



Geared motors

g7xx-P and g8xx-P / MCA planetary geared servo motor

Contents

About this document	7
Document description	7
Further documents	7
Notations and conventions	8
Product information	9
Product description	9
Identification of the products	10
Designs	12
Information on project planning	15
Safety instructions	15
Basic safety instructions	15
Application as directed	15
Residual hazards	16
Drive dimensioning	18
Final configuration	23
Surface and corrosion protection	23
Lubricants	23
Mechanical installation	24
Important notes	24
Transport	24
Installation	24
Electrical installation	25
Important notes	25
Preparation	25

Contents

Technical data	26
Notes regarding the given data	26
Standards and operating conditions	28
Conformities and approvals	28
Protection of persons and device protection	28
EMC data	29
Environmental conditions	29
Planetary gearbox g700-P	30
The modular system	30
Data overview	31
Radial forces and axial forces	32
Selection tables	33
Inverter power supply 400 V, self-ventilated motors	33
Inverter power supply 400 V, forced ventilated motors	36
Basic dimensions	38
Planetary gearbox g720-P	53
The modular system	53
Data overview	54
Radial forces and axial forces	55
Selection tables	56
Inverter power supply 400 V, self-ventilated motors	56
Inverter power supply 400 V, forced ventilated motors	57
Basic dimensions	58
Planetary gearbox g730-P	68
The modular system	68
Data overview	69
Radial forces and axial forces	70
Selection tables	71
Inverter power supply 400 V, self-ventilated motors	71
Inverter power supply 400 V, forced ventilated motors	74
Basic dimensions	76
Planetary gearbox g750-P	92
The modular system	92
Data overview	93
Radial forces and axial forces	94
Selection tables	95
Inverter power supply 400 V, self-ventilated motors	95
Inverter power supply 400 V, forced ventilated motors	96
Basic dimensions	97
Planetary gearbox g780-P	105
The modular system	105
Data overview	106
Radial forces and axial forces	107
Selection tables	108
Inverter power supply 400 V, self-ventilated motors	108
Inverter power supply 400 V, forced ventilated motors	109
Basic dimensions	110

Planetary gearbox g820-P	118
The modular system	118
Data overview	119
Radial forces and axial forces	121
Selection tables	122
Inverter power supply 400 V, self-ventilated motors	122
Inverter power supply 400 V, forced ventilated motors	126
Basic dimensions	129
Planetary gearbox g840-P	148
The modular system	148
Data overview	149
Radial forces and axial forces	151
Selection tables	152
Inverter power supply 400 V, self-ventilated motors	152
Inverter power supply 400 V, forced ventilated motors	159
Basic dimensions	166
Planetary gearbox g850-P	199
The modular system	199
Data overview	200
Radial forces and axial forces	202
Selection tables	203
Inverter power supply 400 V, self-ventilated motors	203
Inverter power supply 400 V, forced ventilated motors	210
Basic dimensions	215
Planetary gearbox g870-P	243
The modular system	243
Data overview	244
Radial forces and axial forces	246
Selection tables	247
Inverter power supply 400 V, self-ventilated motors	247
Inverter power supply 400 V, forced ventilated motors	252
Basic dimensions	256
Planetary gearbox g880-P	285
The modular system	285
Data overview	286
Radial forces and axial forces	288
Selection tables	289
Inverter power supply 400 V, self-ventilated motors	289
Inverter power supply 400 V, forced ventilated motors	294
Basic dimensions	298
Additional lengths	325
Additional weights	326

Contents

Product extensions	327
Motor connection	327
Connection via terminal box	327
Connection via ICN connector	332
Brakes	337
Permanent magnet brakes	339
Spring-applied brakes	341
Feedback	343
Resolver	344
Incremental encoder	345
Absolute value encoder	346
Blower	347
Temperature monitoring	348
Thermal detectors PT1000	348
Product codes	349
Motor data	352
Rated data	352
Inverter mains connection 400 V, Self-ventilated motors	352
Inverter mains connection 400 V, Forced ventilated motors	354
Torque characteristics	359
Environmental notes and recycling	370
Appendix	371
Good to know	371
Operating modes of the motor	371
Enclosures	372



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.

Further documents



Information and tools with regard to the Lenze products can be found on the Internet:

www.Lenze.com → Downloads

About this document

Notations and conventions



Notations and conventions

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

Numeric notation		
Decimal separator	Point	Generally shown as a decimal point. 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		Refers to another page with additional information. Example:  16 = see page 16
Documentation reference		Refers 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

When used in combination with servo motors, our planetary gearboxes form a compact, powerful drive unit. Numerous options at the input and output ends ensure that the drive can be easily and precisely adjusted to suit your application.

The planetary gearboxes are the ideal solution for demanding, dynamic tasks. With their high reliability, long service life and outstanding scalability, they provide everything you need to manage demanding machine tasks.

The planetary gearboxes are available as standard and precision gearboxes.

General differences between precision gearboxes and standard gearboxes:

- Reduced backlash
- Higher radial and axial forces
- Higher degree of protection

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

- Easy assembly and easy servicing by connectors with bayonet lock and swivel connector boxes
- Optimum controllability and high dynamic performance thanks to low moments of inertia
- Space-saving thanks to compact direct attachment
- High efficiency
- Suitable for any mounting position
- Field weakening operation usable
- Wide speed setting range
- Can be used universally for a wide range of machine tasks due to the market-oriented modular system



g720-P130 planetary gearbox with MCA10 asynchronous servo motor

Product information

Identification of the products



Identification of the products

When listing the technical data of the various variants, the easily legible product names are used. This also applies to the assignment of product extensions.

Product name g7x0 standard gearbox

Gearbox type	Product range		Version	Rated torque [Nm]	Product
Planetary gearbox	g700	-	P	20	g700-P20
				44	g700-P44
				130	g700-P130
				260	g700-P260
				800	g700-P800
	g720	-	P	44	g720-P44
				130	g720-P130
				260	g720-P260
	g730	-	P	15	g730-P15
				33	g730-P33
				97	g730-P97
				195	g730-P195
				460	g730-P460
	g750	-	P	44	g750-P44
				130	g750-P130
				260	g750-P260
	g780	-	P	44	g780-P44
				130	g780-P130
				260	g780-P260

Product name g8x0 precision gearbox

Gearbox type	Product range		Version	Rated torque [Nm]	Product
Planetary gearbox	g820	-	P	40	g820-P40
				80	g820-P80
				180	g820-P180
				470	g820-P470
	g840	-	P	77	g840-P77
				150	g840-P150
				300	g840-P300
				1000	g840-P1000
				1800	g840-P1800
	g850	-	P	40	g850-P40
				80	g850-P80
				180	g850-P180
				470	g850-P470
				950	g850-P950
	g870	-	P	77	g870-P77
				150	g870-P150
				300	g870-P300
				1000	g870-P1000
				1800	g870-P1800
	g880	-	P	40	g880-P40
				80	g880-P80
				180	g880-P180
				470	g880-P470
				950	g880-P950



Product information

Identification of the products

Product name: MCA asynchronous servo motor

Meaning	Variant					
Product family		MCA				
Size			10 13 14 17 19 20 21 22 26			
Overall length				I ... X		
Rated speed	rpm x 100				05 ... 42	
Inverter mains connection	3 x 400 V Degree of protection: IP54 / IP65					-
	3 x 400 V Degree of protection: IP23s					H

Product information

Designs



Designs

Standard gearboxes



g700-P

- Basic gearboxes
- Good price/performance ratio
- Permanently high speeds



g720-P

- Reinforced deep-groove ball bearings
- Flange at the output end
- Broad ratio range



g730-P

- Reinforced deep-groove ball bearings
- Reinforced housing



g750-P

- Robust taper roller bearings
- Protection against dust and water jets
- Degree of protection IP65



g780-P

- Flange output shaft
- Very torsionally stiff
- Compact

Gearboxes		g700-P	g720-P	g730-P	g750-P	g780-P
Rated torque	Nm	5 ... 800	15 ... 260	5 ... 460	15 ... 260	15 ... 260
Max. backlash	'	6 ... 22	7 ... 15	7 ... 19	7 ... 12	7 ... 12
Static radial force	N	200 ... 5000	1500 ... 4000	1300 ... 8400	3200 ... 6000	900 ... 3800
Static axial force	N	240 ... 11000	1950 ... 3800	1000 ... 11000	4400 ... 8000	1200 ... 5200
Tooth system		straight toothed				
Output flange		FT	FF	FT	FF	FF



Precision gearbox



g820-P

- Basic gearboxes
- Low noise generation
- High input speeds possible



g840-P

- Very high rated torque
- Robust taper roller bearings
- Very low backlash



g850-P

- Low noise generation
- Robust taper roller bearings
- Very low backlash



g870-P

- Very compact
- Highest bearing forces
- Extremely torsionally stiff



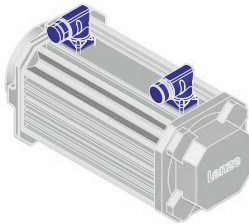
g880-P

- Very compact
- Low noise generation
- Extremely torsionally stiff

Gearboxes		g820-P	g840-P	g850-P	g870-P	g880-P
Rated torque	Nm	28 ... 470	27 ... 1800	28 ... 950	27 ... 1800	28 ... 950
Max. backlash	'	1 ... 5	1 ... 5	1 ... 5	1 ... 5	1 ... 5
Static radial force	N	1600 ... 9500	3200 ... 21000	3200 ... 20000	2400 ... 33000	2400 ... 23000
Static axial force	N	1500 ... 9600	4400 ... 21000	4400 ... 19000	4300 ... 15000	4300 ... 16000
Tooth system		helical toothed	straight toothed	helical toothed	straight toothed	helical toothed
Output flange		FF				



Models at the output
Motor connection

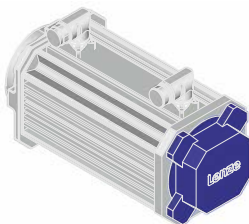


Connectors

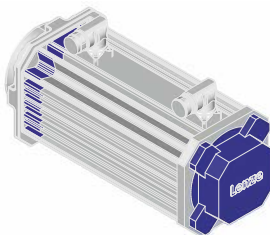


Terminal box

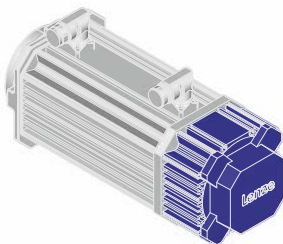
Cooling: self-ventilated



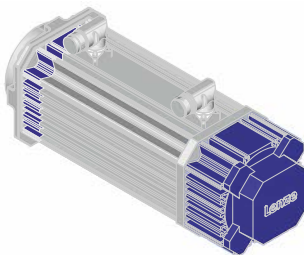
Resolver



Resolver and brake

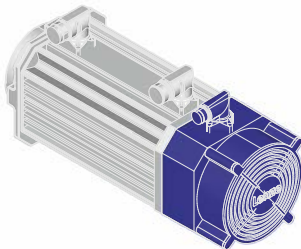


Absolute value/incremental
encoder

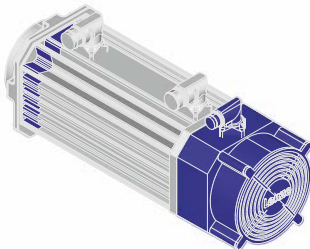


Absolute value/incremental
encoder and brake

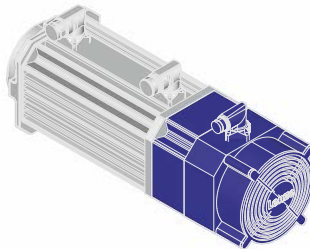
Cooling: forced ventilated



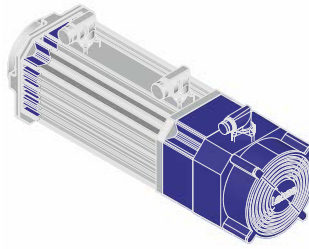
Resolver



Resolver and brake



Absolute value/incremental
encoder



Absolute value/incremental
encoder and brake



Information on project planning

Safety instructions

Basic safety instructions

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

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

Application as directed

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

Information on project planning

Safety instructions
Residual hazards



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!

Product

Observe the warning labels on the product!



Dangerous electrical voltage:

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



Electrostatic sensitive devices:

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



High leakage current:

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



Hot surface:

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

Protection of persons

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

Motor protection

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



Gearbox protection

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



Drive dimensioning

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 design the drive both quickly and to a high quality. The software contains profound and proven expertise with regard to drive applications and mechatronic drive components.

Please get in touch with your Lenze representative.

Workflow

S1 operation		S2, S3 and S6 operation	
1	Check operating conditions	1	Check operating conditions
2	Define required input variables	2	Define required input variables
3	Determine correction factor	3	Determine correction factor
4	Determine gearbox on the basis of the acting forces	4	Determine gearbox on the basis of the acting forces
5	Determine required gearbox load capacity	5	Determine gearbox efficiency
6	Calculate required drive power	6	Determine required gearbox load capacity
7	Check and select geared motor	7	Calculate required drive power
8	Final configuration	8	Check and select geared motor
		9	Check servo motor based on the motor torque characteristic
		10	Final configuration

Check operating conditions

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

► [Standards and operating conditions](#) 28

► [Surface and corrosion protection](#) 23

Define required input variables

Necessary input variables	Note	Symbol	Unit
Operating time/day		BD	h
Mean speed utilization of the geared motor	Relating to the load speed n_L		%
Ambient temperature		T_V	°C
Site altitude Amsl		H	m
Radial force		F_{rad}	rated
Axial force		F_{ax}	rated
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 [371](#)

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

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	

Information on project planning

Drive dimensioning



Determine product on the basis of the forces

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

dw Effective diameter of transmission element in mm

f_w Additional load factor

► [Radial forces and axial forces](#) □ 32

Determine gearbox efficiency

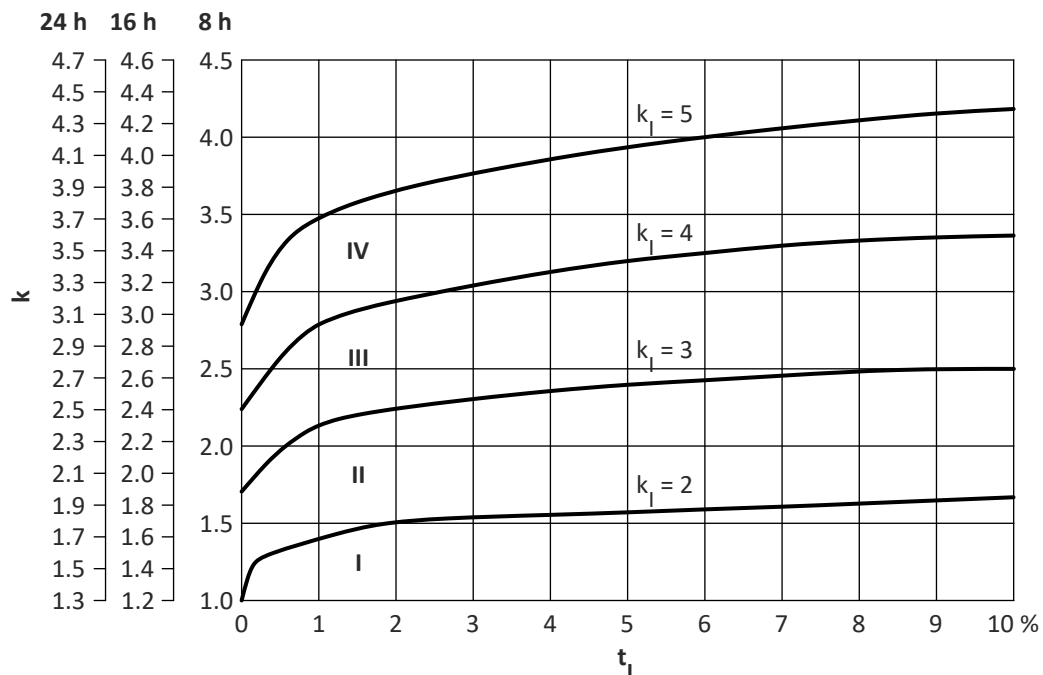
Gearboxes	Gearbox stages		
	1-stage	2-stage	3-stage
	Gearbox efficiency		
	η_{c1}	η_{c1}	η_{c1}
g700-P	0.98	0.97	0.92
g720-P	0.98	0.97	0.92
g730-P	0.98	0.97	-
g750-P	0.97	0.96	-
g780-P	0.98	0.97	-
g820-P	0.98	0.96	-
g840-P	0.98	0.95	-
g850-P	0.98	0.97	-
g870-P	0.97	0.96	-
g880-P	0.97	0.96	-



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		$i =$	

► Selection tables 33



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	$n_R \geq (n_L \times k_M) / (k_E \times k_{rated})$	$n_R =$	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	$c \geq k$ $c \geq k_l$	$c =$	
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		$i =$	

► Selection tables [33](#)

Check servo motor based on the motor torque characteristic		
Gearbox efficiency	$\eta_G = \eta_{c1} - (c - 1) \times 0.01$	$\eta_G =$
All operating points (●)		$i \times \eta_L$
below the maximum torque characteristic of the servo motor/ inverter combination here, $M_{L,max}$ must be considered		$M_L / (i \times \eta_G)$
Thermally effective operating point (○)		$(i \times n_L \times k_M) / (k_E \times k_{rated})$
below the S1 torque characteristic of the servo motor		$M_L / (k_L \times k_H \times i \times \eta_G)$

► Torque characteristics [359](#)



Information on project planning

Final configuration
Surface and corrosion protection

Final configuration

	Check
Connection dimensions	Output shaft Output flange
Product extensions	Connector/terminal box Brake Feedback Temperature monitoring

More information about the final configuration:

► [The modular system](#) 30

► [Product extensions](#) 327

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 color 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 (called OKS)	Applications	Type
without OKS (unpainted)	- Indoor installation, no special corrosion protection necessary - Painting by customer	Standard
OKS-G (primed)	Dependent on subsequent top coat applied	Optional
OKS-S (small)	- Standard applications - Internal installation in heated buildings - Air humidity up to 90 %	
OKS-M (medium)	- Internal installation in non-heated buildings - Covered, protected external installation - Air humidity up to 95 %	
OKS-L (large)	- External installation - Air humidity above 95 % - Chemical industrial plants - Food industry	

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

Lubricants



The g7x0 and g8x0 planetary gearbox series are lubricated for life.



Mechanical installation

Important notes

- Install the product according to the information in the chapter "Standards and operating conditions".
 - ▶ [Standards and operating conditions](#)  28
- The technical data and the data regarding the supply conditions can be found on the nameplate and in this documentation.
- Ambient media – especially chemically aggressive ones – may damage shaft sealing rings, lacquers and plastics.
- Lenze offers special surface and corrosion protection in this case.

Transport

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

Installation

- 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.



Electrical installation

Important notes

DANGER!

Risk of injury and risk of burns from dangerous voltage

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

- ▶ Disconnect the product from the mains.
- ▶ Check that the power terminals are deenergized before starting work.

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

Operation on an external inverter

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

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

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

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



Technical data

Notes regarding the given data

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

- Operating time per day = 8 hrs (100 % ED)
- Duty class up to 10 switching operations per hour
- Ambient temperature T_V and max. permissible thermal output speed $n_{2,th}$
 - $T_V = -20 \dots +40 \text{ }^\circ\text{C}$
 - $n_{2,th}$ is valid for $T_V = +20 \text{ }^\circ\text{C}$
- Site altitude ≤ 1000 m above mean sea level
- The selection tables indicate the mechanically permissible power levels and torques.
- The ratings apply to the operating mode S1 (acc. to EN 60034).

Selection tables

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

The following legend shows an example of the layout of the selection tables:

Example

Inverter mains connection 400 V, self-ventilated motors
0.25 kW

Explanation

Voltage of inverter mains connection, motor cooling type
Rated motor power

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2,max}	n _{2,th}	J	i	g700-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
1.7	1350	2.4	11.0	124	0.213	3.000	P20	06C41-	1	2.7
2.5	810	4.8	14.0	124	0.205	5.000	P20	06C41-	1	2.7
3.5	579	5.0	25.0	124	0.209	7.000	P44	06C41-	1	3.2
4.0	579	2.1	8.5	124	0.203	7.000	P20	06C41-	1	2.7

									Mass
									Number of gear stages
									Motor product name
									Gearbox product name
									Ratio
									Moment of inertia
									With feedback, without brake
									Max. permissible output speed in S1 operation
									Max. permissible acceleration torque
									Dependent on inverter
									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



Technical data

Notes regarding the given data

Basic dimensions

In the basic dimensions, the total lengths (L) of the drive with resolver are given.

Note the extra length (ΔL) of the product extensions.

► [Additional lengths](#)  325

Technical data

Standards and operating conditions
Conformities and approvals



Standards and operating conditions

Conformities and approvals

More information and certificates of approval can be found under

[g7x0-P/g8x0-P + MCA planetary geared motors \(Lenze.com\)](https://www.lenze.com/g7x0-P/g8x0-P-MCA-planetary-geared-motors)

Europe					
Country	Conformity/ approval	Law/standard	Description	Special feature	Product representation
European Union	CE	2006/42/EC	Machinery Directive	Only for safety-relevant components	CE mark
		2014/35/EU	Low-Voltage Directive		
		2014/30/EU	EMC Directive		
		2011/65/EU	RoHS		
				-	
Great Britain	UKCA	S.I. 2008/1597	The Supply of Machinery (Safety) Regulations 2008	Only for safety-relevant components	UKCA mark
		S.I. 2016/1091	The Electromagnetic Compatibility Regulations 2016	-	
		S.I. 2016/1101	The Electrical Equipment (Safety) Regulations 2016		
		S.I. 2012/3032	The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012		

America					
Country	Conformity/ approval	Law/standard	Description	Special feature	Product representation
Canada	CSA	CSA 22.1 No. 100	CSA Standard for Motors and Generators	-	cURus mark
USA	UL	UL 1004-1	UL Standard for Rotating Electrical Machines		

Asia					
Country	Conformity/ approval	Law/standard	Description	Special feature	Product representation
China	-	GB/T 26572	Requirements on concentration limits for certain restricted substances in electrical and electronic products	-	EFUP mark

Protection of persons and device protection

Degree of protection			
-	EN IEC 60529, EN IEC 60034-5	IP23S	Forced ventilated: MCA20, MCA22, MCA26
		IP54	Self-ventilated: MCA10 ... MCA19, MCA21
			Forced ventilated: MCA13 ... MCA19, MCA21 ... MCA26
		IP65	Self-ventilated: MCA10 ... MCA19, MCA21
Temperature class			
-	EN IEC 60034-1	F (155 °C)	Insulation system
Permissible voltage			
-	IEC 60034-18-41	IVIC C	At 500 V
	IEC/TS 60034-25:2007	Limit curve A	Of the pulse voltage



Technical data

Standards and operating conditions

EMC data

EMC data

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

Environmental conditions

Climate			
Storage	EN 60721-3-1:1997	1K3 (-20 ... +40 °C)	>3 months
		1K3 (-20 ... +60 °C)	<3 months
Transport	EN 60721-3-2:1997	2K3 (-20 ... +70 °C)	
Operation	EN 60721-3-3:1995 + A2:1997	3K3 (-10 ... +40 °C)	Operation, without brake
		3K3 (-15 ...+40 °C)	Operation without brake, forced ventilated
		3K3 (-20 ...+40 °C)	Operation without brake, self-ventilated
Site altitude			
0 ... 1000 m amsl	-	Without current derating	
1000 ... 4000 m amsl		Reduce rated output current by 5 %/1000 m	
Air humidity			
-	-	Average relative humidity 85 %	Without condensation

Technical data

Planetary gearbox g700-P
The modular system



Planetary gearbox g700-P

The modular system

g700-P planetary gearbox with MCA asynchronous servo motor

Gearboxes		g700-P130	g700-P260	g700-P800
Min. motor assignment		MCA10	MCA10	MCA13
Max. motor assignment		MCA10	MCA14	MCA19
Technical data				
Max. output torque	Nm	130	260	800
Min. drive torque	Nm	0.8	0.8	6.3
Max. drive torque	Nm	0.8	12	36
Mounting position		Any		
Color		Primed Painted in RAL colors		
Surface and corrosion protection		OKS-G Different types of OKS		
Output shaft				
Solid shaft with featherkey	mm	20 x 36	25 x 50	40 x 80
Smooth solid shaft	mm	20 x 36	25 x 50	40 x 80
Shaft material		Steel		
Shaft sealing ring material		NBR		
Gearbox design		Without foot with centering		
Gearbox stages		1/2	1/2/3	1/2
Output flange	mm	80	120	160
Lubricant		Standard Food-compatible		
Cooling		Self-ventilated Forced-ventilated		
Motor connection		ICN connector Terminal box		
Holding brake		Without Permanent magnet brake		
Feedback				
Without functional safety		Resolver Absolute value encoder Incremental encoder		
With functional safety		Resolver Incremental encoder		
Temperature monitoring		PT1000 temperature sensor		



Technical data

Planetary gearbox g700-P
Data overview

Data overview

g700-P130, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
7	65.0	7	9
8	50.0	7	8
10	38.0	7	8

g700-P130, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
9	130	9	8
12	120	9	10
15	110	9	10
16	120	9	10
20	120	9	10
25	110	9	10
32	120	9	10
40	110	9	10

g700-P260, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	115	7	19
7	135	7	19
8	120	7	18
4	155	7	21
10	95.0	7	16
5	195	7	21

g700-P260, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
9	210	9	20
12	260	9	22
15	230	9	22
16	260	9	22
20	260	9	22
25	230	9	22
32	260	9	22
40	230	9	22
64	120	9	19

Technical data

Planetary gearbox g700-P
Radial forces and axial forces



g700-P260, 3-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
60	260	11	22
80	260	11	22
100	260	11	22
120	230	11	22

g700-P800, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
3	400	6	60
5	450	6	69
8	450	6	62
4	450	6	68

g700-P800, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
12	800	10	73
15	700	10	73
16	800	10	75
20	800	10	75
25	700	10	74
32	800	10	75
40	700	10	73
64	450	10	63

Radial forces and axial forces

Gearbox			g700-P130	g700-P260	g700-P800
Bearing service life 20000 h					
Speed		rpm	100	100	100
Radial force	F_{rad}	rated	750	1750	5000
Axial force	F_{ax}	rated	1000	2500	7000
Bearing service life 30000 h					
Speed		rpm	100	100	100
Radial force	F_{rad}	rated	650	1500	4200
Axial force	F_{ax}	rated	900	2100	6000
Max. radial force	$F_{\text{rad, max}}$	rated	1250	2000	5000
Max. axial force	$F_{\text{ax, max}}$	rated	1600	3800	11000



Technical data

Planetary gearbox g700-P
Selection tables

Selection tables

Inverter power supply 400 V, self-ventilated motors

0.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
12.0	564	4.8	65.0	282	2.779	7	P130	10I40-	1	8.5
13.0	439	5.1	130	219	3.013	9	P130	10I40-	2	9.0
15.0	494	3.2	50.0	247	2.770	8	P130	10I40-	1	8.5
17.0	395	4.9	95.0	198	3.778	10	P260	10I40-	1	12
18.0	329	4.9	120	165	2.989	12	P130	10I40-	2	9.0
19.0	395	2.0	38.0	198	2.759	10	P130	10I40-	1	8.5
24.0	263	3.8	110	132	2.986	15	P130	10I40-	2	9.0
26.0	247	3.9	120	123	2.846	16	P130	10I40-	2	9.0
34.0	198	3.1	120	99.0	2.806	20	P130	10I40-	2	9.0
37.0	158	4.8	230	79.0	3.966	25	P260	10I40-	2	14
46.0	158	2.3	110	79.0	2.804	25	P130	10I40-	2	9.0
50.0	123	4.3	260	62.0	3.820	32	P260	10I40-	2	14
60.0	123	2.0	120	62.0	2.766	32	P130	10I40-	2	9.0
69.0	98.8	3.1	230	49.0	3.817	40	P260	10I40-	2	14
75.0	98.8	1.5	110	49.0	2.765	40	P130	10I40-	2	9.0
104	65.8	2.4	260	33.0	4.596	60	P260	10I40-	3	16
114	61.7	1.1	120	31.0	3.814	64	P260	10I40-	2	14
144	49.4	1.8	260	25.0	3.970	80	P260	10I40-	3	16
180	39.5	1.4	260	20.0	3.963	100	P260	10I40-	3	16
211	32.9	1.1	230	16.0	4.579	120	P260	10I40-	3	16

1.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
16.0	667	5.8	115	333	21.561	3	P260	14L20-	1	39
22.0	500	5.9	155	250	21.035	4	P260	14L20-	1	39
27.0	400	5.9	195	200	20.833	5	P260	14L20-	1	39
43.0	286	3.0	135	143	20.663	7	P260	14L20-	1	39
51.0	250	2.3	120	125	20.631	8	P260	14L20-	1	39
52.0	222	3.2	210	111	21.488	9	P260	14L20-	2	41
64.0	200	1.5	95.0	100	20.578	10	P260	14L20-	1	39
68.0	167	3.4	260	83.0	21.424	12	P260	14L20-	2	41
92.0	133	2.4	230	67.0	21.403	15	P260	14L20-	2	41
97.0	125	2.5	260	63.0	20.947	16	P260	14L20-	2	41
126	100	2.0	260	50.0	20.773	20	P260	14L20-	2	41
129	80.0	4.4	700	40.0	23.832	25	P800	14L20-	2	55
157	80.0	1.5	230	40.0	20.766	25	P260	14L20-	2	41
173	62.5	3.9	800	31.0	22.749	32	P800	14L20-	2	55
202	62.5	1.3	260	31.0	20.620	32	P260	14L20-	2	41
237	50.0	2.8	700	25.0	22.724	40	P800	14L20-	2	55
386	31.3	1.2	450	16.0	22.702	64	P800	14L20-	2	55

Technical data

Planetary gearbox g700-P
Selection tables



1.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
24.0	579	5.0	135	289	9.763	7	P260	13I41-	1	16
28.0	506	3.9	120	253	9.731	8	P260	13I41-	1	16
28.0	450	4.3	210	225	10.588	9	P260	13I41-	2	18
33.0	338	5.6	260	169	10.524	12	P260	13I41-	2	18
38.0	405	2.5	95.0	203	9.678	10	P260	13I41-	1	16
48.0	270	4.0	230	135	10.503	15	P260	13I41-	2	18
50.0	253	4.2	260	127	10.047	16	P260	13I41-	2	18
67.0	203	3.4	260	101	9.873	20	P260	13I41-	2	18
91.0	162	2.4	230	81.0	9.866	25	P260	13I41-	2	18
119	127	2.1	260	63.0	9.720	32	P260	13I41-	2	18
121	101	4.7	700	51.0	11.824	40	P800	13I41-	2	32
150	101	1.5	230	51.0	9.717	40	P260	13I41-	2	18
216	67.5	1.2	260	34.0	10.496	60	P260	13I41-	3	20
230	63.3	2.0	450	32.0	11.802	64	P800	13I41-	2	32

2.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
34.0	586	3.7	135	293	20.663	7	P260	14L41-	1	39
40.0	513	2.9	120	256	20.631	8	P260	14L41-	1	39
42.0	456	3.2	210	228	21.488	9	P260	14L41-	2	41
51.0	342	4.2	260	171	21.424	12	P260	14L41-	2	41
52.0	410	1.8	95.0	205	20.578	10	P260	14L41-	1	39
71.0	273	3.0	230	137	21.403	15	P260	14L41-	2	41
74.0	256	3.1	260	128	20.947	16	P260	14L41-	2	41
94.0	164	5.5	700	82.0	23.832	25	P800	14L41-	2	55
98.0	205	2.5	260	103	20.773	20	P260	14L41-	2	41
127	164	1.8	230	82.0	20.766	25	P260	14L41-	2	41
128	128	4.9	800	64.0	22.749	32	P800	14L41-	2	55
162	128	1.6	260	64.0	20.620	32	P260	14L41-	2	41
181	103	3.5	700	51.0	22.724	40	P800	14L41-	2	55
203	103	1.1	230	51.0	20.617	40	P260	14L41-	2	41
311	64.1	1.5	450	32.0	22.702	64	P800	14L41-	2	55

2.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
71.0	288	5.4	450	144	39.726	8	P800	17N23-	1	59
86.0	192	6.0	800	96.0	46.087	12	P800	17N23-	2	63
124	153	4.5	700	77.0	45.913	15	P800	17N23-	2	63
128	144	4.8	800	72.0	42.059	16	P800	17N23-	2	63
175	115	3.9	800	58.0	40.695	20	P800	17N23-	2	63
240	92.0	2.7	700	46.0	40.632	25	P800	17N23-	2	63
314	71.9	2.4	800	36.0	39.549	32	P800	17N23-	2	63
406	57.5	1.7	700	29.0	39.524	40	P800	17N23-	2	63



Technical data

Planetary gearbox g700-P
Selection tables

4 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J		g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
41.0	780	4.8	400	390	83.999	3	P800	19S23-	1	88
66.0	468	5.6	450	234	77.188	5	P800	19S23-	1	88
117	293	3.6	450	146	75.726	8	P800	19S23-	1	88
158	195	3.9	800	98.0	82.087	12	P800	19S23-	2	92
213	156	3.0	700	78.0	81.913	15	P800	19S23-	2	92
223	146	3.2	800	73.0	78.059	16	P800	19S23-	2	92
294	117	2.6	800	59.0	76.695	20	P800	19S23-	2	92
383	93.6	1.8	700	47.0	76.632	25	P800	19S23-	2	92
490	73.1	1.6	800	37.0	75.549	32	P800	19S23-	2	92
613	58.5	1.1	700	29.0	75.524	40	P800	19S23-	2	92

4.1 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J		g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
78.0	343	5.7	800	171	46.087	12	P800	17N41-	2	63
107	274	4.7	700	137	45.913	15	P800	17N41-	2	63
115	257	4.7	800	128	42.059	16	P800	17N41-	2	63
152	206	4.0	800	103	40.695	20	P800	17N41-	2	63
205	164	3.1	700	82.0	40.632	25	P800	17N41-	2	63
269	128	2.8	800	64.0	39.549	32	P800	17N41-	2	63
357	103	2.0	700	51.0	39.524	40	P800	17N41-	2	63

5.2 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J		g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
29.0	1383	5.5	400	618	83.999	3	P800	19S42-	1	88
81.0	519	4.8	450	259	75.726	8	P800	19S42-	1	88
110	346	4.5	800	173	82.087	12	P800	19S42-	2	92
147	277	3.7	700	138	81.913	15	P800	19S42-	2	92
158	259	3.7	800	130	78.059	16	P800	19S42-	2	92
207	208	3.1	800	104	76.695	20	P800	19S42-	2	92
272	166	2.5	700	83.0	76.632	25	P800	19S42-	2	92
356	130	2.2	800	65.0	75.549	32	P800	19S42-	2	92
451	104	1.6	700	52.0	75.524	40	P800	19S42-	2	92

Technical data

Planetary gearbox g700-P
Selection tables



Inverter power supply 400 V, forced ventilated motors

2.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
81.0	204	4.8	450	102	22.926	8	P800	14L16-	1	53
97.0	136	5.8	800	68.0	29.287	12	P800	14L16-	2	57
143	109	4.1	700	55.0	29.113	15	P800	14L16-	2	57
149	102	4.3	800	51.0	25.259	16	P800	14L16-	2	57
201	81.8	3.5	800	41.0	23.895	20	P800	14L16-	2	57
272	65.4	2.5	700	33.0	23.832	25	P800	14L16-	2	57
356	51.1	2.2	800	26.0	22.749	32	P800	14L16-	2	57
451	40.9	1.6	700	20.0	22.724	40	P800	14L16-	2	57

2.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
40.0	487	3.2	135	244	9.763	7	P260	13I34-	1	18
47.0	426	2.5	120	213	9.731	8	P260	13I34-	1	18
50.0	379	2.9	210	189	10.588	9	P260	13I34-	2	20
60.0	341	1.6	95.0	171	9.678	10	P260	13I34-	1	18
63.0	284	3.6	260	142	10.524	12	P260	13I34-	2	20
85.0	227	2.5	230	114	10.503	15	P260	13I34-	2	20
90.0	213	2.7	260	107	10.047	16	P260	13I34-	2	20
117	171	2.2	260	85.0	9.873	20	P260	13I34-	2	20
119	136	4.7	700	68.0	12.932	25	P800	13I34-	2	34
148	136	1.5	230	68.0	9.866	25	P260	13I34-	2	20
159	107	4.2	800	53.0	11.849	32	P800	13I34-	2	34
190	107	1.4	260	53.0	9.720	32	P260	13I34-	2	20
220	85.3	3.0	700	43.0	11.824	40	P800	13I34-	2	34
363	53.3	1.2	450	27.0	11.802	64	P800	13I34-	2	34

3.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
57.0	560	4.0	400	280	47.999	3	P800	17N17-	1	62
71.0	420	5.3	450	210	42.912	4	P800	17N17-	1	62
93.0	336	4.3	450	168	41.188	5	P800	17N17-	1	62
160	210	2.7	450	105	39.726	8	P800	17N17-	1	62
220	140	3.2	800	70.0	46.087	12	P800	17N17-	2	66
297	112	2.3	700	56.0	45.913	15	P800	17N17-	2	66
313	105	2.4	800	53.0	42.059	16	P800	17N17-	2	66
404	84.0	1.9	800	42.0	40.695	20	P800	17N17-	2	66
505	67.2	1.4	700	34.0	40.632	25	P800	17N17-	2	66
647	52.5	1.2	800	26.0	39.549	32	P800	17N17-	2	66



Technical data

Planetary gearbox g700-P
Selection tables

3.9 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
71.0	432	5.4	450	216	22.926	8	P800	14L35-	1	53
92.0	288	5.3	800	144	29.287	12	P800	14L35-	2	57
125	230	4.4	700	115	29.113	15	P800	14L35-	2	57
135	216	4.3	800	108	25.259	16	P800	14L35-	2	57
178	173	3.7	800	86.0	23.895	20	P800	14L35-	2	57
240	138	2.7	700	69.0	23.832	25	P800	14L35-	2	57
314	108	2.4	800	54.0	22.749	32	P800	14L35-	2	57
406	86.4	1.7	700	43.0	22.724	40	P800	14L35-	2	57

6.9 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g700-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
51.0	1160	3.7	400	542	47.999	3	P800	17N35-	1	62
80.0	696	4.8	450	348	41.188	5	P800	17N35-	1	62
140	435	3.1	450	218	39.726	8	P800	17N35-	1	62
199	290	3.0	800	145	46.087	12	P800	17N35-	2	66
258	232	2.5	700	116	45.913	15	P800	17N35-	2	66
276	218	2.4	800	109	42.059	16	P800	17N35-	2	66
355	174	2.1	800	87.0	40.695	20	P800	17N35-	2	66
447	139	1.6	700	70.0	40.632	25	P800	17N35-	2	66
572	109	1.4	800	54.0	39.549	32	P800	17N35-	2	66

Technical data

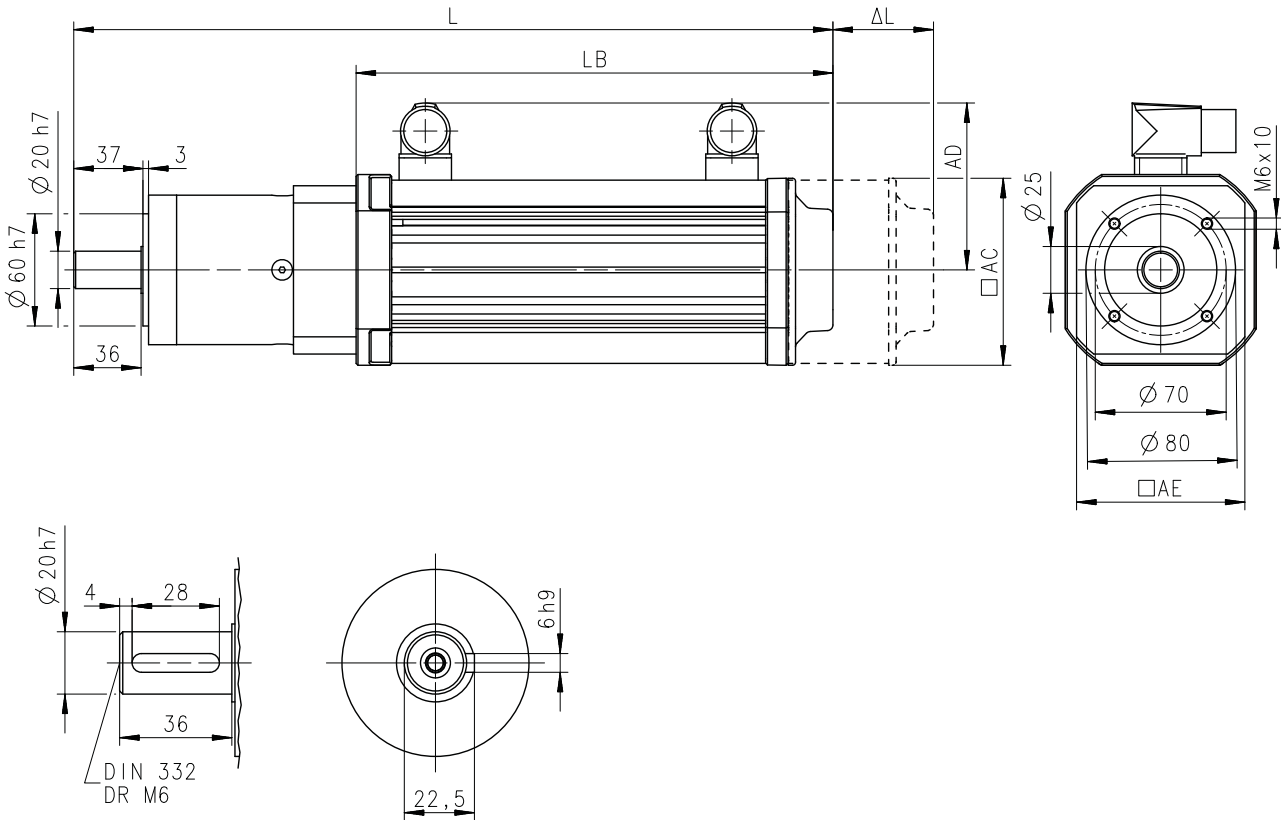
Planetary gearbox g700-P
Basic dimensions



Basic dimensions

g700-P130 with MCA10

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800864-00

Motor			MCA 10
			I40-
Total length	L	mm	395.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

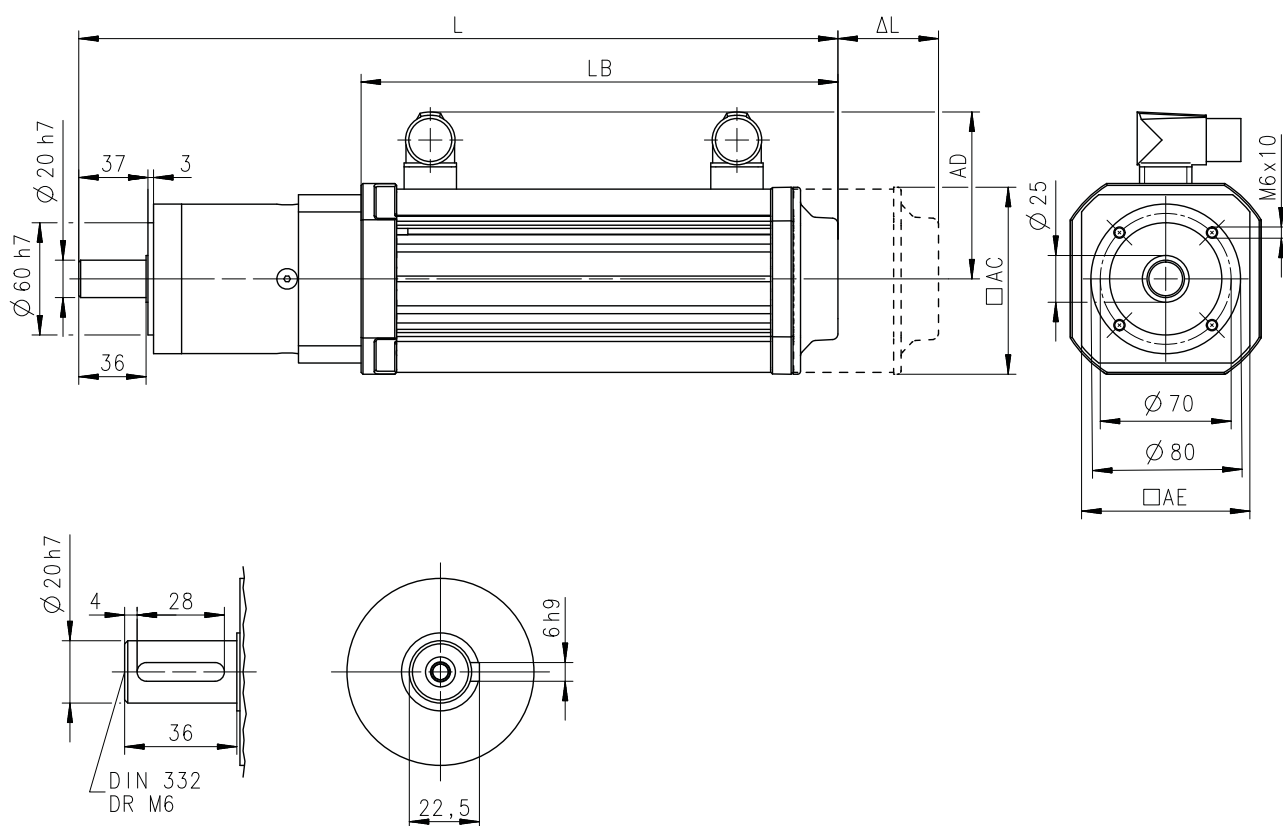


Technical data

Planetary gearbox g700-P
Basic dimensions

g700-P130 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800864-00

Motor			MCA 10
			I40-
Total length	L	mm	413
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Planetary gearbox g700-P

Basic dimensions



8800865-00

40

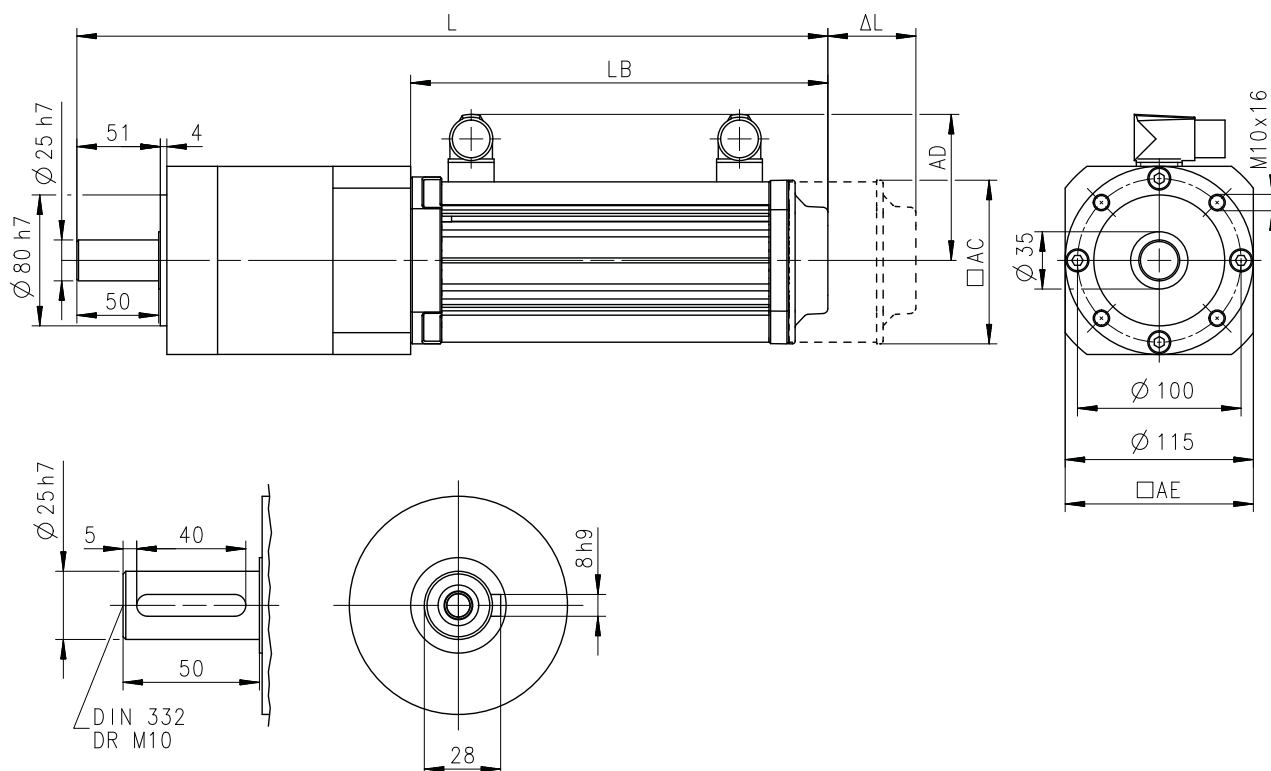


Technical data

Planetary gearbox g700-P
Basic dimensions

g700-P260 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800865-00

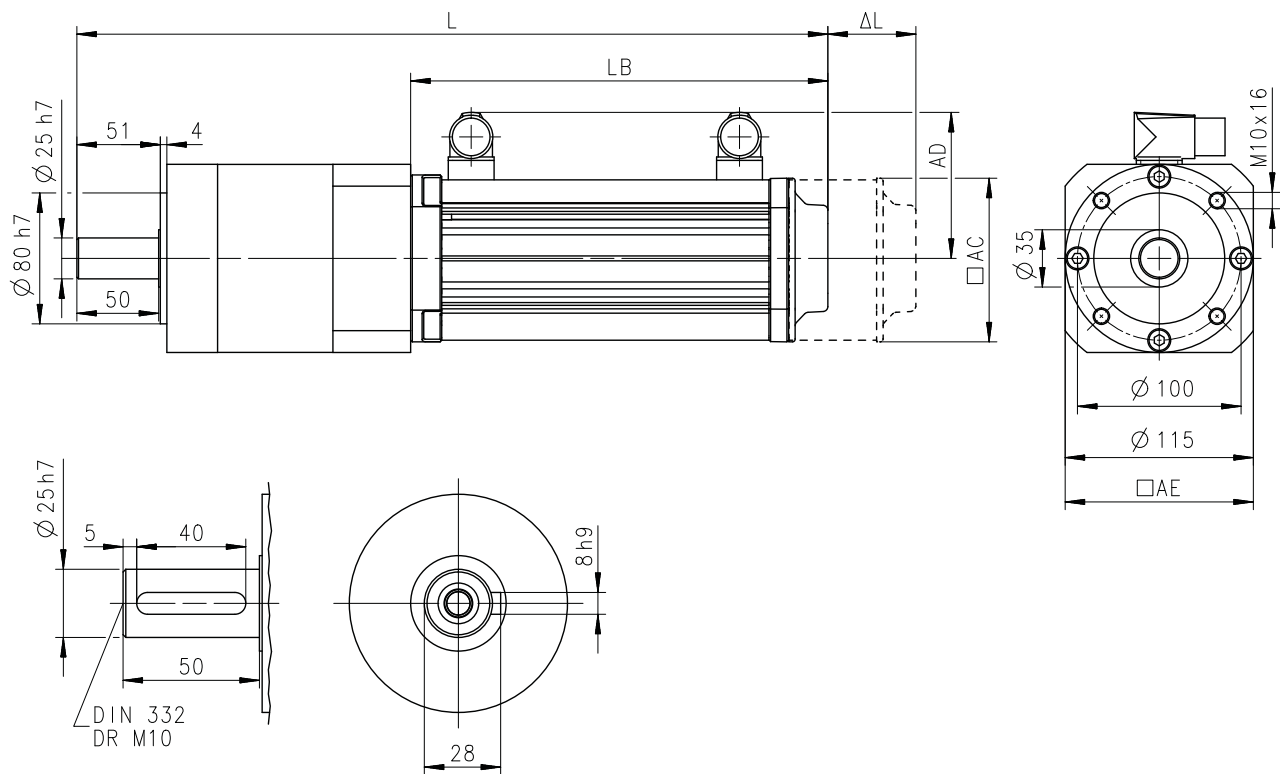
Motor			MCA 10
			I40-
Total length	L	mm	466
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

Technical data

Planetary gearbox g700-P
Basic dimensions



g700-P260 with MCA10
Gearbox design: Solid shaft, without foot with centering, 3-stage



8800865-00

Motor			MCA 10
			I40-
Total length	L	mm	493.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

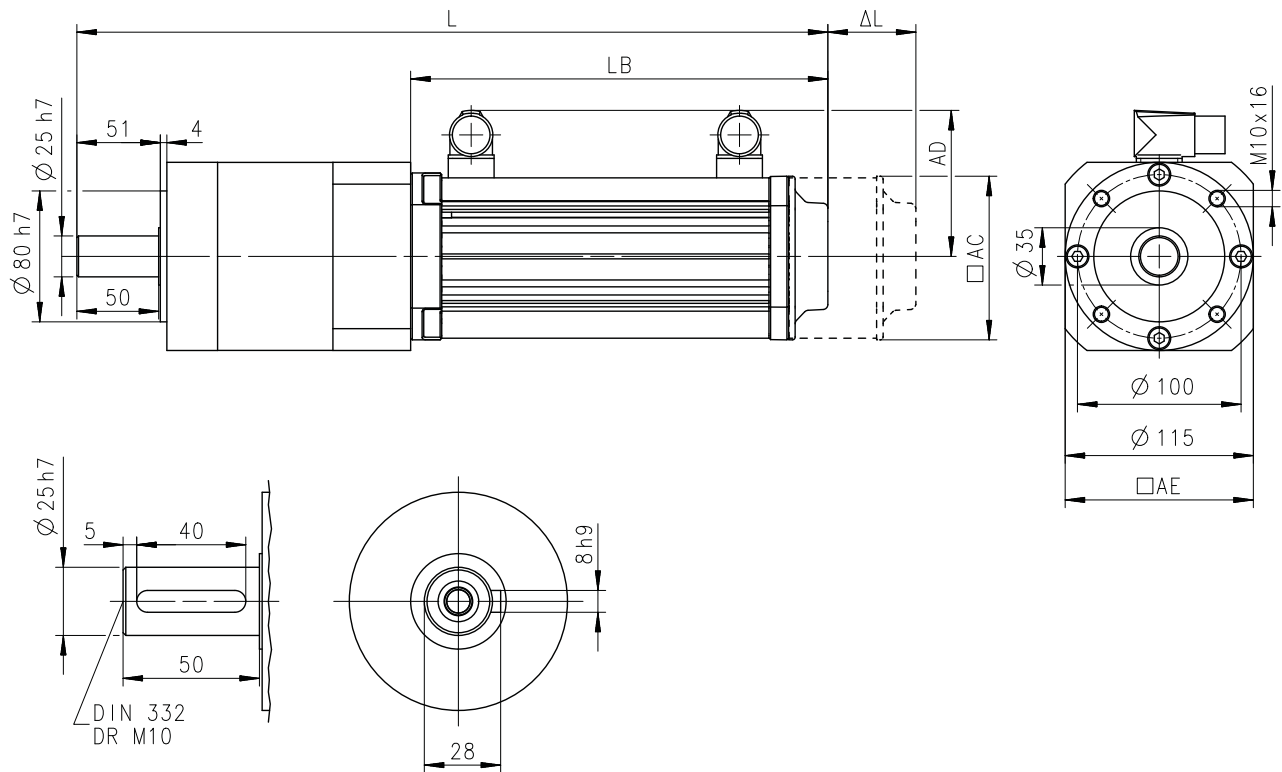


Technical data

Planetary gearbox g700-P
Basic dimensions

g700-P260 with MCA13

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800865-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	515.5	447.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

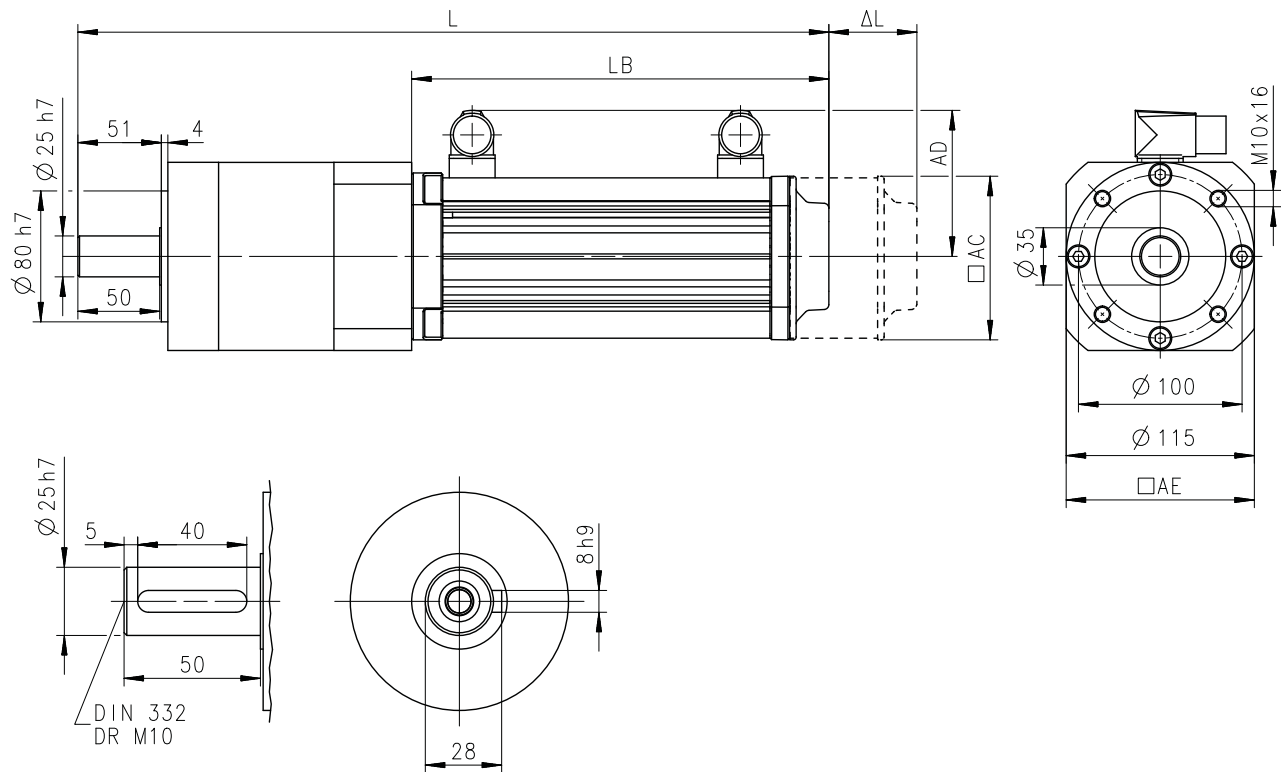
Technical data

Planetary gearbox g700-P
Basic dimensions



g700-P260 with MCA14

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800865-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	488.5	488.5
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	140	140

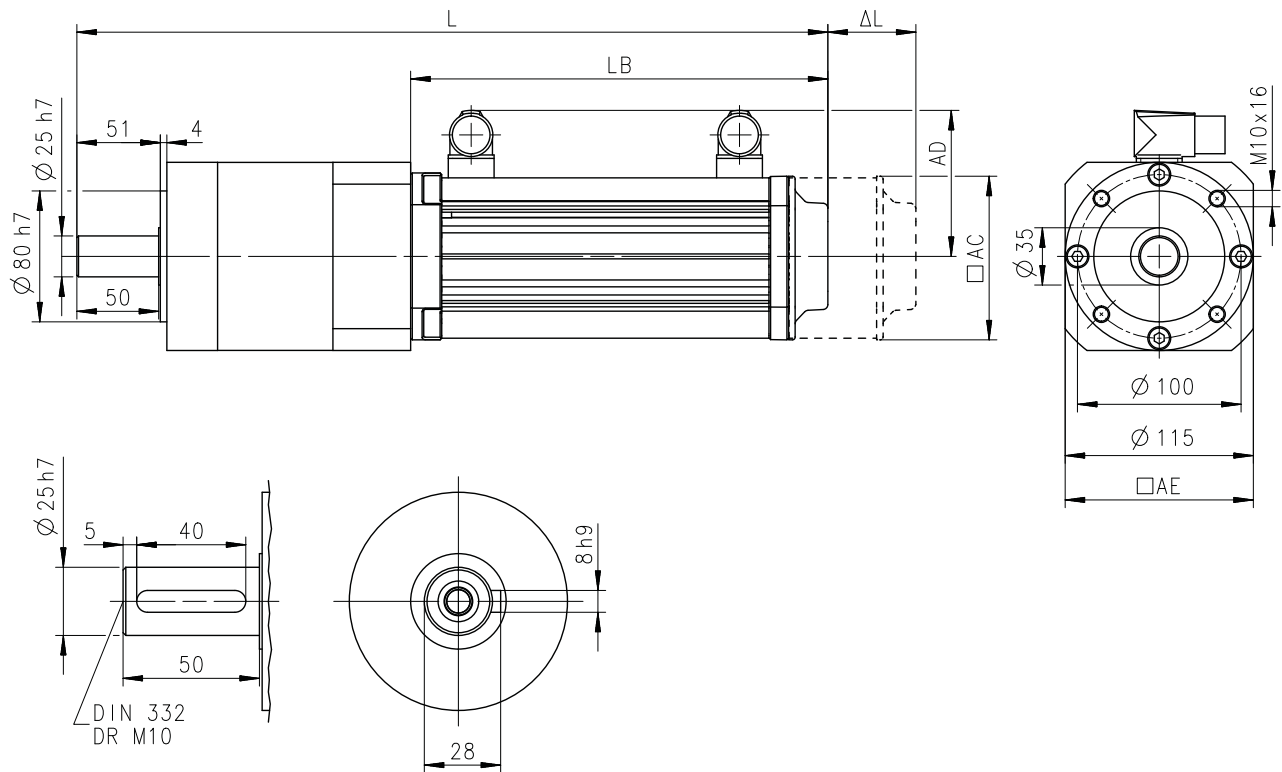


Technical data

Planetary gearbox g700-P
Basic dimensions

g700-P260 with MCA14

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800865-00

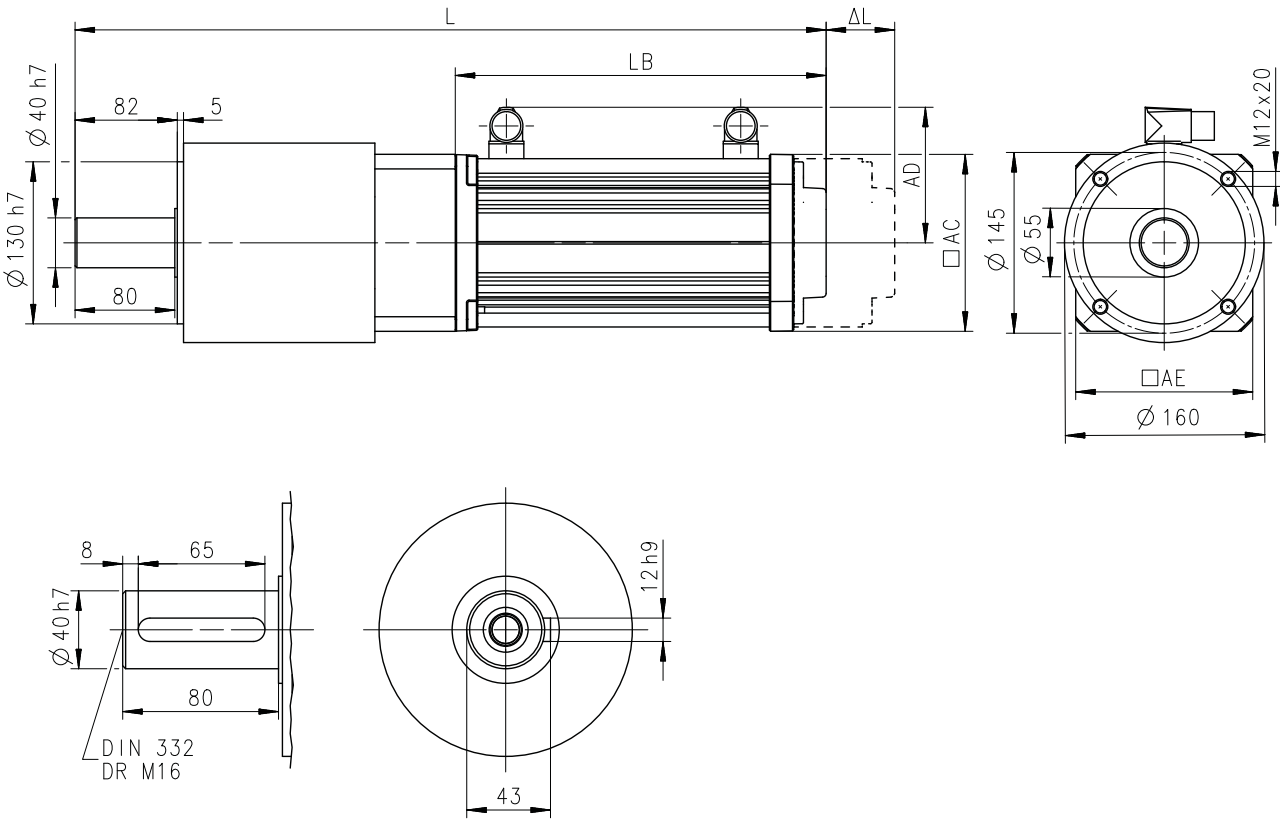
Motor			MCA 14	
			L20-	L41-
Total length	L	mm	516	516
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	140	140

Technical data

Planetary gearbox g700-P
Basic dimensions



g700-P800 with MCA13
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800866-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	644	576
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	140	140

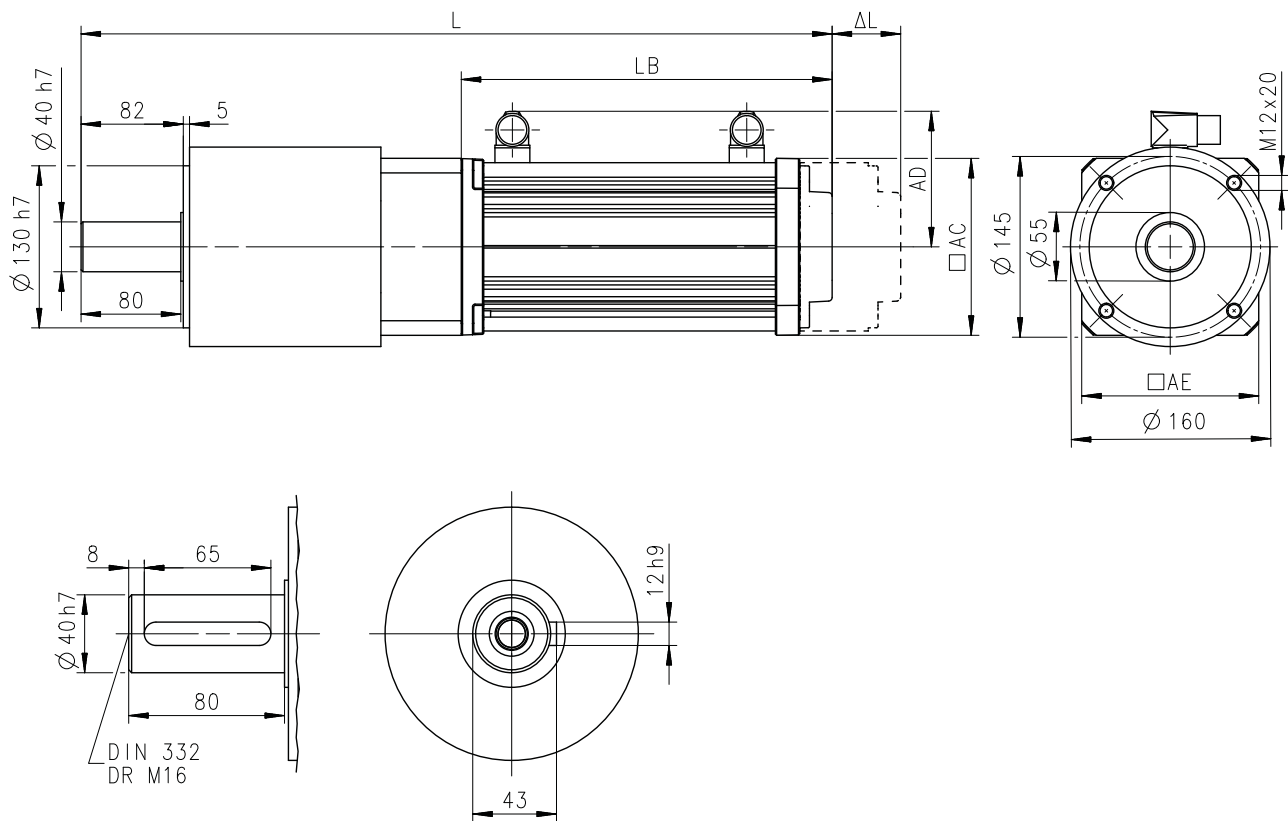


Technical data

Planetary gearbox g700-P
Basic dimensions

g700-P800 with MCA14

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800866-00

Motor			MCA 14	
			L16-	L35-
Total length	L	mm	619.5	619.5
Motor length	LB	mm	364	364
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	140	140

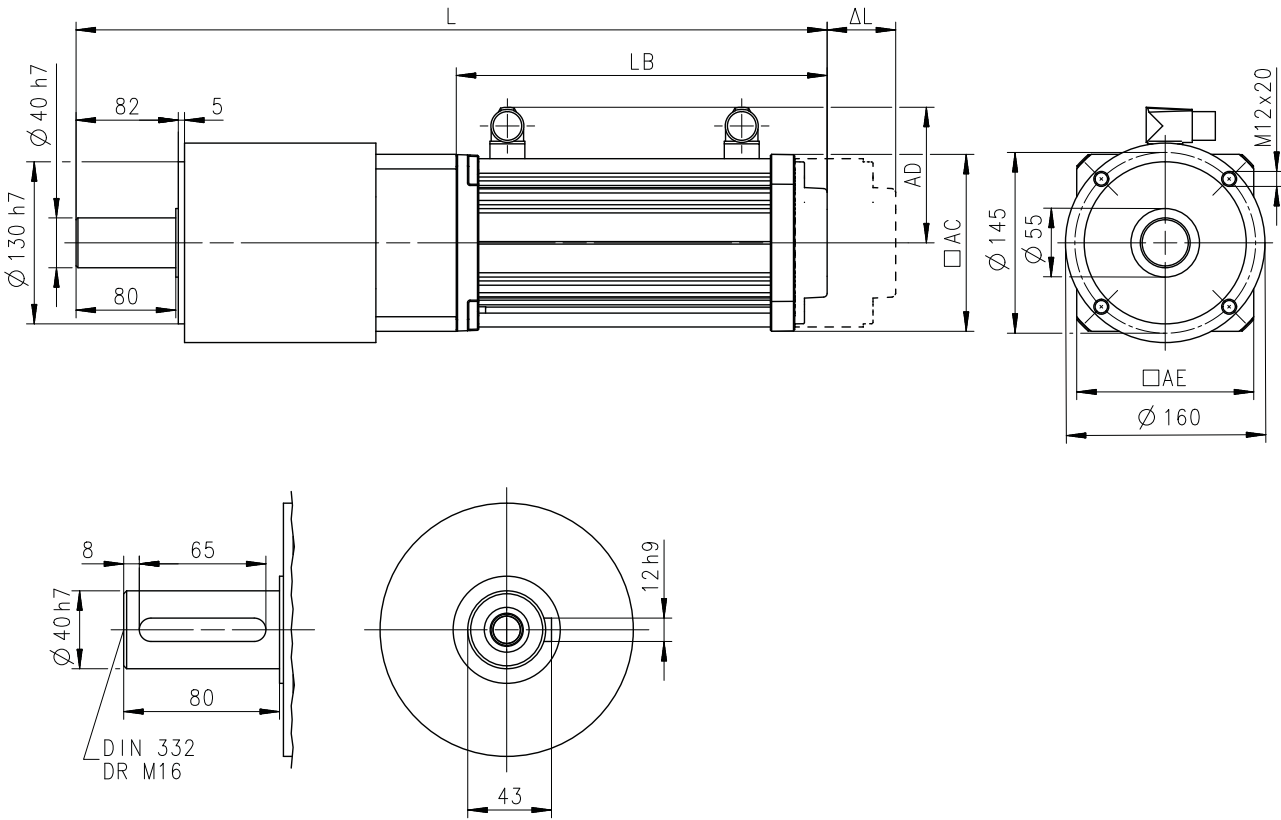
Technical data

Planetary gearbox g700-P
Basic dimensions



g700-P800 with MCA14

Gearbox design: Solid shaft, without foot with centering, 2-stage

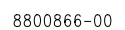


8800866-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	669	607	669	607
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	140	140	140	140



Gearbox design: Solid shaft, without foot with centering, 1-stage

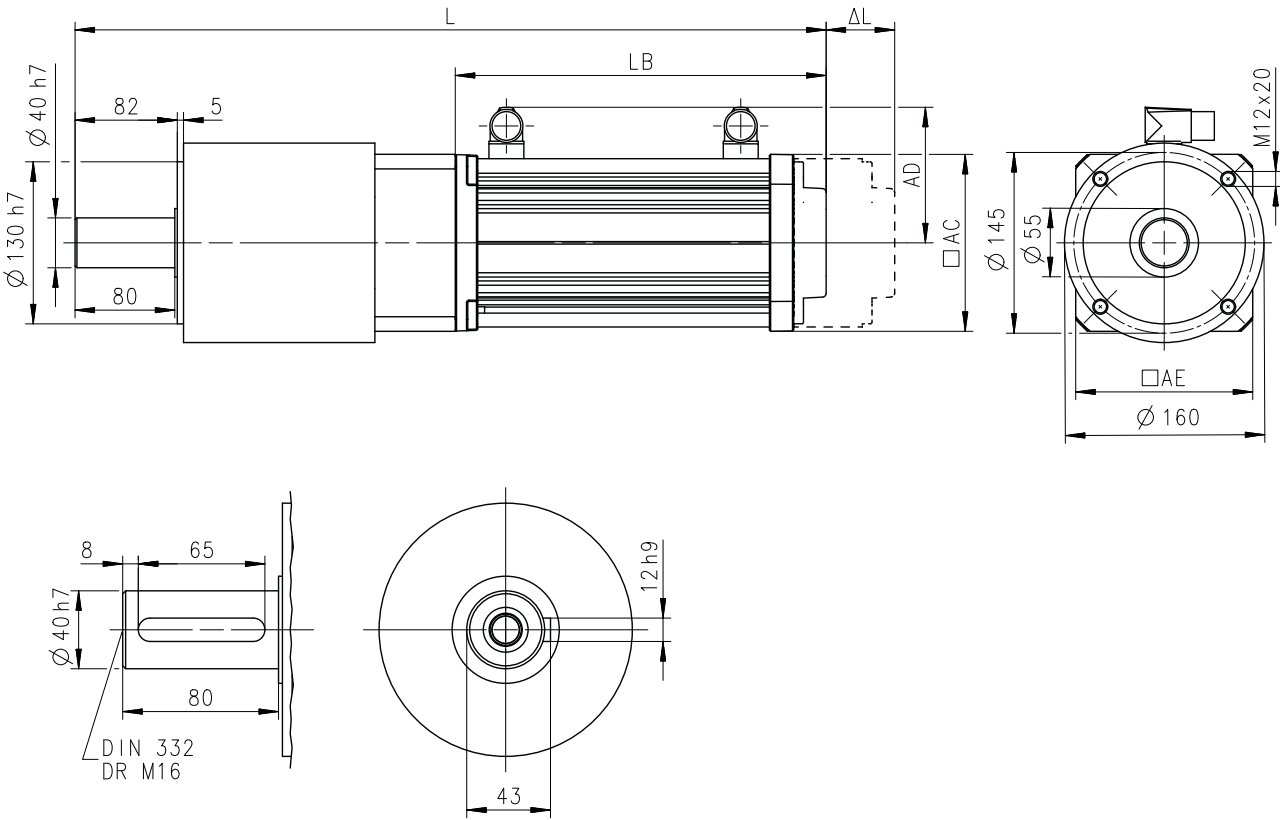
49

Technical data

Planetary gearbox g700-P
Basic dimensions



g700-P800 with MCA17
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800866-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	731	645	731	645
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	140	140	140	140

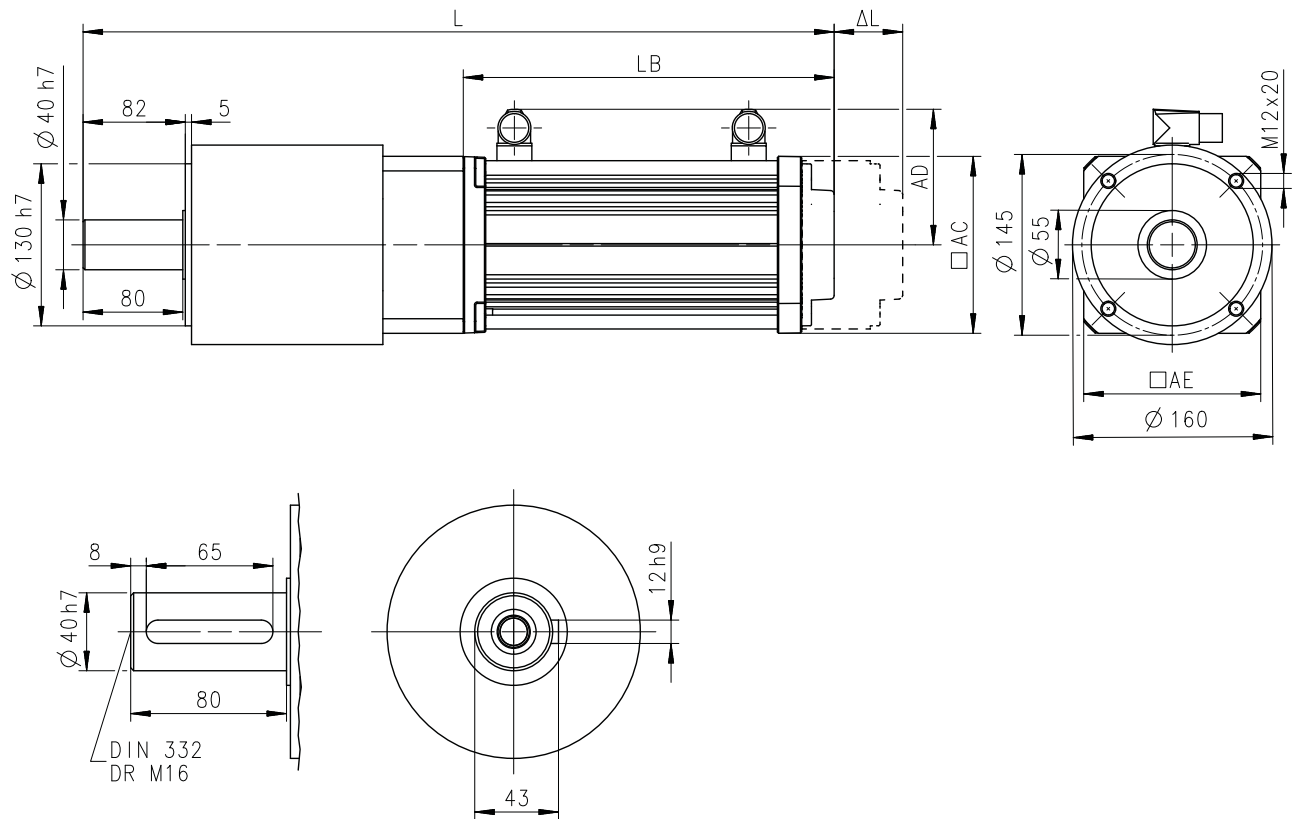


Technical data

Planetary gearbox g700-P
Basic dimensions

g700-P800 with MCA19

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800866-00

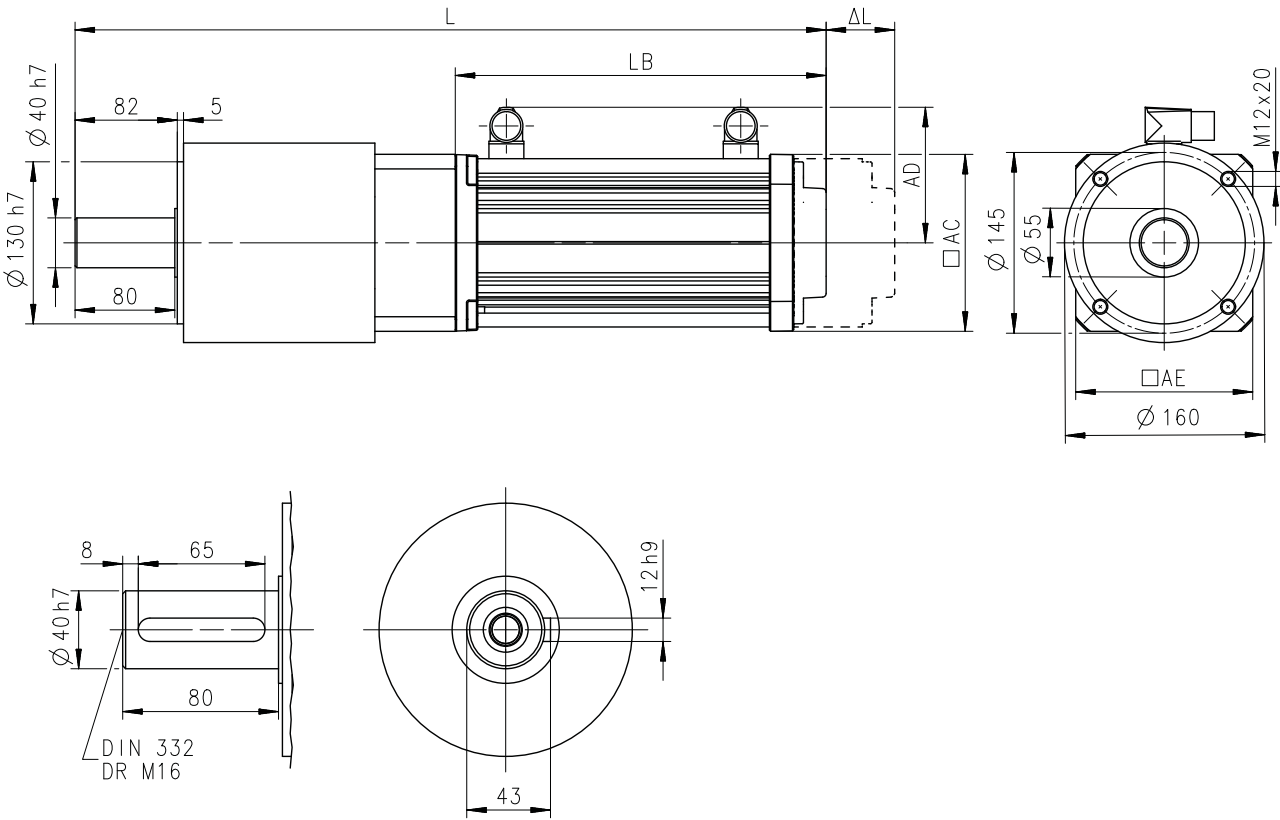
Motor			MCA 19	
			S23-	S42-
Total length	L	mm	666.5	666.5
Motor length	LB	mm	401	401
Motor diameter	AC	mm	192	192
Motor/connection distance	AD	mm	151	151
Gearbox diameter	AE	mm	190	190

Technical data

Planetary gearbox g700-P
Basic dimensions



g700-P800 with MCA19
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800866-00

Motor			MCA 19	
			S23-	S42-
Total length	L	mm	716	716
Motor length	LB	mm	401	401
Motor diameter	AC	mm	192	192
Motor/connection distance	AD	mm	151	151
Gearbox diameter	AE	mm	190	190



Planetary gearbox g720-P

The modular system

g720-P planetary gearbox with MCA asynchronous servo motor

Gearboxes		g720-P130		g720-P260	
Min. motor assignment		MCA10		MCA13	
Max. motor assignment		MCA10		MCA14	
Technical data					
Max. output torque	Nm	130		260	
Min. drive torque	Nm	0.8		6.3	
Max. drive torque	Nm	0.8		12	
Mounting position		Any			
Color		Primed Painted in RAL colors			
Surface and corrosion protection		OKS-G Different types of OKS			
Output shaft					
Solid shaft with featherkey	mm	20 x 36		25 x 50	
Smooth solid shaft	mm	20 x 36		25 x 50	
Shaft material		Steel			
Shaft sealing ring material		NBR			
Gearbox design		Without foot with centering			
Gearbox stages		1/2		1/2/3	
Output flange		mm	80		120
Lubricant		Standard Food-compatible			
Cooling		Self-ventilated Forced-ventilated			
Motor connection		ICN connector Terminal box			
Holding brake		Without Permanent magnet brake			
Feedback					
Without functional safety		Resolver Absolute value encoder Incremental encoder			
With functional safety		Resolver Incremental encoder			
Temperature monitoring		PT1000 temperature sensor			



Data overview

g720-P130, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
7	65.0	7	10
8	50.0	7	10
10	38.0	7	9

g720-P130, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
9	130	9	10
12	120	9	13
15	110	9	13
16	120	9	13
20	120	9	13
25	110	9	13
32	120	9	13
40	110	9	13

g720-P260, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
3	115	7	16
7	135	7	16
8	120	7	16
4	155	7	18
10	95.0	7	15
5	195	7	19

g720-P260, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
9	210	9	18
12	260	9	19
15	230	9	19
16	260	9	19
20	260	9	19
25	230	9	19
32	260	9	19
40	230	9	19
64	120	9	17



Technical data

Planetary gearbox g720-P
Radial forces and axial forces

g720-P260, 3-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
60	260	11	19
80	260	11	19
100	260	11	19
120	230	11	19

Radial forces and axial forces

Gearbox			g720-P130	g720-P260
Bearing service life 20000 h				
Speed		rpm	100	100
Radial force	F_{rad}	rated	2050	2950
Axial force	F_{ax}	rated	2500	2500
Bearing service life 30000 h				
Speed		rpm	100	100
Radial force	F_{rad}	rated	1700	2400
Axial force	F_{ax}	rated	2000	2100
Max. radial force	$F_{\text{rad, max}}$	rated	2500	4000
Max. axial force	$F_{\text{ax, max}}$	rated	3800	3800

Technical data

Planetary gearbox g720-P
Selection tables



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g720-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
12.0	564	4.8	65.0	282	2.802	7	P130	10I40-	1	9.6
13.0	439	5.1	130	219	3.025	9	P130	10I40-	2	10
15.0	494	3.2	50.0	247	2.788	8	P130	10I40-	1	9.6
17.0	395	4.9	95.0	198	3.781	10	P260	10I40-	1	13
18.0	329	5.0	120	165	2.999	12	P130	10I40-	2	10
19.0	395	2.0	38.0	198	2.771	10	P130	10I40-	1	9.6
24.0	263	3.8	110	132	2.991	15	P130	10I40-	2	10
26.0	247	3.9	120	123	2.854	16	P130	10I40-	2	10
34.0	198	3.1	120	99.0	2.809	20	P130	10I40-	2	10
37.0	158	4.8	230	79.0	3.966	25	P260	10I40-	2	15
46.0	158	2.3	110	79.0	2.806	25	P130	10I40-	2	10
50.0	123	4.3	260	62.0	3.820	32	P260	10I40-	2	15
60.0	123	2.0	120	62.0	2.767	32	P130	10I40-	2	10
69.0	98.8	3.1	230	49.0	3.817	40	P260	10I40-	2	15
75.0	98.8	1.5	110	49.0	2.766	40	P130	10I40-	2	10
104	65.8	2.4	260	33.0	4.596	60	P260	10I40-	3	17
114	61.7	1.1	120	31.0	3.814	64	P260	10I40-	2	15
144	49.4	1.8	260	25.0	3.970	80	P260	10I40-	3	17
180	39.5	1.4	260	20.0	3.963	100	P260	10I40-	3	17
211	32.9	1.1	230	16.0	4.579	120	P260	10I40-	3	17

1.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g720-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
16.0	667	5.8	115	333	21.593	3	P260	14L20-	1	40
22.0	500	5.9	155	250	21.053	4	P260	14L20-	1	40
27.0	400	5.9	195	200	20.844	5	P260	14L20-	1	40
43.0	286	3.0	135	143	20.669	7	P260	14L20-	1	40
51.0	250	2.3	120	125	20.636	8	P260	14L20-	1	40
52.0	222	3.2	210	111	21.492	9	P260	14L20-	2	42
64.0	200	1.5	95.0	100	20.581	10	P260	14L20-	1	40
68.0	167	3.4	260	83.0	21.426	12	P260	14L20-	2	42
92.0	133	2.4	230	67.0	21.404	15	P260	14L20-	2	42
97.0	125	2.5	260	63.0	20.948	16	P260	14L20-	2	42
126	100	2.0	260	50.0	20.774	20	P260	14L20-	2	42
157	80.0	1.5	230	40.0	20.766	25	P260	14L20-	2	42
202	62.5	1.3	260	31.0	20.620	32	P260	14L20-	2	42



Technical data

Planetary gearbox g720-P
Selection tables

1.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g720-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
24.0	579	5.0	135	289	9.769	7	P260	13I41-	1	17
28.0	506	3.9	120	253	9.736	8	P260	13I41-	1	17
28.0	450	4.3	210	225	10.592	9	P260	13I41-	2	19
33.0	338	5.6	260	169	10.526	12	P260	13I41-	2	19
38.0	405	2.5	95.0	203	9.681	10	P260	13I41-	1	17
48.0	270	4.0	230	135	10.504	15	P260	13I41-	2	19
50.0	253	4.2	260	127	10.048	16	P260	13I41-	2	19
67.0	203	3.4	260	101	9.874	20	P260	13I41-	2	19
91.0	162	2.4	230	81.0	9.866	25	P260	13I41-	2	19
119	127	2.1	260	63.0	9.720	32	P260	13I41-	2	19
150	101	1.5	230	51.0	9.717	40	P260	13I41-	2	19
216	67.5	1.2	260	34.0	10.496	60	P260	13I41-	3	21

2.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g720-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
34.0	586	3.7	135	293	20.669	7	P260	14L41-	1	40
40.0	513	2.9	120	256	20.636	8	P260	14L41-	1	40
42.0	456	3.2	210	228	21.492	9	P260	14L41-	2	42
51.0	342	4.2	260	171	21.426	12	P260	14L41-	2	42
52.0	410	1.8	95.0	205	20.581	10	P260	14L41-	1	40
71.0	273	3.0	230	137	21.404	15	P260	14L41-	2	42
74.0	256	3.1	260	128	20.948	16	P260	14L41-	2	42
98.0	205	2.5	260	103	20.774	20	P260	14L41-	2	42
127	164	1.8	230	82.0	20.766	25	P260	14L41-	2	42
162	128	1.6	260	64.0	20.620	32	P260	14L41-	2	42
203	103	1.1	230	51.0	20.617	40	P260	14L41-	2	42

Inverter power supply 400 V, forced ventilated motors

2.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g720-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
40.0	487	3.2	135	244	9.769	7	P260	13I34-	1	19
47.0	426	2.5	120	213	9.736	8	P260	13I34-	1	19
50.0	379	2.9	210	189	10.592	9	P260	13I34-	2	21
60.0	341	1.6	95.0	171	9.681	10	P260	13I34-	1	19
63.0	284	3.6	260	142	10.526	12	P260	13I34-	2	21
85.0	227	2.5	230	114	10.504	15	P260	13I34-	2	21
90.0	213	2.7	260	107	10.048	16	P260	13I34-	2	21
117	171	2.2	260	85.0	9.874	20	P260	13I34-	2	21
148	136	1.5	230	68.0	9.866	25	P260	13I34-	2	21
190	107	1.4	260	53.0	9.720	32	P260	13I34-	2	21

Technical data

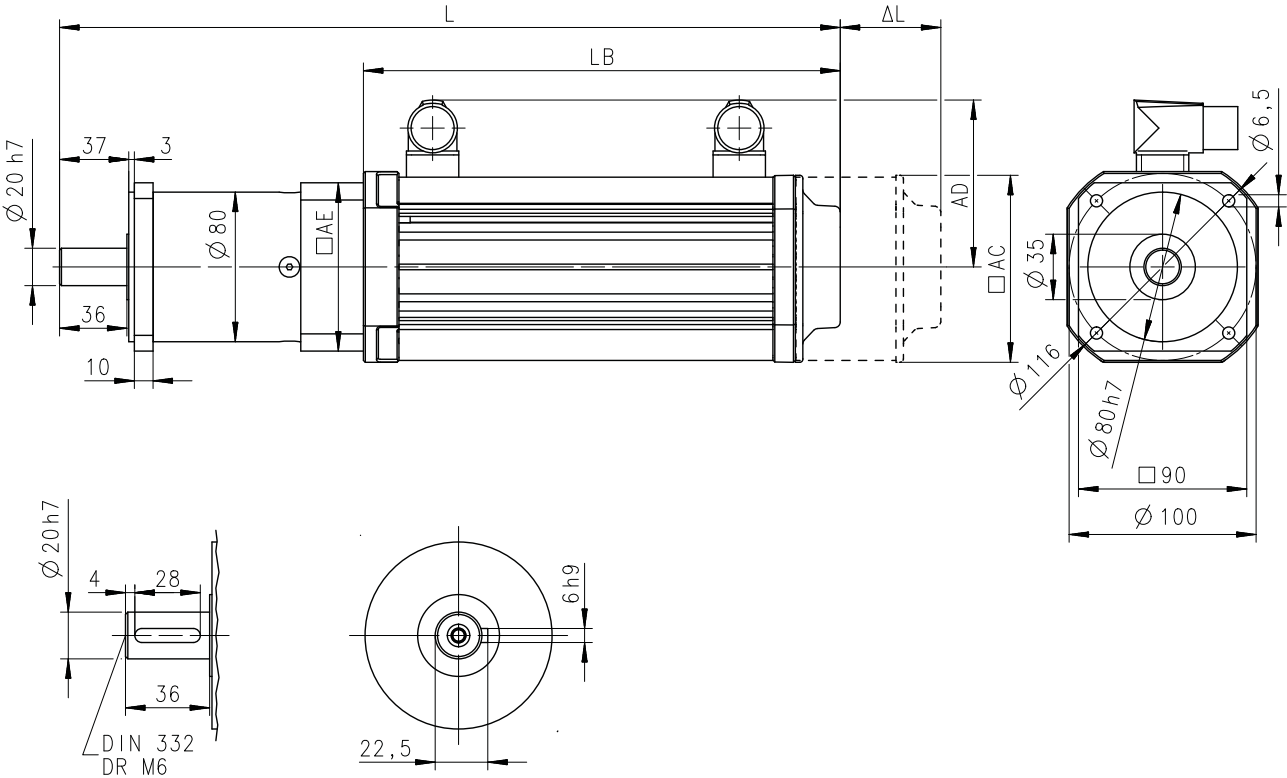
Planetary gearbox g720-P
Basic dimensions



Basic dimensions

g720-P130 with MCA10

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800867-00

Motor			MCA 10
			I40-
Total length	L	mm	407
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

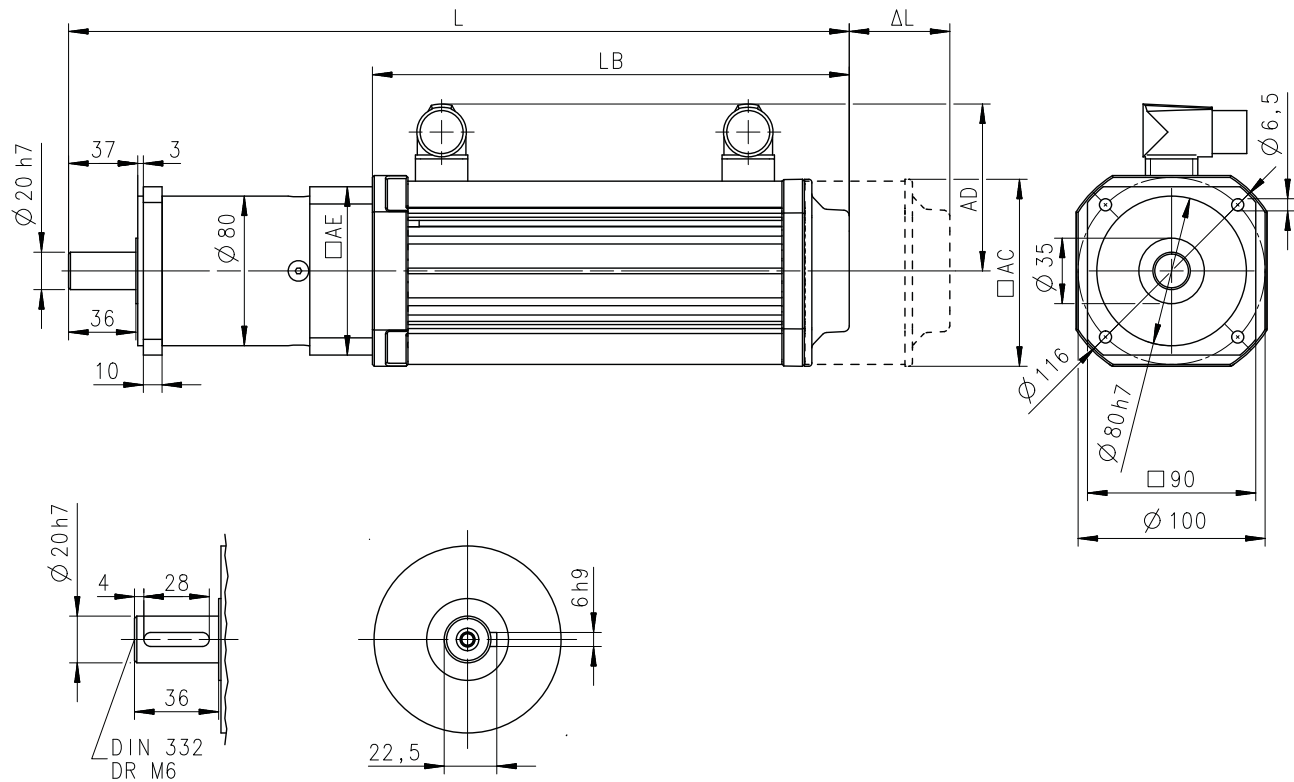


Technical data

Planetary gearbox g720-P
Basic dimensions

g720-P130 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800867-00

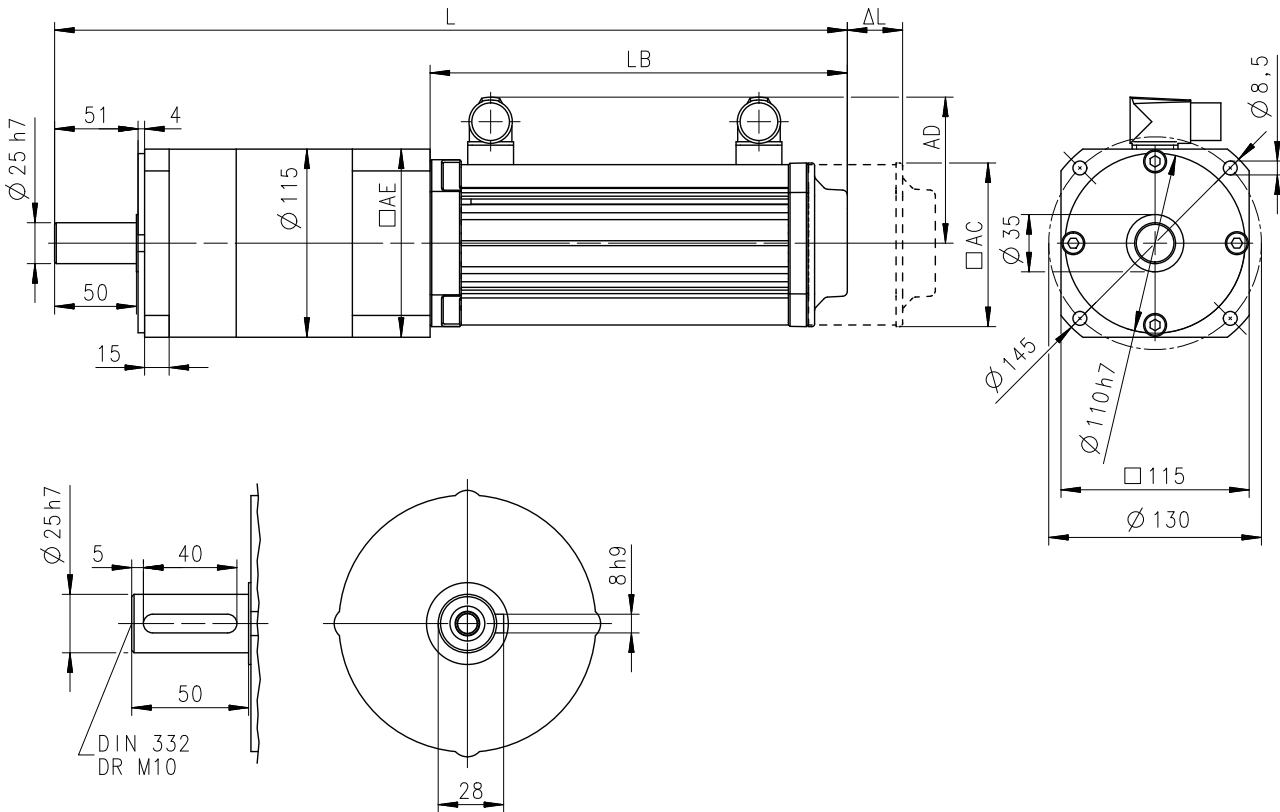
Motor			MCA 10
			I40-
Total length	L	mm	424.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g720-P
Basic dimensions



g720-P260 with MCA10
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800868-00

Motor			MCA 10
			I40-
Total length	L	mm	463.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

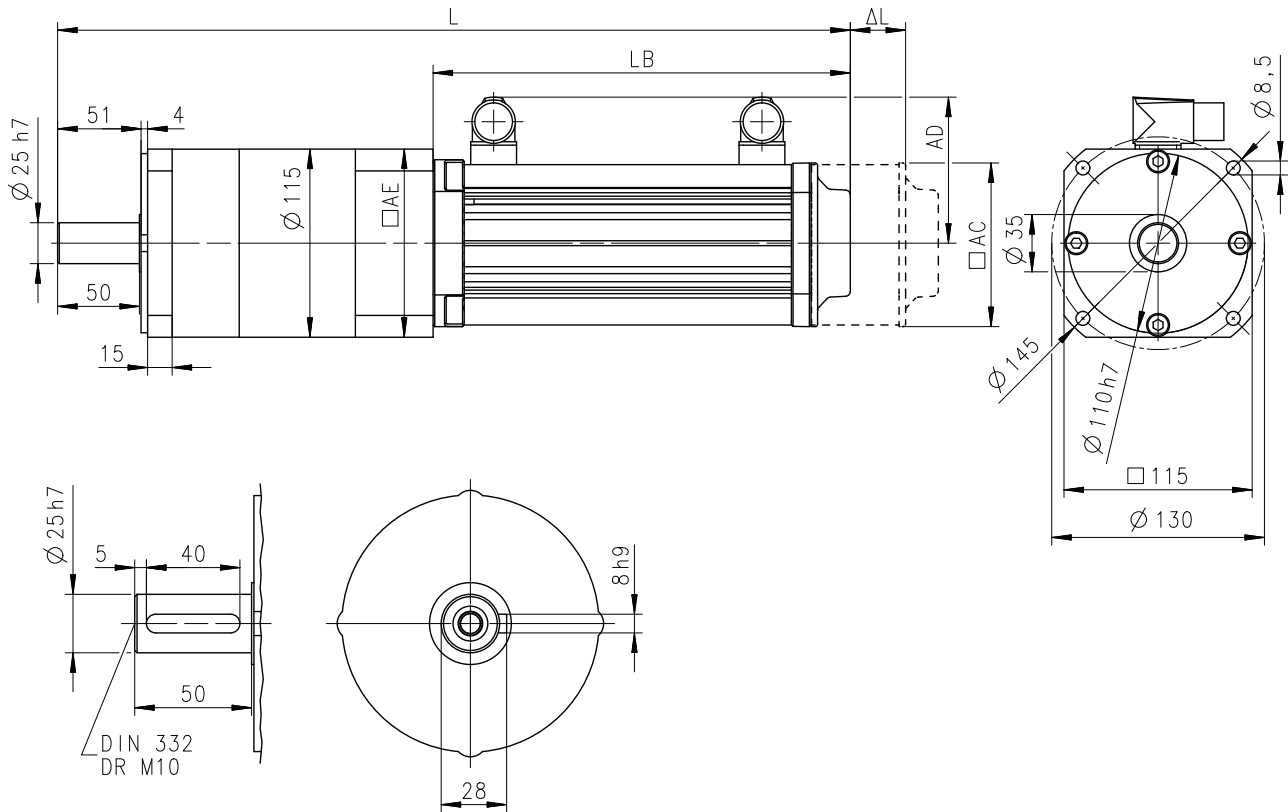


Technical data

Planetary gearbox g720-P
Basic dimensions

g720-P260 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800868-00

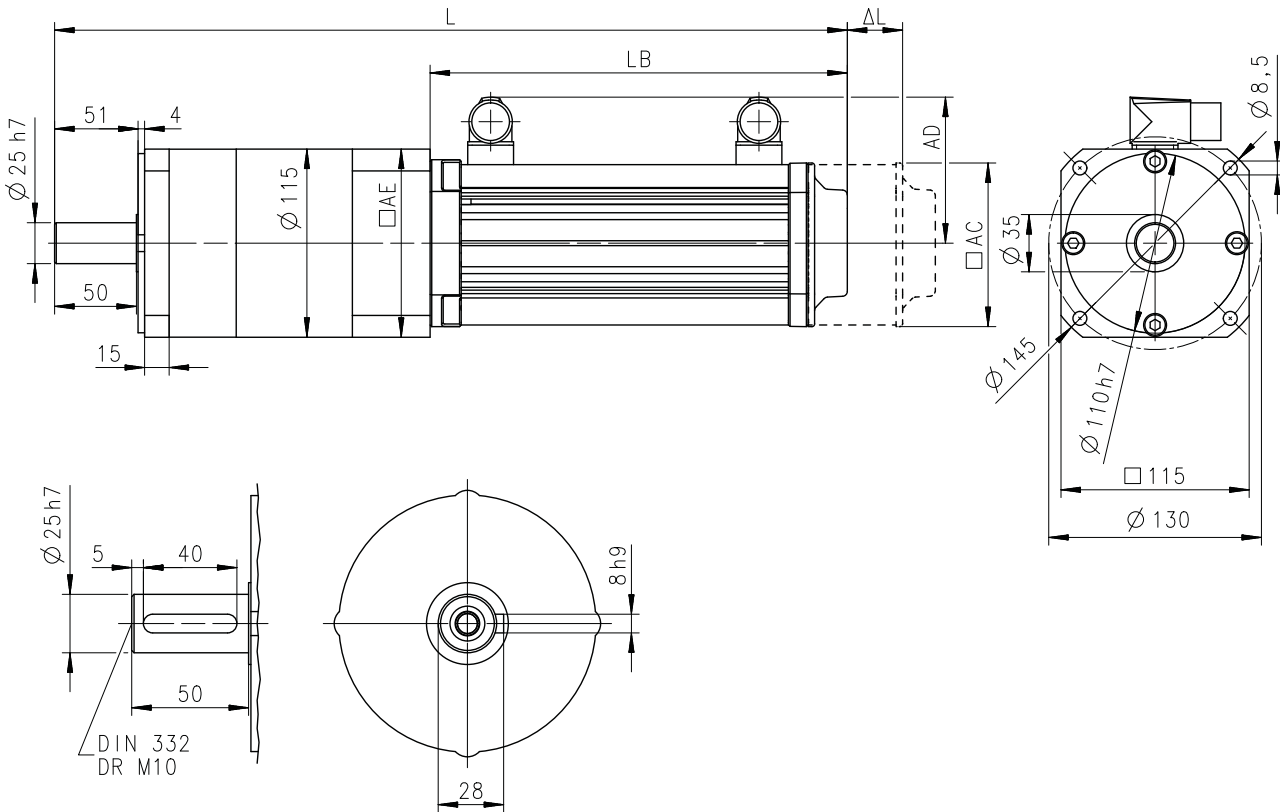
Motor			MCA 10
			I40-
Total length	L	mm	491.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

Technical data

Planetary gearbox g720-P
Basic dimensions



g720-P260 with MCA10
Gearbox design: Solid shaft, without foot with centering, 3-stage



8800868-00

Motor			MCA 10
			I40-
Total length	L	mm	519
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

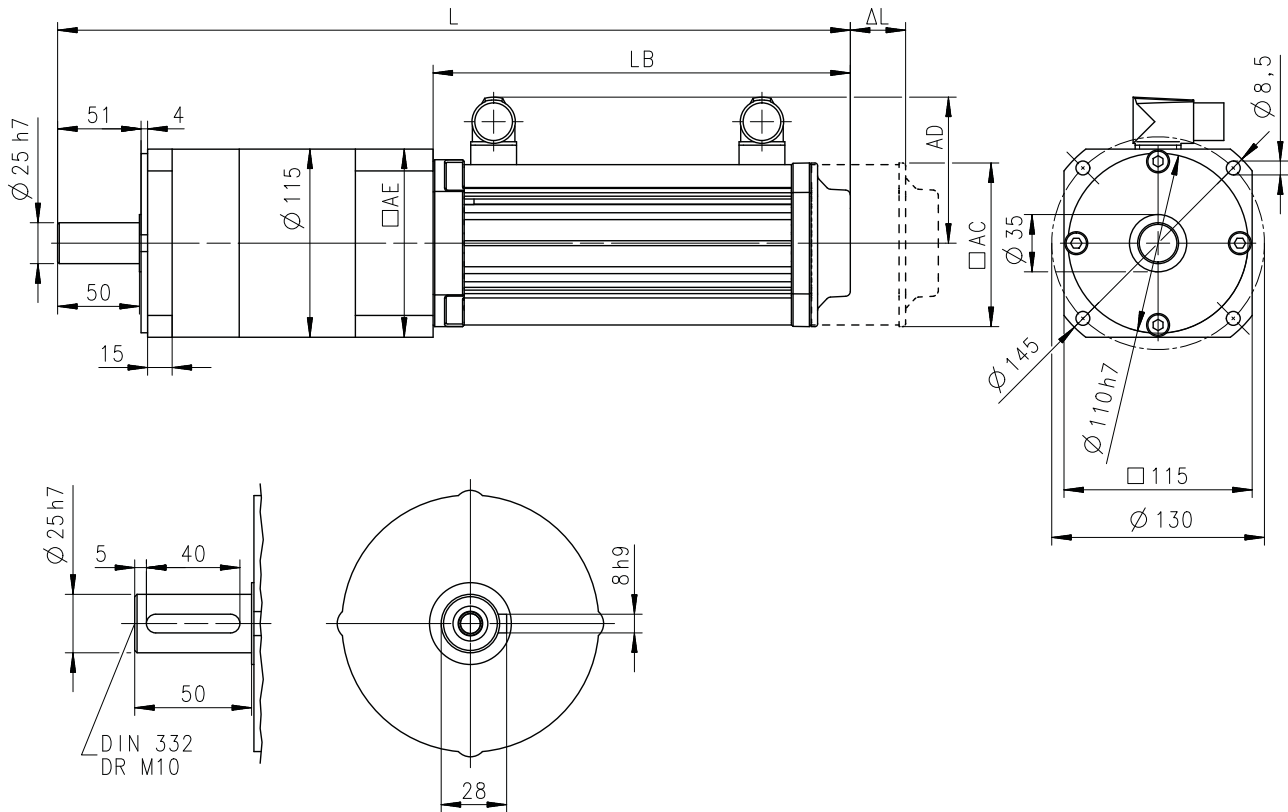


Technical data

Planetary gearbox g720-P
Basic dimensions

g720-P260 with MCA13

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800868-00

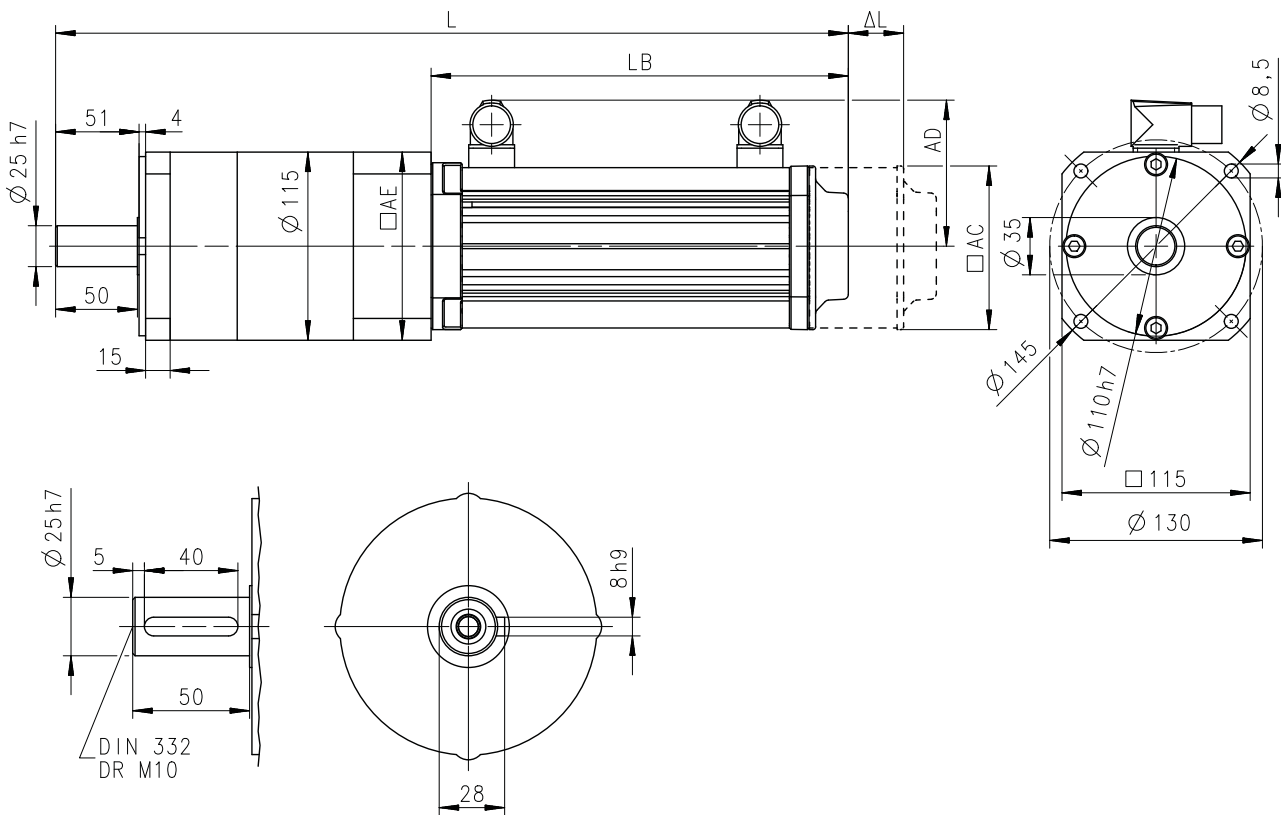
Motor			MCA 13	
			I34-	I41-
Total length	L	mm	540.5	472.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

Technical data

Planetary gearbox g720-P
Basic dimensions



g720-P260 with MCA13
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800868-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	568.5	500.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

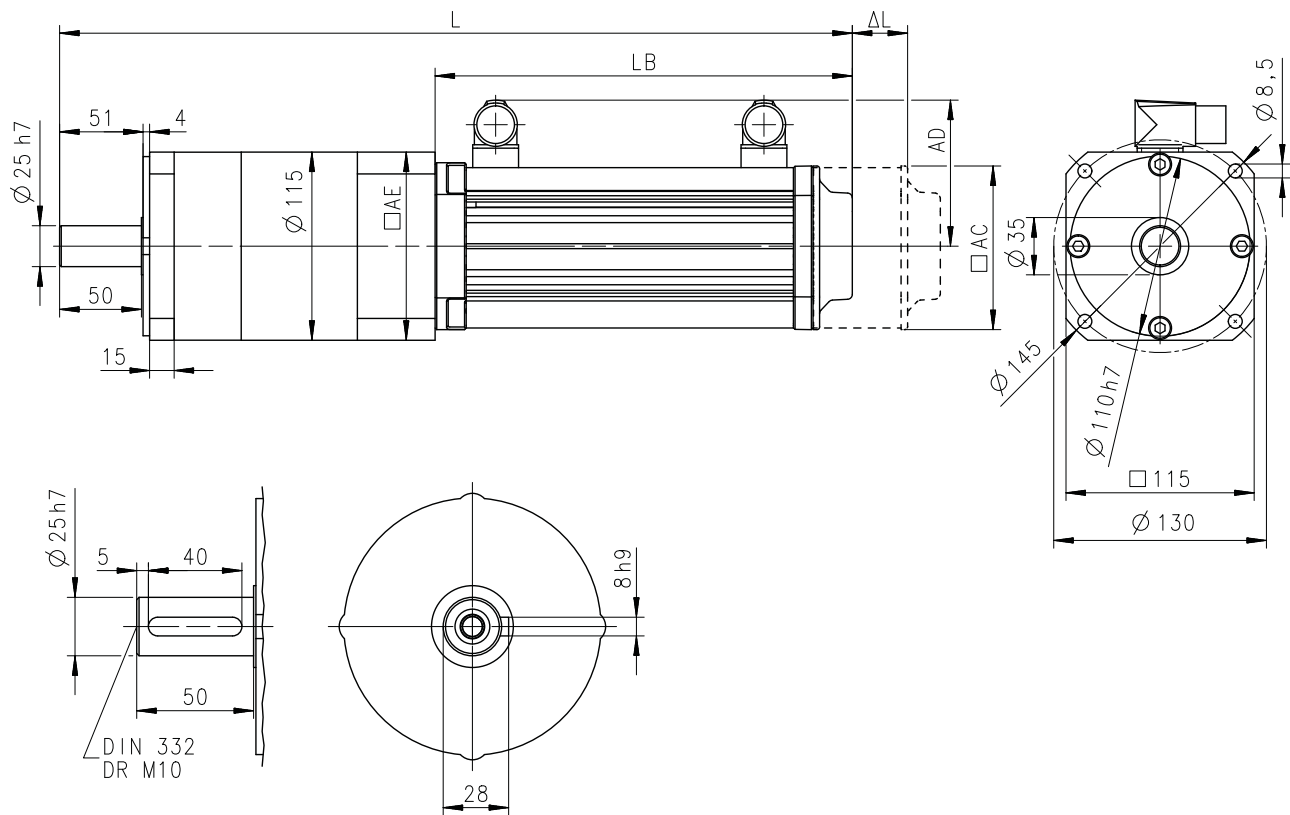


Technical data

Planetary gearbox g720-P
Basic dimensions

g720-P260 with MCA13

Gearbox design: Solid shaft, without foot with centering, 3-stage



8800868-00

Motor			MCA 13
			I41-
Total length	L	mm	528
Motor length	LB	mm	271
Motor diameter	AC	mm	130
Motor/connection distance	AD	mm	102
Gearbox diameter	AE	mm	115

Planetary gearbox g720-P

Basic dimensions



Technical drawing of a 1000 series hydraulic cylinder with a tie rod. The drawing includes a side view, a front view, and a detail of the tie rod.

Side View Dimensions:

- Bore diameter: $\varnothing 115$
- Tie rod diameter: $\varnothing 25\ h7$
- Stroke length: L
- Mounting bracket width: LB
- Mounting bracket height: AD
- Mounting bracket width (inner): AC
- Mounting bracket width (outer): AE
- Mounting bracket height (inner): 51
- Mounting bracket height (outer): 4
- Mounting bracket height (inner): 50
- Mounting bracket height (outer): 15

Front View Dimensions:

- Outer diameter: $\varnothing 130$
- Inner diameter: $\varnothing 115$
- Inner diameter (tie rod): $\varnothing 110\ h7$
- Inner diameter (tie rod): $\varnothing 145$
- Inner diameter (tie rod): $\varnothing 35$
- Inner diameter (tie rod): $\varnothing 8,5$

Tie Rod Detail Dimensions:

- Tie rod diameter: $\varnothing 25\ h7$
- Tie rod length: 50
- Tie rod width: 5
- Tie rod width: 40
- Tie rod width: 50
- Tie rod standard: DIN 332 DR M10

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	513.5	513.5
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	140	140

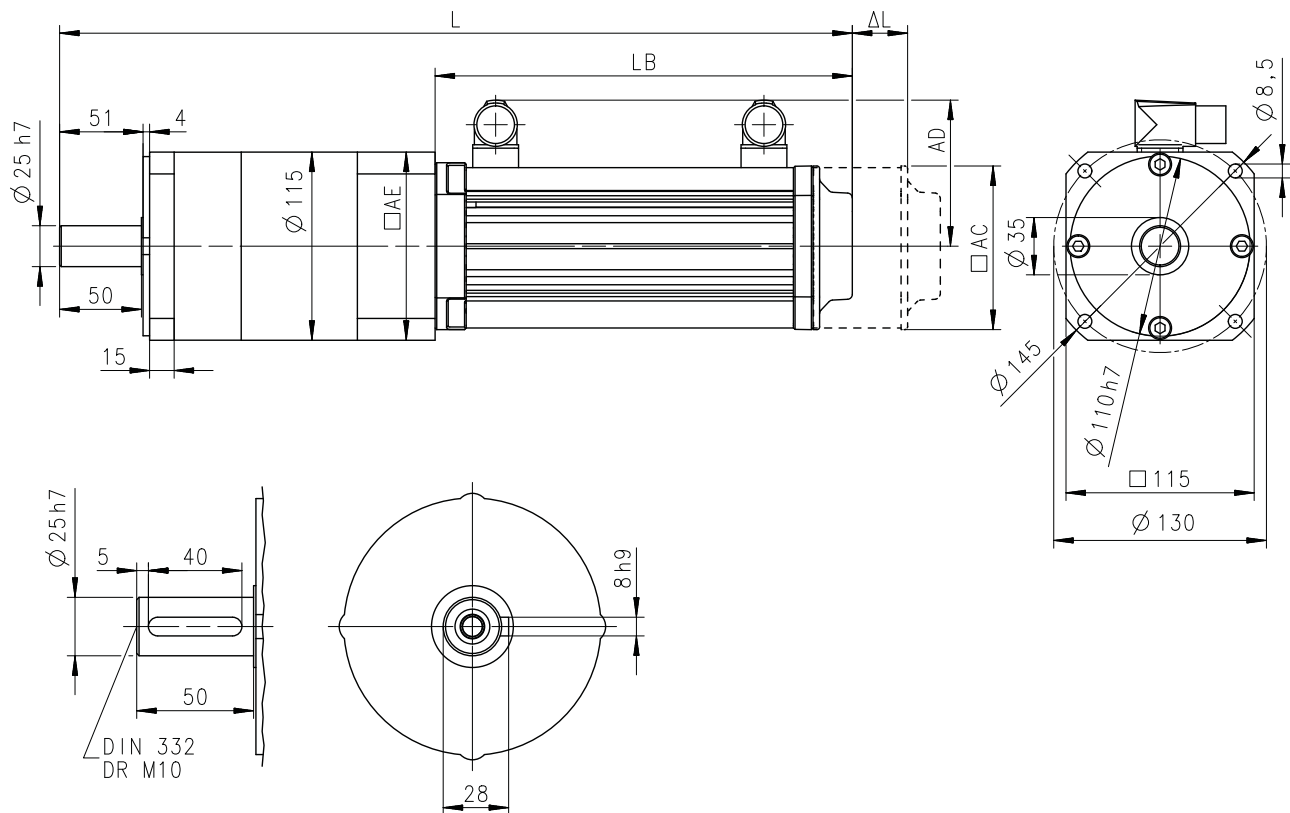


Technical data

Planetary gearbox g720-P
Basic dimensions

g720-P260 with MCA14

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800868-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	541.5	541.5
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	140	140

Technical data

Planetary gearbox g730-P
The modular system



Planetary gearbox g730-P

The modular system

g730-P planetary gearbox with MCA asynchronous servo motor

Gearboxes		g730-P97	g730-P195	g730-P460
Min. motor assignment		MCA10	MCA10	MCA13
Max. motor assignment		MCA10	MCA14	MCA19
Technical data				
Max. output torque	Nm	97	195	460
Min. drive torque	Nm	0.8	0.8	6.3
Max. drive torque	Nm	0.8	12	36
Mounting position		Any		
Color		Primed Painted in RAL colors		
Surface and corrosion protection		OKS-G Different types of OKS		
Output shaft				
Solid shaft with featherkey	mm	22 x 36	32 x 58	40 x 82
Smooth solid shaft	mm	22 x 36	32 x 58	40 x 82
Shaft material		Steel		
Shaft sealing ring material		NBR		
Gearbox design		Without foot with centering		
Gearbox stages		1/2	1/2	1/2
Output flange	mm	90	120	155
Lubricant		Standard Food-compatible		
Cooling		Self-ventilated Forced-ventilated		
Motor connection		ICN connector Terminal box		
Holding brake		Without Permanent magnet brake		
Feedback				
Without functional safety		Resolver Absolute value encoder Incremental encoder		
With functional safety		Resolver Incremental encoder		
Temperature monitoring		PT1000 temperature sensor		



Technical data

Planetary gearbox g730-P
Data overview

Data overview

g730-P97, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
7	65.0	7	12
8	50.0	7	12
10	38.0	7	11

g730-P97, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
9	97.0	9	12
12	90.0	9	16
15	82.0	9	15
16	90.0	9	16
20	90.0	9	16
25	82.0	9	16
32	90.0	9	16
40	82.0	9	16

g730-P195, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	115	7	32
5	172	7	40
7	135	7	31
8	120	7	31
4	155	7	39
10	95.0	7	26

g730-P195, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
9	157	9	37
12	195	9	43
15	172	9	41
16	195	9	44
20	195	9	44
25	172	9	41
32	195	9	43
40	172	9	41
64	120	9	32

Technical data

Planetary gearbox g730-P
Radial forces and axial forces



g730-P460, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
4	460	8	68
5	445	8	71
10	210	8	57

g730-P460, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
16	460	10	73
20	460	10	73
25	445	10	73
40	460	10	72
50	445	10	73

Radial forces and axial forces

Gearbox			g730-P97	g730-P195	g730-P460
Bearing service life 20000 h					
Speed		rpm	100	100	100
Radial force	F_{rad}	rated	1900	2500	5200
Axial force	F_{ax}	rated	2000	4000	7000
Bearing service life 30000 h					
Speed		rpm	100	100	100
Radial force	F_{rad}	rated	1700	2150	4600
Axial force	F_{ax}	rated	1500	3000	6000
Max. radial force	$F_{\text{rad, max}}$	rated	3100	4000	8400
Max. axial force	$F_{\text{ax, max}}$	rated	3800	5900	11000



Technical data

Planetary gearbox g730-P
Selection tables

Selection tables

Inverter power supply 400 V, self-ventilated motors

0.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
12.0	564	4.8	65.0	282	2.809	7	P97	10I40-	1	9.4
15.0	494	3.2	50.0	247	2.794	8	P97	10I40-	1	9.4
16.0	439	3.1	97.0	219	3.025	9	P97	10I40-	2	10
17.0	395	5.0	95.0	198	3.819	10	P195	10I40-	1	14
19.0	395	2.0	38.0	198	2.774	10	P97	10I40-	1	9.4
20.0	329	3.8	90.0	165	3.001	12	P97	10I40-	2	10
20.0	263	6.0	172	132	4.618	15	P195	10I40-	2	16
26.0	263	2.9	82.0	132	2.992	15	P97	10I40-	2	10
28.0	247	2.9	90.0	123	2.853	16	P97	10I40-	2	10
29.0	198	5.1	195	99.0	3.982	20	P195	10I40-	2	16
37.0	198	2.4	90.0	99.0	2.810	20	P97	10I40-	2	10
41.0	158	3.6	172	79.0	3.971	25	P195	10I40-	2	16
47.0	158	1.7	82.0	79.0	2.806	25	P97	10I40-	2	10
55.0	123	3.2	195	62.0	3.823	32	P195	10I40-	2	16
60.0	123	1.5	90.0	62.0	2.768	32	P97	10I40-	2	10
73.0	98.8	2.3	172	49.0	3.819	40	P195	10I40-	2	16
75.0	98.8	1.1	82.0	49.0	2.766	40	P97	10I40-	2	10
114	61.7	1.1	120	31.0	3.815	64	P195	10I40-	2	16

1.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
17.0	667	5.1	115	333	21.964	3	P195	14L20-	1	41
22.0	500	5.9	155	250	21.251	4	P195	14L20-	1	41
28.0	400	5.2	172	200	20.968	5	P195	14L20-	1	41
43.0	286	3.0	135	143	20.746	7	P195	14L20-	1	41
51.0	250	2.3	120	125	20.695	8	P195	14L20-	1	41
55.0	222	2.4	157	111	21.534	9	P195	14L20-	2	43
61.0	200	3.2	210	100	24.132	10	P460	14L20-	1	50
64.0	200	1.5	95.0	100	20.619	10	P195	14L20-	1	41
73.0	167	2.5	195	83.0	21.448	12	P195	14L20-	2	43
82.0	125	4.5	460	63.0	26.308	16	P460	14L20-	2	54
94.0	133	1.8	172	67.0	21.418	15	P195	14L20-	2	43
101	125	1.9	195	63.0	20.960	16	P195	14L20-	2	43
111	100	3.6	460	50.0	25.372	20	P460	14L20-	2	54
126	100	1.5	195	50.0	20.782	20	P195	14L20-	2	43
148	80.0	2.8	445	40.0	25.317	25	P460	14L20-	2	54
157	80.0	1.1	172	40.0	20.771	25	P195	14L20-	2	43
252	50.0	1.8	460	25.0	24.307	40	P460	14L20-	2	54
315	40.0	1.4	445	20.0	23.974	50	P460	14L20-	2	54

Technical data

Planetary gearbox g730-P
Selection tables



1.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
24.0	579	5.0	135	289	9.846	7	P195	13I41-	1	18
28.0	506	3.9	120	253	9.795	8	P195	13I41-	1	18
31.0	450	3.3	157	225	10.634	9	P195	13I41-	2	20
33.0	405	5.4	210	203	13.232	10	P460	13I41-	1	27
38.0	405	2.5	95.0	203	9.719	10	P195	13I41-	1	18
38.0	338	4.2	195	169	10.548	12	P195	13I41-	2	20
52.0	270	3.0	172	135	10.518	15	P195	13I41-	2	20
53.0	203	6.0	460	101	14.472	20	P460	13I41-	2	31
55.0	253	3.2	195	127	10.060	16	P195	13I41-	2	20
72.0	203	2.6	195	101	9.882	20	P195	13I41-	2	20
76.0	162	4.6	445	81.0	14.417	25	P460	13I41-	2	31
94.0	162	1.8	172	81.0	9.871	25	P195	13I41-	2	20
120	127	1.6	195	63.0	9.723	32	P195	13I41-	2	20
139	101	3.0	460	51.0	13.407	40	P460	13I41-	2	31
149	101	1.2	172	51.0	9.719	40	P195	13I41-	2	20
183	81.0	2.3	445	41.0	13.074	50	P460	13I41-	2	31

2.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
14.0	1367	5.1	115	683	21.964	3	P195	14L41-	1	41
22.0	820	5.5	172	410	20.968	5	P195	14L41-	1	41
34.0	586	3.7	135	293	20.746	7	P195	14L41-	1	41
40.0	513	2.9	120	256	20.695	8	P195	14L41-	1	41
44.0	456	2.4	157	228	21.534	9	P195	14L41-	2	43
48.0	410	4.0	210	205	24.132	10	P460	14L41-	1	50
52.0	410	1.8	95.0	205	20.619	10	P195	14L41-	1	41
56.0	342	3.1	195	171	21.448	12	P195	14L41-	2	43
60.0	256	5.6	460	128	26.308	16	P460	14L41-	2	54
75.0	273	2.2	172	137	21.418	15	P195	14L41-	2	43
79.0	256	2.4	195	128	20.960	16	P195	14L41-	2	43
83.0	205	4.4	460	103	25.372	20	P460	14L41-	2	54
102	205	1.9	195	103	20.782	20	P195	14L41-	2	43
113	164	3.4	445	82.0	25.317	25	P460	14L41-	2	54
127	164	1.3	172	82.0	20.771	25	P195	14L41-	2	43
162	128	1.2	195	64.0	20.623	32	P195	14L41-	2	43
199	103	2.2	460	51.0	24.307	40	P460	14L41-	2	54
254	82.0	1.7	445	41.0	23.974	50	P460	14L41-	2	54

2.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
104	230	2.0	210	115	40.932	10	P460	17N23-	1	57
153	144	2.8	460	72.0	43.108	16	P460	17N23-	2	61
200	115	2.2	460	58.0	42.172	20	P460	17N23-	2	61
254	92.0	1.7	445	46.0	42.117	25	P460	17N23-	2	61
406	57.5	1.1	460	29.0	41.107	40	P460	17N23-	2	61



Technical data

Planetary gearbox g730-P
Selection tables

4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
67.0	468	5.5	445	234	78.482	5	P460	19S23-	1	86
156	234	1.3	210	117	76.932	10	P460	19S23-	1	86
245	146	1.8	460	73.0	79.108	16	P460	19S23-	2	90
306	117	1.5	460	59.0	78.172	20	P460	19S23-	2	90
383	93.6	1.1	445	47.0	78.117	25	P460	19S23-	2	90

4.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
90.0	411	2.3	210	206	40.932	10	P460	17N41-	1	57
131	257	3.2	460	128	43.108	16	P460	17N41-	2	61
172	206	2.5	460	103	42.172	20	P460	17N41-	2	61
223	164	2.0	445	82.0	42.117	25	P460	17N41-	2	61
357	103	1.3	460	51.0	41.107	40	P460	17N41-	2	61

5.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
115	415	1.8	210	208	76.932	10	P460	19S42-	1	86
174	259	2.5	460	130	79.108	16	P460	19S42-	2	90
226	208	2.0	460	104	78.172	20	P460	19S42-	2	90
282	166	1.6	445	83.0	78.117	25	P460	19S42-	2	90
451	104	1.0	460	52.0	77.107	40	P460	19S42-	2	90

Technical data

Planetary gearbox g730-P
Selection tables



Inverter power supply 400 V, forced ventilated motors

2.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
115	164	1.8	210	82.0	24.132	10	P460	14L16-	1	51
174	102	2.5	460	51.0	26.308	16	P460	14L16-	2	55
226	81.8	2.0	460	41.0	25.372	20	P460	14L16-	2	55
282	65.4	1.6	445	33.0	25.317	25	P460	14L16-	2	55
451	40.9	1.0	460	20.0	24.307	40	P460	14L16-	2	55

2.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
16.0	1137	4.6	115	568	11.064	3	P195	13I34-	1	20
26.0	682	5.0	172	341	10.068	5	P195	13I34-	1	20
40.0	487	3.2	135	244	9.846	7	P195	13I34-	1	20
47.0	426	2.5	120	213	9.795	8	P195	13I34-	1	20
53.0	379	2.2	157	189	10.634	9	P195	13I34-	2	22
57.0	341	3.4	210	171	13.232	10	P460	13I34-	1	29
60.0	341	1.6	95.0	171	9.719	10	P195	13I34-	1	20
67.0	284	2.7	195	142	10.548	12	P195	13I34-	2	22
75.0	213	4.8	460	107	15.408	16	P460	13I34-	2	33
89.0	227	1.9	172	114	10.518	15	P195	13I34-	2	22
95.0	213	2.0	195	107	10.060	16	P195	13I34-	2	22
103	171	3.8	460	85.0	14.472	20	P460	13I34-	2	33
118	171	1.6	195	85.0	9.882	20	P195	13I34-	2	22
138	136	2.9	445	68.0	14.417	25	P460	13I34-	2	33
148	136	1.2	172	68.0	9.871	25	P195	13I34-	2	22
190	107	1.0	195	53.0	9.723	32	P195	13I34-	2	22
237	85.3	1.9	460	43.0	13.407	40	P460	13I34-	2	33
296	68.2	1.5	445	34.0	13.074	50	P460	13I34-	2	33

3.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
71.0	420	5.5	460	210	43.611	4	P460	17N17-	1	60
94.0	336	4.2	445	168	42.482	5	P460	17N17-	1	60
206	168	1.0	210	84.0	40.932	10	P460	17N17-	1	60
323	105	1.4	460	53.0	43.108	16	P460	17N17-	2	64
404	84.0	1.1	460	42.0	42.172	20	P460	17N17-	2	64

3.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
104	346	2.0	210	173	24.132	10	P460	14L35-	1	51
153	216	2.8	460	108	26.308	16	P460	14L35-	2	55
200	173	2.2	460	86.0	25.372	20	P460	14L35-	2	55
254	138	1.7	445	69.0	25.317	25	P460	14L35-	2	55
406	86.4	1.1	460	43.0	24.307	40	P460	14L35-	2	55



Technical data

Planetary gearbox g730-P
Selection tables

6.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
132	425	3.2	460	213	79.611	4	P460	19S17-	1	90
171	340	2.5	445	170	78.482	5	P460	19S17-	1	90

6.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
64.0	870	5.0	460	435	43.611	4	P460	17N35-	1	60
83.0	696	4.2	445	348	42.482	5	P460	17N35-	1	60
182	348	1.1	210	174	40.932	10	P460	17N35-	1	60
286	218	1.6	460	109	43.108	16	P460	17N35-	2	64
357	174	1.3	460	87.0	42.172	20	P460	17N35-	2	64

13.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g730-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
135	878	2.6	460	439	79.611	4	P460	19S35-	1	90
171	702	2.2	445	351	78.482	5	P460	19S35-	1	90

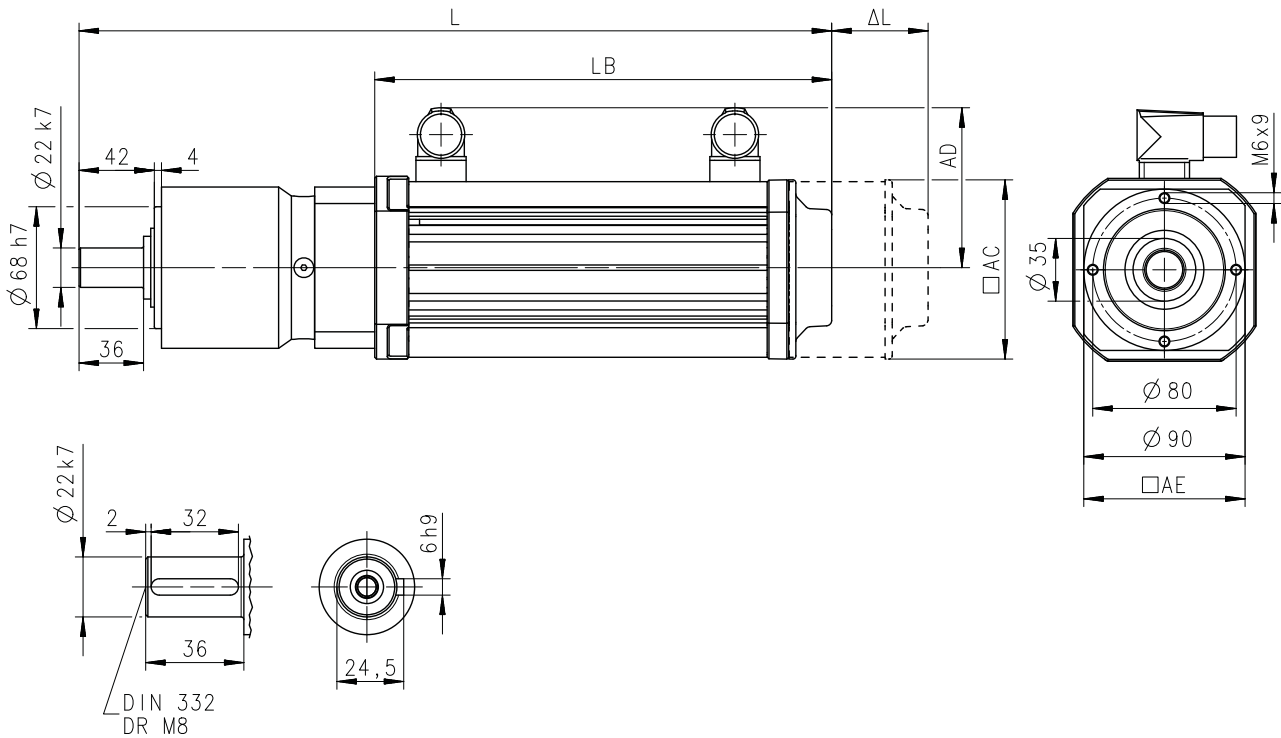
Technical data

Planetary gearbox g730-P
Basic dimensions



Basic dimensions

g730-P97 with MCA10
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800869-00

Motor			MCA 10
			I40-
Total length	L	mm	409
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

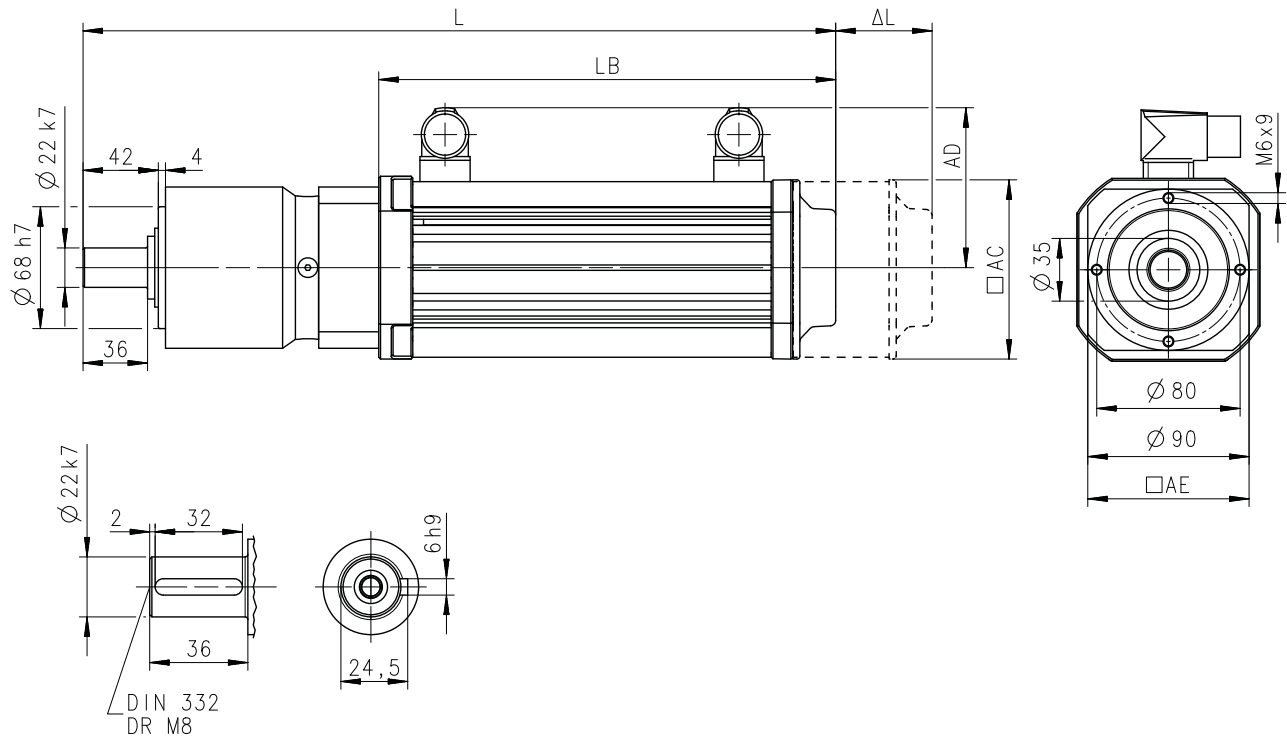


Technical data

Planetary gearbox g730-P
Basic dimensions

g730-P97 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800869-00

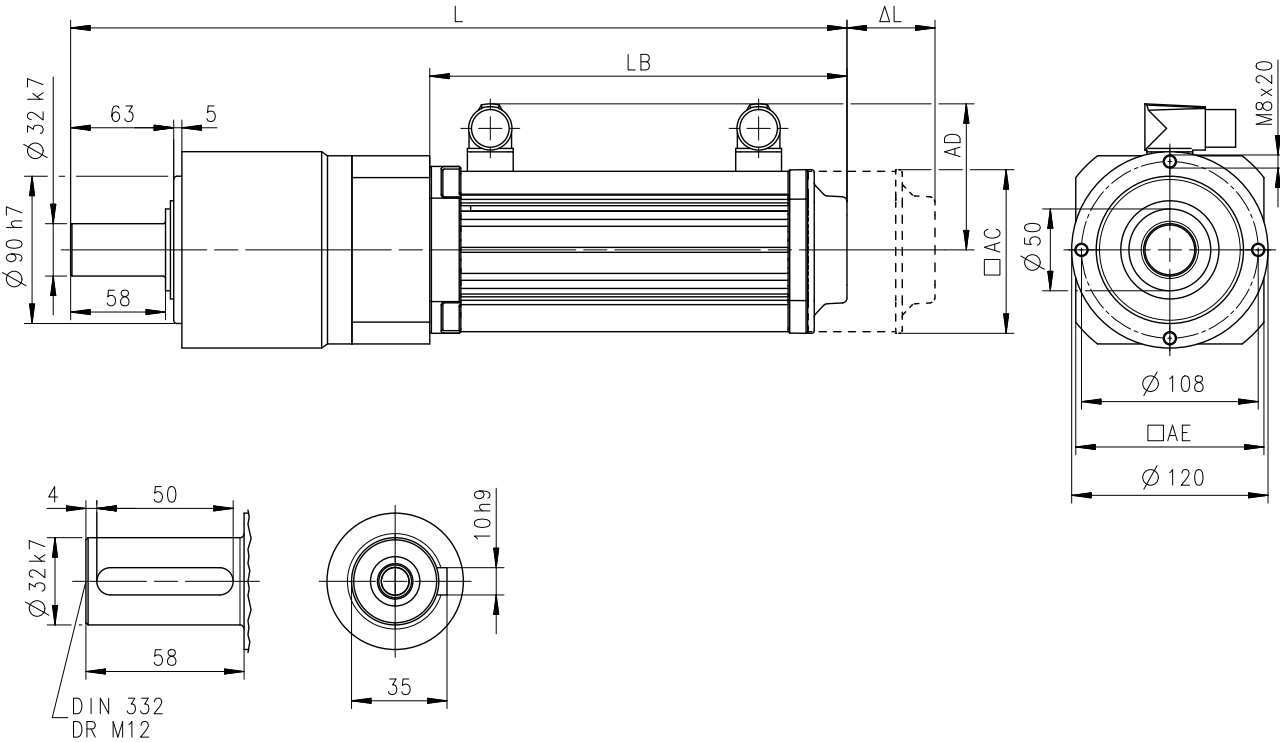
Motor			MCA 10
			I40-
Total length	L	mm	427
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g730-P
Basic dimensions



g730-P195 with MCA10
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800870-00

Motor			MCA 10
			I40-
Total length	L	mm	454
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

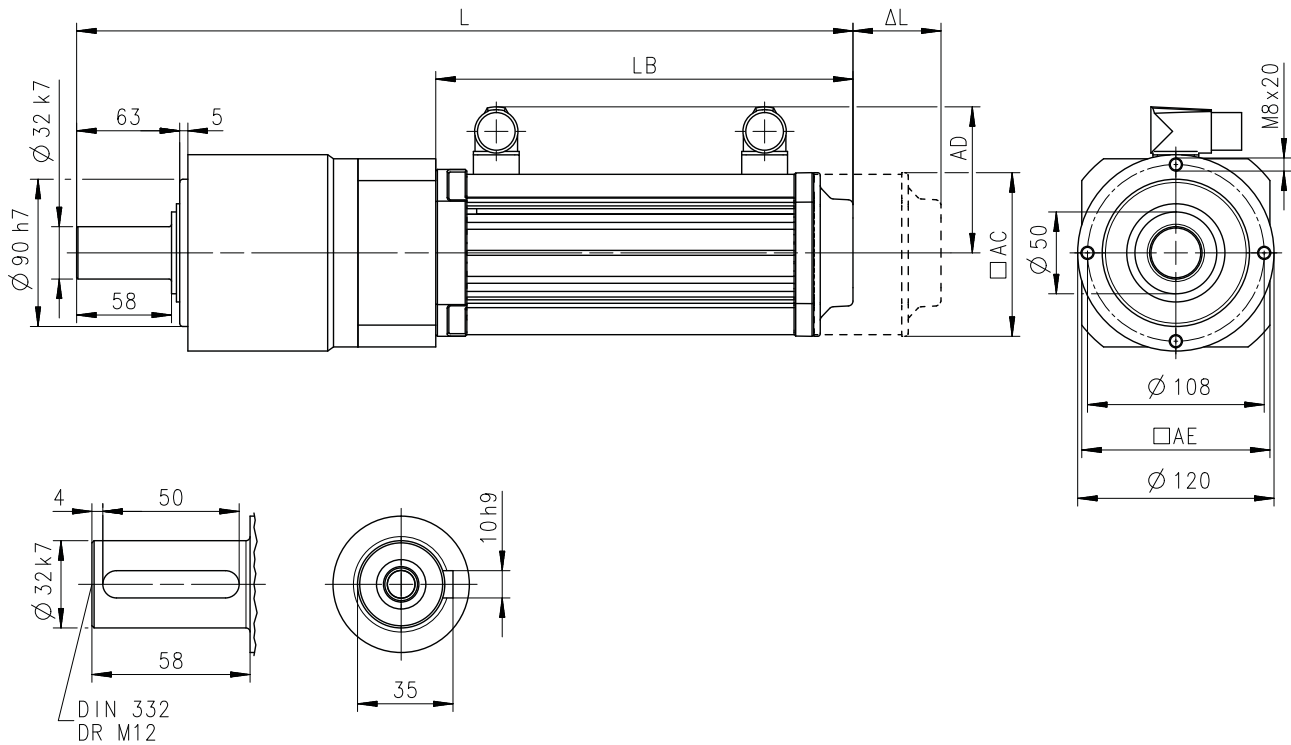


Technical data

Planetary gearbox g730-P
Basic dimensions

g730-P195 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800870-00

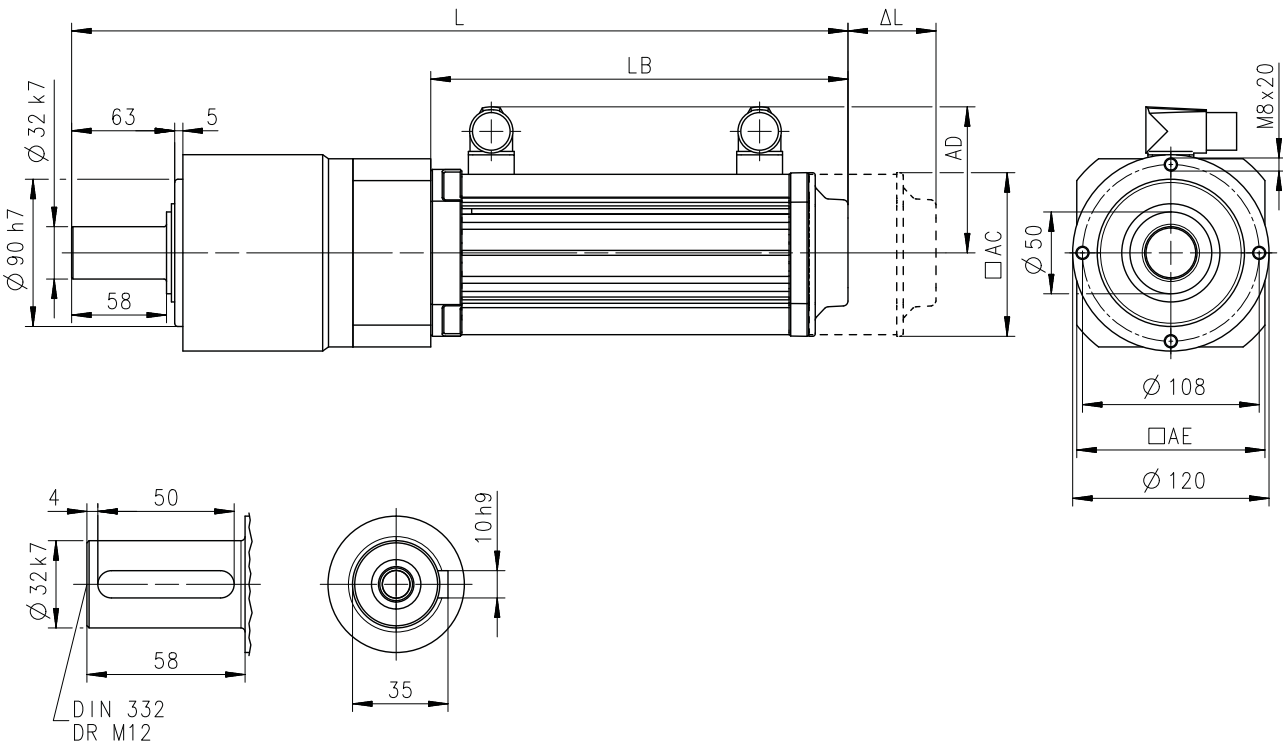
Motor			MCA 10
			I40-
Total length	L	mm	481.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

Technical data
Planetary gearbox g730-P
Basic dimensions



g730-P195 with MCA13

Gearbox design: Solid shaft, without foot with centering, 1-stage

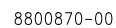


8800870-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	531	463
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115



Gearbox design: Solid shaft, without foot with centering, 2-stage

81

Planetary gearbox g730-P

Basic dimensions



Technical drawing of a hydraulic cylinder showing three views: front, side, and end view.

Front View (Top): Shows the main body of the cylinder. Dimensions include:

- Overall length: L
- Stroke length: LB
- End cap thickness: ΔL
- Mounting bracket width: AD
- Mounting bracket height: AC
- End cap diameter: $\varnothing 90$
- End cap height: $h7$
- End cap flange thickness: 63
- End cap flange diameter: $\varnothing 32$
- End cap flange height: 5
- End cap flange width: 58

Side View (Bottom Left): Shows the side profile of the cylinder. Dimensions include:

- Overall width: 50
- Side flange thickness: 4
- Side flange diameter: $\varnothing 32$
- Side flange height: $h7$
- Side flange width: 58

End View (Bottom Right): Shows the end of the cylinder. Dimensions include:

- Overall diameter: $\varnothing 120$
- Mounting bracket diameter: $\varnothing 108$
- Mounting bracket height: AE
- Mounting bracket width: 10
- Mounting bracket height: $h9$
- Mounting bracket diameter: $\varnothing 35$

Labels:

- $DIN 332$
- $DR M12$
- $M8 \times 20$

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	504	504
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	140	140

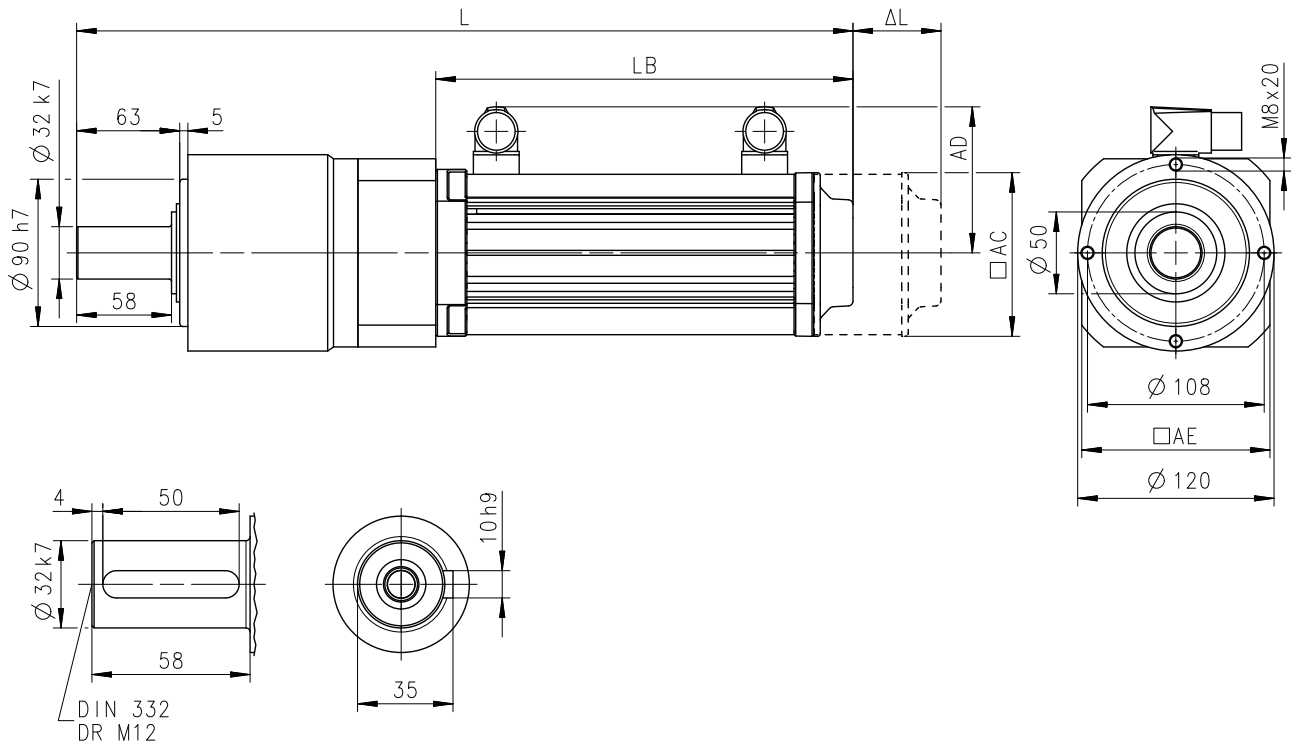


Technical data

Planetary gearbox g730-P
Basic dimensions

g730-P195 with MCA14

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800870-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	531.5	531.5
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	140	140

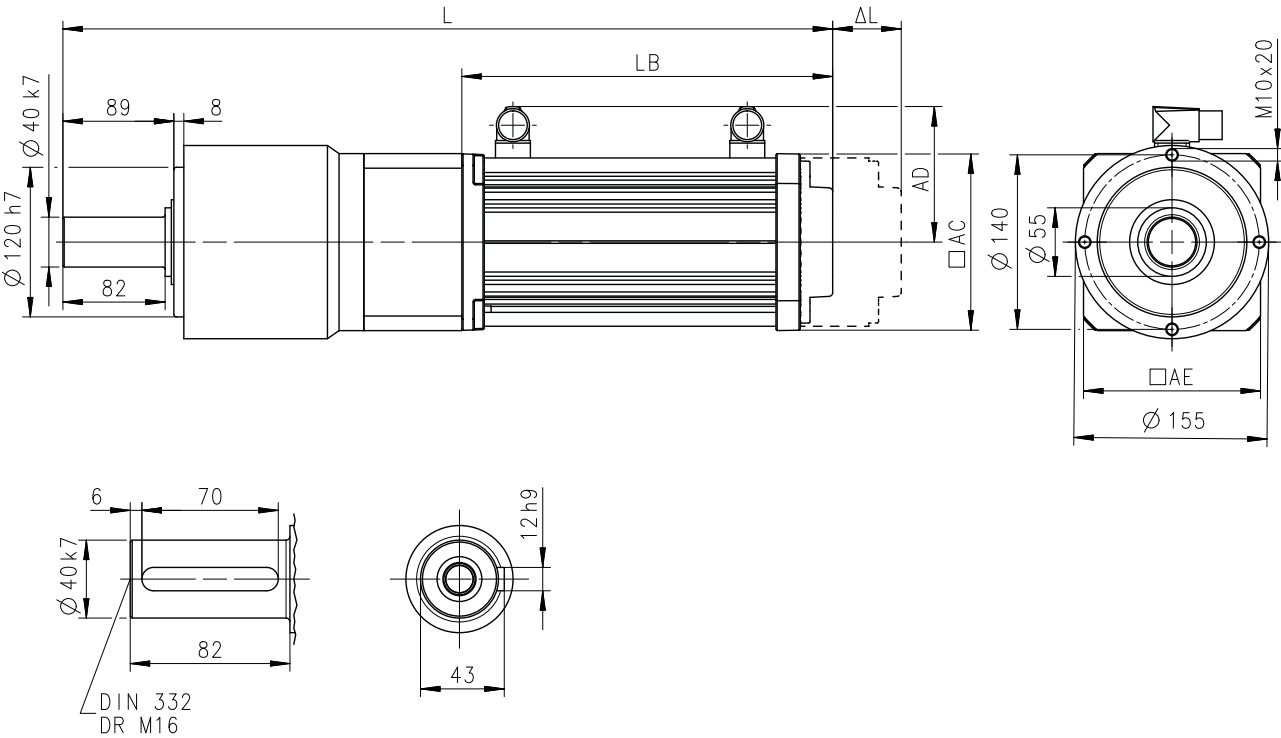
Technical data

Planetary gearbox g730-P
Basic dimensions



g730-P460 with MCA13

Gearbox design: Solid shaft, without foot with centering, 1-stage

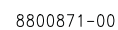


8800871-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	614.5	546.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	142	142



Gearbox design: Solid shaft, without foot with centering, 2-stage

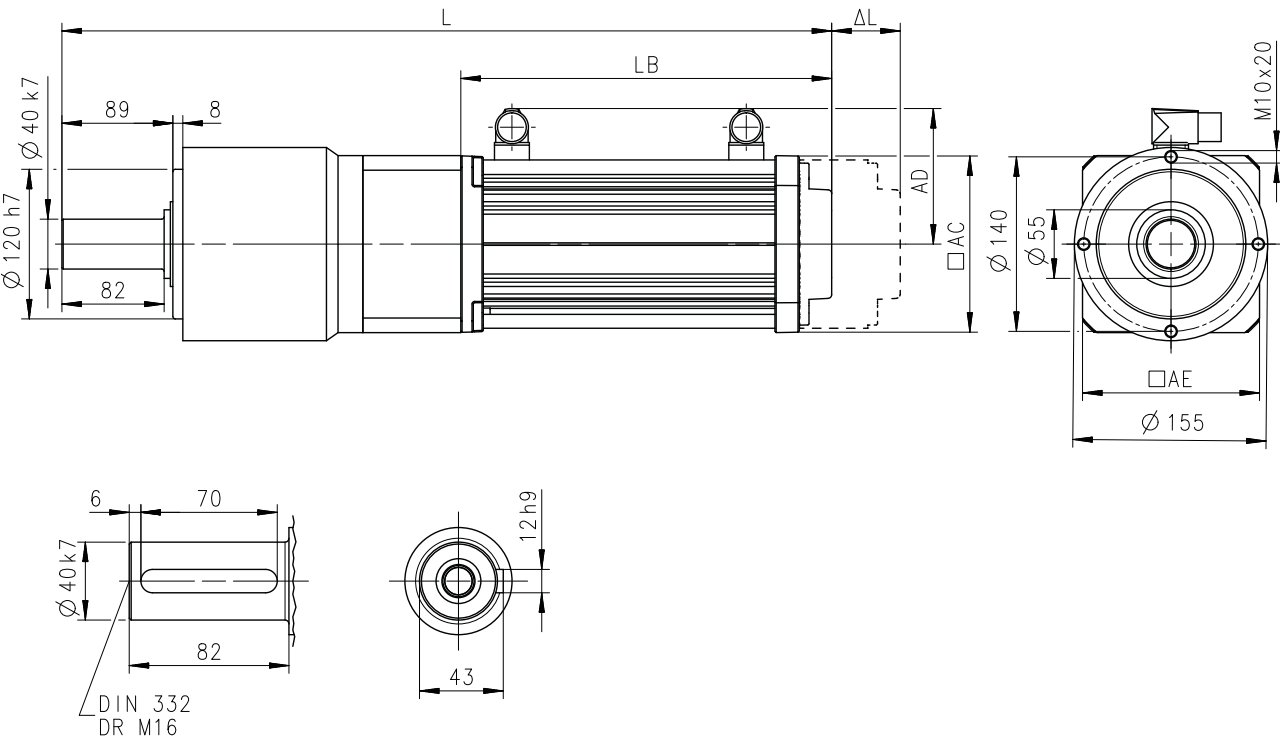
85

Technical data

Planetary gearbox g730-P
Basic dimensions



g730-P460 with MCA14
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800871-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	639.5	577.5	639.5	577.5
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

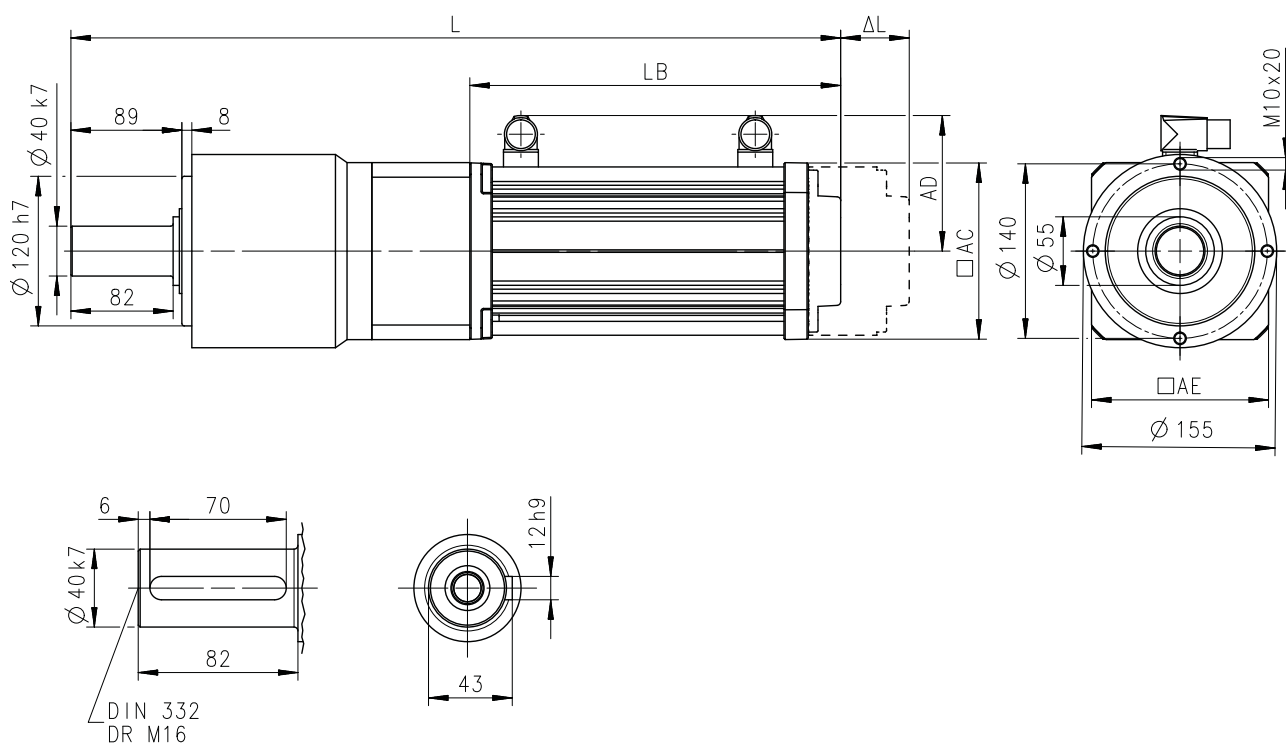


Technical data

Planetary gearbox g730-P
Basic dimensions

g730-P460 with MCA14

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800871-00

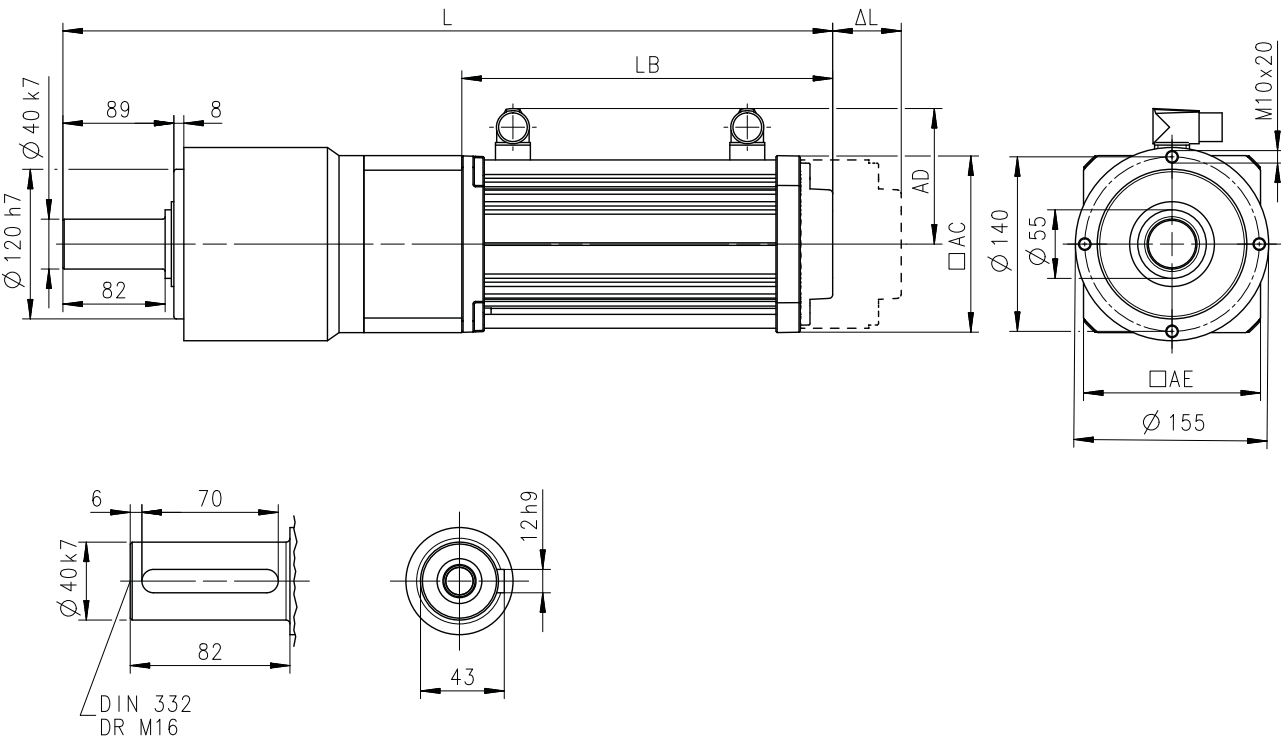
Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	684	622	684	622
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

Technical data

Planetary gearbox g730-P
Basic dimensions



g730-P460 with MCA17
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800871-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	701.5	615.5	701.5	615.5
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

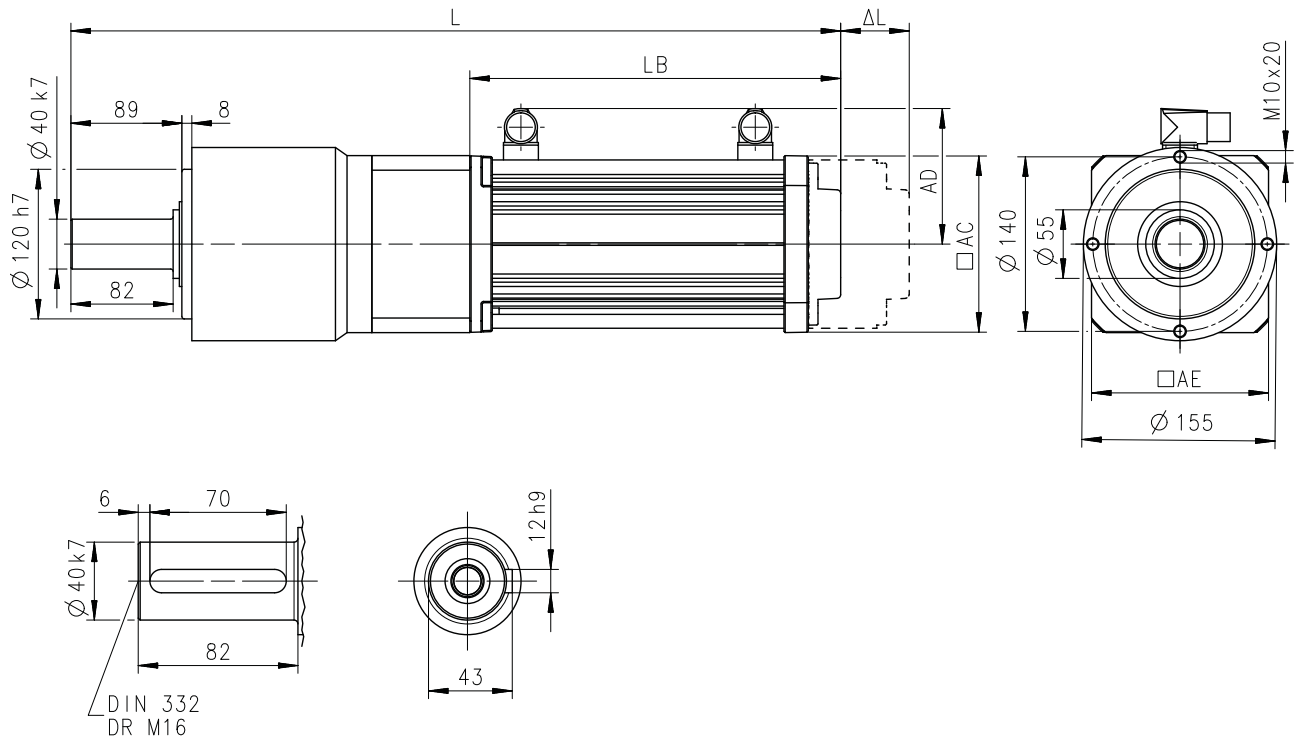


Technical data

Planetary gearbox g730-P
Basic dimensions

g730-P460 with MCA17

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800871-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	746	660	746	660
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

Planetary gearbox g730-P

Basic dimensions

[illegible]

Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	783.5	686.5	783.5	686.5
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190

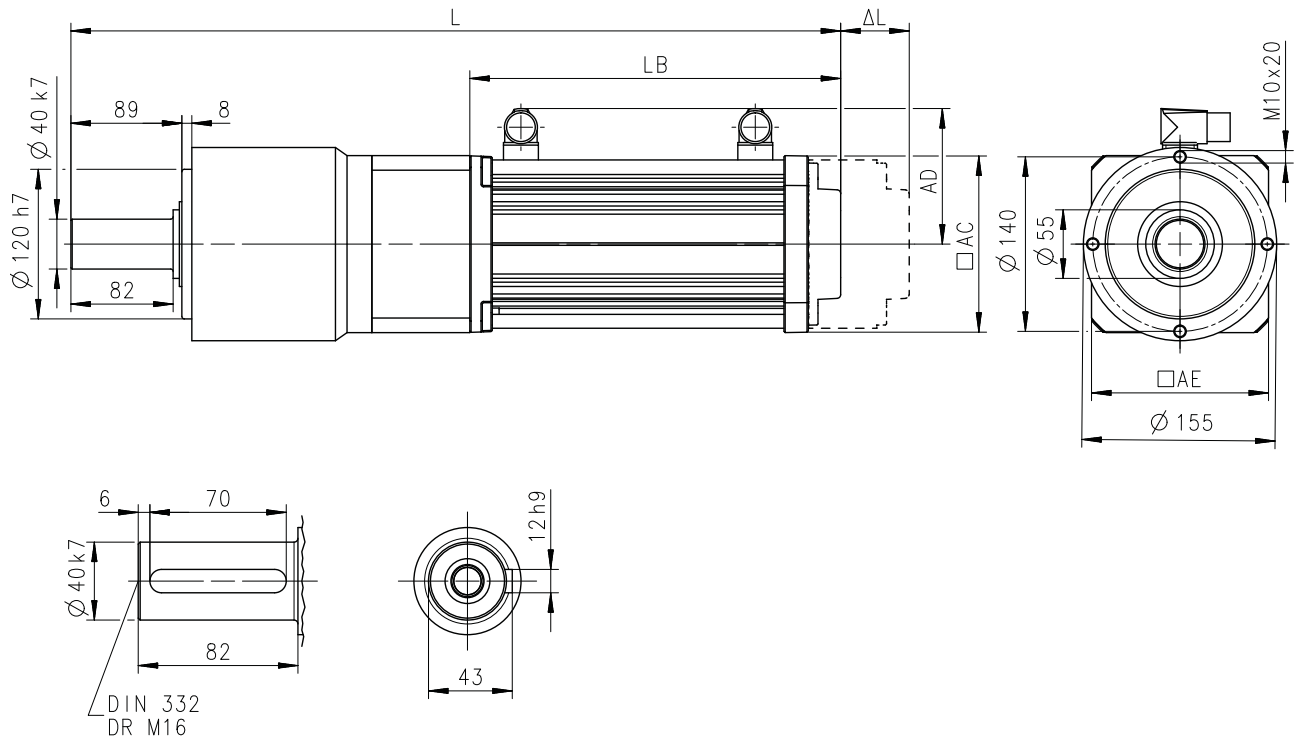


Technical data

Planetary gearbox g730-P
Basic dimensions

g730-P460 with MCA19

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800871-00

Motor			MCA 19	
			S23-	S42-
Total length	L	mm	731	731
Motor length	LB	mm	401	401
Motor diameter	AC	mm	192	192
Motor/connection distance	AD	mm	151	151
Gearbox diameter	AE	mm	190	190

Technical data

Planetary gearbox g750-P
The modular system



Planetary gearbox g750-P

The modular system

g750-P planetary gearbox with MCA asynchronous servo motor

Gearboxes		g750-P130		g750-P260	
Min. motor assignment		MCA10		MCA10	
Max. motor assignment		MCA10		MCA14	
Technical data					
Max. output torque	Nm	130		260	
Min. drive torque	Nm	0.8		0.8	
Max. drive torque	Nm	0.8		12	
Mounting position		Any			
Color		Primed Painted in RAL colors			
Surface and corrosion protection		OKS-G Different types of OKS			
Output shaft					
Solid shaft with featherkey	mm	22 x 36		32 x 58	
Smooth solid shaft	mm	22 x 36		32 x 58	
Shaft material		Steel			
Shaft sealing ring material		NBR			
Gearbox design		Without foot with centering			
Gearbox stages		1/2		1/2	
Output flange		mm	80		120
Lubricant		Standard Food-compatible			
Cooling		Self-ventilated Forced-ventilated			
Motor connection		ICN connector Terminal box			
Holding brake		Without Permanent magnet brake			
Feedback					
Without functional safety		Resolver Absolute value encoder Incremental encoder			
With functional safety		Resolver Incremental encoder			
Temperature monitoring		PT1000 temperature sensor			



Technical data

Planetary gearbox g750-P
Data overview

Data overview

g750-P130, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
7	65.0	7	10
8	50.0	7	10
10	38.0	7	9

g750-P130, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
9	130	9	10
12	120	9	12
15	110	9	12
16	120	9	12
20	120	9	12
25	110	9	12
32	120	9	12
40	110	9	12

g750-P260, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	115	7	22
7	135	7	22
8	120	7	22
4	155	7	26
10	95.0	7	20

g750-P260, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
9	210	9	25
12	260	9	28
15	230	9	27
16	260	9	28
20	260	9	28
25	230	9	27
32	260	9	28
40	230	9	27
64	120	9	23

Technical data

Planetary gearbox g750-P
Radial forces and axial forces



Radial forces and axial forces

Gearbox			g750-P130	g750-P260
Bearing service life 20000 h				
Speed		rpm	100	100
Radial force	F_{rad}	rated	5500	6000
Axial force	F_{ax}	rated	6400	8000
Bearing service life 30000 h				
Speed		rpm	100	100
Radial force	F_{rad}	rated	4800	5400
Axial force	F_{ax}	rated	5700	7000
Max. radial force	$F_{rad, max}$	rated	5500	6000
Max. axial force	$F_{ax, max}$	rated	6400	8000



Technical data

Planetary gearbox g750-P
Selection tables

Selection tables

Inverter power supply 400 V, self-ventilated motors

0.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g750-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
12.0	564	4.8	65.0	282	2.801	7	P130	10I40-	1	9.1
13.0	439	5.2	130	219	3.041	9	P130	10I40-	2	9.8
15.0	494	3.3	50.0	247	2.787	8	P130	10I40-	1	9.1
17.0	395	5.0	95.0	198	3.790	10	P260	10I40-	1	13
18.0	329	5.0	120	165	3.015	12	P130	10I40-	2	9.8
19.0	395	2.0	38.0	198	2.770	10	P130	10I40-	1	9.1
24.0	263	3.9	110	132	3.007	15	P130	10I40-	2	9.8
26.0	247	3.9	120	123	2.860	16	P130	10I40-	2	9.8
34.0	198	3.2	120	99.0	2.815	20	P130	10I40-	2	9.8
37.0	158	4.8	230	79.0	3.977	25	P260	10I40-	2	15
46.0	158	2.3	110	79.0	2.812	25	P130	10I40-	2	9.8
50.0	123	4.3	260	62.0	3.824	32	P260	10I40-	2	15
60.0	123	2.0	120	62.0	2.770	32	P130	10I40-	2	9.8
69.0	98.8	3.1	230	49.0	3.821	40	P260	10I40-	2	15
75.0	98.8	1.5	110	49.0	2.768	40	P130	10I40-	2	9.8
114	61.7	1.1	120	31.0	3.817	64	P260	10I40-	2	15

1.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g750-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
16.0	667	5.9	115	333	21.686	3	P260	14L20-	1	40
21.0	500	6.0	155	250	21.105	4	P260	14L20-	1	40
43.0	286	3.0	135	143	20.686	7	P260	14L20-	1	40
51.0	250	2.3	120	125	20.634	8	P260	14L20-	1	40
52.0	222	3.2	210	111	21.526	9	P260	14L20-	2	42
64.0	200	1.5	95.0	100	20.590	10	P260	14L20-	1	40
68.0	167	3.4	260	83.0	21.456	12	P260	14L20-	2	42
92.0	133	2.4	230	67.0	21.433	15	P260	14L20-	2	42
97.0	125	2.5	260	63.0	20.965	16	P260	14L20-	2	42
126	100	2.0	260	50.0	20.785	20	P260	14L20-	2	42
157	80.0	1.5	230	40.0	20.777	25	P260	14L20-	2	42
202	62.5	1.3	260	31.0	20.624	32	P260	14L20-	2	42

Technical data

Planetary gearbox g750-P
Selection tables



1.7 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g750-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
24.0	579	5.0	135	289	9.786	7	P260	13I41-	1	17
28.0	506	3.9	120	253	9.734	8	P260	13I41-	1	17
28.0	450	4.4	210	225	10.626	9	P260	13I41-	2	19
33.0	338	5.6	260	169	10.556	12	P260	13I41-	2	19
38.0	405	2.5	95.0	203	9.690	10	P260	13I41-	1	17
48.0	270	4.0	230	135	10.533	15	P260	13I41-	2	19
50.0	253	4.2	260	127	10.065	16	P260	13I41-	2	19
67.0	203	3.4	260	101	9.885	20	P260	13I41-	2	19
91.0	162	2.4	230	81.0	9.877	25	P260	13I41-	2	19
119	127	2.1	260	63.0	9.724	32	P260	13I41-	2	19
150	101	1.5	230	51.0	9.721	40	P260	13I41-	2	19

2.3 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g750-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
34.0	586	3.7	135	293	20.686	7	P260	14L41-	1	40
40.0	513	2.9	120	256	20.634	8	P260	14L41-	1	40
42.0	456	3.2	210	228	21.526	9	P260	14L41-	2	42
51.0	342	4.2	260	171	21.456	12	P260	14L41-	2	42
52.0	410	1.8	95.0	205	20.590	10	P260	14L41-	1	40
71.0	273	3.0	230	137	21.433	15	P260	14L41-	2	42
74.0	256	3.1	260	128	20.965	16	P260	14L41-	2	42
97.0	205	2.5	260	103	20.785	20	P260	14L41-	2	42
127	164	1.8	230	82.0	20.777	25	P260	14L41-	2	42
162	128	1.6	260	64.0	20.624	32	P260	14L41-	2	42
203	103	1.1	230	51.0	20.621	40	P260	14L41-	2	42

Inverter power supply 400 V, forced ventilated motors

2.2 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g750-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
40.0	487	3.2	135	244	9.786	7	P260	13I34-	1	19
47.0	426	2.5	120	213	9.734	8	P260	13I34-	1	19
50.0	379	2.9	210	189	10.626	9	P260	13I34-	2	21
60.0	341	1.6	95.0	171	9.690	10	P260	13I34-	1	19
63.0	284	3.6	260	142	10.556	12	P260	13I34-	2	21
85.0	227	2.5	230	114	10.533	15	P260	13I34-	2	21
90.0	213	2.7	260	107	10.065	16	P260	13I34-	2	21
117	171	2.2	260	85.0	9.885	20	P260	13I34-	2	21
148	136	1.5	230	68.0	9.877	25	P260	13I34-	2	21
190	107	1.4	260	53.0	9.724	32	P260	13I34-	2	21



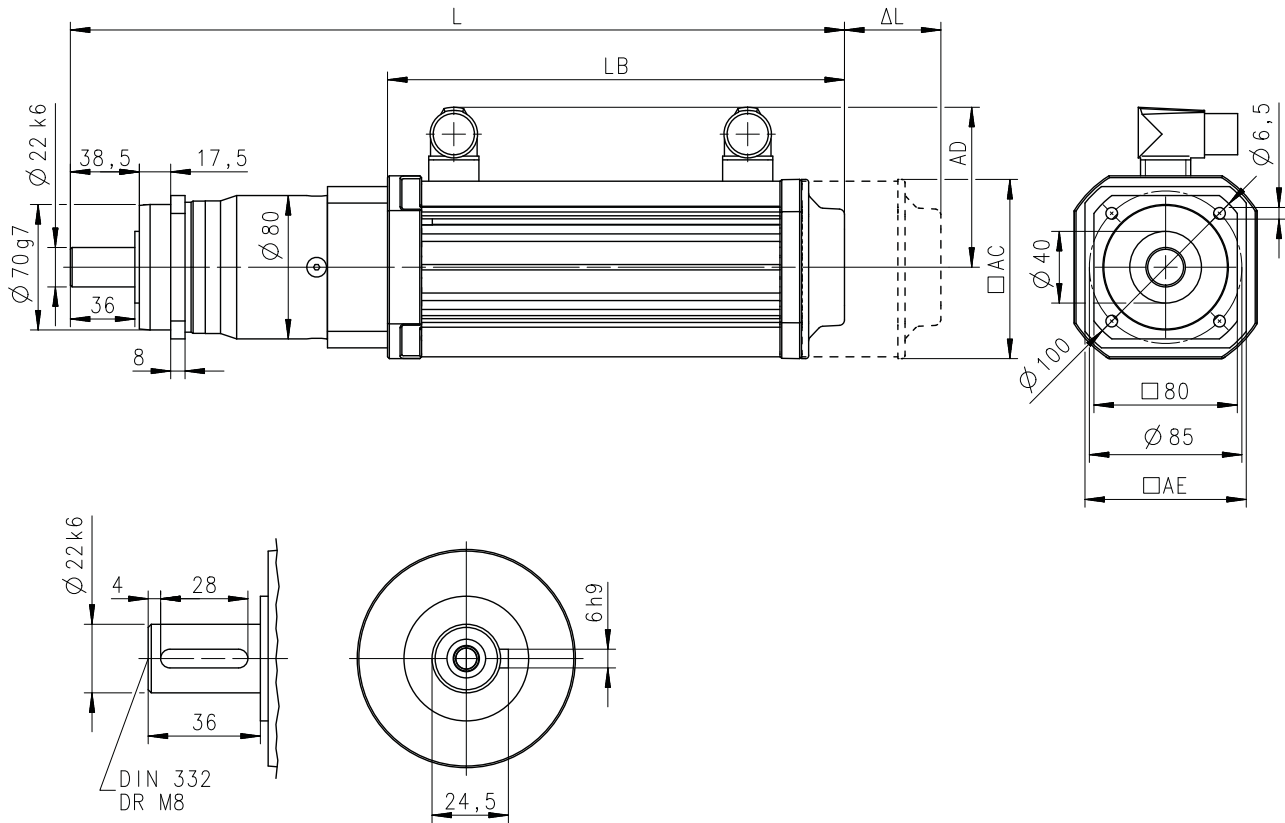
Technical data

Planetary gearbox g750-P
Basic dimensions

Basic dimensions

g750-P130 with MCA10

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800872-00

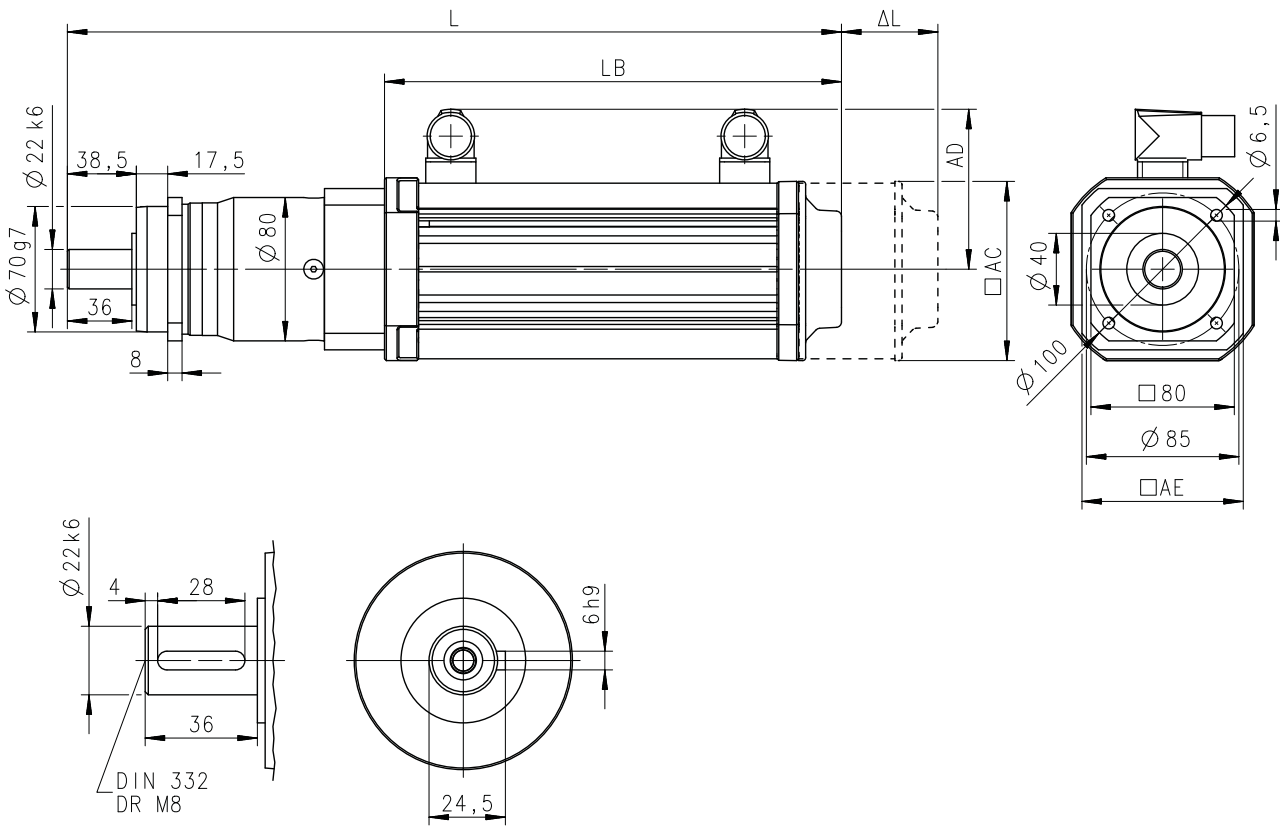
Motor			MCA 10
			I40-
Total length	L	mm	421
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g750-P
Basic dimensions



g750-P130 with MCA10
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800872-00

Motor			MCA 10
			I40-
Total length	L	mm	439
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

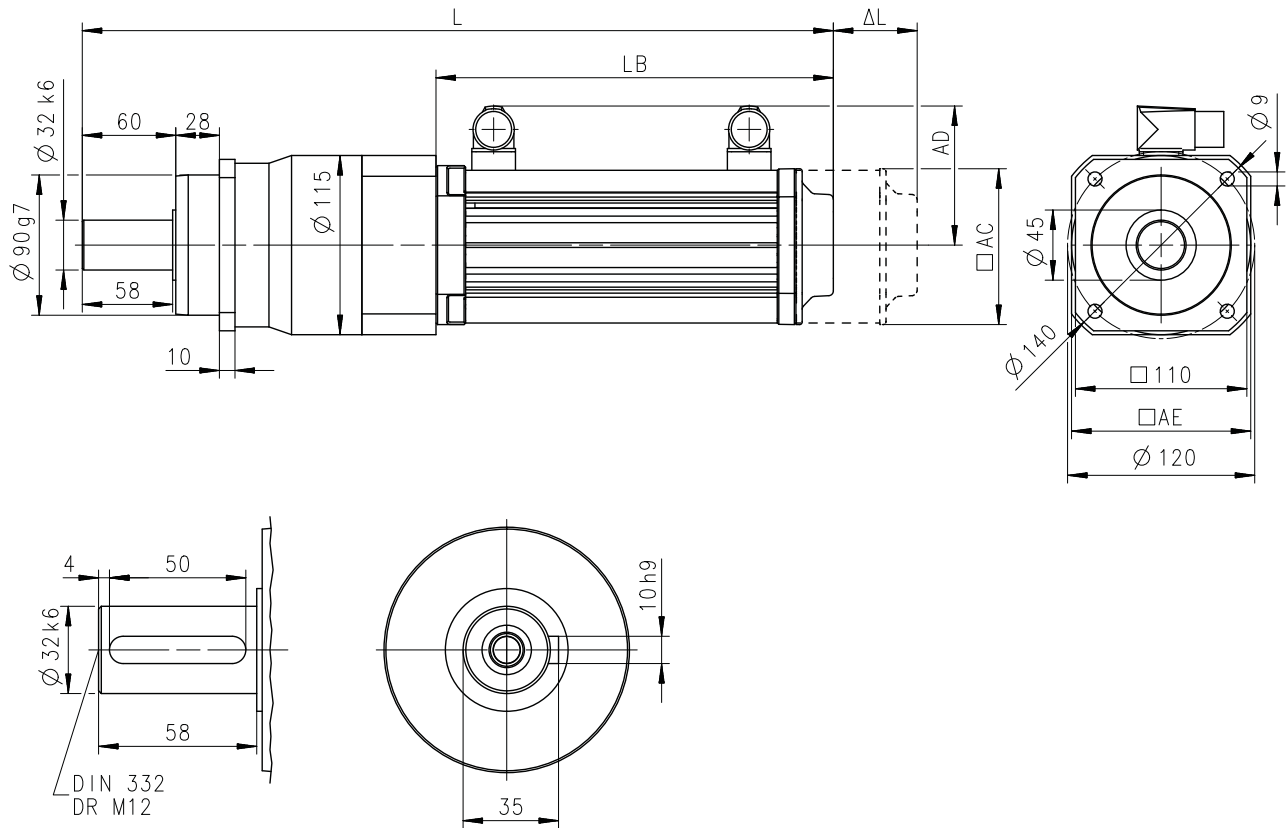


Technical data

Planetary gearbox g750-P
Basic dimensions

g750-P260 with MCA10

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800873-00

Motor			MCA 10
			I40-
Total length	L	mm	461.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

Planetary gearbox g750-P

Basic dimensions



Technical drawing of a motor, showing three views: a side view, a front view, and a detail view of the mounting flange.

Side View Dimensions:

- Overall length: L
- Distance between mounting holes: LB
- Distance from mounting hole to end face: ΔL
- Distance from mounting hole to end face (dashed line): AD
- Distance from mounting hole to end face (dashed line): AC
- Distance from mounting hole to end face (dashed line): 10
- Distance from mounting hole to end face (dashed line): 58
- Distance from mounting hole to end face (dashed line): 60
- Distance from mounting hole to end face (dashed line): 28
- Distance from mounting hole to end face (dashed line): 115
- Distance from mounting hole to end face (dashed line): 32
- Distance from mounting hole to end face (dashed line): 90
- Distance from mounting hole to end face (dashed line): $g7$
- Distance from mounting hole to end face (dashed line): $k6$

Front View Dimensions:

- Overall diameter: $\varnothing 140$
- Distance between mounting holes: $\varnothing 45$
- Distance between mounting holes: $\varnothing 110$
- Distance between mounting holes: $\varnothing 120$
- Distance between mounting holes: $\varnothing 9$

Detail View Dimensions:

- Distance from mounting hole to end face: 4
- Distance from mounting hole to end face: 50
- Distance from mounting hole to end face: 58
- Distance from mounting hole to end face: 32
- Distance from mounting hole to end face: 90
- Distance from mounting hole to end face: $g7$
- Distance from mounting hole to end face: $k6$

Other Dimensions:

- Distance from mounting hole to end face: 35
- Distance from mounting hole to end face: $10h9$

Labels:

- DIN 332
- DR M12

Motor			MCA 10
			I40-
Total length	L	mm	489
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

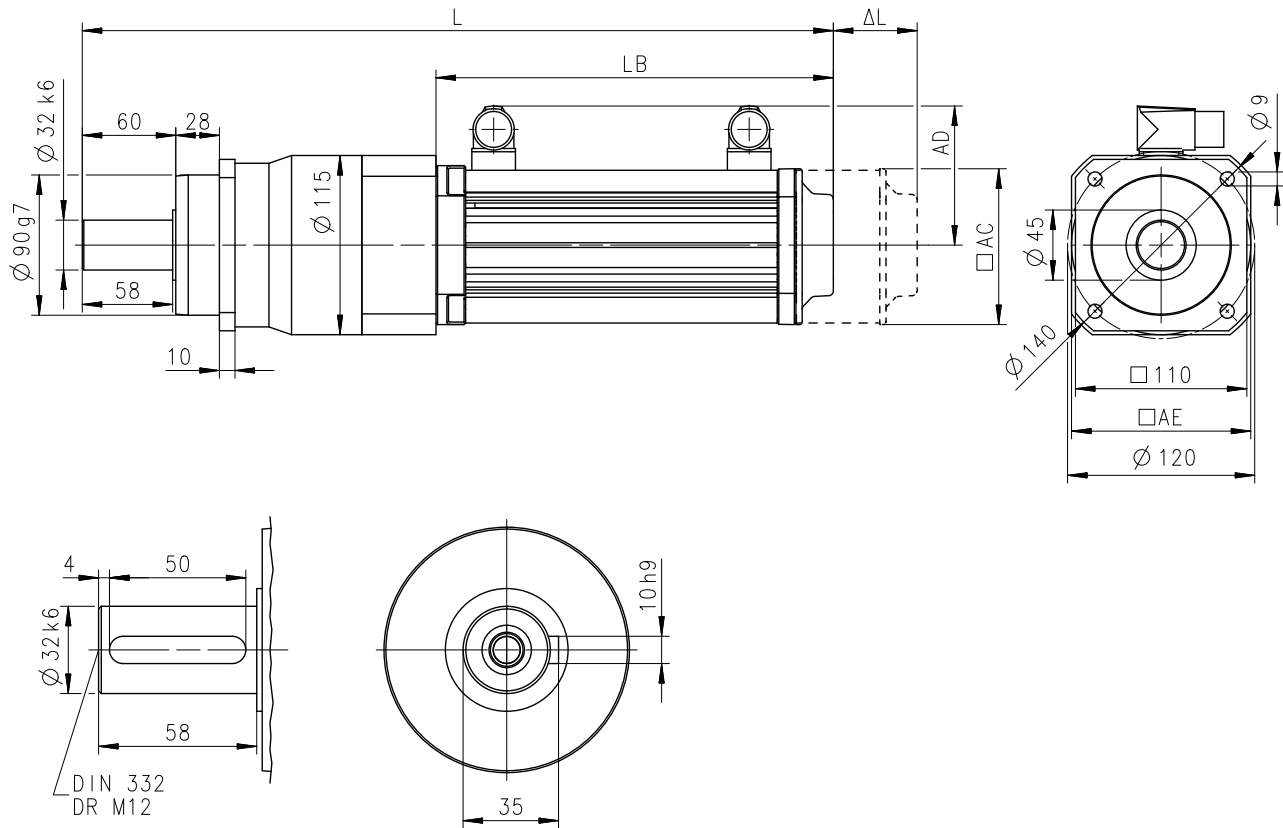


Technical data

Planetary gearbox g750-P
Basic dimensions

g750-P260 with MCA13

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800873-00

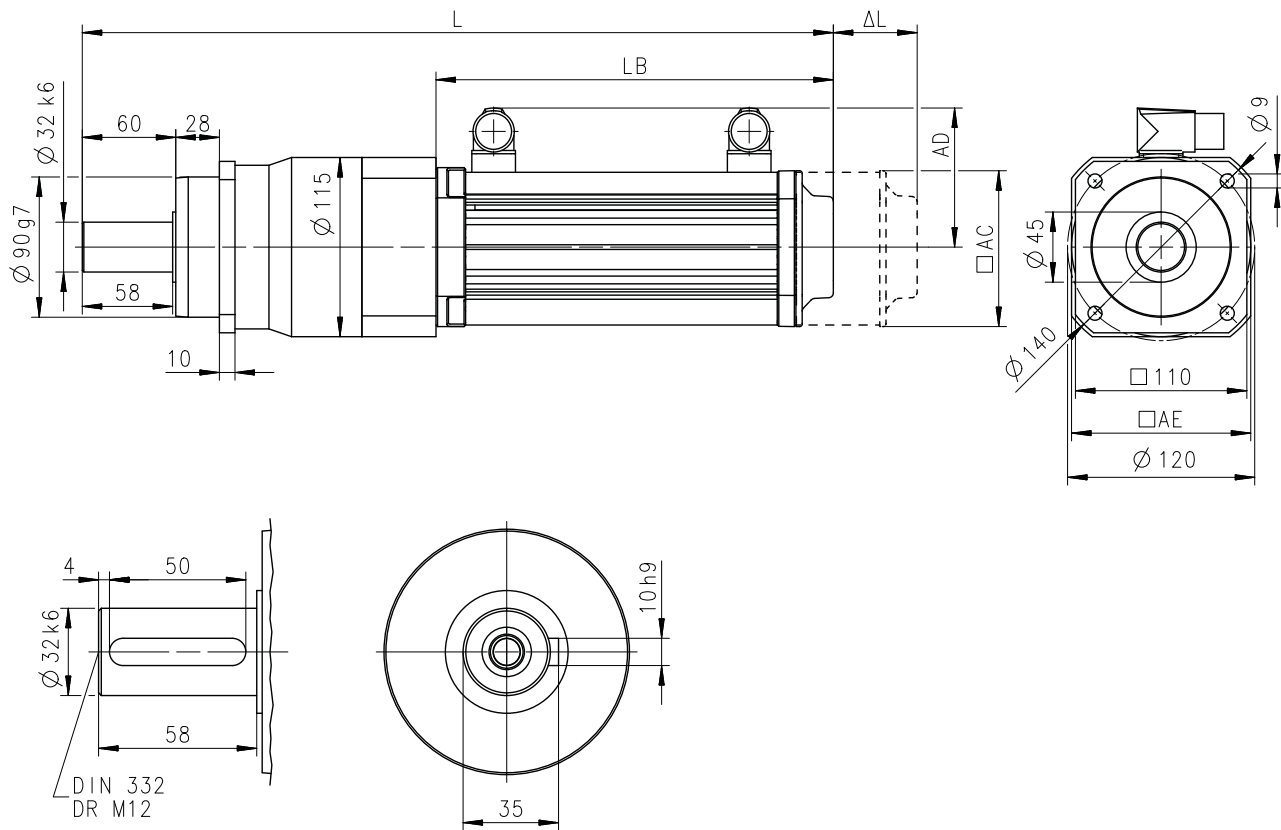
Motor			MCA 13	
			I34-	I41-
Total length	L	mm	538.5	470.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

Technical data

Planetary gearbox g750-P
Basic dimensions



g750-P260 with MCA13
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800873-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	566	498
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

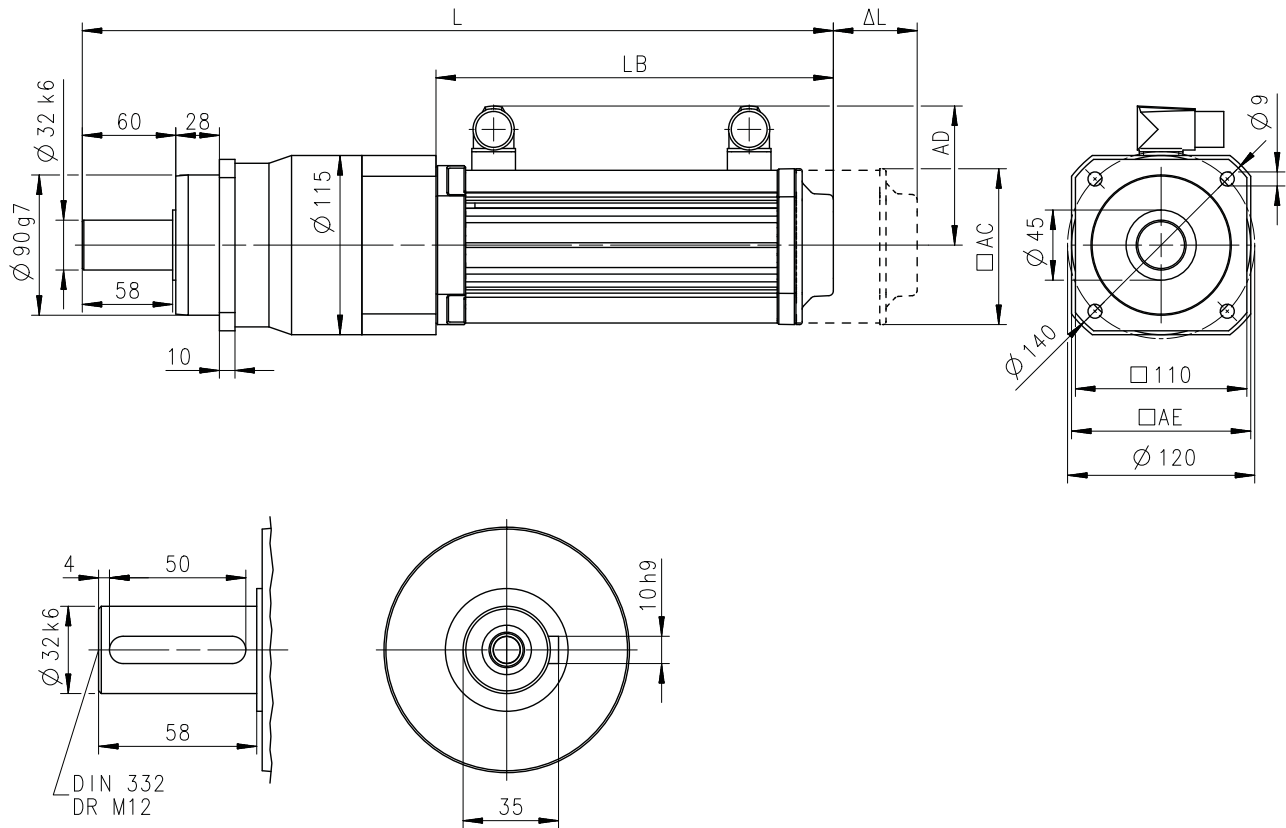


Technical data

Planetary gearbox g750-P
Basic dimensions

g750-P260 with MCA14

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800873-00

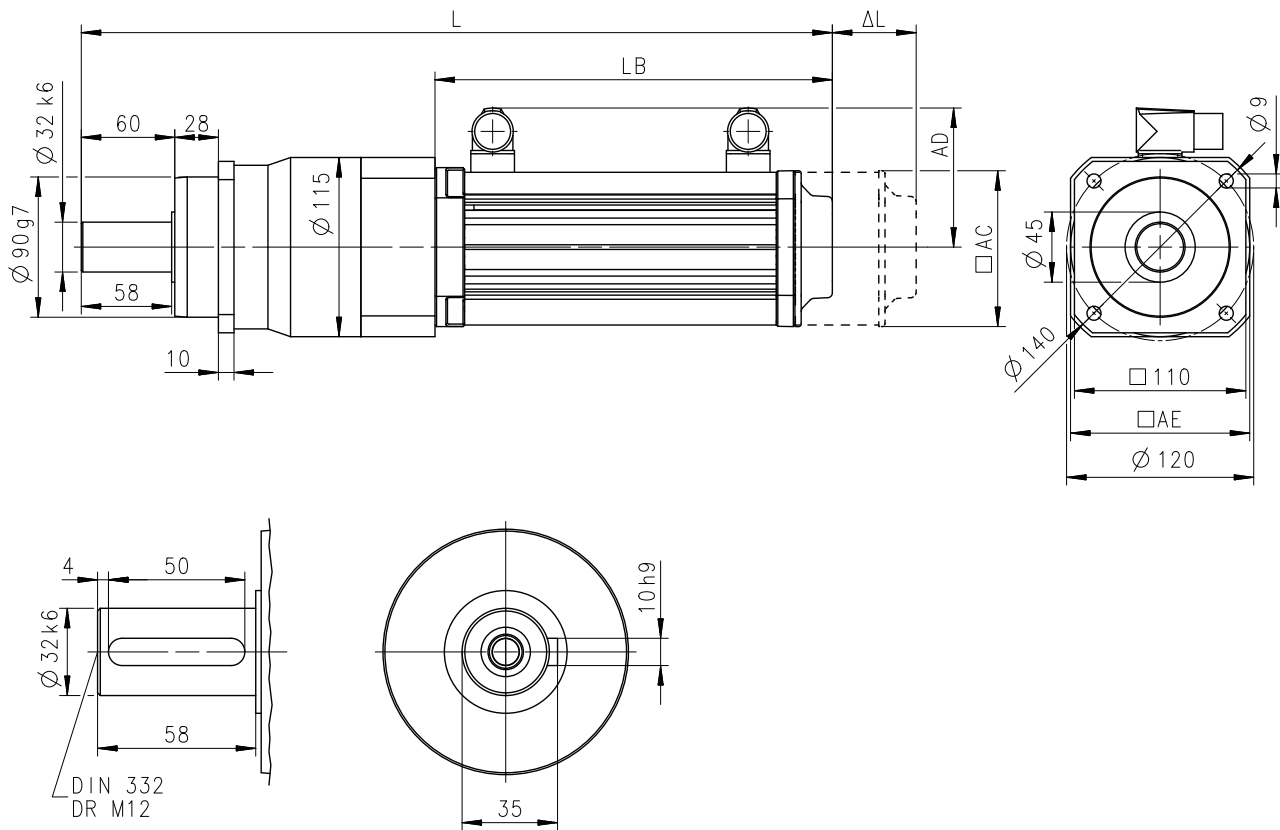
Motor			MCA 14	
			L20-	L41-
Total length	L	mm	511.5	511.5
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	140	140

Technical data

Planetary gearbox g750-P
Basic dimensions



g750-P260 with MCA14
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800873-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	539	539
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	140	140



Planetary gearbox g780-P

The modular system

g780-P planetary gearbox with MCA asynchronous servo motor

Gearboxes		g780-P130	g780-P260
Min. motor assignment		MCA10	MCA10
Max. motor assignment		MCA10	MCA14
Technical data			
Max. output torque	Nm	130	260
Min. drive torque	Nm	0.8	0.8
Max. drive torque	Nm	0.8	12
Mounting position			
Color		Primed Painted in RAL colors	
Surface and corrosion protection		OKS-G Different types of OKS	
Output shaft			
Flange output shaft with dowel hole	mm	31.5 x 6	40 x 6
Gearbox design		Without foot with centering	
Gearbox stages		1/2	1/2
Output flange	mm	90	110
Lubricant		Standard Food-compatible	
Cooling		Self-ventilated Forced-ventilated	
Motor connection		Connector Terminal box	
Permanent magnet holding brake		Without Brake design: Standard	
Feedback			
Without functional safety		Resolver Absolute value encoder Incremental encoder	
With functional safety		Resolver Incremental encoder	
Temperature monitoring		PT1000 temperature sensor	

Technical data

Planetary gearbox g780-P
Data overview



Data overview

g780-P130, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
7	65.0	7	22
8	50.0	7	20
10	38.0	7	17

g780-P130, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
9	130	9	21
12	120	9	37
15	110	9	36
16	120	9	40
20	120	9	40
25	110	9	38
32	120	9	39
40	110	9	37

g780-P260, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
3	115	7	50
7	135	7	49
8	120	7	47
4	155	7	69
10	95.0	7	36
5	195	7	72

g780-P260, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
9	240	9	64
12	260	9	85
15	230	9	76
16	260	9	88
20	260	9	87
25	230	9	77
32	260	9	85
40	230	9	76
64	120	9	50



Technical data

Planetary gearbox g780-P
Radial forces and axial forces

Radial forces and axial forces

Gearbox			g780-P130	g780-P260
Bearing service life 20000 h				
Speed		rpm	100	100
Radial force	F_{rad}	rated	1400	2400
Axial force	F_{ax}	rated	3000	3300
Bearing service life 30000 h				
Speed		rpm	100	100
Radial force	F_{rad}	rated	1200	2100
Axial force	F_{ax}	rated	3000	3300
Max. radial force	$F_{rad, max}$	rated	2200	3800
Max. axial force	$F_{ax, max}$	rated	3300	5200

Technical data

Planetary gearbox g780-P
Selection tables



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g780-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
12.0	564	4.8	65.0	282	2.874	7	P130	10I40-	1	9.3
13.0	439	5.1	130	219	3.066	9	P130	10I40-	2	9.7
15.0	494	3.3	50.0	247	2.843	8	P130	10I40-	1	9.3
17.0	395	5.0	95.0	198	3.884	10	P260	10I40-	1	13
18.0	329	5.0	120	165	3.024	12	P130	10I40-	2	9.7
19.0	395	2.0	38.0	198	2.806	10	P130	10I40-	1	9.3
24.0	263	3.8	110	132	3.006	15	P130	10I40-	2	9.7
26.0	247	3.9	120	123	2.865	16	P130	10I40-	2	9.7
34.0	198	3.1	120	99.0	2.818	20	P130	10I40-	2	9.7
37.0	158	4.8	230	79.0	3.981	25	P260	10I40-	2	15
46.0	158	2.3	110	79.0	2.812	25	P130	10I40-	2	9.7
50.0	123	4.3	260	62.0	3.829	32	P260	10I40-	2	15
60.0	123	2.0	120	62.0	2.771	32	P130	10I40-	2	9.7
69.0	98.8	3.1	230	49.0	3.823	40	P260	10I40-	2	15
75.0	98.8	1.5	110	49.0	2.768	40	P130	10I40-	2	9.7
114	61.7	1.1	120	31.0	3.816	64	P260	10I40-	2	15

1.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g780-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
16.0	667	5.8	115	333	22.630	3	P260	14L20-	1	40
22.0	500	5.9	155	250	21.628	4	P260	14L20-	1	40
27.0	400	5.9	195	200	21.216	5	P260	14L20-	1	40
43.0	286	3.0	135	143	20.859	7	P260	14L20-	1	40
50.0	222	3.7	240	111	21.607	9	P260	14L20-	2	42
51.0	250	2.3	120	125	20.782	8	P260	14L20-	1	40
64.0	200	1.5	95.0	100	20.684	10	P260	14L20-	1	40
68.0	167	3.4	260	83.0	21.490	12	P260	14L20-	2	42
92.0	133	2.4	230	67.0	21.445	15	P260	14L20-	2	42
97.0	125	2.5	260	63.0	20.984	16	P260	14L20-	2	42
126	100	2.0	260	50.0	20.797	20	P260	14L20-	2	42
157	80.0	1.5	230	40.0	20.781	25	P260	14L20-	2	42
202	62.5	1.3	260	31.0	20.629	32	P260	14L20-	2	42



Technical data

Planetary gearbox g780-P
Selection tables

1.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g780-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
24.0	579	5.0	135	289	9.959	7	P260	13I41-	1	17
26.0	450	5.0	240	225	10.707	9	P260	13I41-	2	19
28.0	506	3.9	120	253	9.882	8	P260	13I41-	1	17
33.0	338	5.6	260	169	10.590	12	P260	13I41-	2	19
38.0	405	2.5	95.0	203	9.784	10	P260	13I41-	1	17
48.0	270	4.0	230	135	10.545	15	P260	13I41-	2	19
50.0	253	4.2	260	127	10.084	16	P260	13I41-	2	19
67.0	203	3.4	260	101	9.897	20	P260	13I41-	2	19
91.0	162	2.4	230	81.0	9.881	25	P260	13I41-	2	19
119	127	2.1	260	63.0	9.729	32	P260	13I41-	2	19
150	101	1.5	230	51.0	9.723	40	P260	13I41-	2	19

2.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g780-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
34.0	586	3.7	135	293	20.859	7	P260	14L41-	1	40
40.0	513	2.9	120	256	20.782	8	P260	14L41-	1	40
40.0	456	3.7	240	228	21.607	9	P260	14L41-	2	42
51.0	342	4.2	260	171	21.490	12	P260	14L41-	2	42
52.0	410	1.8	95.0	205	20.684	10	P260	14L41-	1	40
71.0	273	3.0	230	137	21.445	15	P260	14L41-	2	42
74.0	256	3.1	260	128	20.984	16	P260	14L41-	2	42
98.0	205	2.5	260	103	20.797	20	P260	14L41-	2	42
127	164	1.8	230	82.0	20.781	25	P260	14L41-	2	42
162	128	1.6	260	64.0	20.629	32	P260	14L41-	2	42
203	103	1.1	230	51.0	20.623	40	P260	14L41-	2	42

Inverter power supply 400 V, forced ventilated motors

2.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g780-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
40.0	487	3.2	135	244	9.959	7	P260	13I34-	1	19
47.0	426	2.5	120	213	9.882	8	P260	13I34-	1	19
48.0	379	3.3	240	189	10.707	9	P260	13I34-	2	21
60.0	341	1.6	95.0	171	9.784	10	P260	13I34-	1	19
63.0	284	3.6	260	142	10.590	12	P260	13I34-	2	21
85.0	227	2.5	230	114	10.545	15	P260	13I34-	2	21
90.0	213	2.7	260	107	10.084	16	P260	13I34-	2	21
117	171	2.2	260	85.0	9.897	20	P260	13I34-	2	21
148	136	1.5	230	68.0	9.881	25	P260	13I34-	2	21
190	107	1.4	260	53.0	9.729	32	P260	13I34-	2	21

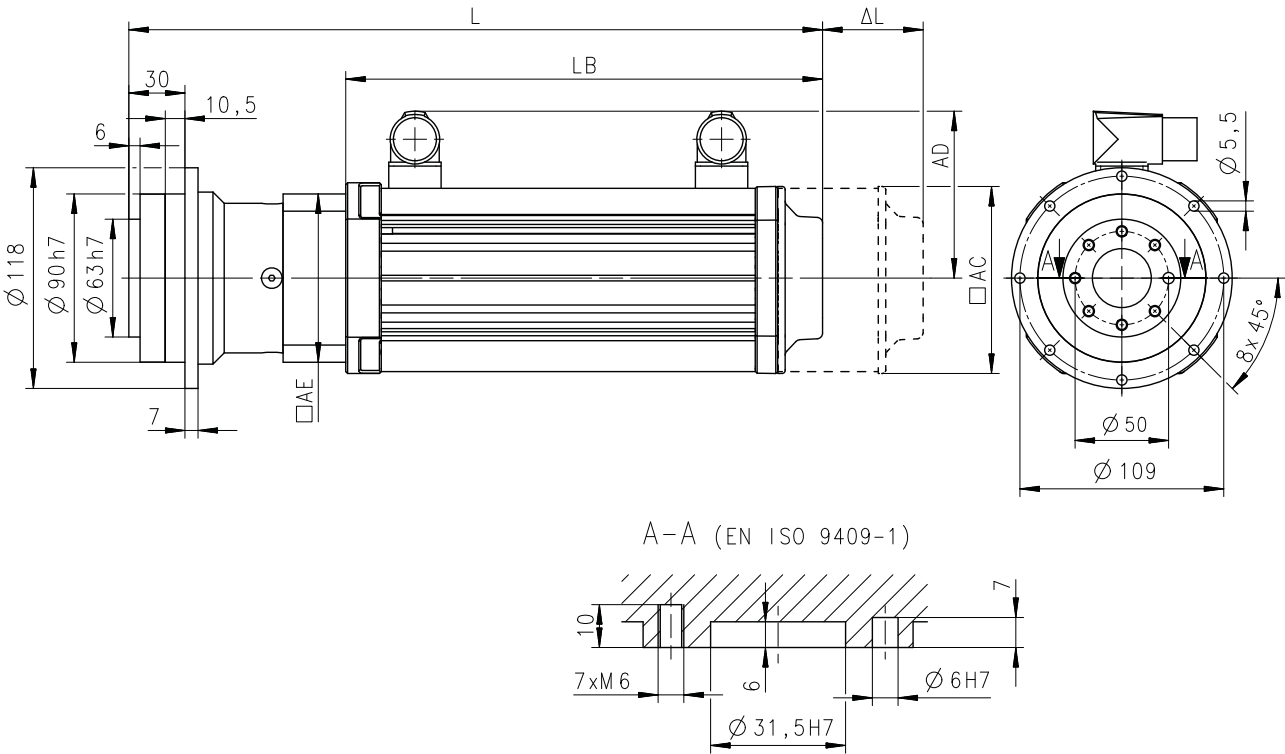
Technical data

Planetary gearbox g780-P
Basic dimensions



Basic dimensions

g780-P130 with MCA10
Gearbox design: Flange output shaft, without foot with centering, 1-stage

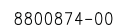


8800874-00

Motor			MCA 10
			I40-
Total length	L	mm	360.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90



Gearbox design: Flange output shaft, without foot with centering, 2-stage

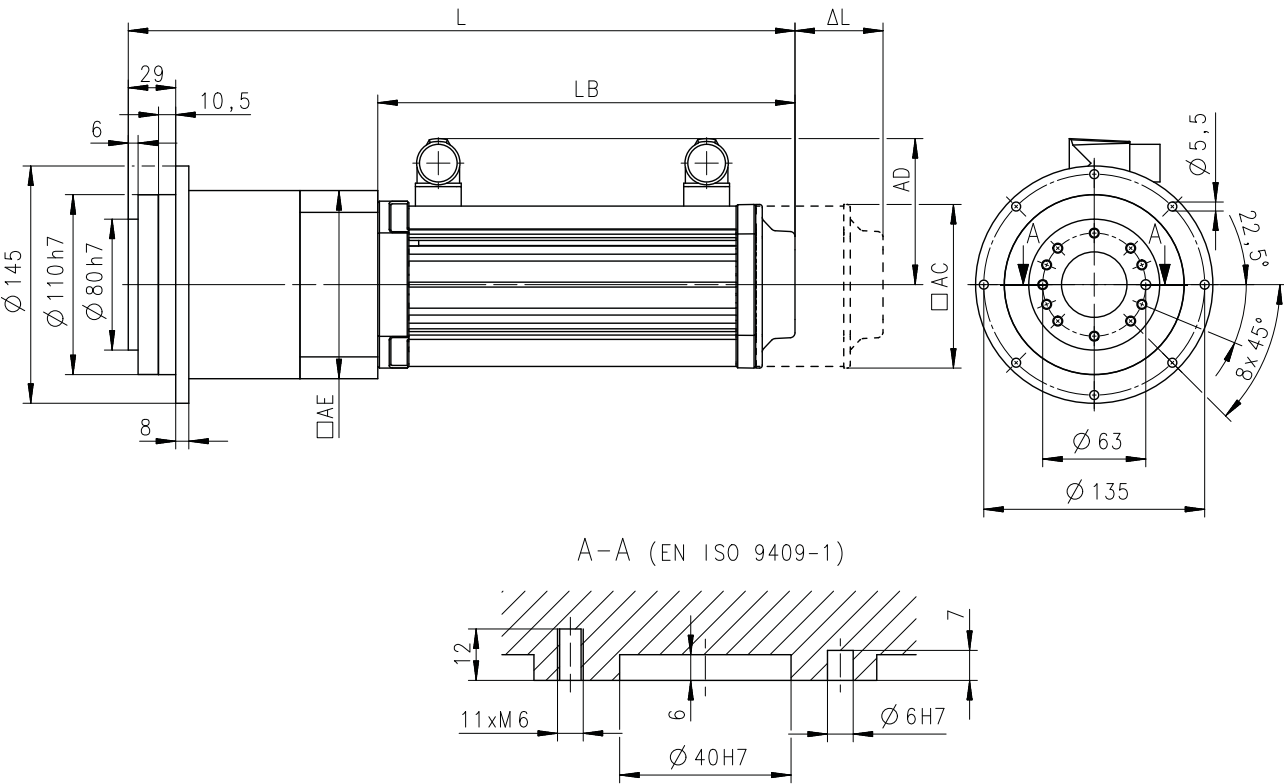
111

Technical data

Planetary gearbox g780-P
Basic dimensions



g780-P260 with MCA10
Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800875-00

Motor			MCA 10
			I40-
Total length	L	mm	387.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

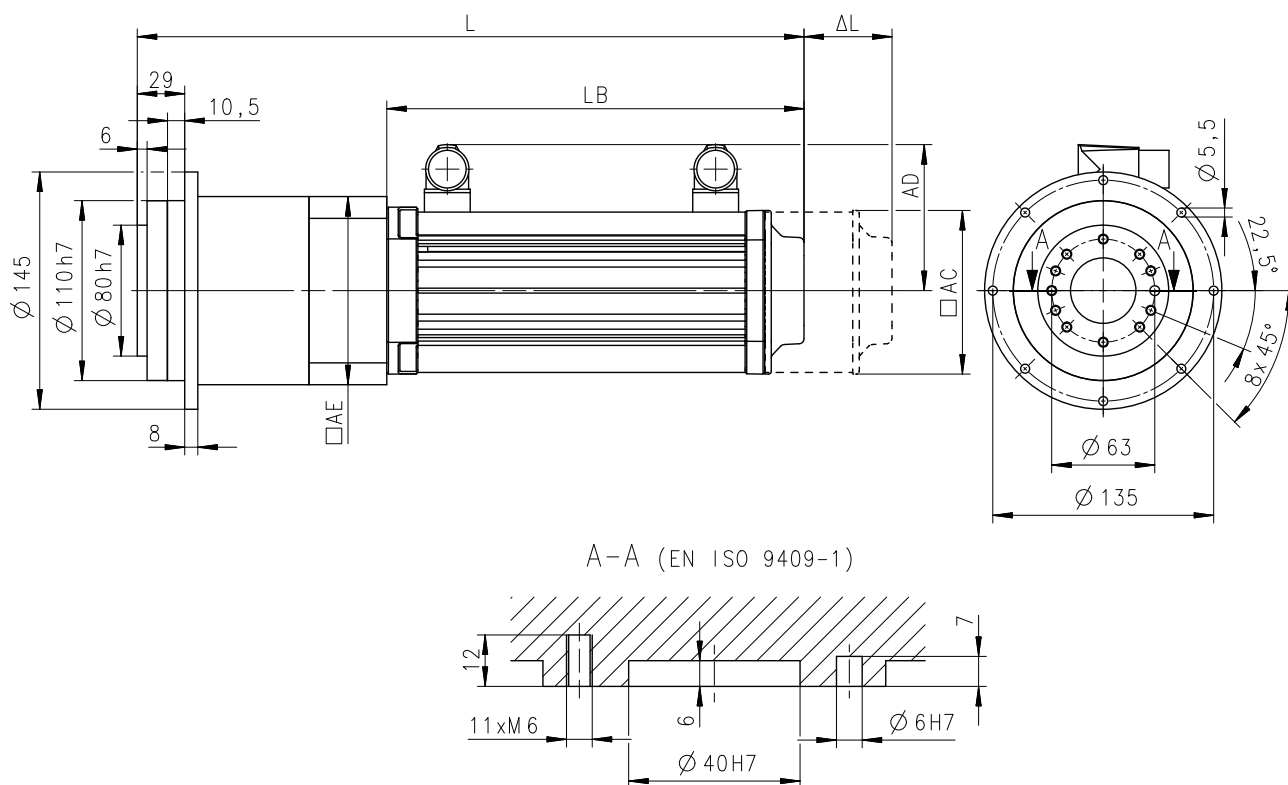


Technical data

Planetary gearbox g780-P
Basic dimensions

g780-P260 with MCA10

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800875-00

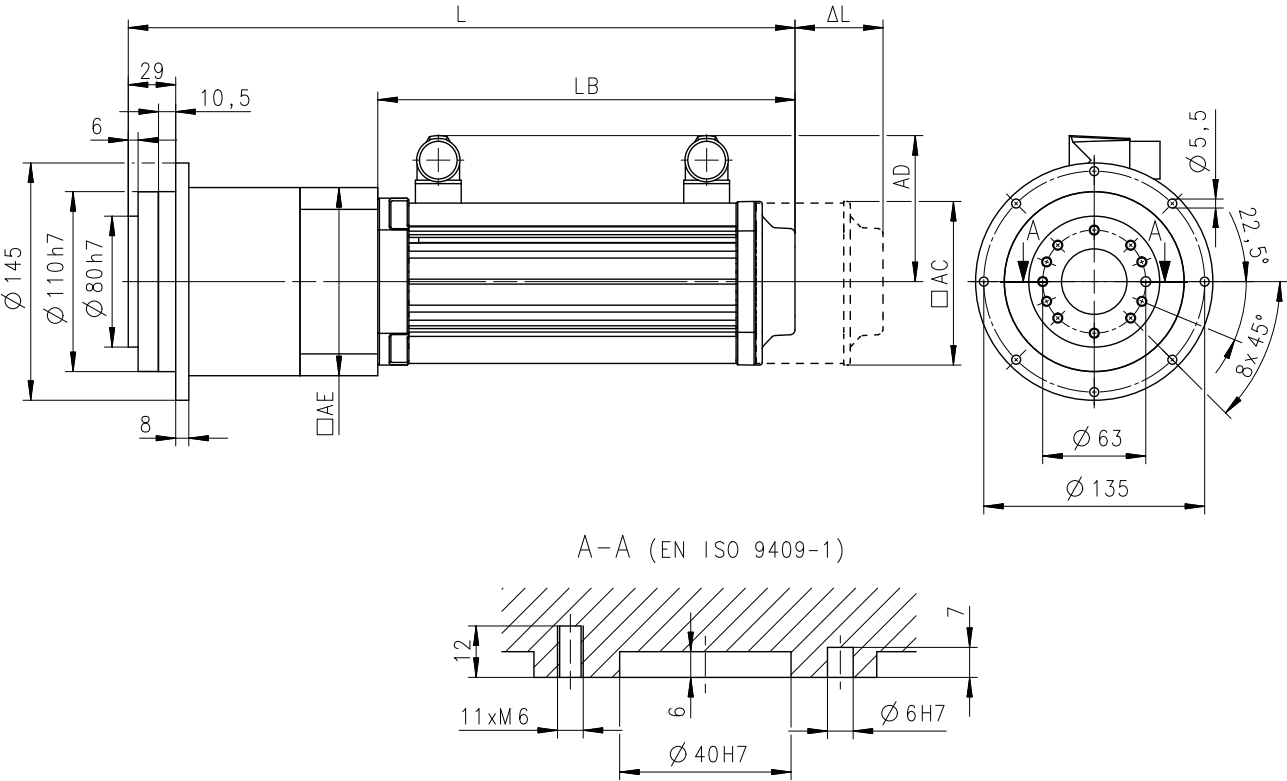
Motor			MCA 10
			I40-
Total length	L	mm	414.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

Technical data

Planetary gearbox g780-P
Basic dimensions



g780-P260 with MCA13
Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800875-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	464.5	396.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

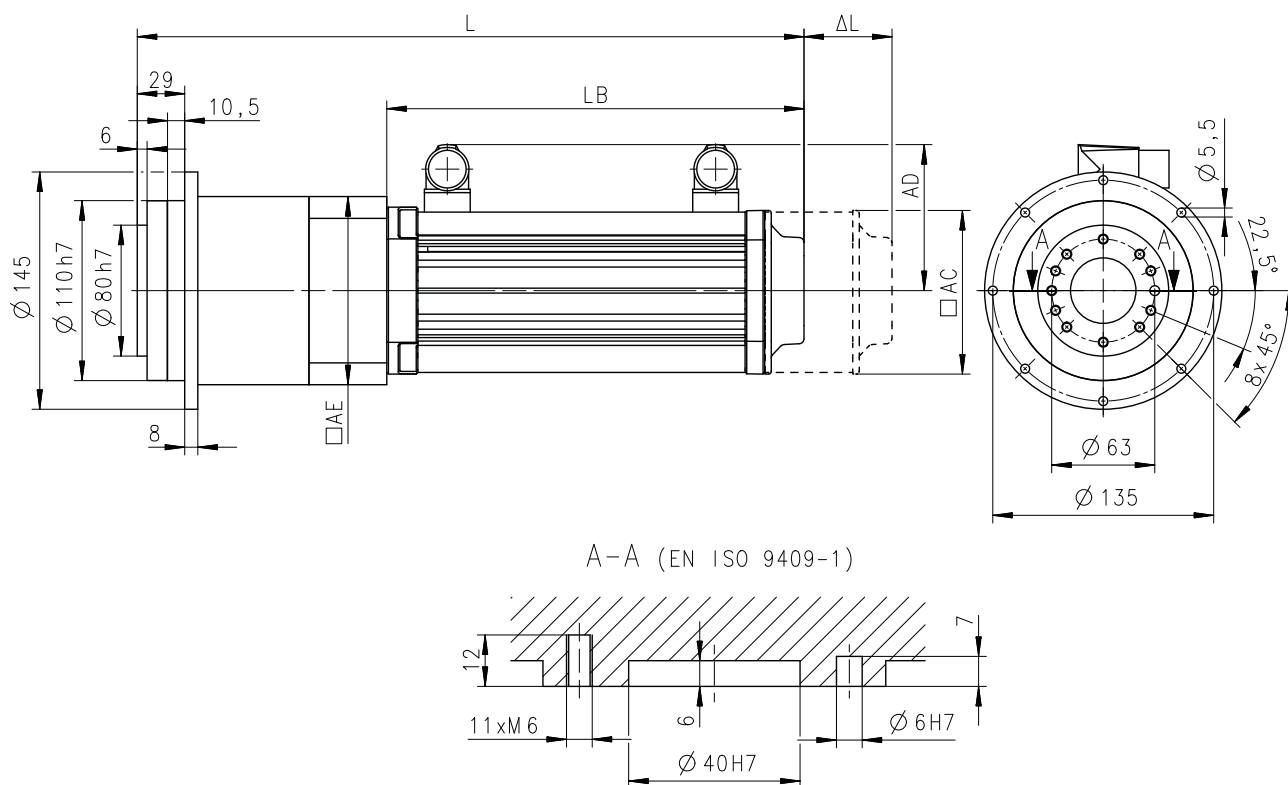


Technical data

Planetary gearbox g780-P
Basic dimensions

g780-P260 with MCA13

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800875-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	491.5	423.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

Planetary gearbox g780-P

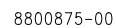
Basic dimensions



Motor			MCA 14	
			L20-	L41-
Total length	L	mm	437.5	437.5
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	140	140



Gearbox design: Flange output shaft, without foot with centering, 2-stage

117

Technical data

Planetary gearbox g820-P
The modular system



Planetary gearbox g820-P

The modular system

g820-P planetary gearbox with MCA asynchronous servo motor

Gearboxes		g820-P40	g820-P80	g820-P180	g820-P470
Min. motor assignment		MCA10	MCA10	MCA10	MCA10
Max. motor assignment		MCA10	MCA14	MCA17	MCA19
Technical data					
Max. output torque	Nm	40	80	180	470
Min. drive torque	Nm	0.8	0.8	0.8	0.8
Max. drive torque	Nm	0.8	12	21.5	36
Mounting position		Any			
Color		Primed Painted in RAL colors			
Surface and corrosion protection		OKS-G Different types of OKS			
Output shaft					
Solid shaft with featherkey	mm	16 x 28	22 x 36	32 x 58	40 x 82
Smooth solid shaft	mm	16 x 28	22 x 36	32 x 58	40 x 82
Shaft material		Steel			
Shaft sealing ring material		NBR			
Gearbox design		Without foot with centering			
Gearbox stages		1/2	1/2	1/2	1/2
Output flange	mm	70	90	115	142
Lubricant		Standard Food-compatible			
Cooling		Self-ventilated Forced-ventilated			
Motor connection		ICN connector Terminal box			
Holding brake		Without Permanent magnet brake			
Feedback					
Without functional safety		Resolver Absolute value encoder Incremental encoder			
With functional safety		Resolver Incremental encoder			
Temperature monitoring		PT1000 temperature sensor			



Technical data

Planetary gearbox g820-P

Data overview

Data overview

g820-P40, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	29.0	3	5
4	39.0	3	5
5	40.0	3	6
7	37.0	3	5
8	39.0	3	5
10	28.0	3	5

g820-P40, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
12	29.0	5	5
15	29.0	5	5
16	39.0	5	6
20	39.0	5	6

g820-P80, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	54.0	3	12
4	80.0	3	14
5	80.0	3	14
7	78.0	3	13
8	75.0	3	13
10	59.0	3	11

g820-P80, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
12	54.0	5	11
15	54.0	5	11
16	80.0	5	13
20	80.0	5	13
25	80.0	5	14
35	80.0	5	13
40	80.0	5	13

Technical data

Planetary gearbox g820-P
Data overview



g820-P180, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
3	135	3	31
4	180	3	37
5	175	3	36
7	175	3	34
8	155	3	34
10	140	3	33

g820-P180, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
12	135	5	28
15	135	5	28
16	180	5	35
20	180	5	35
25	175	5	35
35	175	5	35
40	180	5	32
50	175	5	34
70	175	5	33

g820-P470, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
3	380	3	71
4	470	3	76
5	405	3	76
7	355	3	69
8	350	3	67
10	305	3	61

g820-P470, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
12	380	5	62
15	380	5	61
16	450	5	69
20	450	5	69
25	405	5	71
35	405	5	70
40	470	5	67
50	405	5	70
70	355	5	66
100	305	5	60



Technical data

Planetary gearbox g820-P
Radial forces and axial forces

Radial forces and axial forces

Gearbox			g820-P40	g820-P80	g820-P180	g820-P470
Bearing service life 20000 h						
Speed		rpm	100	100	100	100
Radial force	F_{rad}	rated	1000	1900	2300	4200
Axial force	F_{ax}	rated	1500	3000	4400	9400
Bearing service life 30000 h						
Speed		rpm	100	100	100	100
Radial force	F_{rad}	rated	850	1700	2000	3700
Axial force	F_{ax}	rated	1300	2500	3700	7700
Max. radial force	$F_{rad, max}$	rated	1600	3100	4500	9500
Max. axial force	$F_{ax, max}$	rated	1500	2800	4500	9600

Technical data

Planetary gearbox g820-P
Selection tables



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
5.1	1317	4.8	29.0	658	2.683	3	P40	10I40-	1	7.8
6.7	988	4.9	39.0	494	2.610	4	P40	10I40-	1	7.8
8.8	790	4.0	40.0	395	2.582	5	P40	10I40-	1	7.8
11.0	564	5.5	78.0	282	2.764	7	P80	10I40-	1	9.1
13.0	564	2.8	37.0	282	2.560	7	P40	10I40-	1	7.8
14.0	494	4.9	75.0	247	2.746	8	P80	10I40-	1	9.1
15.0	494	2.6	39.0	247	2.555	8	P40	10I40-	1	7.8
16.0	329	5.9	135	165	3.000	12	P180	10I40-	2	14
18.0	395	3.1	59.0	198	2.727	10	P80	10I40-	1	9.1
19.0	395	1.5	28.0	198	2.549	10	P40	10I40-	1	7.8
21.0	247	5.9	180	123	2.942	16	P180	10I40-	2	14
22.0	329	2.4	54.0	165	2.622	12	P80	10I40-	2	10
23.0	329	1.3	29.0	165	2.597	12	P40	10I40-	2	8.6
23.0	263	4.7	135	132	2.881	15	P180	10I40-	2	14
28.0	263	1.0	29.0	132	2.575	15	P40	10I40-	2	8.6
28.0	263	1.9	54.0	132	2.590	15	P80	10I40-	2	10
29.0	247	2.4	80.0	123	2.605	16	P80	10I40-	2	10
30.0	247	1.3	39.0	123	2.596	16	P40	10I40-	2	8.6
30.0	198	4.7	180	99.0	2.844	20	P180	10I40-	2	14
37.0	198	2.1	80.0	99.0	2.580	20	P80	10I40-	2	10
38.0	198	1.0	39.0	99.0	2.572	20	P40	10I40-	2	8.6
41.0	158	3.7	175	79.0	2.829	25	P180	10I40-	2	14
47.0	158	1.5	80.0	79.0	2.576	25	P80	10I40-	2	10
63.0	113	2.6	175	56.0	2.760	35	P180	10I40-	2	14
66.0	113	1.2	80.0	56.0	2.557	35	P80	10I40-	2	10
73.0	98.8	2.4	180	49.0	2.728	40	P180	10I40-	2	14
75.0	98.8	1.1	80.0	49.0	2.548	40	P80	10I40-	2	10
78.0	79.0	4.3	405	40.0	3.270	50	P470	10I40-	2	21
94.0	79.0	1.9	175	40.0	2.725	50	P180	10I40-	2	14
124	56.4	2.8	355	28.0	3.259	70	P470	10I40-	2	21
130	56.4	1.3	175	28.0	2.722	70	P180	10I40-	2	14
180	39.5	1.7	305	20.0	3.241	100	P470	10I40-	2	21



Technical data

Planetary gearbox g820-P
Selection tables

1.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
19.0	667	2.8	54.0	333	20.645	3	P80	14L20-	1	36
25.0	500	3.1	80.0	250	20.392	4	P80	14L20-	1	36
28.0	400	5.3	175	200	20.754	5	P180	14L20-	1	39
32.0	400	2.5	80.0	200	20.297	5	P80	14L20-	1	36
42.0	286	3.8	175	143	20.508	7	P180	14L20-	1	39
45.0	286	1.7	78.0	143	19.948	7	P80	14L20-	1	36
49.0	250	3.0	155	125	20.424	8	P180	14L20-	1	39
51.0	250	1.5	75.0	125	19.930	8	P80	14L20-	1	36
57.0	200	4.7	305	100	25.739	10	P470	14L20-	1	46
59.0	167	4.9	380	83.0	21.493	12	P470	14L20-	2	47
64.0	200	2.2	140	100	20.364	10	P180	14L20-	1	39
76.0	167	1.8	135	83.0	20.459	12	P180	14L20-	2	40
81.0	133	3.9	380	67.0	20.972	15	P470	14L20-	2	47
83.0	125	4.4	450	63.0	21.216	16	P470	14L20-	2	47
94.0	133	1.4	135	67.0	20.340	15	P180	14L20-	2	40
101	125	1.8	180	63.0	20.401	16	P180	14L20-	2	40
112	100	3.5	450	50.0	20.794	20	P470	14L20-	2	47
126	100	1.4	180	50.0	20.303	20	P180	14L20-	2	40
151	80.0	2.6	405	40.0	20.739	25	P470	14L20-	2	47
157	80.0	1.1	175	40.0	20.289	25	P180	14L20-	2	40
220	57.1	1.8	405	29.0	20.501	35	P470	14L20-	2	47
252	50.0	1.9	470	25.0	20.374	40	P470	14L20-	2	47
315	40.0	1.3	405	20.0	20.360	50	P470	14L20-	2	47

1.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
10.0	1350	4.3	54.0	675	9.195	3	P80	13I41-	1	13
14.0	1013	4.7	80.0	506	8.943	4	P80	13I41-	1	13
18.0	810	3.7	80.0	405	8.848	5	P80	13I41-	1	13
23.0	579	5.4	175	289	9.318	7	P180	13I41-	1	16
26.0	579	2.7	78.0	289	8.774	7	P80	13I41-	1	13
27.0	506	4.9	155	253	9.234	8	P180	13I41-	1	16
30.0	506	2.4	75.0	253	8.756	8	P80	13I41-	1	13
36.0	405	3.6	140	203	9.174	10	P180	13I41-	1	16
38.0	405	1.5	59.0	203	8.736	10	P80	13I41-	1	13
42.0	338	2.9	135	169	9.009	12	P180	13I41-	2	18
55.0	270	2.3	135	135	8.890	15	P180	13I41-	2	18
55.0	203	5.6	450	101	9.604	20	P470	13I41-	2	25
56.0	253	2.9	180	127	8.952	16	P180	13I41-	2	18
73.0	203	2.3	180	101	8.853	20	P180	13I41-	2	18
78.0	162	4.2	405	81.0	9.548	25	P470	13I41-	2	25
94.0	162	1.8	175	81.0	8.839	25	P180	13I41-	2	18
121	116	3.1	405	58.0	9.310	35	P470	13I41-	2	25
132	116	1.3	175	58.0	8.770	35	P180	13I41-	2	18
138	101	3.1	470	51.0	9.184	40	P470	13I41-	2	25
150	101	1.2	180	51.0	8.738	40	P180	13I41-	2	18
186	81.0	2.2	405	41.0	9.170	50	P470	13I41-	2	25
258	57.9	1.4	355	29.0	9.159	70	P470	13I41-	2	25

Technical data

Planetary gearbox g820-P
Selection tables



2.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
15.0	1367	3.2	54.0	683	20.645	3	P80	14L41-	1	36
19.0	1025	3.5	80.0	513	20.392	4	P80	14L41-	1	36
22.0	820	5.4	175	410	20.754	5	P180	14L41-	1	39
25.0	820	2.7	80.0	410	20.297	5	P80	14L41-	1	36
33.0	586	4.0	175	293	20.508	7	P180	14L41-	1	39
36.0	586	2.0	78.0	293	19.948	7	P80	14L41-	1	36
39.0	513	3.6	155	256	20.424	8	P180	14L41-	1	39
41.0	513	1.8	75.0	256	19.930	8	P80	14L41-	1	36
44.0	410	5.8	305	205	25.739	10	P470	14L41-	1	46
50.0	410	2.7	140	205	20.364	10	P180	14L41-	1	39
52.0	410	1.1	59.0	205	19.910	10	P80	14L41-	1	36
60.0	342	2.2	135	171	20.459	12	P180	14L41-	2	40
60.0	273	4.9	380	137	20.972	15	P470	14L41-	2	47
64.0	256	4.8	450	128	21.216	16	P470	14L41-	2	47
76.0	273	1.7	135	137	20.340	15	P180	14L41-	2	40
80.0	256	2.2	180	128	20.401	16	P180	14L41-	2	40
85.0	205	4.2	450	103	20.794	20	P470	14L41-	2	47
102	205	1.7	180	103	20.303	20	P180	14L41-	2	40
116	164	3.1	405	82.0	20.739	25	P470	14L41-	2	47
127	164	1.4	175	82.0	20.289	25	P180	14L41-	2	40
174	117	2.3	405	59.0	20.501	35	P470	14L41-	2	47
199	103	2.3	470	51.0	20.374	40	P470	14L41-	2	47
254	82.0	1.6	405	41.0	20.360	50	P470	14L41-	2	47
348	58.6	1.0	355	29.0	20.349	70	P470	14L41-	2	47

2.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
28.0	767	4.3	135	383	38.941	3	P180	17N23-	1	47
38.0	575	4.2	180	288	37.949	4	P180	17N23-	1	47
49.0	460	3.2	175	230	37.554	5	P180	17N23-	1	47
64.0	329	4.8	355	164	43.147	7	P470	17N23-	1	54
71.0	329	2.4	175	164	37.308	7	P180	17N23-	1	47
75.0	288	4.2	350	144	42.873	8	P470	17N23-	1	54
83.0	288	1.9	155	144	37.224	8	P180	17N23-	1	47
100	230	2.9	305	115	42.539	10	P470	17N23-	1	54
104	230	1.3	140	115	37.164	10	P180	17N23-	1	47
112	192	3.1	380	96.0	38.293	12	P470	17N23-	2	55
147	153	2.4	380	77.0	37.772	15	P470	17N23-	2	55
154	144	2.7	450	72.0	38.016	16	P470	17N23-	2	55
200	115	2.2	450	58.0	37.594	20	P470	17N23-	2	55
254	92.0	1.6	405	46.0	37.539	25	P470	17N23-	2	55
355	65.7	1.1	405	33.0	37.301	35	P470	17N23-	2	55
406	57.5	1.2	470	29.0	37.174	40	P470	17N23-	2	55



Technical data

Planetary gearbox g820-P
Selection tables

4 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J		g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
68.0	468	5.1	405	234	80.335	5	P470	19S23-	1	83
104	334	3.2	355	167	79.147	7	P470	19S23-	1	83
121	293	2.8	350	146	78.873	8	P470	19S23-	1	83
156	234	1.9	305	117	78.539	10	P470	19S23-	1	83

4.1 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J		g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
25.0	1370	4.1	135	685	38.941	3	P180	17N41-	1	47
33.0	1028	4.0	180	514	37.949	4	P180	17N41-	1	47
44.0	822	3.0	175	411	37.554	5	P180	17N41-	1	47
55.0	587	5.5	355	294	43.147	7	P470	17N41-	1	54
63.0	587	2.3	175	294	37.308	7	P180	17N41-	1	47
65.0	514	4.8	350	257	42.873	8	P470	17N41-	1	54
73.0	514	2.1	155	257	37.224	8	P180	17N41-	1	47
86.0	411	3.3	305	206	42.539	10	P470	17N41-	1	54
91.0	411	1.5	140	206	37.164	10	P180	17N41-	1	47
95.0	343	3.5	380	171	38.293	12	P470	17N41-	2	55
126	274	2.8	380	137	37.772	15	P470	17N41-	2	55
135	257	2.7	450	128	38.016	16	P470	17N41-	2	55
174	206	2.4	450	103	37.594	20	P470	17N41-	2	55
223	164	1.8	405	82.0	37.539	25	P470	17N41-	2	55
313	117	1.3	405	59.0	37.301	35	P470	17N41-	2	55
357	103	1.3	470	51.0	37.174	40	P470	17N41-	2	55

5.2 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J		g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
73.0	593	4.3	355	296	79.147	7	P470	19S42-	1	83
85.0	519	3.8	350	259	78.873	8	P470	19S42-	1	83
112	415	2.6	305	208	78.539	10	P470	19S42-	1	83

Technical data

Planetary gearbox g820-P
Selection tables



Inverter power supply 400 V, forced ventilated motors

2.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
32.0	545	3.8	135	273	22.141	3	P180	14L16-	1	41
43.0	409	3.8	180	204	21.149	4	P180	14L16-	1	41
55.0	327	3.0	175	164	20.754	5	P180	14L16-	1	41
73.0	234	4.3	355	117	26.347	7	P470	14L16-	1	48
80.0	234	2.1	175	117	20.508	7	P180	14L16-	1	41
85.0	204	3.8	350	102	26.073	8	P470	14L16-	1	48
92.0	204	1.7	155	102	20.424	8	P180	14L16-	1	41
112	164	2.6	305	82.0	25.739	10	P470	14L16-	1	48
115	164	1.2	140	82.0	20.364	10	P180	14L16-	1	41
128	136	2.8	380	68.0	21.493	12	P470	14L16-	2	49
167	109	2.2	380	55.0	20.972	15	P470	14L16-	2	49
175	102	2.4	450	51.0	21.216	16	P470	14L16-	2	49
226	81.8	2.0	450	41.0	20.794	20	P470	14L16-	2	49
282	65.4	1.4	405	33.0	20.739	25	P470	14L16-	2	49
395	46.7	1.0	405	23.0	20.501	35	P470	14L16-	2	49
451	40.9	1.0	470	20.0	20.374	40	P470	14L16-	2	49

2.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
17.0	1137	2.9	54.0	568	9.195	3	P80	13I34-	1	15
23.0	853	3.2	80.0	426	8.943	4	P80	13I34-	1	15
27.0	682	4.9	175	341	9.564	5	P180	13I34-	1	18
30.0	682	2.4	80.0	341	8.848	5	P80	13I34-	1	15
39.0	487	3.6	175	244	9.318	7	P180	13I34-	1	18
42.0	487	1.8	78.0	244	8.774	7	P80	13I34-	1	15
46.0	426	3.2	155	213	9.234	8	P180	13I34-	1	18
48.0	426	1.6	75.0	213	8.756	8	P80	13I34-	1	15
53.0	341	5.0	305	171	14.839	10	P470	13I34-	1	25
54.0	284	5.2	380	142	10.303	12	P470	13I34-	2	26
60.0	341	2.3	140	171	9.174	10	P180	13I34-	1	18
71.0	284	1.9	135	142	9.009	12	P180	13I34-	2	19
74.0	227	4.2	380	114	9.781	15	P470	13I34-	2	26
78.0	213	4.4	450	107	10.025	16	P470	13I34-	2	26
89.0	227	1.5	135	114	8.890	15	P180	13I34-	2	19
95.0	213	1.9	180	107	8.952	16	P180	13I34-	2	19
103	171	3.7	450	85.0	9.604	20	P470	13I34-	2	26
118	171	1.5	180	85.0	8.853	20	P180	13I34-	2	19
140	136	2.7	405	68.0	9.548	25	P470	13I34-	2	26
148	136	1.2	175	68.0	8.839	25	P180	13I34-	2	19
207	97.4	1.9	405	49.0	9.310	35	P470	13I34-	2	26
237	85.3	2.0	470	43.0	9.184	40	P470	13I34-	2	26
296	68.2	1.4	405	34.0	9.170	50	P470	13I34-	2	26



Technical data

Planetary gearbox g820-P
Selection tables

3.8 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
62.0	560	2.1	135	280	38.941	3	P180	17N17-	1	49
70.0	420	5.6	470	210	45.792	4	P470	17N17-	1	57
82.0	420	2.1	180	210	37.949	4	P180	17N17-	1	49
95.0	336	3.8	405	168	44.335	5	P470	17N17-	1	57
103	336	1.7	175	168	37.554	5	P180	17N17-	1	49
142	240	2.4	355	120	43.147	7	P470	17N17-	1	57
144	240	1.2	175	120	37.308	7	P180	17N17-	1	49
164	210	2.1	350	105	42.873	8	P470	17N17-	1	57
206	168	1.5	305	84.0	42.539	10	P470	17N17-	1	57
243	140	1.5	380	70.0	38.293	12	P470	17N17-	2	58
303	112	1.2	380	56.0	37.772	15	P470	17N17-	2	58
323	105	1.4	450	53.0	38.016	16	P470	17N17-	2	58
404	84.0	1.1	450	42.0	37.594	20	P470	17N17-	2	58

3.9 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
29.0	1152	3.8	135	576	22.141	3	P180	14L35-	1	41
38.0	864	3.7	180	432	21.149	4	P180	14L35-	1	41
50.0	691	2.8	175	346	20.754	5	P180	14L35-	1	41
64.0	494	4.8	355	247	26.347	7	P470	14L35-	1	48
72.0	494	2.1	175	247	20.508	7	P180	14L35-	1	41
75.0	432	4.2	350	216	26.073	8	P470	14L35-	1	48
83.0	432	1.9	155	216	20.424	8	P180	14L35-	1	41
100	346	2.9	305	173	25.739	10	P470	14L35-	1	48
104	346	1.3	140	173	20.364	10	P180	14L35-	1	41
112	288	3.1	380	144	21.493	12	P470	14L35-	2	49
147	230	2.4	380	115	20.972	15	P470	14L35-	2	49
156	216	2.6	450	108	21.216	16	P470	14L35-	2	49
200	173	2.2	450	86.0	20.794	20	P470	14L35-	2	49
254	138	1.6	405	69.0	20.739	25	P470	14L35-	2	49
355	98.7	1.1	405	49.0	20.501	35	P470	14L35-	2	49
406	86.4	1.2	470	43.0	20.374	40	P470	14L35-	2	49

6.4 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
98.0	567	3.6	380	283	86.440	3	P470	19S17-	1	86
132	425	3.3	470	213	81.792	4	P470	19S17-	1	86
172	340	2.3	405	170	80.335	5	P470	19S17-	1	86
244	243	1.4	355	121	79.147	7	P470	19S17-	1	86
279	213	1.2	350	106	78.873	8	P470	19S17-	1	86

Technical data

Planetary gearbox g820-P
Selection tables



6.9 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J		g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
46.0	1160	5.7	380	573	50.440	3	P470	17N35-	1	57
54.0	1160	2.2	135	580	38.941	3	P180	17N35-	1	49
62.0	870	5.7	470	435	45.792	4	P470	17N35-	1	57
73.0	870	2.1	180	435	37.949	4	P180	17N35-	1	49
82.0	696	4.4	405	348	44.335	5	P470	17N35-	1	57
91.0	696	1.6	175	348	37.554	5	P180	17N35-	1	49
124	497	2.7	355	249	43.147	7	P470	17N35-	1	57
128	497	1.2	175	249	37.308	7	P180	17N35-	1	49
144	435	2.4	350	218	42.873	8	P470	17N35-	1	57
146	435	1.1	155	218	37.224	8	P180	17N35-	1	49
182	348	1.7	305	174	42.539	10	P470	17N35-	1	57
214	290	1.7	380	145	38.293	12	P470	17N35-	2	58
268	232	1.4	380	116	37.772	15	P470	17N35-	2	58
286	218	1.5	450	109	38.016	16	P470	17N35-	2	58
357	174	1.2	450	87.0	37.594	20	P470	17N35-	2	58

13.2 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J		g820-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
99.0	1170	3.0	380	540	86.440	3	P470	19S35-	1	86
132	878	3.0	470	439	81.792	4	P470	19S35-	1	86
171	702	2.3	405	351	80.335	5	P470	19S35-	1	86
242	501	1.4	355	251	79.147	7	P470	19S35-	1	86
276	439	1.3	350	219	78.873	8	P470	19S35-	1	86



Technical data

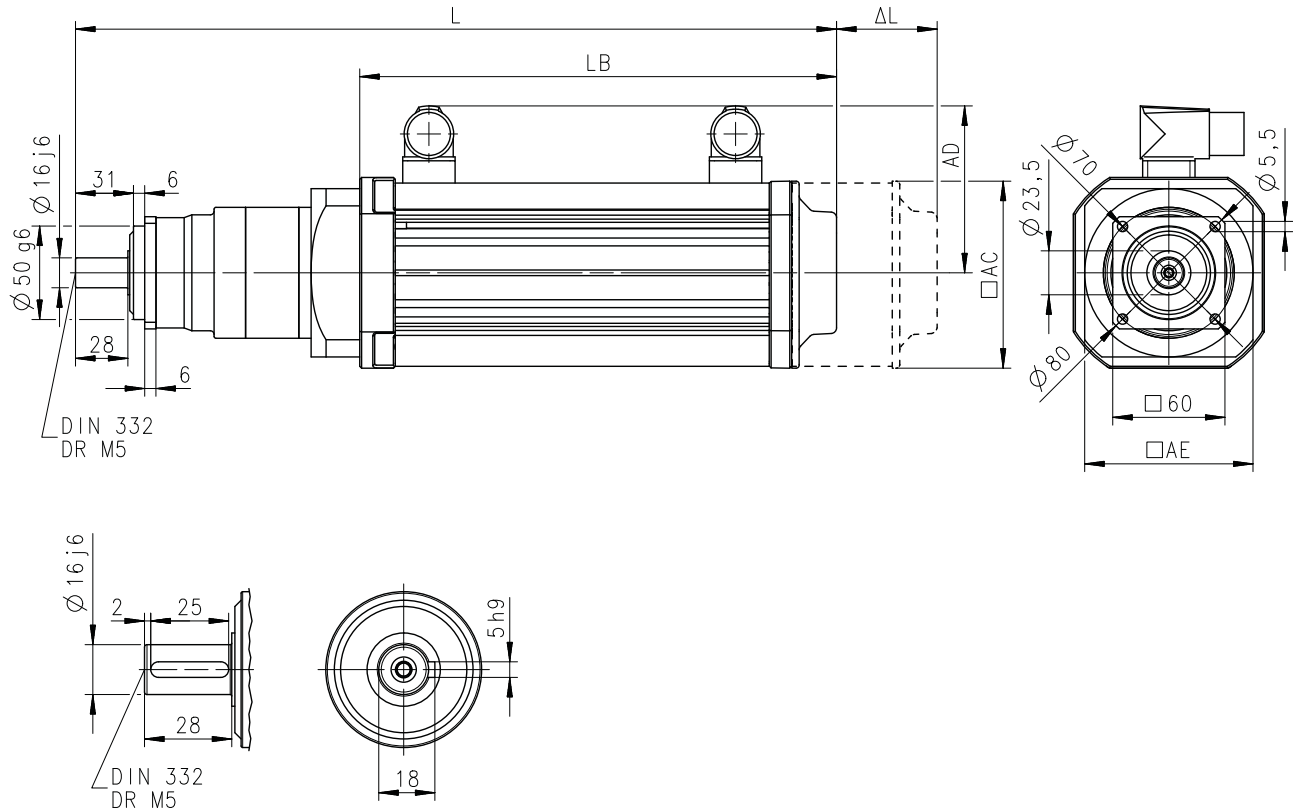
Planetary gearbox g820-P

Basic dimensions

Basic dimensions

g820-P40 with MCA10

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800880-00

Motor			MCA 10
			I40-
Total length	L	mm	385.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

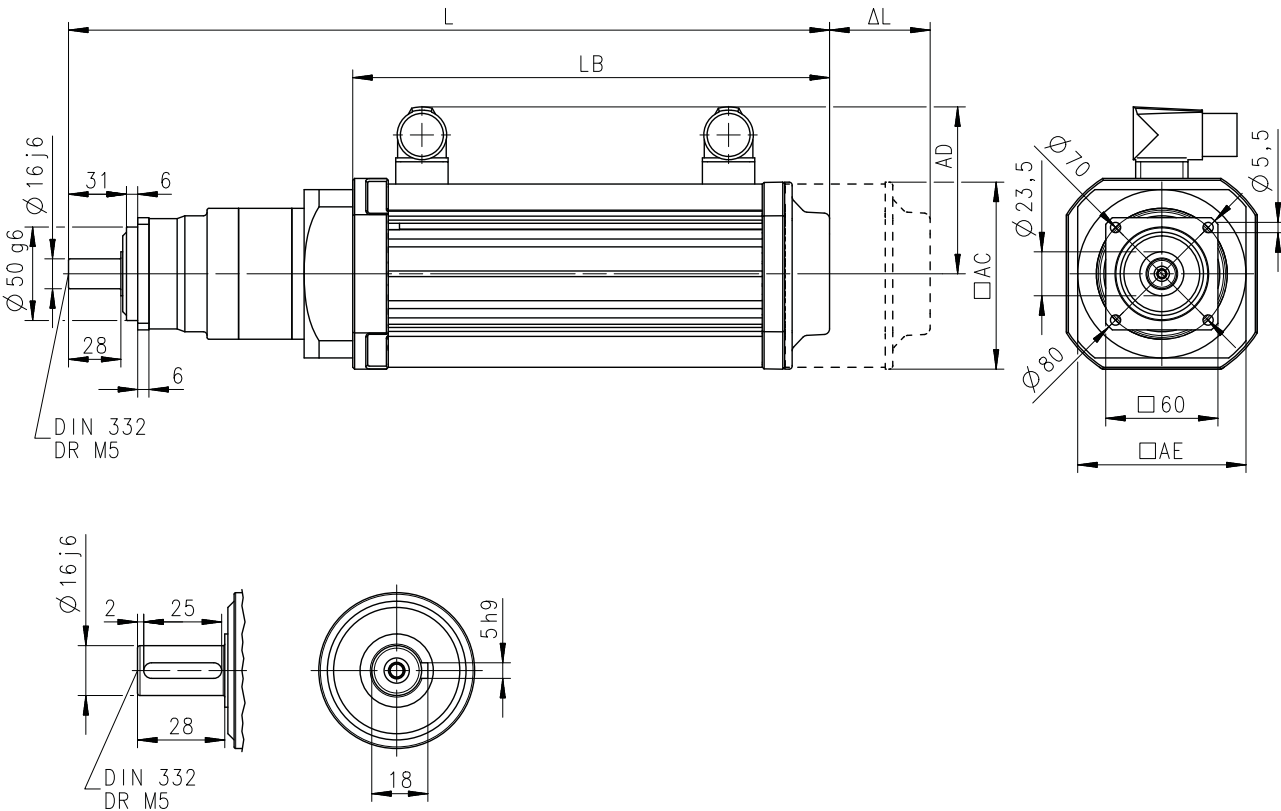
Technical data

Planetary gearbox g820-P
Basic dimensions



g820-P40 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800880-00

Motor			MCA 10
			I40-
Total length	L	mm	414
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

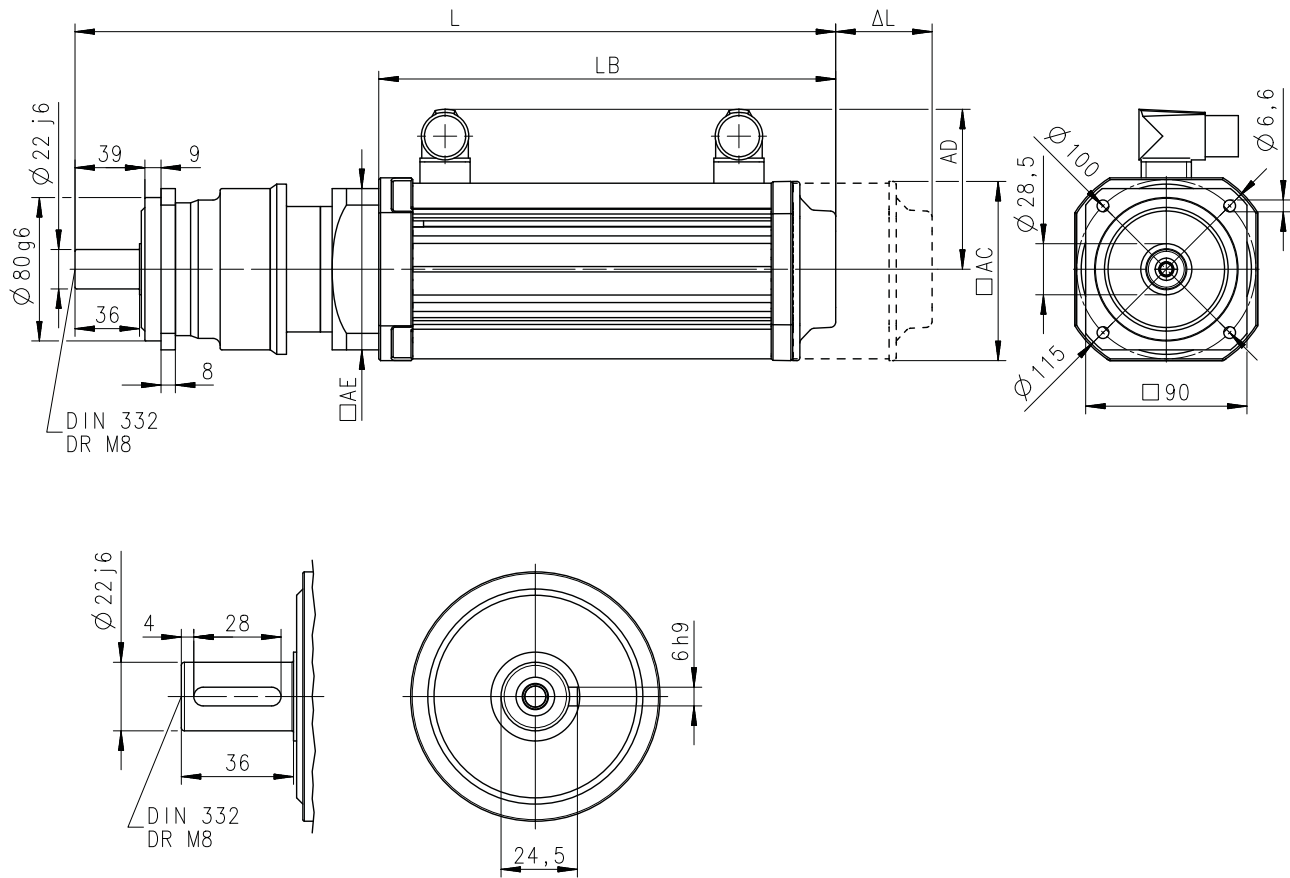


Technical data

Planetary gearbox g820-P
Basic dimensions

g820-P80 with MCA10

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800881-00

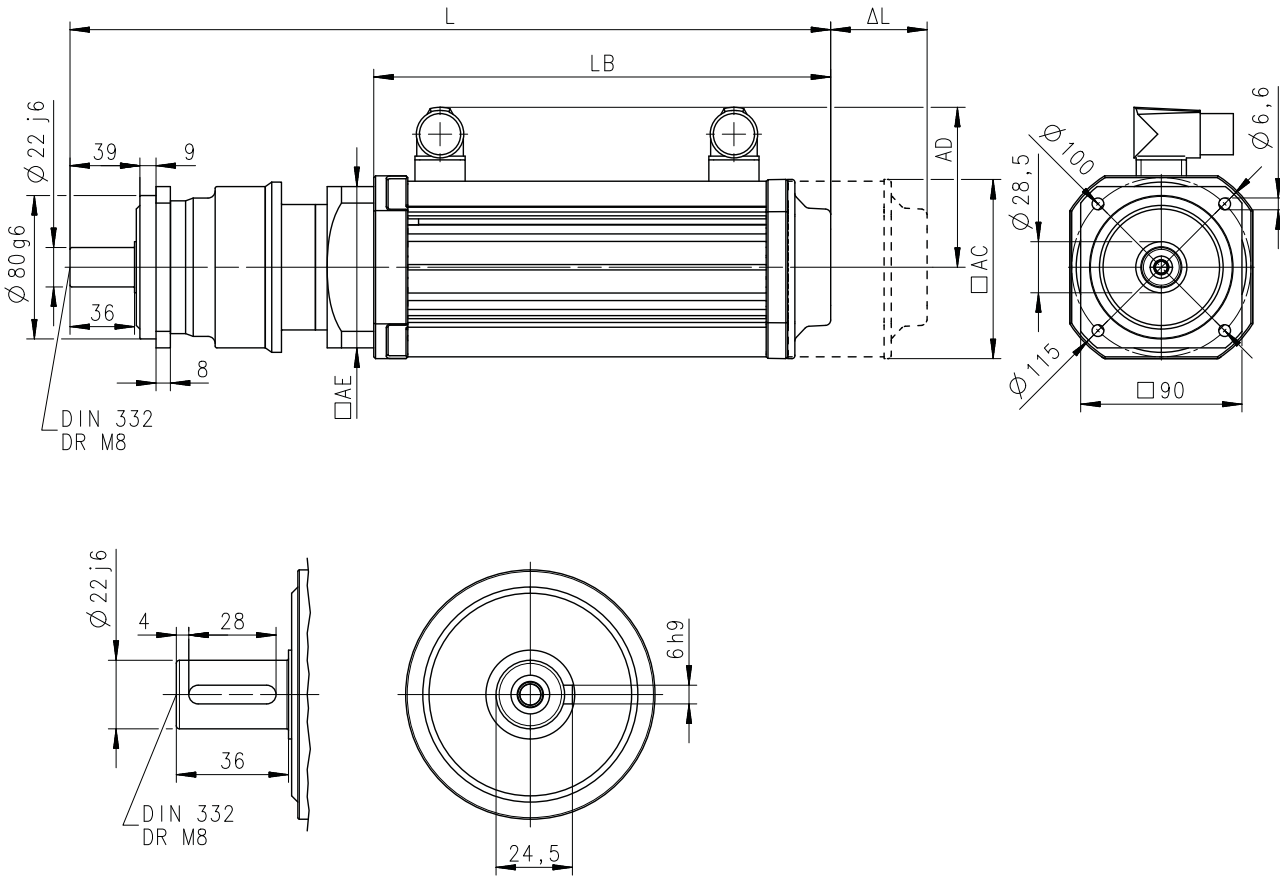
Motor			MCA 10
			I40-
Total length	L	mm	402.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g820-P
Basic dimensions



g820-P80 with MCA10
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800881-00

Motor			MCA 10
			I40-
Total length	L	mm	431.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

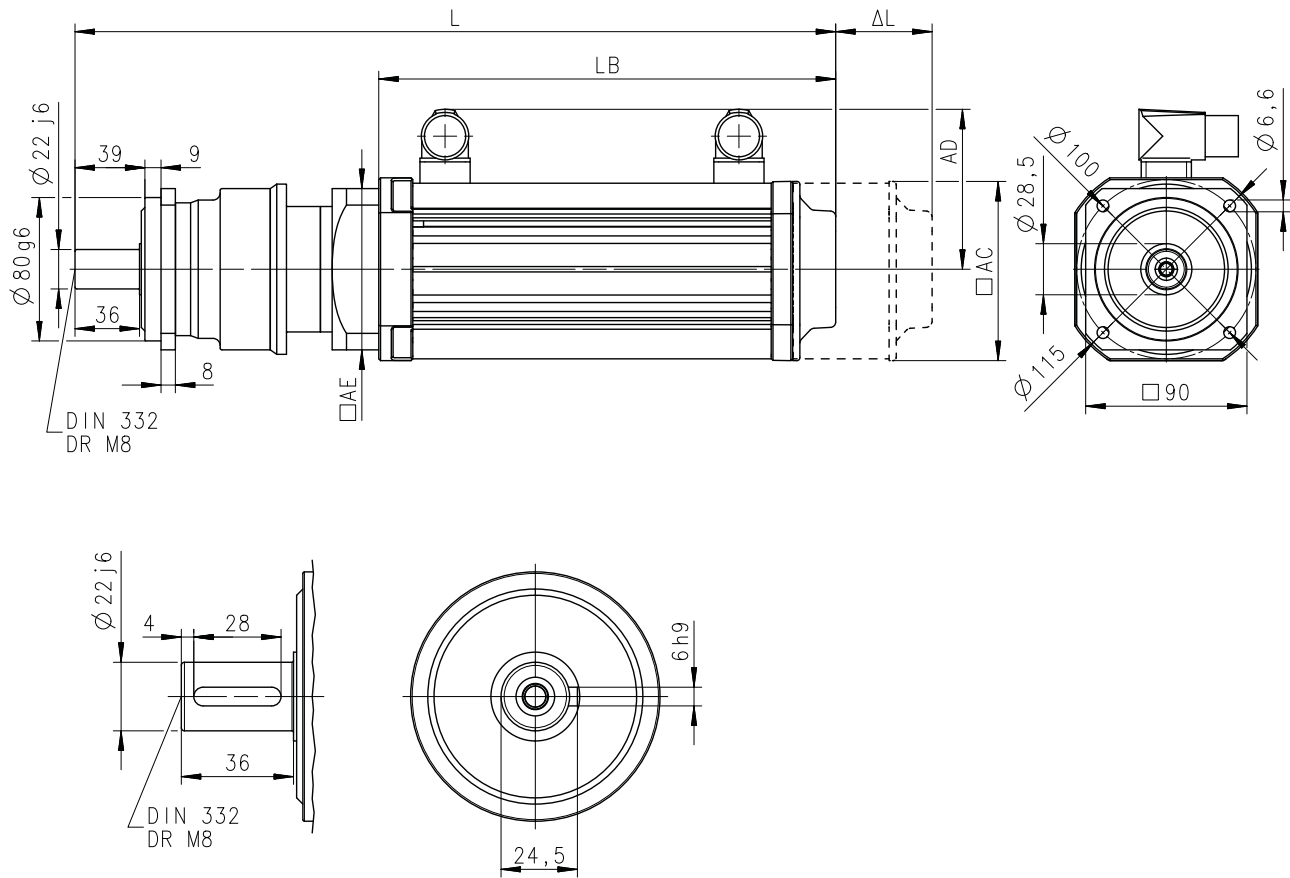


Technical data

Planetary gearbox g820-P
Basic dimensions

g820-P80 with MCA13

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800881-00

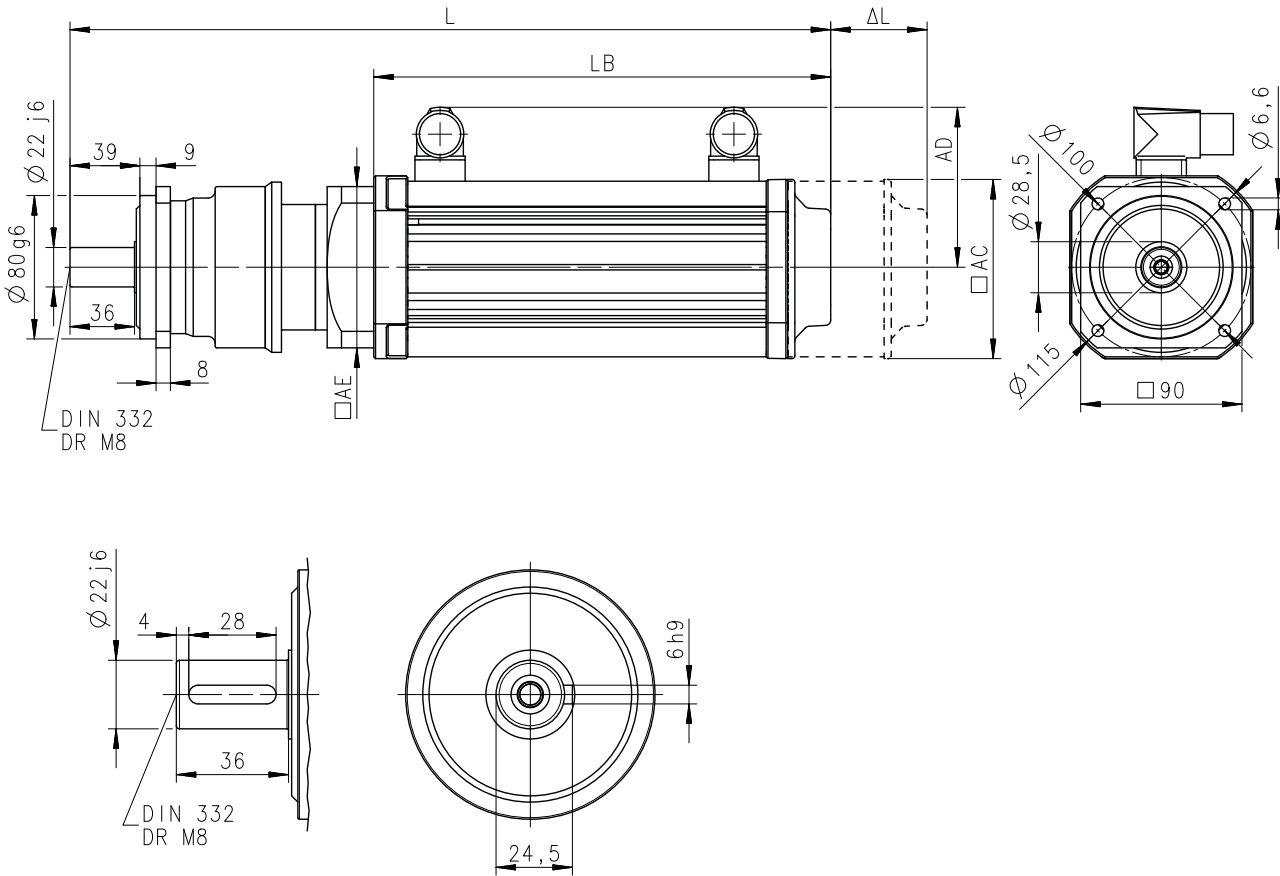
Motor			MCA 13	
			I34-	I41-
Total length	L	mm	489.5	421.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

Technical data

Planetary gearbox g820-P
Basic dimensions



g820-P80 with MCA14
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800881-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	462.5	462.5
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	142	142

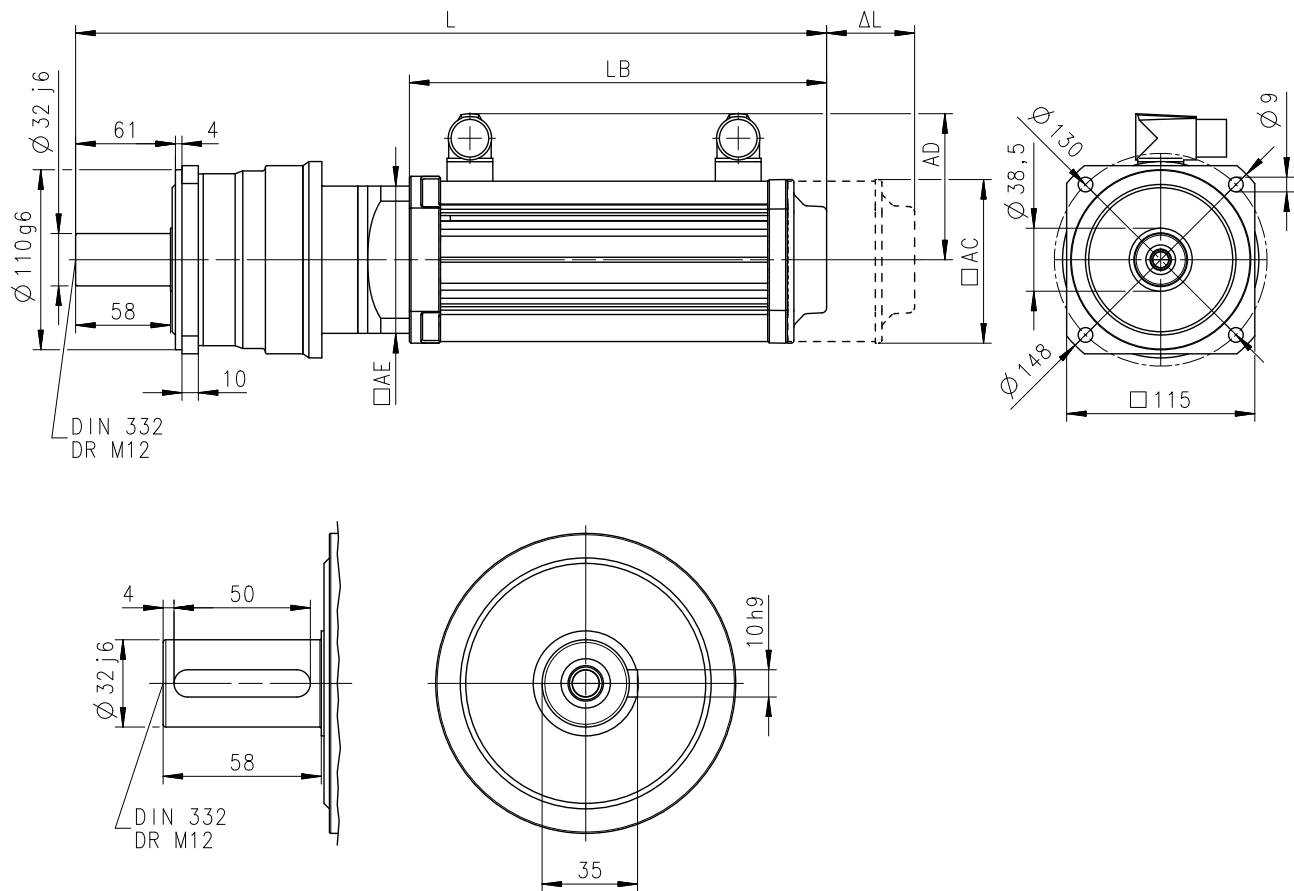


Technical data

Planetary gearbox g820-P
Basic dimensions

g820-P180 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800882-00

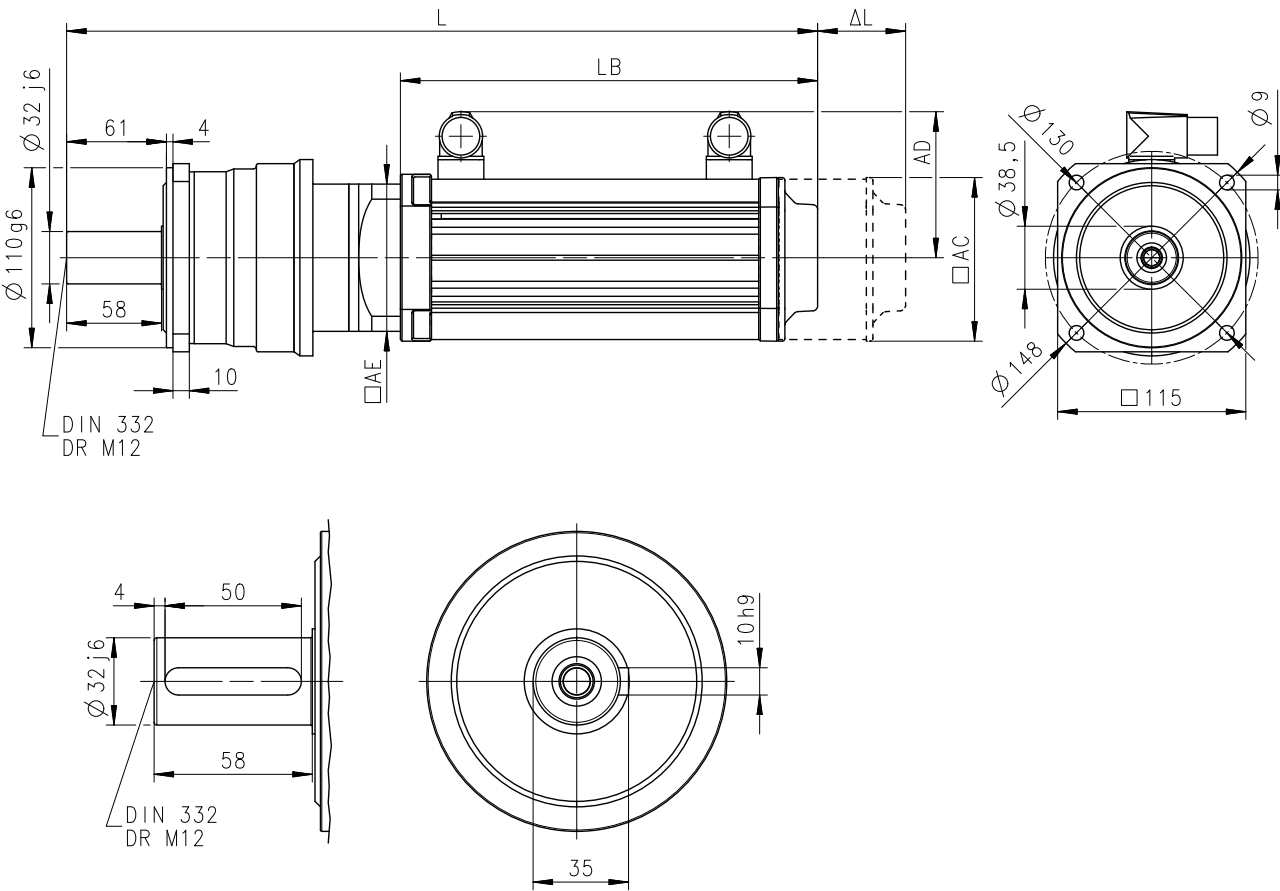
Motor			MCA 10
			I40-
Total length	L	mm	466
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g820-P
Basic dimensions



g820-P180 with MCA13
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800882-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	521.5	453.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	120	120

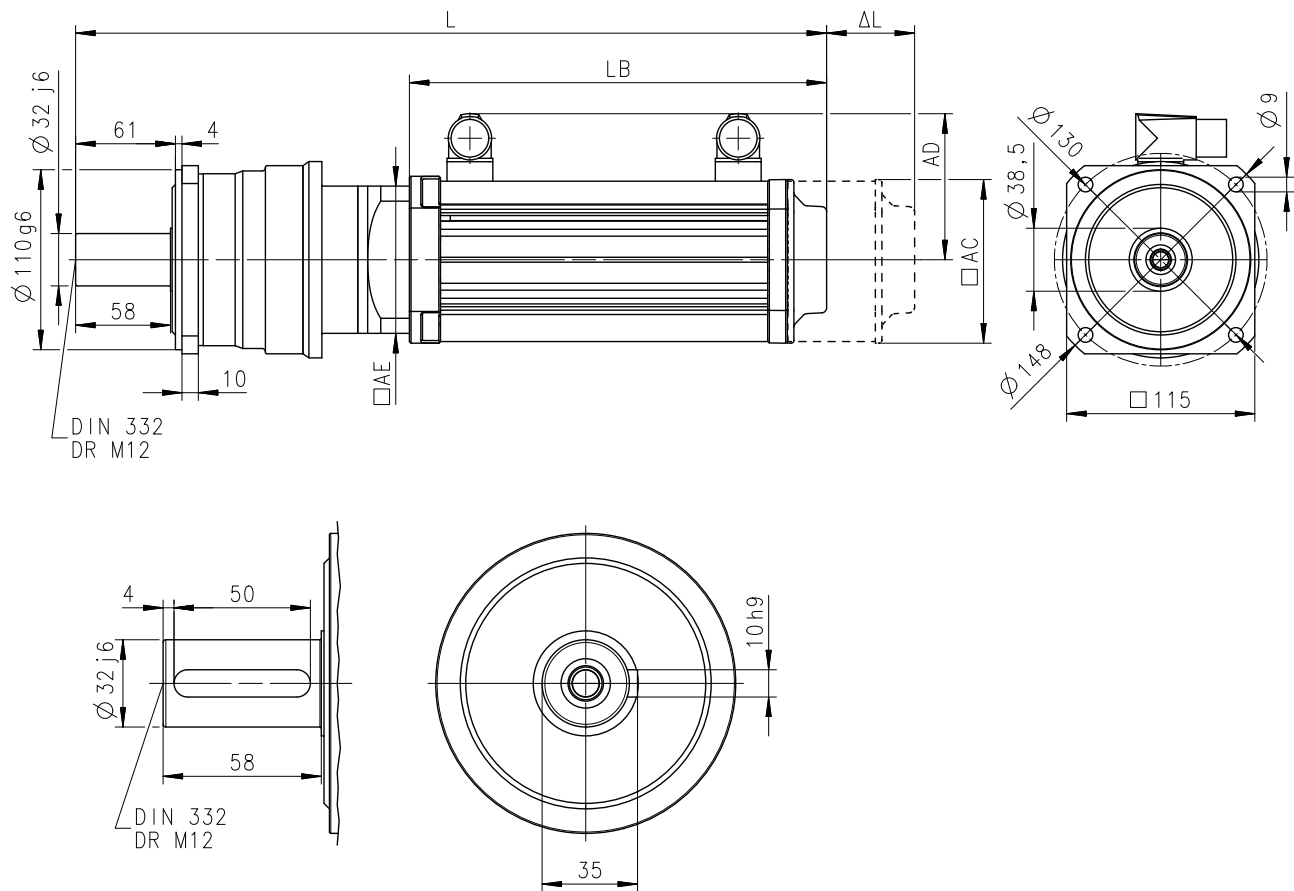


Technical data

Planetary gearbox g820-P
Basic dimensions

g820-P180 with MCA13

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800882-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	553	485
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

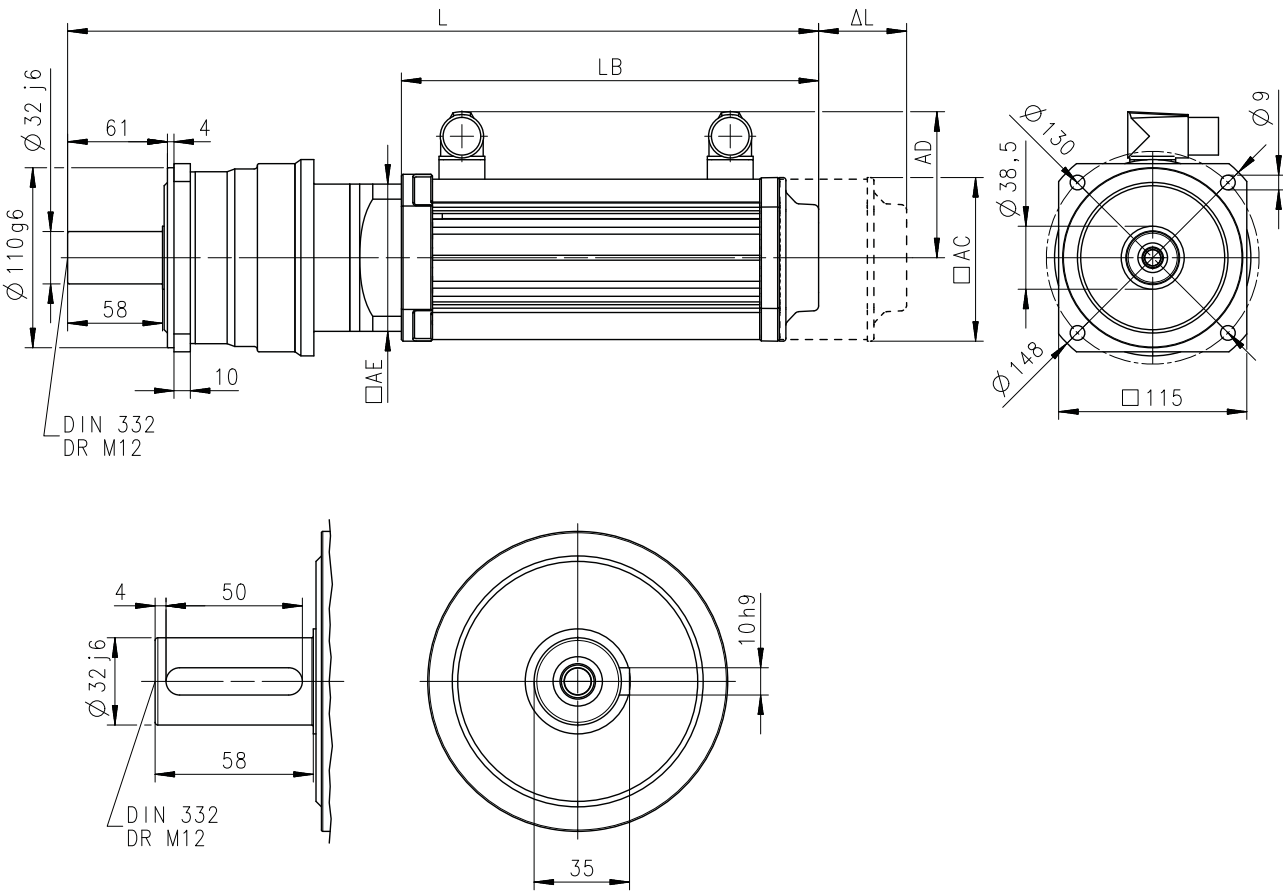
Technical data

Planetary gearbox g820-P
Basic dimensions



g820-P180 with MCA14

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800882-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	556.5	494.5	556.5	494.5
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

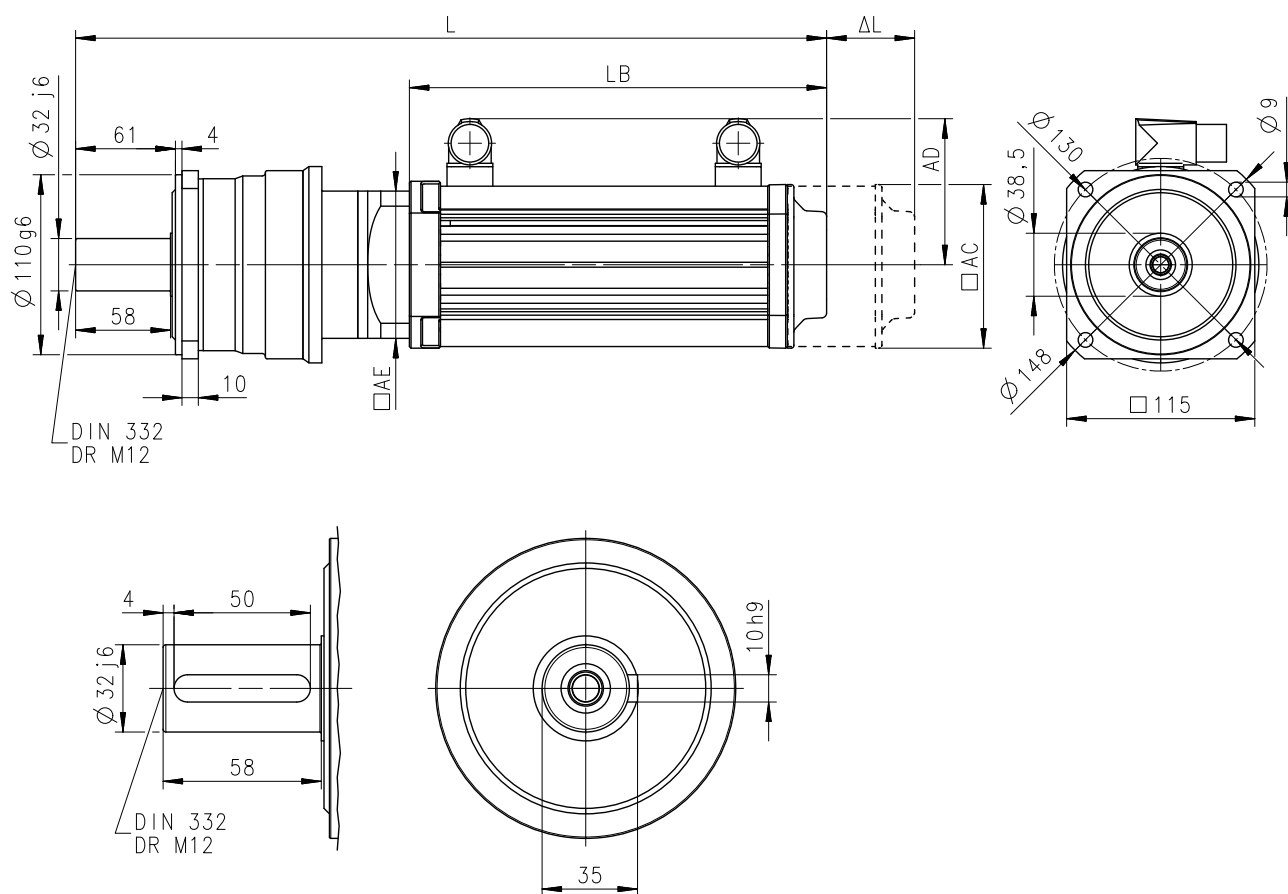


Technical data

Planetary gearbox g820-P
Basic dimensions

g820-P180 with MCA14

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800882-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	526	526
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	142	142

Planetary gearbox g820-P

Basic dimensions



Technical drawing of a hydraulic cylinder showing three views: a side view, a front view, and a top view.

Side View Dimensions:

- Overall length: L
- Stroke length: LB
- Mounting bracket width: ΔL
- Mounting bracket height: AD
- Mounting bracket width: AC
- Mounting bracket thickness: AE
- Mounting bracket height: 12
- Mounting bracket width: 85
- Mounting bracket width: 82
- Mounting bracket width: 140
- Mounting bracket width: 12
- Mounting bracket width: 8
- Mounting bracket width: 65
- Mounting bracket width: 82
- Mounting bracket width: 43
- Mounting bracket width: $12 h9$

Front View Dimensions:

- Overall diameter: $\varnothing 130 g6$
- Overall diameter: $\varnothing 40 j6$
- Overall diameter: $\varnothing 165$
- Overall diameter: $\varnothing 185$
- Overall diameter: $\varnothing 48,5$
- Overall diameter: $\varnothing 11$

Top View Dimensions:

- Overall diameter: $\varnothing 130 g6$
- Overall diameter: $\varnothing 40 j6$
- Overall diameter: $\varnothing 165$
- Overall diameter: $\varnothing 185$
- Overall diameter: $\varnothing 48,5$
- Overall diameter: $\varnothing 11$

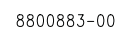
Callouts:

- DIN 332 DR M16
- DIN 332 DR M16
- DIN 332 DR M16

Motor			MCA 10
			I40-
Total length	L	mm	540.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115



Gearbox design: Solid shaft, without foot with centering, 1-stage

141

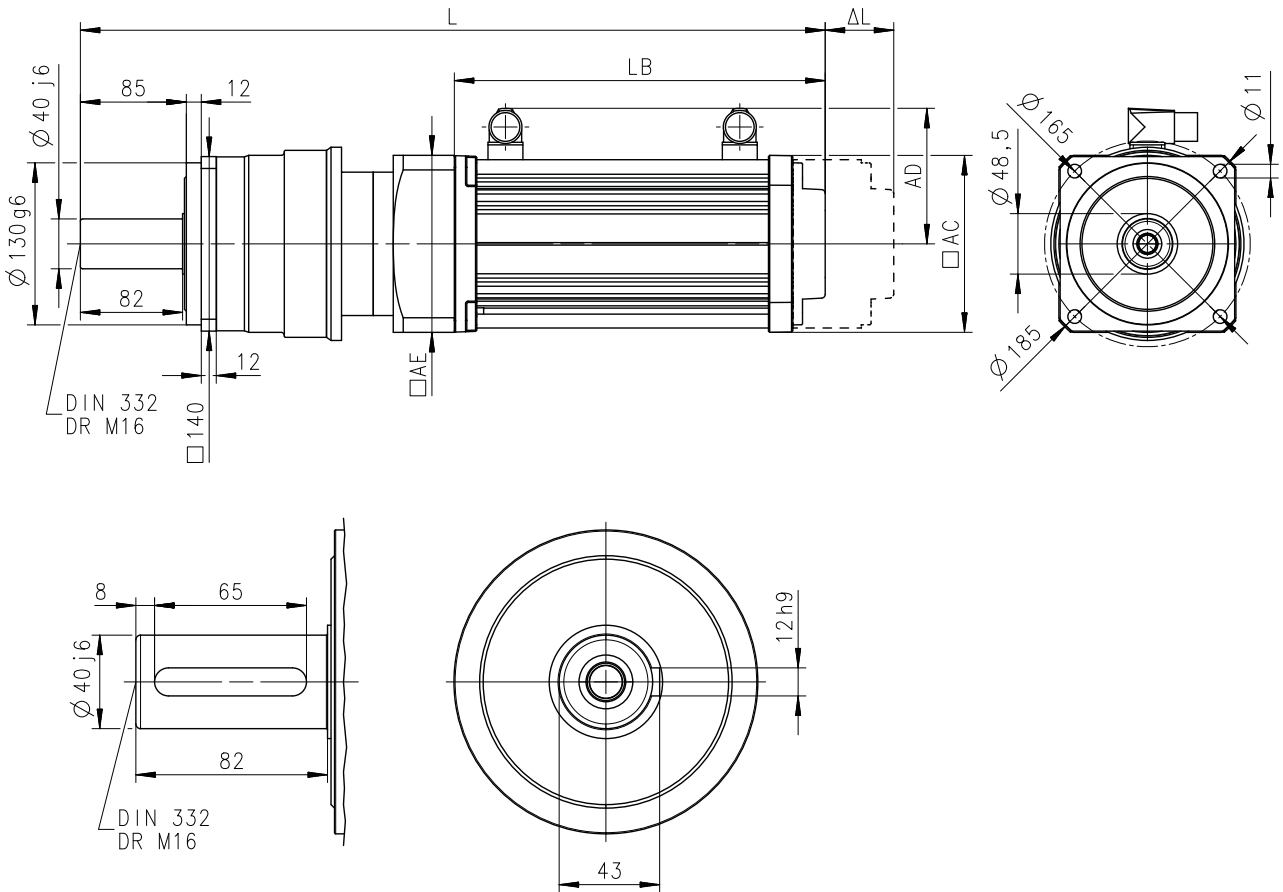
Technical data

Planetary gearbox g820-P
Basic dimensions



g820-P470 with MCA13

Gearbox design: Solid shaft, without foot with centering, 2-stage

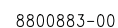


8800883-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	617.5	549.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	120	120



Gearbox design: Solid shaft, without foot with centering, 1-stage

143

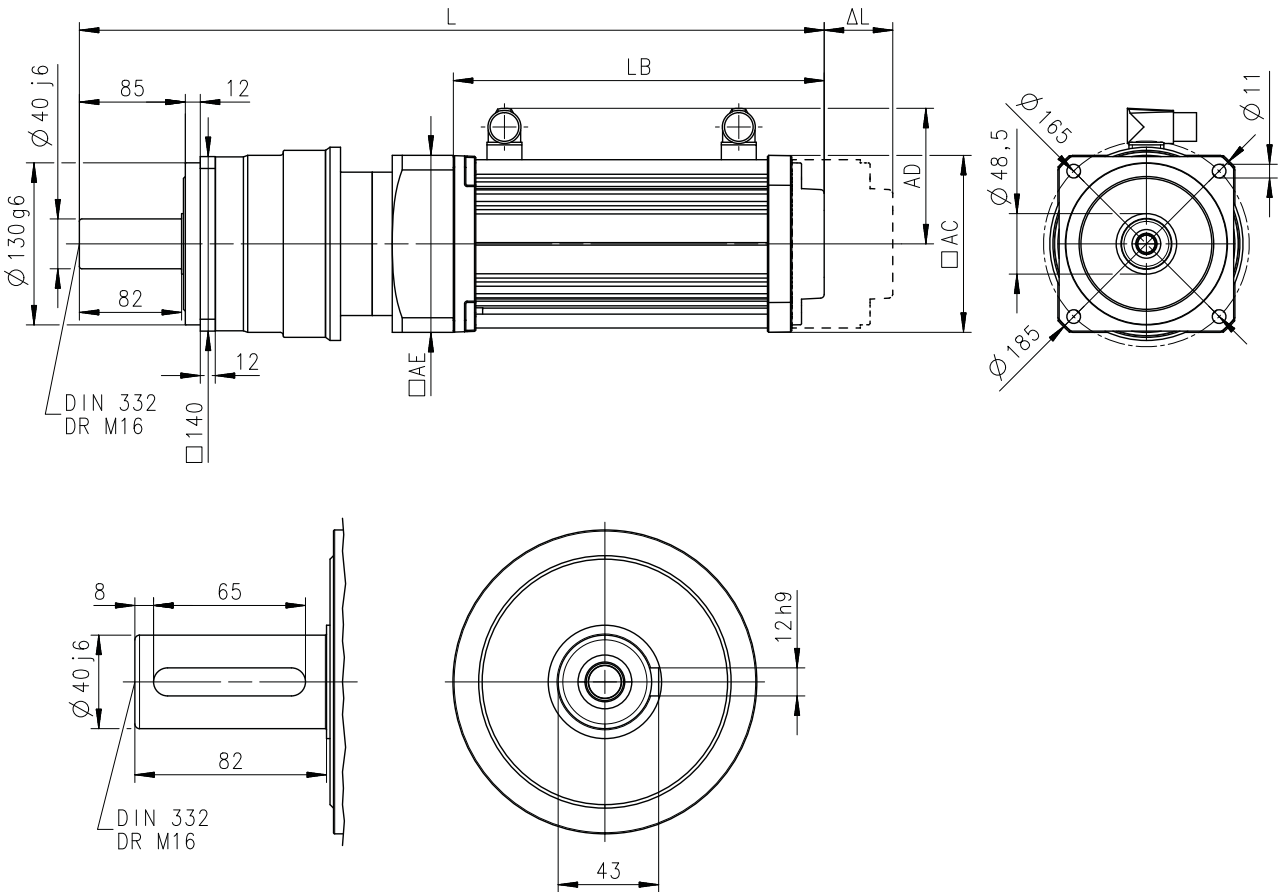
Technical data

Planetary gearbox g820-P
Basic dimensions



g820-P470 with MCA14

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800883-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	652.5	590.5	652.5	590.5
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

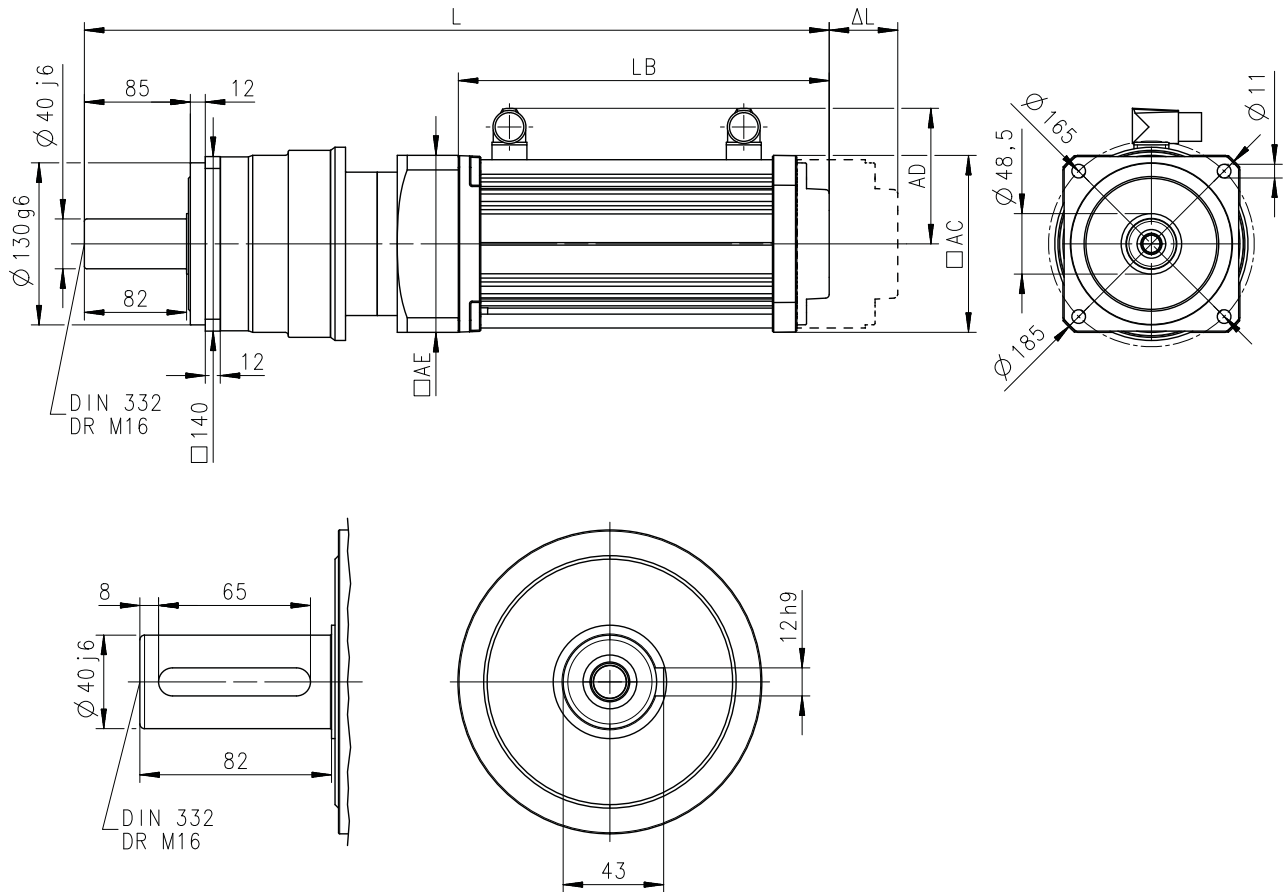


Technical data

Planetary gearbox g820-P
Basic dimensions

g820-P470 with MCA17

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800883-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	673.5	587.5	673.5	587.5
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	150	150	150	150

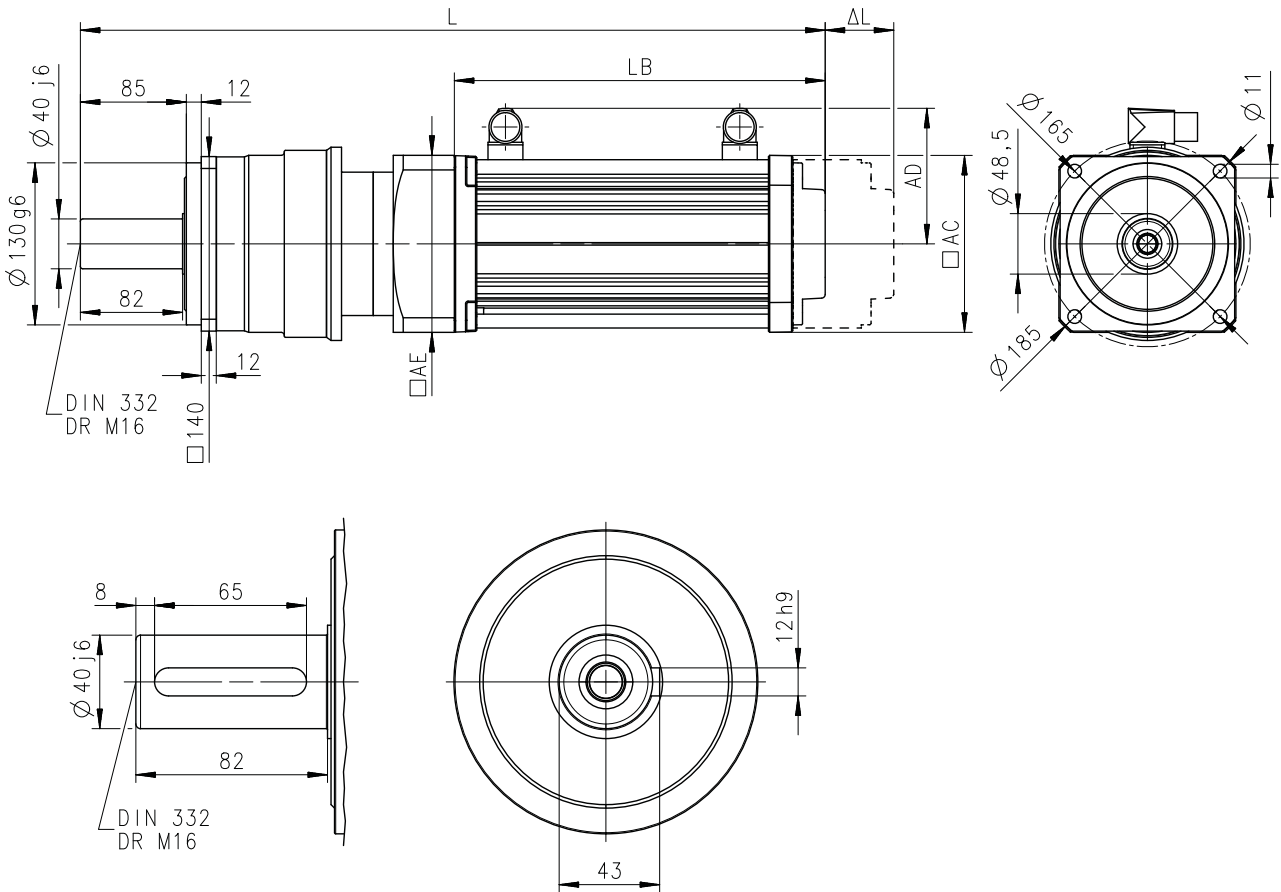
Technical data

Planetary gearbox g820-P
Basic dimensions



g820-P470 with MCA17

Gearbox design: Solid shaft, without foot with centering, 2-stage

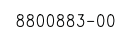


8800883-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	714.5	628.5	714.5	628.5
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142



Gearbox design: Solid shaft, without foot with centering, 1-stage

147

Technical data

Planetary gearbox g840-P
The modular system



Planetary gearbox g840-P

The modular system

g840-P planetary gearbox with MCA asynchronous servo motor

Gearboxes		g840-P77	g840-P150	g840-P300	g840-P1000	g840-P1800
Min. motor assignment		MCA10	MCA10	MCA10	MCA13	MCA14
Max. motor assignment		MCA10	MCA14	MCA17	MCA19	MCA21
Technical data						
Max. output torque	Nm	77	150	300	1000	1800
Min. drive torque	Nm	0.8	0.8	0.8	6.3	12
Max. drive torque	Nm	0.8	12	21.5	36	???
Mounting position		Any				
Color		Primed Painted in RAL colors				
Surface and corrosion protection		OKS-G Different types of OKS				
Output shaft						
Solid shaft with featherkey	mm	16 x 28	22 x 36	32 x 58	40 x 80	55 x 82
Smooth solid shaft	mm	16 x 28	22 x 36	32 x 58	40 x 80	55 x 82
Toothed output shaft (value in brackets: toothing length)		15.84 x 26 (15) z = 18	21.75 x 26 (15) z = 16	31.75 x 26 (15) z = 24	39.6 x 40 (20) z = 18	54.6 x 41.5 (22) z = 26
Shaft material		Steel				
Shaft sealing ring material		NBR				
Gearbox design		Without foot with centering				
Gearbox stages		1/2	1/2	1/2	1/2	1/2
Output flange	mm	70	90	115	142	190
Lubricant		Standard Food-compatible				
Cooling		Self-ventilated Forced-ventilated				
Motor connection		ICN connector Terminal box				
Holding brake		Without Permanent magnet brake Spring-applied brake				
Feedback						
Without functional safety		Resolver Absolute value encoder Incremental encoder				
With functional safety		Resolver Incremental encoder				
Temperature monitoring		PT1000 temperature sensor				



Technical data

Planetary gearbox g840-P
Data overview

Data overview

g840-P77, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	45.0	3	5
4	60.0	3	5
5	65.0	3	5
7	45.0	3	4
8	40.0	3	4
10	27.0	3	4

g840-P77, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
12	68.0	5	5
15	68.0	5	5
16	77.0	5	5
20	77.0	5	5
25	65.0	5	5
32	77.0	5	5

g840-P150, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	100	3	11
4	140	3	12
5	140	3	12
7	90.0	3	11
8	80.0	3	11
10	60.0	3	10

g840-P150, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
12	110	5	11
15	110	5	11
16	150	5	12
20	150	5	12
25	140	5	12
32	150	5	12
40	140	5	12

Technical data

Planetary gearbox g840-P
Data overview



g840-P300, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	230	3	23
4	300	3	26
5	260	3	27
7	180	3	24
8	150	3	24
10	125	3	24

g840-P300, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
12	250	5	24
15	250	5	24
16	300	5	26
20	300	5	26
25	260	5	27
32	300	5	26
40	260	5	27
64	150	5	24

g840-P1000, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	450	3	65
4	600	3	70
5	750	3	74
8	450	3	66
7	530	3	68
10	305	3	63

g840-P1000, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
12	780	5	73
15	780	5	73
16	1000	5	73
20	1000	5	74
25	900	5	76
32	1000	5	73
40	900	5	76
64	450	5	68



Technical data

Planetary gearbox g840-P
Radial forces and axial forces

g840-P1800, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
3	1000	3	185
4	1300	3	189
5	1600	3	203
7	1300	3	177
8	1000	3	176
10	630	3	158

g840-P1800, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
12	1500	5	195
15	1500	5	196
16	1800	5	196
20	1800	5	197
25	1800	5	209
32	1800	5	195
40	1800	5	208
64	1000	5	181
100	630	5	173

Radial forces and axial forces

Gearbox			g840-P77	g840-P150	g840-P300	g840-P1000	g840-P1800
Bearing service life 20000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	rated	3200	5500	6000	12500	21000
Axial force	F_{ax}	rated	4400	6400	8000	15000	21000
Bearing service life 30000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	rated	3200	4800	5400	11400	18000
Axial force	F_{ax}	rated	3900	5700	7000	13200	18500
Max. radial force	$F_{\text{rad, max}}$	rated	3200	5500	6000	12500	21000
Max. axial force	$F_{\text{ax, max}}$	rated	4400	6400	8000	15000	21000

Technical data

Planetary gearbox g840-P
Selection tables



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
5.1	1317	4.7	45.0	658	2.765	3	P77	10I40-	1	8.3
6.9	988	4.6	60.0	494	2.682	4	P77	10I40-	1	8.3
8.9	790	3.8	65.0	395	2.652	5	P77	10I40-	1	8.3
13.0	564	3.0	45.0	282	2.628	7	P77	10I40-	1	8.3
13.0	494	5.2	80.0	247	2.982	8	P150	10I40-	1	9.7
15.0	494	2.6	40.0	247	2.623	8	P77	10I40-	1	8.3
18.0	395	1.5	27.0	198	2.616	10	P77	10I40-	1	8.3
18.0	395	3.2	60.0	198	2.960	10	P150	10I40-	1	9.7
20.0	329	3.4	110	165	3.099	12	P150	10I40-	2	11
20.0	263	6.0	250	132	4.572	15	P300	10I40-	2	16
23.0	329	1.8	68.0	165	2.649	12	P77	10I40-	2	8.8
25.0	247	4.1	150	123	3.082	16	P150	10I40-	2	11
26.0	263	2.9	110	132	3.030	15	P150	10I40-	2	11
28.0	263	1.5	68.0	132	2.631	15	P77	10I40-	2	8.8
30.0	247	1.8	77.0	123	2.644	16	P77	10I40-	2	8.8
33.0	198	3.5	150	99.0	3.019	20	P150	10I40-	2	11
35.0	158	5.5	260	79.0	4.534	25	P300	10I40-	2	16
38.0	198	1.5	77.0	99.0	2.628	20	P77	10I40-	2	8.8
44.0	158	3.0	140	79.0	3.016	25	P150	10I40-	2	11
46.0	158	1.3	65.0	79.0	2.626	25	P77	10I40-	2	8.8
47.0	123	4.9	300	62.0	4.367	32	P300	10I40-	2	16
58.0	123	2.5	150	62.0	2.960	32	P150	10I40-	2	11
59.0	123	1.1	77.0	62.0	2.613	32	P77	10I40-	2	8.8
67.0	98.8	3.5	260	49.0	4.363	40	P300	10I40-	2	16
74.0	98.8	1.9	140	49.0	2.959	40	P150	10I40-	2	11
113	61.7	1.3	150	31.0	4.359	64	P300	10I40-	2	16



Technical data

Planetary gearbox g840-P
Selection tables

1.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
18.0	667	3.2	100	333	20.679	3	P150	14L20-	1	36
24.0	500	3.9	140	250	20.419	4	P150	14L20-	1	36
31.0	400	3.2	140	200	20.325	5	P150	14L20-	1	36
41.0	286	4.0	180	143	21.237	7	P300	14L20-	1	40
45.0	286	2.0	90.0	143	20.250	7	P150	14L20-	1	36
49.0	250	2.9	150	125	21.182	8	P300	14L20-	1	40
51.0	250	1.6	80.0	125	20.233	8	P150	14L20-	1	36
57.0	200	4.7	305	100	26.208	10	P1000	14L20-	1	49
64.0	200	1.9	125	100	21.142	10	P300	14L20-	1	40
72.0	167	2.6	250	83.0	21.573	12	P300	14L20-	2	43
76.0	167	1.2	110	83.0	20.350	12	P150	14L20-	2	37
93.0	133	2.2	250	67.0	21.372	15	P300	14L20-	2	43
94.0	133	1.1	110	67.0	20.281	15	P150	14L20-	2	37
94.0	125	2.9	300	63.0	21.530	16	P300	14L20-	2	43
101	125	1.5	150	63.0	20.334	16	P150	14L20-	2	37
115	80.0	5.7	900	40.0	27.028	25	P1000	14L20-	2	54
123	100	2.4	300	50.0	21.355	20	P300	14L20-	2	43
126	100	1.2	150	50.0	20.271	20	P150	14L20-	2	37
157	80.0	1.7	260	40.0	21.334	25	P300	14L20-	2	43
158	62.5	4.9	1000	31.0	26.287	32	P1000	14L20-	2	54
202	62.5	1.5	300	31.0	21.167	32	P300	14L20-	2	43
222	50.0	3.6	900	25.0	26.258	40	P1000	14L20-	2	54
249	50.0	1.0	260	25.0	21.163	40	P300	14L20-	2	43
382	31.3	1.2	450	16.0	26.235	64	P1000	14L20-	2	54
385	31.3	2.6	1000	16.0	43.526	64	P1800	14L20-	2	78
563	20.0	1.1	630	10.0	41.630	100	P1800	14L20-	2	78

Technical data

Planetary gearbox g840-P
Selection tables



1.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
10.0	1350	4.3	100	675	9.328	3	P150	13I41-	1	14
13.0	1013	5.2	140	506	9.067	4	P150	13I41-	1	14
17.0	810	4.4	140	405	8.974	5	P150	13I41-	1	14
25.0	579	3.4	90.0	289	8.899	7	P150	13I41-	1	14
27.0	506	4.9	150	253	10.282	8	P300	13I41-	1	17
30.0	506	2.6	80.0	253	8.882	8	P150	13I41-	1	14
36.0	405	3.3	125	203	10.242	10	P300	13I41-	1	17
38.0	405	1.6	60.0	203	8.860	10	P150	13I41-	1	14
40.0	338	3.5	250	169	10.673	12	P300	13I41-	2	20
45.0	338	1.7	110	169	8.999	12	P150	13I41-	2	15
52.0	270	3.0	250	135	10.472	15	P300	13I41-	2	20
52.0	253	3.9	300	127	10.630	16	P300	13I41-	2	20
56.0	270	1.4	110	135	8.930	15	P150	13I41-	2	15
60.0	253	2.0	150	127	8.982	16	P150	13I41-	2	15
68.0	203	3.3	300	101	10.455	20	P300	13I41-	2	20
75.0	203	1.7	150	101	8.919	20	P150	13I41-	2	15
89.0	162	2.8	260	81.0	10.434	25	P300	13I41-	2	20
94.0	162	1.5	140	81.0	8.916	25	P150	13I41-	2	15
106	101	6.0	900	51.0	15.358	40	P1000	13I41-	2	31
117	127	2.4	300	63.0	10.267	32	P300	13I41-	2	20
120	127	1.3	150	63.0	8.860	32	P150	13I41-	2	15
149	101	1.8	260	51.0	10.263	40	P300	13I41-	2	20
228	63.3	2.0	450	32.0	15.335	64	P1000	13I41-	2	31



Technical data

Planetary gearbox g840-P
Selection tables

2.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
15.0	1367	3.2	100	683	20.679	3	P150	14L41-	1	36
19.0	1025	3.9	140	513	20.419	4	P150	14L41-	1	36
25.0	820	3.2	140	410	20.325	5	P150	14L41-	1	36
32.0	586	4.7	180	293	21.237	7	P300	14L41-	1	40
36.0	586	2.5	90.0	293	20.250	7	P150	14L41-	1	36
39.0	513	3.6	150	256	21.182	8	P300	14L41-	1	40
41.0	513	1.9	80.0	256	20.233	8	P150	14L41-	1	36
43.0	410	5.9	305	205	26.208	10	P1000	14L41-	1	49
51.0	410	1.2	60.0	205	20.211	10	P150	14L41-	1	36
51.0	410	2.4	125	205	21.142	10	P300	14L41-	1	40
58.0	342	2.6	250	171	21.573	12	P300	14L41-	2	43
61.0	342	1.2	110	171	20.350	12	P150	14L41-	2	37
75.0	273	2.2	250	137	21.372	15	P300	14L41-	2	43
76.0	273	1.1	110	137	20.281	15	P150	14L41-	2	37
76.0	256	2.9	300	128	21.530	16	P300	14L41-	2	43
81.0	256	1.5	150	128	20.334	16	P150	14L41-	2	37
98.0	205	2.4	300	103	21.355	20	P300	14L41-	2	43
102	205	1.3	150	103	20.271	20	P150	14L41-	2	37
122	128	5.4	1000	64.0	26.287	32	P1000	14L41-	2	54
126	164	2.1	260	82.0	21.334	25	P300	14L41-	2	43
127	164	1.1	140	82.0	20.267	25	P150	14L41-	2	37
162	128	1.8	300	64.0	21.167	32	P300	14L41-	2	43
166	103	4.4	900	51.0	26.258	40	P1000	14L41-	2	54
201	103	1.3	260	51.0	21.163	40	P300	14L41-	2	43
295	64.1	3.2	1000	32.0	43.526	64	P1800	14L41-	2	78
308	64.1	1.5	450	32.0	26.235	64	P1000	14L41-	2	54
454	41.0	1.4	630	21.0	41.630	100	P1800	14L41-	2	78

Technical data

Planetary gearbox g840-P
Selection tables



2.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
29.0	767	3.9	230	383	39.256	3	P300	17N23-	1	48
37.0	575	4.4	300	288	38.490	4	P300	17N23-	1	48
48.0	460	3.7	260	230	38.234	5	P300	17N23-	1	48
71.0	329	2.5	180	164	38.037	7	P300	17N23-	1	48
71.0	288	5.4	450	144	43.337	8	P1000	17N23-	1	57
83.0	288	1.8	150	144	37.982	8	P300	17N23-	1	48
100	230	2.9	305	115	43.008	10	P1000	17N23-	1	57
101	192	4.3	780	96.0	45.813	12	P1000	17N23-	2	61
104	230	1.2	125	115	37.942	10	P300	17N23-	1	48
122	192	1.5	250	96.0	38.373	12	P300	17N23-	2	50
124	144	5.2	1000	72.0	45.530	16	P1000	17N23-	2	61
133	153	3.7	780	77.0	44.082	15	P1000	17N23-	2	61
152	153	1.3	250	77.0	38.172	15	P300	17N23-	2	50
162	144	1.7	300	72.0	38.330	16	P300	17N23-	2	50
166	115	4.4	1000	58.0	43.901	20	P1000	17N23-	2	61
203	115	1.5	300	58.0	38.155	20	P300	17N23-	2	50
225	92.0	3.5	900	46.0	43.828	25	P1000	17N23-	2	61
241	71.9	5.5	1800	36.0	60.536	32	P1800	17N23-	2	86
254	92.0	1.0	260	46.0	38.134	25	P300	17N23-	2	50
300	71.9	3.1	1000	36.0	43.087	32	P1000	17N23-	2	61
333	57.5	4.4	1800	29.0	60.445	40	P1800	17N23-	2	86
400	57.5	2.2	900	29.0	43.058	40	P1000	17N23-	2	61
622	35.9	1.6	1000	18.0	60.326	64	P1800	17N23-	2	86

4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
97.0	334	4.8	530	167	79.623	7	P1000	19S23-	1	86
117	293	3.6	450	146	79.337	8	P1000	19S23-	1	86
135	195	5.6	1500	98.0	108.003	12	P1800	19S23-	2	115
143	234	4.0	630	117	94.876	10	P1800	19S23-	1	100
156	234	2.0	305	117	79.008	10	P1000	19S23-	1	86
172	195	2.8	780	98.0	81.813	12	P1000	19S23-	2	90
182	156	4.8	1500	78.0	101.071	15	P1800	19S23-	2	115
219	146	3.4	1000	73.0	81.530	16	P1000	19S23-	2	90
222	117	5.7	1800	59.0	100.286	20	P1800	19S23-	2	115
223	156	2.4	780	78.0	80.082	15	P1000	19S23-	2	90
285	117	2.9	1000	59.0	79.901	20	P1000	19S23-	2	90
307	93.6	4.7	1800	47.0	100.052	25	P1800	19S23-	2	115
374	93.6	2.3	900	47.0	79.828	25	P1000	19S23-	2	90
431	73.1	3.6	1800	37.0	96.536	32	P1800	19S23-	2	115
490	73.1	2.0	1000	37.0	79.087	32	P1000	19S23-	2	90
570	58.5	2.9	1800	29.0	96.445	40	P1800	19S23-	2	115
613	58.5	1.5	900	29.0	79.058	40	P1000	19S23-	2	90
939	36.6	1.1	1000	18.0	96.326	64	P1800	19S23-	2	115



Technical data

Planetary gearbox g840-P
Selection tables

4.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
25.0	1370	3.7	230	574	39.256	3	P300	17N41-	1	48
33.0	1028	4.2	300	486	38.490	4	P300	17N41-	1	48
43.0	822	3.5	260	411	38.234	5	P300	17N41-	1	48
62.0	587	2.7	180	294	38.037	7	P300	17N41-	1	48
73.0	514	2.1	150	257	37.982	8	P300	17N41-	1	48
86.0	411	3.3	305	206	43.008	10	P1000	17N41-	1	57
90.0	343	4.1	780	127	45.813	12	P1000	17N41-	2	61
91.0	411	1.4	125	206	37.942	10	P300	17N41-	1	48
107	343	1.5	250	171	38.373	12	P300	17N41-	2	50
112	257	4.9	1000	103	45.530	16	P1000	17N41-	2	61
119	274	3.5	780	119	44.082	15	P1000	17N41-	2	61
134	274	1.3	250	137	38.172	15	P300	17N41-	2	50
143	257	1.6	300	128	38.330	16	P300	17N41-	2	50
149	206	4.2	1000	96.0	43.901	20	P1000	17N41-	2	61
179	206	1.4	300	103	38.155	20	P300	17N41-	2	50
198	164	3.5	900	81.0	43.828	25	P1000	17N41-	2	61
201	128	6.0	1800	64.0	60.536	32	P1800	17N41-	2	86
223	164	1.2	260	82.0	38.134	25	P300	17N41-	2	50
264	128	3.0	1000	64.0	43.087	32	P1000	17N41-	2	61
276	103	5.0	1800	51.0	60.445	40	P1800	17N41-	2	86
286	128	1.0	300	64.0	37.967	32	P300	17N41-	2	50
343	103	2.5	900	51.0	43.058	40	P1000	17N41-	2	61
547	64.2	1.8	1000	32.0	60.326	64	P1800	17N41-	2	86

5.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
81.0	519	4.8	450	259	79.337	8	P1000	19S42-	1	86
99.0	415	5.5	630	208	94.876	10	P1800	19S42-	1	100
112	415	2.7	305	208	79.008	10	P1000	19S42-	1	86
123	346	3.2	780	119	81.813	12	P1000	19S42-	2	90
126	277	5.5	1500	105	101.071	15	P1800	19S42-	2	115
155	259	3.9	1000	97.0	81.530	16	P1000	19S42-	2	90
159	277	2.8	780	112	80.082	15	P1000	19S42-	2	90
203	208	3.3	1000	90.0	79.901	20	P1000	19S42-	2	90
209	166	5.5	1800	67.0	100.052	25	P1800	19S42-	2	115
265	166	2.8	900	76.0	79.828	25	P1000	19S42-	2	90
288	130	4.7	1800	65.0	96.536	32	P1800	19S42-	2	115
350	130	2.4	1000	65.0	79.087	32	P1000	19S42-	2	90
385	104	4.0	1800	52.0	96.445	40	P1800	19S42-	2	115
451	104	2.0	900	52.0	79.058	40	P1000	19S42-	2	90
691	64.8	1.5	1000	32.0	96.326	64	P1800	19S42-	2	115

Technical data

Planetary gearbox g840-P
Selection tables



6.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
163	311	5.2	1000	156	205.000	8	P1800	21X25-	1	91
230	249	2.7	630	125	202.876	10	P1800	21X25-	1	91
244	208	3.6	1500	96.0	216.003	12	P1800	21X25-	2	105
305	156	4.4	1800	78.0	214.782	16	P1800	21X25-	2	105
318	166	3.1	1500	83.0	209.071	15	P1800	21X25-	2	105
403	125	3.7	1800	62.0	208.286	20	P1800	21X25-	2	105
532	99.6	3.1	1800	50.0	208.052	25	P1800	21X25-	2	105
718	77.8	2.4	1800	39.0	204.536	32	P1800	21X25-	2	105
925	62.3	2.0	1800	31.0	204.445	40	P1800	21X25-	2	105

7.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
151	416	3.9	630	205	202.876	10	P1800	21X42-	1	91
156	347	4.5	1500	101	216.003	12	P1800	21X42-	2	105
191	260	5.4	1800	83.0	214.782	16	P1800	21X42-	2	105
207	277	3.9	1500	97.0	209.071	15	P1800	21X42-	2	105
257	208	4.6	1800	78.0	208.286	20	P1800	21X42-	2	105
344	166	3.9	1800	62.0	208.052	25	P1800	21X42-	2	105
461	130	3.3	1800	65.0	204.536	32	P1800	21X42-	2	105
601	104	2.8	1800	52.0	204.445	40	P1800	21X42-	2	105
979	65.0	1.0	1000	33.0	204.326	64	P1800	21X42-	2	105



Technical data

Planetary gearbox g840-P
Selection tables

Inverter power supply 400 V, forced ventilated motors

2.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
32.0	545	3.9	230	273	22.456	3	P300	14L16-	1	42
42.0	409	4.3	300	204	21.690	4	P300	14L16-	1	42
54.0	327	3.7	260	164	21.434	5	P300	14L16-	1	42
80.0	234	2.2	180	117	21.237	7	P300	14L16-	1	42
81.0	204	4.8	450	102	26.537	8	P1000	14L16-	1	51
92.0	204	1.6	150	102	21.182	8	P300	14L16-	1	42
99.0	164	5.5	630	82.0	42.076	10	P1800	14L16-	1	65
112	164	2.7	305	82.0	26.208	10	P1000	14L16-	1	51
112	136	4.3	780	68.0	29.013	12	P1000	14L16-	2	55
115	164	1.1	125	82.0	21.142	10	P300	14L16-	1	42
135	136	1.5	250	68.0	21.573	12	P300	14L16-	2	44
138	102	5.2	1000	51.0	28.730	16	P1000	14L16-	2	55
148	109	3.7	780	55.0	27.282	15	P1000	14L16-	2	55
169	109	1.3	250	55.0	21.372	15	P300	14L16-	2	44
180	102	1.6	300	51.0	21.530	16	P300	14L16-	2	44
186	81.8	4.4	1000	41.0	27.101	20	P1000	14L16-	2	55
226	81.8	1.3	300	41.0	21.355	20	P300	14L16-	2	44
258	65.4	3.2	900	33.0	27.028	25	P1000	14L16-	2	55
282	51.1	4.9	1800	26.0	43.736	32	P1800	14L16-	2	80
341	51.1	2.7	1000	26.0	26.287	32	P1000	14L16-	2	55
384	40.9	4.0	1800	20.0	43.645	40	P1800	14L16-	2	80
451	40.9	2.0	900	20.0	26.258	40	P1000	14L16-	2	55
691	25.5	1.5	1000	13.0	43.526	64	P1800	14L16-	2	80

Technical data

Planetary gearbox g840-P
Selection tables



2.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
15.0	1137	6.0	230	568	11.556	3	P300	13I34-	1	19
17.0	1137	2.9	100	568	9.328	3	P150	13I34-	1	15
23.0	853	3.5	140	426	9.067	4	P150	13I34-	1	15
26.0	682	5.6	260	341	10.534	5	P300	13I34-	1	19
29.0	682	2.9	140	341	8.974	5	P150	13I34-	1	15
38.0	487	4.2	180	244	10.337	7	P300	13I34-	1	19
42.0	487	2.1	90.0	244	8.899	7	P150	13I34-	1	15
46.0	426	3.1	150	213	10.282	8	P300	13I34-	1	19
48.0	426	1.7	80.0	213	8.882	8	P150	13I34-	1	15
53.0	341	5.0	305	171	15.308	10	P1000	13I34-	1	28
60.0	341	1.0	60.0	171	8.860	10	P150	13I34-	1	15
60.0	341	2.1	125	171	10.242	10	P300	13I34-	1	19
65.0	227	5.6	780	114	16.382	15	P1000	13I34-	2	33
69.0	284	2.3	250	142	10.673	12	P300	13I34-	2	22
71.0	284	1.1	110	142	8.999	12	P150	13I34-	2	16
89.0	227	2.0	250	114	10.472	15	P300	13I34-	2	22
91.0	213	2.6	300	107	10.630	16	P300	13I34-	2	22
95.0	213	1.4	150	107	8.982	16	P150	13I34-	2	16
108	136	5.6	900	68.0	16.128	25	P1000	13I34-	2	33
117	171	2.2	300	85.0	10.455	20	P300	13I34-	2	22
118	171	1.2	150	85.0	8.919	20	P150	13I34-	2	16
148	136	1.8	260	68.0	10.434	25	P300	13I34-	2	22
149	107	4.9	1000	53.0	15.387	32	P1000	13I34-	2	33
190	107	1.6	300	53.0	10.267	32	P300	13I34-	2	22
205	85.3	3.8	900	43.0	15.358	40	P1000	13I34-	2	33
234	85.3	1.1	260	43.0	10.263	40	P300	13I34-	2	22
359	53.3	1.3	450	27.0	15.335	64	P1000	13I34-	2	33



Technical data

Planetary gearbox g840-P
Selection tables

3.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
62.0	560	2.2	230	280	39.256	3	P300	17N17-	1	50
81.0	420	2.4	300	210	38.490	4	P300	17N17-	1	50
103	336	2.0	260	168	38.234	5	P300	17N17-	1	50
135	240	3.6	530	120	43.623	7	P1000	17N17-	1	60
138	210	6.0	1000	105	61.000	8	P1800	17N17-	1	74
144	240	1.2	180	120	38.037	7	P300	17N17-	1	50
160	210	2.7	450	105	43.337	8	P1000	17N17-	1	60
194	140	4.7	1500	70.0	72.003	12	P1800	17N17-	2	89
197	168	3.1	630	84.0	58.876	10	P1800	17N17-	1	74
206	168	1.5	305	84.0	43.008	10	P1000	17N17-	1	60
236	140	2.4	780	70.0	45.813	12	P1000	17N17-	2	64
239	105	5.5	1800	53.0	70.782	16	P1800	17N17-	2	89
258	112	4.0	1500	56.0	65.071	15	P1800	17N17-	2	89
302	112	2.0	780	56.0	44.082	15	P1000	17N17-	2	64
303	105	2.9	1000	53.0	45.530	16	P1000	17N17-	2	64
332	84.0	4.4	1800	42.0	64.286	20	P1800	17N17-	2	89
391	84.0	2.4	1000	42.0	43.901	20	P1000	17N17-	2	64
448	67.2	3.5	1800	34.0	64.052	25	P1800	17N17-	2	89
505	67.2	1.8	900	34.0	43.828	25	P1000	17N17-	2	64
610	52.5	2.8	1800	26.0	60.536	32	P1800	17N17-	2	89
647	52.5	1.5	1000	26.0	43.087	32	P1000	17N17-	2	64
795	42.0	2.2	1800	21.0	60.445	40	P1800	17N17-	2	89
808	42.0	1.1	900	21.0	43.058	40	P1000	17N17-	2	64

3.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
29.0	1152	3.5	230	563	22.456	3	P300	14L35-	1	42
38.0	864	3.9	300	432	21.690	4	P300	14L35-	1	42
49.0	691	3.2	260	346	21.434	5	P300	14L35-	1	42
71.0	494	2.5	180	247	21.237	7	P300	14L35-	1	42
71.0	432	5.4	450	216	26.537	8	P1000	14L35-	1	51
83.0	432	1.8	150	216	21.182	8	P300	14L35-	1	42
100	346	2.9	305	173	26.208	10	P1000	14L35-	1	51
104	346	1.2	125	173	21.142	10	P300	14L35-	1	42
105	288	3.8	780	124	29.013	12	P1000	14L35-	2	55
122	288	1.4	250	144	21.573	12	P300	14L35-	2	44
131	216	4.6	1000	101	28.730	16	P1000	14L35-	2	55
138	230	3.3	780	115	27.282	15	P1000	14L35-	2	55
152	230	1.2	250	115	21.372	15	P300	14L35-	2	44
162	216	1.5	300	108	21.530	16	P300	14L35-	2	44
174	173	3.9	1000	86.0	27.101	20	P1000	14L35-	2	55
203	173	1.3	300	86.0	21.355	20	P300	14L35-	2	44
230	138	3.3	900	69.0	27.028	25	P1000	14L35-	2	55
241	108	5.5	1800	54.0	43.736	32	P1800	14L35-	2	80
254	138	1.0	260	69.0	21.334	25	P300	14L35-	2	44
305	108	2.8	1000	54.0	26.287	32	P1000	14L35-	2	55
333	86.4	4.4	1800	43.0	43.645	40	P1800	14L35-	2	80
400	86.4	2.2	900	43.0	26.258	40	P1000	14L35-	2	55
622	54.0	1.6	1000	27.0	43.526	64	P1800	14L35-	2	80

Technical data

Planetary gearbox g840-P
Selection tables



6.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
97.0	567	3.6	450	283	87.270	3	P1000	19S17-	1	89
126	425	4.3	600	213	82.502	4	P1000	19S17-	1	89
163	340	3.6	750	170	80.538	5	P1000	19S17-	1	89
211	243	5.3	1300	121	98.055	7	P1800	19S17-	1	104
242	243	2.2	530	121	79.623	7	P1000	19S17-	1	89
261	213	3.6	1000	106	97.000	8	P1800	19S17-	1	104
279	213	1.6	450	106	79.337	8	P1000	19S17-	1	89
348	170	1.8	630	85.0	94.876	10	P1800	19S17-	1	104
386	142	2.8	1500	71.0	108.003	12	P1800	19S17-	2	118
409	142	1.4	780	71.0	81.813	12	P1000	19S17-	2	94
495	106	3.3	1800	53.0	106.782	16	P1800	19S17-	2	118
498	113	2.4	1500	57.0	101.071	15	P1800	19S17-	2	118
512	113	1.2	780	57.0	80.082	15	P1000	19S17-	2	94
546	106	1.7	1000	53.0	81.530	16	P1000	19S17-	2	94
651	85.0	2.6	1800	43.0	100.286	20	P1800	19S17-	2	118
682	85.0	1.4	1000	43.0	79.901	20	P1000	19S17-	2	94
847	68.0	2.1	1800	34.0	100.052	25	P1800	19S17-	2	118
853	68.0	1.0	900	34.0	79.828	25	P1000	19S17-	2	94
1092	53.1	1.6	1800	27.0	96.536	32	P1800	19S17-	2	118
1365	42.5	1.3	1800	21.0	96.445	40	P1800	19S17-	2	118

6.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
47.0	1160	5.6	450	340	51.270	3	P1000	17N35-	1	60
55.0	1160	2.0	230	481	39.256	3	P300	17N35-	1	50
72.0	870	2.2	300	397	38.490	4	P300	17N35-	1	50
78.0	696	5.6	750	278	44.538	5	P1000	17N35-	1	60
91.0	696	1.8	260	348	38.234	5	P300	17N35-	1	50
116	497	4.1	530	249	43.623	7	P1000	17N35-	1	60
128	497	1.4	180	249	38.037	7	P300	17N35-	1	50
140	435	3.1	450	218	43.337	8	P1000	17N35-	1	60
146	435	1.0	150	218	37.982	8	P300	17N35-	1	50
171	348	3.5	630	174	58.876	10	P1800	17N35-	1	74
178	290	4.3	1500	100	72.003	12	P1800	17N35-	2	89
182	348	1.7	305	174	43.008	10	P1000	17N35-	1	60
212	290	2.2	780	105	45.813	12	P1000	17N35-	2	64
220	218	5.1	1800	82.0	70.782	16	P1800	17N35-	2	89
235	232	3.6	1500	95.0	65.071	15	P1800	17N35-	2	89
268	232	1.9	780	99.0	44.082	15	P1000	17N35-	2	64
273	218	2.6	1000	87.0	45.530	16	P1000	17N35-	2	64
295	174	4.4	1800	77.0	64.286	20	P1800	17N35-	2	89
351	174	2.2	1000	80.0	43.901	20	P1000	17N35-	2	64
392	139	3.6	1800	62.0	64.052	25	P1800	17N35-	2	89
447	139	1.9	900	68.0	43.828	25	P1000	17N35-	2	64
524	109	3.1	1800	54.0	60.536	32	P1800	17N35-	2	89
572	109	1.6	1000	54.0	43.087	32	P1000	17N35-	2	64
687	87.0	2.5	1800	44.0	60.445	40	P1800	17N35-	2	89
714	87.0	1.3	900	44.0	43.058	40	P1000	17N35-	2	64



Technical data

Planetary gearbox g840-P

Selection tables

9.1 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J		g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
158	473	4.5	1000	237	234.815	3	P1800	20X14H	1	95
202	355	5.3	1300	178	207.474	4	P1800	20X14H	1	95
263	284	4.4	1600	142	200.391	5	P1800	20X14H	1	95
390	203	3.1	1300	101	197.055	7	P1800	20X14H	1	95
466	178	2.1	1000	89.0	196.000	8	P1800	20X14H	1	95
586	142	1.1	630	71.0	193.876	10	P1800	20X14H	1	95
688	118	1.7	1500	59.0	207.003	12	P1800	20X14H	2	109
860	94.7	1.5	1500	47.0	200.071	15	P1800	20X14H	2	109
917	88.8	1.9	1800	44.0	205.782	16	P1800	20X14H	2	109
1147	71.0	1.6	1800	36.0	199.286	20	P1800	20X14H	2	109
1434	56.8	1.2	1800	28.0	199.052	25	P1800	20X14H	2	109

11 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J		g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
161	570	4.2	1000	271	243.815	3	P1800	21X17-	1	94
206	428	5.0	1300	214	216.474	4	P1800	21X17-	1	94
268	342	4.2	1600	171	209.391	5	P1800	21X17-	1	94
393	244	3.1	1300	122	206.055	7	P1800	21X17-	1	94
470	214	2.1	1000	107	205.000	8	P1800	21X17-	1	94
589	171	1.1	630	86.0	202.876	10	P1800	21X17-	1	94
693	143	1.6	1500	71.0	216.003	12	P1800	21X17-	2	109
866	114	1.4	1500	57.0	209.071	15	P1800	21X17-	2	109
923	107	1.9	1800	53.0	214.782	16	P1800	21X17-	2	109
1154	85.5	1.5	1800	43.0	208.286	20	P1800	21X17-	2	109
1443	68.4	1.2	1800	34.0	208.052	25	P1800	21X17-	2	109

Technical data

Planetary gearbox g840-P
Selection tables



13.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
87.0	1170	5.8	1000	294	135.815	3	P1800	19S35-	1	104
100	1170	2.9	450	300	87.270	3	P1000	19S35-	1	89
129	878	3.5	600	273	82.502	4	P1000	19S35-	1	89
146	702	5.7	1600	240	101.391	5	P1800	19S35-	1	104
166	702	2.9	750	230	80.538	5	P1000	19S35-	1	89
218	501	4.4	1300	214	98.055	7	P1800	19S35-	1	104
240	501	2.2	530	216	79.623	7	P1000	19S35-	1	89
258	439	3.6	1000	207	97.000	8	P1800	19S35-	1	104
276	439	1.6	450	203	79.337	8	P1000	19S35-	1	89
346	351	1.8	630	176	94.876	10	P1800	19S35-	1	104
399	293	2.2	1500	83.0	108.003	12	P1800	19S35-	2	118
406	293	1.1	780	83.0	81.813	12	P1000	19S35-	2	94
508	234	1.9	1500	79.0	101.071	15	P1800	19S35-	2	118
514	219	2.7	1800	69.0	106.782	16	P1800	19S35-	2	118
541	219	1.4	1000	70.0	81.530	16	P1000	19S35-	2	94
662	176	2.3	1800	65.0	100.286	20	P1800	19S35-	2	118
677	176	1.2	1000	64.0	79.901	20	P1000	19S35-	2	94
846	140	1.9	1800	53.0	100.052	25	P1800	19S35-	2	118
1083	110	1.6	1800	54.0	96.536	32	P1800	19S35-	2	118
1354	87.8	1.3	1800	44.0	96.445	40	P1800	19S35-	2	118

16.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
141	977	4.1	1000	269	234.815	3	P1800	20X29H	1	95
181	733	4.9	1300	236	207.474	4	P1800	20X29H	1	95
235	586	4.1	1600	215	200.391	5	P1800	20X29H	1	95
343	419	3.1	1300	192	197.055	7	P1800	20X29H	1	95
404	366	2.4	1000	183	196.000	8	P1800	20X29H	1	95
514	293	1.2	630	147	193.876	10	P1800	20X29H	1	95
603	244	1.6	1500	74.0	207.003	12	P1800	20X29H	2	109
754	195	1.4	1500	71.0	200.071	15	P1800	20X29H	2	109
805	183	1.9	1800	62.0	205.782	16	P1800	20X29H	2	109
1006	147	1.6	1800	59.0	199.286	20	P1800	20X29H	2	109
1257	117	1.4	1800	48.0	199.052	25	P1800	20X29H	2	109
1609	91.6	1.1	1800	46.0	195.536	32	P1800	20X29H	2	109



Technical data

Planetary gearbox g840-P
Selection tables

20.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g840-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
147	1173	3.8	1000	263	243.815	3	P1800	21X35-	1	94
189	880	4.5	1300	231	216.474	4	P1800	21X35-	1	94
245	704	3.8	1600	208	209.391	5	P1800	21X35-	1	94
356	503	2.9	1300	187	206.055	7	P1800	21X35-	1	94
416	440	2.3	1000	184	205.000	8	P1800	21X35-	1	94
528	352	1.2	630	162	202.876	10	P1800	21X35-	1	94
620	293	1.5	1500	72.0	216.003	12	P1800	21X35-	2	109
776	235	1.3	1500	69.0	209.071	15	P1800	21X35-	2	109
827	220	1.8	1800	61.0	214.782	16	P1800	21X35-	2	109
1034	176	1.5	1800	58.0	208.286	20	P1800	21X35-	2	109
1293	141	1.3	1800	47.0	208.052	25	P1800	21X35-	2	109
1654	110	1.1	1800	47.0	204.536	32	P1800	21X35-	2	109

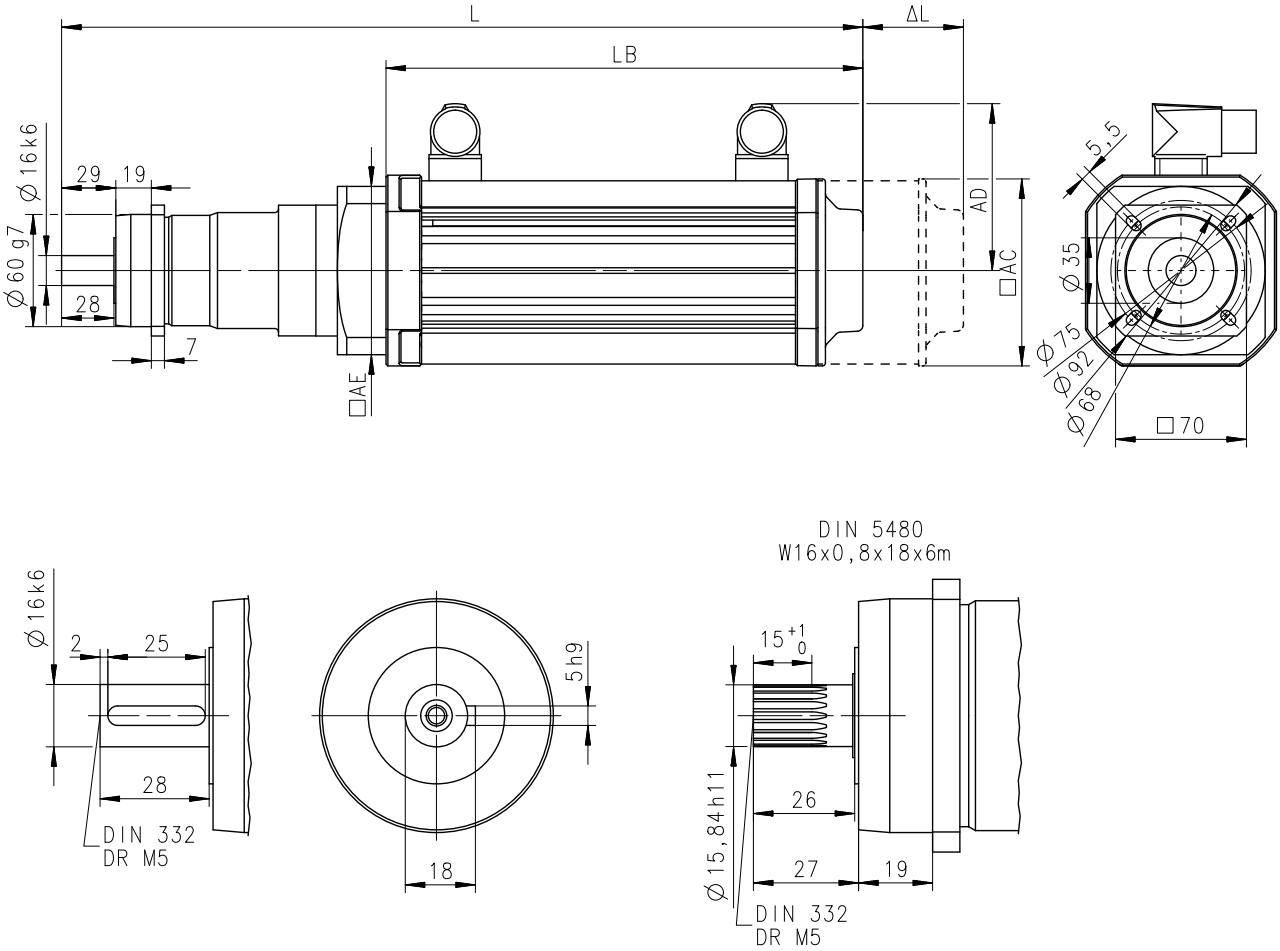
Technical data

Planetary gearbox g840-P
Basic dimensions



Basic dimensions

g840-P77 with MCA10
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800884-00

Motor			MCA 10
			I40-
Total length	L	mm	406.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

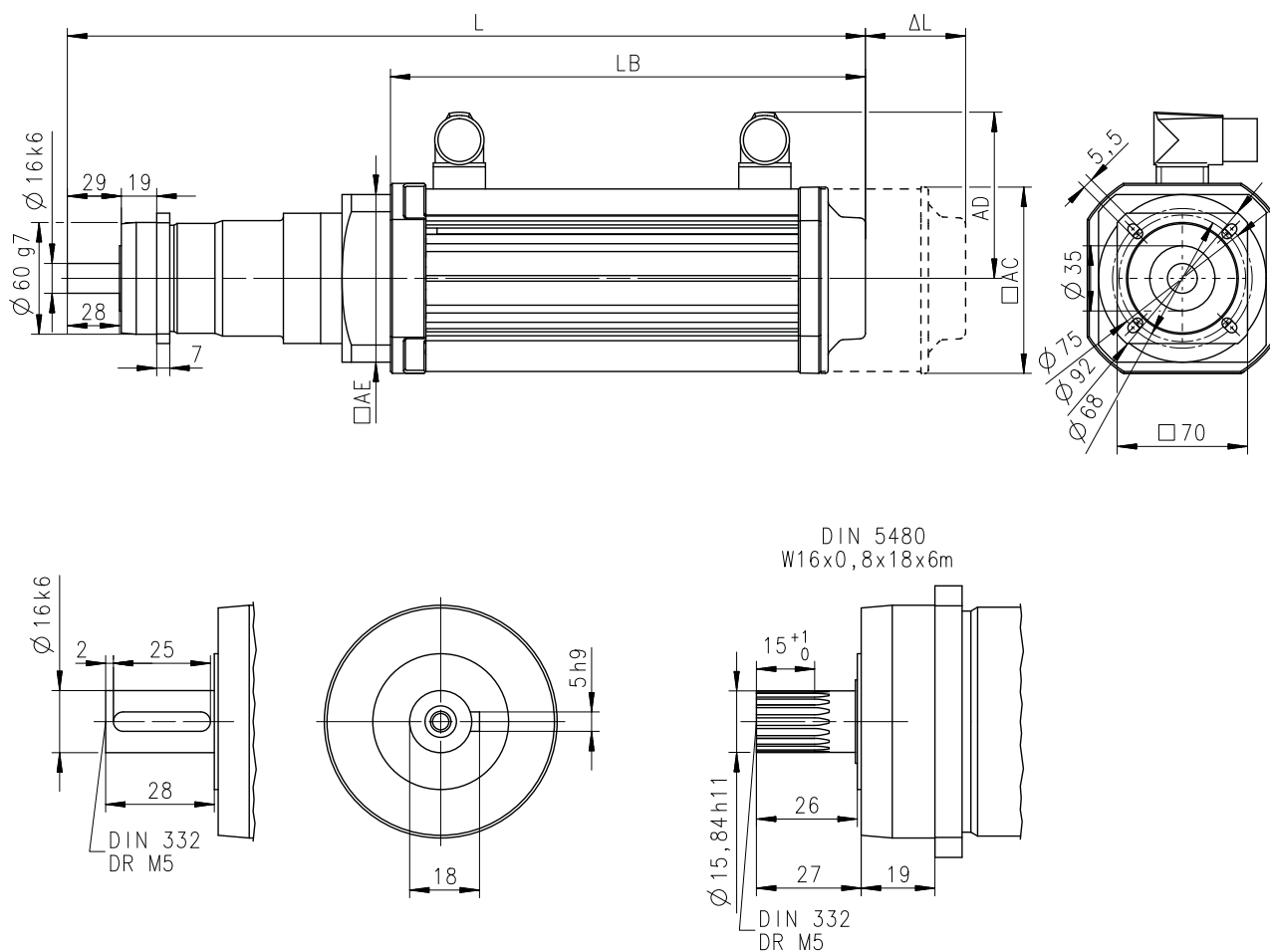


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P77 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800884-00

Motor			MCA 10
			I40-
Total length	L	mm	435.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Planetary gearbox g840-P

Basic dimensions



Motor			MCA 10
			I40-
Total length	L	mm	421.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

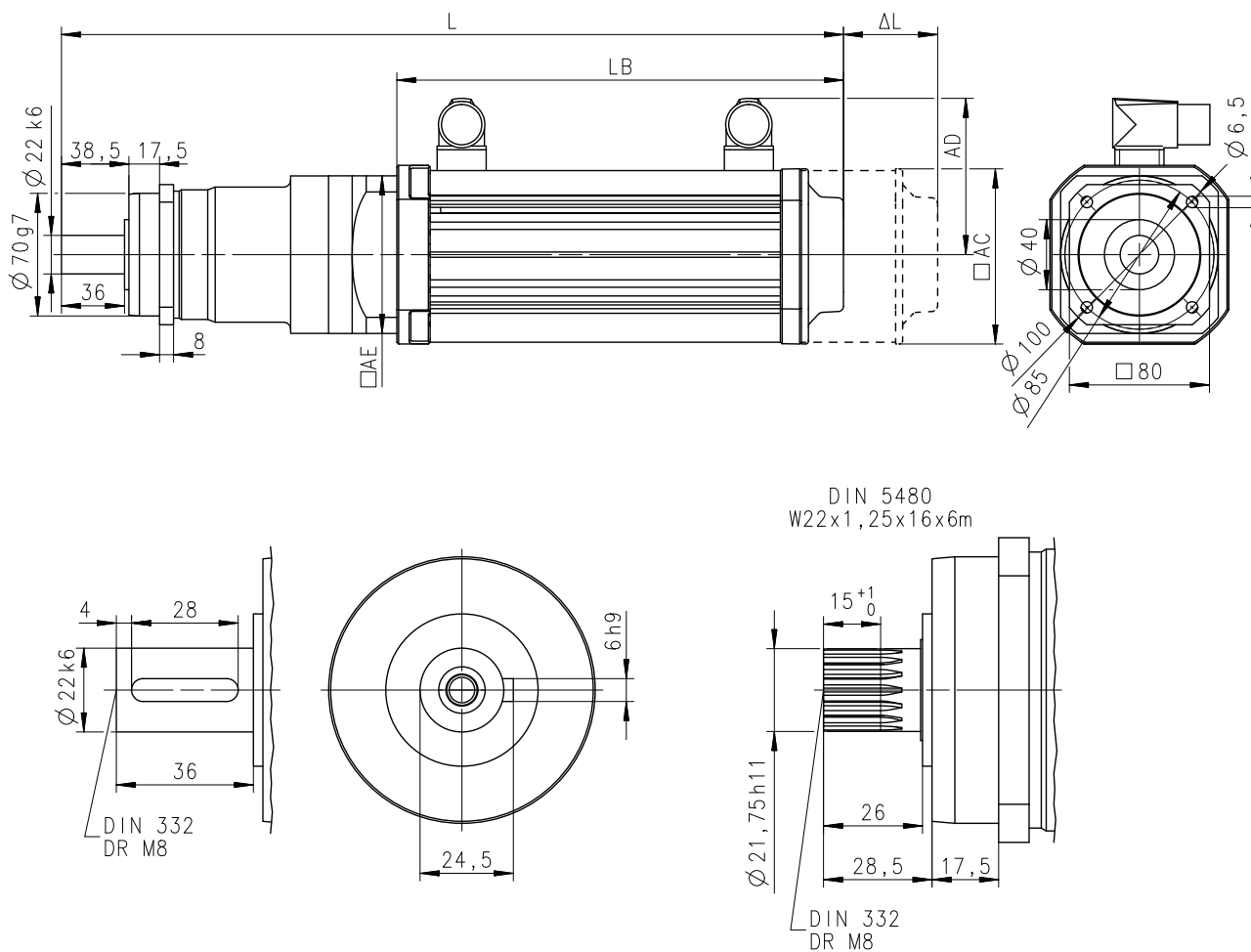


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P150 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800885-00

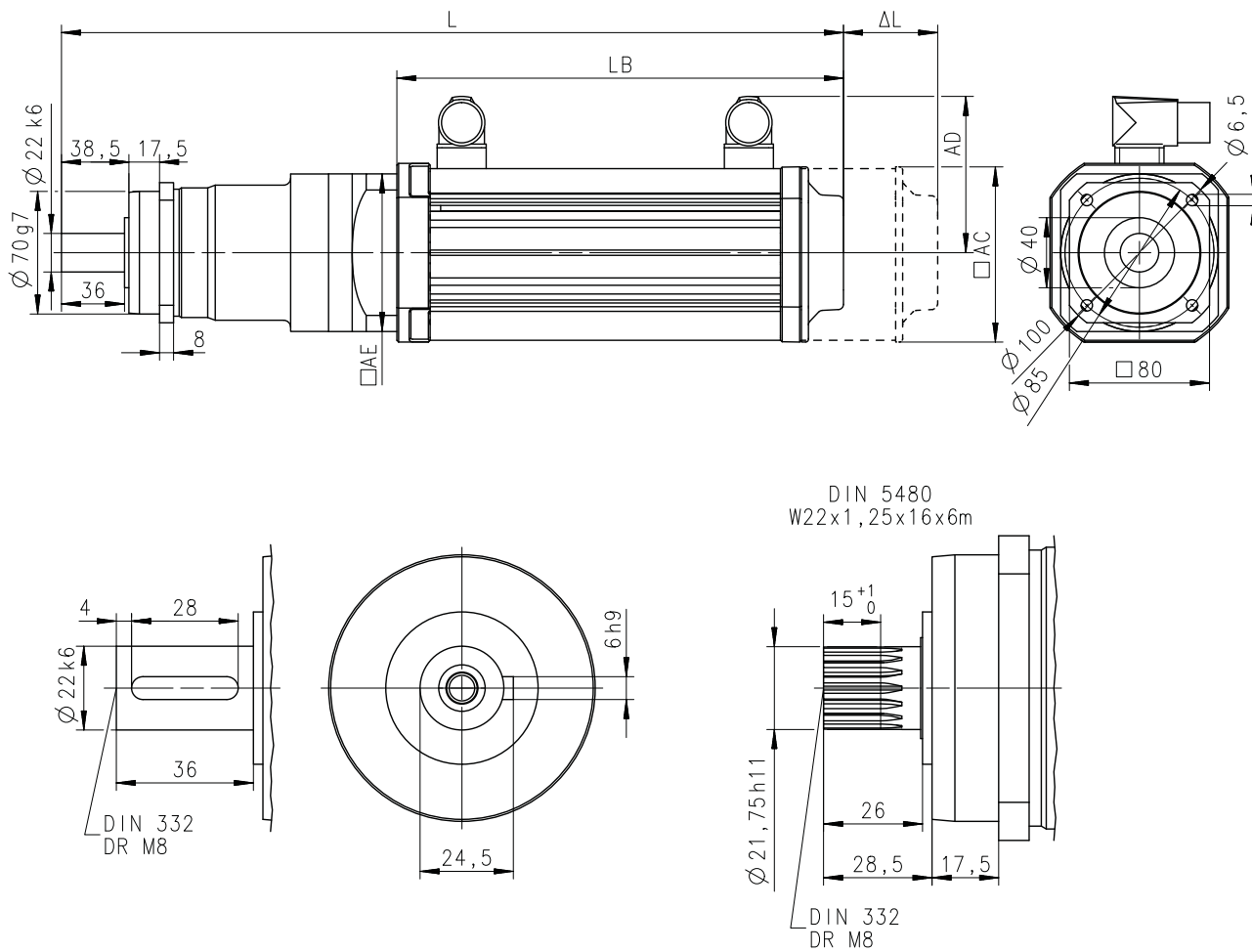
Motor			MCA 10
			I40-
Total length	L	mm	453.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P150 with MCA13
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800885-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	508.5	440.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

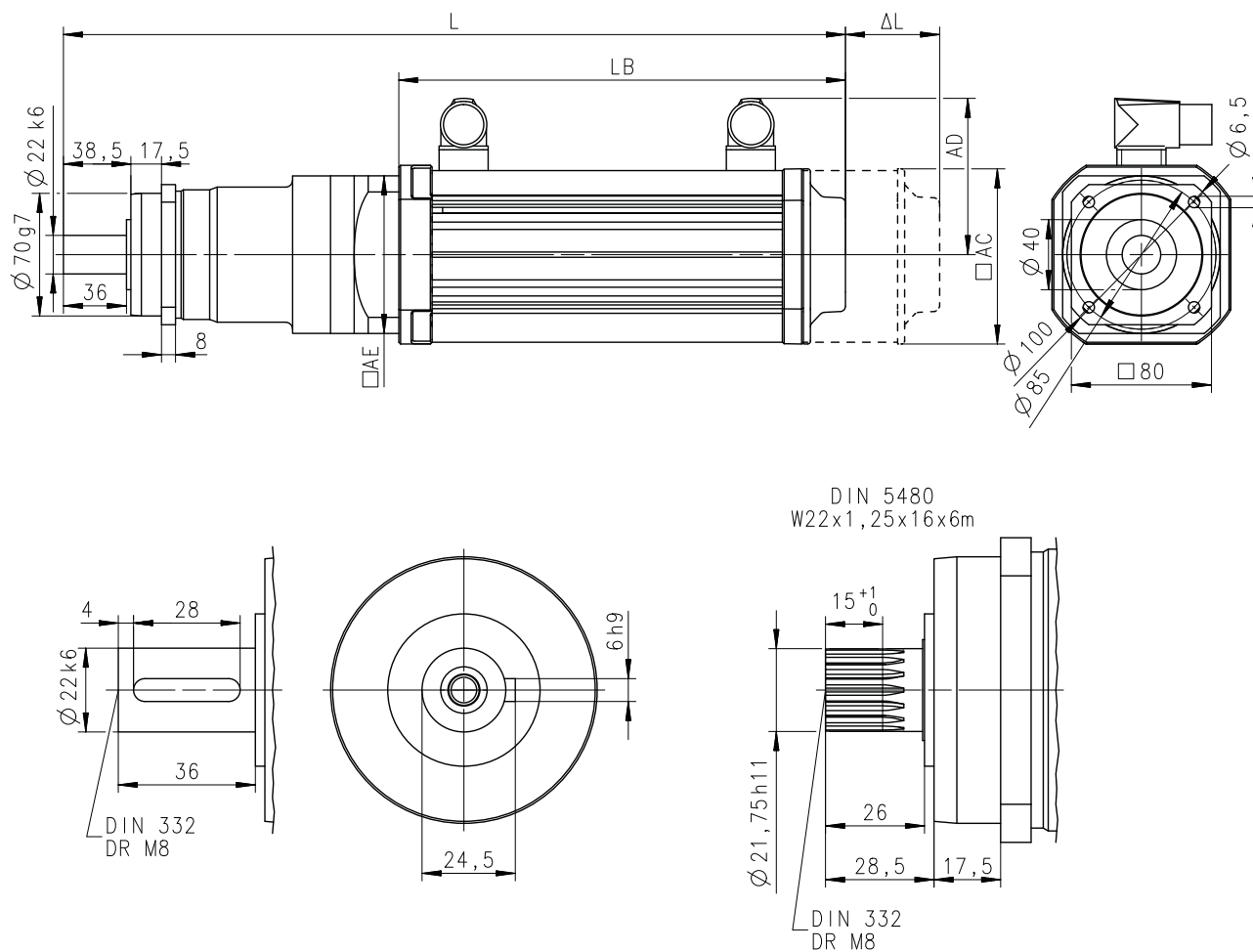


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P150 with MCA13

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800885-00

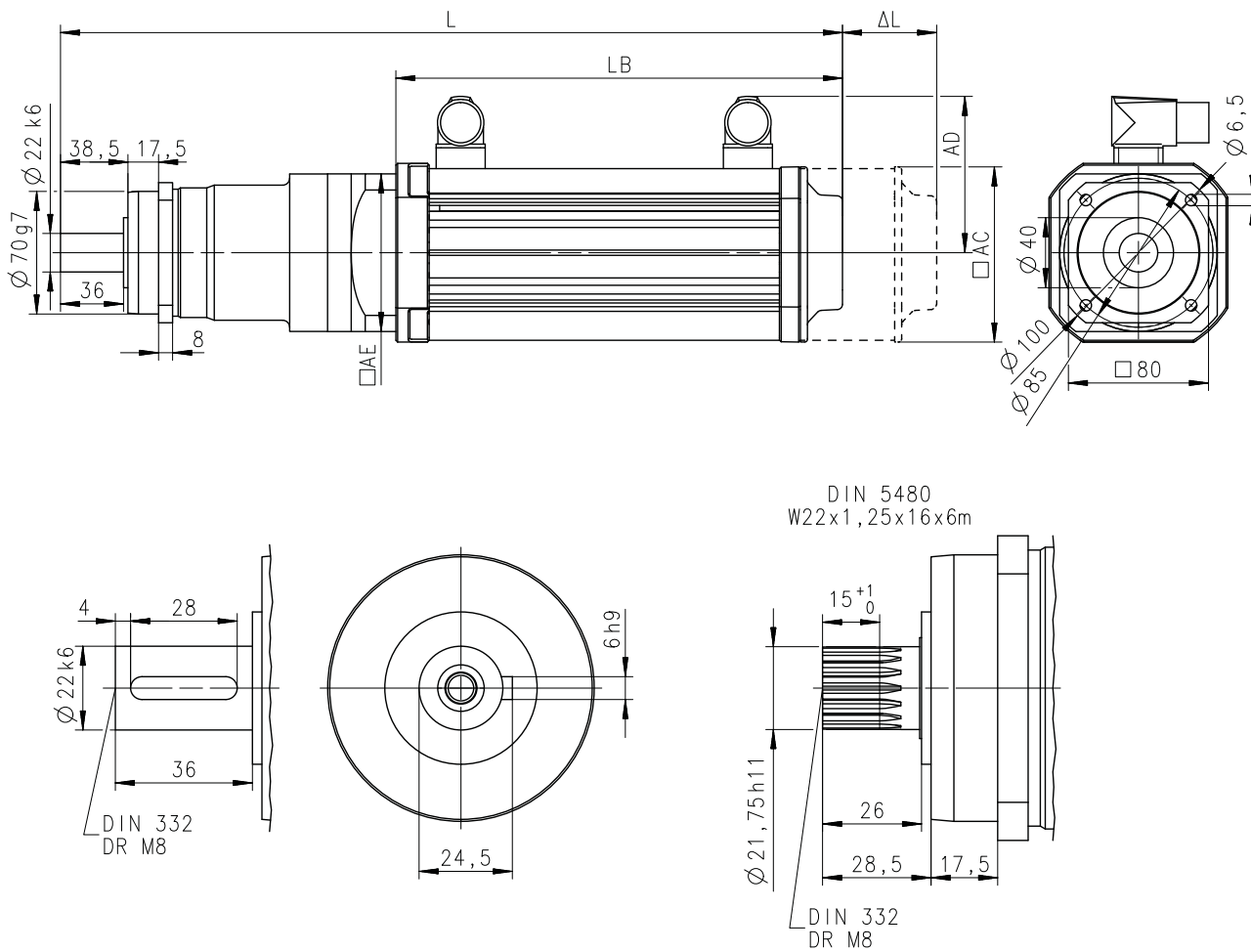
Motor			MCA 13	
			I34-	I41-
Total length	L	mm	540.5	472.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P150 with MCA14
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800885-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	481.5	481.5
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	142	142

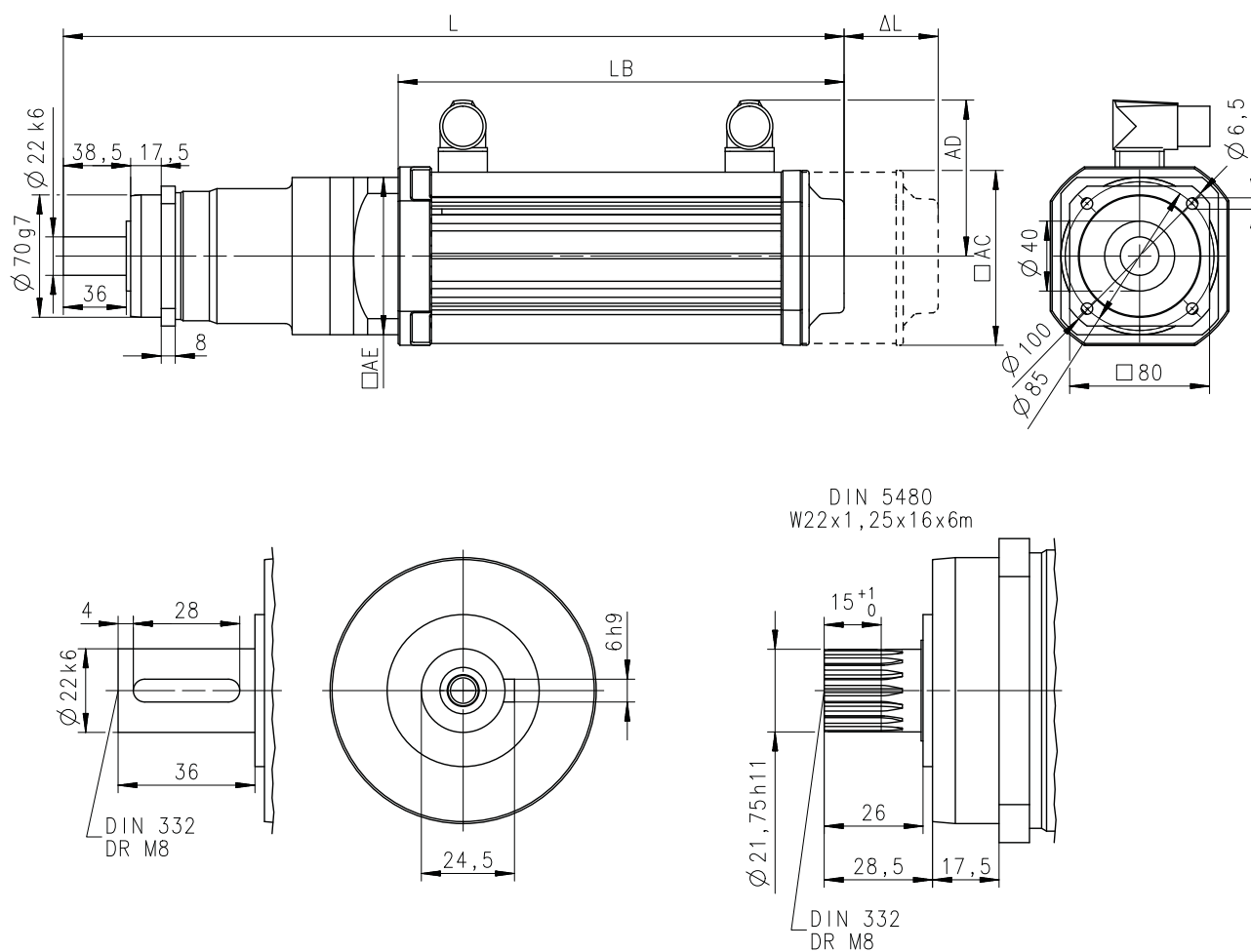


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P150 with MCA14

Gearbox design: Solid shaft, without foot with centering, 2-stage

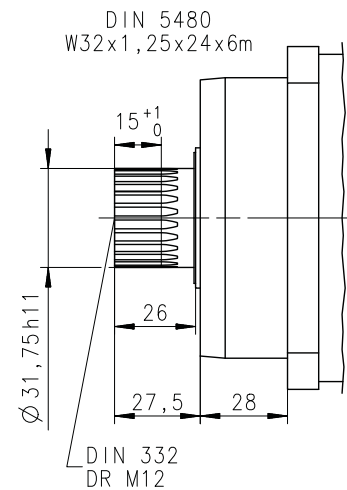
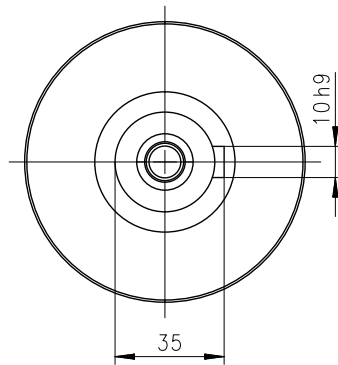
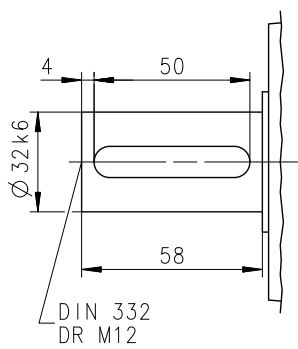


8800885-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	513.5	513.5
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	142	142

Planetary gearbox g840-P

Basic dimensions

[illegible]

Motor			MCA 10
			I40-
Total length	L	mm	503
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115



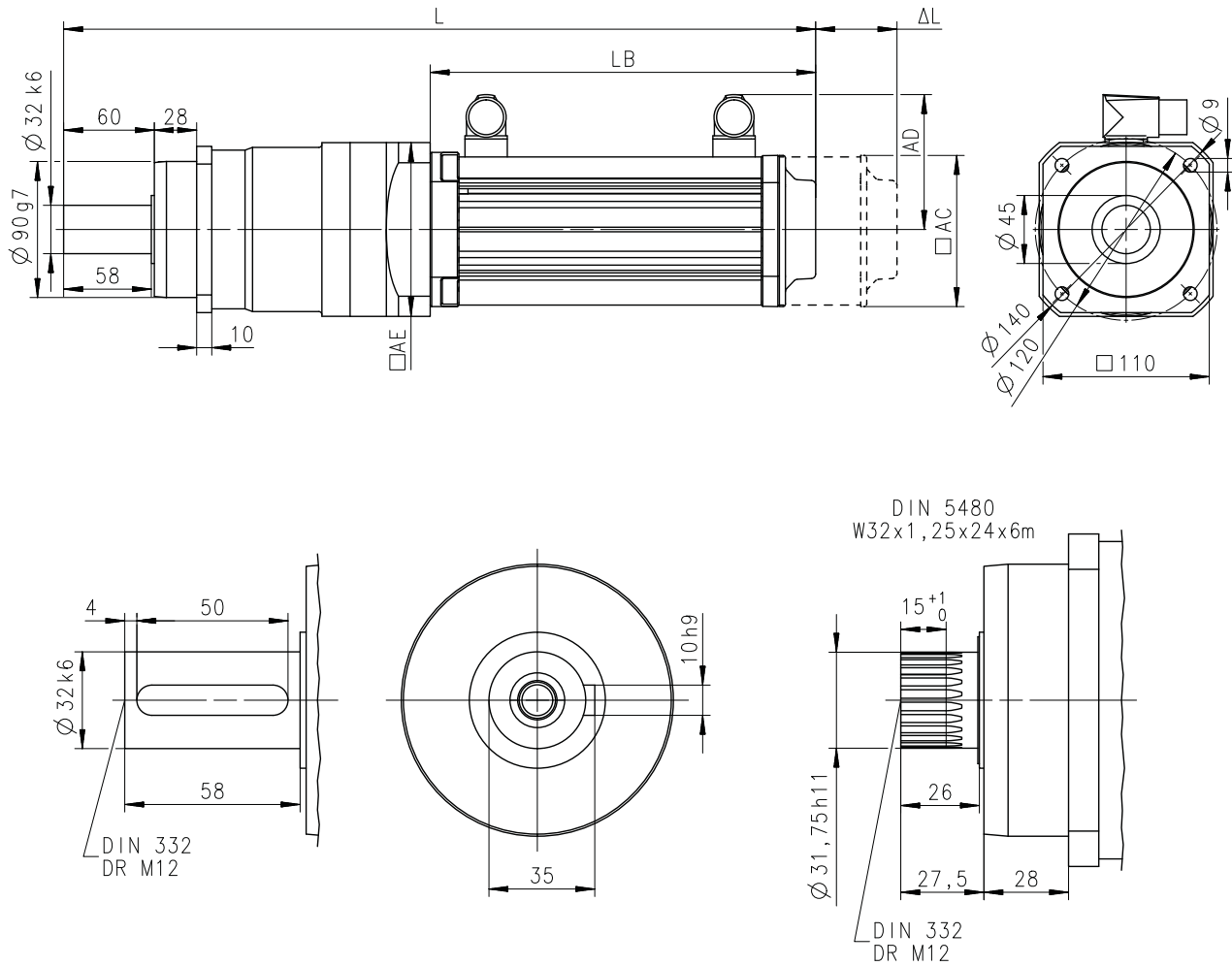
Technical data

Planetary gearbox g840-P

Basic dimensions

g840-P300 with MCA13

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800886-00

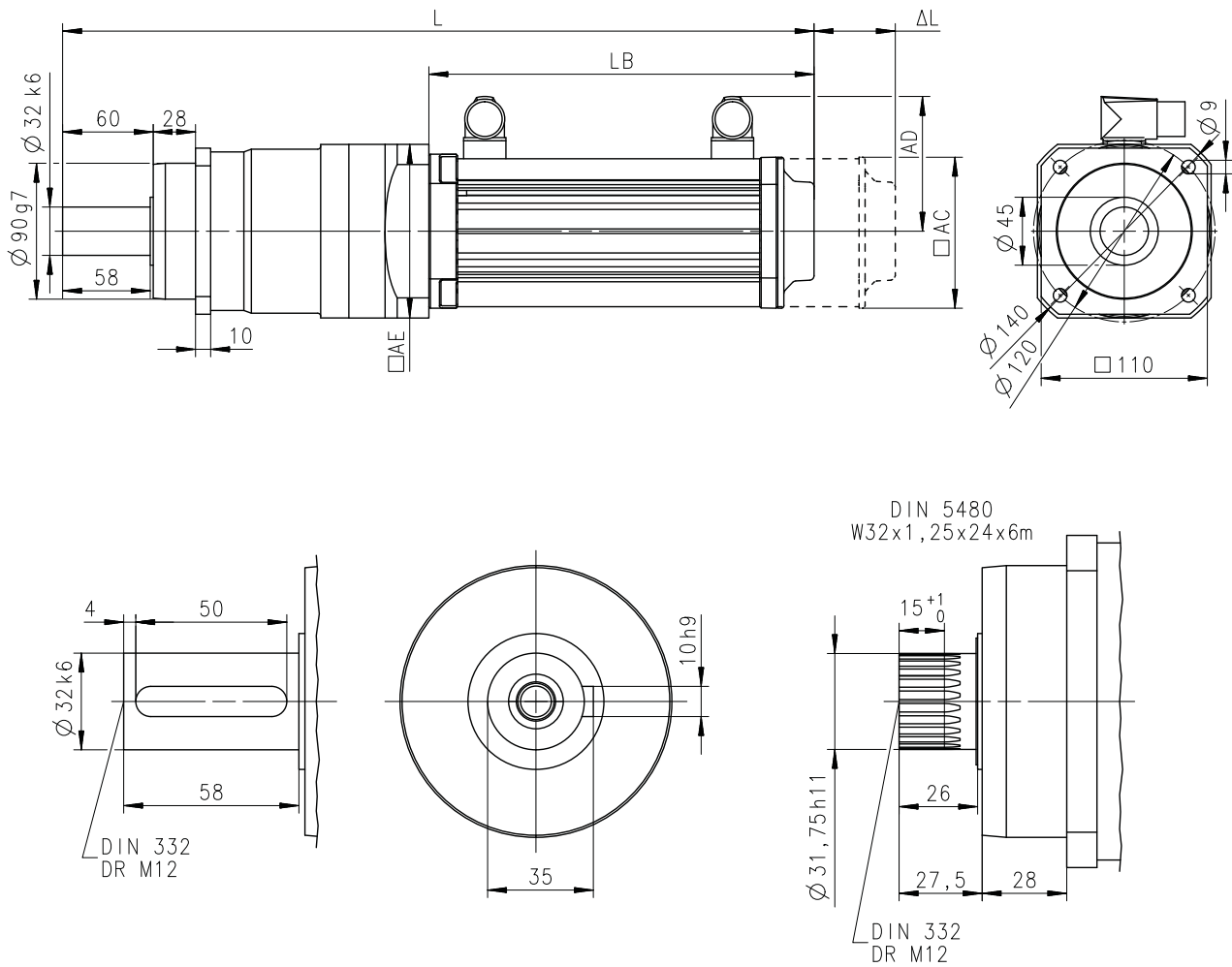
Motor			MCA 13	
			I34-	I41-
Total length	L	mm	540	472
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	120	120

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P300 with MCA13
Gearbox design: Solid shaft, without foot with centering, 2-stage

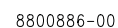


8800886-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	580	512
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	120	120



Gearbox design: Solid shaft, without foot with centering, 1-stage

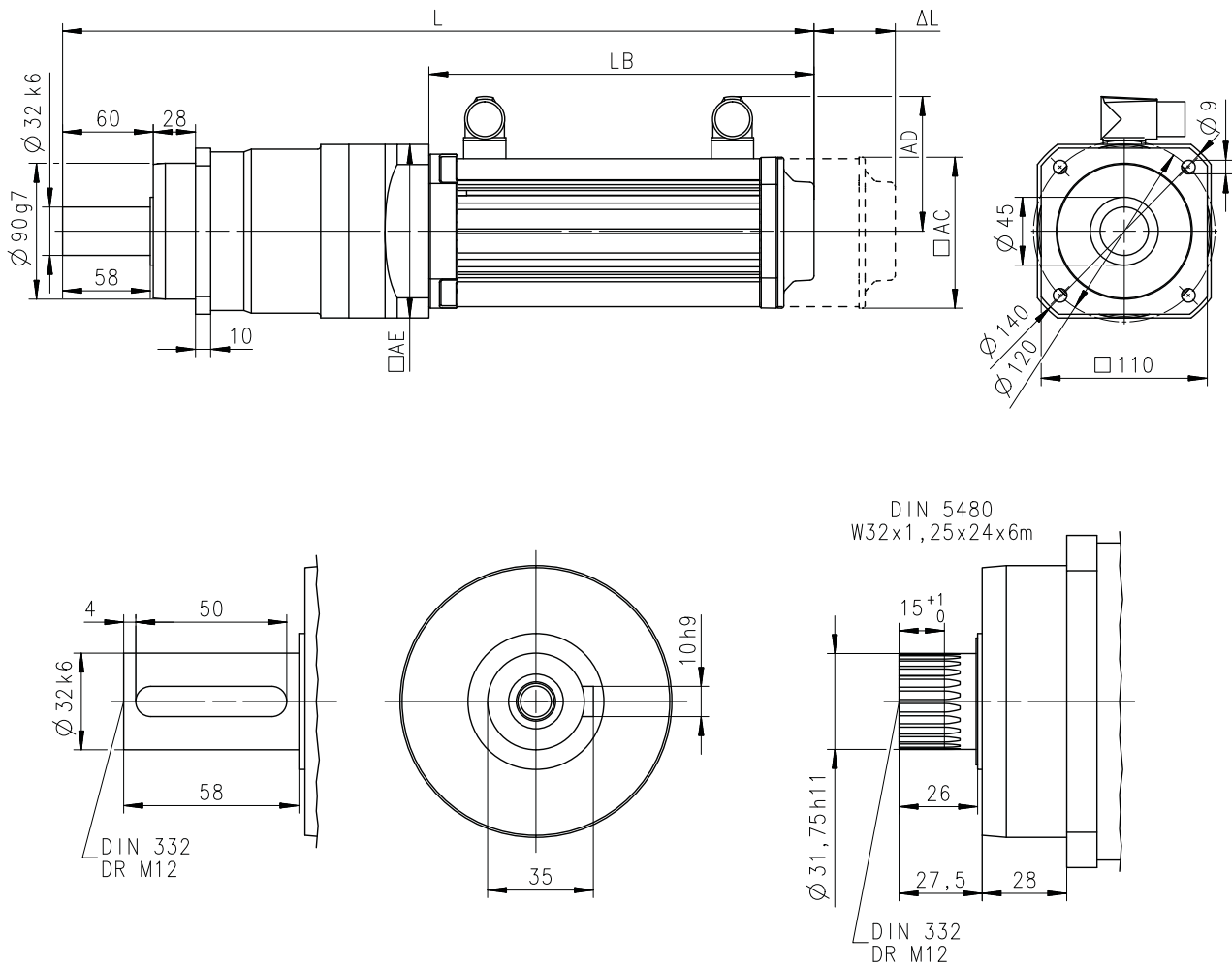
177

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P300 with MCA14
Gearbox design: Solid shaft, without foot with centering, 2-stage

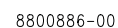


8800886-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	615	553	615	553
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142



Gearbox design: Solid shaft, without foot with centering, 1-stage

179

Planetary gearbox g840-P

Basic dimensions



DIN 5480
W32x1,25x24x6m

15⁺¹₀

26

27,5

28

Ø 31,75h11

DIN 332
DR M12

180

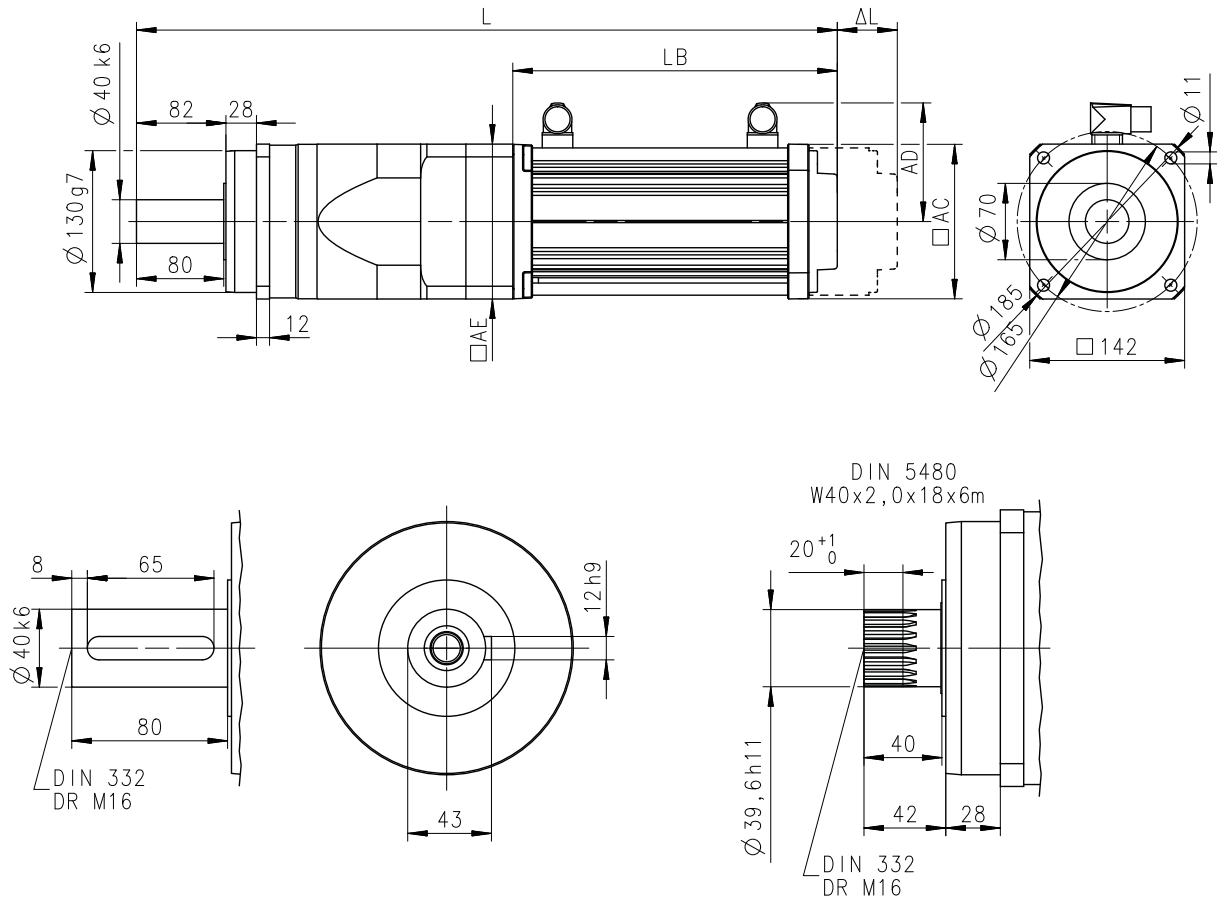


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P1000 with MCA13

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800887-00

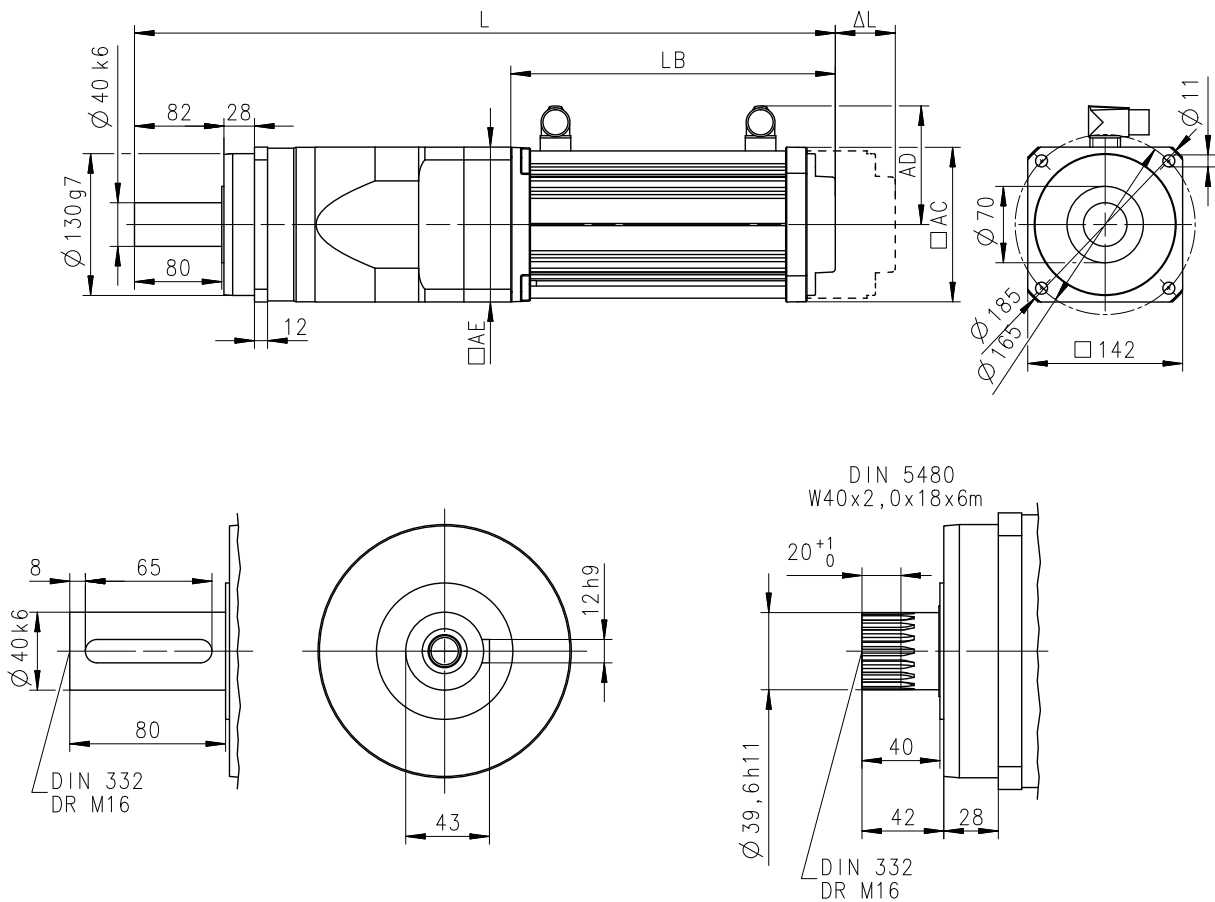
Motor			MCA 13
			I34-
Total length	L	mm	615
Motor length	LB	mm	339
Motor diameter	AC	mm	130
Motor/connection distance	AD	mm	102
Gearbox diameter	AE	mm	142

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P1000 with MCA13
Gearbox design: Solid shaft, without foot with centering, 2-stage

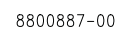


8800887-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	674	606
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	142	142



Gearbox design: Solid shaft, without foot with centering, 1-stage

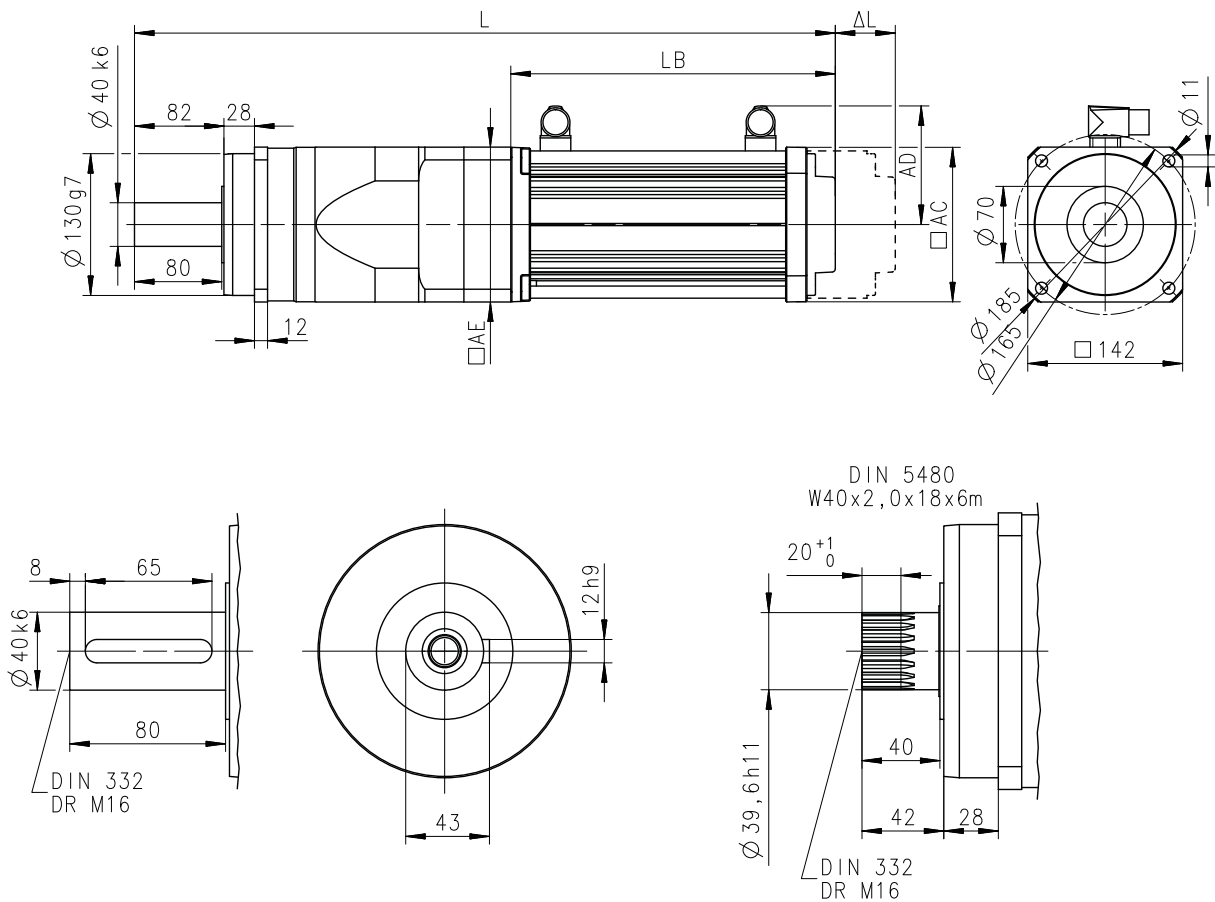
183

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P1000 with MCA14
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800887-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	699	637	699	637
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

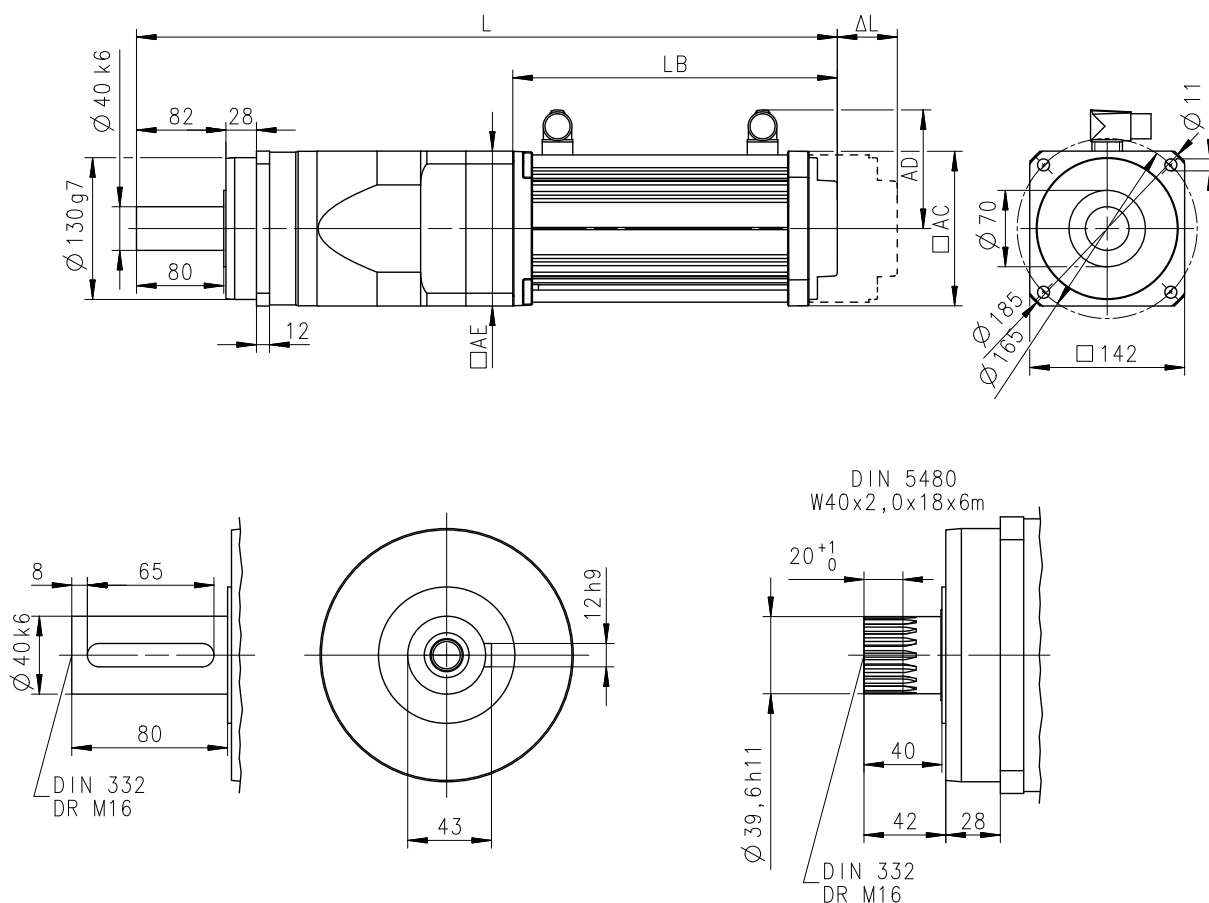


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P1000 with MCA17

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800887-00

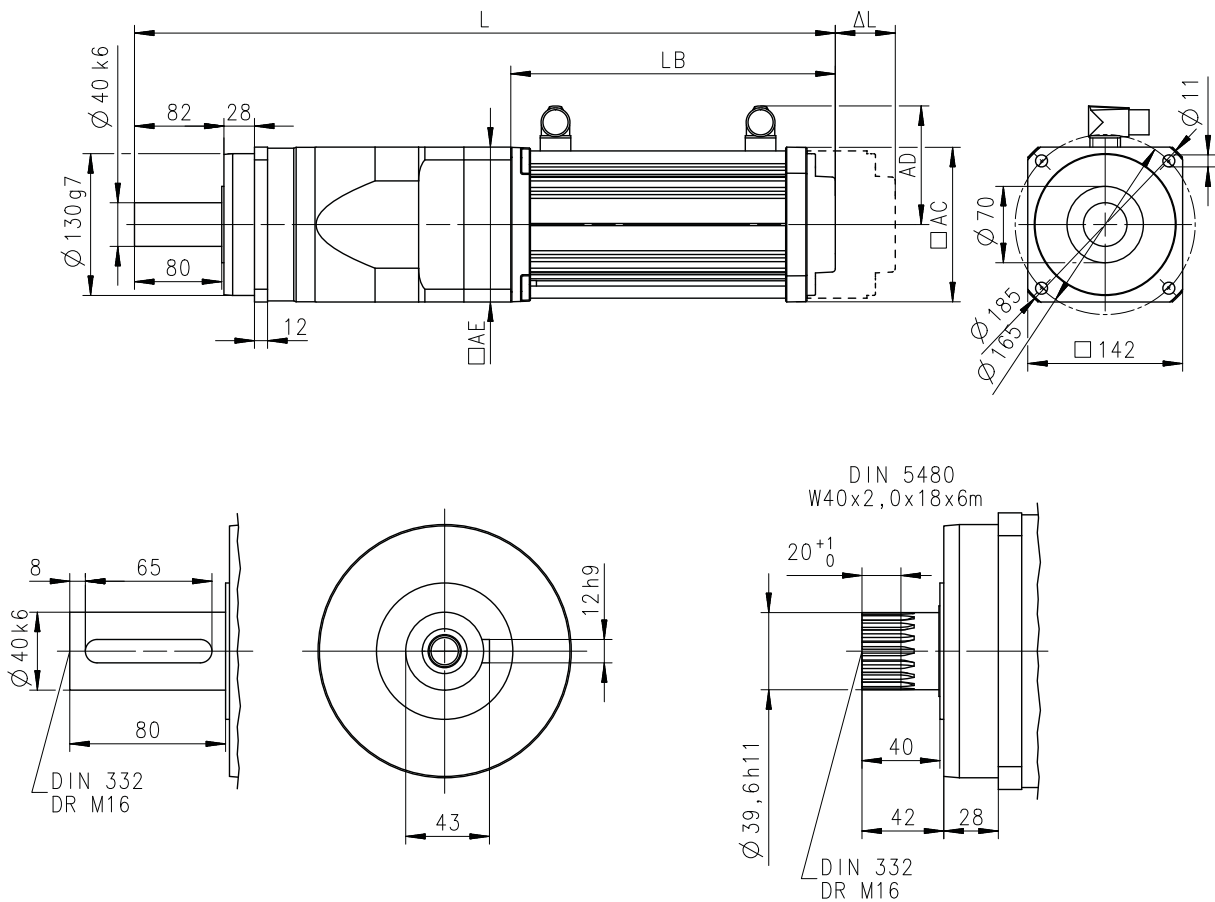
Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	702	616	702	616
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P1000 with MCA17
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800887-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	761	675	761	675
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

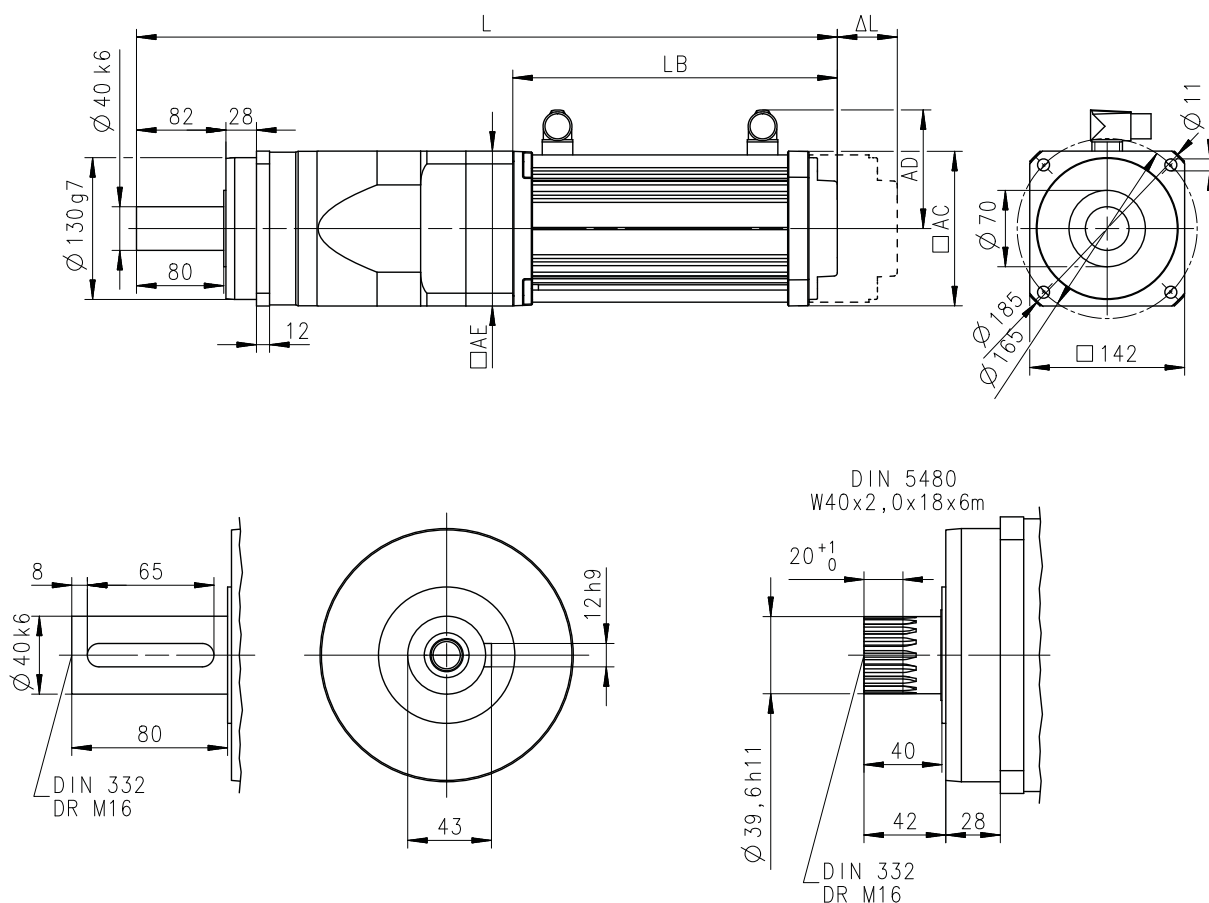


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P1000 with MCA19

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800887-00

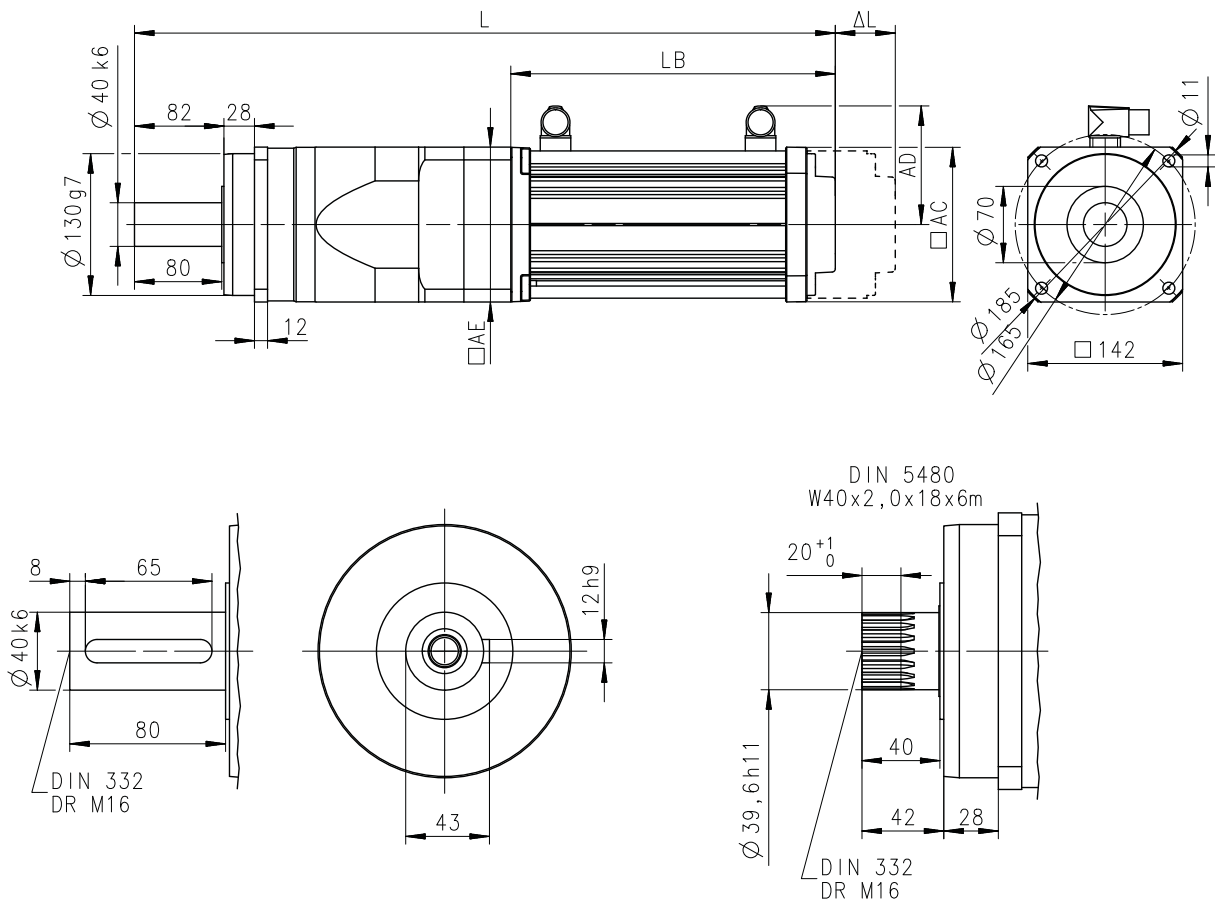
Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	784	687	784	687
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P1000 with MCA19
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800887-00

Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	843	746	843	746
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190

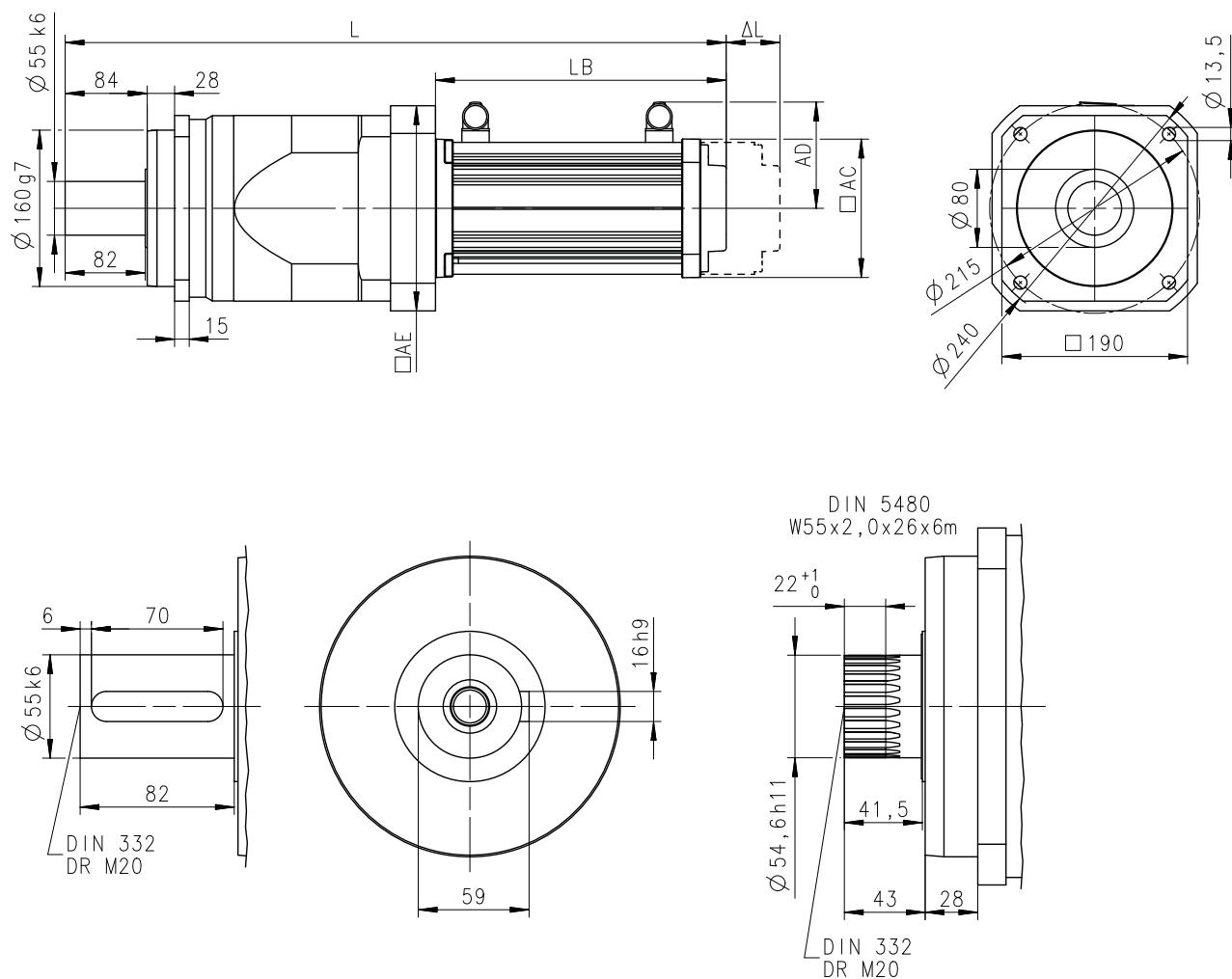


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P1800 with MCA14

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800888-00

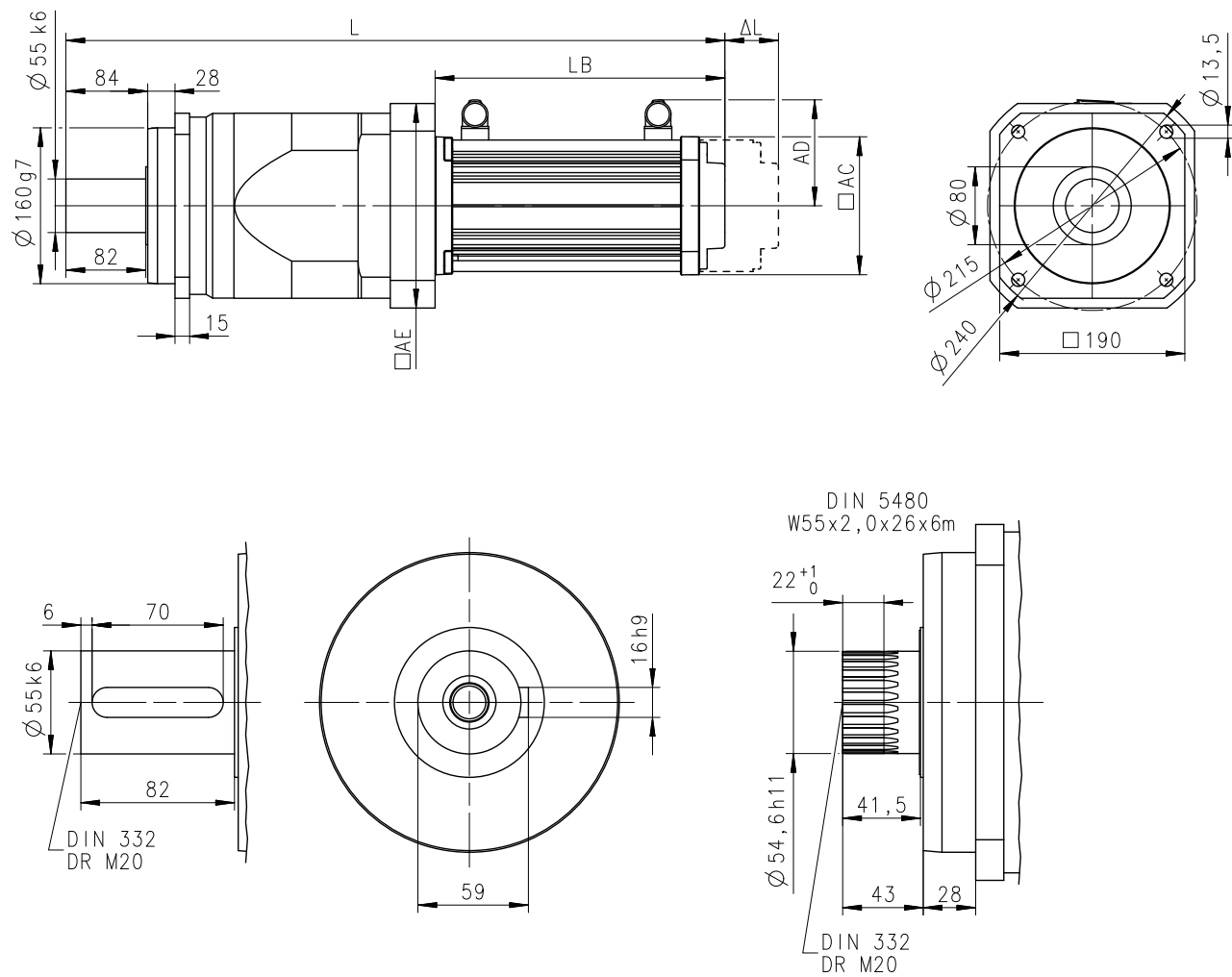
Motor			MCA 14
			L16-
Total length	L	mm	674.5
Motor length	LB	mm	364
Motor diameter	AC	mm	142
Motor/connection distance	AD	mm	109
Gearbox diameter	AE	mm	190

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P1800 with MCA14
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800888-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	746.5	684.5	746.5	684.5
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	190	190	190	190

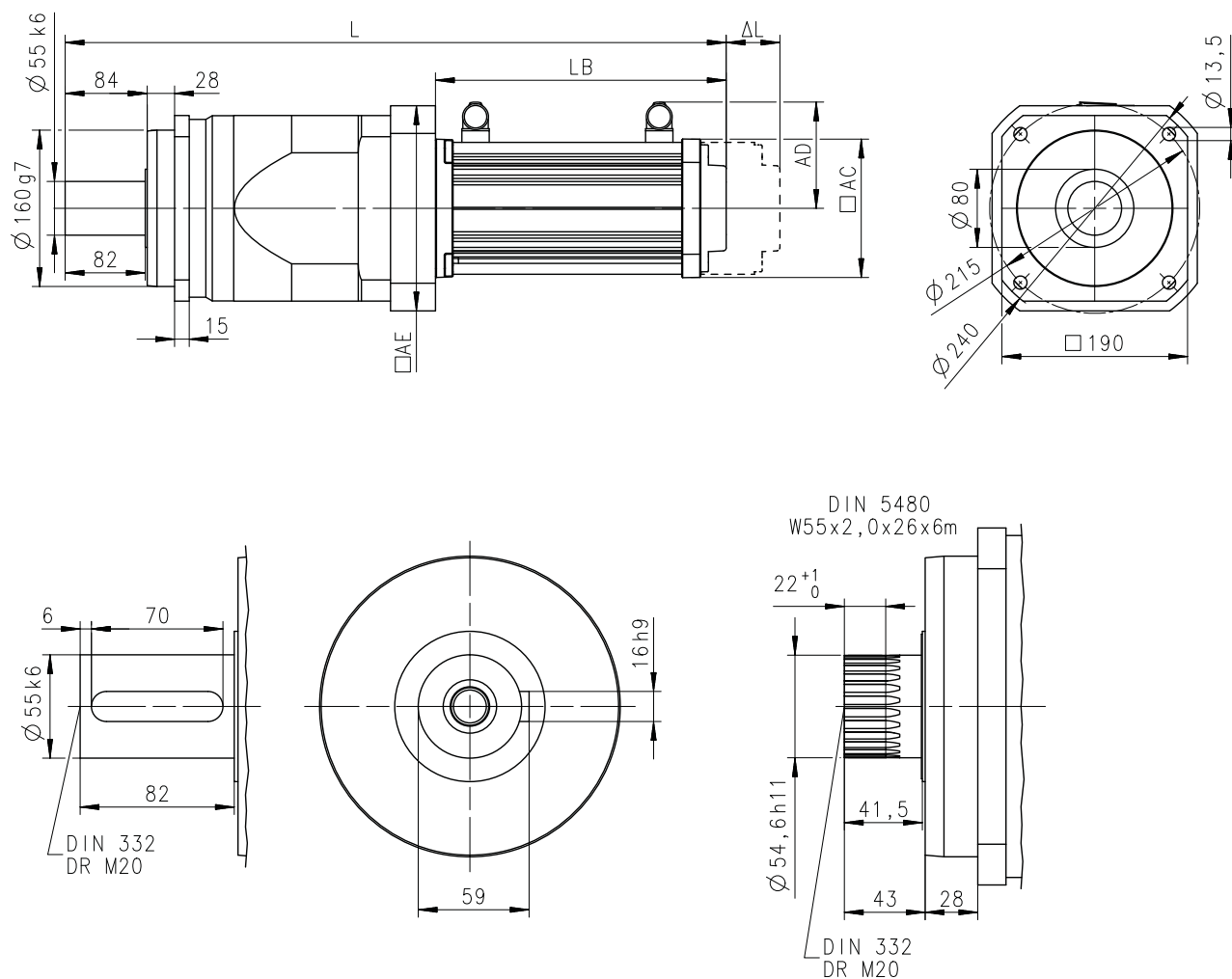


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P1800 with MCA17

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800888-00

Motor			MCA 17	
			N17-	N35-
Total length	L	mm	736.5	736.5
Motor length	LB	mm	426	426
Motor diameter	AC	mm	165	165
Motor/connection distance	AD	mm	118	118
Gearbox diameter	AE	mm	190	190

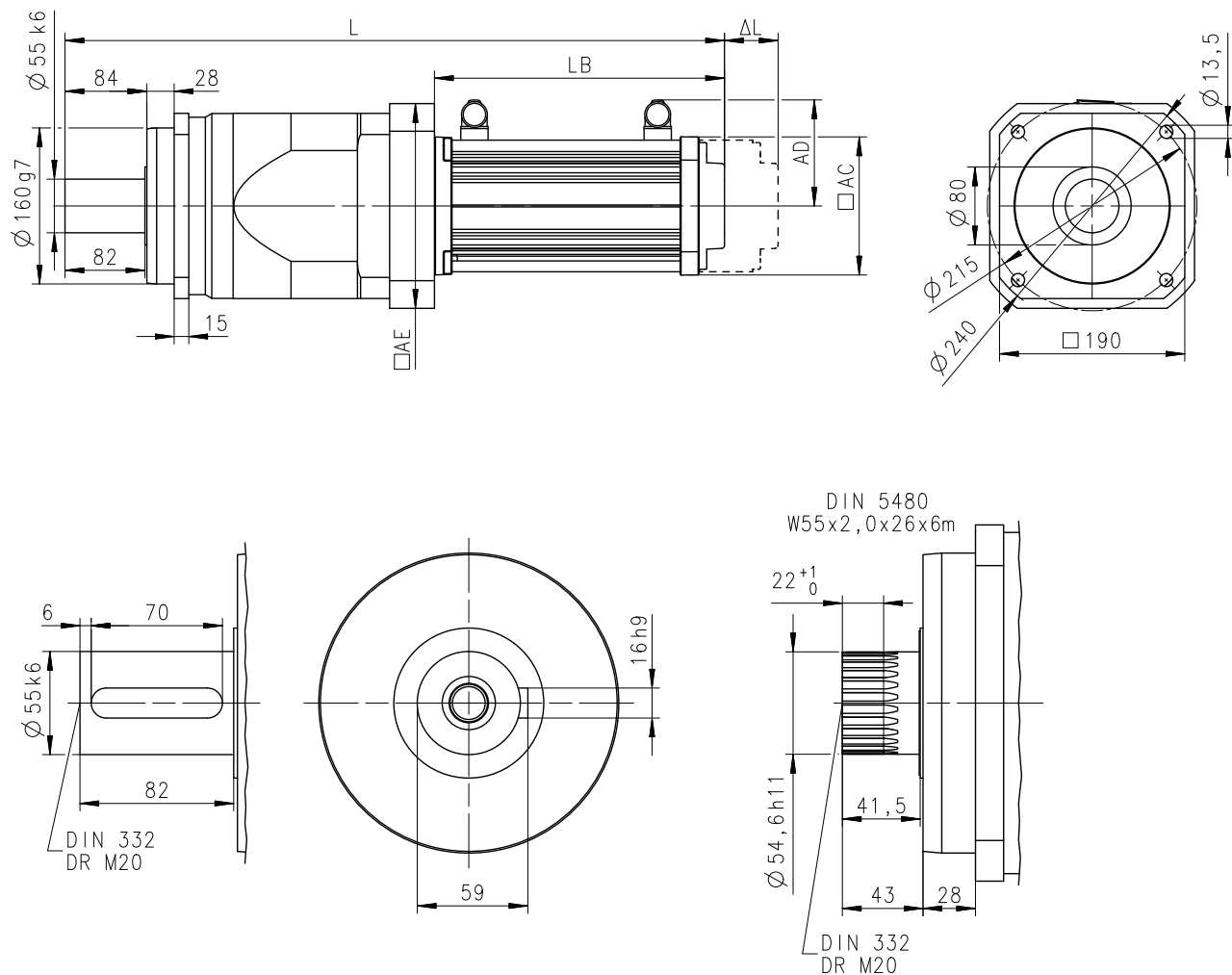
Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P1800 with MCA17

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800888-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	808.5	722.5	808.5	722.5
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	190	190	190	190

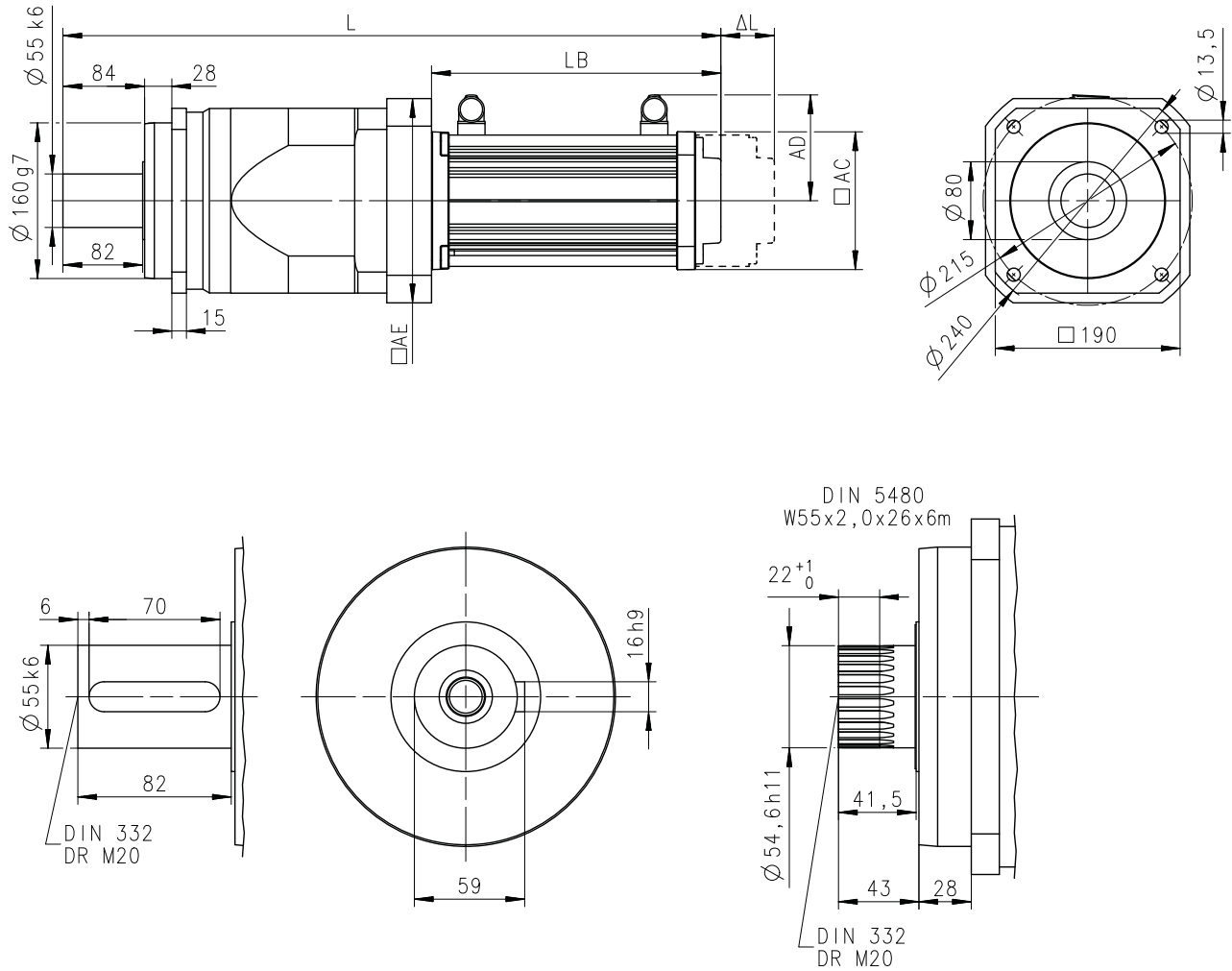


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P1800 with MCA19

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800888-00

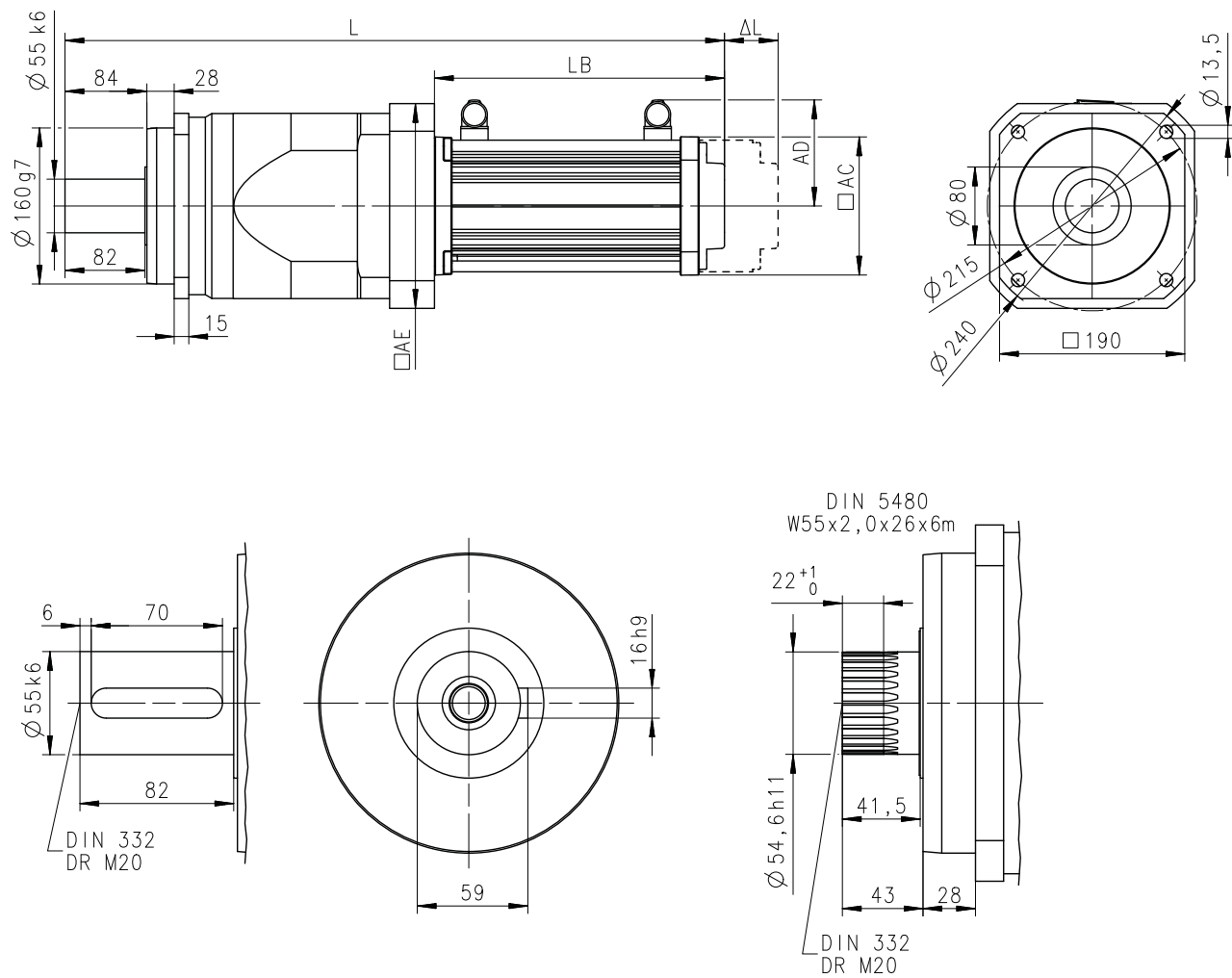
Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	808.5	711.5	808.5	711.5
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P1800 with MCA19
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800888-00

Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	880.5	783.5	880.5	783.5
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190



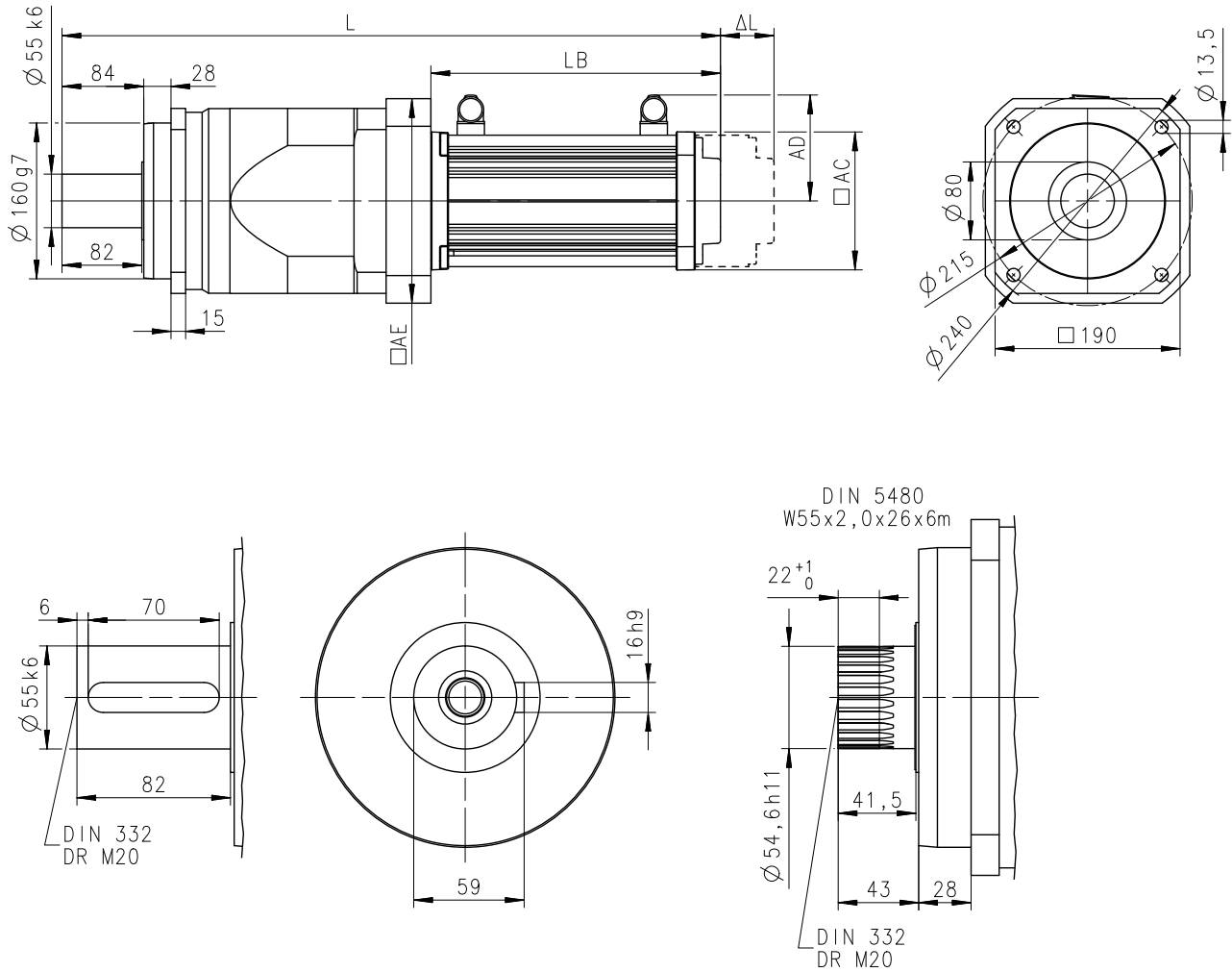
Technical data

Planetary gearbox g840-P

Basic dimensions

g840-P1800 with MCA20

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800888-00

Motor			MCA 20	
			X14H	X29H
Total length	L	mm	916.5	916.5
Motor length	LB	mm	586	586
Motor diameter	AC	mm	196	196
Motor/connection distance	AD	mm	171	171
Gearbox diameter	AE	mm	190	190

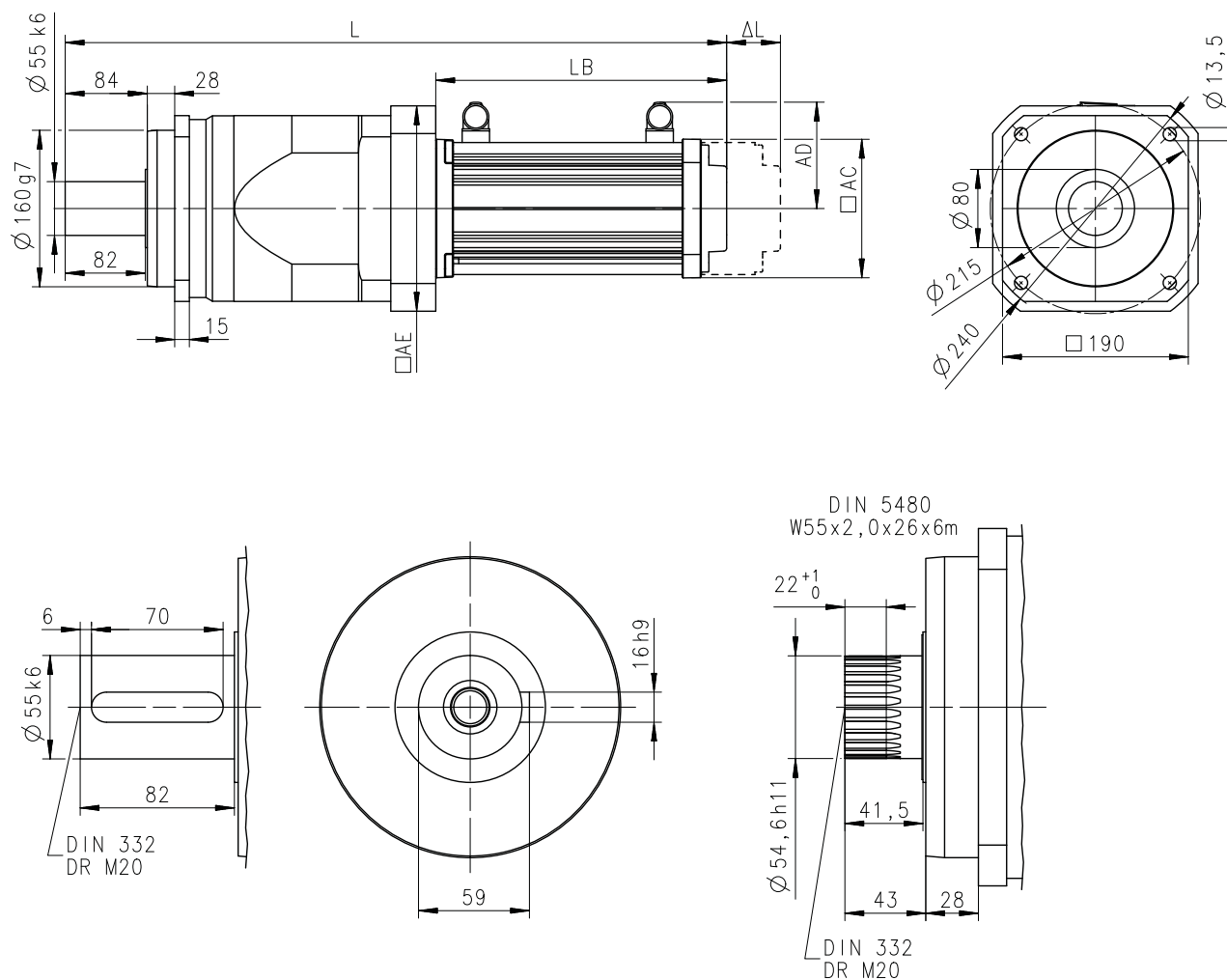
Planetary gearbox g840-P

Basic dimensions



g840-P1800 with MCA20

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800888-00

Motor			MCA 20	
			X14H	X29H
Total length	L	mm	988.5	988.5
Motor length	LB	mm	586	586
Motor diameter	AC	mm	196	196
Motor/connection distance	AD	mm	171	171
Gearbox diameter	AE	mm	190	190

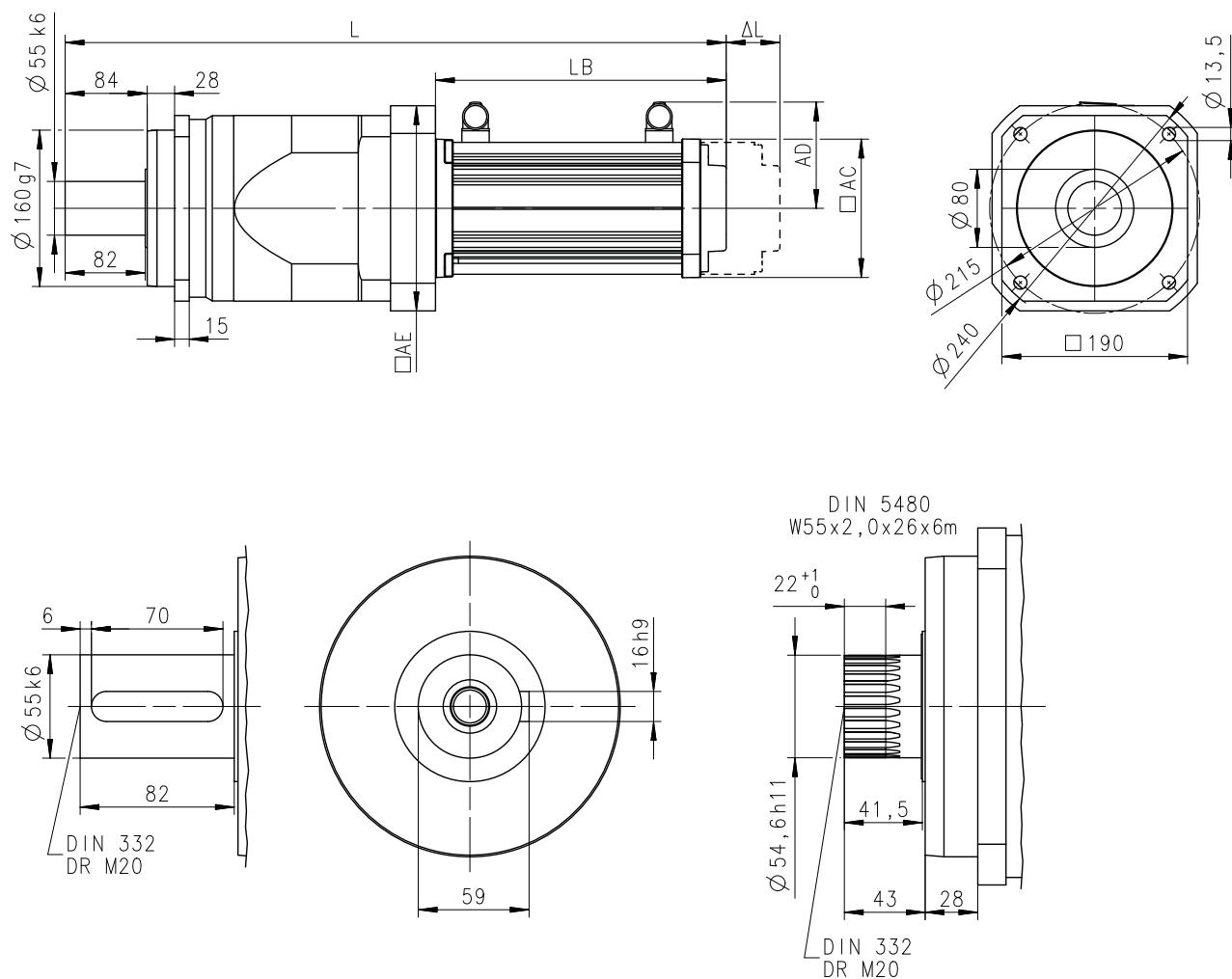


Technical data

Planetary gearbox g840-P
Basic dimensions

g840-P1800 with MCA21

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800888-00

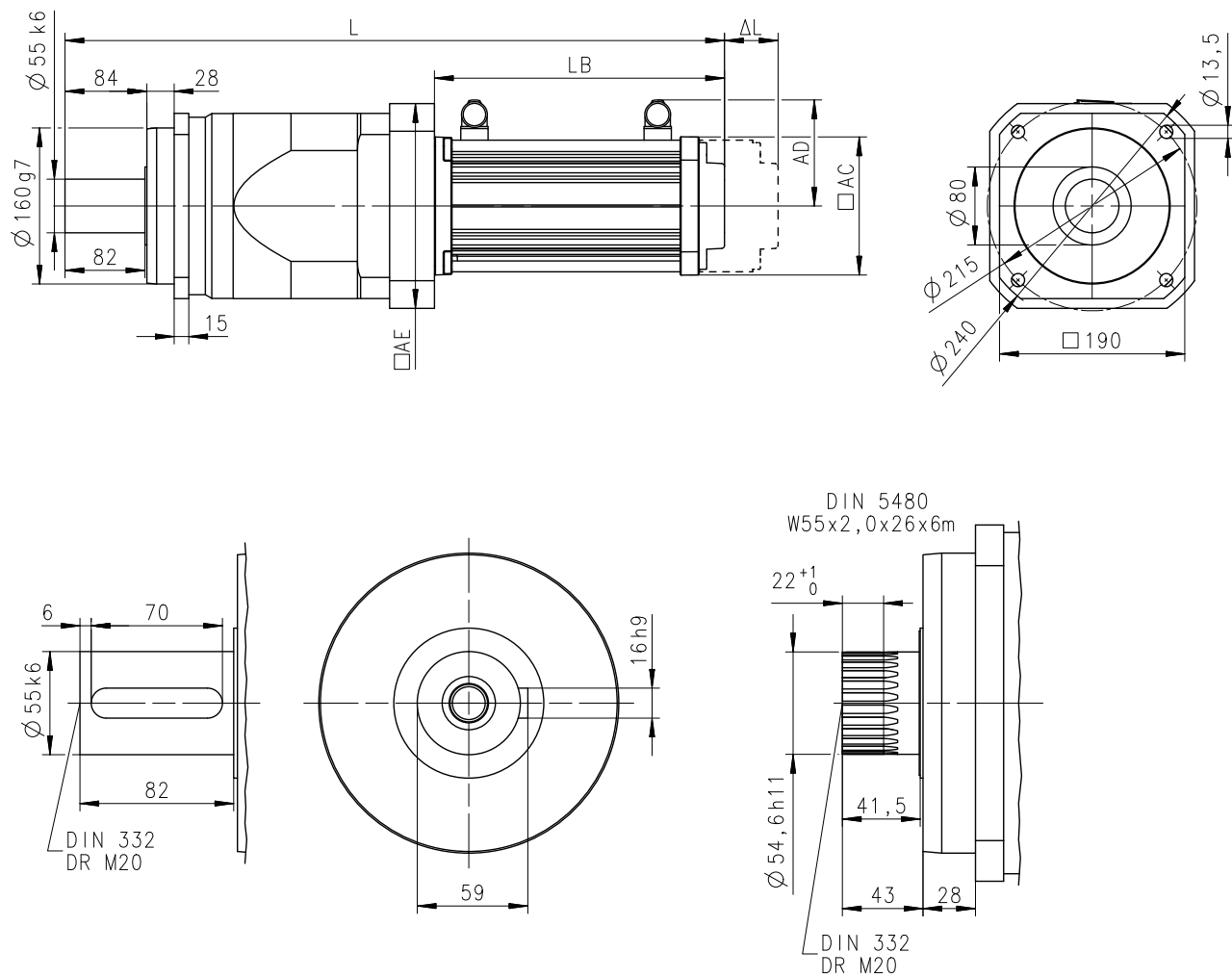
Motor			MCA 21			
			X17-	X25-	X35-	X42-
Total length	L	mm	896.5	800.5	896.5	800.5
Motor length	LB	mm	566	470	566	470
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162
Gearbox diameter	AE	mm	190	190	190	190

Technical data

Planetary gearbox g840-P
Basic dimensions



g840-P1800 with MCA21
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800888-00

Motor			MCA 21			
			X17-	X25-	X35-	X42-
Total length	L	mm	968.5	872.5	968.5	872.5
Motor length	LB	mm	566	470	566	470
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162
Gearbox diameter	AE	mm	190	190	190	190



Technical data

Planetary gearbox g850-P
The modular system

Planetary gearbox g850-P

The modular system

g850-P planetary gearbox with MCA asynchronous servo motor

Gearboxes		g850-P40	g850-P80	g850-P180	g850-P470	g850-P950
Min. motor assignment		MCA10	MCA10	MCA10	MCA10	MCA13
Max. motor assignment		MCA10	MCA14	MCA17	MCA19	MCA21
Technical data						
Max. output torque	Nm	40	80	180	470	950
Min. drive torque	Nm	0.8	0.8	0.8	0.8	6.3
Max. drive torque	Nm	0.8	12	21.5	36	???
Mounting position		Any				
Color		Primed Painted in RAL colors				
Surface and corrosion protection		OKS-G Different types of OKS				
Output shaft						
Solid shaft with featherkey	mm	16 x 28	22 x 36	32 x 58	40 x 80	55 x 82
Smooth solid shaft	mm	16 x 28	22 x 36	32 x 58	40 x 80	55 x 82
Toothed output shaft (value in brackets: toothing length)		15.84 x 26 (15) z = 18	21.75 x 26 (15) z = 16	31.75 x 26 (15) z = 24	39.6 x 40 (20) z = 18	54.6 x 41.5 (22) z = 26
Shaft material		Steel				
Shaft sealing ring material		NBR				
Gearbox design		Without foot with centering				
Gearbox stages		1/2	1/2	1/2	1/2	1/2
Output flange	mm	40	60	80	120	160
Lubricant		Standard Food-compatible				
Cooling		Self-ventilated Forced-ventilated				
Motor connection		ICN connector Terminal box				
Holding brake		Without Permanent magnet brake Spring-applied brake				
Feedback						
Without functional safety		Resolver Absolute value encoder Incremental encoder				
With functional safety		Resolver Incremental encoder				
Temperature monitoring		PT1000 temperature sensor				

Technical data

Planetary gearbox g850-P
Data overview



Data overview

g850-P40, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
3	29.0	3	5
4	39.0	3	5
5	40.0	3	5
7	37.0	3	5
10	28.0	3	4

g850-P40, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
12	29.0	5	5
15	29.0	5	5
16	39.0	5	5
20	39.0	5	5

g850-P80, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
3	54.0	3	12
4	80.0	3	14
5	80.0	3	14
7	78.0	3	13
10	59.0	3	12

g850-P80, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
12	54.0	5	11
15	54.0	5	11
16	80.0	5	14
20	80.0	5	14
25	80.0	5	14
35	80.0	5	14
40	80.0	5	13

g850-P180, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
3	135	3	30
4	180	3	36
5	175	3	35
7	175	3	33
10	140	3	32



Technical data

Planetary gearbox g850-P
Data overview

g850-P180, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
12	135	5	30
15	135	5	30
16	180	5	36
20	180	5	36
25	175	5	36
35	175	5	36
40	180	5	35
50	175	5	35
70	175	5	33

g850-P470, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	380	3	74
4	470	3	79
5	405	3	80
7	355	3	72
10	305	3	64

g850-P470, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
12	380	5	71
15	380	5	70
16	450	5	77
20	450	5	77
25	405	5	78
35	405	5	78
40	470	5	76
50	405	5	78
70	355	5	71
100	305	5	64

g850-P950, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
3	845	3	210
4	950	3	222
5	950	3	228
7	900	3	210
10	750	3	186

Technical data

Planetary gearbox g850-P
Radial forces and axial forces



g850-P950, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
12	845	5	203
15	845	5	204
16	950	5	235
20	950	5	236
25	950	5	224
35	950	5	222
40	950	5	226
50	950	5	219
70	900	5	205
100	750	5	184

Radial forces and axial forces

Gearbox			g850-P40	g850-P80	g850-P180	g850-P470	g850-P950
Bearing service life 20000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	rated	3200	5500	6000	13000	20000
Axial force	F_{ax}	rated	4400	6400	8000	15000	19000
Bearing service life 30000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	rated	3200	4800	5400	11500	17500
Axial force	F_{ax}	rated	3900	5700	7000	13500	18500
Max. radial force	$F_{\text{rad, max}}$	rated	3200	5500	6000	13000	20000
Max. axial force	$F_{\text{ax, max}}$	rated	4400	6400	8000	15000	19000



Technical data

Planetary gearbox g850-P
Selection tables

Selection tables

Inverter power supply 400 V, self-ventilated motors

0.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
5.1	1317	4.8	29.0	658	2.694	3	P40	10I40-	1	8.3
6.7	988	4.9	39.0	494	2.616	4	P40	10I40-	1	8.3
8.8	790	4.0	40.0	395	2.587	5	P40	10I40-	1	8.3
11.0	564	5.5	78.0	282	2.770	7	P80	10I40-	1	9.7
13.0	564	2.7	37.0	282	2.562	7	P40	10I40-	1	8.3
16.0	329	5.9	135	165	3.000	12	P180	10I40-	2	15
18.0	395	3.1	59.0	198	2.730	10	P80	10I40-	1	9.7
19.0	395	1.5	28.0	198	2.550	10	P40	10I40-	1	8.3
21.0	247	5.9	180	123	2.941	16	P180	10I40-	2	15
22.0	329	2.4	54.0	165	2.627	12	P80	10I40-	2	11
23.0	329	1.3	29.0	165	2.599	12	P40	10I40-	2	9.1
23.0	263	4.7	135	132	2.881	15	P180	10I40-	2	15
28.0	263	1.0	29.0	132	2.576	15	P40	10I40-	2	9.1
28.0	263	1.9	54.0	132	2.593	15	P80	10I40-	2	11
29.0	247	2.4	80.0	123	2.608	16	P80	10I40-	2	11
30.0	247	1.3	39.0	123	2.597	16	P40	10I40-	2	9.1
30.0	198	4.7	180	99.0	2.843	20	P180	10I40-	2	15
37.0	198	2.1	80.0	99.0	2.582	20	P80	10I40-	2	11
38.0	198	1.0	39.0	99.0	2.573	20	P40	10I40-	2	9.1
41.0	158	3.7	175	79.0	2.829	25	P180	10I40-	2	15
47.0	158	1.5	80.0	79.0	2.577	25	P80	10I40-	2	11
63.0	113	2.6	175	56.0	2.760	35	P180	10I40-	2	15
66.0	113	1.2	80.0	56.0	2.557	35	P80	10I40-	2	11
73.0	98.8	2.4	180	49.0	2.728	40	P180	10I40-	2	15
75.0	98.8	1.1	80.0	49.0	2.548	40	P80	10I40-	2	11
78.0	79.0	4.3	405	40.0	3.270	50	P470	10I40-	2	23
94.0	79.0	1.9	175	40.0	2.724	50	P180	10I40-	2	15
124	56.4	2.7	355	28.0	3.259	70	P470	10I40-	2	23
130	56.4	1.3	175	28.0	2.722	70	P180	10I40-	2	15
182	39.5	1.7	305	20.0	3.240	100	P470	10I40-	2	23

Technical data

Planetary gearbox g850-P
Selection tables



1.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
19.0	667	2.8	54.0	333	20.669	3	P80	14L20-	1	36
25.0	500	3.1	80.0	250	20.406	4	P80	14L20-	1	36
28.0	400	5.3	175	200	20.685	5	P180	14L20-	1	40
32.0	400	2.5	80.0	200	20.306	5	P80	14L20-	1	36
42.0	286	3.8	175	143	20.473	7	P180	14L20-	1	40
45.0	286	1.7	78.0	143	19.953	7	P80	14L20-	1	36
57.0	200	4.7	305	100	25.675	10	P470	14L20-	1	49
59.0	167	4.9	380	83.0	21.452	12	P470	14L20-	2	50
64.0	200	2.2	140	100	20.347	10	P180	14L20-	1	40
76.0	167	1.8	135	83.0	20.459	12	P180	14L20-	2	42
81.0	133	3.9	380	67.0	20.945	15	P470	14L20-	2	50
83.0	125	4.4	450	63.0	21.225	16	P470	14L20-	2	50
94.0	133	1.4	135	67.0	20.340	15	P180	14L20-	2	42
101	125	1.8	180	63.0	20.401	16	P180	14L20-	2	42
112	100	3.5	450	50.0	20.800	20	P470	14L20-	2	50
112	80.0	5.9	950	40.0	27.130	25	P950	14L20-	2	73
126	100	1.4	180	50.0	20.303	20	P180	14L20-	2	42
151	80.0	2.5	405	40.0	20.738	25	P470	14L20-	2	50
157	80.0	1.1	175	40.0	20.288	25	P180	14L20-	2	42
184	57.1	4.2	950	29.0	26.141	35	P950	14L20-	2	73
220	57.1	1.8	405	29.0	20.500	35	P470	14L20-	2	50
220	50.0	3.7	950	25.0	25.702	40	P950	14L20-	2	73
252	50.0	1.8	470	25.0	20.376	40	P470	14L20-	2	50
292	40.0	3.0	950	20.0	25.638	50	P950	14L20-	2	73
315	40.0	1.3	405	20.0	20.360	50	P470	14L20-	2	50
439	28.6	2.0	900	14.0	25.584	70	P950	14L20-	2	73
610	20.0	1.2	750	10.0	25.560	100	P950	14L20-	2	73



Technical data

Planetary gearbox g850-P
Selection tables

1.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
10.0	1350	4.3	54.0	675	9.220	3	P80	13I41-	1	14
14.0	1013	4.7	80.0	506	8.957	4	P80	13I41-	1	14
18.0	810	3.7	80.0	405	8.857	5	P80	13I41-	1	14
23.0	579	5.4	175	289	9.283	7	P180	13I41-	1	17
26.0	579	2.7	78.0	289	8.779	7	P80	13I41-	1	14
36.0	405	3.6	140	203	9.157	10	P180	13I41-	1	17
38.0	405	1.5	59.0	203	8.739	10	P80	13I41-	1	14
42.0	338	2.9	135	169	9.010	12	P180	13I41-	2	19
55.0	270	2.3	135	135	8.891	15	P180	13I41-	2	19
55.0	203	5.6	450	101	9.609	20	P470	13I41-	2	27
56.0	253	2.9	180	127	8.951	16	P180	13I41-	2	19
73.0	203	2.3	180	101	8.853	20	P180	13I41-	2	19
79.0	162	4.2	405	81.0	9.548	25	P470	13I41-	2	27
94.0	162	1.8	175	81.0	8.839	25	P180	13I41-	2	19
122	116	3.0	405	58.0	9.310	35	P470	13I41-	2	27
132	116	1.3	175	58.0	8.770	35	P180	13I41-	2	19
139	101	3.1	470	51.0	9.185	40	P470	13I41-	2	27
146	81.0	5.0	950	41.0	14.738	50	P950	13I41-	2	50
150	101	1.2	180	51.0	8.738	40	P180	13I41-	2	19
186	81.0	2.1	405	41.0	9.170	50	P470	13I41-	2	27
235	57.9	3.4	900	29.0	14.684	70	P950	13I41-	2	50
260	57.9	1.4	355	29.0	9.159	70	P470	13I41-	2	27
364	40.5	2.1	750	20.0	14.660	100	P950	13I41-	2	50

Technical data

Planetary gearbox g850-P
Selection tables



2.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
15.0	1367	3.2	54.0	683	20.669	3	P80	14L41-	1	36
19.0	1025	3.5	80.0	513	20.406	4	P80	14L41-	1	36
22.0	820	5.4	175	410	20.685	5	P180	14L41-	1	40
25.0	820	2.7	80.0	410	20.306	5	P80	14L41-	1	36
33.0	586	4.0	175	293	20.473	7	P180	14L41-	1	40
36.0	586	2.0	78.0	293	19.953	7	P80	14L41-	1	36
43.0	410	5.9	305	205	25.675	10	P470	14L41-	1	49
50.0	410	2.7	140	205	20.347	10	P180	14L41-	1	40
52.0	410	1.1	59.0	205	19.913	10	P80	14L41-	1	36
60.0	342	2.2	135	171	20.459	12	P180	14L41-	2	42
60.0	273	4.9	380	137	20.945	15	P470	14L41-	2	50
64.0	256	4.8	450	128	21.225	16	P470	14L41-	2	50
76.0	273	1.7	135	137	20.340	15	P180	14L41-	2	42
80.0	256	2.2	180	128	20.401	16	P180	14L41-	2	42
85.0	205	4.2	450	103	20.800	20	P470	14L41-	2	50
102	205	1.7	180	103	20.303	20	P180	14L41-	2	42
117	164	3.1	405	82.0	20.738	25	P470	14L41-	2	50
127	164	1.4	175	82.0	20.288	25	P180	14L41-	2	42
135	117	5.2	950	59.0	26.141	35	P950	14L41-	2	73
164	103	4.6	950	51.0	25.702	40	P950	14L41-	2	73
175	117	2.2	405	59.0	20.500	35	P470	14L41-	2	50
199	103	2.3	470	51.0	20.376	40	P470	14L41-	2	50
222	82.0	3.7	950	41.0	25.638	50	P950	14L41-	2	73
254	82.0	1.6	405	41.0	20.360	50	P470	14L41-	2	50
341	58.6	2.5	900	29.0	25.584	70	P950	14L41-	2	73
352	58.6	1.0	355	29.0	20.349	70	P470	14L41-	2	50
491	41.0	1.5	750	21.0	25.560	100	P950	14L41-	2	73



Technical data

Planetary gearbox g850-P
Selection tables

2.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
28.0	767	4.3	135	383	38.775	3	P180	17N23-	1	48
38.0	575	4.2	180	288	37.847	4	P180	17N23-	1	48
49.0	460	3.2	175	230	37.485	5	P180	17N23-	1	48
64.0	329	4.8	355	164	43.014	7	P470	17N23-	1	57
71.0	329	2.4	175	164	37.273	7	P180	17N23-	1	48
100	230	2.9	305	115	42.475	10	P470	17N23-	1	57
104	230	1.3	140	115	37.147	10	P180	17N23-	1	48
112	192	3.1	380	96.0	38.252	12	P470	17N23-	2	58
114	153	5.4	845	77.0	44.886	15	P950	17N23-	2	81
117	144	5.7	950	72.0	45.559	16	P950	17N23-	2	81
147	153	2.4	380	77.0	37.745	15	P470	17N23-	2	58
154	144	2.7	450	72.0	38.025	16	P470	17N23-	2	58
164	115	4.6	950	58.0	44.186	20	P950	17N23-	2	81
200	115	2.2	450	58.0	37.600	20	P470	17N23-	2	58
222	92.0	3.7	950	46.0	43.930	25	P950	17N23-	2	81
254	92.0	1.6	405	46.0	37.538	25	P470	17N23-	2	58
339	65.7	2.6	950	33.0	42.941	35	P950	17N23-	2	81
355	65.7	1.1	405	33.0	37.300	35	P470	17N23-	2	58
397	57.5	2.3	950	29.0	42.502	40	P950	17N23-	2	81
406	57.5	1.1	470	29.0	37.176	40	P470	17N23-	2	58
508	46.0	1.9	950	23.0	42.438	50	P950	17N23-	2	81
711	32.9	1.3	900	16.0	42.384	70	P950	17N23-	2	81

4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
68.0	468	5.1	405	234	80.075	5	P470	19S23-	1	85
104	334	3.2	355	167	79.014	7	P470	19S23-	1	85
139	234	4.7	750	117	93.695	10	P950	19S23-	1	106
150	195	4.5	845	98.0	82.654	12	P950	19S23-	2	109
156	234	2.0	305	117	78.475	10	P470	19S23-	1	85
203	156	3.6	845	78.0	80.886	15	P950	19S23-	2	109
212	146	3.8	950	73.0	81.559	16	P950	19S23-	2	109
283	117	3.0	950	59.0	80.186	20	P950	19S23-	2	109
371	93.6	2.4	950	47.0	79.930	25	P950	19S23-	2	109
536	66.9	1.7	950	33.0	78.941	35	P950	19S23-	2	109
613	58.5	1.5	950	29.0	78.502	40	P950	19S23-	2	109
766	46.8	1.2	950	23.0	78.438	50	P950	19S23-	2	109

Technical data

Planetary gearbox g850-P
Selection tables



4.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
25.0	1370	4.1	135	685	38.775	3	P180	17N41-	1	48
33.0	1028	4.0	180	514	37.847	4	P180	17N41-	1	48
44.0	822	3.0	175	411	37.485	5	P180	17N41-	1	48
55.0	587	5.5	355	294	43.014	7	P470	17N41-	1	57
63.0	587	2.3	175	294	37.273	7	P180	17N41-	1	48
86.0	411	3.3	305	206	42.475	10	P470	17N41-	1	57
91.0	411	1.5	140	206	37.147	10	P180	17N41-	1	48
95.0	343	3.5	380	171	38.252	12	P470	17N41-	2	58
126	274	2.8	380	137	37.745	15	P470	17N41-	2	58
135	257	2.7	450	128	38.025	16	P470	17N41-	2	58
136	206	5.2	950	103	44.186	20	P950	17N41-	2	81
174	206	2.4	450	103	37.600	20	P470	17N41-	2	58
187	164	4.2	950	82.0	43.930	25	P950	17N41-	2	81
223	164	1.8	405	82.0	37.538	25	P470	17N41-	2	58
290	117	3.0	950	59.0	42.941	35	P950	17N41-	2	81
313	117	1.3	405	59.0	37.300	35	P470	17N41-	2	58
341	103	2.6	950	51.0	42.502	40	P950	17N41-	2	81
357	103	1.3	470	51.0	37.176	40	P470	17N41-	2	58
443	82.2	2.1	950	41.0	42.438	50	P950	17N41-	2	81
625	58.7	1.4	900	29.0	42.384	70	P950	17N41-	2	81

5.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
73.0	593	4.4	355	296	79.014	7	P470	19S42-	1	85
97.0	415	5.7	750	208	93.695	10	P950	19S42-	1	106
112	415	2.7	305	208	78.475	10	P470	19S42-	1	85
133	277	4.8	845	136	80.886	15	P950	19S42-	2	109
138	259	5.2	950	110	81.559	16	P950	19S42-	2	109
190	208	4.1	950	104	80.186	20	P950	19S42-	2	109
255	166	3.3	950	83.0	79.930	25	P950	19S42-	2	109
384	119	2.4	950	59.0	78.941	35	P950	19S42-	2	109
449	104	2.1	950	52.0	78.502	40	P950	19S42-	2	109
564	83.0	1.7	950	42.0	78.438	50	P950	19S42-	2	109
790	59.3	1.1	900	30.0	78.384	70	P950	19S42-	2	109

6.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
146	356	4.8	900	178	204.539	7	P950	21X25-	1	96
225	249	3.1	750	125	201.695	10	P950	21X25-	1	96



Technical data

Planetary gearbox g850-P
Selection tables

7.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
95.0	594	6.0	900	233	204.539	7	P950	21X42-	1	96
149	416	4.0	750	200	201.695	10	P950	21X42-	1	96

Technical data

Planetary gearbox g850-P
Selection tables



Inverter power supply 400 V, forced ventilated motors

2.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
32.0	545	3.8	135	273	21.975	3	P180	14L16-	1	42
43.0	409	3.8	180	204	21.047	4	P180	14L16-	1	42
55.0	327	3.0	175	164	20.685	5	P180	14L16-	1	42
73.0	234	4.4	355	117	26.214	7	P470	14L16-	1	51
80.0	234	2.1	175	117	20.473	7	P180	14L16-	1	42
112	164	2.7	305	82.0	25.675	10	P470	14L16-	1	51
115	164	1.2	140	82.0	20.347	10	P180	14L16-	1	42
128	136	2.8	380	68.0	21.452	12	P470	14L16-	2	52
133	109	4.8	845	55.0	28.086	15	P950	14L16-	2	75
138	102	5.2	950	51.0	28.759	16	P950	14L16-	2	75
167	109	2.2	380	55.0	20.945	15	P470	14L16-	2	52
175	102	2.4	450	51.0	21.225	16	P470	14L16-	2	52
190	81.8	4.1	950	41.0	27.386	20	P950	14L16-	2	75
226	81.8	2.0	450	41.0	20.800	20	P470	14L16-	2	52
255	65.4	3.3	950	33.0	27.130	25	P950	14L16-	2	75
282	65.4	1.4	405	33.0	20.738	25	P470	14L16-	2	52
384	46.7	2.4	950	23.0	26.141	35	P950	14L16-	2	75
395	46.7	1.0	405	23.0	20.500	35	P470	14L16-	2	52
449	40.9	2.1	950	20.0	25.702	40	P950	14L16-	2	75
451	40.9	1.0	470	20.0	20.376	40	P470	14L16-	2	52
564	32.7	1.7	950	16.0	25.638	50	P950	14L16-	2	75
790	23.4	1.1	900	12.0	25.584	70	P950	14L16-	2	75



Technical data

Planetary gearbox g850-P

Selection tables

2.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
17.0	1137	2.9	54.0	568	9.220	3	P80	13I34-	1	15
23.0	853	3.2	80.0	426	8.957	4	P80	13I34-	1	15
27.0	682	4.9	175	341	9.494	5	P180	13I34-	1	19
30.0	682	2.4	80.0	341	8.857	5	P80	13I34-	1	15
39.0	487	3.6	175	244	9.283	7	P180	13I34-	1	19
42.0	487	1.8	78.0	244	8.779	7	P80	13I34-	1	15
53.0	341	5.0	305	171	14.775	10	P470	13I34-	1	28
54.0	284	5.2	380	142	10.262	12	P470	13I34-	2	29
60.0	341	2.3	140	171	9.157	10	P180	13I34-	1	19
71.0	284	1.9	135	142	9.010	12	P180	13I34-	2	20
74.0	227	4.2	380	114	9.755	15	P470	13I34-	2	29
78.0	213	4.4	450	107	10.034	16	P470	13I34-	2	29
89.0	227	1.5	135	114	8.891	15	P180	13I34-	2	20
95.0	213	1.9	180	107	8.951	16	P180	13I34-	2	20
103	171	3.7	450	85.0	9.609	20	P470	13I34-	2	29
118	171	1.5	180	85.0	8.853	20	P180	13I34-	2	20
141	136	2.7	405	68.0	9.548	25	P470	13I34-	2	29
148	136	1.2	175	68.0	8.839	25	P180	13I34-	2	20
169	97.4	4.5	950	49.0	15.241	35	P950	13I34-	2	52
203	85.3	3.9	950	43.0	14.802	40	P950	13I34-	2	52
207	97.4	1.9	405	49.0	9.310	35	P470	13I34-	2	29
237	85.3	1.9	470	43.0	9.185	40	P470	13I34-	2	29
270	68.2	3.2	950	34.0	14.738	50	P950	13I34-	2	52
296	68.2	1.4	405	34.0	9.170	50	P470	13I34-	2	29
409	48.7	2.2	900	24.0	14.684	70	P950	13I34-	2	52
573	34.1	1.3	750	17.0	14.660	100	P950	13I34-	2	52

3.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
62.0	560	2.1	135	280	38.775	3	P180	17N17-	1	50
70.0	420	5.6	470	210	45.556	4	P470	17N17-	1	59
82.0	420	2.1	180	210	37.847	4	P180	17N17-	1	50
95.0	336	3.8	405	168	44.075	5	P470	17N17-	1	59
103	336	1.7	175	168	37.485	5	P180	17N17-	1	50
142	240	2.4	355	120	43.014	7	P470	17N17-	1	59
144	240	1.2	175	120	37.273	7	P180	17N17-	1	50
193	168	3.6	750	84.0	57.695	10	P950	17N17-	1	80
206	168	1.5	305	84.0	42.475	10	P470	17N17-	1	59
218	140	3.4	845	70.0	46.654	12	P950	17N17-	2	83
243	140	1.5	380	70.0	38.252	12	P470	17N17-	2	61
287	112	2.7	845	56.0	44.886	15	P950	17N17-	2	83
302	105	2.9	950	53.0	45.559	16	P950	17N17-	2	83
303	112	1.2	380	56.0	37.745	15	P470	17N17-	2	61
323	105	1.4	450	53.0	38.025	16	P470	17N17-	2	61
395	84.0	2.3	950	42.0	44.186	20	P950	17N17-	2	83
404	84.0	1.1	450	42.0	37.600	20	P470	17N17-	2	61
505	67.2	1.8	950	34.0	43.930	25	P950	17N17-	2	83
707	48.0	1.3	950	24.0	42.941	35	P950	17N17-	2	83
808	42.0	1.2	950	21.0	42.502	40	P950	17N17-	2	83

Technical data

Planetary gearbox g850-P
Selection tables



3.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
29.0	1152	3.8	135	576	21.975	3	P180	14L35-	1	42
38.0	864	3.7	180	432	21.047	4	P180	14L35-	1	42
50.0	691	2.8	175	346	20.685	5	P180	14L35-	1	42
64.0	494	4.8	355	247	26.214	7	P470	14L35-	1	51
72.0	494	2.1	175	247	20.473	7	P180	14L35-	1	42
100	346	2.9	305	173	25.675	10	P470	14L35-	1	51
104	346	1.3	140	173	20.347	10	P180	14L35-	1	42
112	288	3.1	380	144	21.452	12	P470	14L35-	2	52
114	230	5.4	845	115	28.086	15	P950	14L35-	2	75
117	216	5.7	950	108	28.759	16	P950	14L35-	2	75
147	230	2.4	380	115	20.945	15	P470	14L35-	2	52
156	216	2.6	450	108	21.225	16	P470	14L35-	2	52
164	173	4.6	950	86.0	27.386	20	P950	14L35-	2	75
200	173	2.2	450	86.0	20.800	20	P470	14L35-	2	52
222	138	3.7	950	69.0	27.130	25	P950	14L35-	2	75
254	138	1.6	405	69.0	20.738	25	P470	14L35-	2	52
339	98.7	2.6	950	49.0	26.141	35	P950	14L35-	2	75
355	98.7	1.1	405	49.0	20.500	35	P470	14L35-	2	52
397	86.4	2.3	950	43.0	25.702	40	P950	14L35-	2	75
406	86.4	1.1	470	43.0	20.376	40	P470	14L35-	2	52
508	69.1	1.9	950	35.0	25.638	50	P950	14L35-	2	75
711	49.4	1.3	900	25.0	25.584	70	P950	14L35-	2	75

6.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
98.0	567	3.6	380	283	85.112	3	P470	19S17-	1	89
132	425	3.3	470	213	81.556	4	P470	19S17-	1	89
151	340	5.2	950	170	101.383	5	P950	19S17-	1	109
172	340	2.3	405	170	80.075	5	P470	19S17-	1	89
228	243	3.6	900	121	96.539	7	P950	19S17-	1	109
244	243	1.4	355	121	79.014	7	P470	19S17-	1	89
347	170	2.1	750	85.0	93.695	10	P950	19S17-	1	109
409	142	2.0	845	71.0	82.654	12	P950	19S17-	2	113
512	113	1.6	845	57.0	80.886	15	P950	19S17-	2	113
546	106	1.7	950	53.0	81.559	16	P950	19S17-	2	113
682	85.0	1.4	950	43.0	80.186	20	P950	19S17-	2	113
853	68.0	1.1	950	34.0	79.930	25	P950	19S17-	2	113



Technical data

Planetary gearbox g850-P
Selection tables

6.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
46.0	1160	5.7	380	353	49.112	3	P470	17N35-	1	59
54.0	1160	2.2	135	580	38.775	3	P180	17N35-	1	50
62.0	870	5.7	470	343	45.556	4	P470	17N35-	1	59
73.0	870	2.1	180	435	37.847	4	P180	17N35-	1	50
82.0	696	4.4	405	326	44.075	5	P470	17N35-	1	59
91.0	696	1.6	175	348	37.485	5	P180	17N35-	1	50
108	497	5.6	900	232	60.539	7	P950	17N35-	1	80
124	497	2.8	355	249	43.014	7	P470	17N35-	1	59
128	497	1.2	175	249	37.273	7	P180	17N35-	1	50
169	348	3.8	750	174	57.695	10	P950	17N35-	1	80
182	348	1.7	305	174	42.475	10	P470	17N35-	1	59
185	290	3.8	845	133	46.654	12	P950	17N35-	2	83
214	290	1.7	380	145	38.252	12	P470	17N35-	2	61
247	232	3.1	845	116	44.886	15	P950	17N35-	2	83
259	218	3.3	950	105	45.559	16	P950	17N35-	2	83
268	232	1.4	380	116	37.745	15	P470	17N35-	2	61
286	218	1.5	450	109	38.025	16	P470	17N35-	2	61
341	174	2.6	950	87.0	44.186	20	P950	17N35-	2	83
357	174	1.2	450	87.0	37.600	20	P470	17N35-	2	61
444	139	2.1	950	70.0	43.930	25	P950	17N35-	2	83
625	99.4	1.5	950	50.0	42.941	35	P950	17N35-	2	83
714	87.0	1.3	950	44.0	42.502	40	P950	17N35-	2	83
893	69.6	1.1	950	35.0	42.438	50	P950	17N35-	2	83

9.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
156	473	4.7	845	237	224.182	3	P950	20X14H	1	100
215	355	4.0	950	178	206.779	4	P950	20X14H	1	100
278	284	3.2	950	142	200.383	5	P950	20X14H	1	100
407	203	2.2	900	101	195.539	7	P950	20X14H	1	100
586	142	1.3	750	71.0	192.695	10	P950	20X14H	1	100

11 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
158	570	4.6	845	265	233.182	3	P950	21X17-	1	100
217	428	3.9	950	214	215.779	4	P950	21X17-	1	100
282	342	3.1	950	171	209.383	5	P950	21X17-	1	100
410	244	2.1	900	122	204.539	7	P950	21X17-	1	100
589	171	1.3	750	86.0	201.695	10	P950	21X17-	1	100

Technical data

Planetary gearbox g850-P
Selection tables



13.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
99.0	1170	3.0	380	339	85.112	3	P470	19S35-	1	89
119	878	5.3	950	239	107.779	4	P950	19S35-	1	109
132	878	3.0	470	318	81.556	4	P470	19S35-	1	89
157	702	4.2	950	234	101.383	5	P950	19S35-	1	109
171	702	2.3	405	306	80.075	5	P470	19S35-	1	89
232	501	3.0	900	215	96.539	7	P950	19S35-	1	109
242	501	1.5	355	251	79.014	7	P470	19S35-	1	89
346	351	2.0	750	176	93.695	10	P950	19S35-	1	109
406	293	2.0	845	123	82.654	12	P950	19S35-	2	113
508	234	1.6	845	117	80.886	15	P950	19S35-	2	113
541	219	1.7	950	99.0	81.559	16	P950	19S35-	2	113
677	176	1.4	950	88.0	80.186	20	P950	19S35-	2	113
846	140	1.1	950	70.0	79.930	25	P950	19S35-	2	113

16.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
138	977	4.4	845	264	224.182	3	P950	20X29H	1	100
190	733	3.8	950	231	206.779	4	P950	20X29H	1	100
246	586	3.0	950	224	200.383	5	P950	20X29H	1	100
358	419	2.1	900	206	195.539	7	P950	20X29H	1	100
514	293	1.4	750	147	192.695	10	P950	20X29H	1	100

20.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g850-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
145	1173	4.1	845	262	233.182	3	P950	21X35-	1	100
198	880	3.5	950	229	215.779	4	P950	21X35-	1	100
256	704	2.7	950	221	209.383	5	P950	21X35-	1	100
370	503	1.9	900	203	204.539	7	P950	21X35-	1	100
528	352	1.3	750	176	201.695	10	P950	21X35-	1	100



Technical data

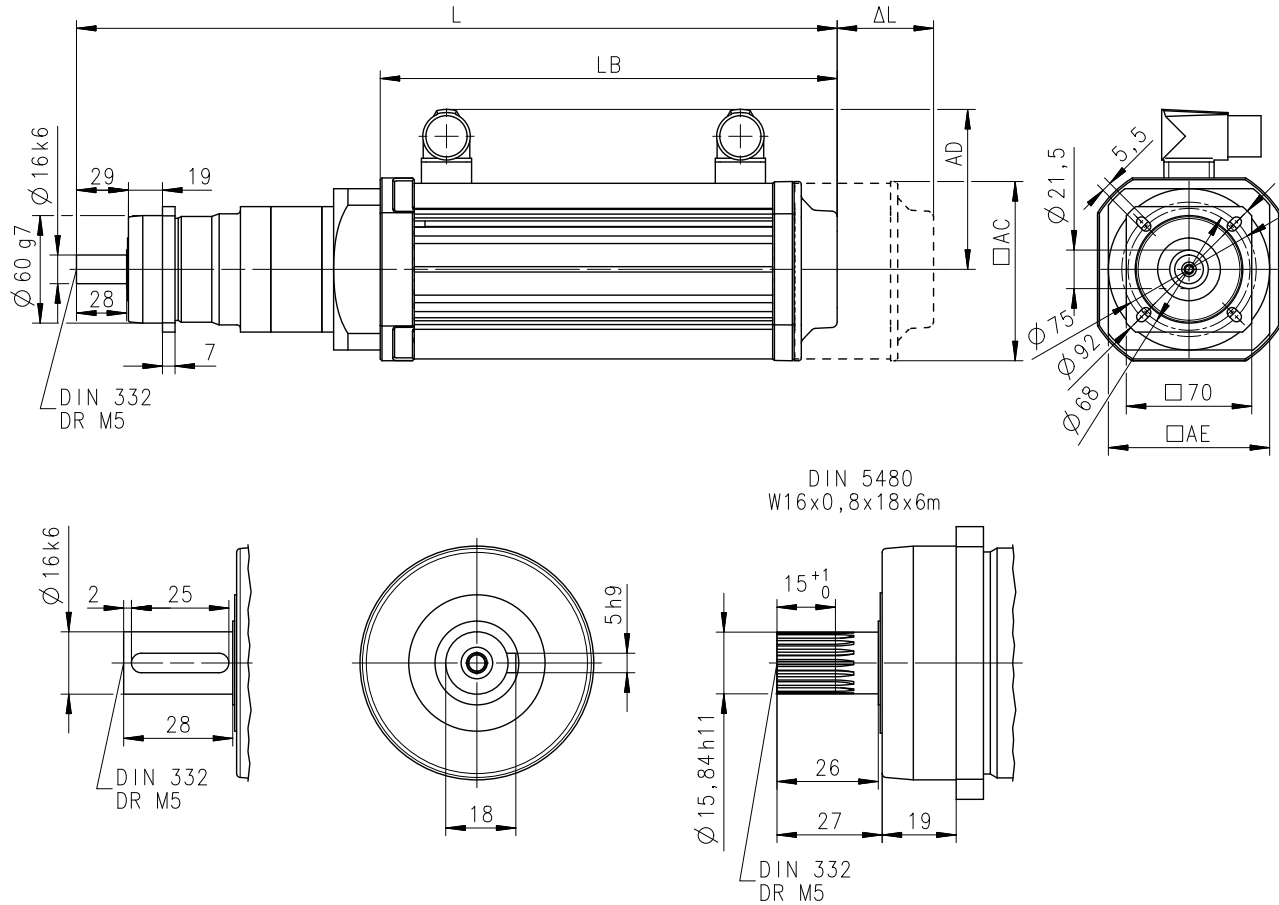
Planetary gearbox g850-P

Basic dimensions

Basic dimensions

g850-P40 with MCA10

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800889-00

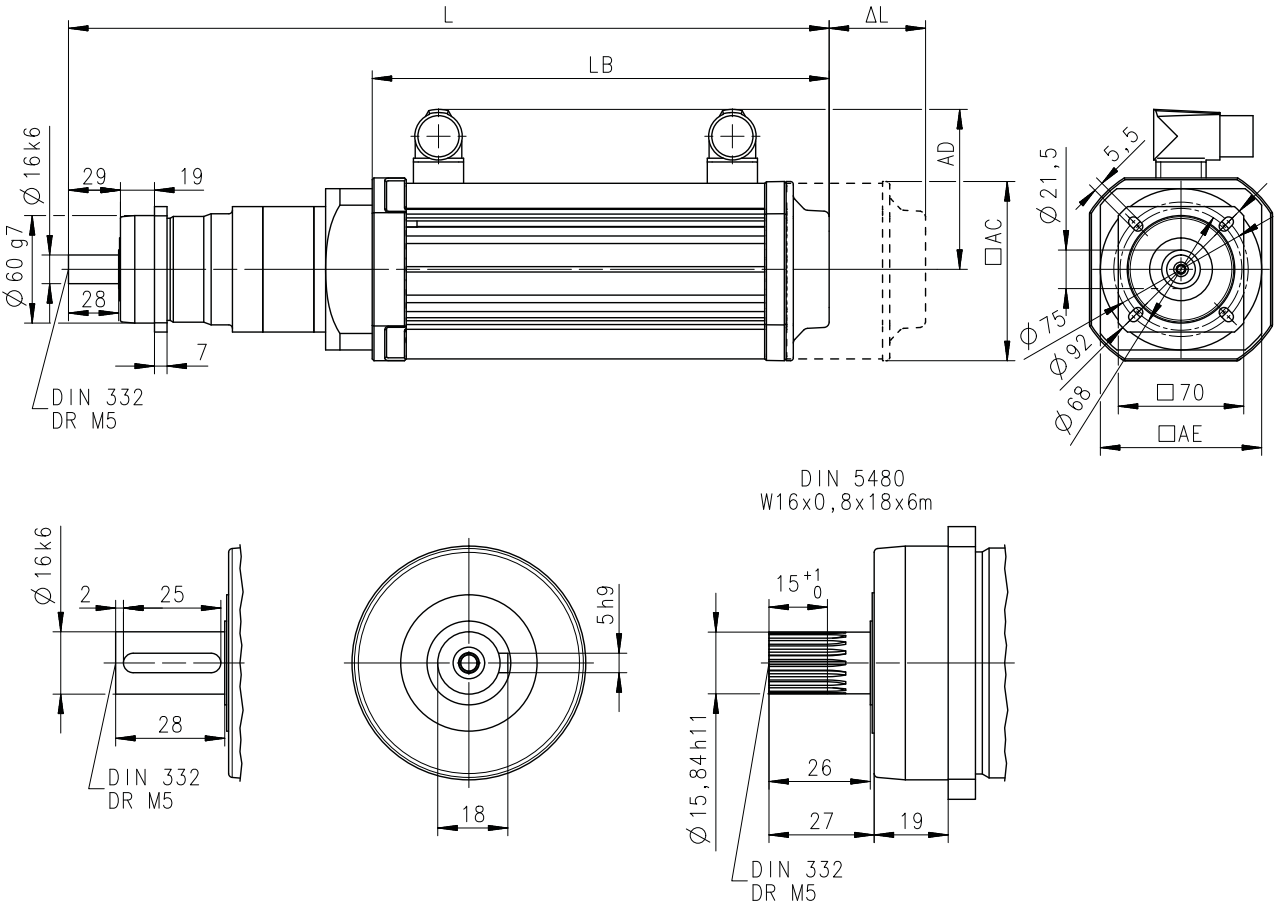
Motor			MCA 10
			I40-
Total length	L	mm	403
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g850-P
Basic dimensions



g850-P40 with MCA10
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800889-00

Motor			MCA 10
			I40-
Total length	L	mm	431.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

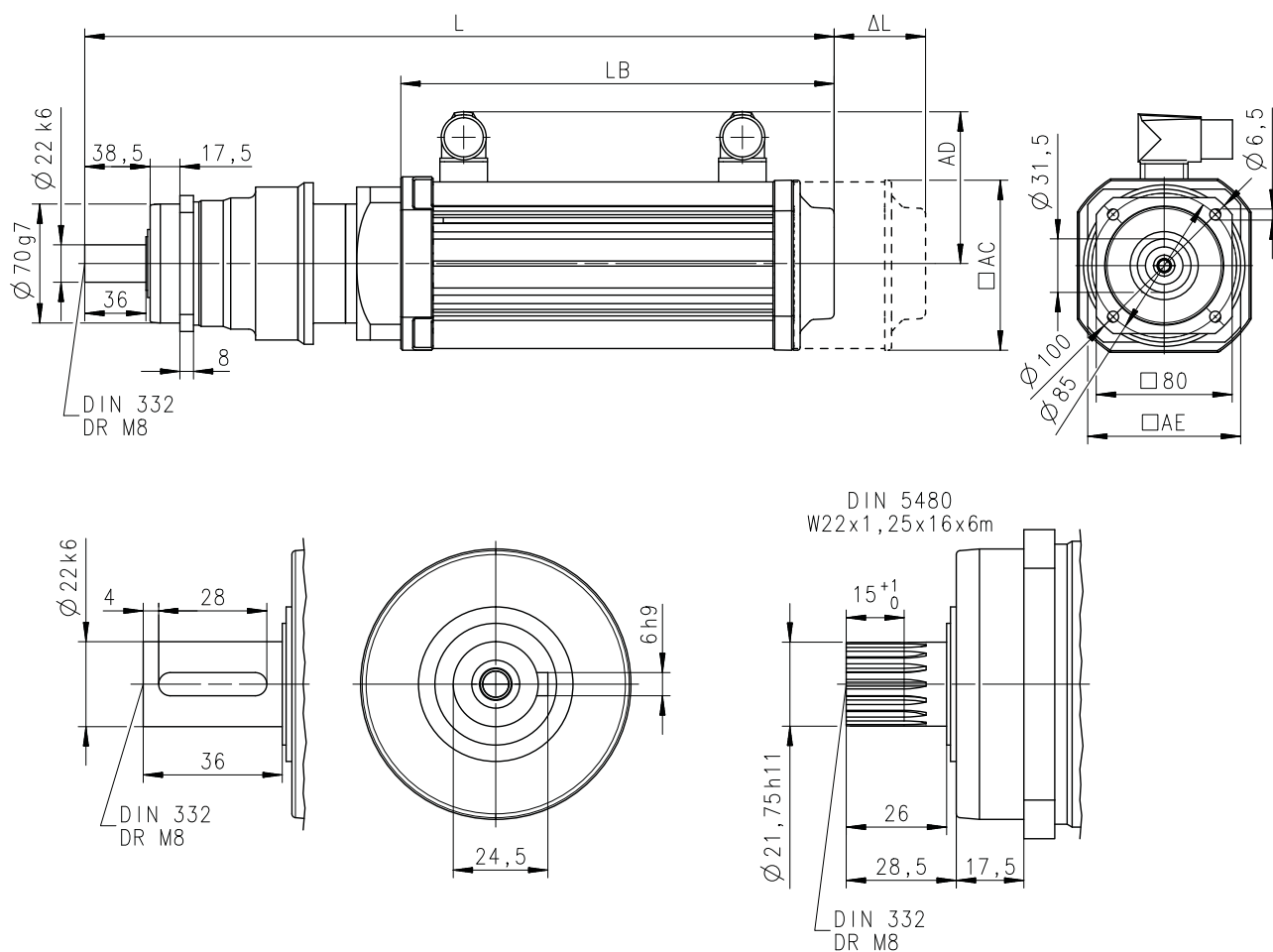


Technical data

Planetary gearbox g850-P
Basic dimensions

g850-P80 with MCA10

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800890-00

Motor			MCA 10
			I40-
Total length	L	mm	419
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

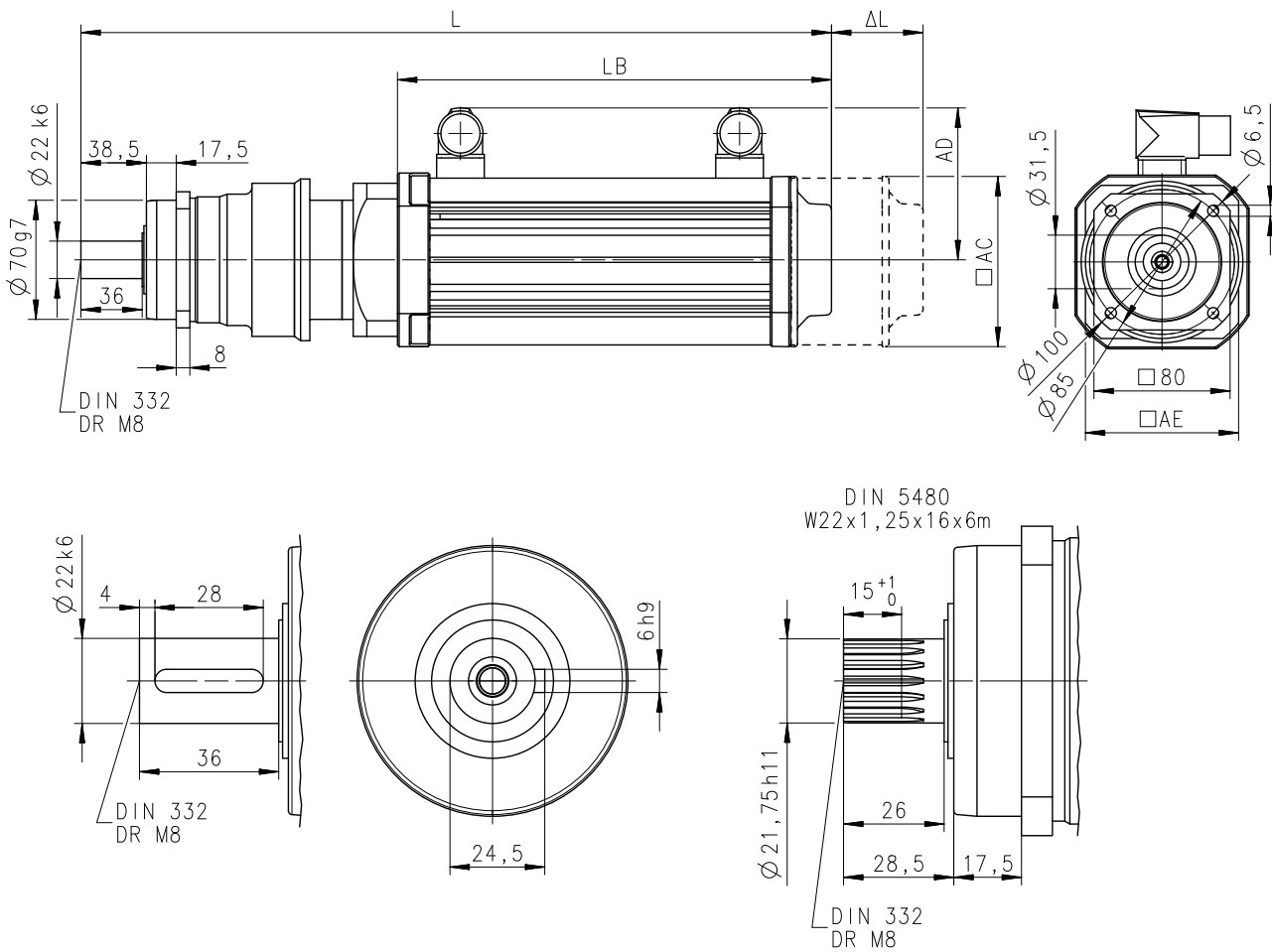
Technical data

Planetary gearbox g850-P
Basic dimensions



g850-P80 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800890-00

Motor			MCA 10	
			I40-	
Total length	L	mm	448	
Motor length	LB	mm	262	
Motor diameter	AC	mm	102	
Motor/connection distance	AD	mm	90	
Gearbox diameter	AE	mm	90	

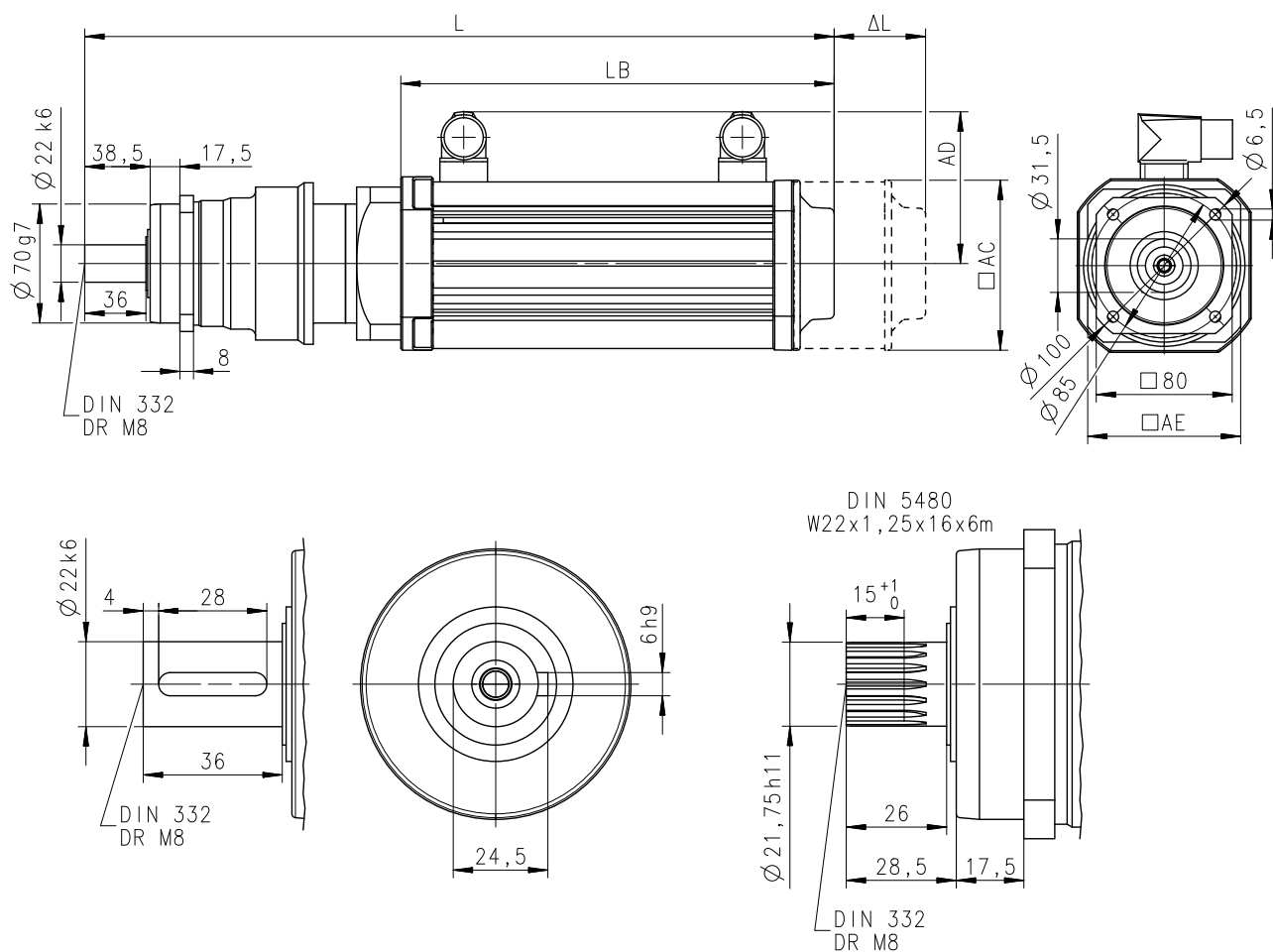


Technical data

Planetary gearbox g850-P
Basic dimensions

g850-P80 with MCA13

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800890-00

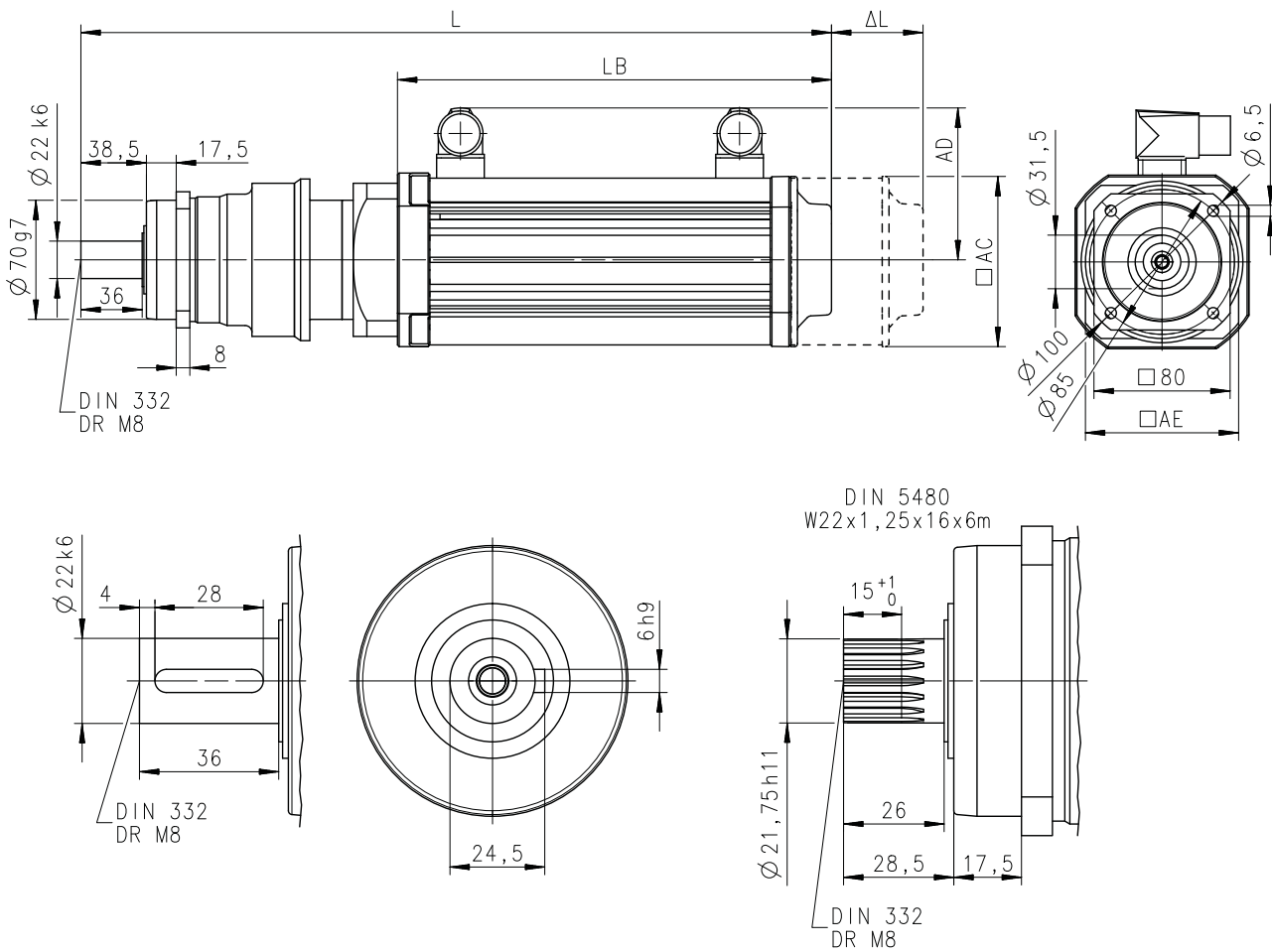
Motor			MCA 13	
			I34-	I41-
Total length	L	mm	506	438
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

Technical data

Planetary gearbox g850-P
Basic dimensions



g850-P80 with MCA14
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800890-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	479	479
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	142	142

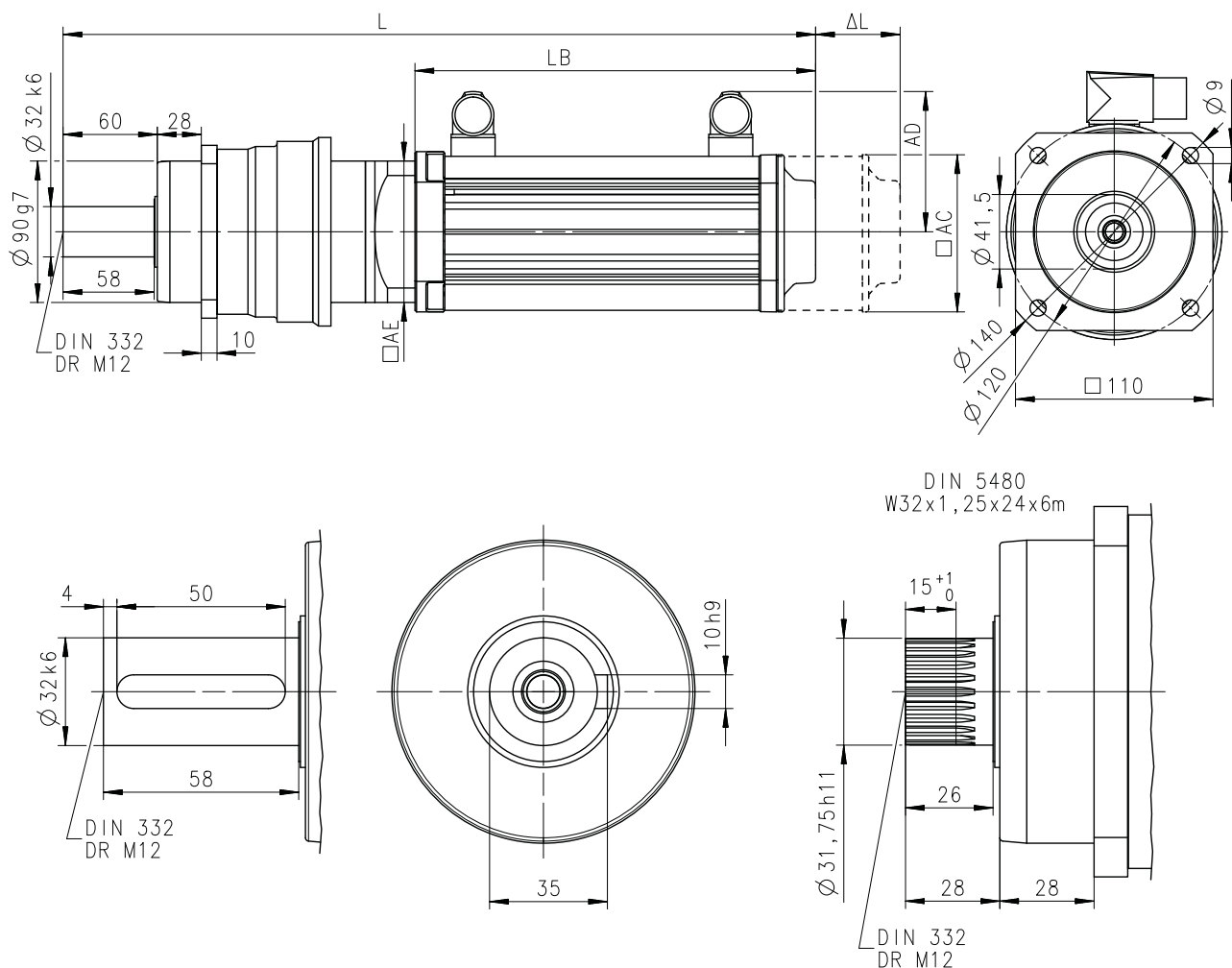


Technical data

Planetary gearbox g850-P
Basic dimensions

g850-P180 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800891-00

Motor			MCA 10
			I40-
Total length	L	mm	486
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

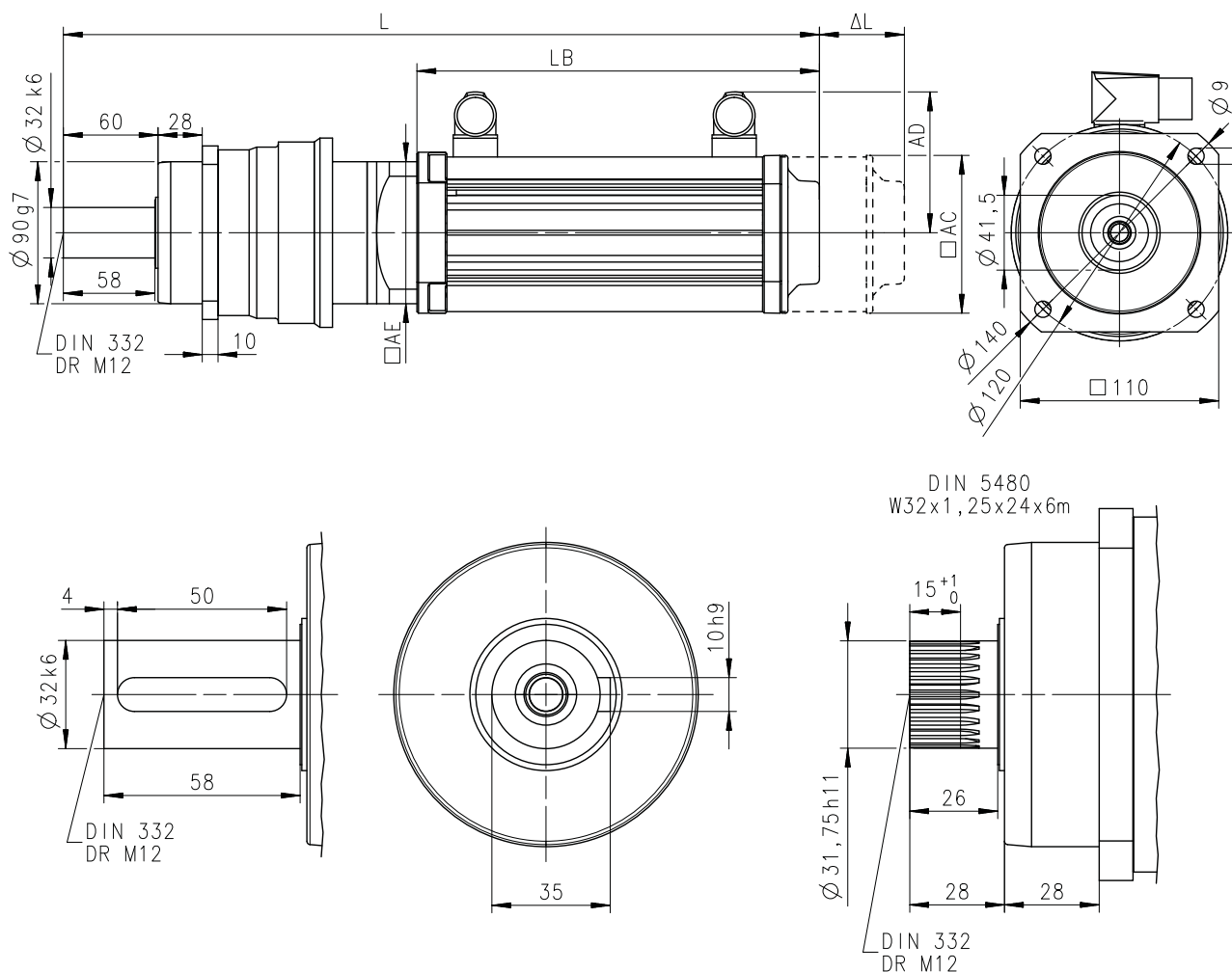
Planetary gearbox g850-P

Basic dimensions



g850-P180 with MCA13

Gearbox design: Solid shaft, without foot with centering, 1-stage

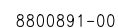


8800891-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	541.5	473.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	120	120



Gearbox design: Solid shaft, without foot with centering, 2-stage

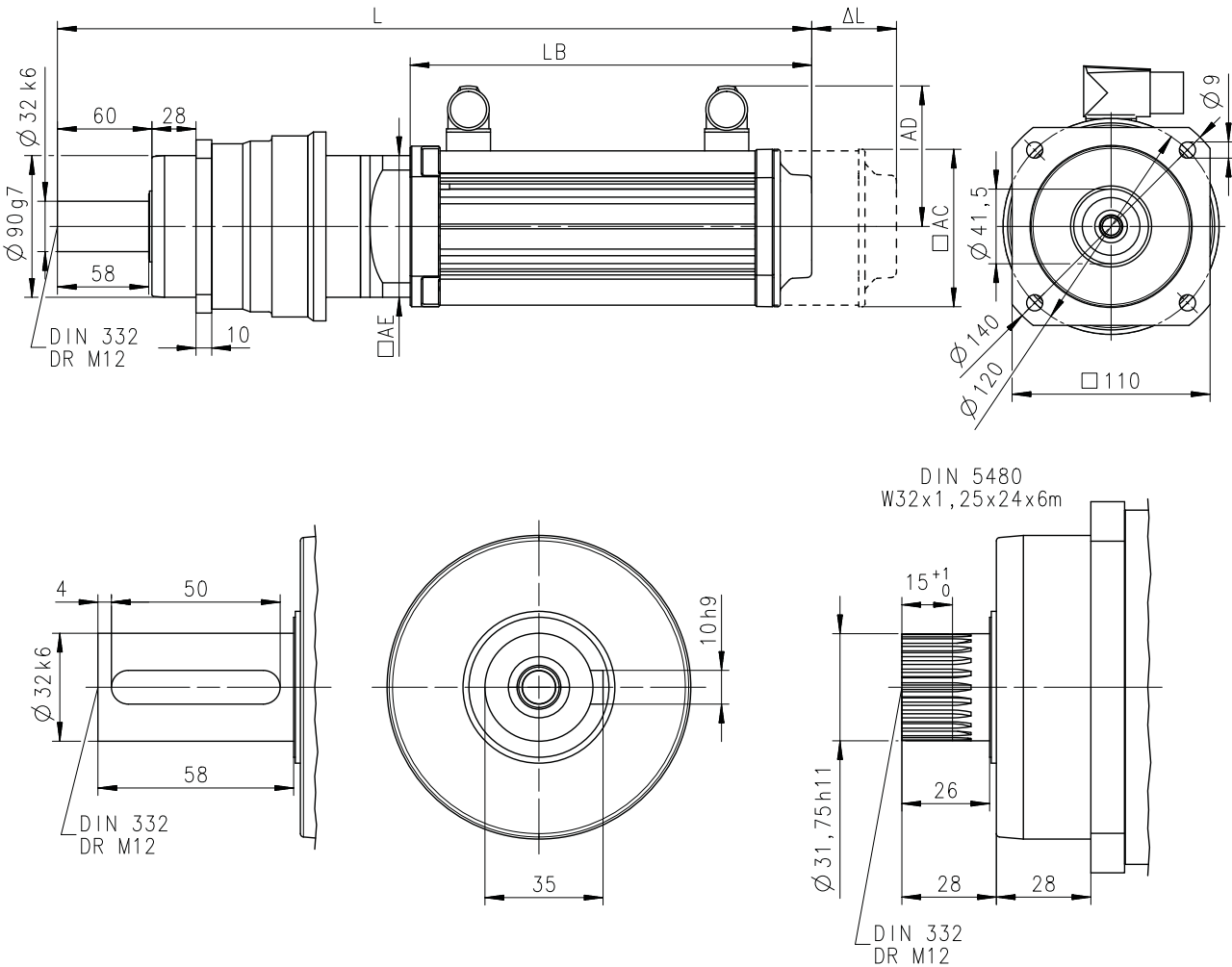
223

Technical data

Planetary gearbox g850-P
Basic dimensions



g850-P180 with MCA14
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800891-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	566.5	504.5	566.5	504.5
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

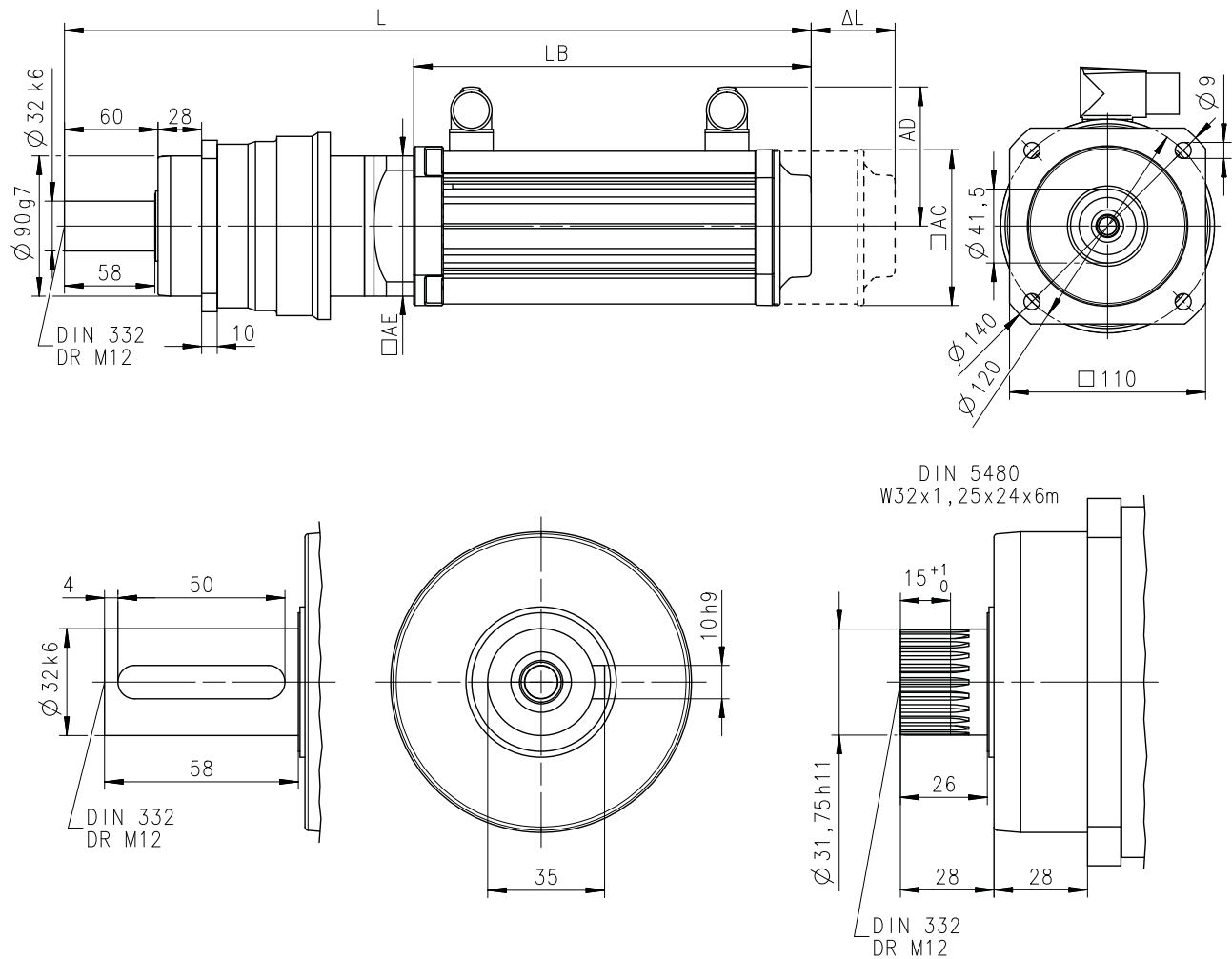


Technical data

Planetary gearbox g850-P
Basic dimensions

g850-P180 with MCA14

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800891-00

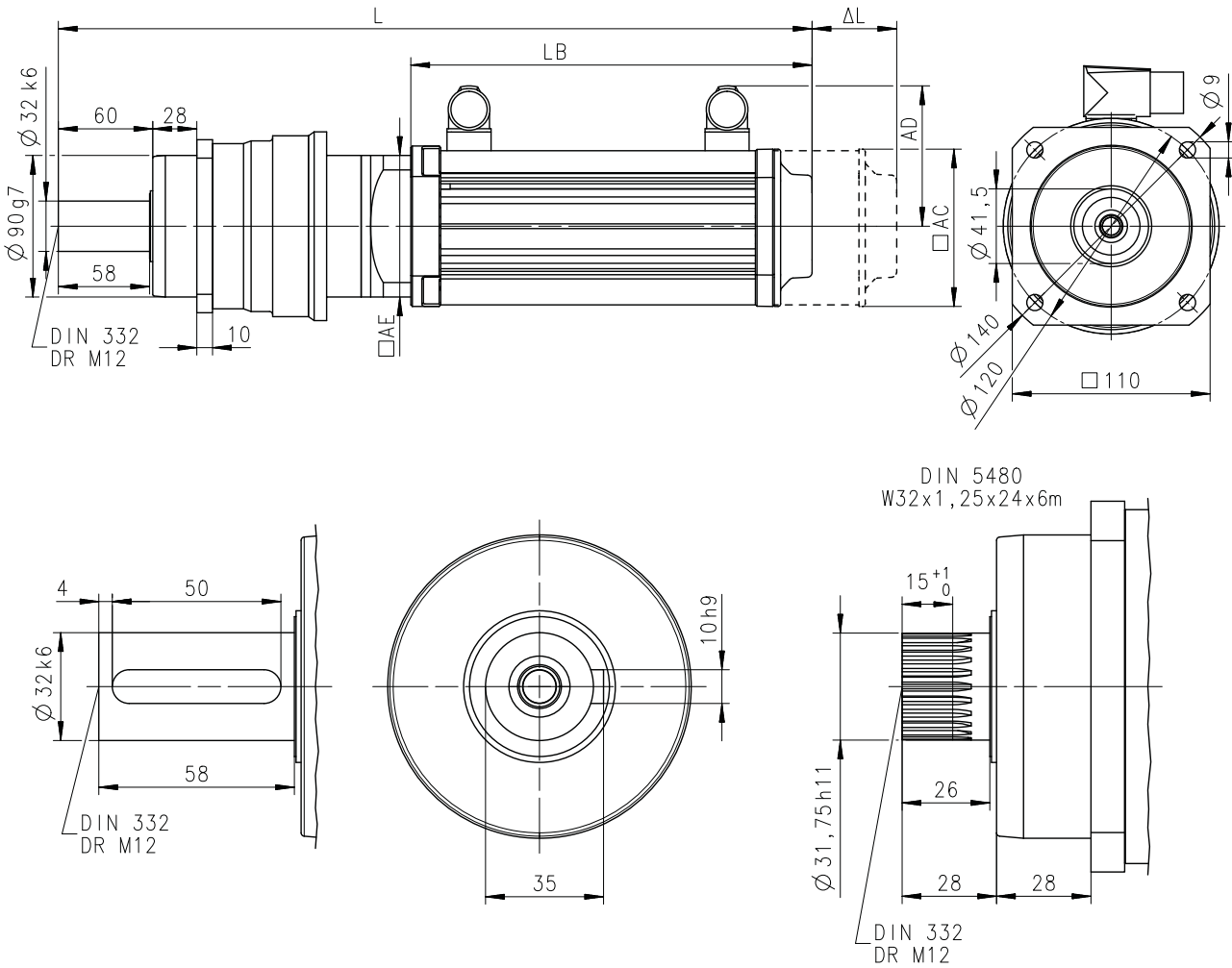
Motor			MCA 14	
			L20-	L41-
Total length	L	mm	526	526
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	142	142

Technical data

Planetary gearbox g850-P
Basic dimensions



g850-P180 with MCA17
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800891-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	628.5	542.5	628.5	542.5
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

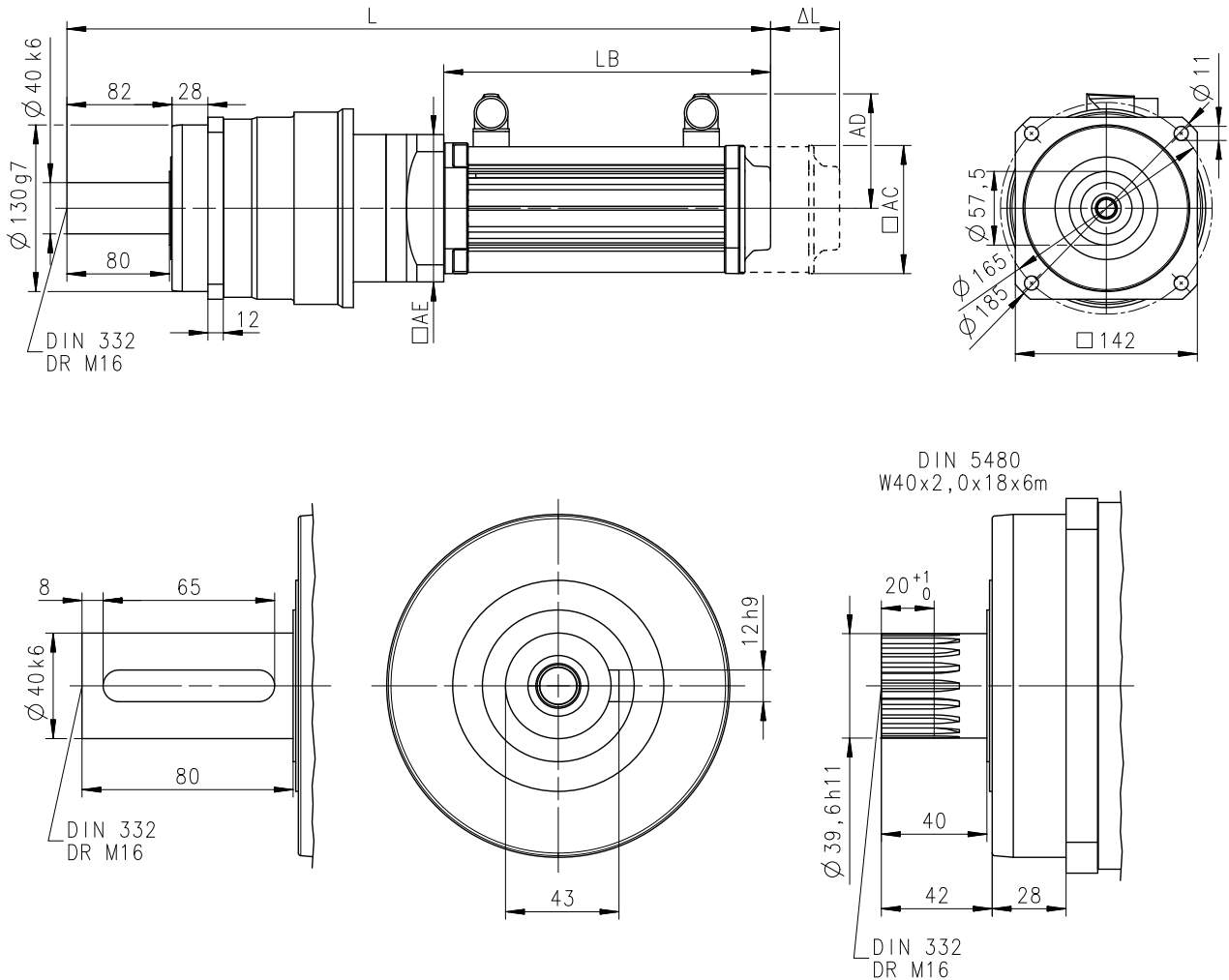


Technical data

Planetary gearbox g850-P
Basic dimensions

g850-P470 with MCA10

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800892-00

Motor			MCA 10
			I40-
Total length	L	mm	554.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

Planetary gearbox g850-P

Basic dimensions

[illegible]

Motor			MCA 13
			I34-
Total length	L	mm	600.5
Motor length	LB	mm	339
Motor diameter	AC	mm	130
Motor/connection distance	AD	mm	102
Gearbox diameter	AE	mm	150

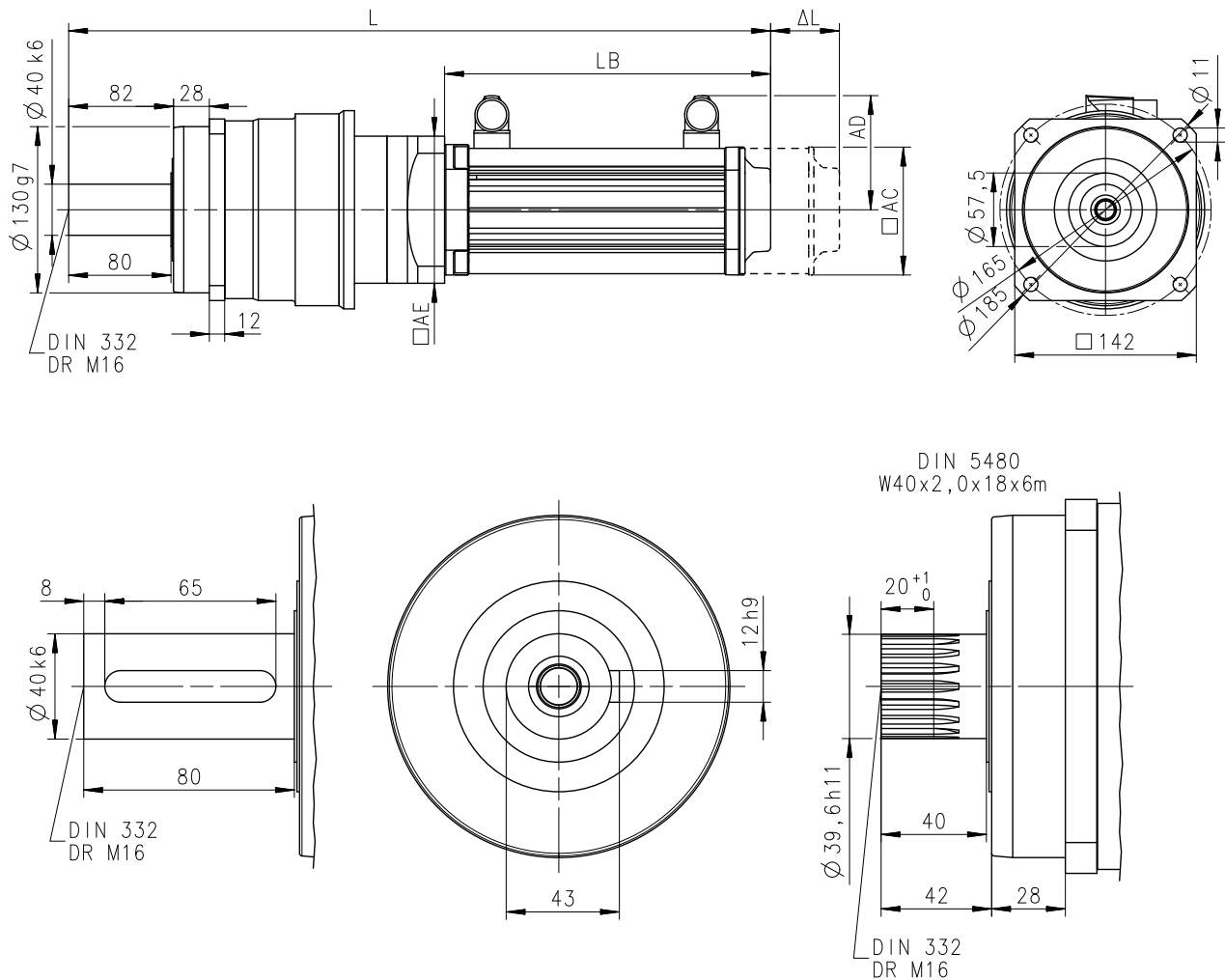


Technical data

Planetary gearbox g850-P
Basic dimensions

g850-P470 with MCA13

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800892-00

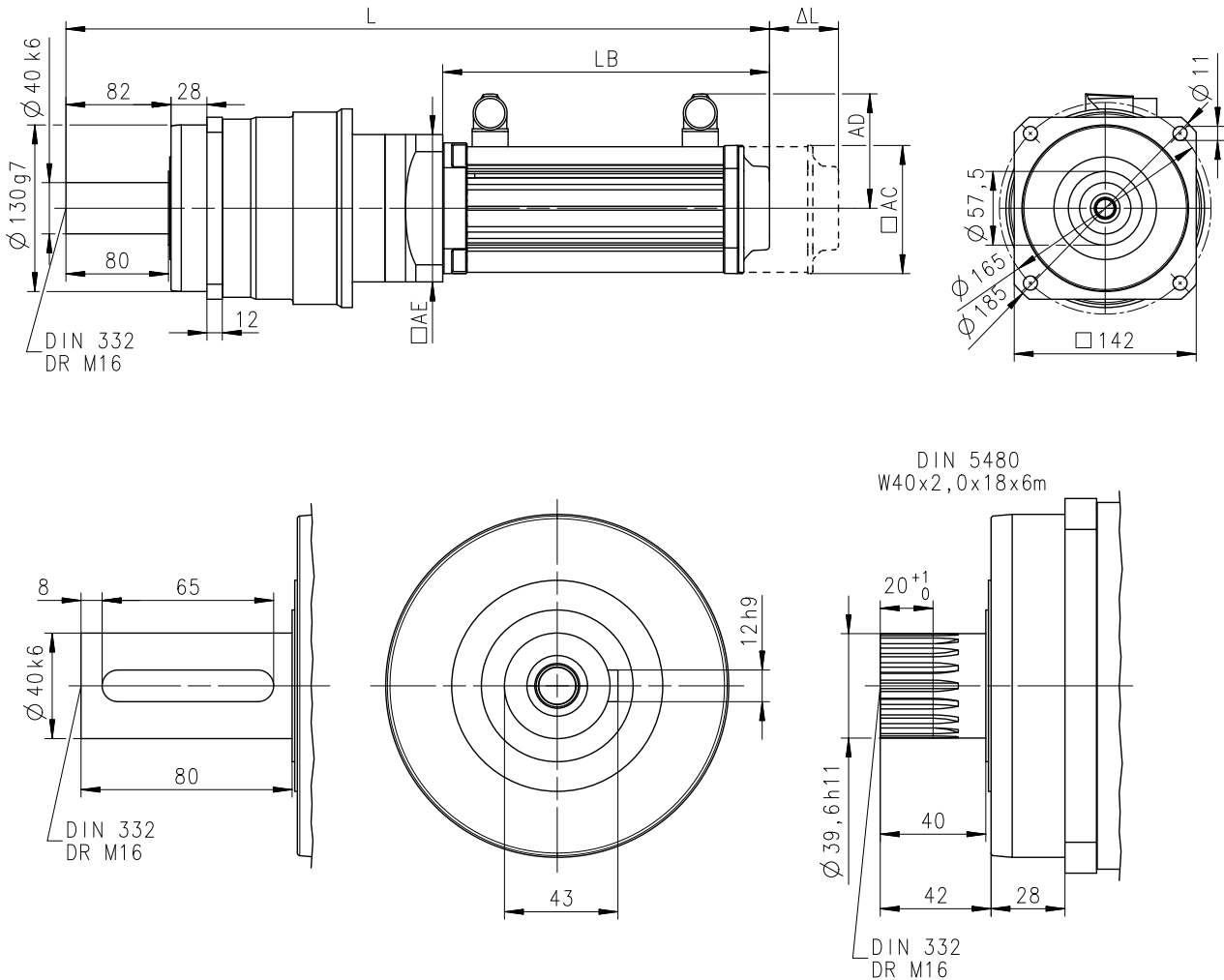
Motor			MCA 13	
			I34-	I41-
Total length	L	mm	631.5	563.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	120	120

Technical data

Planetary gearbox g850-P
Basic dimensions



g850-P470 with MCA14
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800892-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	625.5	563.5	625.5	563.5
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	150	150	150	150

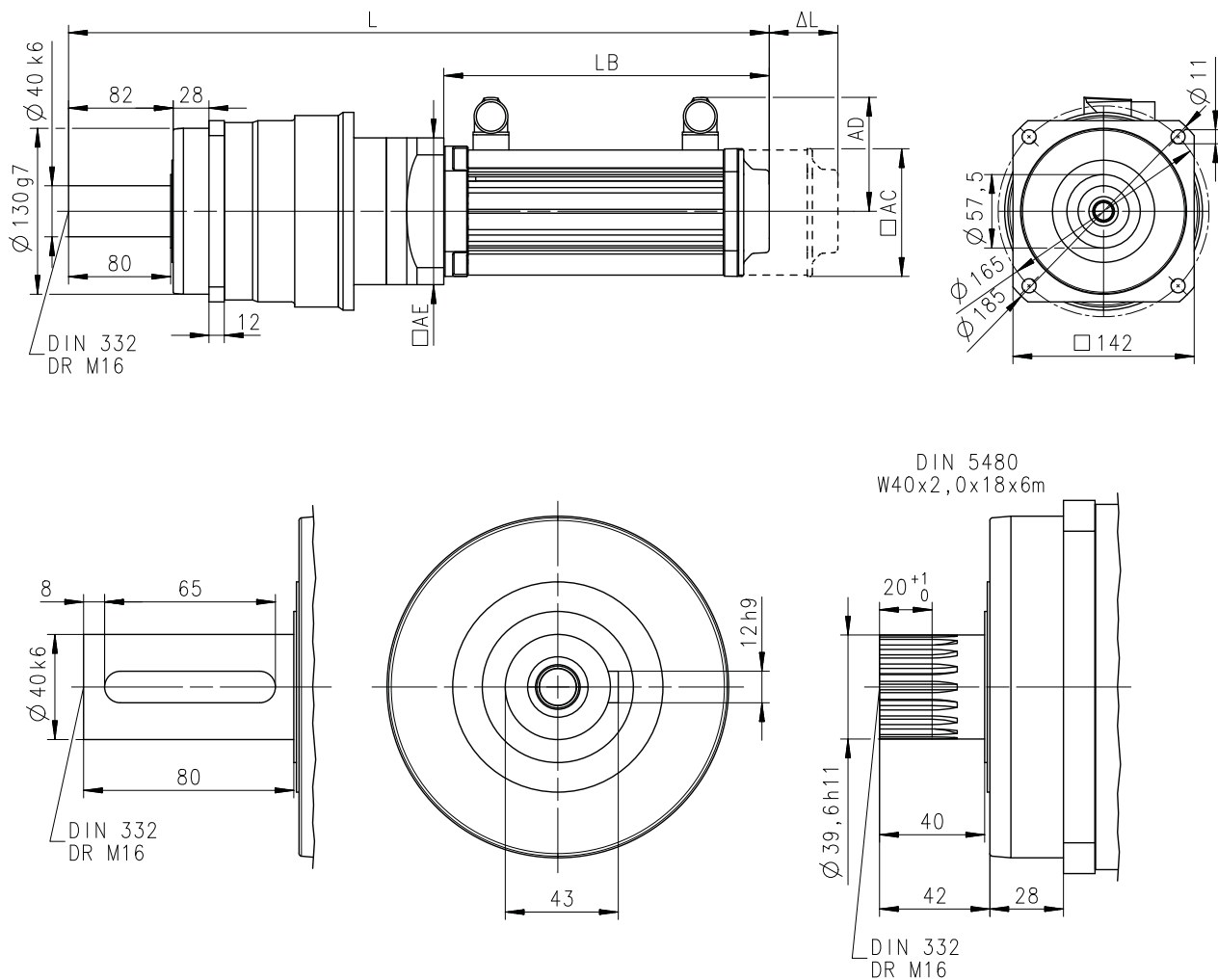


Technical data

Planetary gearbox g850-P
Basic dimensions

g850-P470 with MCA14

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800892-00

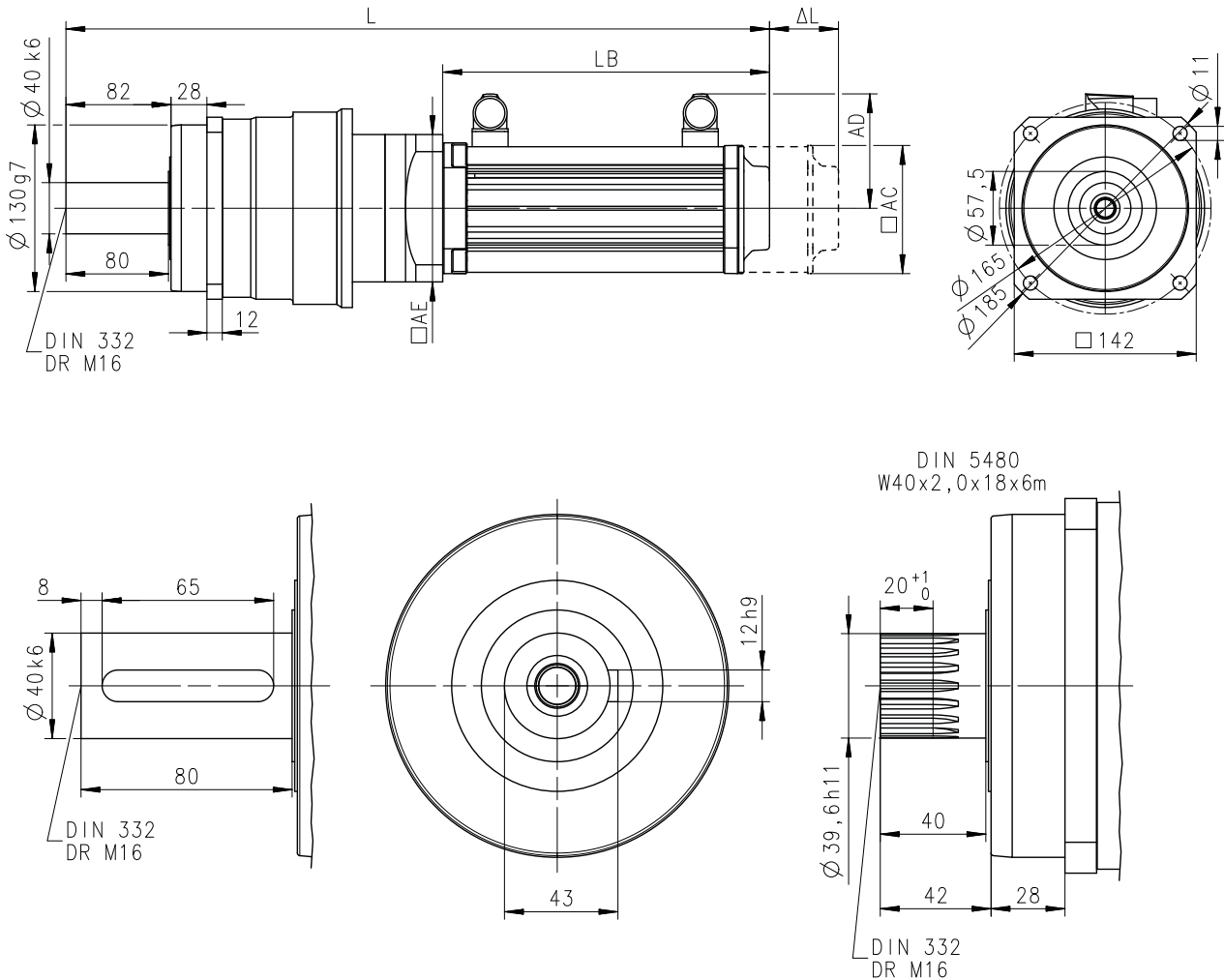
Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	656.5	594.5	656.5	594.5
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

Technical data

Planetary gearbox g850-P
Basic dimensions



g850-P470 with MCA17
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800892-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	687.5	601.5	687.5	601.5
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	150	150	150	150

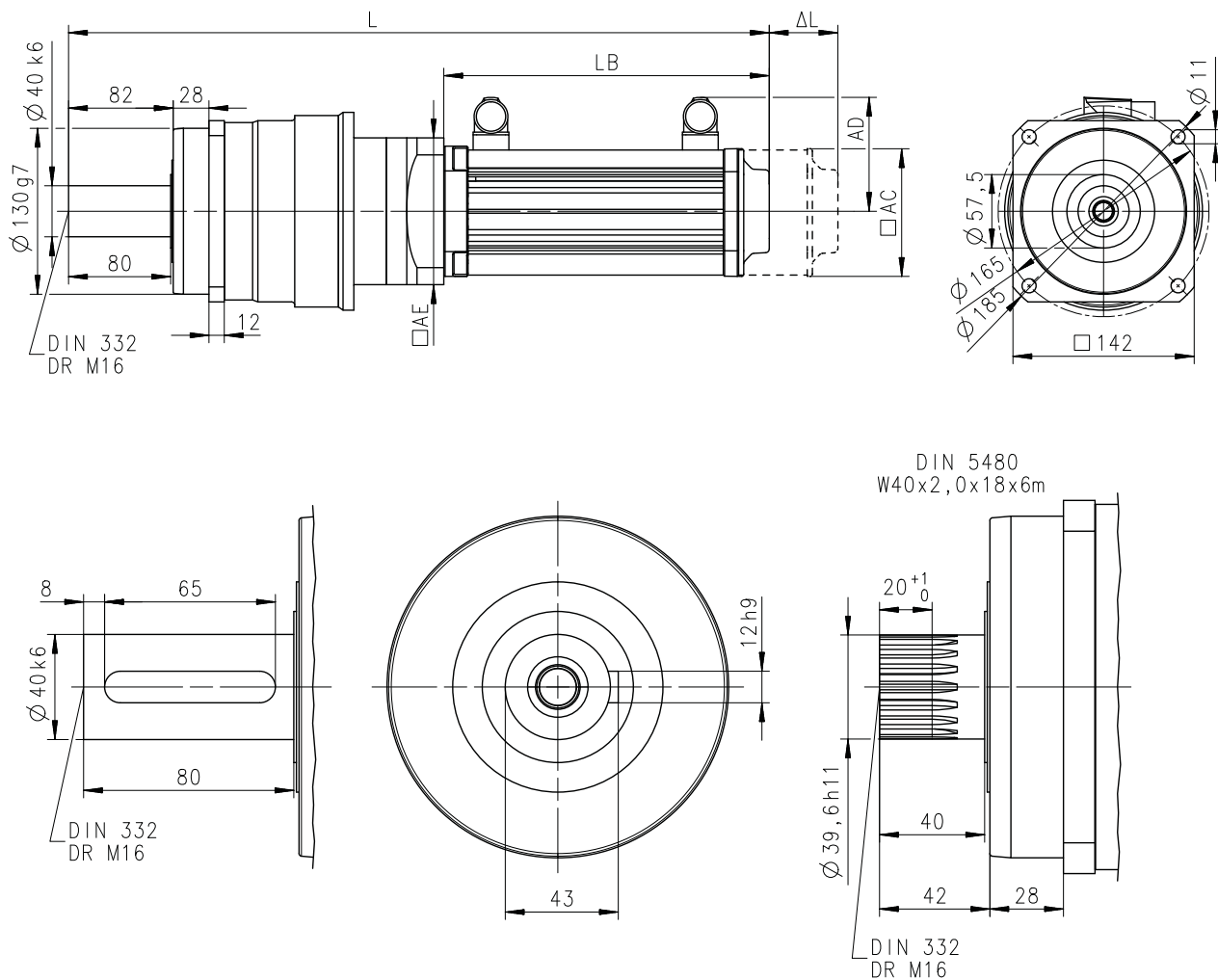


Technical data

Planetary gearbox g850-P
Basic dimensions

g850-P470 with MCA17

Gearbox design: Solid shaft, without foot with centering, 2-stage



8800892-00

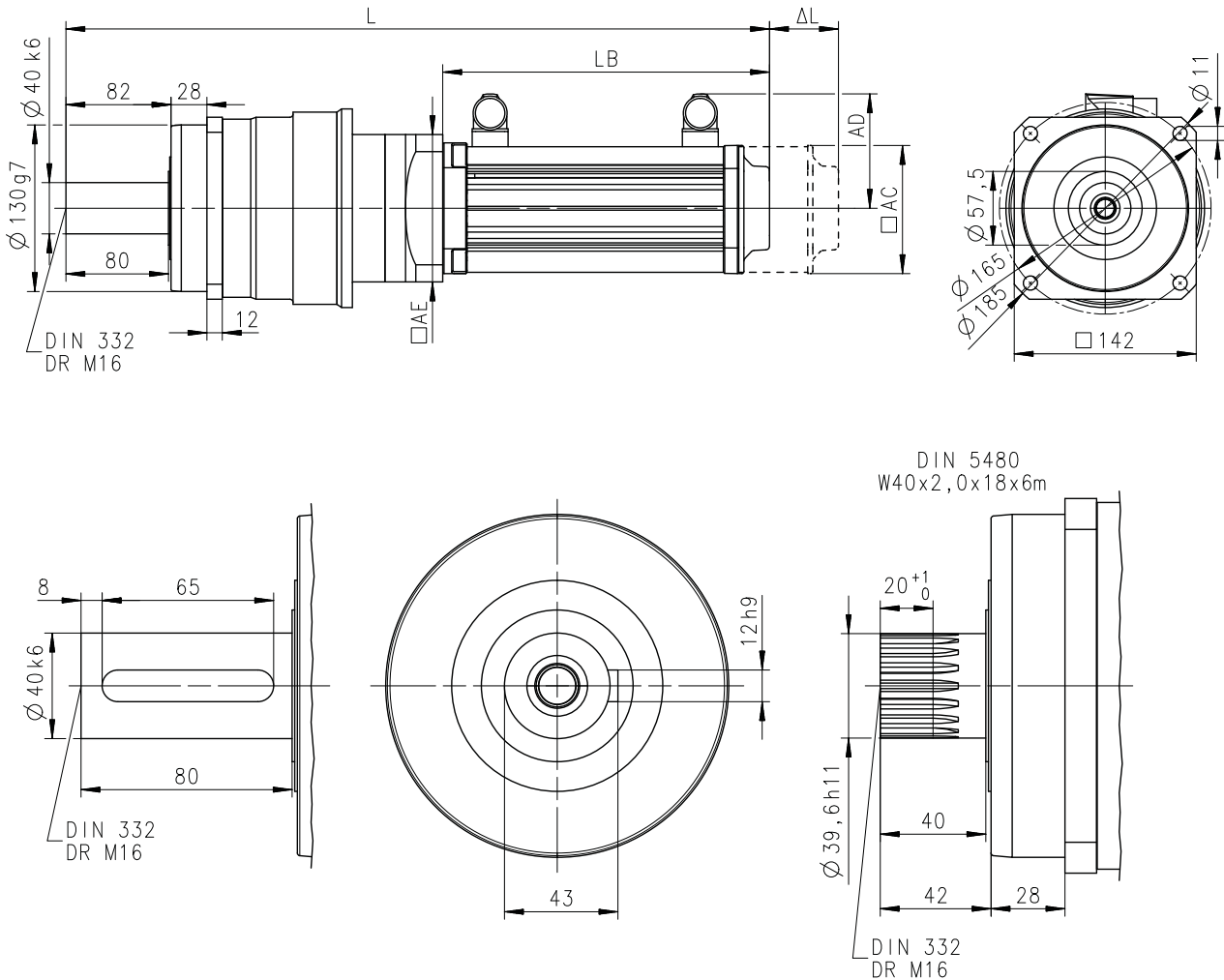
Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	718.5	632.5	718.5	632.5
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

Technical data

Planetary gearbox g850-P
Basic dimensions



g850-P470 with MCA19
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800892-00

Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	759.5	662.5	759.5	662.5
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190

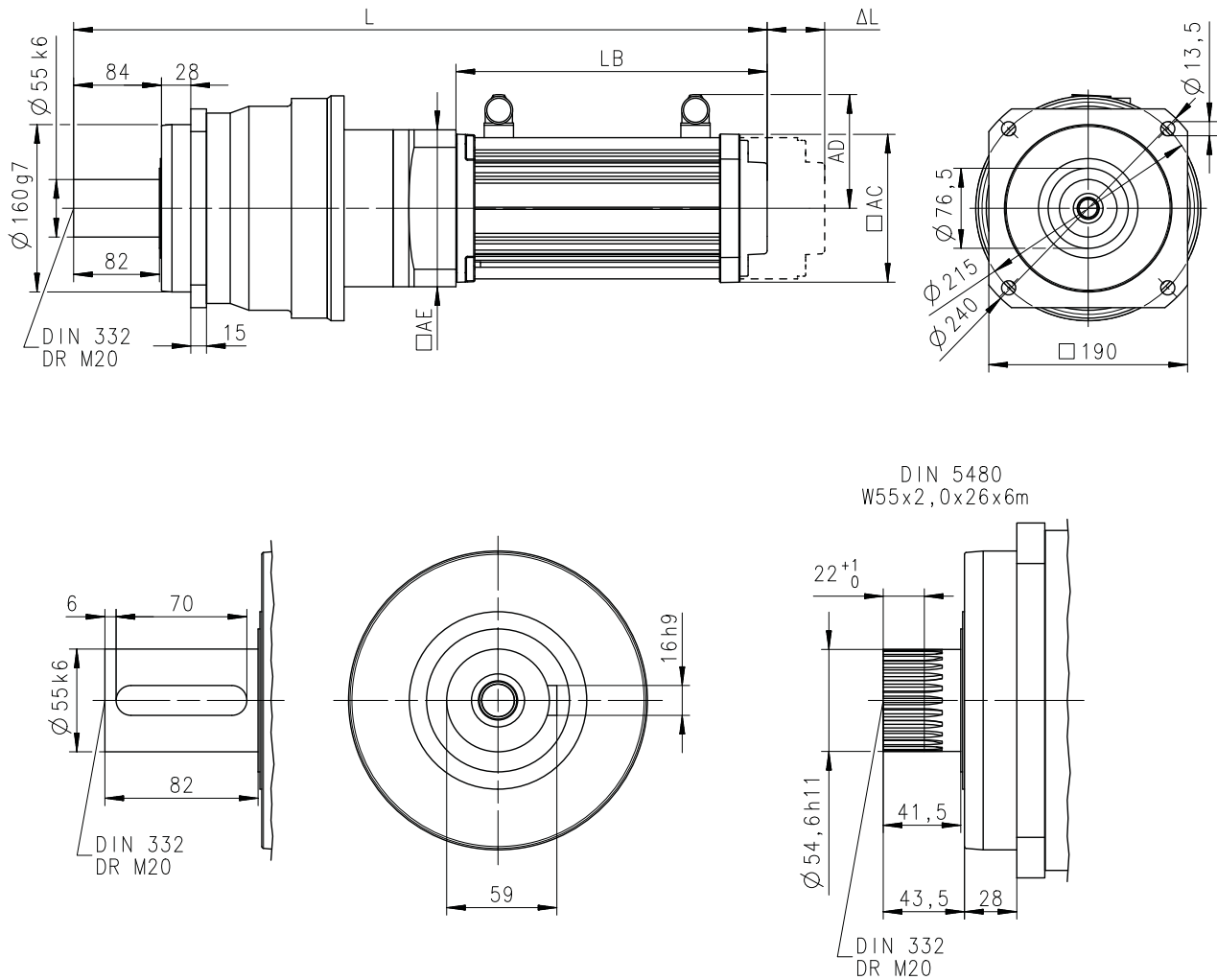


Technical data

Planetary gearbox g850-P
Basic dimensions

g850-P950 with MCA13

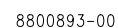
Gearbox design: Solid shaft, without foot with centering, 2-stage



8800893-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	694.5	626.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	150	150

Gearbox design: Solid shaft, without foot with centering, 2-stage

236



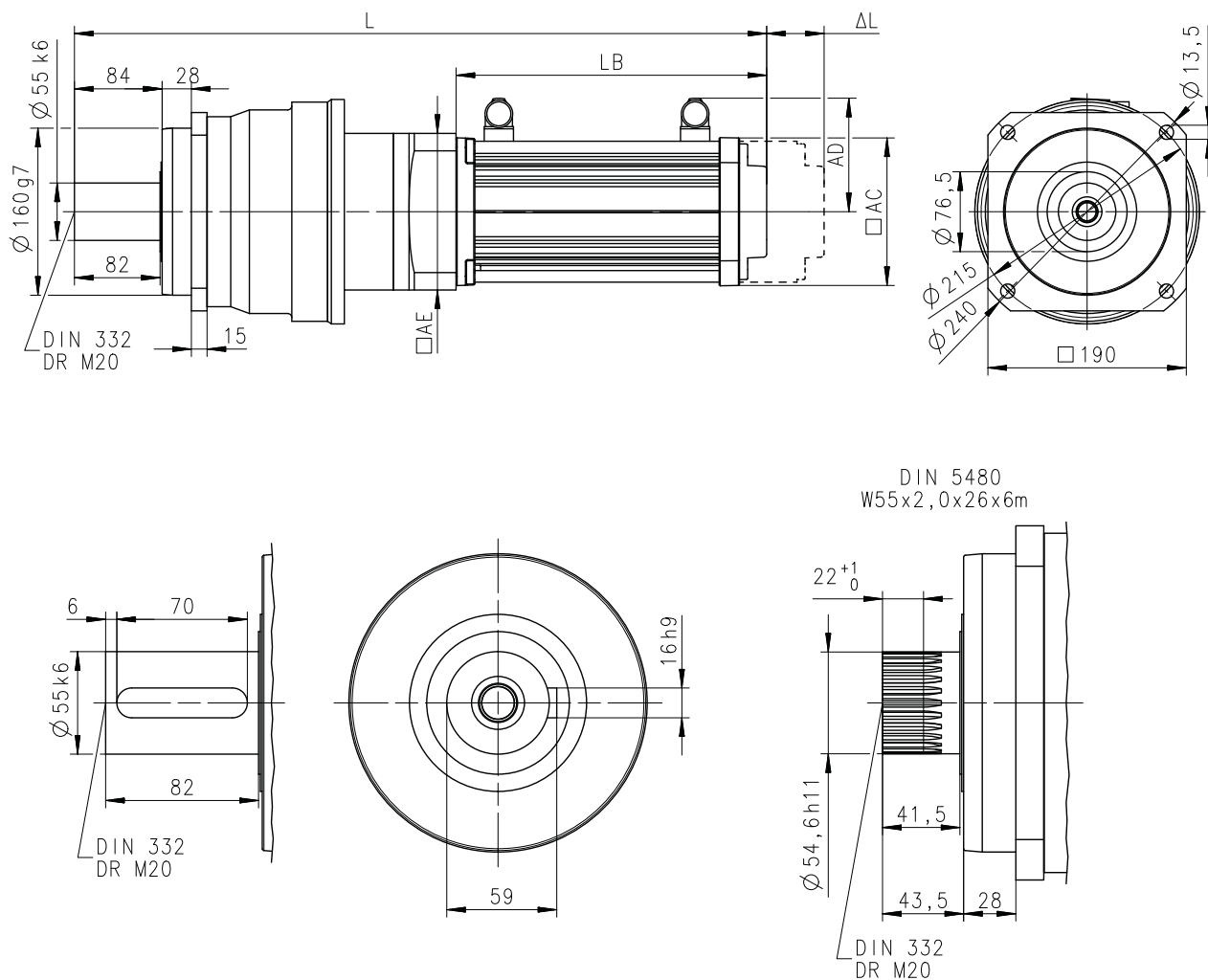
Technical data

Planetary gearbox g850-P

Basic dimensions

g850-P950 with MCA17

Gearbox design: Solid shaft, without foot with centering, 1-stage

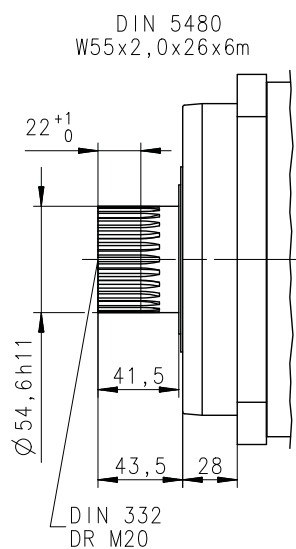


8800893-00

Motor			MCA 17	
			N17-	N35-
Total length	L	mm	736.5	736.5
Motor length	LB	mm	426	426
Motor diameter	AC	mm	165	165
Motor/connection distance	AD	mm	118	118
Gearbox diameter	AE	mm	210	210

Planetary gearbox g850-P

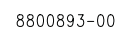
Basic dimensions



Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	781.5	695.5	781.5	695.5
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	150	150	150	150



Gearbox design: Solid shaft, without foot with centering, 1-stage

239

Planetary gearbox g850-P

Basic dimensions



DIN 5480
W55x2,0x26x6m

22⁺¹₀

54,6 mm

41,5

43,5

28

DIN 332
DR M20

240

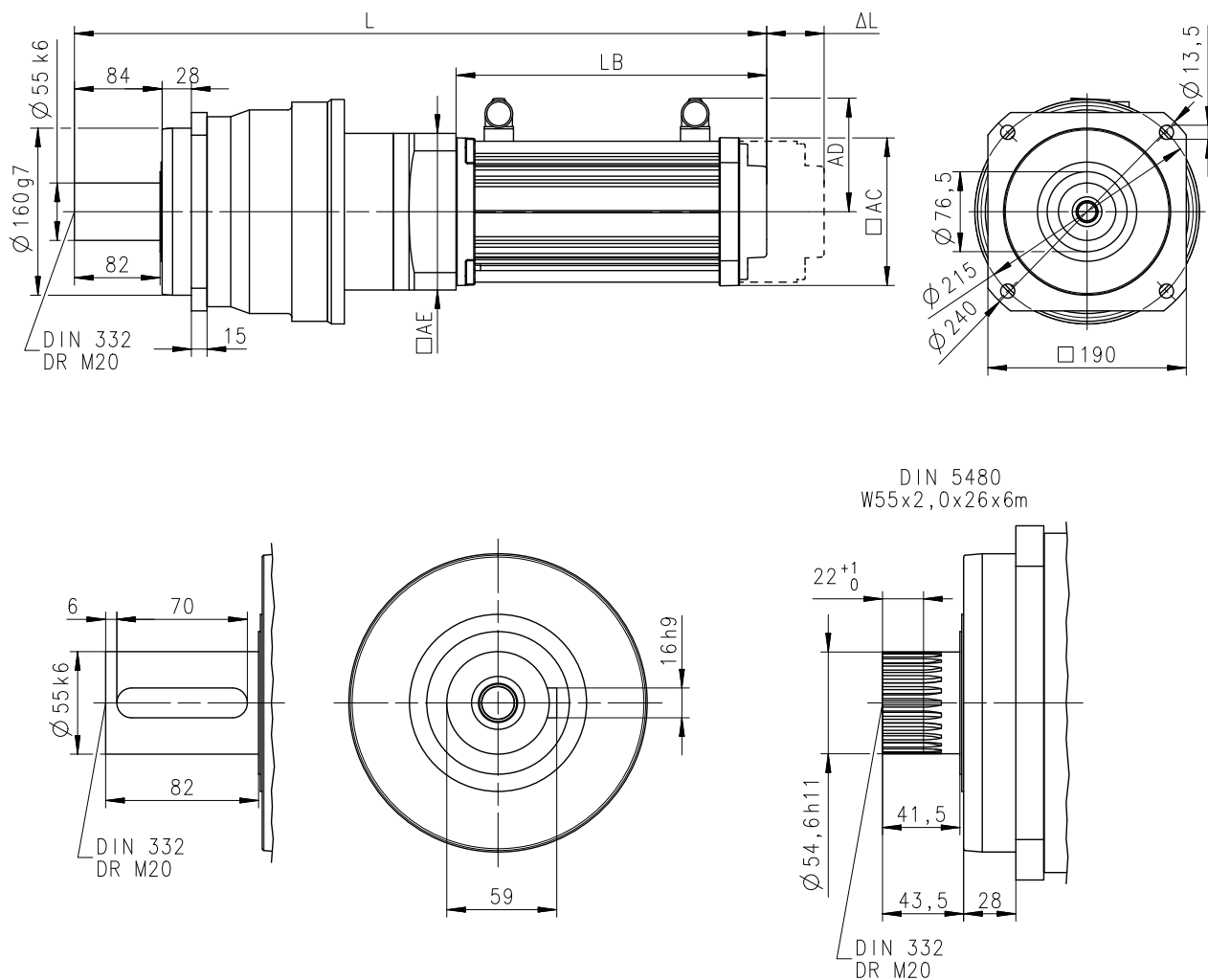


Technical data

Planetary gearbox g850-P
Basic dimensions

g850-P950 with MCA20

Gearbox design: Solid shaft, without foot with centering, 1-stage



8800893-00

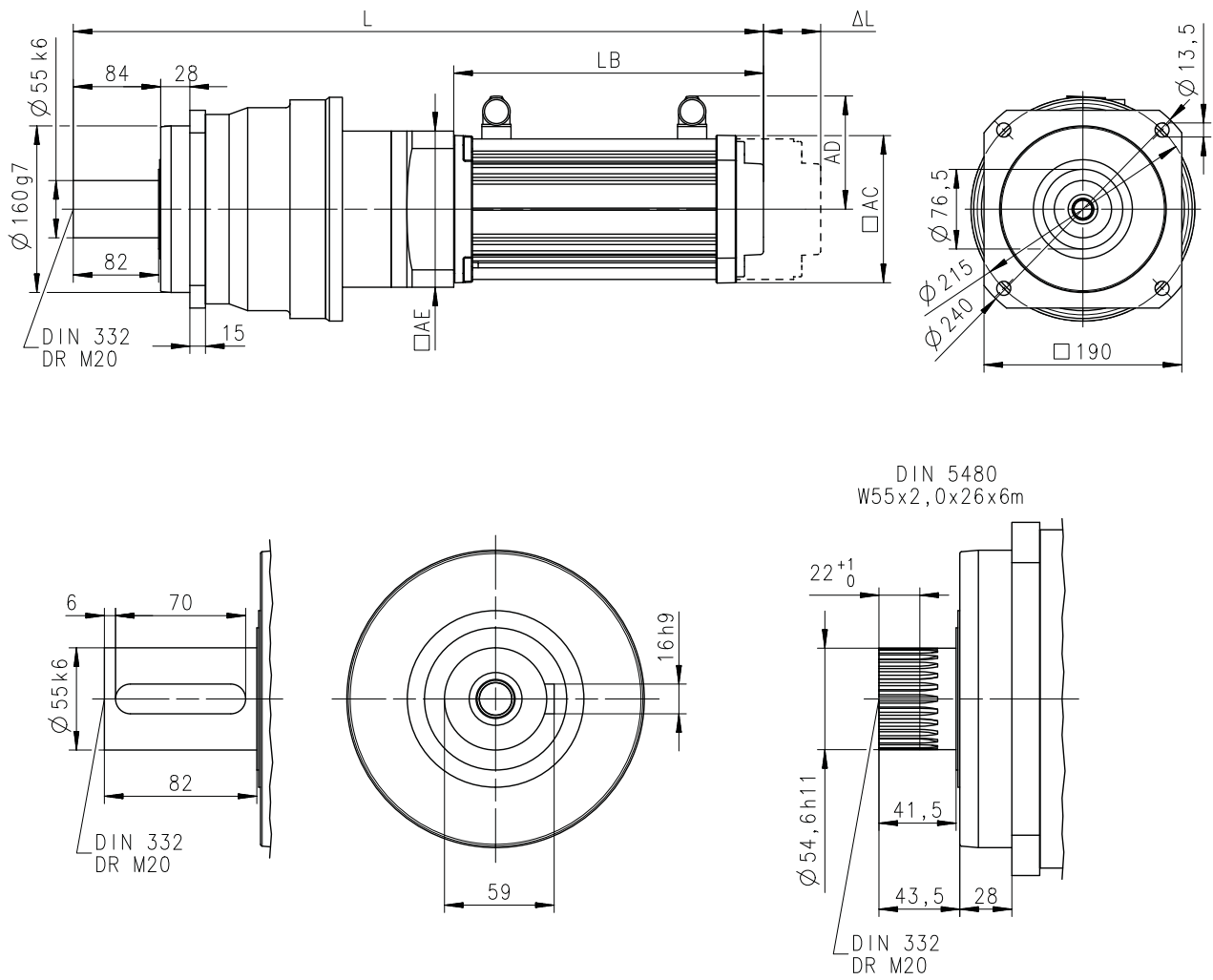
Motor			MCA 20	
			X14H	X29H
Total length	L	mm	916.5	916.5
Motor length	LB	mm	586	586
Motor diameter	AC	mm	196	196
Motor/connection distance	AD	mm	171	171
Gearbox diameter	AE	mm	210	210

Technical data

Planetary gearbox g850-P
Basic dimensions



g850-P950 with MCA21
Gearbox design: Solid shaft, without foot with centering, 1-stage



8800893-00

Motor			MCA 21			
			X17-	X25-	X35-	X42-
Total length	L	mm	896.5	800.5	896.5	800.5
Motor length	LB	mm	566	470	566	470
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162
Gearbox diameter	AE	mm	210	210	210	210



Technical data

Planetary gearbox g870-P
The modular system

Planetary gearbox g870-P

The modular system

g870-P planetary gearbox with MCA asynchronous servo motor

Gearboxes		g870-P77	g870-P150	g870-P300	g870-P1000	g870-P1800
Min. motor assignment		MCA10	MCA10	MCA10	MCA10	MCA13
Max. motor assignment		MCA10	MCA14	MCA17	MCA19	MCA21
Technical data						
Max. output torque	Nm	77	150	300	1000	1800
Min. drive torque	Nm	0.8	0.8	0.8	0.8	6.3
Max. drive torque	Nm	0.8	12	21.5	36	???
Mounting position		Any				
Color		Primed Painted in RAL colors				
Surface and corrosion protection		OKS-G Different types of OKS				
Output shaft						
Flange output shaft with dowel hole	mm	20 x 4.5	31.5 x 6.5	40 x 6.5	50 x 6.5	80 x 10
Flange output shaft	mm	20 x 4.5	31.5 x 6.5	40 x 6.5	50 x 6.5	80 x 10
Shaft material		Steel				
Shaft sealing ring material		NBR				
Gearbox design		Without foot with centering				
Gearbox stages		1/2	1/2	1/2	1/2	1/2
Output flange	mm	64	90	110	140	200
Lubricant		Standard Food-compatible				
Cooling		Self-ventilated Forced-ventilated				
Motor connection		ICN connector Terminal box				
Holding brake		Without Permanent magnet brake Spring-applied brake				
Feedback						
Without functional safety		Resolver Absolute value encoder Incremental encoder				
With functional safety		Resolver Incremental encoder				
Temperature monitoring		PT1000 temperature sensor				

Technical data

Planetary gearbox g870-P
Data overview



Data overview

g870-P77, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
4	60.0	3	13
5	65.0	3	15
7	45.0	3	10
8	40.0	3	10
10	27.0	3	8

g870-P77, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
16	77.0	5	14
20	77.0	5	14
25	65.0	5	15
32	77.0	5	13

g870-P150, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
4	140	3	35
5	140	3	40
7	90.0	3	27
8	80.0	3	27
10	60.0	3	22

g870-P150, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
16	150	5	33
20	150	5	33
25	140	5	38
32	150	5	32
40	140	5	37
50	130	5	35

g870-P300, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
4	300	3	77
5	260	3	92
7	180	3	60
8	150	3	60
10	125	3	59



Technical data

Planetary gearbox g870-P

Data overview

g870-P300, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
16	300	5	75
20	300	5	76
25	260	5	91
32	300	5	73
40	260	5	88
50	260	5	86
64	150	5	59

g870-P1000, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
4	600	3	211
5	750	3	255
8	450	3	173
7	530	3	190
10	305	3	156

g870-P1000, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
16	1000	5	223
20	1000	5	231
25	900	5	264
32	600	5	212
40	750	5	251
50	620	5	241
64	450	5	182
100	305	5	177

g870-P1800, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
4	1300	3	520
5	1600	3	636
7	1300	3	429
8	1000	3	420
10	630	3	330

Technical data

Planetary gearbox g870-P
Radial forces and axial forces



g870-P1800, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
16	1800	5	532
20	1800	5	543
25	1800	5	656
32	1800	5	517
40	1800	5	633
50	1525	5	614
64	1000	5	442
100	630	5	391

Radial forces and axial forces

Gearbox			g870-P77	g870-P150	g870-P300	g870-P1000	g870-P1800
Bearing service life 20000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	rated	2150	3950	4900	12000	33000
Axial force	F_{ax}	rated	4300	8200	9500	8500	15000
Bearing service life 30000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	rated	1900	3500	4350	11000	29500
Axial force	F_{ax}	rated	3800	7200	8400	7500	13500
Max. radial force	$F_{\text{rad, max}}$	rated	2150	3950	4900	12000	33000
Max. axial force	$F_{\text{ax, max}}$	rated	4300	8200	9500	8500	15000



Technical data

Planetary gearbox g870-P
Selection tables

Selection tables

Inverter power supply 400 V, self-ventilated motors

0.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
6.9	988	4.6	60.0	494	2.688	4	P77	10I40-	1	7.9
8.9	790	3.8	65.0	395	2.656	5	P77	10I40-	1	7.9
13.0	564	3.0	45.0	282	2.631	7	P77	10I40-	1	7.9
13.0	494	5.2	80.0	247	3.013	8	P150	10I40-	1	9.4
15.0	494	2.6	40.0	247	2.625	8	P77	10I40-	1	7.9
18.0	395	1.5	27.0	198	2.617	10	P77	10I40-	1	7.9
18.0	395	3.2	60.0	198	2.980	10	P150	10I40-	1	9.4
25.0	247	4.1	150	123	2.669	16	P150	10I40-	2	10
30.0	247	1.8	77.0	123	2.643	16	P77	10I40-	2	8.6
33.0	198	3.5	150	99.0	2.642	20	P150	10I40-	2	10
35.0	158	5.5	260	79.0	3.039	25	P300	10I40-	2	14
38.0	198	1.5	77.0	99.0	2.628	20	P77	10I40-	2	8.6
44.0	158	3.0	140	79.0	2.637	25	P150	10I40-	2	10
46.0	158	1.3	65.0	79.0	2.626	25	P77	10I40-	2	8.6
48.0	123	4.8	300	62.0	2.974	32	P300	10I40-	2	14
58.0	123	2.5	150	62.0	2.619	32	P150	10I40-	2	10
59.0	123	1.1	77.0	62.0	2.613	32	P77	10I40-	2	8.6
67.0	98.8	3.5	260	49.0	2.955	40	P300	10I40-	2	14
74.0	98.8	1.9	140	49.0	2.614	40	P150	10I40-	2	10
89.0	79.0	2.8	260	40.0	2.951	50	P300	10I40-	2	14
92.0	79.0	1.4	130	40.0	2.612	50	P150	10I40-	2	10
104	61.7	3.8	450	31.0	4.396	64	P1000	10I40-	2	22
116	61.7	1.3	150	31.0	2.962	64	P300	10I40-	2	14
178	39.5	1.7	305	20.0	4.351	100	P1000	10I40-	2	22

Technical data

Planetary gearbox g870-P
Selection tables



1.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
24.0	500	3.9	140	250	20.571	4	P150	14L20-	1	36
31.0	400	3.2	140	200	20.404	5	P150	14L20-	1	36
41.0	286	4.0	180	143	21.399	7	P300	14L20-	1	40
45.0	286	2.0	90.0	143	20.290	7	P150	14L20-	1	36
49.0	250	2.9	150	125	21.320	8	P300	14L20-	1	40
51.0	250	1.6	80.0	125	20.263	8	P150	14L20-	1	36
57.0	200	4.8	305	100	26.513	10	P1000	14L20-	1	47
64.0	200	2.0	125	100	21.236	10	P300	14L20-	1	40
95.0	125	2.8	300	63.0	21.369	16	P300	14L20-	2	41
115	80.0	5.6	900	40.0	21.505	25	P1000	14L20-	2	49
123	100	2.3	300	50.0	21.238	20	P300	14L20-	2	41
157	80.0	1.6	260	40.0	21.222	25	P300	14L20-	2	41
187	62.5	3.0	600	31.0	21.266	32	P1000	14L20-	2	49
202	62.5	1.5	300	31.0	21.125	32	P300	14L20-	2	41
234	50.0	3.0	750	25.0	21.192	40	P1000	14L20-	2	49
249	40.0	4.8	1525	20.0	26.302	50	P1800	14L20-	2	76
252	50.0	1.0	260	25.0	21.106	40	P300	14L20-	2	41
315	40.0	2.0	620	20.0	21.177	50	P1000	14L20-	2	49
387	31.3	2.5	1000	16.0	26.441	64	P1800	14L20-	2	76
399	31.3	1.1	450	16.0	21.196	64	P1000	14L20-	2	49
590	20.0	1.1	630	10.0	26.111	100	P1800	14L20-	2	76

1.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
13.0	1013	5.2	140	506	9.220	4	P150	13I41-	1	13
17.0	810	4.4	140	405	9.053	5	P150	13I41-	1	13
25.0	579	3.4	90.0	289	8.939	7	P150	13I41-	1	13
27.0	506	4.9	150	253	10.420	8	P300	13I41-	1	17
30.0	506	2.6	80.0	253	8.913	8	P150	13I41-	1	13
36.0	405	3.3	125	203	10.336	10	P300	13I41-	1	17
38.0	405	1.6	60.0	203	8.880	10	P150	13I41-	1	13
52.0	253	3.8	300	127	9.037	16	P300	13I41-	2	18
68.0	203	3.3	300	101	8.954	20	P300	13I41-	2	18
89.0	162	2.7	260	81.0	8.939	25	P300	13I41-	2	18
94.0	127	4.9	600	63.0	10.366	32	P1000	13I41-	2	26
117	127	2.4	300	63.0	8.874	32	P300	13I41-	2	18
118	101	4.9	750	51.0	10.292	40	P1000	13I41-	2	26
150	101	1.7	260	51.0	8.855	40	P300	13I41-	2	18
170	81.0	3.3	620	41.0	10.277	50	P1000	13I41-	2	26
188	81.0	1.4	260	41.0	8.851	50	P300	13I41-	2	18
200	63.3	4.3	1000	32.0	15.541	64	P1800	13I41-	2	53
238	63.3	1.9	450	32.0	10.296	64	P1000	13I41-	2	26
352	40.5	1.8	630	20.0	15.211	100	P1800	13I41-	2	53



Technical data

Planetary gearbox g870-P
Selection tables

2.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
19.0	1025	3.9	140	484	20.571	4	P150	14L41-	1	36
25.0	820	3.2	140	410	20.404	5	P150	14L41-	1	36
32.0	586	4.8	180	293	21.399	7	P300	14L41-	1	40
36.0	586	2.5	90.0	293	20.290	7	P150	14L41-	1	36
39.0	513	3.6	150	256	21.320	8	P300	14L41-	1	40
41.0	513	1.9	80.0	256	20.263	8	P150	14L41-	1	36
43.0	410	6.0	305	205	26.513	10	P1000	14L41-	1	47
51.0	410	1.2	60.0	205	20.230	10	P150	14L41-	1	36
51.0	410	2.4	125	205	21.236	10	P300	14L41-	1	40
76.0	256	2.8	300	128	21.369	16	P300	14L41-	2	41
98.0	205	2.4	300	103	21.238	20	P300	14L41-	2	41
127	164	2.0	260	82.0	21.222	25	P300	14L41-	2	41
142	128	3.7	600	64.0	21.266	32	P1000	14L41-	2	49
162	128	1.8	300	64.0	21.125	32	P300	14L41-	2	41
178	103	3.7	750	51.0	21.192	40	P1000	14L41-	2	49
179	82.0	6.0	1525	41.0	26.302	50	P1800	14L41-	2	76
203	103	1.3	260	51.0	21.106	40	P300	14L41-	2	41
245	82.0	2.4	620	41.0	21.177	50	P1000	14L41-	2	49
254	82.0	1.0	260	41.0	21.100	50	P300	14L41-	2	41
297	64.1	3.2	1000	32.0	26.441	64	P1800	14L41-	2	76
321	64.1	1.4	450	32.0	21.196	64	P1000	14L41-	2	49
475	41.0	1.3	630	21.0	26.111	100	P1800	14L41-	2	76

2.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
37.0	575	4.4	300	288	38.942	4	P300	17N23-	1	47
48.0	460	3.7	260	230	38.535	5	P300	17N23-	1	47
71.0	329	2.5	180	164	38.199	7	P300	17N23-	1	47
71.0	288	5.4	450	144	43.810	8	P1000	17N23-	1	55
83.0	288	1.8	150	144	38.120	8	P300	17N23-	1	47
99.0	230	3.0	305	115	43.313	10	P1000	17N23-	1	55
103	230	1.2	125	115	38.036	10	P300	17N23-	1	47
125	144	5.1	1000	72.0	38.784	16	P1000	17N23-	2	57
167	115	4.4	1000	58.0	38.423	20	P1000	17N23-	2	57
226	92.0	3.5	900	46.0	38.305	25	P1000	17N23-	2	57
241	71.9	5.5	1800	36.0	43.727	32	P1800	17N23-	2	83
325	71.9	1.8	600	36.0	38.066	32	P1000	17N23-	2	57
334	57.5	4.4	1800	29.0	43.240	40	P1800	17N23-	2	83
406	57.5	1.8	750	29.0	37.992	40	P1000	17N23-	2	57
471	46.0	3.0	1525	23.0	43.102	50	P1800	17N23-	2	83
508	46.0	1.2	620	23.0	37.977	50	P1000	17N23-	2	57
636	35.9	1.6	1000	18.0	43.241	64	P1800	17N23-	2	83

Technical data

Planetary gearbox g870-P
Selection tables



4 kW

Inverter operation						i	Geared motor		Number of stages z	Mass m
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g870-	MCA		
Nm	rpm		Nm	rpm	kgcm ²					
97.0	334	4.8	530	167	80.242	7	P1000	19S23-	1	84
117	293	3.6	450	146	79.810	8	P1000	19S23-	1	84
143	234	4.1	630	117	98.880	10	P1800	19S23-	1	105
155	234	2.0	305	117	79.313	10	P1000	19S23-	1	84
223	117	5.7	1800	59.0	81.512	20	P1800	19S23-	2	112
307	93.6	4.7	1800	47.0	80.932	25	P1800	19S23-	2	112
431	73.1	3.6	1800	37.0	79.727	32	P1800	19S23-	2	112
572	58.5	2.9	1800	29.0	79.240	40	P1800	19S23-	2	112
766	46.8	2.0	1525	23.0	79.102	50	P1800	19S23-	2	112
960	36.6	1.0	1000	18.0	79.241	64	P1800	19S23-	2	112

4.1 kW

Inverter operation						i	Geared motor		Number of stages z	Mass m
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g870-	MCA		
Nm	rpm		Nm	rpm	kgcm ²					
33.0	1028	4.2	300	372	38.942	4	P300	17N41-	1	47
43.0	822	3.5	260	361	38.535	5	P300	17N41-	1	47
62.0	587	2.7	180	294	38.199	7	P300	17N41-	1	47
73.0	514	2.1	150	257	38.120	8	P300	17N41-	1	47
86.0	411	3.4	305	206	43.313	10	P1000	17N41-	1	55
90.0	411	1.4	125	206	38.036	10	P300	17N41-	1	47
112	257	4.9	1000	128	38.784	16	P1000	17N41-	2	57
150	206	4.2	1000	103	38.423	20	P1000	17N41-	2	57
198	164	3.5	900	82.0	38.305	25	P1000	17N41-	2	57
201	128	6.0	1800	64.0	43.727	32	P1800	17N41-	2	83
278	103	5.0	1800	51.0	43.240	40	P1800	17N41-	2	83
284	128	2.1	600	64.0	38.066	32	P1000	17N41-	2	57
355	103	2.1	750	51.0	37.992	40	P1000	17N41-	2	57
401	82.2	3.4	1525	41.0	43.102	50	P1800	17N41-	2	83
447	82.2	1.4	620	41.0	37.977	50	P1000	17N41-	2	57
559	64.2	1.8	1000	32.0	43.241	64	P1800	17N41-	2	83

5.2 kW

Inverter operation						i	Geared motor		Number of stages z	Mass m
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g870-	MCA		
Nm	rpm		Nm	rpm	kgcm ²					
81.0	519	4.9	450	236	79.810	8	P1000	19S42-	1	84
98.0	415	5.5	630	147	98.880	10	P1800	19S42-	1	105
112	415	2.7	305	208	79.313	10	P1000	19S42-	1	84
209	166	5.5	1800	80.0	80.932	25	P1800	19S42-	2	112
288	130	4.7	1800	65.0	79.727	32	P1800	19S42-	2	112
386	104	3.9	1800	52.0	79.240	40	P1800	19S42-	2	112
536	83.0	2.7	1525	42.0	79.102	50	P1800	19S42-	2	112
707	64.8	1.4	1000	32.0	79.241	64	P1800	19S42-	2	112



Technical data

Planetary gearbox g870-P
Selection tables

6.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
163	311	5.3	1000	145	211.231	8	P1800	21X25-	1	96
229	249	2.7	630	125	206.880	10	P1800	21X25-	1	96

7.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
150	416	3.9	630	140	206.880	10	P1800	21X42-	1	96

Technical data

Planetary gearbox g870-P
Selection tables



Inverter power supply 400 V, forced ventilated motors

2.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
42.0	409	4.4	300	204	22.142	4	P300	14L16-	1	41
54.0	327	3.7	260	164	21.735	5	P300	14L16-	1	41
80.0	234	2.2	180	117	21.399	7	P300	14L16-	1	41
81.0	204	4.9	450	102	27.010	8	P1000	14L16-	1	49
92.0	204	1.6	150	102	21.320	8	P300	14L16-	1	41
98.0	164	5.5	630	82.0	46.080	10	P1800	14L16-	1	70
112	164	2.7	305	82.0	26.513	10	P1000	14L16-	1	49
114	164	1.1	125	82.0	21.236	10	P300	14L16-	1	41
139	102	5.1	1000	51.0	21.984	16	P1000	14L16-	2	51
186	81.8	4.3	1000	41.0	21.623	20	P1000	14L16-	2	51
258	65.4	3.1	900	33.0	21.505	25	P1000	14L16-	2	51
282	51.1	4.9	1800	26.0	26.927	32	P1800	14L16-	2	77
361	51.1	1.6	600	26.0	21.266	32	P1000	14L16-	2	51
386	40.9	4.0	1800	20.0	26.440	40	P1800	14L16-	2	77
451	40.9	1.6	750	20.0	21.192	40	P1000	14L16-	2	51
536	32.7	2.7	1525	16.0	26.302	50	P1800	14L16-	2	77
564	32.7	1.1	620	16.0	21.177	50	P1000	14L16-	2	51
707	25.5	1.4	1000	13.0	26.441	64	P1800	14L16-	2	77

2.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
23.0	853	3.5	140	426	9.220	4	P150	13I34-	1	15
26.0	682	5.6	260	341	10.835	5	P300	13I34-	1	19
29.0	682	2.9	140	341	9.053	5	P150	13I34-	1	15
38.0	487	4.3	180	244	10.499	7	P300	13I34-	1	19
42.0	487	2.1	90.0	244	8.939	7	P150	13I34-	1	15
46.0	426	3.1	150	213	10.420	8	P300	13I34-	1	19
48.0	426	1.7	80.0	213	8.913	8	P150	13I34-	1	15
53.0	341	5.1	305	171	15.613	10	P1000	13I34-	1	26
60.0	341	1.0	60.0	171	8.880	10	P150	13I34-	1	15
60.0	341	2.1	125	171	10.336	10	P300	13I34-	1	19
91.0	213	2.6	300	107	9.037	16	P300	13I34-	2	20
109	136	5.6	900	68.0	10.605	25	P1000	13I34-	2	28
117	171	2.2	300	85.0	8.954	20	P300	13I34-	2	20
148	136	1.7	260	68.0	8.939	25	P300	13I34-	2	20
174	107	3.1	600	53.0	10.366	32	P1000	13I34-	2	28
190	107	1.6	300	53.0	8.874	32	P300	13I34-	2	20
217	85.3	3.1	750	43.0	10.292	40	P1000	13I34-	2	28
228	68.2	5.1	1525	34.0	15.402	50	P1800	13I34-	2	55
237	85.3	1.1	260	43.0	8.855	40	P300	13I34-	2	20
294	68.2	2.1	620	34.0	10.277	50	P1000	13I34-	2	28
359	53.3	2.7	1000	27.0	15.541	64	P1800	13I34-	2	55
375	53.3	1.2	450	27.0	10.296	64	P1000	13I34-	2	28
554	34.1	1.1	630	17.0	15.211	100	P1800	13I34-	2	55



Technical data

Planetary gearbox g870-P
Selection tables

3.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
81.0	420	2.4	300	210	38.942	4	P300	17N17-	1	50
103	336	2.0	260	168	38.535	5	P300	17N17-	1	50
135	240	3.6	530	120	44.242	7	P1000	17N17-	1	57
144	240	1.3	180	120	38.199	7	P300	17N17-	1	50
160	210	2.7	450	105	43.810	8	P1000	17N17-	1	57
197	168	3.1	630	84.0	62.880	10	P1800	17N17-	1	79
204	168	1.5	305	84.0	43.313	10	P1000	17N17-	1	57
240	105	5.5	1800	53.0	47.813	16	P1800	17N17-	2	86
303	105	2.8	1000	53.0	38.784	16	P1000	17N17-	2	60
333	84.0	4.4	1800	42.0	45.512	20	P1800	17N17-	2	86
392	84.0	2.4	1000	42.0	38.423	20	P1000	17N17-	2	60
448	67.2	3.5	1800	34.0	44.932	25	P1800	17N17-	2	86
505	67.2	1.7	900	34.0	38.305	25	P1000	17N17-	2	60
610	52.5	2.8	1800	26.0	43.727	32	P1800	17N17-	2	86
796	42.0	2.2	1800	21.0	43.240	40	P1800	17N17-	2	86
1011	33.6	1.5	1525	17.0	43.102	50	P1800	17N17-	2	86

3.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
38.0	864	3.9	300	366	22.142	4	P300	14L35-	1	41
49.0	691	3.2	260	346	21.735	5	P300	14L35-	1	41
71.0	494	2.5	180	247	21.399	7	P300	14L35-	1	41
71.0	432	5.4	450	216	27.010	8	P1000	14L35-	1	49
83.0	432	1.8	150	216	21.320	8	P300	14L35-	1	41
99.0	346	3.0	305	173	26.513	10	P1000	14L35-	1	49
103	346	1.2	125	173	21.236	10	P300	14L35-	1	41
132	216	4.5	1000	108	21.984	16	P1000	14L35-	2	51
175	173	3.9	1000	86.0	21.623	20	P1000	14L35-	2	51
230	138	3.2	900	69.0	21.505	25	P1000	14L35-	2	51
241	108	5.5	1800	54.0	26.927	32	P1800	14L35-	2	77
325	108	1.8	600	54.0	21.266	32	P1000	14L35-	2	51
334	86.4	4.4	1800	43.0	26.440	40	P1800	14L35-	2	77
406	86.4	1.8	750	43.0	21.192	40	P1000	14L35-	2	51
471	69.1	3.0	1525	35.0	26.302	50	P1800	14L35-	2	77
508	69.1	1.2	620	35.0	21.177	50	P1000	14L35-	2	51
636	54.0	1.6	1000	27.0	26.441	64	P1800	14L35-	2	77

Technical data

Planetary gearbox g870-P
Selection tables



6.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
126	425	4.3	600	213	84.365	4	P1000	19S17-	1	87
162	340	3.6	750	170	81.728	5	P1000	19S17-	1	87
211	243	5.3	1300	121	106.183	7	P1800	19S17-	1	109
242	243	2.2	530	121	80.242	7	P1000	19S17-	1	87
260	213	3.6	1000	106	103.231	8	P1800	19S17-	1	109
279	213	1.6	450	106	79.810	8	P1000	19S17-	1	87
345	170	1.8	630	85.0	98.880	10	P1800	19S17-	1	109
496	106	3.2	1800	53.0	83.813	16	P1800	19S17-	2	116
653	85.0	2.6	1800	43.0	81.512	20	P1800	19S17-	2	116
847	68.0	2.1	1800	34.0	80.932	25	P1800	19S17-	2	116
1092	53.1	1.6	1800	27.0	79.727	32	P1800	19S17-	2	116
1365	42.5	1.3	1800	21.0	79.240	40	P1800	19S17-	2	116

6.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
72.0	870	2.2	300	317	38.942	4	P300	17N35-	1	50
77.0	696	5.6	750	247	45.728	5	P1000	17N35-	1	57
91.0	696	1.8	260	309	38.535	5	P300	17N35-	1	50
116	497	4.1	530	226	44.242	7	P1000	17N35-	1	57
128	497	1.4	180	249	38.199	7	P300	17N35-	1	50
139	435	3.1	450	217	43.810	8	P1000	17N35-	1	57
146	435	1.0	150	218	38.120	8	P300	17N35-	1	50
171	348	3.5	630	138	62.880	10	P1800	17N35-	1	79
181	348	1.7	305	174	43.313	10	P1000	17N35-	1	57
221	218	5.0	1800	91.0	47.813	16	P1800	17N35-	2	86
274	218	2.6	1000	109	38.784	16	P1000	17N35-	2	60
296	174	4.3	1800	84.0	45.512	20	P1800	17N35-	2	86
352	174	2.2	1000	87.0	38.423	20	P1000	17N35-	2	60
392	139	3.6	1800	70.0	44.932	25	P1800	17N35-	2	86
447	139	1.8	900	70.0	38.305	25	P1000	17N35-	2	60
524	109	3.1	1800	54.0	43.727	32	P1800	17N35-	2	86
572	109	1.0	600	54.0	38.066	32	P1000	17N35-	2	60
688	87.0	2.5	1800	44.0	43.240	40	P1800	17N35-	2	86
714	87.0	1.0	750	44.0	37.992	40	P1000	17N35-	2	60
893	69.6	1.7	1525	35.0	43.102	50	P1800	17N35-	2	86

9.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
201	355	5.4	1300	152	232.170	4	P1800	20X14H	1	100
263	284	4.5	1600	142	216.220	5	P1800	20X14H	1	100
390	203	3.1	1300	101	205.183	7	P1800	20X14H	1	100
466	178	2.1	1000	89.0	202.231	8	P1800	20X14H	1	100
580	142	1.1	630	71.0	197.880	10	P1800	20X14H	1	100



Technical data

Planetary gearbox g870-P
Selection tables

11 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
206	428	5.0	1300	150	241.170	4	P1800	21X17-	1	99
268	342	4.2	1600	144	225.220	5	P1800	21X17-	1	99
393	244	3.1	1300	122	214.183	7	P1800	21X17-	1	99
469	214	2.1	1000	107	211.231	8	P1800	21X17-	1	99
583	171	1.1	630	86.0	206.880	10	P1800	21X17-	1	99

13.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
129	878	3.5	600	231	84.365	4	P1000	19S35-	1	87
146	702	5.8	1600	155	117.220	5	P1800	19S35-	1	109
166	702	3.0	750	207	81.728	5	P1000	19S35-	1	87
218	501	4.4	1300	145	106.183	7	P1800	19S35-	1	109
240	501	2.2	530	195	80.242	7	P1000	19S35-	1	87
258	439	3.6	1000	135	103.231	8	P1800	19S35-	1	109
276	439	1.6	450	190	79.810	8	P1000	19S35-	1	87
342	351	1.8	630	126	98.880	10	P1800	19S35-	1	109
515	219	2.7	1800	75.0	83.813	16	P1800	19S35-	2	116
663	176	2.3	1800	68.0	81.512	20	P1800	19S35-	2	116
846	140	1.9	1800	58.0	80.932	25	P1800	19S35-	2	116
1083	110	1.6	1800	55.0	79.727	32	P1800	19S35-	2	116
1354	87.8	1.3	1800	44.0	79.240	40	P1800	19S35-	2	116

16.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
180	733	4.9	1300	149	232.170	4	P1800	20X29H	1	100
234	586	4.1	1600	143	216.220	5	P1800	20X29H	1	100
343	419	3.1	1300	133	205.183	7	P1800	20X29H	1	100
403	366	2.4	1000	124	202.231	8	P1800	20X29H	1	100
508	293	1.2	630	119	197.880	10	P1800	20X29H	1	100

20.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g870-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
189	880	4.5	1300	147	241.170	4	P1800	21X35-	1	99
244	704	3.8	1600	140	225.220	5	P1800	21X35-	1	99
356	503	2.9	1300	130	214.183	7	P1800	21X35-	1	99
416	440	2.4	1000	123	211.231	8	P1800	21X35-	1	99
523	352	1.2	630	118	206.880	10	P1800	21X35-	1	99

Technical data

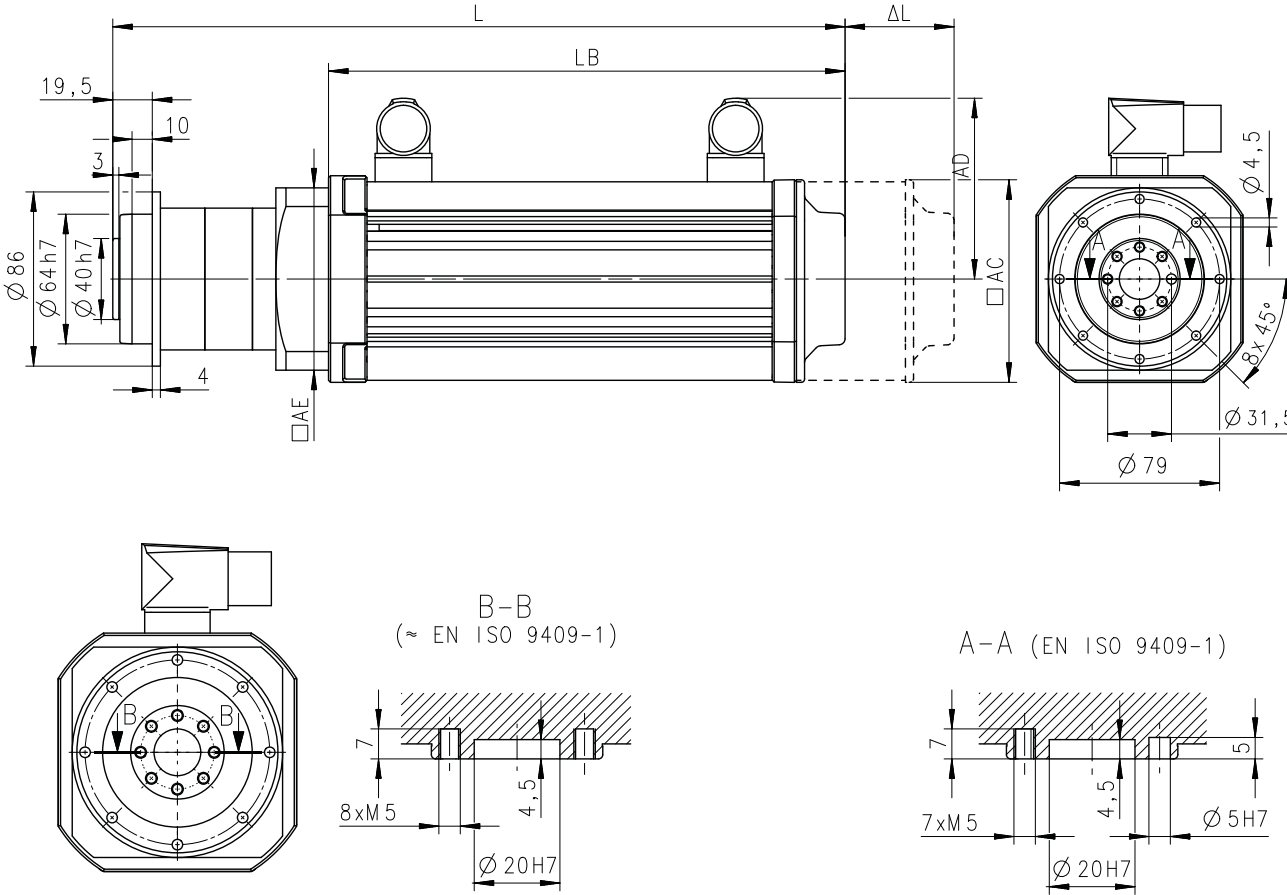
Planetary gearbox g870-P
Basic dimensions



Basic dimensions

g870-P77 with MCA10

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800921-00

Motor			MCA 10
			I40-
Total length	L	mm	340
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

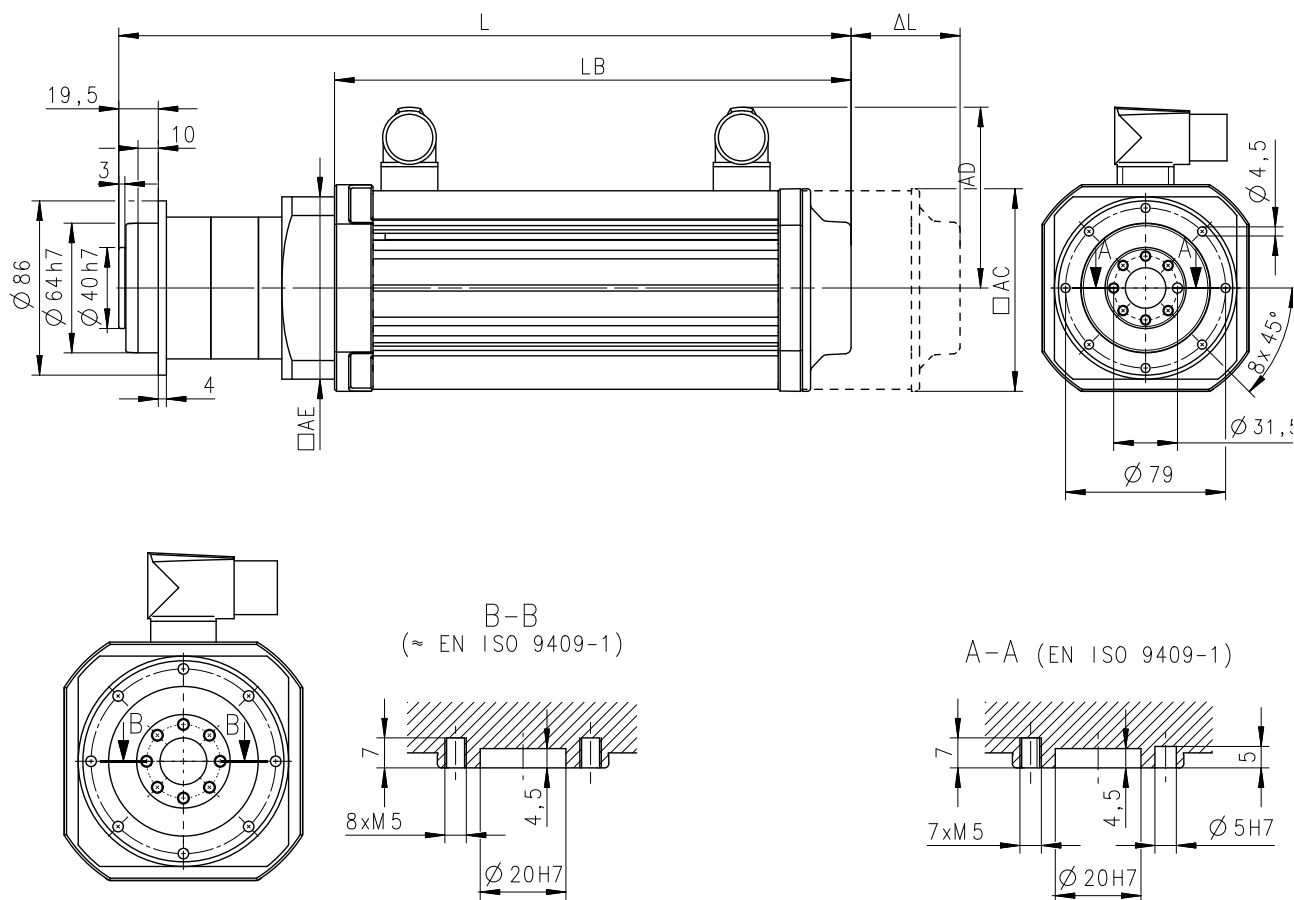


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P77 with MCA10

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800921-00

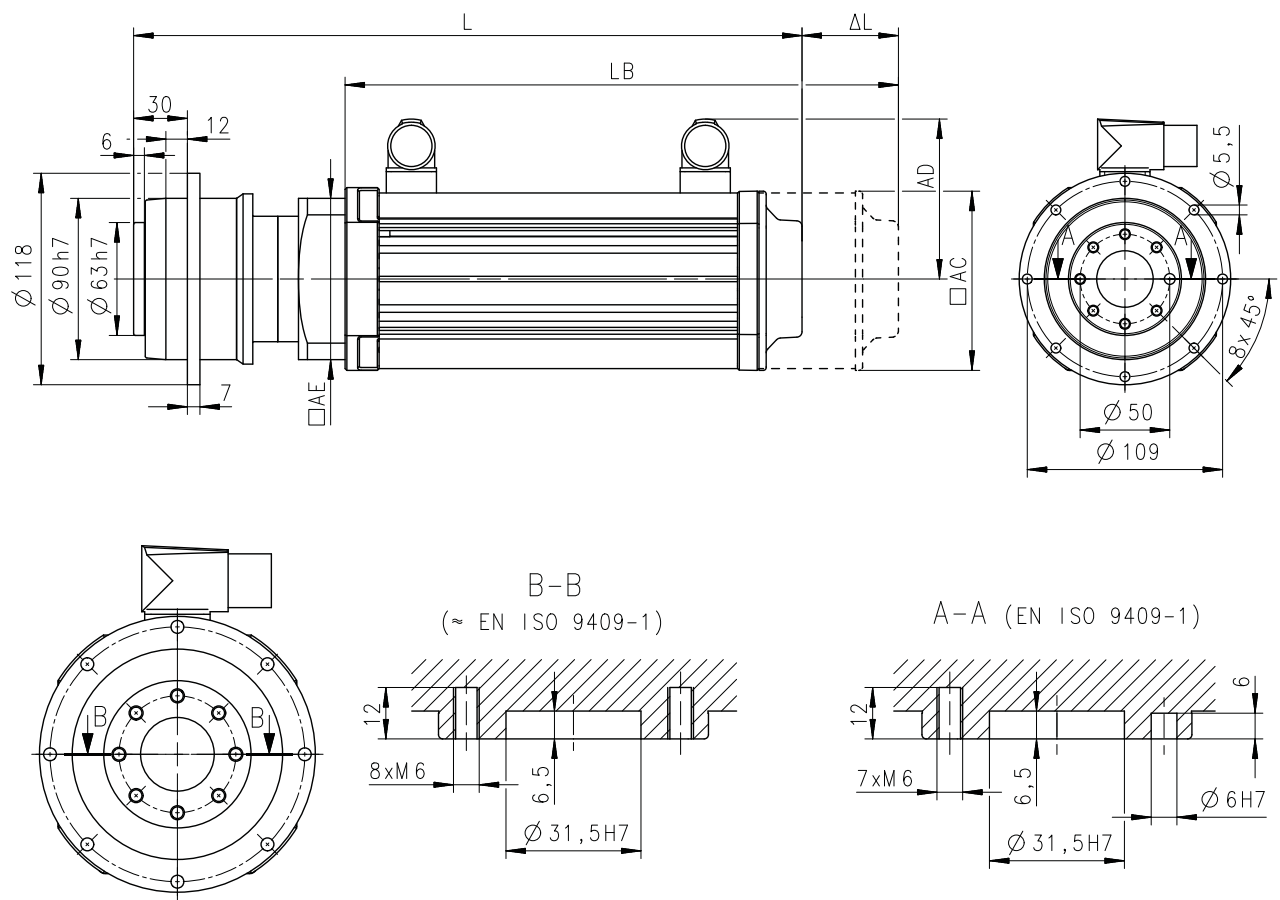
Motor			MCA 10
			I40-
Total length	L	mm	368.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P150 with MCA10
Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800922-00

Motor			MCA 10
			I40-
Total length	L	mm	351
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90



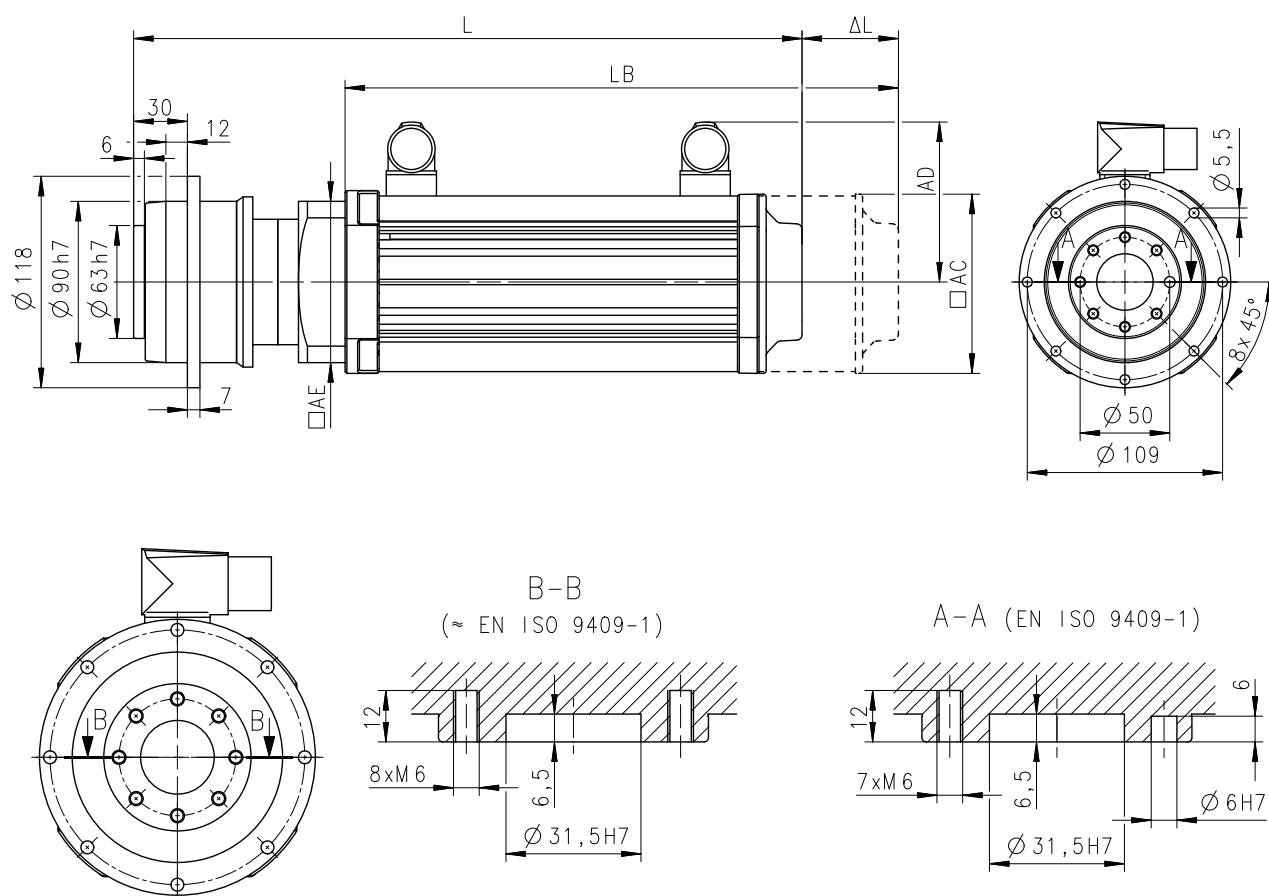
Technical data

Planetary gearbox g870-P

Basic dimensions

g870-P150 with MCA10

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800922-00

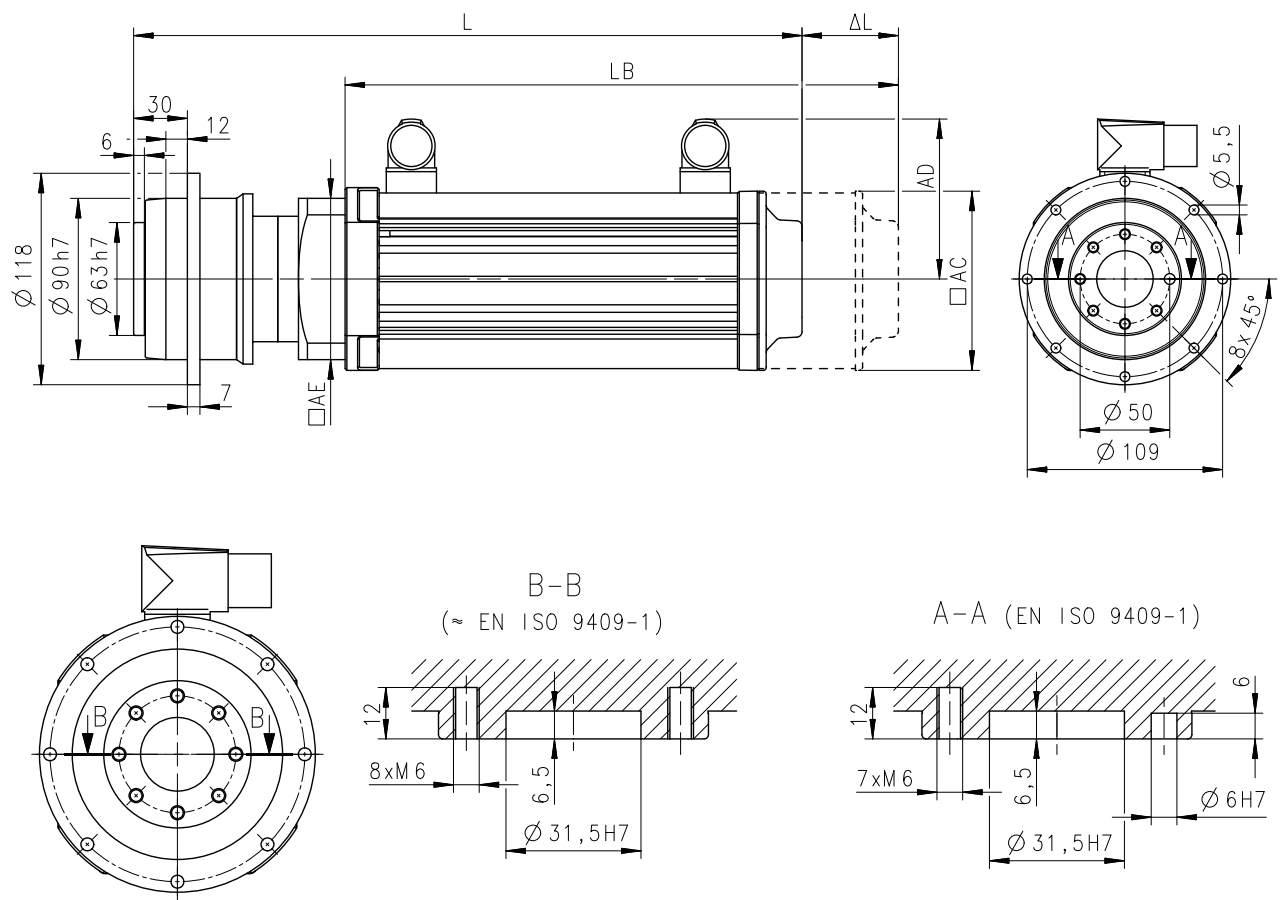
Motor			MCA 10
			I40-
Total length	L	mm	380
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P150 with MCA13
Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800922-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	438	370
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

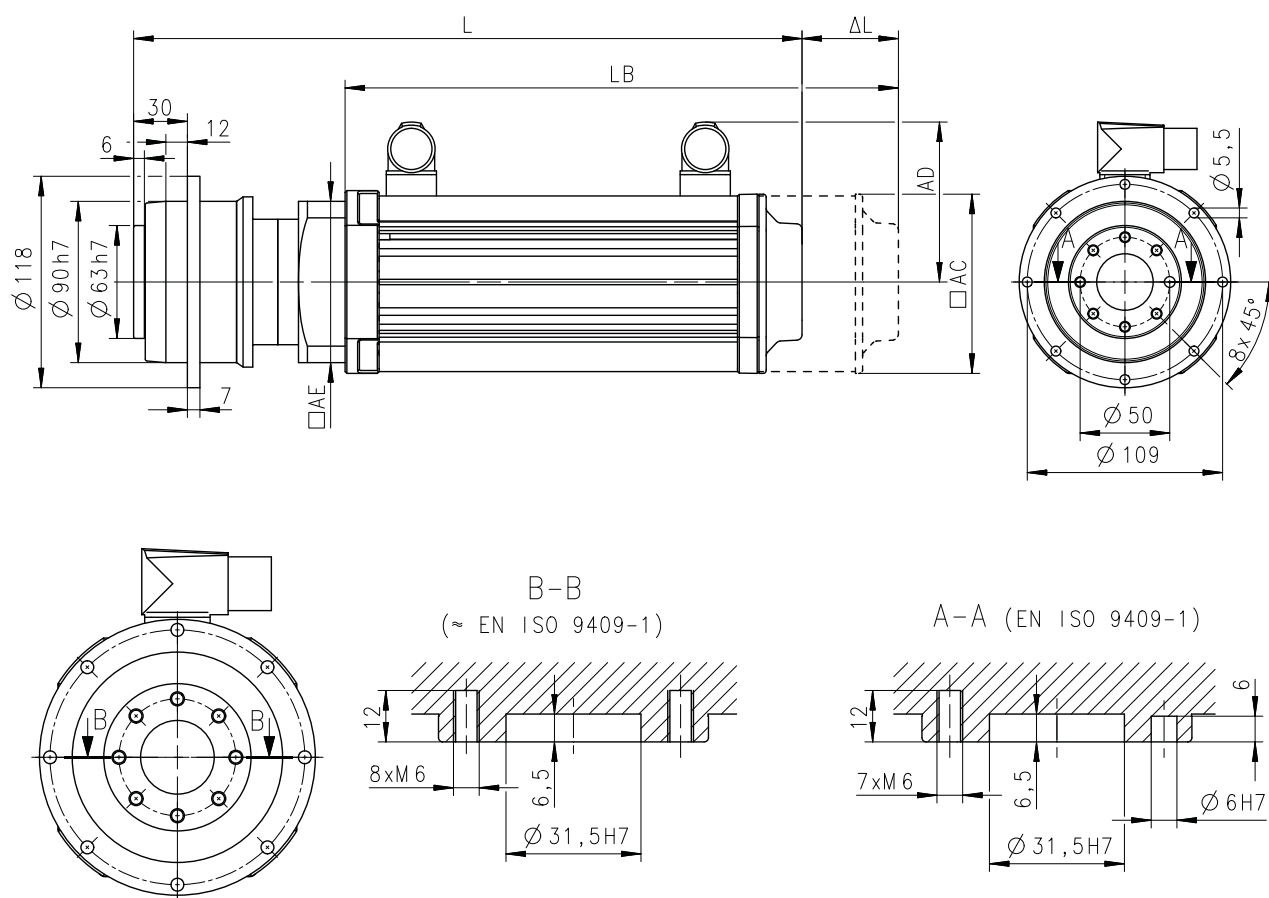


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P150 with MCA14

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800922-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	411	411
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	142	142

Planetary gearbox g870-P

Basic dimensions



Motor			MCA 10
			I40-
Total length	L	mm	392
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

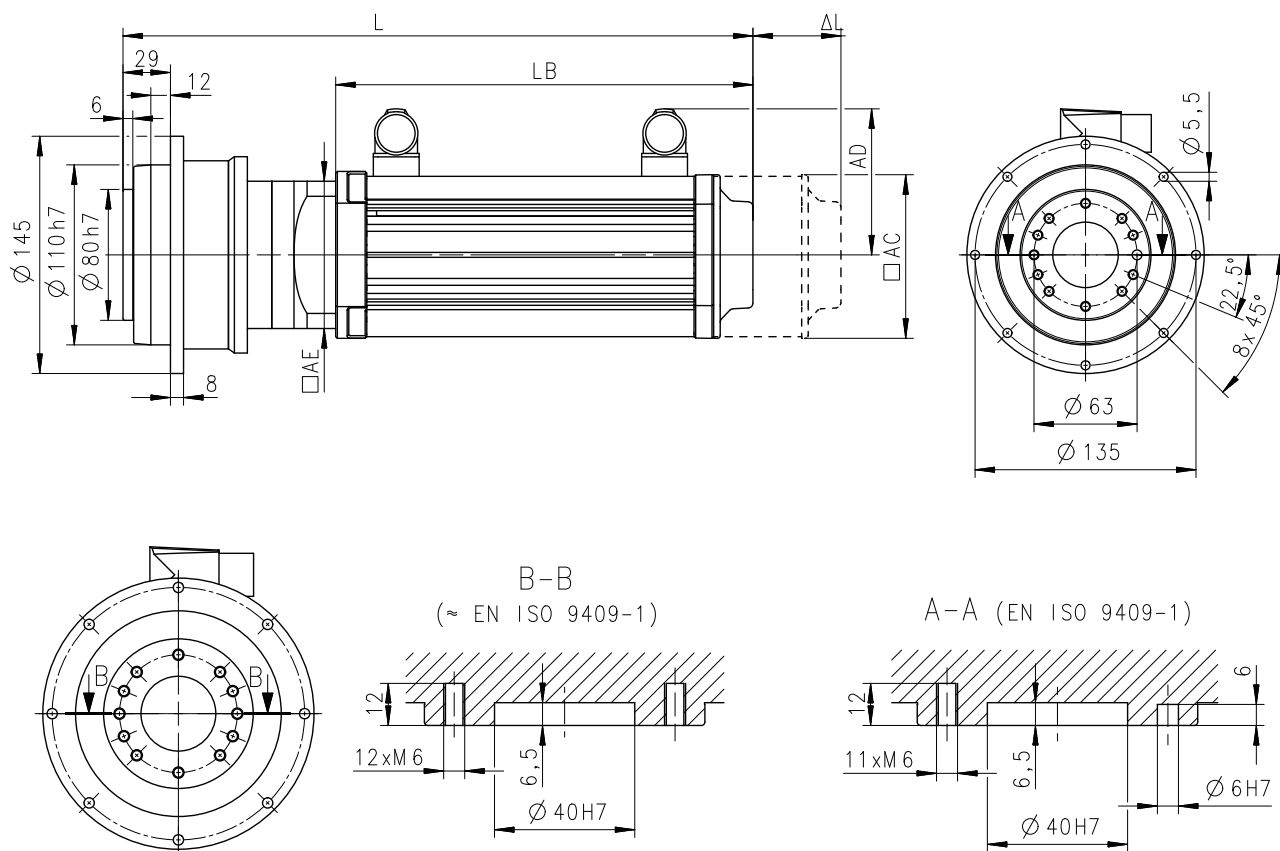


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P300 with MCA13

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800923-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	447	379
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	120	120

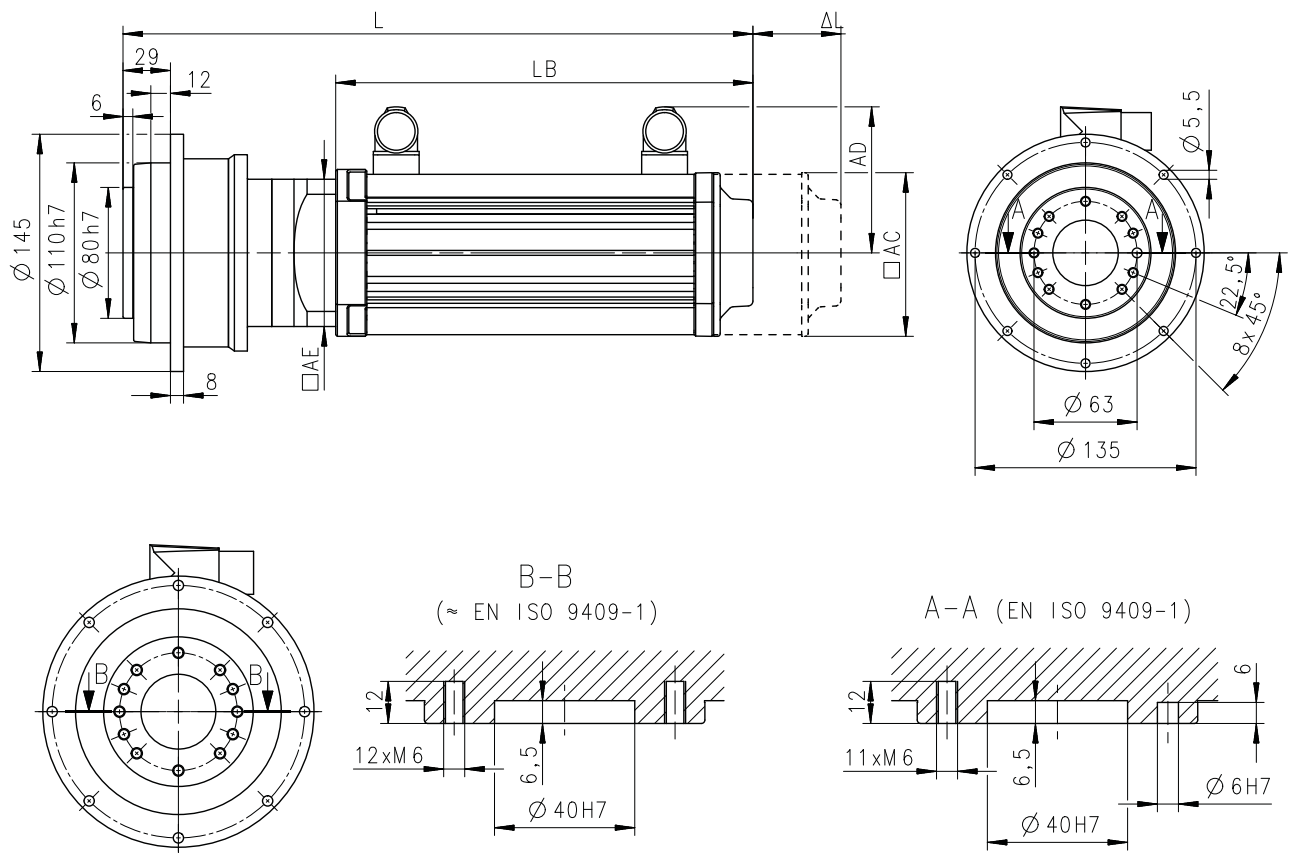
Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P300 with MCA13

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800923-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	479	411
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

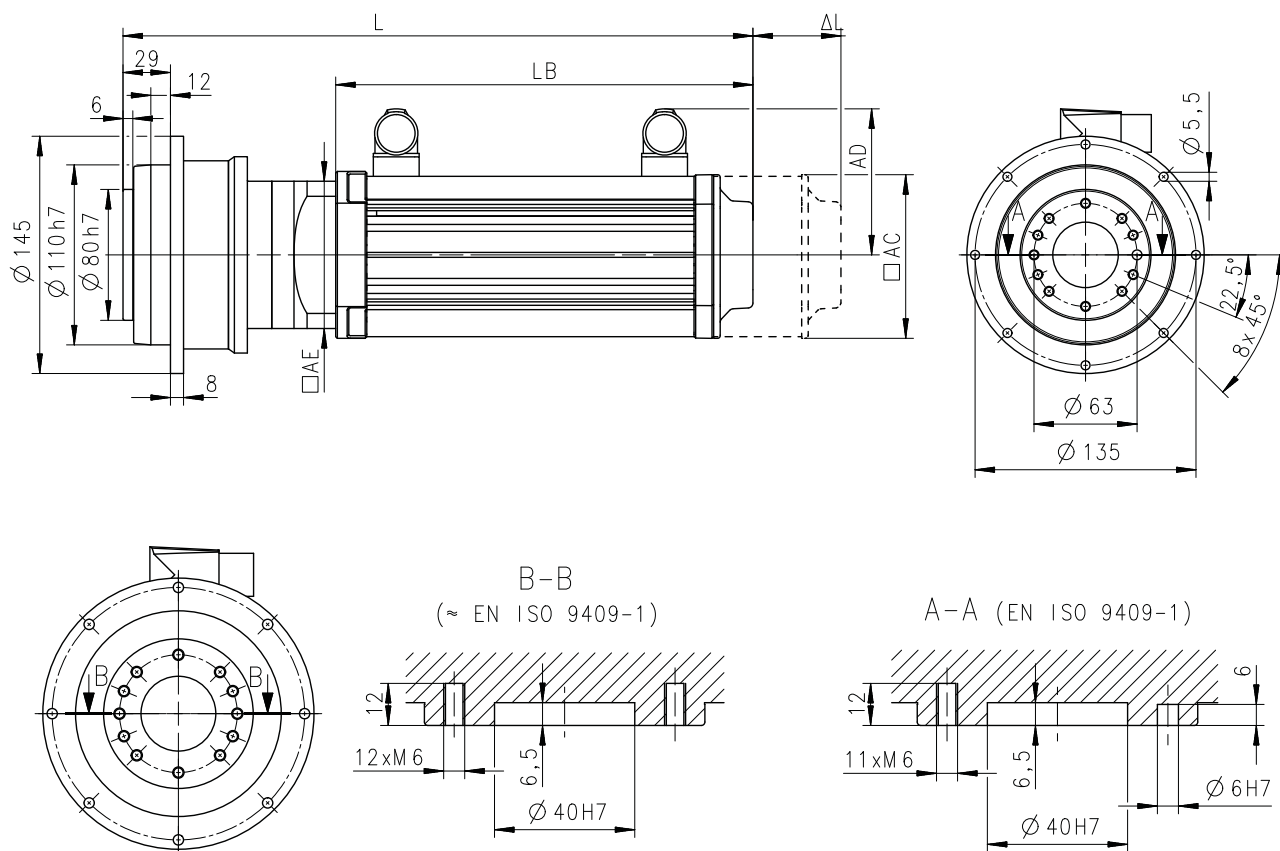


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P300 with MCA14

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800923-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	482	420	482	420
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

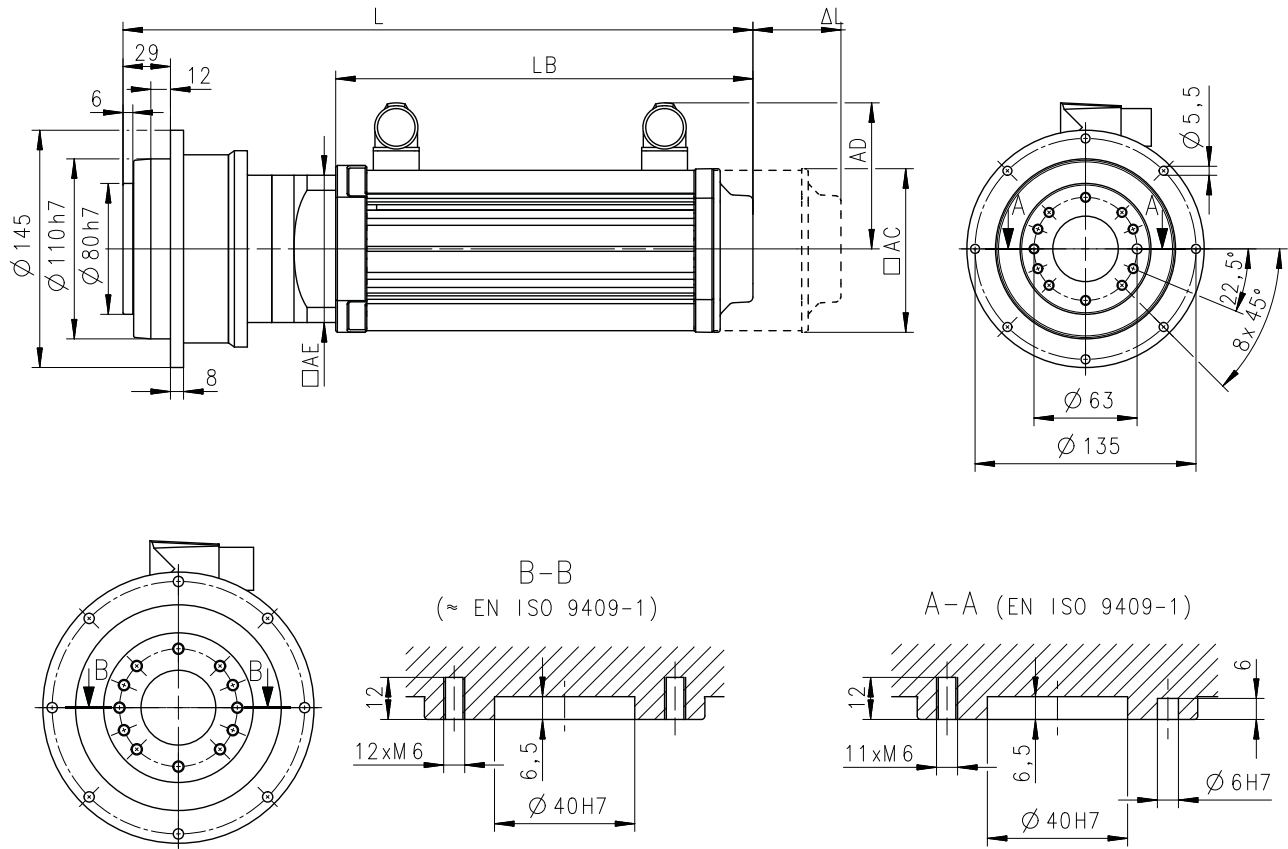
Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P300 with MCA14

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800923-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	452	452
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	142	142

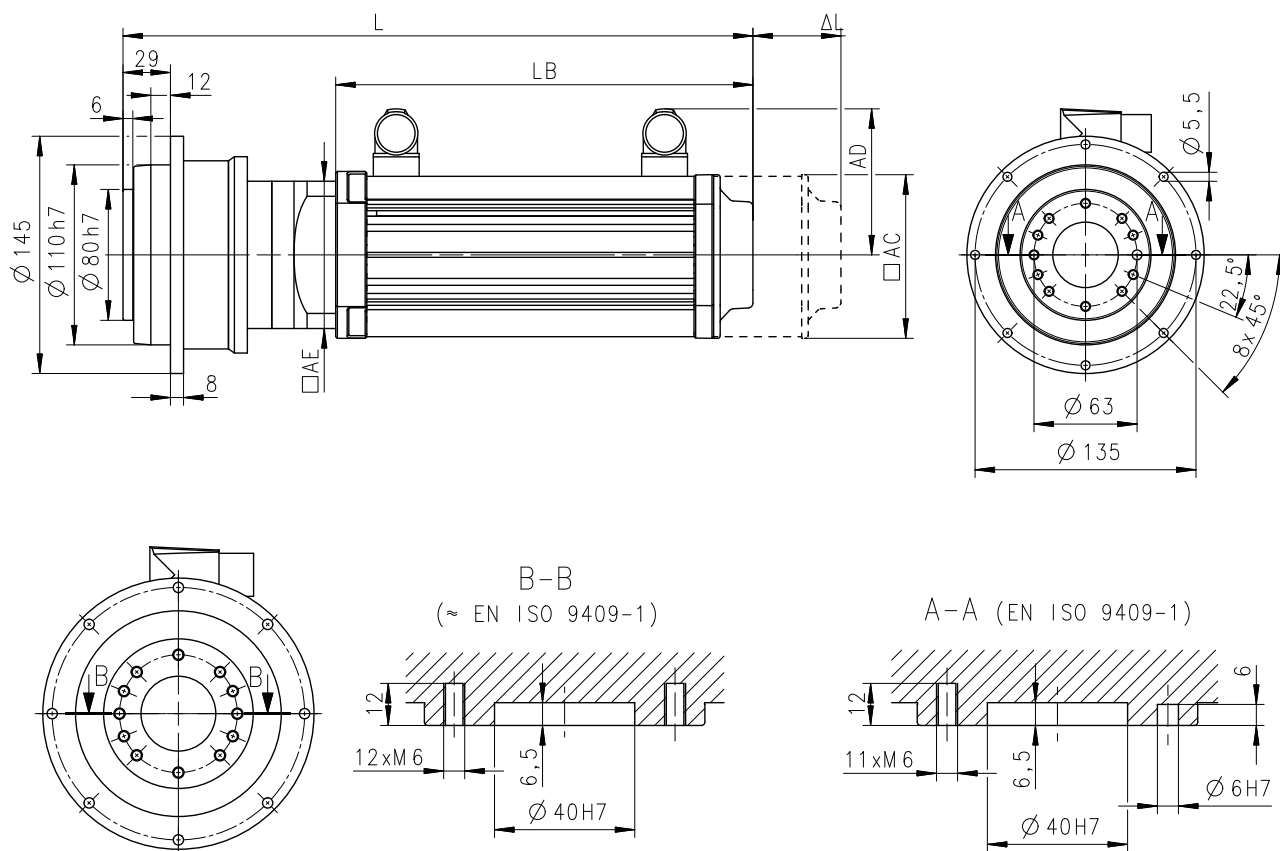


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P300 with MCA17

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800923-00

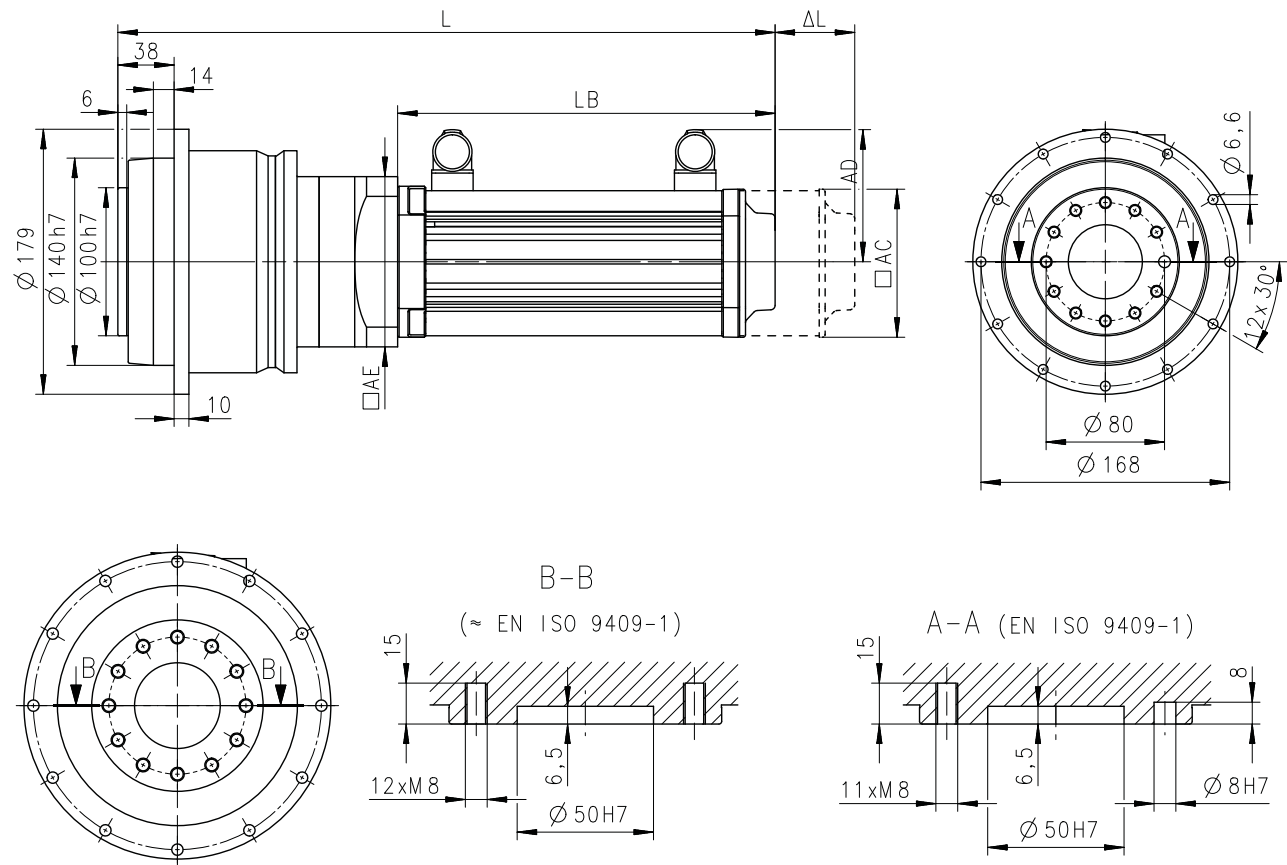
Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	544	458	544	458
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P1000 with MCA10
Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800924-00

Motor			MCA 10
			I40-
Total length	L	mm	449.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

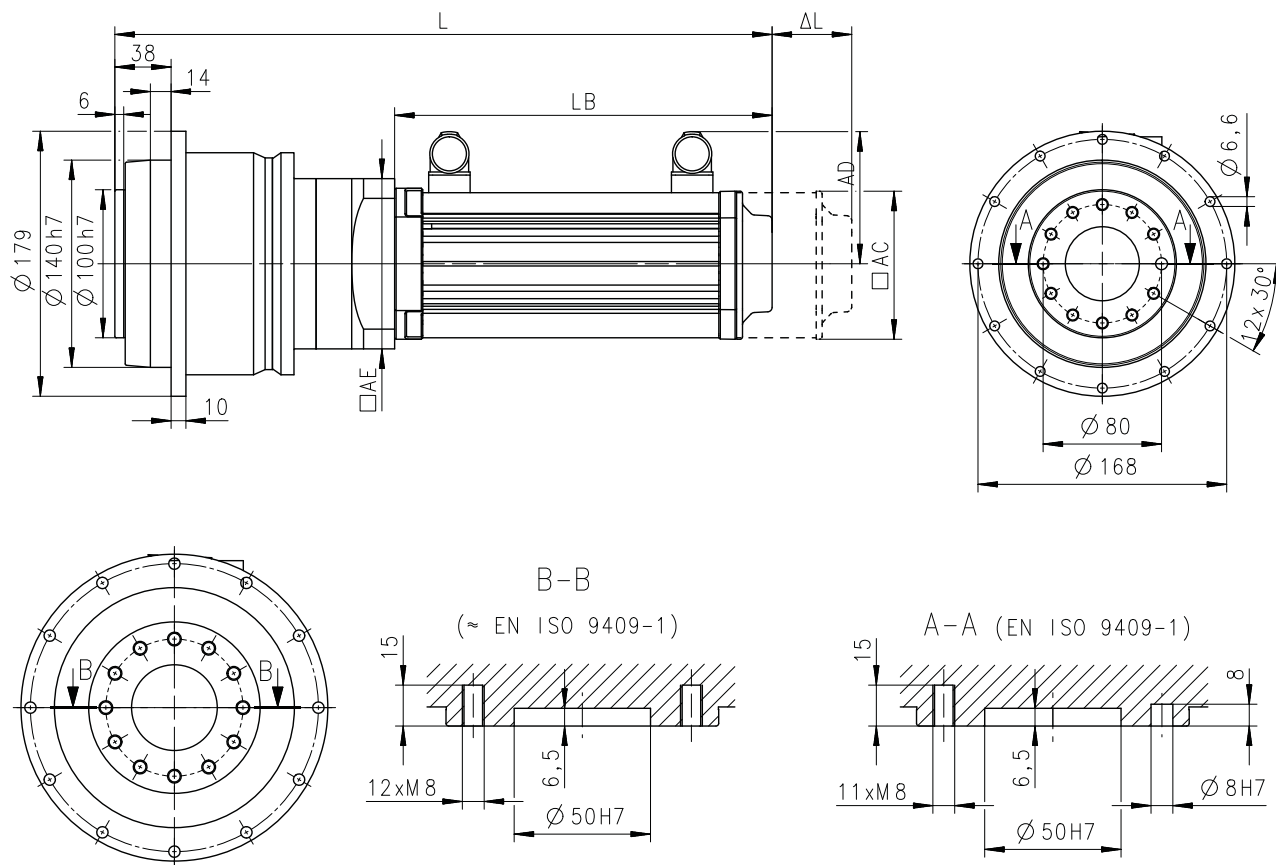


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P1000 with MCA13

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800924-00

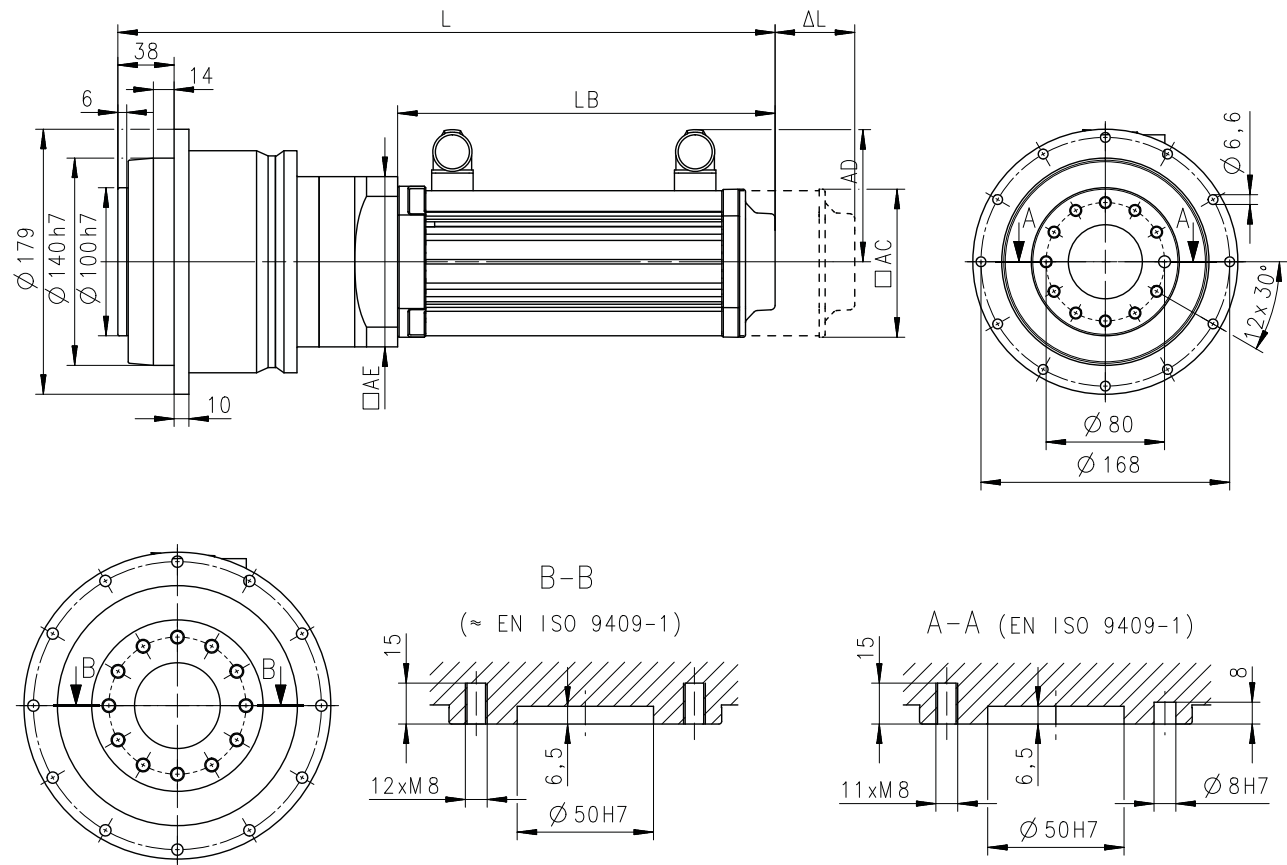
Motor			MCA 13
			I34-
Total length	L	mm	496
Motor length	LB	mm	339
Motor diameter	AC	mm	130
Motor/connection distance	AD	mm	102
Gearbox diameter	AE	mm	142

Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P1000 with MCA13
Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800924-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	526.5	458.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	120	120

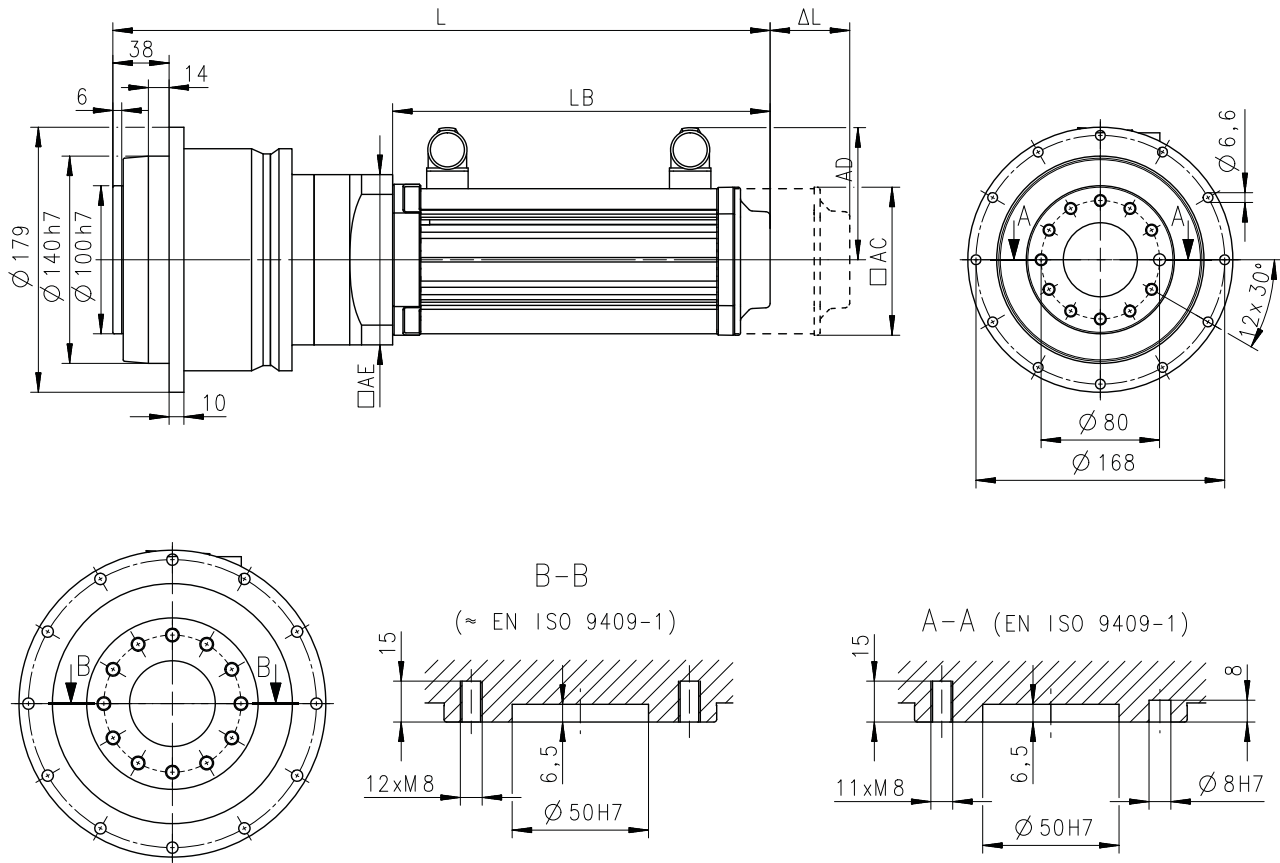


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P1000 with MCA14

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800924-00

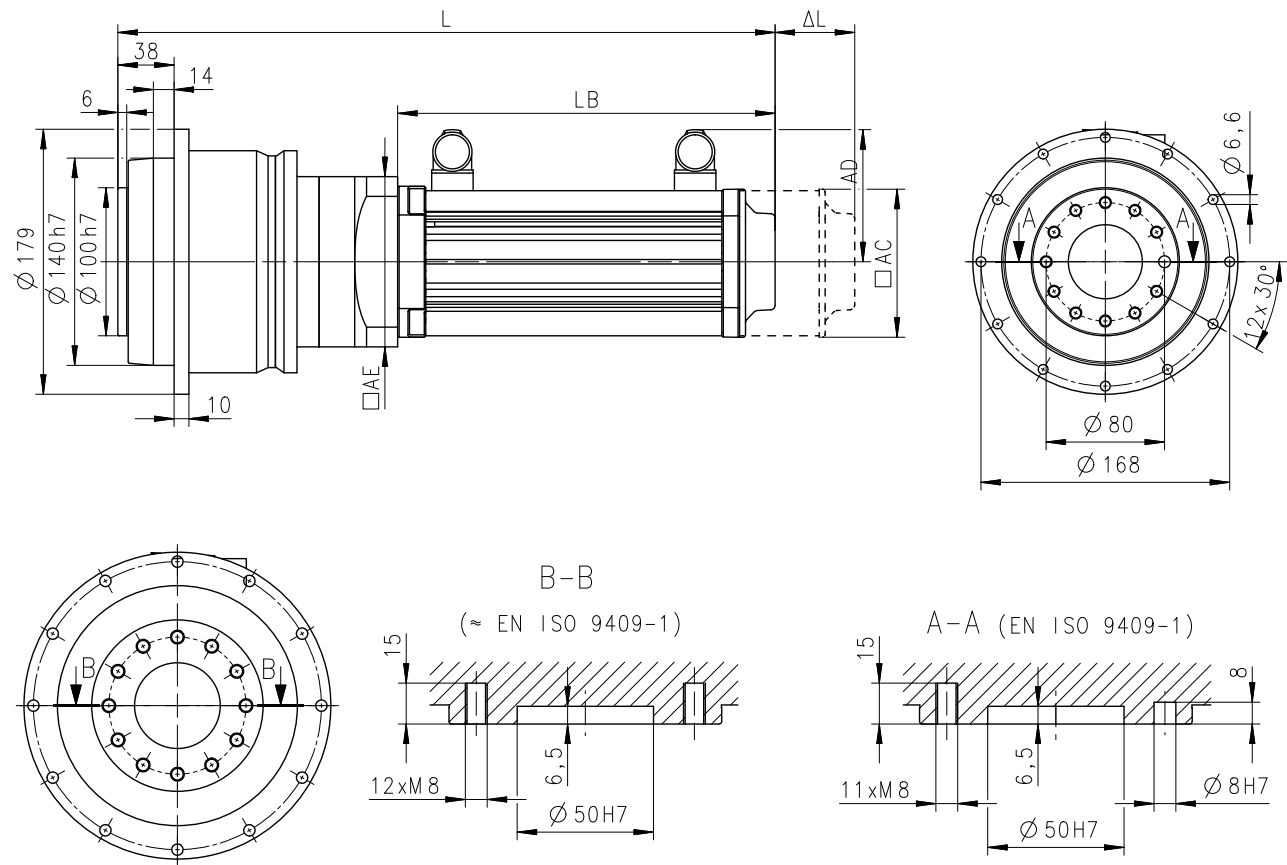
Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	521	459	521	459
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P1000 with MCA14
Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800924-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	561.5	499.5	561.5	499.5
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

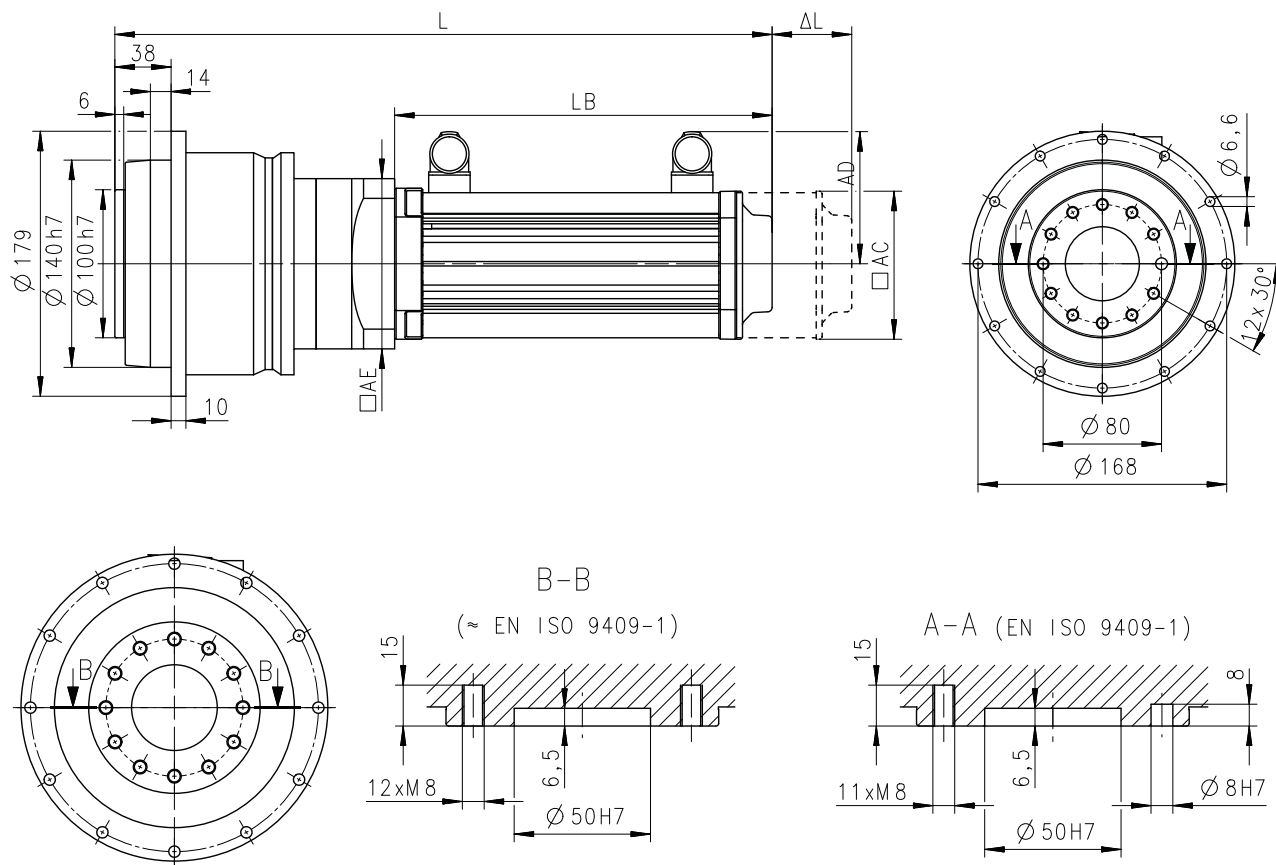


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P1000 with MCA17

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800924-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	583	497	583	497
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

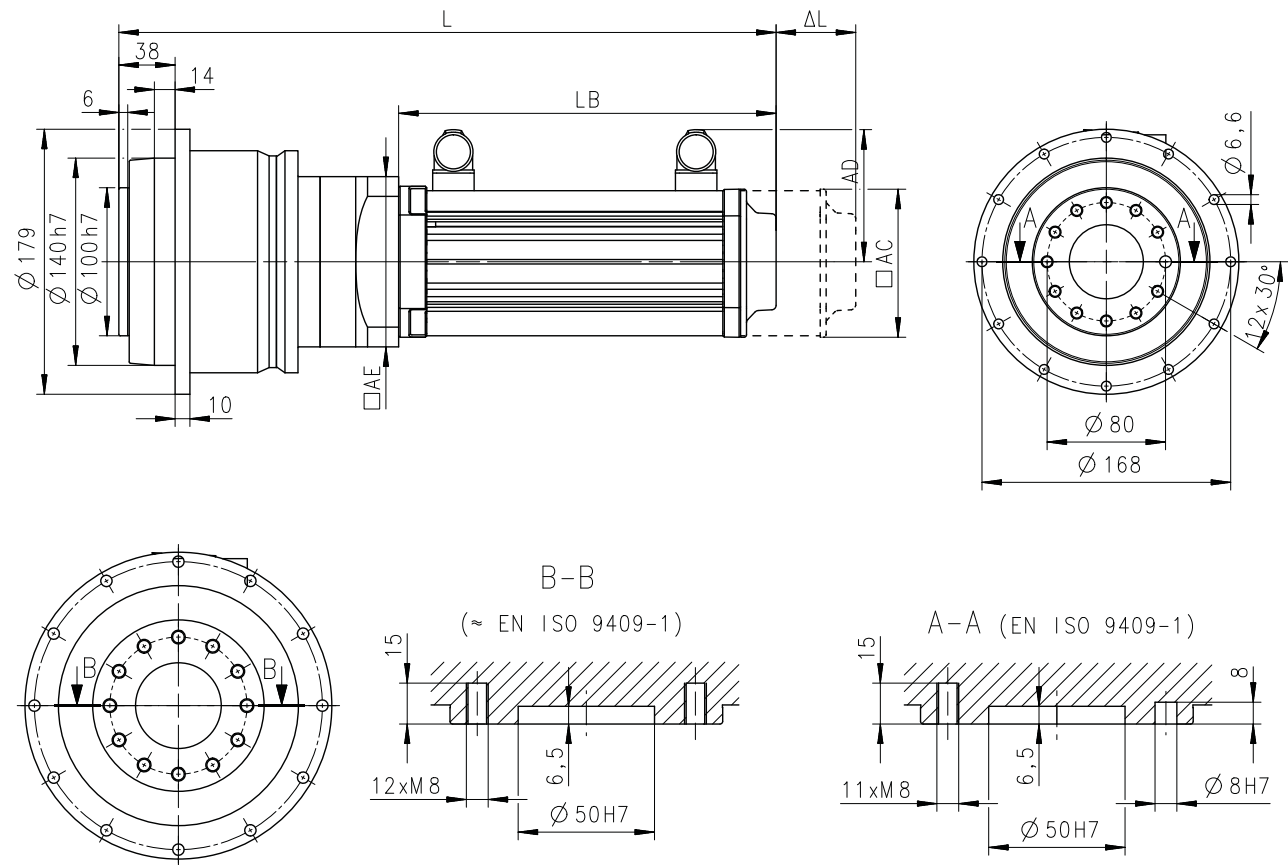
Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P1000 with MCA17

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800924-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	623.5	537.5	623.5	537.5
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

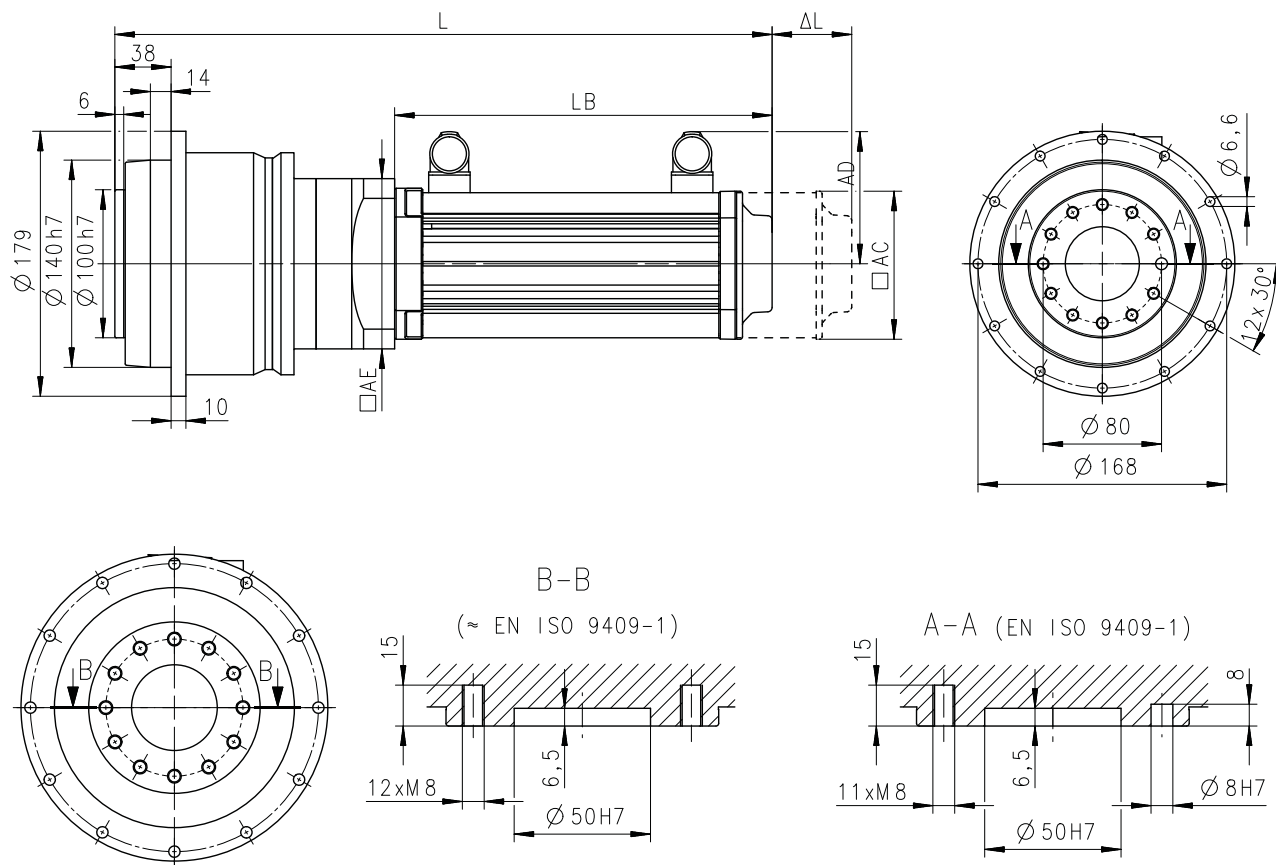


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P1000 with MCA19

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800924-00

Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	665	568	665	568
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190

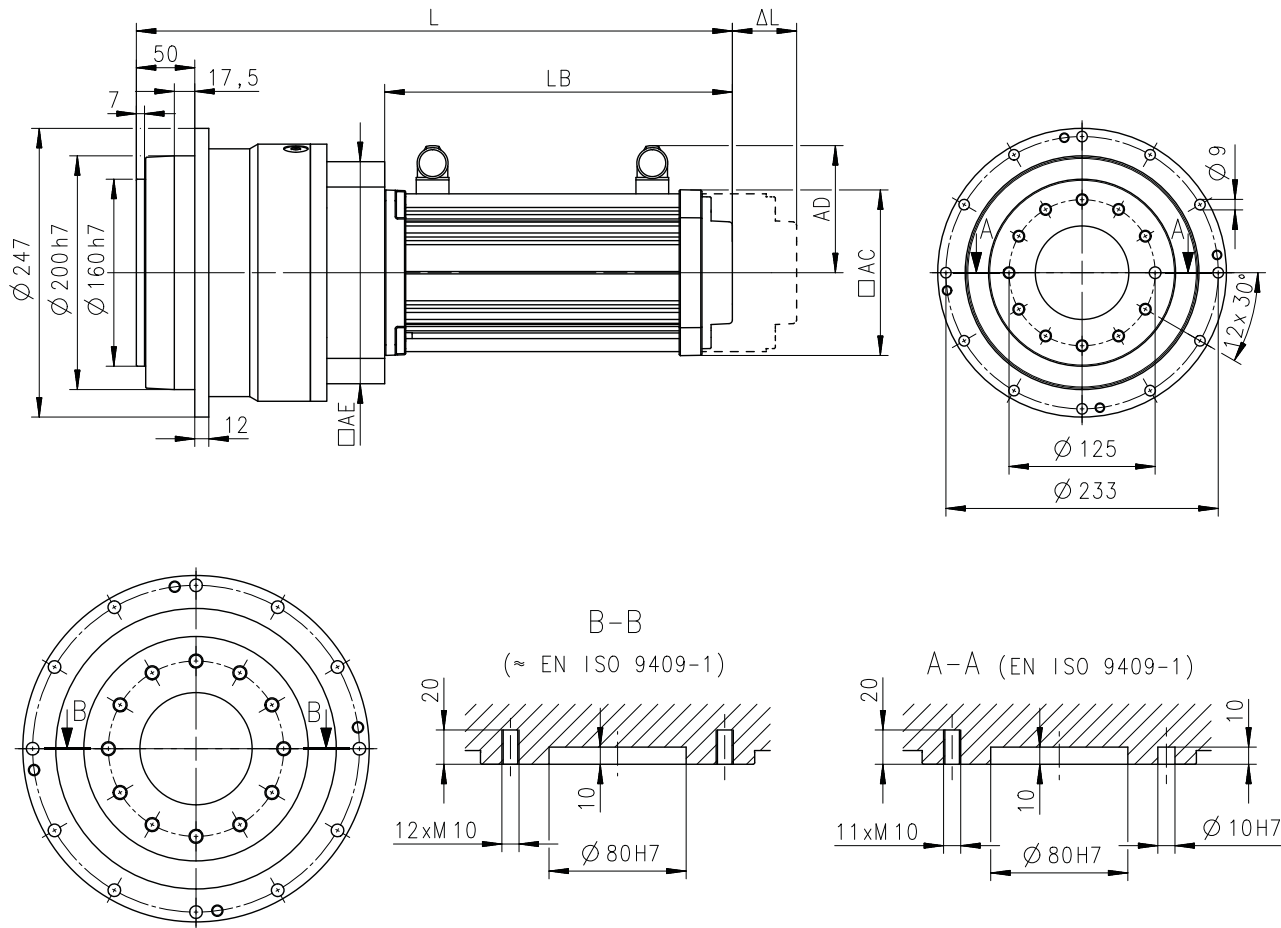
Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P1800 with MCA13

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800925-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	603	535
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	142	142

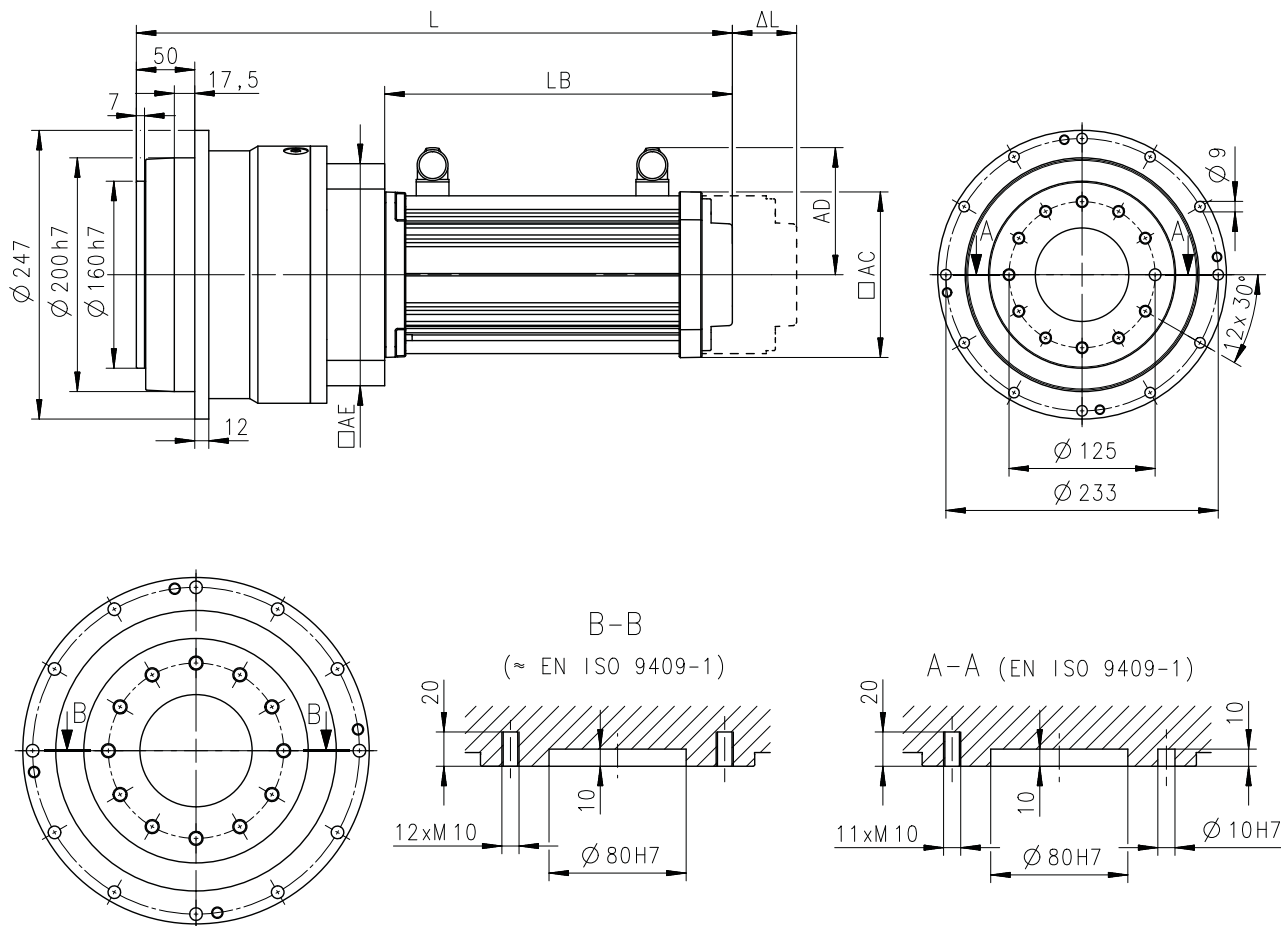


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P1800 with MCA14

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800925-00

Motor			MCA 14
			L16-
Total length	L	mm	576.5
Motor length	LB	mm	364
Motor diameter	AC	mm	142
Motor/connection distance	AD	mm	109
Gearbox diameter	AE	mm	190

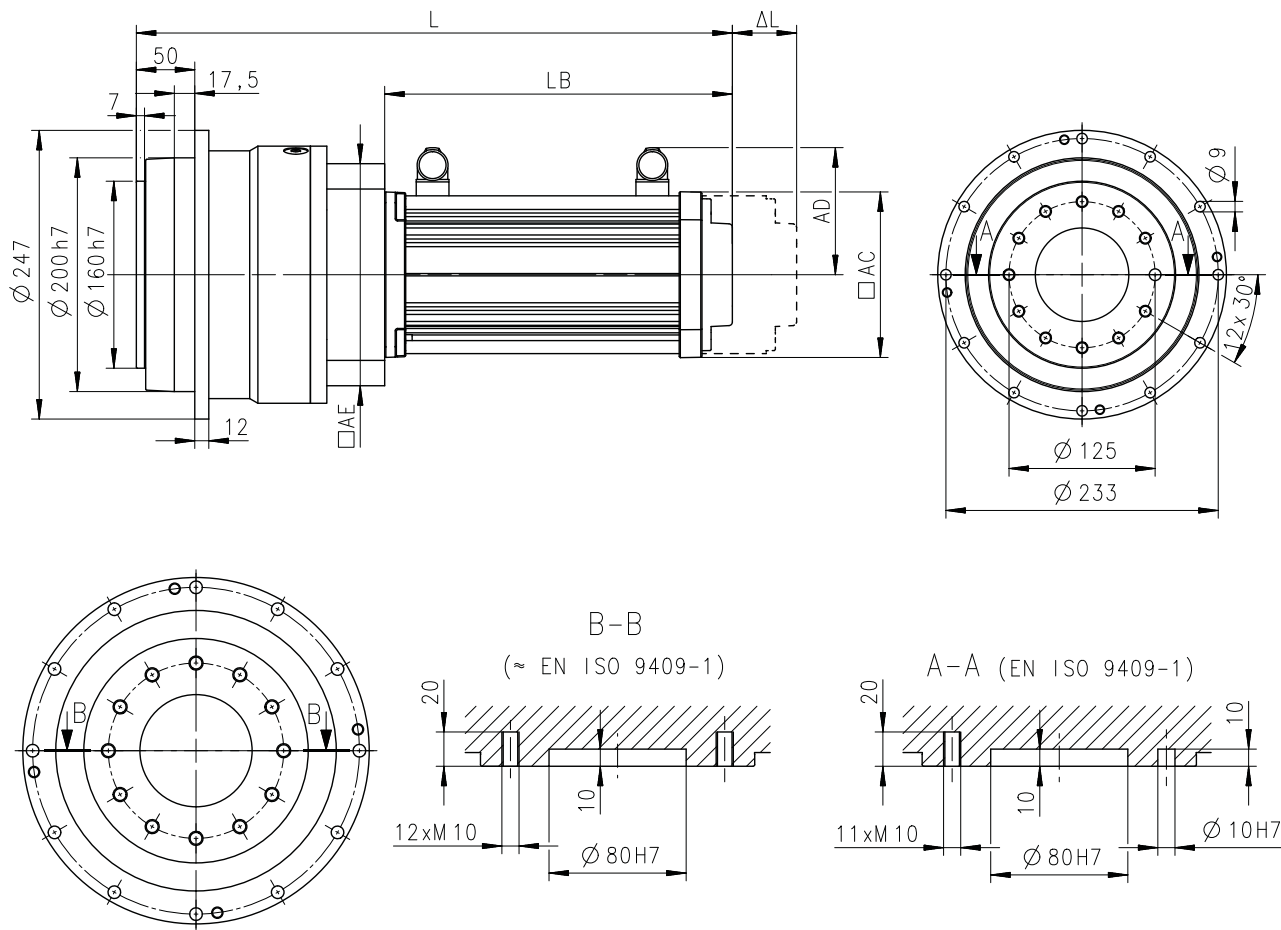
Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P1800 with MCA14

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800925-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	628	566	628	566
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

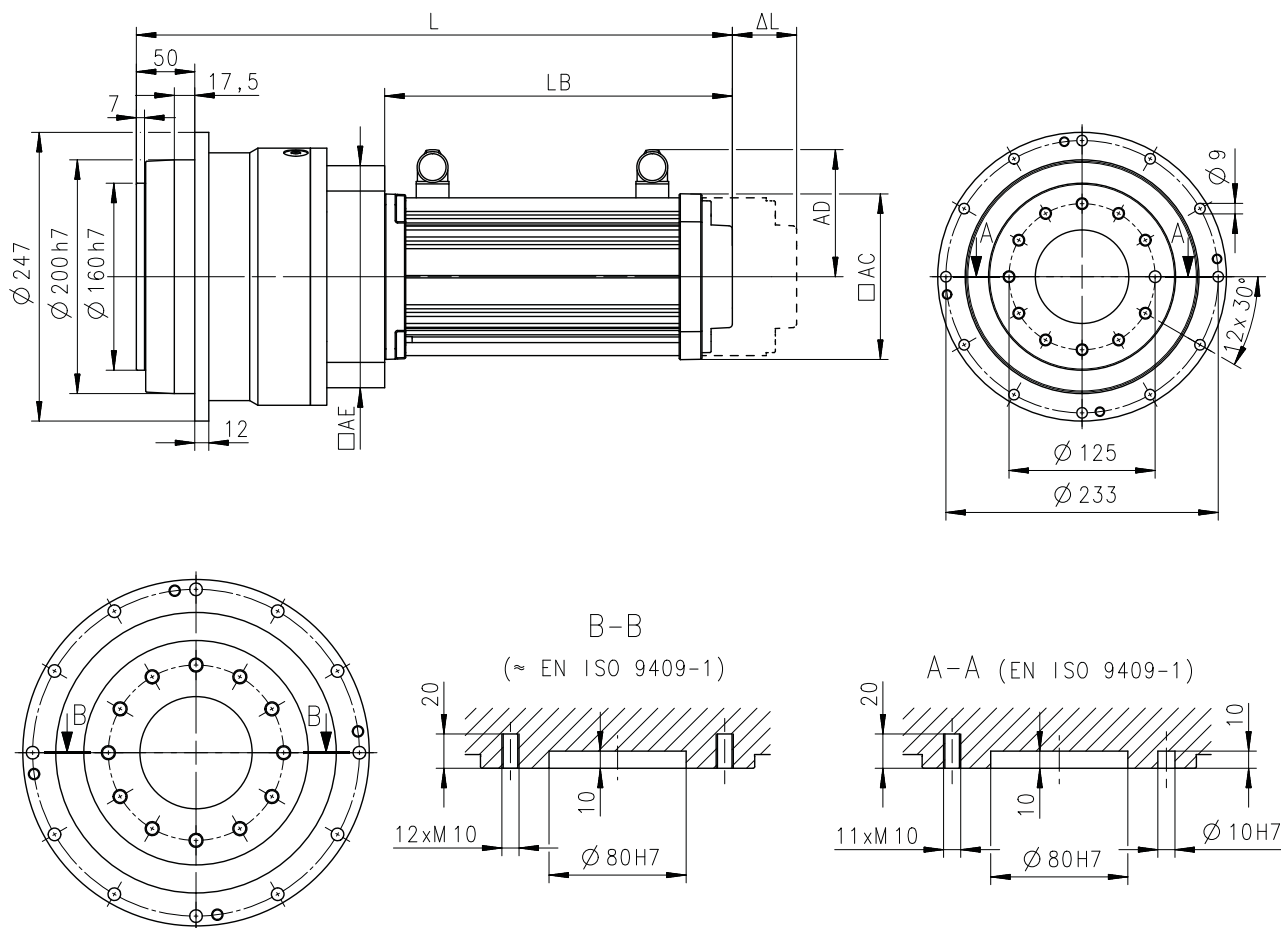


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P1800 with MCA17

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800925-00

Motor			MCA 17	
			N17-	N35-
Total length	L	mm	638.5	638.5
Motor length	LB	mm	426	426
Motor diameter	AC	mm	165	165
Motor/connection distance	AD	mm	118	118
Gearbox diameter	AE	mm	190	190

Planetary gearbox g870-P

Basic dimensions



Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	690	604	690	604
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

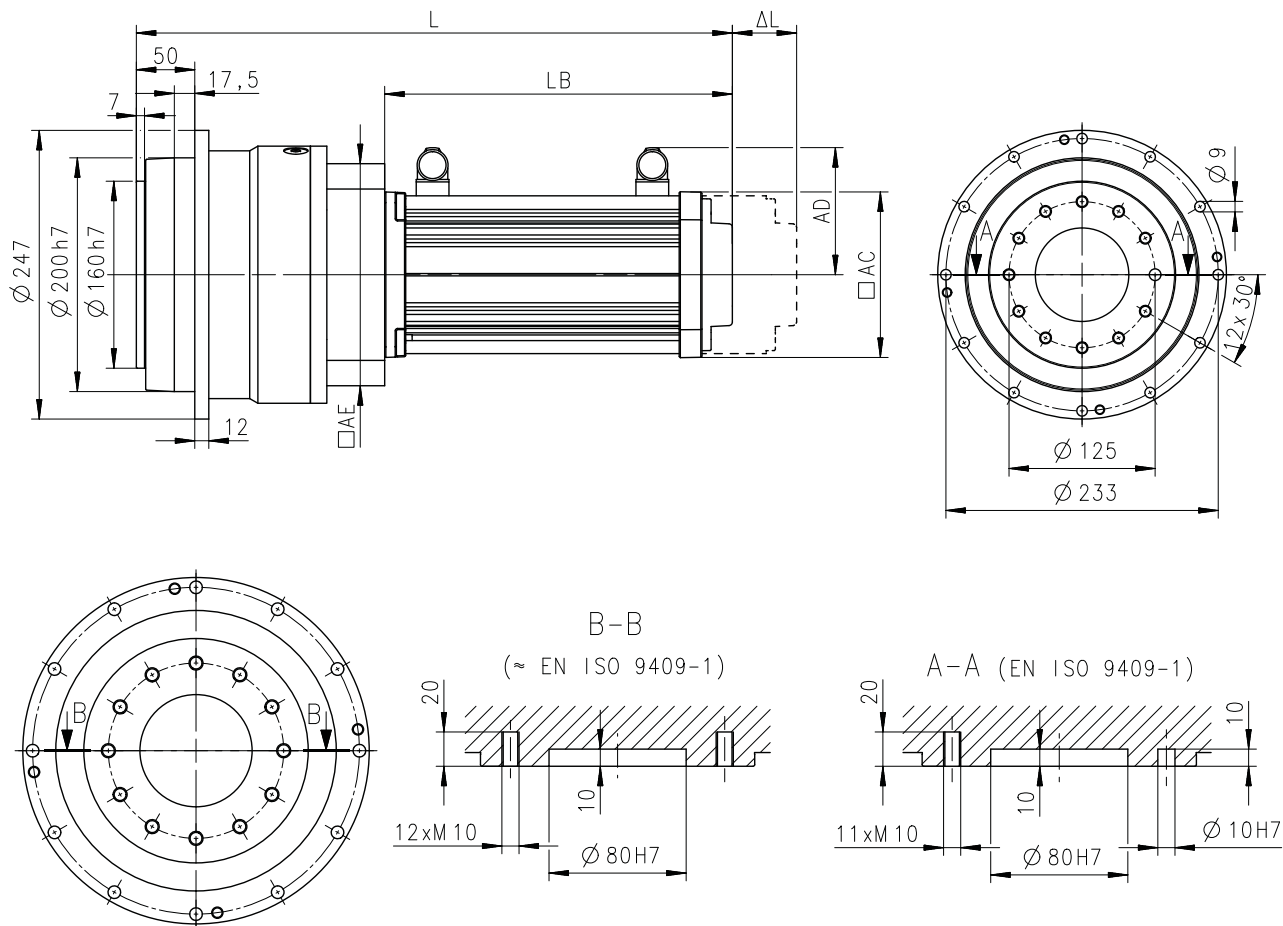


Technical data

Planetary gearbox g870-P
Basic dimensions

g870-P1800 with MCA19

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800925-00

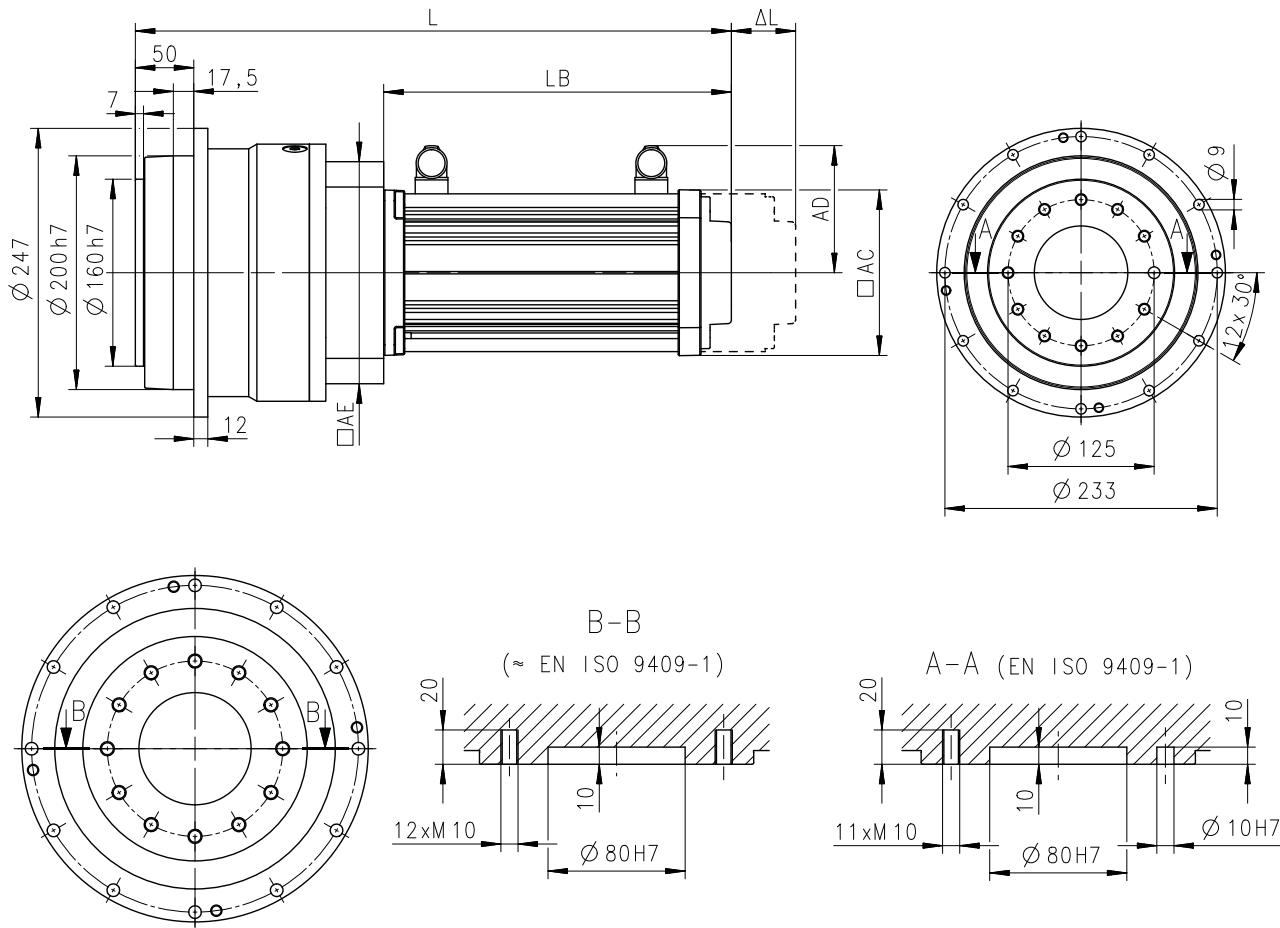
Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	710.5	613.5	710.5	613.5
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190

Technical data

Planetary gearbox g870-P
Basic dimensions



g870-P1800 with MCA19
Gearbox design: Flange output shaft, without foot with centering, 2-stage

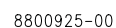


8800925-00

Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	772	675	772	675
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190



Gearbox design: Flange output shaft, without foot with centering, 1-stage

283

Planetary gearbox g870-P

Basic dimensions



Technical drawing of a 100 mm diameter ball bearing with 12 balls. The drawing includes side and end views with the following dimensions and features:

- Side View Dimensions:**
 - Outer diameter: $\varnothing 247$
 - Inner diameter: $\varnothing 200\text{ h7}$
 - Ball diameter: $\varnothing 160\text{ h7}$
 - Width of outer ring: 50
 - Width of inner ring: 17,5
 - Width of ball cage: 7
 - Overall length: L
 - Length of outer ring: ΔL
 - Length of inner ring: LB
 - Width of outer ring flange: AD
 - Width of inner ring flange: AC
 - Width of outer ring shoulder: AE
 - Width of inner ring shoulder: 12
- End View Dimensions:**
 - Outer diameter: $\varnothing 233$
 - Inner diameter: $\varnothing 125$
 - Ball diameter: $\varnothing 9$
 - Angle between balls: $12 \times 30^\circ$
- Section B-B (EN ISO 9409-1):**
 - Width of outer ring: 20
 - Width of inner ring: 10
 - Width of ball cage: 12xM10
 - Inner diameter: $\varnothing 80\text{ H7}$
- Section A-A (EN ISO 9409-1):**
 - Width of outer ring: 20
 - Width of inner ring: 10
 - Width of ball cage: 11xM10
 - Inner diameter: $\varnothing 80\text{ H7}$
 - Outer diameter: $\varnothing 10\text{ H7}$

Motor			MCA 21			
			X17-	X25-	X35-	X42-
Total length	L	mm	798.5	702.5	798.5	702.5
Motor length	LB	mm	566	470	566	470
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162
Gearbox diameter	AE	mm	190	190	190	190



Technical data

Planetary gearbox g880-P
The modular system

Planetary gearbox g880-P

The modular system

g880-P planetary gearbox with MCA asynchronous servo motor

Gearboxes		g880-P40	g880-P80	g880-P180	g880-P470	g880-P950
Min. motor assignment		MCA10	MCA10	MCA10	MCA10	MCA13
Max. motor assignment		MCA10	MCA14	MCA17	MCA19	MCA21
Technical data						
Max. output torque	Nm	40	80	180	470	950
Min. drive torque	Nm	0.8	0.8	0.8	0.8	21.5
Max. drive torque	Nm	0.8	12	21.5	36	???
Mounting position		Any				
Color		Primed Painted in RAL colors				
Surface and corrosion protection		OKS-G Different types of OKS				
Output shaft						
Flange output shaft with dowel hole	mm	20 x 4.5	31.5 x 6.5	40 x 6.5	50 x 6.5	80 x 10
Flange output shaft	mm	20 x 4.5	31.5 x 6.5	40 x 6.5	50 x 6.5	80 x 10
Shaft material		Steel				
Shaft sealing ring material		NBR				
Gearbox design		Without foot with centering				
Gearbox stages		1/2	1/2	1/2	1/2	1/2
Output flange	mm	64	90	110	140	200
Lubricant		Standard Food-compatible				
Cooling		Self-ventilated Forced-ventilated				
Motor connection		ICN connector Terminal box				
Holding brake		Without Permanent magnet brake Spring-applied brake				
Feedback						
Without functional safety		Resolver Absolute value encoder Incremental encoder				
With functional safety		Resolver Incremental encoder				
Temperature monitoring		PT1000 temperature sensor				

Technical data

Planetary gearbox g880-P
Data overview



Data overview

g880-P40, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
4	39.0	3	12
5	40.0	3	13
7	37.0	3	11
10	28.0	3	8

g880-P40, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
16	39.0	5	13
20	39.0	5	13

g880-P80, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
4	80.0	3	34
5	80.0	3	34
7	78.0	3	27
10	59.0	3	22

g880-P80, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
16	80.0	5	31
20	80.0	5	31
25	80.0	5	32
35	80.0	5	31
40	80.0	5	29

g880-P180, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
4	180	3	81
5	175	3	77
7	175	3	68
10	140	3	64



Technical data

Planetary gearbox g880-P
Data overview

g880-P180, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
16	180	5	84
20	180	5	84
25	175	5	83
35	175	5	81
40	180	5	78
50	175	5	79
70	175	5	69

g880-P470, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
4	470	3	215
5	405	3	218
7	355	3	166
10	305	3	129

g880-P470, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
16	450	5	198
20	450	5	197
25	405	5	206
35	405	5	203
40	470	5	194
50	405	5	202
70	355	5	160
100	305	5	127

g880-P950, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/°
4	950	3	570
5	950	3	602
7	900	3	486
10	750	3	374

Technical data

Planetary gearbox g880-P
Radial forces and axial forces



g880-P950, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, \max}$		
	Nm	'	Nm/'
16	950	5	663
20	950	5	668
25	950	5	576
35	950	5	561
40	950	5	596
50	950	5	540
70	900	5	461
100	750	5	365

Radial forces and axial forces

Gearbox			g880-P40	g880-P80	g880-P180	g880-P470	g880-P950
Bearing service life 20000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	rated	2150	3950	4900	12000	23000
Axial force	F_{ax}	rated	4300	8200	9500	8500	16000
Bearing service life 30000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	rated	1900	3500	4350	11000	21000
Axial force	F_{ax}	rated	3800	7200	8400	7500	14000
Max. radial force	$F_{\text{rad, max}}$	rated	2150	3950	4900	12000	23000
Max. axial force	$F_{\text{ax, max}}$	rated	4300	8200	9500	8500	16000



Technical data

Planetary gearbox g880-P
Selection tables

Selection tables

Inverter power supply 400 V, self-ventilated motors

0.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
6.7	988	4.9	39.0	494	2.610	4	P40	10I40-	1	7.9
8.8	790	4.0	40.0	395	2.583	5	P40	10I40-	1	7.9
11.0	564	5.5	78.0	282	2.792	7	P80	10I40-	1	9.4
13.0	564	2.8	37.0	282	2.561	7	P40	10I40-	1	7.9
18.0	395	3.1	59.0	198	2.742	10	P80	10I40-	1	9.4
19.0	395	1.5	28.0	198	2.549	10	P40	10I40-	1	7.9
21.0	247	5.9	180	123	2.987	16	P180	10I40-	2	14
29.0	247	2.4	80.0	123	2.619	16	P80	10I40-	2	10
30.0	247	1.3	39.0	123	2.603	16	P40	10I40-	2	8.6
30.0	198	4.7	180	99.0	2.873	20	P180	10I40-	2	14
37.0	198	2.1	80.0	99.0	2.589	20	P80	10I40-	2	10
38.0	198	1.0	39.0	99.0	2.576	20	P40	10I40-	2	8.6
41.0	158	3.7	175	79.0	2.854	25	P180	10I40-	2	14
47.0	158	1.5	80.0	79.0	2.583	25	P80	10I40-	2	10
63.0	113	2.6	175	56.0	2.773	35	P180	10I40-	2	14
66.0	113	1.2	80.0	56.0	2.560	35	P80	10I40-	2	10
73.0	98.8	2.4	180	49.0	2.735	40	P180	10I40-	2	14
75.0	98.8	1.1	80.0	49.0	2.550	40	P80	10I40-	2	10
78.0	79.0	4.3	405	40.0	3.285	50	P470	10I40-	2	20
94.0	79.0	1.9	175	40.0	2.731	50	P180	10I40-	2	14
124	56.4	2.7	355	28.0	3.272	70	P470	10I40-	2	20
130	56.4	1.3	175	28.0	2.727	70	P180	10I40-	2	14
182	39.5	1.7	305	20.0	3.253	100	P470	10I40-	2	20

Technical data

Planetary gearbox g880-P
Selection tables



1.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
25.0	500	3.1	80.0	250	20.468	4	P80	14L20-	1	36
28.0	400	5.4	175	200	20.805	5	P180	14L20-	1	40
32.0	400	2.5	80.0	200	20.346	5	P80	14L20-	1	36
42.0	286	3.9	175	143	20.536	7	P180	14L20-	1	40
45.0	286	1.7	78.0	143	19.974	7	P80	14L20-	1	36
57.0	200	4.7	305	100	25.726	10	P470	14L20-	1	45
64.0	200	2.2	140	100	20.380	10	P180	14L20-	1	40
83.0	125	4.4	450	63.0	21.327	16	P470	14L20-	2	47
101	125	1.8	180	63.0	20.446	16	P180	14L20-	2	41
112	100	3.5	450	50.0	20.865	20	P470	14L20-	2	47
112	80.0	5.9	950	40.0	27.570	25	P950	14L20-	2	65
126	100	1.4	180	50.0	20.332	20	P180	14L20-	2	41
151	80.0	2.5	405	40.0	20.801	25	P470	14L20-	2	47
157	80.0	1.1	175	40.0	20.313	25	P180	14L20-	2	41
183	57.1	4.3	950	29.0	26.365	35	P950	14L20-	2	65
219	50.0	3.7	950	25.0	25.838	40	P950	14L20-	2	65
220	57.1	1.8	405	29.0	20.532	35	P470	14L20-	2	47
252	50.0	1.8	470	25.0	20.392	40	P470	14L20-	2	47
292	40.0	3.0	950	20.0	25.748	50	P950	14L20-	2	65
315	40.0	1.3	405	20.0	20.376	50	P470	14L20-	2	47
436	28.6	2.1	900	14.0	25.671	70	P950	14L20-	2	65
610	20.0	1.2	750	10.0	25.634	100	P950	14L20-	2	65

1.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
14.0	1013	4.7	80.0	506	9.019	4	P80	13I41-	1	13
18.0	810	3.7	80.0	405	8.897	5	P80	13I41-	1	13
23.0	579	5.5	175	289	9.348	7	P180	13I41-	1	17
26.0	579	2.7	78.0	289	8.800	7	P80	13I41-	1	13
36.0	405	3.7	140	203	9.192	10	P180	13I41-	1	17
38.0	405	1.6	59.0	203	8.750	10	P80	13I41-	1	13
55.0	203	5.6	450	101	9.675	20	P470	13I41-	2	24
56.0	253	2.9	180	127	8.997	16	P180	13I41-	2	18
73.0	203	2.3	180	101	8.882	20	P180	13I41-	2	18
79.0	162	4.2	405	81.0	9.611	25	P470	13I41-	2	24
94.0	162	1.8	175	81.0	8.864	25	P180	13I41-	2	18
121	116	3.1	405	58.0	9.342	35	P470	13I41-	2	24
132	116	1.3	175	58.0	8.782	35	P180	13I41-	2	18
139	101	3.1	470	51.0	9.201	40	P470	13I41-	2	24
146	81.0	5.0	950	41.0	14.848	50	P950	13I41-	2	42
150	101	1.2	180	51.0	8.745	40	P180	13I41-	2	18
186	81.0	2.1	405	41.0	9.185	50	P470	13I41-	2	24
235	57.9	3.5	900	29.0	14.771	70	P950	13I41-	2	42
260	57.9	1.4	355	29.0	9.172	70	P470	13I41-	2	24
364	40.5	2.1	750	20.0	14.734	100	P950	13I41-	2	42



Technical data

Planetary gearbox g880-P
Selection tables

2.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
19.0	1025	3.5	80.0	513	20.468	4	P80	14L41-	1	36
22.0	820	5.4	175	410	20.805	5	P180	14L41-	1	40
25.0	820	2.7	80.0	410	20.346	5	P80	14L41-	1	36
33.0	586	4.0	175	293	20.536	7	P180	14L41-	1	40
36.0	586	2.0	78.0	293	19.974	7	P80	14L41-	1	36
43.0	410	5.9	305	205	25.726	10	P470	14L41-	1	45
50.0	410	2.7	140	205	20.380	10	P180	14L41-	1	40
51.0	410	1.2	59.0	205	19.923	10	P80	14L41-	1	36
64.0	256	4.8	450	128	21.327	16	P470	14L41-	2	47
80.0	256	2.2	180	128	20.446	16	P180	14L41-	2	41
85.0	205	4.2	450	103	20.865	20	P470	14L41-	2	47
102	205	1.7	180	103	20.332	20	P180	14L41-	2	41
117	164	3.1	405	82.0	20.801	25	P470	14L41-	2	47
127	164	1.4	175	82.0	20.313	25	P180	14L41-	2	41
134	117	5.3	950	59.0	26.365	35	P950	14L41-	2	65
163	103	4.6	950	51.0	25.838	40	P950	14L41-	2	65
174	117	2.3	405	59.0	20.532	35	P470	14L41-	2	47
199	103	2.3	470	51.0	20.392	40	P470	14L41-	2	47
222	82.0	3.7	950	41.0	25.748	50	P950	14L41-	2	65
254	82.0	1.6	405	41.0	20.376	50	P470	14L41-	2	47
340	58.6	2.6	900	29.0	25.671	70	P950	14L41-	2	65
352	58.6	1.0	355	29.0	20.363	70	P470	14L41-	2	47
491	41.0	1.5	750	21.0	25.634	100	P950	14L41-	2	65

2.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
38.0	575	4.3	180	288	38.029	4	P180	17N23-	1	47
49.0	460	3.2	175	230	37.605	5	P180	17N23-	1	47
64.0	329	4.8	355	164	43.114	7	P470	17N23-	1	53
71.0	329	2.4	175	164	37.336	7	P180	17N23-	1	47
100	230	2.9	305	115	42.526	10	P470	17N23-	1	53
104	230	1.4	140	115	37.180	10	P180	17N23-	1	47
117	144	5.7	950	72.0	46.410	16	P950	17N23-	2	73
154	144	2.7	450	72.0	38.127	16	P470	17N23-	2	54
164	115	4.6	950	58.0	44.730	20	P950	17N23-	2	73
200	115	2.2	450	58.0	37.665	20	P470	17N23-	2	54
222	92.0	3.7	950	46.0	44.370	25	P950	17N23-	2	73
254	92.0	1.6	405	46.0	37.601	25	P470	17N23-	2	54
338	65.7	2.7	950	33.0	43.165	35	P950	17N23-	2	73
355	65.7	1.1	405	33.0	37.332	35	P470	17N23-	2	54
397	57.5	2.3	950	29.0	42.638	40	P950	17N23-	2	73
406	57.5	1.1	470	29.0	37.192	40	P470	17N23-	2	54
508	46.0	1.9	950	23.0	42.548	50	P950	17N23-	2	73
703	32.9	1.3	900	16.0	42.471	70	P950	17N23-	2	73

Technical data

Planetary gearbox g880-P
Selection tables



4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
68.0	468	5.1	405	234	80.261	5	P470	19S23-	1	82
104	334	3.2	355	167	79.114	7	P470	19S23-	1	82
138	234	4.8	750	117	94.520	10	P950	19S23-	1	98
156	234	2.0	305	117	78.526	10	P470	19S23-	1	82
212	146	3.8	950	73.0	82.410	16	P950	19S23-	2	102
283	117	3.0	950	59.0	80.730	20	P950	19S23-	2	102
371	93.6	2.4	950	47.0	80.370	25	P950	19S23-	2	102
536	66.9	1.8	950	33.0	79.165	35	P950	19S23-	2	102
613	58.5	1.5	950	29.0	78.638	40	P950	19S23-	2	102
766	46.8	1.2	950	23.0	78.548	50	P950	19S23-	2	102

4.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
33.0	1028	4.1	180	469	38.029	4	P180	17N41-	1	47
44.0	822	3.1	175	411	37.605	5	P180	17N41-	1	47
55.0	587	5.5	355	274	43.114	7	P470	17N41-	1	53
63.0	587	2.3	175	294	37.336	7	P180	17N41-	1	47
86.0	411	3.3	305	206	42.526	10	P470	17N41-	1	53
91.0	411	1.5	140	206	37.180	10	P180	17N41-	1	47
135	257	2.7	450	128	38.127	16	P470	17N41-	2	54
136	206	5.2	950	100	44.730	20	P950	17N41-	2	73
174	206	2.4	450	103	37.665	20	P470	17N41-	2	54
187	164	4.2	950	82.0	44.370	25	P950	17N41-	2	73
223	164	1.8	405	82.0	37.601	25	P470	17N41-	2	54
289	117	3.0	950	59.0	43.165	35	P950	17N41-	2	73
313	117	1.3	405	59.0	37.332	35	P470	17N41-	2	54
340	103	2.6	950	51.0	42.638	40	P950	17N41-	2	73
357	103	1.3	470	51.0	37.192	40	P470	17N41-	2	54
443	82.2	2.1	950	41.0	42.548	50	P950	17N41-	2	73
618	58.7	1.5	900	29.0	42.471	70	P950	17N41-	2	73

5.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
73.0	593	4.4	355	268	79.114	7	P470	19S42-	1	82
97.0	415	5.8	750	182	94.520	10	P950	19S42-	1	98
112	415	2.7	305	208	78.526	10	P470	19S42-	1	82
138	259	5.2	950	103	82.410	16	P950	19S42-	2	102
190	208	4.1	950	98.0	80.730	20	P950	19S42-	2	102
255	166	3.3	950	83.0	80.370	25	P950	19S42-	2	102
384	119	2.4	950	59.0	79.165	35	P950	19S42-	2	102
448	104	2.1	950	52.0	78.638	40	P950	19S42-	2	102
564	83.0	1.7	950	42.0	78.548	50	P950	19S42-	2	102
781	59.3	1.2	900	30.0	78.471	70	P950	19S42-	2	102



Technical data

Planetary gearbox g880-P
Selection tables

6.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
146	356	4.9	900	178	206.199	7	P950	21X25-	1	88
225	249	3.2	750	125	202.520	10	P950	21X25-	1	88

7.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, th}$	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
149	416	4.1	750	177	202.520	10	P950	21X42-	1	88

Technical data

Planetary gearbox g880-P
Selection tables



Inverter power supply 400 V, forced ventilated motors

2.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
42.0	409	3.9	180	204	21.229	4	P180	14L16-	1	41
55.0	327	3.0	175	164	20.805	5	P180	14L16-	1	41
73.0	234	4.4	355	117	26.314	7	P470	14L16-	1	47
80.0	234	2.2	175	117	20.536	7	P180	14L16-	1	41
112	164	2.7	305	82.0	25.726	10	P470	14L16-	1	47
115	164	1.2	140	82.0	20.380	10	P180	14L16-	1	41
138	102	5.2	950	51.0	29.610	16	P950	14L16-	2	67
175	102	2.4	450	51.0	21.327	16	P470	14L16-	2	48
190	81.8	4.1	950	41.0	27.930	20	P950	14L16-	2	67
226	81.8	2.0	450	41.0	20.865	20	P470	14L16-	2	48
255	65.4	3.3	950	33.0	27.570	25	P950	14L16-	2	67
282	65.4	1.4	405	33.0	20.801	25	P470	14L16-	2	48
384	46.7	2.4	950	23.0	26.365	35	P950	14L16-	2	67
395	46.7	1.0	405	23.0	20.532	35	P470	14L16-	2	48
448	40.9	2.1	950	20.0	25.838	40	P950	14L16-	2	67
451	40.9	1.0	470	20.0	20.392	40	P470	14L16-	2	48
564	32.7	1.7	950	16.0	25.748	50	P950	14L16-	2	67
781	23.4	1.2	900	12.0	25.671	70	P950	14L16-	2	67

2.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
23.0	853	3.2	80.0	426	9.019	4	P80	13I34-	1	15
27.0	682	4.9	175	341	9.617	5	P180	13I34-	1	19
30.0	682	2.4	80.0	341	8.897	5	P80	13I34-	1	15
39.0	487	3.7	175	244	9.348	7	P180	13I34-	1	19
42.0	487	1.8	78.0	244	8.800	7	P80	13I34-	1	15
53.0	341	5.0	305	171	14.826	10	P470	13I34-	1	24
60.0	341	2.3	140	171	9.192	10	P180	13I34-	1	19
78.0	213	4.4	450	107	10.136	16	P470	13I34-	2	26
95.0	213	1.9	180	107	8.997	16	P180	13I34-	2	20
103	171	3.7	450	85.0	9.675	20	P470	13I34-	2	26
118	171	1.5	180	85.0	8.882	20	P180	13I34-	2	20
141	136	2.7	405	68.0	9.611	25	P470	13I34-	2	26
148	136	1.2	175	68.0	8.864	25	P180	13I34-	2	20
168	97.4	4.5	950	49.0	15.465	35	P950	13I34-	2	44
202	85.3	4.0	950	43.0	14.938	40	P950	13I34-	2	44
207	97.4	1.9	405	49.0	9.342	35	P470	13I34-	2	26
237	85.3	1.9	470	43.0	9.201	40	P470	13I34-	2	26
270	68.2	3.2	950	34.0	14.848	50	P950	13I34-	2	44
296	68.2	1.4	405	34.0	9.185	50	P470	13I34-	2	26
409	48.7	2.2	900	24.0	14.771	70	P950	13I34-	2	44
573	34.1	1.3	750	17.0	14.734	100	P950	13I34-	2	44



Technical data

Planetary gearbox g880-P
Selection tables

3.8 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
70.0	420	5.6	470	210	45.670	4	P470	17N17-	1	56
82.0	420	2.2	180	210	38.029	4	P180	17N17-	1	50
95.0	336	3.9	405	168	44.261	5	P470	17N17-	1	56
103	336	1.7	175	168	37.605	5	P180	17N17-	1	50
142	240	2.4	355	120	43.114	7	P470	17N17-	1	56
144	240	1.2	175	120	37.336	7	P180	17N17-	1	50
192	168	3.6	750	84.0	58.520	10	P950	17N17-	1	72
206	168	1.5	305	84.0	42.526	10	P470	17N17-	1	56
302	105	2.9	950	53.0	46.410	16	P950	17N17-	2	76
323	105	1.4	450	53.0	38.127	16	P470	17N17-	2	57
395	84.0	2.3	950	42.0	44.730	20	P950	17N17-	2	76
404	84.0	1.1	450	42.0	37.665	20	P470	17N17-	2	57
505	67.2	1.8	950	34.0	44.370	25	P950	17N17-	2	76
707	48.0	1.3	950	24.0	43.165	35	P950	17N17-	2	76
808	42.0	1.2	950	21.0	42.638	40	P950	17N17-	2	76

3.9 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M ₂	n ₂	c	M _{2, max}	n _{2, th}	J		g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
38.0	864	3.8	180	432	21.229	4	P180	14L35-	1	41
50.0	691	2.9	175	346	20.805	5	P180	14L35-	1	41
64.0	494	4.8	355	247	26.314	7	P470	14L35-	1	47
72.0	494	2.1	175	247	20.536	7	P180	14L35-	1	41
100	346	2.9	305	173	25.726	10	P470	14L35-	1	47
104	346	1.4	140	173	20.380	10	P180	14L35-	1	41
117	216	5.7	950	104	29.610	16	P950	14L35-	2	67
156	216	2.6	450	108	21.327	16	P470	14L35-	2	48
164	173	4.6	950	86.0	27.930	20	P950	14L35-	2	67
200	173	2.2	450	86.0	20.865	20	P470	14L35-	2	48
222	138	3.7	950	69.0	27.570	25	P950	14L35-	2	67
254	138	1.6	405	69.0	20.801	25	P470	14L35-	2	48
338	98.7	2.7	950	49.0	26.365	35	P950	14L35-	2	67
355	98.7	1.1	405	49.0	20.532	35	P470	14L35-	2	48
397	86.4	2.3	950	43.0	25.838	40	P950	14L35-	2	67
406	86.4	1.1	470	43.0	20.392	40	P470	14L35-	2	48
508	69.1	1.9	950	35.0	25.748	50	P950	14L35-	2	67
703	49.4	1.3	900	25.0	25.671	70	P950	14L35-	2	67

Technical data

Planetary gearbox g880-P
Selection tables



6.4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
132	425	3.3	470	213	81.670	4	P470	19S17-	1	85
151	340	5.2	950	170	104.573	5	P950	19S17-	1	102
172	340	2.3	405	170	80.261	5	P470	19S17-	1	85
227	243	3.7	900	121	98.199	7	P950	19S17-	1	102
244	243	1.4	355	121	79.114	7	P470	19S17-	1	85
346	170	2.2	750	85.0	94.520	10	P950	19S17-	1	102
546	106	1.7	950	53.0	82.410	16	P950	19S17-	2	105
682	85.0	1.4	950	43.0	80.730	20	P950	19S17-	2	105
853	68.0	1.1	950	34.0	80.370	25	P950	19S17-	2	105

6.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
61.0	870	5.8	470	291	45.670	4	P470	17N35-	1	56
73.0	870	2.1	180	435	38.029	4	P180	17N35-	1	50
82.0	696	4.4	405	287	44.261	5	P470	17N35-	1	56
91.0	696	1.6	175	348	37.605	5	P180	17N35-	1	50
108	497	5.7	900	195	62.199	7	P950	17N35-	1	72
124	497	2.8	355	249	43.114	7	P470	17N35-	1	56
128	497	1.2	175	249	37.336	7	P180	17N35-	1	50
168	348	3.9	750	174	58.520	10	P950	17N35-	1	72
182	348	1.7	305	174	42.526	10	P470	17N35-	1	56
259	218	3.3	950	99.0	46.410	16	P950	17N35-	2	76
286	218	1.5	450	109	38.127	16	P470	17N35-	2	57
341	174	2.6	950	87.0	44.730	20	P950	17N35-	2	76
357	174	1.2	450	87.0	37.665	20	P470	17N35-	2	57
444	139	2.1	950	70.0	44.370	25	P950	17N35-	2	76
625	99.4	1.5	950	50.0	43.165	35	P950	17N35-	2	76
714	87.0	1.3	950	44.0	42.638	40	P950	17N35-	2	76
893	69.6	1.1	950	35.0	42.548	50	P950	17N35-	2	76

9.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
215	355	4.0	950	178	211.642	4	P950	20X14H	1	92
278	284	3.2	950	142	203.573	5	P950	20X14H	1	92
407	203	2.2	900	101	197.199	7	P950	20X14H	1	92
586	142	1.3	750	71.0	193.520	10	P950	20X14H	1	92

11 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J	i	g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
217	428	3.9	950	196	220.642	4	P950	21X17-	1	92
281	342	3.1	950	171	212.573	5	P950	21X17-	1	92
410	244	2.2	900	122	206.199	7	P950	21X17-	1	92
589	171	1.3	750	86.0	202.520	10	P950	21X17-	1	92



Technical data

Planetary gearbox g880-P
Selection tables

13.2 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J		g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
119	878	5.4	950	201	112.642	4	P950	19S35-	1	102
132	878	3.1	470	276	81.670	4	P470	19S35-	1	85
157	702	4.2	950	197	104.573	5	P950	19S35-	1	102
170	702	2.3	405	271	80.261	5	P470	19S35-	1	85
232	501	3.0	900	184	98.199	7	P950	19S35-	1	102
242	501	1.5	355	244	79.114	7	P470	19S35-	1	85
345	351	2.0	750	166	94.520	10	P950	19S35-	1	102
541	219	1.7	950	93.0	82.410	16	P950	19S35-	2	105
677	176	1.4	950	88.0	80.730	20	P950	19S35-	2	105
846	140	1.1	950	70.0	80.370	25	P950	19S35-	2	105

16.4 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J		g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
190	733	3.8	950	196	211.642	4	P950	20X29H	1	92
246	586	3.0	950	190	203.573	5	P950	20X29H	1	92
358	419	2.1	900	178	197.199	7	P950	20X29H	1	92
514	293	1.5	750	147	193.520	10	P950	20X29H	1	92

20.3 kW

Inverter operation						i	Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, \max}$	$n_{2, \text{th}}$	J		g880-	MCA	z	m
Nm	rpm		Nm	rpm	kgcm ²					kg
198	880	3.5	950	195	220.642	4	P950	21X35-	1	92
256	704	2.8	950	189	212.573	5	P950	21X35-	1	92
370	503	2.0	900	176	206.199	7	P950	21X35-	1	92
528	352	1.3	750	159	202.520	10	P950	21X35-	1	92

Technical data

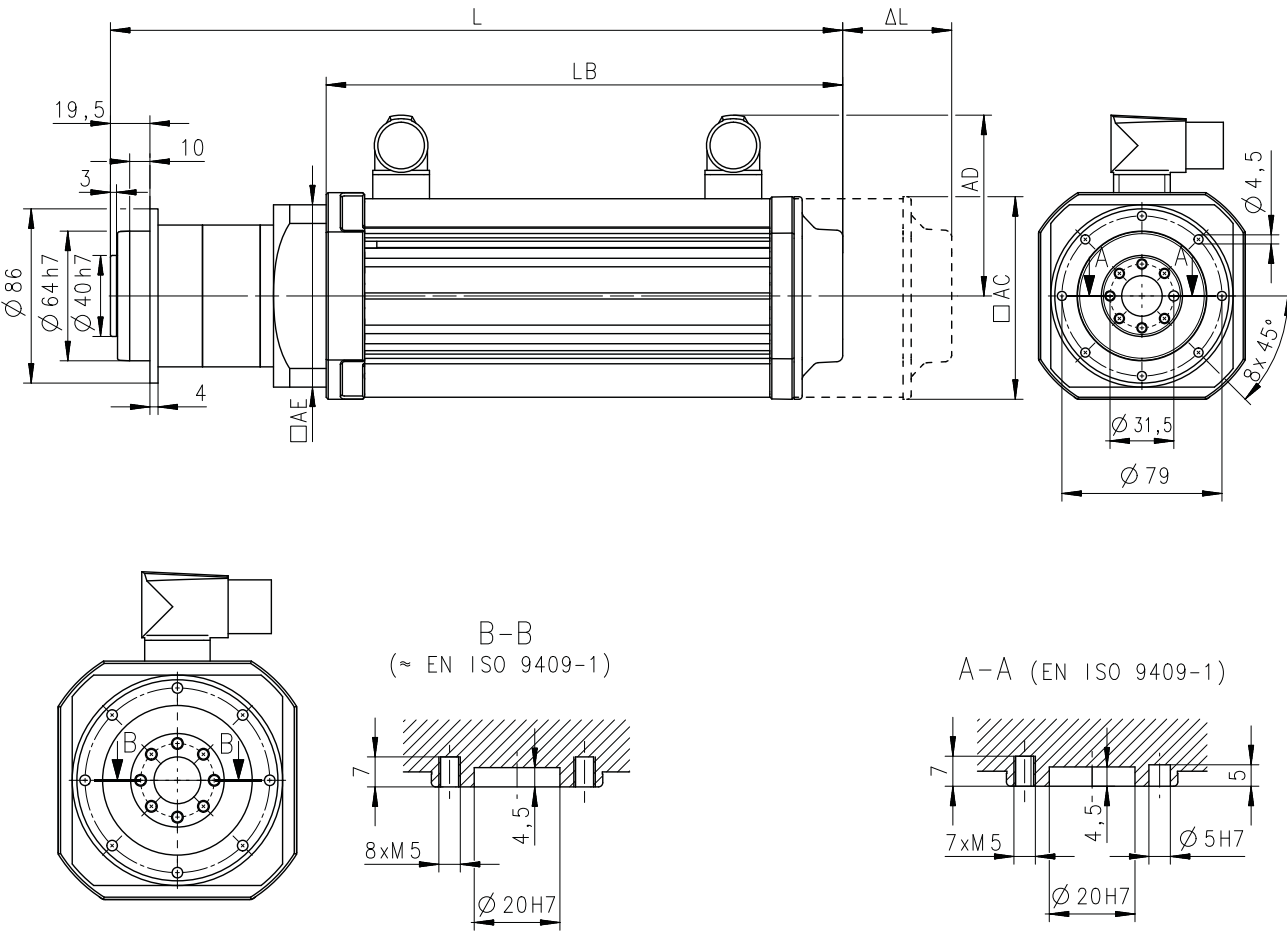
Planetary gearbox g880-P
Basic dimensions



Basic dimensions

g880-P40 with MCA10

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800894-00

Motor			MCA 10
			I40-
Total length	L	mm	340
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

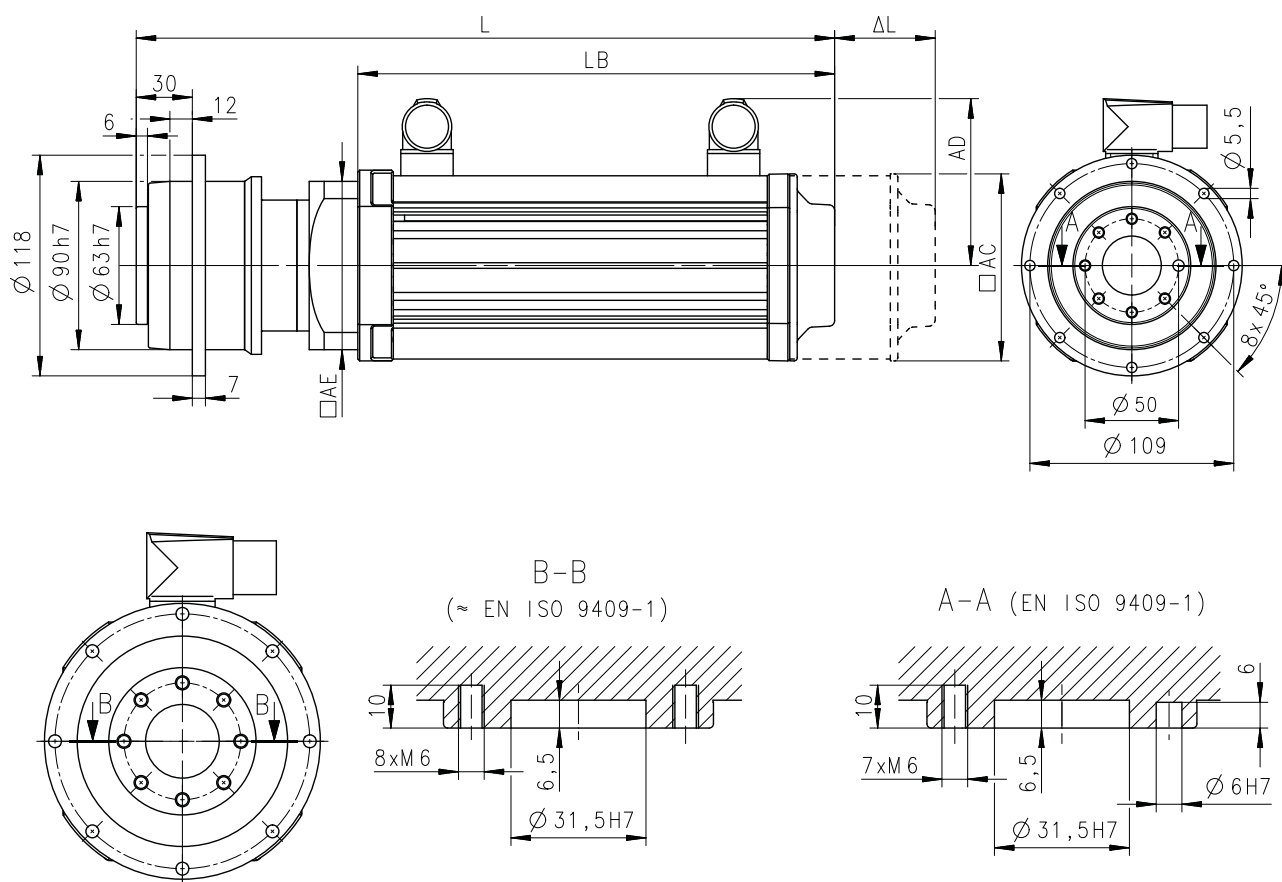


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P80 with MCA10

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800895-00

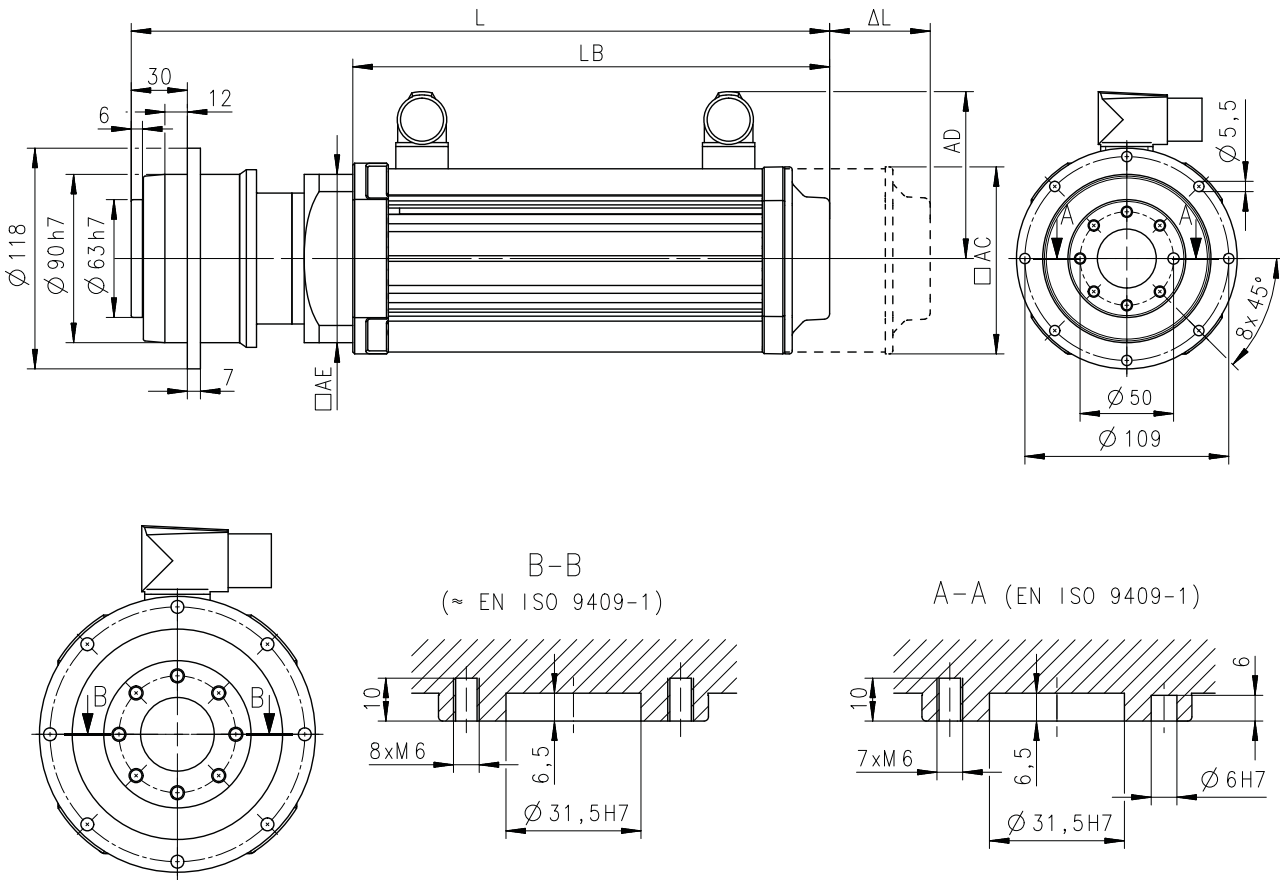
Motor			MCA 10
			I40-
Total length	L	mm	351.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P80 with MCA10
Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800895-00

Motor			MCA 10
			I40-
Total length	L	mm	380.5
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

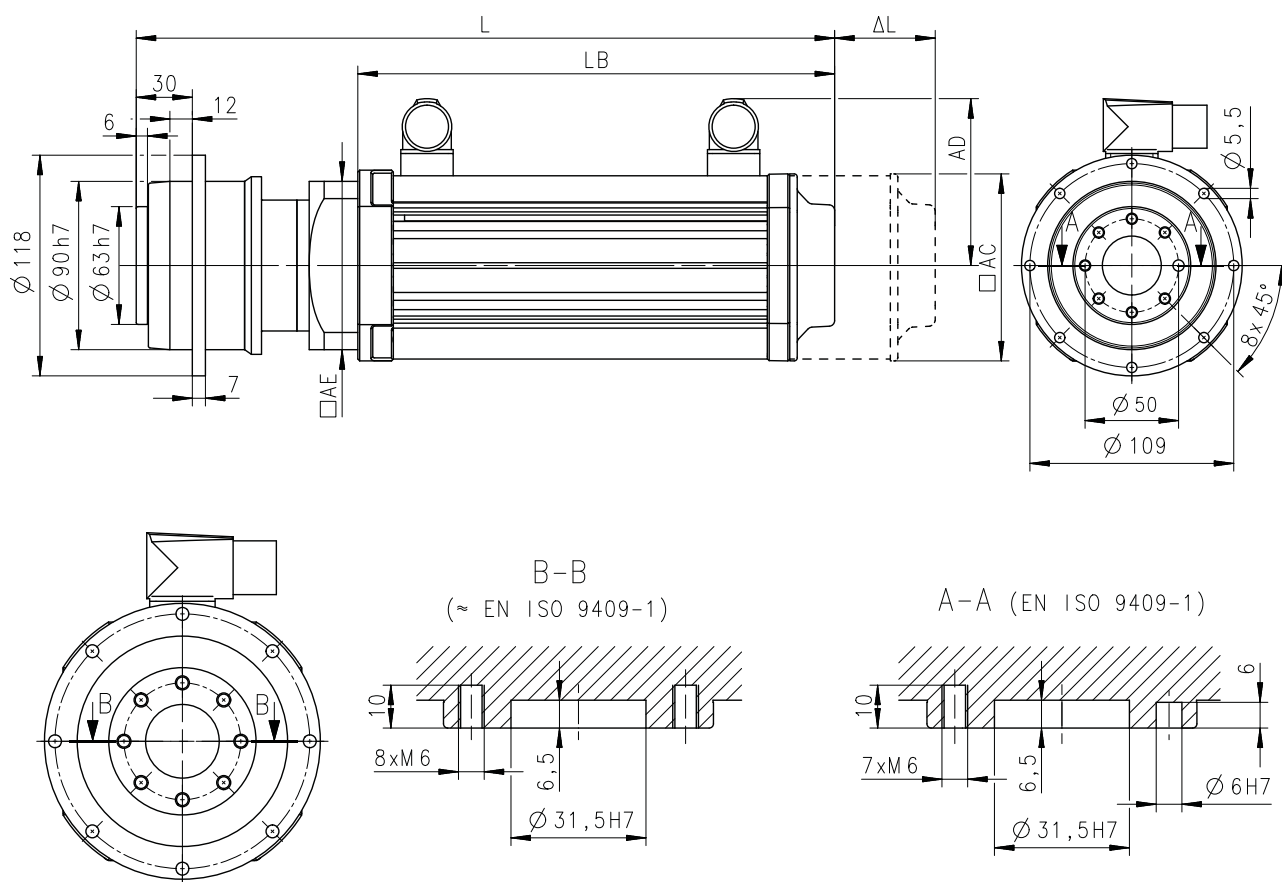


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P80 with MCA13

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800895-00

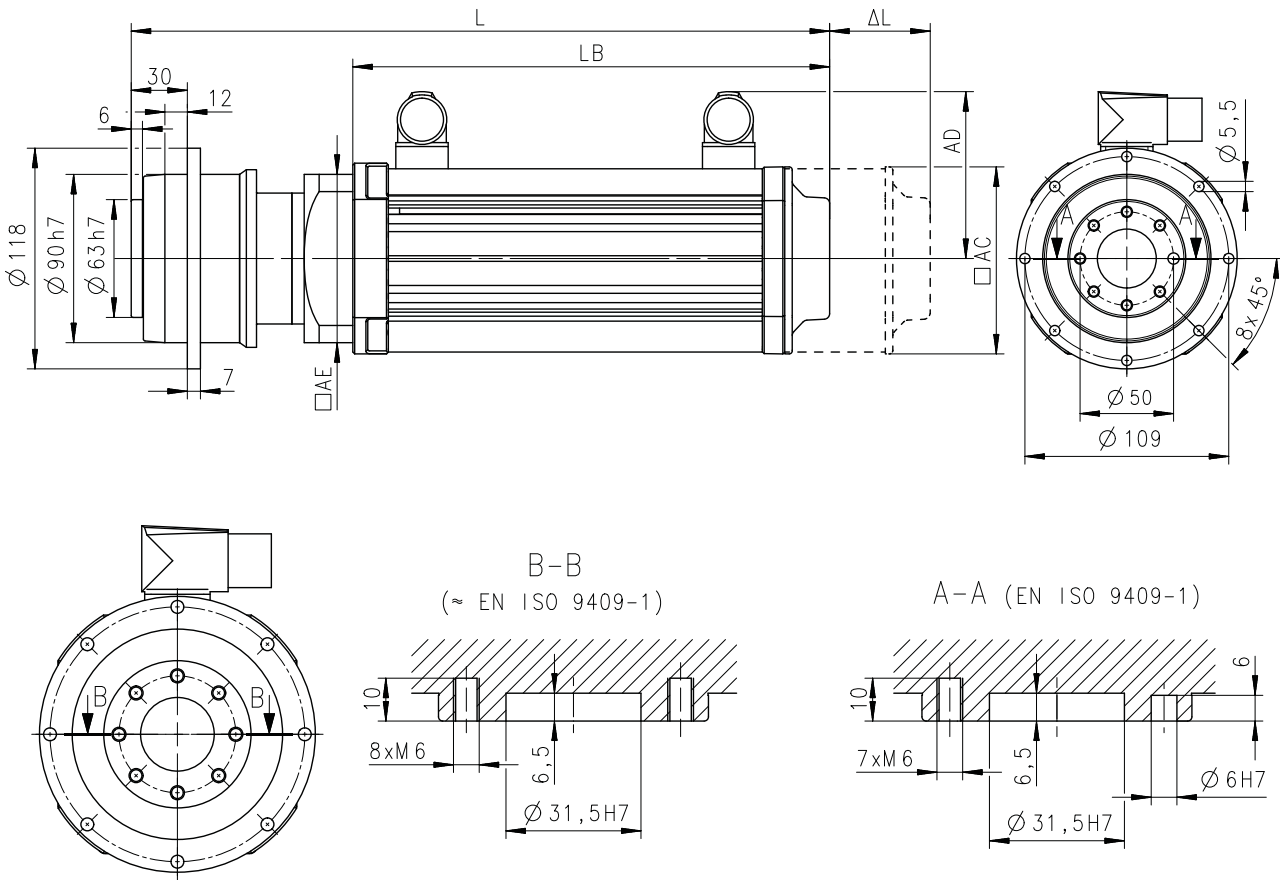
Motor			MCA 13	
			I34-	I41-
Total length	L	mm	438.5	370.5
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P80 with MCA14
Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800895-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	411.5	411.5
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	142	142

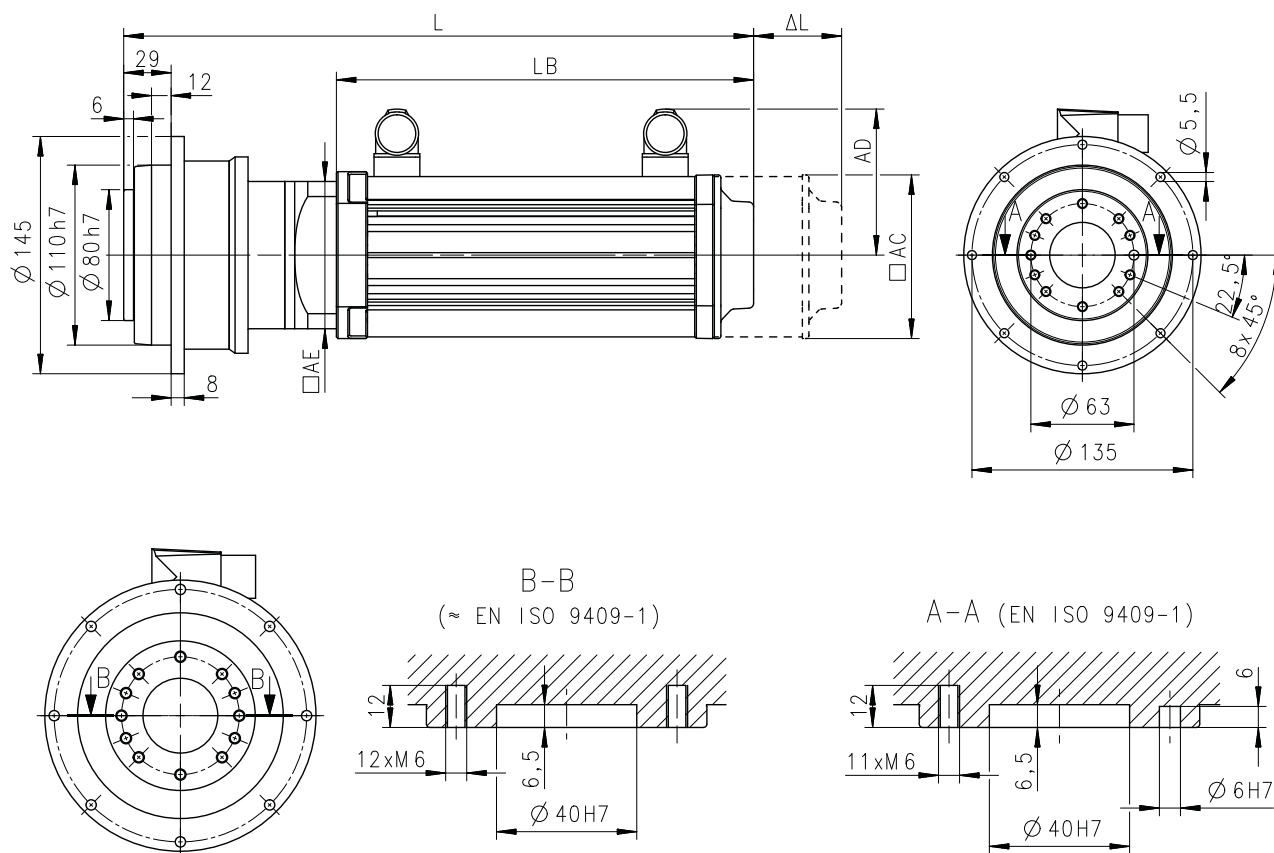


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P180 with MCA10

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800896-00

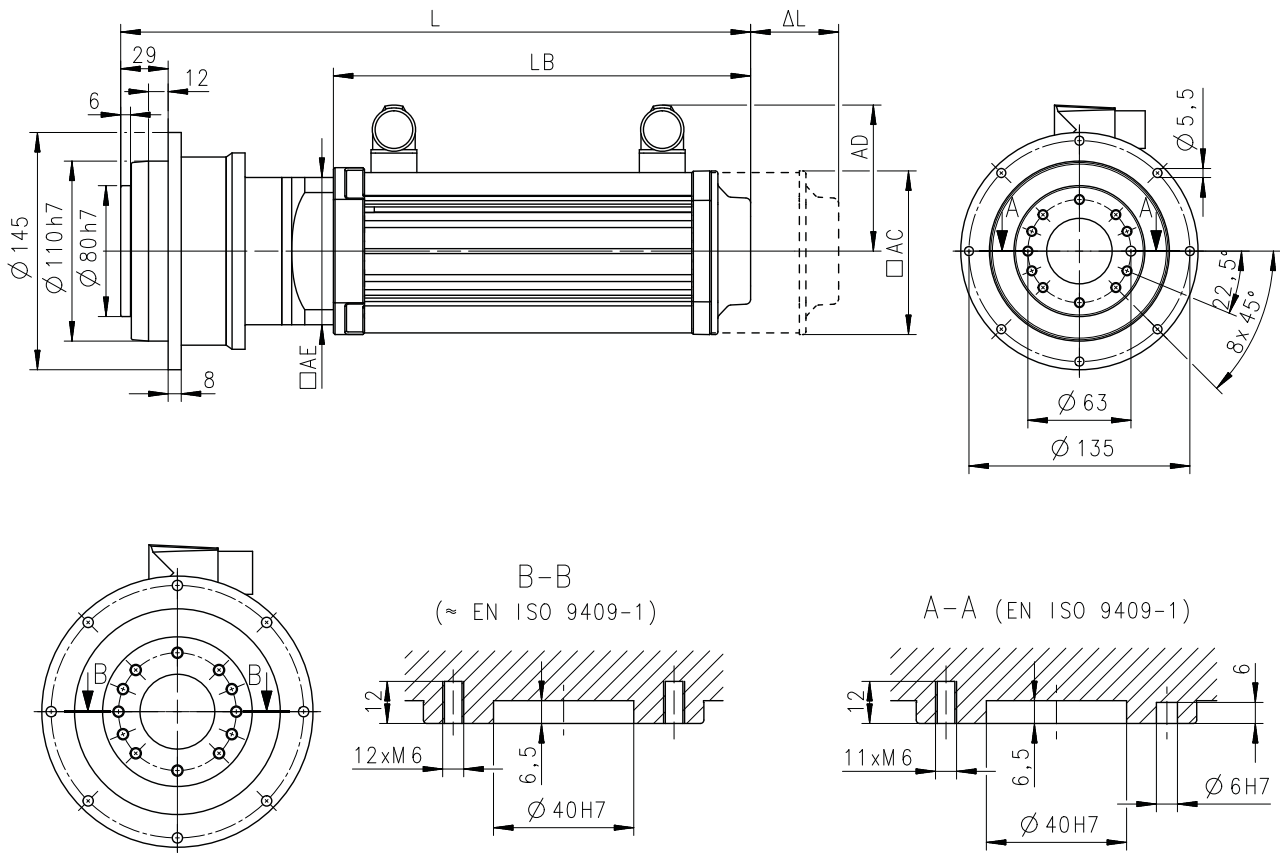
Motor			MCA 10
			I40-
Total length	L	mm	392
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90

Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P180 with MCA13
Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800896-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	447	379
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	120	120

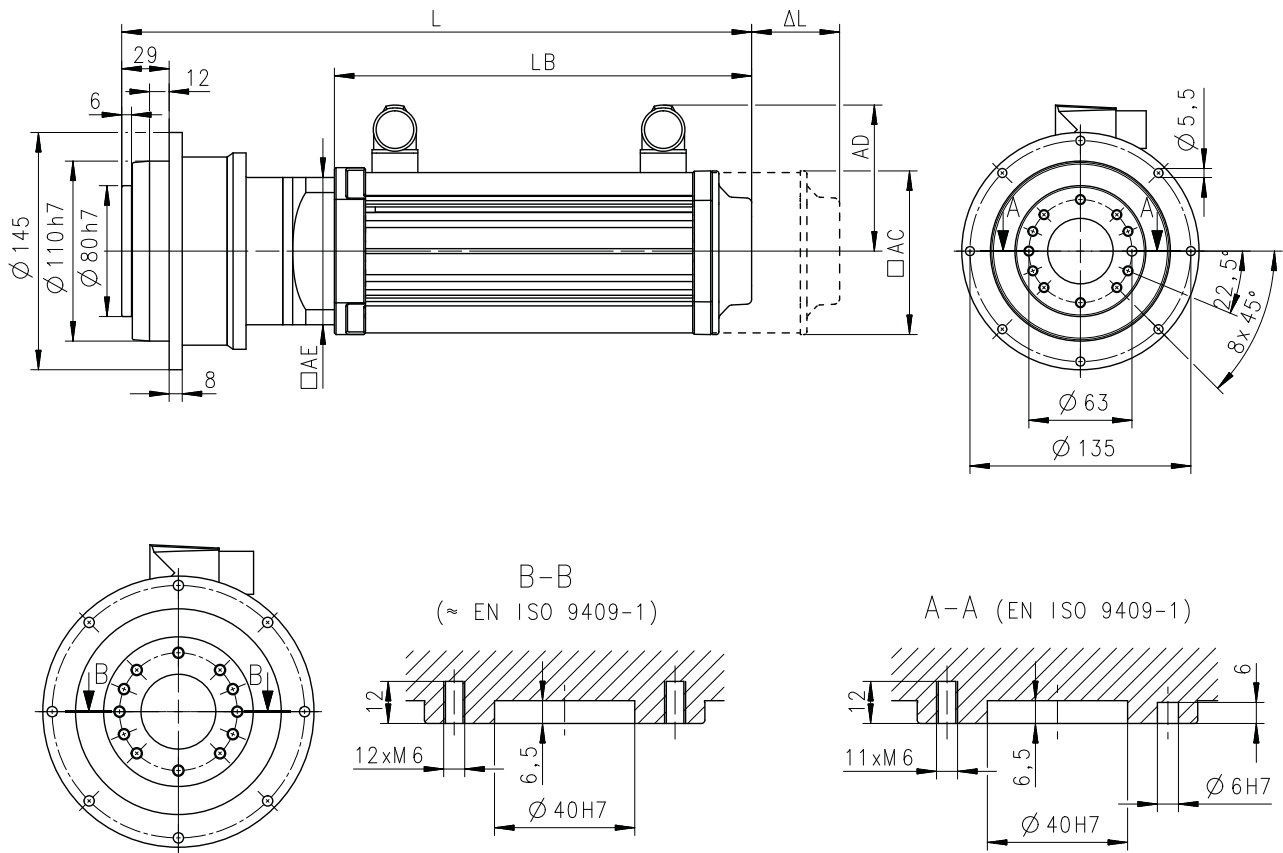


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P180 with MCA13

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800896-00

Motor			MCA 13	
			I34-	I41-
Total length	L	mm	479	411
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	115	115

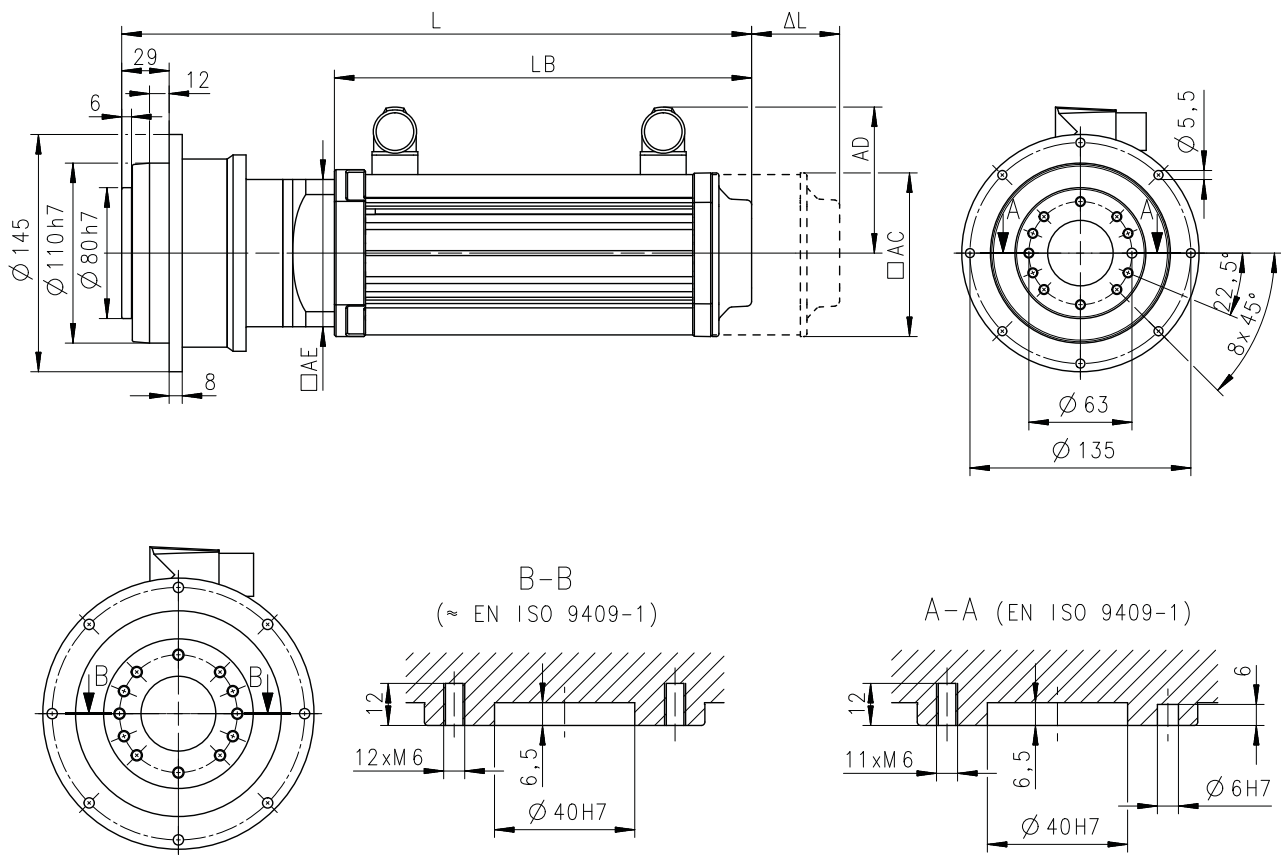
Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P180 with MCA14

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800896-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	482	420	482	420
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

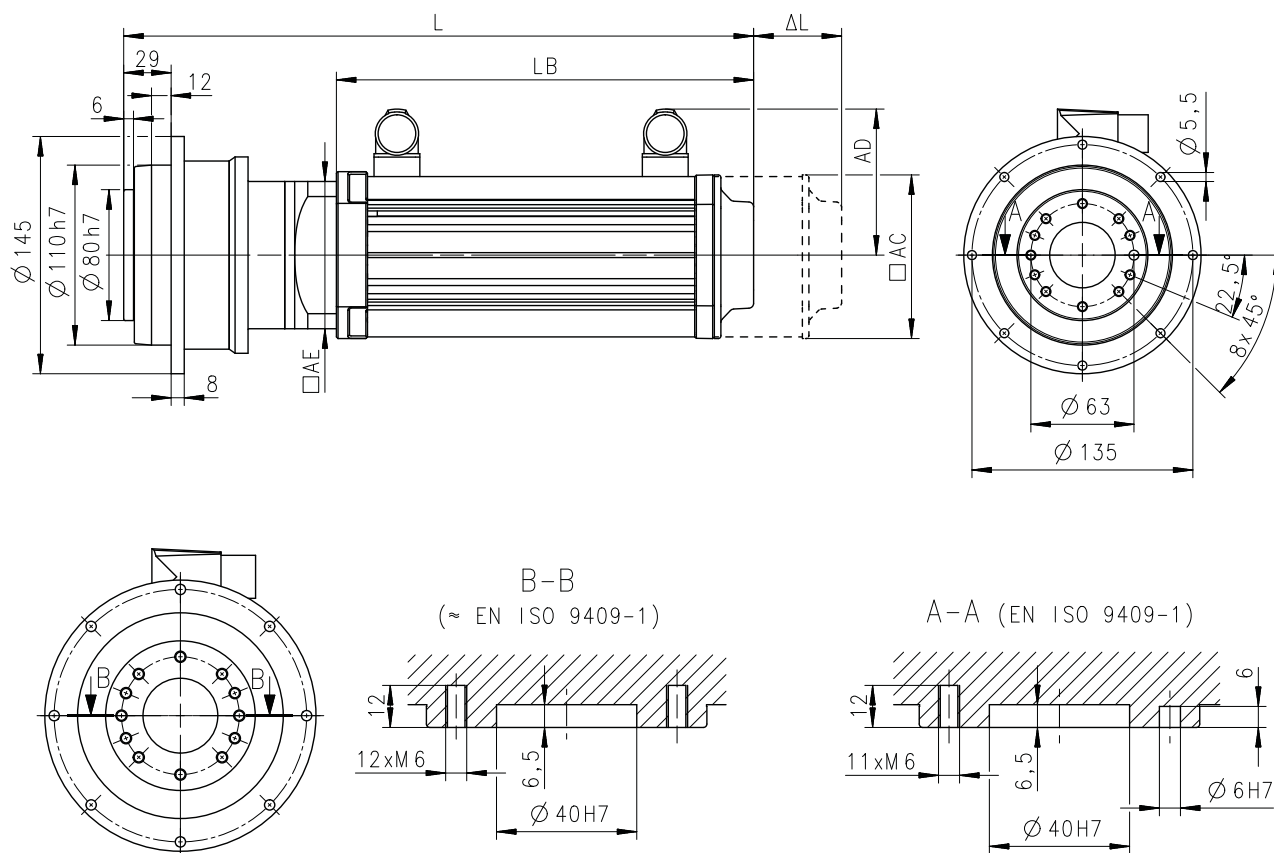


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P180 with MCA14

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800896-00

Motor			MCA 14	
			L20-	L41-
Total length	L	mm	452	452
Motor length	LB	mm	302	302
Motor diameter	AC	mm	142	142
Motor/connection distance	AD	mm	109	109
Gearbox diameter	AE	mm	142	142

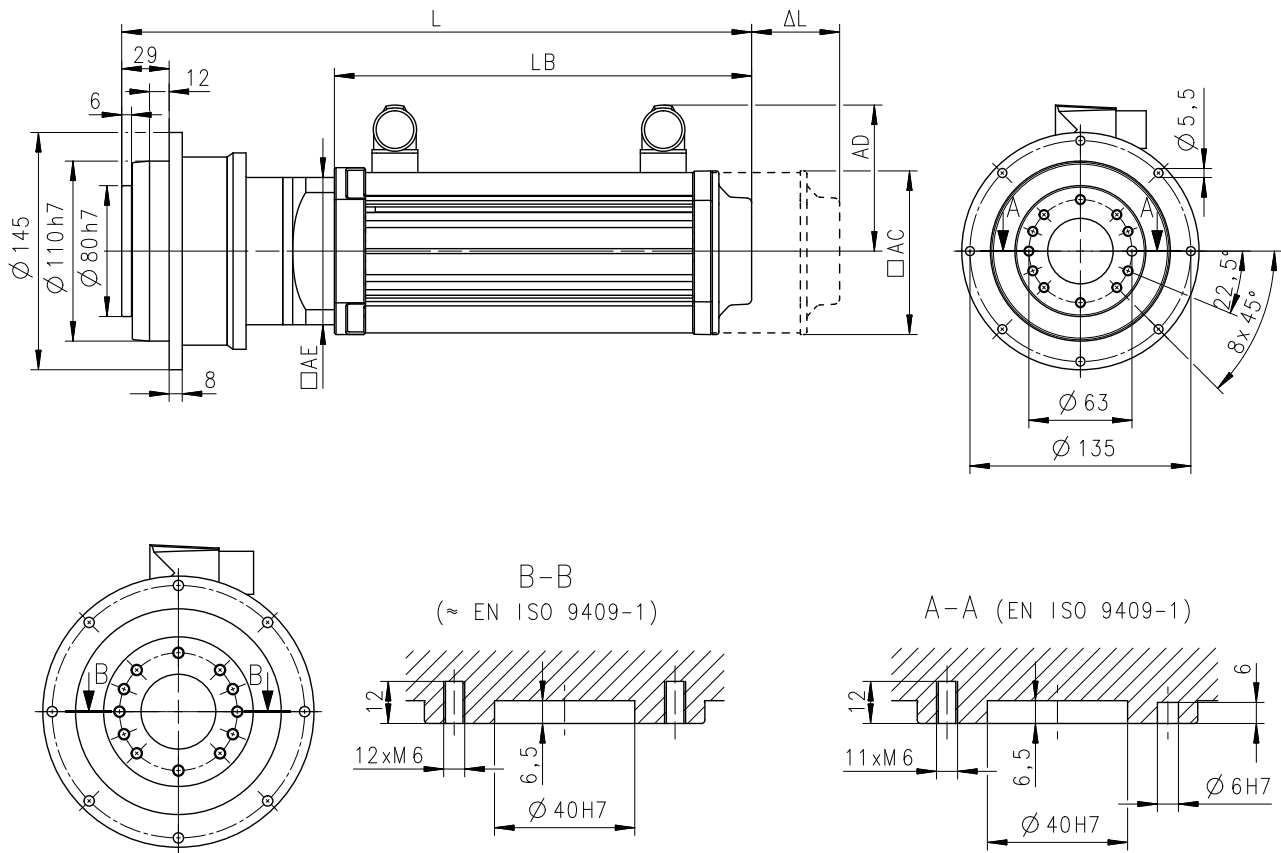
Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P180 with MCA17

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800896-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	544	458	544	458
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

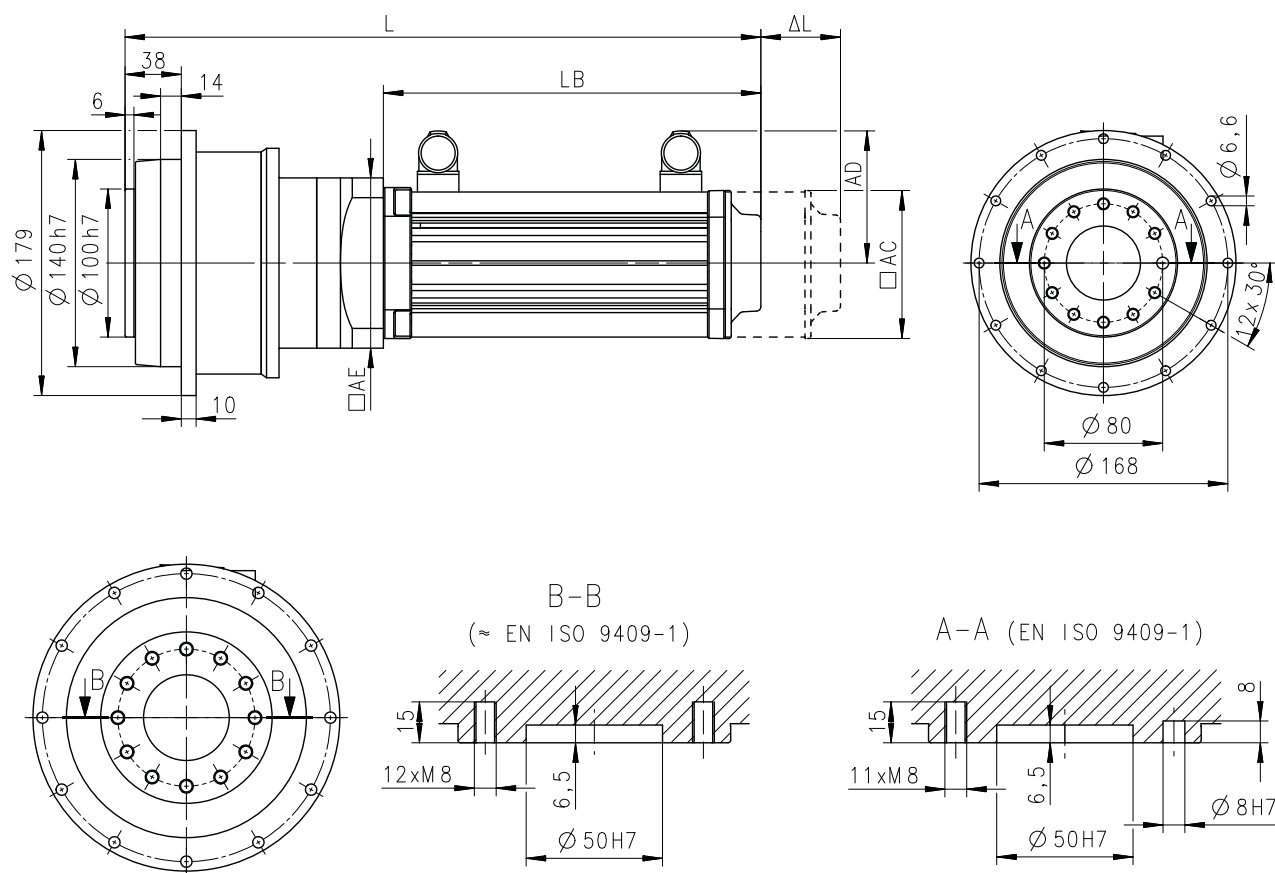


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P470 with MCA10

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800897-00

Motor			MCA 10
			I40-
Total length	L	mm	435
Motor length	LB	mm	262
Motor diameter	AC	mm	102
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	115

Planetary gearbox g880-P

Basic dimensions



Motor			MCA 13
			I34-
Total length	L	mm	481
Motor length	LB	mm	339
Motor diameter	AC	mm	130
Motor/connection distance	AD	mm	102
Gearbox diameter	AE	mm	150

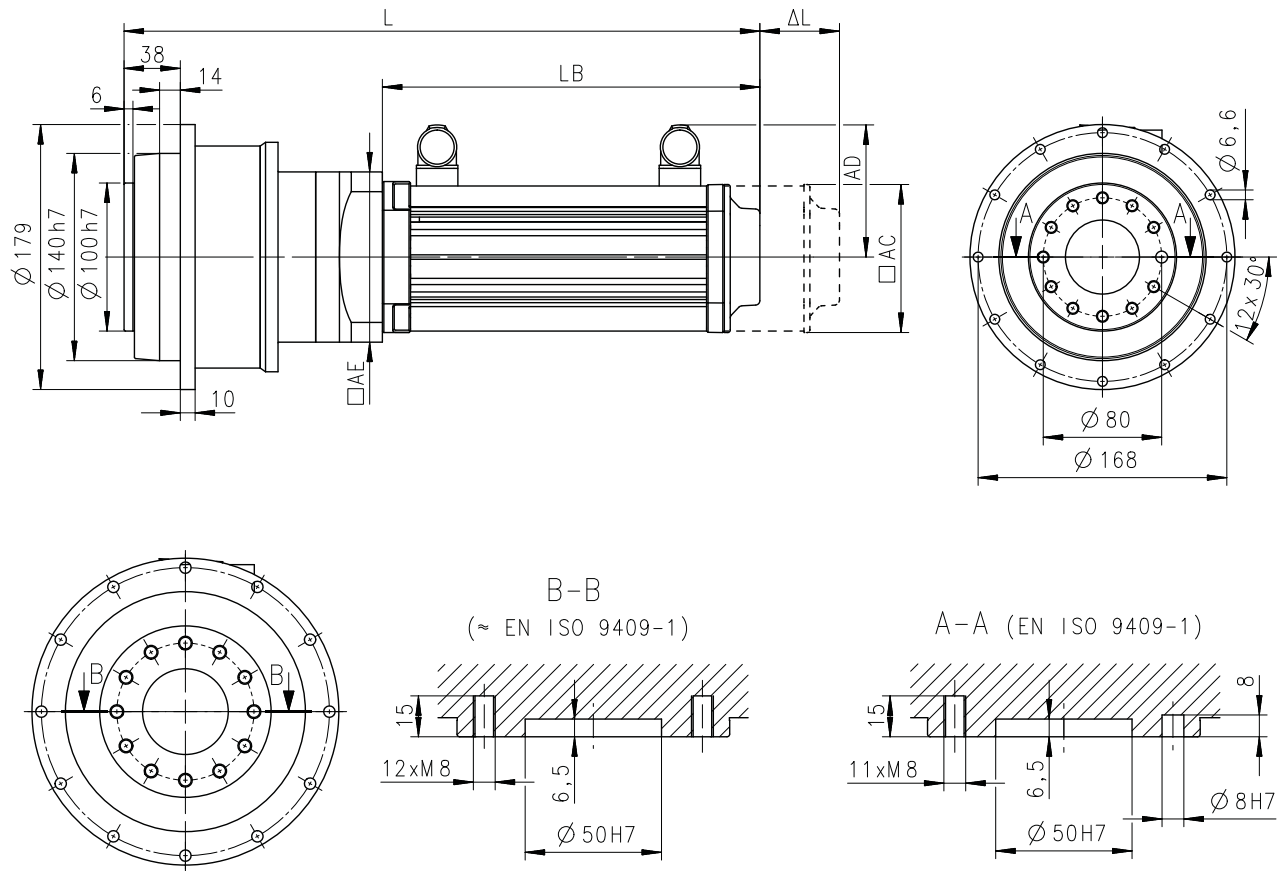


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P470 with MCA13

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800897-00

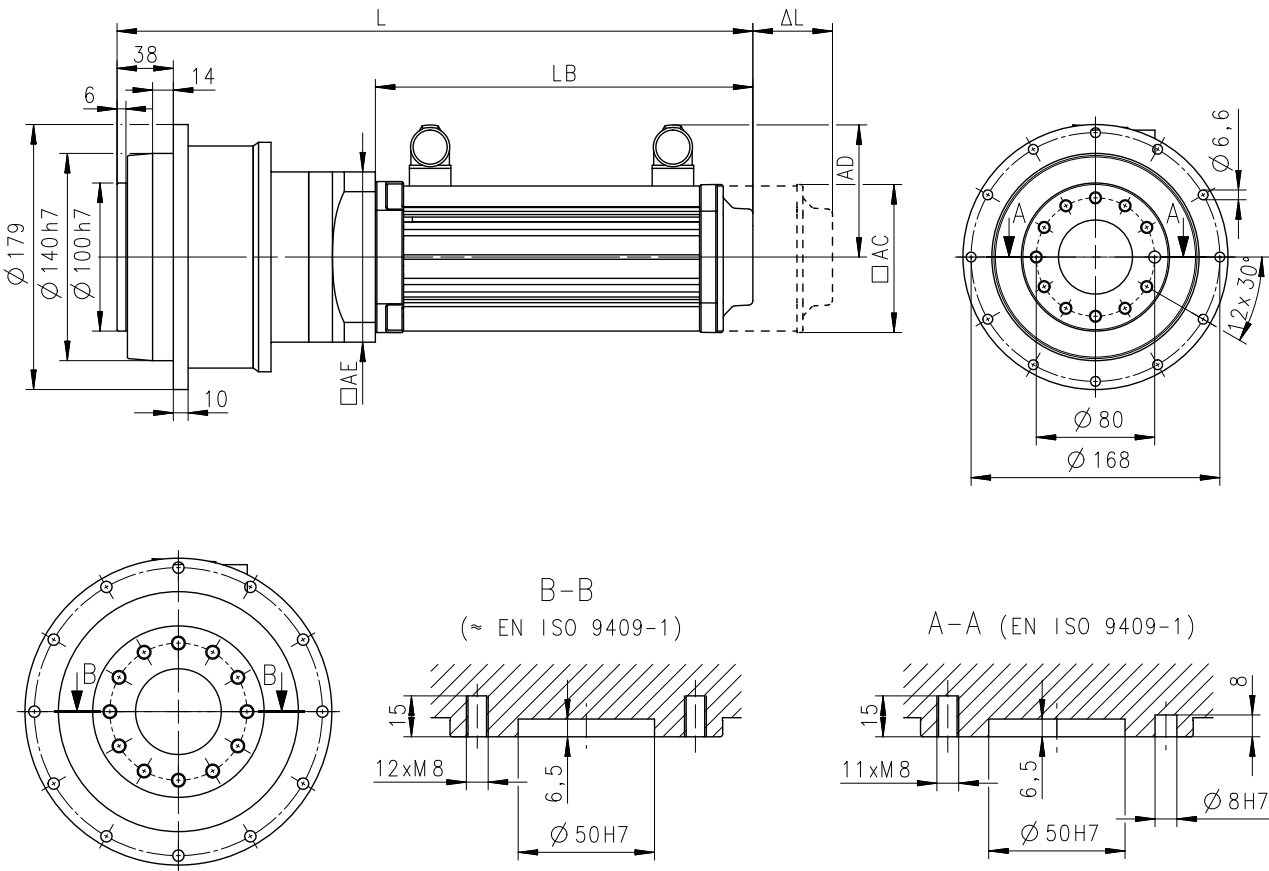
Motor			MCA 13	
			I34-	I41-
Total length	L	mm	522	454
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	142	142

Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P470 with MCA14
Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800897-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	506	444	506	444
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	150	150	150	150

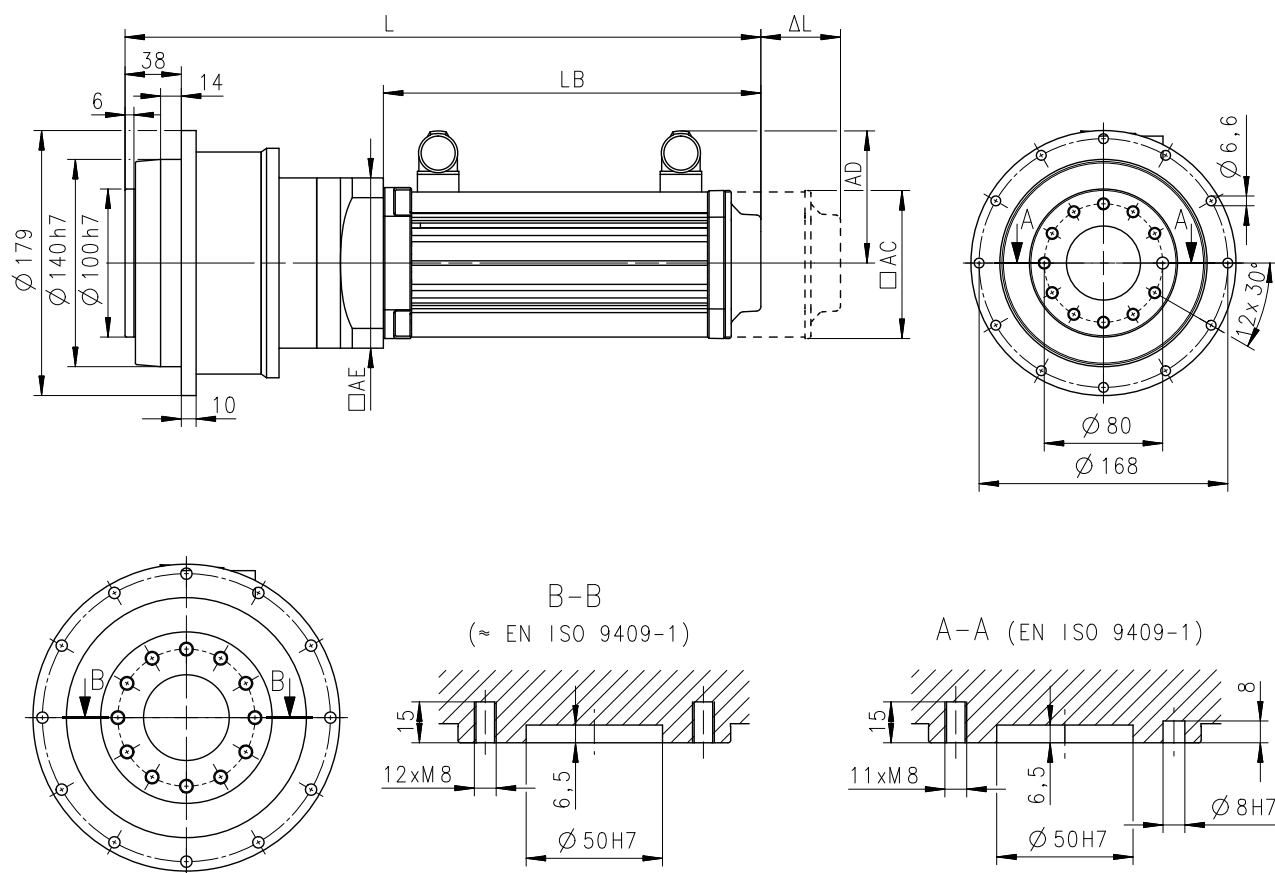


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P470 with MCA14

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800897-00

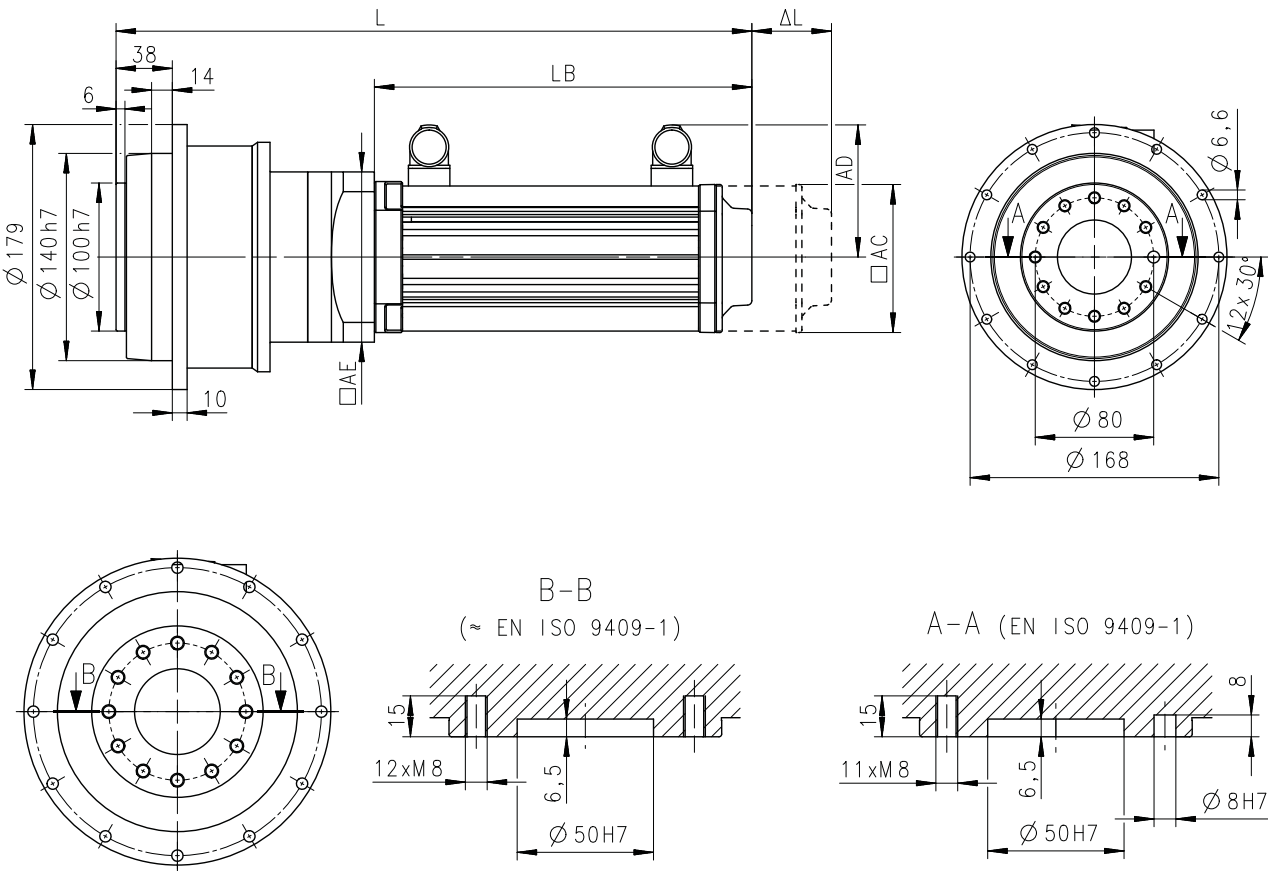
Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	547	485	547	485
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	142	142	142	142

Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P470 with MCA17
Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800897-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	568	482	568	482
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	150	150	150	150

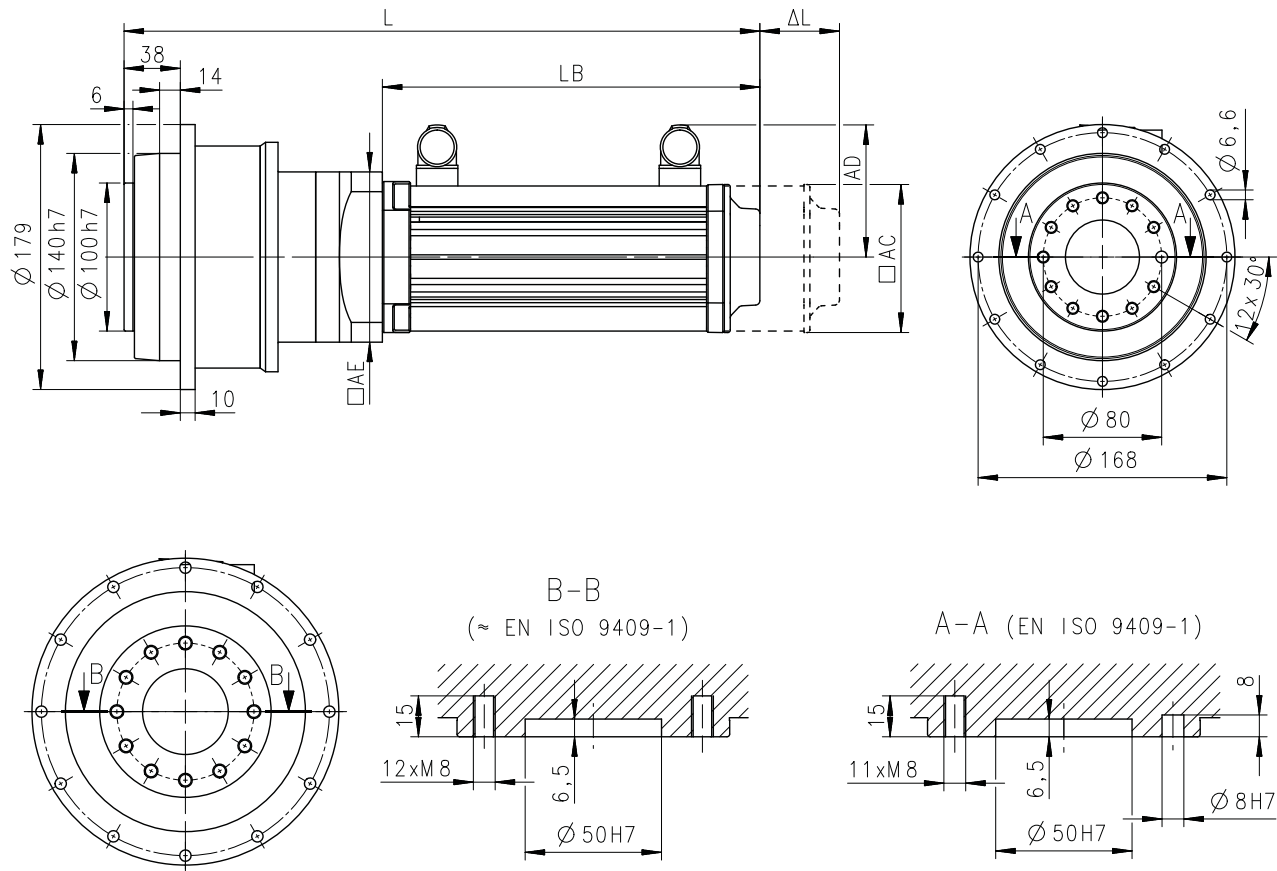


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P470 with MCA17

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800897-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	609	523	609	523
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	142	142	142	142

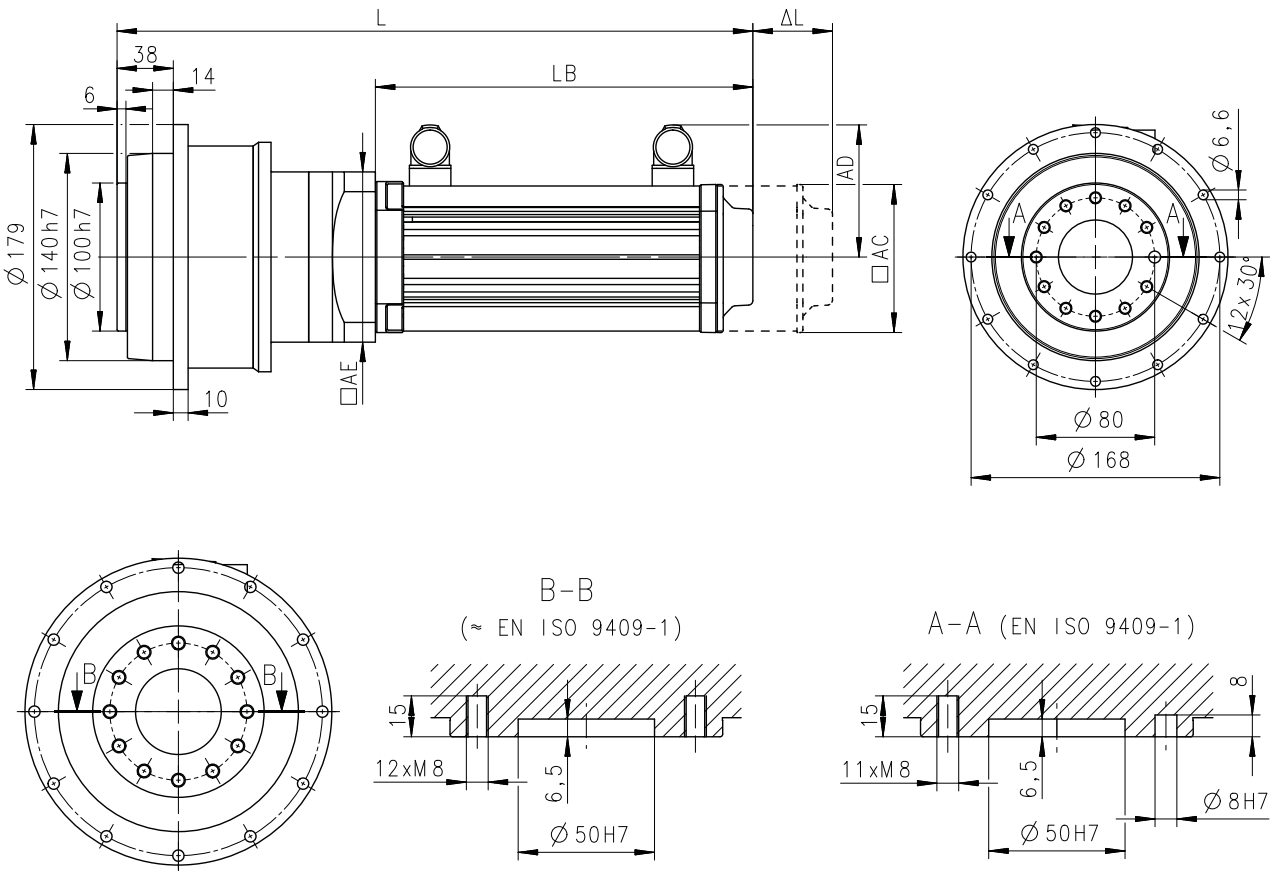
Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P470 with MCA19

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800897-00

Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	650	553	650	553
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190

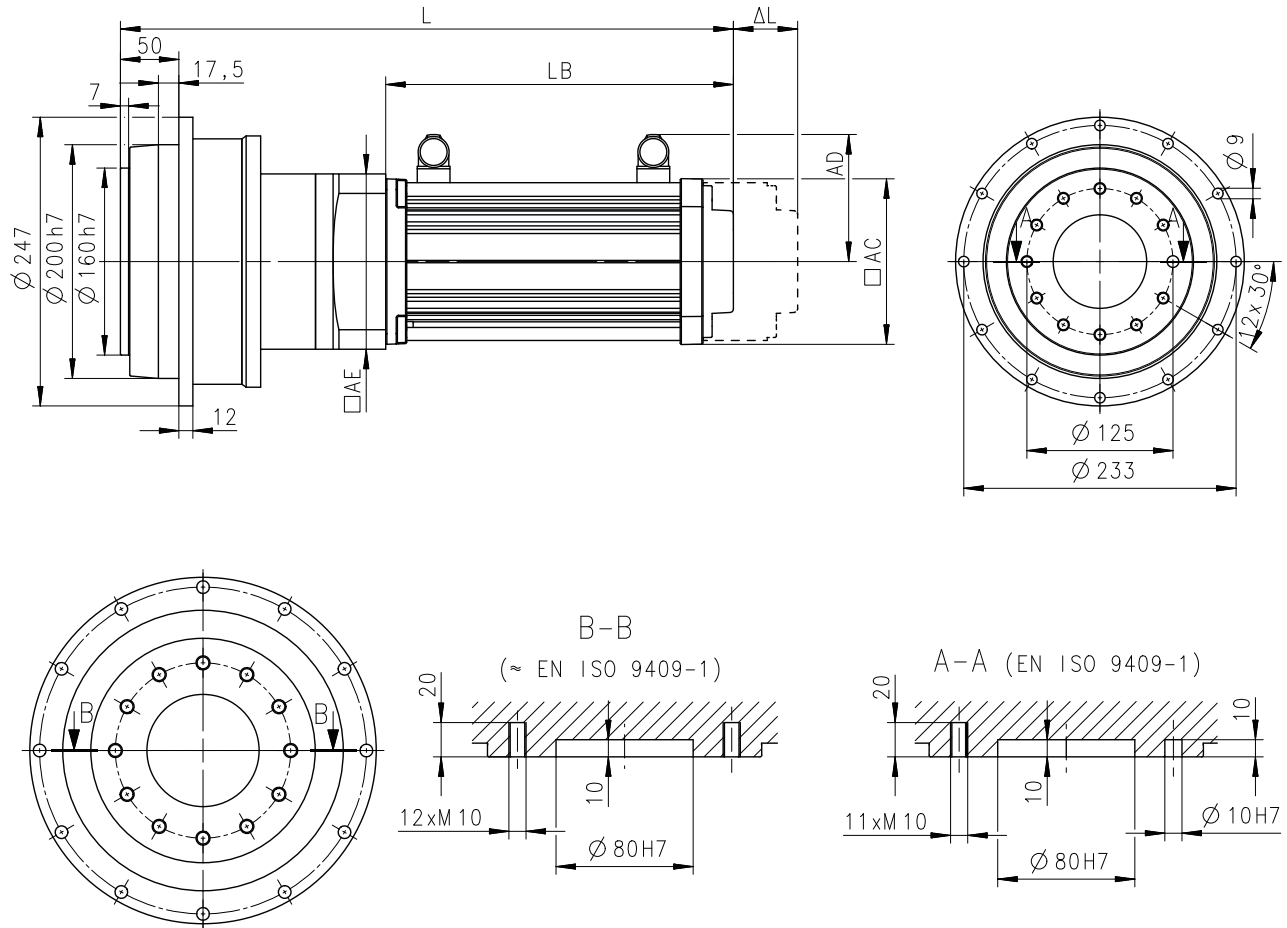


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P950 with MCA13

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800898-00

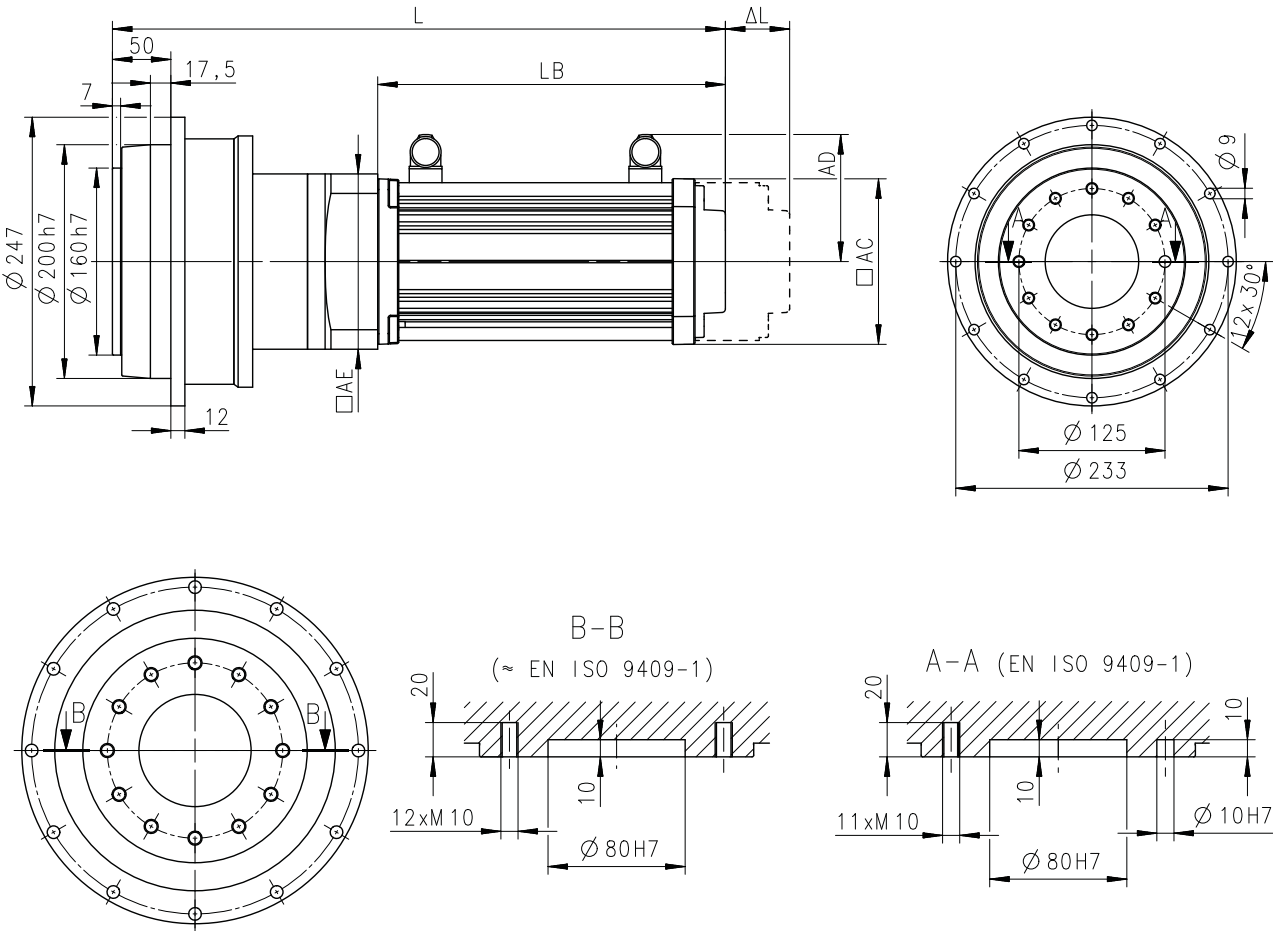
Motor			MCA 13	
			I34-	I41-
Total length	L	mm	556	488
Motor length	LB	mm	339	271
Motor diameter	AC	mm	130	130
Motor/connection distance	AD	mm	102	102
Gearbox diameter	AE	mm	150	150

Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P950 with MCA14
Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800898-00

Motor			MCA 14			
			L16-	L20-	L35-	L41-
Total length	L	mm	581	519	581	519
Motor length	LB	mm	364	302	364	302
Motor diameter	AC	mm	142	142	142	142
Motor/connection distance	AD	mm	109	109	109	109
Gearbox diameter	AE	mm	150	150	150	150

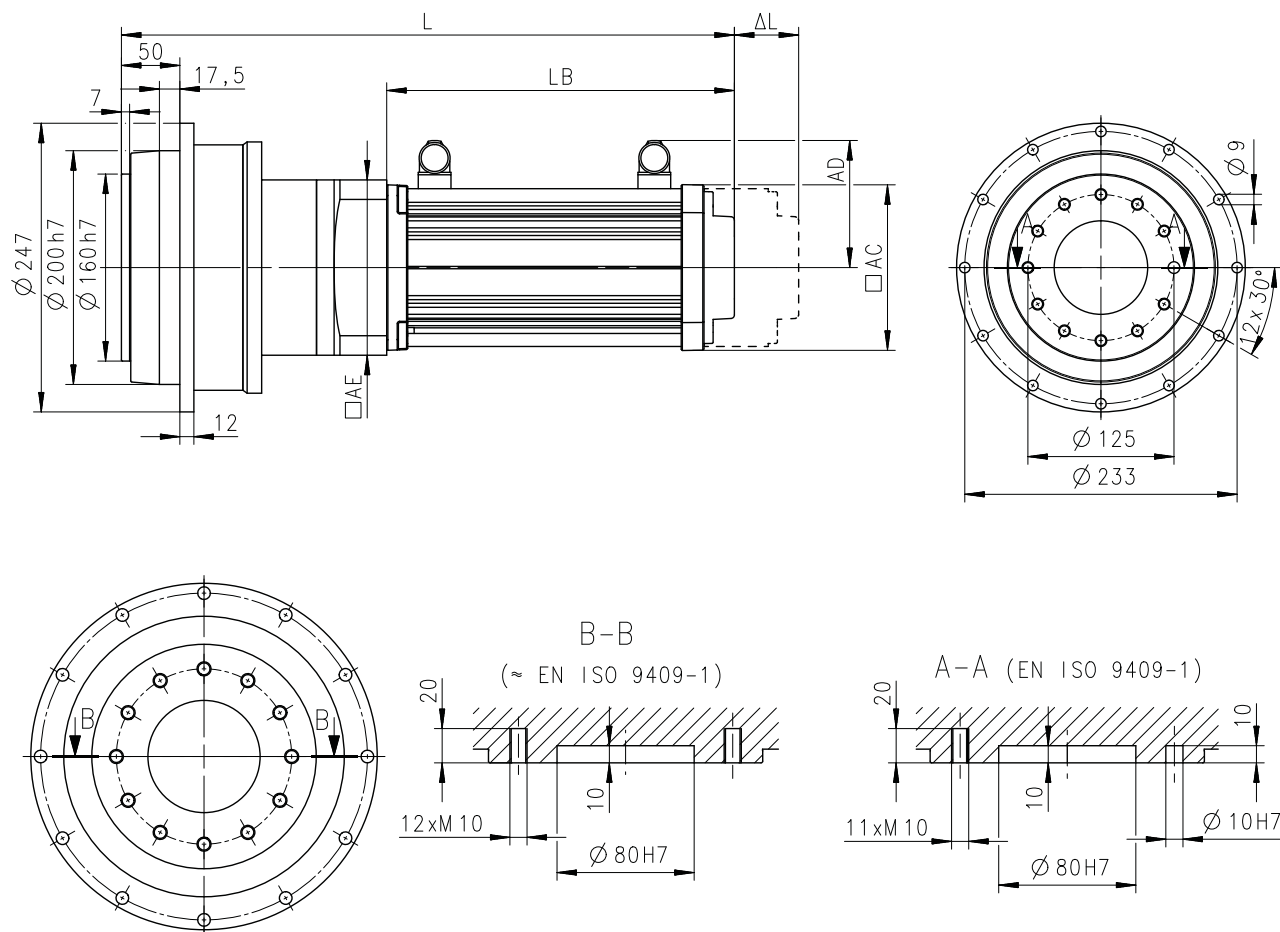


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P950 with MCA17

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800898-00

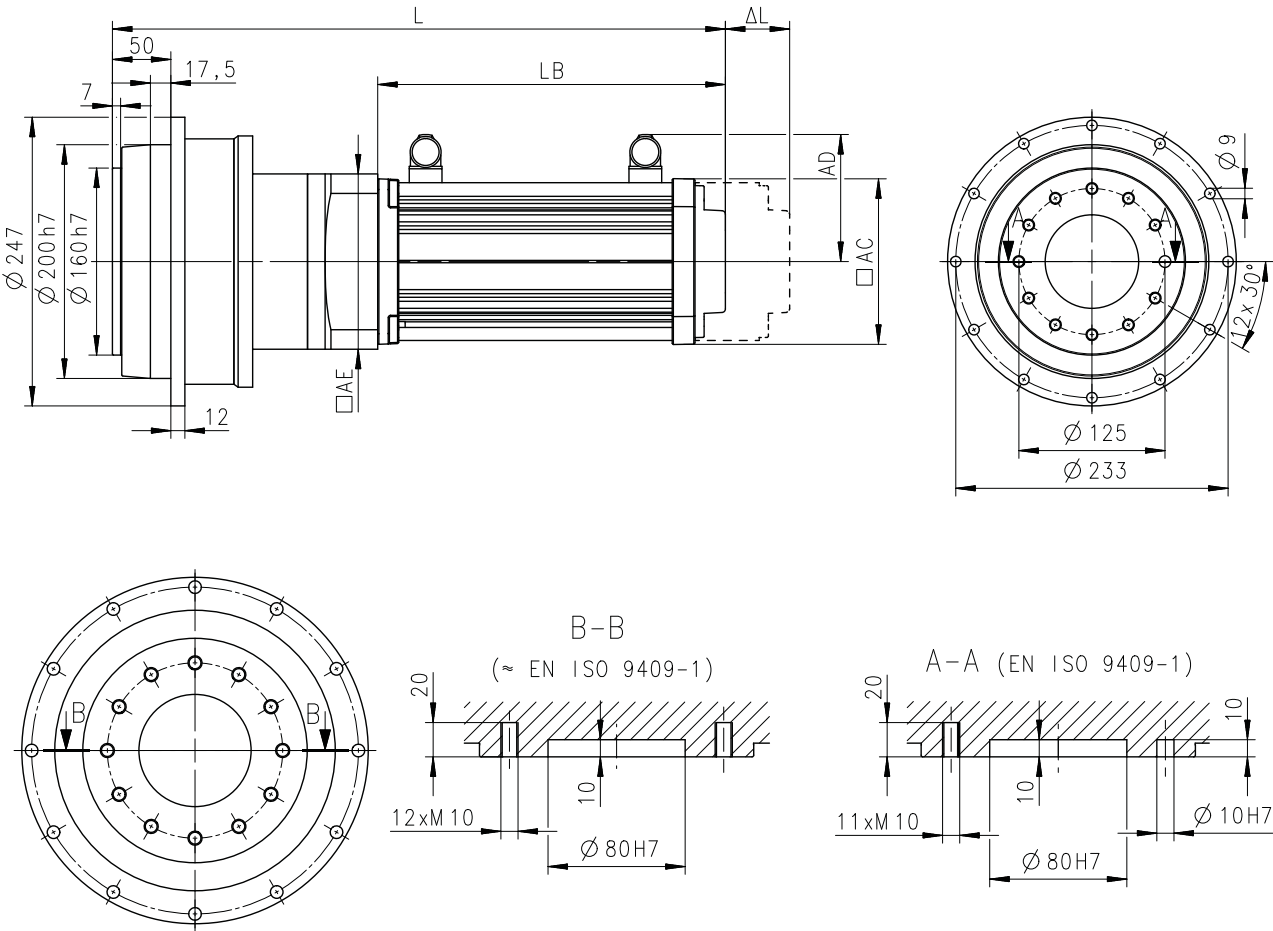
Motor			MCA 17	
			N17-	N35-
Total length	L	mm	598	598
Motor length	LB	mm	426	426
Motor diameter	AC	mm	165	165
Motor/connection distance	AD	mm	118	118
Gearbox diameter	AE	mm	210	210

Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P950 with MCA17
Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800898-00

Motor			MCA 17			
			N17-	N23-	N35-	N41-
Total length	L	mm	643	557	643	557
Motor length	LB	mm	426	340	426	340
Motor diameter	AC	mm	165	165	165	165
Motor/connection distance	AD	mm	118	118	118	118
Gearbox diameter	AE	mm	150	150	150	150

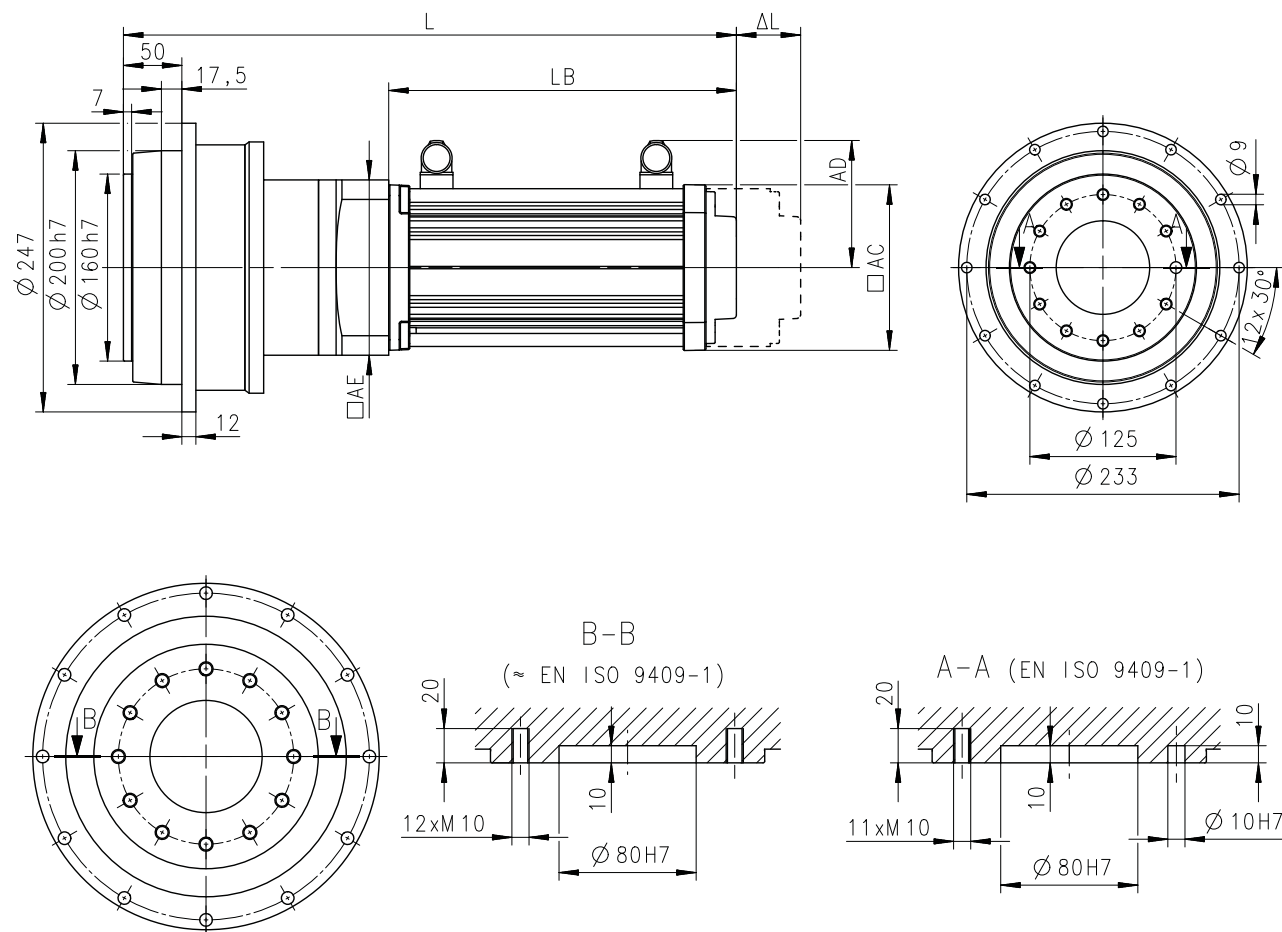


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P950 with MCA19

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800898-00

Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	670	573	670	573
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	210	210	210	210

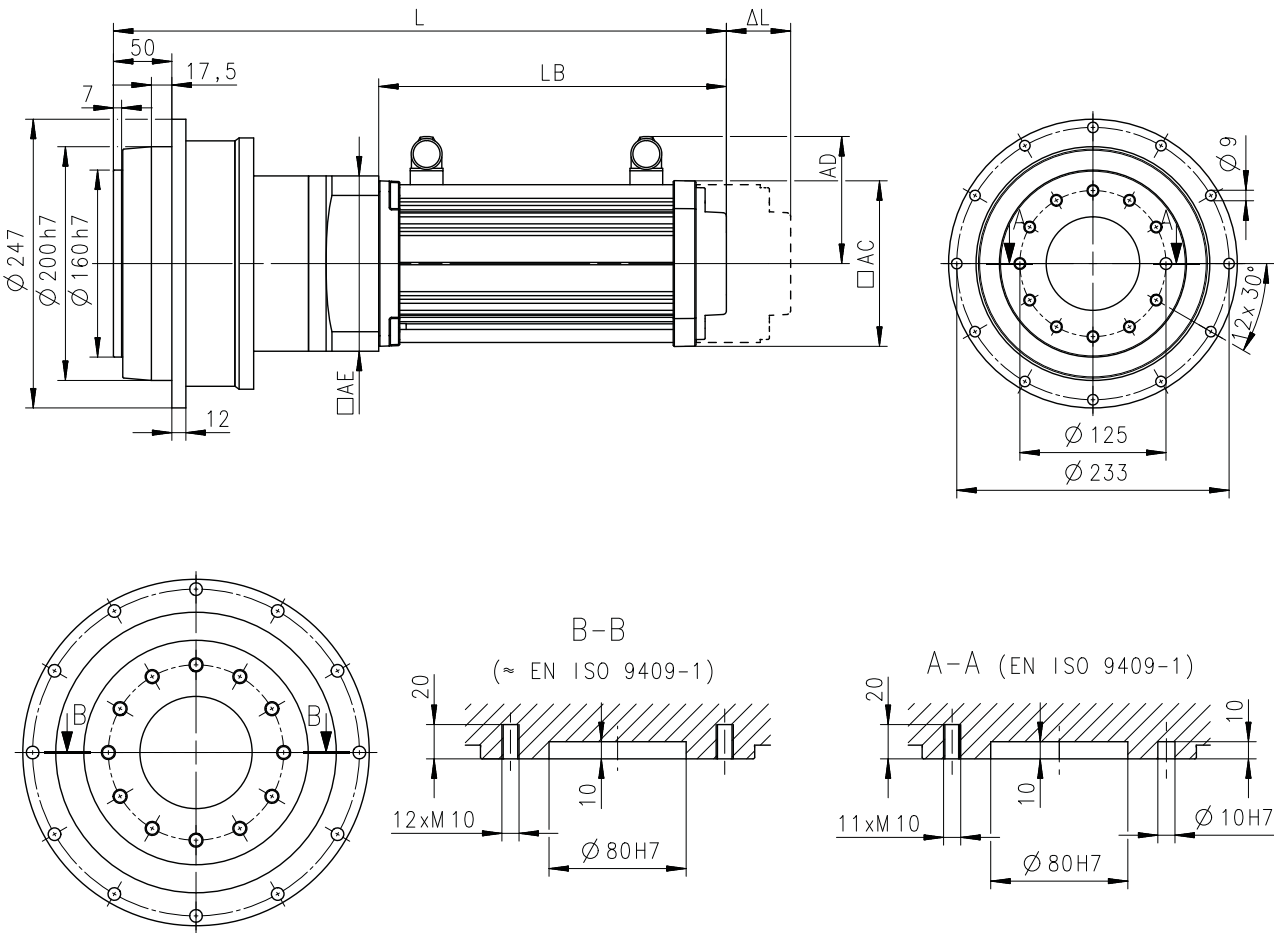
Technical data

Planetary gearbox g880-P
Basic dimensions



g880-P950 with MCA19

Gearbox design: Flange output shaft, without foot with centering, 2-stage



8800898-00

Motor			MCA 19			
			S17-	S23-	S35-	S42-
Total length	L	mm	725	628	725	628
Motor length	LB	mm	498	401	498	401
Motor diameter	AC	mm	192	192	192	192
Motor/connection distance	AD	mm	151	151	151	151
Gearbox diameter	AE	mm	190	190	190	190

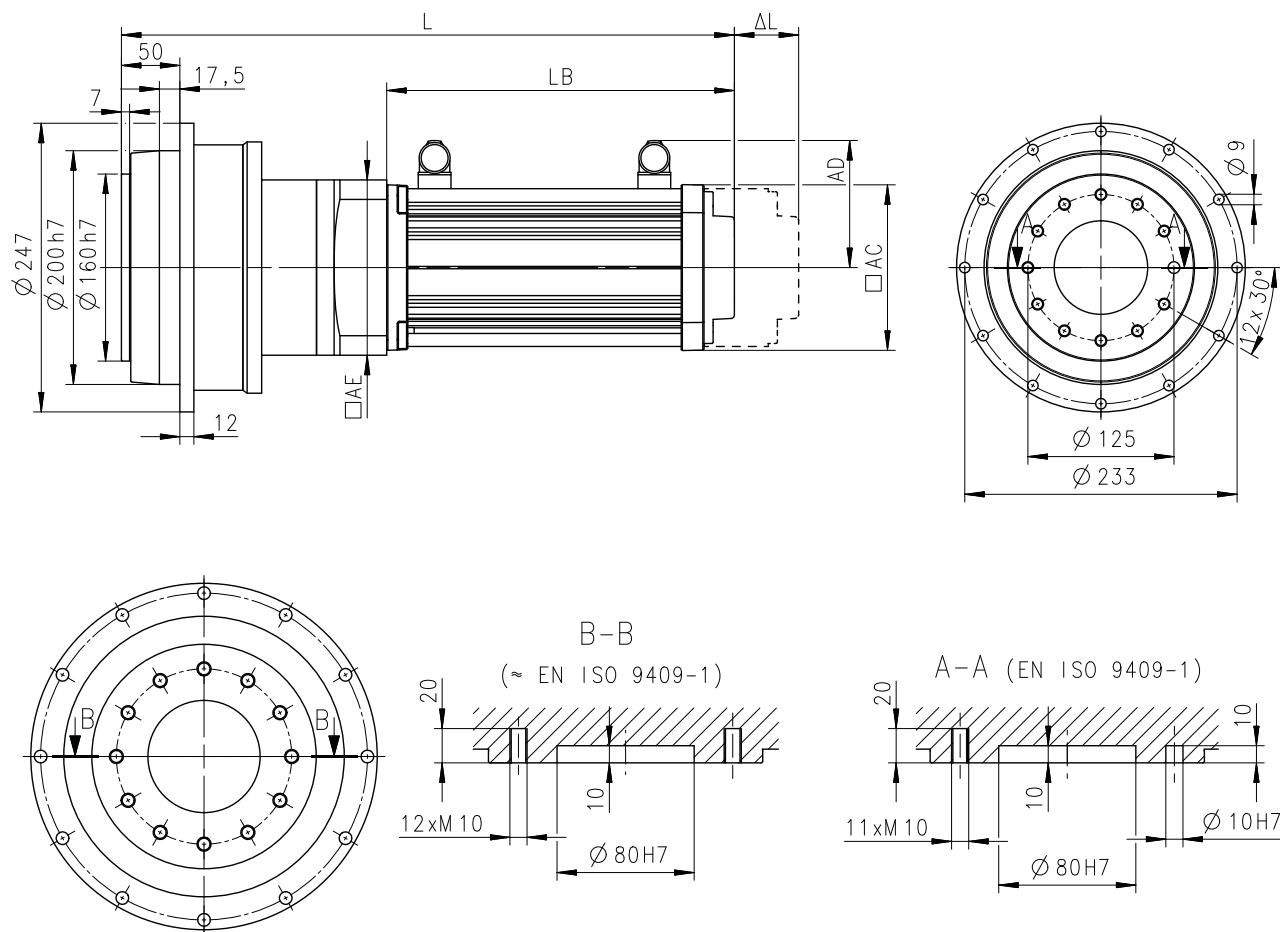


Technical data

Planetary gearbox g880-P
Basic dimensions

g880-P950 with MCA20

Gearbox design: Flange output shaft, without foot with centering, 1-stage



8800898-00

Motor			MCA 20	
			X14H	X29H
Total length	L	mm	778	778
Motor length	LB	mm	586	586
Motor diameter	AC	mm	196	196
Motor/connection distance	AD	mm	171	171
Gearbox diameter	AE	mm	210	210

Planetary gearbox g880-P

Basic dimensions

[illegible]

Motor			MCA 21			
			X17-	X25-	X35-	X42-
Total length	L	mm	758	662	758	662
Motor length	LB	mm	566	470	566	470
Motor diameter	AC	mm	214	214	214	214
Motor/connection distance	AD	mm	162	162	162	162
Gearbox diameter	AE	mm	210	210	210	210



Additional lengths



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

► [Product codes](#) 349

► [Brakes](#) 337

► [Feedback](#) 343

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 (P□) 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 (P□) 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 (P□) 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 (P□) and feedback						
R□0	Δ L	mm	35	35	35	35
SR□ / T20 / E□□	Δ L	mm	90	90	90	90

Technical data

Additional weights



MCA19

Motor			MCA			
			19S17-	19S23-	19S35-	19S42-
Cooling type			Blower	natural	Blower	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 (P□) and feedback						
R□0	Δ L	mm	38	38	38	38
SR□ / T20 / E□□	Δ L	mm	88	88	88	88

MCA20

Motor			MCA20X14H		MCA20X29H	
			Forced		Forced	
Cooling type			Forced		Forced	
Fan filter			Without	With	Without	With
Feedback (without brake B0)						
R□0	Δ L	mm	0	88	0	88
S□□ / T□□ / E□□	Δ L	mm	0	88	0	88
Brake (F1/FG) and feedback						
R□0	Δ L	mm	87	176	87	176
S□□ / T□□ / E□□	Δ L	mm	131	219	131	219
Brake (F2/FH) and feedback						
R□0	Δ L	mm	156	244	156	244
S□□ / T□□ / E□□	Δ L	mm	156	244	156	244

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 (P□) and feedback						
R□0	Δ L	mm	42	42	42	42
SR□ / T20 / E□□	Δ L	mm	92	92	92	92

Additional weights

Motors

Motor			MCA10	MCA13	MCA14	MCA17	MCA19	MCA20	MCA21
Permanent magnet	m	kg	0.9	0.8	1.5	1.5	2.7	13.0	5.0
holding brake									

Motor			MCA20			
Spring-applied holding brake						
Rated voltage	V _{Rated}	V	24		230	
Standard braking torque	m	kg	13.0		13.0	
Increased braking torque	m	kg	15.4		15.4	



Product extensions

Motor connection
Connection via terminal box

Product extensions

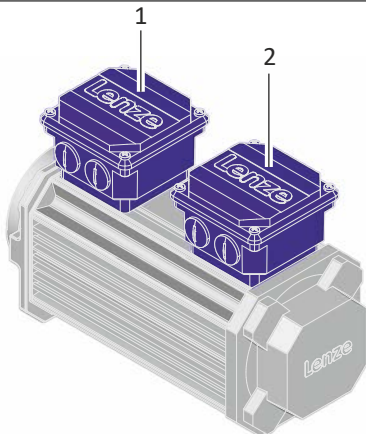
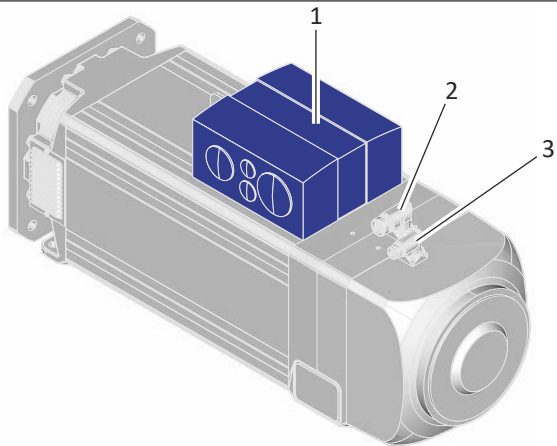
Motor connection

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

MCA10 ... 19/21		MCA20/22/26	
			
Position	Meaning	Position	Meaning
1	Power connection Brake connection PE connection	1	Power connection Brake connection PE connection
2	Feedback connection Connection of temperature monitoring Blower connection	2	Feedback connection Connection of temperature monitoring
		3	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		

Product extensions

Motor connection
Connection via terminal box



MCA20/22/26 cable glands



The cut-outs for the cable glands are closed with sealing plugs.

The cable glands are arranged on both sides with the MCA20 variant.

The cable glands are arranged on one side with the MCA22 and MCA26 variants.
If required, the terminal box can be rotated by 180 ° after loosening the screws in the terminal box.

Motor		MCA20	MCA22	MCA26
Screwed connections		2x M20 x 1.5 2x M25 x 1.5 2x M32 x 1.5	1x M40 x 1.5 1x M50 x 1.5 1x M20 x 1.5 1x M16 x 1.5	1x M50 x 1.5 1x M63 x 1.5 1x M20 x 1.5 1x M16 x 1.5
Cable cross-section	mm ²	2.5 ... 16	10 ... 35	-
Terminal design		Spring-loaded terminal	Screw terminal	Threaded bolt
Stripping length	mm	18 ... 20	18	-
Threaded bolt		-	-	M12
Tightening torque	Nm	-	3.2	15.5

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

Terminal box, DC brake		
Contact	Name	Meaning
BD1	+	Brake +
BD2	-	Brake -

Terminal box, AC brake		
Contact	Name	Meaning
~	L1	Mains
	N	
+	+	Holding brake (factory-wired)
-	-	
Schalter		Switching contact - DC switching

Terminal box, resolver		
Contact	Name	Meaning
B1	+Ref	Transformer windings (reference windings)
B2	-Ref	
B3	+VCC ETS	Supply: Electronic nameplate (only for variant with electronic nameplate ETS)
B4	+COS	Cosine stator windings
B5	-COS	
B6	+SIN	Sine stator windings
B7	-SIN	
B8		Not assigned



Product extensions

Motor connection
Connection via terminal box

Terminal box, SinCos 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
B10		Incremental encoder shield

Terminal box, SinCos absolute value encoder with EnDat		
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	Daten	EnDat interface data
B8	Daten ⁻	Data inverse EnDat interface
B20	Takt	EnDat interface cycle
B21	Takt ⁻	Inverse EnDat interface cycle
B22	Up Sensor	Up Sensor
B23	0 V Sensor	0 V sensor
B24	Schirm	Encoder housing shield
B25		Not assigned

Terminal box with temperature monitoring R		
Contact	Name	Meaning
R1	+	Temperature sensor +
R2	-	Temperature sensor -

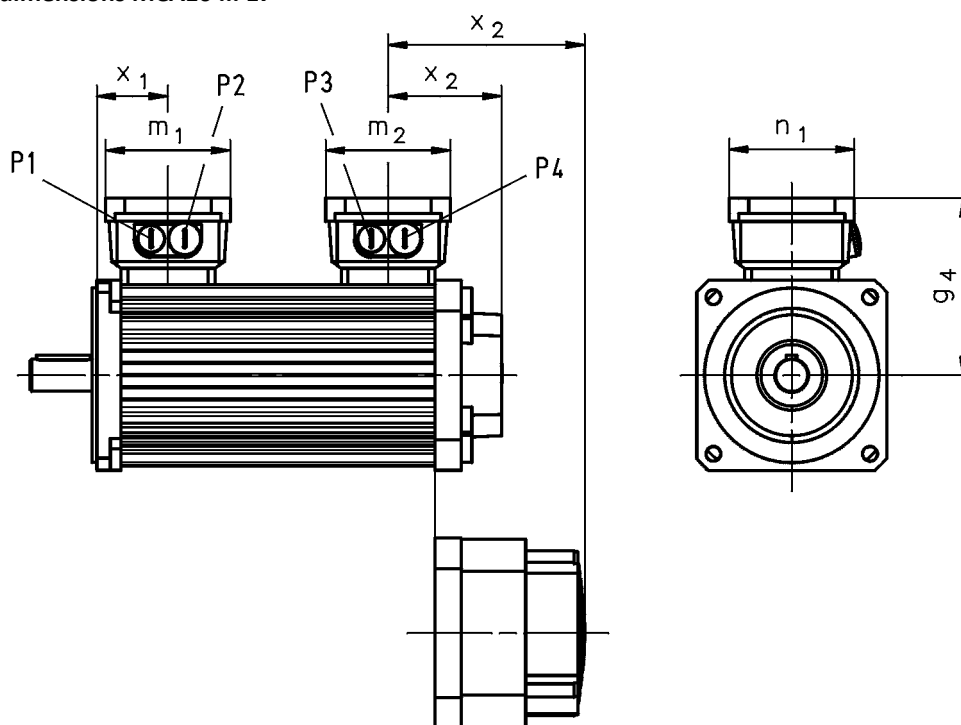
Terminal box, 1-phase separate fan		
Contact	Name	Meaning
PE	PE	PE conductor
U1	L1	Mains
U2	N	

Product extensions

Motor connection
Connection via terminal box



Terminal box dimensions MCA10 ... 17



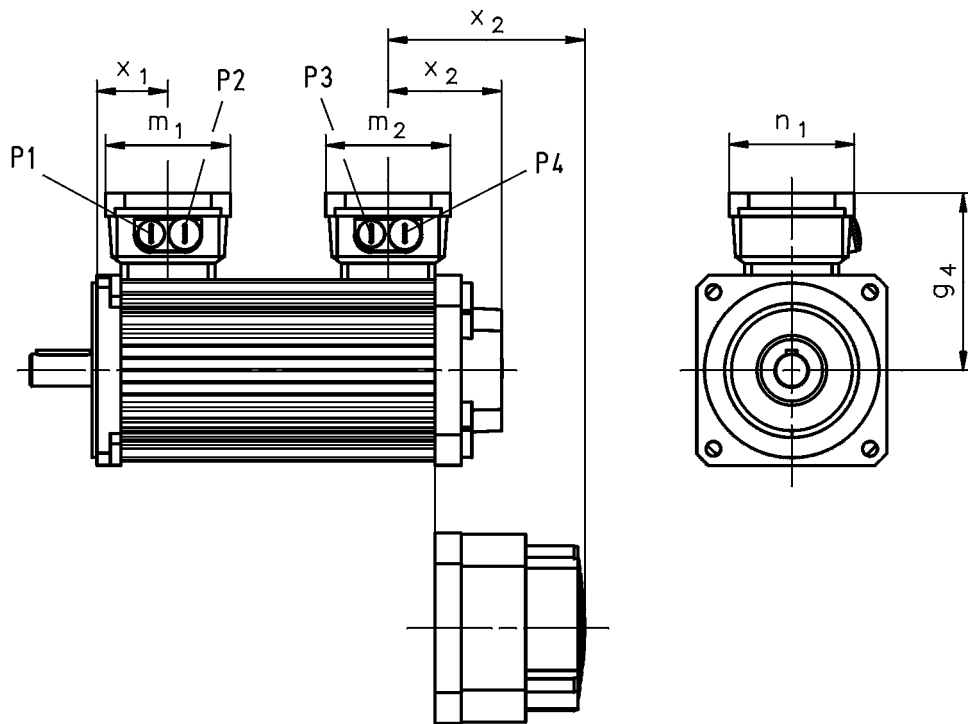
Motor			MCA						
			10I40-	13I34-	13I41-	14L16- 14L35-	14L20- 14L41-	17N17- 17N35-	17N23- 17N41-
Cooling type			Natural	Forced	Natural	Forced	Natural	Forced	Natural
Motor/connection distance	g ₄	mm	113	125		133		141	
Power connection, brake									
Screwed connections	P ₁	mm	M20x1.5						
	P ₂	mm	M20x1.5						
Terminal box	m ₁	mm	93						
	n ₁	mm	93						
	x ₁		54	57		53		55	
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



Product extensions

Motor connection
Connection via terminal box

Terminal box dimensions MCA19 ... 26



Motor			MCA						
			19S17- 19S35-	19S23- 19S42-	20X14H 20X29H	21X17- 21X35-	21X25- 21X42-	MCA22P	MCA26T
Cooling type			Forced	Natural	Forced	Forced	Natural	Forced	Forced
Motor/connection distance	g ₄	mm	158		171	169		203	256
Power connection, brake									
Screwed connections	P ₁	mm	M25x1.5		M32x1.5 M25x1.5	M25x1.5		M50x1.5 M40x1.5	M63x1.5 M50x1.5
	P ₂	mm	M32x1.5		M20x1.5	M32x1.5		M20x1.5 M16x1.5	M20x1.5 M16x1.5
Terminal box	m ₁	mm	115		154	115		190	234
	n ₁	mm	115		128	115		171	212
	x ₁		64		299	70		380	465
Feedback connection, temperature monitoring									
Screwed connections	P ₃	mm	M20x1.5		-	M20x1.5		-	
	P ₄	mm	M20x1.5		-	M20x1.5		-	
Terminal box	m ₂	mm	115		-	115		-	
	n ₁	mm	115		-	115		-	
Resolver	x ₂	mm	190	93	-	193	97	-	
Absolute value encoder/incremental encoder	x ₂	mm	240	143	-	243	147	-	

Product extensions

Motor connection
Connection via ICN connector



Connection via ICN connector

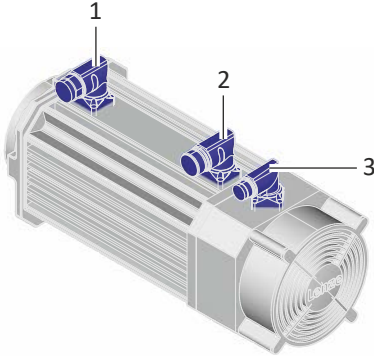
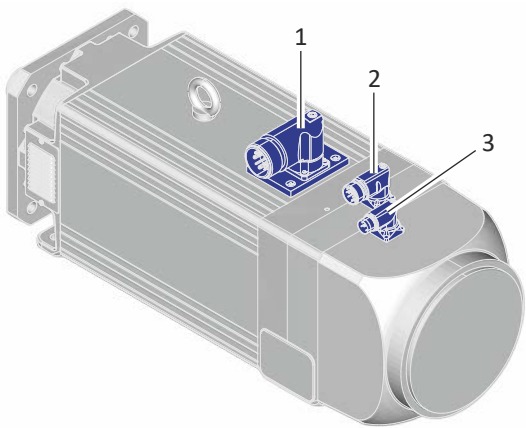
The electrical connection to the servo motors as a standard is established via ICN connectors.

The connectors can be rotated by 270 ° and are provided with a bayonet catch. Since the catch of the connector is also compatible with conventional box nuts, existing mating connectors with a screw plug can continue to be used 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.

Position of the connections

MCA10 ... 17		MCA20 ... 26	
			
Position	Meaning	Position	Meaning
1	Power connection Brake connection PE connection	1	Only with MCA20: Power connection Brake connection PE connection
2	Feedback connection Connection of temperature monitoring	2	Feedback connection Connection of temperature monitoring
3	Blower connection	3	Blower connection



Product extensions

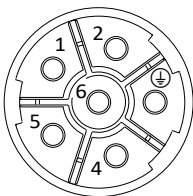
Motor connection
 Connection via ICN connector

Power and brake connection

Valid for MCA10 ... 17

ICN-M23 connector assignment

6-pole



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

Product extensions

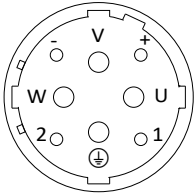
Motor connection
Connection via ICN connector



Valid for MCA19 ... 21

ICN-M40 connector assignment

8-pole



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



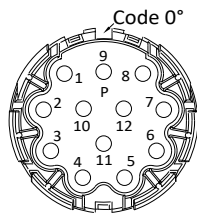
Product extensions

Motor connection
Connection via ICN connector

Feedback and temperature monitoring connection

ICN-M23 connector assignment

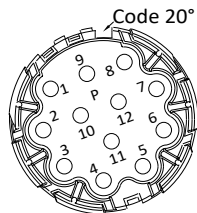
Resolver



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

ICN-M23 connector assignment

Incremental and SinCos absolute value encoder Hiperface©



ICN M23 for 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	Schirm	Encoder housing shield
11	+	Temperature monitoring: PT1000
12	-	Temperature monitoring: PT1000

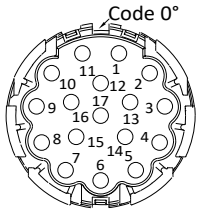
Product extensions

Motor connection
Connection via ICN connector



ICN-M23 connector assignment

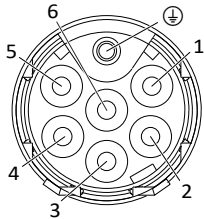
SinCos absolute value encoder with EnDat interface



ICN M23 SinCos absolute value encoder with EnDat		
Contact	Name	Meaning
1	UP Sensor	Up Sensor
2		Not assigned
3		Not assigned
4	0 V Sensor	0 V sensor
5	+	PT1000/KTY temperature sensor
6	-	PT1000/KTY temperature sensor
7	+UB	Supply +
8	Takt	EnDat interface cycle
9	Takt-	Inverse EnDat interface cycle
10	GND	Mass
11	Schirm	Encoder housing shield
12	B	Track B
13	B-	Track B inverse/-SIN
14	Daten	EnDat interface data
15	A	Track A
16	A-	Track A inverse /-COS
17	Daten-	Data inverse EnDat interface

Blower

Pin assignment ICN-M17



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



Brakes

Optionally, the MCA10 ... 19 and MCA21 motors can be ordered with a permanent magnet brake as the holding brake.

Spring-applied brakes are available as holding brakes for the MCA20, 22 and 26 motors.

⚠ 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.

Motor supply cables

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

The following applies to Lenze system cables:

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

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.



Product extensions

Brakes
Permanent magnet brakes

Permanent magnet brakes

Rated data



Engagement and disengagement times apply to rated voltage ($\pm 0\%$) 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 $\leq 1\%$.

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.

Supply voltage DC 24 V

Motor			MCA10I	MCA13I	MCA14L	MCA17N	MCA19S	MCA21X
Motor code			P1	P1	P4	P1	P1	P1
Supply voltage range	V_{in}	V	21.84 ... 25.2					
Supply voltage	V_{rated}	V	24					
Bemessungsdrehmoment								
At 20 °C	M_{rated}	Nm	3.30	12	26	24	46	88
At 120 °C	M_{rated}	Nm	2.50	11	22		40	80
Rated current	I_{rated}	A	0.50	0.67	0.75		0.81	1.46
Engagement time t_1	t_1	ms	10	20	16	25		23
Disengagement time t_2	t_2	ms	20	29	70	50	73	140
Friction energy	Q_E	kJ	0.35	0.40	0.7	1.2	1.90	2.80
Weight	m	kg	0.3	0.80	1.1	1.50	1.9	3.9
Massenträgheitsmoment								
Brake	J	kgcm ²	0.38	1.06	3.60		9.50	31.8
Brake motor	J_{MB}	kgcm ²	2.78	9.36	22.8	39.6	81.5	212
Load/brake motor ratio	J_L/J_{MB}		24.5	7.7	5.2	5.1	3.7	1.7

Product extensions

Brakes
Permanent magnet brakes



Supply voltage DC 205 V

Motor			MCA10I	MCA13I	MCA14L	MCA17N	MCA19S	MCA21X
Motor code			P5	P5	P8	P5	P5	P5
Supply voltage range	V _{in}	V	186.55 ... 215.25					
Supply voltage	V _{rated}	V	205					
Bemessungsdrehmoment								
At 20 °C	M _{rated}	Nm	3.30	12	26	24	46	88
At 120 °C	M _{rated}	Nm	2.50	11	22		40	80
Rated current	I _{rated}	A	0.059	0.08	0.088		0.11	0.18
Engagement time t1	t ₁	ms	10	20	16	25		23
Disengagement time t2	t ₂	ms	20	29	70	50	73	140
Friction energy	Q _E	kJ	0.35	0.40	0.7	1.2	1.90	2.80
Weight	m	kg	0.3	0.80	1.1	1.50	1.9	3.9
Massenträgheitsmoment								
Brake	J	kgcm ²	0.38	1.06	3.60		9.50	31.8
Brake motor	J _{MB}	kgcm ²	2.78	9.36	22.8	39.6	81.5	212
Load/brake motor ratio	J _L /J _{MB}		24.5	7.7	5.2	5.1	3.7	1.7



Product extensions

Brakes
Spring-applied brakes

Spring-applied brakes

Rated data



Engagement and disengagement times apply to rated voltage ($\pm 0\%$) 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 $\leq 1\%$.

With 230 V AC brake: connection to an integrated rectifier (no cURus possible).

Maximum switching energy for each emergency stop with $n = 3000$ rpm for at least 300, and a maximum of 4 emergency stops per hour.

Supply voltage DC 24 V

Motor			MCA20X		MCA22P		MCA26T
Motor code			F1	F2	F1	F2	F1
Supply voltage range	V_{in}	V	21.6 ... 26.4				
Supply voltage	V_{rated}	V	24				
Bemessungsdrehmoment							
At 20 °C	M_{rated}	Nm	90	150	300		
At 120 °C	M_{rated}	Nm	80	130	260		
Rated current	I_{rated}	A	3.13	2.58	3.75		
Engagement time t_1	t_1	ms	70		50	175	
Disengagement time t_2	t_2	ms	220	240	260	320	
Friction energy	Q_E	kJ	18	31	23	39	51
Weight	m	kg	13	15.4	20.5	26	30.7
Massenträgheitsmoment							
Brake	J	kgcm ²	6.88	14.1	18.1	36.3	70.4
Brake motor	J_{MB}	kgcm ²	177	189	505	523	1405
Load/brake motor ratio	J_L/J_{MB}		19.6	33	8.2	14.1	12.7

Product extensions

Brakes
Spring-applied brakes



Supply voltage AC 230 V

Motor			MCA20X		MCA22P		MCA26T
Motor code			FG	FH	FG	FH	FG
Supply voltage range	V_{in}	V	207 ... 253				
Supply voltage	V_{rated}	V	230				
Bemessungsdrehmoment							
At 20 °C	M_{rated}	Nm	90	150	300		
At 120 °C	M_{rated}	Nm	80	130	260		
Rated current	I_{rated}	A	0.37	0.3	0.44		0.37
Engagement time t1	t_1	ms	70		130		175
Disengagement time t2	t_2	ms	220	240	260	310	360
Friction energy	Q_E	kJ	18	31	23	39	51
Weight	m	kg	13	15.4	20.5	26	30.7
Massenträgheitsmoment							
Brake	J	kgcm ²	6.88	14.1	18.1	36.3	70.4
Brake motor	J_{MB}	kgcm ²	177	189	505	523	1405
Load/brake motor ratio	J_L/J_{MB}		19.6	33	8.2	14.1	12.7



Feedback

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

Inverter	Feedback without functional safety		
	Resolver	Absolute value encoder	Incremental encoder
i950 servo inverter	RS0	AM1024-8V-H AS1024-8V-H	-
i700 servo inverter	RS0	AM1024-8V-H AS1024-8V-H	-
8400 TopLine inverter drives	RS0	AM1024-8V-H AS1024-8V-H	IG2048-5V-S IG2048-5V-T IG4096-5V-T
9400 HighLine servo drives	RS0	AM32-5V-E AM1024-8V-H AM2048-5V-E AS1024-8V-H AS2048-5V-E	IG2048-5V-S IG2048-5V-T IG4096-5V-T

Inverter	Feedback with functional safety		
	Resolver	Absolute value encoder	Incremental encoder
i950 servo inverter	RV03	-	-
9400 HighLine servo drives	RV03	-	-

Feedbacks in the environment of functional safety

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

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

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

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

Speed-dependent safety functions

Examples of speed-dependent safety functions:

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

Product extensions

Feedback
Resolver



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
Speed-dependent safety functions			No	Yes
Design			Mounting	
Resolution - angle		'	0.8	0.8
Min. accuracy		'	-10	-10
Max. accuracy		'	10	10
Absolute positioning			1 revolution	1 revolution
Max. speed	$n_{\max}$	rpm	8000	8000
Max. DC input voltage	$V_{\text{in,max}}$	V	10	10
Max. input frequency	$f_{\text{in,max}}$	kHz	4	4
Ratio stator/rotor			0.3	0.3
Min ratio tolerance		%	-5	-5
Max ratio tolerance		%	5	5
Rotor impedance	Z_{ro}	Ω	51+j90	51+j90
Stator impedance	Z_{so}	Ω	102+j150	102+j150
Impedance	Z_{rs}	Ω	44+j76	44+j76
Min. insulation resistance at DC 500 V	R_{min}	M Ω	10	10
Number of pole pairs			1	1
Max. angle error Min		'	-10	-10
Max. angle error Max		'	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



Product extensions

Feedback
Incremental encoder

Incremental encoder

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

Feedback type			SinCos-Inkremental		TTL-Inkremental	
Feedback				IG2048-5V-S	IG2048-5V-T	IG4096-5V-T
Speed-dependent safety functions				No	No	No
Design			Mounting			
Pulses				2048	2048	4096
Output signals				SinCos 1 Vss	TTL	TTL
Interfaces					A, B; N; Ai, Bi; Ni	
Absolute revolution				0	0	0
Min. accuracy		'		-0.8	-2	-2
Max. accuracy		'		0.8	2	2
Min. DC input voltage	$V_{in,min}$	V		4.5	4.75	4.75
Max. DC input voltage	$V_{in,max}$	V		5.5	5.25	5.25
Max. current consumption	I_{max}	A		0.1	0.15	0.15
Limit frequency	f_{max}	kHz		180	300	300

Product extensions

Feedback
Absolute value encoder



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 encoder				
Feedback			AM32-5V-E	AM1024-8V-H	AM2048-5V-E	AS1024-8V-H	AS2048-5V-E
Speed-dependent safety functions			No	No	No	No	No
Design			Mounting	Mounting	Mounting	Mounting	Mounting
Encoder type			Multi-turn	Multi-turn	Multi-turn	Single-turn	Single-turn
Resolution		bit	-	-	-	-	-
Pulses			32	1024	2048	1024	2048
Output signals			SinCos 1 Vss	SinCos 1 Vss	SinCos 1 Vss	SinCos 1 Vss	SinCos 1 Vss
Interfaces			EnDat	Hiperface	EnDat	Hiperface	EnDat
Absolute revolution			4096	4096	4096	1	1
Resolution - angle			0.4	0.4	0.4	0.4	0.4
Min. accuracy		'	-5	-0.8	-0.6	-0.8	-0.6
Max. accuracy		'	5	0.8	0.6	0.8	0.6
Fehlergrenze Positionswert							
System accuracy			-	-	-	-	-
Integral nonlinearity			-	-	-	-	-
Min. DC input voltage	$V_{in,min}$	V	4.75	7	4.75	7	4.75
Max. DC input voltage	$V_{in,max}$	V	5.25	12	5.25	12	5.25
Max. current consumption	I_{max}	A	0.17	0.08	0.25	0.08	0.15
Limit frequency	f_{max}	kHz	600	200	200	200	200



Blower

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

The separate fans for the MCA20, MCA22 and MCA26 motors are optionally available with a dust filter.

Rated data 50 Hz

Motor series			MCA								
Size			13	14	17	19	20	21	22		26
Degree of protection			IP54				IP23	IP54		IP23	IP54
Number of phases			1	1	1	1	1	1	1	1	1
Rated voltage	V_{rated}	V	230	230	230	230	230	230	230	230	230
Rated power	P_{rated}	kW	0.019	0.019	0.05	0.05	0.165	0.055	0.085	0.085	0.1
Rated current	I_{rated}	A	0.115	0.115	0.3	0.3	0.73	0.25	0.75	0.75	0.45

Motor series			MCA								
Size			26								
Degree of protection			IP23								
Number of phases			1								
Rated voltage	V_{rated}	V	230								
Rated power	P_{rated}	kW	0.1								
Rated current	I_{rated}	A	0.45								

Rated data 60 Hz

Motor series			MCA								
Size			13	14	17	19	20	21	22		26
Degree of protection			IP54				IP23	IP54		IP23	IP54
Number of phases			1	1	1	1	1	1	1	1	1
Rated voltage	V_{rated}	V	230	230	230	230	230	230	230	230	230
Rated power	P_{rated}	kW	0.018	0.018	0.039	0.039	0.205	0.065	0.085	0.085	0.138
Rated current	I_{rated}	A	0.105	0.105	0.25	0.25	0.9	0.29	0.75	0.75	0.61

Motor series			MCA								
Size			26								
Degree of protection			IP23								
Number of phases			1								
Rated voltage	V_{rated}	V	230								
Rated power	P_{rated}	kW	0.138								
Rated current	I_{rated}	A	0.61								

Product extensions

Temperature monitoring
Thermal detectors PT1000



Temperature monitoring

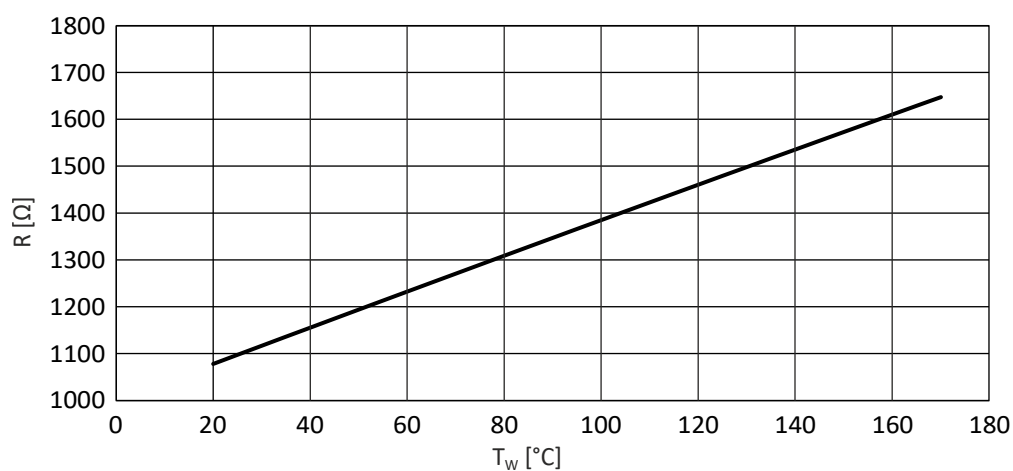
Thermal detectors PT1000

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

Planetary and bevel planetary gearbox product code g7□0

Example		G	7	5	A	P	113	M	V	C	R	1	C00
Portfolio segment	Gearbox	G											
Product	7		7										
Product type	0			0									
	2			2									
	3			3									
	5			5									
	8			8									
Product generation	A				A								
Product type	bevel planetary gearbox					B							
	Planetary gearbox					P							
torque (Examples)	44 Nm						044						
	97 Nm						097						
	130 Nm						113						
	195 Nm						119						
Type of construction	Geared motor							M					
	Gearbox							N					
Output shaft	Output shaft with featherkey								V				
	Smooth output shaft								G				
	Flanged output shaft with dowel hole								E				
Housing type	Without foot with centering									C			
Flange mounting	Without flange										R		
	Flange with through holes										K		
Number of stages	1-stage											1	
	2-stage											2	
	3-stage											3	
Motor mounting	Motor integrated												C00
	IEC adapter with jaw coupling												Nxx Txx
	NEMA adapter with jaw coupling												Axx
	Servo motor-adapter with plug-in hollow shaft												Sxx

Product codes



Planetary and bevel planetary gearbox product code g8□0

Example		G	8	4	A	P	040	M	V	C	R	1	C00
Portfolio segment	Gearbox	G											
Product	8		8										
Product type	2			2									
	4			4									
	5			5									
	6			6									
	7			7									
	8			8									
Product generation	A				A								
Product type	bevel planetary gearbox					B							
	Planetary gearbox					P							
torque (Examples)	40 Nm						040						
	80 Nm						080						
	130 Nm						113						
	300 Nm						130						
	1000 Nm						210						
	1800 Nm						218						
Type of construction	Geared motor							M					
	Gearbox							N					
Output shaft	Output shaft with featherkey								V				
	Smooth output shaft								G				
	Toothed output shaft								Z				
	Flanged output shaft								F				
	Flanged output shaft with dowel hole								E				
	Flanged hollow output shaft with dowel hole								K				
	Shrink disc								S				
	Hollow shaft								H				
Housing type	Without foot with centering									C			
Flange mounting	Without flange										R		
	Flange with through holes										N		
Number of stages	1-stage											1	
	2-stage											2	
Motor mounting	Motor integrated												C00
	IEC adapter with jaw coupling												Nxx Txx
	NEMA adapter with jaw coupling												Axx
	Servo motor-adapter with plug-in hollow shaft												Sxx



Product codes

Product code of MCA asynchronous servo motor

Example		M	C	A	10	C	40	-	RS0	B0
Meaning	Variant	Product code								
Product family	Motor	M								
Type	Compact servo motors		C							
Version	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 connection	3 x 400 V							-		
Motor protection class	Degree of protection: IP54 / IP65									
	3 x 400 V							H		
	Degree of protection: IP23									
Feedback	SinCos absolute value encoder, single-turn, EnDat AS2048-5V-E									ECN
	SinCos absolute value encoder, multi-turn, EnDat AM32-5V-E									EQI
	SinCos absolute value encoder, multi-turn, EnDat AM2048-5V-E									EQN
	Resolver									RS0
	Safety resolver RV03									RV0
	SinCos incremental encoder, single-turn IG2048-5V-S									S20
	SinCos absolute value encoder, multi-turn, Hiperface® AM1024-8V-H									SRM
	SinCos absolute value encoder, single-turn, 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 24V									P1 ... P4
	Permanent magnet brake DC 205 V									P5 ... P8

Motor data

Rated data

Inverter mains connection 400 V, Self-ventilated motors



Motor data

Rated data

Inverter mains connection 400 V, Self-ventilated motors

Motor			MCA 10I40-	MCA 13I41-	MCA 14L41-	MCA 14L20-	MCA 17N23-	MCA 17N41-
Degree of protection			IPxx	IPxx	IPxx	IPxx	IPxx	IPxx
Standstill torque	M_0	Nm	2.30	4.60	8.00	8.00	12.8	12.8
Rated torque	M_{rated}	Nm	2.00	4.00	5.40	6.70	10.8	9.50
Max. torque	M_{max}	Nm	10.0	32.0	60.0	60.0	100	100
Rated speed	n_{rated}	rpm	3950	4050	4100	2000	2300	4110
Max. speed	n_{max}	rpm	8000	8000	8000	8000	8000	8000
Rated power	P_{rated}	kW	0.8	1.7	2.3	1.4	2.6	4.1
Standstill current	I_0	A	2.55	4.60	7.70	3.85	6.00	12.0
Rated current	I_{rated}	A	2.40	4.40	5.80	3.30	5.50	10.2
Max. current	I_{max}	A	9.60	17.6	23.2	13.2	22.0	40.8
Rated voltage	V_{rated}	V	390	390	390	390	390	350
Rated frequency	f_{rated}	Hz	140	140	140	70	80	140
Moment of inertia	J	kgcm ²	2.40	8.30	19.2	19.2	36.0	36.0
Efficiency	η		0.700	0.750	0.780	0.840	0.860	0.830
Stator terminal resistance	$R_{UV\ 20}$ °C	Ω	9.4	3.4	1.5	6	3.04	0.76
Stator terminal resistance	$R_{UV\ 150}$ °C	Ω	14.166	5.124	2.261	9.042	4.581	1.145
Mutual inductance	L_H	mH	169.15	92.64	65.8	268.7	176.4	43.4
Stator leakage inductance	$L_{1\sigma}$	mH	9.8	5.408	2.493	9.971	6.162	1.536
Rotor leakage inductance	$L_{2\sigma}$	mH	10	4.896	2.503	10.016	6.836	1.703
Stator resistance	$R_{1,\ 20}$	Ω	4.7	1.7	0.75	3	1.52	0.38
Rotor resistance	$R_{2',\ 20}$	Ω	5.2	1.4	0.781	3.13	1.37	0.342
Weight	m	kg	6.40	10.4	15.1	15.1	22.9	22.9



Motor data

Rated data
Inverter mains connection 400 V, Self-ventilated motors

Motor			MCA 19S42-	MCA 19S23-	MCA 21X42-	MCA 21X25-
Degree of protection			IPxx	IPxx	IPxx	IPxx
Standstill torque	M_0	Nm	22.5	22.5	39.0	39.0
Rated torque	M_{rated}	Nm	12.0	16.3	17.0	24.6
Max. torque	M_{max}	Nm	180	180	300	300
Rated speed	n_{rated}	rpm	4150	2340	4160	2490
Max. speed	n_{max}	rpm	8000	8000	8000	8000
Rated power	P_{rated}	kW	5.2	4	7.4	6.4
Standstill current	I_0	A	19.7	9.85	31.8	15.9
Rated current	I_{rated}	A	14.0	8.20	19.8	13.5
Max. current	I_{max}	A	56.0	32.8	79.2	54.0
Rated voltage	V_{rated}	V	330	390	320	390
Rated frequency	f_{rated}	Hz	140	80	140	85
Moment of inertia	J	kgcm ²	72.0	72.0	180	180
Efficiency	η		0.830	0.900	0.840	0.850
Stator terminal resistance	$R_{UV\ 20}$ °C	Ω	0.35	1.38	0.18	0.72
Stator terminal resistance	$R_{UV\ 150}$ °C	Ω	0.527	2.08	0.271	1.085
Mutual inductance	L_H	mH	27.98	110.6	19.5	78.1
Stator leakage inductance	$L_{1\sigma}$	mH	0.822	3.245	0.563	2.263
Rotor leakage inductance	$L_{2\sigma}$	mH	0.99	3.902	0.701	2.819
Stator resistance	$R_{1,\ 20}$	Ω	0.175	0.69	0.09	0.36
Rotor resistance	$R_{2',\ 20}$	Ω	0.154	0.616	0.0894	0.358
Weight	m	kg	44.7	44.7	60.0	60.0

Motor data

Rated data

Inverter mains connection 400 V, Forced ventilated motors



Inverter mains connection 400 V, Forced ventilated motors

Motor			MCA 13I34-	MCA 14L35-	MCA 14L16-	MCA 17N35-	MCA 17N17-	MCA 19S35-
Degree of protection			IP54	IP54	IP54	IP54	IP54	IP54
Standstill torque	M_0	Nm	7.00	13.5	13.5	23.9	23.9	40.0
Rated torque	M_{rated}	Nm	6.30	10.8	12.0	19.0	21.5	36.0
Max. torque	M_{max}	Nm	32.0	60.0	60.0	100	100	180
Rated speed	n_{rated}	rpm	3410	3455	1635	3480	1680	3510
Max. speed	n_{max}	rpm	8000	8000	8000	8000	8000	8000
Rated power	P_{rated}	kW	2.2	3.9	2.1	6.9	3.8	13.2
Standstill current	I_0	A	6.30	10.5	5.25	18.1	9.05	30.8
Rated current	I_{rated}	A	6.00	9.10	4.80	15.8	8.50	28.7
Max. current	I_{max}	A	24.0	36.4	19.2	63.2	34.0	115
Rated voltage	V_{rated}	V	390	390	390	390	390	390
Rated frequency	f_{rated}	Hz	120	120	60	120	60	120
Moment of inertia	J	kgcm ²	8.30	19.2	19.2	36.0	36.0	72.0
Efficiency	η		0.720	0.790	0.800	0.810	0.830	0.850
Stator terminal resistance	$R_{UV\ 20}$ °C	Ω	3.4	1.5	6	0.76	3.04	0.35
Stator terminal resistance	$R_{UV\ 150}$ °C	Ω	5.124	2.261	9.042	1.145	4.581	0.527
Mutual inductance	L_H	mH	76.7	56.7	224.34	36.9	143.66	20.32
Stator leakage inductance	$L_{1\sigma}$	mH	4.949	2.365	9.464	1.396	5.585	0.652
Rotor leakage inductance	$L_{2\sigma}$	mH	4.392	2.324	9.303	1.51	6.042	0.765
Stator resistance	$R_{1,\ 20}$	Ω	1.7	0.75	3	0.38	1.52	0.175
Rotor resistance	$R_{2,\ 20}$	Ω	1.41	0.781	3.13	0.342	1.37	0.154
Weight	m	kg	12.0	16.9	16.9	25.5	25.5	48.2



Motor data

Rated data

Inverter mains connection 400 V, Forced ventilated motors

Motor			MCA 19S17-	MCA 20X29H	MCA 20X14H	MCA 21X35-	MCA 21X17-	MCA 22P29-
Degree of protection			IP54	IP23	IP23	IP54	IP54	IP54
Standstill torque	M_0	Nm	40.0	68.0	68.0	75.0	75.0	120
Rated torque	M_{rated}	Nm	36.3	53.5	61.0	55.0	61.4	100
Max. torque	M_{max}	Nm	180	250	250	300	300	500
Rated speed	n_{rated}	rpm	1700	2930	1420	3520	1710	2935
Max. speed	n_{max}	rpm	8000	6500	6500	8000	8000	6500
Rated power	P_{rated}	kW	6.4	16.4	9.1	20.3	11	30.7
Standstill current	I_0	A	15.4	52.0	26.0	49.5	25.8	80.9
Rated current	I_{rated}	A	13.9	42.4	23.0	42.5	22.5	72.1
Max. current	I_{max}	A	55.6	170	92.0	170	90.0	288
Rated voltage	V_{rated}	V	390	350	350	390	390	360
Rated frequency	f_{rated}	Hz	60	100	50	120	60	100
Moment of inertia	J	kgcm ²	72.0	171	171	180	180	487
Efficiency	η		0.820	0.870	0.820	0.880	0.850	0.870
Stator terminal resistance	$R_{UV\ 20}$ °C	Ω	1.38	0.183	0.731	0.18	0.72	0.089
Stator terminal resistance	$R_{UV\ 150}$ °C	Ω	2.08	0.276	1.102	0.271	1.085	0.134
Mutual inductance	L_H	mH	80.92	14.28	60.16	16.8	68.9	22.93
Stator leakage inductance	$L_{1\sigma}$	mH	2.608	0.5	2.01	0.519	2.076	0.901
Rotor leakage inductance	$L_{2\sigma}$	mH	3.063	0.54	2.14	0.645	2.58	1.213
Stator resistance	$R_{1,\ 20}$	Ω	0.69	0.0915	0.365	0.09	0.36	0.134
Rotor resistance	$R_{2',\ 20}$	Ω	0.616	0.09	0.361	0.0894	0.358	0.12
Weight	m	kg	48.2	64	64	63.5	63.5	105

Motor data

Rated data

Inverter mains connection 400 V, Forced ventilated motors



Motor			MCA 22P17-	MCA 22P14-	MCA 22P08-	MCA 22P29H	MCA 22P17H	MCA 22P14H
Degree of protection			IP54	IP54	IP54	IP23	IP23	IP23
Standstill torque	M_0	Nm	120	120	120	135	135	135
Rated torque	M_{rated}	Nm	106	107	110	110	112	115
Max. torque	M_{max}	Nm	500	500	500	500	500	500
Rated speed	n_{rated}	rpm	1670	1425	760	2935	1670	1425
Max. speed	n_{max}	rpm	6500	6500	6500	6500	6500	6500
Rated power	P_{rated}	kW	18.5	16	8.8	33.8	19.6	17.2
Standstill current	I_0	A	46.7	40.5	23.4	90.2	52.1	45.1
Rated current	I_{rated}	A	42.7	37.7	22.1	77.8	44.5	40.0
Max. current	I_{max}	A	171	151	88.4	311	178	160
Rated voltage	V_{rated}	V	360	350	345	360	360	360
Rated frequency	f_{rated}	Hz	58	50	28	100	58	50
Moment of inertia	J	kgcm ²	487	487	487	487	487	487
Efficiency	η		0.880	0.870	0.800	0.890	0.880	0.860
Stator terminal resistance	$R_{UV\ 20}$ °C	Ω	0.268	0.357	1.072	0.089	0.268	0.357
Stator terminal resistance	$R_{UV\ 150}$ °C	Ω	0.404	0.538	1.616	0.134	0.404	0.538
Mutual inductance	L_H	mH	23.35	94.23	94.89	22.9	23.46	90.94
Stator leakage inductance	$L_{1\sigma}$	mH	0.901	3.601	3.56	0.901	0.902	3.552
Rotor leakage inductance	$L_{2\sigma}$	mH	1.214	4.852	4.802	1.214	1.215	4.794
Stator resistance	$R_{1,\ 20}$	Ω	0.134	0.536	0.536	0.134	0.134	0.536
Rotor resistance	$R_{2',\ 20}$	Ω	0.12	0.477	0.477	0.12	0.12	0.477
Weight	m	kg	105	105	105	105	105	105



Motor data

Rated data

Inverter mains connection 400 V, Forced ventilated motors

Motor			MCA 22P08H	MCA 26T22-	MCA 26T12-	MCA 26T10-	MCA 26T05-	MCA 26T22H
Degree of protection			IP23	IP54	IP54	IP54	IP54	IP23
Standstill torque	M_0	Nm	135	220	220	220	220	290
Rated torque	M_{rated}	Nm	120	195	207	210	216	230
Max. torque	M_{max}	Nm	500	1100	1100	1100	1100	1100
Rated speed	n_{rated}	rpm	760	2235	1200	1030	550	2235
Max. speed	n_{max}	rpm	6500	5500	5500	5500	5500	5500
Rated power	P_{rated}	kW	9.6	45.6	26	22.7	12.4	53.8
Standstill current	I_0	A	26.0	125	78.4	62.9	35.4	160
Rated current	I_{rated}	A	23.5	113	75.1	61.5	34.9	127
Max. current	I_{max}	A	94.0	452	300	246	140	507
Rated voltage	V_{rated}	V	355	340	350	350	350	340
Rated frequency	f_{rated}	Hz	28	76	41	35	19	76
Moment of inertia	J	kgcm ²	487	1340	1340	1340	1340	1340
Efficiency	η		0.800	0.920	0.870	0.880	0.830	0.920
Stator terminal resistance	$R_{UV\ 20}$ °C	Ω	1.072	0.05	0.15	0.196	0.589	0.05
Stator terminal resistance	$R_{UV\ 150}$ °C	Ω	1.616	0.075	0.226	0.295	0.888	0.075
Mutual inductance	L_H	mH	91.93	19.84	18.1	69.24	66.8	20.2
Stator leakage inductance	$L_{1\sigma}$	mH	3.5	0.778	0.74	2.932	2.862	0.78
Rotor leakage inductance	$L_{2\sigma}$	mH	4.738	1.29	1.29	5.117	5.037	1.3
Stator resistance	$R_{1,\ 20}$	Ω	0.536	0.075	0.075	0.294	0.294	0.075
Rotor resistance	$R_{2',\ 20}$	Ω	0.477	0.0621	0.0621	0.25	0.25	0.0621
Weight	m	kg	105	194	194	194	194	194

Motor data

Rated data

Inverter mains connection 400 V, Forced ventilated motors



Motor			MCA 26T12H	MCA 26T10H	MCA 26T05H
Degree of protection			IP23	IP23	IP23
Standstill torque	M_0	Nm	290	290	290
Rated torque	M_{rated}	Nm	255	260	280
Max. torque	M_{max}	Nm	1100	1100	1100
Rated speed	n_{rated}	rpm	1200	1030	550
Max. speed	n_{max}	rpm	5500	5500	5500
Rated power	P_{rated}	kW	32	28	16.1
Standstill current	I_0	A	101	78.0	44.0
Rated current	I_{rated}	A	83.3	69.6	42.4
Max. current	I_{max}	A	333	278	170
Rated voltage	V_{rated}	V	350	350	350
Rated frequency	f_{rated}	Hz	41	36	20
Moment of inertia	J	kgcm ²	1340	1340	1340
Efficiency	η		0.870	0.870	0.810
Stator terminal resistance	$R_{UV\ 20}$ °C	Ω	0.15	0.196	0.589
Stator terminal resistance	$R_{UV\ 150}$ °C	Ω	0.226	0.295	0.888
Mutual inductance	L_H	mH	18.64	71.4	72.1
Stator leakage inductance	$L_{1\sigma}$	mH	0.78	3.165	3.112
Rotor leakage inductance	$L_{2\sigma}$	mH	1.3	5.135	5.08
Stator resistance	$R_{1,\ 20}$	Ω	0.075	0.294	0.294
Rotor resistance	$R_{2',\ 20}$	Ω	0.0621	0.25	0.25
Weight	m	kg	194	194	194



Torque characteristics

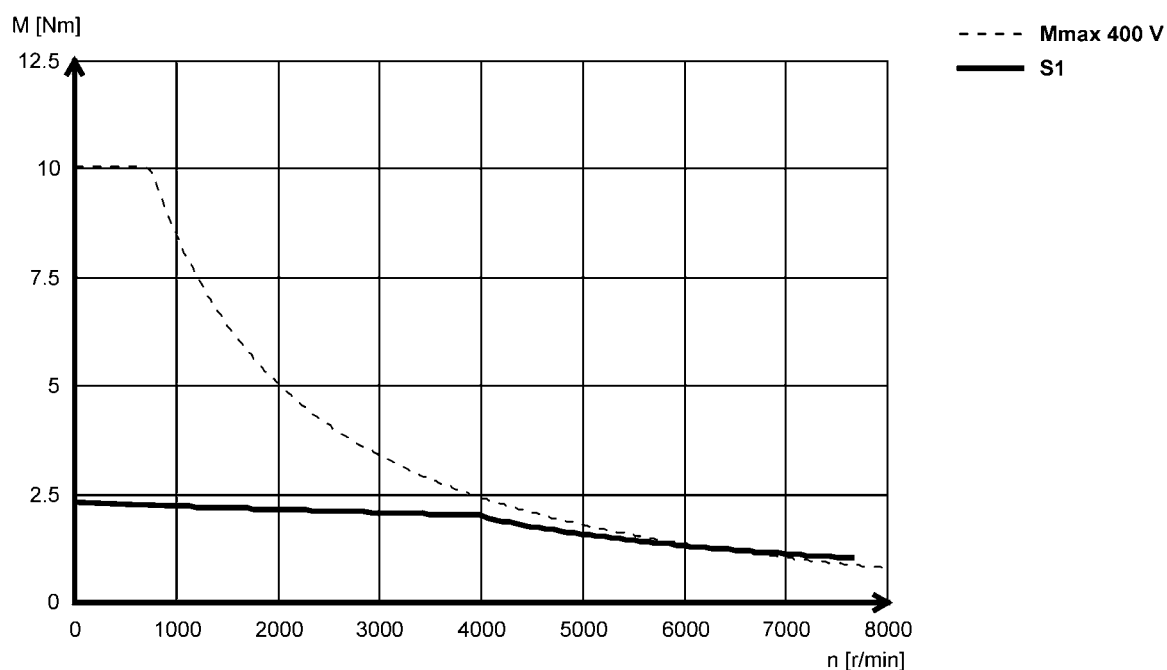


The torque/speed characteristic for your motor/inverter combination can be found on the Internet:
<http://www.lenze.com> → Product Finder → M-n characteristics

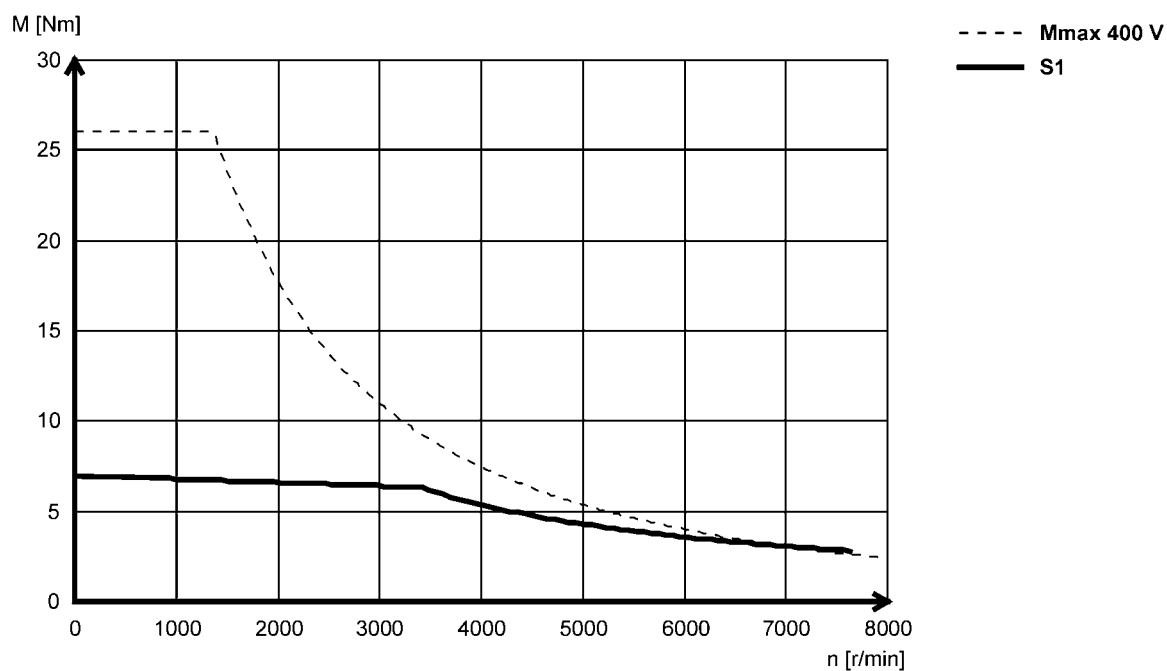


The following data apply to a mains voltage 3 x 400 V of the inverter.

MCA10I40- (self-ventilated)



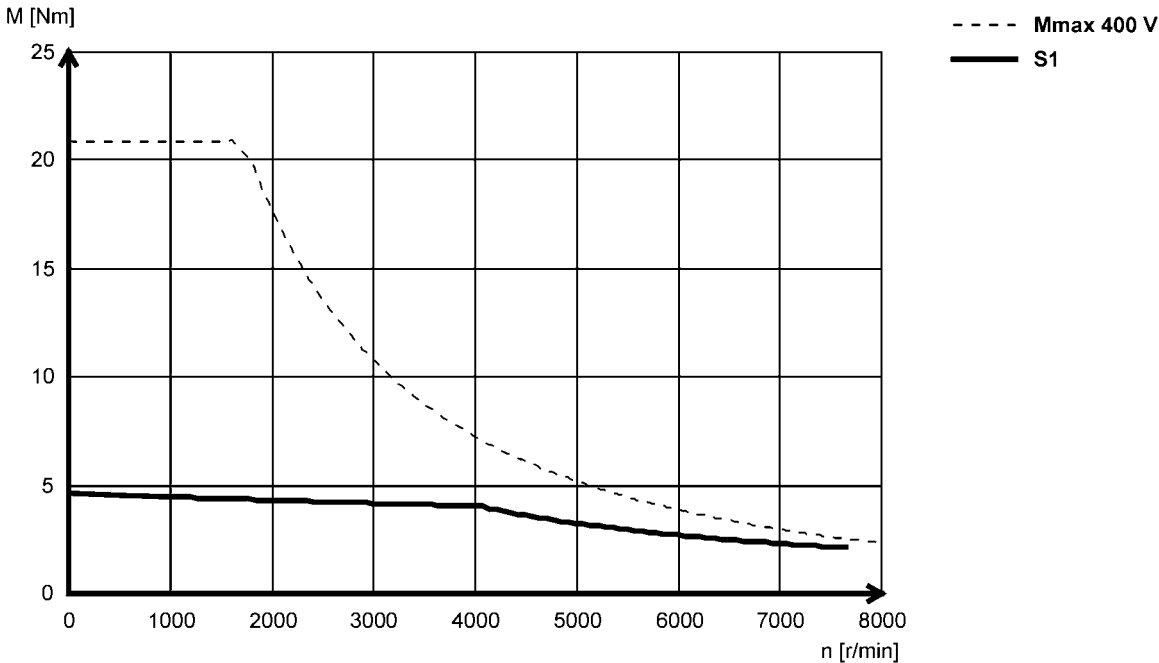
MCA13I34- (forced ventilated)



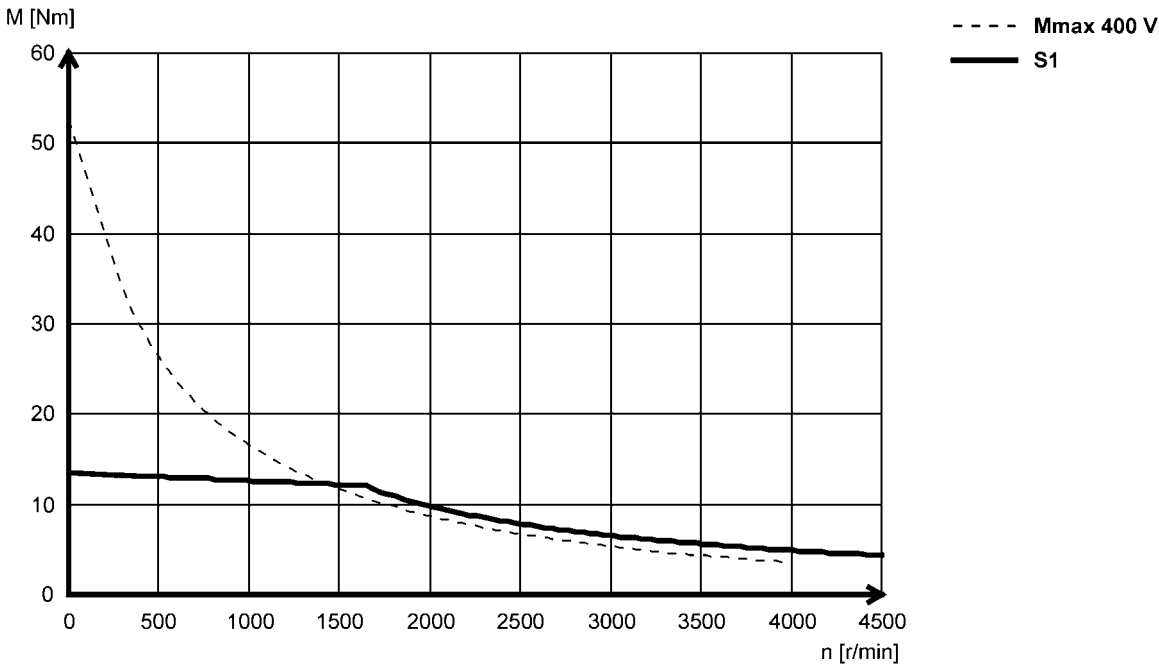
Motor data
Torque characteristics



MCA13I41- (self-ventilated)



MCA14L16- (forced ventilated)

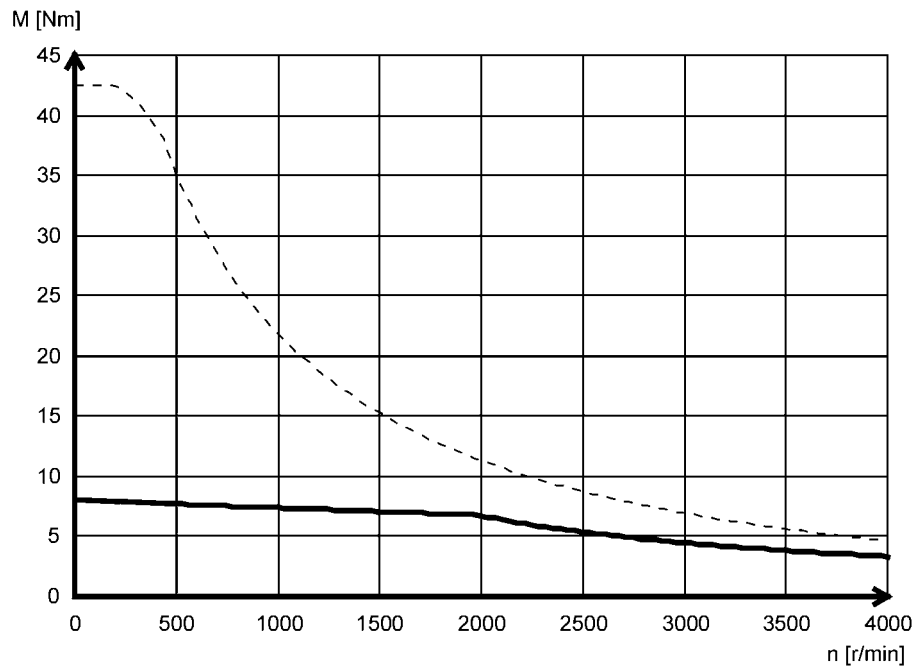




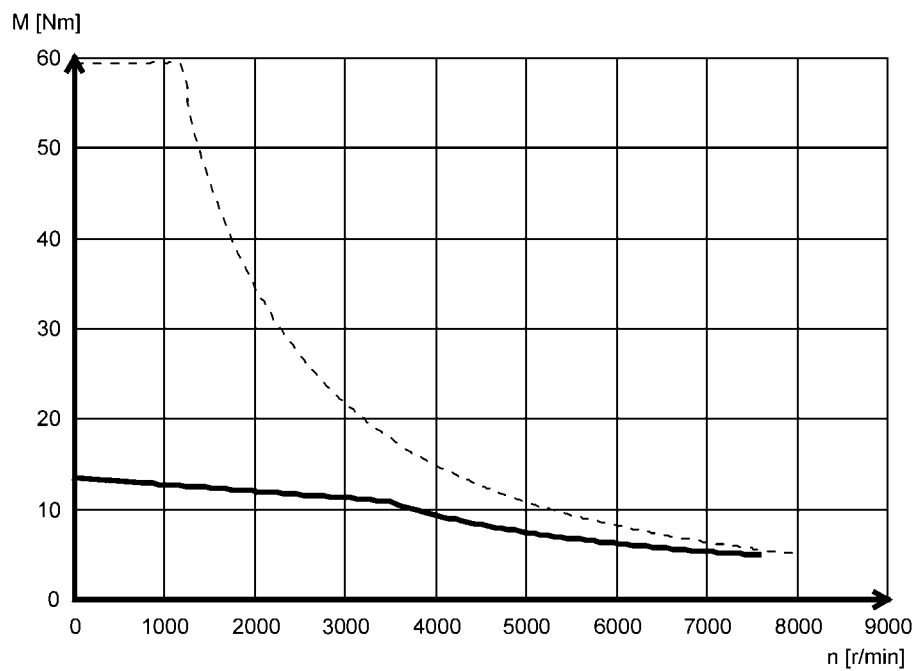
Motor data

Torque characteristics

MCA14L20- (self-ventilated)



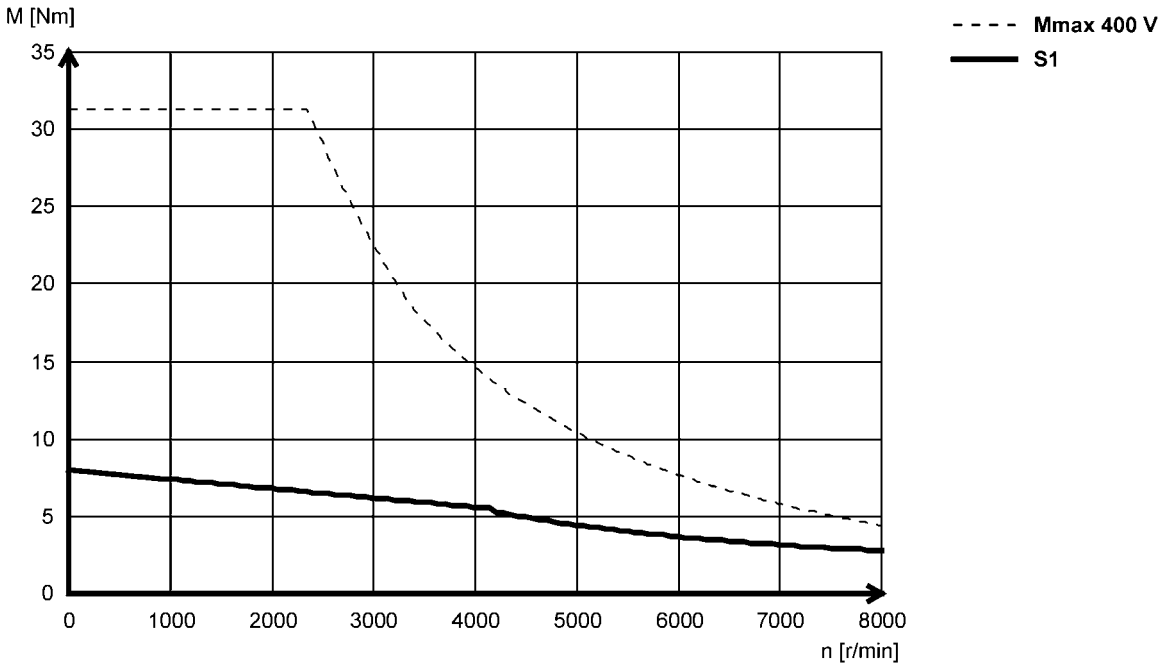
MCA14L35- (forced ventilated)



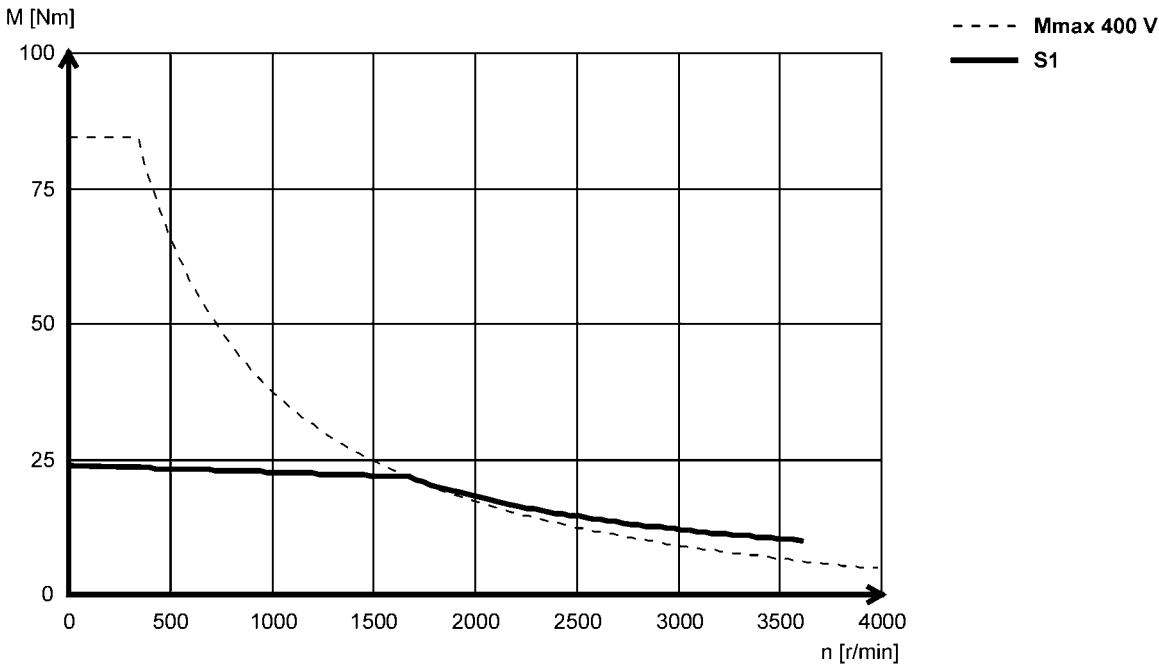
Motor data
Torque characteristics



MCA14L41- (self-ventilated)



MCA17N17- (forced ventilated)

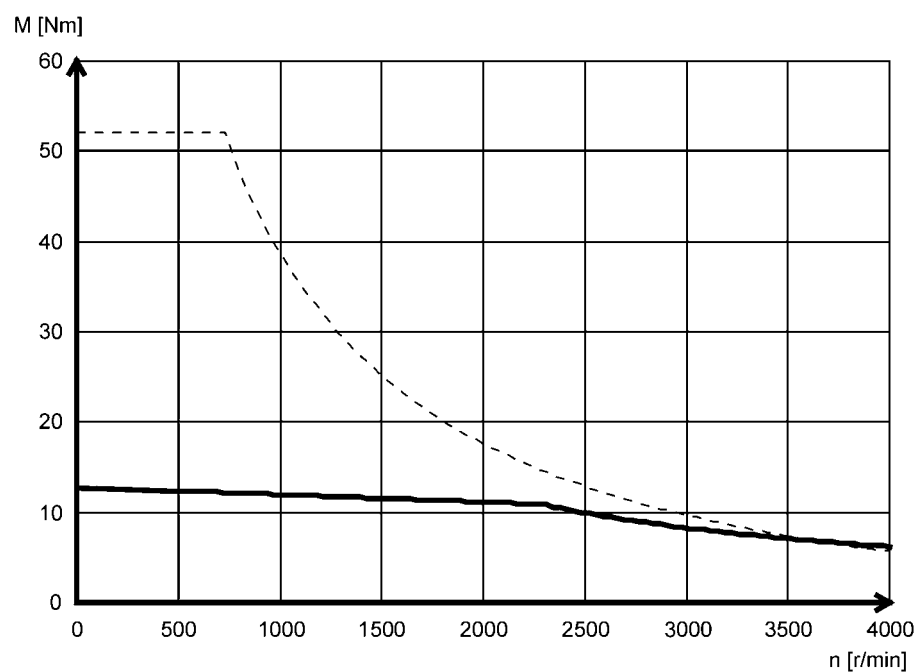




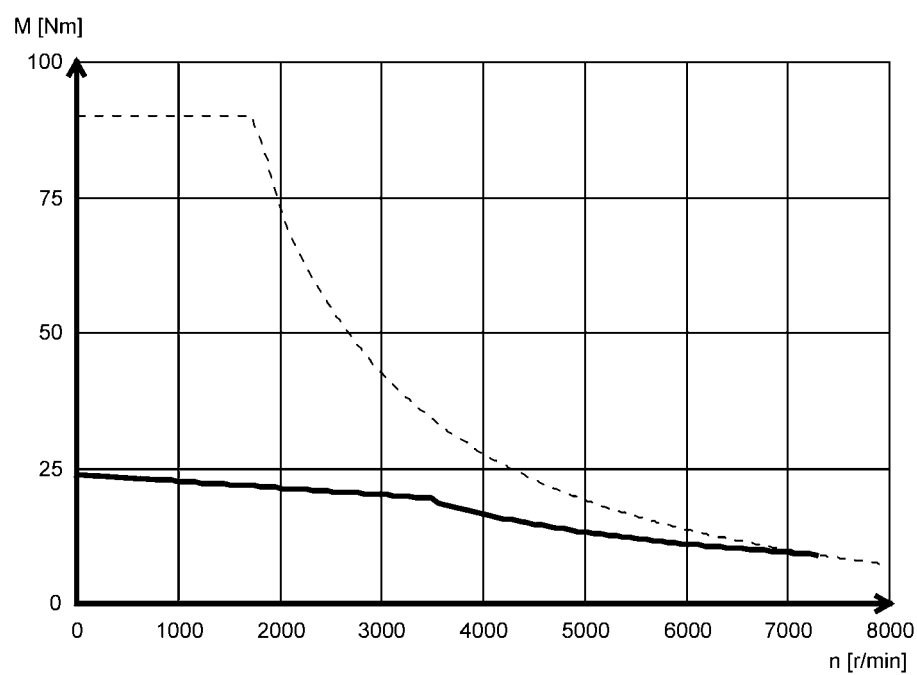
Motor data

Torque characteristics

MCA17N23- (self-ventilated)



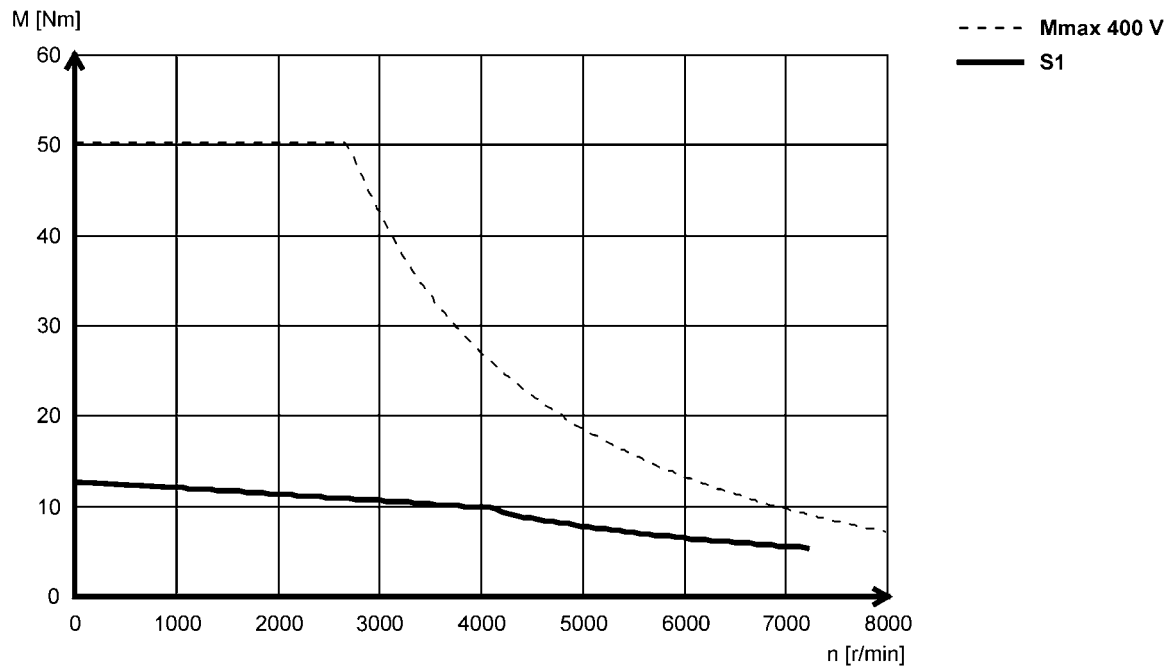
MCA17N35- (forced ventilated)



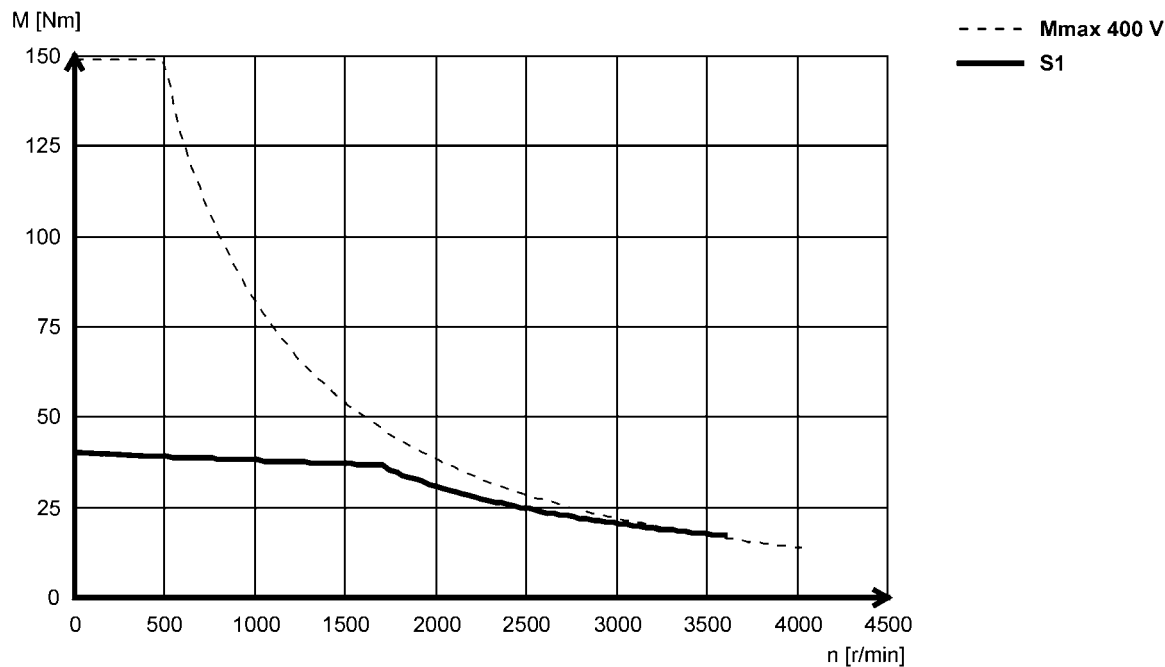
Motor data
Torque characteristics



MCA17N41- (self-ventilated)



MCA19S17- (forced ventilated)

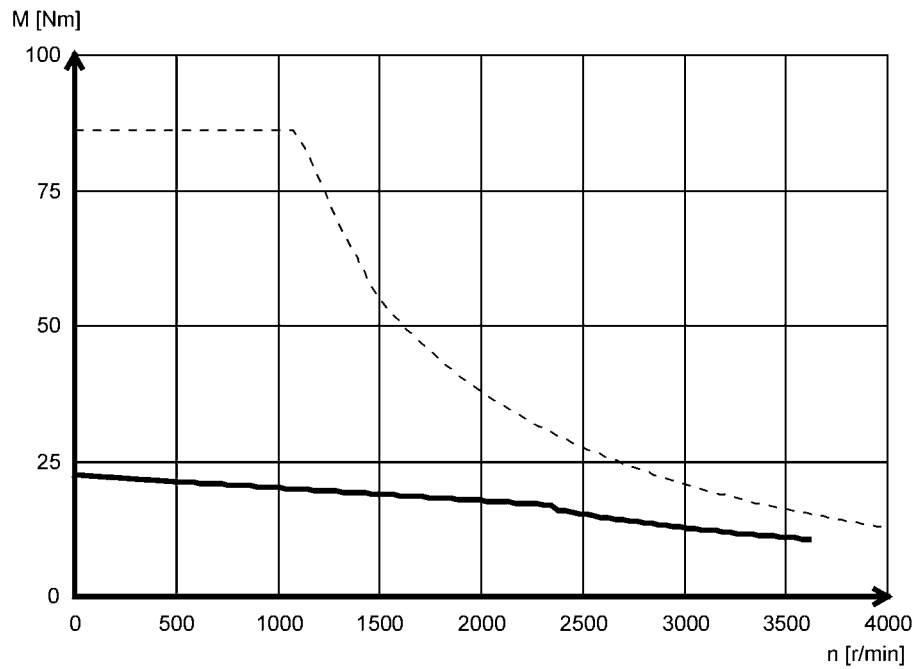




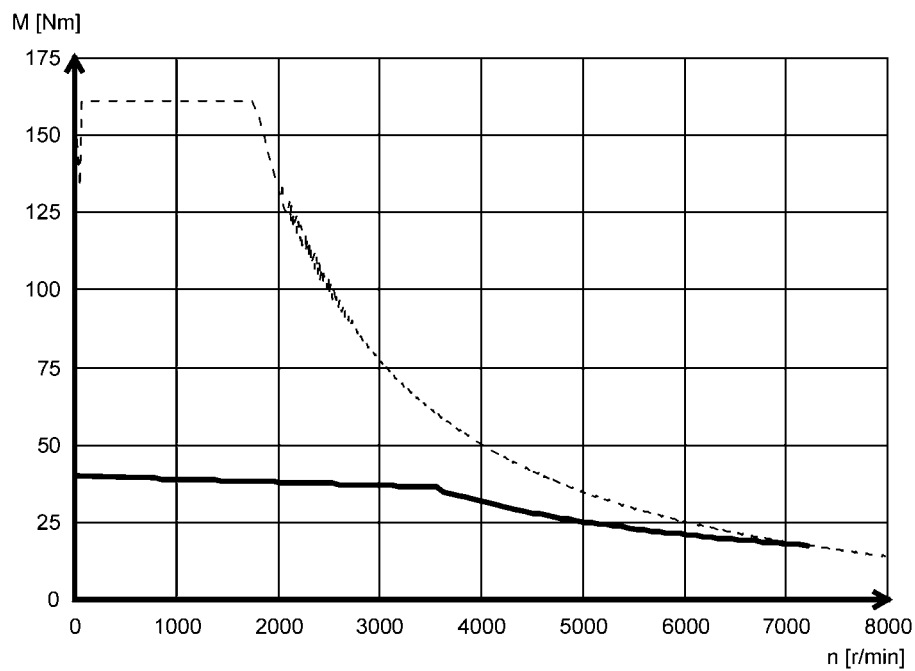
Motor data

Torque characteristics

MCA19S23- (self-ventilated)



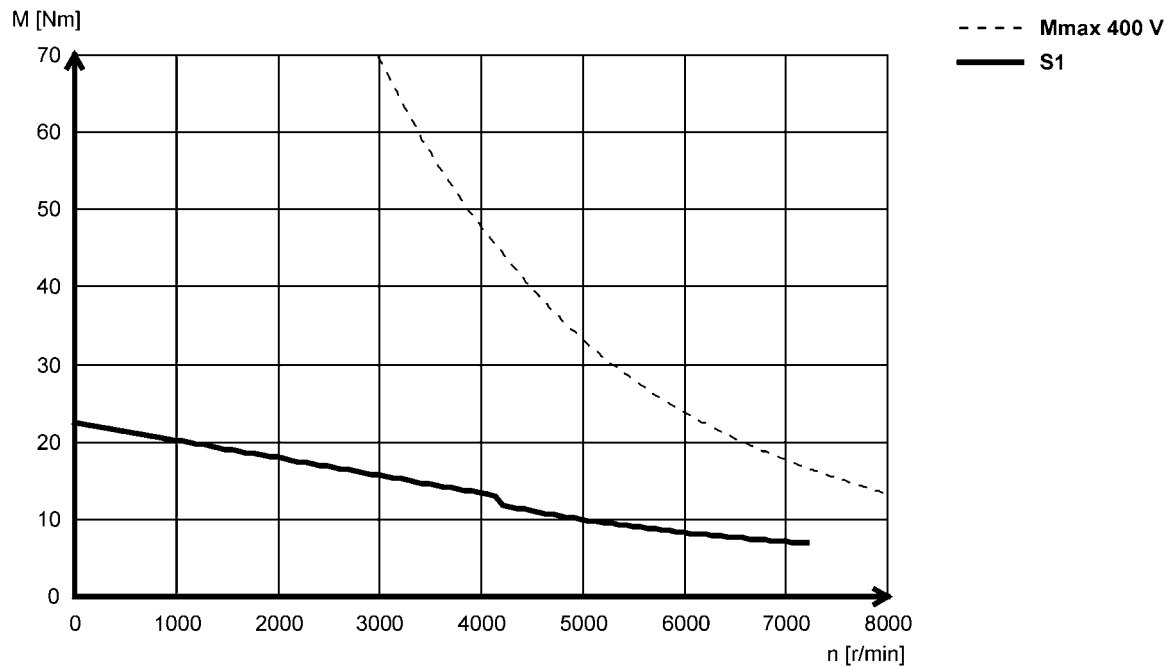
MCA19S35- (forced ventilated)



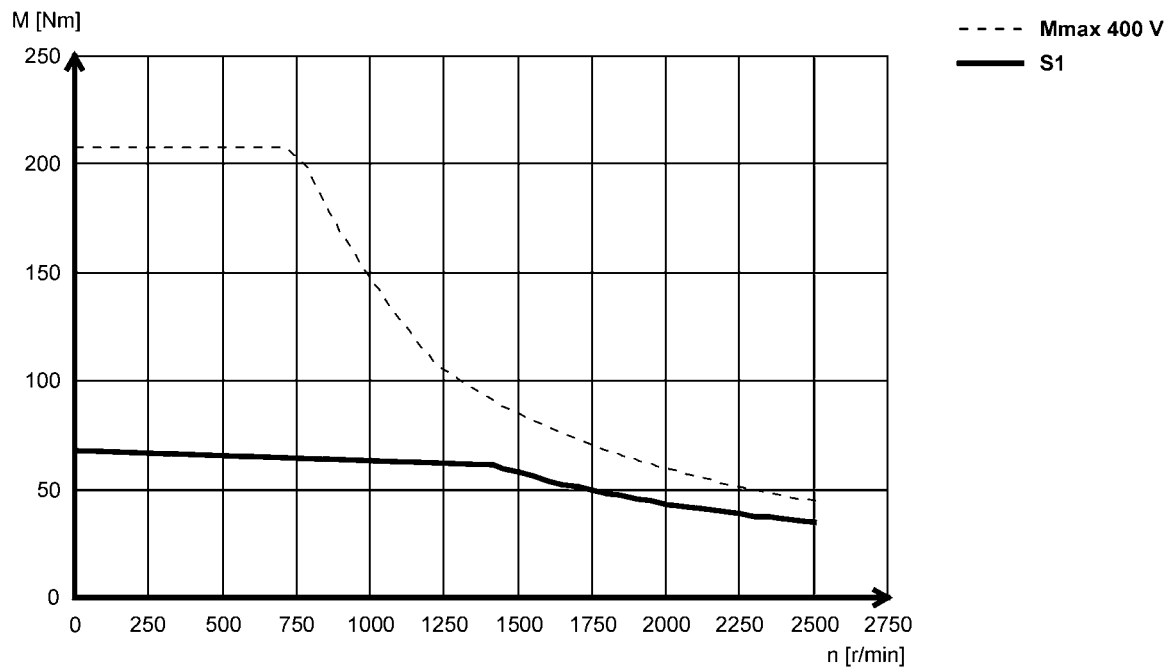
Motor data
Torque characteristics



MCA19S42- (self-ventilated)



MCA20X14H (forced ventilated, IP23s)

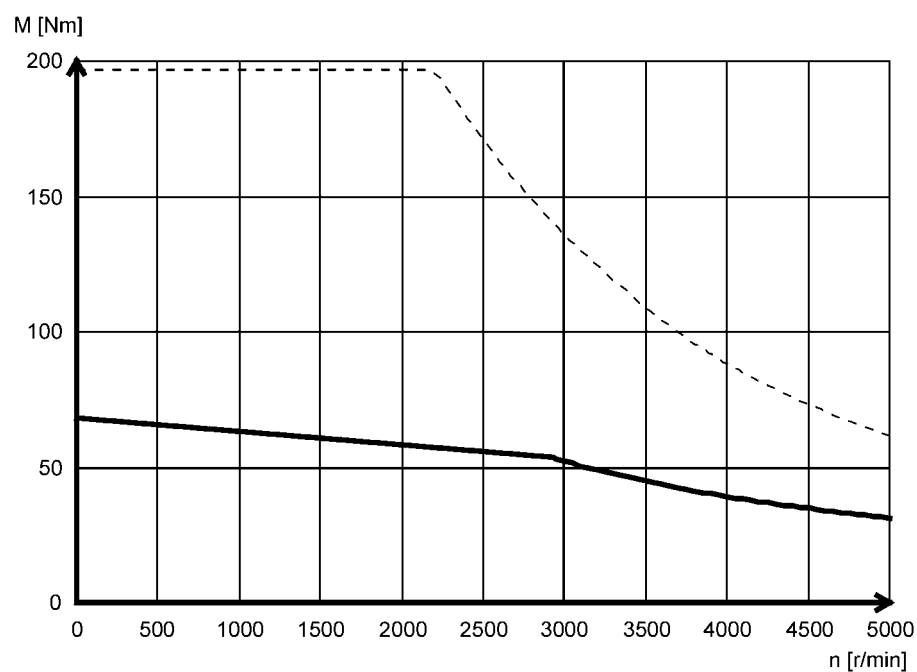




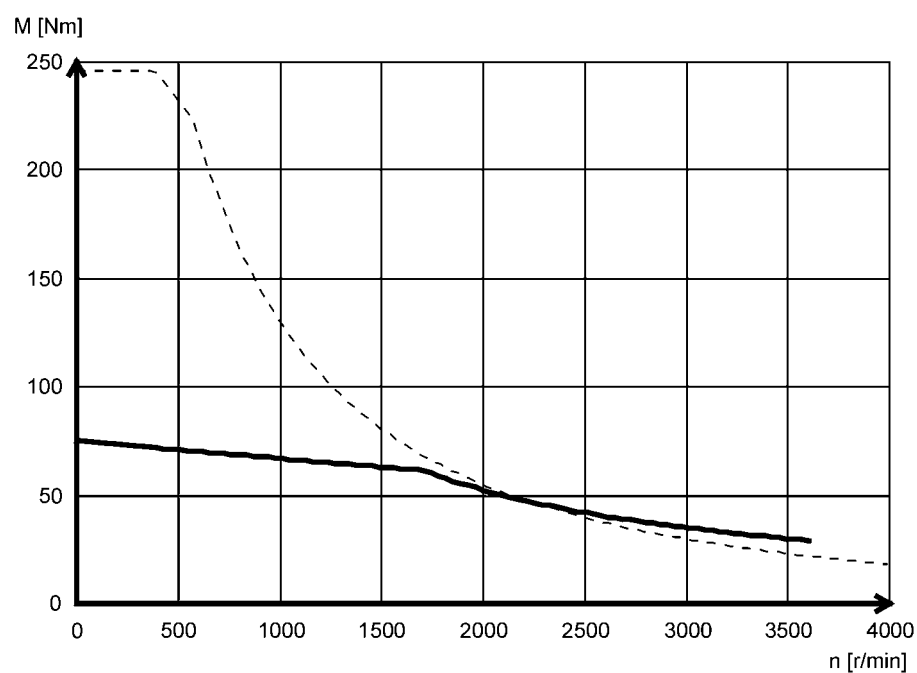
Motor data

Torque characteristics

MCA20X29H (forced ventilated, IP23s)



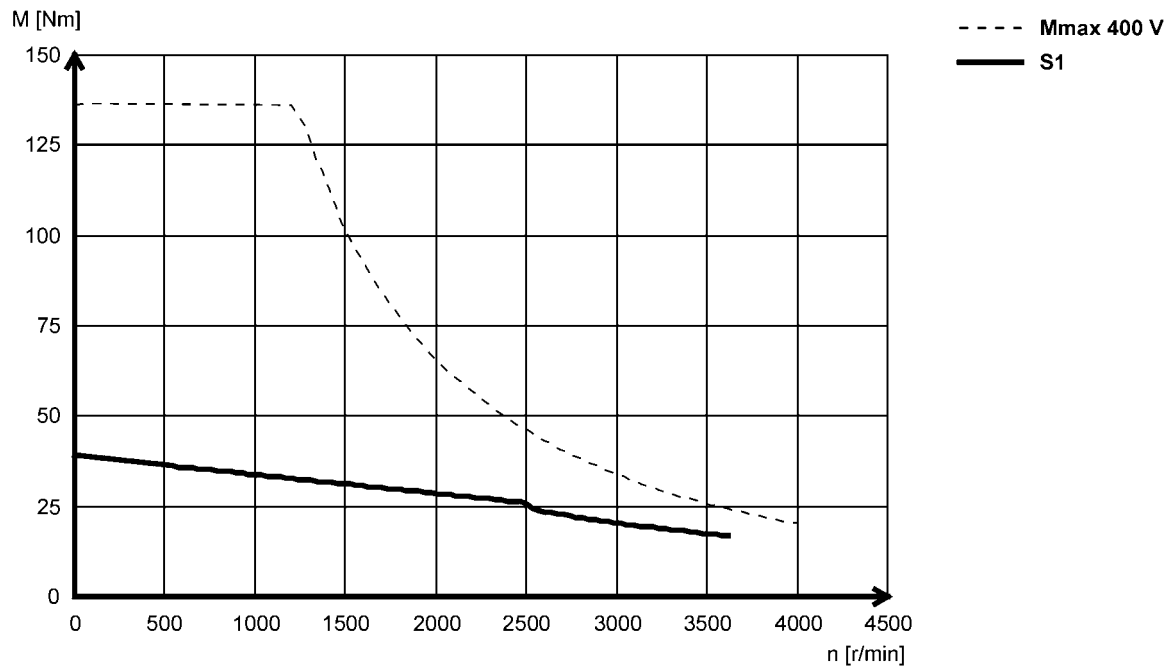
MCA21X17- (forced ventilated)



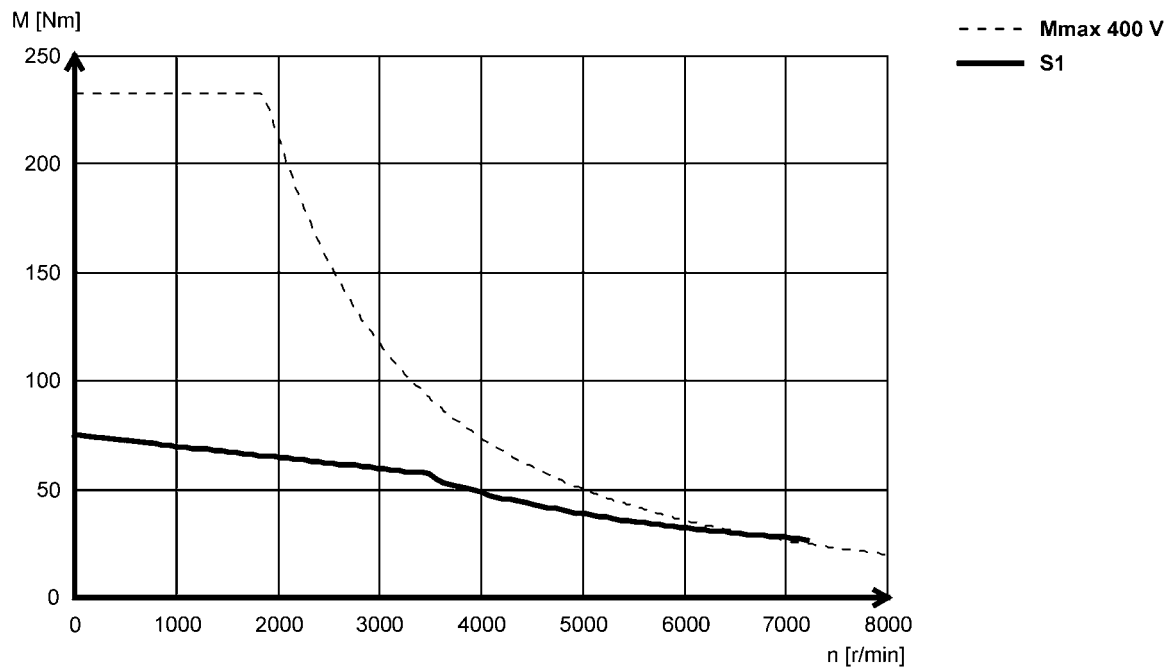
Motor data
Torque characteristics



MCA21X25- (self-ventilated)



MCA21X35- (forced ventilated)

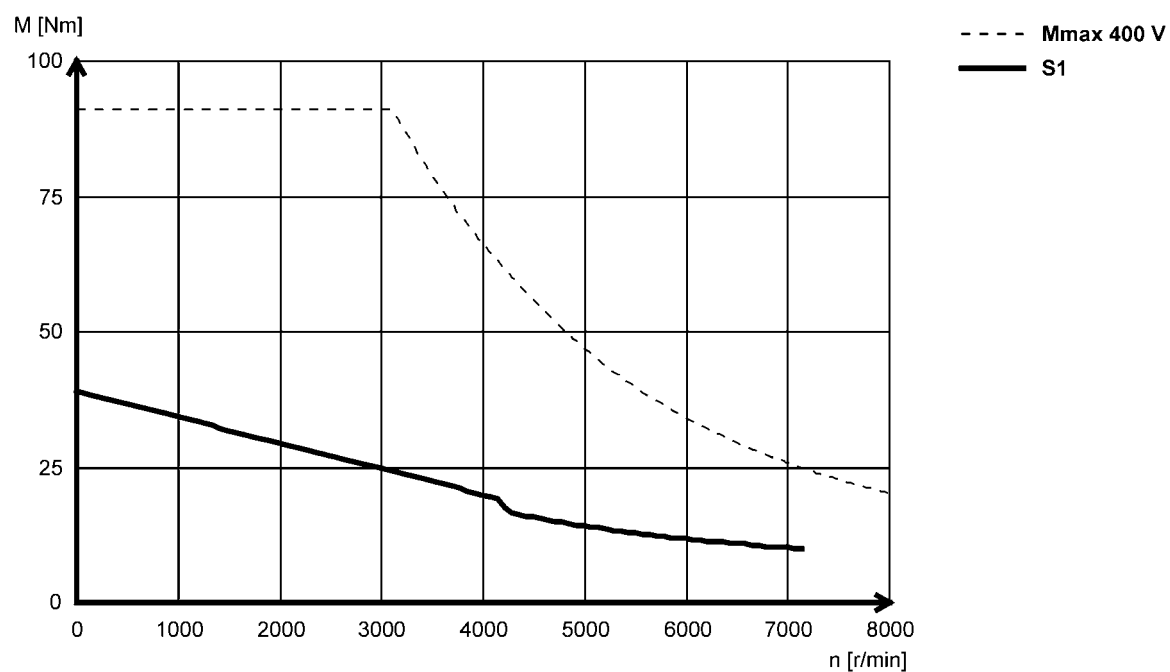




Motor data

Torque characteristics

MCA21X42- (self-ventilated)





Environmental notes and recycling

Lenze has been certified to the worldwide environmental management standard for many years (DIN EN ISO 14001). As part of our environmental policy and the associated climate responsibility, please note the following information on hazardous ingredients and the recycling of Lenze products and their packaging:



Lenze products are partly subject to the EU Directive on the restriction of certain hazardous substances in electrical and electronic equipment 2011/65/EU: RoHS Directive [UKCA: S.I. 2012/3032 - The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012] . This is documented accordingly in the EU declaration of conformity and with the CE mark.



The crossed-out wheeled bin symbol is located on the equipment. This information indicates that used electrical and electronic products must not be disposed of with normal household waste.

The EU Directive 2012/19/EU: Directive on waste electrical and electronic equipment (WEEE) [UKCA: S.I. 2013/3113 - The Waste Electrical and Electronic Equipment Regulations 2013] , which has been transposed into national law by the respective EU member states, applies to the disposal of equipment. As a customer, you have the option of disposing of the electrical and electronic equipment that you have purchased from us and that is subject to WEEE via the Lenze branch in your country.

Lenze addresses in Europe: <https://www.lenze.com/en-de/company/global-presence>

Some Lenze products contain batteries/rechargeable batteries in accordance with EU Directive 2006/66/EC: Battery Directive [UKCA: S.I. 2009/890 - The Waste Batteries and Accumulators Regulations 2009] . Any batteries/rechargeable batteries included are designed to last the life of the product and do not need to be replaced or otherwise removed by the end user.



Lenze products are usually sold with cardboard or plastic packaging. This packaging complies with EU Directive 94/62/EC: Directive on packaging and packaging waste [UKCA: S.I. 1997/648 - The Producer Responsibility Obligations (Packaging Waste) Regulations 1997] . The required disposal route is indicated by material-specific labels with the "recycling triangle". Example: "21 - other cardboard"

REACH

Lenze products are subject to REGULATION (EC) No 1907/2006: REACH Regulation [UKCA: S.I. 2008/2852 - The REACH Enforcement Regulations 2008] . When used as intended, exposure of substances to humans, animals and the environment is excluded.

Lenze products are industrial electrical and electronic products and are disposed of professionally. Both the mechanical and electrical components such as electric motors, gearboxes or inverters contain valuable raw materials that can be recycled and reused. Proper recycling and thus maintaining the highest possible level of recyclability is therefore important and sensible from an economic and ecological point of view.

- Coordinate professional disposal with your waste disposal company.
- Separate mechanical and electrical components, packaging, hazardous waste (e.g. gear oils) and batteries/rechargeable batteries wherever possible.
- Dispose of the separated waste in an environmentally sound and proper manner (no household waste or municipal bulky waste).

What?	Material	Disposal instructions
Pallets	Wood	Return to manufacturers, freight forwarders or reusable materials collection system
Packaging material	Paper, cardboard, pasteboard, plastics	Collect and dispose of separately
Products		
Electronic devices	Metal, plastics, circuit boards, heatsinks	As electronic waste give to professional disposer for recycling
Gearbox	Oil	Drain oil and dispose of separately
	Casting, steel, aluminium	Dispose as metal scrap
Motors	Casting, copper, rotors, magnets, potting compound	As engine scrap give to professional disposer for recycling
Dry-cell batteries/rechargeable batteries		As used batteries give to professional disposer for recycling



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

www.Lenze.com → search word: "Sustainability"



Appendix

Good to know

Operating modes of the motor

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.

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

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.

Appendix

Good to know
Enclosures



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
t Time
 t_L Idle time
 θ Temperature

P_v Power loss
 t_B Load period
 t_S Cycle duration

Enclosures

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

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

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

