1.2	4500	34.2	189.777	58.933	S4500	21X35-	3
3415	54.2	1.1	4500	31.0	187.202	64.978	S4500	21X35-	3

Inverter operation							Geared motor		Number of stages
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g500-	MCA	
Nm	rpm		Nm	rpm	kgcm²				
3812	48.5	1.1	4500	27.8	187.043	72.533	S4500	21X35-	3
3825	48.4	1.1	4500	27.7	185.875	72.775	S4500	21X35-	3
4270	43.3	1.0	4500	24.8	185.749	81.237	S4500	21X35-	3

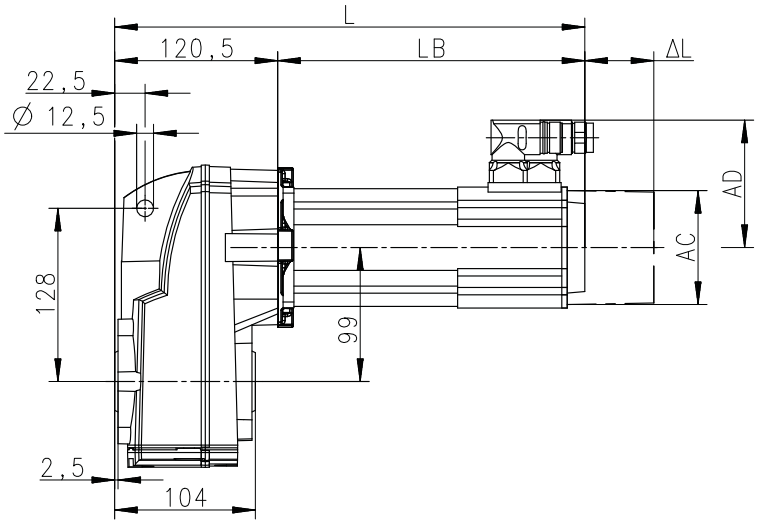
Dimensions

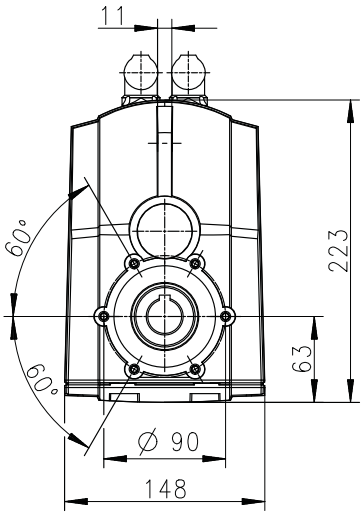
Basic dimensions

Notes on the basic dimensions

The following legend shows the layout of the dimension sheets:

Example	Explanation
g500-S130 with MCA10	Geared motor product
Gearbox design: hollow shaft, no foot (HDR/HCR/HCK)	Gearbox version 12



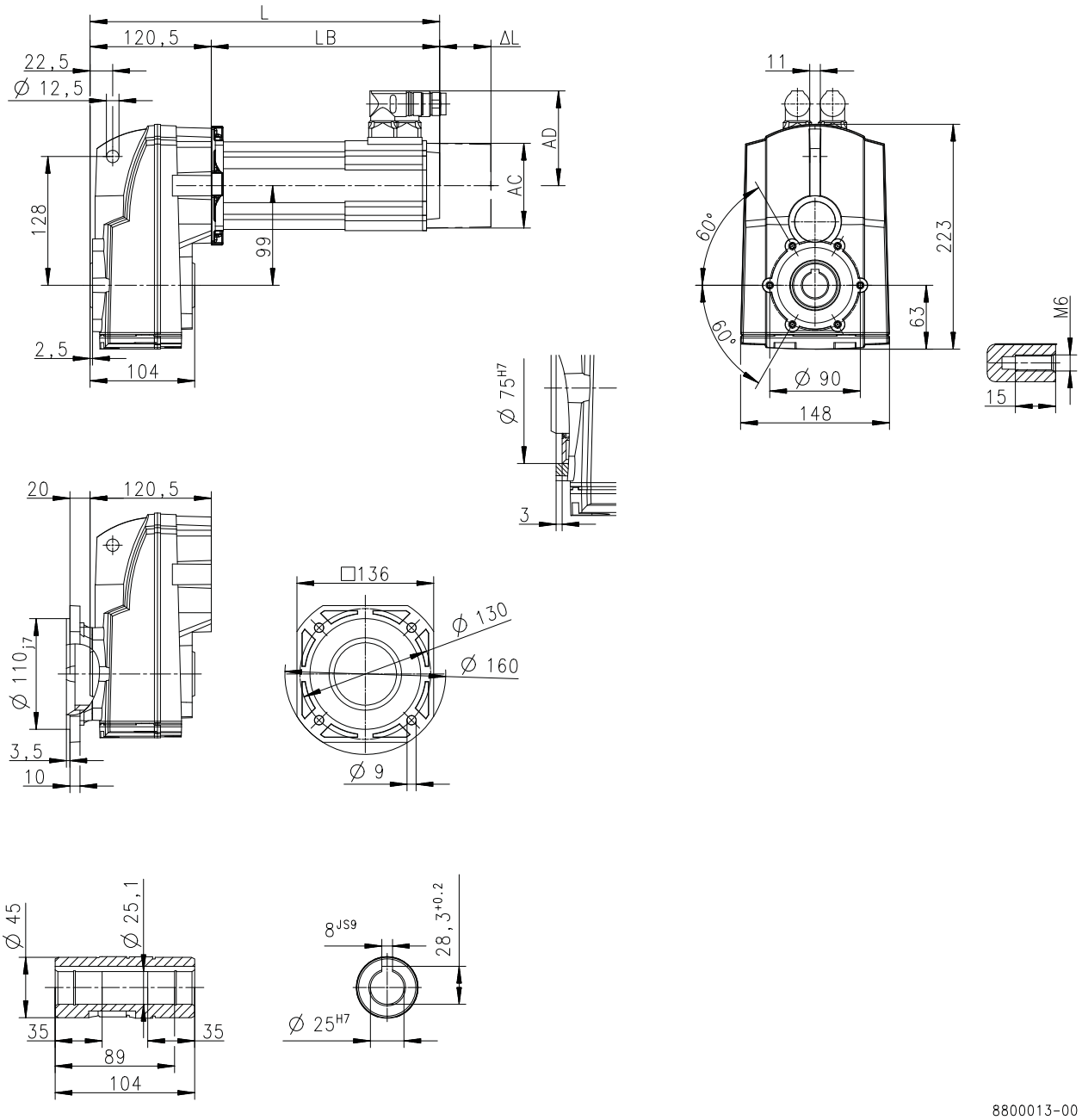


Motor	MCA
	10I40
Cooling type	Natural

Table content		Explanation
Total length	L	Total length of the drive with resolver
Motor length	LB	Length of the motor with resolver
Length of motor options	Δ L	Additional length (longest design) In detail ▸ Additional lengths 240
Motor diameter	AC	Motor diameter
Motor/connection distance	AD	Distance from motor centre to connector end

g500-S130 with MCA10

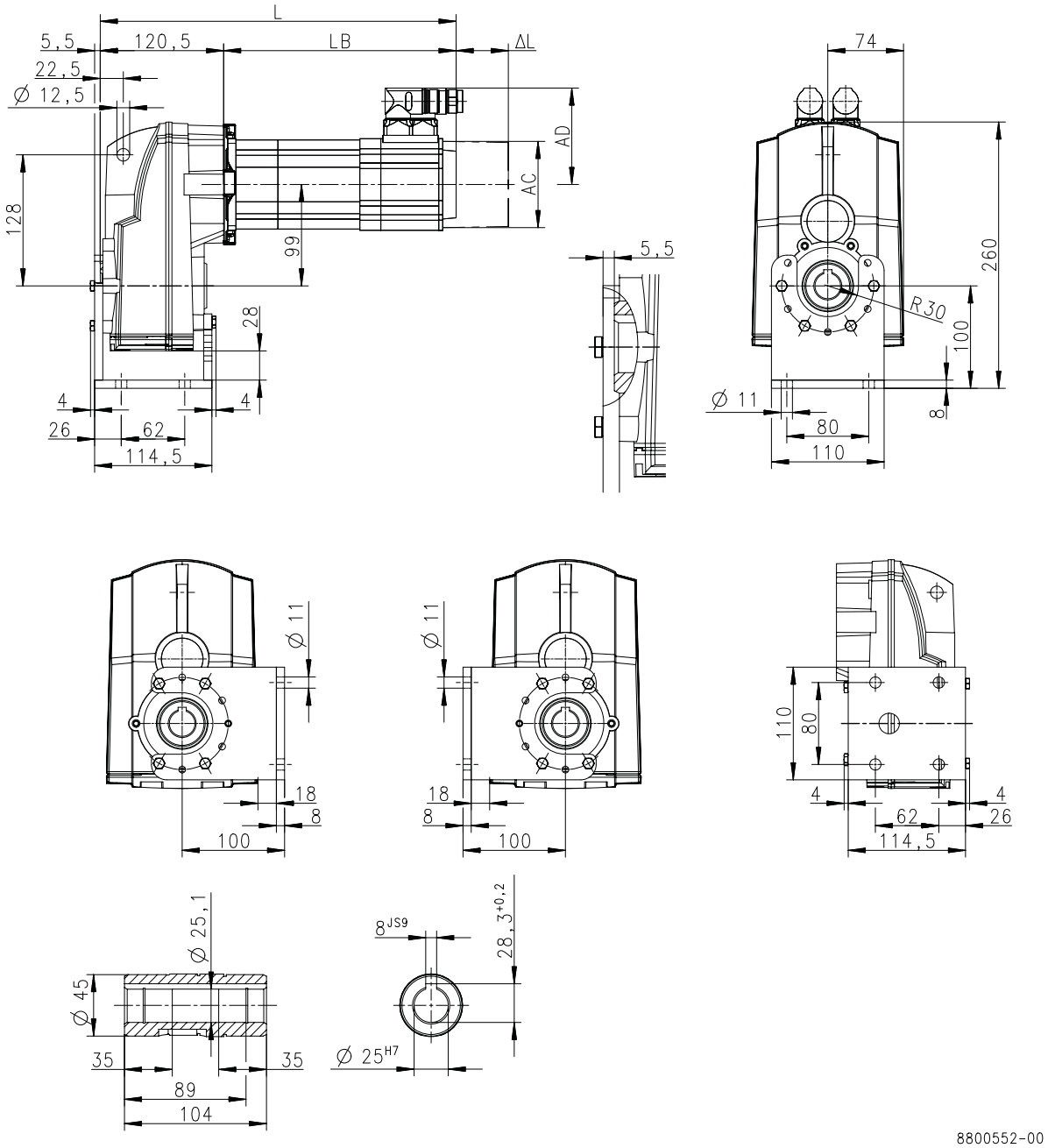
Gearbox design: hollow shaft, without foot (HDR/HCR/HCK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	380
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S130 with MCA10

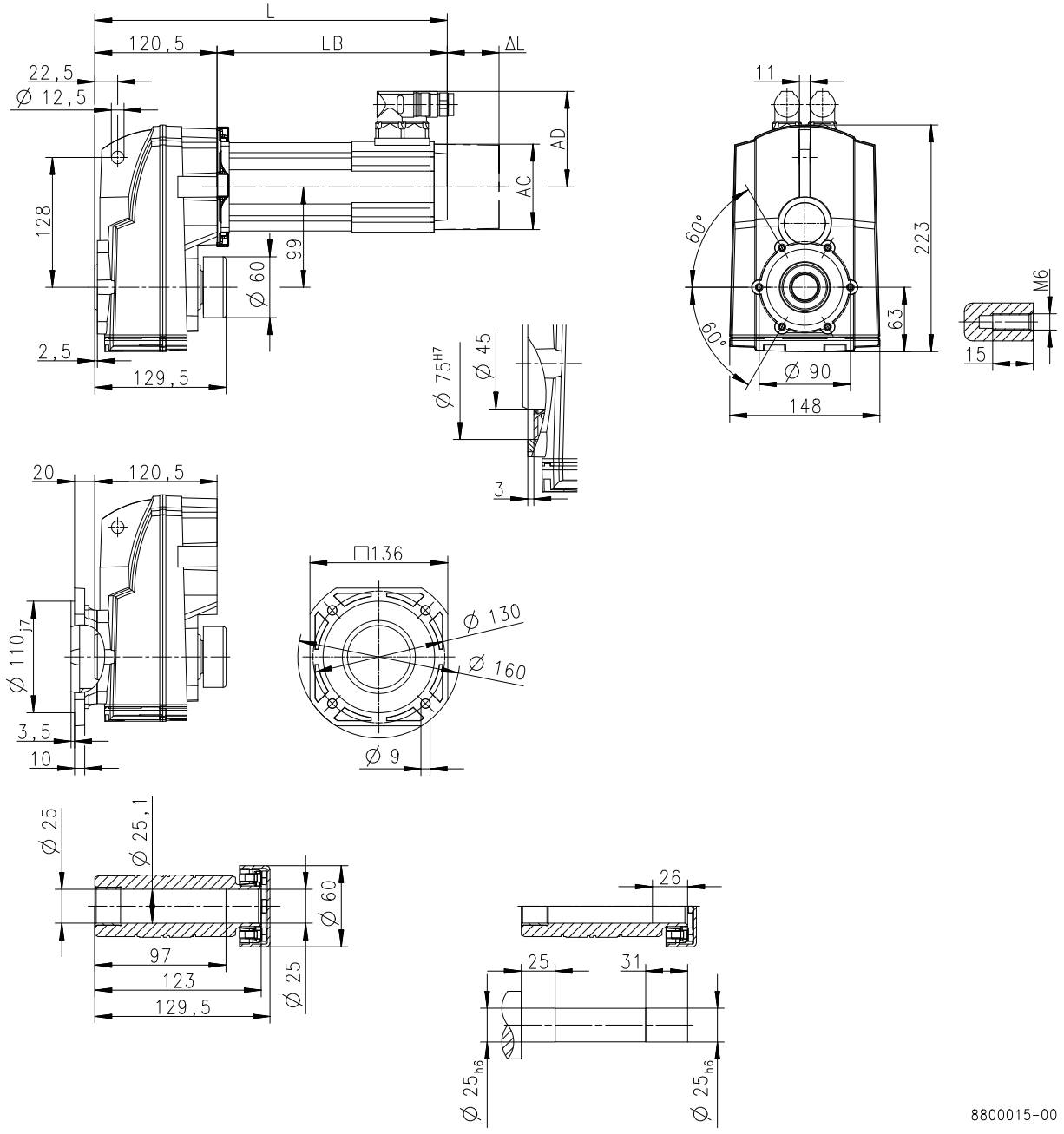
Gearbox design: hollow shaft, with foot (HBR)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	380
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S130 with MCA10

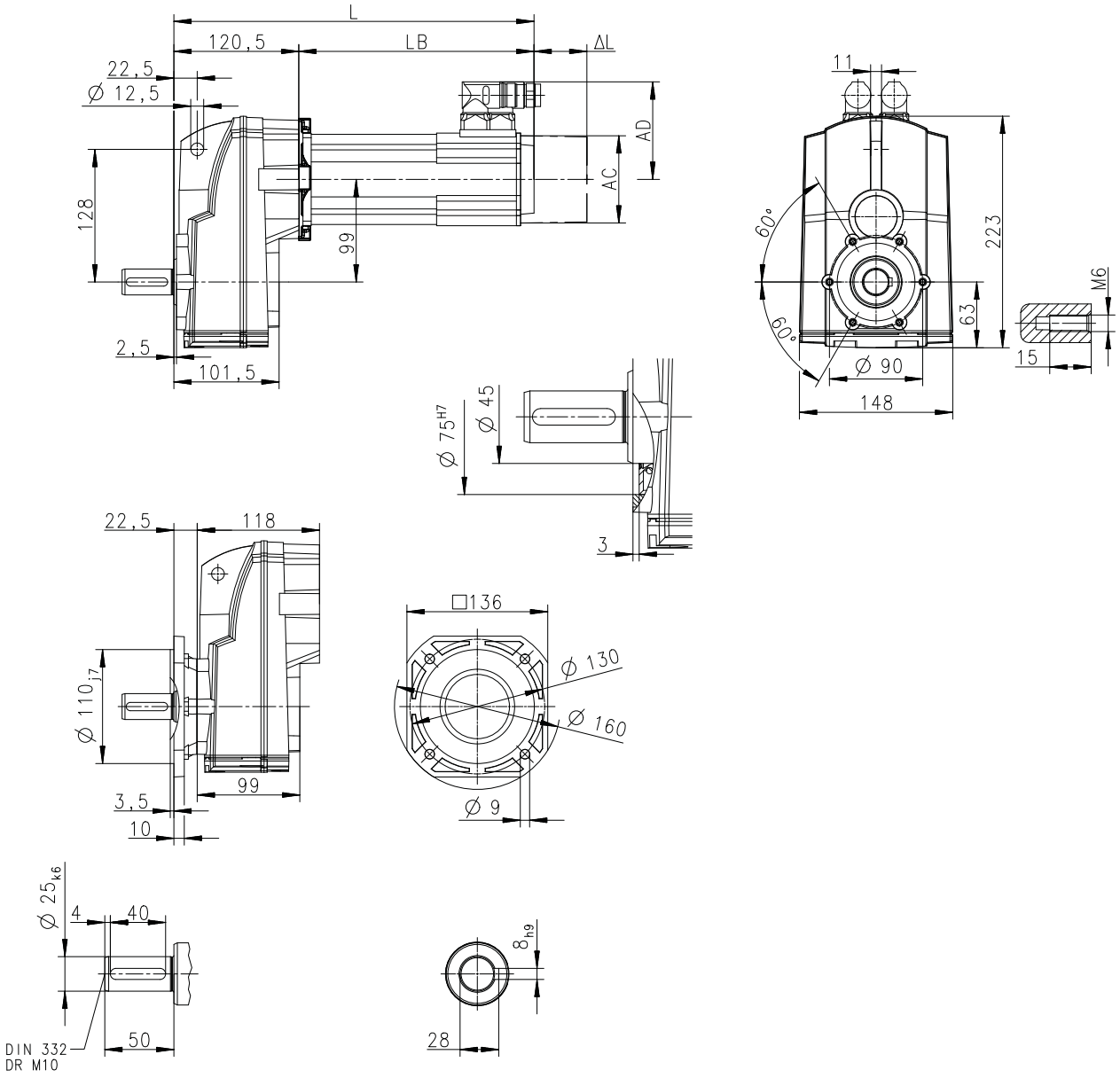
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	380
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S130 with MCA10

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

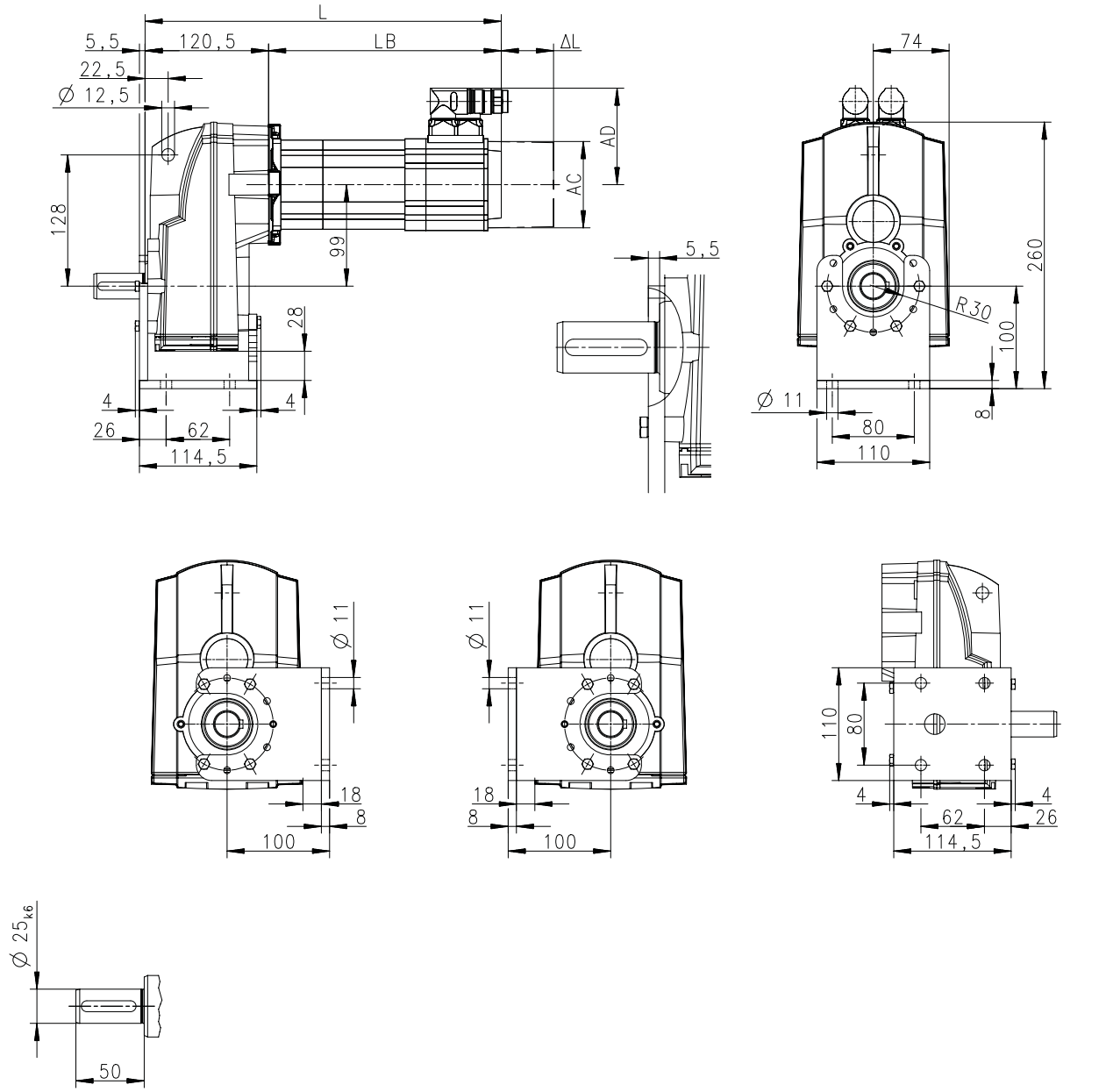


8800014-00

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	380
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S130 with MCA10

Gearbox design: solid shaft, with foot (VBR)

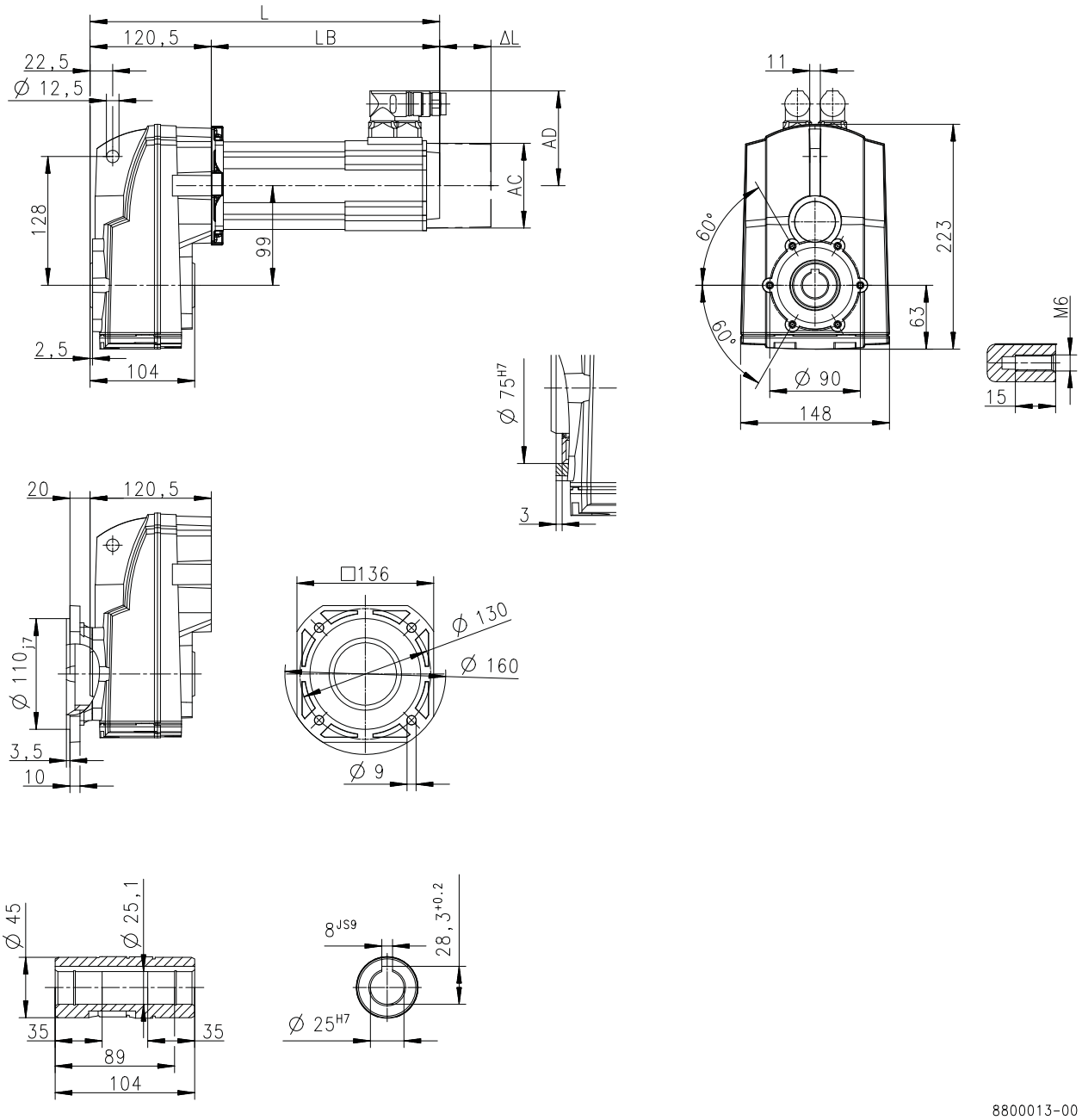


8800016-00

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	380
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S130 with MCA13

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

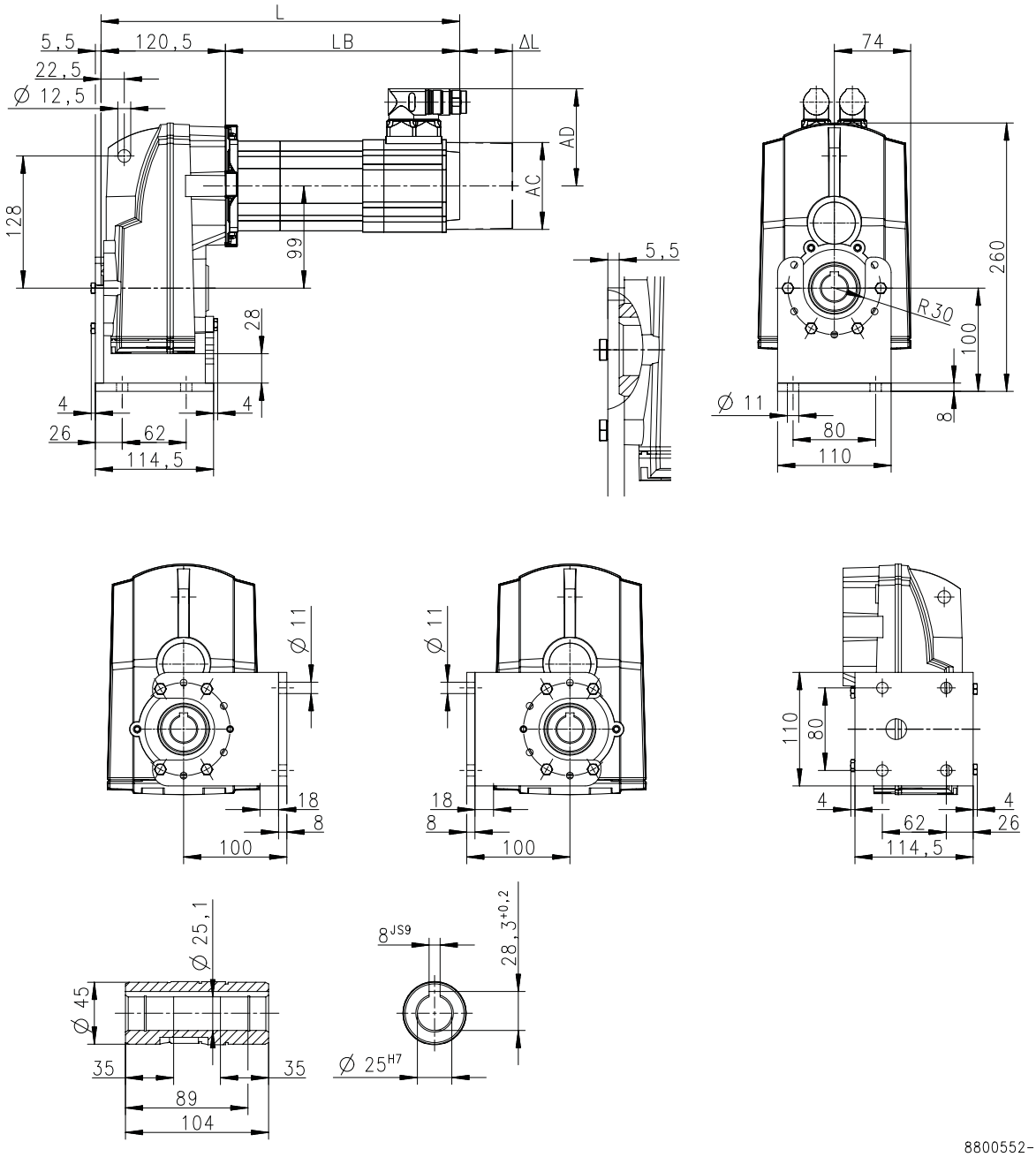


8800013-00

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	456	388
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S130 with MCA13

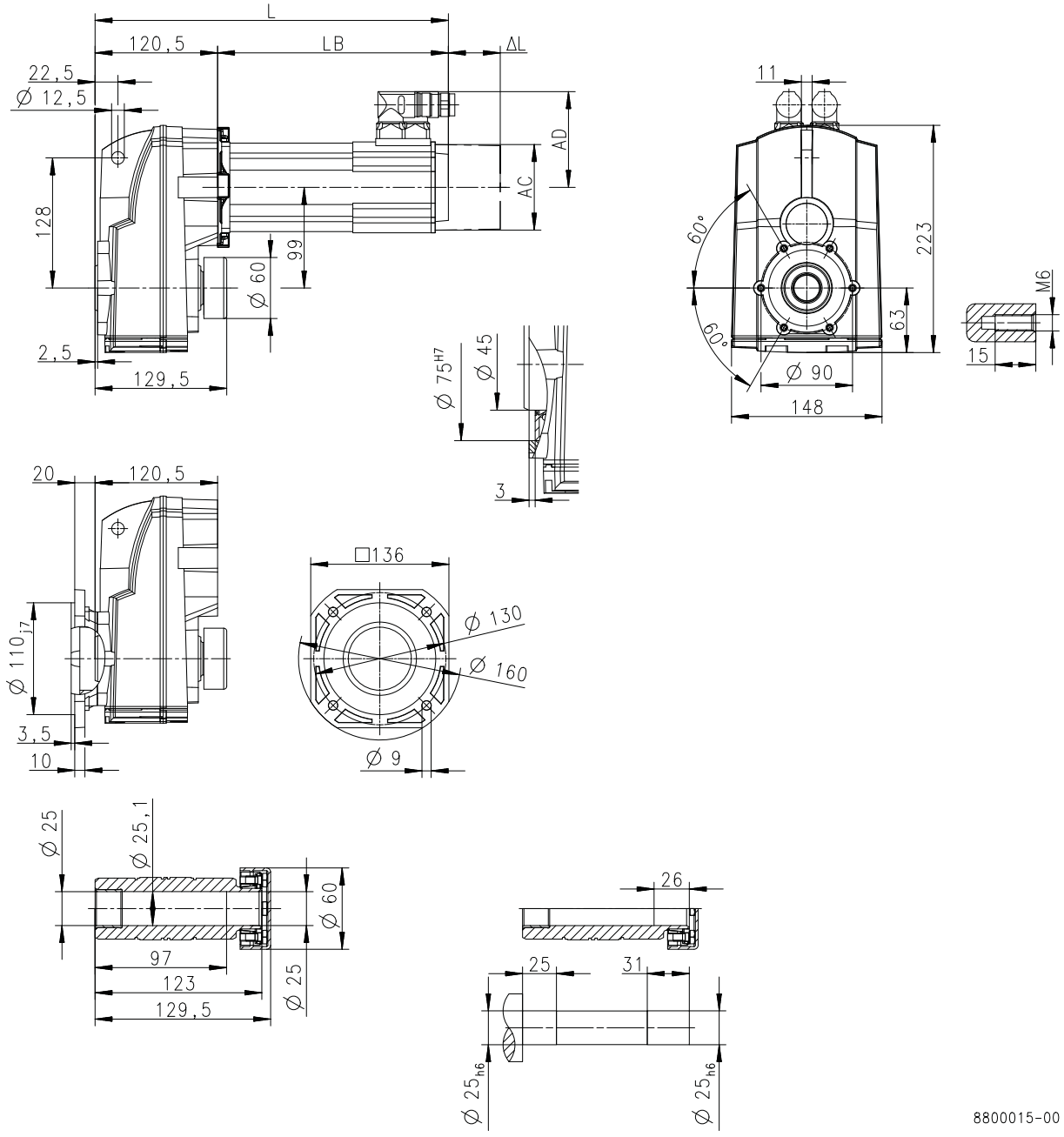
Gearbox design: hollow shaft, with foot (HBR)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	456	388
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S130 with MCA13

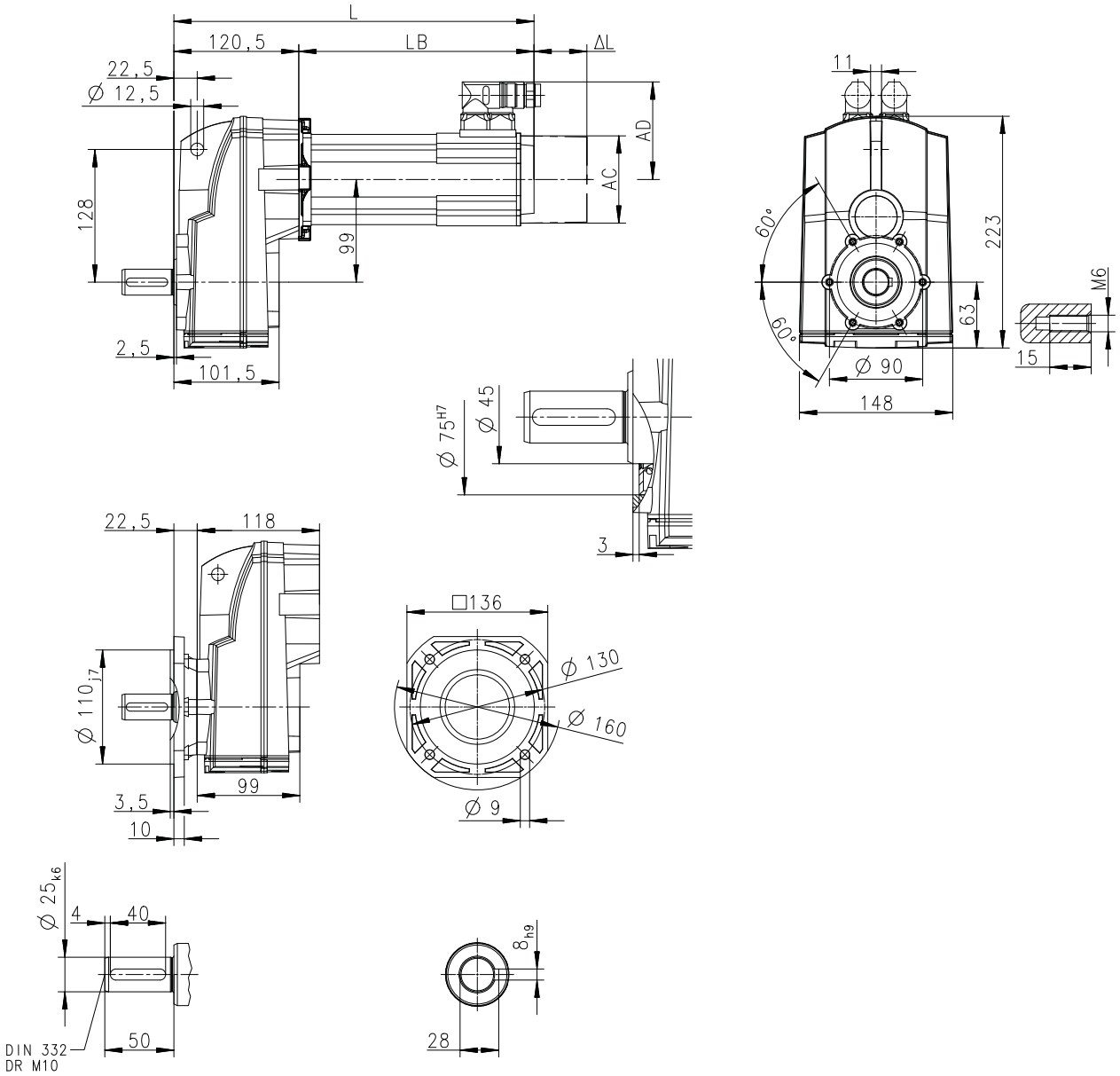
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	456	388
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S130 with MCA13

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

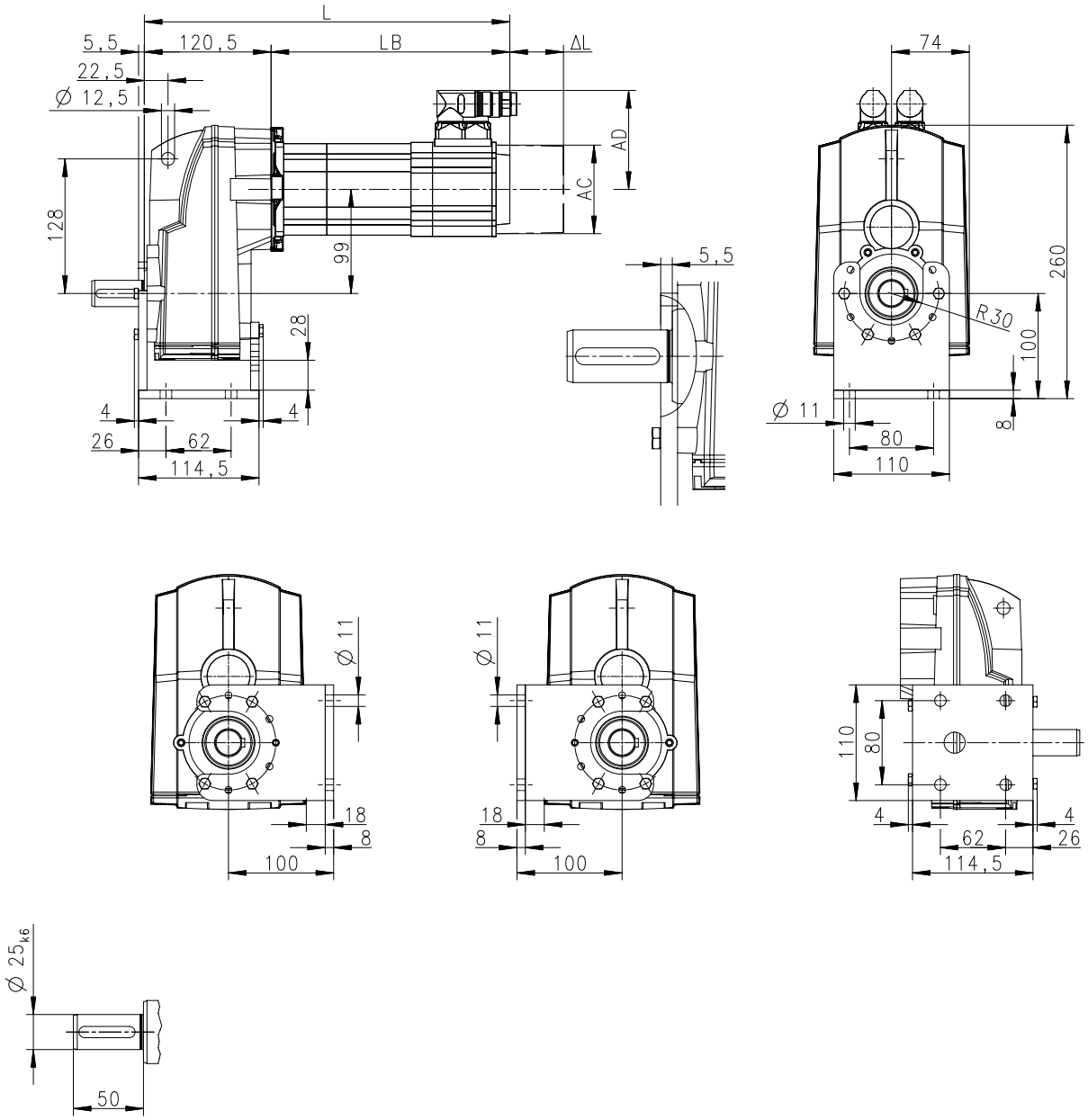


8800014-00

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	456	388
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S130 with MCA13

Gearbox design: solid shaft, with foot (VBR)

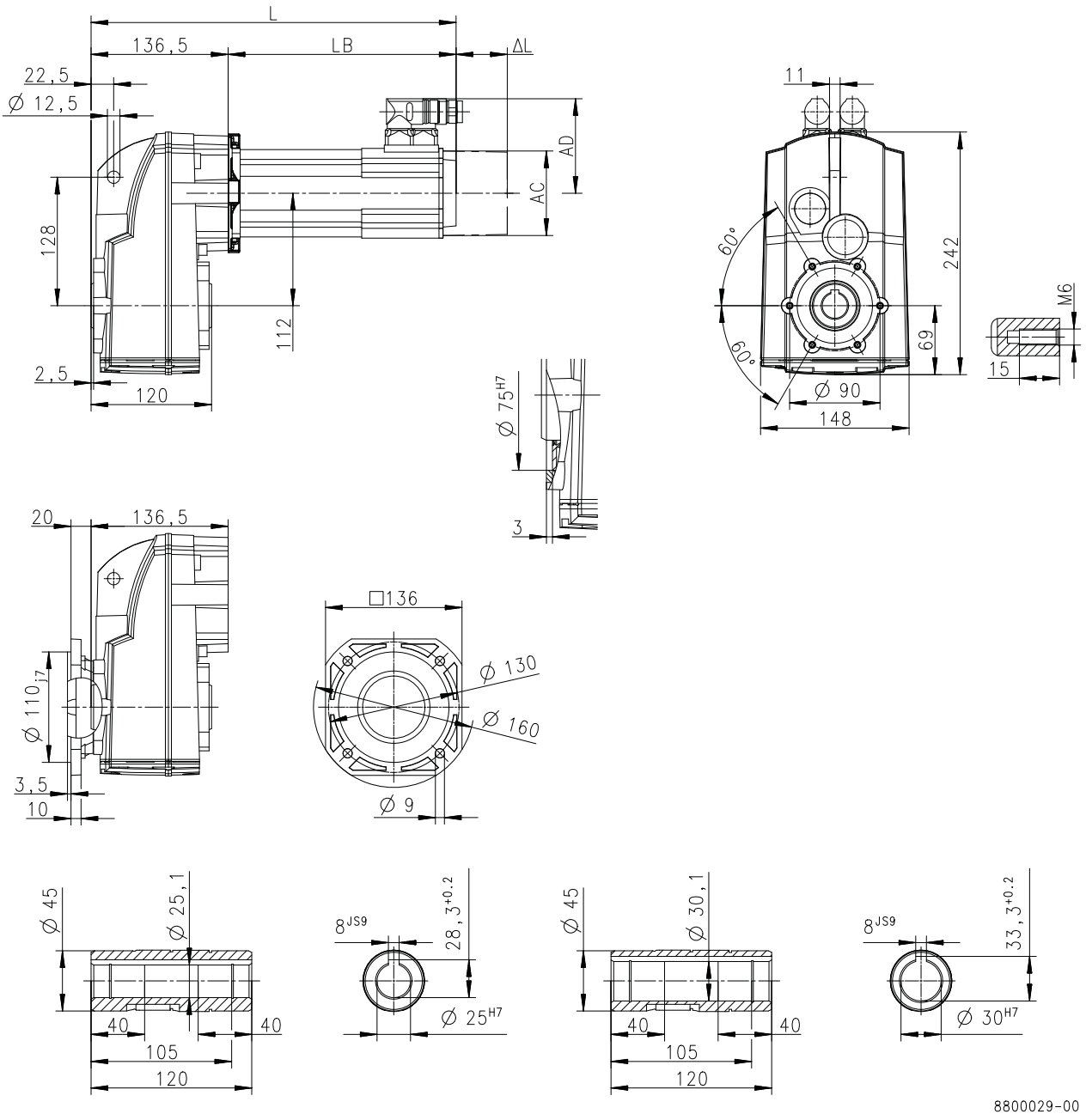


8800016-00

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	456	388
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S220 with MCA10

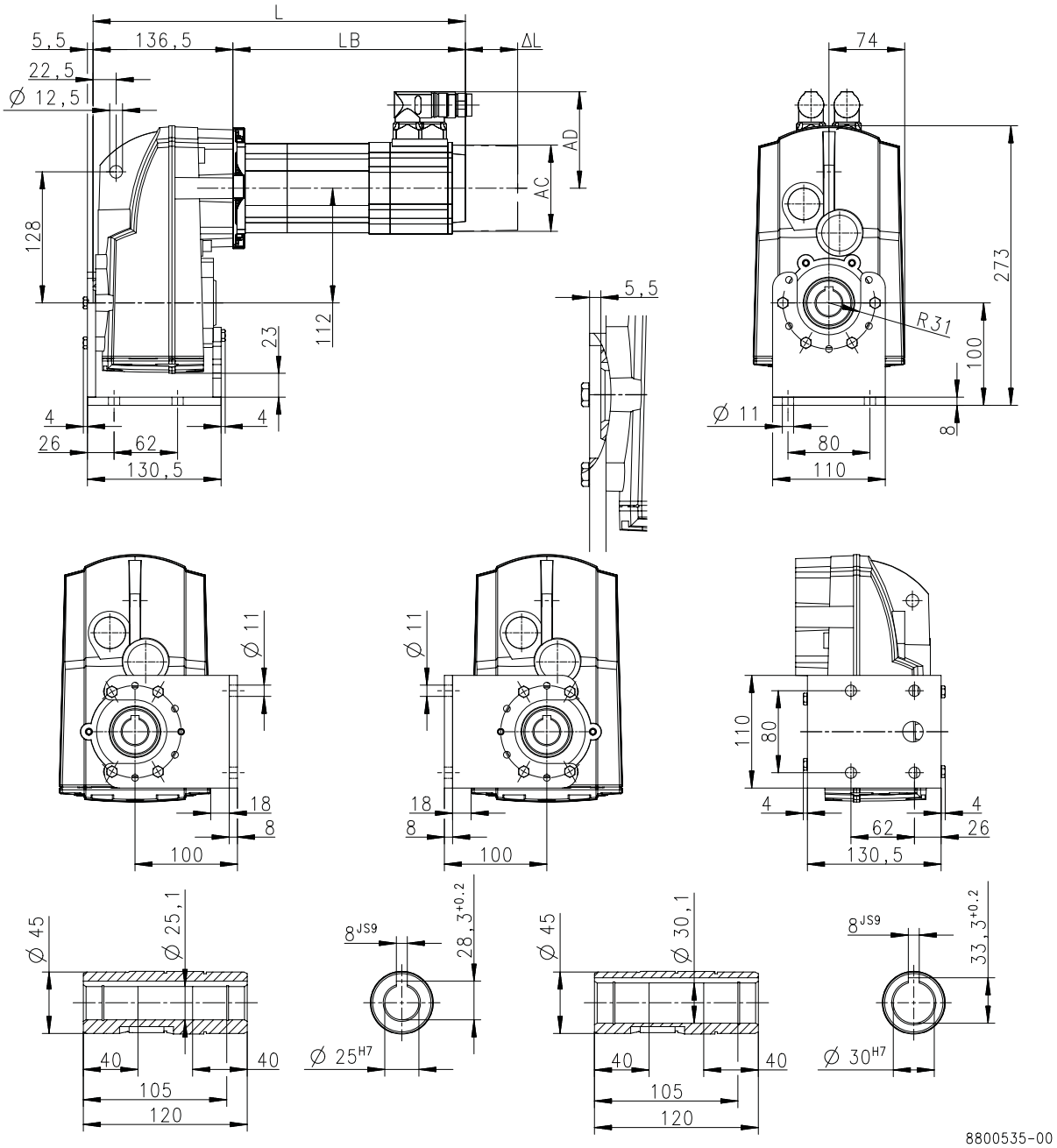
Gearbox design: hollow shaft, without foot (HDR/HCR/HCK)



Motor			MCA
			10l40-
Cooling type			Natural
Total length	L	mm	396
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S220 with MCA10

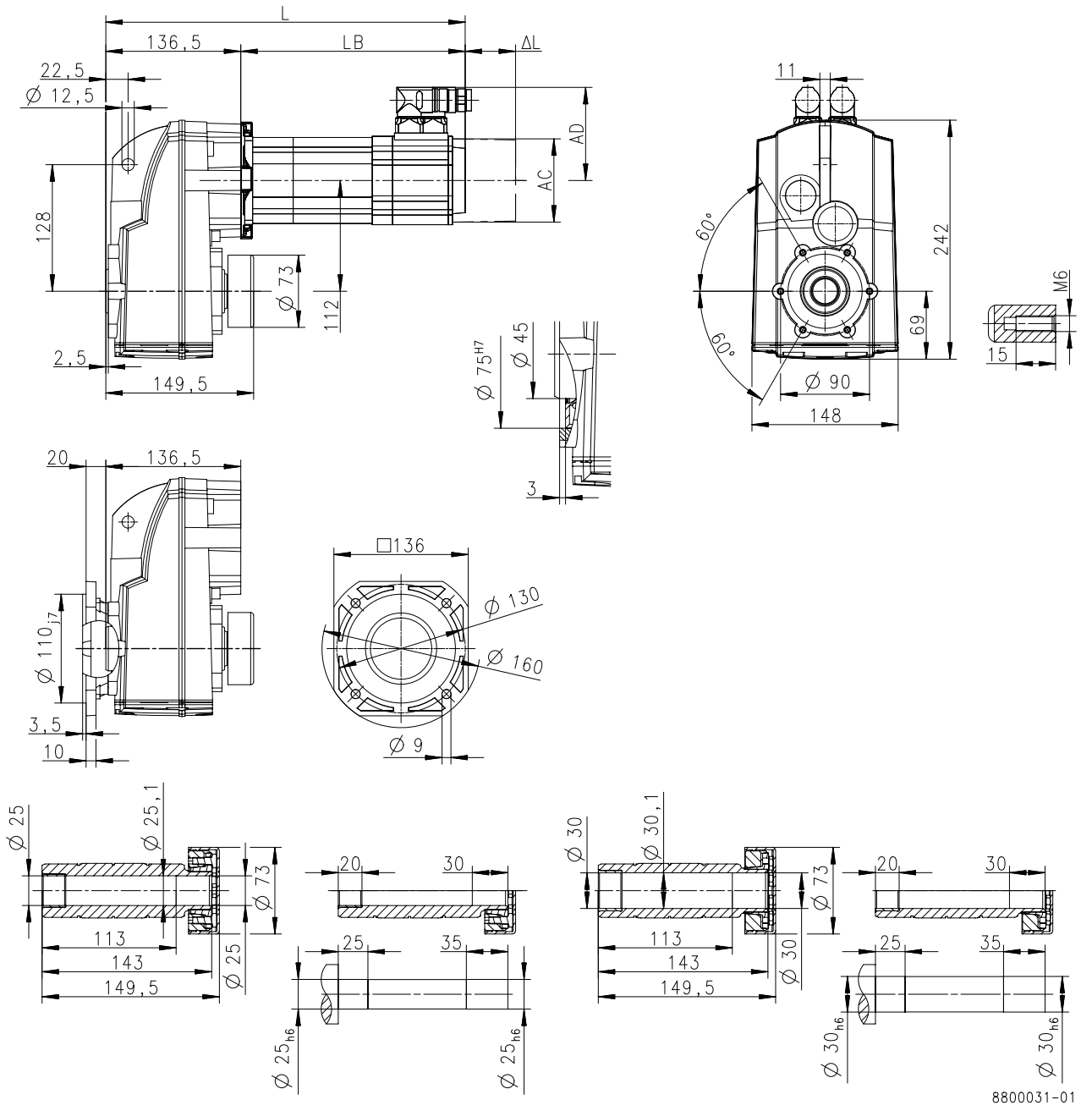
Gearbox design: hollow shaft, with foot (HBR)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	396
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S220 with MCA10

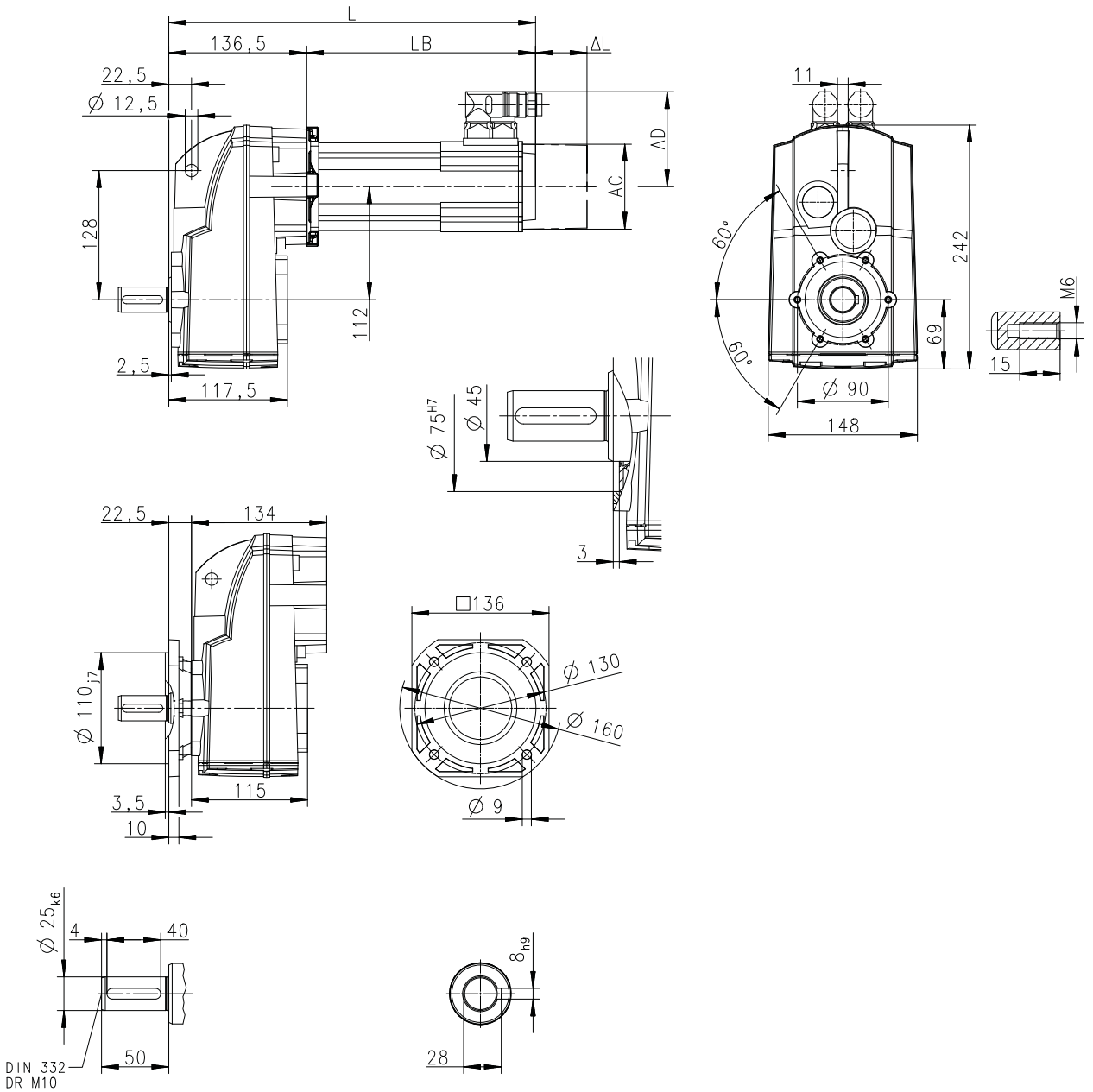
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	396
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S220 with MCA10

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

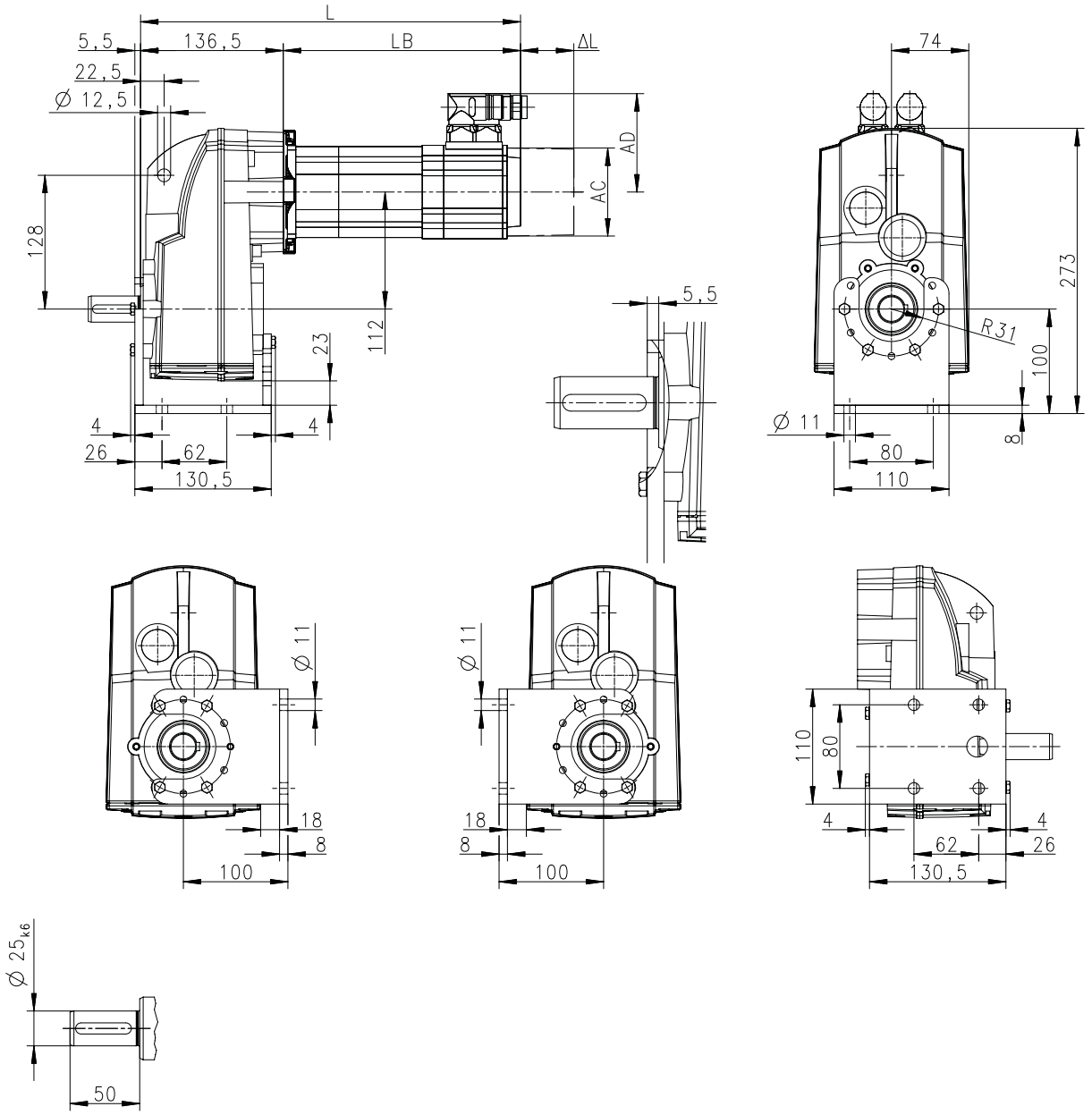


8800030-00

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	396
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S220 with MCA10

Gearbox design: solid shaft, with foot (VBR)

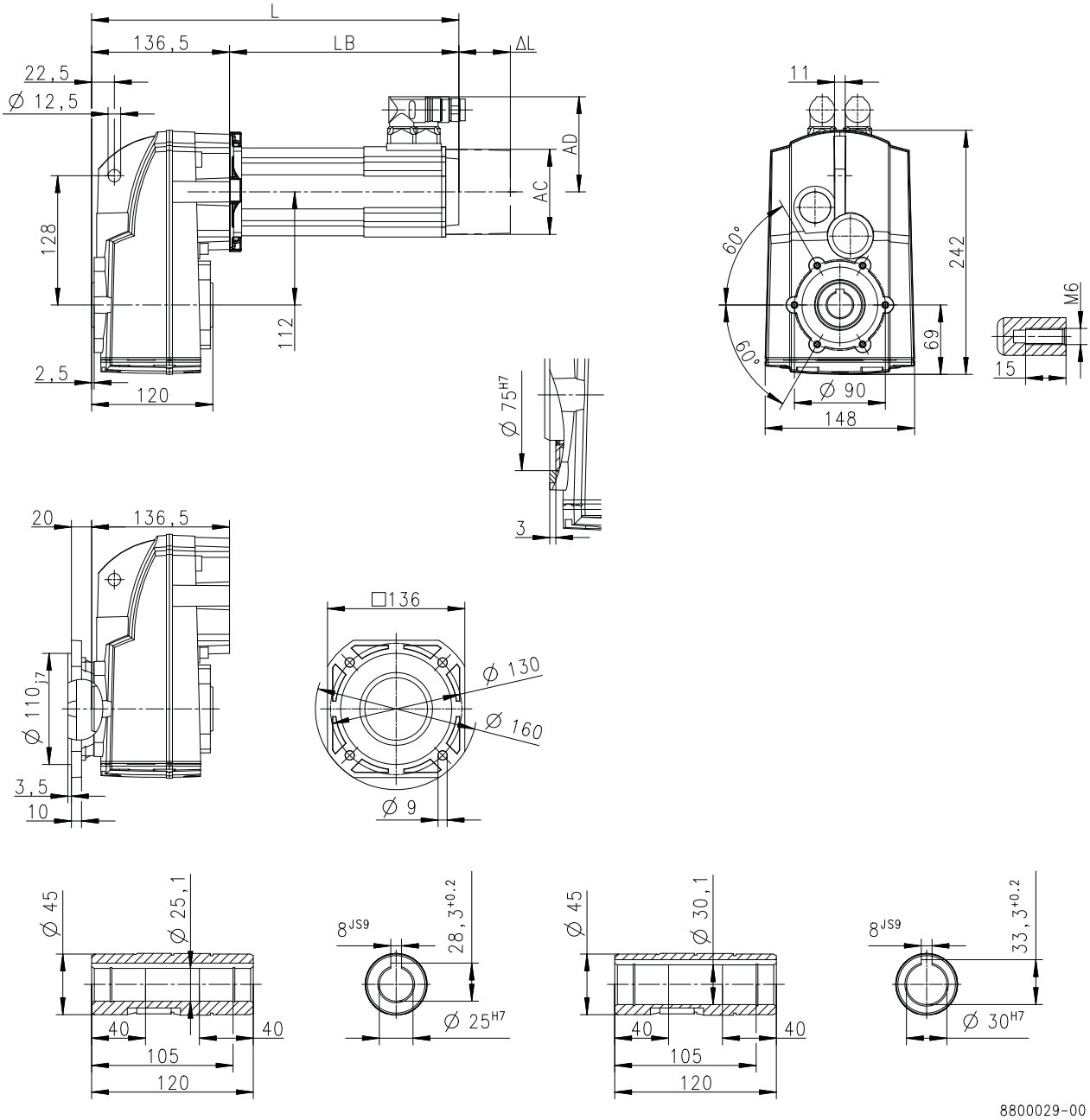


8800032-00

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	396
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S220 with MCA13

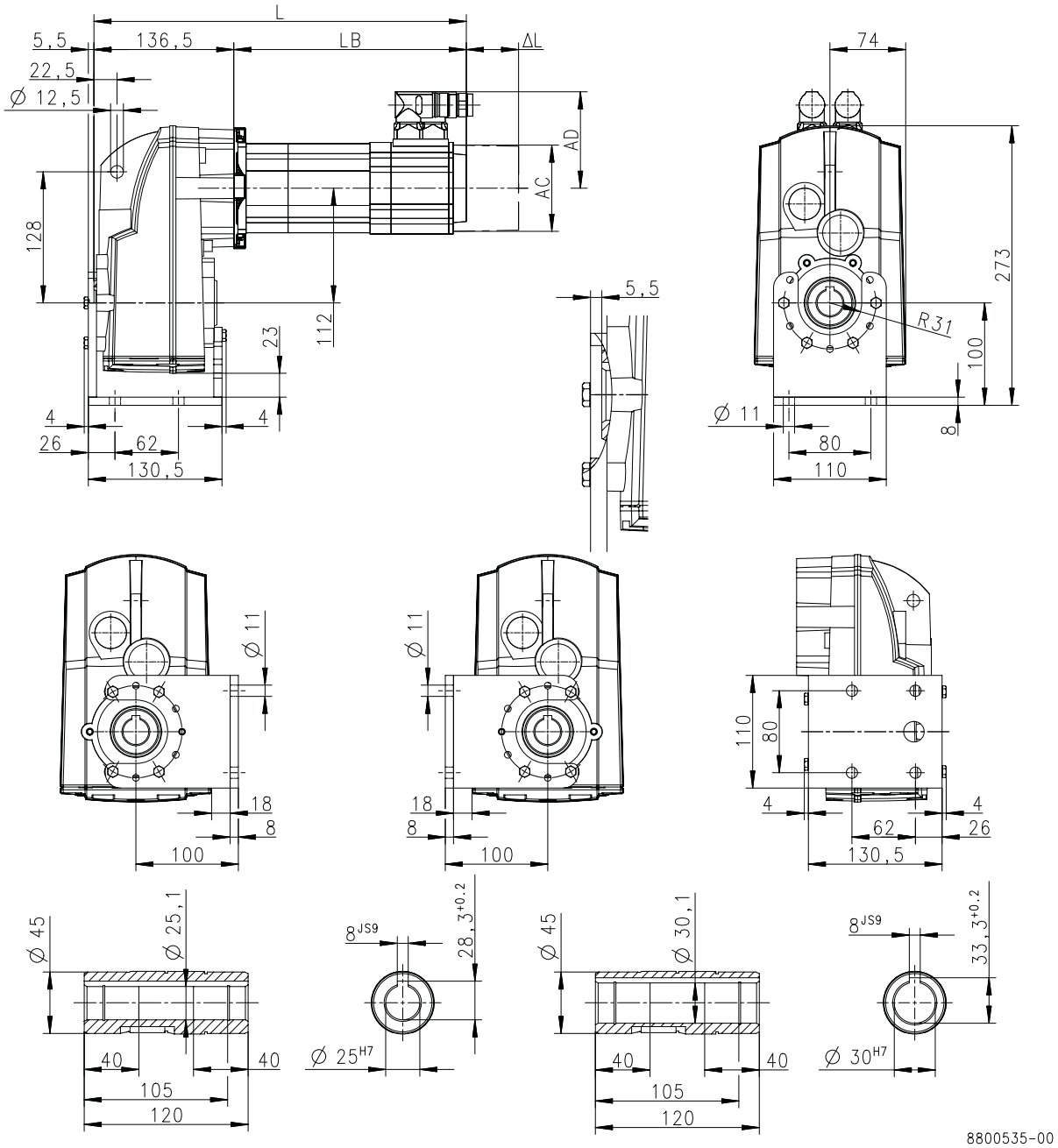
Gearbox design: hollow shaft, without foot (HDR/HCR/HCK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	472	404
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S220 with MCA13

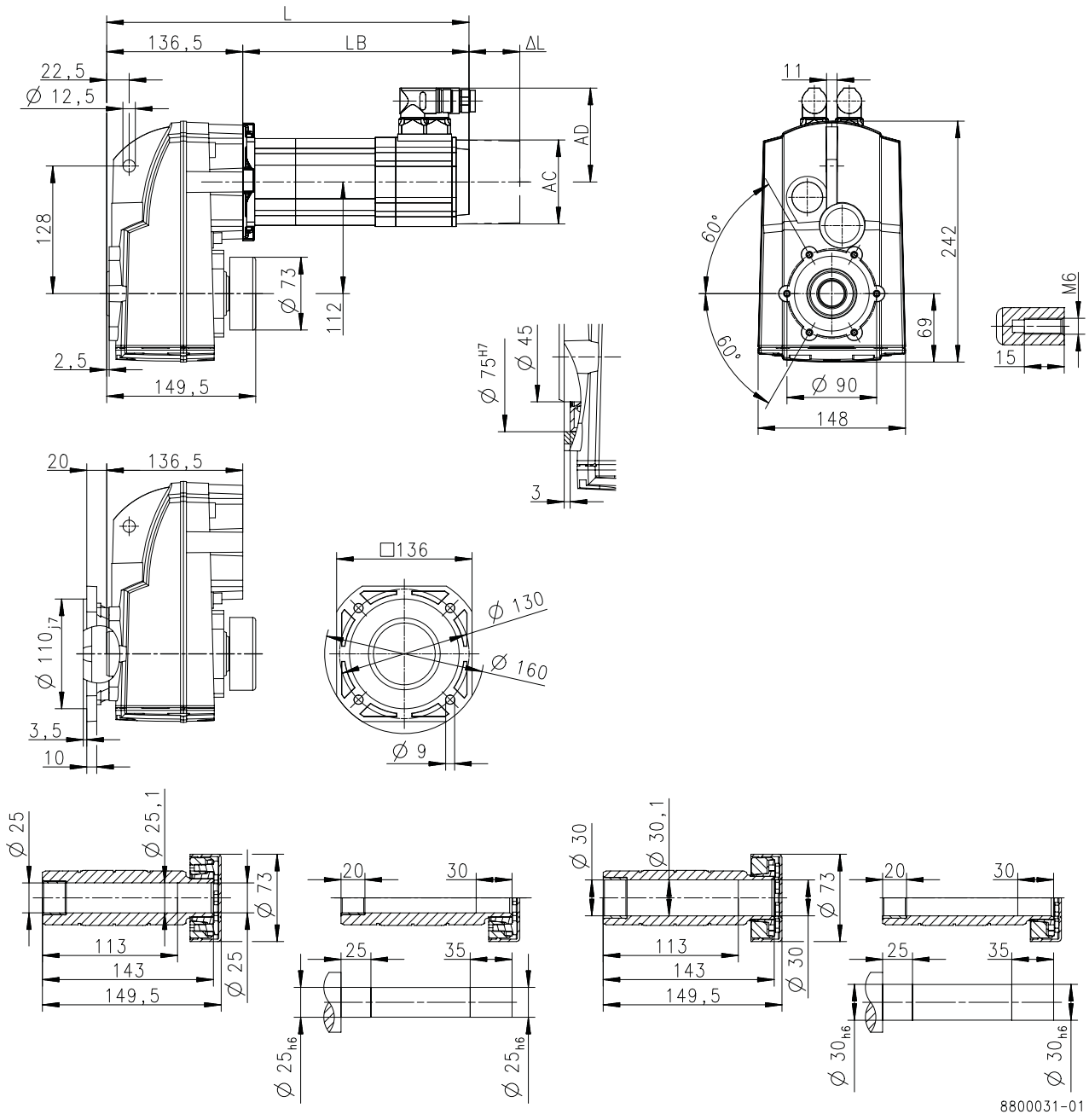
Gearbox design: hollow shaft, with foot (HBR)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	472	404
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S220 with MCA13

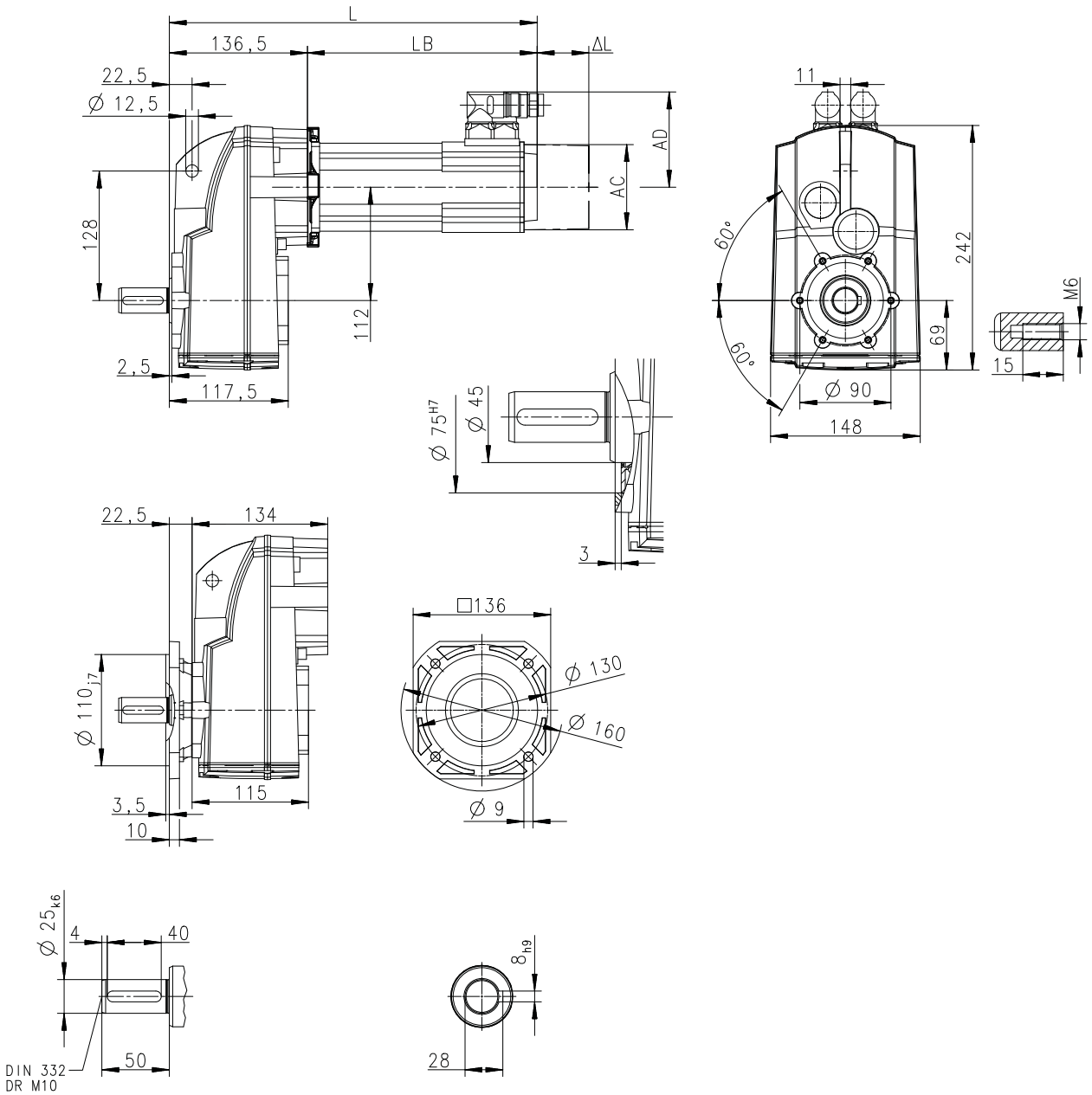
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	472	404
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S220 with MCA13

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

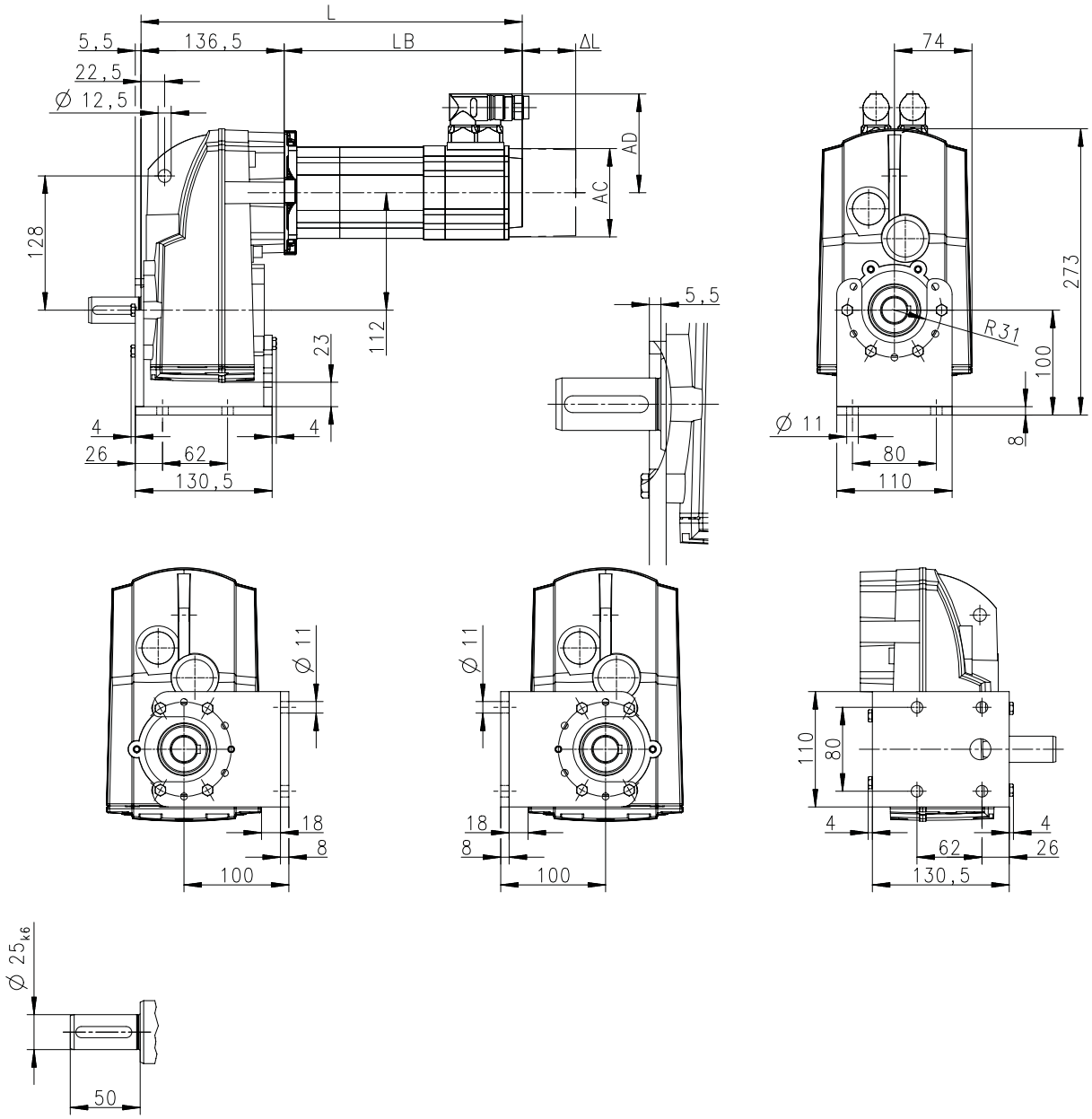


8800030-00

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	472	404
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S220 with MCA13

Gearbox design: solid shaft, with foot (VBR)

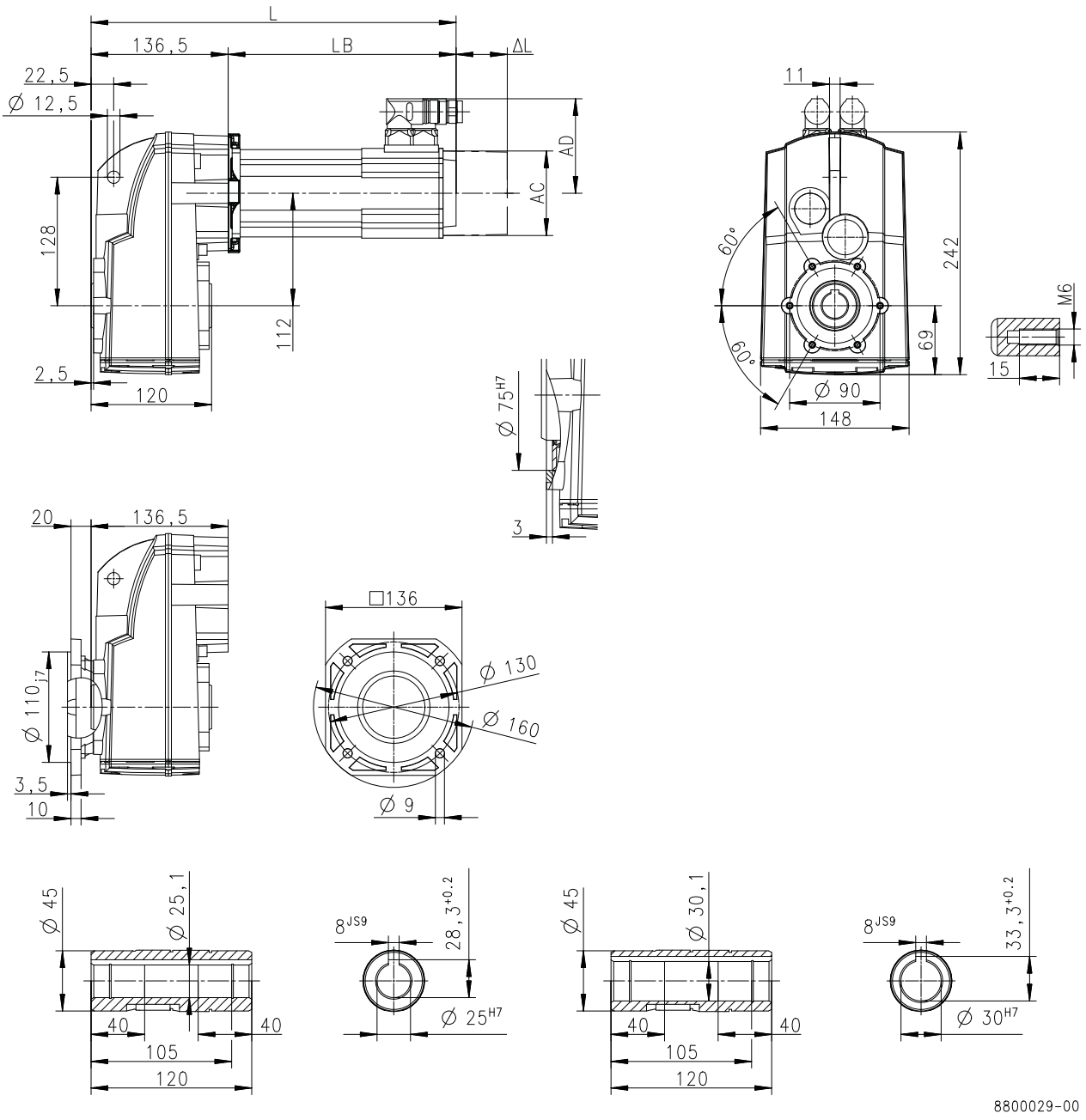


8800032-00

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	472	404
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S220 with MCA14

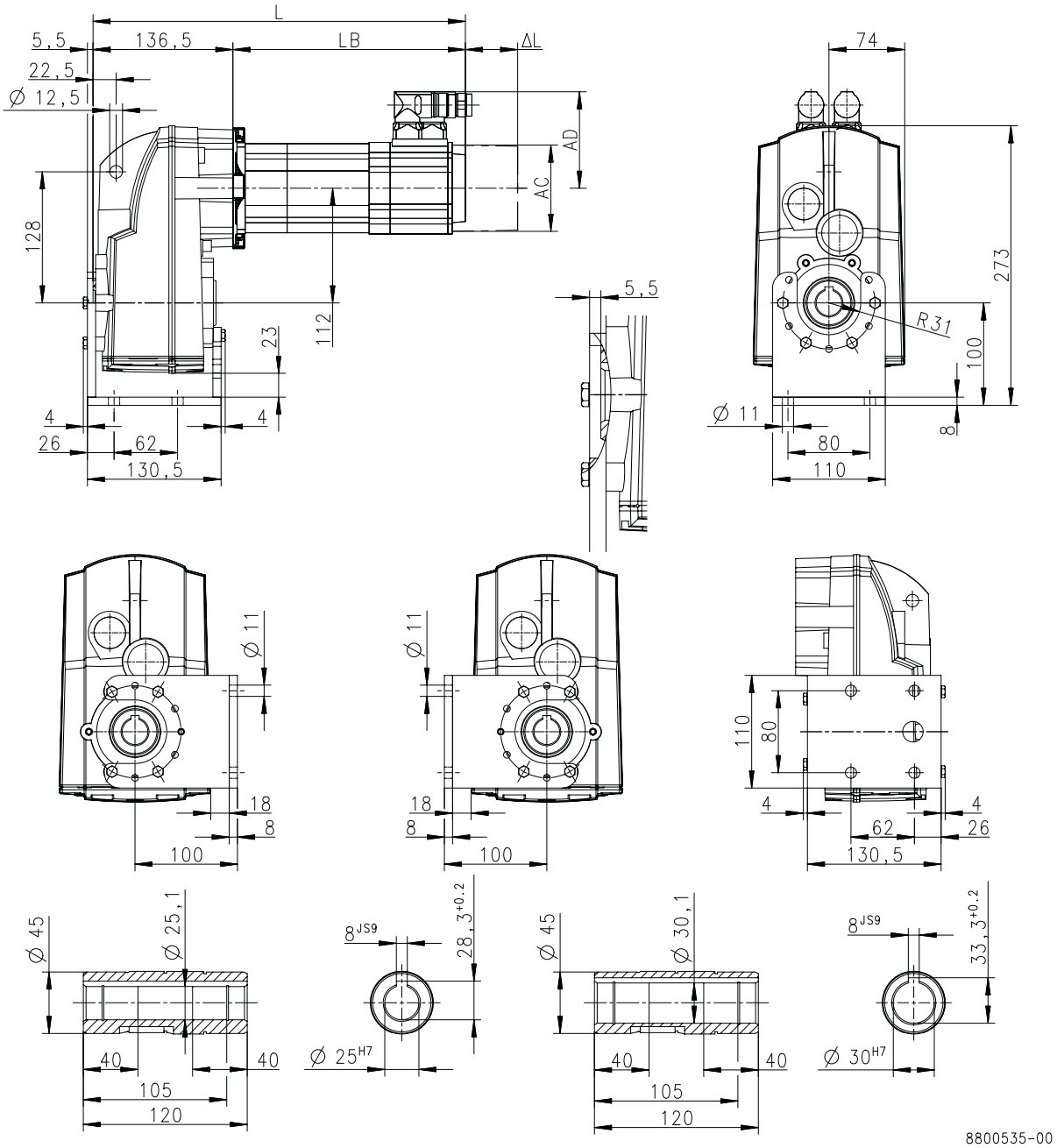
Gearbox design: hollow shaft, without foot (HDR/HCR/HCK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			Forced	Natural	Forced	Natural
Total length	L	mm	516	454	516	454
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S220 with MCA14

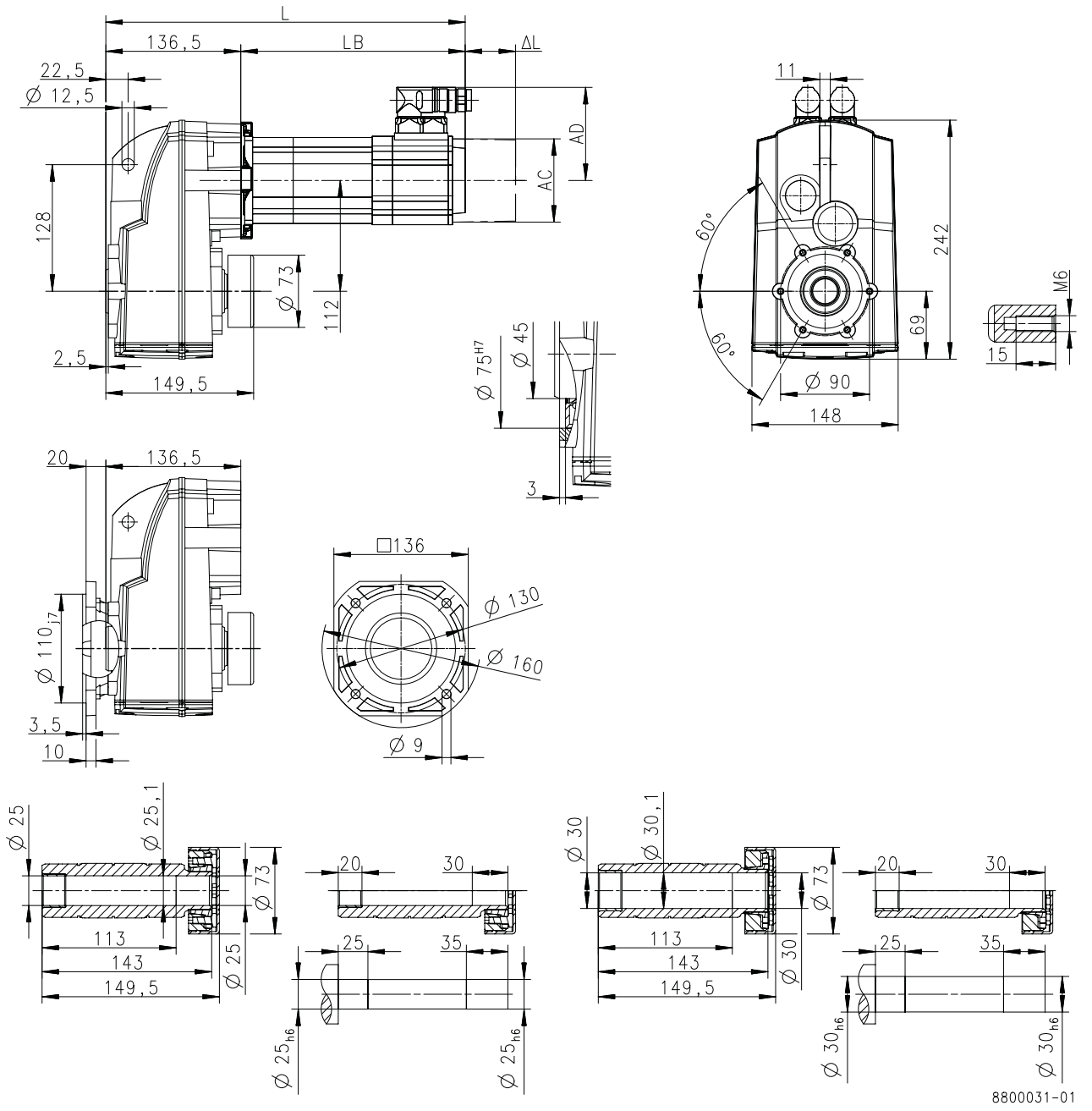
Gearbox design: hollow shaft, with foot (HBR)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	516	454	516	454
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S220 with MCA14

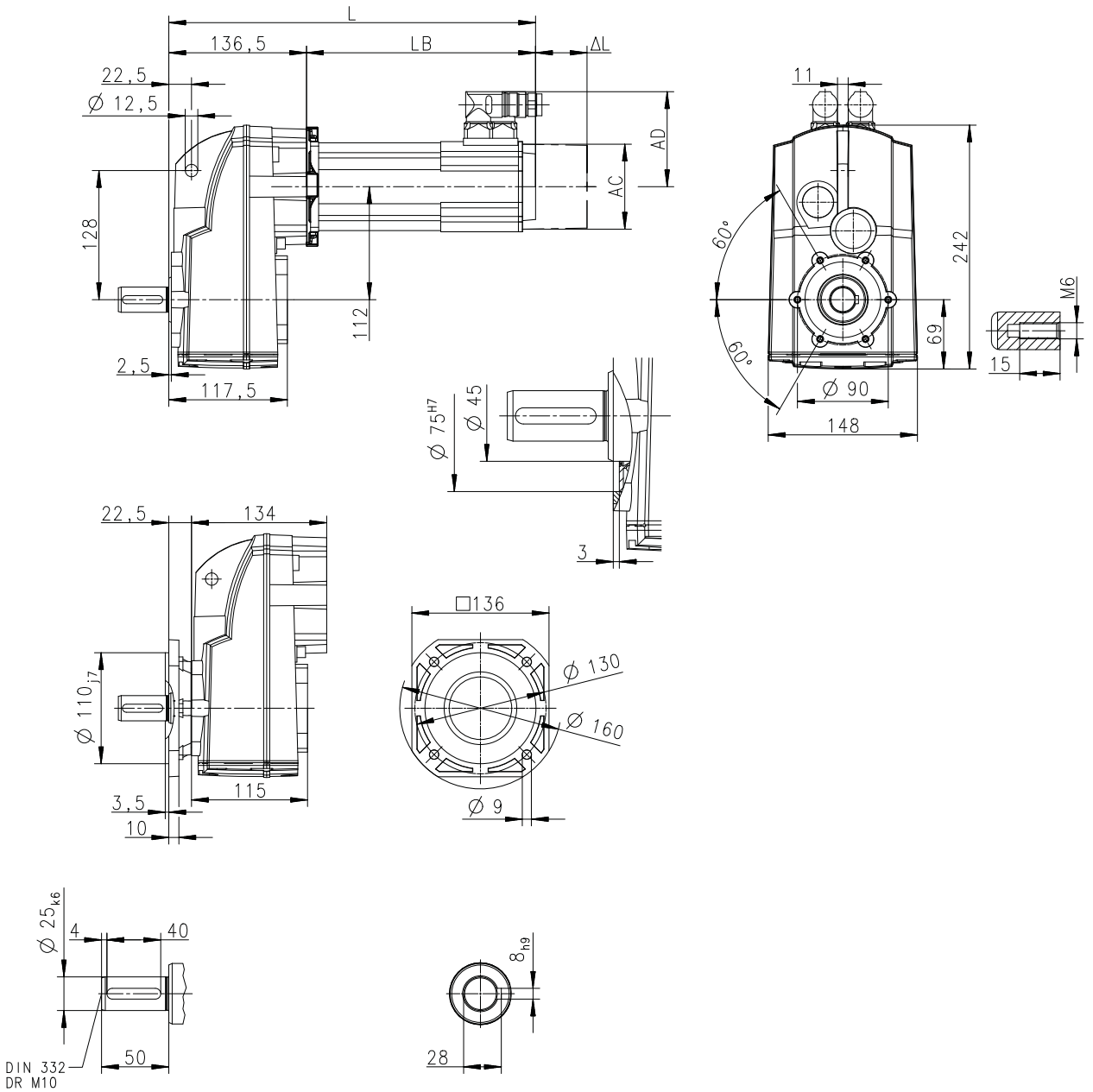
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	516	454	516	454
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S220 with MCA14

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

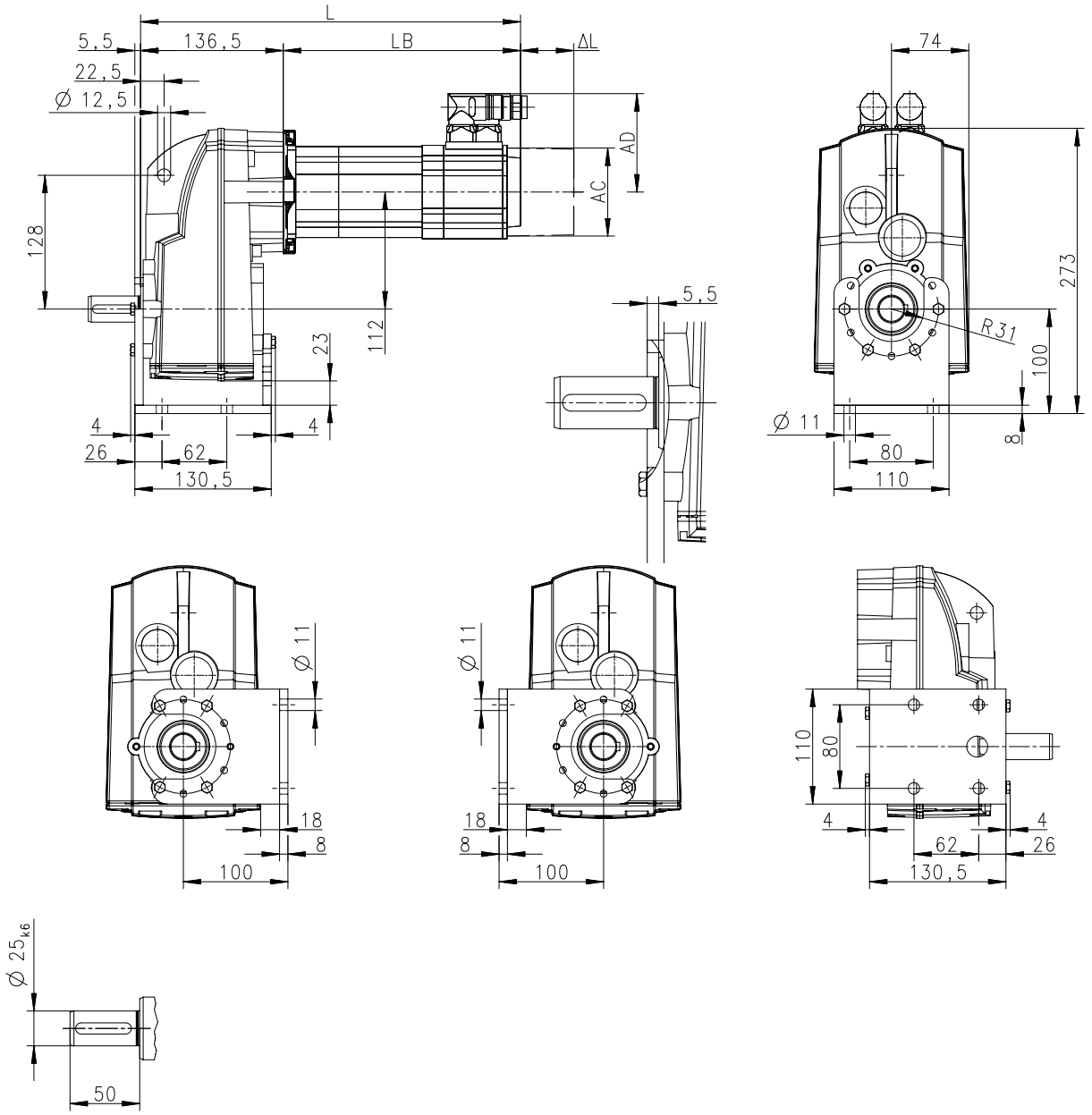


8800030-00

Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	516	454	516	454
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S220 with MCA14

Gearbox design: solid shaft, with foot (VBR)

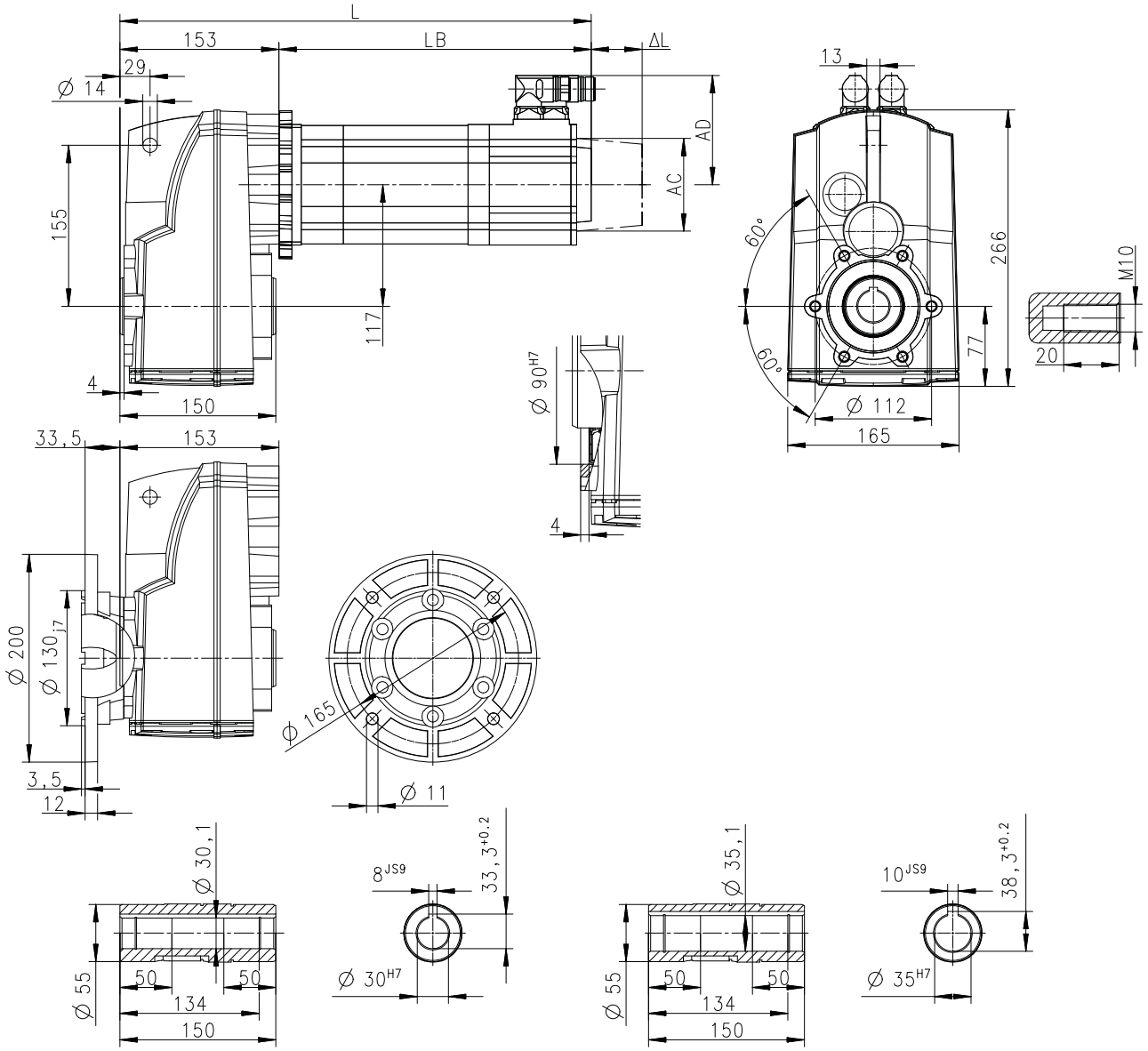


8800032-00

Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	516	454	516	454
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S400 with MCA10

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

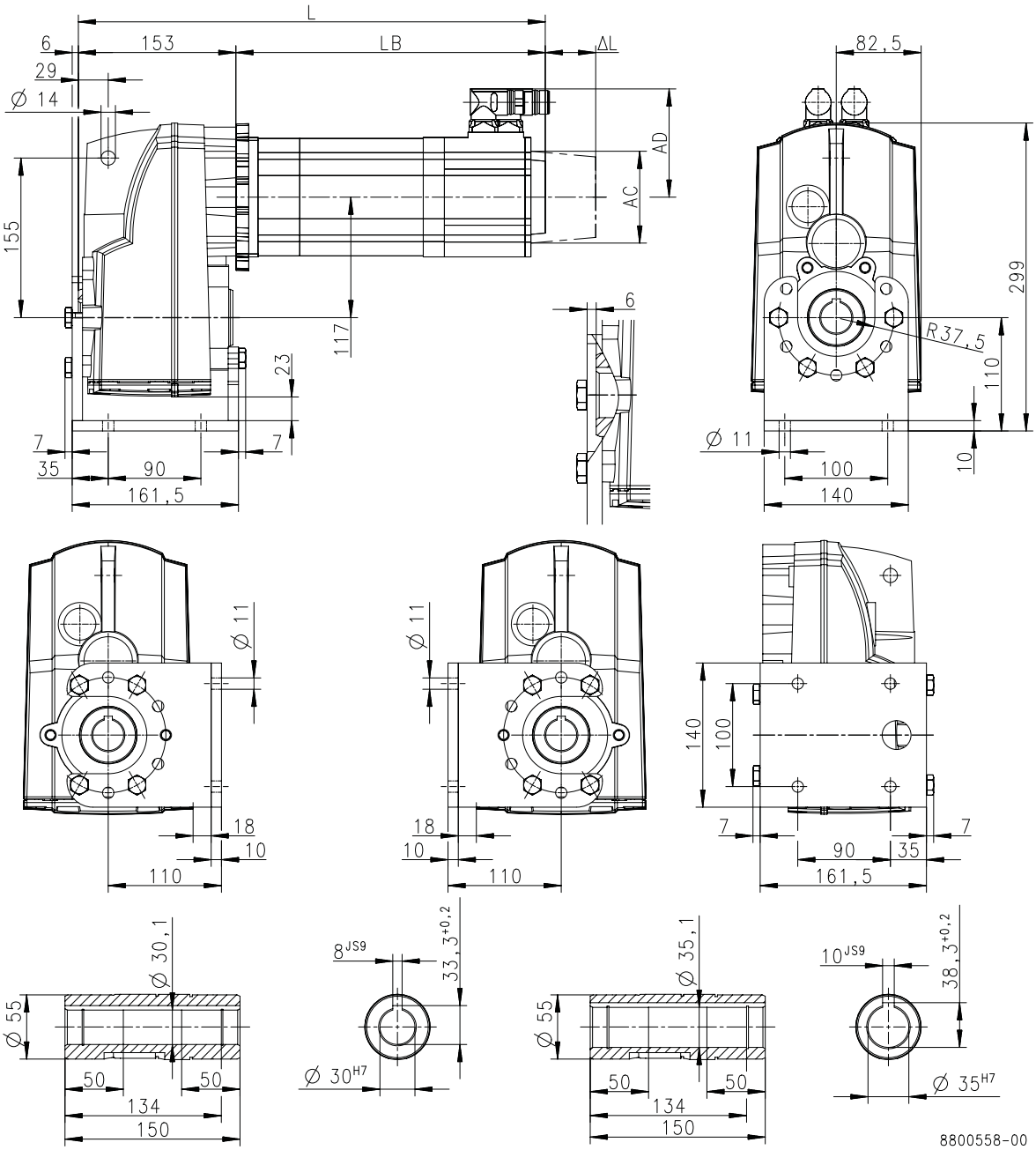


8800045-00

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	412
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S400 with MCA10

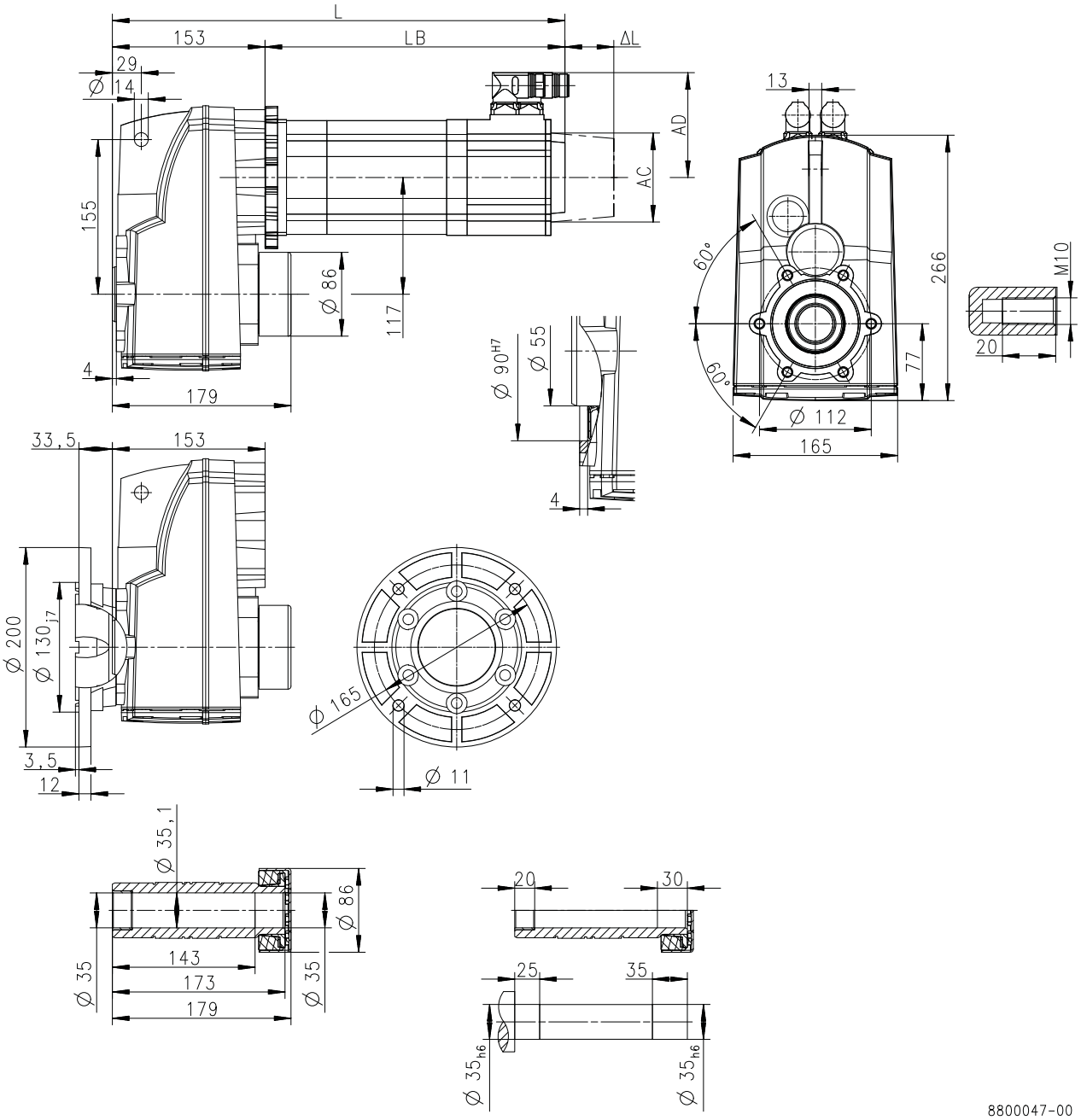
Gearbox design: hollow shaft, with foot (HBR)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	412
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S400 with MCA10

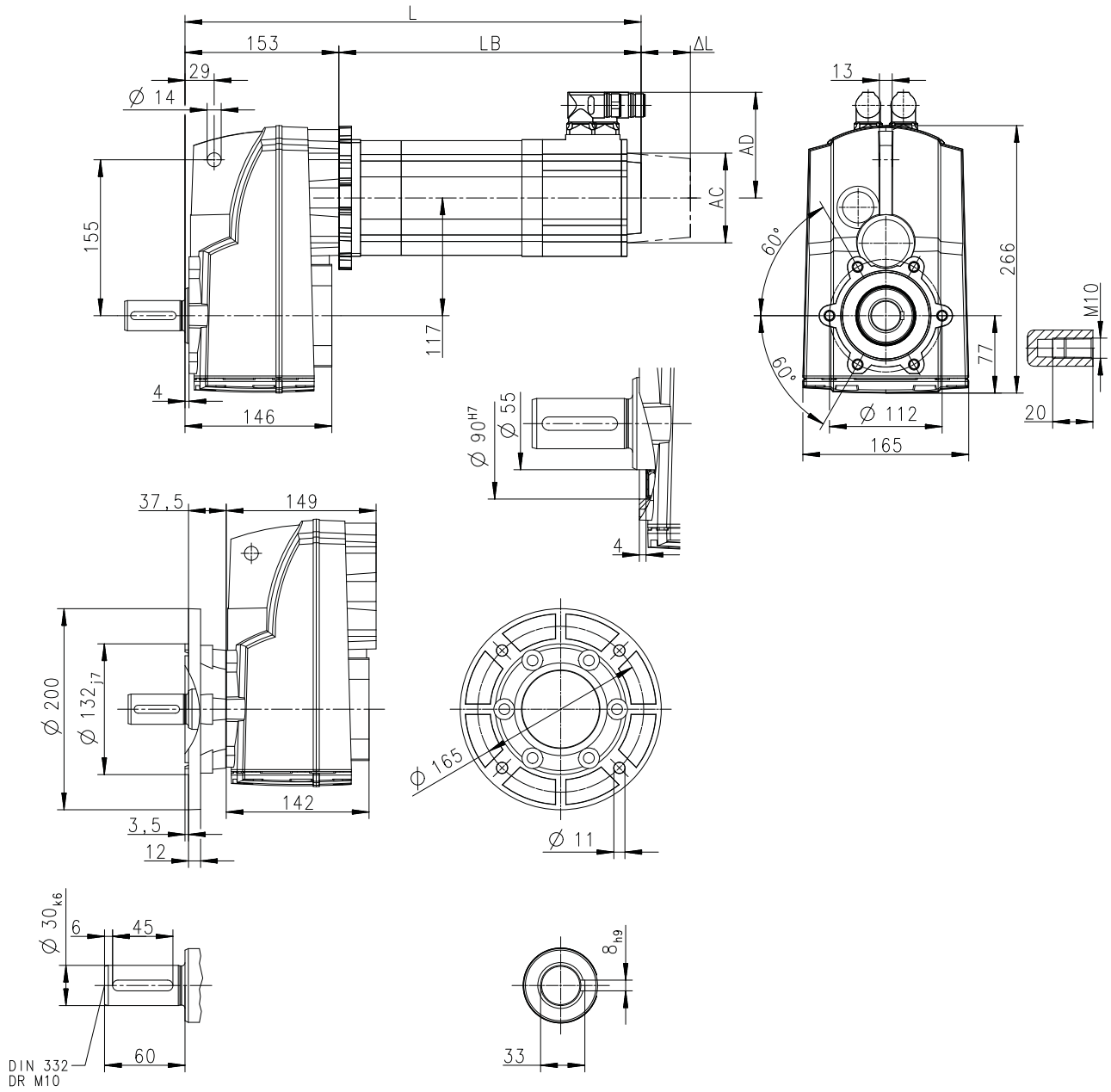
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	412
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S400 with MCA10

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

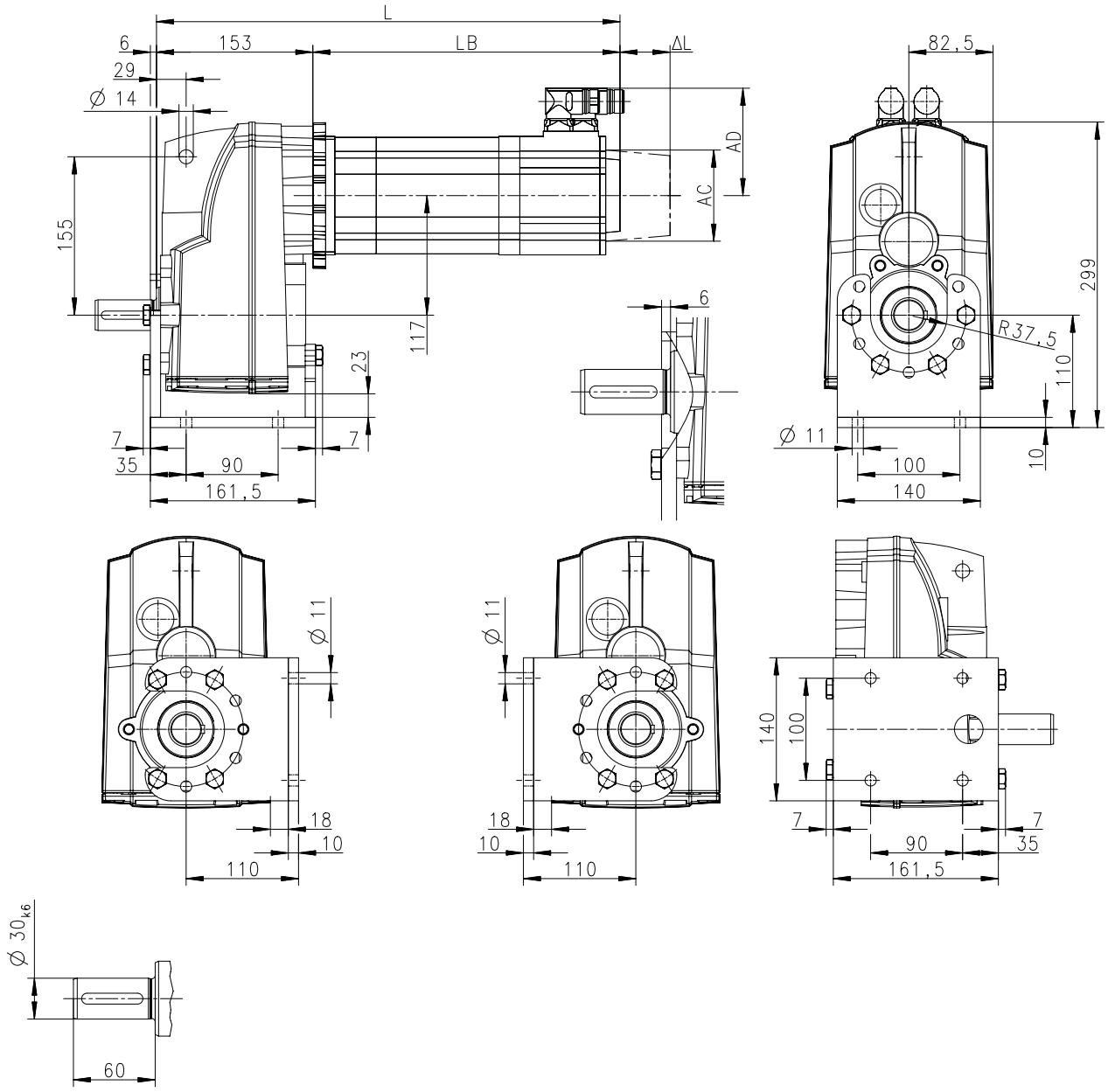


8800046-00

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	412
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S400 with MCA10

Gearbox design: solid shaft, with foot (VBR)

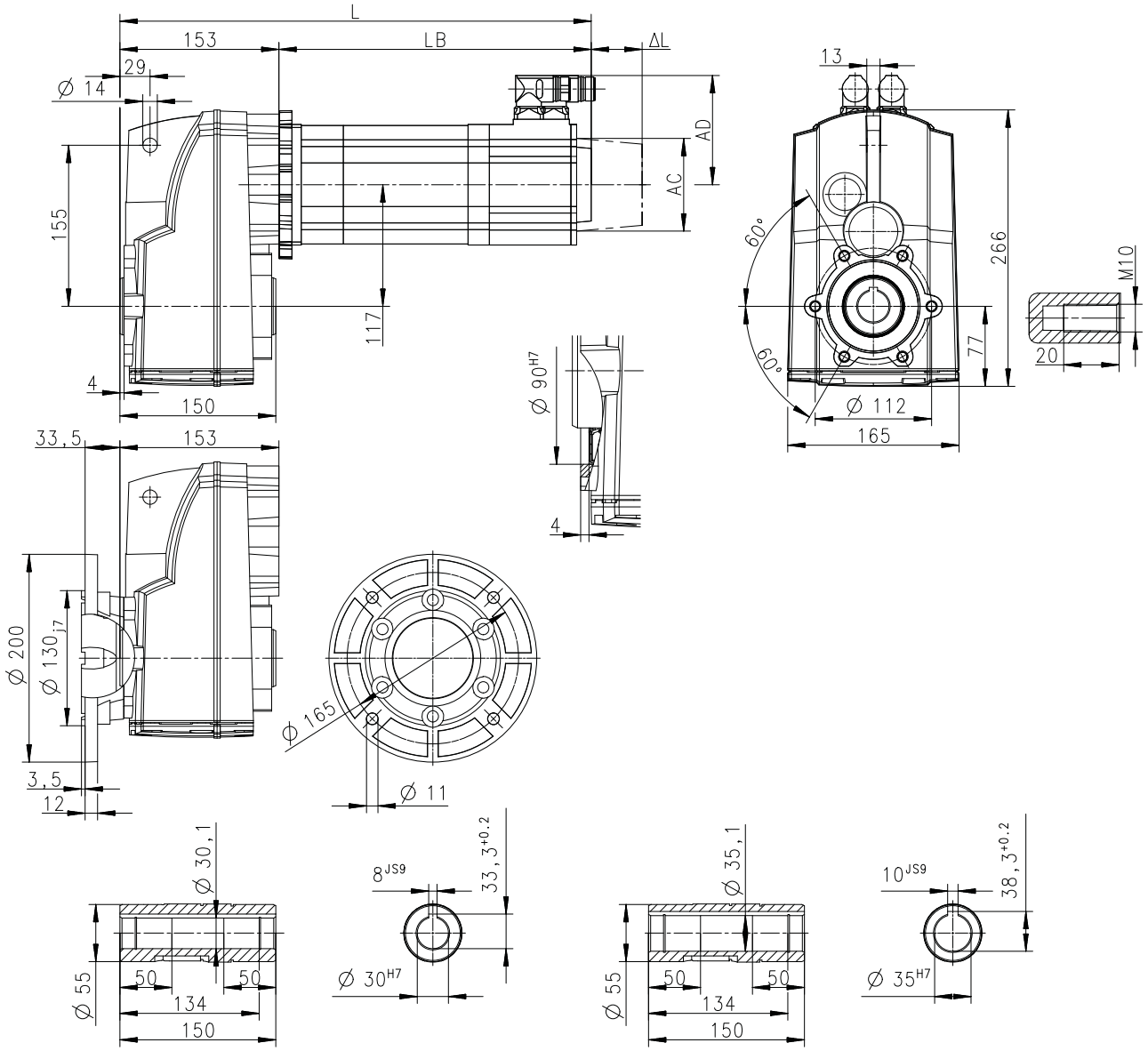


8800048-00

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	412
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S400 with MCA13

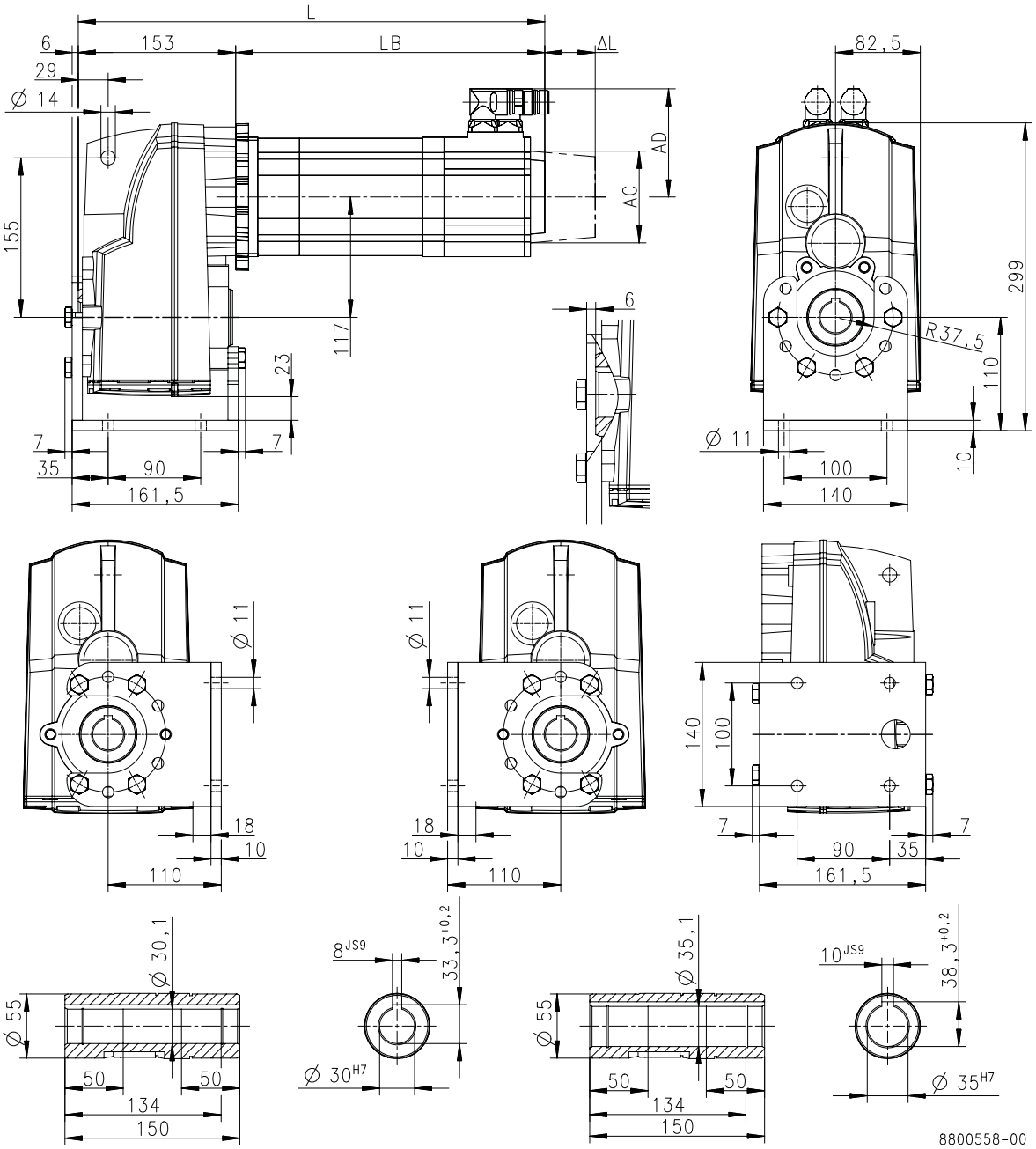
Gearbox design: hollow shaft, without foot (HDR/HCR/HCK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	489	421
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S400 with MCA13

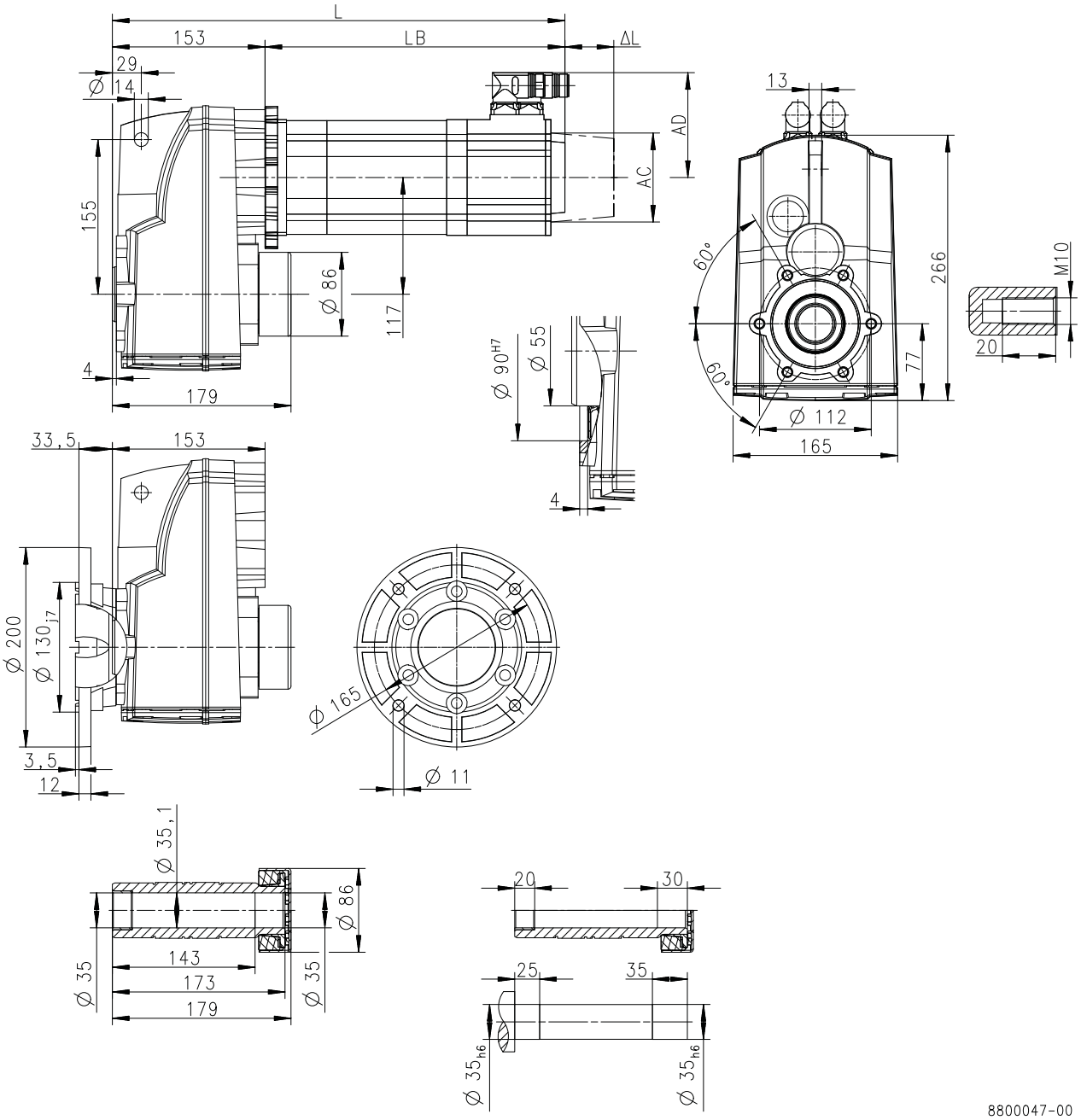
Gearbox design: hollow shaft, with foot (HBR)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	489	421
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S400 with MCA13

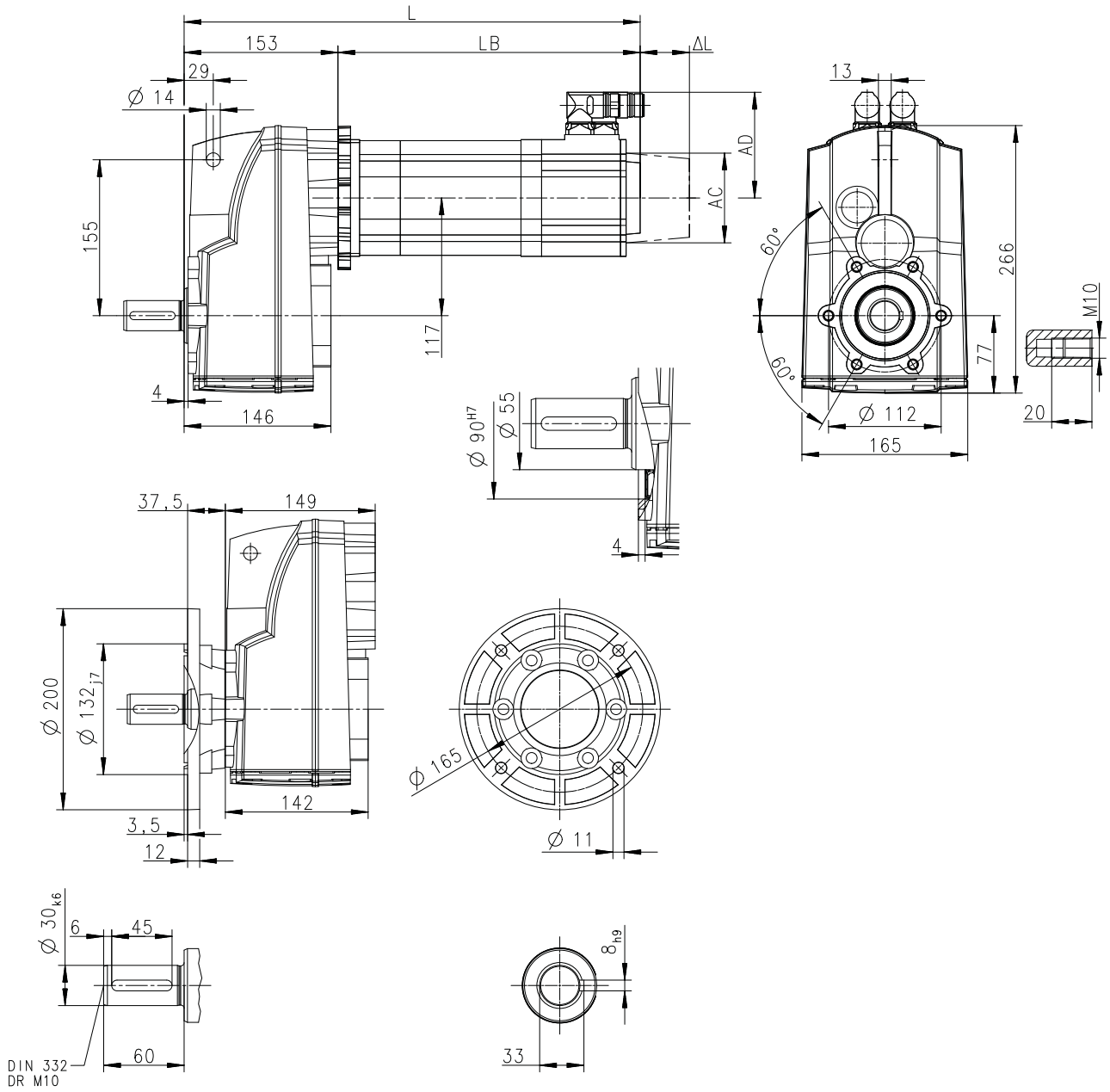
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	489	421
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S400 with MCA13

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

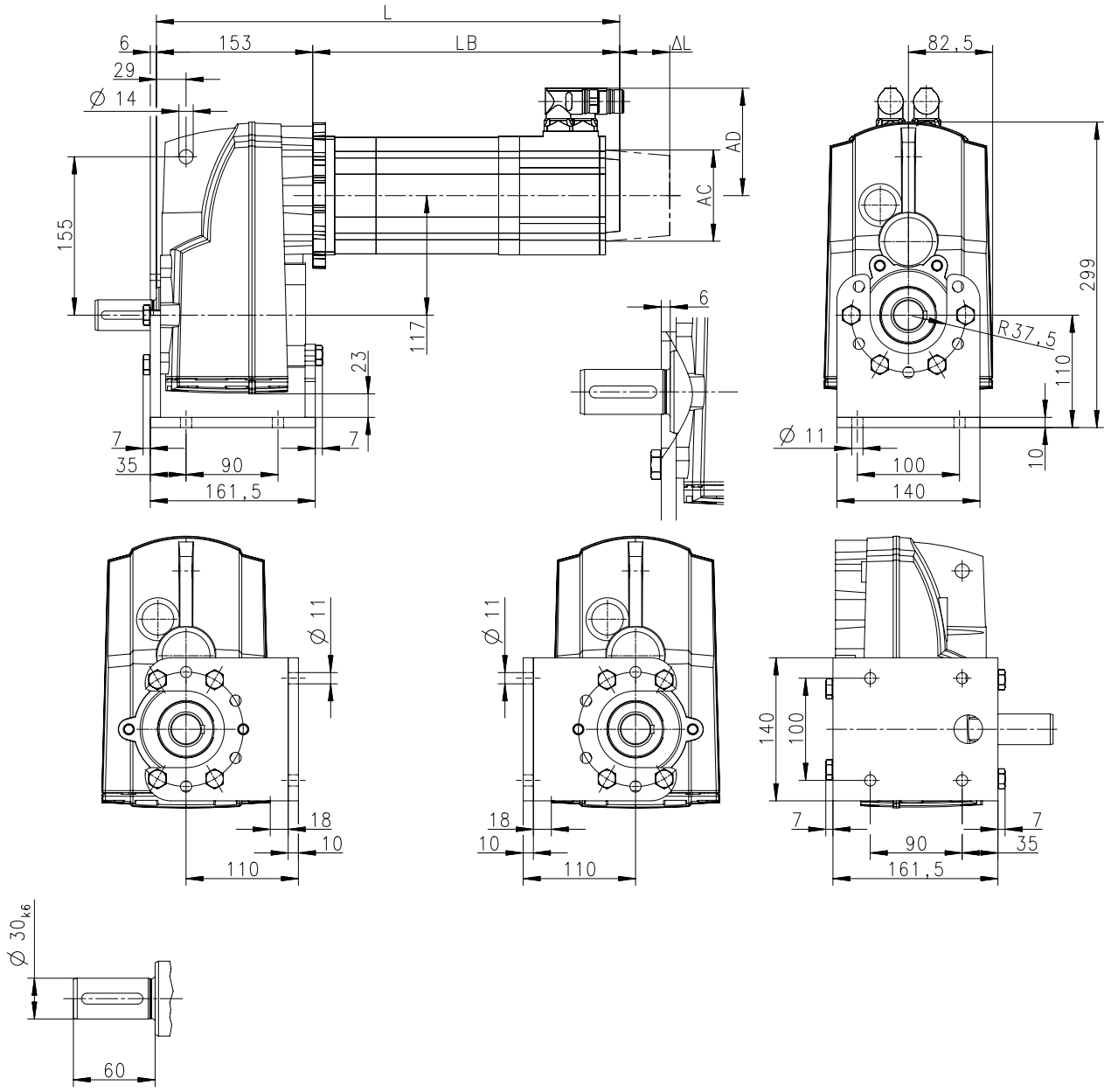


8800046-00

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	489	421
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S400 with MCA13

Gearbox design: solid shaft, with foot (VBR)

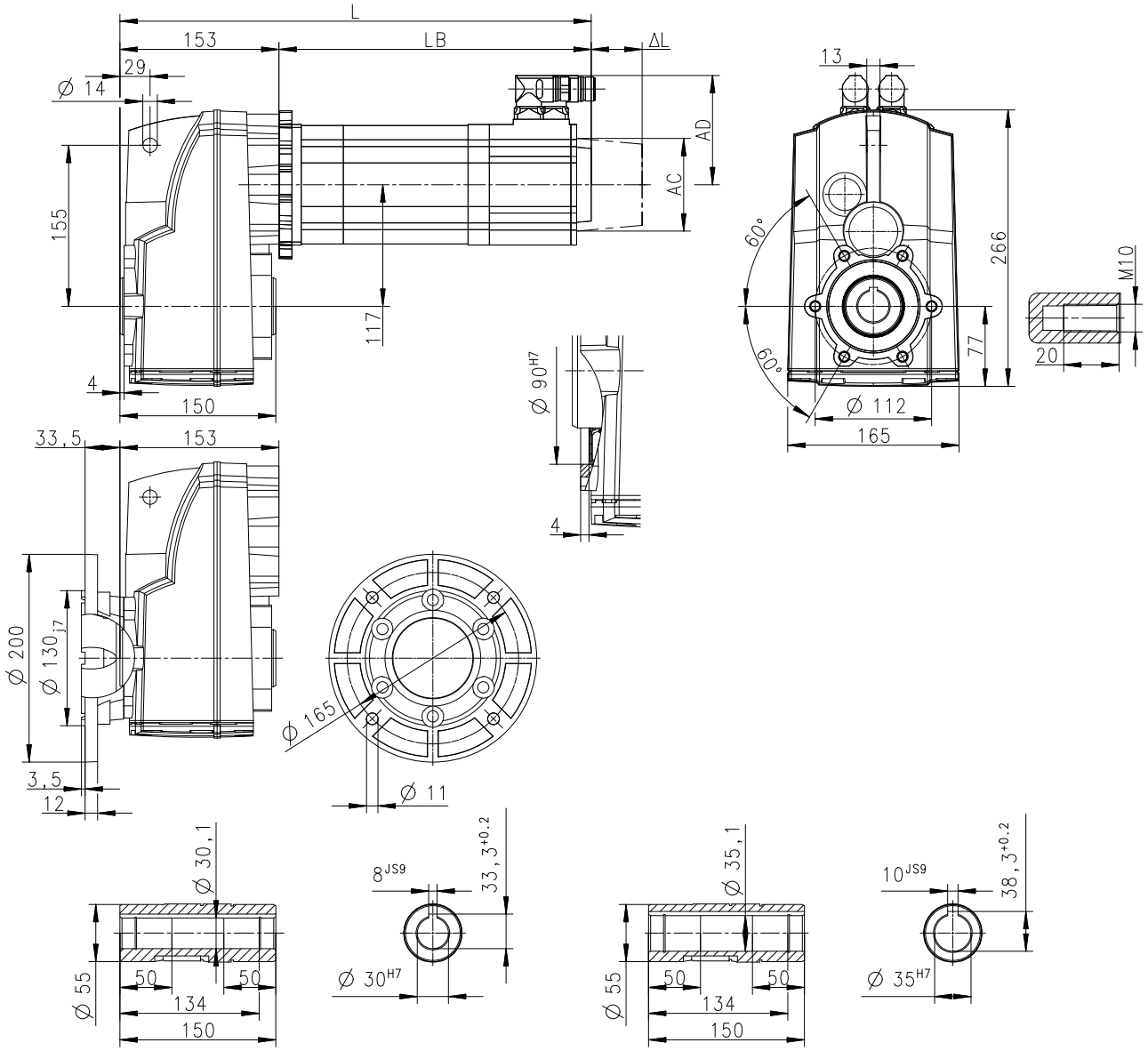


8800048-00

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	489	421
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S400 with MCA14

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

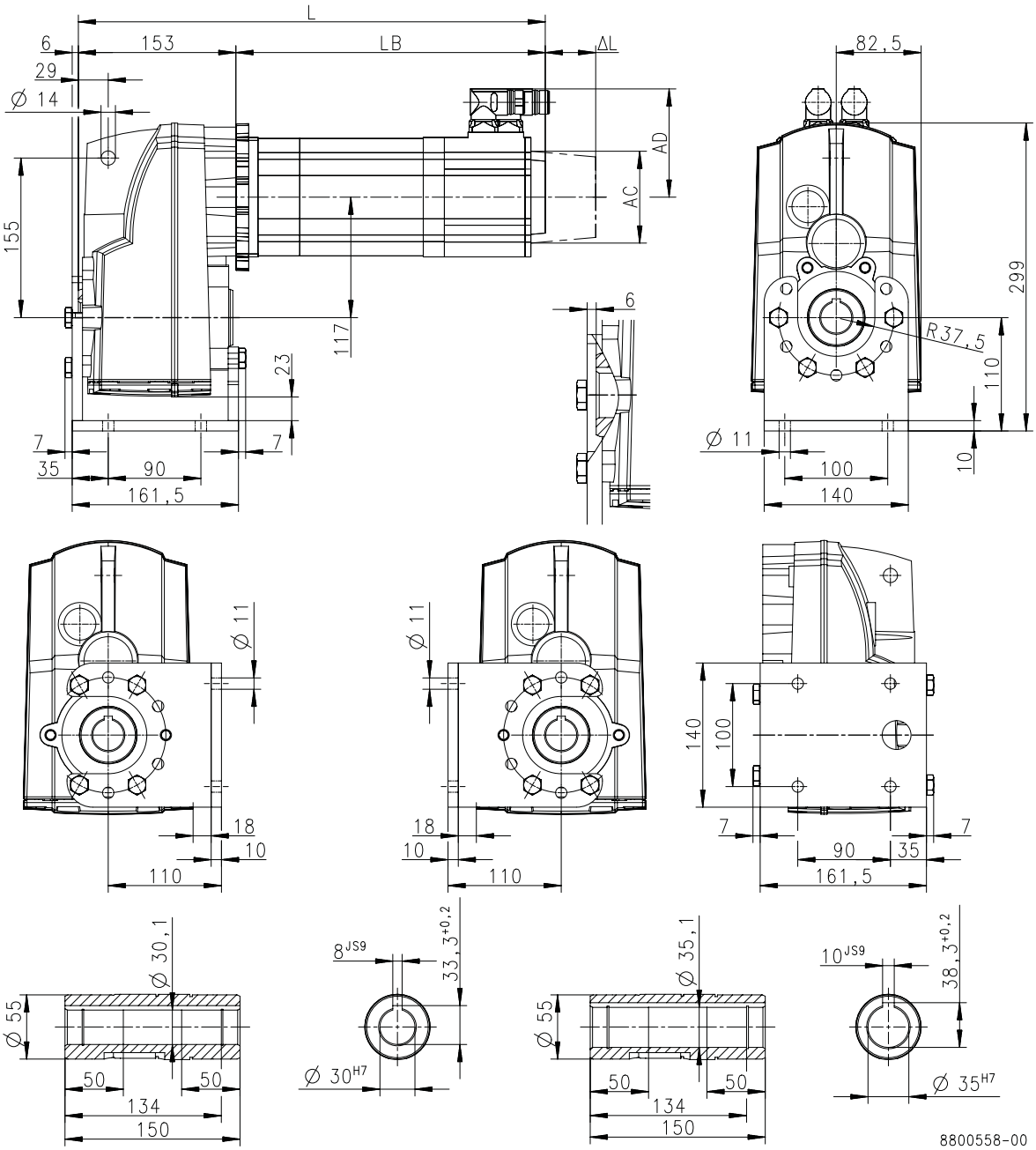


8800045-00

Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	533	471	533	471
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S400 with MCA14

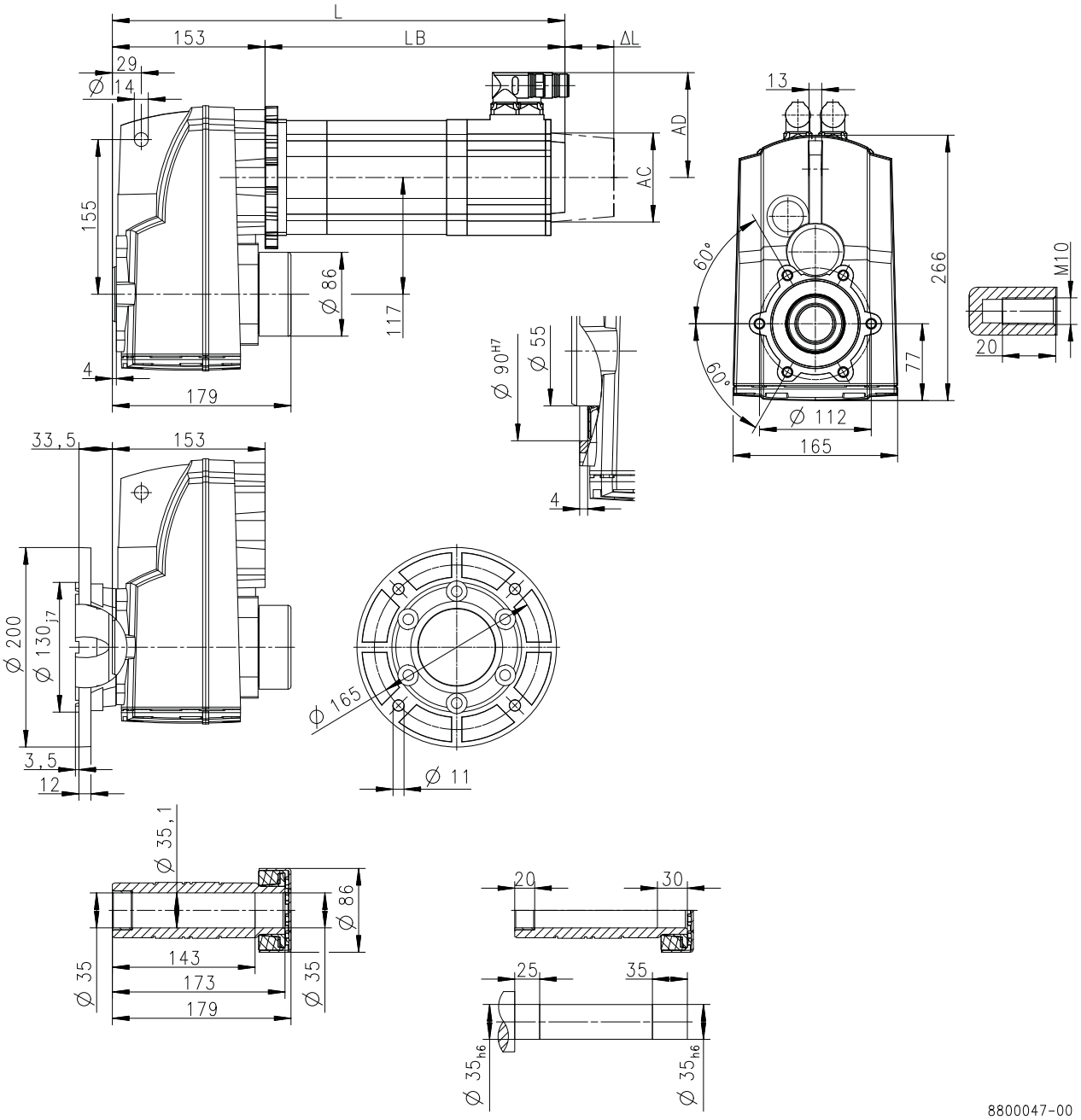
Gearbox design: hollow shaft, with foot (HBR)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	533	471	533	471
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S400 with MCA14

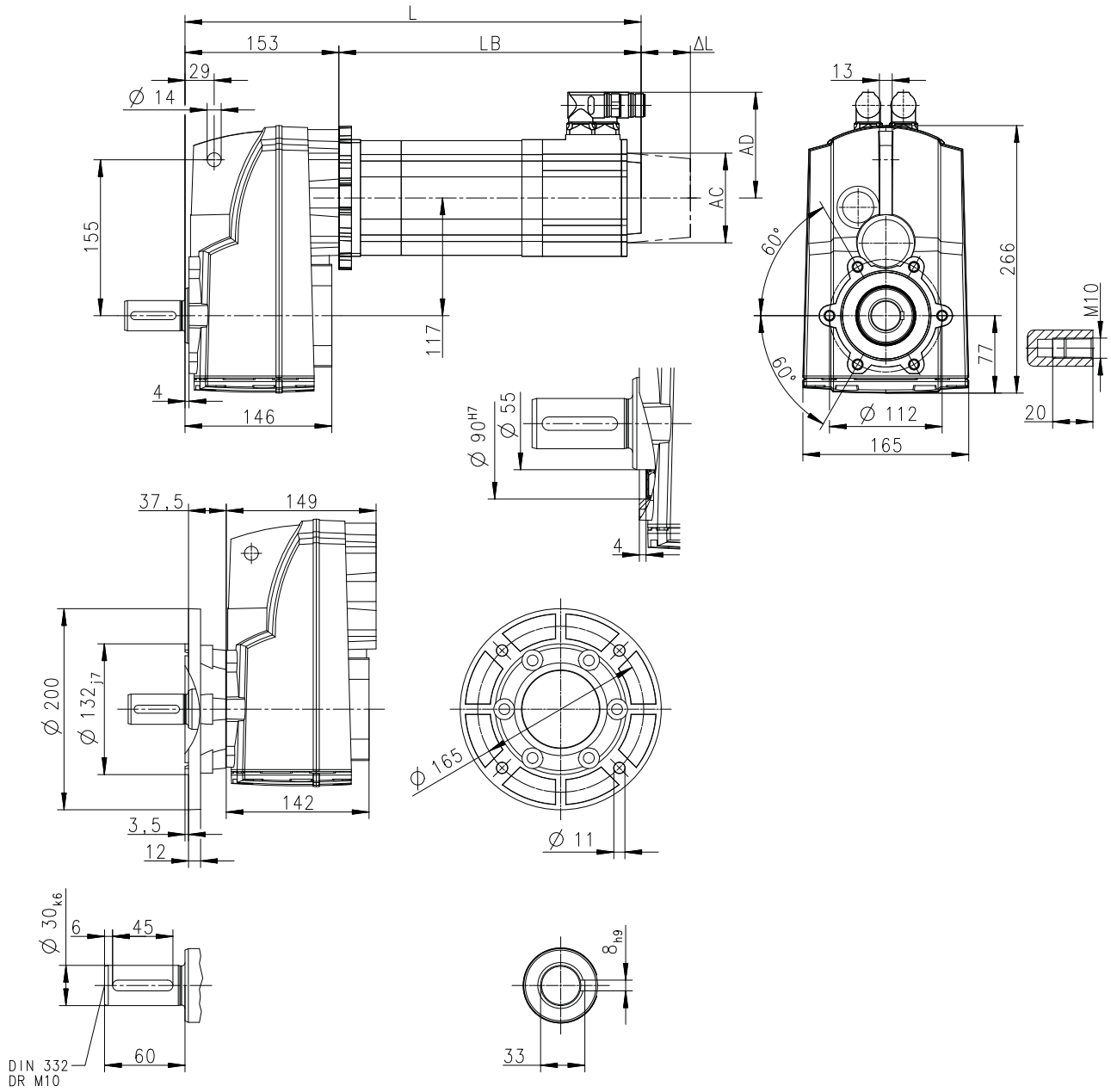
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	533	471	533	471
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S400 with MCA14

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

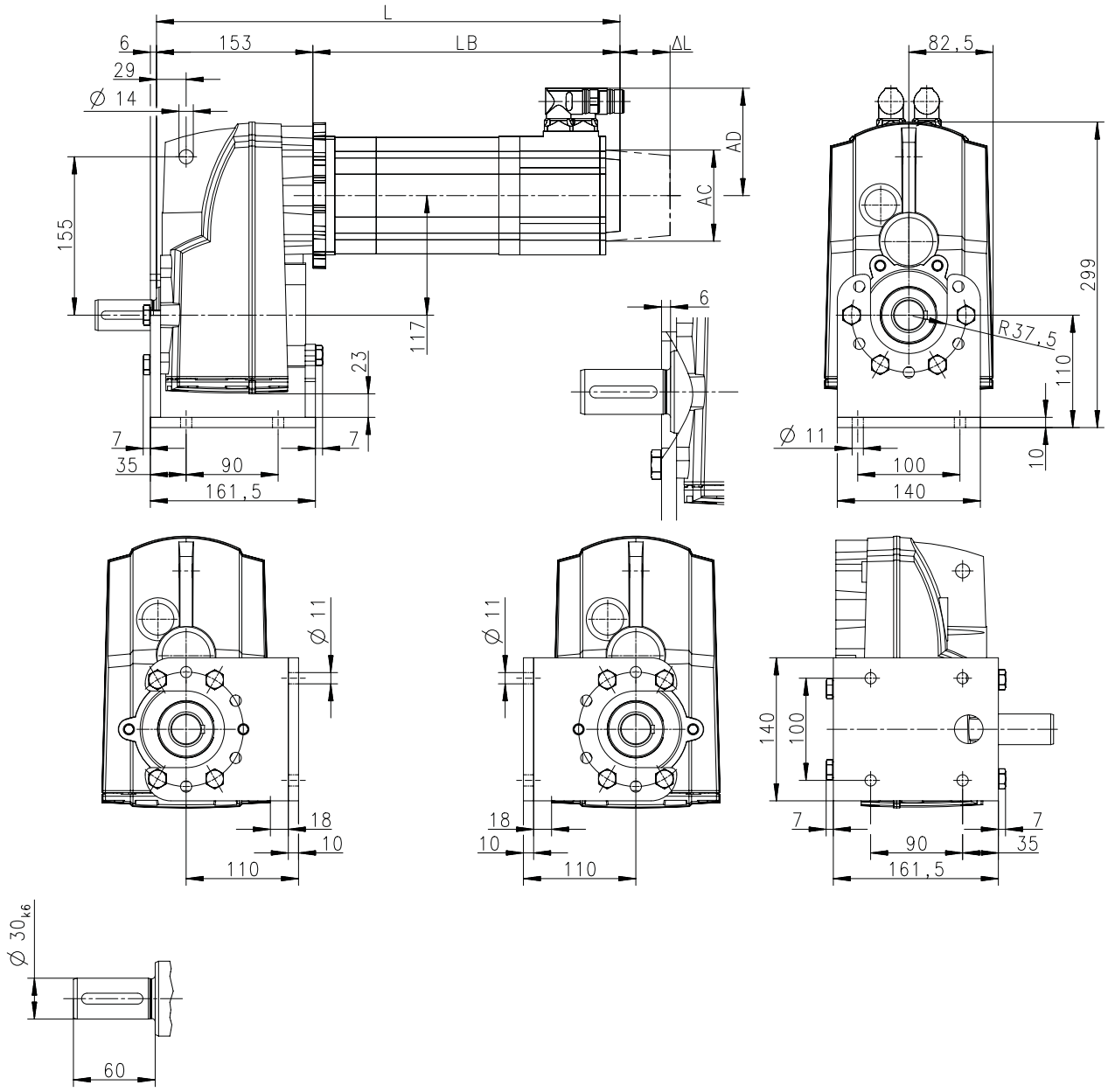


8800046-00

Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	533	471	533	471
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S400 with MCA14

Gearbox design: solid shaft, with foot (VBR)

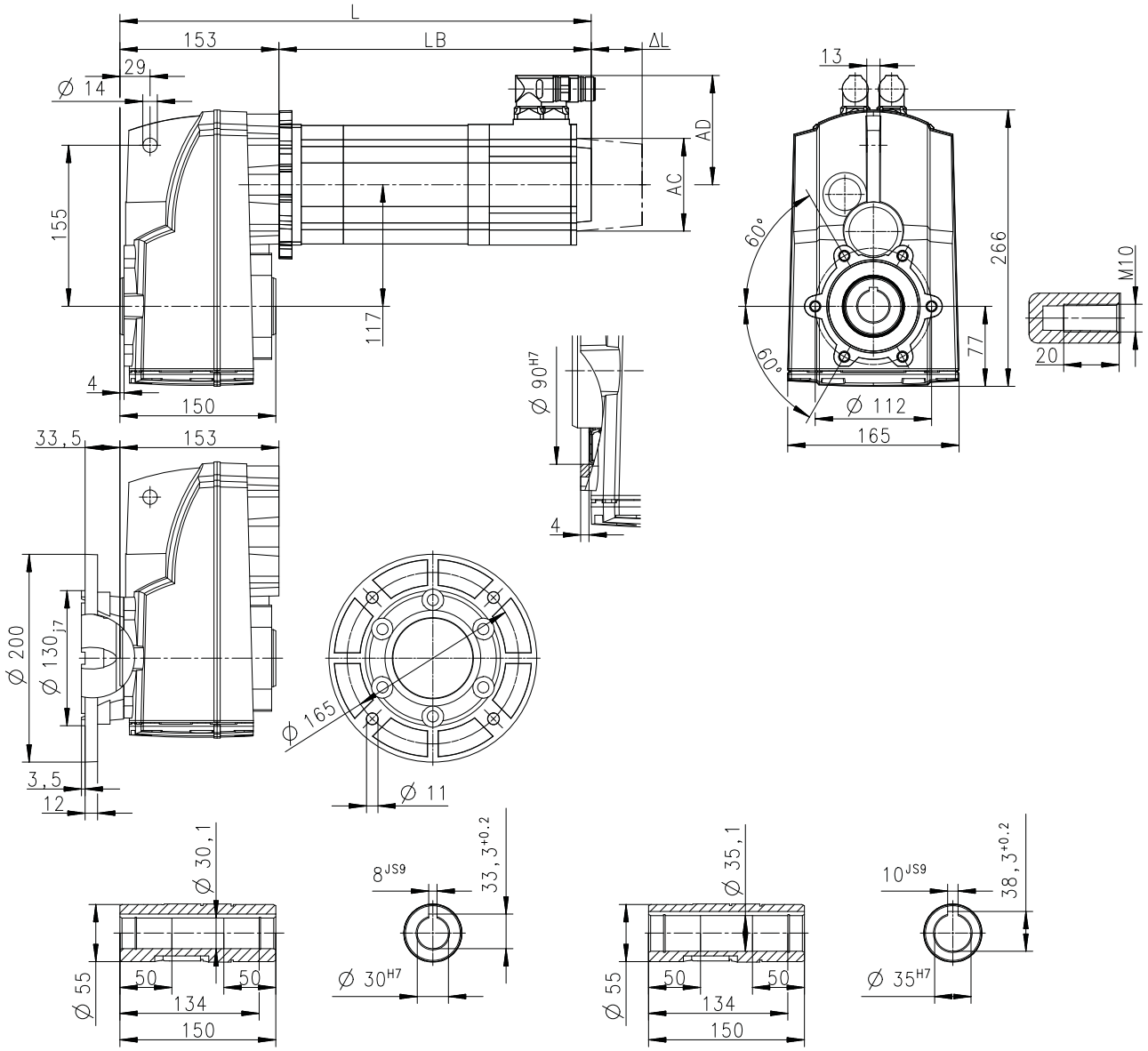


8800048-00

Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	533	471	533	471
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S400 with MCA17

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

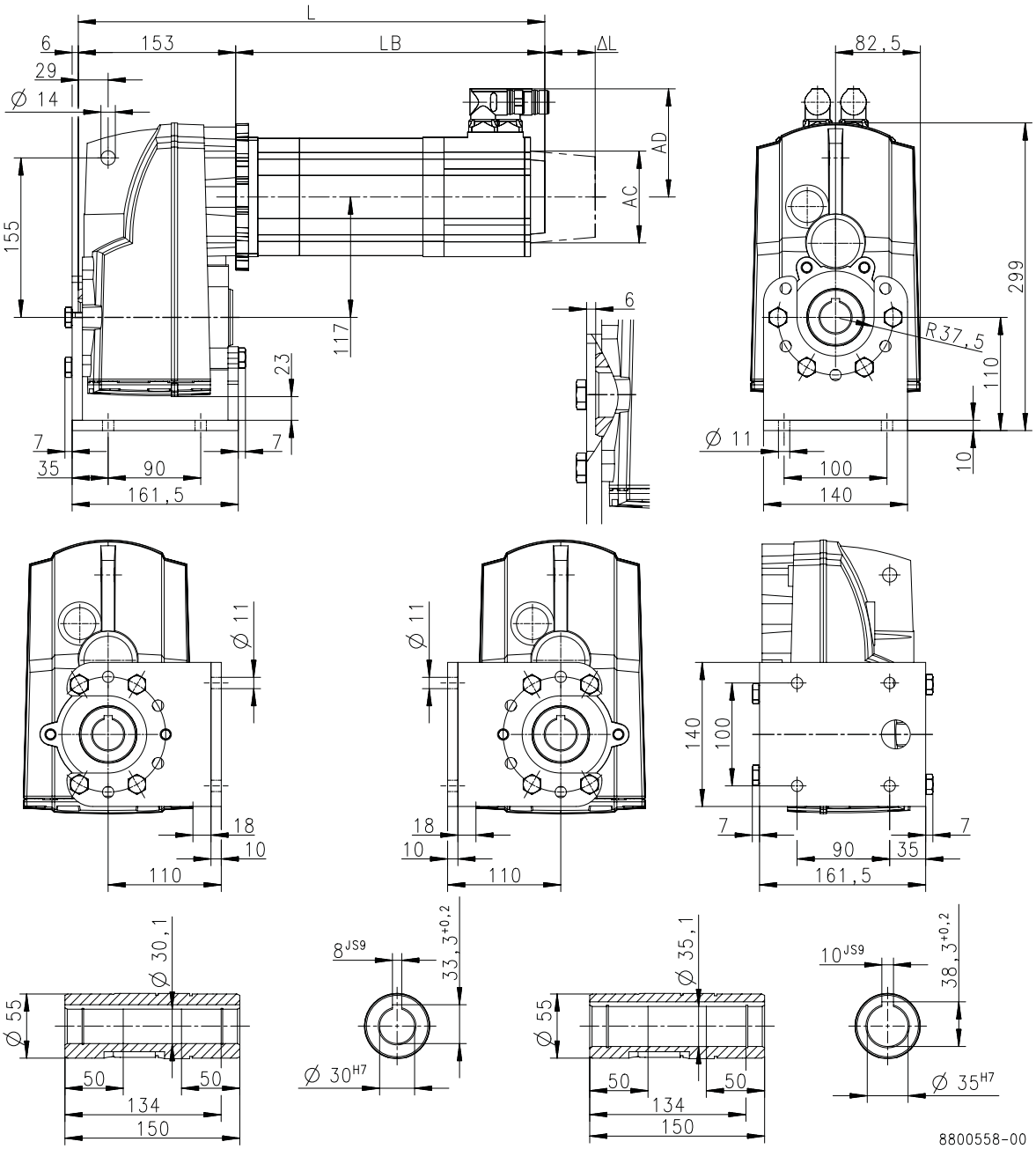


8800045-00

Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	596	510	596	510
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S400 with MCA17

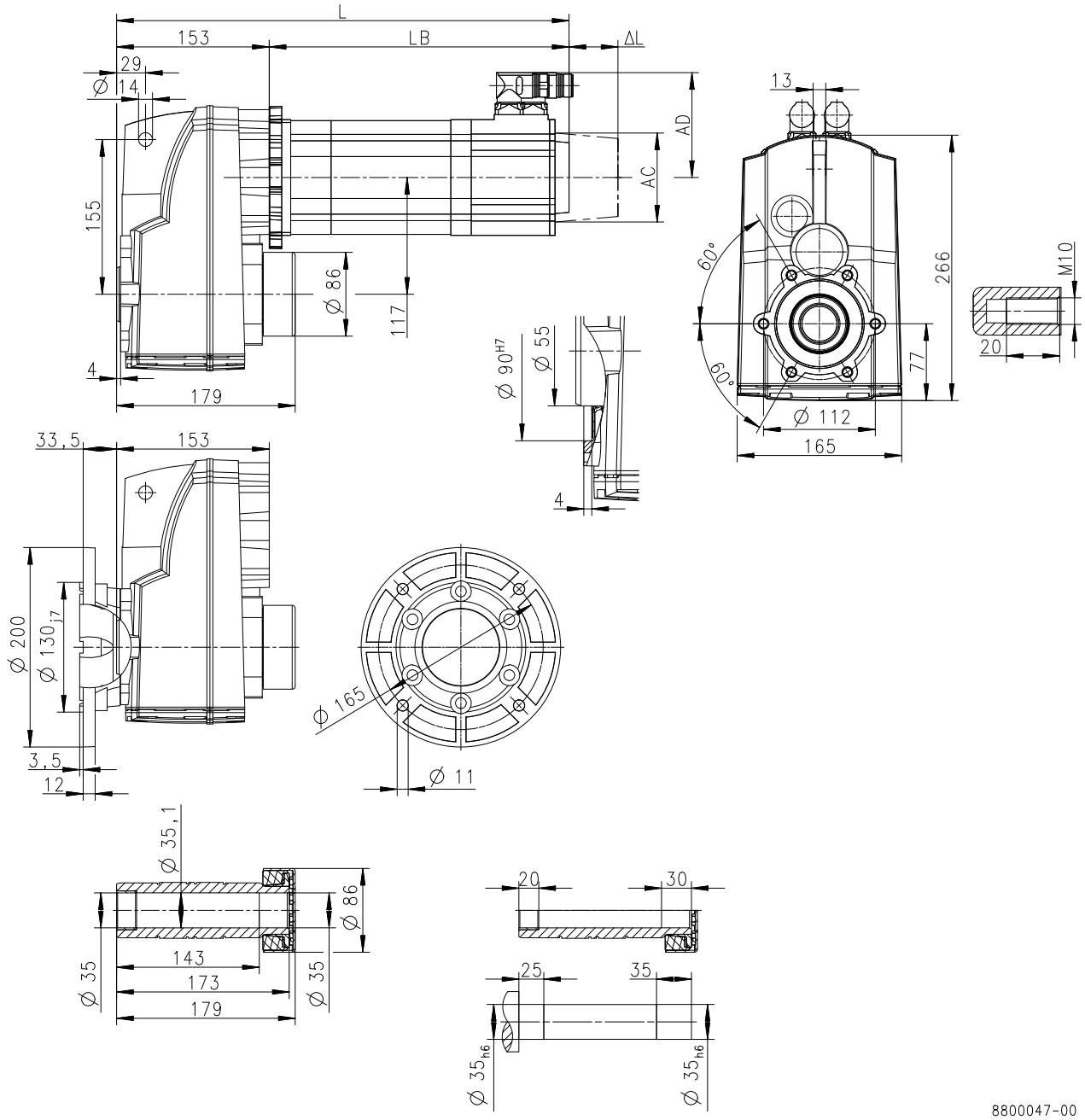
Gearbox design: hollow shaft, with foot (HBR)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	596	510	596	510
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S400 with MCA17

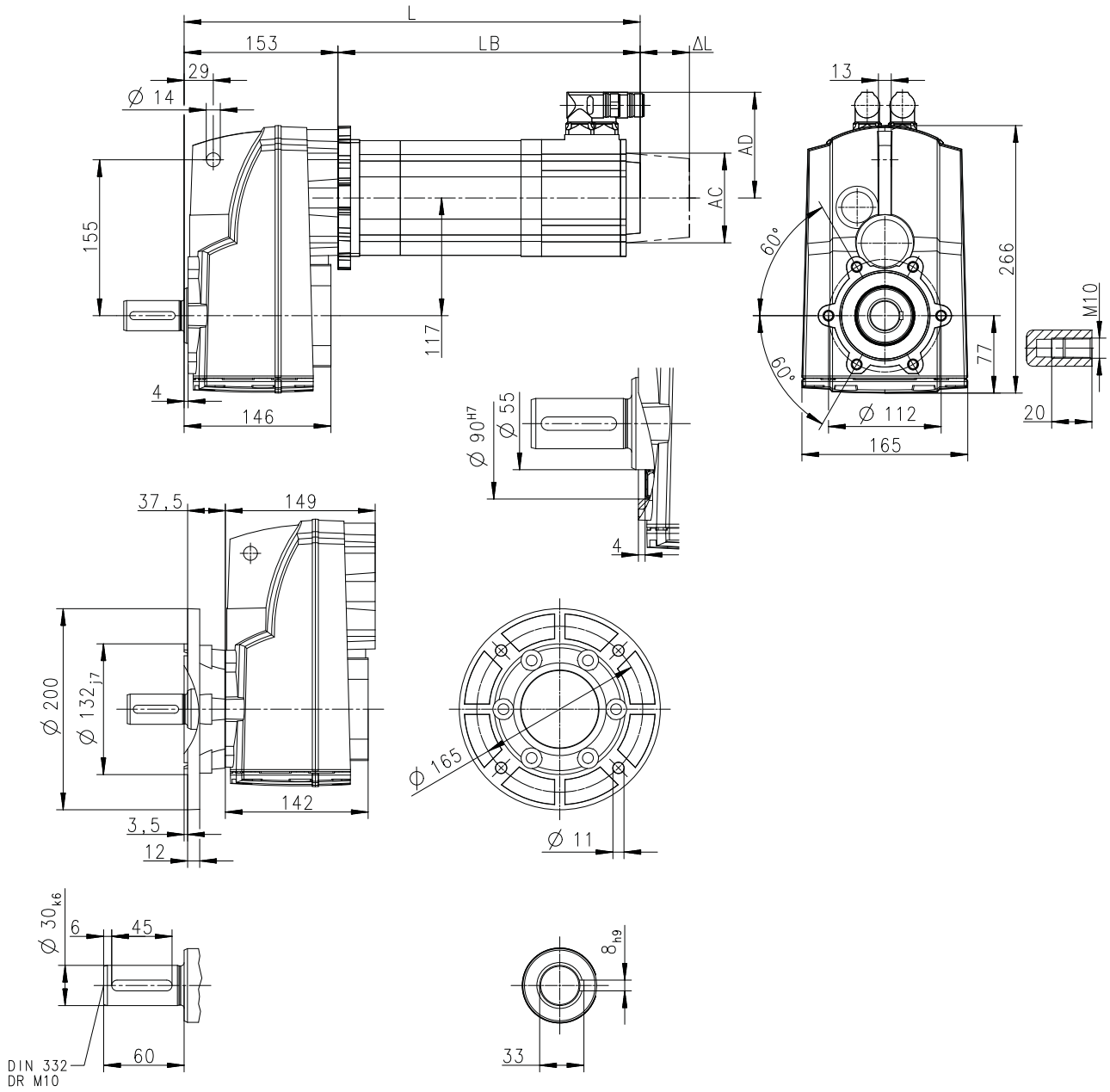
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	596	510	596	510
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S400 with MCA17

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

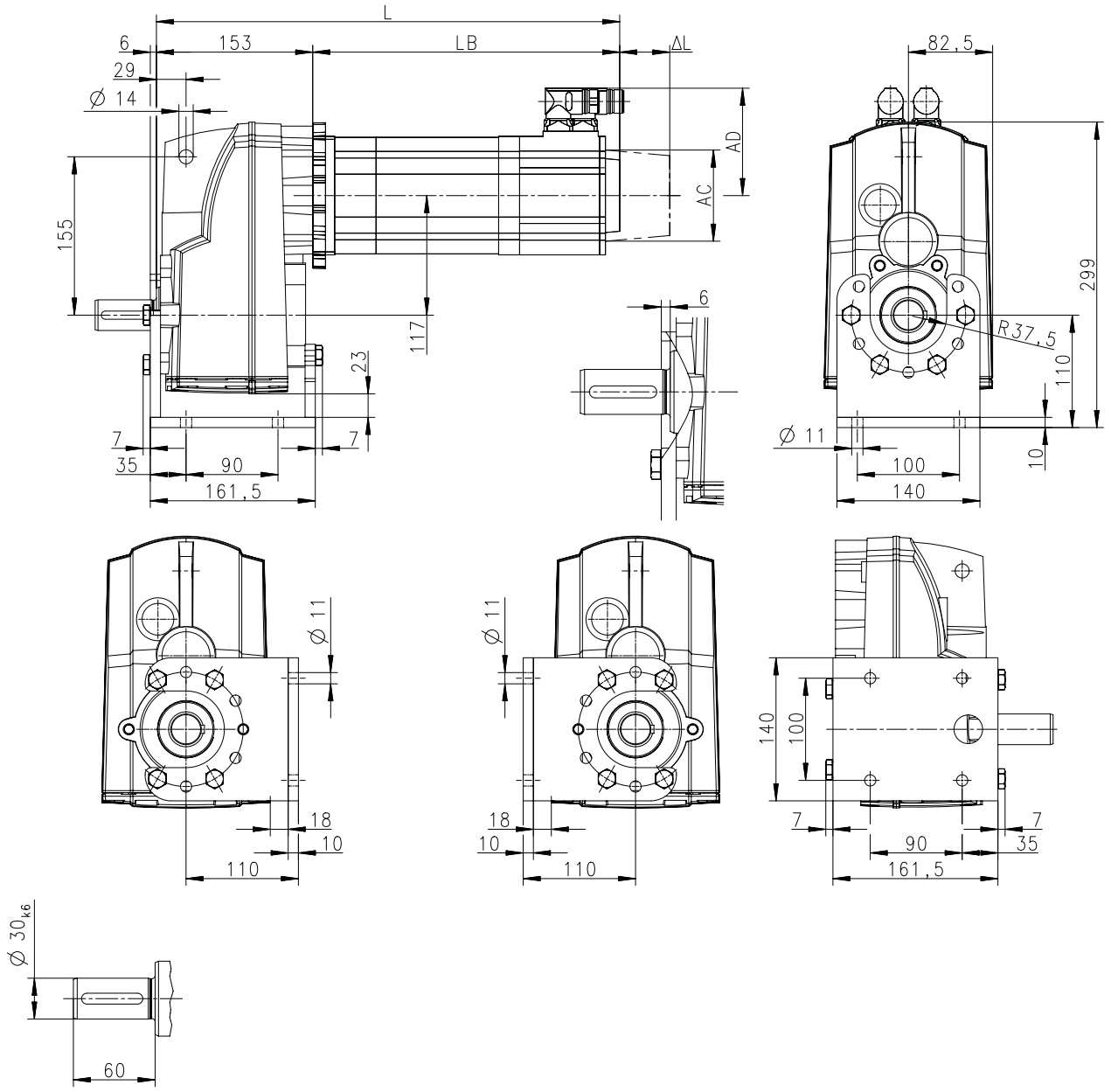


8800046-00

Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	596	510	596	510
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S400 with MCA17

Gearbox design: solid shaft, with foot (VBR)

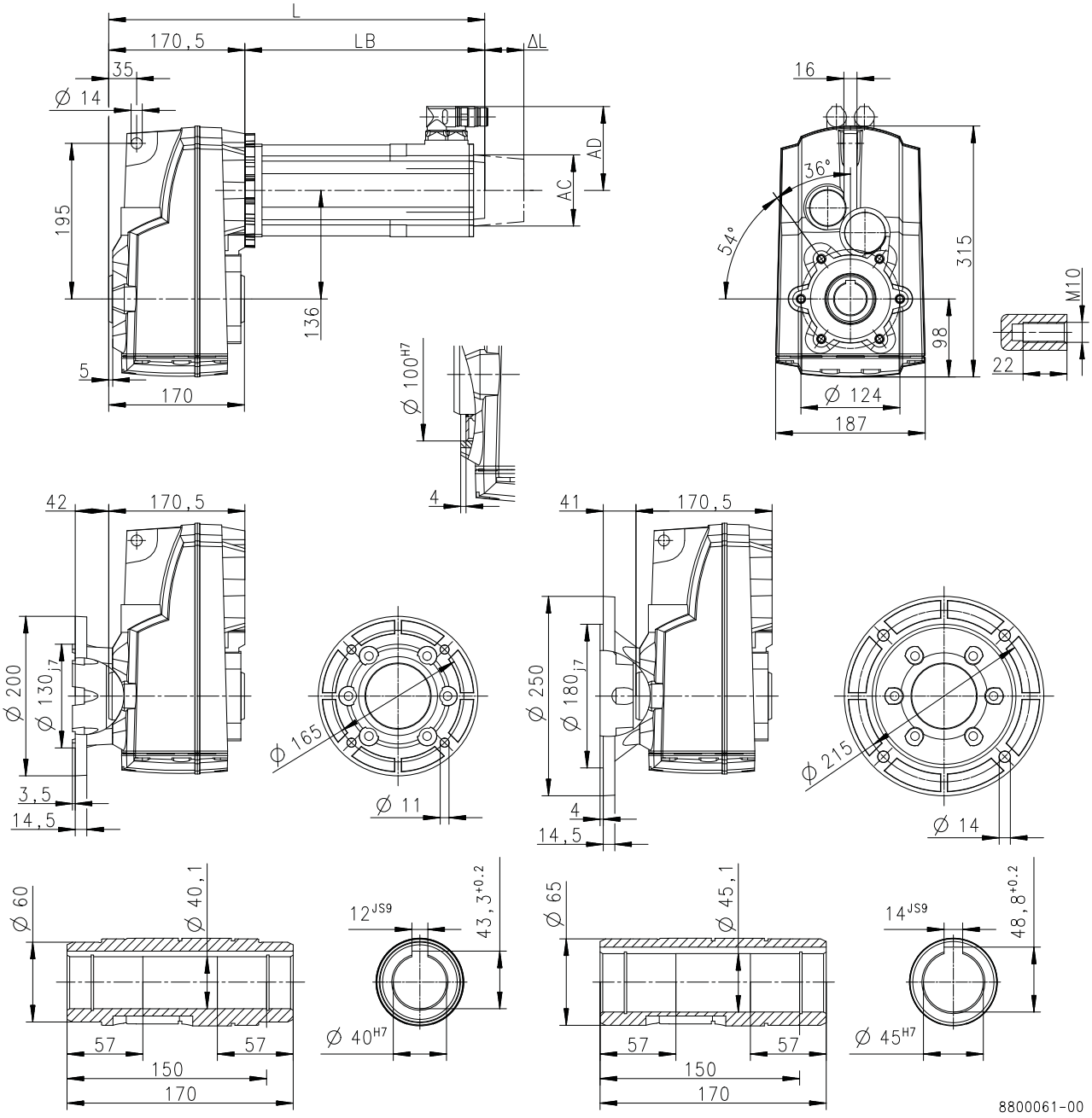


8800048-00

Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	596	510	596	510
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S660 with MCA10

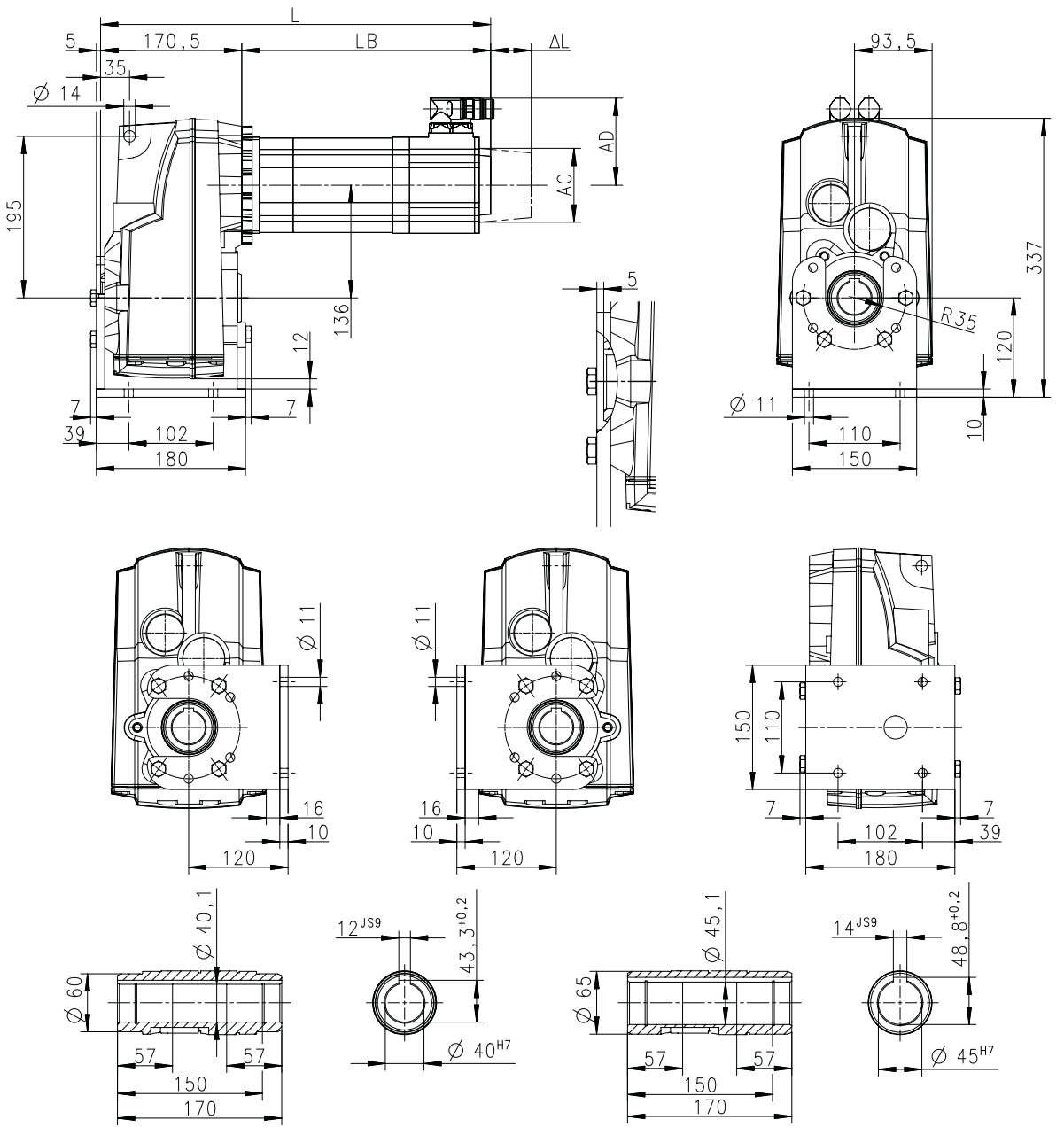
Gearbox design: hollow shaft, without foot (HDR/HCR/HCK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	430
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S660 with MCA10

Gearbox design: hollow shaft, with foot (HBR)

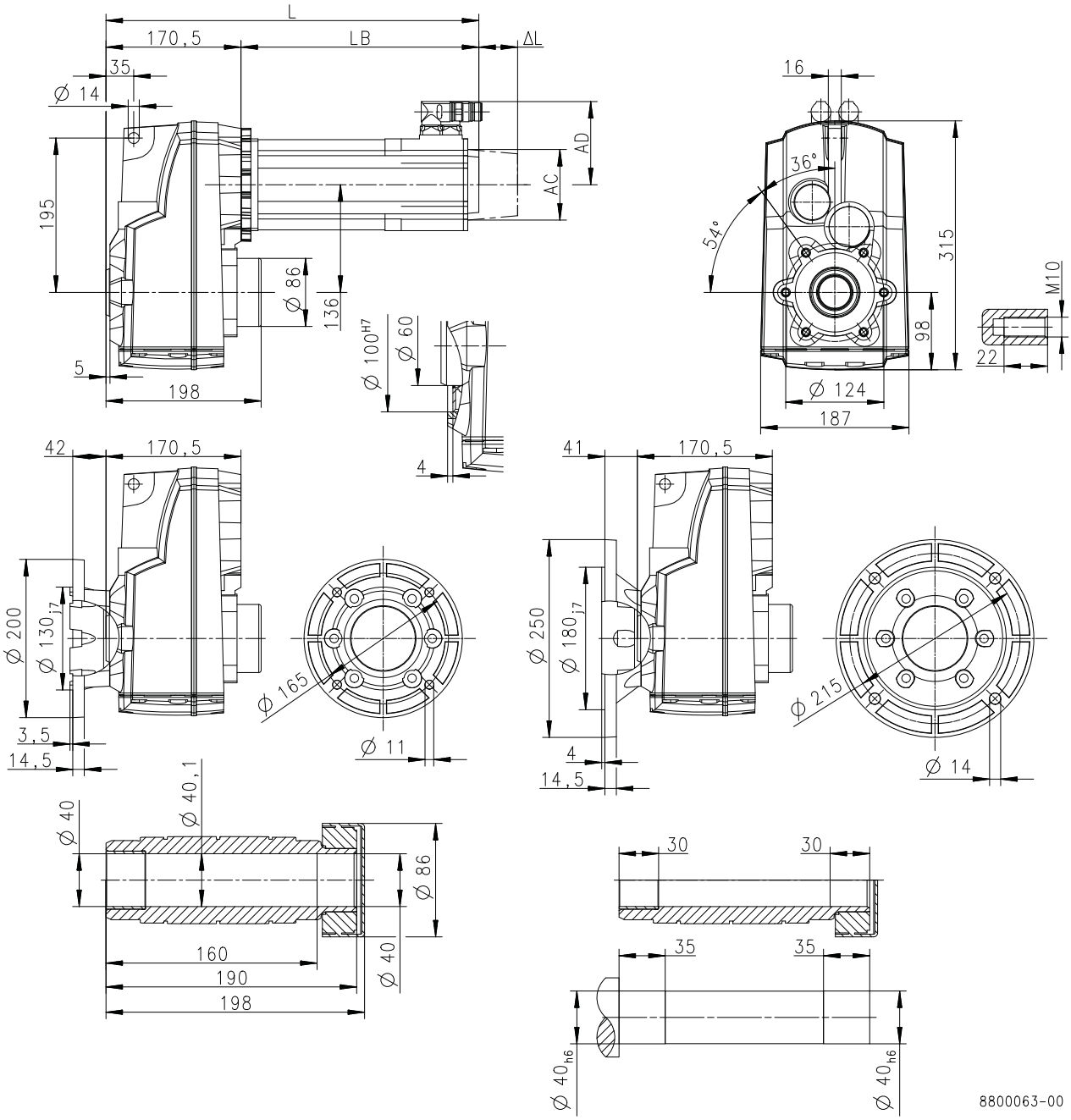


8800561-00

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	430
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S660 with MCA10

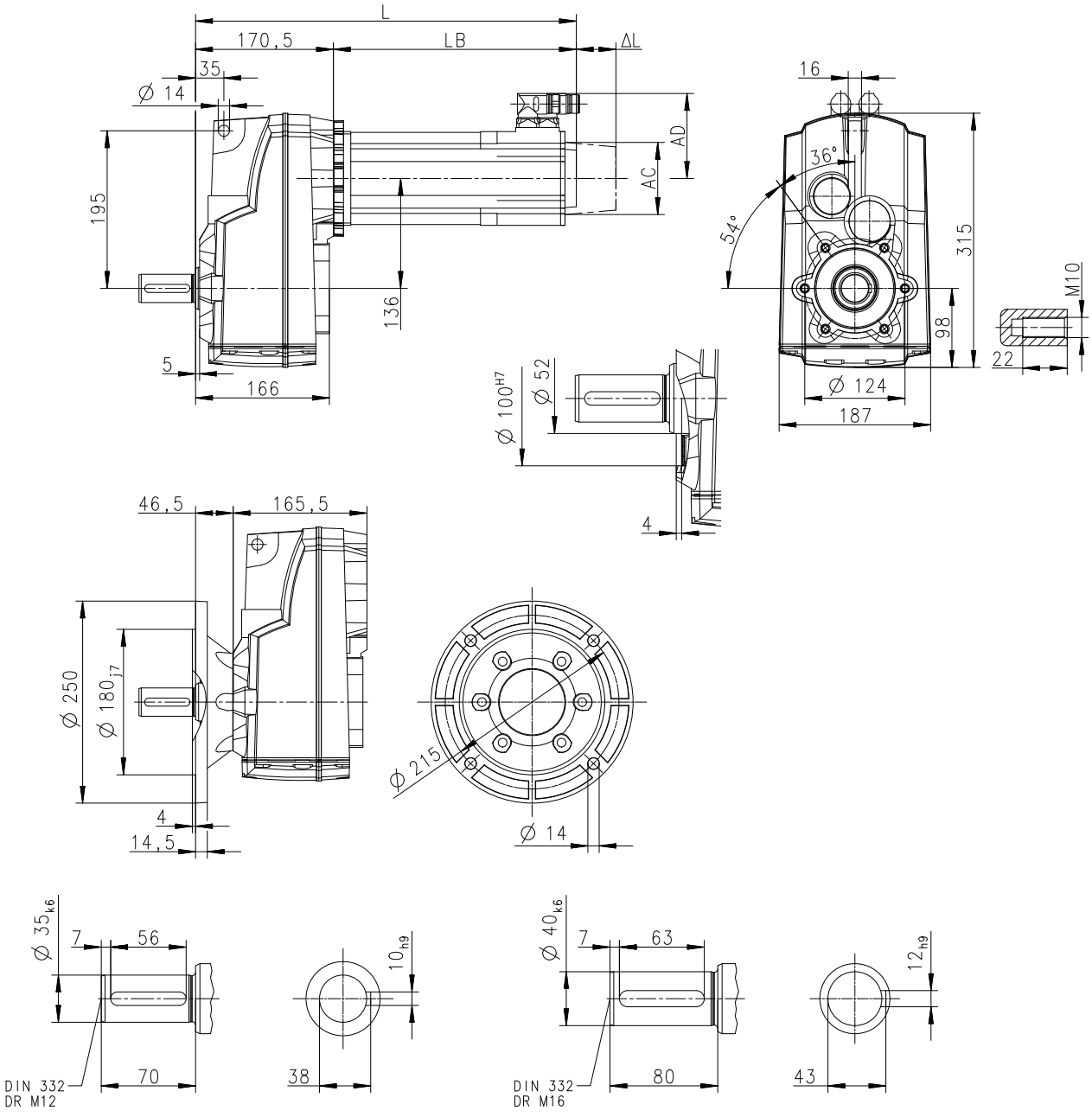
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	430
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S660 with MCA10

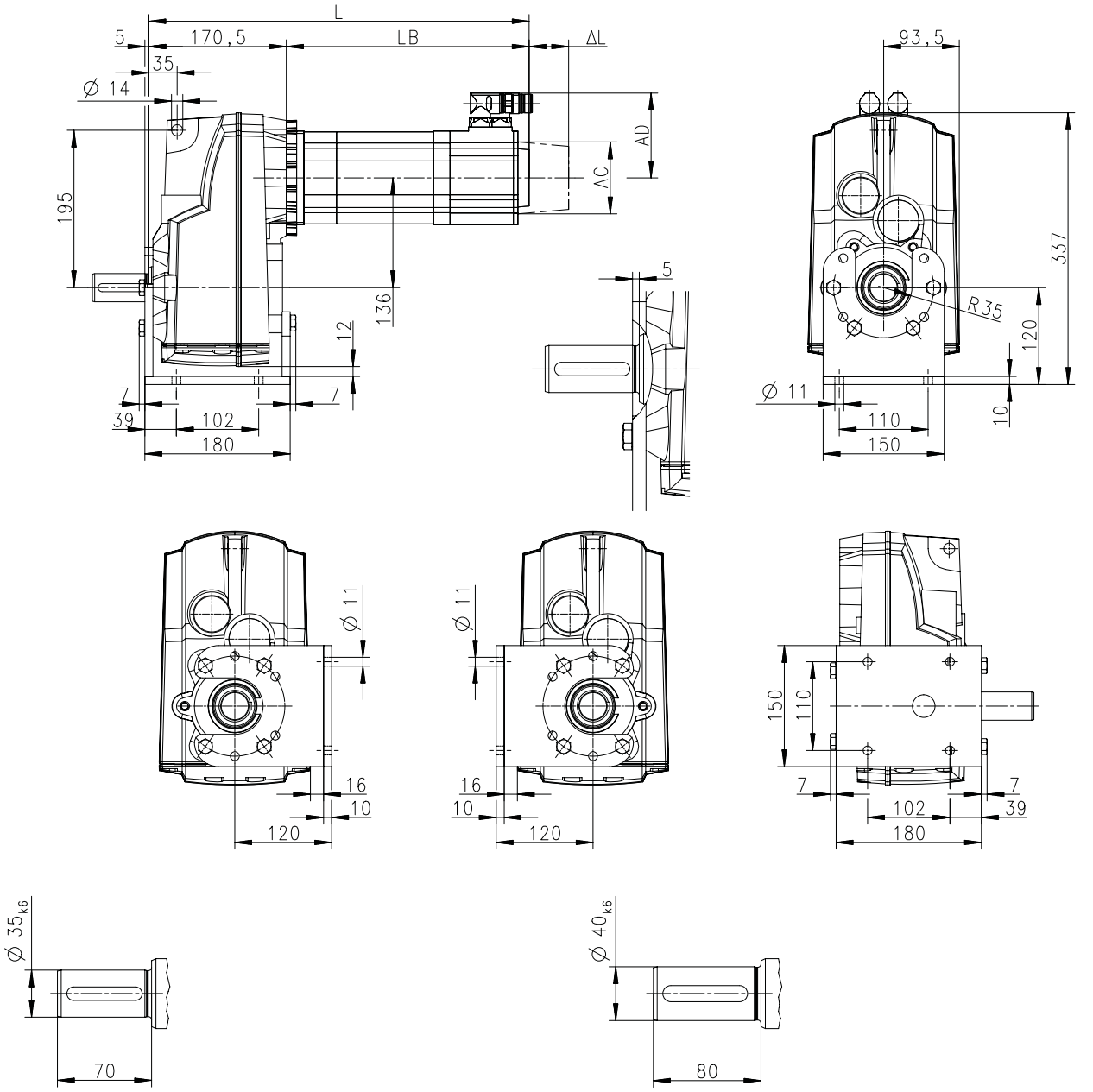
Gearbox design: solid shaft, without foot (VDR/VCR/VCK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	430
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S660 with MCA10

Gearbox design: solid shaft, with foot (VBR)

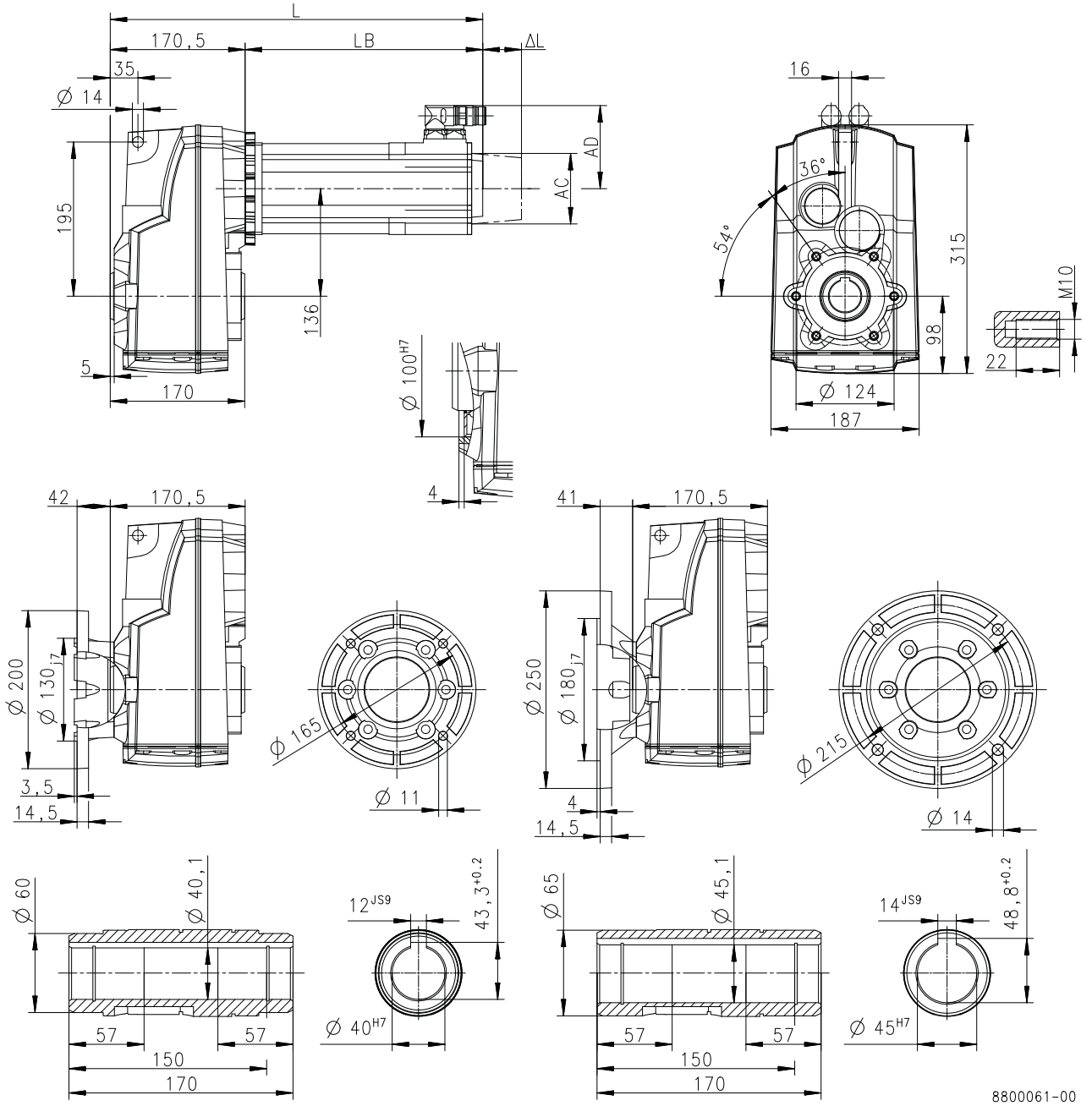


8800064-00

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	430
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S660 with MCA13

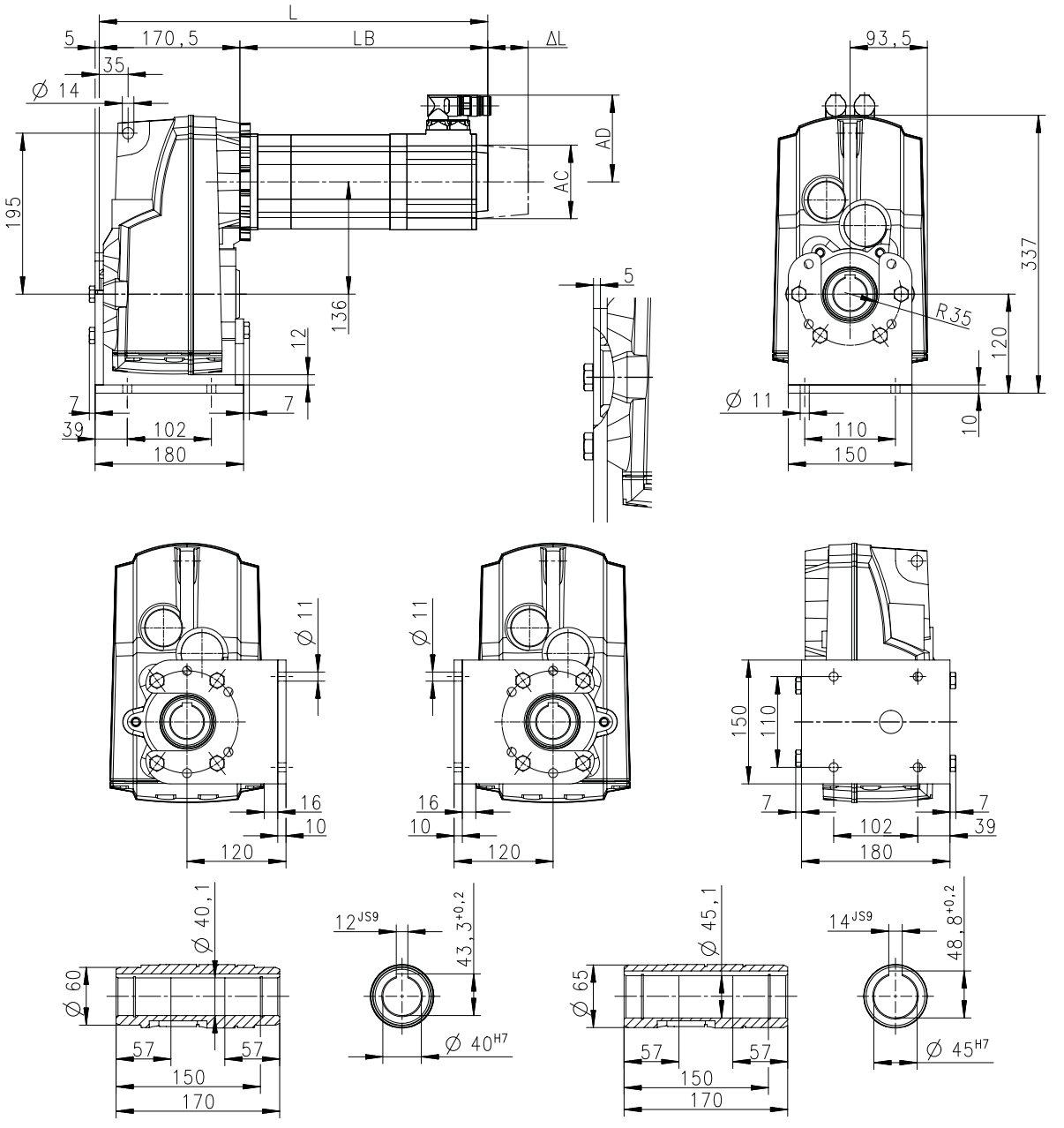
Gearbox design: hollow shaft, without foot (HDR/HCR/HCK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	506	438
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S660 with MCA13

Gearbox design: hollow shaft, with foot (HBR)

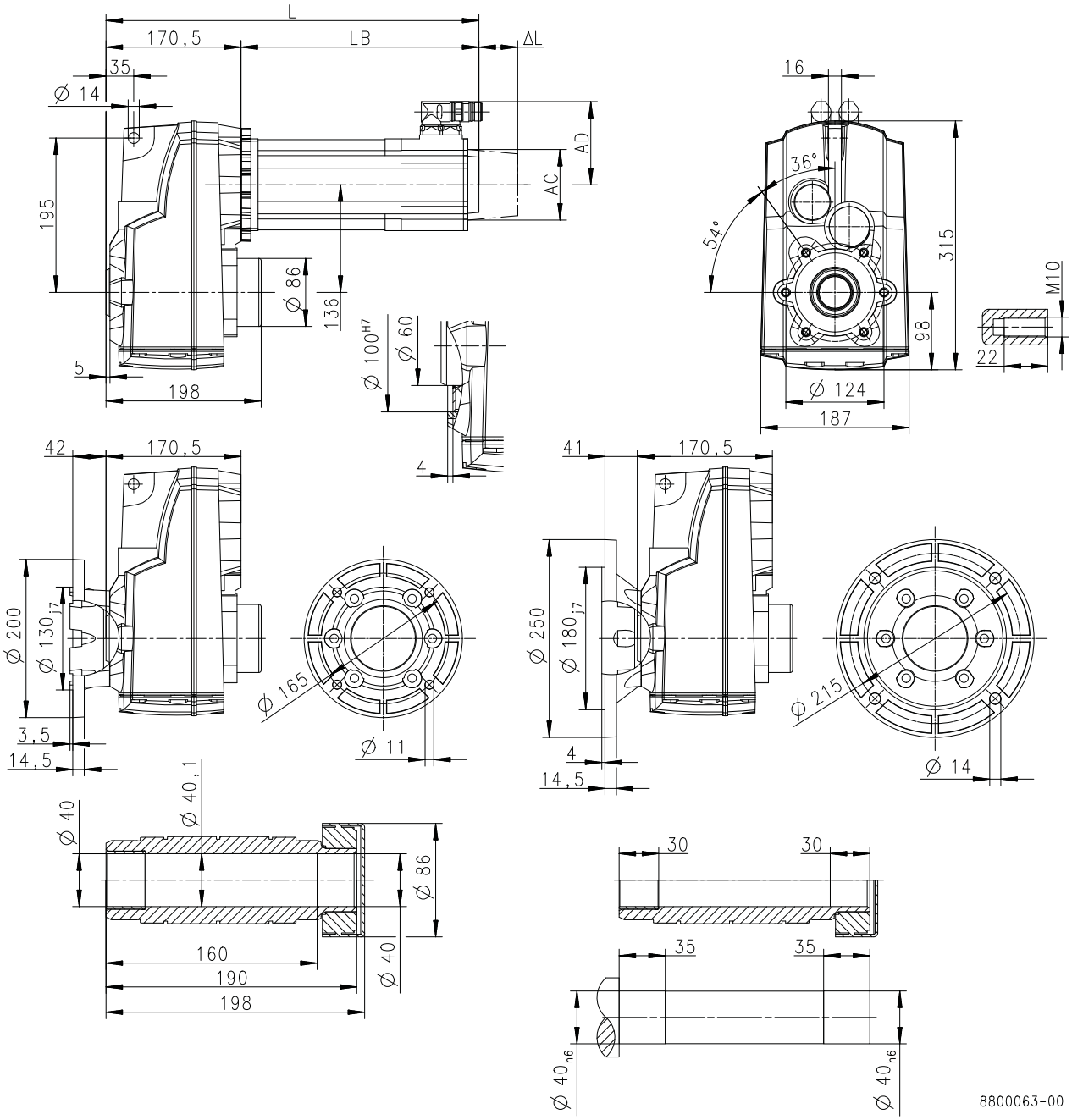


8800561-00

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	506	438
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S660 with MCA13

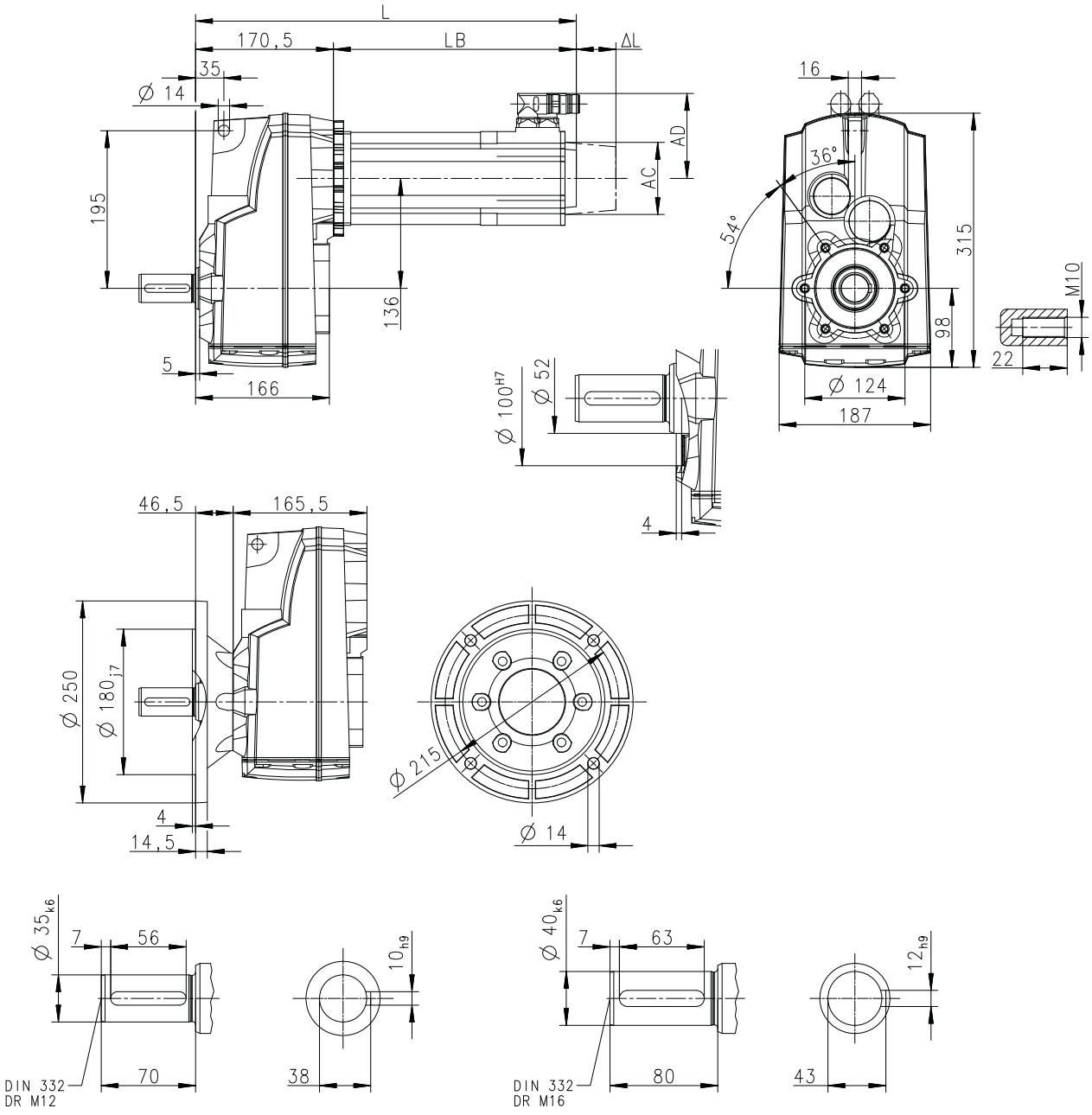
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	506	438
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S660 with MCA13

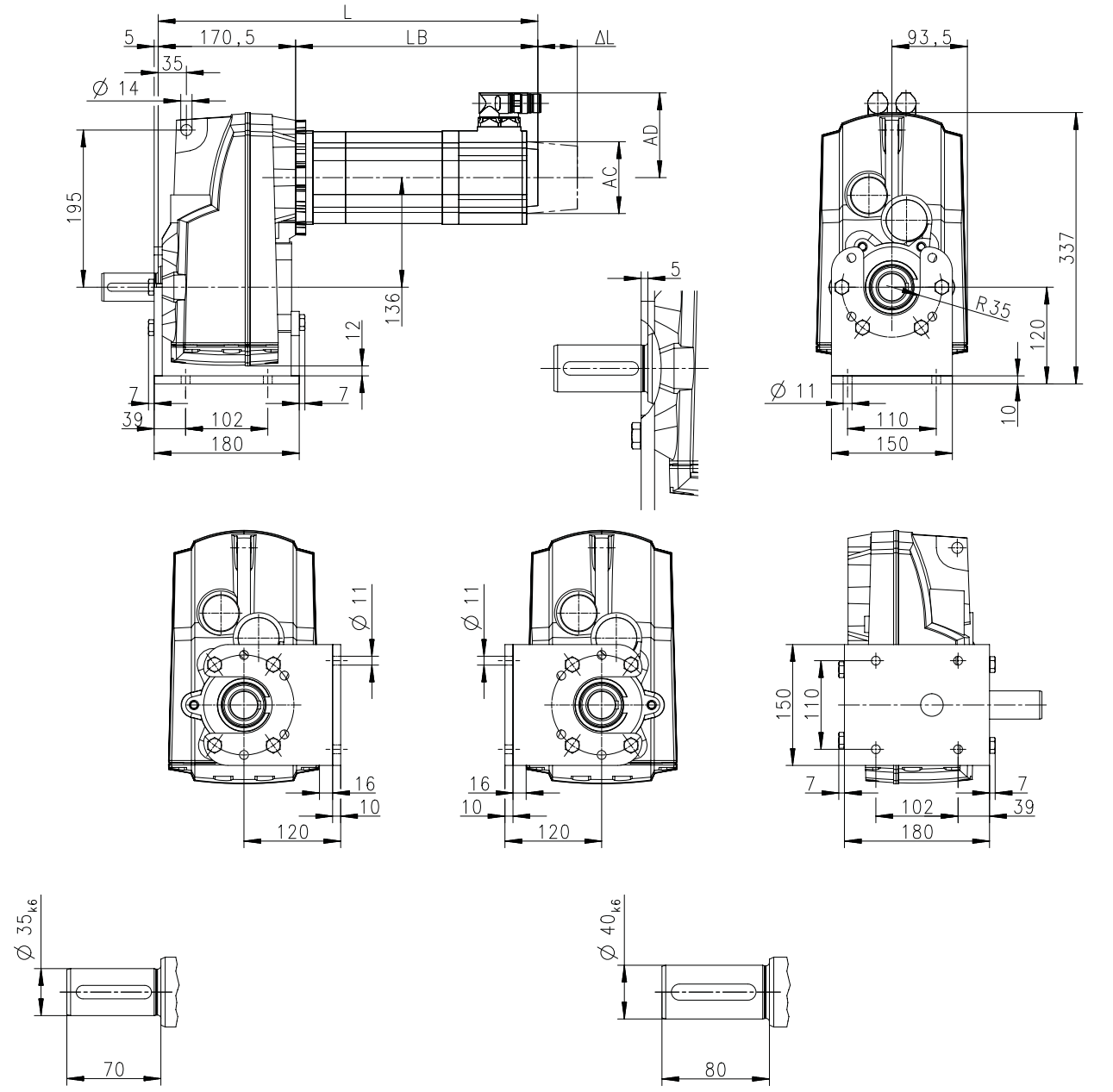
Gearbox design: solid shaft, without foot (VDR/VCR/VCK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	506	438
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S660 with MCA13

Gearbox design: solid shaft, with foot (VBR)

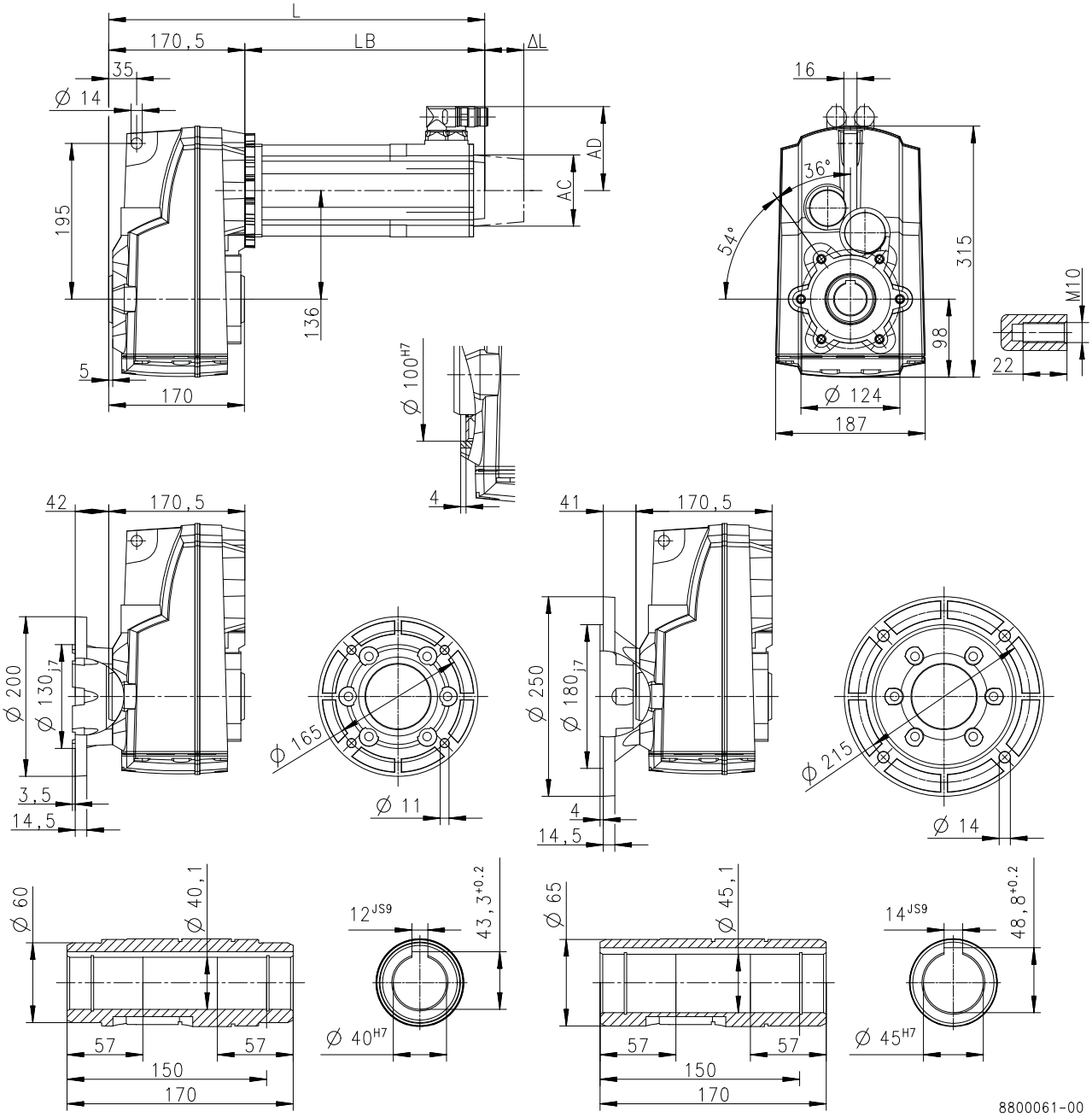


8800064-00

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	506	438
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S660 with MCA14

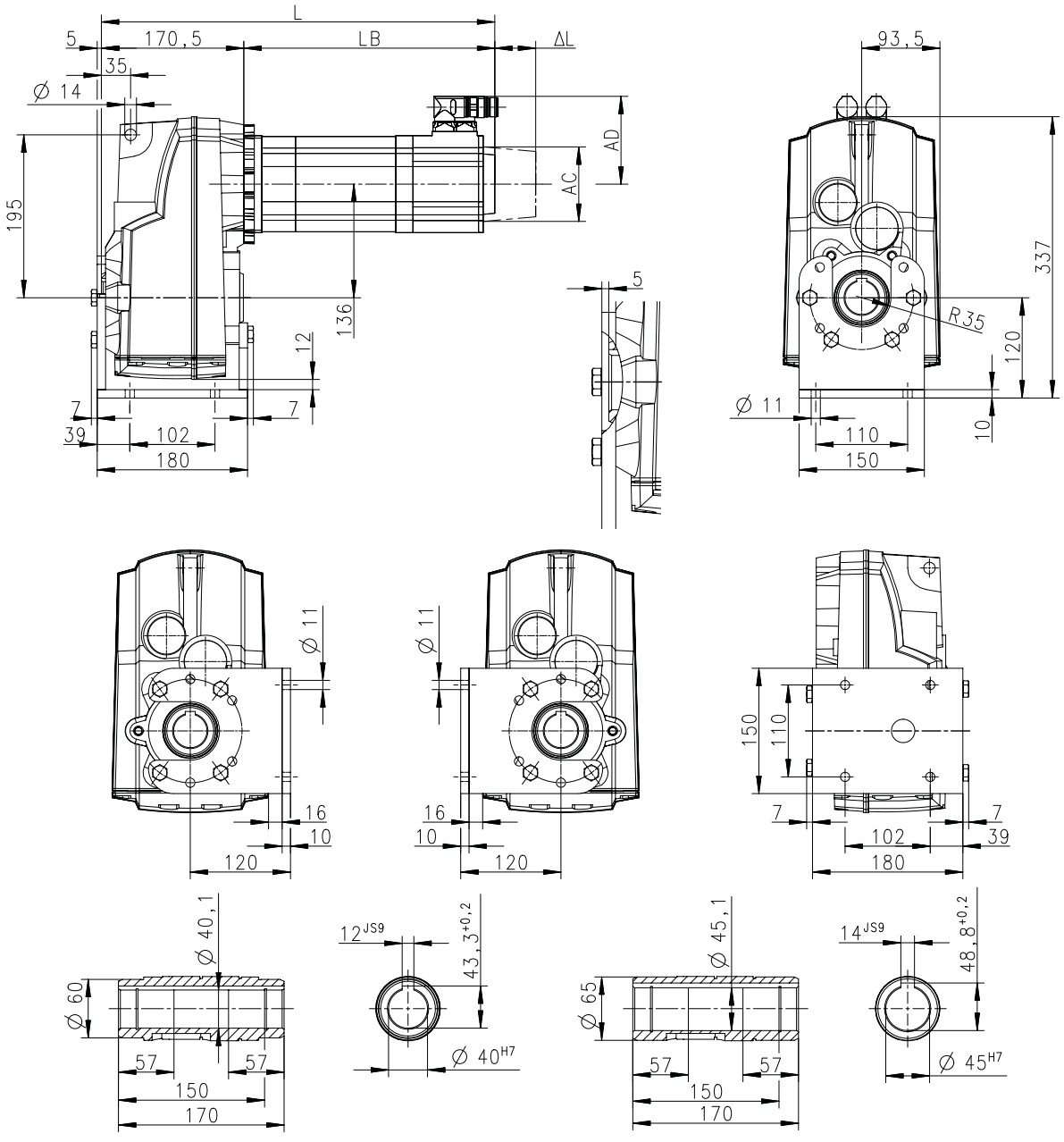
Gearbox design: hollow shaft, without foot (HDR/HCR/HCK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	550	488	550	488
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S660 with MCA14

Gearbox design: hollow shaft, with foot (HBR)

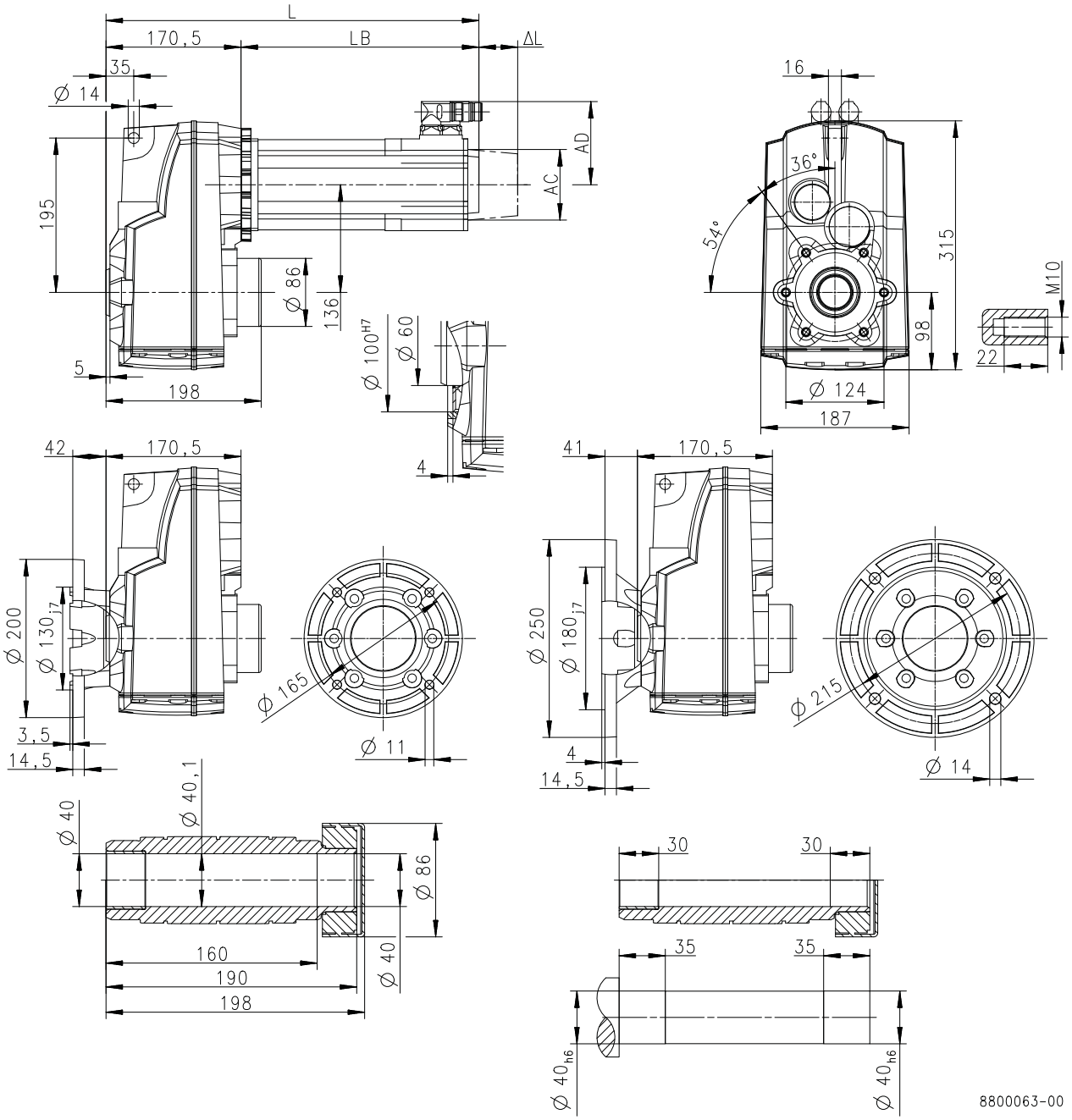


8800561-00

Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	550	488	550	488
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S660 with MCA14

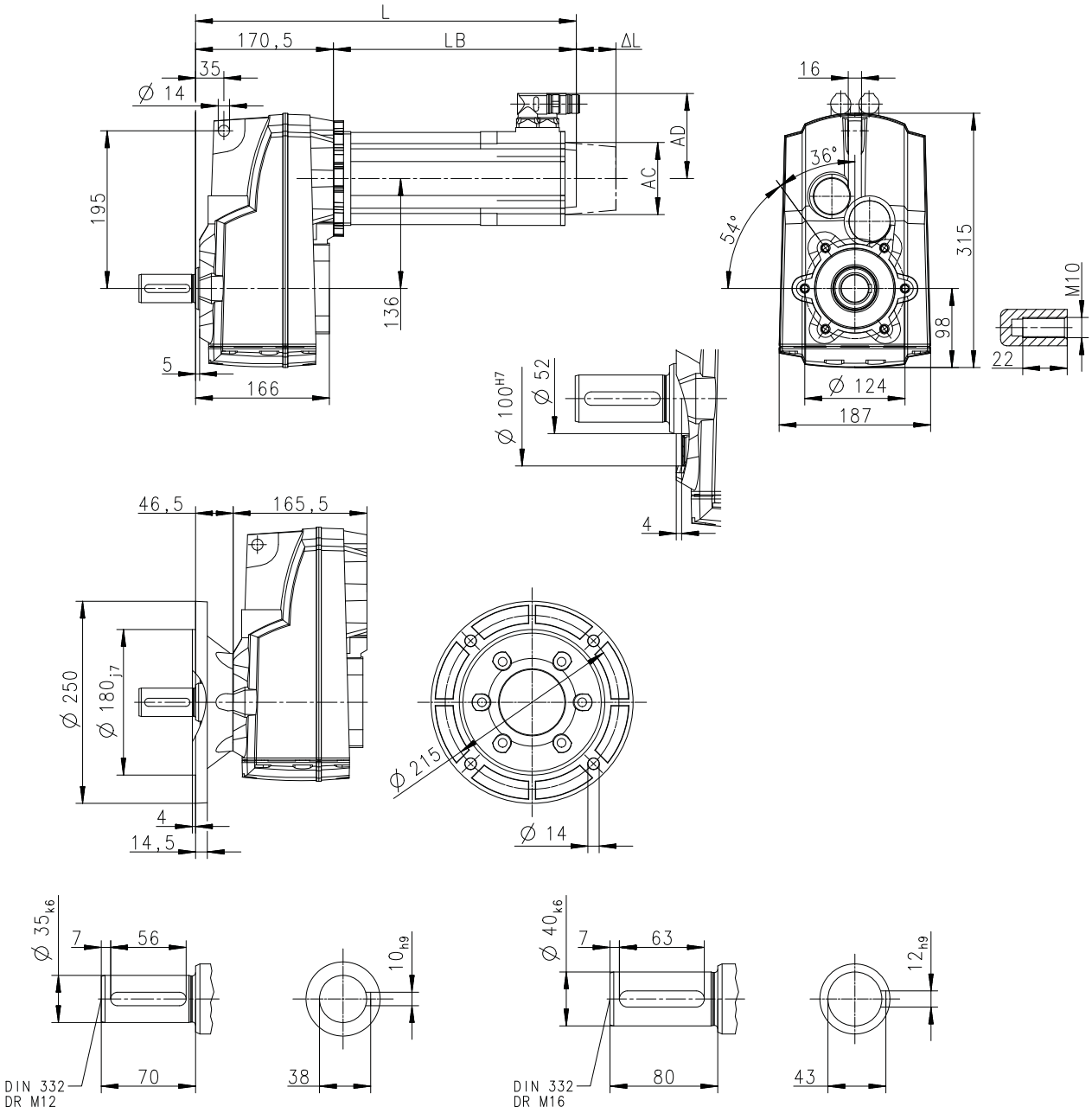
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			Forced	Natural	Forced	Natural
Total length	L	mm	550	488	550	488
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S660 with MCA14

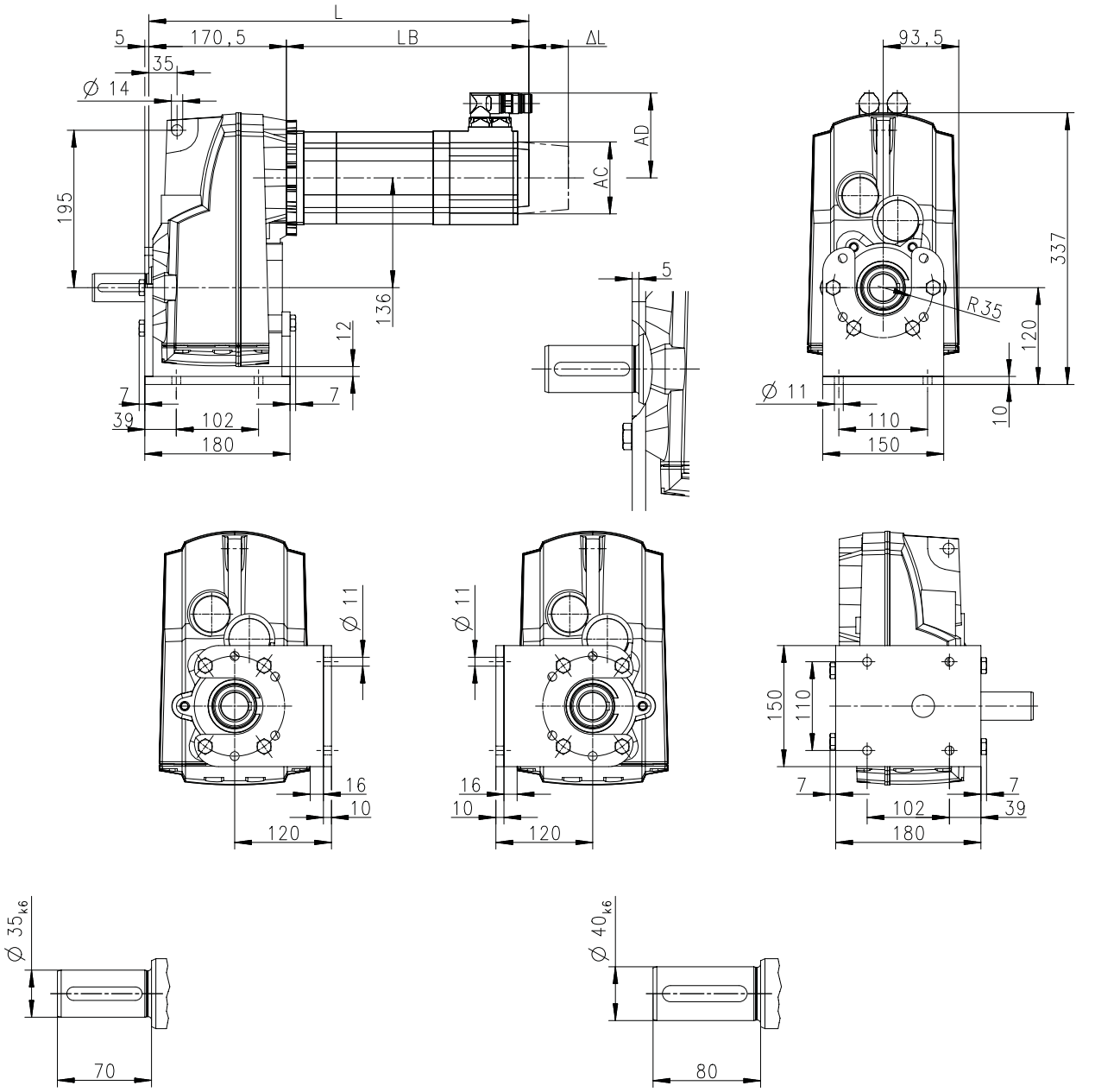
Gearbox design: solid shaft, without foot (VDR/VCR/VCK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			Forced	Natural	Forced	Natural
Total length	L	mm	550	488	550	488
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S660 with MCA14

Gearbox design: solid shaft, with foot (VBR)

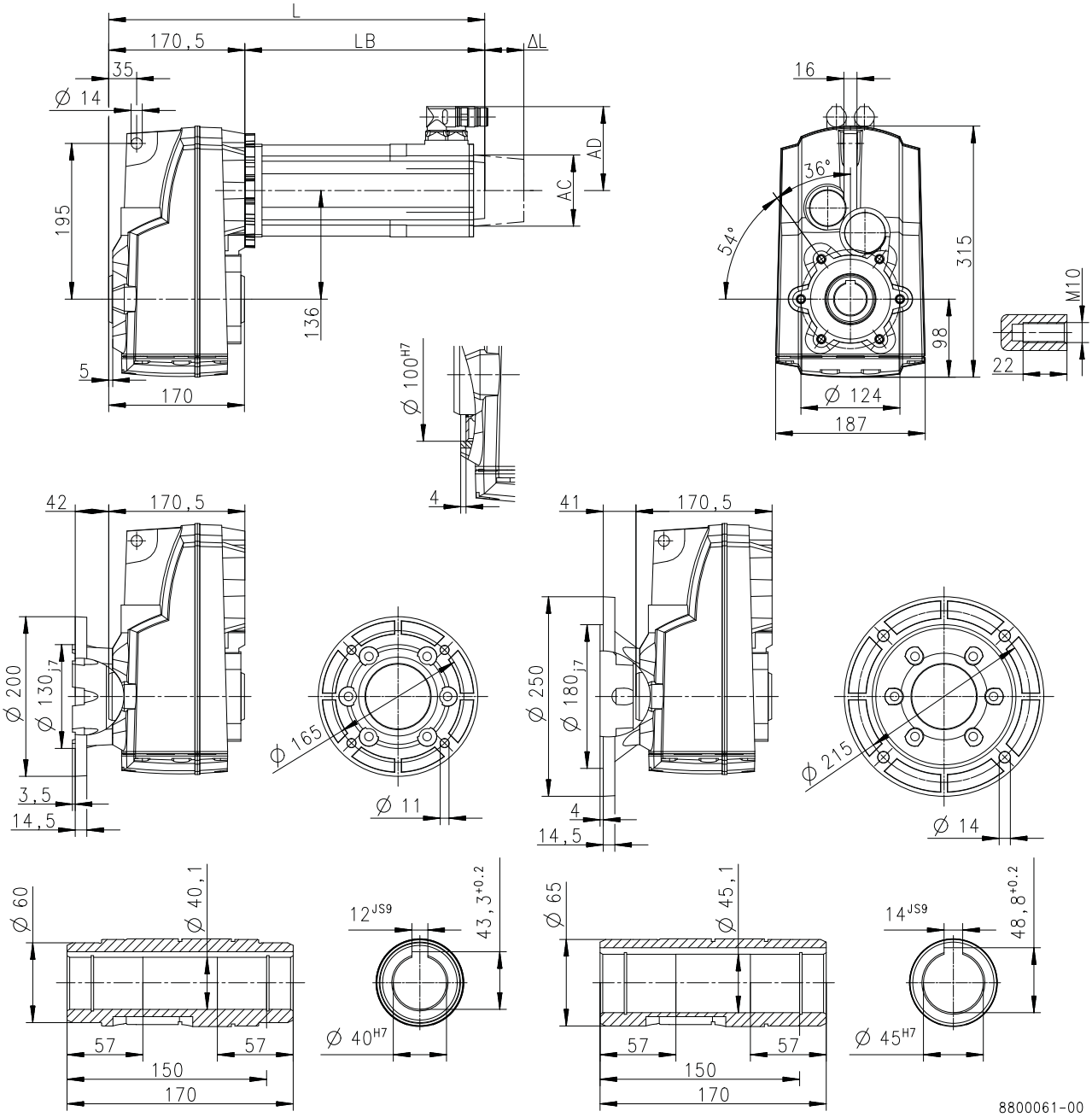


8800064-00

Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	550	488	550	488
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S660 with MCA17

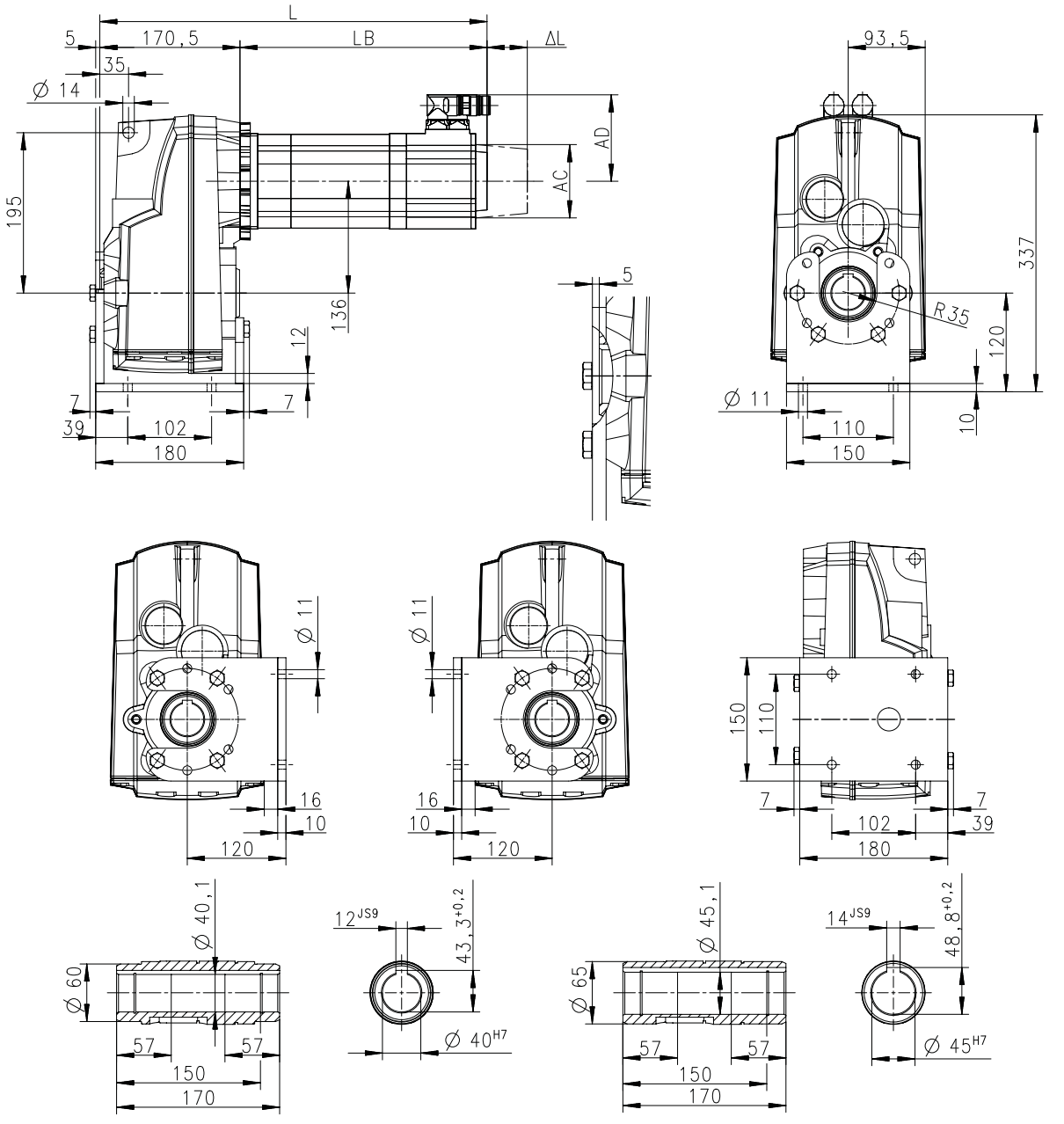
Gearbox design: hollow shaft, without foot (HDR/HCR/HCK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	613	527	613	527
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S660 with MCA17

Gearbox design: hollow shaft, with foot (HBR)

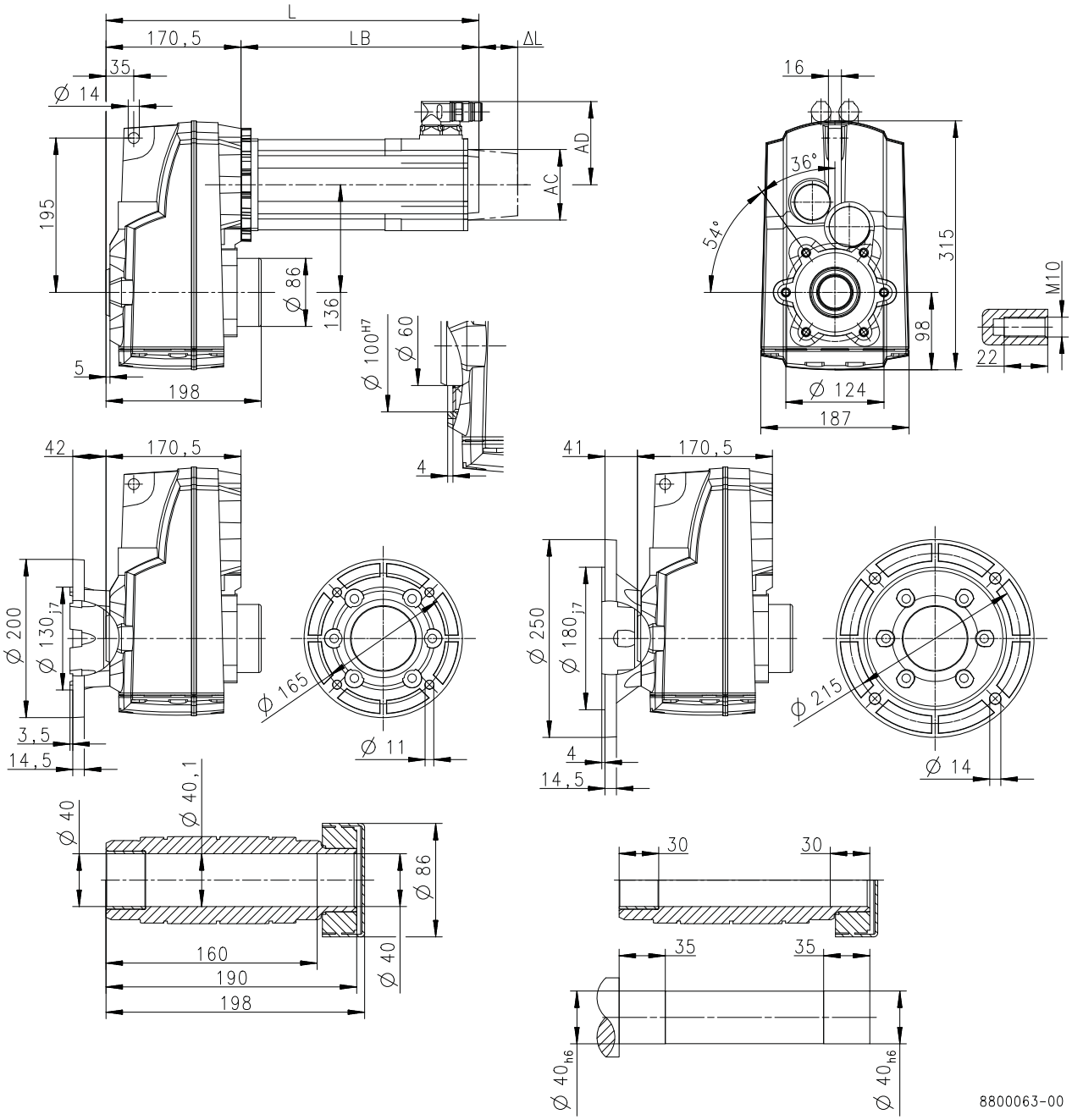


8800561-00

Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	613	527	613	527
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S660 with MCA17

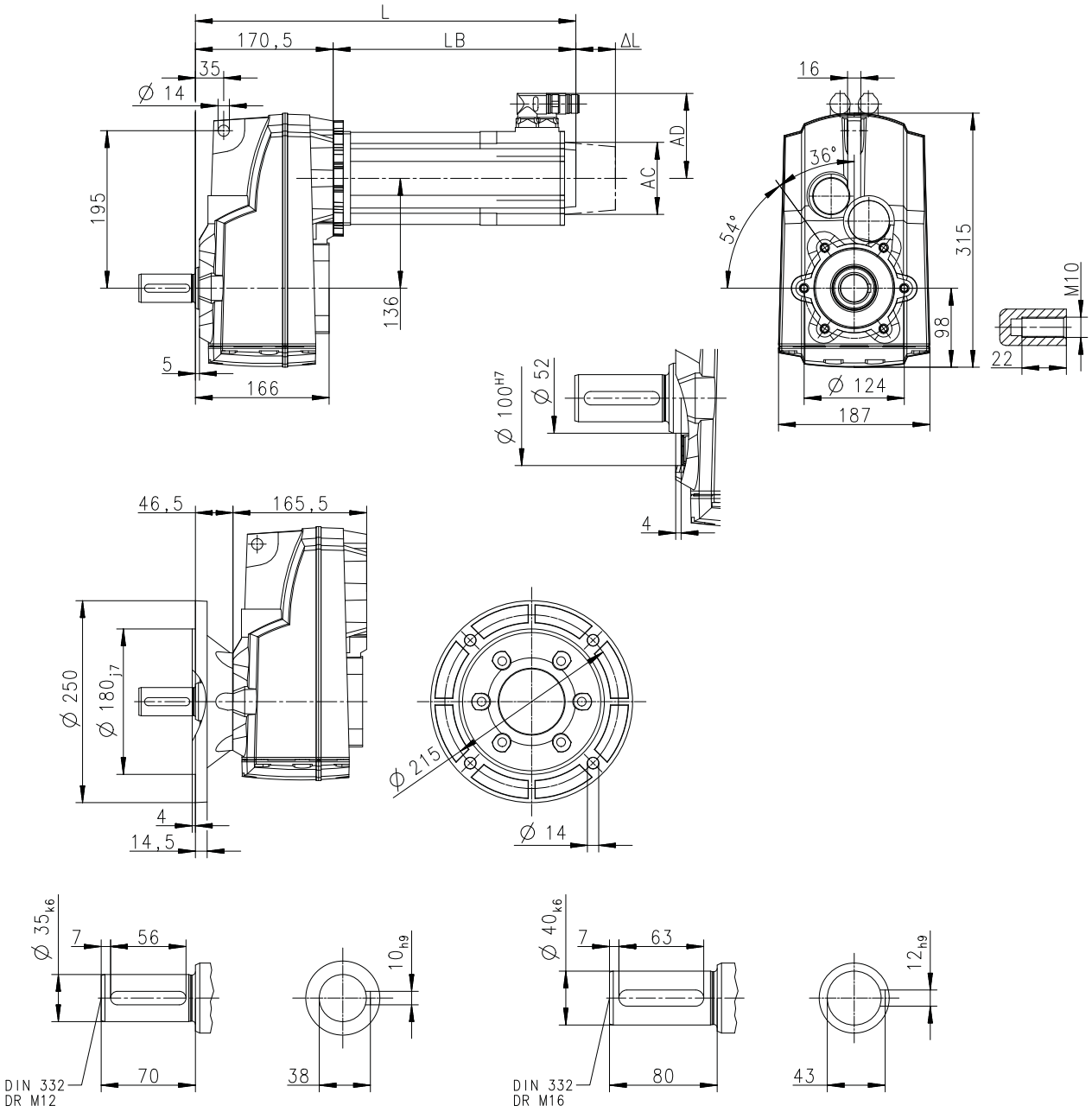
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	613	527	613	527
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S660 with MCA17

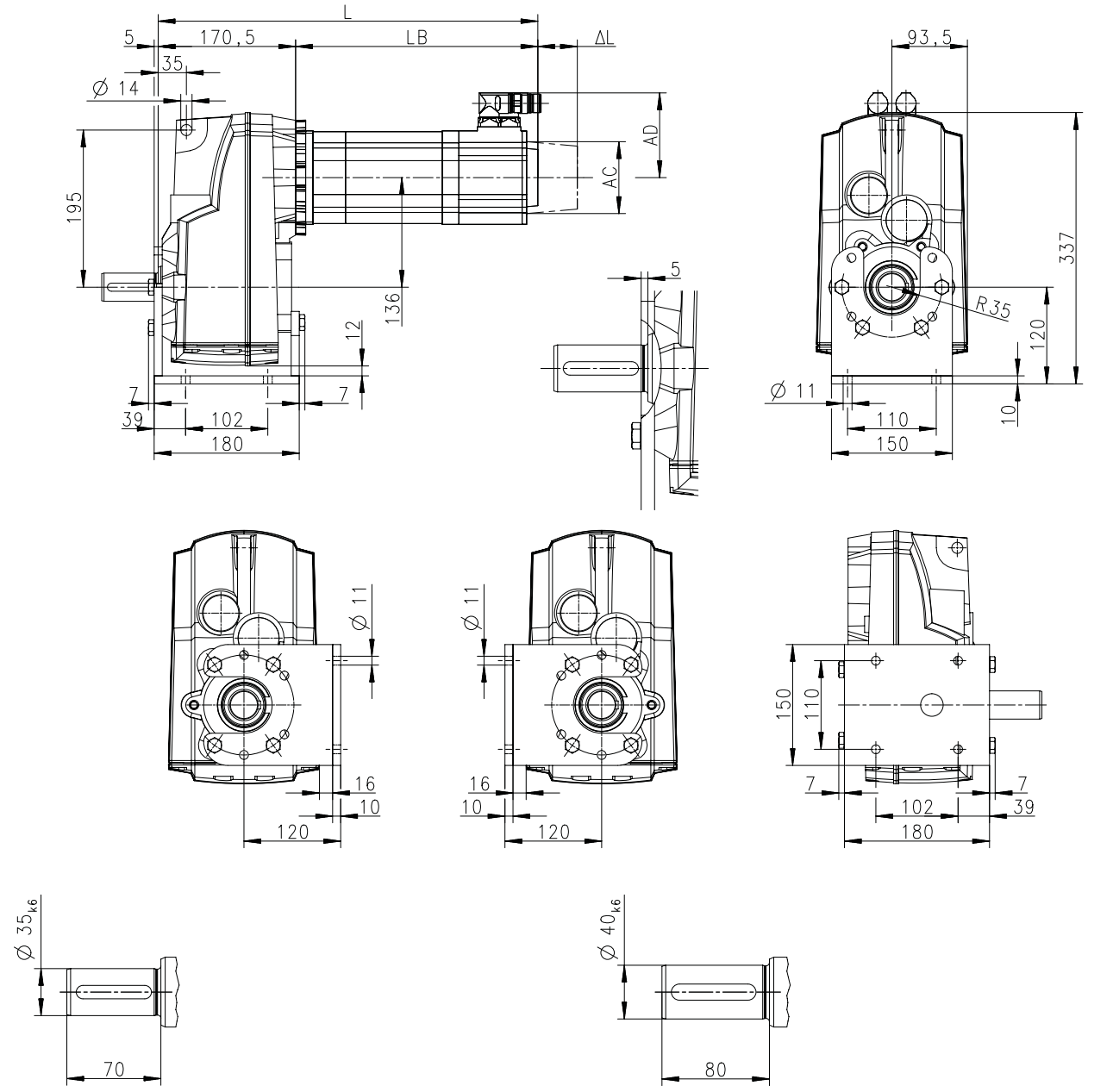
Gearbox design: solid shaft, without foot (VDR/VCR/VCK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	613	527	613	527
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S660 with MCA17

Gearbox design: solid shaft, with foot (VBR)

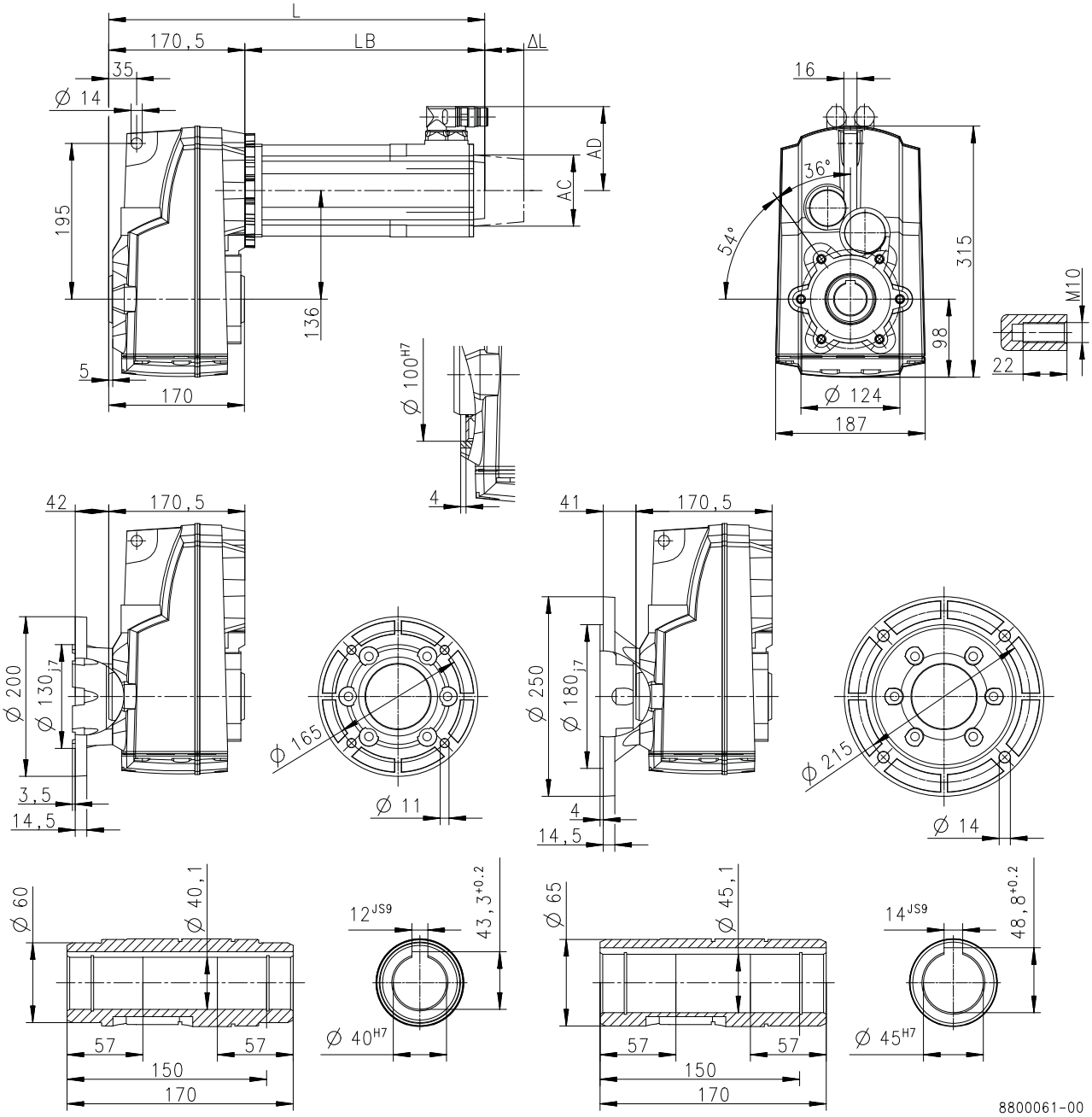


8800064-00

Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	613	527	613	527
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S660 with MCA19

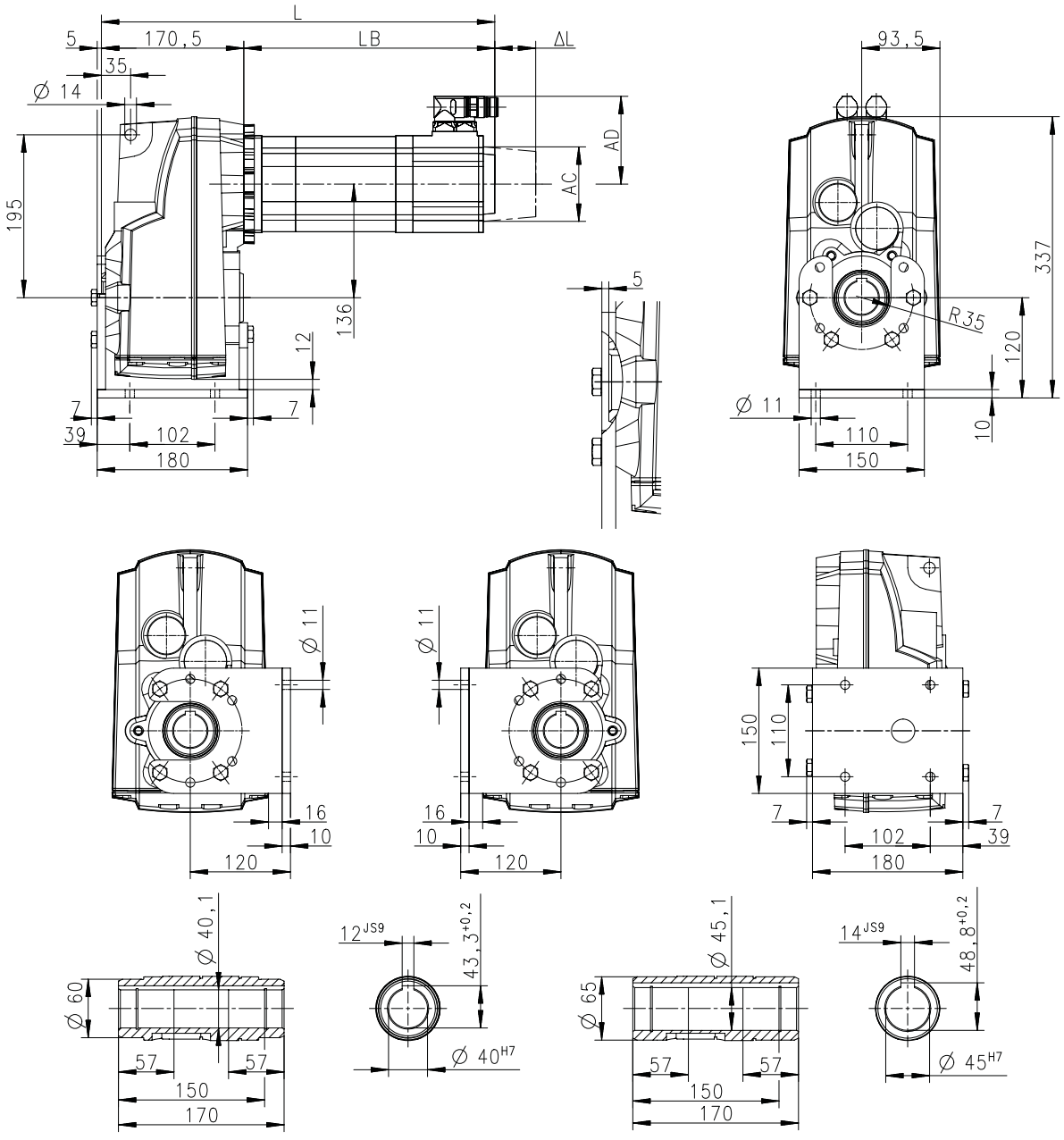
Gearbox design: hollow shaft, without foot (HDR/HCR/HCK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	693	596	693	596
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S660 with MCA19

Gearbox design: hollow shaft, with foot (HBR)

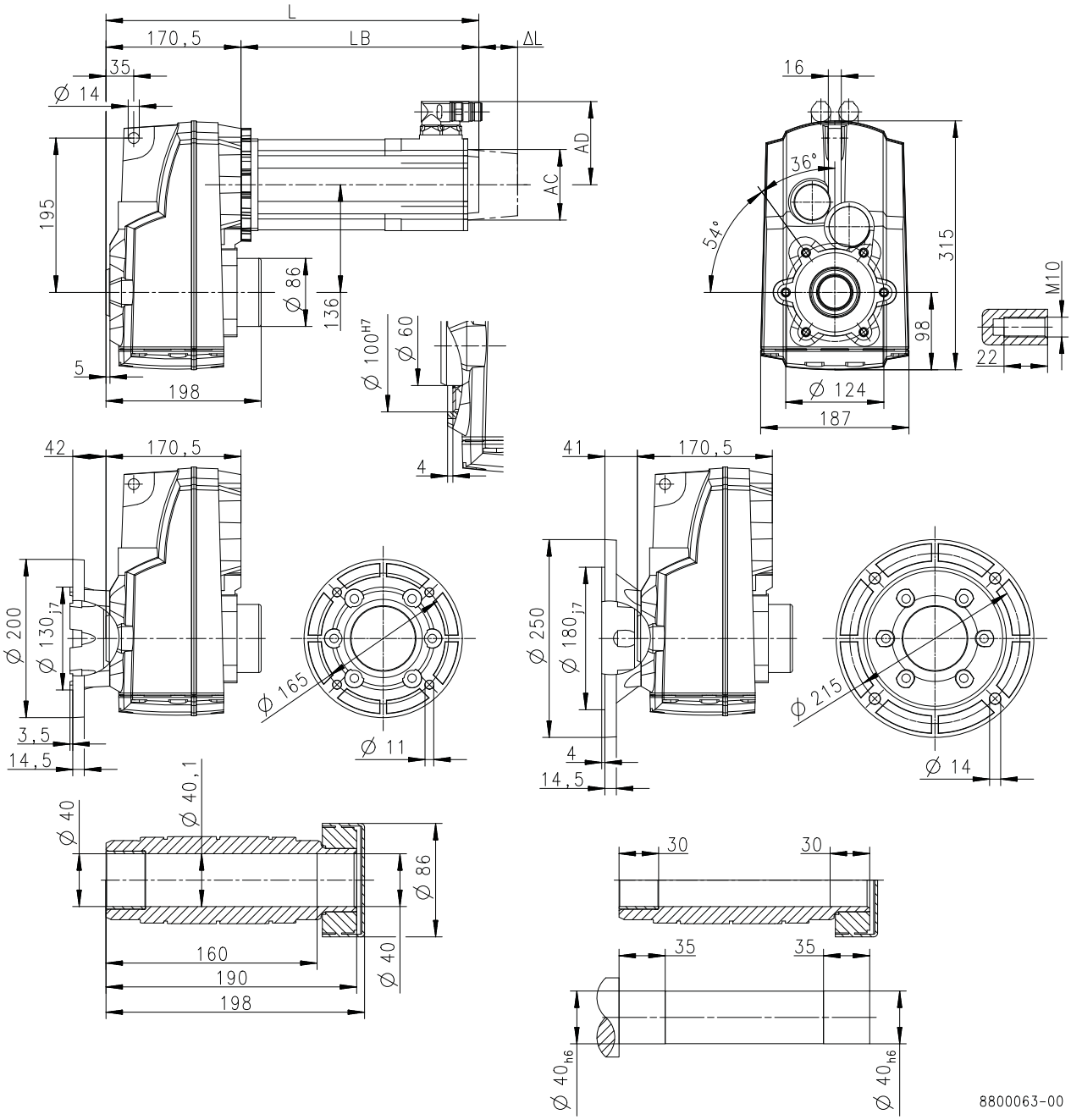


8800561-00

Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	693	596	693	596
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S660 with MCA19

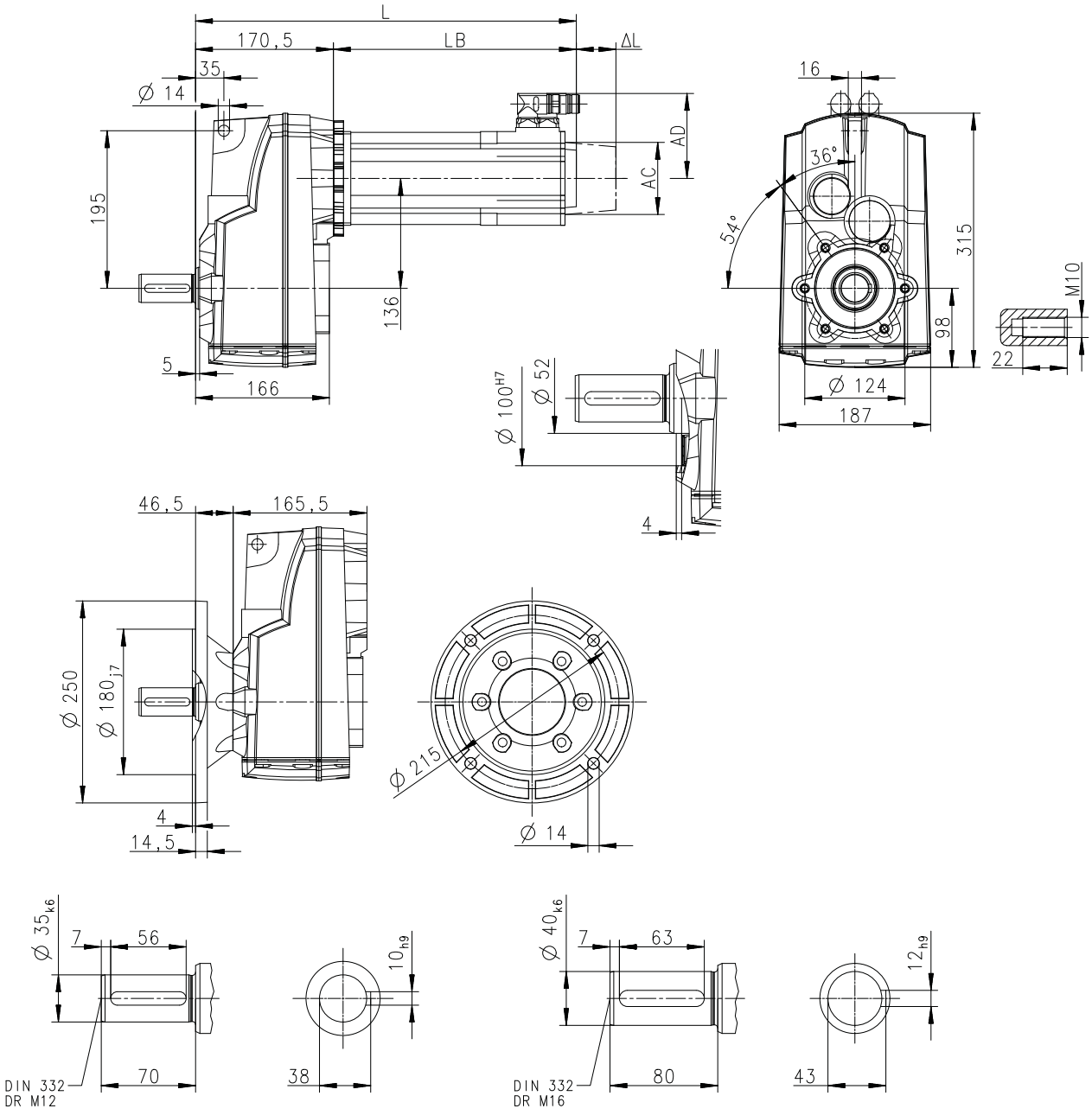
Gearbox design: hollow shaft with shrink disc, without foot (SDR/SCR/SCK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	693	596	693	596
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S660 with MCA19

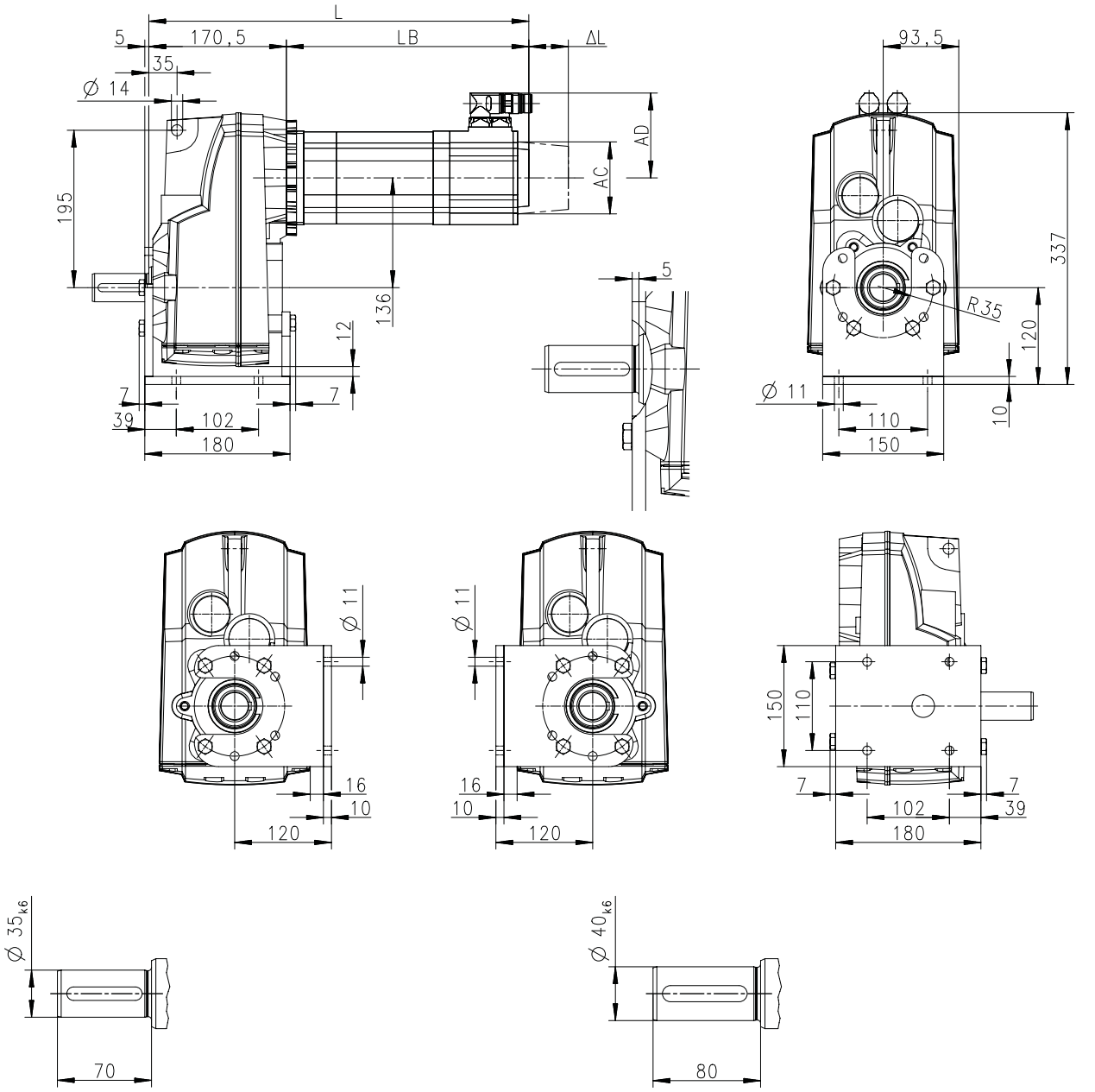
Gearbox design: solid shaft, without foot (VDR/VCR/VCK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	693	596	693	596
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S660 with MCA19

Gearbox design: solid shaft, with foot (VBR)

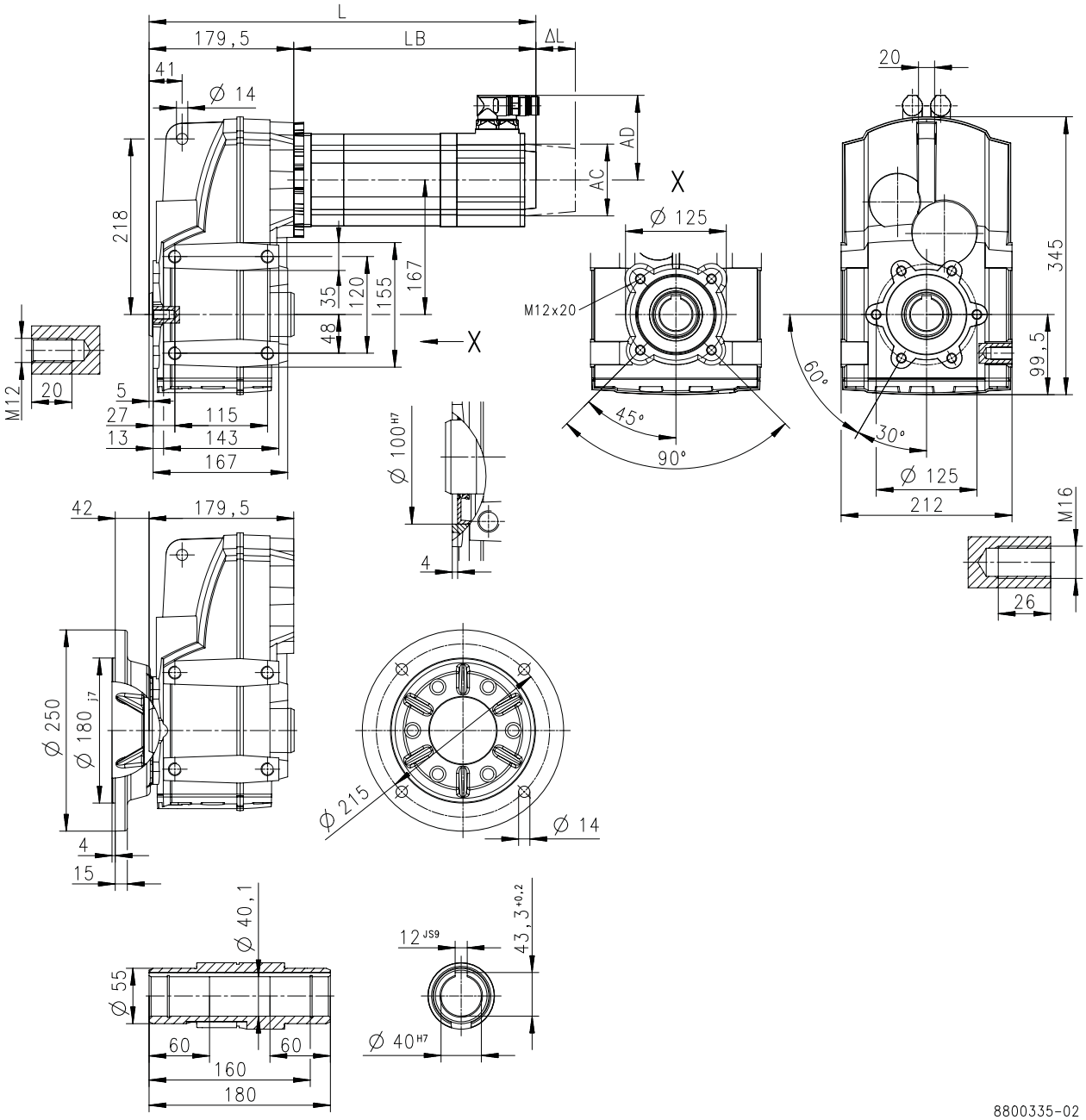


8800064-00

Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	693	596	693	596
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S950 with MCA10

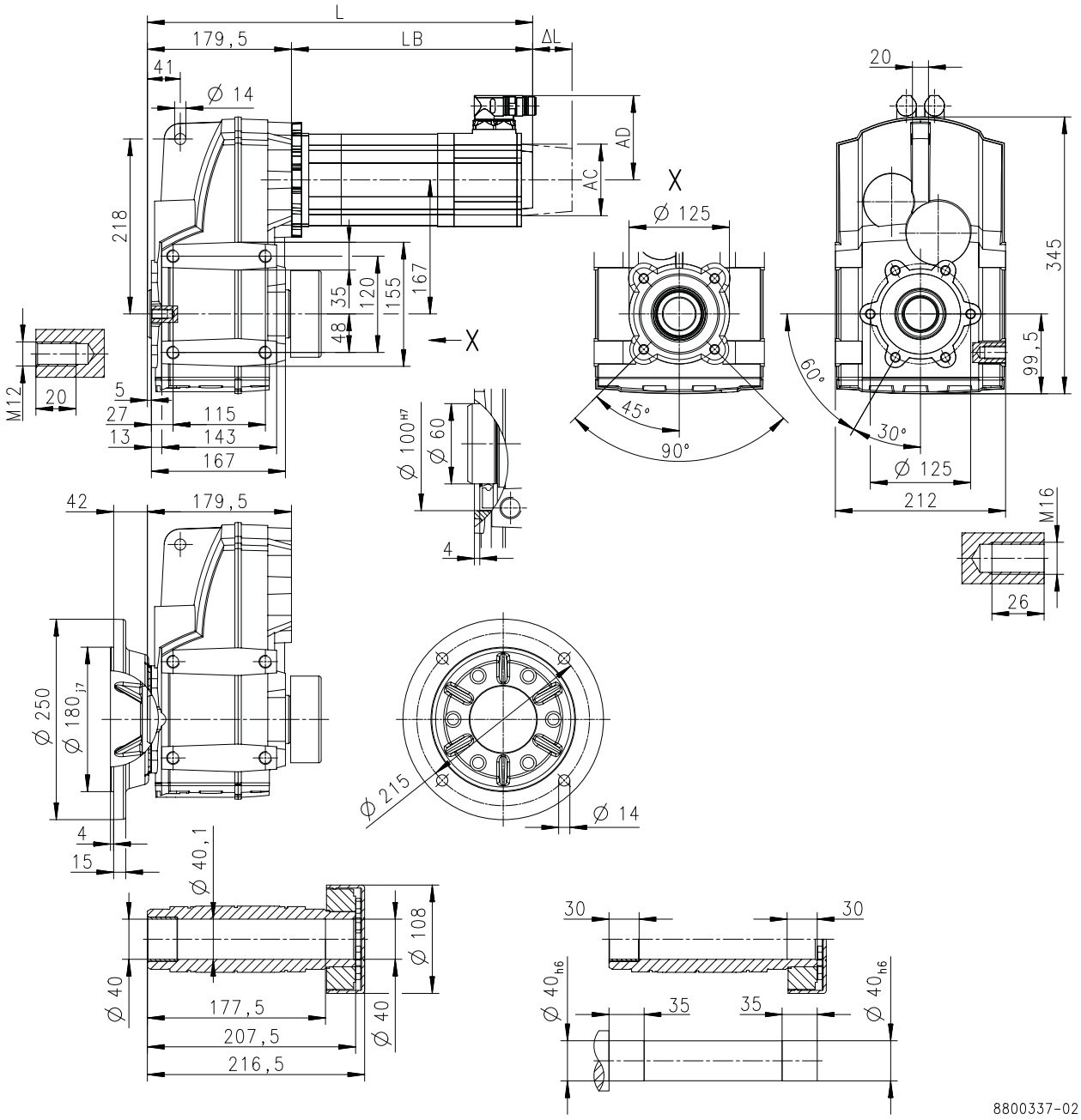
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	439
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S950 with MCA10

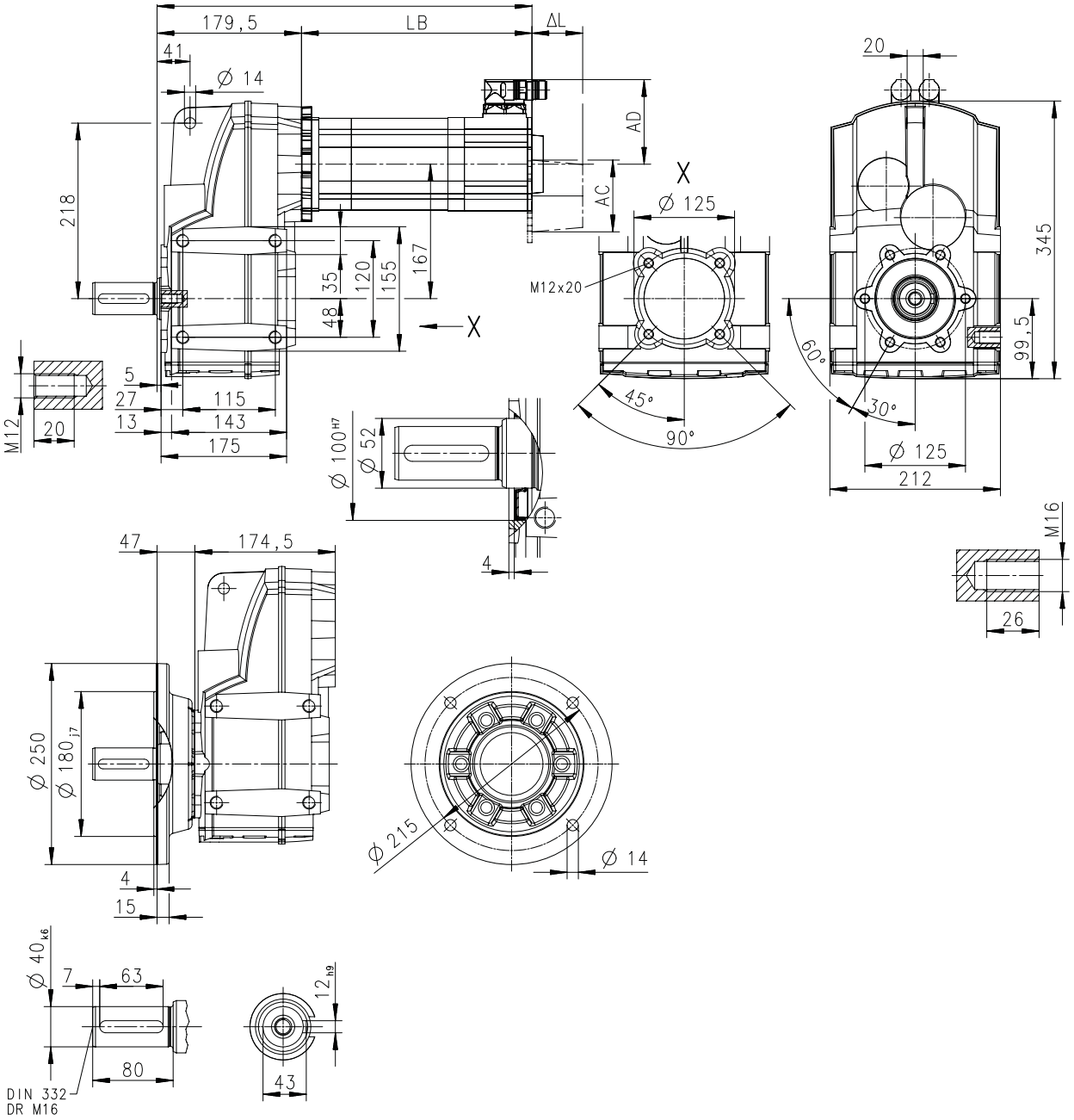
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	439
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S950 with MCA10

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

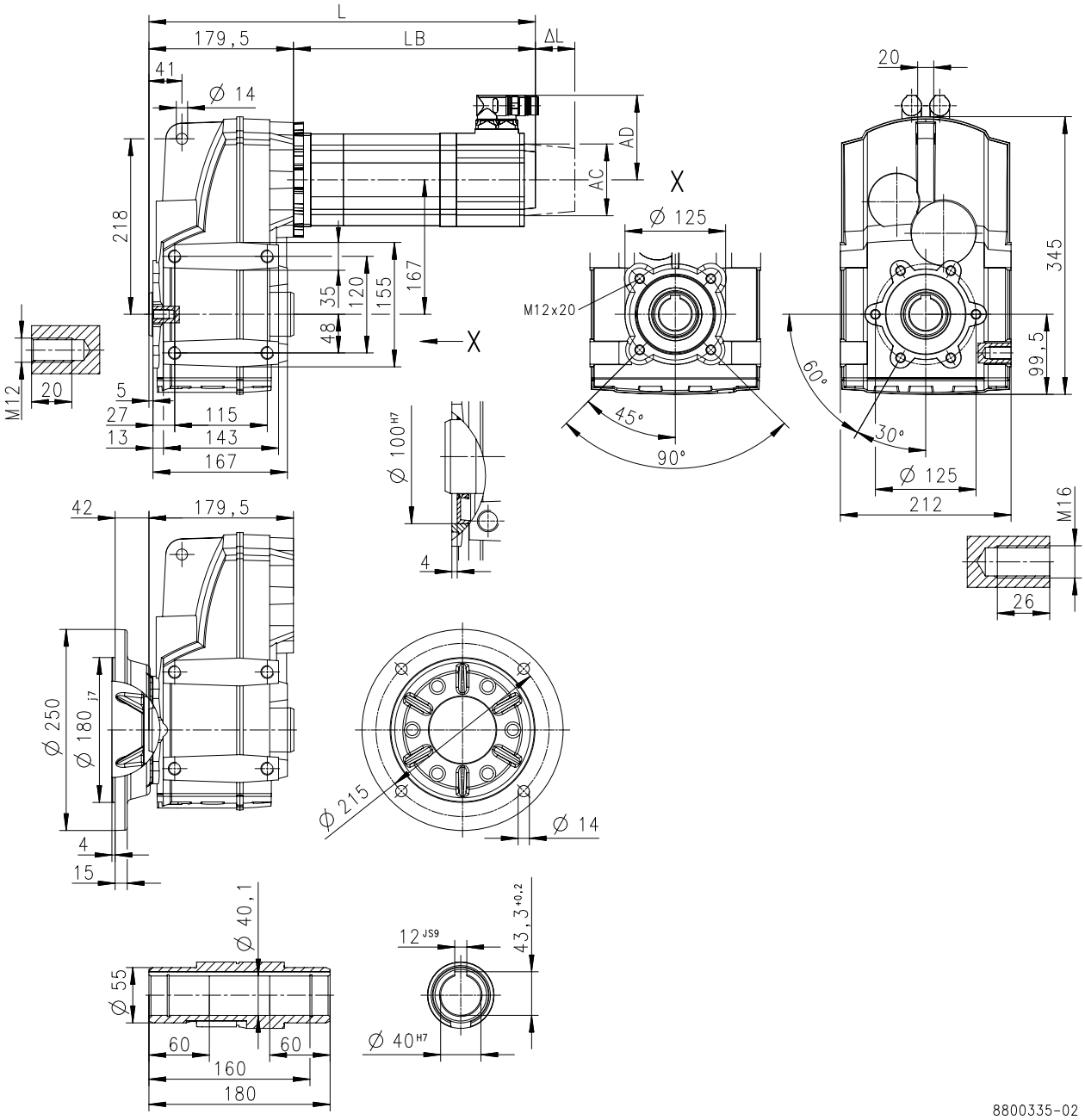


8800336-02

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	439
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S950 with MCA13

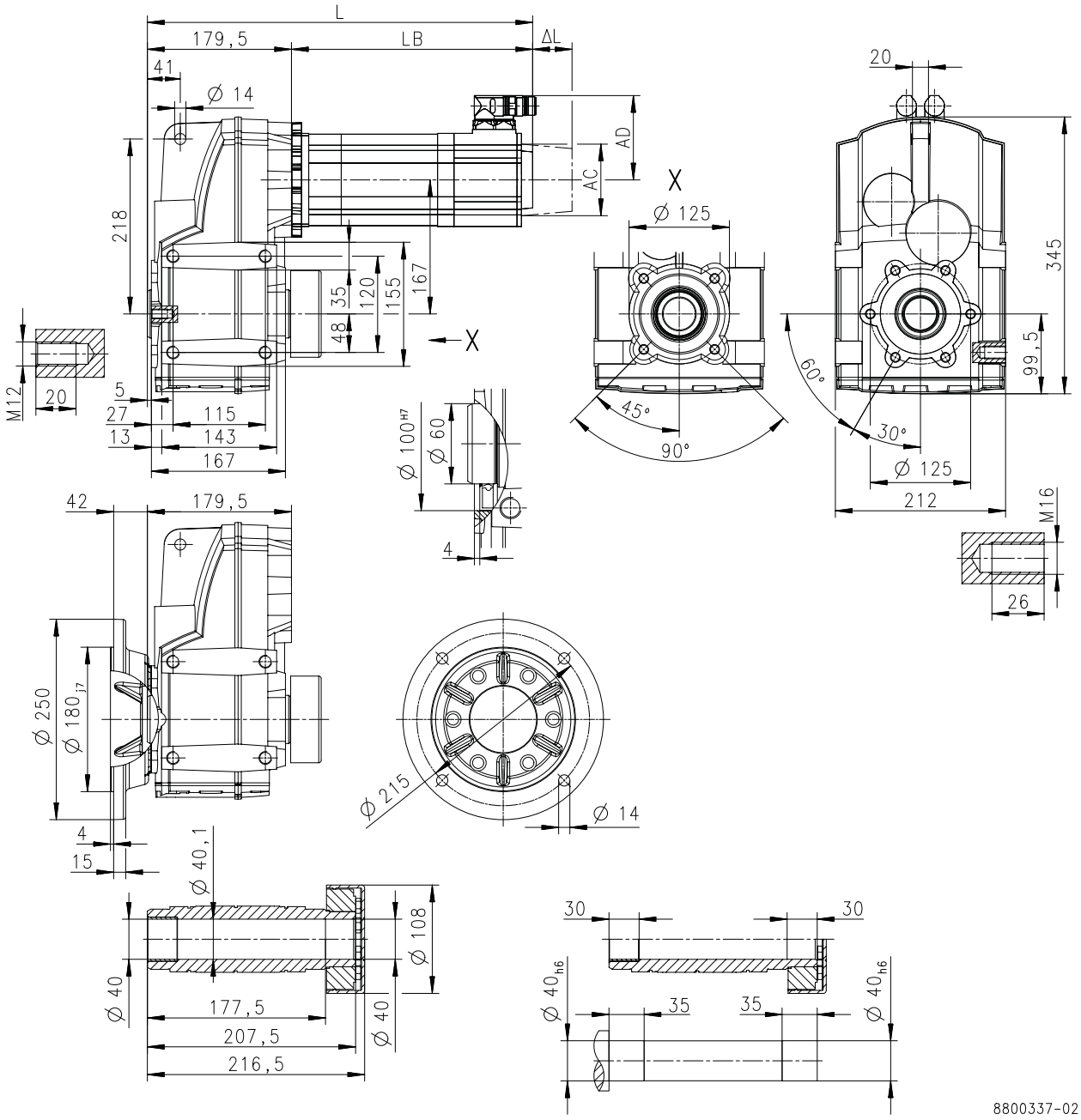
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	515	447
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S950 with MCA13

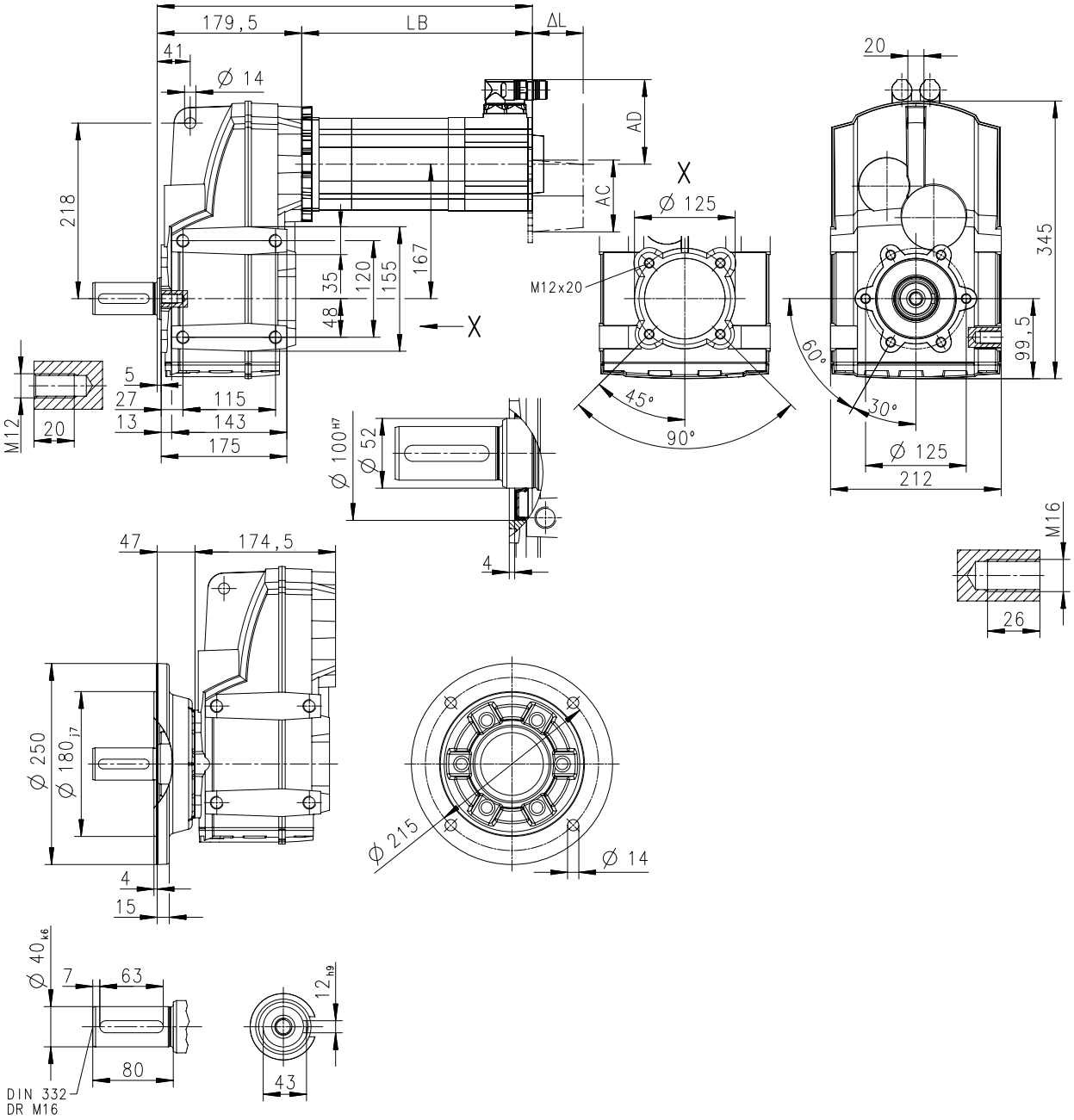
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	515	447
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S950 with MCA13

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

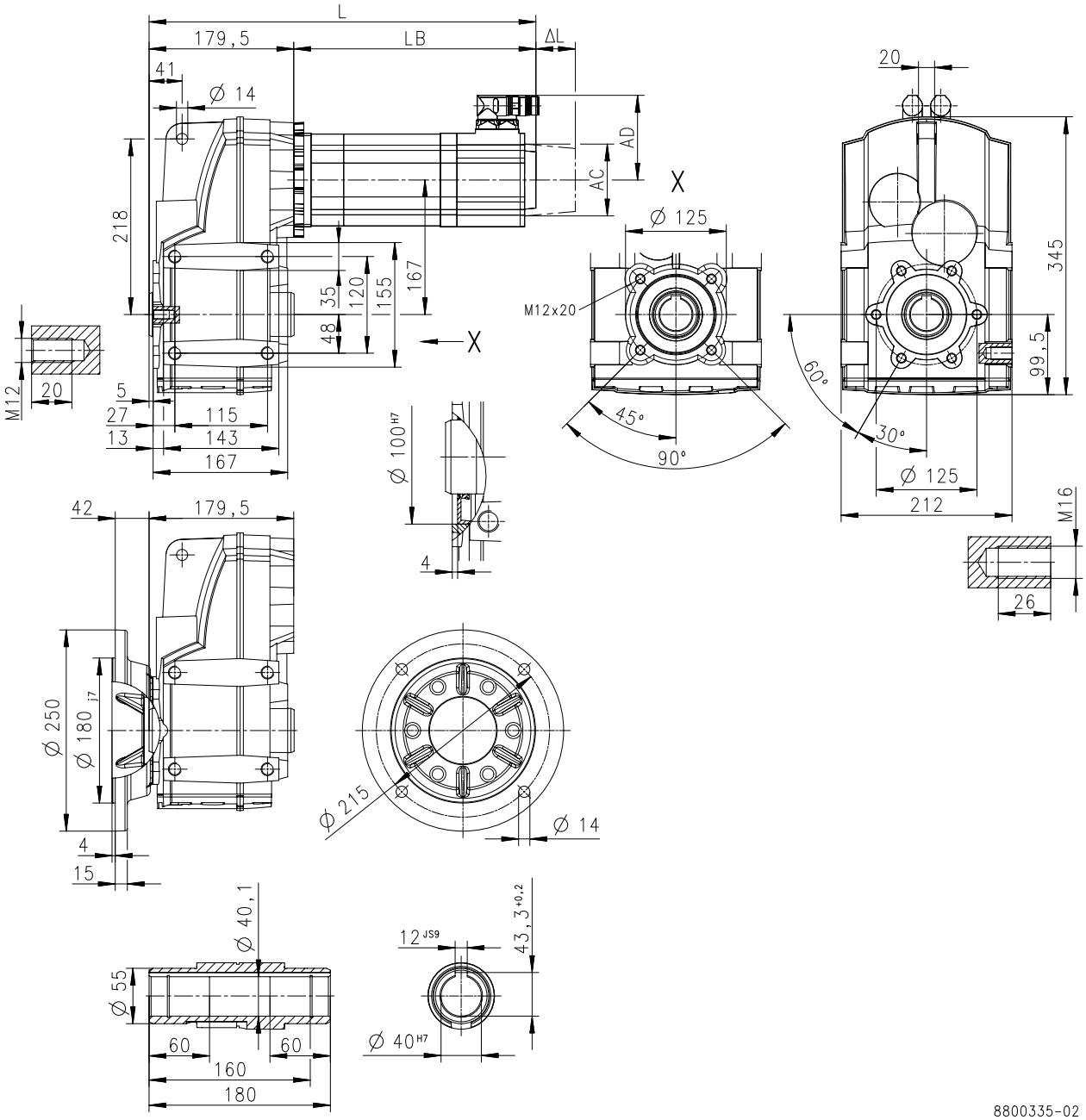


8800336-02

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	515	447
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S950 with MCA14

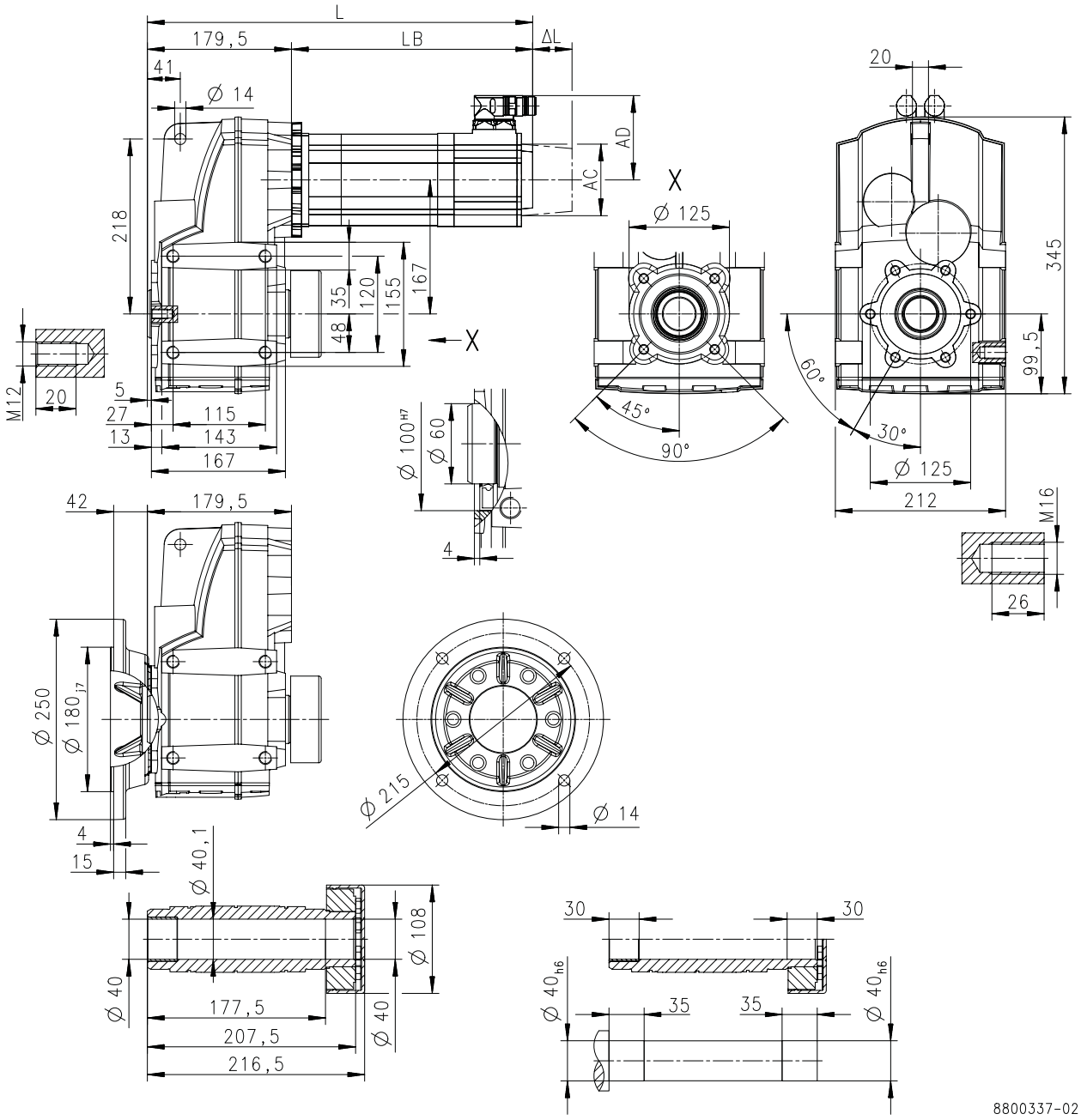
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	559	497	559	497
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S950 with MCA14

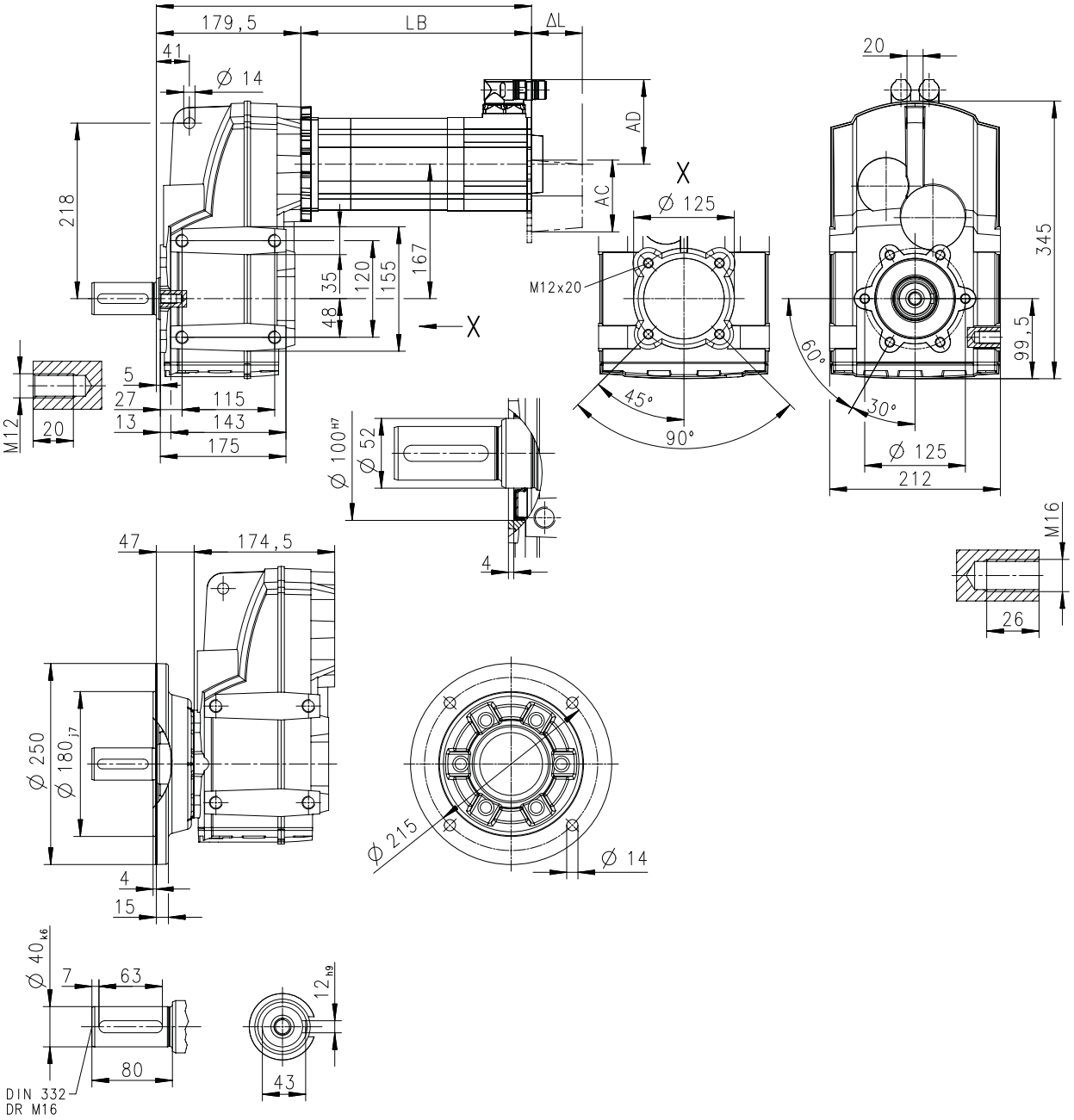
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			Forced	Natural	Forced	Natural
Total length	L	mm	559	497	559	497
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S950 with MCA14

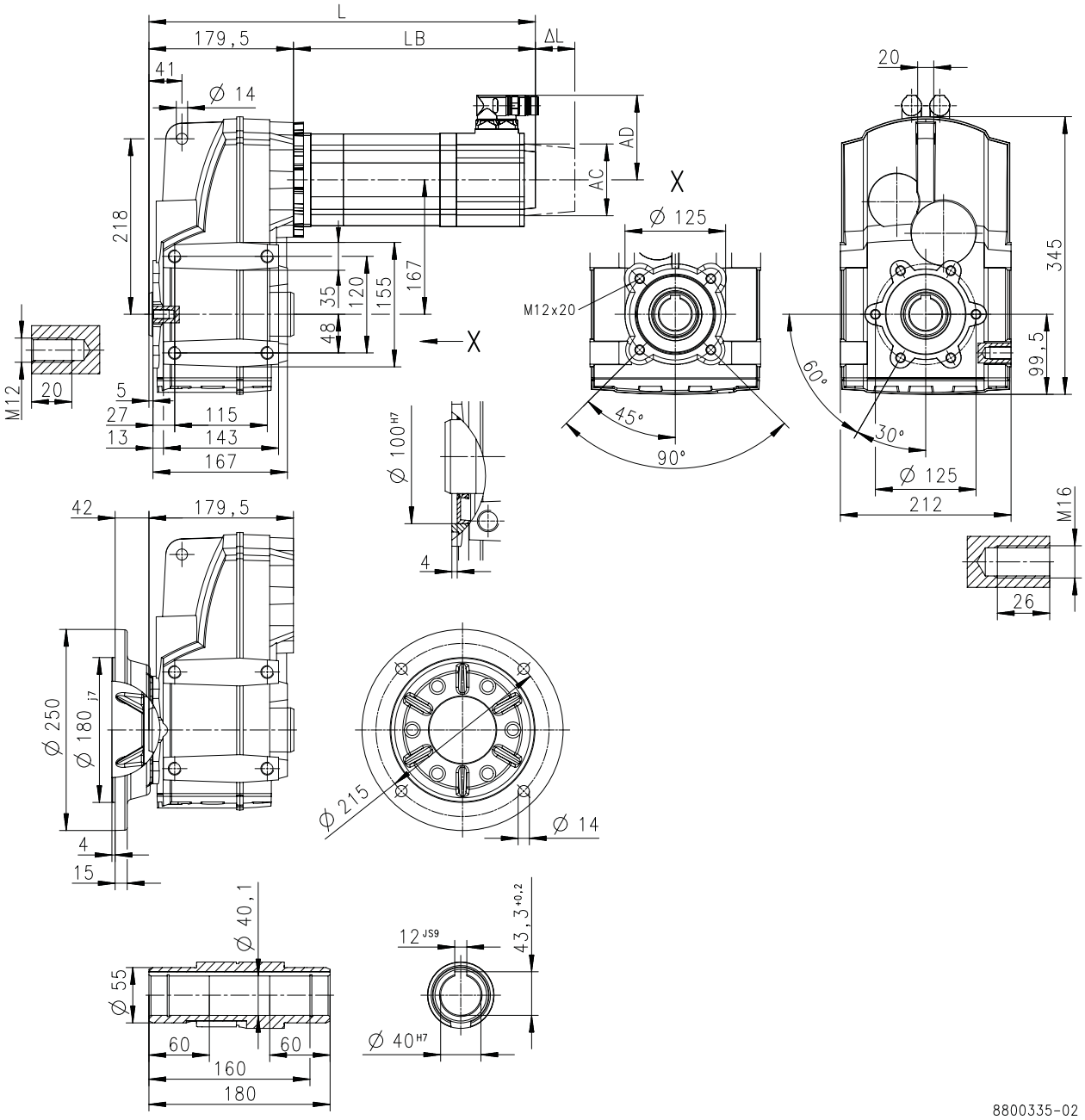
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	559	497	559	497
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S950 with MCA17

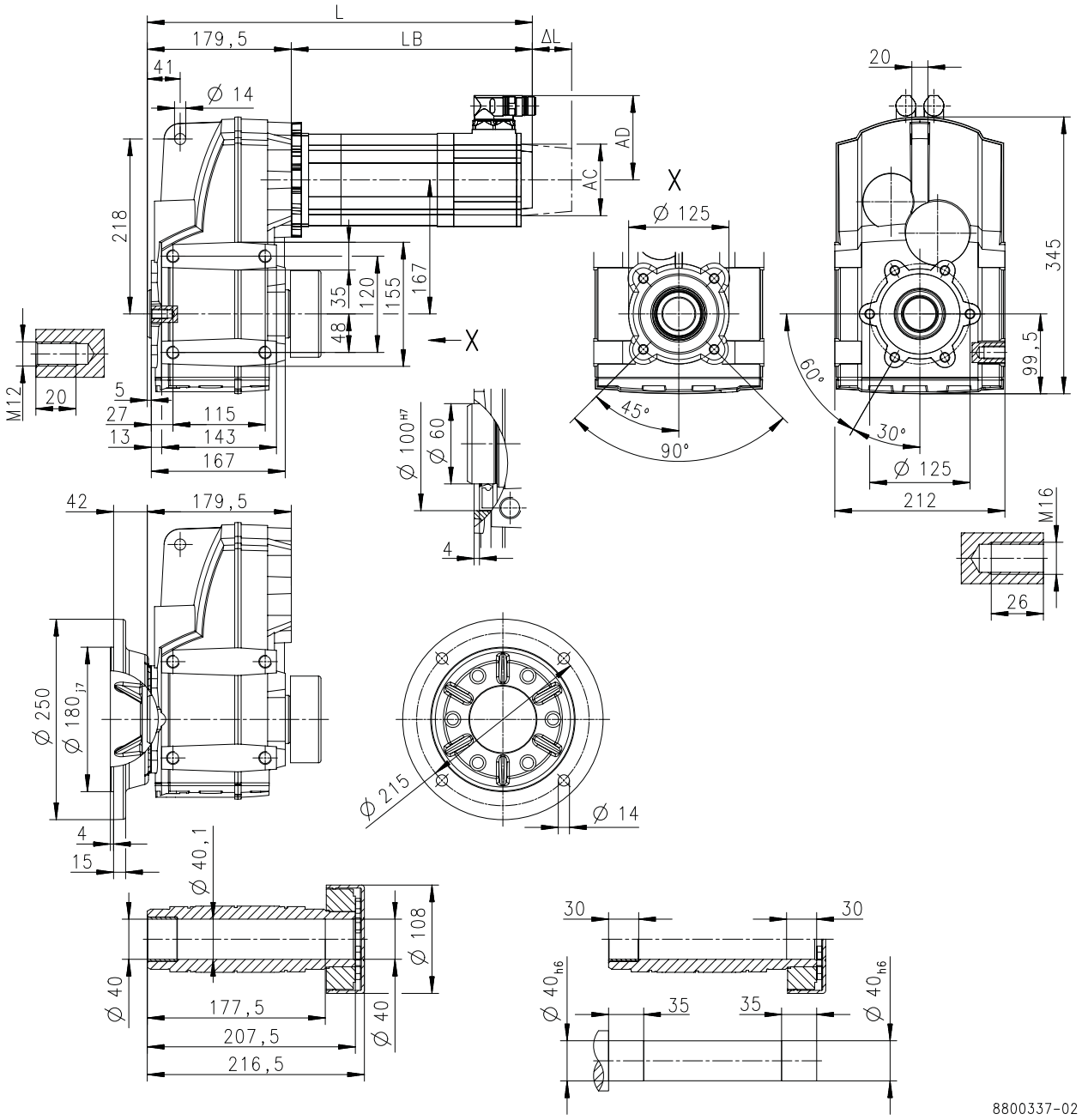
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	622	536	622	536
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S950 with MCA17

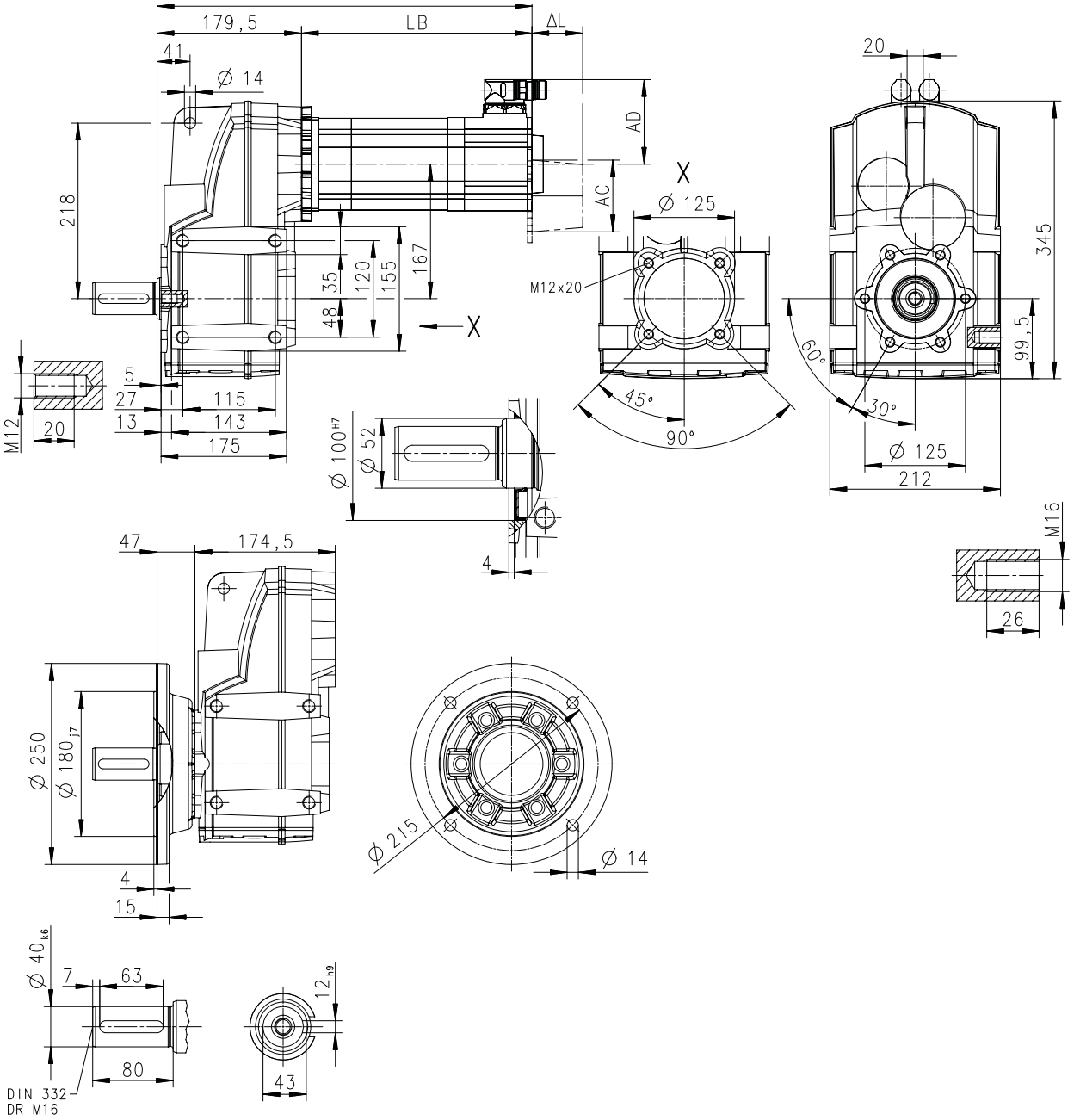
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	622	536	622	536
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S950 with MCA17

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

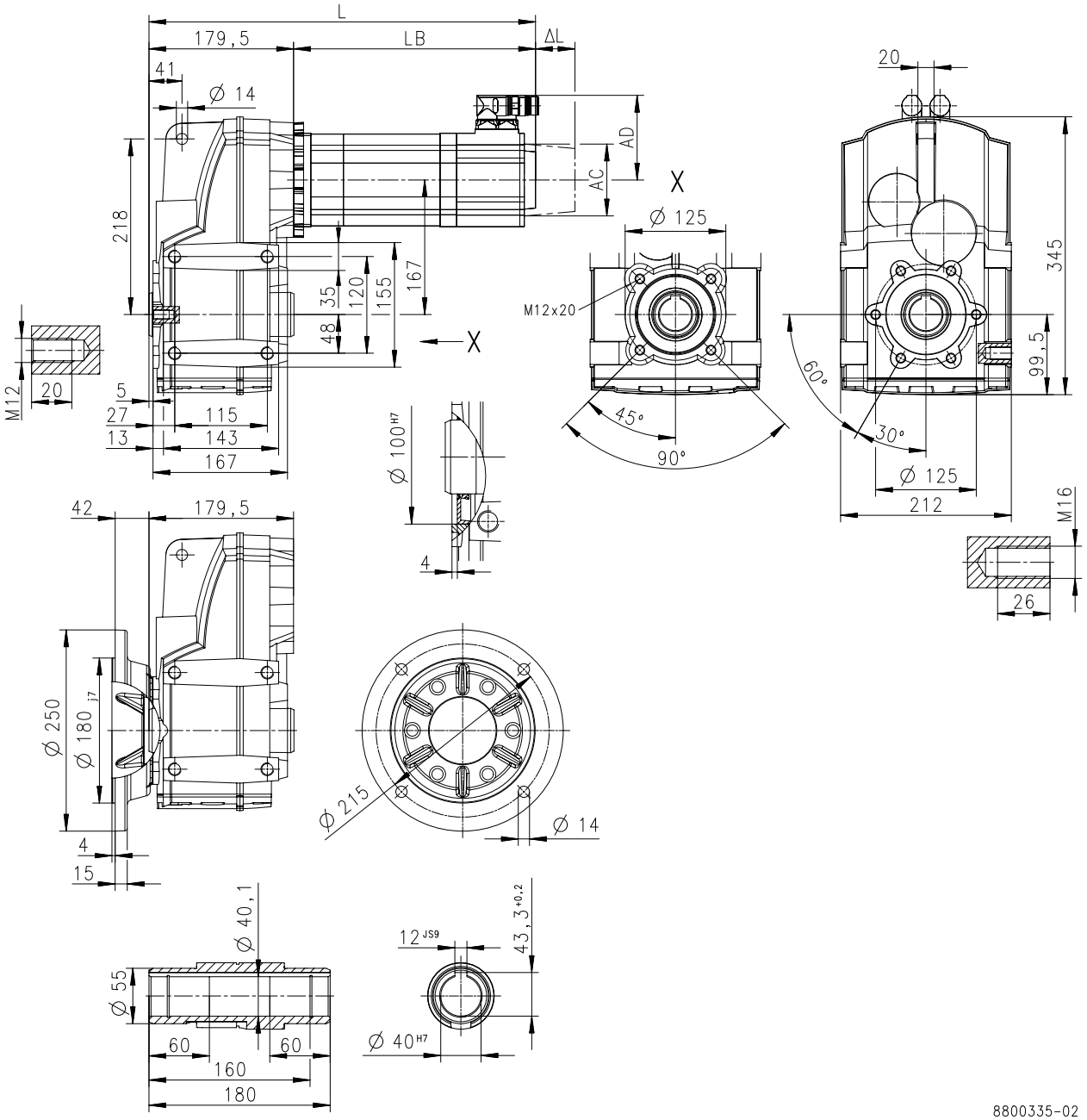


8800336-02

Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	622	536	622	536
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S950 with MCA19

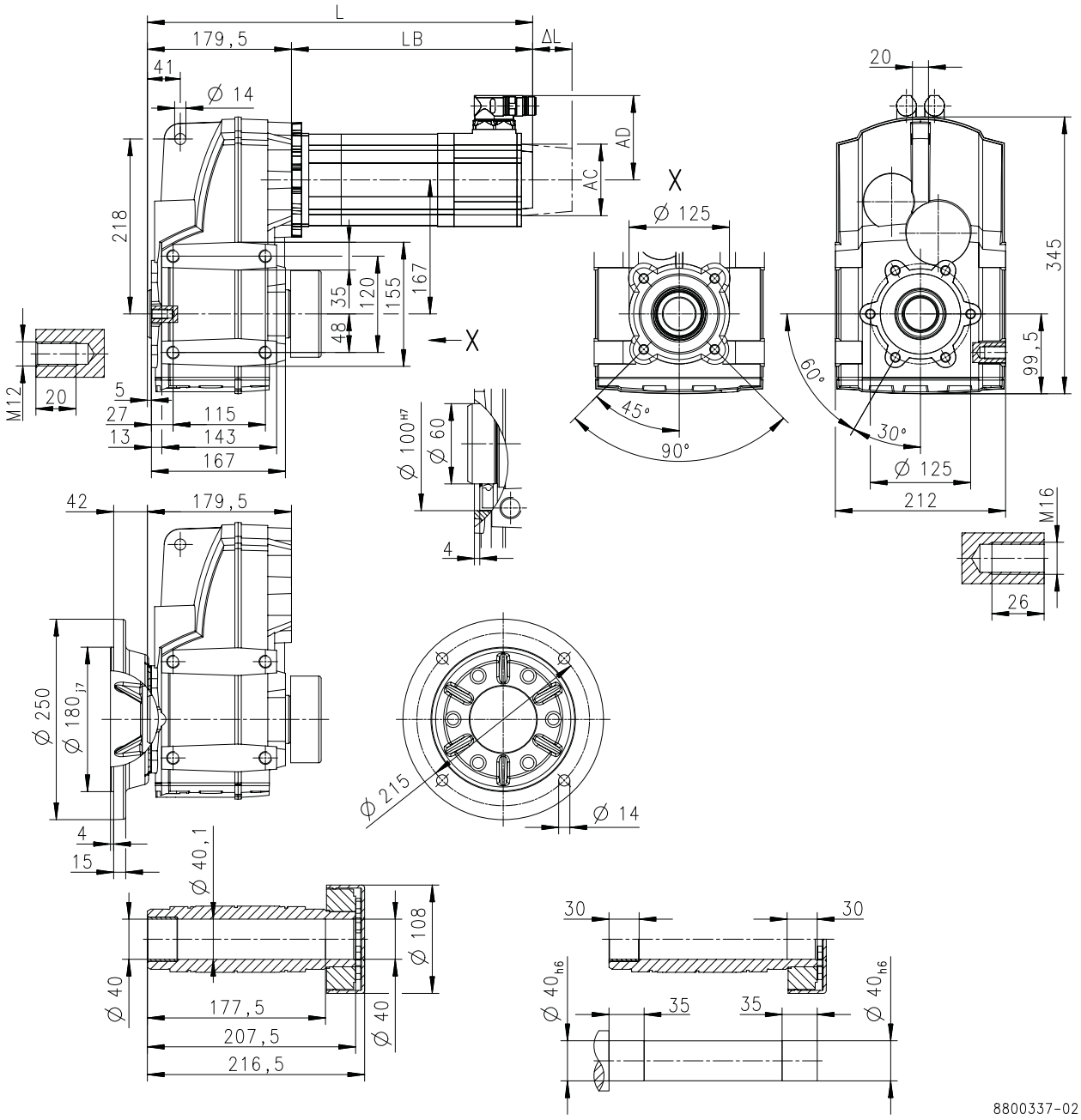
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	702	605	702	605
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S950 with MCA19

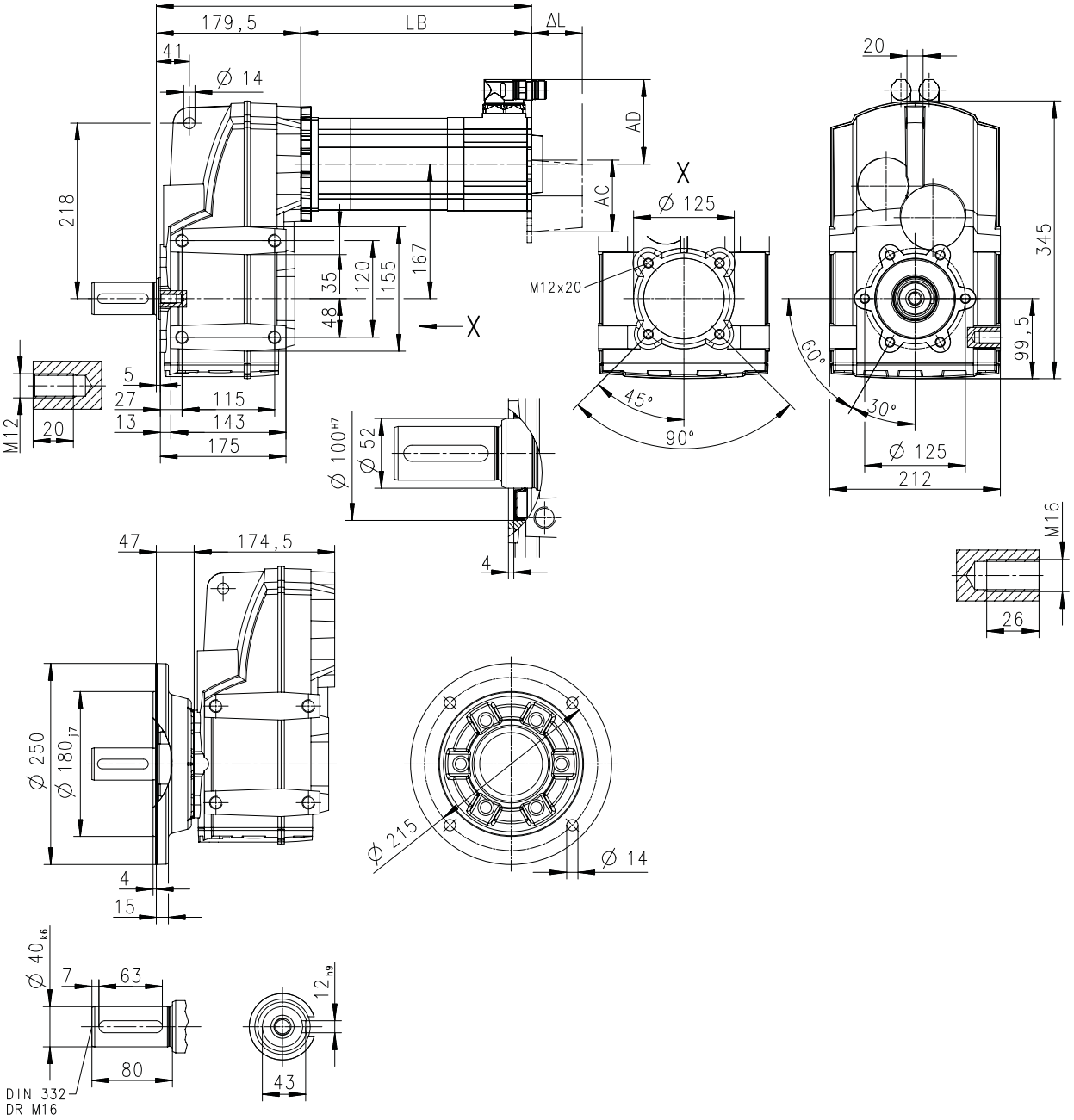
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			Forced	Natural	Forced	Natural
Total length	L	mm	702	605	702	605
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S950 with MCA19

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

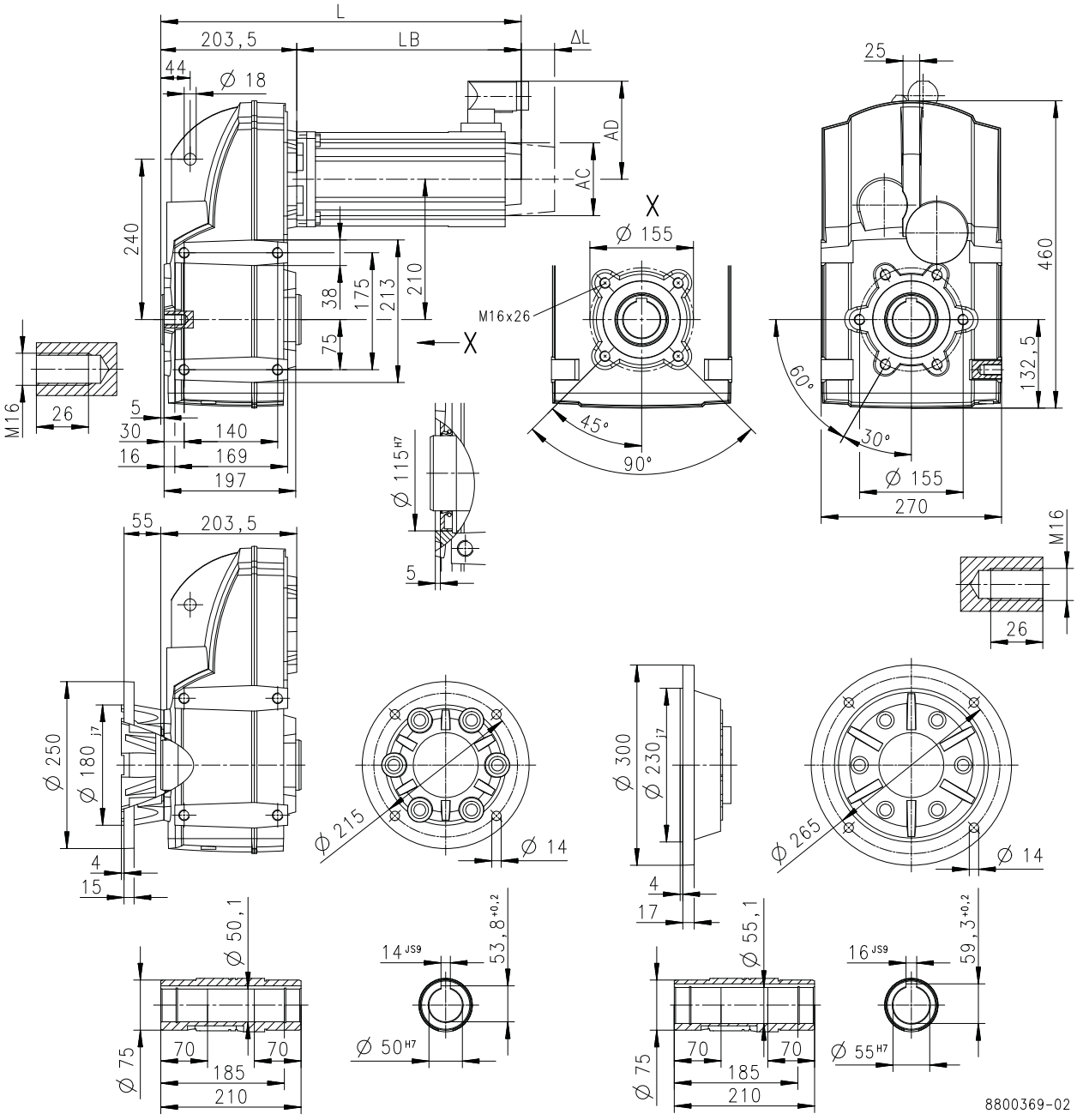


8800336-02

Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	702	605	702	605
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S2100 with MCA10

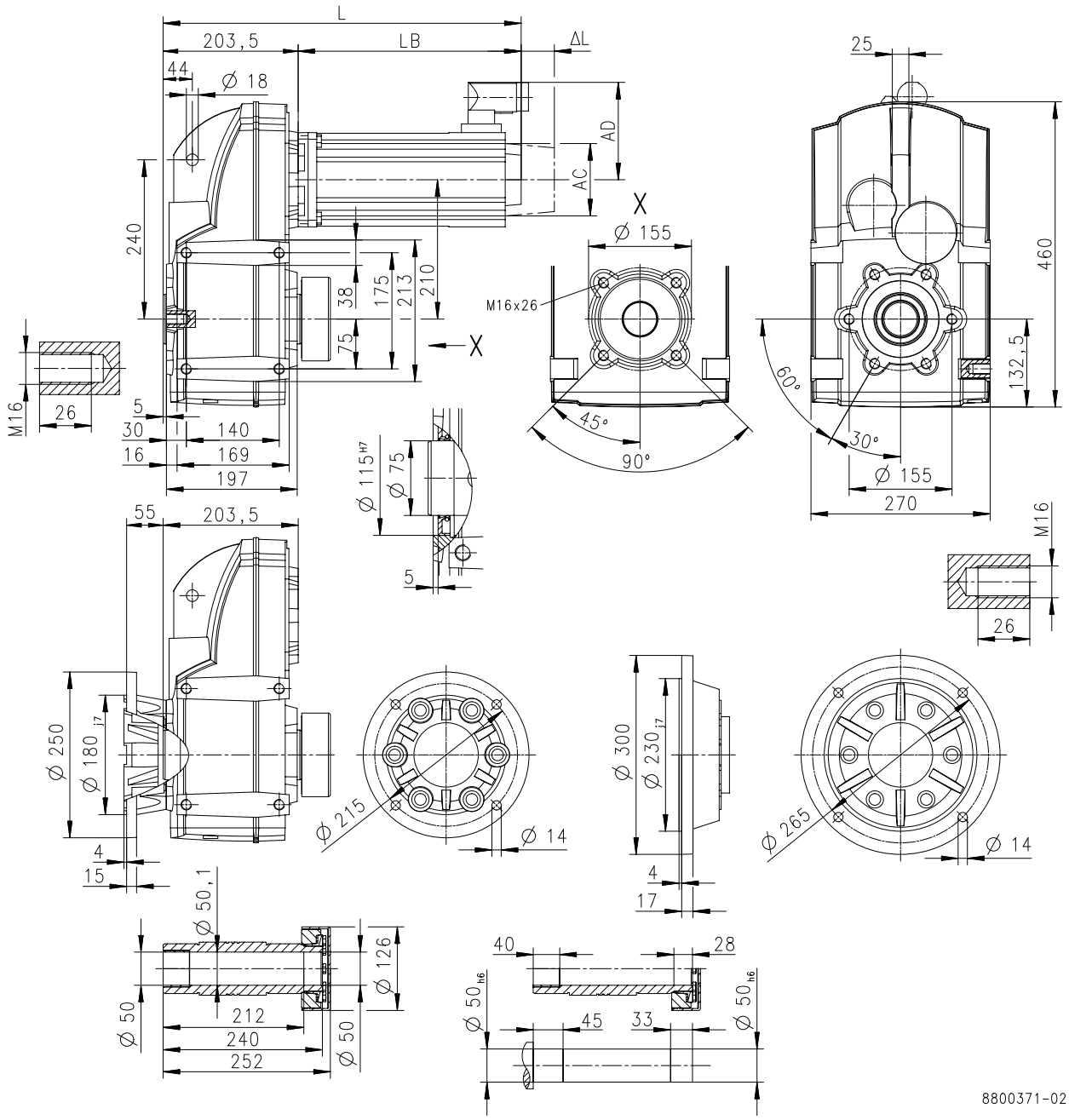
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	463
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S2100 with MCA10

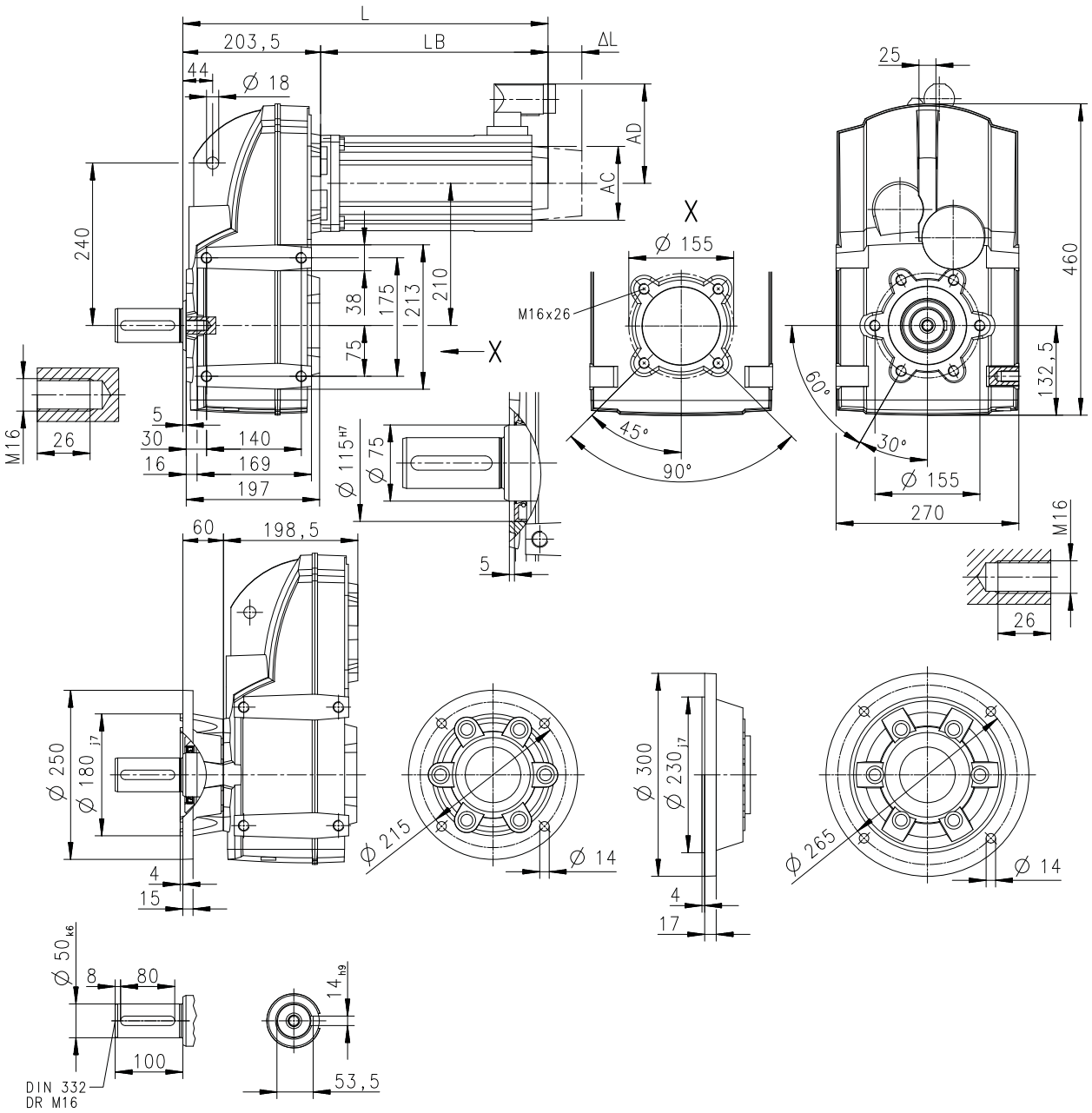
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	463
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S2100 with MCA10

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

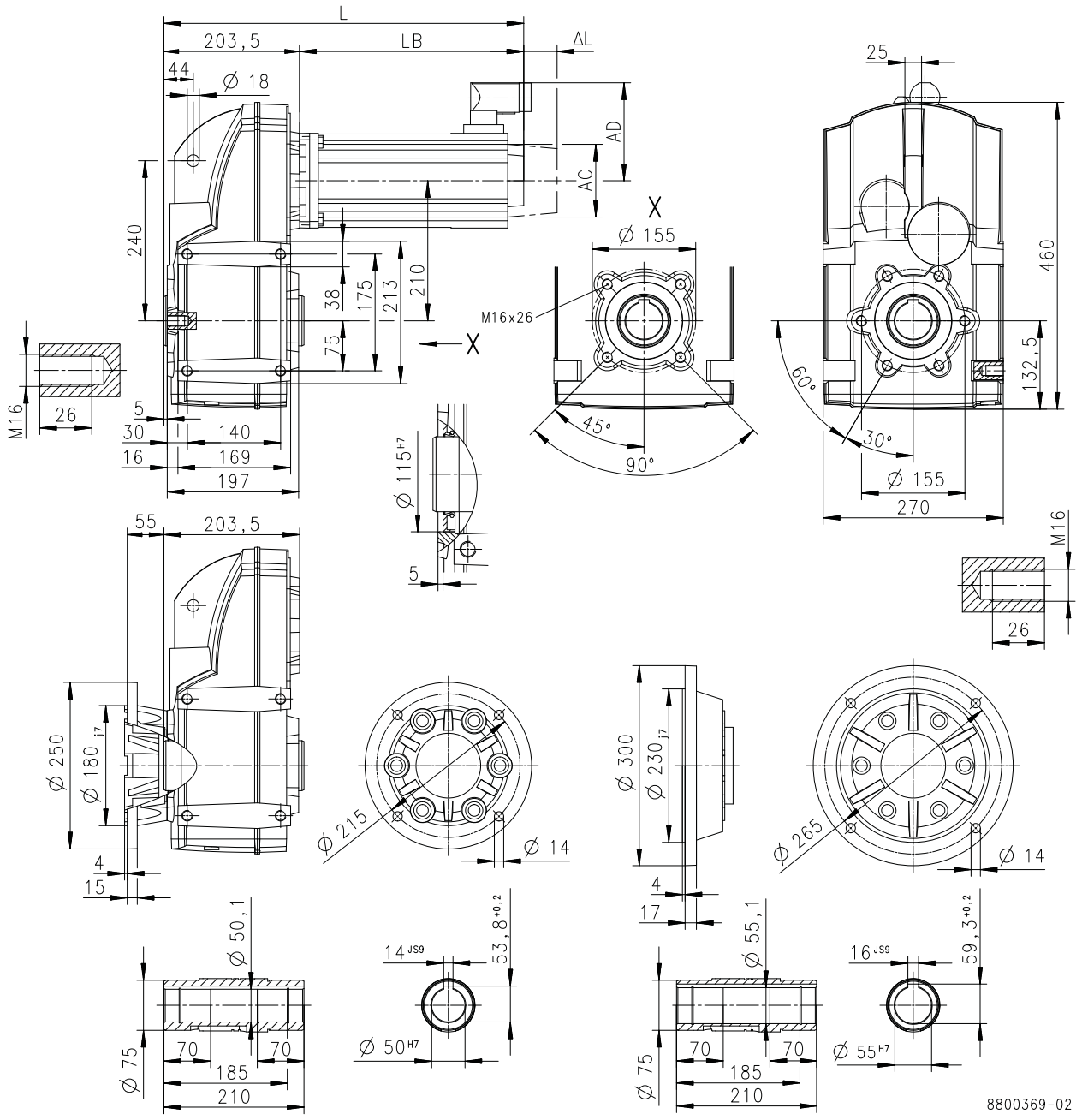


8800370-02

Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	463
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S2100 with MCA10

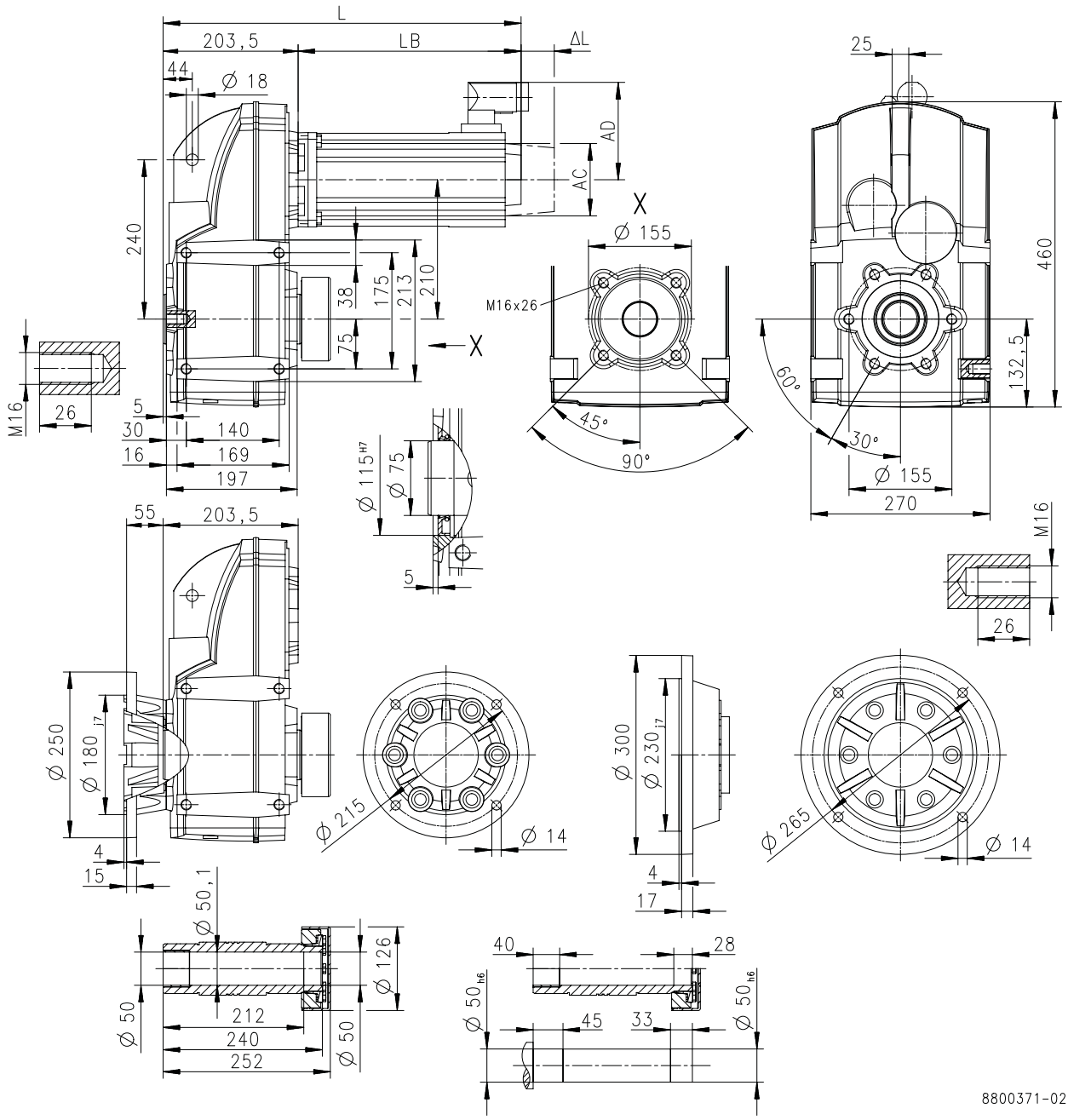
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	539	471
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S2100 with MCA13

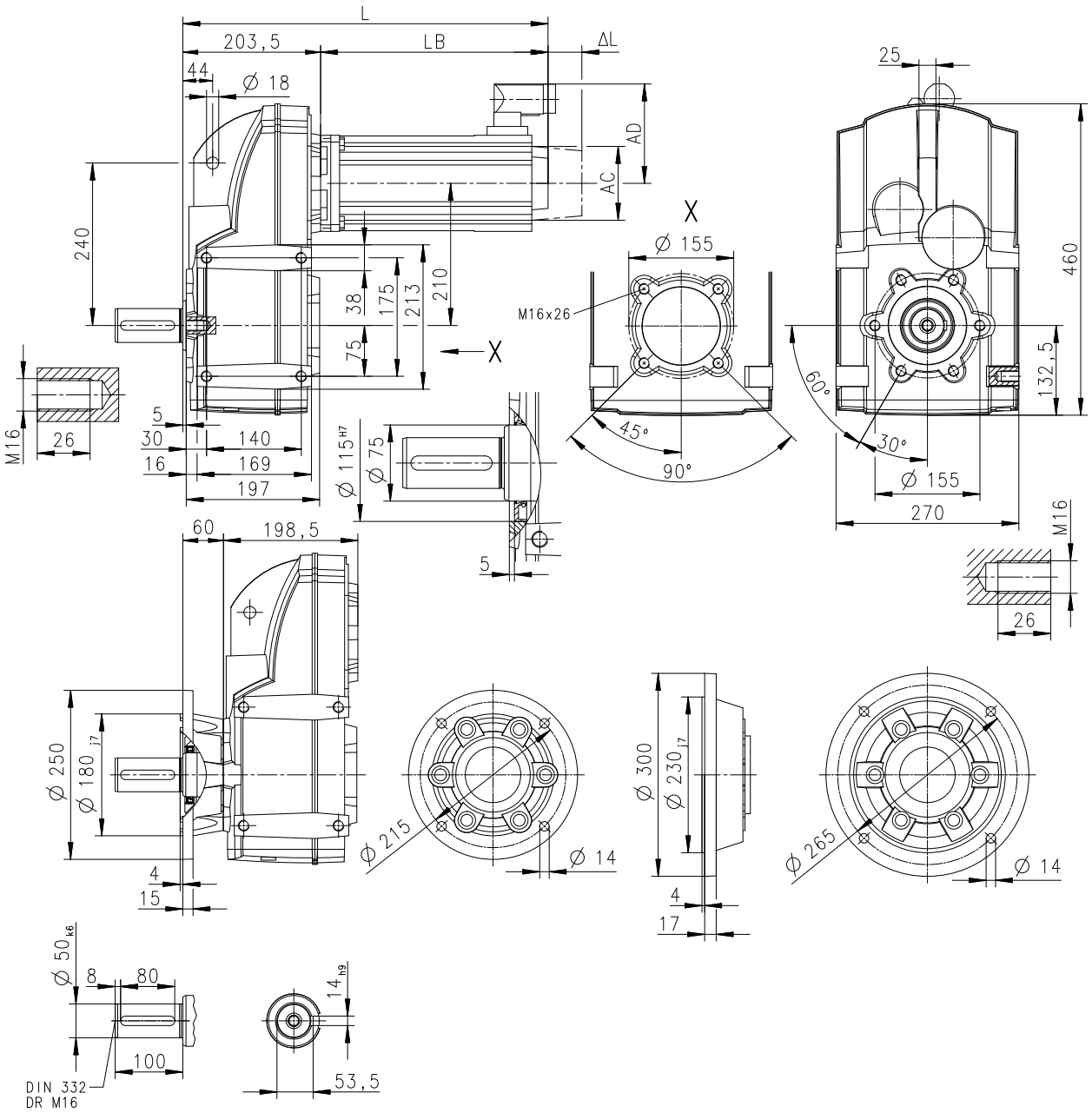
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	539	471
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S2100 with MCA13

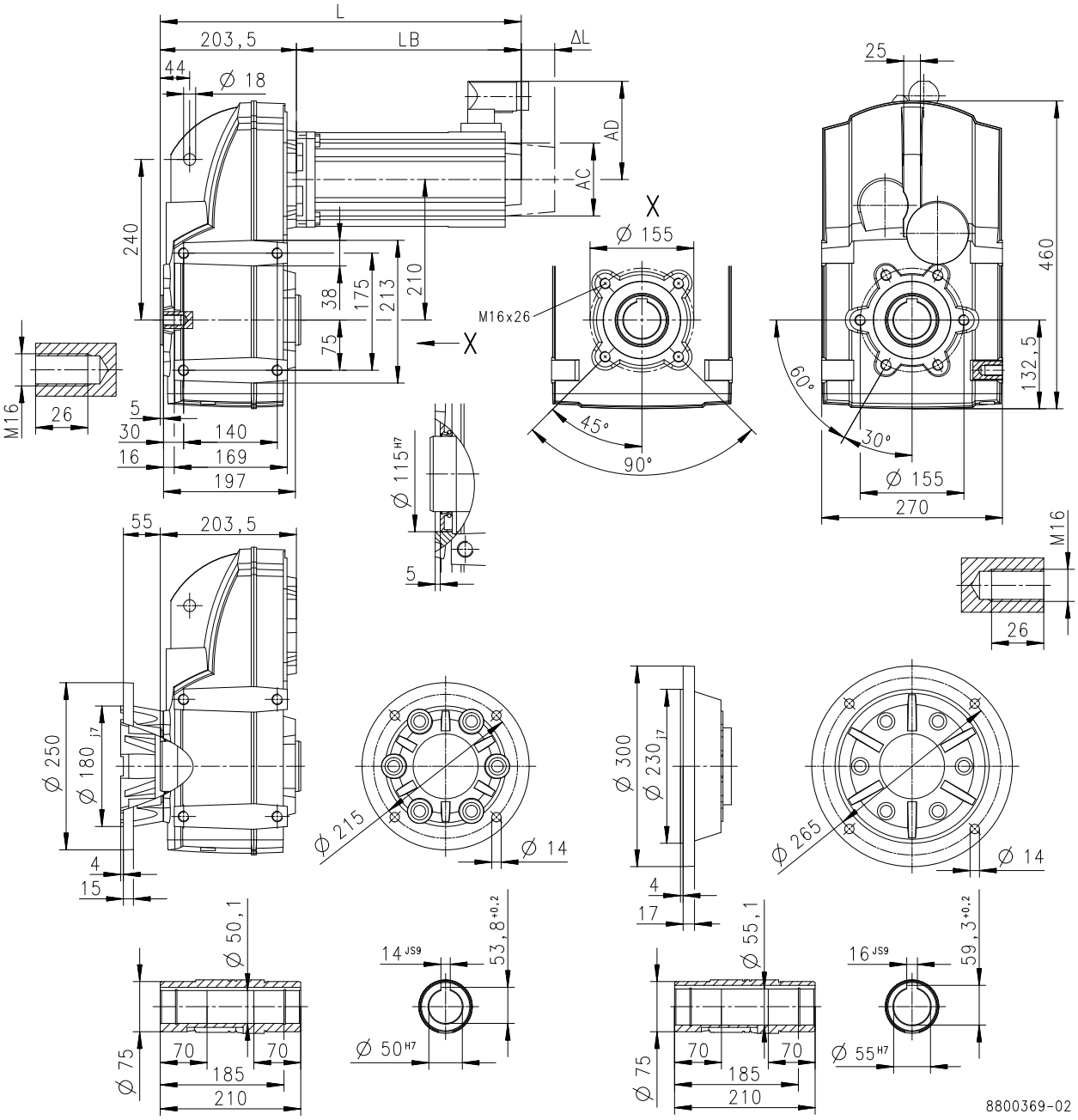
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	539	471
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S2100 with MCA14

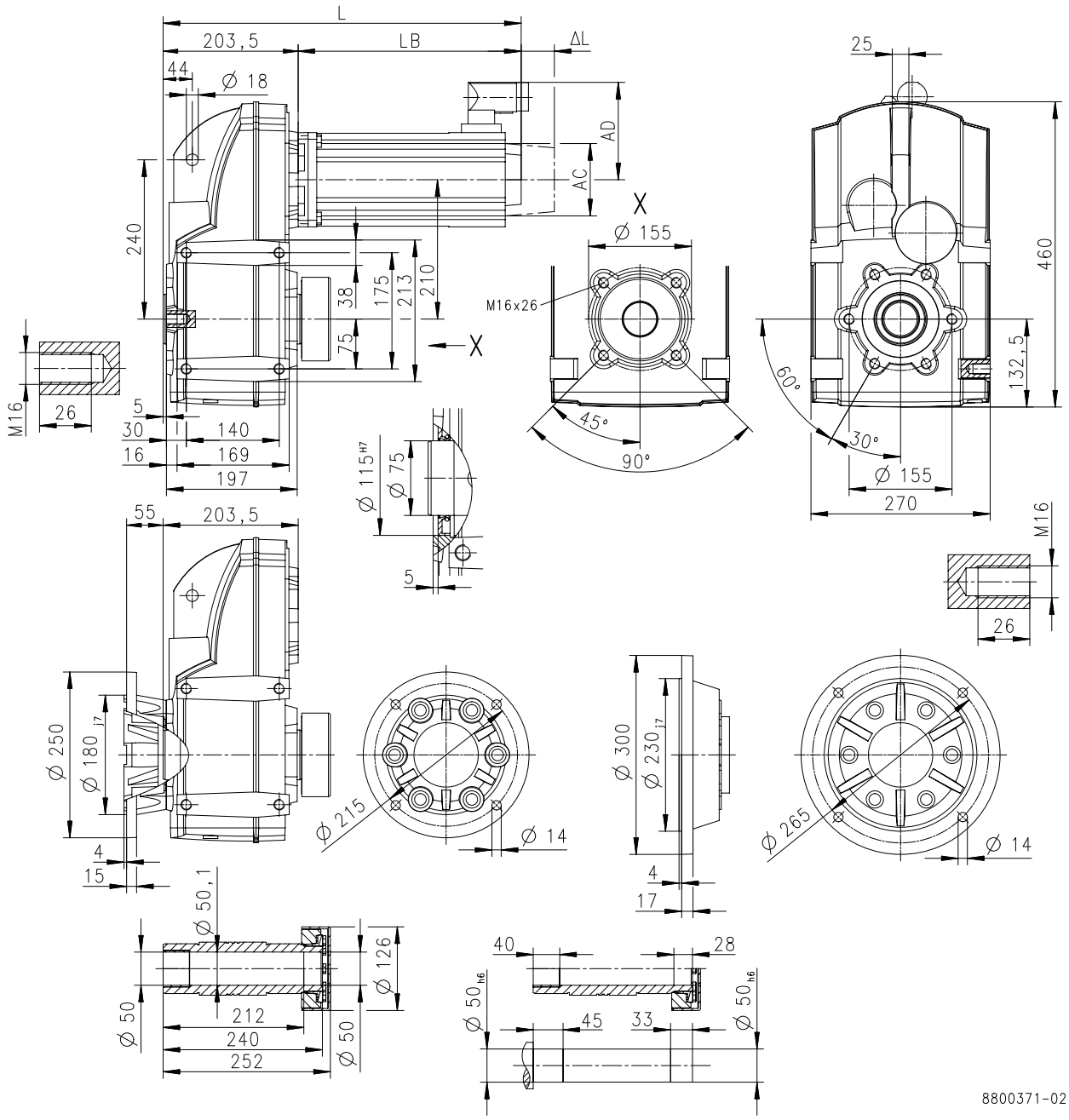
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			Forced	Natural	Forced	Natural
Total length	L	mm	583	521	583	521
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S2100 with MCA14

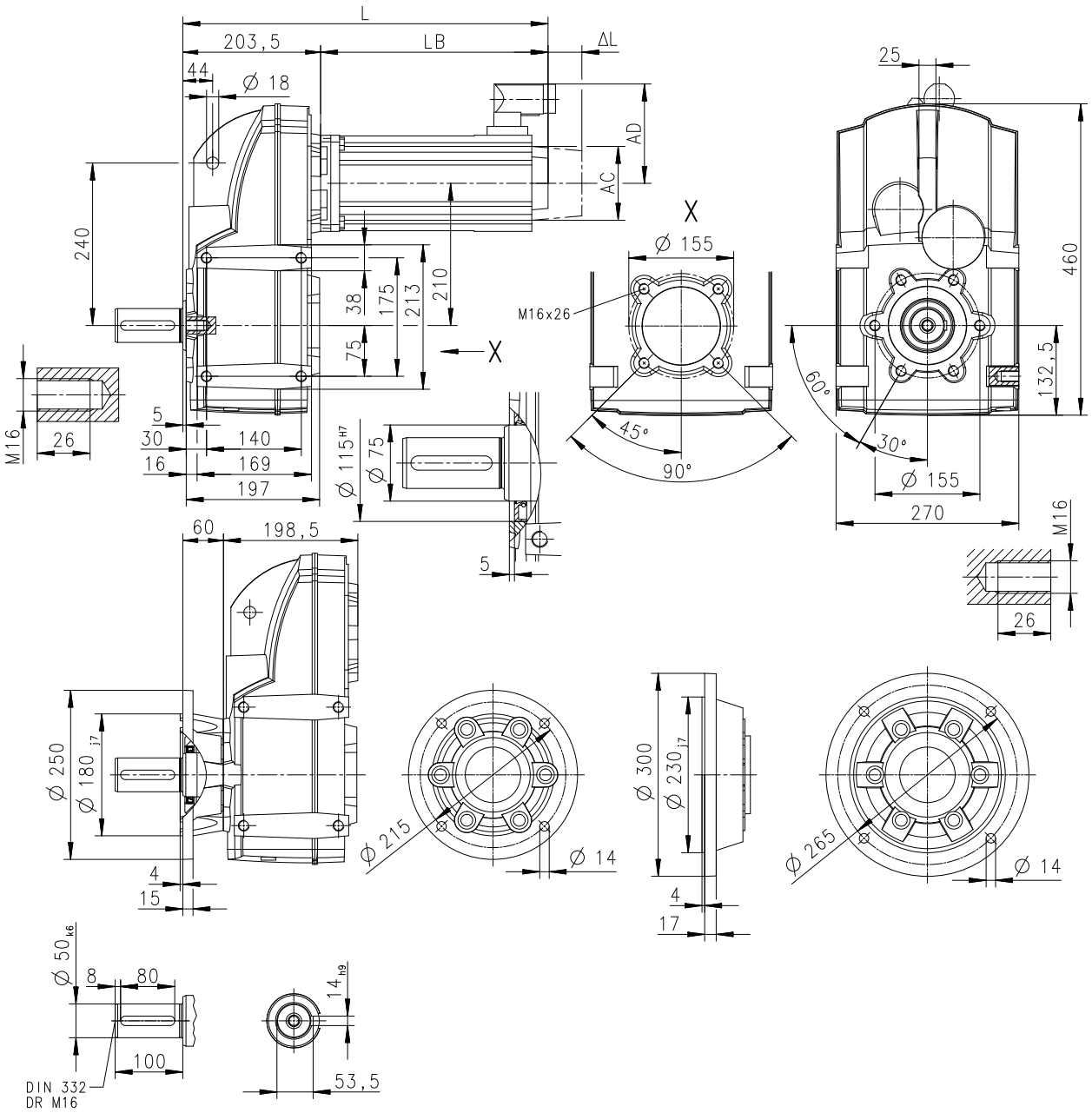
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	583	521	583	521
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S2100 with MCA14

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

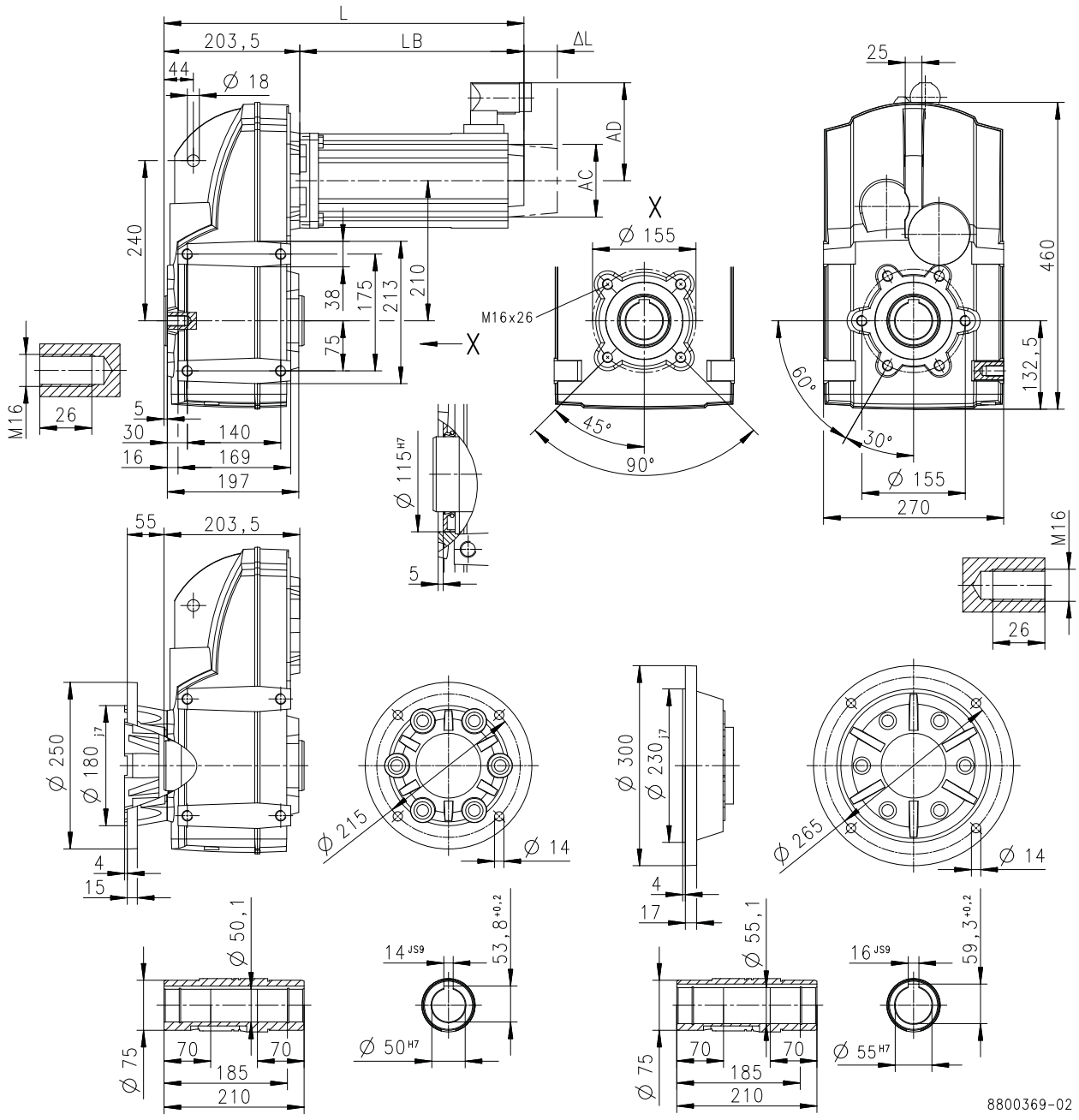


8800370-02

Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	583	521	583	521
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S2100 with MCA17

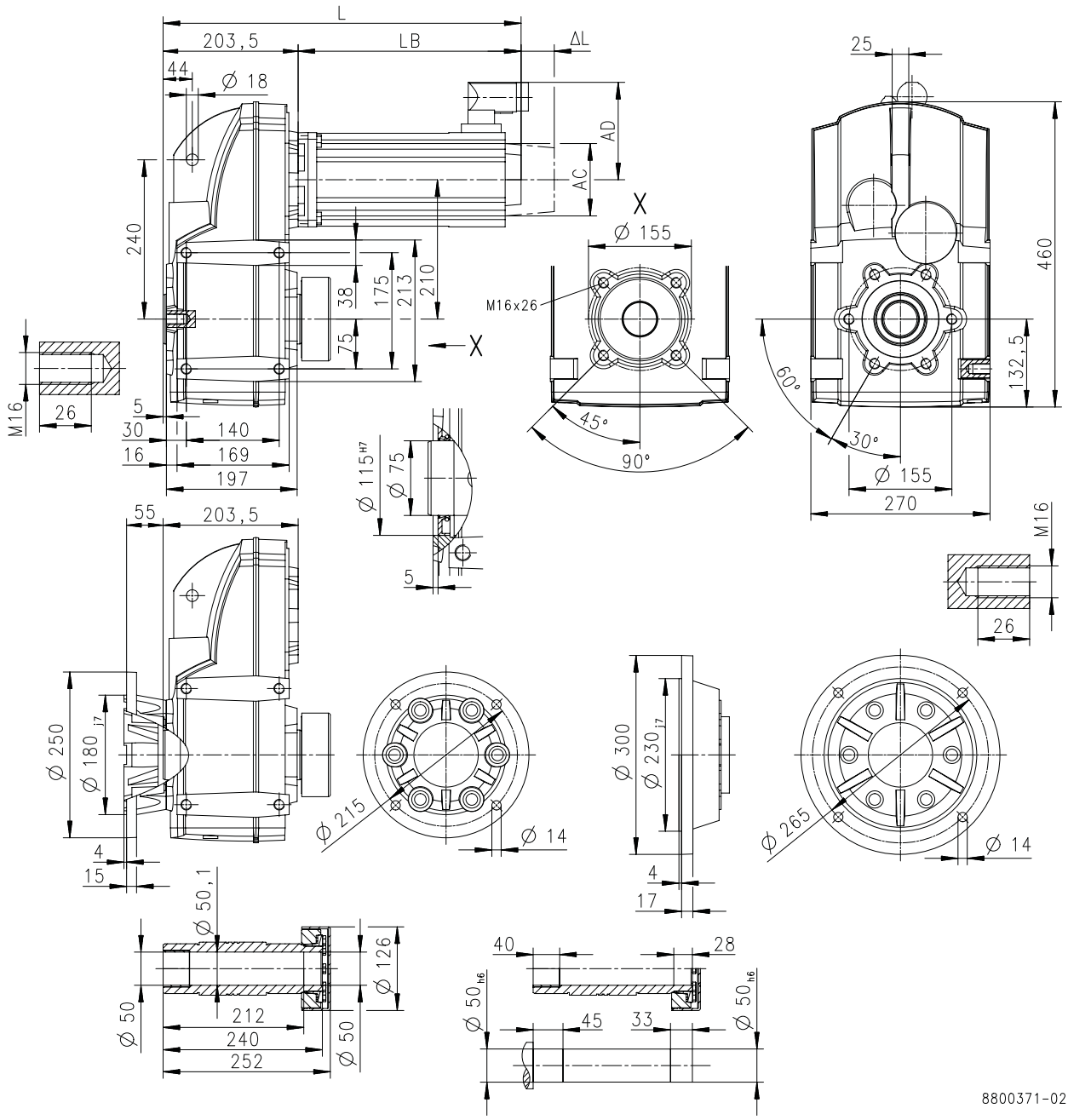
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	646	560	646	560
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S2100 with MCA17

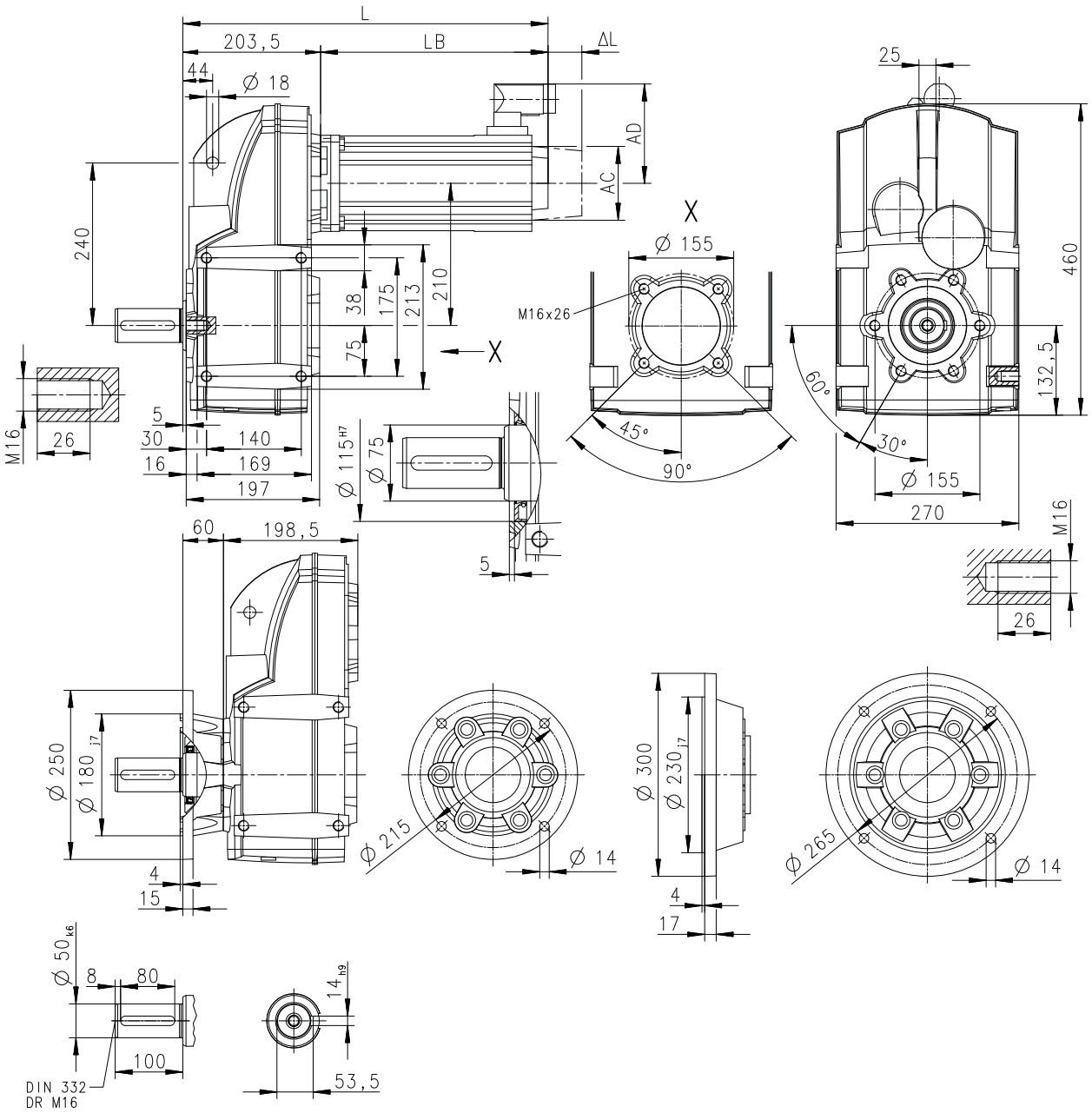
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	646	560	646	560
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S2100 with MCA17

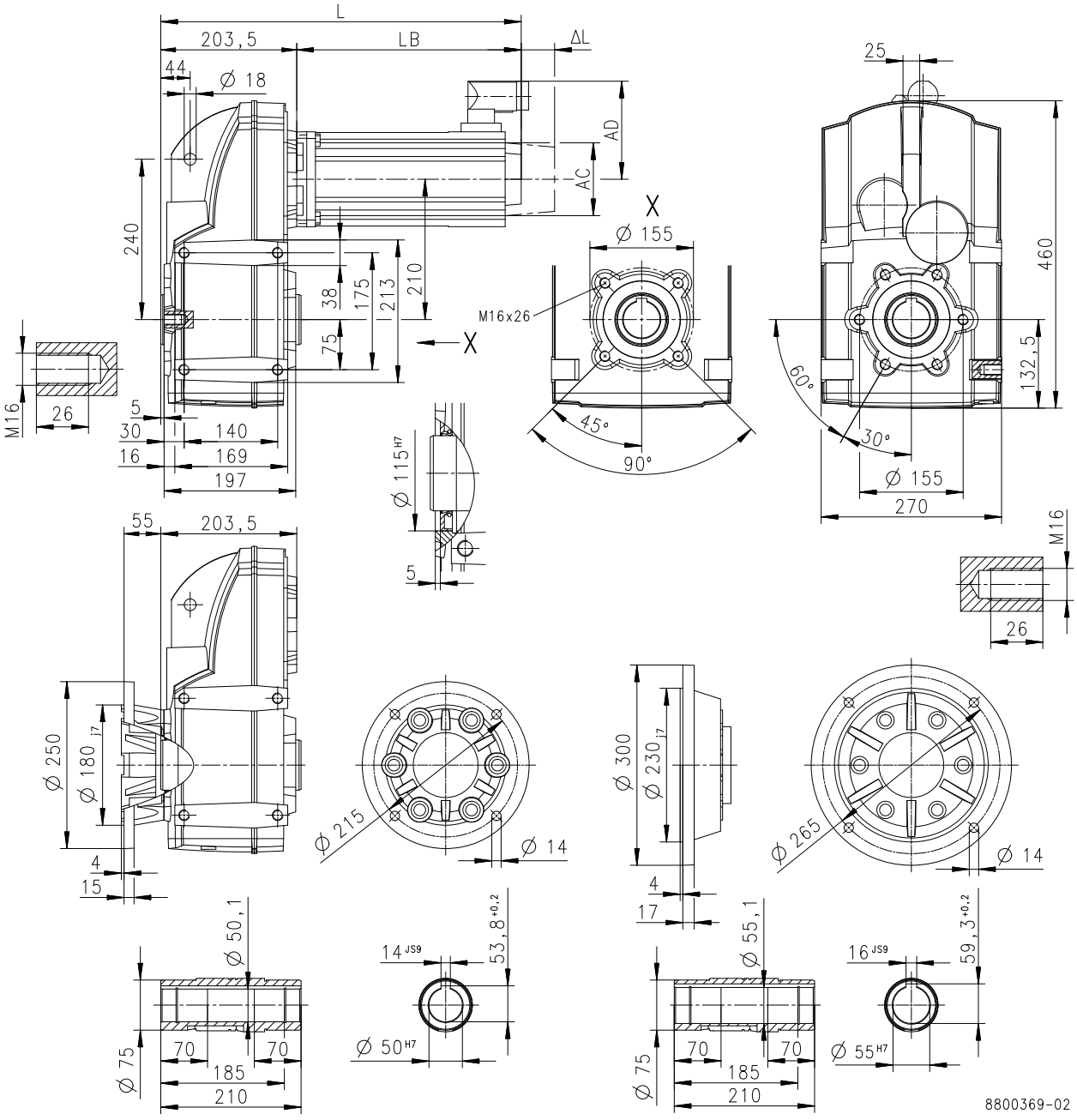
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	646	560	646	560
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S2100 with MCA19

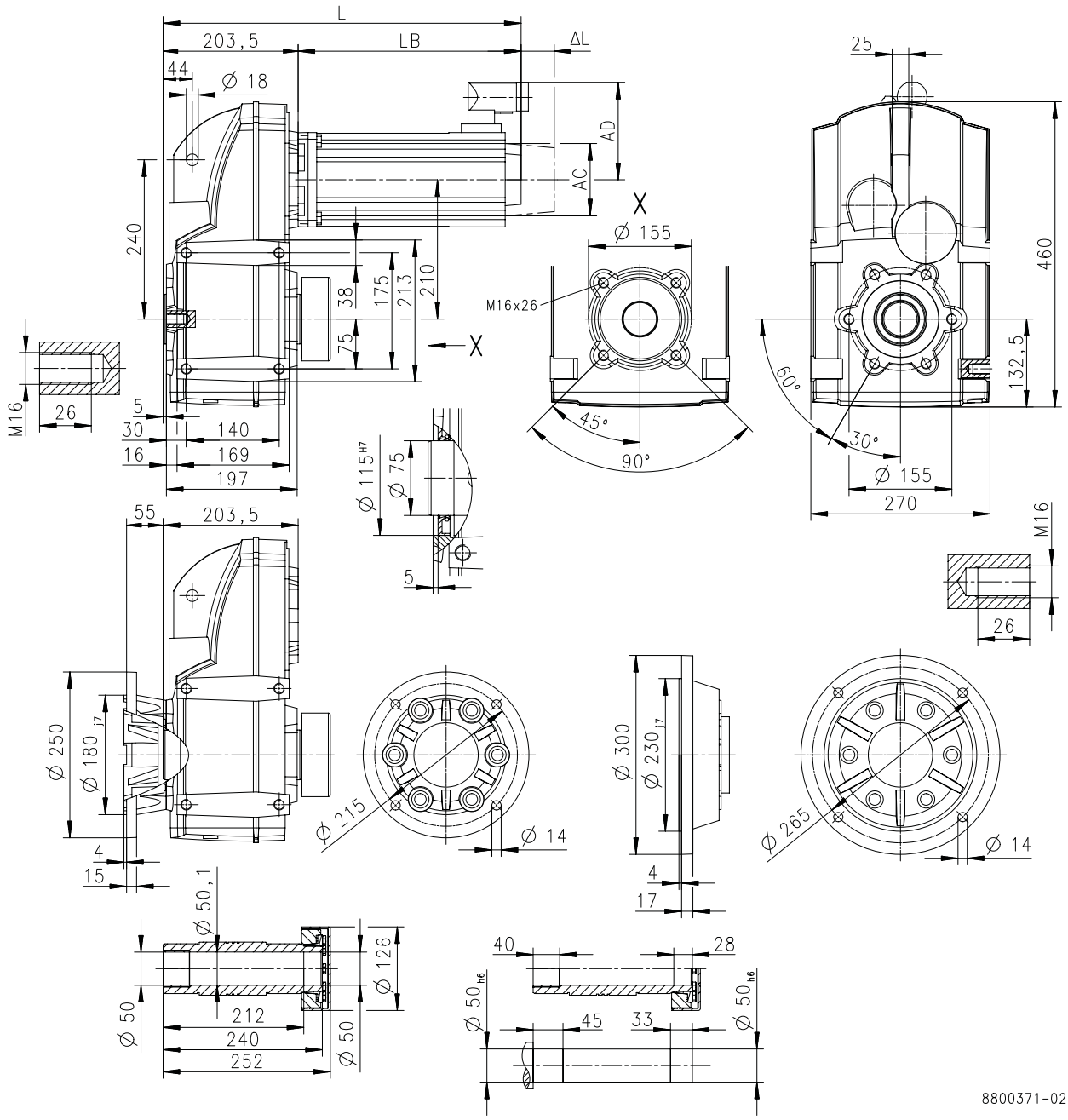
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			Forced	Natural	Forced	Natural
Total length	L	mm	726	629	726	629
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S2100 with MCA19

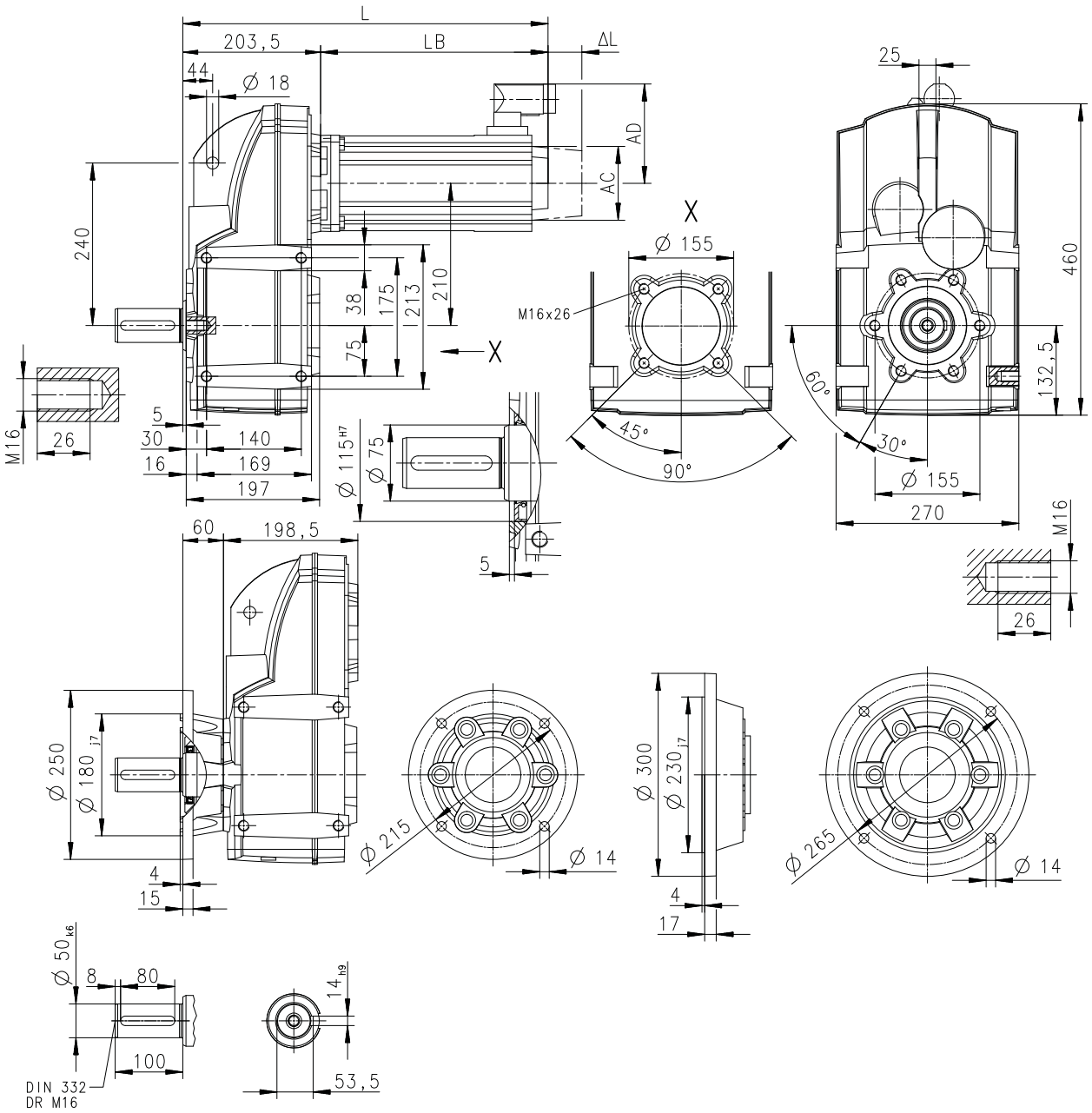
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	726	629	726	629
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S2100 with MCA19

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



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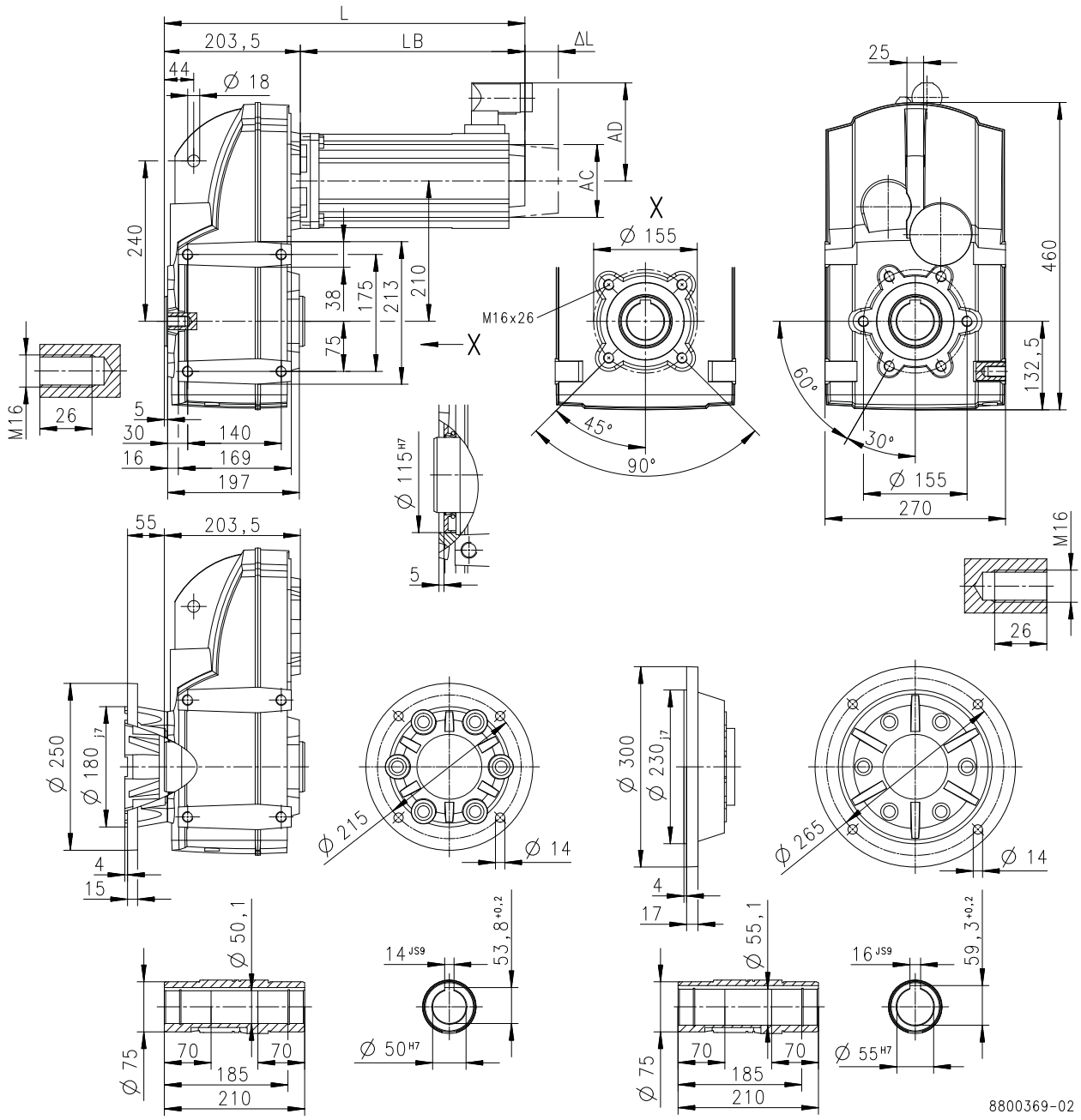
Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	726	629	726	629
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S2100 with MCA21

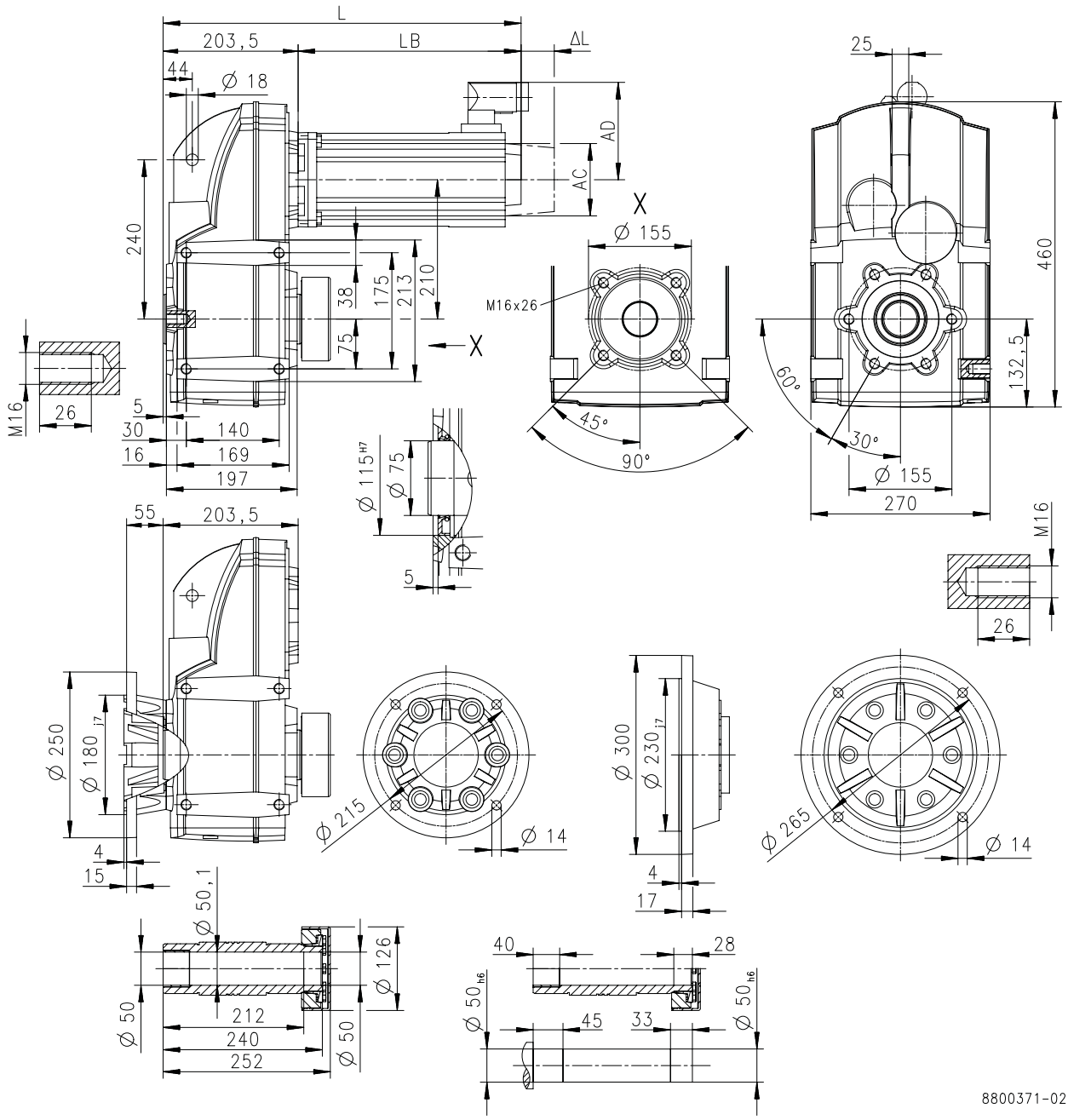
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			21X17-	21X25-	21X35-	21X42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	817	721	817	721
Motor length	LB	mm	614	518	614	518
Length of motor options	Δ L	mm	92	92	92	92
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162

g500-S2100 with MCA21

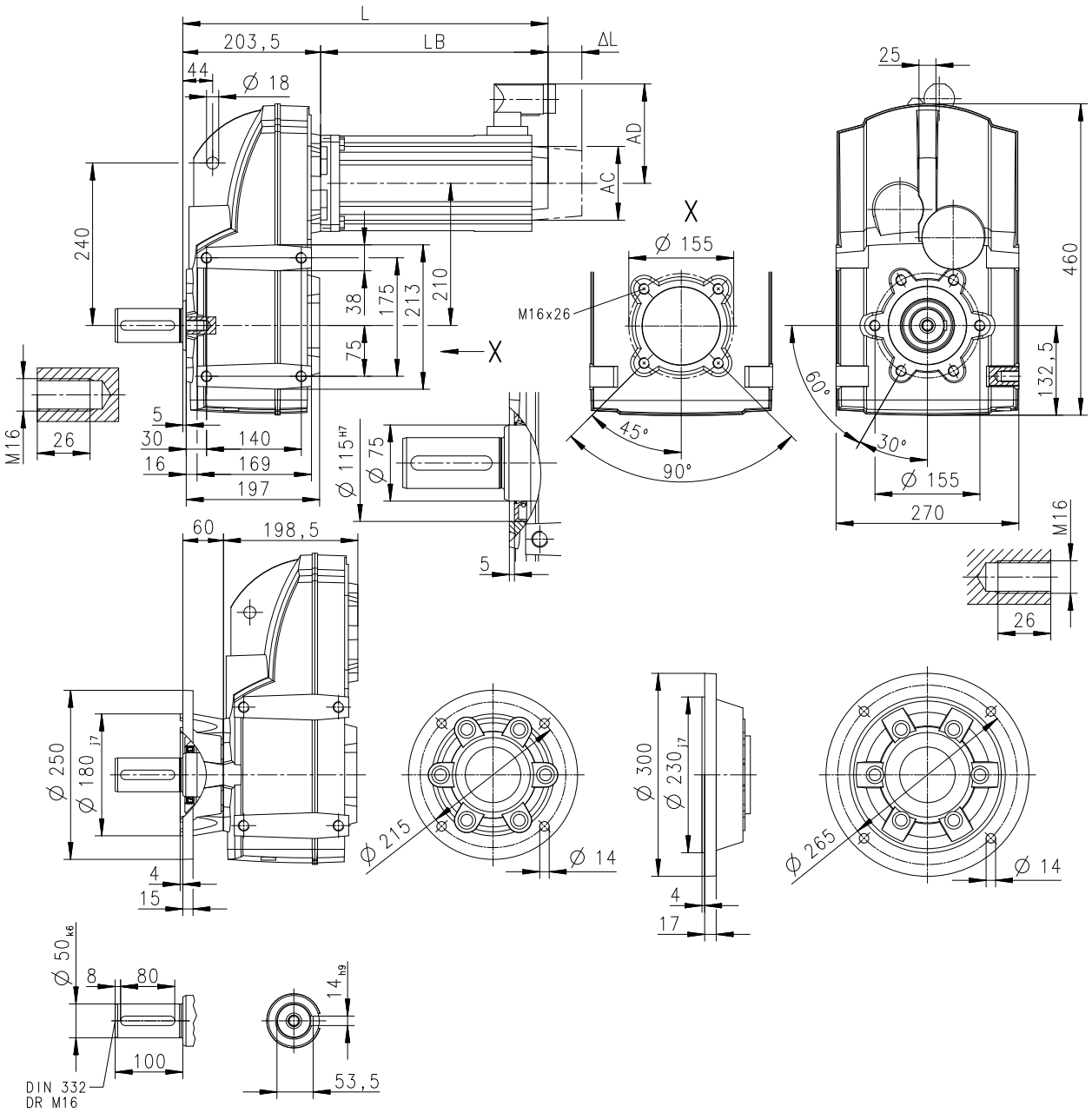
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			21X17-	21X25-	21X35-	21X42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	817	721	817	721
Motor length	LB	mm	614	518	614	518
Length of motor options	Δ L	mm	92	92	92	92
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162

g500-S2100 with MCA21

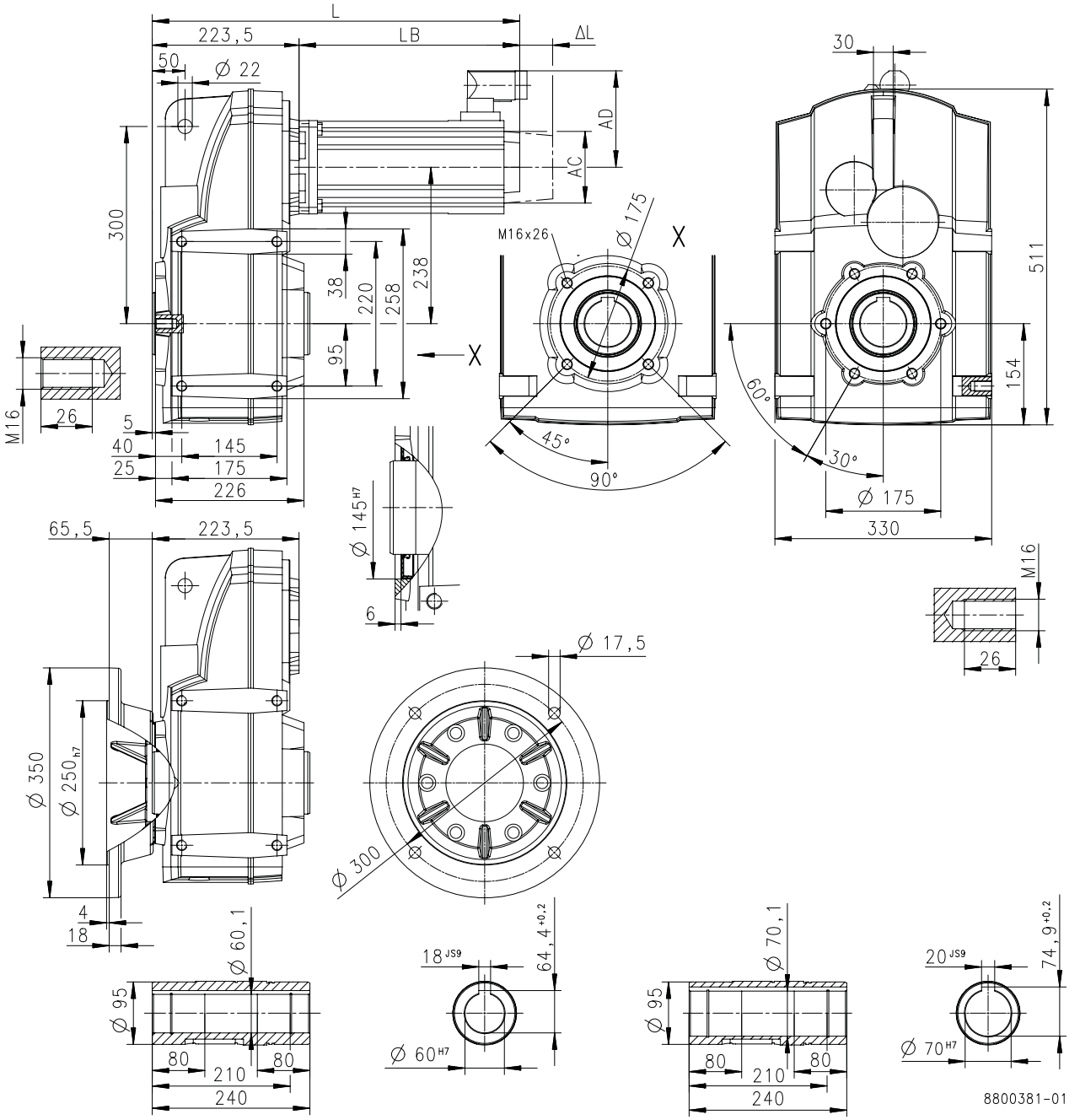
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA			
			21X17-	21X25-	21X35-	21X42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	817	721	817	721
Motor length	LB	mm	614	518	614	518
Length of motor options	Δ L	mm	92	92	92	92
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162

g500-S3100 with MCA10

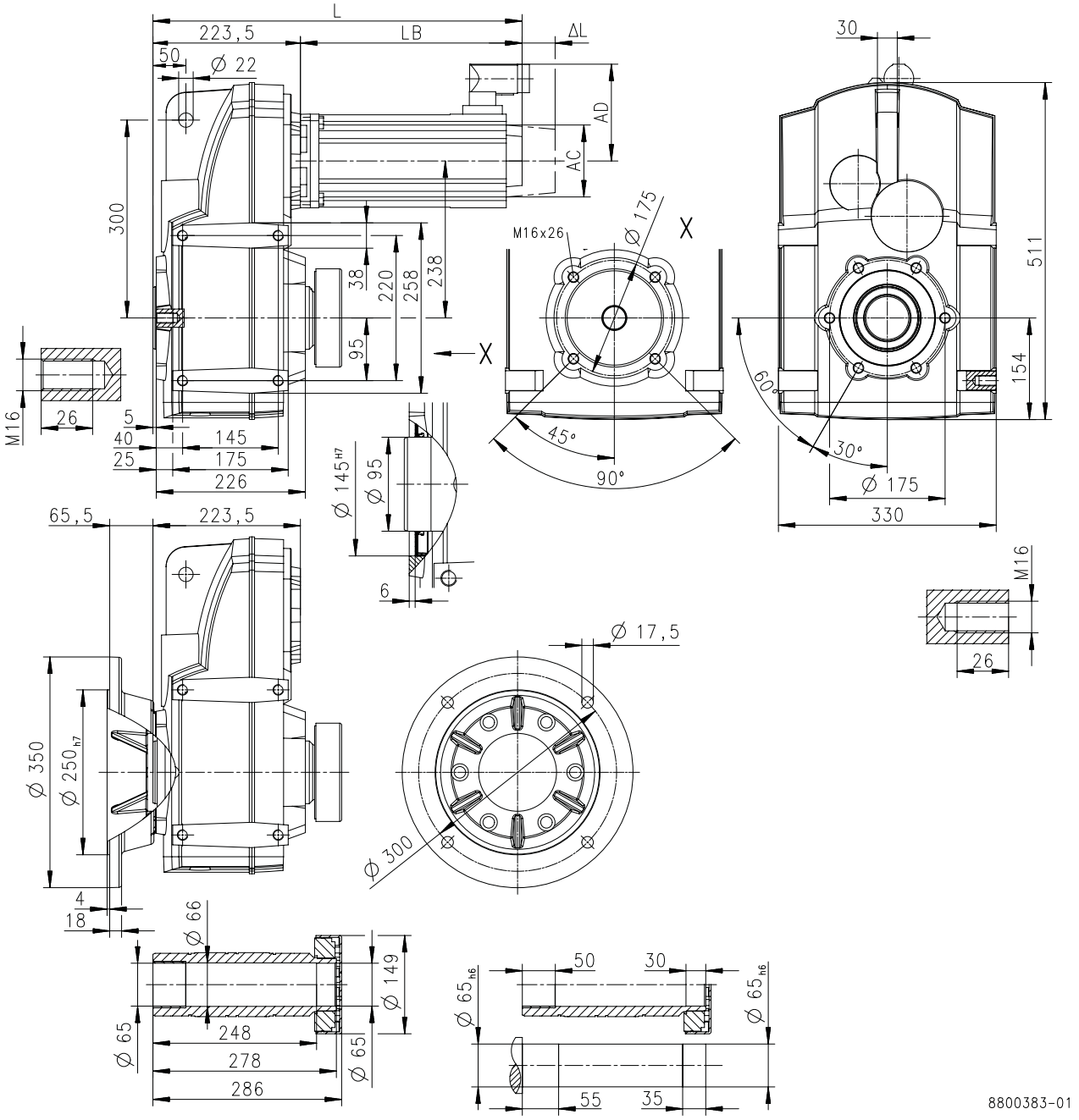
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	483
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S3100 with MCA10

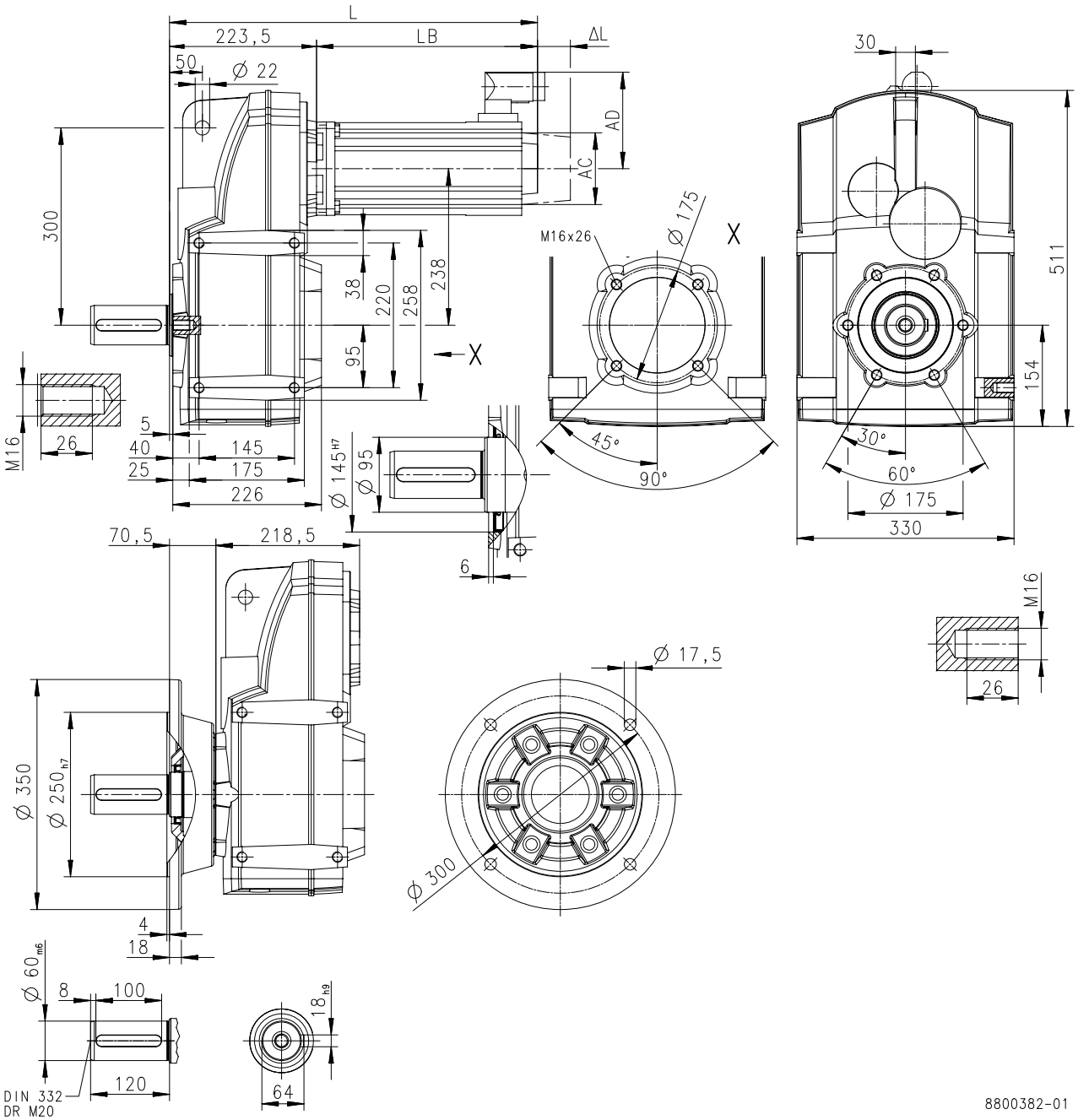
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	483
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S3100 with MCA10

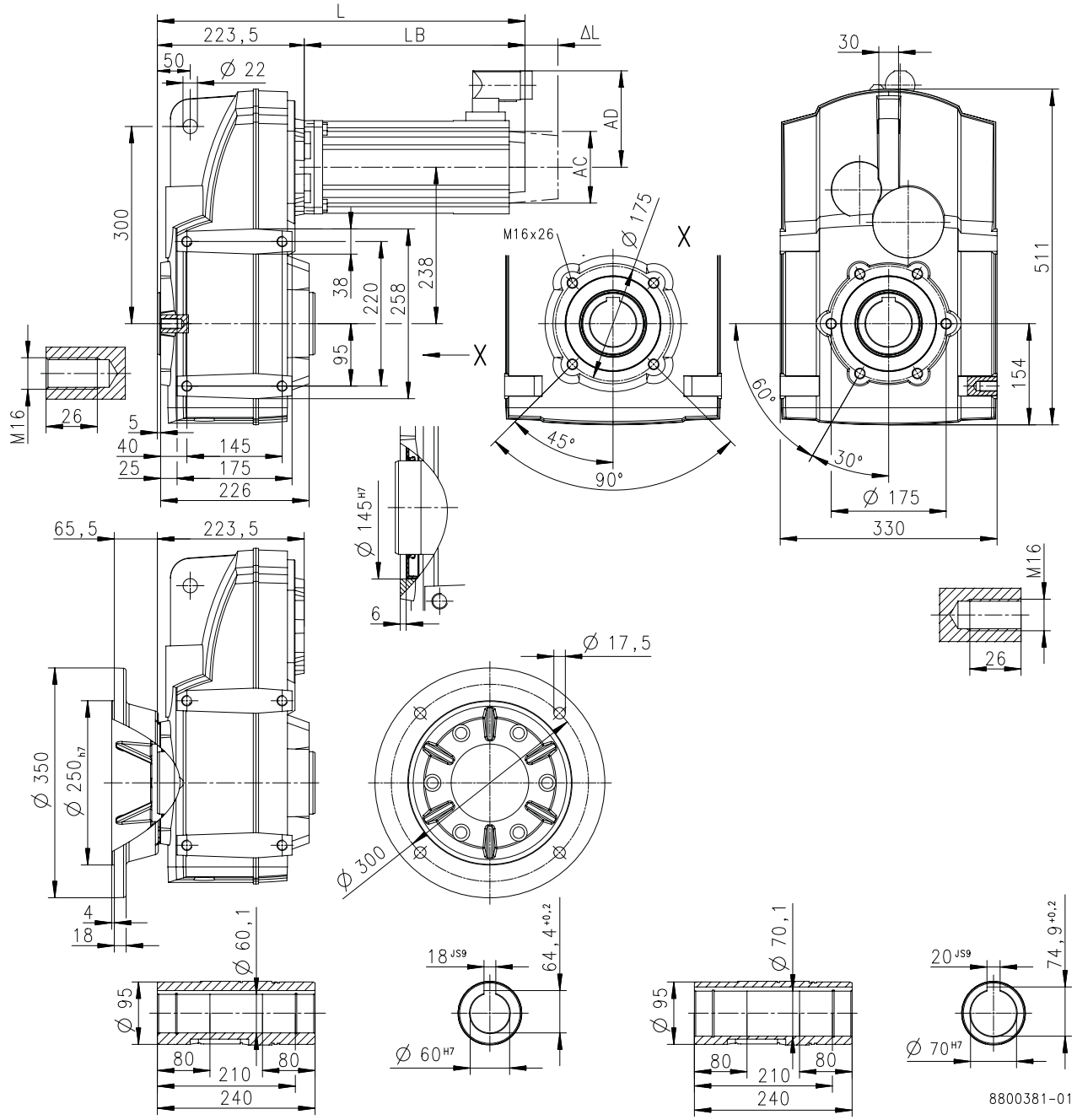
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	483
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S3100 with MCA13

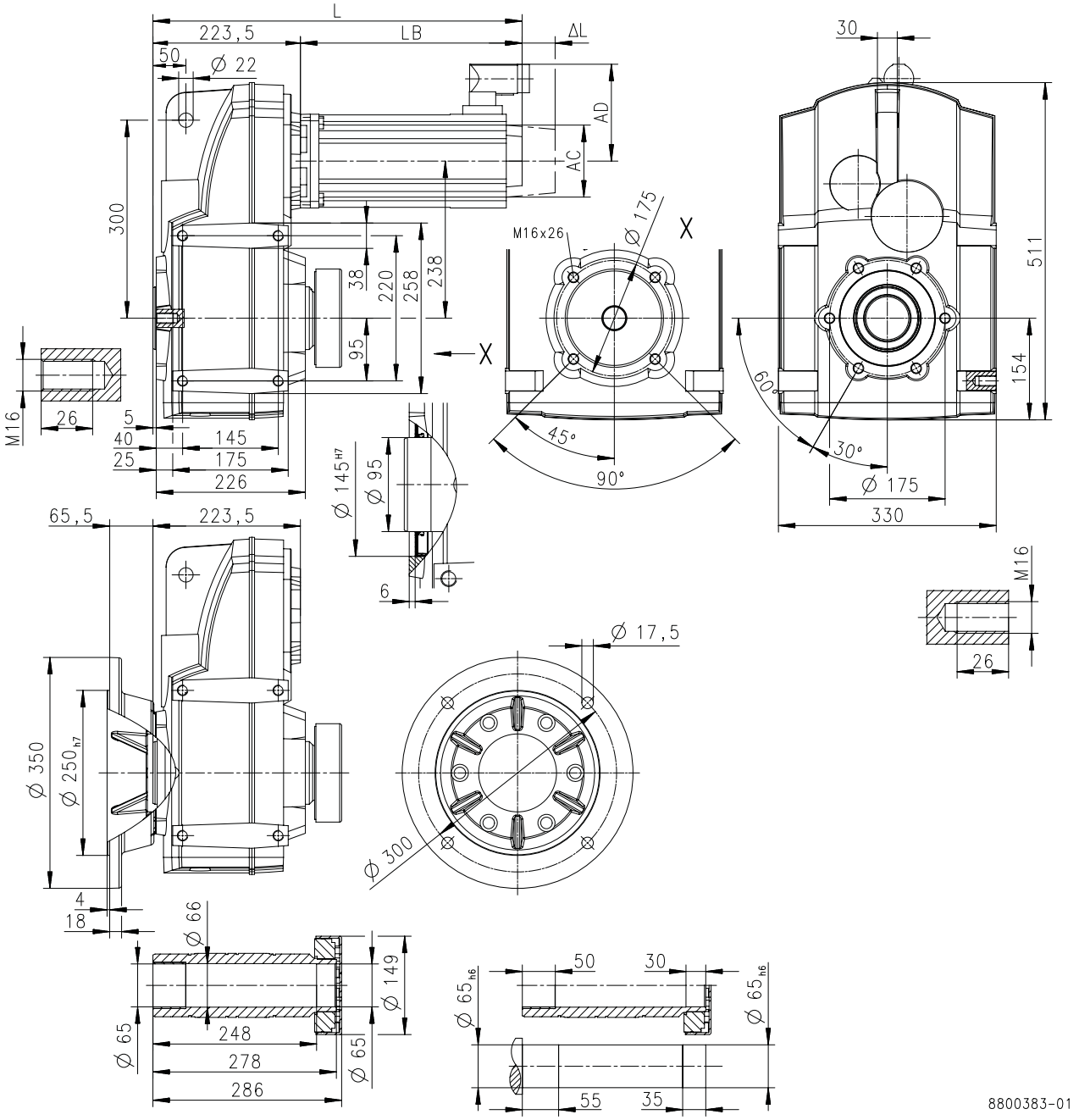
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	559	491
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S3100 with MCA13

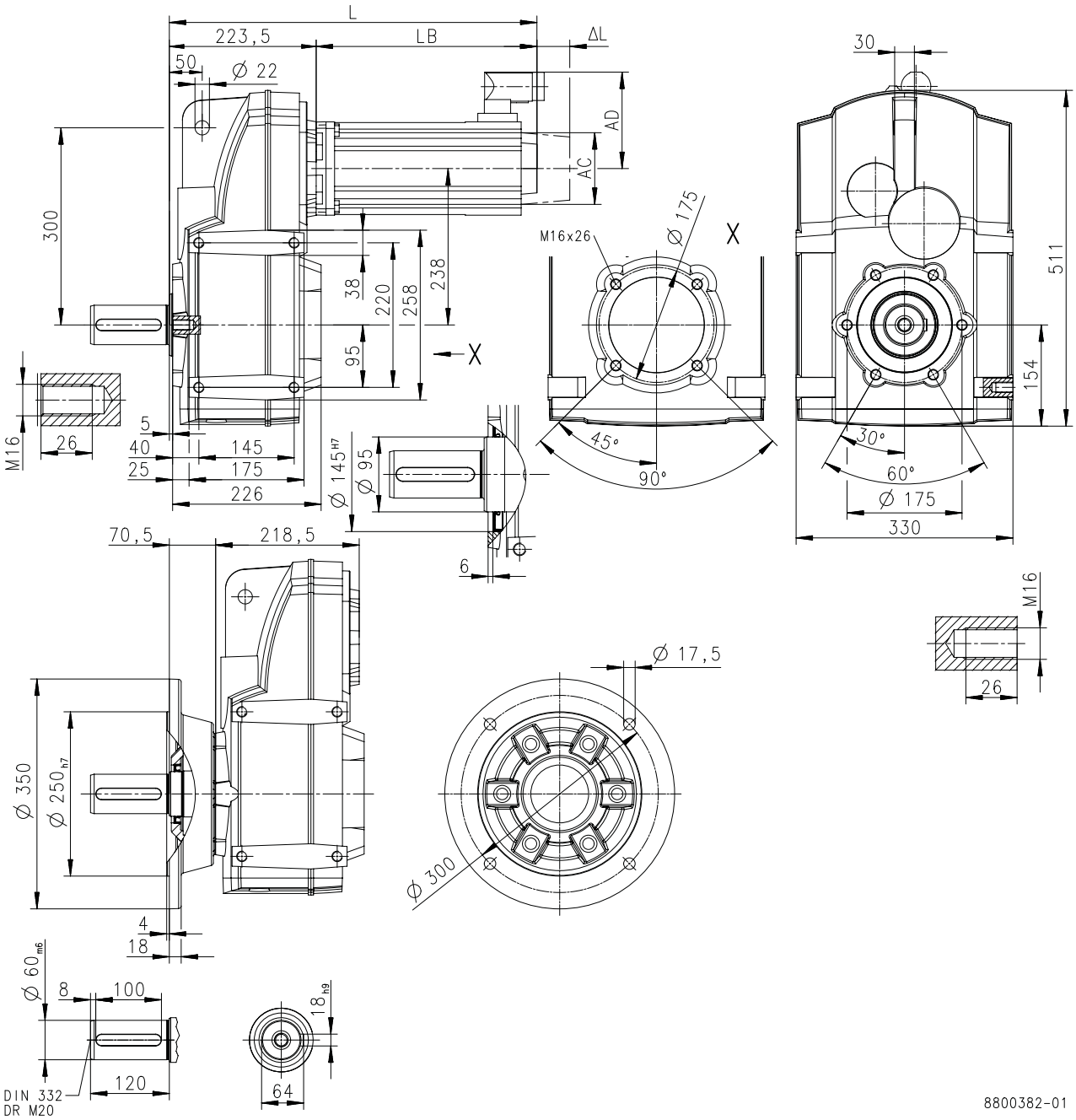
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	559	491
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S3100 with MCA13

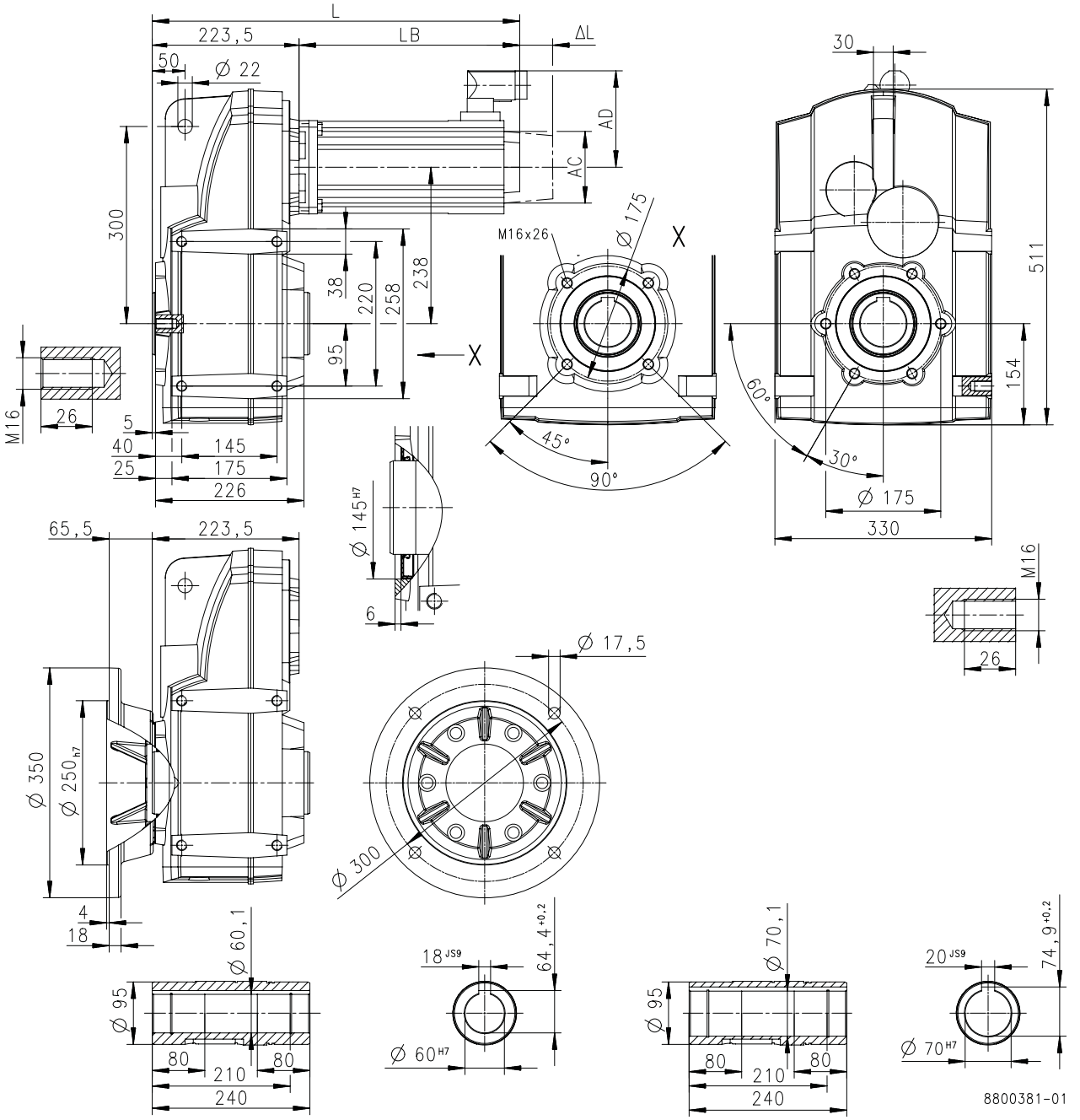
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	559	491
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S3100 with MCA14

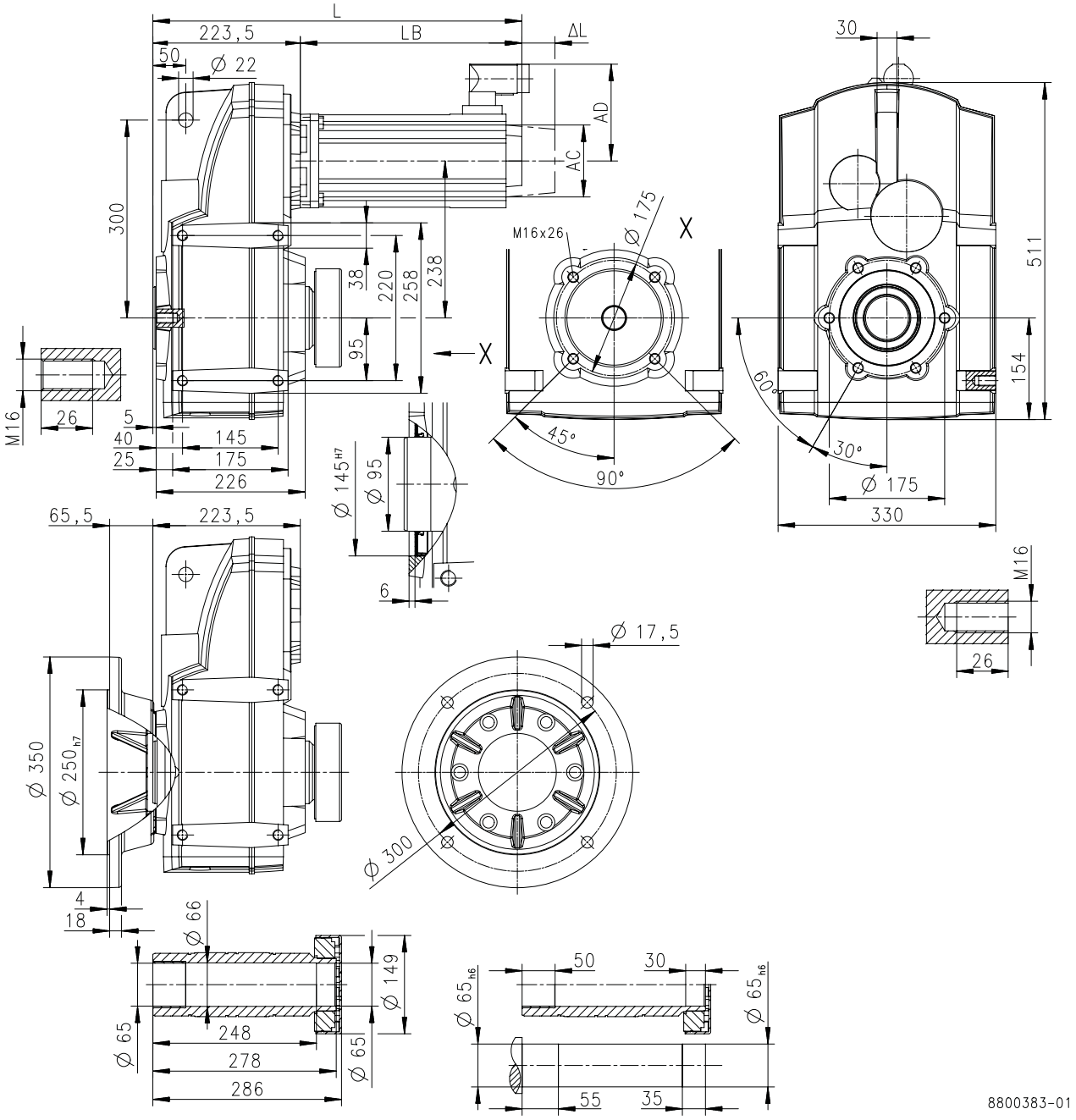
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	603	541	603	541
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S3100 with MCA14

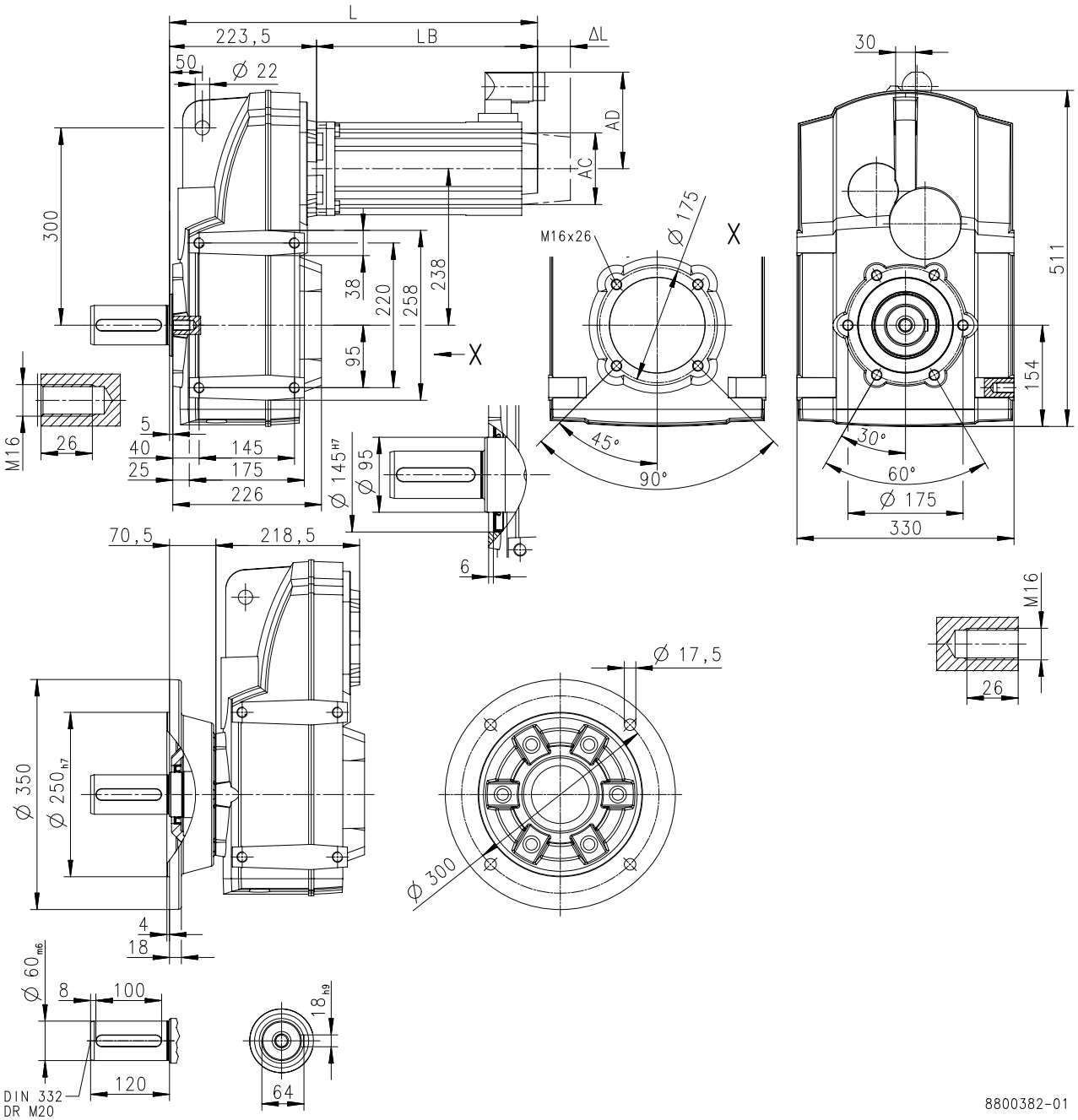
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	603	541	603	541
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S3100 with MCA14

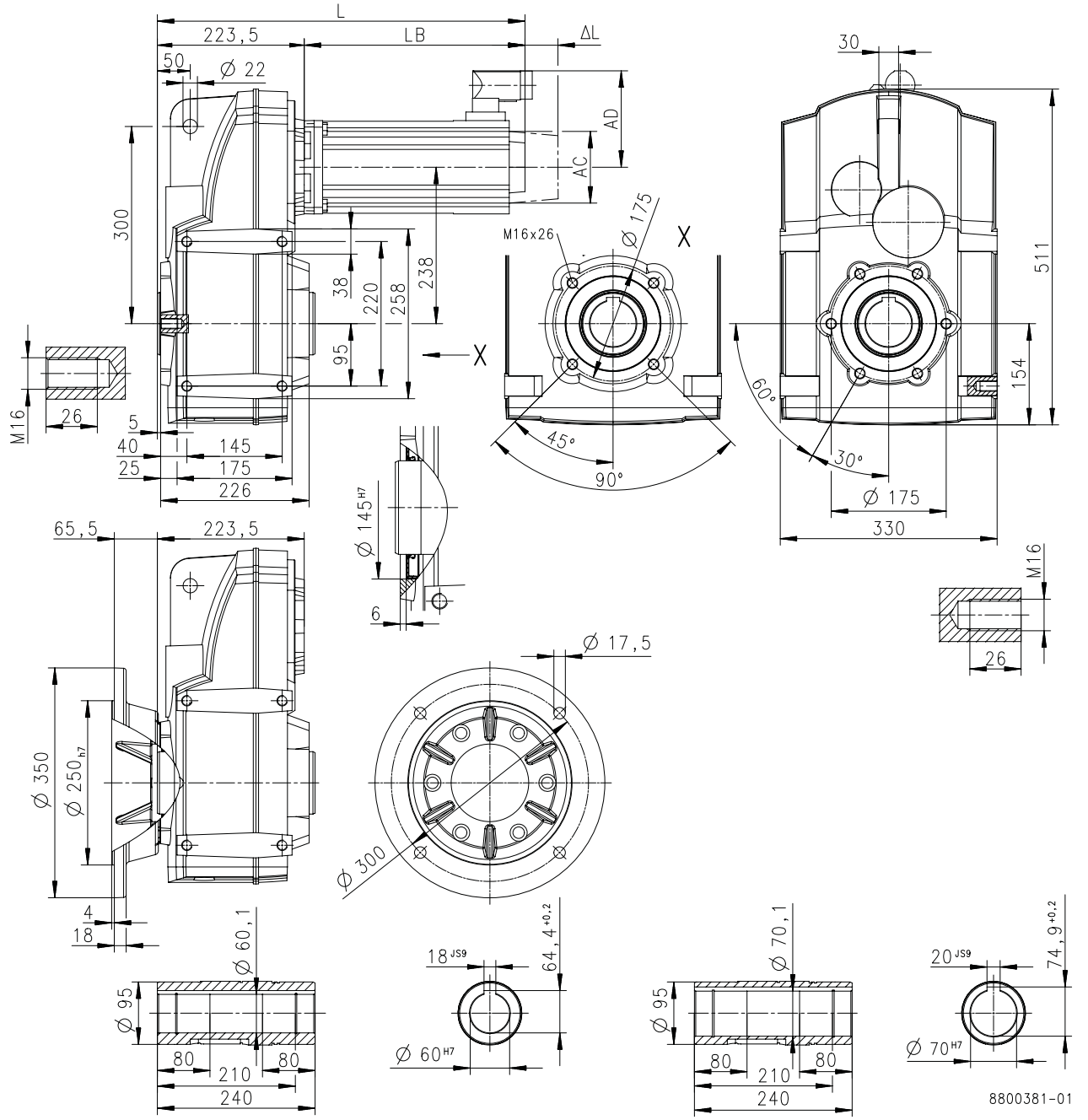
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	603	541	603	541
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S3100 with MCA17

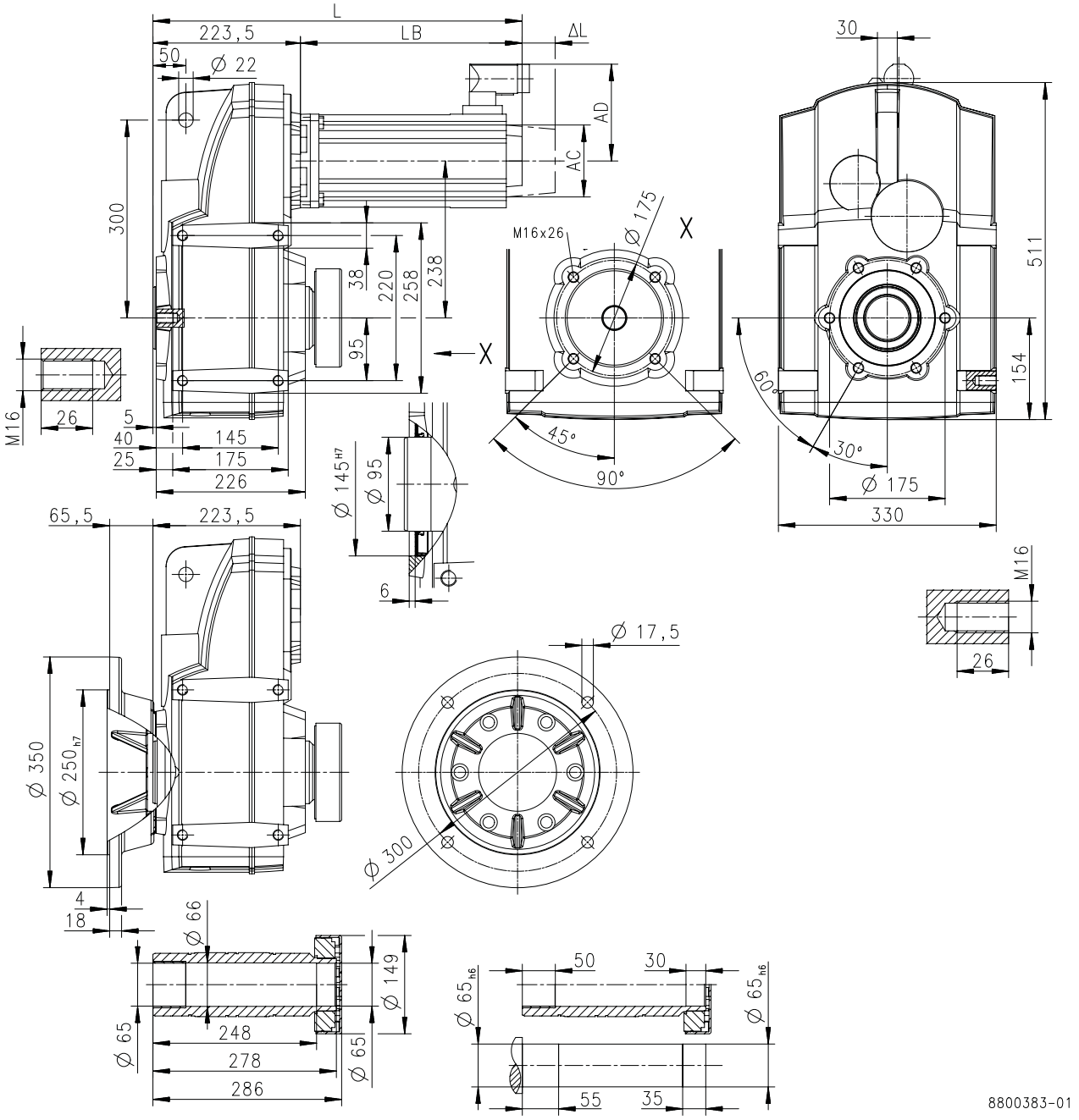
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	666	580	666	580
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S3100 with MCA17

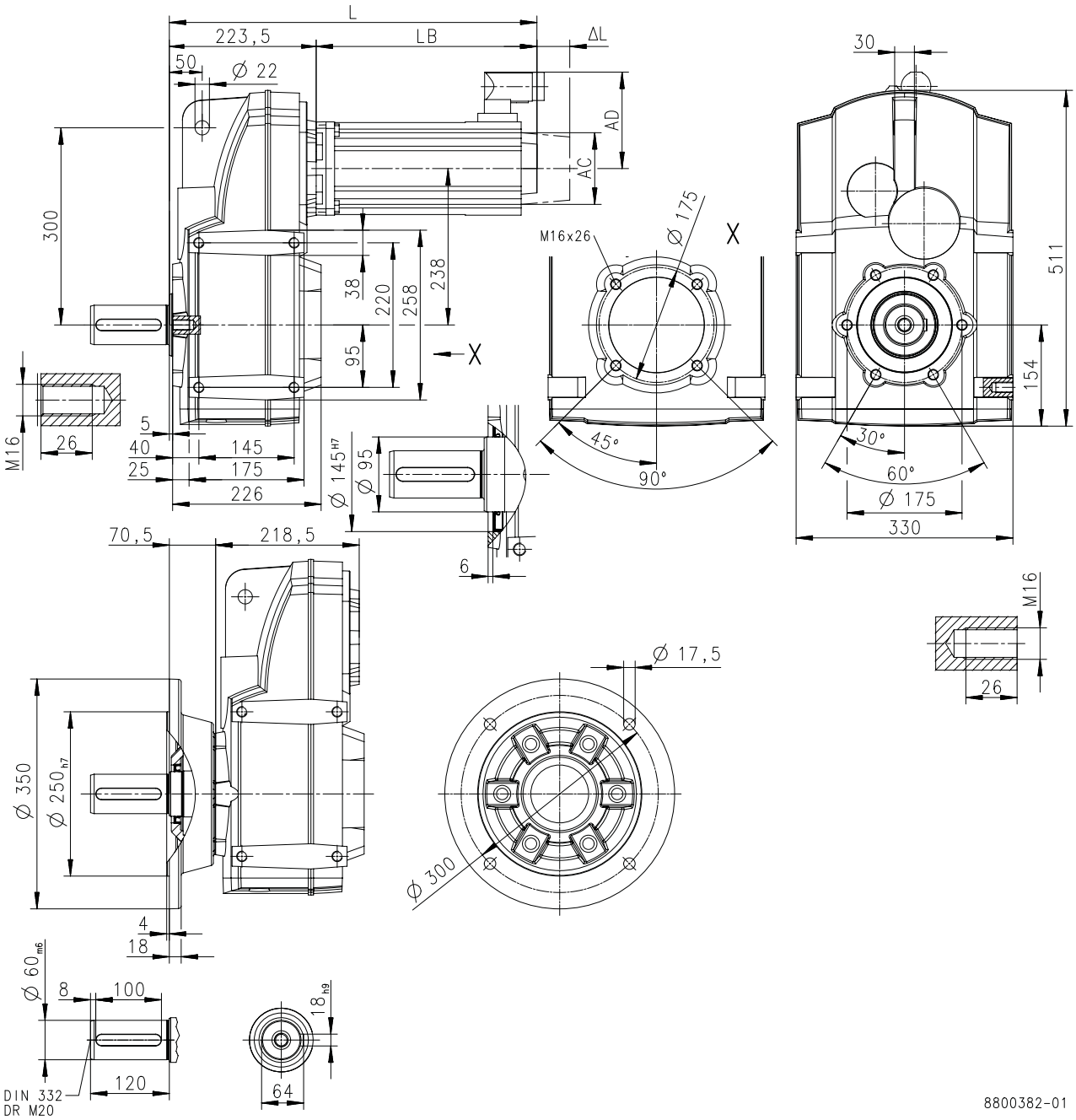
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	666	580	666	580
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S3100 with MCA17

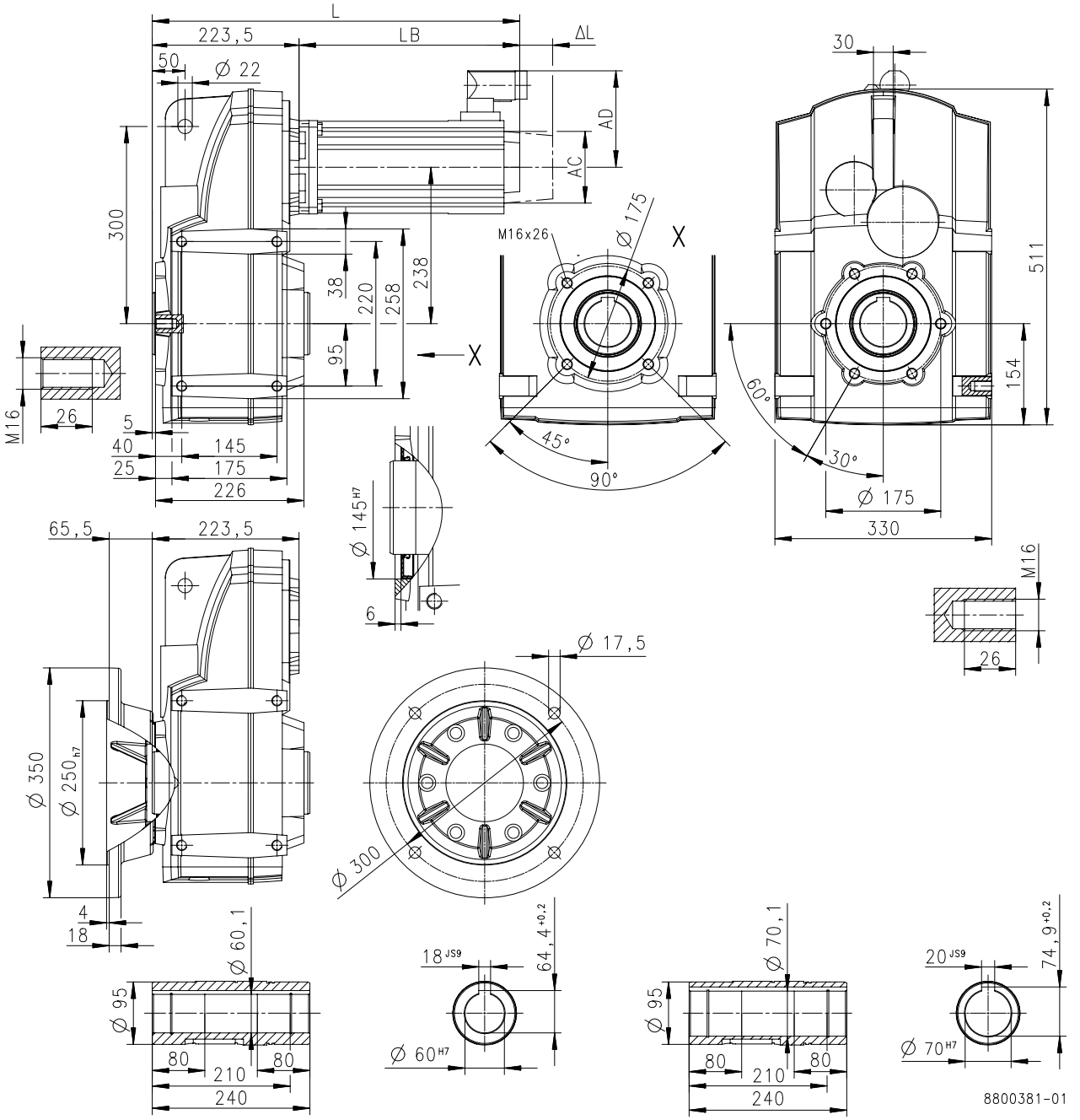
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	666	580	666	580
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S3100 with MCA19

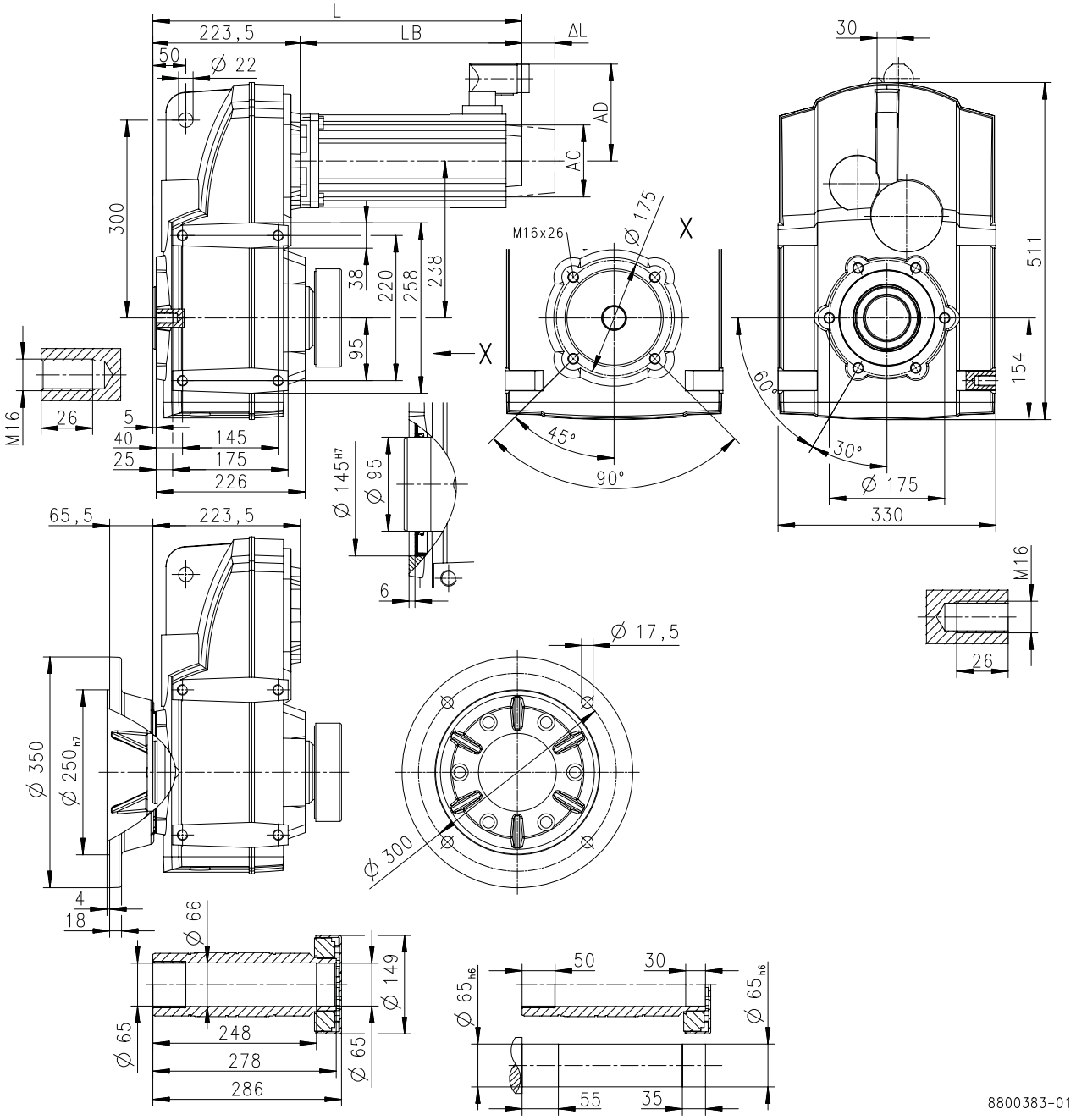
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	746	649	746	649
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S3100 with MCA19

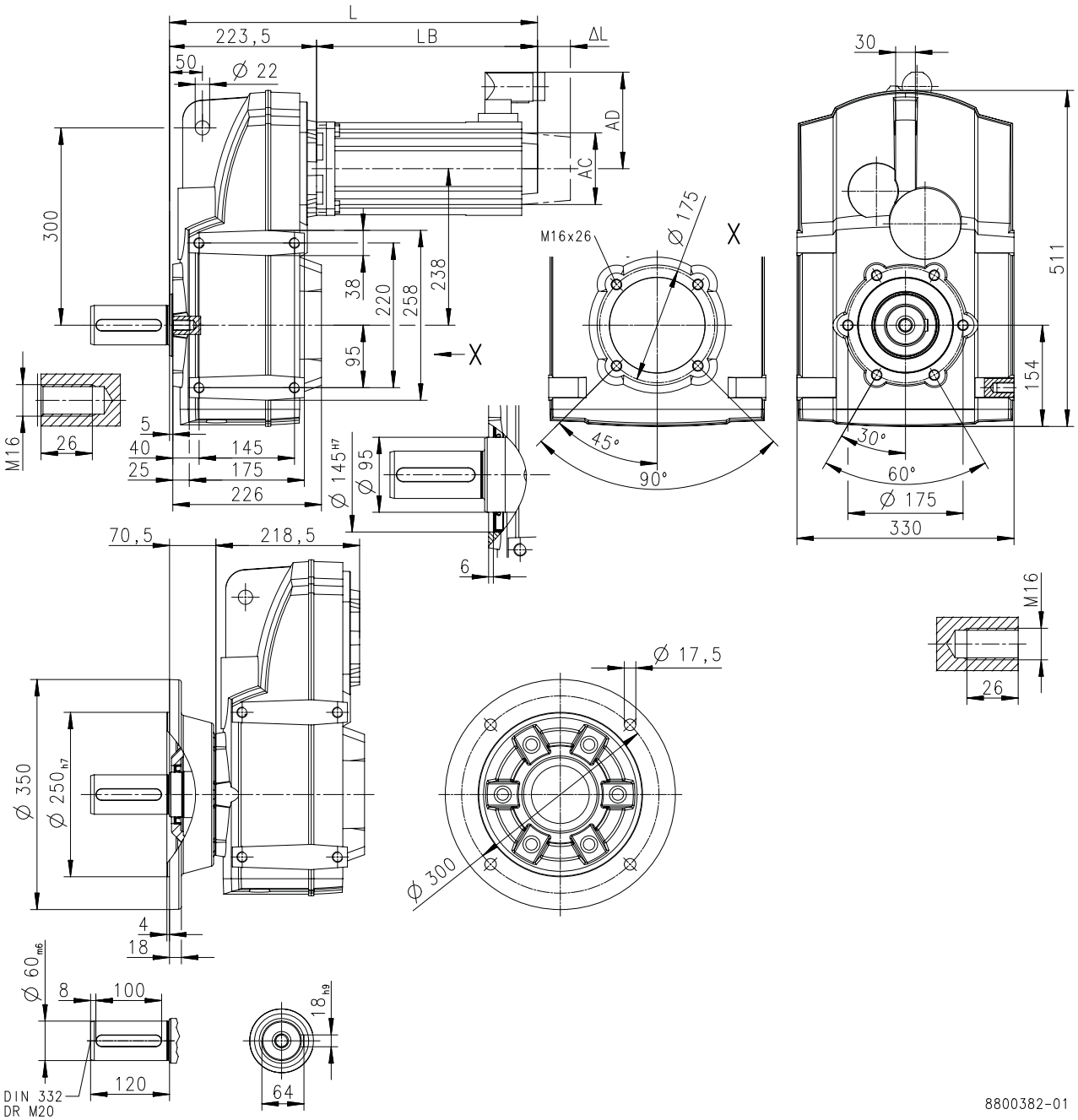
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	746	649	746	649
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S3100 with MCA19

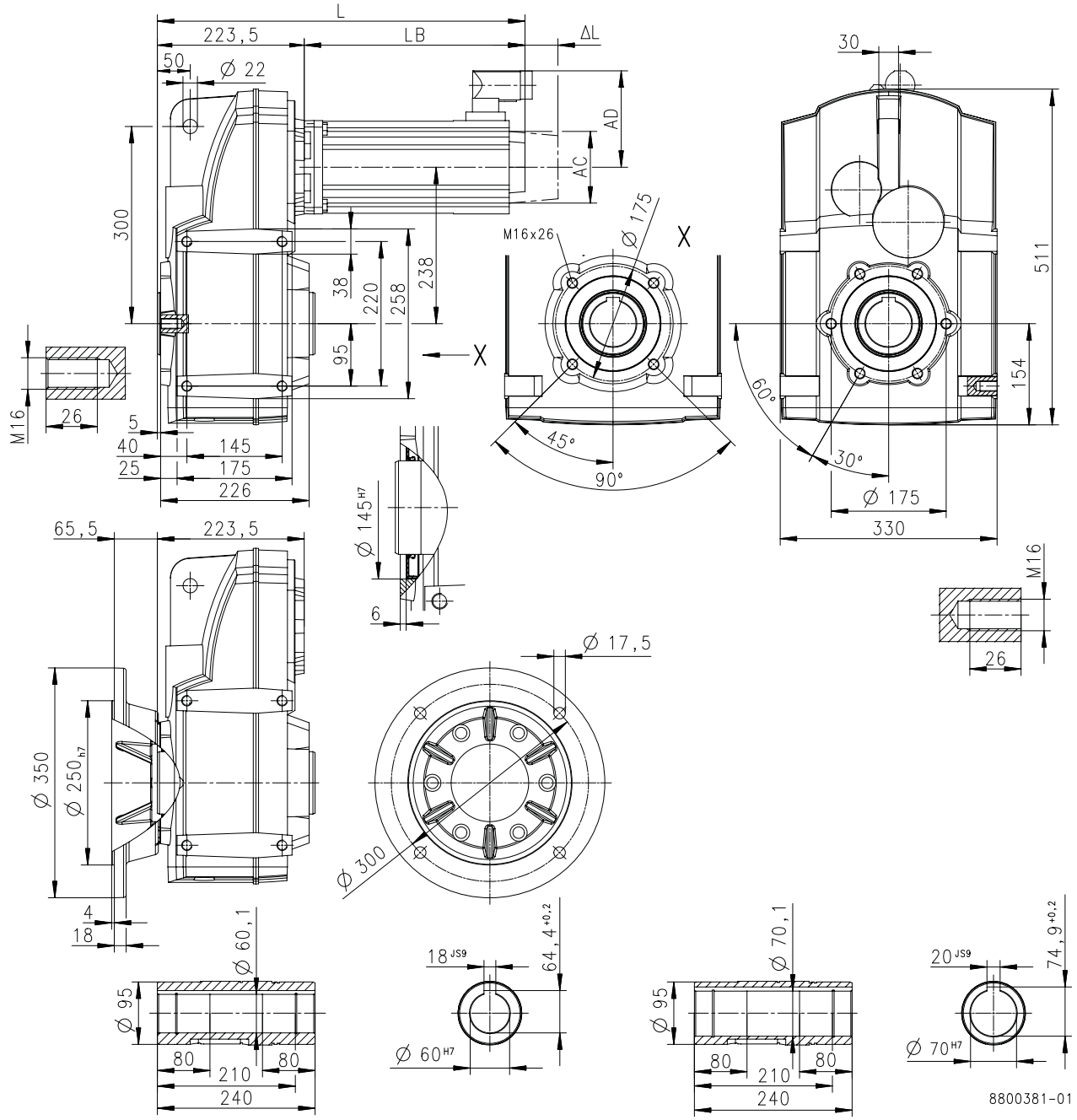
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	746	649	746	649
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S3100 with MCA21

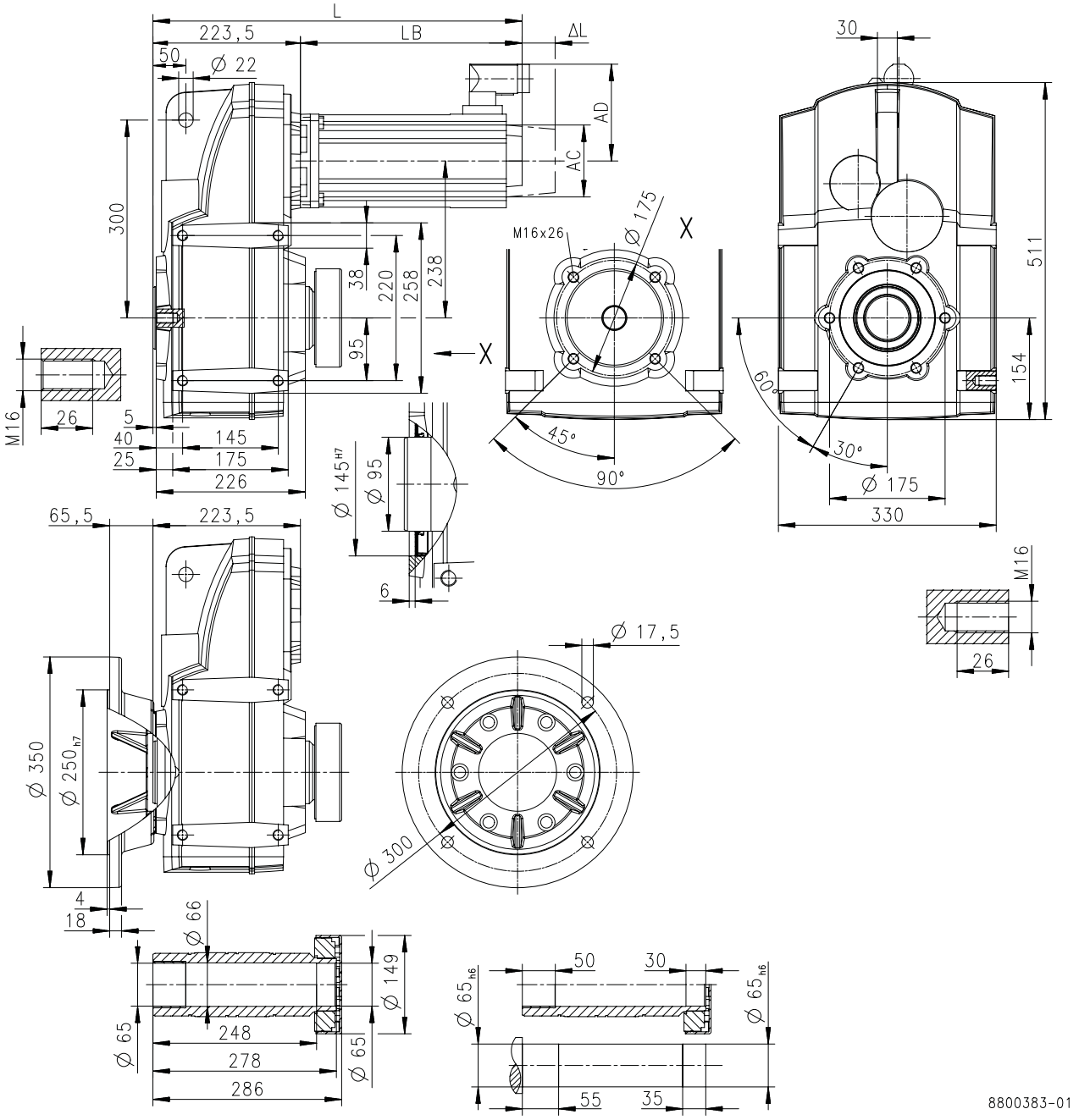
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			21X17-	21X25-	21X35-	21X42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	837	741	837	741
Motor length	LB	mm	614	518	614	518
Length of motor options	Δ L	mm	92	92	92	92
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162

g500-S3100 with MCA21

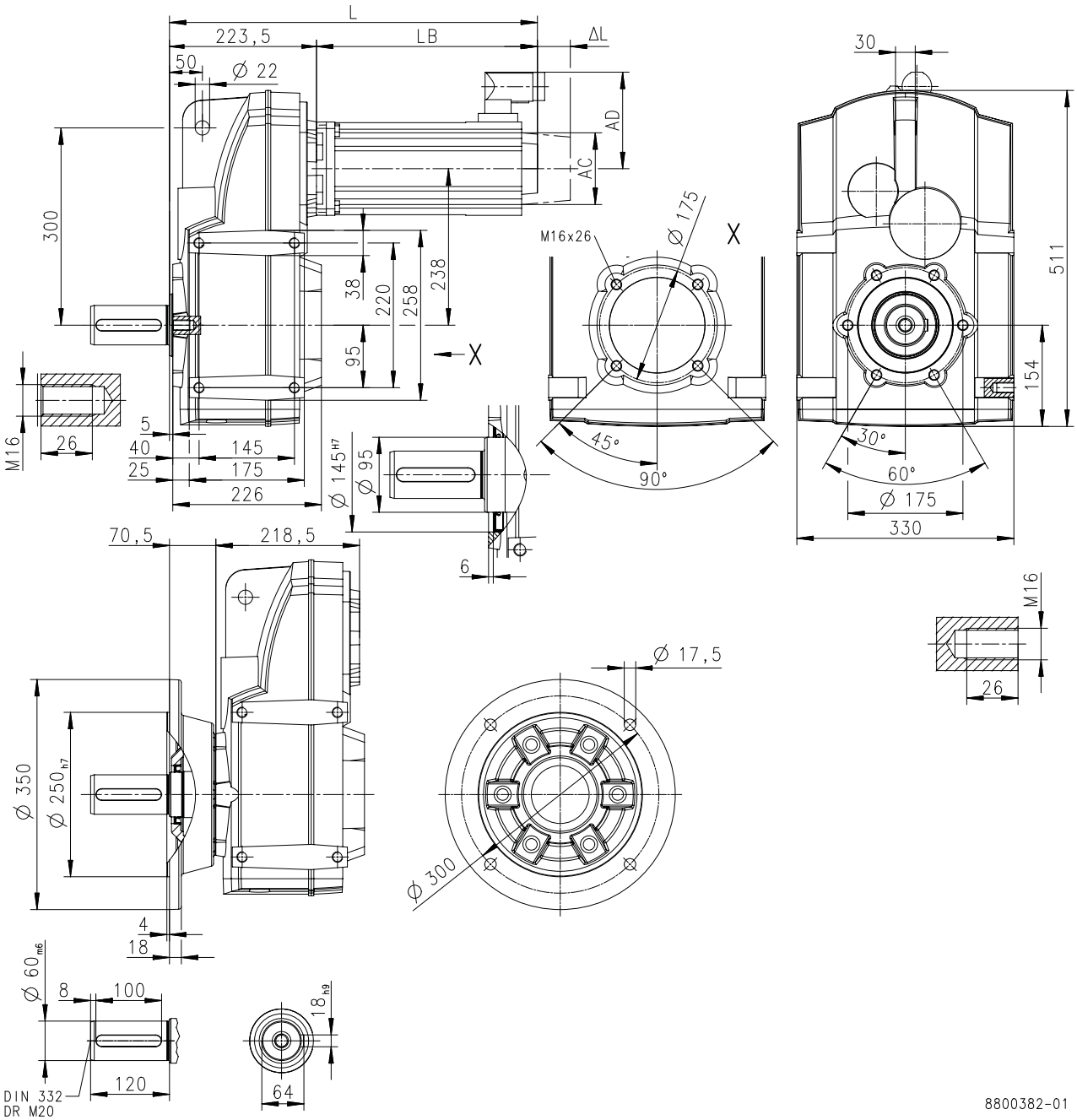
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			21X17-	21X25-	21X35-	21X42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	837	741	837	741
Motor length	LB	mm	614	518	614	518
Length of motor options	Δ L	mm	92	92	92	92
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162

g500-S3100 with MCA21

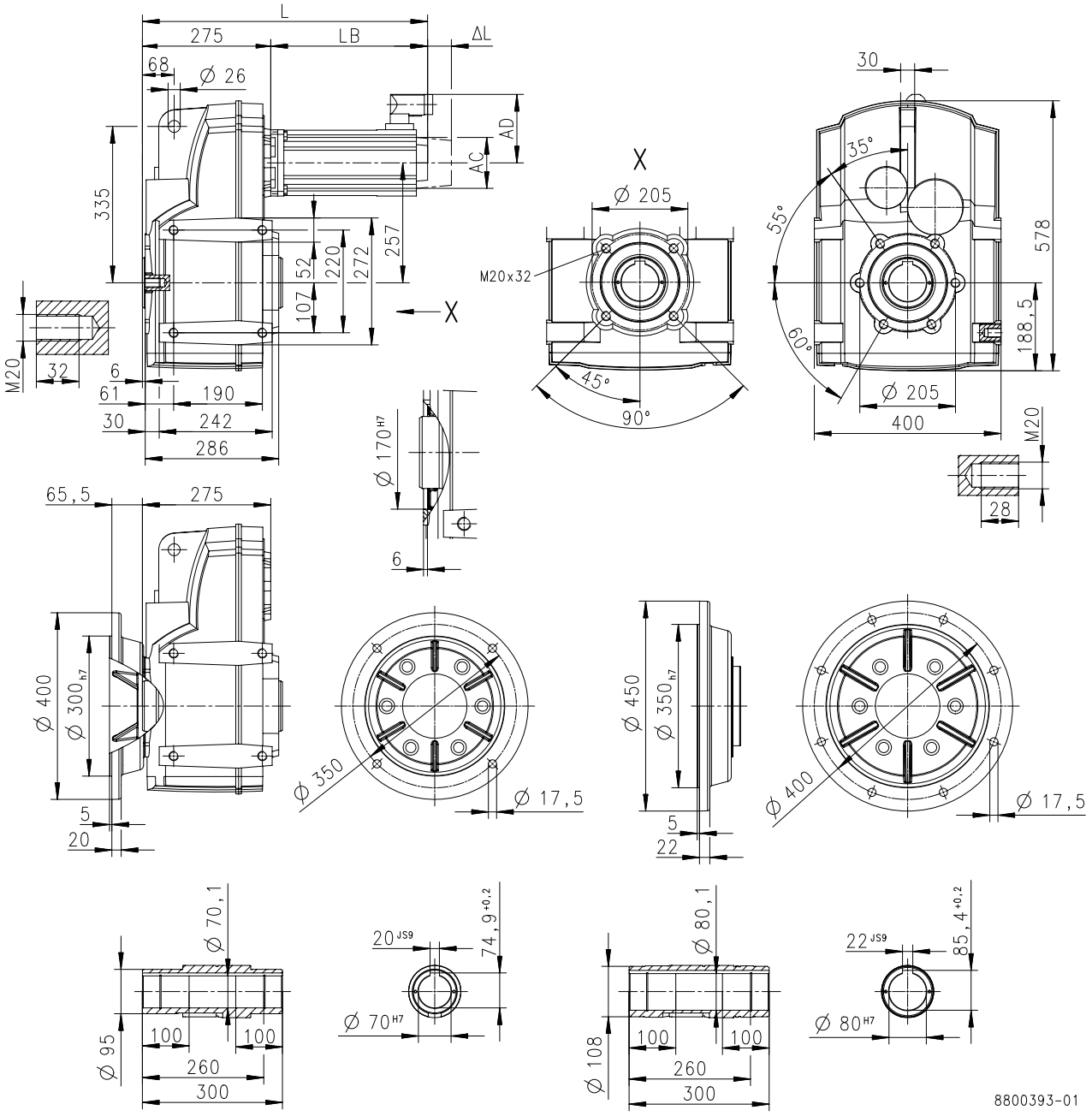
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA			
			21X17-	21X25-	21X35-	21X42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	837	741	837	741
Motor length	LB	mm	614	518	614	518
Length of motor options	Δ L	mm	92	92	92	92
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162

g500-S4500 with MCA10

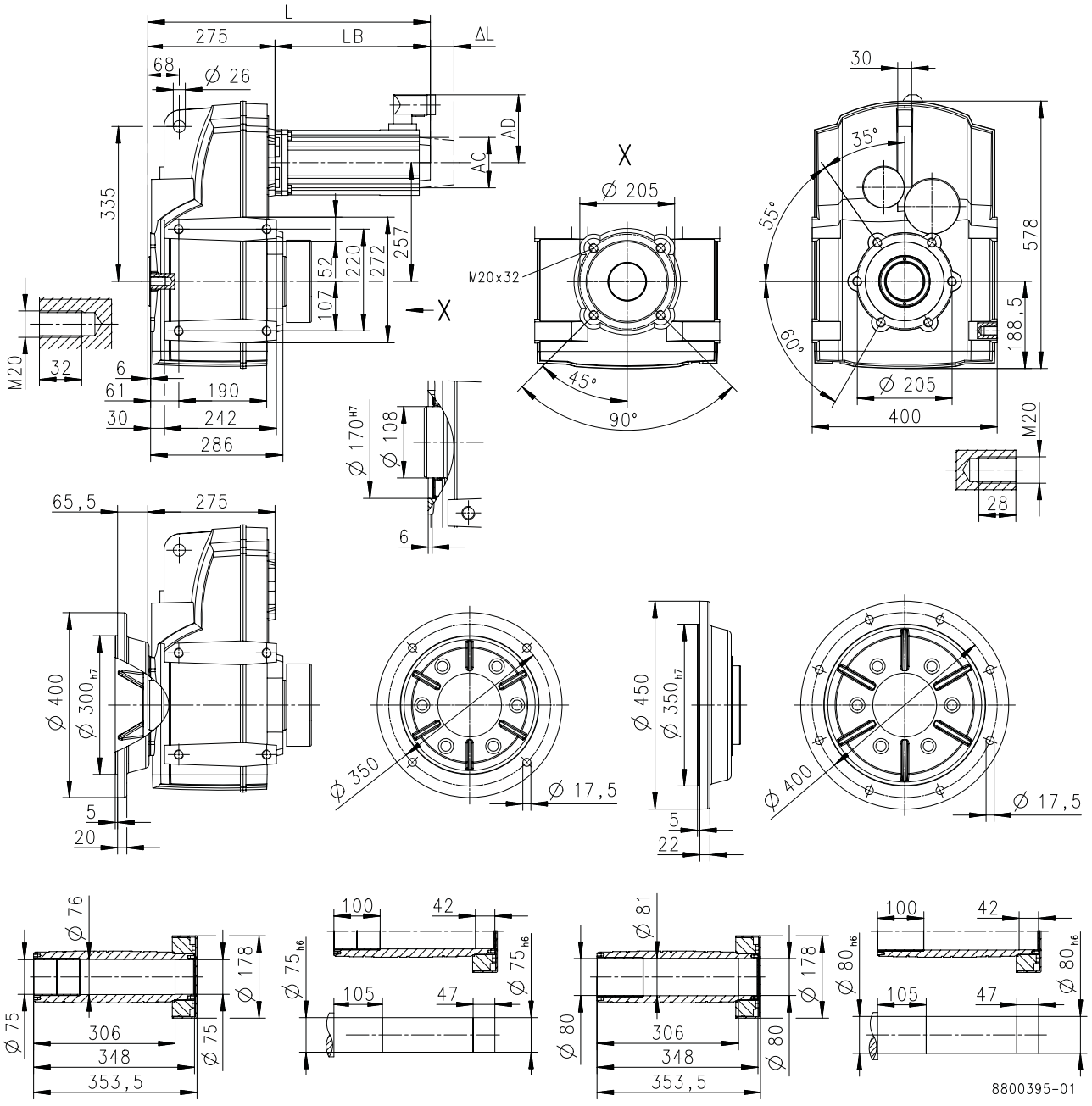
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	534
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S4500 with MCA10

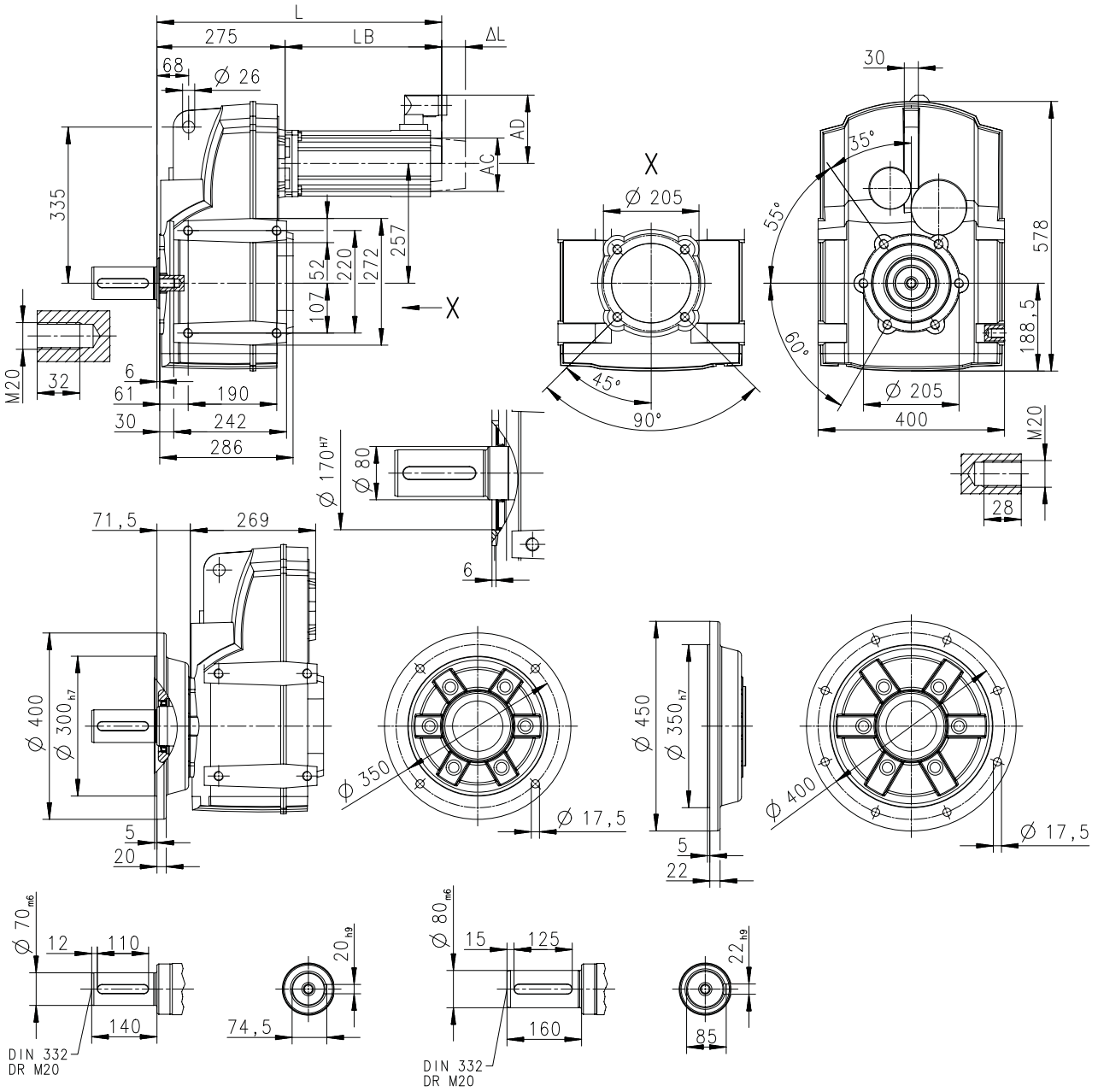
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	534
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S4500 with MCA10

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



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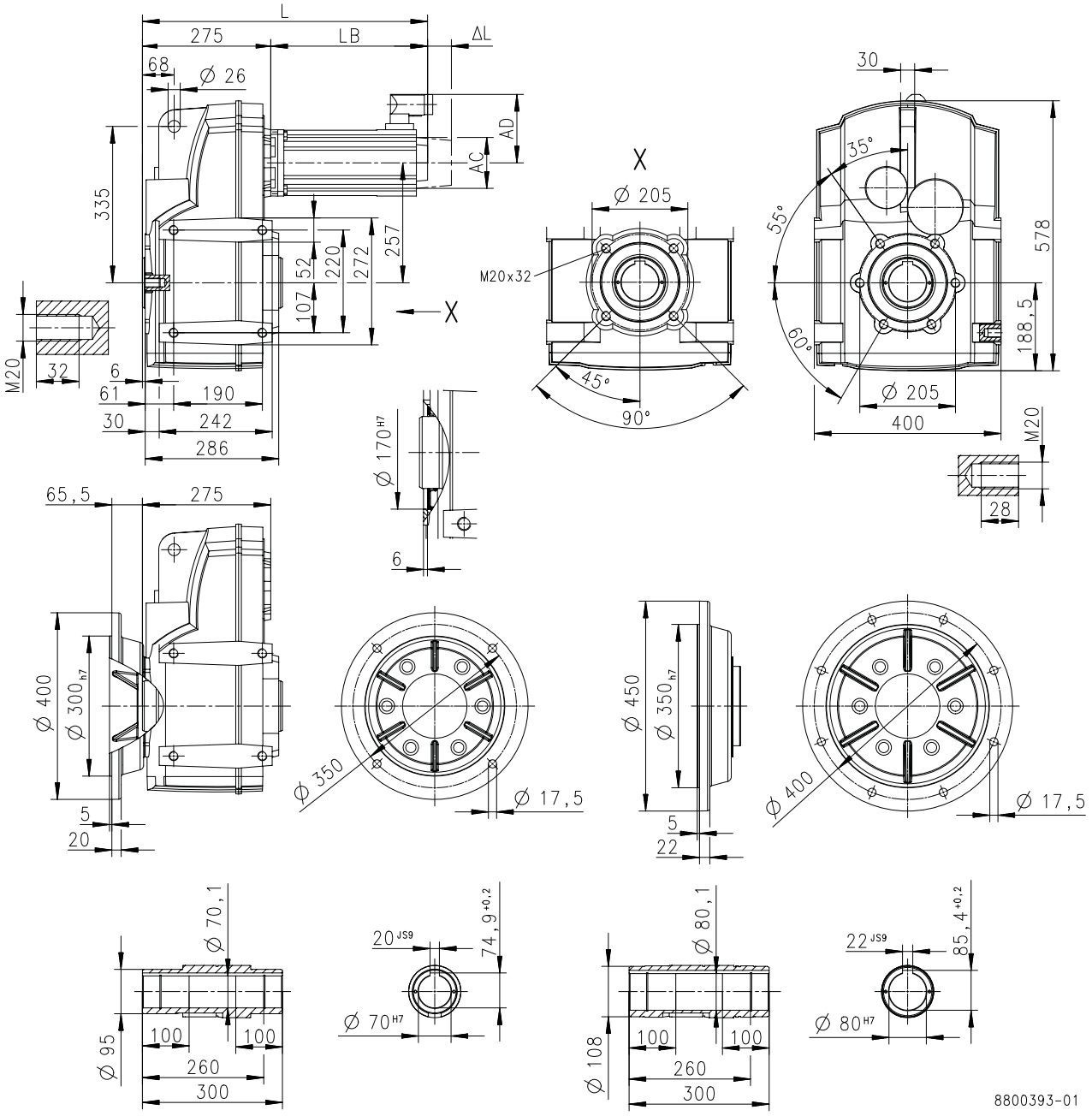
Motor			MCA
			10I40-
Cooling type			**Natural**
Total length	L	mm	534
Motor length	LB	mm	259
Length of motor options	Δ L	mm	78
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90

g500-S4500 with MCA13

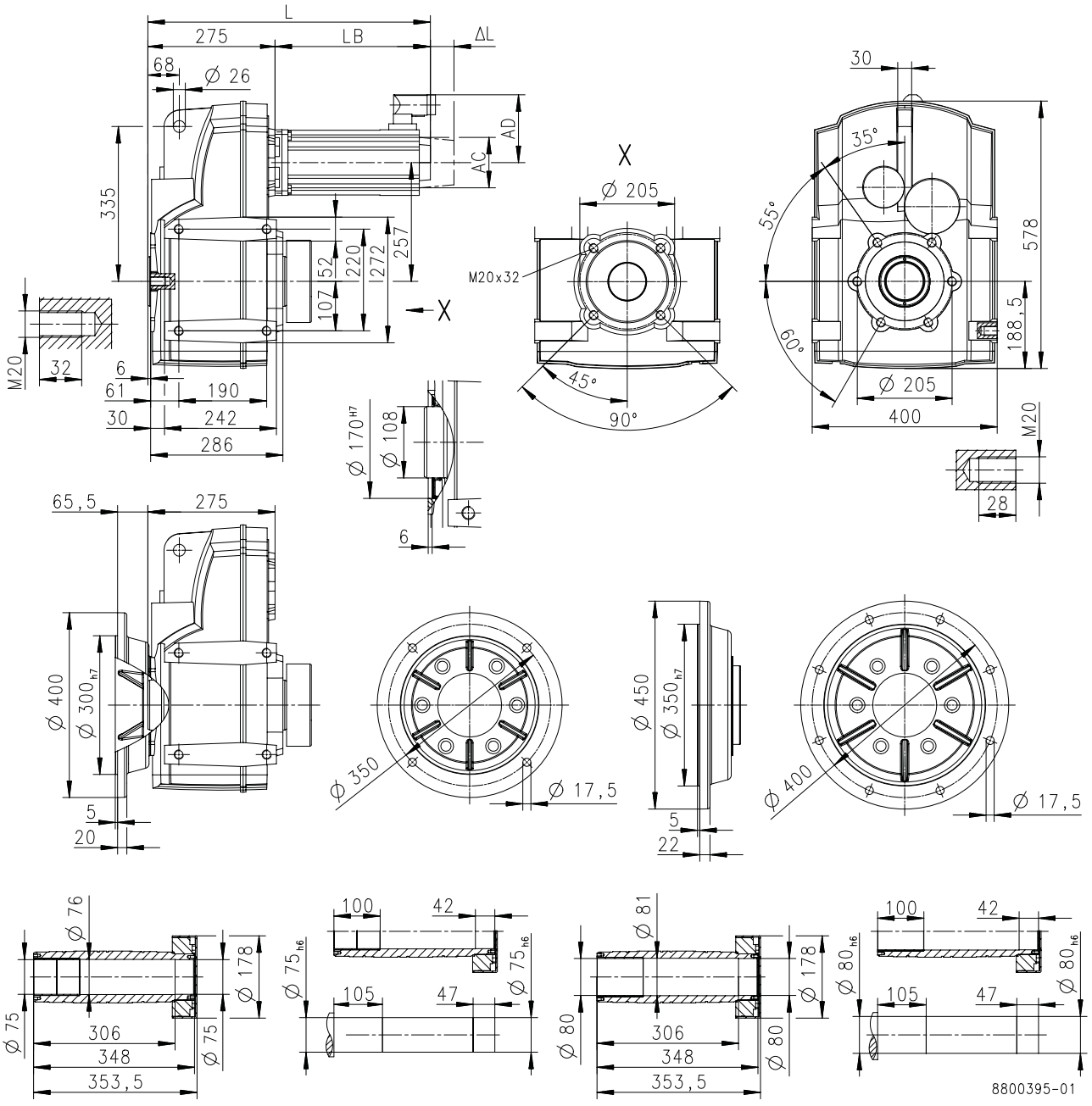
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	611	543
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S4500 with MCA13

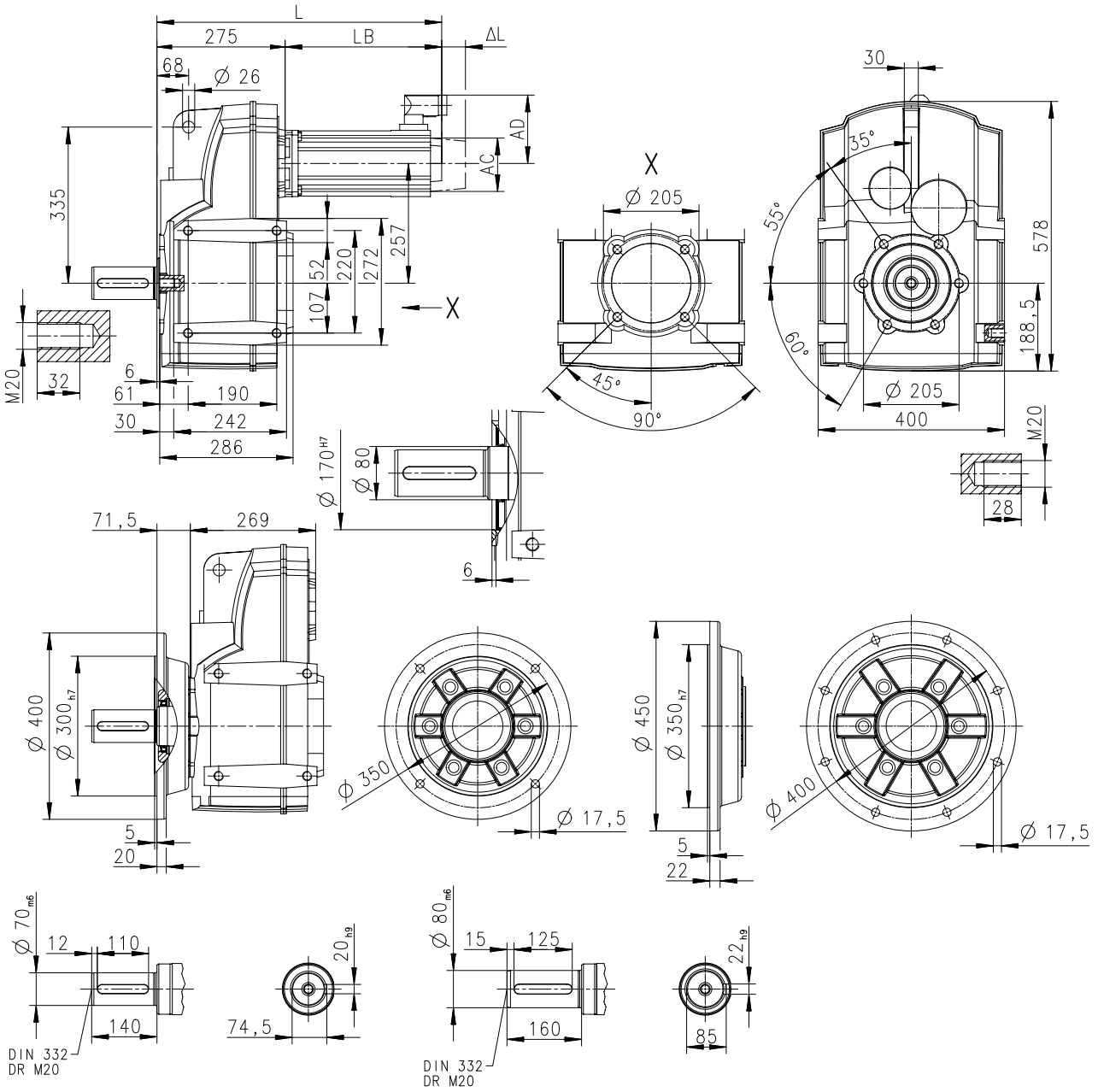
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	611	543
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S4500 with MCA13

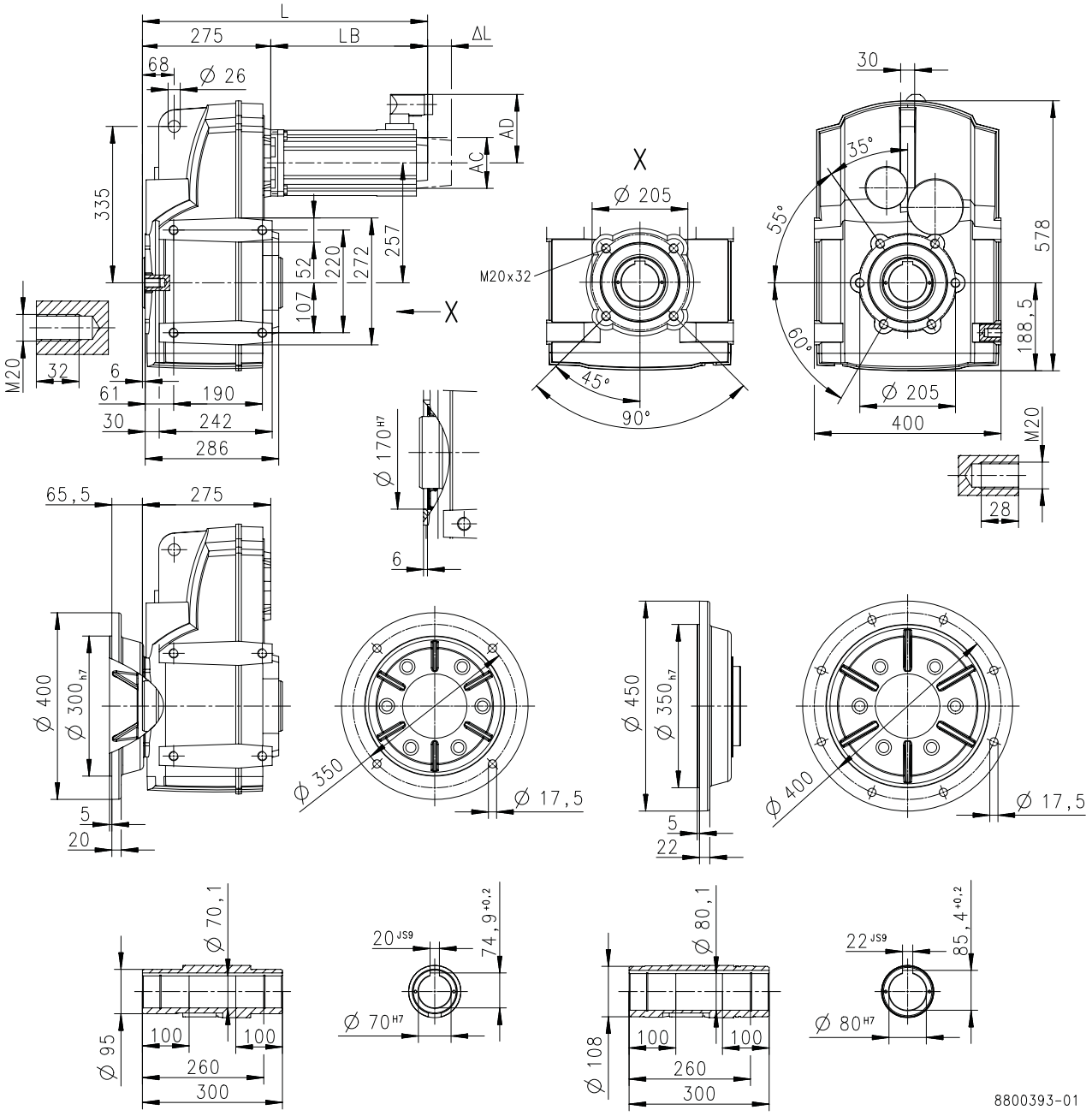
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Total length	L	mm	611	543
Motor length	LB	mm	336	268
Length of motor options	Δ L	mm	90	90
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102

g500-S4500 with MCA14

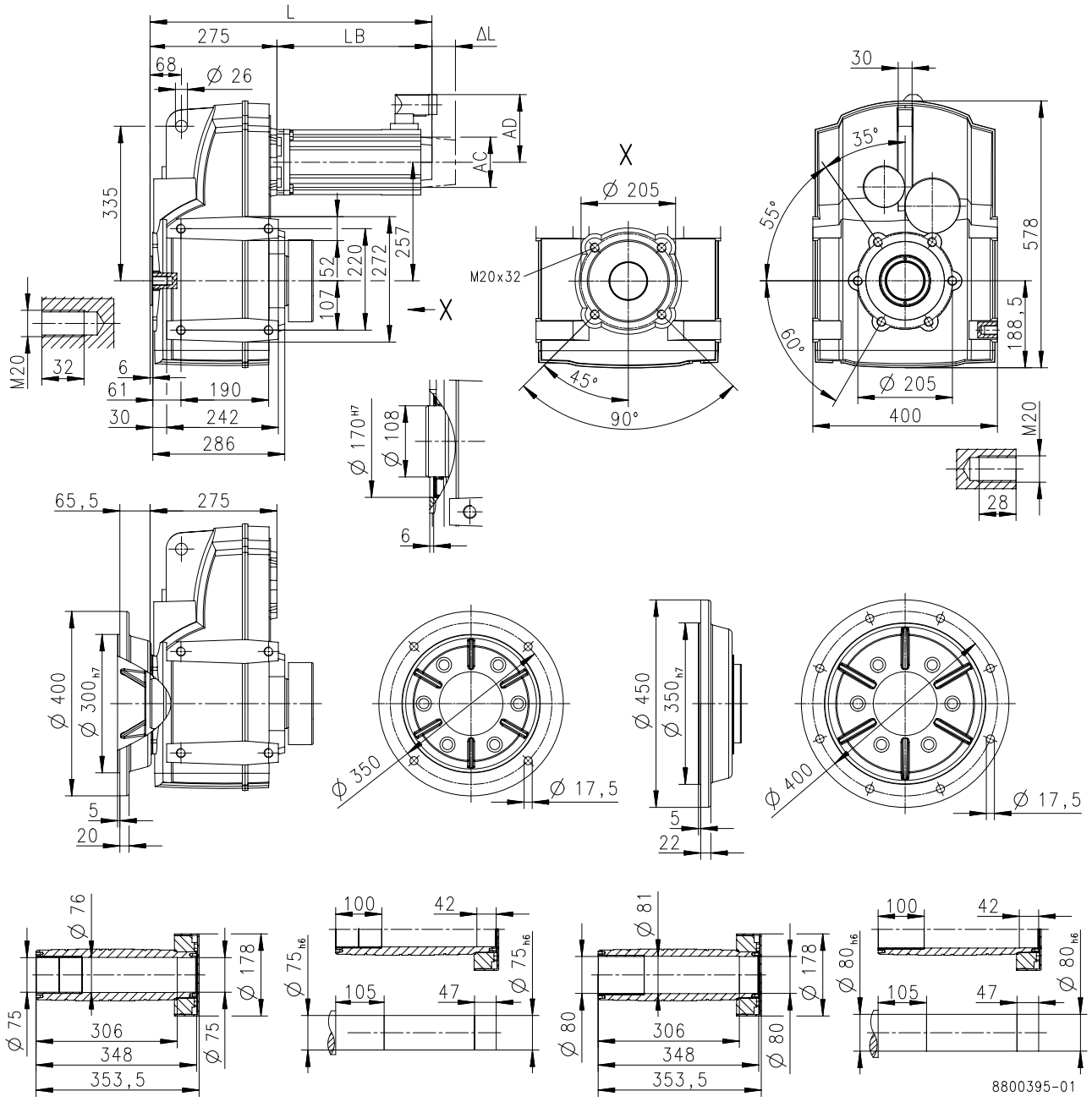
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			Forced	Natural	Forced	Natural
Total length	L	mm	655	593	655	593
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S4500 with MCA14

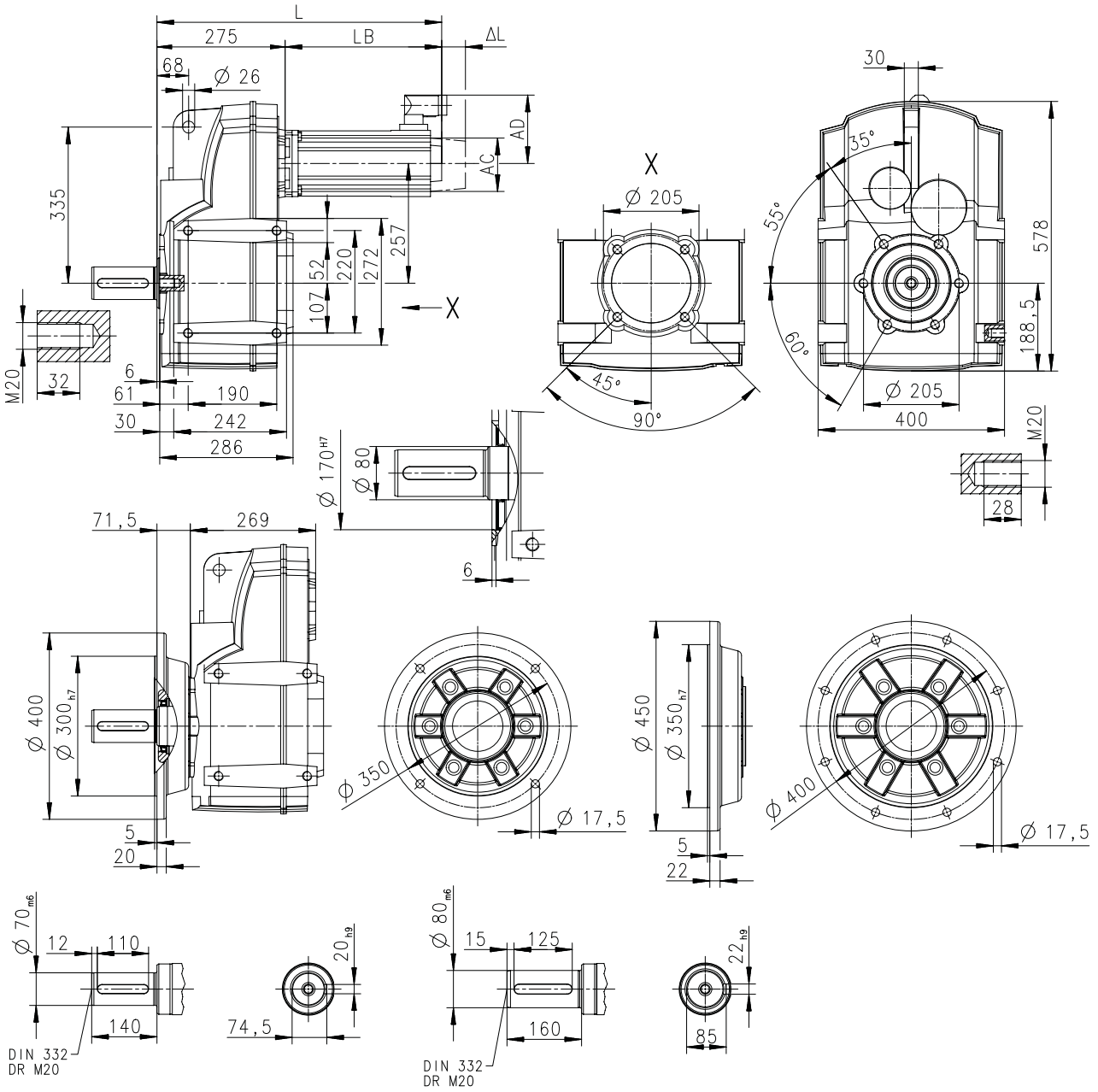
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			Forced	Natural	Forced	Natural
Total length	L	mm	655	593	655	593
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S4500 with MCA14

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



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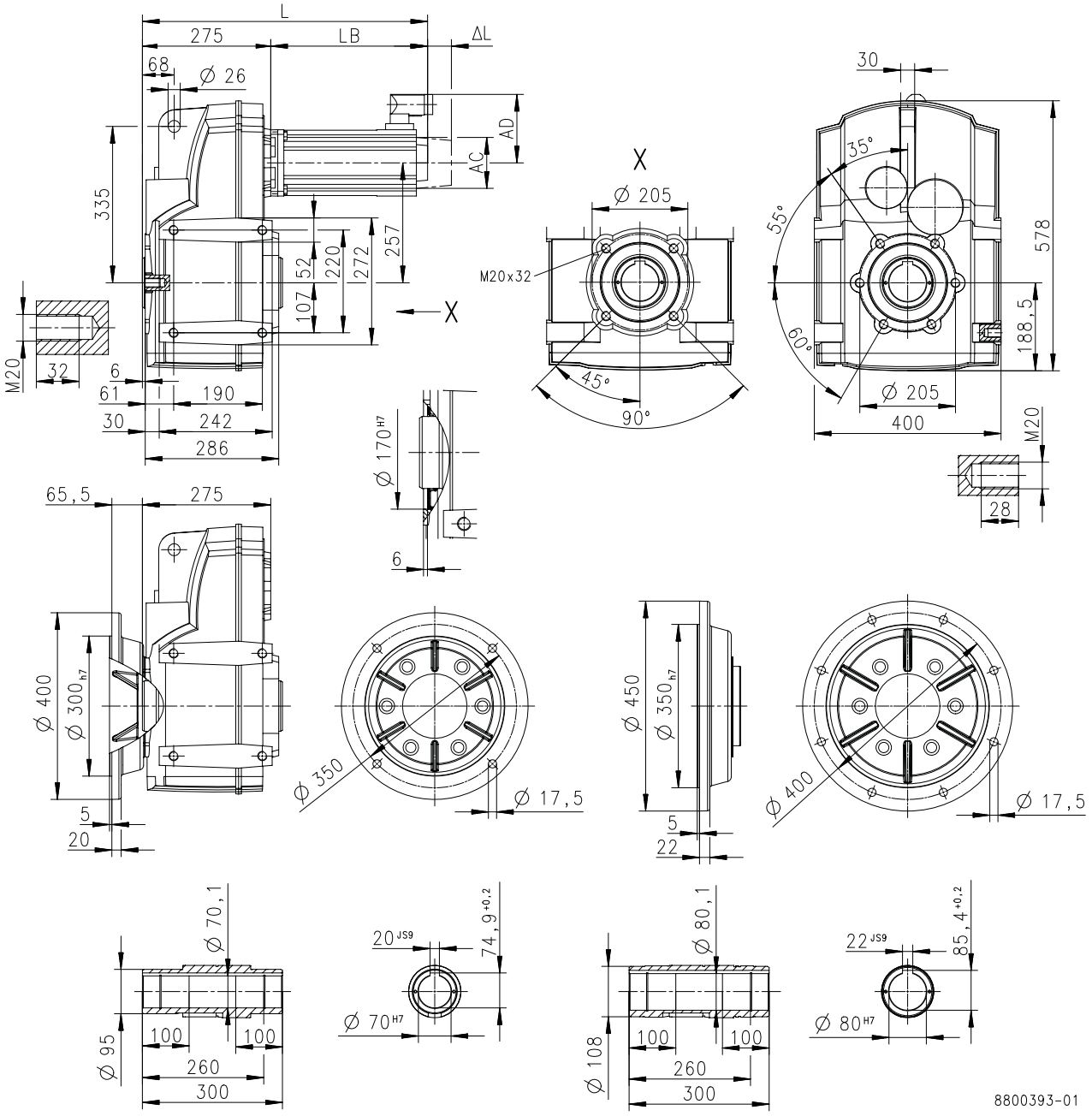
Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	655	593	655	593
Motor length	LB	mm	380	318	380	318
Length of motor options	Δ L	mm	89	89	89	89
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109

g500-S4500 with MCA17

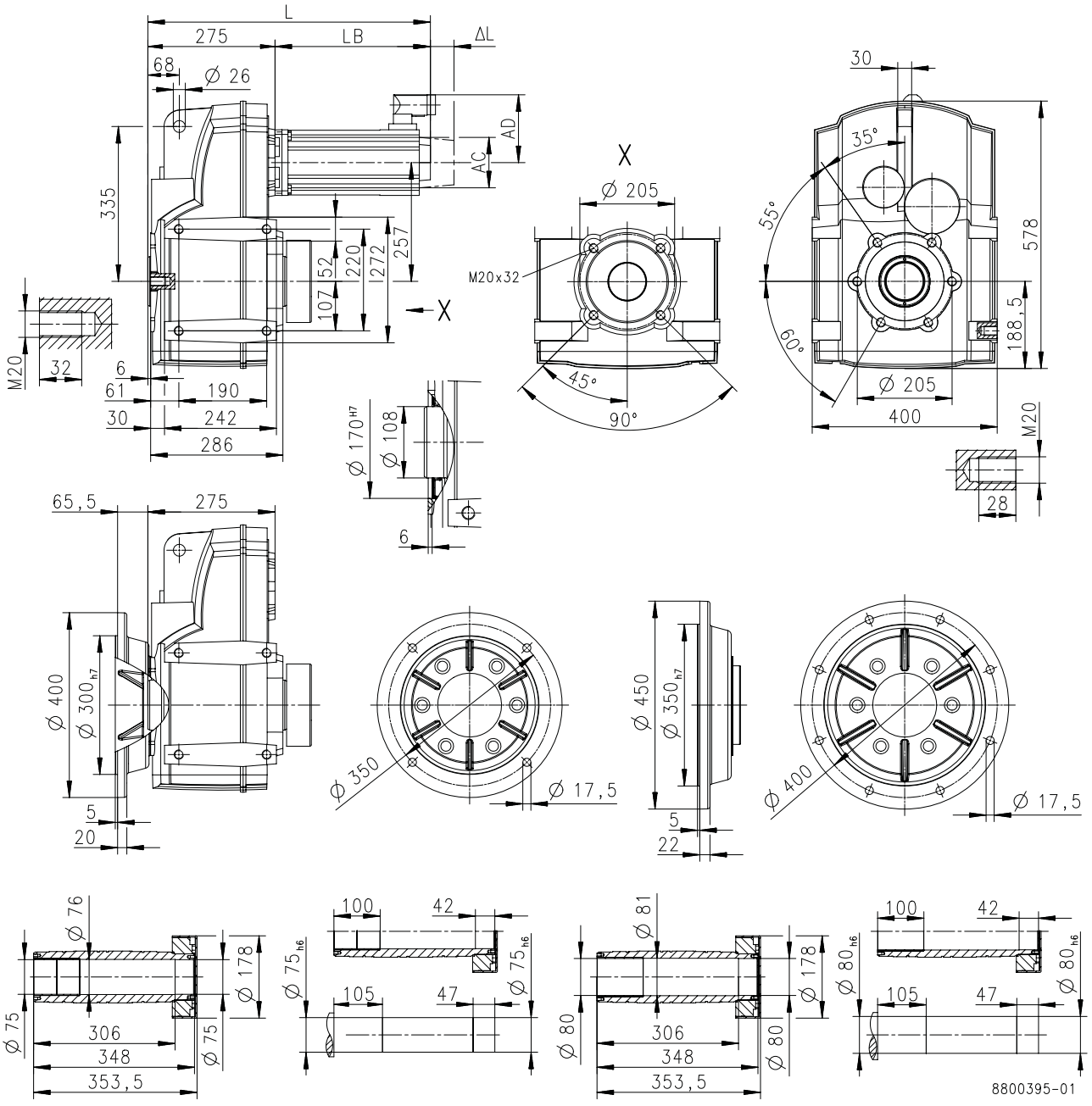
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	718	632	718	632
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S4500 with MCA17

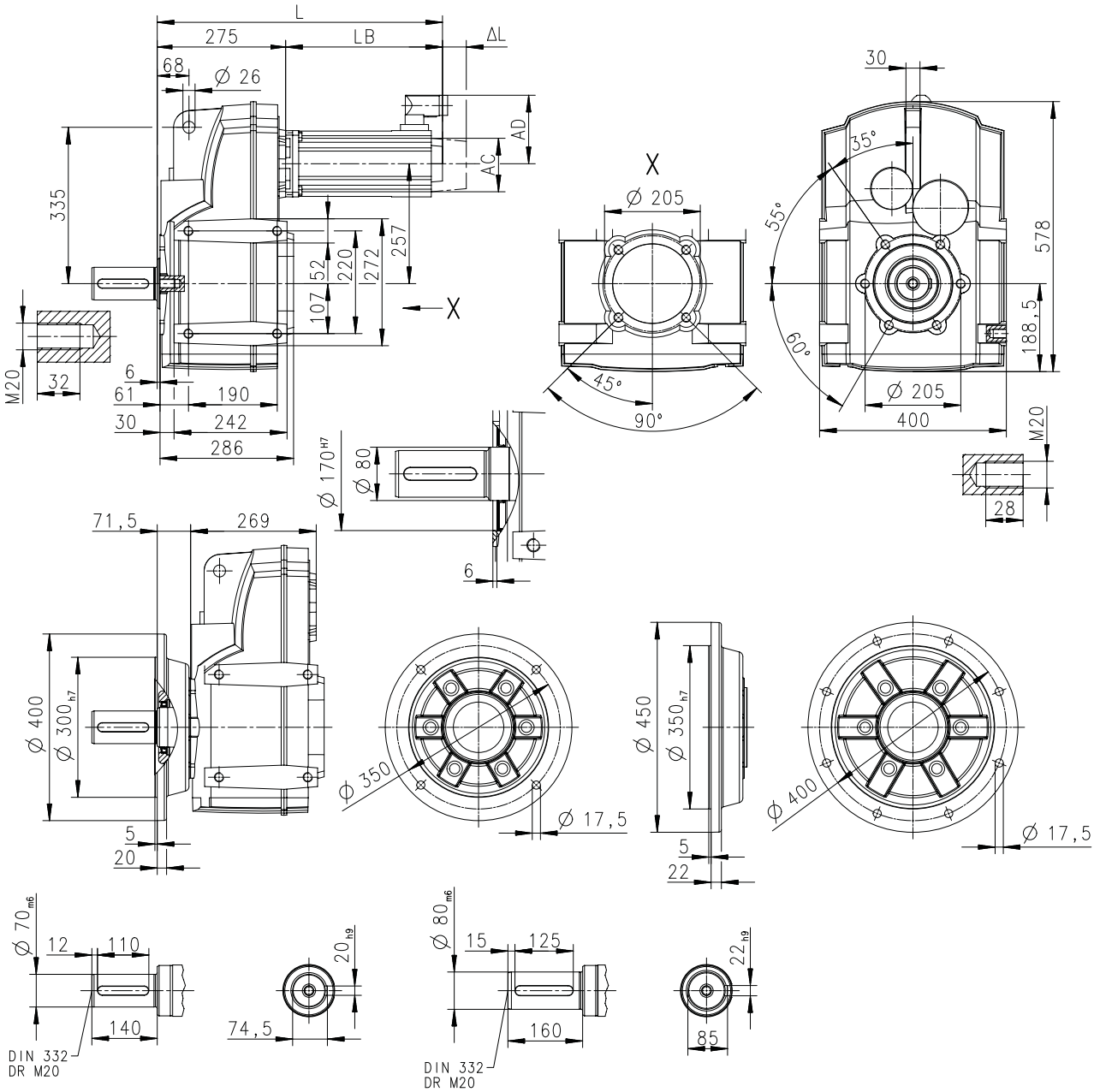
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	718	632	718	632
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S4500 with MCA17

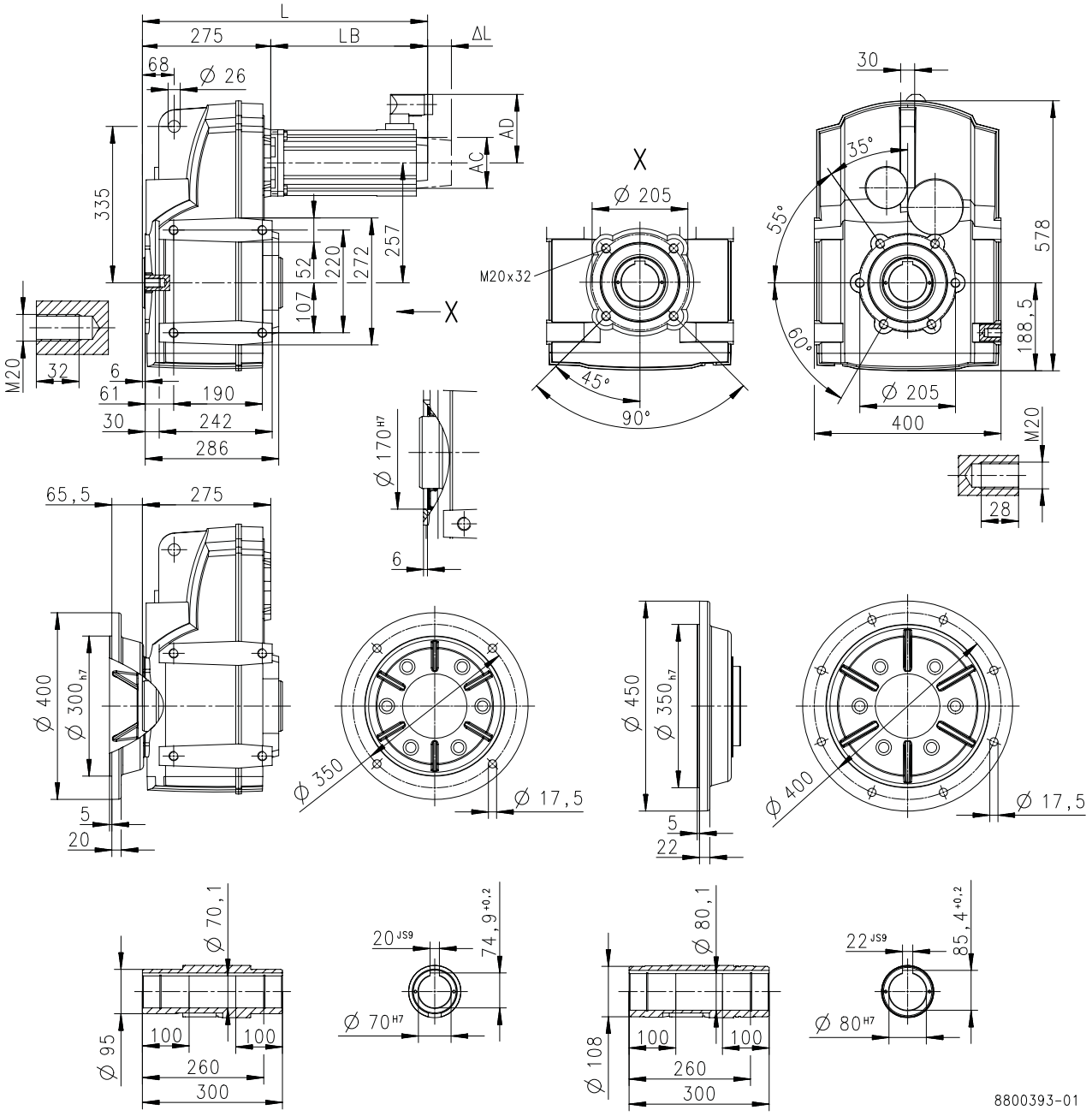
Gearbox design: solid shaft, with foot (VAR/VBR/VAK)



Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			Forced	Natural	Forced	Natural
Total length	L	mm	718	632	718	632
Motor length	LB	mm	443	357	443	357
Length of motor options	Δ L	mm	90	90	90	90
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118

g500-S4500 with MCA19

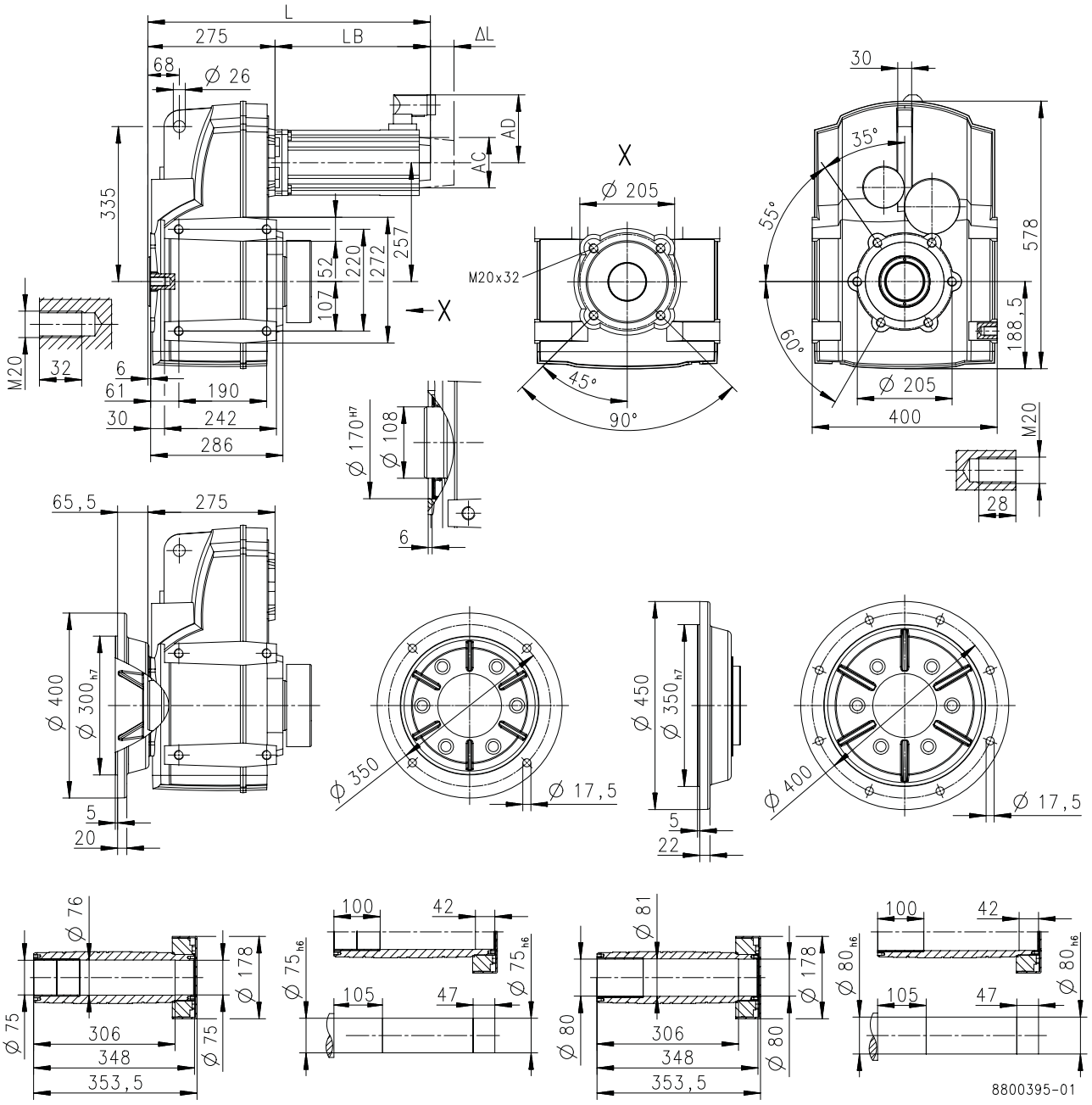
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	797	700	797	700
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S4500 with MCA19

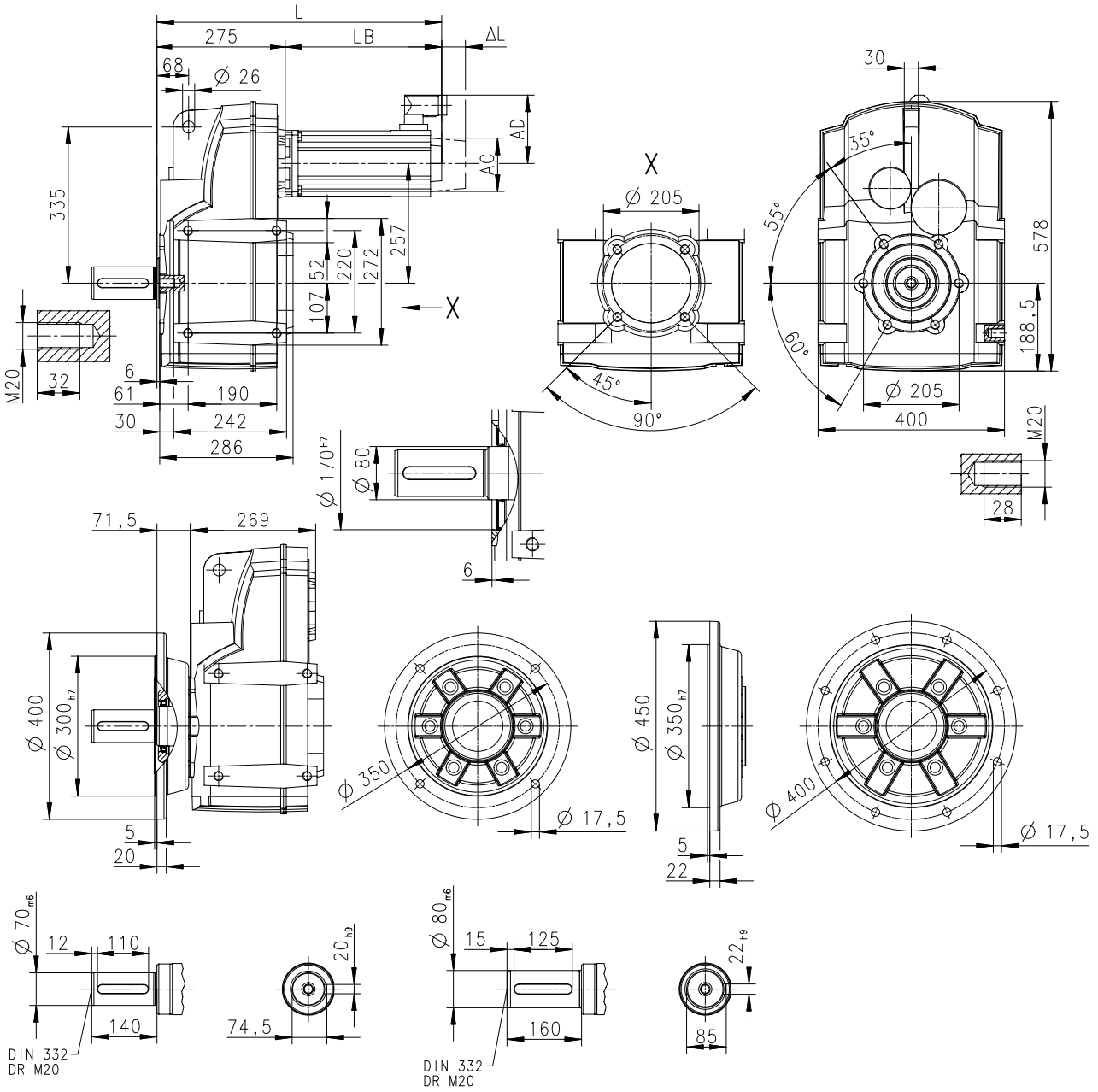
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	797	700	797	700
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S4500 with MCA19

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



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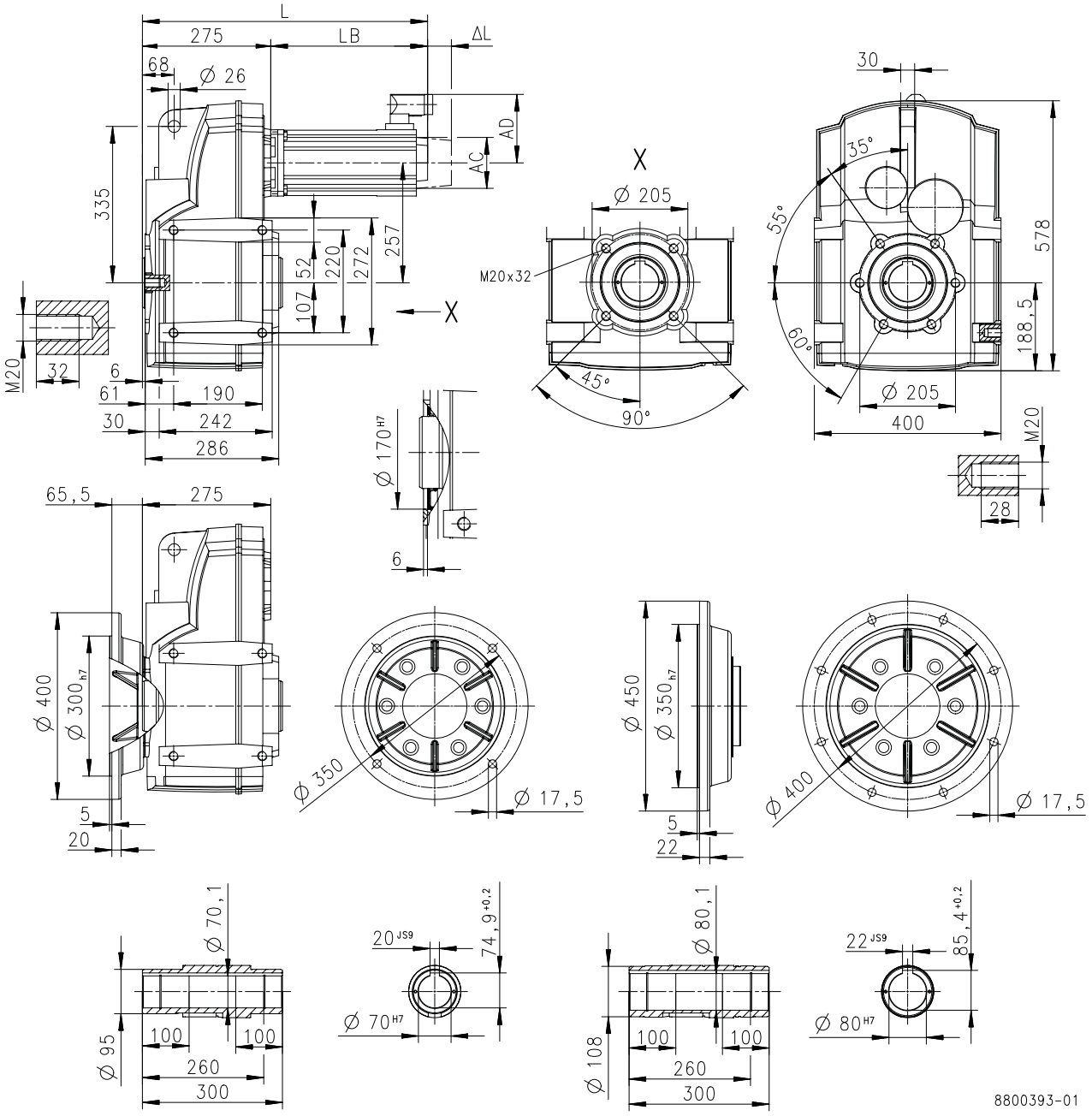
Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	797	700	797	700
Motor length	LB	mm	522	425	522	425
Length of motor options	Δ L	mm	88	88	88	88
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151

g500-S4500 with MCA21

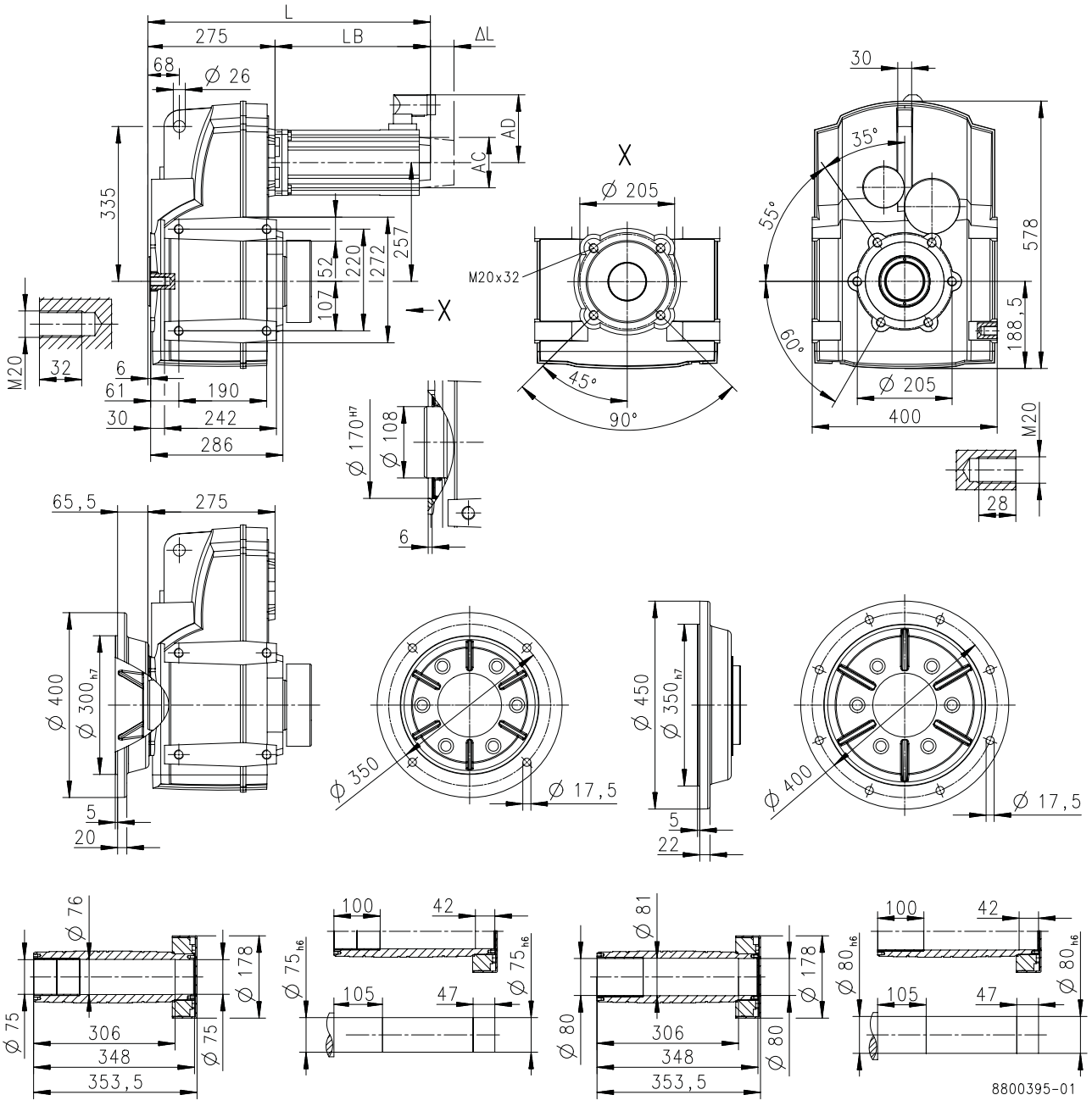
Gearbox design: hollow shaft, with foot (HAR/HBR/HAK)



Motor			MCA			
			21X17-	21X25-	21X35-	21X42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	889	793	889	793
Motor length	LB	mm	614	518	614	518
Length of motor options	Δ L	mm	92	92	92	92
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162

g500-S4500 with MCA21

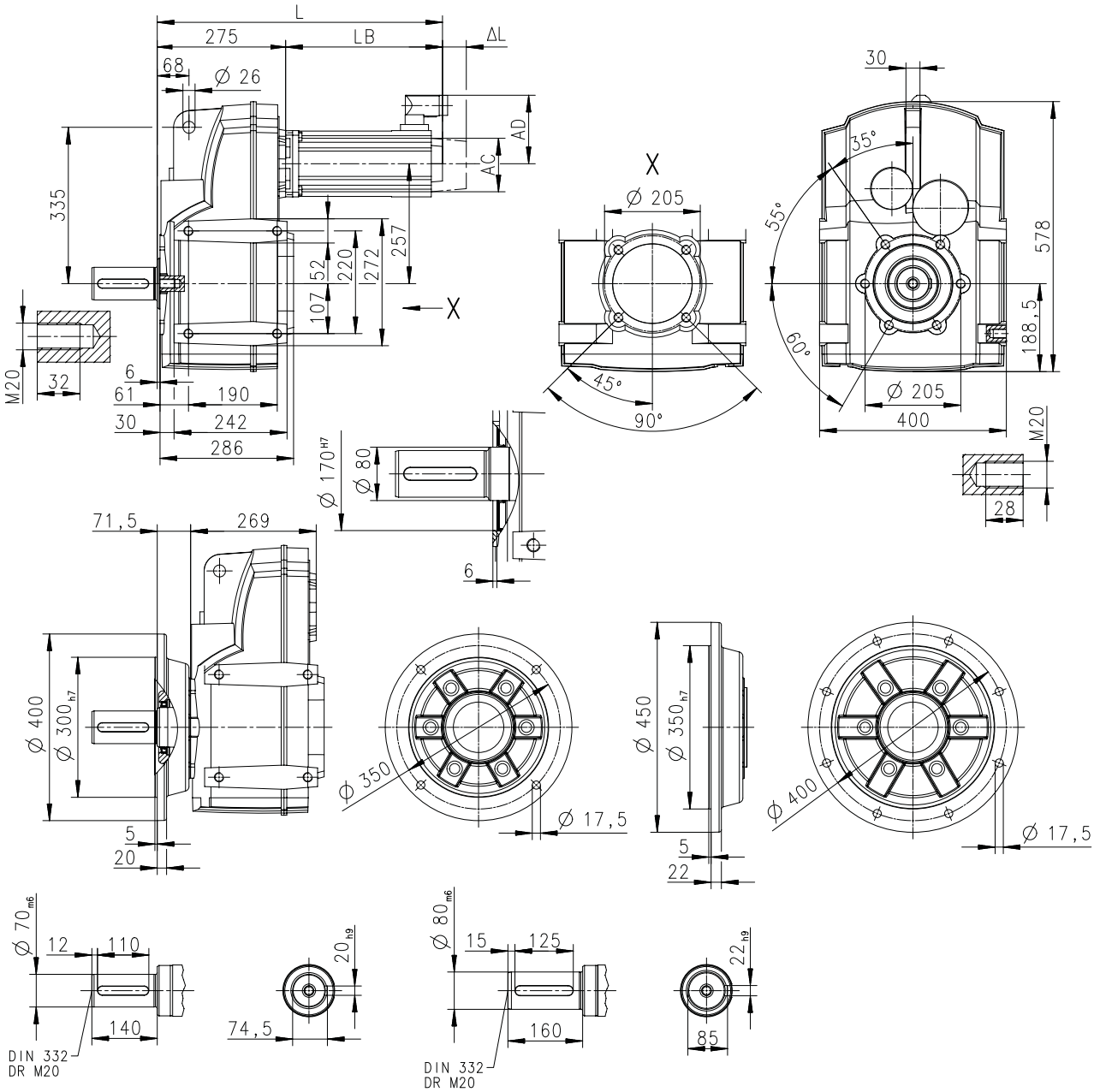
Gearbox design: Hollow shaft with shrink disc, with foot (SAR/SBR/SAK)



Motor			MCA			
			21X17-	21X25-	21X35-	21X42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	889	793	889	793
Motor length	LB	mm	614	518	614	518
Length of motor options	Δ L	mm	92	92	92	92
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162

g500-S4500 with MCA21

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



Motor			MCA			
			21X17-	21X25-	21X35-	21X42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Total length	L	mm	889	793	889	793
Motor length	LB	mm	614	518	614	518
Length of motor options	Δ L	mm	92	92	92	92
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162

Additional lengths

The motor code indicates the short designation of the brake and feedback.
Detailed information can be found for

- Product codes 📖 262
- Brakes 📖 255
- Feedback 📖 258

MCA10

Motor			MCA
			10I40-
Cooling type			**Natural**
Feedback (without brake B0)			
R☐0	Δ L	mm	0
SR☐ / T20 / E☐☐	Δ L	mm	54
Brake (P1/P2) and feedback			
R☐0 / C40	Δ L	mm	25
SR☐ / T20 / E☐☐	Δ L	mm	78

MCA13

Motor			MCA	
			13I34-	13I41-
Cooling type			**Forced**	**Natural**
Feedback (without brake B0)				
R☐0	Δ L	mm	0	0
SR☐ / T20 / E☐☐	Δ L	mm	54	54
Brake (P1/P2) and feedback				
R☐0 / C40	Δ L	mm	35	35
SR☐ / T20 / E☐☐	Δ L	mm	90	90

MCA14

Motor			MCA			
			14L16-	14L20-	14L35-	14L41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Feedback (without brake B0)						
R☐0	Δ L	mm	0	0	0	0
SR☐ / T20 / E☐☐	Δ L	mm	55	55	55	55
Brake (P1/P2) and feedback						
R☐0	Δ L	mm	33	33	33	33
SR☐ / T20 / E☐☐	Δ L	mm	89	89	89	89

MCA17

Motor			MCA			
			17N17-	17N23-	17N35-	17N41-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Feedback (without brake B0)						
R☐0	Δ L	mm	0	0	0	0
SR☐ / T20 / E☐☐	Δ L	mm	54	54	54	54
Brake (P1/P2) and feedback						
R☐0	Δ L	mm	35	35	35	35
SR☐ / T20 / E☐☐	Δ L	mm	90	90	90	90

MCA19

Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			Forced	Natural	Forced	Natural
Feedback (without brake B0)						
R☐0	Δ L	mm	0	0	0	0
SR☐ / T20 / E☐☐	Δ L	mm	50	50	50	50
Brake (P1/P2) and feedback						
R☐0	Δ L	mm	38	38	38	38
SR☐ / T20 / E☐☐	Δ L	mm	88	88	88	88

MCA21

Motor			MCA			
			21X17-	21X25-	21X35-	21X42-
Cooling type			Forced	Natural	Forced	Natural
Feedback (without brake B0)						
R☐0	Δ L	mm	0	0	0	0
SR☐ / T20 / E☐☐	Δ L	mm	49	49	49	49
Brake (P1/P2) and feedback						
R☐0	Δ L	mm	42	42	42	42
SR☐ / T20 / E☐☐	Δ L	mm	92	92	92	92

Weights

Basic weights

2-stage gearboxes

Geared motor			MCA										
			10I40-	13I34-	13I41-	14L16-	14L20-	14L35-	14L41-	17N17-	17N23-	17N35-	17N41-
			Cooling										
			Natural	Forced	Natural	Forced	Natural	Forced	Natural	Forced	Natural	Forced	Natural
g500-S130	m	kg	13	18	17								
g500-S220	m	kg	14	20	18	25	24	25	24				
g500-S400	m	kg	18	24	22	29	27	29	27	38	35	38	35
g500-S660	m	kg	23	29	27	34	32	34	32	43	40	43	40
g500-S950	m	kg	43	48	47	54	52	54	52	62	60	62	60
g500-S2100	m	kg				86	84	86	84	95	92	95	92
g500-S3100	m	kg				125	123	125	123	134	131	134	131
g500-S4500	m	kg				198	197	198	197	207	205	207	205

Geared motor			MCA							
			19S17-	19S23-	19S35-	19S42-	21X17-	21X25-	21X35-	21X42-
			Cooling							
			Forced	Natural	Forced	Natural	Forced	Natural	Forced	Natural
g500-S660	m	kg	70	66	70	66				
g500-S950	m	kg	89	86	89	86				
g500-S2100	m	kg	122	118	122	118	139	135	139	135
g500-S3100	m	kg	161	157	161	157	178	174	178	174
g500-S4500	m	kg	234	231	234	231	251	248	251	-

3-stage gearboxes

Geared motor			MCA										
			10I40-	13I34-	13I41-	14L16-	14L20-	14L35-	14L41-	17N17-	17N23-	17N35-	17N41-
			Cooling										
			Natural	Forced	Natural	Forced	Natural	Forced	Natural	Forced	Natural	Forced	Natural
g500-S220	m	kg	14										
g500-S400	m	kg	18										
g500-S660	m	kg	23	29	28								
g500-S950	m	kg	43	49	47	54	53	54	53	63	60	63	60
g500-S2100	m	kg	75	81	80	86	85	86	85	95	93	95	93
g500-S3100	m	kg	115	121	119	126	124	126	124	135	132	135	132
g500-S4500	m	kg	190	196	194	201	199	201	199	210	207	210	207

Geared motor			MCA							
			19S17-	19S23-	19S35-	19S42-	21X17-	21X25-	21X35-	21X42-
			Cooling							
			Forced	Natural	Forced	Natural	Forced	Natural	Forced	Natural
g500-S2100	m	kg	122	119	122	119				
g500-S3100	m	kg	161	158	161	158				
g500-S4500	m	kg	237	233	237	233	254	250	254	250

Additional weights

Gearbox

Gearbox			g500-S130	g500-S220	g500-S400	g500-S660
Solid shaft	m	kg	0.5	0.5	1.7	2.5
Shrink disc	m	kg	0.2	0.4	0.6	0.6
Foot	m	kg	1.7	1.8	3.3	4.3
Flange	m	kg	0.4	0.4	0.9	1.7

Gearbox			g500-S950	g500-S2100	g500-S3100	g500-S4500
Solid shaft	m	kg	3.0	5.5	8.4	19.0
Shrink disc	m	kg	1.2	1.7	2.3	4.3
Foot	m	kg				
Flange	m	kg	6.0	11.5	15.0	29.0

Motors

Motor			MCA10	MCA13	MCA14	MCA17	MCA19	MCA21
Permanent magnet holding brake								
Increased braking torque	m	kg	0.8	1.5	2.4	2.4	4.8	5.0

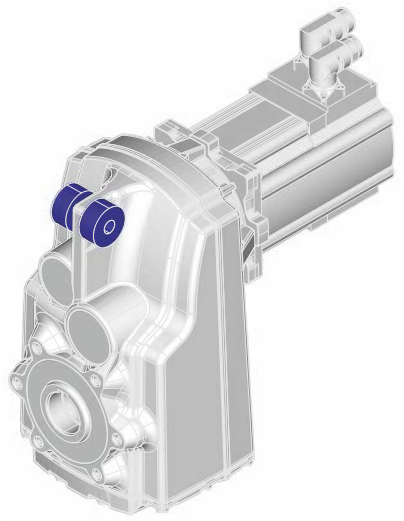
Product extensions

Torque plates

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

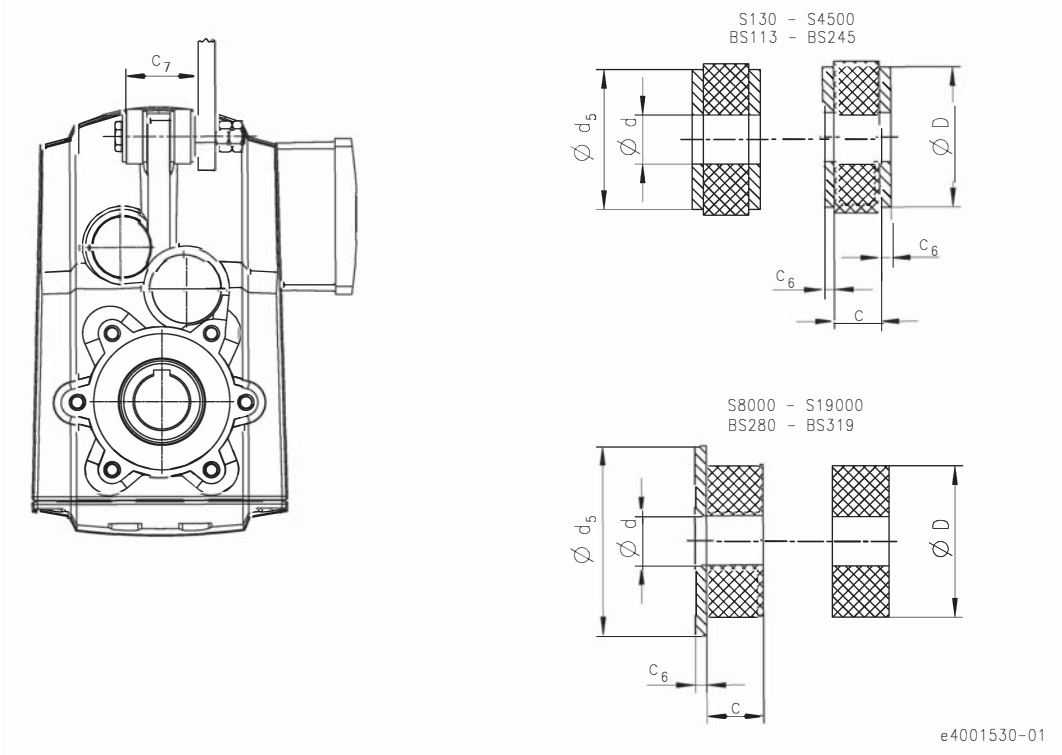
The integrated torque plate is another simple possibility. In this case, torque support is provided only via one point and is suitable for shaft-mounted gearboxes, among other things. Moreover, suitable rubber buffers ensure stress-free installation and absorb any slight impacts.

Versions



Rubber buffer for torque plate

Rubber buffer for torque plate



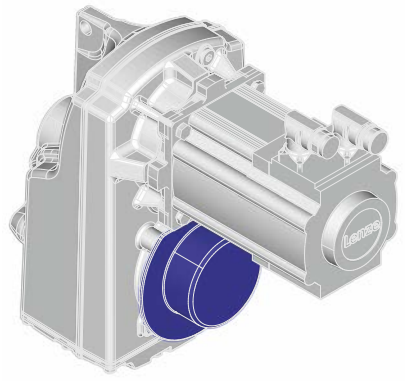
Gearbox	Dimensions						Mass
	d	D	d_5	c	c_6	c_7	m
	mm	mm	mm	mm	mm	mm	kg
g500-S130	11.0	30.0	30	12.0	2.50	45.0	0.1
g500-S220	11.0	30.0	30	12.0	2.50	45.0	0.1
g500-S400	13.0	40.0	37	12.0	3.00	49.0	0.1
g500-S660	13.0	40.0	37	12.0	3.00	52.0	0.1
g500-S950	13.0	40.0	37	12.0	3.00	56.0	0.1
g500-S2100	17.0	50.0	50	24.0	3.00	85.0	0.5
g500-S3100	21.0	60.0	60	24.0	4.00	94.0	0.5
g500-S4500	26.0	72.0	72	24.0	5.00	98.0	0.5

Shaft covers

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

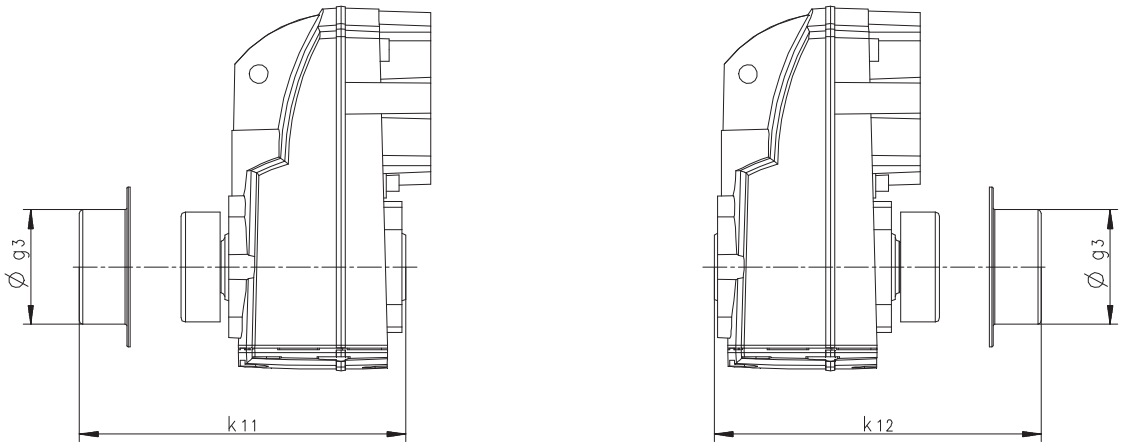
The cover is mounted by means of a plug connection.

Version



Shrink disc cover

Shrink disc cover



Gearbox	Dimensions			Mass
	g_3	k_{11}	k_{12}	m
	mm	mm	mm	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-S950	110	219	219	0.1
g500-S2100	127	252	252	0.2
g500-S3100	155	290	290	0.3
g500-S4500	188	355	357	0.4

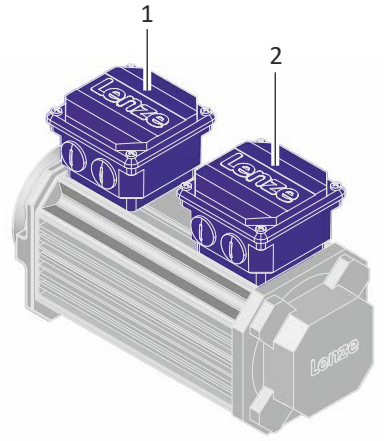
Motor connection

Connection via terminal box

If a motor is to be connected to an existing cable or plug connectors are not to be used for other reasons, the connection can also be made via a terminal box.

The terminals are designed as tension spring terminals to ensure here the long-term vibration resistance of the cable contacts with adequate contact pressure required.

Position of the connections



Position	Meaning
1	Power connection Brake connection PE connection
2	Feedback connection Connection of temperature monitoring Blower connection

Cable glands MCA10 ... 19/21

The openings for the cable glands are closed with plugs and arranged on one side. If required, the terminal box can be rotated step by step by 90 ° after loosening the screws in the terminal box.

Motor		MCA10 MCA13	MCA14 MCA17	MCA19 MCA21
Screwed connections		2x M20 x 1.5		1x M32 x 1.5 1x M25 x 1.5
cable cross-section	mm^2	0.08 ... 2.5		0.2 ... 10
Stripping length	mm	10 ... 11		
Terminal design		Spring-loaded terminal		

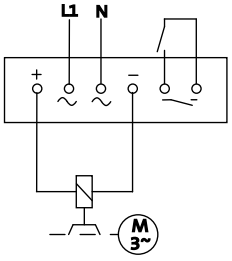
Power connection

Contact	Name	Meaning
PE	PE	PE conductor
V	V	Motor winding phase U
V	V	Motor winding phase V
W	W	Motor winding phase W

DC brake connection

Contact	Name	Meaning
BD1	+	Brake +
BD2	-	Brake -

Connection of brake AC

Connection via rectifiers			
Contact	**Name**	**Meaning**	
~	BA1	Mains L1	
~	BA2	Mains N	
+	BD1	Holding brake + (factory-wired)	
-	BD2	Holding brake - (factory-wired)	
		Switching contact - DC switching	

Feedback connection

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

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

Sin/Cos absolute value encoder with EnDat interface		
Contact	**Name**	**Meaning**
B1	+ UB	Supply + / supply: electronic nameplate (only for model with electronic nameplate ETS)
B2	GND	Mass
B3	A	Track A/+COS
B4	A^-	Track A inverse/-COS
B5	B	Track B/+SIN
B6	B^-	Track B inverse/-SIN
B7	Data	EnDat interface data
B8	$Data^-$	Data inverse EnDat interface
B20	Cycle	EnDat interface cycle
B21	$Cycle^-$	Inverse EnDat interface cycle
B22	U_P sensor	U_P sensor
B23	0 V sensor	0 V sensor
B24	Shield	Encoder housing shield
B25		not assigned

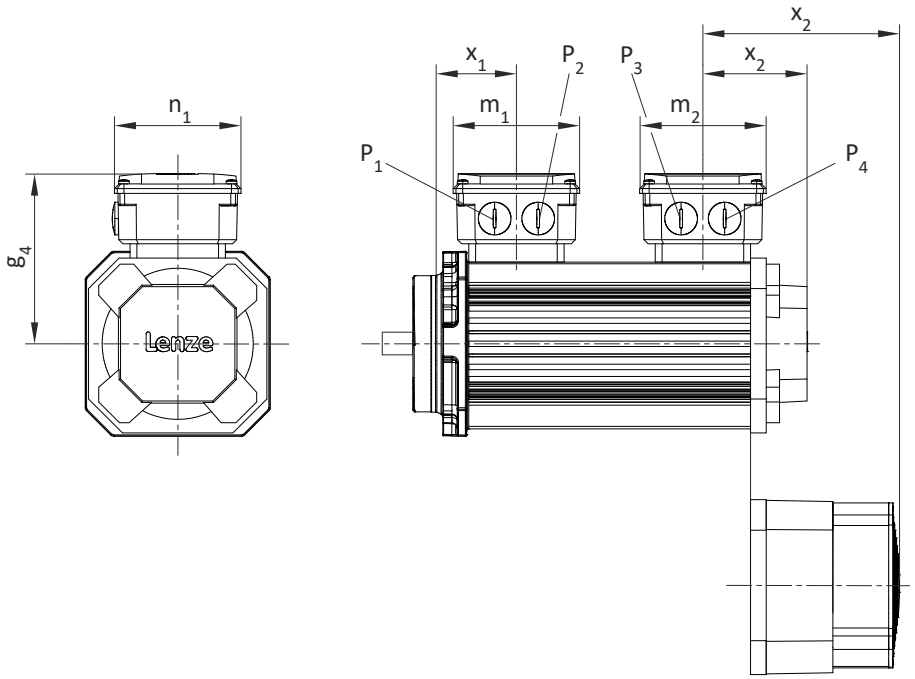
Blower connection

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

Connection of temperature monitoring

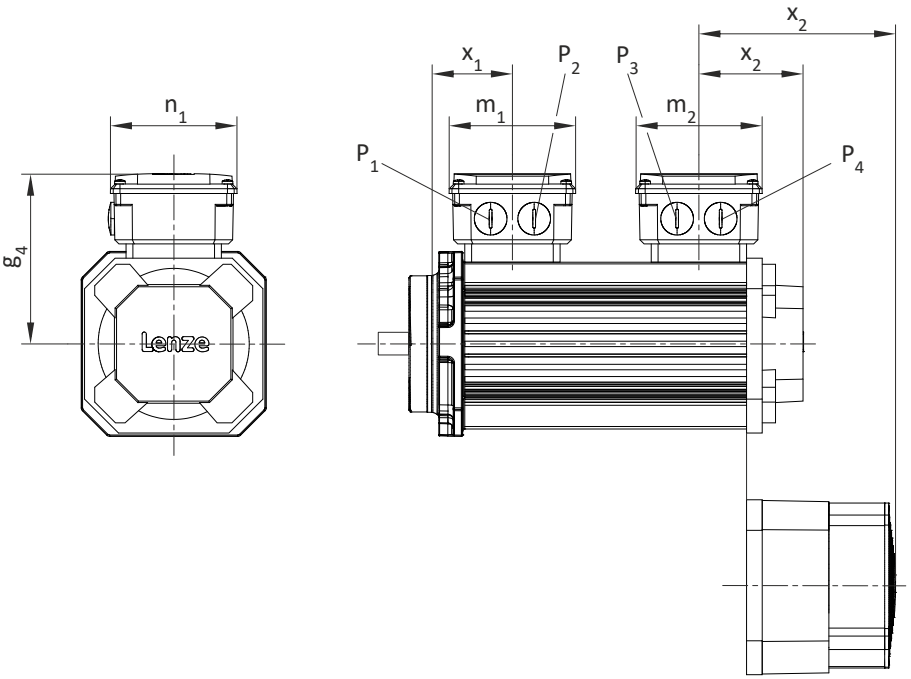
Contact	Name	Meaning
R1	+	Thermal detector +
R2	-	Thermal detector -

Terminal box dimensions MCA10 ... 17



Motor			MCA						
			10I40-	13I34-	13I41-	14L16- 14L35-	14L20- 14L41-	17N17- 17N35-	17N23- 17N41-
Cooling type			**Natural**	**Forced**	**Natural**	**Forced**	**Natural**	**Forced**	**Natural**
Motor/connection distance	g_4	mm	113	125		133		141	
Power connection, brake									
Screwed connections	P_1	mm	M20x1.5						
	P_2	mm	M20x1.5						
Terminal box	m_1	mm	93						
	n_1	mm	93						
	x_1		51	54		69		72	
Feedback connection, temperature monitoring									
Screwed connections	P_3	mm	M20x1.5						
	P_4	mm	M20x1.5						
Terminal box	m_2	mm	93						
	n_1	mm	93						
Resolver	x_2	mm	78	145	77	147	85	171	85
Absolute value encoder/incremental encoder	x_2	mm	132	199	131	202	140	225	139

Terminal box dimensions MCA19/21



Motor			MCA			
			19S17-	19S23-	21X17-	21X25-
			19S35-	19S42-	21X35-	21X42-
Cooling type			**Forced**	**Natural**	**Forced**	**Natural**
Motor/connection distance	g_4	mm	158		169	
Powe connection, brake						
Screwed connections	P_1	mm	M25x1.5			
	P_2	mm	M32x1.5			
Terminal box	m_1	mm	115			
	n_1	mm	115			
	x_1		88		118	
Feedback connection, temperature monitoring						
Screwed connections	P_3	mm	M20x1.5			
	P_4	mm	M20x1.5			
Terminal box	m_2	mm	115			
	n_1	mm	115			
Resolver	x_2	mm	190	93	193	97
Absolute value encoder/incremental encoder	x_2	mm	240	143	243	147

Connection via ICN connector

The electrical connection to the servo motors as a standard is established via ICN connectors.

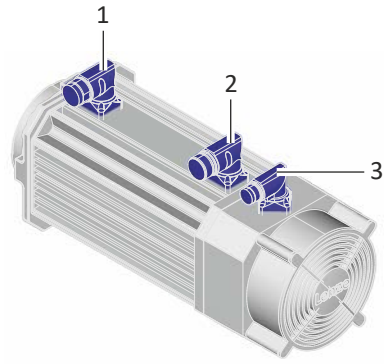
The connector can be rotated by 270 ° and are provided with a bayonet catch for SpeedTec connectors. Since the catch of the connector is compatible with conventional box nuts, existing counter plugs with a screw plug can be continued to use without any problems.

In order to provide for a quick and error-free connection of Lenze motors to Lenze inverters, we recommend using prefabricated Lenze system cables. In this way, proper functioning and the compliance with statutory provisions such as EMC, UL, etc. are ensured.

The use of different cables may cause unexpected faults and may void the warranty.

Position of the connections

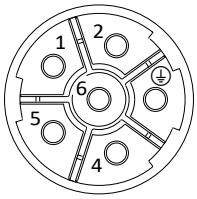
Each connection is made via a separate connector



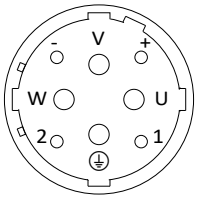
Position	Meaning
1	Power connection Brake connection PE connection
2	Feedback connection Connection of temperature monitoring
3	Blower connection

Power and brake connection

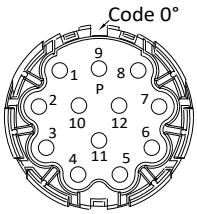
Valid for MCA10 ... 17

ICN-M23 connector assignment 6-pole			
Contact	**Name**	**Meaning**	
1	BD1	Holding brake +	
2	BD2	Holding brake -	
PE	PE	PE conductor	
4	U	Power phase U	
5	V	Power phase V	
6	W	Power phase W	

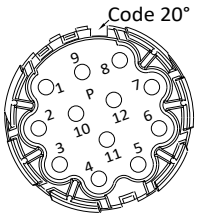
Valid for MCA19 ... 21

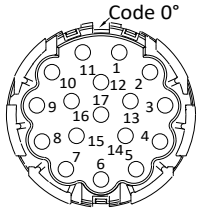
ICN-M40 connector assignment 8-pole			
Contact	**Name**	**Meaning**	
1		Not assigned	
2		Not assigned	
+	BD1	Holding brake +	
-	BD2	Holding brake -	
PE	PE	PE conductor	
V	V	Power phase U	
V	V	Power phase V	
W	W	Power phase W	

Feedback and temperature monitoring connection

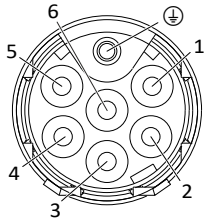
ICN-M23 connector assignment Resolver			
Contact	**Name**	**Meaning**	
1	+Ref	Transformer windings	
2	-Ref		
3	+VCC ETS	Power supply: electronic nameplate	
4	+COS	Stator windings cosine	
5	-COS		
6	+SIN	Stator windings Sine	
7	-SIN		
8		Not assigned	
9			
10	Shield	Encoder housing shield	
11	+	Temperature monitoring: KTY/PT1000	
12	-		

Contact 3: only for motors and inverters which support this function.

ICN-M23 connector assignment Incremental and SinCos absolute value encoder Hiperface			
Contact	**Name**	**Meaning**	
1	B	Track B / + SIN	
2	A^-	Track A inverse / - COS	
3	A	Track A / + COS	
4	+ UB	Supply +	
5	GND	Mass	
6	Z^-	Zero track inverse / - RS485	
7	Z	Zero track / + RS485	
8		Not assigned	
9	B^-	Track B inverse/-SIN	
10	Shield	Encoder housing shield	
11	+	Temperature monitoring: KTY/PT1000	
12	-		

Pin assignment ICN-M23 SinCos absolute value encoder with EnDat interface			
Contact	**Name**	**Meaning**	
1	UP sensor	Supply: UP sensor	
2		Not assigned	
3		Not assigned	
4	0 V sensor	Supply: 0 V sensor	
5	+	Temperature monitoring: KTY/PT1000	
6	-		
7	+ UB	Supply +	
8	Cycle	EnDat interface cycle	
9	Cycle¯	EnDat interface inverse cycle	
10	GND	Mass	
11	Shield	Encoder housing shield	
12	B	Track B	
13	B¯	Track B inverse/-SIN	
14	Data	EnDat interface data	
15	A	Track A	
16	A¯	Track A inverse	
17	Data¯	Inverse EnDat interface data	

Blower connection

Pin assignment ICN-M17 Single–phase			
Contact	**Name**	**Meaning**	
PE	PE	PE conductor	
1	U1	Fan	
2	U2		
3		Not assigned	
4			
5			
6			

Brakes

Optionally, the motors can be ordered with a permanent magnet brake as holding brake.

⚠CAUTION!

They may not be used as safety elements (particularly with hoist axes) without additional measures being implemented.

The brakes used are not fail-safe brakes in the sense that prospective disruptive factors, e.g. oil ingress, can lead to a reduction in torque!

- The brakes must only be used as holding brakes for holding the axes at a standstill or in the deenergised state.
- The brake must not be used as a service brake.

⚠CAUTION!

If no suitable voltage (incorrect value, incorrect polarity) is applied to the brake, the brake will be applied and can be overheated and destroyed by the motor continuing to rotate.

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

The following applies to Lenze system cables:

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

NOTICE

- The brakes become active when the supply voltage has been switched off (closed-circuit principle).
- When using the brakes purely as holding brakes, virtually no wear occurs on the friction surfaces.
- The friction surfaces must always be free from oil and grease because even small amounts of grease or oil will considerably reduce the braking torque.

NOTICE

In case of these permanent magnet brakes, the rated torque applies solely as holding torque at standstill.

- Emergency stops at higher speeds are possible but high switching energy increases wear on the friction surfaces and the hub.
- During braking from full motor speed, e .g. in the event of emergency stops, the braking torque is significantly reduced.

NOTICE

In case of travel axes, the compliance of the permissible ratio of mass inertia load/brake motor (J_L/J_{MB}) ensures that the permissible maximum switching energy of the brake will not be exceeded and at least the values given for the emergency stop functions from the given speed (see rated data) are applied.

For hoist axes, the load torque resulting from the weight acts additionally. In this case, the specifications for (J_L/J_{MB}) do not apply.

To simplify matters, the friction energy per switching cycle can be calculated using the formula below and must not exceed the limit value for emergency stops, which depends on the switching rate:

$$Q = \frac{1}{2} \times J_{ges} \times \left(2\pi \times \frac{\Delta n}{60} \right)^2 \times \frac{M_N}{M_N - M_L}$$

Q	J	Friction energy
J_{total}	kgm^2	Total mass inertia (motor + load)
Δn	rpm	Differential speed
M_N	Nm	Rated torque of the brake
M_L	nM	Load torque

The shortest operating times of the brakes are achieved by DC switching of the voltage and an external suppressor circuit (varistor or spark suppressor).

Without suppressor circuit, the operating times may increase. A varistor/ spark suppressor limits the breaking voltage peaks. It must be ensured that the power limit of the suppressor circuit is not exceeded. This limit depends on the brake current, brake voltage, disengagement time and the switching operations per time unit.

Furthermore the suppressor circuit is necessary for interference suppression and for increasing the service life of the relay contacts (external, is not integrated into the motor).

It is not possible to readjust the brake.

Permanent magnet brakes

Rated data

Engagement and disengagement times apply to rated voltage (± 0 %) and suppressor circuit of the brakes with a varistor with DC switching. Without a suppressor circuit, the times may be longer.

The currents are the maximum values when the brake is cold (value used for dimensioning the current supply). The values for a motor at operating temperature are considerably lower.

With 24 V DC brake: smoothed DC voltage, ripple ≤ 1 %.

With 205 V DC brake: connection to 230 V AC via external rectifier (no cURus possible).

Maximum switching energy per emergency stop with n= 3000 rpm for at least 2000 emergency stops.

Rated data with increased braking torque

DC 24 V, motor code= P2

Motor			MCA10I	MCA13I	MCA14L	MCA17N	MCA19S	MCA21X
Supply voltage range	$U_{in,DC}$	V	21.6 ... 25.2					
Rated voltage	$U_{N,DC}$	V	24					
Rated torque								
At 20 °C	M_N	Nm	6.00	15.0	23.0	23.0	48.0	88.0
At 120 °C	M_N	Nm	5.00	12.0	20.0	20.0	40.0	80.0
Rated current	I_N	A	0.67	0.75	0.92	0.92	1.46	1.46
Engagement time	t_1	ms	20.0	13.0	18.0	18.0	30.0	53.0
Disengagement time	t_2	ms	29.0	30.0	55.0	55.0	100	97.0
Maximum switching energy	Q_E	J	400	700	1350	1350	2800	2800
Mass	m	kg	0.80	1.50	2.40	2.40	4.80	5.00
Moment of inertia								
Brake	J	$kgcm^2$	1.06	3.60	9.50	9.50	31.8	31.8
Brake motor	J_{MB}	$kgcm^2$	3.46	11.9	22.8	45.5	104	212
Load/brake motor ratio	J_L/J_{MB}		22.4	8.40	6.60	5.00	4.50	1.70

Motor			MCA10I	MCA13I	MCA14L	MCA17N	MCA19S	MCA21X
Supply voltage range	$U_{in,DC}$	V	184.5 ... 215.2					
Rated voltage	$U_{N,DC}$	V	205					
Rated torque								
At 20 °C	M_N	Nm	6.00	15.0	23.0	23.0	48.0	88.0
At 120 °C	M_N	Nm	5.00	12.0	20.0	20.0	40.0	80.0
Rated current	I_N	A	0.80	0.090	0.12	0.12	0.18	0.18
Engagement time	t_1	ms	20.0	13.0	18.0	18.0	30.0	53.0
Disengagement time	t_2	ms	29.0	30.0	55.0	55.0	100	97.0
Maximum switching energy	Q_E	J	400	700	1350	1350	2800	2800
Mass	m	kg	0.80	1.50	2.40	2.40	4.80	5.00
Moment of inertia								
Brake	J	$kgcm^2$	1.06	3.60	9.50	9.50	31.8	31.8
Brake motor	J_{MB}	$kgcm^2$	3.46	11.9	22.8	45.5	104	212
Load/brake motor ratio	J_L/J_{MB}		22.4	8.40	6.60	5.00	4.50	1.70

Feedback

For speed control with a servo inverter, the servo motor can be equipped with the following feedback systems:

Feedback	Inverter			
	Connectable			Supports safety functions
	i700	E84AVTC	E94A	E94A
Resolver				
RS0	i700	E84AVTC	E94A	
RV03	i700	E84AVTC	E94A	E94A
Incremental encoder				
IG1024-5V-V3		E84AVTC	E94A	E94A
IG2048-5V-S		E84AVTC	E94A	
IG2048-5V-T		E84AVTC	E94A	
IG4096-5V-T		E84AVTC	E94A	
Absolute value encoder				
AM32-5V-E			E94A	
AM1024-8V-H		E84AVTC	E94A	
AM2048-5V-E			E94A	
AS1024-8V-H		E84AVTC	E94A	
AS2048-5V-E			E94A	

Safety engineering

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

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

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

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

Speed-dependent safety functions

Examples of speed-dependent safety functions:

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

Resolver

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

Feedback type			**Resolver**	
Feedback			**RS0**	**RV03**
Motor code			**RS0**	**RV03**
Speed-dependent safety functions			No	Yes
Resolution				
Angle		'	0.80	
Accuracy		'	-10 ... 10	
Absolute positioning			1 revolution	
Max. speed	n_{max}	rpm	8000	
Max. input voltage				
DC	$U_{in,max}$	V	10.0	
Max. input frequency	$f_{in,max}$	kHz	4.00	
Ratio				
Stator / rotor			0.30 ± 5 %	
Rotor impedance	Z_{ro}	Ω	51 + j90	
Stator impedance	Z_{so}	Ω	102 + j150	
Impedance	Z_{rs}	Ω	44 + j76	
Min. insulation resistance				
With DC 500 V	R_{min}	MΩ	10.0	
Number of pole pairs			1	
Max. angle error		'	-10 ... 10	

Speed-dependent safety functions

Feedback			**RV03**
Motor code			**RV03**
Max. permissible angular acceleration	α	rad/s^2	22000
Functional safety			
IEC 61508			SIL3
EN 13849-1			Up to Performance Level e

Incremental encoder

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

Feedback type		TTL incremental		SinCos incremental	
Feedback		**IG2048-5V-T**	**IG4096-5V-T**	**IG2048-5V-S**	**IG1024-5V-V3**
Motor code		**T20**	**T40**	**S20**	**S1S**
Speed-dependent safety functions		No	No	No	Yes
Encoder type		-	-	Single-turn	Single-turn
Pulses		2048	4096	2048	1024
Output signals		TTL	TTL	1 Vss	1 Vss
Interfaces		A, B, N track and inverted	-	-	-
Absolute revolution		0	0	0	-
Resolution (angle)	'	2.60	1.30	0.40	0.40
Accuracy	'	-2 ... 2	-2 ... 2	-0.8 ... 0.8	-0.8 ... 0.8
Min. DC input voltage	V	4.75	4.75	4.50	4.75
Max. DC input voltage	V	5.25	5.25	5.50	5.25
Max. speed	rpm	8789	8789	5273	8000
Max. current consumption	A	0.15	0.15	0.10	0.070
Limit frequency	kHz	300	300	180	200

Speed-dependent safety functions

Feedback			SinCos incremental
Motor code			**S1S**
Functional safety			
IEC 61508			SIL3
EN 13849-1			Up to Performance Level e

Absolute value encoder

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

Feedback type		SinCos absolute value				
Feedback		**AM32-5V-E**	**AM1024-8V-H**	**AM2048-5V-E**	**AS1024-8V-H**	**AS2048-5V-E**
Motor code		**EQI**	**SRM**	**EQN**	**SRS**	**ECN**
Speed-dependent safety functions		No	No	No	No	No
Encoder type		Multi-turn	Multi-turn	Multi-turn	Single-turn	Single-turn
Pulses		32	1024	2048	1024	2048
Output signals		1 Vss	1 Vss	1 Vss	1 Vss	1 Vss
Interfaces		EnDat	Hiperface	EnDat	Hiperface	EnDat
Absolute revolution		4096	4096	4096	1	1
Resolution (angle)	'	0.40	0.40	0.40	0.40	0.40
Accuracy	'	-5 ... 5	-0.8 ... 0.8	-0.6 ... 0.6	-0.8 ... 0.8	-0.6 ... 0.6
Min. DC input voltage	V	4.75	7.00	4.75	7.00	4.75
Max. DC input voltage	V	5.25	12.0	5.25	12.0	5.25
Max. speed	rpm	12000	6000	12000	6000	12000
Max. current consumption	A	0.17	0.080	0.25	0.080	0.15
Limit frequency	kHz	600	200	200	200	200

Blower

The forced ventilation motors are cooled as a standard by means of a separate axial fan.

Rated data 50 Hz

Motor		MCA13I34-	MCA14L16- MCA14L35-	MCA17N17- MCA17N35-	MCA19S17- MCA19S35-	MCA21X17- MCA21X35-
Degree of protection		IP54				
Number of phases		1				
Rated voltage AC	V	230				
Min. AC mains voltage	V	210				
Max. AC mains voltage	V	240				
Rated power	kW	0.019	0.019	0.040	0.040	0.060
Rated current	A	0.12	0.12	0.3	0.3	0.25

Rated data 60 Hz

Motor		MCA13I34-	MCA14L16- MCA14L35-	MCA17N17- MCA17N35-	MCA19S17- MCA19S35-	MCA21X17- MCA21X35-
Degree of protection		IP54				
Number of phases		1				
Rated voltage AC	V	230				
Min. AC mains voltage	V	210				
Max. AC mains voltage	V	240				
Rated power	kW	0.019	0.019	0.040	0.040	0.060
Rated current	A	0.11	0.11	0.25	0.25	0.29

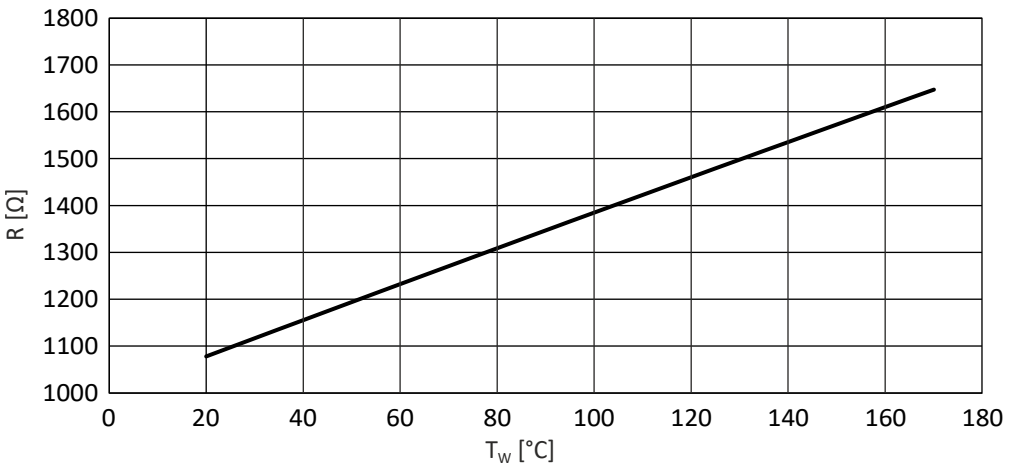
Temperature monitoring

Thermal detectors PT1000

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

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

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



R Resistance

T_W Winding temperature

Product codes

Gearbox product code

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

Motor product code

Example	M	C	A	10	C	40	-	RS0	B0

Meaning	Variant	Product code
Product family	Motor	M
Type	Compact servo motors	C
Type	Asynchronous	A
Motor frame size	Square dimension 102 mm	10
	Square dimension 130 mm	13
	Square dimension 142 mm	14
	Square dimension 165 mm	17
	Square dimension 192 mm	19
	Square dimension 200 mm	20
	Square dimension 214 mm	21
	Square dimension 220 mm	22
	Square dimension 260 mm	26
Overall length		I ... X
Rated speed	rpm x 100	05 ... 42
Inverter mains voltage	3 x 400 V, IP54/IP65	-
	3 x 400 V, IP23	H
Feedback	SinCos single-turn absolute value encoder, EnDat AS2048-5V-E	ECN
	SinCos multi-turn absolute value encoder, EnDat AM32-5V-E	EQI
	SinCos multi-turn absolute value encoder, EnDat AM2048-5V-E	EQN
	Resolver	RS0
	Safety resolver RV03	RV0
	SinCos safety incremental encoder, IG1024-5V-V3	S1S
	SinCos incremental encoder, IG2048-5V-S	S20
	SinCos multi-turn absolute value encoder, Hiperface® AM1024-8V-H	SRM
	SinCos single-turn absolute value encoder, Hiperface® AS1024-8V-H	SRS
	TTL incremental encoder, IG2048-5V-T	T20
	TTL incremental encoder, IG4096-5V-T	T40
Brake	Without brake	B0
	Spring-applied brake DC 24 V	F1
	Spring-applied brake DC 24 V, reinforced	F2
	Spring-applied brake AC 230 V	FG
	Spring-applied brake AC 230 V, reinforced	FH
	Permanent magnet brake DC 24 V	P1
	Permanent magnet brake DC 24 V, reinforced	P2
	Permanent magnet brake DC 205 V	P5
	Permanent magnet brake DC 205 V, reinforced	P6

Motor data

Rated data

Inverter mains connection 400 V, Self-ventilated

Product name			MCA10I40-	MCA13I41-	MCA14L20-
Standstill torque	M_0	Nm	2.30	4.60	8.00
Rated torque	M_N	Nm	2.00	4.00	6.70
Max. torque	$M_{Max.}$	Nm	10.0	32.0	60.0
Rated speed	n_N	rpm	3950	4050	2000
Rated power	P_N	kW	0.80	1.70	1.40
Standstill current	I_0	A	2.55	4.60	3.85
Rated current	I_N	A	2.40	4.40	3.30
Max. current	$I_{Max.}$	A	9.60	17.6	13.2
Rated voltage	$U_{N, AC}$	V	390	390	390
Rated frequency	f_N	Hz	140	140	70
Moment of inertia	J	kgcm²	2.40	8.30	19.2
Efficiency	$\eta_{100\ \%}$		0.700	0.750	0.840
Stator terminal resistance	$R_{UV\ 20°C}$	Ω	9.40	3.40	6.00
Stator terminal resistance	$R_{UV\ 150°C}$	Ω	14.2	5.12	9.04
Mutual inductance	L_H	mH	169	92.6	269
Stator leakage inductance	$L_{1\sigma}$	mH	9.80	5.41	9.97
Rotor leakage inductance	$L_{2\sigma}$	mH	10.0	4.90	10.0
Stator resistance	$R_{1\ UV\ 20°C}$	Ω	4.70	1.70	3.00
Rotor resistance	$R_{2\ UV\ 20°C}$	Ω	5.20	1.40	3.13
Mass	m	kg	6.40	10.4	15.1

Product name			MCA14L41-	MCA17N23-	MCA17N41-
Standstill torque	M_0	Nm	8.00	12.8	12.8
Rated torque	M_N	Nm	5.40	10.8	9.50
Max. torque	$M_{Max.}$	Nm	60.0	100	100
Rated speed	n_N	rpm	4100	2300	4110
Rated power	P_N	kW	2.30	2.60	4.10
Standstill current	I_0	A	7.70	6.00	12.0
Rated current	I_N	A	5.80	5.50	10.2
Max. current	$I_{Max.}$	A	23.2	22.0	40.8
Rated voltage	$U_{N, AC}$	V	390	390	350
Rated frequency	f_N	Hz	140	80	140
Moment of inertia	J	kgcm²	19.2	36.0	36.0
Efficiency	$\eta_{100\ \%}$		0.780	0.860	0.830
Stator terminal resistance	$R_{UV\ 20°C}$	Ω	1.50	3.04	0.76
Stator terminal resistance	$R_{UV\ 150°C}$	Ω	2.26	4.58	1.15
Mutual inductance	L_H	mH	65.8	176	43.4
Stator leakage inductance	$L_{1\sigma}$	mH	2.49	6.16	1.54
Rotor leakage inductance	$L_{2\sigma}$	mH	2.50	6.84	1.70
Stator resistance	$R_{1\ UV\ 20°C}$	Ω	0.75	1.52	0.38
Rotor resistance	$R_{2\ UV\ 20°C}$	Ω	0.78	1.37	0.34
Mass	m	kg	15.1	22.9	22.9

Product name			MCA19S23-	MCA19S42-	MCA21X25-
Standstill torque	M_0	Nm	22.5	22.5	39.0
Rated torque	M_N	Nm	16.3	12.0	24.6
Max. torque	$M_{Max.}$	Nm	180	180	300
Rated speed	n_N	rpm	2340	4150	2490
Rated power	P_N	kW	4.00	5.20	6.40
Standstill current	I_0	A	9.85	19.7	15.9
Rated current	I_N	A	8.20	14.0	13.5
Max. current	$I_{Max.}$	A	32.8	56.0	54.0
Rated voltage	$U_{N, AC}$	V	390	330	390
Rated frequency	f_N	Hz	80	140	85
Moment of inertia	J	kgcm²	72.0	72.0	180
Efficiency	$\eta_{100\ \%}$		0.900	0.830	0.850
Stator terminal resistance	$R_{UV\ 20°C}$	Ω	1.38	0.35	0.72
Stator terminal resistance	$R_{UV\ 150°C}$	Ω	2.08	0.53	1.09
Mutual inductance	L_H	mH	111	28.0	78.1
Stator leakage inductance	$L_{1\sigma}$	mH	3.25	0.82	2.26
Rotor leakage inductance	$L_{2\sigma}$	mH	3.90	0.99	2.82
Stator resistance	$R_{1\ UV\ 20°C}$	Ω	0.69	0.18	0.36
Rotor resistance	$R_{2\ UV\ 20°C}$	Ω	0.62	0.15	0.36
Mass	m	kg	44.7	44.7	60.0

Motor data

Rated data

Inverter mains connection 400 V, Self-ventilated

Product name			MCA21X42-
Standstill torque	M_0	Nm	39.0
Rated torque	M_N	Nm	17.0
Max. torque	$M_{Max.}$	Nm	300
Rated speed	n_N	rpm	4160
Rated power	P_N	kW	7.40
Standstill current	I_0	A	31.8
Rated current	I_N	A	19.8
Max. current	$I_{Max.}$	A	79.2
Rated voltage	$U_{N, AC}$	V	320
Rated frequency	f_N	Hz	140
Moment of inertia	J	$kgcm^2$	180
Efficiency	$\eta_{100\ \%}$		0.840
Stator terminal resistance	$R_{UV\ 20°C}$	Ω	0.18
Stator terminal resistance	$R_{UV\ 150°C}$	Ω	0.27
Mutual inductance	L_H	mH	19.5
Stator leakage inductance	$L_{1\sigma}$	mH	0.56
Rotor leakage inductance	$L_{2\sigma}$	mH	0.70
Stator resistance	$R_{1\ UV\ 20°C}$	Ω	0.09
Rotor resistance	$R_{2\ UV\ 20°C}$	Ω	0.09
Mass	m	kg	60.0

Inverter mains connection 400 V, Forced ventilated

Product name			MCA13I34-	MCA14L16-	MCA14L35-
Standstill torque	M_0	Nm	7.00	13.5	13.5
Rated torque	M_N	Nm	6.30	12.0	10.8
Max. torque	$M_{Max.}$	Nm	32.0	60.0	60.0
Rated speed	n_N	rpm	3410	1635	3455
Rated power	P_N	kW	2.20	2.10	3.90
Standstill current	I_0	A	6.30	5.25	10.5
Rated current	I_N	A	6.00	4.80	9.10
Max. current	$I_{Max.}$	A	24.0	19.2	36.4
Rated voltage	$U_{N, AC}$	V	390	390	390
Rated frequency	f_N	Hz	120	60	120
Moment of inertia	J	kgcm²	8.30	19.2	19.2
Efficiency	$\eta_{100\ \%}$		0.720	0.800	0.790
Stator terminal resistance	$R_{UV\ 20°C}$	Ω	3.40	6.00	1.50
Stator terminal resistance	$R_{UV\ 150°C}$	Ω	5.12	9.04	2.26
Mutual inductance	L_H	mH	76.7	224	56.7
Stator leakage inductance	$L_{1\sigma}$	mH	4.95	9.46	2.37
Rotor leakage inductance	$L_{2\sigma}$	mH	4.39	9.30	2.32
Stator resistance	$R_{1\ UV\ 20°C}$	Ω	1.70	3.00	0.75
Rotor resistance	$R_{2\ UV\ 20°C}$	Ω	1.41	3.13	0.78
Mass	m	kg	12.0	16.9	16.9

Product name			MCA17N17-	MCA17N35-	MCA19S17-
Standstill torque	M_0	Nm	23.9	23.9	40.0
Rated torque	M_N	Nm	21.5	19.0	36.3
Max. torque	$M_{Max.}$	Nm	100	100	180
Rated speed	n_N	rpm	1680	3480	1700
Rated power	P_N	kW	3.80	6.90	6.40
Standstill current	I_0	A	9.05	18.1	15.4
Rated current	I_N	A	8.50	15.8	13.9
Max. current	$I_{Max.}$	A	34.0	63.2	55.6
Rated voltage	$U_{N, AC}$	V	390	390	390
Rated frequency	f_N	Hz	60	120	60
Moment of inertia	J	kgcm²	36.0	36.0	72.0
Efficiency	$\eta_{100\ \%}$		0.830	0.810	0.820
Stator terminal resistance	$R_{UV\ 20°C}$	Ω	3.04	0.76	1.38
Stator terminal resistance	$R_{UV\ 150°C}$	Ω	4.58	1.15	2.08
Mutual inductance	L_H	mH	144	36.9	80.9
Stator leakage inductance	$L_{1\sigma}$	mH	5.59	1.40	2.61
Rotor leakage inductance	$L_{2\sigma}$	mH	6.04	1.51	3.06
Stator resistance	$R_{1\ UV\ 20°C}$	Ω	1.52	0.38	0.69
Rotor resistance	$R_{2\ UV\ 20°C}$	Ω	1.37	0.34	0.62
Mass	m	kg	25.5	25.5	48.2

Motor data

Rated data

Inverter mains connection 400 V, Forced ventilated

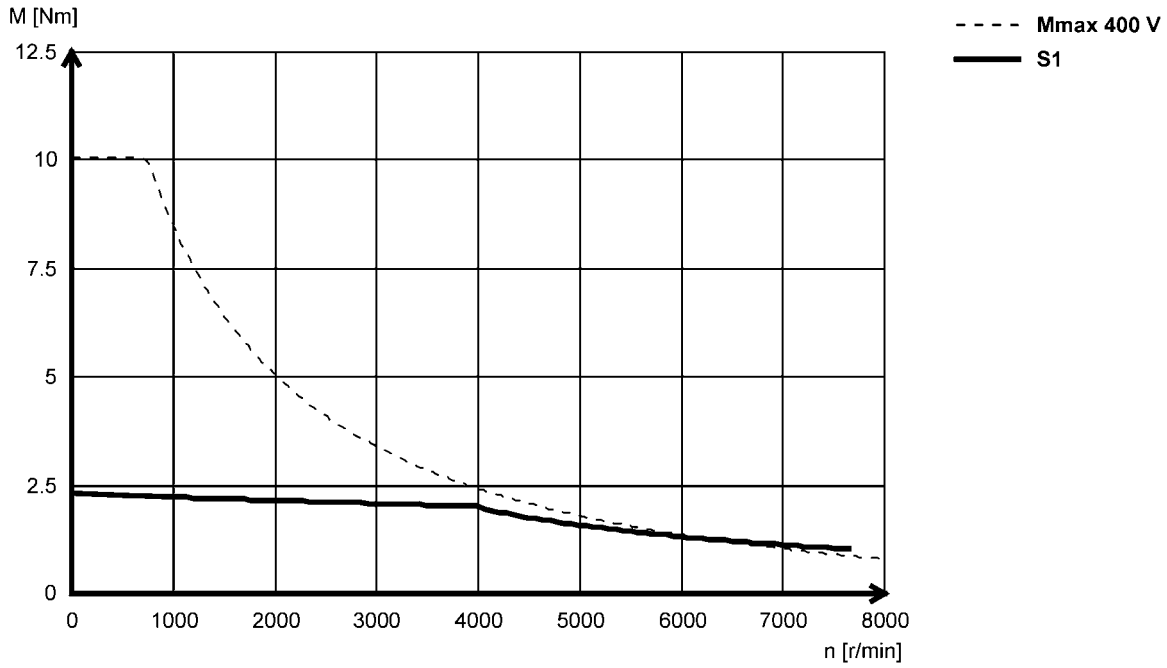
Product name			MCA19S35-	MCA21X17-	MCA21X35-
Standstill torque	M_0	Nm	40.0	75.0	75.0
Rated torque	M_N	Nm	36.0	61.4	55.0
Max. torque	$M_{Max.}$	Nm	180	300	300
Rated speed	n_N	rpm	3510	1710	3520
Rated power	P_N	kW	13.2	11.0	20.3
Standstill current	I_0	A	30.8	25.8	49.5
Rated current	I_N	A	28.7	22.5	42.5
Max. current	$I_{Max.}$	A	115	90.0	170
Rated voltage	$U_{N, AC}$	V	390	390	390
Rated frequency	f_N	Hz	120	60	120
Moment of inertia	J	$kgcm^2$	72.0	180	180
Efficiency	$\eta_{100\ \%}$		0.850	0.850	0.880
Stator terminal resistance	$R_{UV\ 20°C}$	Ω	0.35	0.72	0.18
Stator terminal resistance	$R_{UV\ 150°C}$	Ω	0.53	1.09	0.27
Mutual inductance	L_H	mH	20.3	68.9	16.8
Stator leakage inductance	$L_{1\sigma}$	mH	0.65	2.08	0.52
Rotor leakage inductance	$L_{2\sigma}$	mH	0.77	2.58	0.65
Stator resistance	$R_{1\ UV\ 20°C}$	Ω	0.18	0.36	0.09
Rotor resistance	$R_{2\ UV\ 20°C}$	Ω	0.15	0.36	0.09
Mass	m	kg	48.2	63.5	63.5

Torque characteristics

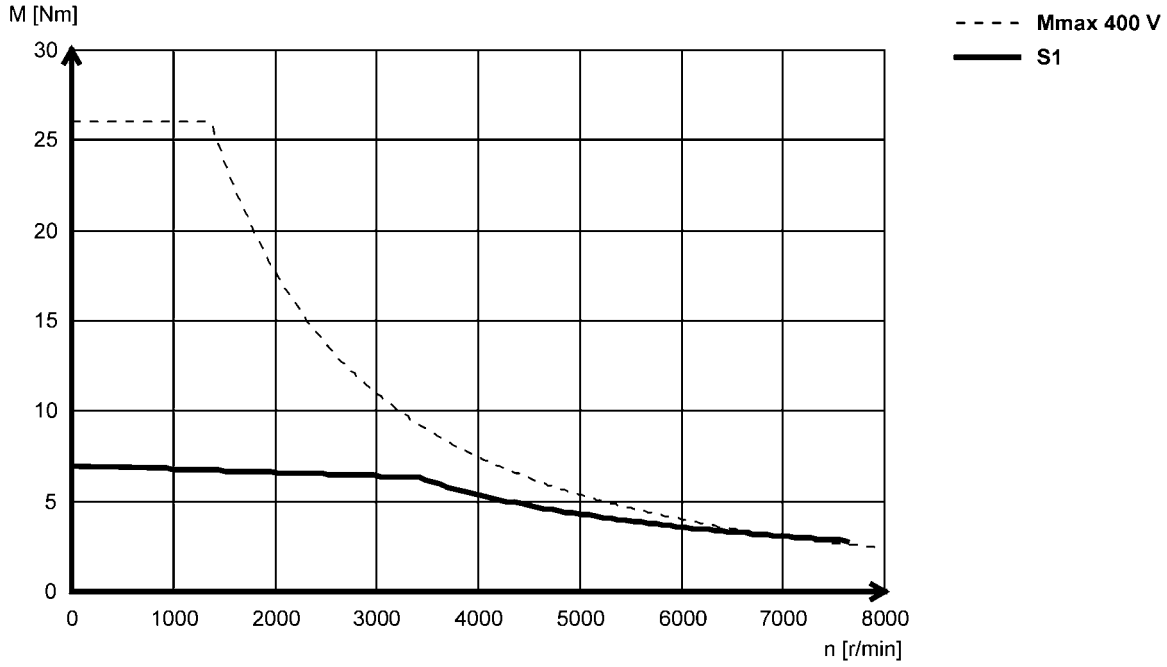
m-n characteristics for your motor-inverter combination can be found on the Internet: http://www.lenze.com → Product Finder → M-n characteristics

The data apply to an inverter mains voltage of 3 x 400 V.

MCA10I40- (self-ventilated)



MCA13I34- (forced ventilated)



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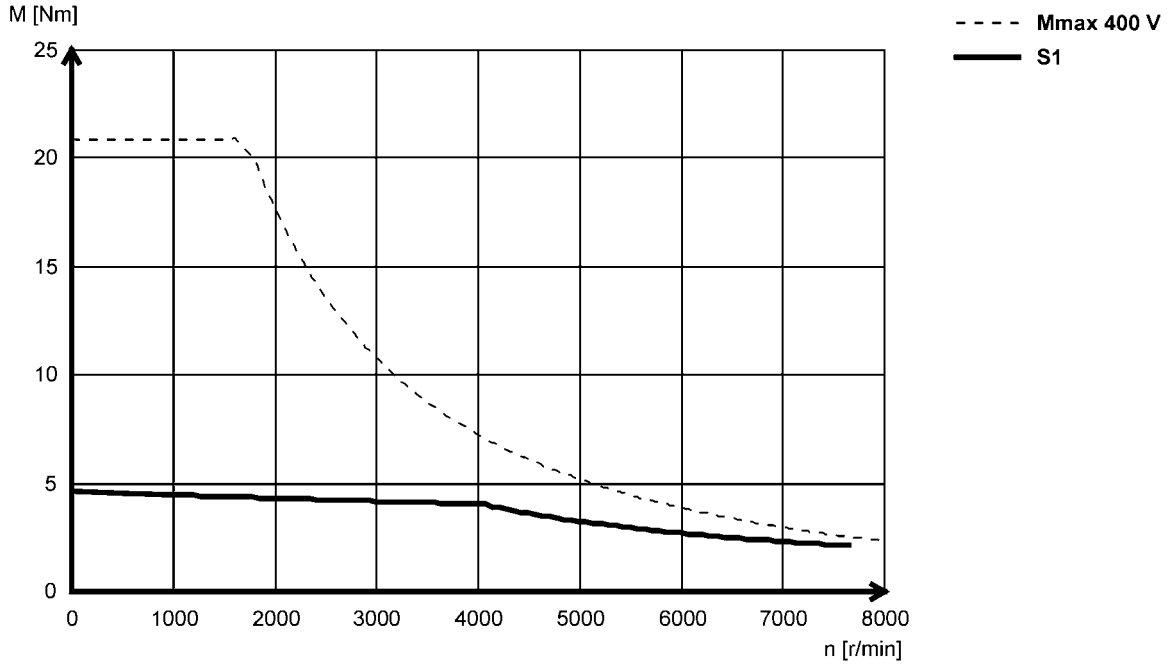
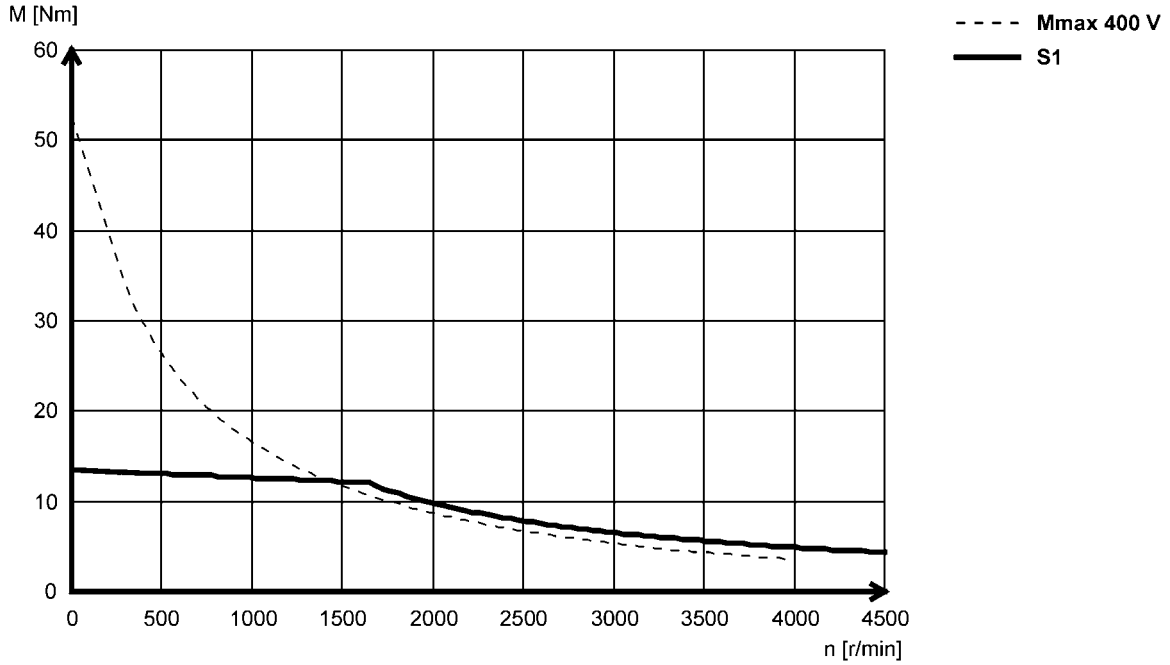
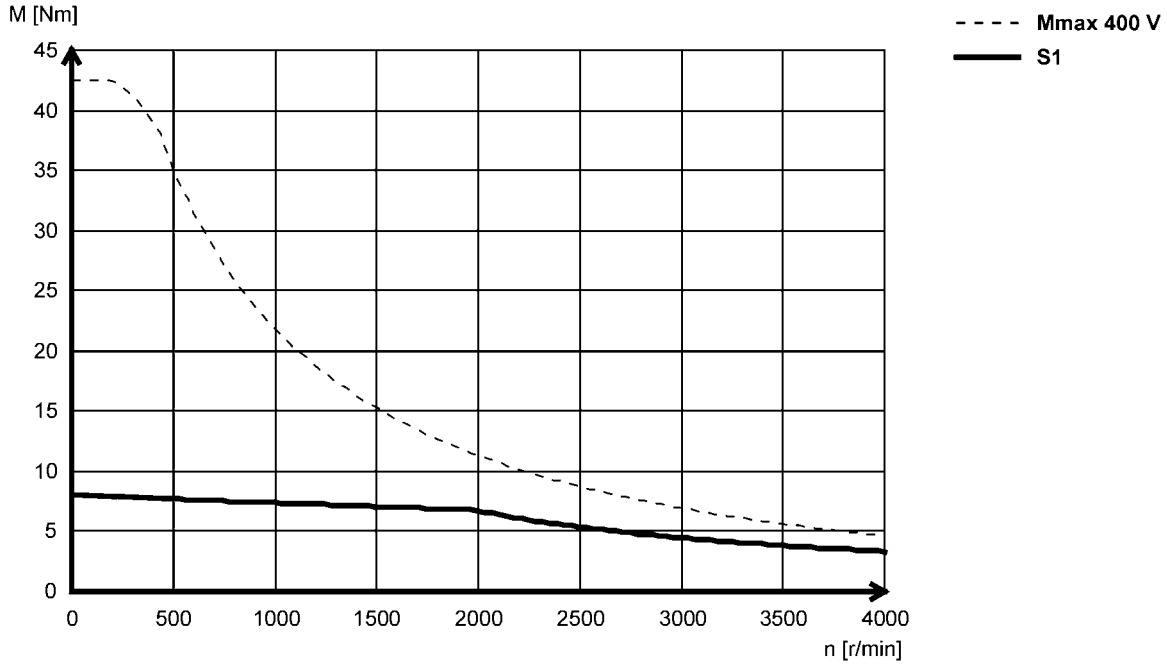


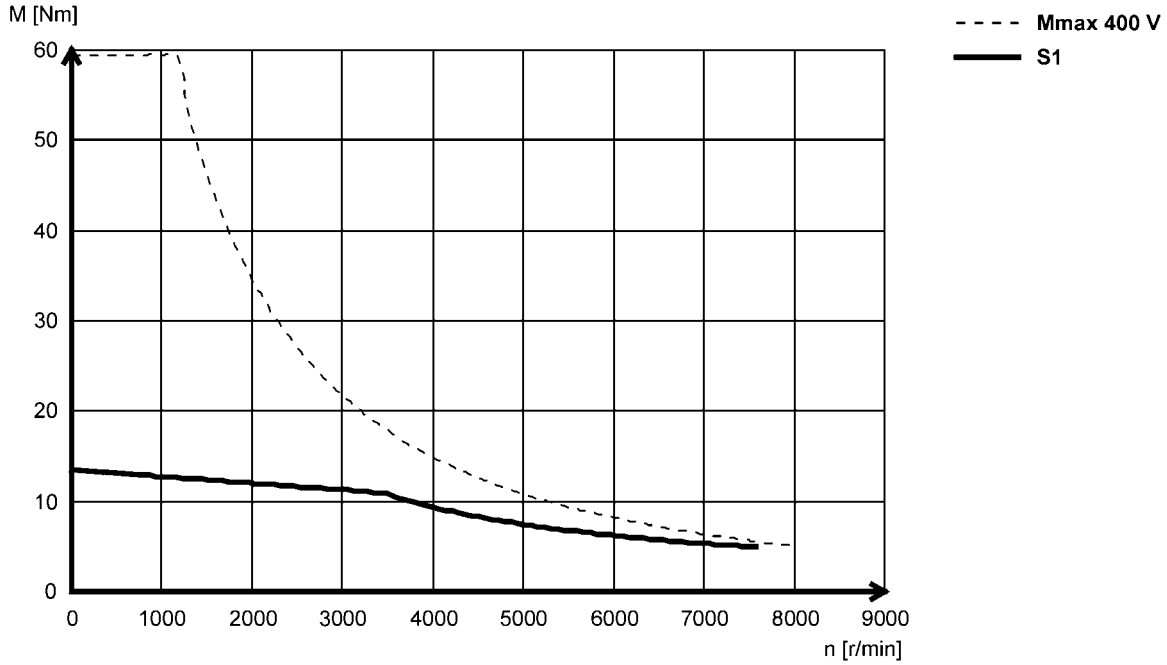
MCA14L16- (forced ventilated)



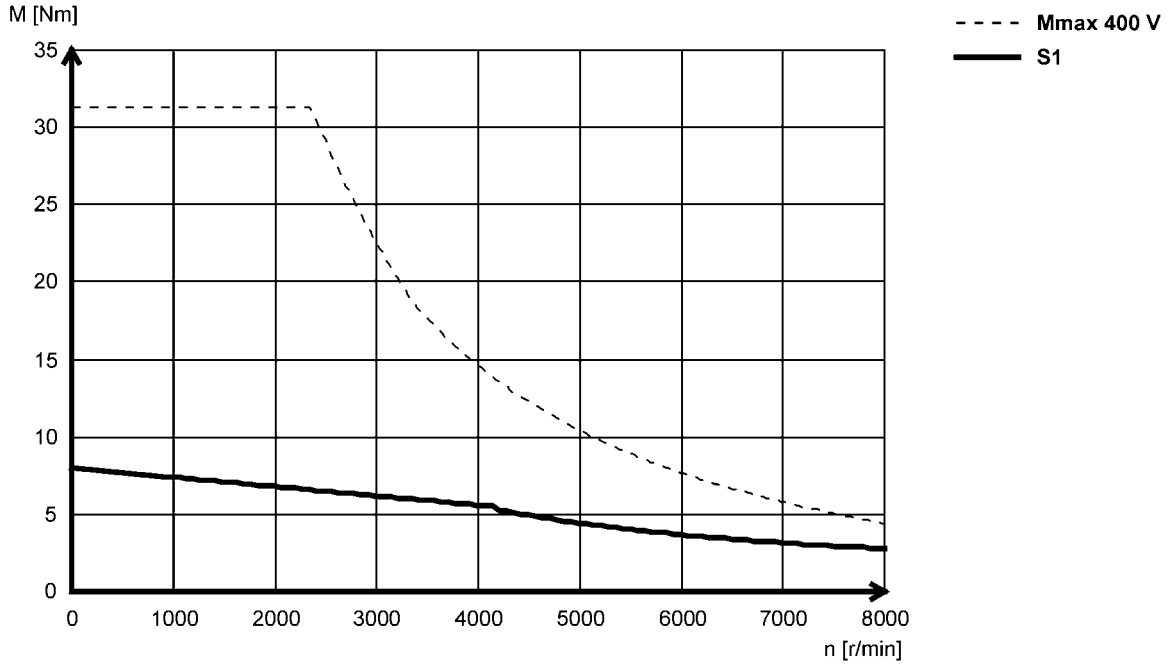
MCA14L20- (self-ventilated)



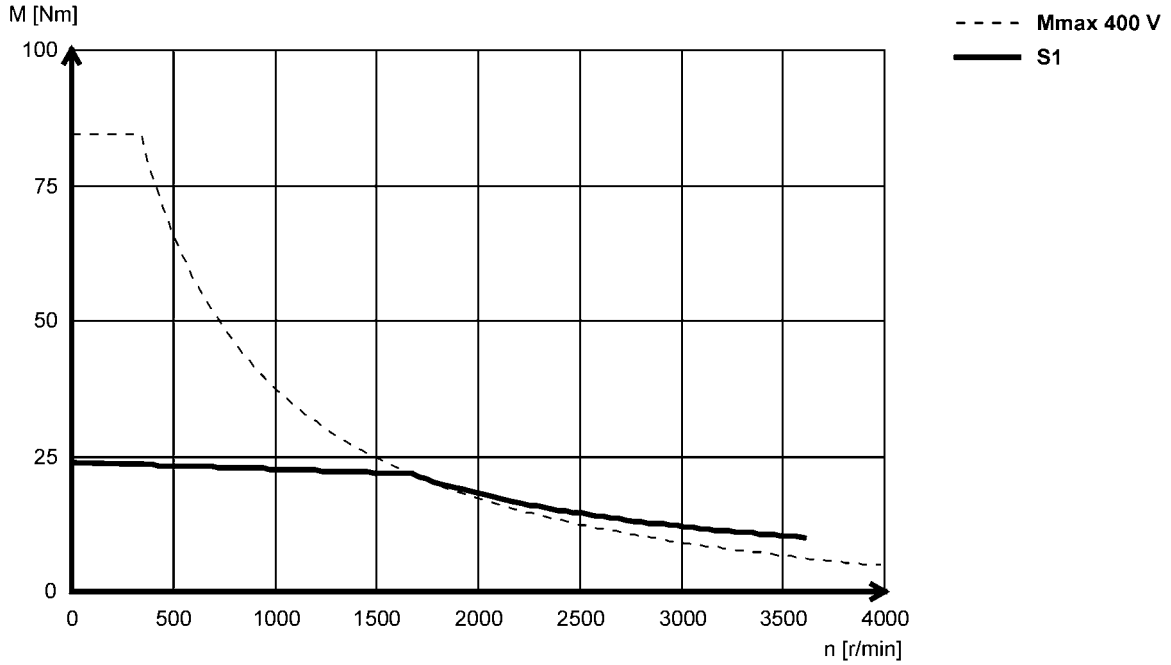
MCA14L35- (forced ventilated)



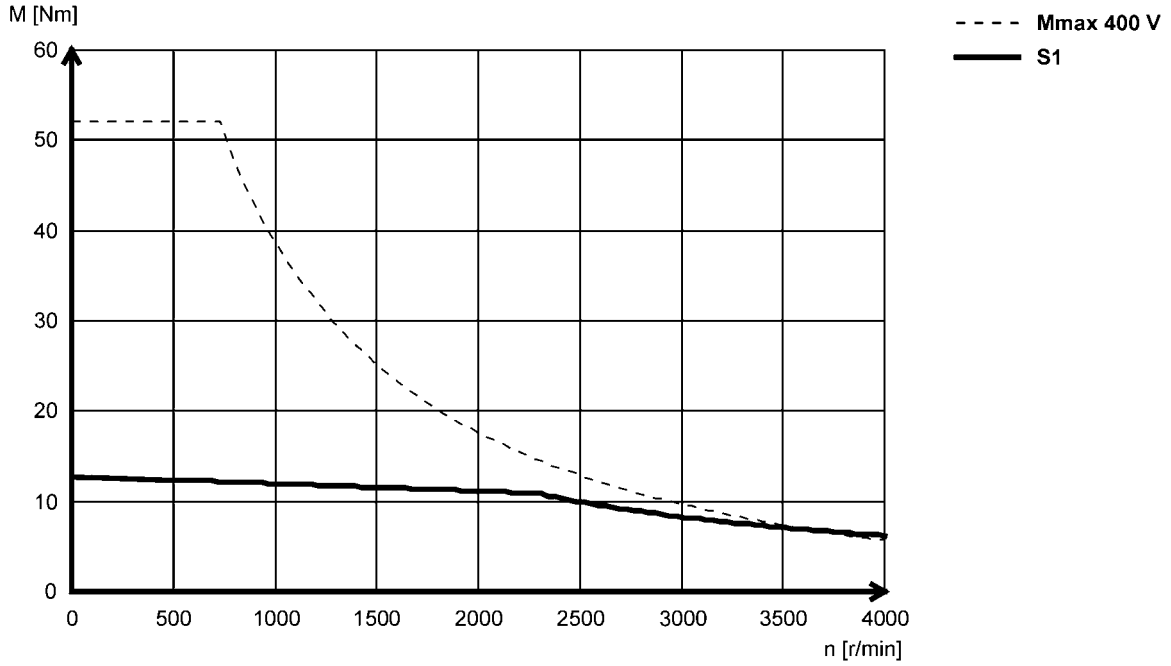
MCA14L41- (self-ventilated)



MCA17N17- (forced ventilated)



MCA17N23- (self-ventilated)



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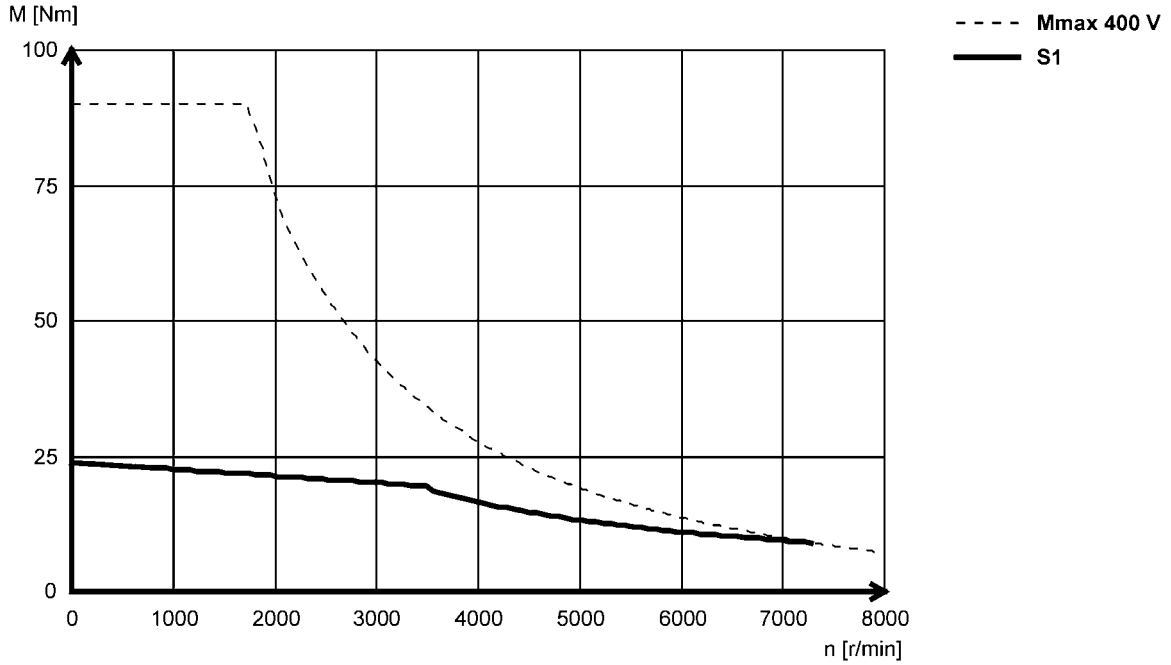

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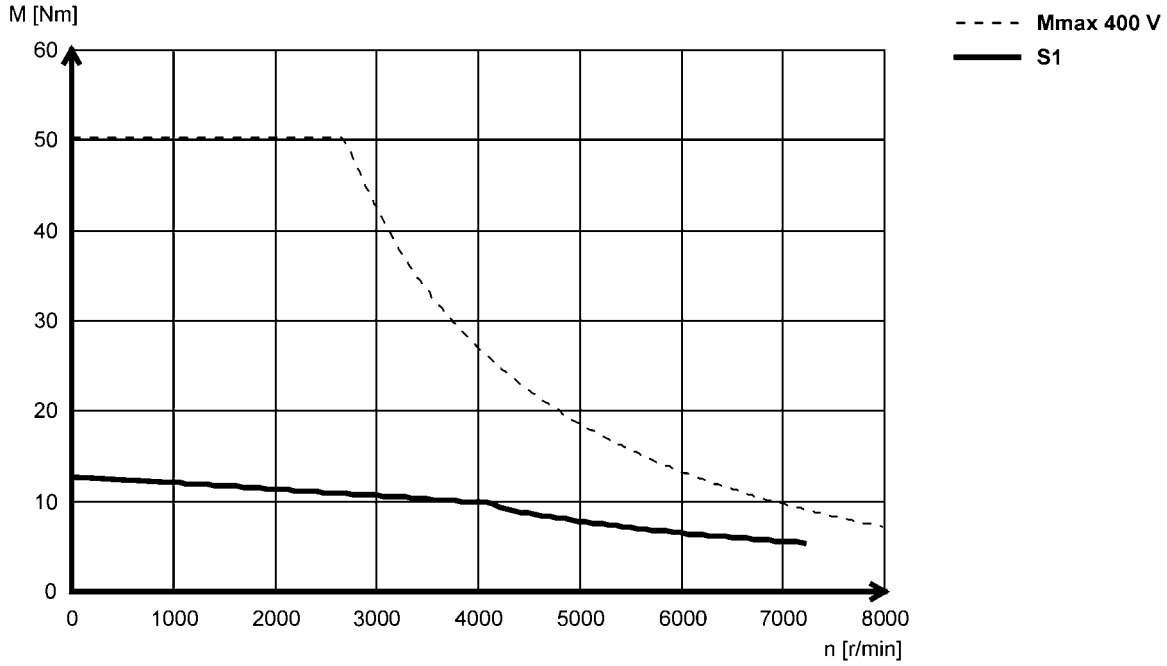
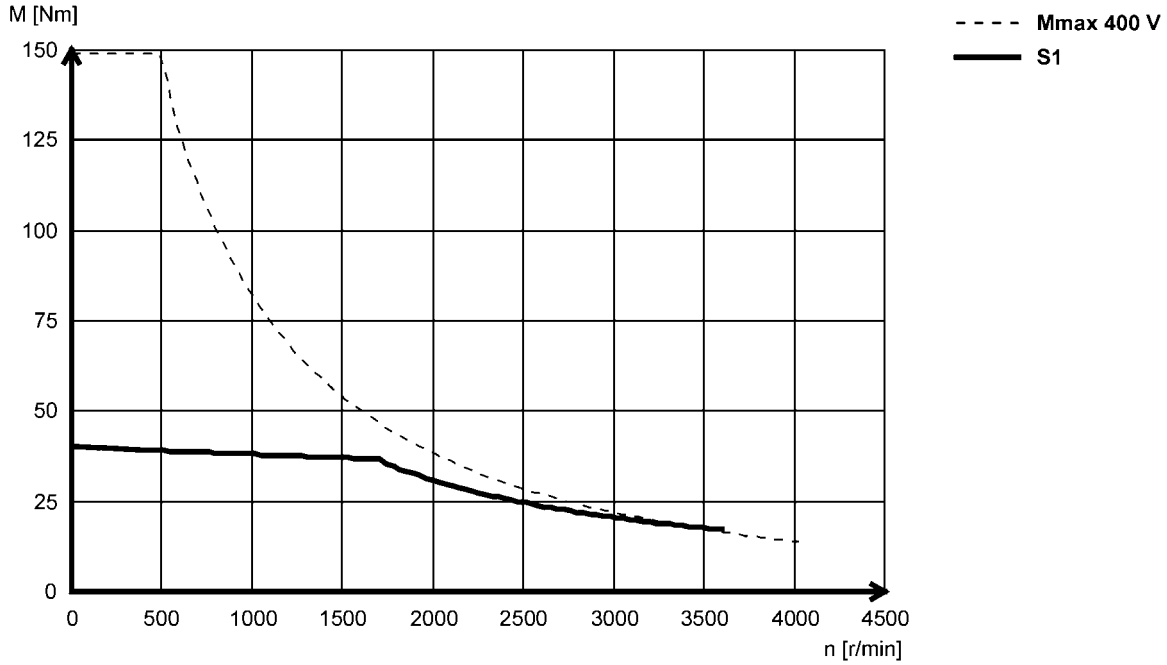
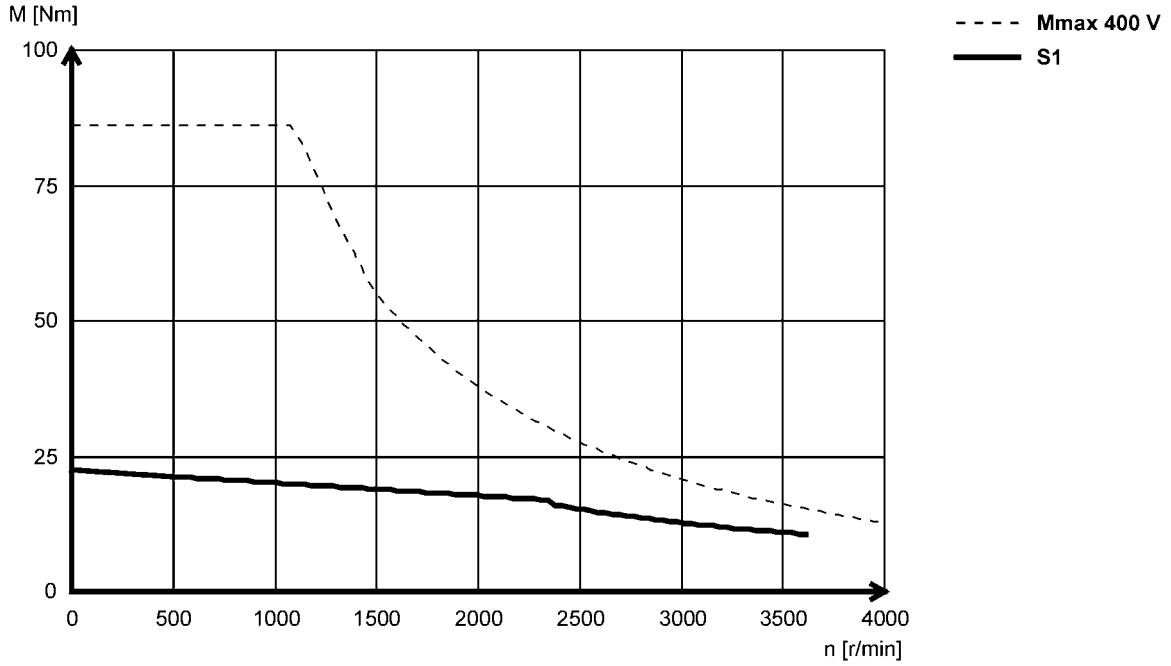


MCA19S17- (forced ventilated)



MCA19S23- (self-ventilated) Lenze



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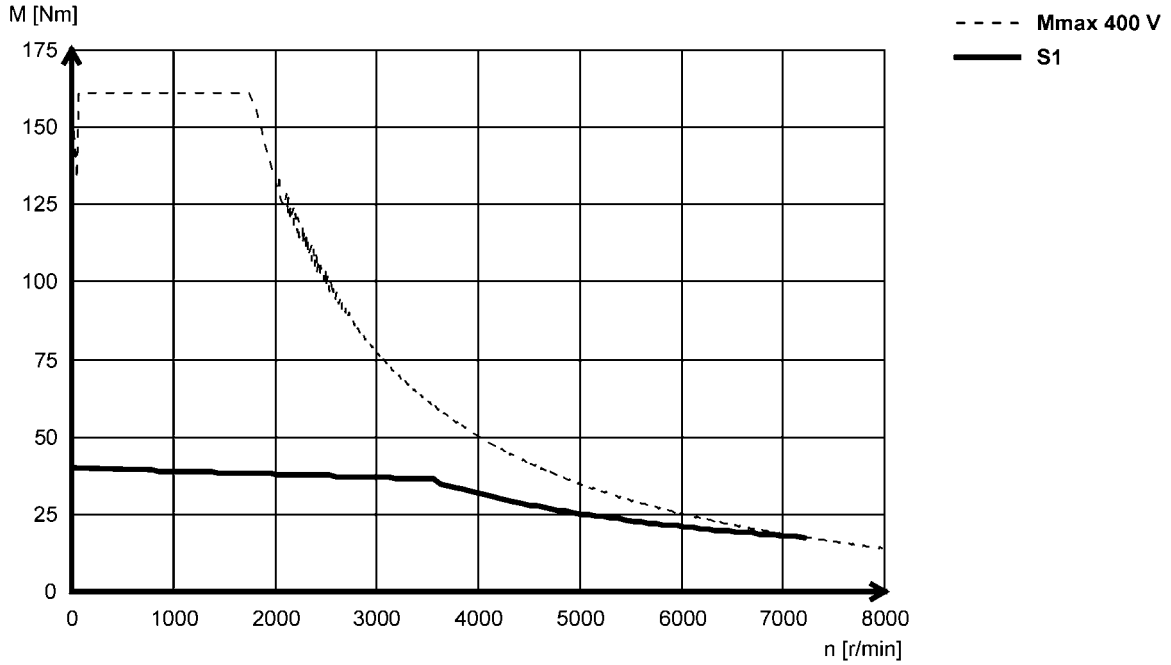
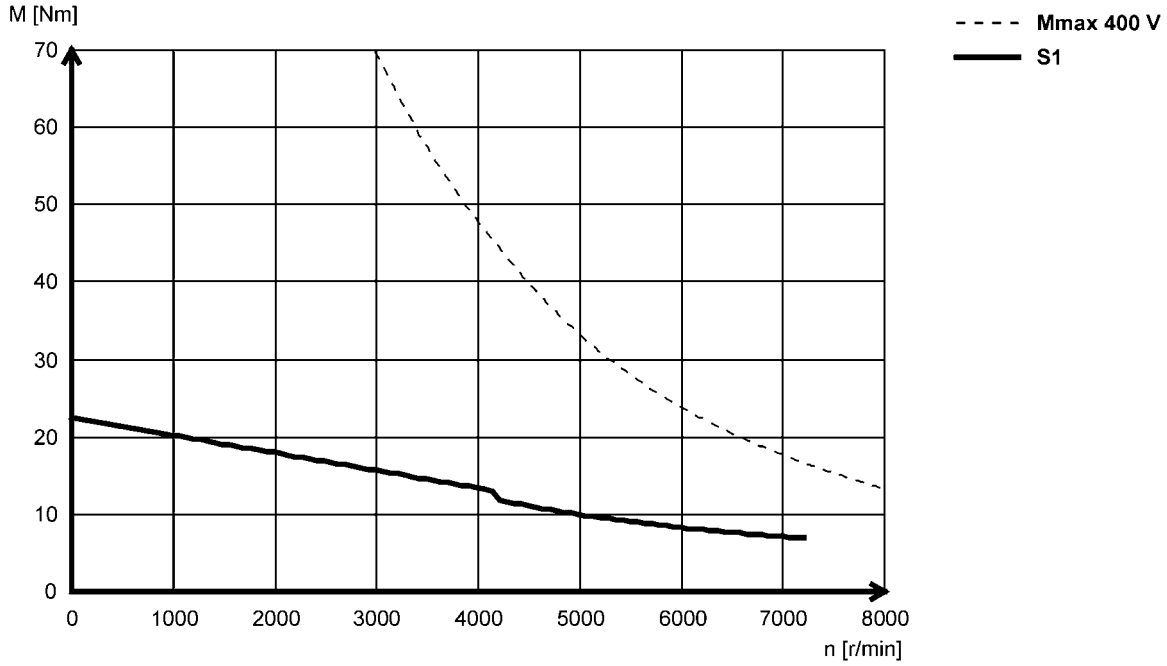
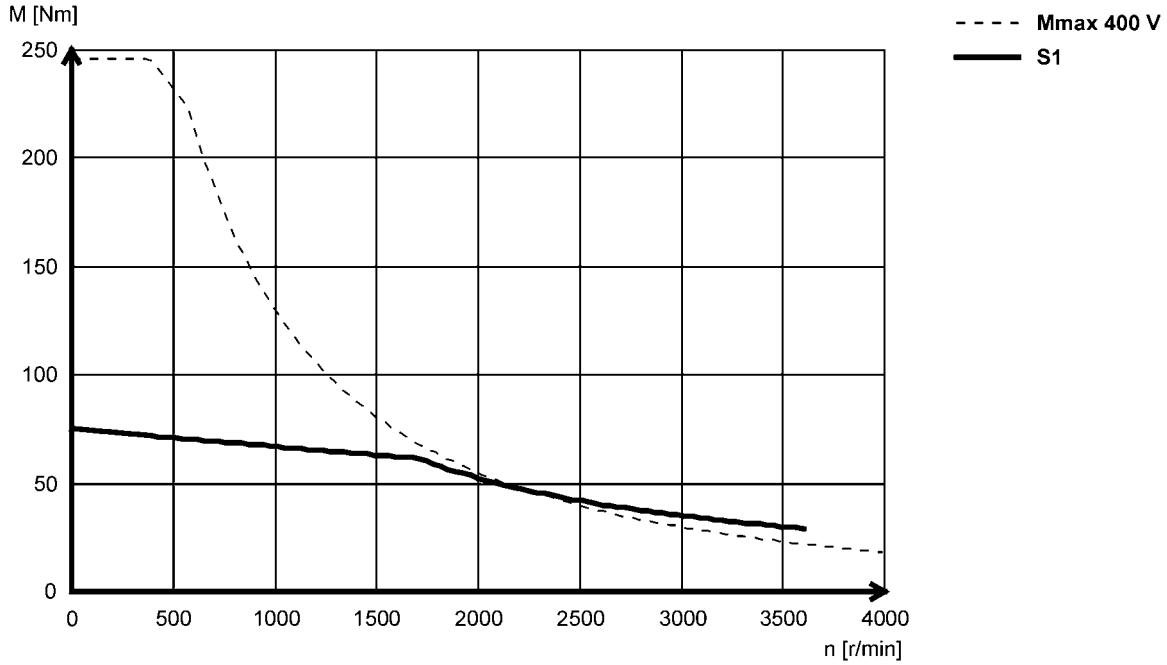


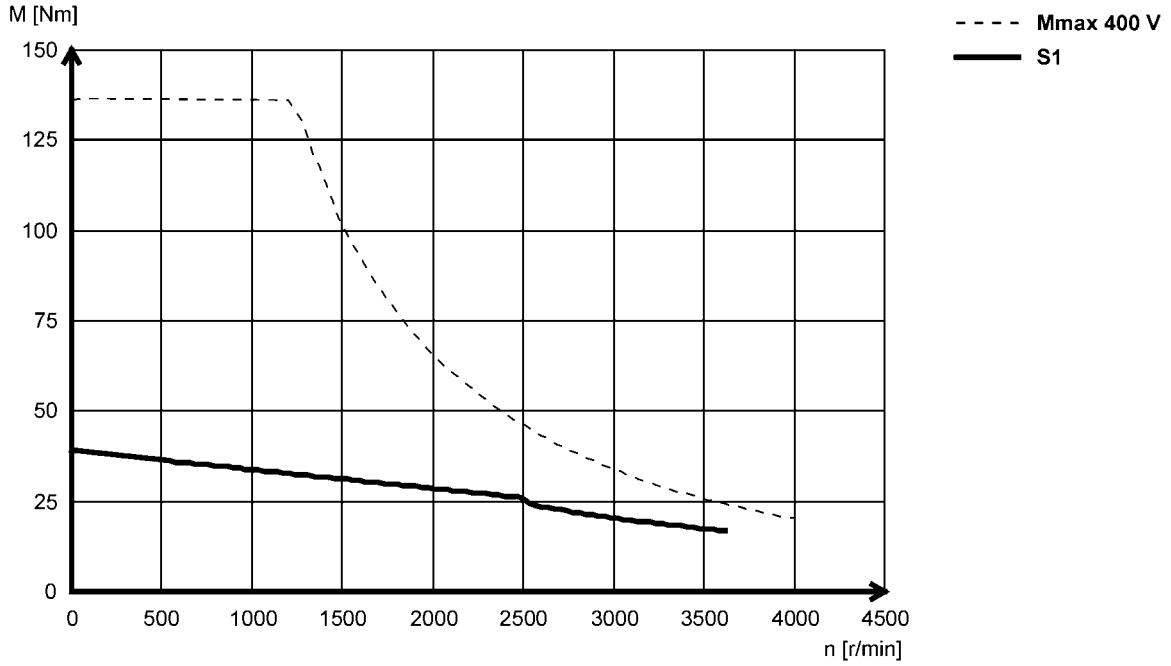
MCA19S42- (self-ventilated)



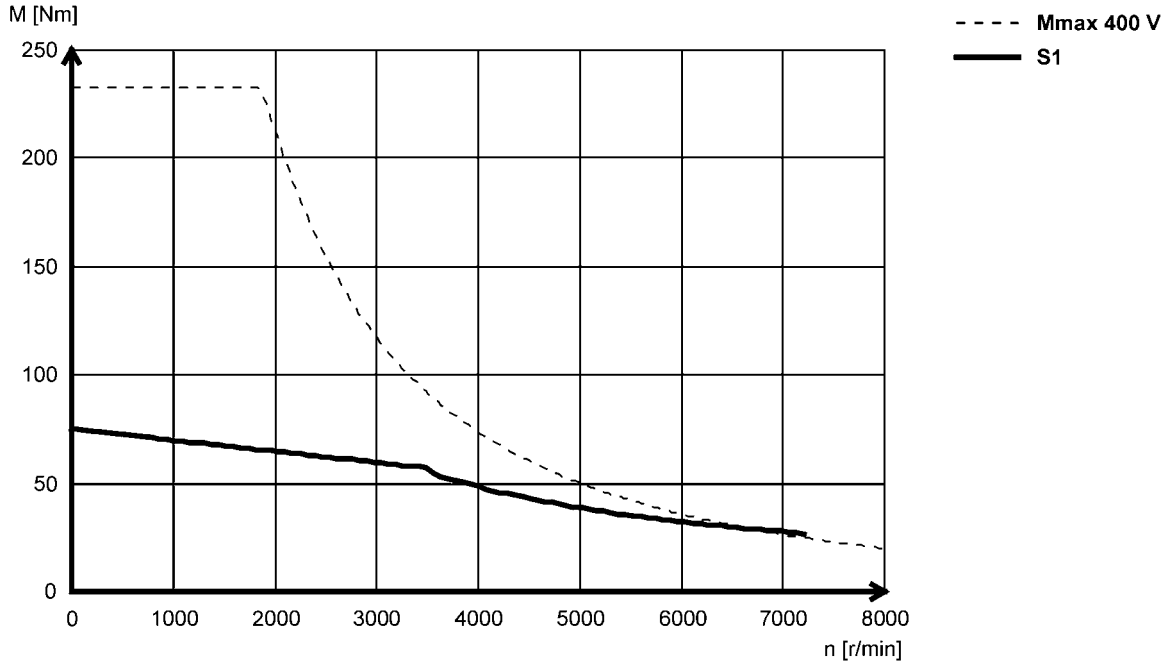
MCA21X17- (forced ventilated)



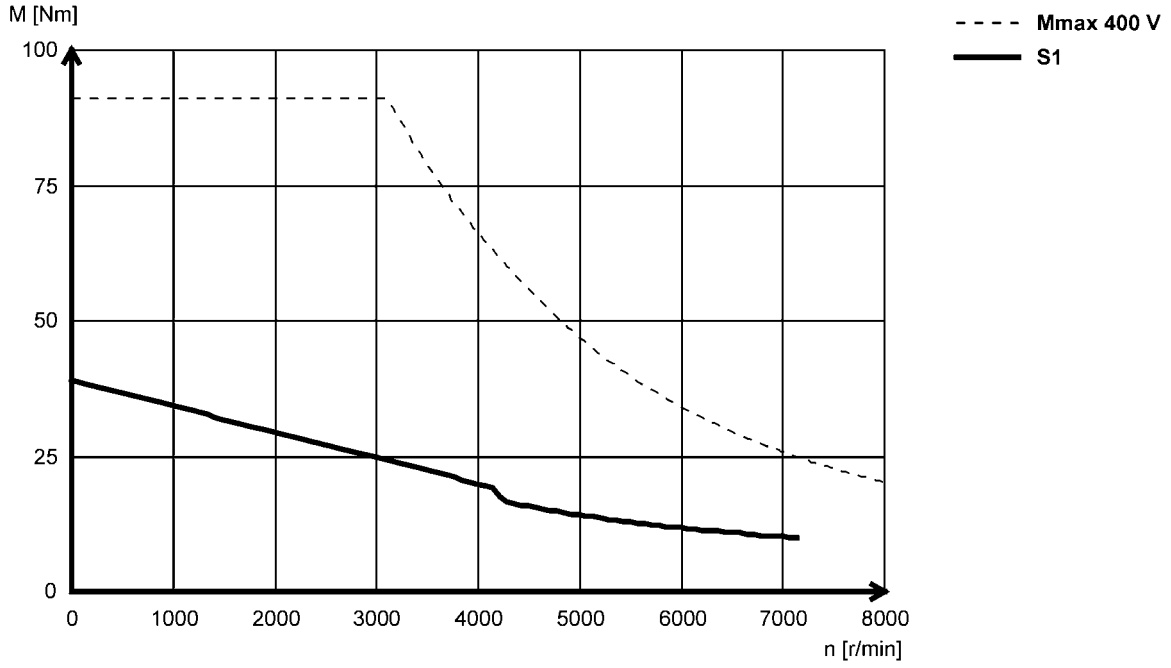
MCA21X25- (self-ventilated)



MCA21X35- (forced ventilated)



MCA21X42- (self-ventilated)



Appendix

Good to know

Approvals/directives

CCC	China Compulsory Certification documents the compliance with the legal product safety requirements of the PR of China - in accordance with Guobiao standards.
$_{C}CSA_{US}$	CSA certificate, tested according to US and Canada standards
UE	Union Européenne documents the declaration of the manufacturer that EU Directives are complied with.
CEL	China Energy Label documents the compliance with the legal energy efficiency requirements for motors, tested according to the PR of China and Guobiao standards
CSA	CSA Group (Canadian Standards Association) CSA certificate, tested according to Canada standards
$UL^{Energy}{}_{US\ CA}$	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
$_{C}UL_{US}$	UL certificate for products, tested according to US and Canada standards
$_{C}UR_{US}$	UL certificate for components, tested according to US and Canada standards
EAC	Customs union Russia / Belarus / Kazakhstan certificate 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, Armenia and Kyrgyzstan) are complied with.
UL	Underwriters Laboratory Listed Product
UL_{LISTED}	UL Listing approval mark as proof that the product has been tested and the applicable safety requirements have been confirmed by UL (Underwriters Laboratory).
UR	UL Recognized Component approval mark as proof that the UL approved component can be used in a product or system bearing the UL Listing approval mark.

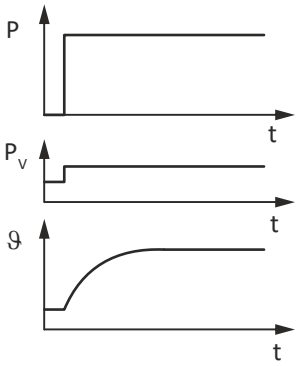
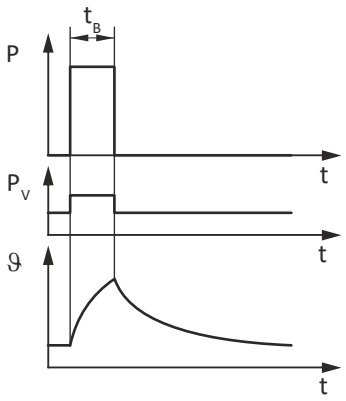
Operating modes of the motor

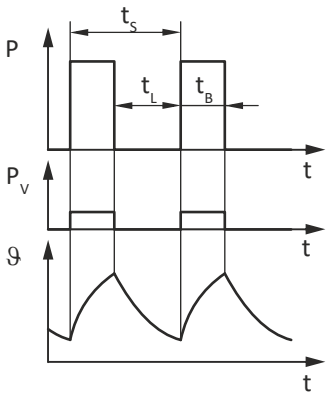
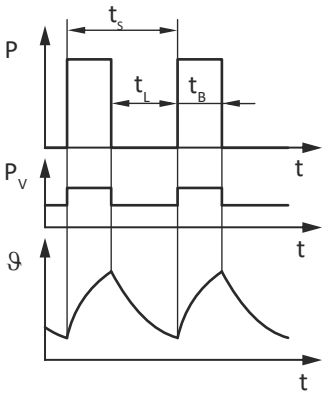
Operating modes S1 ... S10 as specified by EN 60034-1 describe the basic stress of an electrical machine.

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

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

The most important operating modes

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

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

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

Enclosures

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 case of deliberate access.	1	Protection against vertically dripping water (dripping water).
2	Protection against medium-sized foreign particles, d > 12 mm, keeping away fingers or the like.	2	Protection against diagonally falling water (dripping water), 15 ° compared to normal service position.
3	Protection against small foreign particles d > 2.5 mm. Keeping away tools, wires or the like.	3	Protection against spraying water, up to 60 ° from vertical.
4	Protection against granular foreign particles, d > 1 mm, keeping away tools, wire or the like.	4	Protection against spraying water from all directions.
5	Protection against dust deposits (dust-protected), complete protection against contact.	5	Protection against water jets from all directions.
6	Protection against the ingress of dust (dust-proof), complete protection against contact.	6	Protection against choppy seas or heavy water jets (flood protection).

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