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



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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

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

Synchronous servo motors as a basis for geared motors

In a power range of 0.25 to 15.8 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 overload capacity.

Customer benefit

- Easy assembly and easy servicing by connectors with bayonet lock and swivel connector boxes
- Reduced cabling by One Cable Technology (OCT) in connection with a digital absolute value encoder
- High overload capacity of the motors
- Suitable for any mounting position
- High efficiency
- Space-saving thanks to compact direct attachment
- Wide speed setting range
- Can be used universally for a wide range of machine tasks due to the market-oriented modular system



g700-P130 planetary gearbox with MCS09 synchronous servo motor



g850-P950 planetary gearbox with MCS19C synchronous servo motor

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 name: MCS synchronous servo motor

Meaning	Variant					
Product family		MCS				
Size			06 09 12 14 19			
Overall length				C ... P		
Rated speed	rpm x 100				11 ... 60	
Inverter mains connection	3 x 400 V					-
	3 x 230 V					L

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



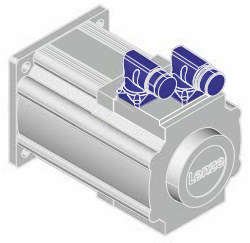
g880-P

- Very compact
- Low noise generation
- Extremely torsionally stiff

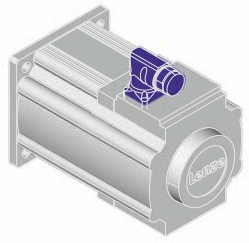
Gearboxes		**g820-P**	**g840-P**	**g850-P**	**g870-P**	**g880-P**
Rated torque	Nm	28 … 470	27 … 1800	28 … 950	27 … 1800	28 … 950
Max. backlash	'	1 … 5	1 … 5	1 … 5	1 … 5	1 … 5
Static radial force	N	1600 … 9500	3200 … 21000	3200 … 20000	2400 … 33000	2400 … 23000
Static axial force	N	1500 … 9600	4400 … 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

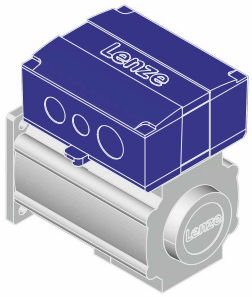
Motor connection



Connector

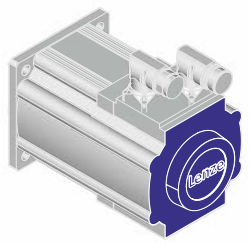


ICN hybrid connector for One Cable Technology (OCT)

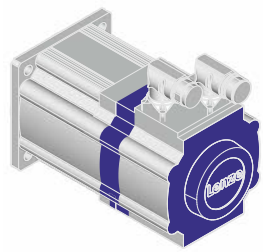


Terminal box

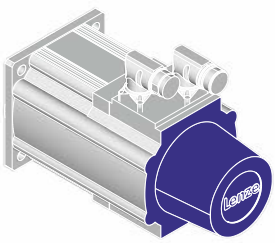
Cooling: Self-ventilated



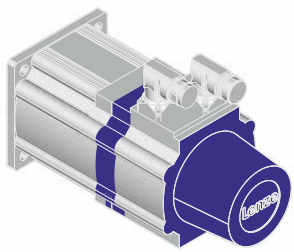
Resolver



Resolver and brake

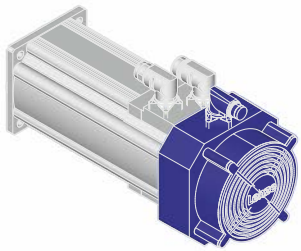


Absolute value/incremental encoder

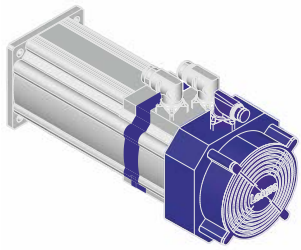


Absolute value/incremental encoder and brake

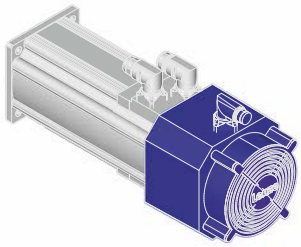
Cooling: Forced-ventilated



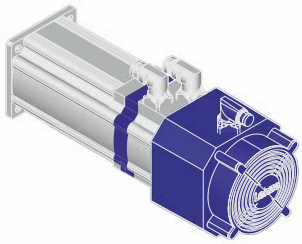
Resolver



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 the specifications of the corresponding documentation. This is the condition for safe and trouble-free operation and the achievement of the specified product features.
- The procedural notes and circuit details given in the associated documentation are suggestions and their transferability to the respective application has to be checked. The manufacturer of the product does not take responsibility for the suitability of the process and circuit proposals.
- All work with and on the product may only be carried out by qualified personnel. IEC 60364 and CENELEC HD 384 define the qualifications of these persons:
  - They are familiar with installing, mounting, commissioning, and operating the product.
  - They have the corresponding qualifications for their work.
  - They know and can apply all regulations for the prevention of accidents, directives, and laws applicable at the place of use.

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.

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 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 »EASY System Designer«.

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

Please get in touch with your Lenze representative.

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 📖 32

▸ Surface and corrosion protection 📖 24

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 🕮 804

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	1,10	1.01	0.92	0.84
30 °C	1.05	0.97	0.88	0.80
40 °C	1.00	0.92	0.83	0.77
50 °C	0.92	0.85	0.76	0.70
60 °C	0.84	0.78	0.69	0.64

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

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

Determine product on the basis of the forces

Transmission element			Gear wheels	Sprockets	Toothed belt pulleys (depending on the 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 🕮 38

Determine gearbox efficiency

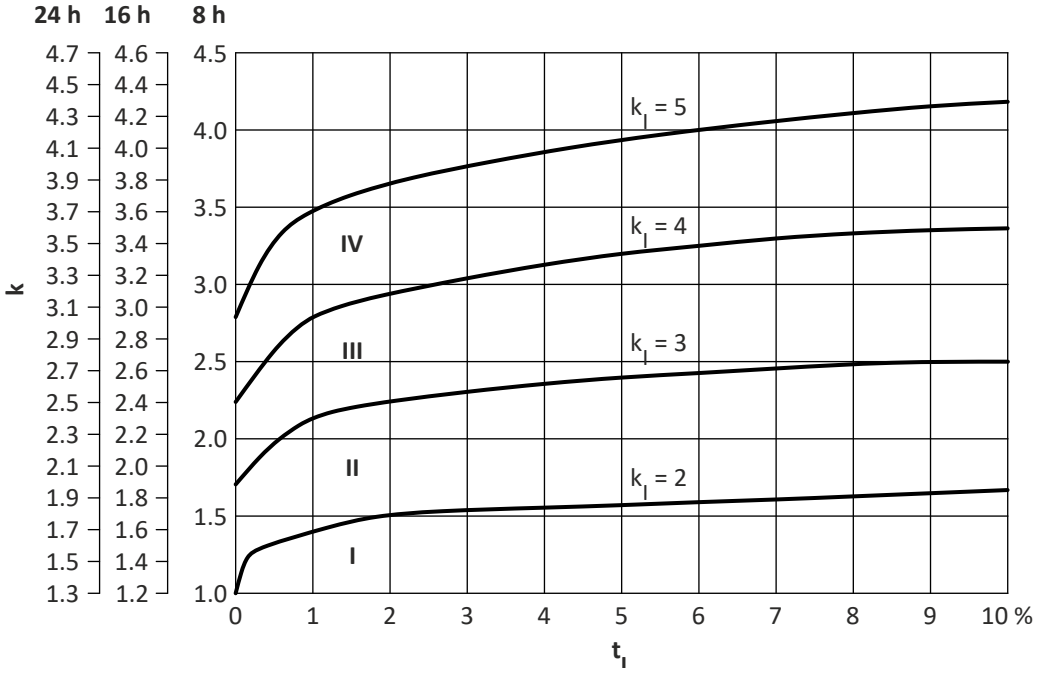
Gearboxes	Gearbox stages		
	1-stage	2-stage	3-stage
	Gearbox efficiency		
	η_{c1}	η_{c1}	η_{c1}
g700-P	0.98	0.97	0.92
g720-P	0.98	0.97	0.92
g730-P	0.98	0.97	-
g750-P	0.97	0.96	-
g780-P	0.98	0.97	-
g820-P	0.98	0.96	-
g840-P	0.98	0.95	-
g850-P	0.98	0.97	-
g870-P	0.97	0.96	-
g880-P	0.97	0.96	-



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 =	

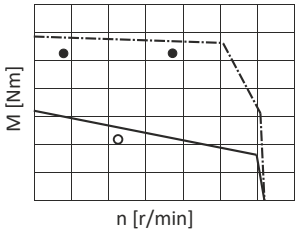
▸ Selection tables 📖 39

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	$c \geq k$ $c \geq k_I$	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 📖 39

Check servo motor based on the motor torque characteristic		
Gearbox efficiency	$\eta_G = \eta_{c1} - (c - 1) \times 0.01$	η_G =
All operating points (●)		$i \times n_L$
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 📖 770



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 34
- Product extensions 730

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		60 ... 90 µm
OKS-S (small)	Comparable to C1	• 2K-PUR top coat	• Standard: RAL 7012 • Optional: RAL Classic	80 ... 120 µm
OKS-M (medium)	Comparable to C2	• 2K PUR priming coat • 2K-PUR top coat		110 ... 160 µm
OKS-L (large)	Comparable to C3			140 ... 200 µm
OKS-XL (extra large)	Comparable to C4	• 2K-EP priming coat (two times) • 2K-PUR top coat		160 ... 240 µm

Lubricants

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 📖 32
- 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

Mounting surfaces

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



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 V at the motor terminals must not be exceeded. Here, the minimum pulse rise time must be t_R = 0.1 µs.

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

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

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

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 ... +40 °C
  - $n_{2,th}$ is valid for T_V= +20 °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

Motors for inverter mains connection 230 V

The data in the selection tables are given for an inverter mains connection 3x 400 V. These motors are identified via "-" (example MCS06C41-).

In case of an inverter mains connection 1x 230 V, or 3x 230 V, the same data in the selection tables for the following self-ventilated motors with the "L" ID apply (example MCS06C41L).

MCS06		MCS09		MCS12	
Rated power	Product name	Rated power	Product name	Rated power	Product name
P_{rated}		P_{rated}		P_{rated}	
kW		kW		kW	
0.25	MCS06C41L	1.0	MCS09D41L	1.1	MCS12D20L
0.51	MCS06F41L	1.2	MCS09F38L	1.8	MCS12D41L
0.64	MCS06I41L	1.6	MCS09H41L	1.6	MCS12H15L
		1.9	MCS09L41L	2.5	MCS12H30L
				2.8	MCS12L20L

▸ Rated data 📖 757

▸ Torque characteristics 📖 770

Basic dimensions

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

Note the extra length (Δ L) of the product extensions.

▸ Additional lengths 📖 726



Standards and operating conditions

Conformities and approvals

More information and certificates of approval can be found under

g7x0-P/g8x0-P + MCS planetary geared motors (Lenze.com)

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
		2011/65/EU	RoHS	-	
		2014/30/EU	EMC Directive		
		2014/35/EU	Low-Voltage Directive		
Great Britain	UKCA	S.I. 2008/1597	The Supply of Machinery (Safety) Regulations 2008	Only for safety-relevant components	UKCA mark
		S.I. 2012/3032	The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012	-	
		S.I. 2016/1091	The Electromagnetic Compatibility Regulations 2016		
		S.I. 2016/1101	The Electrical Equipment (Safety) Regulations 2016		

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 30253	Minimum allowable values of energy efficiency and energy efficiency grades for permanent magnet synchronous motors	-	CEL mark
		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	IP54	Self-ventilated: MCS06 ... MCS19
			Forced ventilated: MCS12 ... MCS19
		IP65	Self-ventilated: MCS06 ... MCS19

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



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



Planetary gearbox g700-P

The modular system

g700-P planetary gearbox with MCS synchronous servo motor

Gearbox		**g700-P20**	**g700-P44**	**g700-P130**	**g700-P260**	**g700-P800**
Min. motor assignment		**MCS06**	**MCS06**	**MCS06**	**MCS06**	**MCS12**
Max. motor assignment		**MCS06**	**MCS09**	**MCS12**	**MCS19**	**MCS19**
Technical data						
Max. output torque	Nm	20	44	130	260	800
Min. input torque	Nm	0.6	0.6	0.6	0.6	4.3
Max. input torque	Nm	1.2	5.5	17	72	72
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	10 x 23	14 x 30	20 x 36	25 x 50	40 x 80
Smooth solid shaft	mm	10 x 23	14 x 30	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	1/2/3	1/2/3	1/2
Output flange	mm	40	60	80	120	160
Lubricant		**Standard** Food compatible				
Cooling		**Self-ventilated** Forced ventilated				
Motor connection		**Connector** Terminal box				
Holding brake		**Without** With				
Feedback						
Without functional safety		**Digital absolute value encoder for One Cable Technology (OCT)** Resolver Absolute value encoder				
With functional safety		Digital absolute value encoder for One Cable Technology (OCT) Resolver Absolute value encoder				
Temperature monitoring		MCS06: PT1000 temperature sensor MCS09 ... MCS19: PT1000 temperature sensor and 2x PTC thermistor				



Gearbox data

g700-P20, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	11.0	15	1
5	14.0	15	1
7	8.5	15	1
8	6.0	15	1
10	5.0	15	1

g700-P20, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
9	16.5	19	1
12	20.0	19	1
15	18.0	19	1
16	20.0	19	1
20	20.0	19	1
25	18.0	19	1
32	20.0	19	1

g700-P44, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	28.0	10	3
4	38.0	10	3
5	40.0	10	3
7	25.0	10	3
8	18.0	10	2
10	15.0	10	2

g700-P44, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
9	44.0	12	3
12	44.0	12	3
15	44.0	12	3
16	44.0	12	3
20	44.0	12	3
25	40.0	12	3
32	44.0	12	3
40	40.0	12	3



g700-P44, 3-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
60	44.0	15	3
80	44.0	15	3

g700-P130, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	85.0	7	8
4	115	7	10
5	110	7	10
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
64	50.0	9	8

g700-P130, 3-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
60	110	11	10
80	120	11	11
100	120	11	10
120	110	11	10
160	120	11	10
200	110	11	10
256	120	11	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
4	155	7	21
5	195	7	21
8	120	7	18
7	135	7	19
10	95.0	7	16

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

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
160	260	11	22
200	230	11	22
256	260	11	22
320	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
4	450	6	68
5	450	6	69
8	450	6	62



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-P20	g700-P44	g700-P130	g700-P260	g700-P800
Bearing service life 20000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	N	200	400	750	1750	5000
Axial force	F_{ax}	N	200	500	1000	2500	7000
Bearing service life 30000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	N	160	340	650	1500	4200
Axial force	F_{ax}	N	160	450	900	2100	6000
Max. radial force	$F_{rad, max}$	N	200	700	1250	2000	5000
Max. axial force	$F_{ax, max}$	N	240	800	1600	3800	11000



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.25 kW

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	kgcm²					kg
1.7	1350	2.4	11.0	675	0.213	3	P20	06C41-	1	2.7
1.7	1350	2.4	11.0	675	0.213	3	P20	06C41L	1	2.7
2.5	810	4.8	14.0	405	0.205	5	P20	06C41-	1	2.7
2.5	810	4.8	14.0	405	0.205	5	P20	06C41L	1	2.7
3.5	579	5.0	25.0	289	0.209	7	P44	06C41-	1	3.2
3.5	579	5.0	25.0	289	0.209	7	P44	06C41L	1	3.2
4.0	579	2.1	8.5	289	0.203	7	P20	06C41-	1	2.7
4.0	579	2.1	8.5	289	0.203	7	P20	06C41L	1	2.7
4.2	506	3.9	18.0	253	0.207	8	P44	06C41-	1	3.2
4.2	506	3.9	18.0	253	0.207	8	P44	06C41L	1	3.2
4.5	506	1.3	6.0	253	0.203	8	P20	06C41L	1	2.7
4.5	506	1.3	6.0	253	0.203	8	P20	06C41-	1	2.7
5.0	450	2.3	16.5	225	0.212	9	P20	06C41-	2	2.8
5.0	450	2.3	16.5	225	0.212	9	P20	06C41L	2	2.8
5.3	338	4.9	44.0	169	0.258	12	P44	06C41L	2	3.4
5.3	338	4.9	44.0	169	0.258	12	P44	06C41-	2	3.4
5.6	405	2.6	15.0	203	0.205	10	P44	06C41-	1	3.2
5.6	405	2.6	15.0	203	0.205	10	P44	06C41L	1	3.2
6.3	338	2.9	20.0	169	0.212	12	P20	06C41-	2	2.8
6.3	338	2.9	20.0	169	0.212	12	P20	06C41L	2	2.8
7.0	270	4.3	44.0	135	0.216	15	P44	06C41-	2	3.4
7.0	270	4.3	44.0	135	0.216	15	P44	06C41L	2	3.4
7.7	253	4.0	44.0	127	0.225	16	P44	06C41-	2	3.4
7.7	253	4.0	44.0	127	0.225	16	P44	06C41L	2	3.4
8.4	270	2.1	18.0	135	0.211	15	P20	06C41L	2	2.8
8.4	270	2.1	18.0	135	0.211	15	P20	06C41-	2	2.8
8.9	253	2.2	20.0	127	0.206	16	P20	06C41-	2	2.8
8.9	253	2.2	20.0	127	0.206	16	P20	06C41L	2	2.8
10.0	203	3.4	44.0	101	0.215	20	P44	06C41L	2	3.4
10.0	203	3.4	44.0	101	0.215	20	P44	06C41-	2	3.4
11.0	203	1.8	20.0	101	0.204	20	P20	06C41-	2	2.8
11.0	203	1.8	20.0	101	0.204	20	P20	06C41L	2	2.8
13.0	162	2.8	40.0	81.0	0.215	25	P44	06C41-	2	3.4
13.0	162	2.8	40.0	81.0	0.215	25	P44	06C41L	2	3.4
14.0	162	1.3	18.0	81.0	0.204	25	P20	06C41-	2	2.8
14.0	162	1.3	18.0	81.0	0.204	25	P20	06C41L	2	2.8
17.0	127	2.4	44.0	63.0	0.206	32	P44	06C41-	2	3.4
17.0	127	2.4	44.0	63.0	0.206	32	P44	06C41L	2	3.4
18.0	127	1.1	20.0	63.0	0.202	32	P20	06C41-	2	2.8
18.0	127	1.1	20.0	63.0	0.202	32	P20	06C41L	2	2.8
18.0	101	4.9	110	51.0	0.505	40	P130	06C41L	2	4.9
18.0	101	4.9	110	51.0	0.505	40	P130	06C41-	2	4.9
23.0	101	1.8	40.0	51.0	0.206	40	P44	06C41-	2	3.4
23.0	101	1.8	40.0	51.0	0.206	40	P44	06C41L	2	3.4
24.0	50.6	6.0	260	25.0	1.710	80	P260	06C41-	3	12
24.0	50.6	6.0	260	25.0	1.710	80	P260	06C41L	3	12
28.0	67.5	3.3	110	34.0	0.724	60	P130	06C41-	3	5.4
28.0	67.5	3.3	110	34.0	0.724	60	P130	06C41L	3	5.4



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	kgcm²					kg
32.0	67.5	1.3	44.0	34.0	0.216	60	P44	06C41L	3	3.6
32.0	67.5	1.3	44.0	34.0	0.216	60	P44	06C41-	3	3.6
32.0	63.3	3.5	120	32.0	1.554	64	P260	06C41-	2	10
32.0	63.3	3.5	120	32.0	1.554	64	P260	06C41L	2	10
34.0	63.3	1.5	50.0	32.0	0.506	64	P130	06C41-	2	4.9
34.0	63.3	1.5	50.0	32.0	0.506	64	P130	06C41L	2	4.9
37.0	40.5	4.8	260	20.0	1.703	100	P260	06C41-	3	12
37.0	40.5	4.8	260	20.0	1.703	100	P260	06C41L	3	12
40.0	50.6	2.8	120	25.0	0.545	80	P130	06C41-	3	5.4
40.0	50.6	2.8	120	25.0	0.545	80	P130	06C41L	3	5.4
43.0	50.6	1.0	44.0	25.0	0.215	80	P44	06C41L	3	3.6
43.0	50.6	1.0	44.0	25.0	0.215	80	P44	06C41-	3	3.6
53.0	40.5	2.2	120	20.0	0.544	100	P130	06C41-	3	5.4
53.0	40.5	2.2	120	20.0	0.544	100	P130	06C41L	3	5.4
53.0	33.8	3.6	230	17.0	2.319	120	P260	06C41L	3	12
53.0	33.8	3.6	230	17.0	2.319	120	P260	06C41-	3	12
64.0	33.8	1.7	110	17.0	0.730	120	P130	06C41L	3	5.4
64.0	33.8	1.7	110	17.0	0.730	120	P130	06C41-	3	5.4
76.0	25.3	3.1	260	13.0	1.556	160	P260	06C41L	3	12
76.0	25.3	3.1	260	13.0	1.556	160	P260	06C41-	3	12
84.0	25.3	1.4	120	13.0	0.505	160	P130	06C41-	3	5.4
84.0	25.3	1.4	120	13.0	0.505	160	P130	06C41L	3	5.4
101	20.3	2.3	230	10.0	1.556	200	P260	06C41-	3	12
101	20.3	2.3	230	10.0	1.556	200	P260	06C41L	3	12
102	20.3	1.1	110	10.0	0.505	200	P130	06C41-	3	5.4
102	20.3	1.1	110	10.0	0.505	200	P130	06C41L	3	5.4
127	15.8	2.0	260	8.0	1.553	256	P260	06C41-	3	12
127	15.8	2.0	260	8.0	1.553	256	P260	06C41L	3	12
152	12.7	1.5	230	6.0	1.553	320	P260	06C41-	3	12
152	12.7	1.5	230	6.0	1.553	320	P260	06C41L	3	12



0.31 kW

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	kgcm²					kg
1.4	2000	2.6	11.0	1000	0.213	3	P20	06C60-	1	2.7
1.4	2000	2.6	11.0	1000	0.213	3	P20	06C60L	1	2.7
2.0	1200	5.8	14.0	600	0.205	5	P20	06C60L	1	2.7
2.0	1200	5.8	14.0	600	0.205	5	P20	06C60-	1	2.7
2.9	857	5.3	25.0	429	0.209	7	P44	06C60-	1	3.2
2.9	857	5.3	25.0	429	0.209	7	P44	06C60L	1	3.2
3.3	857	2.5	8.5	429	0.203	7	P20	06C60-	1	2.7
3.3	857	2.5	8.5	429	0.203	7	P20	06C60L	1	2.7
3.4	750	4.6	18.0	375	0.207	8	P44	06C60-	1	3.2
3.4	750	4.6	18.0	375	0.207	8	P44	06C60L	1	3.2
3.8	750	1.6	6.0	375	0.203	8	P20	06C60-	1	2.7
3.8	750	1.6	6.0	375	0.203	8	P20	06C60L	1	2.7
4.1	667	2.4	16.5	333	0.212	9	P20	06C60-	2	2.8
4.1	667	2.4	16.5	333	0.212	9	P20	06C60L	2	2.8
4.3	500	5.2	44.0	250	0.258	12	P44	06C60-	2	3.4
4.3	500	5.2	44.0	250	0.258	12	P44	06C60L	2	3.4
4.6	600	1.1	5.0	300	0.202	10	P20	06C60-	1	2.7
4.6	600	1.1	5.0	300	0.202	10	P20	06C60L	1	2.7
4.6	600	3.1	15.0	300	0.205	10	P44	06C60-	1	3.2
4.6	600	3.1	15.0	300	0.205	10	P44	06C60L	1	3.2
5.0	500	3.5	20.0	250	0.212	12	P20	06C60-	2	2.8
5.0	500	3.5	20.0	250	0.212	12	P20	06C60L	2	2.8
5.7	400	4.6	44.0	200	0.216	15	P44	06C60-	2	3.4
5.7	400	4.6	44.0	200	0.216	15	P44	06C60L	2	3.4
6.3	375	4.3	44.0	188	0.225	16	P44	06C60-	2	3.4
6.3	375	4.3	44.0	188	0.225	16	P44	06C60L	2	3.4
6.8	400	2.5	18.0	200	0.211	15	P20	06C60-	2	2.8
6.8	400	2.5	18.0	200	0.211	15	P20	06C60L	2	2.8
7.2	375	2.6	20.0	188	0.206	16	P20	06C60-	2	2.8
7.2	375	2.6	20.0	188	0.206	16	P20	06C60L	2	2.8
8.3	300	3.6	44.0	150	0.215	20	P44	06C60-	2	3.4
8.3	300	3.6	44.0	150	0.215	20	P44	06C60L	2	3.4
9.3	300	2.1	20.0	150	0.204	20	P20	06C60-	2	2.8
9.3	300	2.1	20.0	150	0.204	20	P20	06C60L	2	2.8
11.0	240	3.1	40.0	120	0.215	25	P44	06C60-	2	3.4
11.0	240	3.1	40.0	120	0.215	25	P44	06C60L	2	3.4
12.0	240	1.6	18.0	120	0.204	25	P20	06C60L	2	2.8
12.0	240	1.6	18.0	120	0.204	25	P20	06C60-	2	2.8
13.0	150	5.9	110	75.0	0.505	40	P130	06C60-	2	4.9
13.0	150	5.9	110	75.0	0.505	40	P130	06C60L	2	4.9
14.0	188	2.6	44.0	94.0	0.206	32	P44	06C60-	2	3.4
14.0	188	2.6	44.0	94.0	0.206	32	P44	06C60L	2	3.4
15.0	188	1.4	20.0	94.0	0.202	32	P20	06C60L	2	2.8
15.0	188	1.4	20.0	94.0	0.202	32	P20	06C60-	2	2.8
19.0	150	2.1	40.0	75.0	0.206	40	P44	06C60-	2	3.4
19.0	150	2.1	40.0	75.0	0.206	40	P44	06C60L	2	3.4
21.0	100	4.0	110	50.0	0.724	60	P130	06C60-	3	5.4
21.0	100	4.0	110	50.0	0.724	60	P130	06C60L	3	5.4
25.0	93.8	4.2	120	47.0	1.554	64	P260	06C60L	2	10
25.0	93.8	4.2	120	47.0	1.554	64	P260	06C60-	2	10
26.0	60.0	5.8	260	30.0	1.703	100	P260	06C60-	3	12



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	kgcm²					kg
26.0	60.0	5.8	260	30.0	1.703	100	P260	06C60L	3	12
27.0	100	1.6	44.0	50.0	0.216	60	P44	06C60L	3	3.6
27.0	100	1.6	44.0	50.0	0.216	60	P44	06C60-	3	3.6
28.0	93.8	1.8	50.0	47.0	0.506	64	P130	06C60L	2	4.9
28.0	93.8	1.8	50.0	47.0	0.506	64	P130	06C60-	2	4.9
31.0	75.0	3.3	120	38.0	0.545	80	P130	06C60-	3	5.4
31.0	75.0	3.3	120	38.0	0.545	80	P130	06C60L	3	5.4
36.0	75.0	1.2	44.0	38.0	0.215	80	P44	06C60-	3	3.6
36.0	75.0	1.2	44.0	38.0	0.215	80	P44	06C60L	3	3.6
40.0	50.0	4.4	230	25.0	2.319	120	P260	06C60-	3	12
40.0	50.0	4.4	230	25.0	2.319	120	P260	06C60L	3	12
42.0	60.0	2.7	120	30.0	0.544	100	P130	06C60-	3	5.4
42.0	60.0	2.7	120	30.0	0.544	100	P130	06C60L	3	5.4
53.0	50.0	2.1	110	25.0	0.730	120	P130	06C60-	3	5.4
53.0	50.0	2.1	110	25.0	0.730	120	P130	06C60L	3	5.4
58.0	37.5	3.7	260	19.0	1.556	160	P260	06C60-	3	12
58.0	37.5	3.7	260	19.0	1.556	160	P260	06C60L	3	12
70.0	37.5	1.7	120	19.0	0.505	160	P130	06C60-	3	5.4
70.0	37.5	1.7	120	19.0	0.505	160	P130	06C60L	3	5.4
83.0	30.0	2.7	230	15.0	1.556	200	P260	06C60-	3	12
83.0	30.0	2.7	230	15.0	1.556	200	P260	06C60L	3	12
85.0	30.0	1.3	110	15.0	0.505	200	P130	06C60-	3	5.4
85.0	30.0	1.3	110	15.0	0.505	200	P130	06C60L	3	5.4
106	23.4	2.5	260	12.0	1.553	256	P260	06C60-	3	12
106	23.4	2.5	260	12.0	1.553	256	P260	06C60L	3	12
108	23.4	1.1	120	12.0	0.506	256	P130	06C60-	3	5.4
108	23.4	1.1	120	12.0	0.506	256	P130	06C60L	3	5.4
126	18.8	1.8	230	9.0	1.553	320	P260	06C60-	3	12
126	18.8	1.8	230	9.0	1.553	320	P260	06C60L	3	12



0.51 kW

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	kgcm²					kg
4.0	1013	5.2	38.0	506	0.312	4	P44	06F41-	1	3.6
4.0	1013	5.2	38.0	506	0.312	4	P44	06F41L	1	3.6
5.2	810	4.3	40.0	405	0.300	5	P44	06F41-	1	3.6
5.2	810	4.3	40.0	405	0.300	5	P44	06F41L	1	3.6
7.9	579	2.5	25.0	289	0.289	7	P44	06F41L	1	3.6
7.9	579	2.5	25.0	289	0.289	7	P44	06F41-	1	3.6
7.9	506	5.4	50.0	253	0.590	8	P130	06F41-	1	4.8
7.9	506	5.4	50.0	253	0.590	8	P130	06F41L	1	4.8
9.2	506	1.9	18.0	253	0.287	8	P44	06F41-	1	3.6
9.2	506	1.9	18.0	253	0.287	8	P44	06F41L	1	3.6
9.4	450	3.0	44.0	225	0.341	9	P44	06F41-	2	3.8
9.4	450	3.0	44.0	225	0.341	9	P44	06F41L	2	3.8
11.0	405	3.3	38.0	203	0.579	10	P130	06F41-	1	4.8
11.0	405	3.3	38.0	203	0.579	10	P130	06F41L	1	4.8
12.0	405	1.3	15.0	203	0.285	10	P44	06F41-	1	3.6
12.0	405	1.3	15.0	203	0.285	10	P44	06F41L	1	3.6
13.0	338	2.4	44.0	169	0.338	12	P44	06F41-	2	3.8
13.0	338	2.4	44.0	169	0.338	12	P44	06F41L	2	3.8
17.0	270	2.1	44.0	135	0.296	15	P44	06F41-	2	3.8
17.0	270	2.1	44.0	135	0.296	15	P44	06F41L	2	3.8
17.0	203	5.2	120	101	0.626	20	P130	06F41-	2	5.3
17.0	203	5.2	120	101	0.626	20	P130	06F41L	2	5.3
18.0	253	2.0	44.0	127	0.305	16	P44	06F41-	2	3.8
18.0	253	2.0	44.0	127	0.305	16	P44	06F41L	2	3.8
23.0	203	1.7	44.0	101	0.295	20	P44	06F41-	2	3.8
23.0	203	1.7	44.0	101	0.295	20	P44	06F41L	2	3.8
24.0	162	3.9	110	81.0	0.624	25	P130	06F41-	2	5.3
24.0	162	3.9	110	81.0	0.624	25	P130	06F41L	2	5.3
28.0	162	1.4	40.0	81.0	0.295	25	P44	06F41-	2	3.8
28.0	162	1.4	40.0	81.0	0.295	25	P44	06F41L	2	3.8
33.0	127	3.3	120	63.0	0.586	32	P130	06F41-	2	5.3
33.0	127	3.3	120	63.0	0.586	32	P130	06F41L	2	5.3
35.0	101	5.1	230	51.0	1.637	40	P260	06F41-	2	11
35.0	101	5.1	230	51.0	1.637	40	P260	06F41L	2	11
36.0	127	1.2	44.0	63.0	0.286	32	P44	06F41-	2	3.8
36.0	127	1.2	44.0	63.0	0.286	32	P44	06F41L	2	3.8
44.0	101	2.4	110	51.0	0.585	40	P130	06F41-	2	5.3
44.0	101	2.4	110	51.0	0.585	40	P130	06F41L	2	5.3
51.0	67.5	3.9	260	34.0	2.416	60	P260	06F41-	3	13
51.0	67.5	3.9	260	34.0	2.416	60	P260	06F41L	3	13
65.0	67.5	1.7	110	34.0	0.804	60	P130	06F41L	3	5.8
65.0	67.5	1.7	110	34.0	0.804	60	P130	06F41-	3	5.8
68.0	63.3	1.8	120	32.0	1.634	64	P260	06F41-	2	11
68.0	63.3	1.8	120	32.0	1.634	64	P260	06F41L	2	11
77.0	50.6	3.0	260	25.0	1.790	80	P260	06F41L	3	13
77.0	50.6	3.0	260	25.0	1.790	80	P260	06F41-	3	13
86.0	50.6	1.4	120	25.0	0.625	80	P130	06F41-	3	5.8
86.0	50.6	1.4	120	25.0	0.625	80	P130	06F41L	3	5.8
103	40.5	2.4	260	20.0	1.783	100	P260	06F41-	3	13
103	40.5	2.4	260	20.0	1.783	100	P260	06F41L	3	13
108	40.5	1.1	120	20.0	0.624	100	P130	06F41-	3	5.8



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	kgcm²					kg
108	40.5	1.1	120	20.0	0.624	100	P130	06F41L	3	5.8
127	33.8	1.8	230	17.0	2.399	120	P260	06F41L	3	13
127	33.8	1.8	230	17.0	2.399	120	P260	06F41-	3	13
167	25.3	1.6	260	13.0	1.636	160	P260	06F41L	3	13
167	25.3	1.6	260	13.0	1.636	160	P260	06F41-	3	13
202	20.3	1.1	230	10.0	1.636	200	P260	06F41L	3	13
202	20.3	1.1	230	10.0	1.636	200	P260	06F41-	3	13
255	15.8	1.0	260	8.0	1.633	256	P260	06F41-	3	13
255	15.8	1.0	260	8.0	1.633	256	P260	06F41L	3	13



0.57 kW

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	kgcm²					kg
3.8	1200	5.1	40.0	600	0.300	5	P44	06F60-	1	3.6
3.8	1200	5.1	40.0	600	0.300	5	P44	06F60L	1	3.6
5.8	857	2.9	25.0	429	0.289	7	P44	06F60L	1	3.6
5.8	857	2.9	25.0	429	0.289	7	P44	06F60-	1	3.6
6.7	750	2.6	18.0	375	0.287	8	P44	06F60-	1	3.6
6.7	750	2.6	18.0	375	0.287	8	P44	06F60L	1	3.6
6.7	667	3.6	44.0	333	0.341	9	P44	06F60L	2	3.8
6.7	667	3.6	44.0	333	0.341	9	P44	06F60-	2	3.8
7.8	600	4.4	38.0	300	0.579	10	P130	06F60-	1	4.8
7.8	600	4.4	38.0	300	0.579	10	P130	06F60L	1	4.8
8.6	600	1.7	15.0	300	0.285	10	P44	06F60-	1	3.6
8.6	600	1.7	15.0	300	0.285	10	P44	06F60L	1	3.6
9.5	500	2.9	44.0	250	0.338	12	P44	06F60L	2	3.8
9.5	500	2.9	44.0	250	0.338	12	P44	06F60-	2	3.8
12.0	400	2.5	44.0	200	0.296	15	P44	06F60L	2	3.8
12.0	400	2.5	44.0	200	0.296	15	P44	06F60-	2	3.8
13.0	375	2.4	44.0	188	0.305	16	P44	06F60L	2	3.8
13.0	375	2.4	44.0	188	0.305	16	P44	06F60-	2	3.8
16.0	240	5.2	110	120	0.624	25	P130	06F60-	2	5.3
16.0	240	5.2	110	120	0.624	25	P130	06F60L	2	5.3
17.0	300	2.0	44.0	150	0.295	20	P44	06F60-	2	3.8
17.0	300	2.0	44.0	150	0.295	20	P44	06F60L	2	3.8
21.0	240	1.7	40.0	120	0.295	25	P44	06F60-	2	3.8
21.0	240	1.7	40.0	120	0.295	25	P44	06F60L	2	3.8
22.0	188	4.4	120	94.0	0.586	32	P130	06F60-	2	5.3
22.0	188	4.4	120	94.0	0.586	32	P130	06F60L	2	5.3
27.0	188	1.5	44.0	94.0	0.286	32	P44	06F60L	2	3.8
27.0	188	1.5	44.0	94.0	0.286	32	P44	06F60-	2	3.8
31.0	150	3.3	110	75.0	0.585	40	P130	06F60-	2	5.3
31.0	150	3.3	110	75.0	0.585	40	P130	06F60L	2	5.3
31.0	100	5.2	260	50.0	2.416	60	P260	06F60L	3	13
31.0	100	5.2	260	50.0	2.416	60	P260	06F60-	3	13
34.0	150	1.2	40.0	75.0	0.286	40	P44	06F60-	2	3.8
34.0	150	1.2	40.0	75.0	0.286	40	P44	06F60L	2	3.8
47.0	100	2.2	110	50.0	0.804	60	P130	06F60-	3	5.8
47.0	100	2.2	110	50.0	0.804	60	P130	06F60L	3	5.8
51.0	93.8	2.3	120	47.0	1.634	64	P260	06F60-	2	11
51.0	93.8	2.3	120	47.0	1.634	64	P260	06F60L	2	11
51.0	75.0	4.0	260	38.0	1.790	80	P260	06F60L	3	13
51.0	75.0	4.0	260	38.0	1.790	80	P260	06F60-	3	13
65.0	75.0	1.8	120	38.0	0.625	80	P130	06F60L	3	5.8
65.0	75.0	1.8	120	38.0	0.625	80	P130	06F60-	3	5.8
70.0	60.0	3.2	260	30.0	1.783	100	P260	06F60-	3	13
70.0	60.0	3.2	260	30.0	1.783	100	P260	06F60L	3	13
81.0	60.0	1.5	120	30.0	0.624	100	P130	06F60-	3	5.8
81.0	60.0	1.5	120	30.0	0.624	100	P130	06F60L	3	5.8
93.0	50.0	2.4	230	25.0	2.399	120	P260	06F60-	3	13
93.0	50.0	2.4	230	25.0	2.399	120	P260	06F60L	3	13
96.0	50.0	1.1	110	25.0	0.810	120	P130	06F60L	3	5.8
96.0	50.0	1.1	110	25.0	0.810	120	P130	06F60-	3	5.8
125	37.5	2.1	260	19.0	1.636	160	P260	06F60-	3	13



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	kgcm²					kg
125	37.5	2.1	260	19.0	1.636	160	P260	06F60L	3	13
151	30.0	1.5	230	15.0	1.636	200	P260	06F60-	3	13
151	30.0	1.5	230	15.0	1.636	200	P260	06F60L	3	13
191	23.4	1.4	260	12.0	1.633	256	P260	06F60-	3	13
191	23.4	1.4	260	12.0	1.633	256	P260	06F60L	3	13
228	18.8	1.0	230	9.0	1.633	320	P260	06F60-	3	13
228	18.8	1.0	230	9.0	1.633	320	P260	06F60L	3	13



0.64 kW

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	kgcm²					kg
3.7	1350	5.2	28.0	675	0.428	3	P44	06I41-	1	4.3
3.7	1350	5.2	28.0	675	0.428	3	P44	06I41L	1	4.3
5.3	1013	4.1	38.0	506	0.392	4	P44	06I41-	1	4.3
5.3	1013	4.1	38.0	506	0.392	4	P44	06I41L	1	4.3
6.8	810	3.4	40.0	405	0.380	5	P44	06I41-	1	4.3
6.8	810	3.4	40.0	405	0.380	5	P44	06I41L	1	4.3
10.0	579	2.0	25.0	289	0.369	7	P44	06I41-	1	4.3
10.0	579	2.0	25.0	289	0.369	7	P44	06I41L	1	4.3
10.0	506	4.3	50.0	253	0.670	8	P130	06I41-	1	5.5
10.0	506	4.3	50.0	253	0.670	8	P130	06I41L	1	5.5
12.0	506	1.6	18.0	253	0.367	8	P44	06I41-	1	4.3
12.0	506	1.6	18.0	253	0.367	8	P44	06I41L	1	4.3
12.0	450	2.4	44.0	225	0.421	9	P44	06I41-	2	4.5
12.0	450	2.4	44.0	225	0.421	9	P44	06I41L	2	4.5
14.0	405	1.0	15.0	203	0.365	10	P44	06I41-	1	4.3
14.0	405	1.0	15.0	203	0.365	10	P44	06I41L	1	4.3
14.0	405	2.6	38.0	203	0.659	10	P130	06I41-	1	5.5
14.0	405	2.6	38.0	203	0.659	10	P130	06I41L	1	5.5
16.0	270	5.1	110	135	0.886	15	P130	06I41-	2	6.0
16.0	270	5.1	110	135	0.886	15	P130	06I41L	2	6.0
17.0	338	2.0	44.0	169	0.418	12	P44	06I41-	2	4.5
17.0	338	2.0	44.0	169	0.418	12	P44	06I41L	2	4.5
17.0	253	5.2	120	127	0.746	16	P130	06I41-	2	6.0
17.0	253	5.2	120	127	0.746	16	P130	06I41L	2	6.0
21.0	270	1.7	44.0	135	0.376	15	P44	06I41-	2	4.5
21.0	270	1.7	44.0	135	0.376	15	P44	06I41L	2	4.5
23.0	253	1.6	44.0	127	0.385	16	P44	06I41-	2	4.5
23.0	253	1.6	44.0	127	0.385	16	P44	06I41L	2	4.5
24.0	203	4.2	120	101	0.706	20	P130	06I41-	2	6.0
24.0	203	4.2	120	101	0.706	20	P130	06I41L	2	6.0
28.0	203	1.4	44.0	101	0.375	20	P44	06I41-	2	4.5
28.0	203	1.4	44.0	101	0.375	20	P44	06I41L	2	4.5
32.0	162	3.1	110	81.0	0.704	25	P130	06I41-	2	6.0
32.0	162	3.1	110	81.0	0.704	25	P130	06I41L	2	6.0
33.0	127	5.7	260	63.0	1.720	32	P260	06I41-	2	11
33.0	127	5.7	260	63.0	1.720	32	P260	06I41L	2	11
35.0	162	1.1	40.0	81.0	0.375	25	P44	06I41-	2	4.5
35.0	162	1.1	40.0	81.0	0.375	25	P44	06I41L	2	4.5
43.0	127	2.6	120	63.0	0.666	32	P130	06I41-	2	6.0
43.0	127	2.6	120	63.0	0.666	32	P130	06I41L	2	6.0
48.0	101	4.1	230	51.0	1.717	40	P260	06I41-	2	11
48.0	101	4.1	230	51.0	1.717	40	P260	06I41L	2	11
56.0	101	2.0	110	51.0	0.665	40	P130	06I41-	2	6.0
56.0	101	2.0	110	51.0	0.665	40	P130	06I41L	2	6.0
71.0	67.5	3.1	260	34.0	2.496	60	P260	06I41-	3	13
71.0	67.5	3.1	260	34.0	2.496	60	P260	06I41L	3	13
81.0	67.5	1.3	110	34.0	0.884	60	P130	06I41-	3	6.5
81.0	67.5	1.3	110	34.0	0.884	60	P130	06I41L	3	6.5
85.0	63.3	1.4	120	32.0	1.714	64	P260	06I41-	2	11
85.0	63.3	1.4	120	32.0	1.714	64	P260	06I41L	2	11
103	50.6	2.4	260	25.0	1.870	80	P260	06I41-	3	13



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	kgcm²					kg
103	50.6	2.4	260	25.0	1.870	80	P260	06I41L	3	13
108	50.6	1.1	120	25.0	0.705	80	P130	06I41-	3	6.5
108	50.6	1.1	120	25.0	0.705	80	P130	06I41L	3	6.5
135	40.5	1.9	260	20.0	1.863	100	P260	06I41-	3	13
135	40.5	1.9	260	20.0	1.863	100	P260	06I41L	3	13
158	33.8	1.5	230	17.0	2.479	120	P260	06I41-	3	13
158	33.8	1.5	230	17.0	2.479	120	P260	06I41L	3	13
209	25.3	1.3	260	13.0	1.716	160	P260	06I41-	3	13
209	25.3	1.3	260	13.0	1.716	160	P260	06I41L	3	13



0.75 kW

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	kgcm²					kg
2.9	2000	5.8	28.0	1000	0.428	3	P44	06I60L	1	4.3
2.9	2000	5.8	28.0	1000	0.428	3	P44	06I60-	1	4.3
4.1	1500	4.6	38.0	750	0.392	4	P44	06I60-	1	4.3
4.1	1500	4.6	38.0	750	0.392	4	P44	06I60L	1	4.3
5.3	1200	3.8	40.0	600	0.380	5	P44	06I60-	1	4.3
5.3	1200	3.8	40.0	600	0.380	5	P44	06I60L	1	4.3
7.9	750	5.4	50.0	375	0.670	8	P130	06I60-	1	5.5
7.9	750	5.4	50.0	375	0.670	8	P130	06I60L	1	5.5
8.0	857	2.2	25.0	429	0.369	7	P44	06I60-	1	4.3
8.0	857	2.2	25.0	429	0.369	7	P44	06I60L	1	4.3
9.2	750	1.9	18.0	375	0.367	8	P44	06I60-	1	4.3
9.2	750	1.9	18.0	375	0.367	8	P44	06I60L	1	4.3
9.6	667	2.7	44.0	333	0.421	9	P44	06I60L	2	4.5
9.6	667	2.7	44.0	333	0.421	9	P44	06I60-	2	4.5
11.0	600	3.3	38.0	300	0.659	10	P130	06I60-	1	5.5
11.0	600	3.3	38.0	300	0.659	10	P130	06I60L	1	5.5
12.0	600	1.3	15.0	300	0.365	10	P44	06I60-	1	4.3
12.0	600	1.3	15.0	300	0.365	10	P44	06I60L	1	4.3
13.0	500	2.2	44.0	250	0.418	12	P44	06I60-	2	4.5
13.0	500	2.2	44.0	250	0.418	12	P44	06I60L	2	4.5
17.0	400	1.9	44.0	200	0.376	15	P44	06I60-	2	4.5
17.0	400	1.9	44.0	200	0.376	15	P44	06I60L	2	4.5
17.0	300	5.1	120	150	0.706	20	P130	06I60-	2	6.0
17.0	300	5.1	120	150	0.706	20	P130	06I60L	2	6.0
18.0	375	1.8	44.0	188	0.385	16	P44	06I60-	2	4.5
18.0	375	1.8	44.0	188	0.385	16	P44	06I60L	2	4.5
23.0	300	1.5	44.0	150	0.375	20	P44	06I60-	2	4.5
23.0	300	1.5	44.0	150	0.375	20	P44	06I60L	2	4.5
24.0	240	3.9	110	120	0.704	25	P130	06I60-	2	6.0
24.0	240	3.9	110	120	0.704	25	P130	06I60L	2	6.0
28.0	240	1.3	40.0	120	0.375	25	P44	06I60-	2	4.5
28.0	240	1.3	40.0	120	0.375	25	P44	06I60L	2	4.5
33.0	188	3.3	120	94.0	0.666	32	P130	06I60-	2	6.0
33.0	188	3.3	120	94.0	0.666	32	P130	06I60L	2	6.0
35.0	150	5.1	230	75.0	1.717	40	P260	06I60-	2	11
35.0	150	5.1	230	75.0	1.717	40	P260	06I60L	2	11
36.0	188	1.1	44.0	94.0	0.366	32	P44	06I60L	2	4.5
36.0	188	1.1	44.0	94.0	0.366	32	P44	06I60-	2	4.5
44.0	150	2.4	110	75.0	0.665	40	P130	06I60-	2	6.0
44.0	150	2.4	110	75.0	0.665	40	P130	06I60L	2	6.0
51.0	100	3.9	260	50.0	2.496	60	P260	06I60L	3	13
51.0	100	3.9	260	50.0	2.496	60	P260	06I60-	3	13
65.0	100	1.7	110	50.0	0.884	60	P130	06I60-	3	6.5
65.0	100	1.7	110	50.0	0.884	60	P130	06I60L	3	6.5
68.0	93.8	1.8	120	47.0	1.714	64	P260	06I60-	2	11
68.0	93.8	1.8	120	47.0	1.714	64	P260	06I60L	2	11
77.0	75.0	3.0	260	38.0	1.870	80	P260	06I60-	3	13
77.0	75.0	3.0	260	38.0	1.870	80	P260	06I60L	3	13
86.0	75.0	1.4	120	38.0	0.705	80	P130	06I60-	3	6.5
86.0	75.0	1.4	120	38.0	0.705	80	P130	06I60L	3	6.5
103	60.0	2.4	260	30.0	1.863	100	P260	06I60-	3	13



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	kgcm²					kg
103	60.0	2.4	260	30.0	1.863	100	P260	06I60L	3	13
108	60.0	1.1	120	30.0	0.704	100	P130	06I60-	3	6.5
108	60.0	1.1	120	30.0	0.704	100	P130	06I60L	3	6.5
127	50.0	1.8	230	25.0	2.479	120	P260	06I60L	3	13
127	50.0	1.8	230	25.0	2.479	120	P260	06I60-	3	13
167	37.5	1.6	260	19.0	1.716	160	P260	06I60-	3	13
167	37.5	1.6	260	19.0	1.716	160	P260	06I60L	3	13
202	30.0	1.1	230	15.0	1.716	200	P260	06I60-	3	13
202	30.0	1.1	230	15.0	1.716	200	P260	06I60L	3	13
255	23.4	1.0	260	12.0	1.713	256	P260	06I60-	3	13
255	23.4	1.0	260	12.0	1.713	256	P260	06I60L	3	13



1 kW

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	kgcm²					kg
5.6	1350	5.7	85.0	675	1.754	3	P130	09D41-	1	6.9
5.6	1350	5.7	85.0	675	1.754	3	P130	09D41L	1	7.0
6.2	1350	3.4	28.0	675	1.249	3	P44	09D41-	1	5.7
6.2	1350	3.4	28.0	675	1.249	3	P44	09D41L	1	5.8
8.6	1013	2.7	38.0	506	1.212	4	P44	09D41-	1	5.7
8.6	1013	2.7	38.0	506	1.212	4	P44	09D41L	1	5.8
11.0	810	2.2	40.0	405	1.200	5	P44	09D41-	1	5.7
11.0	810	2.2	40.0	405	1.200	5	P44	09D41L	1	5.8
14.0	579	4.2	65.0	289	1.479	7	P130	09D41-	1	6.9
14.0	579	4.2	65.0	289	1.479	7	P130	09D41L	1	7.0
15.0	579	1.3	25.0	289	1.190	7	P44	09D41-	1	5.7
15.0	579	1.3	25.0	289	1.190	7	P44	09D41L	1	5.8
16.0	450	4.4	130	225	1.713	9	P130	09D41L	2	7.5
16.0	450	4.4	130	225	1.713	9	P130	09D41-	2	7.4
17.0	506	2.8	50.0	253	1.470	8	P130	09D41-	1	6.9
17.0	506	2.8	50.0	253	1.470	8	P130	09D41L	1	7.0
18.0	506	1.0	18.0	253	1.188	8	P44	09D41-	1	5.7
18.0	506	1.0	18.0	253	1.188	8	P44	09D41L	1	5.8
19.0	450	1.6	44.0	225	1.242	9	P44	09D41L	2	6.0
19.0	450	1.6	44.0	225	1.242	9	P44	09D41-	2	5.9
20.0	405	4.3	95.0	203	2.478	10	P260	09D41-	1	11
20.0	405	4.3	95.0	203	2.478	10	P260	09D41L	1	11
22.0	405	1.7	38.0	203	1.459	10	P130	09D41-	1	6.9
22.0	405	1.7	38.0	203	1.459	10	P130	09D41L	1	7.0
22.0	338	4.3	120	169	1.689	12	P130	09D41-	2	7.4
22.0	338	4.3	120	169	1.689	12	P130	09D41L	2	7.5
26.0	338	1.3	44.0	169	1.238	12	P44	09D41L	2	6.0
26.0	338	1.3	44.0	169	1.238	12	P44	09D41-	2	5.9
29.0	270	3.3	110	135	1.686	15	P130	09D41L	2	7.5
29.0	270	3.3	110	135	1.686	15	P130	09D41-	2	7.4
31.0	253	3.4	120	127	1.546	16	P130	09D41-	2	7.4
31.0	253	3.4	120	127	1.546	16	P130	09D41L	2	7.5
31.0	203	5.9	260	101	2.673	20	P260	09D41L	2	13
31.0	203	5.9	260	101	2.673	20	P260	09D41-	2	13
32.0	270	1.1	44.0	135	1.197	15	P44	09D41-	2	5.9
32.0	270	1.1	44.0	135	1.197	15	P44	09D41L	2	6.0
35.0	253	1.0	44.0	127	1.206	16	P44	09D41-	2	5.9
35.0	253	1.0	44.0	127	1.206	16	P44	09D41L	2	6.0
41.0	203	2.7	120	101	1.506	20	P130	09D41-	2	7.4
41.0	203	2.7	120	101	1.506	20	P130	09D41L	2	7.5
45.0	162	4.2	230	81.0	2.666	25	P260	09D41-	2	13
45.0	162	4.2	230	81.0	2.666	25	P260	09D41L	2	13
54.0	162	2.0	110	81.0	1.504	25	P130	09D41-	2	7.4
54.0	162	2.0	110	81.0	1.504	25	P130	09D41L	2	7.5
60.0	127	3.7	260	63.0	2.520	32	P260	09D41-	2	13
60.0	127	3.7	260	63.0	2.520	32	P260	09D41L	2	13
69.0	127	1.7	120	63.0	1.466	32	P130	09D41-	2	7.4
69.0	127	1.7	120	63.0	1.466	32	P130	09D41L	2	7.5
82.0	101	2.7	230	51.0	2.517	40	P260	09D41-	2	13
82.0	101	2.7	230	51.0	2.517	40	P260	09D41L	2	13
86.0	101	1.3	110	51.0	1.465	40	P130	09D41-	2	7.4



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	kgcm²					kg
86.0	101	1.3	110	51.0	1.465	40	P130	09D41L	2	7.5
124	67.5	2.1	260	34.0	3.296	60	P260	09D41-	3	15
124	67.5	2.1	260	34.0	3.296	60	P260	09D41L	3	15
166	50.6	1.6	260	25.0	2.670	80	P260	09D41-	3	15
166	50.6	1.6	260	25.0	2.670	80	P260	09D41L	3	15
207	40.5	1.3	260	20.0	2.663	100	P260	09D41-	3	15
207	40.5	1.3	260	20.0	2.663	100	P260	09D41L	3	15



1.1 kW

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	kgcm²					kg
4.8	2000	3.8	28.0	1000	1.249	3	P44	09D60L	1	5.8
4.8	2000	3.8	28.0	1000	1.249	3	P44	09D60-	1	5.7
6.6	1500	3.1	38.0	750	1.212	4	P44	09D60L	1	5.8
6.6	1500	3.1	38.0	750	1.212	4	P44	09D60-	1	5.7
8.4	1200	2.5	40.0	600	1.200	5	P44	09D60L	1	5.8
8.4	1200	2.5	40.0	600	1.200	5	P44	09D60-	1	5.7
11.0	857	5.0	65.0	429	1.479	7	P130	09D60-	1	6.9
11.0	857	5.0	65.0	429	1.479	7	P130	09D60L	1	7.0
12.0	857	1.5	25.0	429	1.190	7	P44	09D60-	1	5.7
12.0	857	1.5	25.0	429	1.190	7	P44	09D60L	1	5.8
12.0	667	5.0	130	333	1.713	9	P130	09D60-	2	7.4
12.0	667	5.0	130	333	1.713	9	P130	09D60L	2	7.5
13.0	750	3.6	50.0	375	1.470	8	P130	09D60-	1	6.9
13.0	750	3.6	50.0	375	1.470	8	P130	09D60L	1	7.0
14.0	750	1.3	18.0	375	1.188	8	P44	09D60-	1	5.7
14.0	750	1.3	18.0	375	1.188	8	P44	09D60L	1	5.8
15.0	667	1.8	44.0	333	1.242	9	P44	09D60-	2	5.9
15.0	667	1.8	44.0	333	1.242	9	P44	09D60L	2	6.0
15.0	650	2.9	85.0	325	4.654	3	P130	12D20L	1	9.2
15.0	650	2.9	85.0	325	4.654	3	P130	12D20-	1	9.1
15.0	600	5.4	95.0	300	2.478	10	P260	09D60L	1	11
15.0	600	5.4	95.0	300	2.478	10	P260	09D60-	1	11
16.0	500	4.9	120	250	1.689	12	P130	09D60L	2	7.5
16.0	500	4.9	120	250	1.689	12	P130	09D60-	2	7.4
17.0	600	2.2	38.0	300	1.459	10	P130	09D60-	1	6.9
17.0	600	2.2	38.0	300	1.459	10	P130	09D60L	1	7.0
19.0	488	4.7	115	244	4.455	4	P130	12D20L	1	9.2
19.0	488	4.7	115	244	4.455	4	P130	12D20-	1	9.1
20.0	500	1.4	44.0	250	1.238	12	P44	09D60-	2	5.9
20.0	500	1.4	44.0	250	1.238	12	P44	09D60L	2	6.0
21.0	400	4.1	110	200	1.686	15	P130	09D60L	2	7.5
21.0	400	4.1	110	200	1.686	15	P130	09D60-	2	7.4
23.0	375	4.0	120	188	1.546	16	P130	09D60-	2	7.4
23.0	375	4.0	120	188	1.546	16	P130	09D60L	2	7.5
24.0	390	4.0	110	195	4.423	5	P130	12D20-	1	9.1
24.0	390	4.0	110	195	4.423	5	P130	12D20L	1	9.2
25.0	400	1.3	44.0	200	1.197	15	P44	09D60-	2	5.9
25.0	400	1.3	44.0	200	1.197	15	P44	09D60L	2	6.0
27.0	375	1.2	44.0	188	1.206	16	P44	09D60-	2	5.9
27.0	375	1.2	44.0	188	1.206	16	P44	09D60L	2	6.0
30.0	300	3.4	120	150	1.506	20	P130	09D60-	2	7.4
30.0	300	3.4	120	150	1.506	20	P130	09D60L	2	7.5
32.0	240	5.4	230	120	2.666	25	P260	09D60-	2	13
32.0	240	5.4	230	120	2.666	25	P260	09D60L	2	13
34.0	300	1.0	44.0	150	1.196	20	P44	09D60-	2	5.9
34.0	300	1.0	44.0	150	1.196	20	P44	09D60L	2	6.0
34.0	279	3.6	135	139	5.463	7	P260	12D20-	1	13
34.0	279	3.6	135	139	5.463	7	P260	12D20L	1	13
37.0	279	1.7	65.0	139	4.379	7	P130	12D20-	1	9.1
37.0	279	1.7	65.0	139	4.379	7	P130	12D20L	1	9.2
40.0	240	2.6	110	120	1.504	25	P130	09D60-	2	7.4



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	kgcm²					kg
40.0	240	2.6	110	120	1.504	25	P130	09D60L	2	7.5
40.0	217	3.9	210	108	6.288	9	P260	12D20-	2	15
40.0	217	3.9	210	108	6.288	9	P260	12D20L	2	15
41.0	244	2.8	120	122	5.431	8	P260	12D20-	1	13
41.0	244	2.8	120	122	5.431	8	P260	12D20L	1	13
42.0	244	1.2	50.0	122	4.370	8	P130	12D20L	1	9.2
42.0	244	1.2	50.0	122	4.370	8	P130	12D20-	1	9.1
43.0	188	4.8	260	94.0	2.520	32	P260	09D60-	2	13
43.0	188	4.8	260	94.0	2.520	32	P260	09D60L	2	13
45.0	217	2.3	130	108	4.613	9	P130	12D20-	2	9.6
45.0	217	2.3	130	108	4.613	9	P130	12D20L	2	9.7
52.0	163	4.1	260	81.0	6.224	12	P260	12D20L	2	15
52.0	163	4.1	260	81.0	6.224	12	P260	12D20-	2	15
53.0	195	1.8	95.0	98.0	5.378	10	P260	12D20L	1	13
53.0	195	1.8	95.0	98.0	5.378	10	P260	12D20-	1	13
53.0	188	2.2	120	94.0	1.466	32	P130	09D60-	2	7.4
53.0	188	2.2	120	94.0	1.466	32	P130	09D60L	2	7.5
61.0	150	3.4	230	75.0	2.517	40	P260	09D60-	2	13
61.0	150	3.4	230	75.0	2.517	40	P260	09D60L	2	13
62.0	163	1.9	120	81.0	4.589	12	P130	12D20-	2	9.6
62.0	163	1.9	120	81.0	4.589	12	P130	12D20L	2	9.7
68.0	150	1.6	110	75.0	1.465	40	P130	09D60L	2	7.5
68.0	150	1.6	110	75.0	1.465	40	P130	09D60-	2	7.4
72.0	130	2.9	230	65.0	6.203	15	P260	12D20-	2	15
72.0	130	2.9	230	65.0	6.203	15	P260	12D20L	2	15
76.0	122	3.1	260	61.0	5.747	16	P260	12D20-	2	15
76.0	122	3.1	260	61.0	5.747	16	P260	12D20L	2	15
78.0	130	1.4	110	65.0	4.586	15	P130	12D20-	2	9.6
78.0	130	1.4	110	65.0	4.586	15	P130	12D20L	2	9.7
83.0	122	1.4	120	61.0	4.446	16	P130	12D20-	2	9.6
83.0	122	1.4	120	61.0	4.446	16	P130	12D20L	2	9.7
91.0	100	2.6	260	50.0	3.296	60	P260	09D60-	3	15
91.0	100	2.6	260	50.0	3.296	60	P260	09D60L	3	15
97.0	100	1.1	110	50.0	1.684	60	P130	09D60-	3	7.9
97.0	100	1.1	110	50.0	1.684	60	P130	09D60L	3	8.0
97.0	78.0	5.4	700	39.0	8.632	25	P800	12D20-	2	29
97.0	78.0	5.4	700	39.0	8.632	25	P800	12D20L	2	29
100	97.5	2.5	260	49.0	5.573	20	P260	12D20-	2	15
100	97.5	2.5	260	49.0	5.573	20	P260	12D20L	2	15
103	97.5	1.1	120	49.0	4.406	20	P130	12D20L	2	9.7
103	97.5	1.1	120	49.0	4.406	20	P130	12D20-	2	9.6
103	93.8	1.2	120	47.0	2.514	64	P260	09D60L	2	13
103	93.8	1.2	120	47.0	2.514	64	P260	09D60-	2	13
129	78.0	1.8	230	39.0	5.566	25	P260	12D20-	2	15
129	78.0	1.8	230	39.0	5.566	25	P260	12D20L	2	15
130	75.0	2.0	260	38.0	2.670	80	P260	09D60L	3	15
130	75.0	2.0	260	38.0	2.670	80	P260	09D60-	3	15
131	60.9	4.8	800	30.0	7.549	32	P800	12D20L	2	29
131	60.9	4.8	800	30.0	7.549	32	P800	12D20-	2	29
162	60.0	1.6	260	30.0	2.663	100	P260	09D60-	3	15
162	60.0	1.6	260	30.0	2.663	100	P260	09D60L	3	15
165	60.9	1.6	260	30.0	5.420	32	P260	12D20-	2	15



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	kgcm²					kg
165	60.9	1.6	260	30.0	5.420	32	P260	12D20L	2	15
185	48.8	3.4	700	24.0	7.524	40	P800	12D20-	2	29
185	48.8	3.4	700	24.0	7.524	40	P800	12D20L	2	29
190	50.0	1.2	230	25.0	3.279	120	P260	09D60-	3	15
190	50.0	1.2	230	25.0	3.279	120	P260	09D60L	3	15
207	48.8	1.1	230	24.0	5.417	40	P260	12D20-	2	15
207	48.8	1.1	230	24.0	5.417	40	P260	12D20L	2	15
251	37.5	1.0	260	19.0	2.516	160	P260	09D60-	3	15
251	37.5	1.0	260	19.0	2.516	160	P260	09D60L	3	15
317	30.5	1.4	450	15.0	7.502	64	P800	12D20-	2	29
317	30.5	1.4	450	15.0	7.502	64	P800	12D20L	2	29



1.2 kW

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	kgcm²					kg
8.1	1250	4.3	85.0	625	2.154	3	P130	09F38-	1	7.8
8.1	1250	4.3	85.0	625	2.154	3	P130	09F38L	1	7.9
8.7	1250	2.6	28.0	625	1.649	3	P44	09F38-	1	6.6
8.7	1250	2.6	28.0	625	1.649	3	P44	09F38L	1	6.7
12.0	938	2.0	38.0	469	1.612	4	P44	09F38L	1	6.7
12.0	938	2.0	38.0	469	1.612	4	P44	09F38-	1	6.6
13.0	750	5.8	110	375	1.923	5	P130	09F38-	1	7.8
13.0	750	5.8	110	375	1.923	5	P130	09F38L	1	7.9
15.0	750	1.7	40.0	375	1.600	5	P44	09F38-	1	6.6
15.0	750	1.7	40.0	375	1.600	5	P44	09F38L	1	6.7
19.0	417	5.7	210	208	3.788	9	P260	09F38-	2	14
19.0	417	5.7	210	208	3.788	9	P260	09F38L	2	14
20.0	536	3.1	65.0	268	1.879	7	P130	09F38L	1	7.9
20.0	536	3.1	65.0	268	1.879	7	P130	09F38-	1	7.8
21.0	469	5.0	120	234	2.931	8	P260	09F38-	1	12
21.0	469	5.0	120	234	2.931	8	P260	09F38L	1	12
24.0	469	2.1	50.0	234	1.870	8	P130	09F38-	1	7.8
24.0	469	2.1	50.0	234	1.870	8	P130	09F38L	1	7.9
24.0	417	3.4	130	208	2.113	9	P130	09F38-	2	8.3
24.0	417	3.4	130	208	2.113	9	P130	09F38L	2	8.4
26.0	417	1.2	44.0	208	1.642	9	P44	09F38-	2	6.8
26.0	417	1.2	44.0	208	1.642	9	P44	09F38L	2	6.9
28.0	375	3.2	95.0	188	2.878	10	P260	09F38-	1	12
28.0	375	3.2	95.0	188	2.878	10	P260	09F38L	1	12
30.0	375	1.3	38.0	188	1.859	10	P130	09F38-	1	7.8
30.0	375	1.3	38.0	188	1.859	10	P130	09F38L	1	7.9
32.0	313	3.2	120	156	2.089	12	P130	09F38-	2	8.3
32.0	313	3.2	120	156	2.089	12	P130	09F38L	2	8.4
33.0	250	5.2	230	125	3.703	15	P260	09F38-	2	14
33.0	250	5.2	230	125	3.703	15	P260	09F38L	2	14
35.0	234	5.5	260	117	3.247	16	P260	09F38-	2	14
35.0	234	5.5	260	117	3.247	16	P260	09F38L	2	14
42.0	250	2.5	110	125	2.086	15	P130	09F38-	2	8.3
42.0	250	2.5	110	125	2.086	15	P130	09F38L	2	8.4
45.0	234	2.5	120	117	1.946	16	P130	09F38-	2	8.3
45.0	234	2.5	120	117	1.946	16	P130	09F38L	2	8.4
48.0	188	4.4	260	94.0	3.073	20	P260	09F38-	2	14
48.0	188	4.4	260	94.0	3.073	20	P260	09F38L	2	14
58.0	188	2.0	120	94.0	1.906	20	P130	09F38-	2	8.3
58.0	188	2.0	120	94.0	1.906	20	P130	09F38L	2	8.4
67.0	150	3.1	230	75.0	3.066	25	P260	09F38-	2	14
67.0	150	3.1	230	75.0	3.066	25	P260	09F38L	2	14
73.0	150	1.5	110	75.0	1.904	25	P130	09F38-	2	8.3
73.0	150	1.5	110	75.0	1.904	25	P130	09F38L	2	8.4
88.0	117	2.8	260	59.0	2.920	32	P260	09F38-	2	14
88.0	117	2.8	260	59.0	2.920	32	P260	09F38L	2	14
93.0	117	1.3	120	59.0	1.866	32	P130	09F38L	2	8.4
93.0	117	1.3	120	59.0	1.866	32	P130	09F38-	2	8.3
117	93.8	2.0	230	47.0	2.917	40	P260	09F38-	2	14
117	93.8	2.0	230	47.0	2.917	40	P260	09F38L	2	14
167	62.5	1.5	260	31.0	3.696	60	P260	09F38-	3	16



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	kgcm²					kg
167	62.5	1.5	260	31.0	3.696	60	P260	09F38L	3	16
223	46.9	1.2	260	23.0	3.070	80	P260	09F38L	3	16
223	46.9	1.2	260	23.0	3.070	80	P260	09F38-	3	16

1.45 kW

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	kgcm²					kg
24.0	500	4.3	115	250	10.461	3	P260	14D15-	1	35
32.0	375	4.3	155	188	9.935	4	P260	14D15-	1	35
40.0	300	4.3	195	150	9.733	5	P260	14D15-	1	35
61.0	214	2.2	135	107	9.563	7	P260	14D15-	1	35
71.0	188	1.7	120	94.0	9.531	8	P260	14D15-	1	35
75.0	167	2.5	210	83.0	10.388	9	P260	14D15-	2	37
88.0	150	1.1	95.0	75.0	9.478	10	P260	14D15-	1	35
98.0	100	5.3	700	50.0	18.013	15	P800	14D15-	2	51
100	125	2.5	260	63.0	10.324	12	P260	14D15-	2	37
101	93.8	5.7	800	47.0	14.159	16	P800	14D15-	2	51
130	100	1.7	230	50.0	10.303	15	P260	14D15-	2	37
138	93.8	1.8	260	47.0	9.847	16	P260	14D15-	2	37
140	75.0	4.5	800	38.0	12.795	20	P800	14D15-	2	51
173	75.0	1.5	260	38.0	9.673	20	P260	14D15-	2	37
197	60.0	3.2	700	30.0	12.732	25	P800	14D15-	2	51
216	60.0	1.1	230	30.0	9.666	25	P260	14D15-	2	37
259	46.9	2.9	800	23.0	11.649	32	P800	14D15-	2	51
345	37.5	2.0	700	19.0	11.624	40	P800	14D15-	2	51



1.5 kW

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	kgcm²					kg
6.1	2000	4.8	85.0	1000	2.154	3	P130	09F60-	1	7.8
6.1	2000	4.8	85.0	1000	2.154	3	P130	09F60L	1	7.9
6.7	2000	2.9	28.0	1000	1.649	3	P44	09F60-	1	6.6
6.7	2000	2.9	28.0	1000	1.649	3	P44	09F60L	1	6.7
9.1	1500	2.3	38.0	750	1.612	4	P44	09F60-	1	6.6
9.1	1500	2.3	38.0	750	1.612	4	P44	09F60L	1	6.7
12.0	1200	1.9	40.0	600	1.600	5	P44	09F60-	1	6.6
12.0	1200	1.9	40.0	600	1.600	5	P44	09F60L	1	6.7
15.0	857	3.8	65.0	429	1.879	7	P130	09F60-	1	7.8
15.0	857	3.8	65.0	429	1.879	7	P130	09F60L	1	7.9
16.0	857	1.1	25.0	429	1.590	7	P44	09F60-	1	6.6
16.0	857	1.1	25.0	429	1.590	7	P44	09F60L	1	6.7
18.0	750	2.7	50.0	375	1.870	8	P130	09F60-	1	7.8
18.0	750	2.7	50.0	375	1.870	8	P130	09F60L	1	7.9
18.0	667	3.8	130	333	2.113	9	P130	09F60-	2	8.3
18.0	667	3.8	130	333	2.113	9	P130	09F60L	2	8.4
20.0	667	1.4	44.0	333	1.642	9	P44	09F60-	2	6.8
20.0	667	1.4	44.0	333	1.642	9	P44	09F60L	2	6.9
21.0	600	4.1	95.0	300	2.878	10	P260	09F60-	1	12
21.0	600	4.1	95.0	300	2.878	10	P260	09F60L	1	12
23.0	600	1.7	38.0	300	1.859	10	P130	09F60-	1	7.8
23.0	600	1.7	38.0	300	1.859	10	P130	09F60L	1	7.9
24.0	500	3.6	120	250	2.089	12	P130	09F60-	2	8.3
24.0	500	3.6	120	250	2.089	12	P130	09F60L	2	8.4
27.0	500	1.1	44.0	250	1.638	12	P44	09F60-	2	6.8
27.0	500	1.1	44.0	250	1.638	12	P44	09F60L	2	6.9
31.0	400	3.1	110	200	2.086	15	P130	09F60-	2	8.3
31.0	400	3.1	110	200	2.086	15	P130	09F60L	2	8.4
33.0	375	3.0	120	188	1.946	16	P130	09F60-	2	8.3
33.0	375	3.0	120	188	1.946	16	P130	09F60L	2	8.4
33.0	300	5.6	260	150	3.073	20	P260	09F60-	2	14
33.0	300	5.6	260	150	3.073	20	P260	09F60L	2	14
43.0	300	2.6	120	150	1.906	20	P130	09F60-	2	8.3
43.0	300	2.6	120	150	1.906	20	P130	09F60L	2	8.4
48.0	240	4.0	230	120	3.066	25	P260	09F60-	2	14
48.0	240	4.0	230	120	3.066	25	P260	09F60L	2	14
56.0	240	1.9	110	120	1.904	25	P130	09F60-	2	8.3
56.0	240	1.9	110	120	1.904	25	P130	09F60L	2	8.4
64.0	188	3.6	260	94.0	2.920	32	P260	09F60-	2	14
64.0	188	3.6	260	94.0	2.920	32	P260	09F60L	2	14
72.0	188	1.6	120	94.0	1.866	32	P130	09F60-	2	8.3
72.0	188	1.6	120	94.0	1.866	32	P130	09F60L	2	8.4
87.0	150	2.6	230	75.0	2.917	40	P260	09F60L	2	14
87.0	150	2.6	230	75.0	2.917	40	P260	09F60-	2	14
90.0	150	1.2	110	75.0	1.865	40	P130	09F60-	2	8.3
90.0	150	1.2	110	75.0	1.865	40	P130	09F60L	2	8.4
130	100	2.0	260	50.0	3.696	60	P260	09F60-	3	16
130	100	2.0	260	50.0	3.696	60	P260	09F60L	3	16
173	75.0	1.5	260	38.0	3.070	80	P260	09F60L	3	16
173	75.0	1.5	260	38.0	3.070	80	P260	09F60-	3	16
216	60.0	1.2	260	30.0	3.063	100	P260	09F60-	3	16



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	kgcm²					kg
216	60.0	1.2	260	30.0	3.063	100	P260	09F60L	3	16



1.6 kW

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	kgcm²					kg
10.0	1350	3.4	85.0	675	2.554	3	P130	09H41-	1	8.7
10.0	1350	3.4	85.0	675	2.554	3	P130	09H41L	1	8.8
12.0	1013	5.5	115	506	2.355	4	P130	09H41L	1	8.8
12.0	1013	5.5	115	506	2.355	4	P130	09H41-	1	8.7
16.0	810	4.6	110	405	2.323	5	P130	09H41-	1	8.7
16.0	810	4.6	110	405	2.323	5	P130	09H41L	1	8.8
22.0	579	5.2	135	289	3.363	7	P260	09H41-	1	13
22.0	579	5.2	135	289	3.363	7	P260	09H41L	1	13
25.0	579	2.5	65.0	289	2.279	7	P130	09H41-	1	8.7
25.0	579	2.5	65.0	289	2.279	7	P130	09H41L	1	8.8
26.0	450	4.6	210	225	4.188	9	P260	09H41-	2	15
26.0	450	4.6	210	225	4.188	9	P260	09H41L	2	15
27.0	506	4.1	120	253	3.331	8	P260	09H41-	1	13
27.0	506	4.1	120	253	3.331	8	P260	09H41L	1	13
27.0	500	3.9	115	250	9.661	3	P260	12H15L	1	16
27.0	500	3.9	115	250	9.661	3	P260	12H15-	1	16
29.0	506	1.7	50.0	253	2.270	8	P130	09H41L	1	8.8
29.0	506	1.7	50.0	253	2.270	8	P130	09H41-	1	8.7
29.0	500	1.8	85.0	250	7.954	3	P130	12H15-	1	12
29.0	500	1.8	85.0	250	7.954	3	P130	12H15L	1	12
30.0	338	5.9	260	169	4.124	12	P260	09H41-	2	15
30.0	338	5.9	260	169	4.124	12	P260	09H41L	2	15
31.0	450	2.7	130	225	2.513	9	P130	09H41L	2	9.3
31.0	450	2.7	130	225	2.513	9	P130	09H41-	2	9.2
35.0	375	4.0	155	188	9.135	4	P260	12H15-	1	16
35.0	375	4.0	155	188	9.135	4	P260	12H15L	1	16
36.0	405	1.0	38.0	203	2.259	10	P130	09H41-	1	8.7
36.0	405	1.0	38.0	203	2.259	10	P130	09H41L	1	8.8
36.0	405	2.6	95.0	203	3.278	10	P260	09H41-	1	13
36.0	405	2.6	95.0	203	3.278	10	P260	09H41L	1	13
37.0	375	2.8	115	188	7.755	4	P130	12H15-	1	12
37.0	375	2.8	115	188	7.755	4	P130	12H15L	1	12
41.0	338	2.6	120	169	2.489	12	P130	09H41L	2	9.3
41.0	338	2.6	120	169	2.489	12	P130	09H41-	2	9.2
44.0	300	4.0	195	150	8.933	5	P260	12H15-	1	16
44.0	300	4.0	195	150	8.933	5	P260	12H15L	1	16
45.0	270	4.2	230	135	4.103	15	P260	09H41-	2	15
45.0	270	4.2	230	135	4.103	15	P260	09H41L	2	15
47.0	253	4.5	260	127	3.647	16	P260	09H41L	2	15
47.0	253	4.5	260	127	3.647	16	P260	09H41-	2	15
48.0	300	2.2	110	150	7.723	5	P130	12H15-	1	12
48.0	300	2.2	110	150	7.723	5	P130	12H15L	1	12
54.0	270	2.0	110	135	2.486	15	P130	09H41-	2	9.2
54.0	270	2.0	110	135	2.486	15	P130	09H41L	2	9.3
57.0	253	2.1	120	127	2.346	16	P130	09H41-	2	9.2
57.0	253	2.1	120	127	2.346	16	P130	09H41L	2	9.3
63.0	203	3.6	260	101	3.473	20	P260	09H41-	2	15
63.0	203	3.6	260	101	3.473	20	P260	09H41L	2	15
65.0	188	5.8	450	94.0	11.026	8	P800	12H15-	1	28
65.0	188	5.8	450	94.0	11.026	8	P800	12H15L	1	28
67.0	214	2.0	135	107	8.763	7	P260	12H15-	1	16



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	kgcm²					kg
67.0	214	2.0	135	107	8.763	7	P260	12H15L	1	16
71.0	203	1.6	120	101	2.306	20	P130	09H41L	2	9.3
71.0	203	1.6	120	101	2.306	20	P130	09H41-	2	9.2
77.0	188	1.6	120	94.0	8.731	8	P260	12H15-	1	16
77.0	188	1.6	120	94.0	8.731	8	P260	12H15L	1	16
83.0	167	2.3	210	83.0	9.588	9	P260	12H15-	2	18
83.0	167	2.3	210	83.0	9.588	9	P260	12H15L	2	18
85.0	167	1.4	130	83.0	7.913	9	P130	12H15-	2	13
85.0	167	1.4	130	83.0	7.913	9	P130	12H15L	2	13
86.0	162	2.6	230	81.0	3.466	25	P260	09H41-	2	15
86.0	162	2.6	230	81.0	3.466	25	P260	09H41L	2	15
89.0	162	1.2	110	81.0	2.304	25	P130	09H41-	2	9.2
89.0	162	1.2	110	81.0	2.304	25	P130	09H41L	2	9.3
111	125	2.3	260	63.0	9.524	12	P260	12H15-	2	18
111	125	2.3	260	63.0	9.524	12	P260	12H15L	2	18
111	100	4.9	700	50.0	17.213	15	P800	12H15L	2	32
111	100	4.9	700	50.0	17.213	15	P800	12H15-	2	32
112	127	2.3	260	63.0	3.320	32	P260	09H41-	2	15
112	127	2.3	260	63.0	3.320	32	P260	09H41L	2	15
113	125	1.0	120	63.0	7.889	12	P130	12H15L	2	13
113	125	1.0	120	63.0	7.889	12	P130	12H15-	2	13
114	127	1.0	120	63.0	2.266	32	P130	09H41-	2	9.2
114	127	1.0	120	63.0	2.266	32	P130	09H41L	2	9.3
114	93.8	5.2	800	47.0	13.359	16	P800	12H15-	2	32
114	93.8	5.2	800	47.0	13.359	16	P800	12H15L	2	32
141	100	1.6	230	50.0	9.503	15	P260	12H15-	2	18
141	100	1.6	230	50.0	9.503	15	P260	12H15L	2	18
143	101	1.6	230	51.0	3.317	40	P260	09H41-	2	15
143	101	1.6	230	51.0	3.317	40	P260	09H41L	2	15
150	93.8	1.7	260	47.0	9.047	16	P260	12H15-	2	18
150	93.8	1.7	260	47.0	9.047	16	P260	12H15L	2	18
158	75.0	4.2	800	38.0	11.995	20	P800	12H15-	2	32
158	75.0	4.2	800	38.0	11.995	20	P800	12H15L	2	32
188	75.0	1.4	260	38.0	8.873	20	P260	12H15L	2	18
188	75.0	1.4	260	38.0	8.873	20	P260	12H15-	2	18
205	67.5	1.2	260	34.0	4.096	60	P260	09H41-	3	17
205	67.5	1.2	260	34.0	4.096	60	P260	09H41L	3	17
218	60.0	3.0	700	30.0	11.932	25	P800	12H15-	2	32
218	60.0	3.0	700	30.0	11.932	25	P800	12H15L	2	32
287	46.9	2.6	800	23.0	10.849	32	P800	12H15-	2	32
287	46.9	2.6	800	23.0	10.849	32	P800	12H15L	2	32
376	37.5	1.9	700	19.0	10.824	40	P800	12H15-	2	32
376	37.5	1.9	700	19.0	10.824	40	P800	12H15L	2	32



1.8 kW

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	kgcm²					kg
12.0	1350	3.0	85.0	675	4.654	3	P130	12D41-	1	9.1
12.0	1350	3.0	85.0	675	4.654	3	P130	12D41L	1	9.2
15.0	1013	4.9	115	506	4.455	4	P130	12D41-	1	9.1
15.0	1013	4.9	115	506	4.455	4	P130	12D41L	1	9.2
19.0	810	4.1	110	405	4.423	5	P130	12D41-	1	9.1
19.0	810	4.1	110	405	4.423	5	P130	12D41L	1	9.2
26.0	579	4.6	135	289	5.463	7	P260	12D41L	1	13
26.0	579	4.6	135	289	5.463	7	P260	12D41-	1	13
29.0	579	2.2	65.0	289	4.379	7	P130	12D41-	1	9.1
29.0	579	2.2	65.0	289	4.379	7	P130	12D41L	1	9.2
31.0	506	3.6	120	253	5.431	8	P260	12D41-	1	13
31.0	506	3.6	120	253	5.431	8	P260	12D41L	1	13
31.0	450	4.0	210	225	6.288	9	P260	12D41-	2	15
31.0	450	4.0	210	225	6.288	9	P260	12D41L	2	15
33.0	506	1.5	50.0	253	4.370	8	P130	12D41L	1	9.2
33.0	506	1.5	50.0	253	4.370	8	P130	12D41-	1	9.1
35.0	450	2.4	130	225	4.613	9	P130	12D41-	2	9.6
35.0	450	2.4	130	225	4.613	9	P130	12D41L	2	9.7
37.0	338	5.3	260	169	6.224	12	P260	12D41-	2	15
37.0	338	5.3	260	169	6.224	12	P260	12D41L	2	15
41.0	405	2.3	95.0	203	5.378	10	P260	12D41-	1	13
41.0	405	2.3	95.0	203	5.378	10	P260	12D41L	1	13
47.0	338	2.3	120	169	4.589	12	P130	12D41-	2	9.6
47.0	338	2.3	120	169	4.589	12	P130	12D41L	2	9.7
53.0	270	3.7	230	135	6.203	15	P260	12D41-	2	15
53.0	270	3.7	230	135	6.203	15	P260	12D41L	2	15
55.0	253	3.9	260	127	5.747	16	P260	12D41-	2	15
55.0	253	3.9	260	127	5.747	16	P260	12D41L	2	15
61.0	270	1.8	110	135	4.586	15	P130	12D41-	2	9.6
61.0	270	1.8	110	135	4.586	15	P130	12D41L	2	9.7
65.0	253	1.8	120	127	4.446	16	P130	12D41-	2	9.6
65.0	253	1.8	120	127	4.446	16	P130	12D41L	2	9.7
74.0	203	3.2	260	101	5.573	20	P260	12D41-	2	15
74.0	203	3.2	260	101	5.573	20	P260	12D41L	2	15
81.0	203	1.5	120	101	4.406	20	P130	12D41-	2	9.6
81.0	203	1.5	120	101	4.406	20	P130	12D41L	2	9.7
99.0	162	2.3	230	81.0	5.566	25	P260	12D41-	2	15
99.0	162	2.3	230	81.0	5.566	25	P260	12D41L	2	15
101	162	1.1	110	81.0	4.404	25	P130	12D41-	2	9.6
101	162	1.1	110	81.0	4.404	25	P130	12D41L	2	9.7
129	127	2.0	260	63.0	5.420	32	P260	12D41L	2	15
129	127	2.0	260	63.0	5.420	32	P260	12D41-	2	15
134	101	4.3	700	51.0	7.524	40	P800	12D41-	2	29
134	101	4.3	700	51.0	7.524	40	P800	12D41L	2	29
162	101	1.4	230	51.0	5.417	40	P260	12D41L	2	15
162	101	1.4	230	51.0	5.417	40	P260	12D41-	2	15
232	67.5	1.1	260	34.0	6.196	60	P260	12D41-	3	17
232	67.5	1.1	260	34.0	6.196	60	P260	12D41L	3	17
248	63.3	1.8	450	32.0	7.502	64	P800	12D41-	2	29
248	63.3	1.8	450	32.0	7.502	64	P800	12D41L	2	29



1.9 kW

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	kgcm²					kg
8.0	2000	3.9	85.0	1000	2.554	3	P130	09H60-	1	8.7
8.0	2000	3.9	85.0	1000	2.554	3	P130	09H60L	1	8.8
9.8	1700	3.4	85.0	850	3.454	3	P130	09L51-	1	11
12.0	1350	2.9	85.0	675	3.454	3	P130	09L41-	1	11
12.0	1350	2.9	85.0	675	3.454	3	P130	09L41L	1	11
12.0	1275	5.4	115	638	3.255	4	P130	09L51-	1	11
12.0	1200	5.2	110	600	2.323	5	P130	09H60-	1	8.7
12.0	1200	5.2	110	600	2.323	5	P130	09H60L	1	8.8
15.0	1020	4.5	110	510	3.223	5	P130	09L51-	1	11
15.0	1013	4.7	115	506	3.255	4	P130	09L41-	1	11
15.0	1013	4.7	115	506	3.255	4	P130	09L41L	1	11
19.0	857	3.0	65.0	429	2.279	7	P130	09H60-	1	8.7
19.0	857	3.0	65.0	429	2.279	7	P130	09H60L	1	8.8
19.0	667	5.1	210	333	4.188	9	P260	09H60-	2	15
19.0	667	5.1	210	333	4.188	9	P260	09H60L	2	15
20.0	810	3.9	110	405	3.223	5	P130	09L41-	1	11
20.0	810	3.9	110	405	3.223	5	P130	09L41L	1	11
20.0	750	5.2	120	375	3.331	8	P260	09H60L	1	13
20.0	750	5.2	120	375	3.331	8	P260	09H60-	1	13
21.0	729	5.5	135	364	4.263	7	P260	09L51-	1	14
23.0	750	2.2	50.0	375	2.270	8	P130	09H60L	1	8.8
23.0	750	2.2	50.0	375	2.270	8	P130	09H60-	1	8.7
23.0	667	3.0	130	333	2.513	9	P130	09H60-	2	9.2
23.0	667	3.0	130	333	2.513	9	P130	09H60L	2	9.3
24.0	729	2.6	65.0	364	3.179	7	P130	09L51-	1	11
25.0	638	4.3	120	319	4.231	8	P260	09L51-	1	14
25.0	567	4.5	210	283	5.088	9	P260	09L51-	2	16
27.0	600	3.3	95.0	300	3.278	10	P260	09H60-	1	13
27.0	600	3.3	95.0	300	3.278	10	P260	09H60L	1	13
27.0	579	4.4	135	289	4.263	7	P260	09L41L	1	15
27.0	579	4.4	135	289	4.263	7	P260	09L41-	1	14
28.0	638	1.8	50.0	319	3.170	8	P130	09L51-	1	11
29.0	600	1.3	38.0	300	2.259	10	P130	09H60-	1	8.7
29.0	600	1.3	38.0	300	2.259	10	P130	09H60L	1	8.8
29.0	567	2.6	130	283	3.413	9	P130	09L51-	2	11
29.0	425	5.9	260	213	5.024	12	P260	09L51-	2	16
30.0	579	2.1	65.0	289	3.179	7	P130	09L41-	1	11
30.0	579	2.1	65.0	289	3.179	7	P130	09L41L	1	11
32.0	506	3.4	120	253	4.231	8	P260	09L41-	1	14
32.0	506	3.4	120	253	4.231	8	P260	09L41L	1	15
32.0	500	2.9	120	250	2.489	12	P130	09H60-	2	9.2
32.0	500	2.9	120	250	2.489	12	P130	09H60L	2	9.3
32.0	400	5.3	230	200	4.103	15	P260	09H60-	2	15
32.0	400	5.3	230	200	4.103	15	P260	09H60L	2	15
33.0	450	3.9	210	225	5.088	9	P260	09L41-	2	16
33.0	450	3.9	210	225	5.088	9	P260	09L41L	2	17
33.0	375	5.5	260	188	3.647	16	P260	09H60-	2	15
33.0	375	5.5	260	188	3.647	16	P260	09H60L	2	15
34.0	510	2.7	95.0	255	4.178	10	P260	09L51-	1	14
35.0	510	1.1	38.0	255	3.159	10	P130	09L51-	1	11
35.0	506	1.4	50.0	253	3.170	8	P130	09L41-	1	11



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	kgcm²					kg
35.0	506	1.4	50.0	253	3.170	8	P130	09L41L	1	11
37.0	450	2.3	130	225	3.413	9	P130	09L41-	2	11
37.0	450	2.3	130	225	3.413	9	P130	09L41L	2	11
39.0	425	2.5	120	213	3.389	12	P130	09L51-	2	11
39.0	338	5.0	260	169	5.024	12	P260	09L41-	2	16
39.0	338	5.0	260	169	5.024	12	P260	09L41L	2	17
41.0	400	2.5	110	200	2.486	15	P130	09H60-	2	9.2
41.0	400	2.5	110	200	2.486	15	P130	09H60L	2	9.3
42.0	340	4.4	230	170	5.003	15	P260	09L51-	2	16
43.0	405	2.2	95.0	203	4.178	10	P260	09L41-	1	14
43.0	405	2.2	95.0	203	4.178	10	P260	09L41L	1	15
43.0	319	4.7	260	159	4.547	16	P260	09L51-	2	16
44.0	375	2.4	120	188	2.346	16	P130	09H60-	2	9.2
44.0	375	2.4	120	188	2.346	16	P130	09H60L	2	9.3
46.0	300	4.5	260	150	3.473	20	P260	09H60L	2	15
46.0	300	4.5	260	150	3.473	20	P260	09H60-	2	15
50.0	340	2.1	110	170	3.386	15	P130	09L51-	2	11
50.0	338	2.2	120	169	3.389	12	P130	09L41-	2	11
50.0	338	2.2	120	169	3.389	12	P130	09L41L	2	11
54.0	319	2.1	120	159	3.246	16	P130	09L51-	2	11
56.0	300	2.1	120	150	2.306	20	P130	09H60-	2	9.2
56.0	300	2.1	120	150	2.306	20	P130	09H60L	2	9.3
56.0	270	3.6	230	135	5.003	15	P260	09L41-	2	16
56.0	270	3.6	230	135	5.003	15	P260	09L41L	2	17
59.0	255	3.8	260	128	4.373	20	P260	09L51-	2	16
59.0	253	3.8	260	127	4.547	16	P260	09L41-	2	16
59.0	253	3.8	260	127	4.547	16	P260	09L41L	2	17
63.0	270	1.7	110	135	3.386	15	P130	09L41-	2	11
63.0	270	1.7	110	135	3.386	15	P130	09L41L	2	11
64.0	240	3.2	230	120	3.466	25	P260	09H60-	2	15
64.0	240	3.2	230	120	3.466	25	P260	09H60L	2	15
68.0	255	1.7	120	128	3.206	20	P130	09L51-	2	11
68.0	253	1.7	120	127	3.246	16	P130	09L41L	2	11
68.0	253	1.7	120	127	3.246	16	P130	09L41-	2	11
71.0	240	1.5	110	120	2.304	25	P130	09H60-	2	9.2
71.0	240	1.5	110	120	2.304	25	P130	09H60L	2	9.3
78.0	203	3.0	260	101	4.373	20	P260	09L41-	2	16
78.0	203	3.0	260	101	4.373	20	P260	09L41L	2	17
80.0	204	2.7	230	102	4.366	25	P260	09L51-	2	16
85.0	204	1.3	110	102	3.204	25	P130	09L51-	2	11
85.0	203	1.4	120	101	3.206	20	P130	09L41L	2	11
85.0	203	1.4	120	101	3.206	20	P130	09L41-	2	11
85.0	188	2.9	260	94.0	3.320	32	P260	09H60-	2	15
85.0	188	2.9	260	94.0	3.320	32	P260	09H60L	2	15
90.0	188	1.3	120	94.0	2.266	32	P130	09H60-	2	9.2
90.0	188	1.3	120	94.0	2.266	32	P130	09H60L	2	9.3
105	162	2.2	230	81.0	4.366	25	P260	09L41-	2	16
105	162	2.2	230	81.0	4.366	25	P260	09L41L	2	17
105	159	2.4	260	80.0	4.220	32	P260	09L51-	2	16
106	162	1.0	110	81.0	3.204	25	P130	09L41L	2	11
106	162	1.0	110	81.0	3.204	25	P130	09L41-	2	11
108	159	1.1	120	80.0	3.166	32	P130	09L51-	2	11



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	kgcm²					kg
112	150	2.0	230	75.0	3.317	40	P260	09H60-	2	15
112	150	2.0	230	75.0	3.317	40	P260	09H60L	2	15
135	128	1.7	230	64.0	4.217	40	P260	09L51-	2	16
135	127	1.9	260	63.0	4.220	32	P260	09L41-	2	16
135	127	1.9	260	63.0	4.220	32	P260	09L41L	2	17
162	100	1.6	260	50.0	4.096	60	P260	09H60-	3	17
162	100	1.6	260	50.0	4.096	60	P260	09H60L	3	17
169	101	1.4	230	51.0	4.217	40	P260	09L41L	2	17
169	101	1.4	230	51.0	4.217	40	P260	09L41-	2	16
194	85.0	1.3	260	43.0	4.996	60	P260	09L51-	3	18
216	75.0	1.2	260	38.0	3.470	80	P260	09H60-	3	17
216	75.0	1.2	260	38.0	3.470	80	P260	09H60L	3	17
243	67.5	1.1	260	34.0	4.996	60	P260	09L41-	3	18
243	67.5	1.1	260	34.0	4.996	60	P260	09L41L	3	19



2.5 kW

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	kgcm²					kg
20.0	1000	4.9	115	500	9.661	3	P260	12H30L	1	16
23.0	1000	1.8	85.0	500	7.954	3	P130	12H30L	1	12
27.0	750	4.9	155	375	9.135	4	P260	12H30L	1	16
30.0	750	2.9	115	375	7.755	4	P130	12H30L	1	12
34.0	600	5.0	195	300	8.933	5	P260	12H30L	1	16
38.0	600	2.4	110	300	7.723	5	P130	12H30L	1	12
39.0	500	5.6	400	250	26.199	3	P800	14H15-	1	52
45.0	500	2.4	115	250	16.561	3	P260	14H15-	1	40
53.0	429	2.5	135	214	8.763	7	P260	12H30L	1	16
54.0	429	1.2	65.0	214	7.679	7	P130	12H30L	1	12
60.0	375	2.5	155	188	16.035	4	P260	14H15-	1	40
61.0	375	1.9	120	188	8.731	8	P260	12H30L	1	16
65.0	300	5.7	450	150	19.388	5	P800	14H15-	1	52
66.0	333	2.4	210	167	9.588	9	P260	12H30L	2	18
68.0	333	1.4	130	167	7.913	9	P130	12H30L	2	13
75.0	300	2.5	195	150	15.833	5	P260	14H15-	1	40
77.0	300	1.2	95.0	150	8.678	10	P260	12H30L	1	16
85.0	250	2.8	260	125	9.524	12	P260	12H30L	2	18
90.0	250	1.3	120	125	7.889	12	P130	12H30L	2	13
108	214	1.2	135	107	15.663	7	P260	14H15-	1	40
113	200	2.0	230	100	9.503	15	P260	12H30L	2	18
115	188	3.6	450	94.0	17.926	8	P800	14H15-	1	52
115	150	5.2	800	75.0	11.995	20	P800	12H30L	2	32
119	188	2.1	260	94.0	9.047	16	P260	12H30L	2	18
135	167	1.5	210	83.0	16.488	9	P260	14H15-	2	42
149	125	4.3	800	63.0	24.287	12	P800	14H15-	2	56
150	150	1.7	260	75.0	8.873	20	P260	12H30L	2	18
164	120	3.7	700	60.0	11.932	25	P800	12H30L	2	32
180	125	1.4	260	63.0	16.424	12	P260	14H15-	2	42
188	120	1.2	230	60.0	8.866	25	P260	12H30L	2	18
208	100	3.0	700	50.0	24.113	15	P800	14H15-	2	56
218	93.8	3.3	800	47.0	20.259	16	P800	14H15-	2	56
218	93.8	3.3	800	47.0	10.849	32	P800	12H30L	2	32
241	93.8	1.1	260	47.0	15.947	16	P260	14H15-	2	42
241	93.8	1.1	260	47.0	8.720	32	P260	12H30L	2	18
287	75.0	2.6	800	38.0	18.895	20	P800	14H15-	2	56
293	75.0	2.3	700	38.0	10.824	40	P800	12H30L	2	32
376	60.0	1.8	700	30.0	18.832	25	P800	14H15-	2	56
481	46.9	1.6	800	23.0	17.749	32	P800	14H15-	2	56
602	37.5	1.2	700	19.0	17.724	40	P800	14H15-	2	56



2.8 kW

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	kgcm²					kg
19.0	1200	5.1	115	600	10.461	3	P260	14D36-	1	35
19.0	1175	5.1	115	588	9.661	3	P260	12H35-	1	16
22.0	1175	1.8	85.0	588	7.954	3	P130	12H35-	1	12
25.0	900	5.3	155	450	9.935	4	P260	14D36-	1	35
25.0	881	5.3	155	441	9.135	4	P260	12H35-	1	16
28.0	881	2.9	115	441	7.755	4	P130	12H35-	1	12
31.0	720	5.3	195	360	9.733	5	P260	14D36-	1	35
31.0	705	5.3	195	353	8.933	5	P260	12H35-	1	16
35.0	705	2.4	110	353	7.723	5	P130	12H35-	1	12
37.0	650	2.9	115	325	12.961	3	P260	12L20-	1	19
37.0	650	2.9	115	325	12.961	3	P260	12L20L	1	19
49.0	514	2.7	135	257	9.563	7	P260	14D36-	1	35
49.0	504	2.7	135	252	8.763	7	P260	12H35-	1	16
50.0	504	1.3	65.0	252	7.679	7	P130	12H35-	1	12
50.0	488	2.9	155	244	12.435	4	P260	12L20-	1	19
50.0	488	2.9	155	244	12.435	4	P260	12L20L	1	19
57.0	450	2.1	120	225	9.531	8	P260	14D36-	1	35
57.0	441	2.1	120	220	8.731	8	P260	12H35-	1	16
62.0	400	2.4	210	200	10.388	9	P260	14D36-	2	37
62.0	392	2.4	210	196	9.588	9	P260	12H35-	2	18
62.0	390	3.0	195	195	12.233	5	P260	12L20-	1	19
62.0	390	3.0	195	195	12.233	5	P260	12L20L	1	19
63.0	392	1.4	130	196	7.913	9	P130	12H35-	2	13
72.0	360	1.3	95.0	180	9.478	10	P260	14D36-	1	35
72.0	353	1.3	95.0	176	8.678	10	P260	12H35-	1	16
78.0	300	3.0	260	150	10.324	12	P260	14D36-	2	37
78.0	294	3.0	260	147	9.524	12	P260	12H35-	2	18
85.0	294	1.4	120	147	7.889	12	P130	12H35-	2	13
91.0	279	1.5	135	139	12.063	7	P260	12L20L	1	19
91.0	279	1.5	135	139	12.063	7	P260	12L20-	1	19
94.0	244	4.3	450	122	14.326	8	P800	12L20-	1	31
94.0	244	4.3	450	122	14.326	8	P800	12L20L	1	31
104	244	1.2	120	122	12.031	8	P260	12L20-	1	19
104	244	1.2	120	122	12.031	8	P260	12L20L	1	19
105	240	2.1	230	120	10.303	15	P260	14D36-	2	37
105	235	2.1	230	118	9.503	15	P260	12H35-	2	18
106	235	1.0	110	118	7.886	15	P130	12H35-	2	13
107	180	5.2	800	90.0	12.795	20	P800	14D36-	2	51
107	176	5.3	800	88.0	11.995	20	P800	12H35-	2	32
111	225	2.3	260	113	9.847	16	P260	14D36-	2	37
111	220	2.3	260	110	9.047	16	P260	12H35-	2	18
113	220	1.0	120	110	7.746	16	P130	12H35-	2	13
114	217	1.6	210	108	12.888	9	P260	12L20L	2	21
114	217	1.6	210	108	12.888	9	P260	12L20-	2	21
118	163	5.0	800	81.0	20.687	12	P800	12L20-	2	35
118	163	5.0	800	81.0	20.687	12	P800	12L20L	2	35
141	180	1.8	260	90.0	9.673	20	P260	14D36-	2	37
141	176	1.8	260	88.0	8.873	20	P260	12H35-	2	18
151	144	3.9	700	72.0	12.732	25	P800	14D36-	2	51
151	141	3.9	700	71.0	11.932	25	P800	12H35-	2	32
152	163	1.7	260	81.0	12.824	12	P260	12L20-	2	21



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	kgcm²					kg
152	163	1.7	260	81.0	12.824	12	P260	12L20L	2	21
168	130	3.6	700	65.0	20.513	15	P800	12L20L	2	35
168	130	3.6	700	65.0	20.513	15	P800	12L20-	2	35
175	122	3.9	800	61.0	16.659	16	P800	12L20L	2	35
175	122	3.9	800	61.0	16.659	16	P800	12L20-	2	35
176	144	1.3	230	72.0	9.666	25	P260	14D36-	2	37
176	141	1.3	230	71.0	8.866	25	P260	12H35-	2	18
190	130	1.2	230	65.0	12.803	15	P260	12L20-	2	21
190	130	1.2	230	65.0	12.803	15	P260	12L20L	2	21
200	113	3.5	800	56.0	11.649	32	P800	14D36-	2	51
200	110	3.5	800	55.0	10.849	32	P800	12H35-	2	32
203	122	1.3	260	61.0	12.347	16	P260	12L20-	2	21
203	122	1.3	260	61.0	12.347	16	P260	12L20L	2	21
226	113	1.1	260	56.0	9.520	32	P260	14D36-	2	37
226	110	1.1	260	55.0	8.720	32	P260	12H35-	2	18
233	97.5	3.1	800	49.0	15.295	20	P800	12L20-	2	35
233	97.5	3.1	800	49.0	15.295	20	P800	12L20L	2	35
254	97.5	1.0	260	49.0	12.173	20	P260	12L20-	2	21
254	97.5	1.0	260	49.0	12.173	20	P260	12L20L	2	21
272	90.0	2.5	700	45.0	11.624	40	P800	14D36-	2	51
272	88.1	2.5	700	44.0	10.824	40	P800	12H35-	2	32
313	78.0	2.2	700	39.0	15.232	25	P800	12L20-	2	35
313	78.0	2.2	700	39.0	15.232	25	P800	12L20L	2	35
406	60.9	2.0	800	30.0	14.149	32	P800	12L20L	2	35
406	60.9	2.0	800	30.0	14.149	32	P800	12L20-	2	35
432	56.3	1.0	450	28.0	11.602	64	P800	14D36-	2	51
432	55.1	1.0	450	28.0	10.802	64	P800	12H35-	2	32
508	48.8	1.4	700	24.0	14.124	40	P800	12L20-	2	35
508	48.8	1.4	700	24.0	14.124	40	P800	12L20L	2	35

3.6 kW

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	kgcm²					kg
61.0	500	3.9	400	250	35.399	3	P800	14L15-	1	57
66.0	500	1.7	115	250	25.761	3	P260	14L15-	1	45
77.0	375	5.0	450	188	30.312	4	P800	14L15-	1	57
88.0	375	1.7	155	188	25.235	4	P260	14L15-	1	45
101	300	4.0	450	150	28.588	5	P800	14L15-	1	57
110	300	1.7	195	150	25.033	5	P260	14L15-	1	45
173	188	2.5	450	94.0	27.126	8	P800	14L15-	1	57
195	167	1.0	210	83.0	25.688	9	P260	14L15-	2	47
240	125	3.0	800	63.0	33.487	12	P800	14L15-	2	61
322	100	2.1	700	50.0	33.313	15	P800	14L15-	2	61
339	93.8	2.3	800	47.0	29.459	16	P800	14L15-	2	61
432	75.0	1.8	800	38.0	28.095	20	P800	14L15-	2	61
541	60.0	1.3	700	30.0	28.032	25	P800	14L15-	2	61
692	46.9	1.1	800	23.0	26.949	32	P800	14L15-	2	61



4 kW

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	kgcm²					kg
73.0	475	3.4	400	238	76.999	3	P800	19F14-	1	67
78.0	475	1.5	115	238	69.723	3	P260	19F14-	1	55
94.0	356	4.3	450	178	71.912	4	P800	19F14-	1	67
104	356	1.5	155	178	69.197	4	P260	19F14-	1	55
122	285	3.4	450	143	70.188	5	P800	19F14-	1	67
130	285	1.5	195	143	68.995	5	P260	19F14-	1	55
206	178	2.2	450	89.0	68.726	8	P800	19F14-	1	67
292	119	2.6	800	59.0	75.087	12	P800	19F14-	2	71
381	95.0	1.8	700	48.0	74.913	15	P800	19F14-	2	71
406	89.1	1.9	800	45.0	71.059	16	P800	19F14-	2	71
508	71.3	1.5	800	36.0	69.695	20	P800	19F14-	2	71
635	57.0	1.1	700	29.0	69.632	25	P800	19F14-	2	71

4.2 kW

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	kgcm²					kg
82.0	450	3.1	400	225	46.699	3	P800	14P14-	1	62
106	338	3.8	450	169	41.612	4	P800	14P14-	1	62
138	270	3.1	450	135	39.888	5	P800	14P14-	1	62
230	169	1.9	450	84.0	38.426	8	P800	14P14-	1	62
330	113	2.3	800	56.0	44.787	12	P800	14P14-	2	66
423	90.0	1.6	700	45.0	44.613	15	P800	14P14-	2	66
451	84.4	1.7	800	42.0	40.759	16	P800	14P14-	2	66
564	67.5	1.4	800	34.0	39.395	20	P800	14P14-	2	66



4.7 kW

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	kgcm²					kg
30.0	1350	3.4	115	675	12.961	3	P260	12L41-	1	19
35.0	1075	5.1	400	538	26.199	3	P800	14H32-	1	52
39.0	1075	2.8	115	538	16.561	3	P260	14H32-	1	40
39.0	1013	3.6	155	506	12.435	4	P260	12L41-	1	19
49.0	810	3.6	195	405	12.233	5	P260	12L41-	1	19
52.0	806	2.8	155	403	16.035	4	P260	14H32-	1	40
65.0	645	2.8	195	323	15.833	5	P260	14H32-	1	40
73.0	506	5.3	450	253	14.326	8	P800	12L41-	1	31
74.0	579	1.8	135	289	12.063	7	P260	12L41-	1	19
84.0	506	1.4	120	253	12.031	8	P260	12L41-	1	19
93.0	450	1.6	210	225	12.888	9	P260	12L41-	2	21
94.0	461	1.4	135	230	15.663	7	P260	14H32-	1	40
97.0	338	4.9	800	169	20.687	12	P800	12L41-	2	35
98.0	403	4.1	450	202	17.926	8	P800	14H32-	1	52
108	403	1.1	120	202	15.631	8	P260	14H32-	1	40
118	358	1.3	210	179	16.488	9	P260	14H32-	2	42
124	338	2.1	260	169	12.824	12	P260	12L41-	2	21
131	270	4.1	700	135	20.513	15	P800	12L41-	2	35
133	269	4.2	800	134	24.287	12	P800	14H32-	2	56
140	253	4.0	800	127	16.659	16	P800	12L41-	2	35
155	270	1.5	230	135	12.803	15	P260	12L41-	2	21
158	269	1.6	260	134	16.424	12	P260	14H32-	2	42
165	253	1.5	260	127	12.347	16	P260	12L41-	2	21
176	215	3.4	700	108	24.113	15	P800	14H32-	2	56
185	203	3.5	800	101	15.295	20	P800	12L41-	2	35
189	202	3.4	800	101	20.259	16	P800	14H32-	2	56
197	215	1.1	230	108	16.403	15	P260	14H32-	2	42
207	203	1.2	260	101	12.173	20	P260	12L41-	2	21
211	202	1.2	260	101	15.947	16	P260	14H32-	2	42
245	162	2.7	700	81.0	15.232	25	P800	12L41-	2	35
246	161	2.9	800	81.0	18.895	20	P800	14H32-	2	56
321	127	2.4	800	63.0	14.149	32	P800	12L41-	2	35
326	129	2.1	700	65.0	18.832	25	P800	14H32-	2	56
414	101	1.7	700	51.0	14.124	40	P800	12L41-	2	35
421	101	1.9	800	50.0	17.749	32	P800	14H32-	2	56
526	80.6	1.3	700	40.0	17.724	40	P800	14H32-	2	56



5.8 kW

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	kgcm²					kg
45.0	1075	4.2	400	538	35.399	3	P800	14L32-	1	57
49.0	1075	2.3	115	538	25.761	3	P260	14L32-	1	45
65.0	806	2.3	155	403	25.235	4	P260	14L32-	1	45
71.0	645	5.3	450	323	28.588	5	P800	14L32-	1	57
81.0	645	2.3	195	323	25.033	5	P260	14L32-	1	45
116	461	1.2	135	230	24.863	7	P260	14L32-	1	45
125	403	3.4	450	202	27.126	8	P800	14L32-	1	57
146	358	1.1	210	179	25.688	9	P260	14L32-	2	47
174	269	3.4	800	134	33.487	12	P800	14L32-	2	61
194	269	1.3	260	134	25.624	12	P260	14L32-	2	47
228	215	2.8	700	108	33.313	15	P800	14L32-	2	61
244	202	2.8	800	101	29.459	16	P800	14L32-	2	61
315	161	2.4	800	81.0	28.095	20	P800	14L32-	2	61
404	129	1.7	700	65.0	28.032	25	P800	14L32-	2	61
517	101	1.5	800	50.0	26.949	32	P800	14L32-	2	61
647	80.6	1.1	700	40.0	26.924	40	P800	14L32-	2	61

6 kW

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	kgcm²					kg
114	475	2.3	400	238	116.999	3	P800	19J14-	1	74
148	356	2.9	450	178	111.912	4	P800	19J14-	1	74
190	285	2.3	450	143	110.188	5	P800	19J14-	1	74
307	178	1.5	450	89.0	108.726	8	P800	19J14-	1	74
451	119	1.7	800	59.0	115.087	12	P800	19J14-	2	78
564	95.0	1.2	700	48.0	114.913	15	P800	19J14-	2	78
602	89.1	1.3	800	45.0	111.059	16	P800	19J14-	2	78
752	71.3	1.0	800	36.0	109.695	20	P800	19J14-	2	78

6.6 kW

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	kgcm²					kg
57.0	1000	3.5	400	500	76.999	3	P800	19F30-	1	67
60.0	1000	1.9	115	500	69.723	3	P260	19F30-	1	55
69.0	750	5.5	450	375	71.912	4	P800	19F30-	1	67
81.0	750	1.9	155	375	69.197	4	P260	19F30-	1	55
91.0	600	4.4	450	300	70.188	5	P800	19F30-	1	67
101	600	1.9	195	300	68.995	5	P260	19F30-	1	55
156	375	2.8	450	188	68.726	8	P800	19F30-	1	67
222	250	2.8	800	125	75.087	12	P800	19F30-	2	71
237	250	1.1	260	125	69.586	12	P260	19F30-	2	57
289	200	2.3	700	100	74.913	15	P800	19F30-	2	71
309	188	2.3	800	94.0	71.059	16	P800	19F30-	2	71
395	150	2.0	800	75.0	69.695	20	P800	19F30-	2	71
494	120	1.4	700	60.0	69.632	25	P800	19F30-	2	71
632	93.8	1.3	800	47.0	68.549	32	P800	19F30-	2	71



7.1 kW

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	kgcm²					kg
57.0	1075	3.4	400	528	46.699	3	P800	14P32-	1	62
69.0	806	5.5	450	403	41.612	4	P800	14P32-	1	62
91.0	645	4.4	450	323	39.888	5	P800	14P32-	1	62
156	403	2.8	450	202	38.426	8	P800	14P32-	1	62
223	269	2.8	800	134	44.787	12	P800	14P32-	2	66
290	215	2.3	700	108	44.613	15	P800	14P32-	2	66
310	202	2.3	800	101	40.759	16	P800	14P32-	2	66
395	161	1.9	800	81.0	39.395	20	P800	14P32-	2	66
494	129	1.4	700	65.0	39.332	25	P800	14P32-	2	66
632	101	1.3	800	50.0	38.249	32	P800	14P32-	2	66

7.2 kW

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	kgcm²					kg
147	450	1.8	400	225	171.999	3	P800	19P14-	1	84
194	338	2.3	450	169	166.912	4	P800	19P14-	1	84
245	270	1.8	450	135	165.188	5	P800	19P14-	1	84
392	169	1.1	450	84.0	163.726	8	P800	19P14-	1	84
575	113	1.4	800	56.0	170.087	12	P800	19P14-	2	88
767	84.4	1.0	800	42.0	166.059	16	P800	19P14-	2	88

9.1 kW

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	kgcm²					kg
82.0	1000	2.5	400	472	116.999	3	P800	19J30-	1	74
102	750	4.0	450	375	111.912	4	P800	19J30-	1	74
132	600	3.2	450	300	110.188	5	P800	19J30-	1	74
223	375	2.0	450	188	108.726	8	P800	19J30-	1	74
326	250	2.1	800	125	115.087	12	P800	19J30-	2	78
409	200	1.7	700	100	114.913	15	P800	19J30-	2	78
436	188	1.7	800	94.0	111.059	16	P800	19J30-	2	78
545	150	1.4	800	75.0	109.695	20	P800	19J30-	2	78
682	120	1.0	700	60.0	109.632	25	P800	19J30-	2	78

10 kW

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	kgcm²					kg
91.0	1000	2.3	400	454	171.999	3	P800	19P30-	1	84
115	750	3.6	450	375	166.912	4	P800	19P30-	1	84
148	600	2.9	450	300	165.188	5	P800	19P30-	1	84
246	375	1.8	450	188	163.726	8	P800	19P30-	1	84
361	250	1.9	800	125	170.087	12	P800	19P30-	2	88
451	200	1.5	700	100	169.913	15	P800	19P30-	2	88
481	188	1.5	800	94.0	166.059	16	P800	19P30-	2	88
602	150	1.3	800	75.0	164.695	20	P800	19P30-	2	88



Inverter power supply 400 V, forced ventilated motors

1.2 kW

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	kgcm²					kg
17.0	550	5.6	115	275	6.361	3	P260	12D17-	1	15
20.0	550	2.4	85.0	275	4.654	3	P130	12D17-	1	11
23.0	413	5.7	155	206	5.835	4	P260	12D17-	1	15
25.0	413	3.9	115	206	4.455	4	P130	12D17-	1	11
28.0	330	5.7	195	165	5.633	5	P260	12D17-	1	15
32.0	330	3.2	110	165	4.423	5	P130	12D17-	1	11
45.0	236	2.8	135	118	5.463	7	P260	12D17-	1	15
47.0	236	1.4	65.0	118	4.379	7	P130	12D17-	1	11
53.0	206	2.2	120	103	5.431	8	P260	12D17-	1	15
54.0	183	3.2	210	92.0	6.288	9	P260	12D17-	2	17
59.0	183	1.9	130	92.0	4.613	9	P130	12D17-	2	12
67.0	165	1.4	95.0	83.0	5.378	10	P260	12D17-	1	15
72.0	138	3.2	260	69.0	6.224	12	P260	12D17-	2	17
79.0	138	1.5	120	69.0	4.589	12	P130	12D17-	2	12
93.0	82.5	6.0	800	41.0	8.695	20	P800	12D17-	2	31
97.0	110	2.3	230	55.0	6.203	15	P260	12D17-	2	17
99.0	110	1.1	110	55.0	4.586	15	P130	12D17-	2	12
102	103	2.4	260	52.0	5.747	16	P260	12D17-	2	17
105	103	1.1	120	52.0	4.446	16	P130	12D17-	2	12
132	82.5	1.9	260	41.0	5.573	20	P260	12D17-	2	17
137	66.0	4.2	700	33.0	8.632	25	P800	12D17-	2	31
165	66.0	1.4	230	33.0	5.566	25	P260	12D17-	2	17
183	51.6	3.8	800	26.0	7.549	32	P800	12D17-	2	31
211	51.6	1.2	260	26.0	5.420	32	P260	12D17-	2	17
250	41.3	2.7	700	21.0	7.524	40	P800	12D17-	2	31
403	25.8	1.1	450	13.0	7.502	64	P800	12D17-	2	31



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
33.0	450	3.3	115	225	9.661	3	P260	12H14-	1	18
33.0	450	3.3	115	225	10.461	3	P260	14D14-	1	39
44.0	338	3.3	155	169	9.135	4	P260	12H14-	1	18
44.0	338	3.3	155	169	9.935	4	P260	14D14-	1	39
54.0	270	3.3	195	135	8.933	5	P260	12H14-	1	18
54.0	270	3.3	195	135	9.733	5	P260	14D14-	1	39
81.0	193	1.7	135	96.0	8.763	7	P260	12H14-	1	18
81.0	193	1.7	135	96.0	9.563	7	P260	14D14-	1	39
81.0	169	4.8	450	84.0	11.026	8	P800	12H14-	1	30
81.0	169	4.8	450	84.0	11.826	8	P800	14D14-	1	51
92.0	169	1.3	120	84.0	8.731	8	P260	12H14-	1	18
92.0	169	1.3	120	84.0	9.531	8	P260	14D14-	1	39
97.0	113	5.8	800	56.0	17.387	12	P800	12H14-	2	34
97.0	113	5.8	800	56.0	18.187	12	P800	14D14-	2	55
101	150	2.0	210	75.0	9.588	9	P260	12H14-	2	20
101	150	2.0	210	75.0	10.388	9	P260	14D14-	2	41
135	113	1.9	260	56.0	9.524	12	P260	12H14-	2	20
135	113	1.9	260	56.0	10.324	12	P260	14D14-	2	41
143	90.0	4.1	700	45.0	17.213	15	P800	12H14-	2	34
143	90.0	4.1	700	45.0	18.013	15	P800	14D14-	2	55
149	84.4	4.3	800	42.0	14.159	16	P800	14D14-	2	55
149	84.4	4.3	800	42.0	13.359	16	P800	12H14-	2	34
169	90.0	1.3	230	45.0	9.503	15	P260	12H14-	2	20
169	90.0	1.3	230	45.0	10.303	15	P260	14D14-	2	41
180	84.4	1.4	260	42.0	9.047	16	P260	12H14-	2	20
180	84.4	1.4	260	42.0	9.847	16	P260	14D14-	2	41
201	67.5	3.5	800	34.0	11.995	20	P800	12H14-	2	34
201	67.5	3.5	800	34.0	12.795	20	P800	14D14-	2	55
226	67.5	1.1	260	34.0	8.873	20	P260	12H14-	2	20
226	67.5	1.1	260	34.0	9.673	20	P260	14D14-	2	41
272	54.0	2.5	700	27.0	12.732	25	P800	14D14-	2	55
272	54.0	2.5	700	27.0	11.932	25	P800	12H14-	2	34
356	42.2	2.2	800	21.0	10.849	32	P800	12H14-	2	34
356	42.2	2.2	800	21.0	11.649	32	P800	14D14-	2	55
451	33.8	1.6	700	17.0	10.824	40	P800	12H14-	2	34
451	33.8	1.6	700	17.0	11.624	40	P800	14D14-	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	g700-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	1175	2.3	85.0	588	4.654	3	P130	12D35-	1	11
21.0	881	3.6	115	441	4.455	4	P130	12D35-	1	11
28.0	705	3.0	110	353	4.423	5	P130	12D35-	1	11
38.0	504	3.3	135	252	5.463	7	P260	12D35-	1	15
40.0	504	1.6	65.0	252	4.379	7	P130	12D35-	1	11
45.0	441	2.6	120	220	5.431	8	P260	12D35-	1	15
46.0	441	1.1	50.0	220	4.370	8	P130	12D35-	1	11
47.0	392	3.0	210	196	6.288	9	P260	12D35-	2	17
51.0	392	1.8	130	196	4.613	9	P130	12D35-	2	12
58.0	353	1.6	95.0	176	5.378	10	P260	12D35-	1	15
59.0	294	3.8	260	147	6.224	12	P260	12D35-	2	17
68.0	294	1.7	120	147	4.589	12	P130	12D35-	2	12
80.0	235	2.7	230	118	6.203	15	P260	12D35-	2	17
85.0	235	1.3	110	118	4.586	15	P130	12D35-	2	12
85.0	220	2.8	260	110	5.747	16	P260	12D35-	2	17
90.0	220	1.3	120	110	4.446	16	P130	12D35-	2	12
110	141	4.9	700	71.0	8.632	25	P800	12D35-	2	31
111	176	2.3	260	88.0	5.573	20	P260	12D35-	2	17
113	176	1.0	120	88.0	4.406	20	P130	12D35-	2	12
141	141	1.6	230	71.0	5.566	25	P260	12D35-	2	17
148	110	4.4	800	55.0	7.549	32	P800	12D35-	2	31
180	110	1.4	260	55.0	5.420	32	P260	12D35-	2	17
207	88.1	3.1	700	44.0	7.524	40	P800	12D35-	2	31
226	88.1	1.0	230	44.0	5.417	40	P260	12D35-	2	17
346	55.1	1.3	450	28.0	7.502	64	P800	12D35-	2	31

2.9 kW

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	kgcm²					kg
43.0	550	5.1	400	275	22.599	3	P800	12L17-	1	33
48.0	550	2.3	115	275	12.961	3	P260	12L17-	1	21
64.0	413	2.3	155	206	12.435	4	P260	12L17-	1	21
70.0	330	5.4	450	165	15.788	5	P800	12L17-	1	33
80.0	330	2.3	195	165	12.233	5	P260	12L17-	1	21
114	236	1.2	135	118	12.063	7	P260	12L17-	1	21
123	206	3.4	450	103	14.326	8	P800	12L17-	1	33
144	183	1.3	210	92.0	12.888	9	P260	12L17-	2	23
162	138	4.1	800	69.0	20.687	12	P800	12L17-	2	37
192	138	1.3	260	69.0	12.824	12	P260	12L17-	2	23
224	110	2.9	700	55.0	20.513	15	P800	12L17-	2	37
235	103	3.1	800	52.0	16.659	16	P800	12L17-	2	37
309	82.5	2.5	800	41.0	15.295	20	P800	12L17-	2	37
400	66.0	1.7	700	33.0	15.232	25	P800	12L17-	2	37
511	51.6	1.6	800	26.0	14.149	32	P800	12L17-	2	37
639	41.3	1.1	700	21.0	14.124	40	P800	12L17-	2	37



3 kW

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	kgcm²					kg
62.0	400	4.1	400	200	26.199	3	P800	14H12-	1	56
79.0	300	4.9	450	150	21.112	4	P800	14H12-	1	56
104	240	3.9	450	120	19.388	5	P800	14H12-	1	56
177	150	2.5	450	75.0	17.926	8	P800	14H12-	1	56
246	100	3.0	800	50.0	24.287	12	P800	14H12-	2	60
330	80.0	2.1	700	40.0	24.113	15	P800	14H12-	2	60
348	75.0	2.2	800	38.0	20.259	16	P800	14H12-	2	60
442	60.0	1.8	800	30.0	18.895	20	P800	14H12-	2	60
552	48.0	1.3	700	24.0	18.832	25	P800	14H12-	2	60
707	37.5	1.1	800	19.0	17.749	32	P800	14H12-	2	60

3.3 kW

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	kgcm²					kg
28.0	1000	3.7	115	500	10.461	3	P260	14D30-	1	39
37.0	750	3.8	155	375	9.935	4	P260	14D30-	1	39
47.0	600	3.8	195	300	9.733	5	P260	14D30-	1	39
69.0	375	5.5	450	188	11.826	8	P800	14D30-	1	51
71.0	429	1.9	135	214	9.563	7	P260	14D30-	1	39
81.0	375	1.5	120	188	9.531	8	P260	14D30-	1	39
86.0	250	5.7	800	125	18.187	12	P800	14D30-	2	55
89.0	333	1.8	210	167	10.388	9	P260	14D30-	2	41
117	250	2.2	260	125	10.324	12	P260	14D30-	2	41
119	200	4.6	700	100	18.013	15	P800	14D30-	2	55
127	188	4.6	800	94.0	14.159	16	P800	14D30-	2	55
148	200	1.5	230	100	10.303	15	P260	14D30-	2	41
158	188	1.6	260	94.0	9.847	16	P260	14D30-	2	41
169	150	4.0	800	75.0	12.795	20	P800	14D30-	2	55
197	150	1.3	260	75.0	9.673	20	P260	14D30-	2	41
232	120	2.8	700	60.0	12.732	25	P800	14D30-	2	55
304	93.8	2.5	800	47.0	11.649	32	P800	14D30-	2	55
395	75.0	1.8	700	38.0	11.624	40	P800	14D30-	2	55



3.7 kW

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	kgcm²					kg
28.0	1125	3.7	115	563	9.661	3	P260	12H34-	1	18
37.0	844	3.8	155	422	9.135	4	P260	12H34-	1	18
47.0	675	3.8	195	338	8.933	5	P260	12H34-	1	18
69.0	422	5.5	450	211	11.026	8	P800	12H34-	1	30
71.0	482	1.9	135	241	8.763	7	P260	12H34-	1	18
81.0	422	1.5	120	211	8.731	8	P260	12H34-	1	18
88.0	281	5.5	800	141	17.387	12	P800	12H34-	2	34
89.0	375	1.7	210	188	9.588	9	P260	12H34-	2	20
117	281	2.2	260	141	9.524	12	P260	12H34-	2	20
120	225	4.5	700	113	17.213	15	P800	12H34-	2	34
129	211	4.5	800	105	13.359	16	P800	12H34-	2	34
148	225	1.5	230	113	9.503	15	P260	12H34-	2	20
158	211	1.6	260	105	9.047	16	P260	12H34-	2	20
171	169	3.8	800	84.0	11.995	20	P800	12H34-	2	34
197	169	1.3	260	84.0	8.873	20	P260	12H34-	2	20
232	135	2.8	700	68.0	11.932	25	P800	12H34-	2	34
304	106	2.5	800	53.0	10.849	32	P800	12H34-	2	34
395	84.4	1.8	700	42.0	10.824	40	P800	12H34-	2	34

4.3 kW

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	kgcm²					kg
84.0	450	3.0	400	225	35.399	3	P800	14L14-	1	61
109	338	3.8	450	169	30.312	4	P800	14L14-	1	61
140	270	3.0	450	135	28.588	5	P800	14L14-	1	61
234	169	1.9	450	84.0	27.126	8	P800	14L14-	1	61
337	113	2.3	800	56.0	33.487	12	P800	14L14-	2	65
430	90.0	1.6	700	45.0	33.313	15	P800	14L14-	2	65
459	84.4	1.7	800	42.0	29.459	16	P800	14L14-	2	65
573	67.5	1.4	800	34.0	28.095	20	P800	14L14-	2	65

4.6 kW

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	kgcm²					kg
119	350	2.4	400	175	46.699	3	P800	14P11-	1	66
156	263	2.7	450	131	41.612	4	P800	14P11-	1	66
200	210	2.2	450	105	39.888	5	P800	14P11-	1	66
323	131	1.4	450	66.0	38.426	8	P800	14P11-	1	66
474	87.5	1.7	800	44.0	44.787	12	P800	14P11-	2	70
592	70.0	1.2	700	35.0	44.613	15	P800	14P11-	2	70
632	65.6	1.2	800	33.0	40.759	16	P800	14P11-	2	70



4.8 kW

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	kgcm²					kg
107	400	2.5	400	200	76.999	3	P800	19F12-	1	73
140	300	3.0	450	150	71.912	4	P800	19F12-	1	73
179	240	2.4	450	120	70.188	5	P800	19F12-	1	73
292	150	1.5	450	75.0	68.726	8	P800	19F12-	1	73
429	100	1.8	800	50.0	75.087	12	P800	19F12-	2	77
536	80.0	1.3	700	40.0	74.913	15	P800	19F12-	2	77
572	75.0	1.4	800	38.0	71.059	16	P800	19F12-	2	77
714	60.0	1.1	800	30.0	69.695	20	P800	19F12-	2	77

5.7 kW

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	kgcm²					kg
36.0	1300	4.8	400	593	22.599	3	P800	12L39-	1	33
39.0	1300	2.7	115	650	12.961	3	P260	12L39-	1	21
52.0	975	2.8	155	488	12.435	4	P260	12L39-	1	21
65.0	780	2.8	195	390	12.233	5	P260	12L39-	1	21
94.0	557	1.4	135	279	12.063	7	P260	12L39-	1	21
98.0	488	4.1	450	244	14.326	8	P800	12L39-	1	33
108	488	1.1	120	244	12.031	8	P260	12L39-	1	21
118	433	1.3	210	217	12.888	9	P260	12L39-	2	23
135	325	3.9	800	163	20.687	12	P800	12L39-	2	37
158	325	1.6	260	163	12.824	12	P260	12L39-	2	23
179	260	3.3	700	130	20.513	15	P800	12L39-	2	37
192	244	3.2	800	122	16.659	16	P800	12L39-	2	37
197	260	1.1	230	130	12.803	15	P260	12L39-	2	23
211	244	1.2	260	122	12.347	16	P260	12L39-	2	23
249	195	2.7	800	98.0	15.295	20	P800	12L39-	2	37
326	156	2.1	700	78.0	15.232	25	P800	12L39-	2	37
421	122	1.9	800	61.0	14.149	32	P800	12L39-	2	37
526	97.5	1.3	700	49.0	14.124	40	P800	12L39-	2	37

6 kW

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	kgcm²					kg
55.0	925	3.6	400	463	26.199	3	P800	14H28-	1	56
67.0	694	5.6	450	347	21.112	4	P800	14H28-	1	56
88.0	555	4.5	450	278	19.388	5	P800	14H28-	1	56
152	347	2.8	450	173	17.926	8	P800	14H28-	1	56
215	231	3.0	800	116	24.287	12	P800	14H28-	2	60
281	185	2.4	700	93.0	24.113	15	P800	14H28-	2	60
299	173	2.4	800	87.0	20.259	16	P800	14H28-	2	60
384	139	2.0	800	69.0	18.895	20	P800	14H28-	2	60
482	111	1.4	700	56.0	18.832	25	P800	14H28-	2	60
617	86.7	1.3	800	43.0	17.749	32	P800	14H28-	2	60



7.9 kW

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	kgcm²					kg
180	400	1.5	400	200	116.999	3	P800	19J12-	1	80
240	300	1.8	450	150	111.912	4	P800	19J12-	1	80
300	240	1.5	450	120	110.188	5	P800	19J12-	1	80
705	100	1.1	800	50.0	115.087	12	P800	19J12-	2	84

8 kW

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	kgcm²					kg
71.0	1000	2.9	400	496	35.399	3	P800	14L30-	1	61
88.0	750	4.5	450	375	30.312	4	P800	14L30-	1	61
114	600	3.6	450	300	28.588	5	P800	14L30-	1	61
194	375	2.3	450	188	27.126	8	P800	14L30-	1	61
281	250	2.3	800	125	33.487	12	P800	14L30-	2	65
360	200	1.9	700	100	33.313	15	P800	14L30-	2	65
384	188	1.9	800	94.0	29.459	16	P800	14L30-	2	65
479	150	1.6	800	75.0	28.095	20	P800	14L30-	2	65
599	120	1.2	700	60.0	28.032	25	P800	14L30-	2	65
767	93.8	1.0	800	47.0	26.949	32	P800	14L30-	2	65

9 kW

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	kgcm²					kg
207	400	1.3	400	200	171.999	3	P800	19P12-	1	90
276	300	1.6	450	150	166.912	4	P800	19P12-	1	90
346	240	1.3	450	120	165.188	5	P800	19P12-	1	90

9.1 kW

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	kgcm²					kg
94.0	875	2.3	400	438	46.699	3	P800	14P26-	1	66
119	656	3.5	450	328	41.612	4	P800	14P26-	1	66
153	525	2.8	450	263	39.888	5	P800	14P26-	1	66
253	328	1.8	450	164	38.426	8	P800	14P26-	1	66
372	219	1.9	800	109	44.787	12	P800	14P26-	2	70
465	175	1.5	700	88.0	44.613	15	P800	14P26-	2	70
496	164	1.5	800	82.0	40.759	16	P800	14P26-	2	70
620	131	1.3	800	66.0	39.395	20	P800	14P26-	2	70



9.7 kW

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	kgcm²					kg
93.0	950	2.3	400	454	76.999	3	P800	19F29-	1	73
117	713	3.5	450	356	71.912	4	P800	19F29-	1	73
151	570	2.8	450	285	70.188	5	P800	19F29-	1	73
250	356	1.8	450	178	68.726	8	P800	19F29-	1	73
367	238	1.9	800	119	75.087	12	P800	19F29-	2	77
458	190	1.5	700	95.0	74.913	15	P800	19F29-	2	77
489	178	1.5	800	89.0	71.059	16	P800	19F29-	2	77
611	143	1.3	800	71.0	69.695	20	P800	19F29-	2	77

15.1 kW

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	kgcm²					kg
145	950	1.5	400	371	116.999	3	P800	19J29-	1	80
192	713	2.3	450	356	111.912	4	P800	19J29-	1	80
242	570	1.8	450	285	110.188	5	P800	19J29-	1	80
388	356	1.2	450	178	108.726	8	P800	19J29-	1	80
570	238	1.2	800	99.0	115.087	12	P800	19J29-	2	84

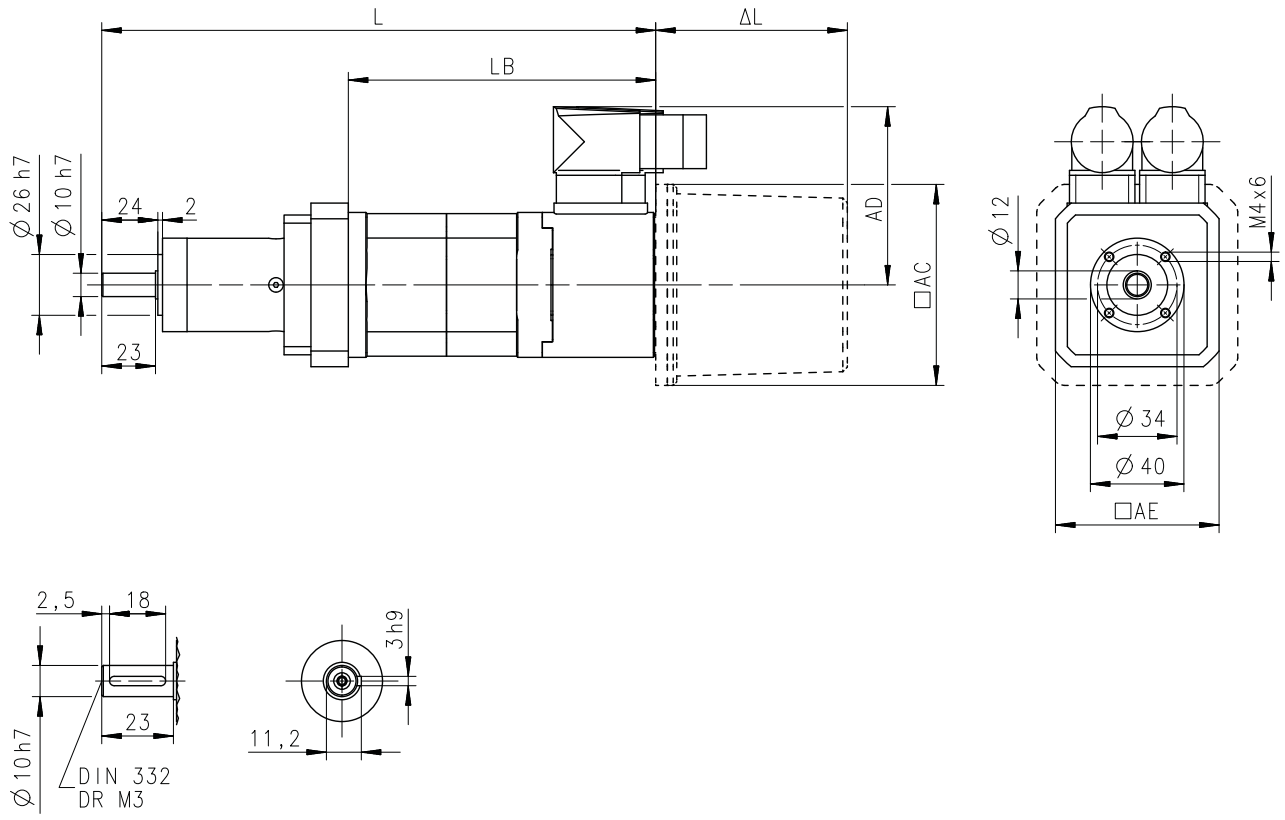
15.8 kW

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	kgcm²					kg
153	950	1.4	400	362	171.999	3	P800	19P29-	1	90
202	713	2.2	450	356	166.912	4	P800	19P29-	1	90
254	570	1.7	450	285	165.188	5	P800	19P29-	1	90
407	356	1.1	450	178	163.726	8	P800	19P29-	1	90
598	238	1.1	800	96.0	170.087	12	P800	19P29-	2	94

Basic dimensions

g700-P20 with MCS06

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



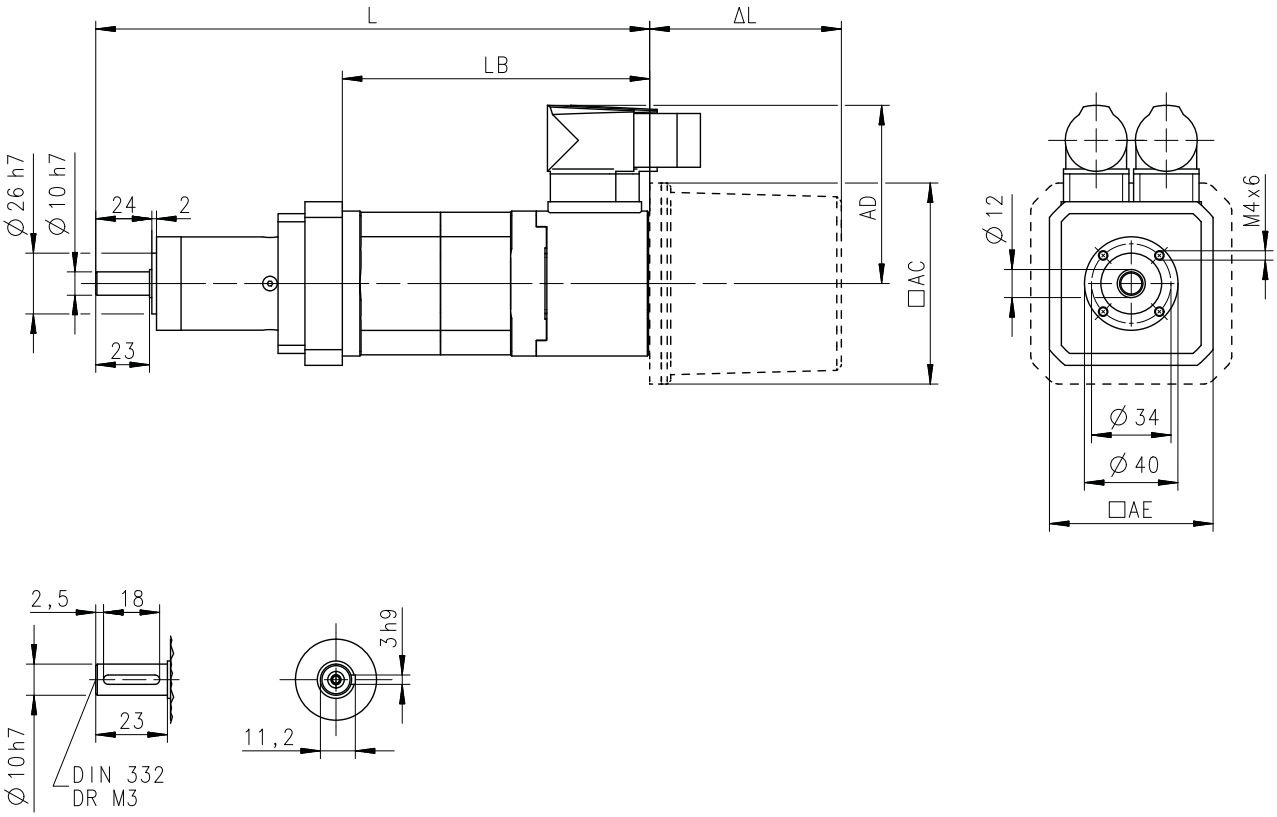
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Motor			MCS 06	
			C41- C41L	C60- C60L
Total length	L	mm	224.5	224.5
Motor length	LB	mm	132	132
Motor diameter	AC	mm	86	86
Motor/connection distance	AD	mm	77	77
Gearbox diameter	AE	mm	70	70



g700-P20 with MCS06

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

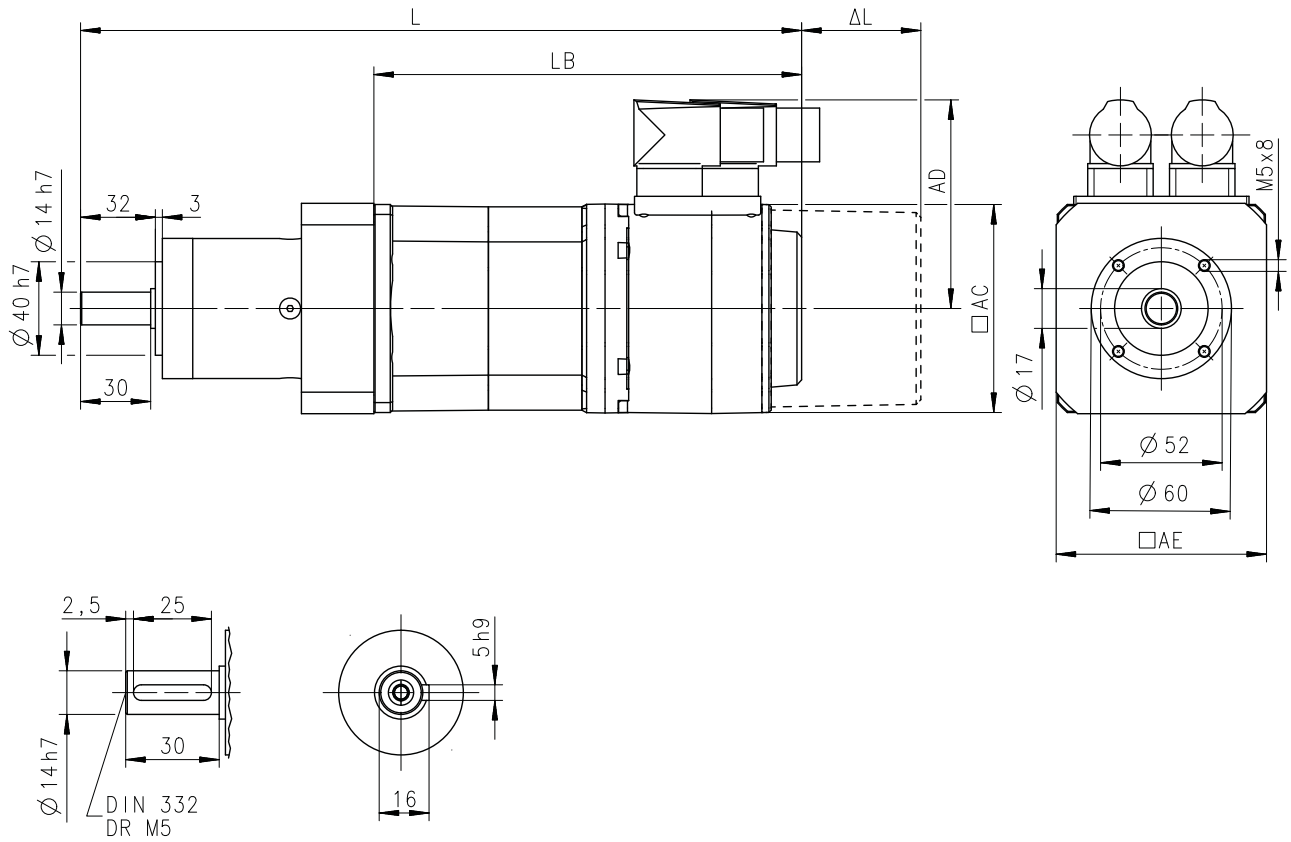


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Motor			MCS 06	
			C41- C41L	C60- C60L
Total length	L	mm	237.5	237.5
Motor length	LB	mm	132	132
Motor diameter	AC	mm	86	86
Motor/connection distance	AD	mm	77	77
Gearbox diameter	AE	mm	70	70

g700-P44 with MCS06

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



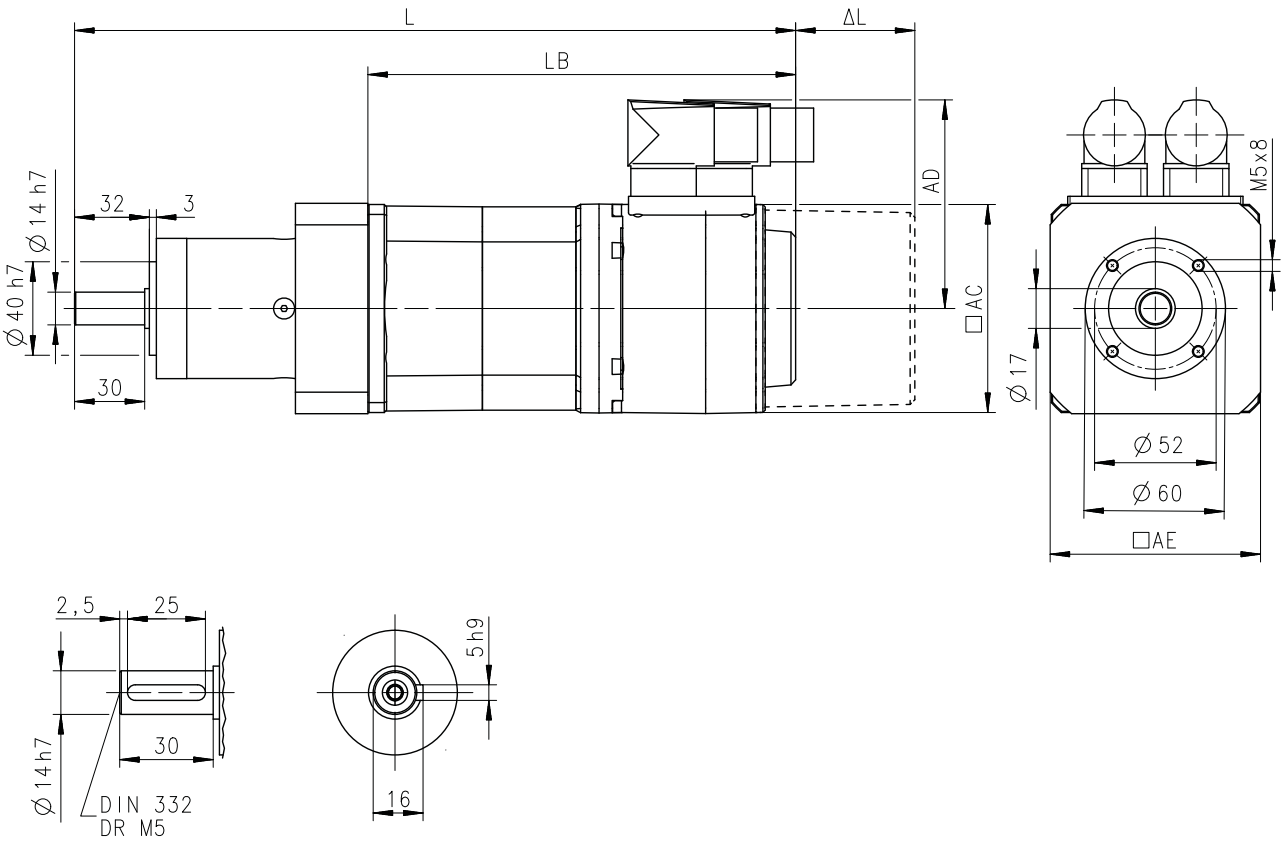
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Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	238	238	268	268	298	298
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70



g700-P44 with MCS06

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

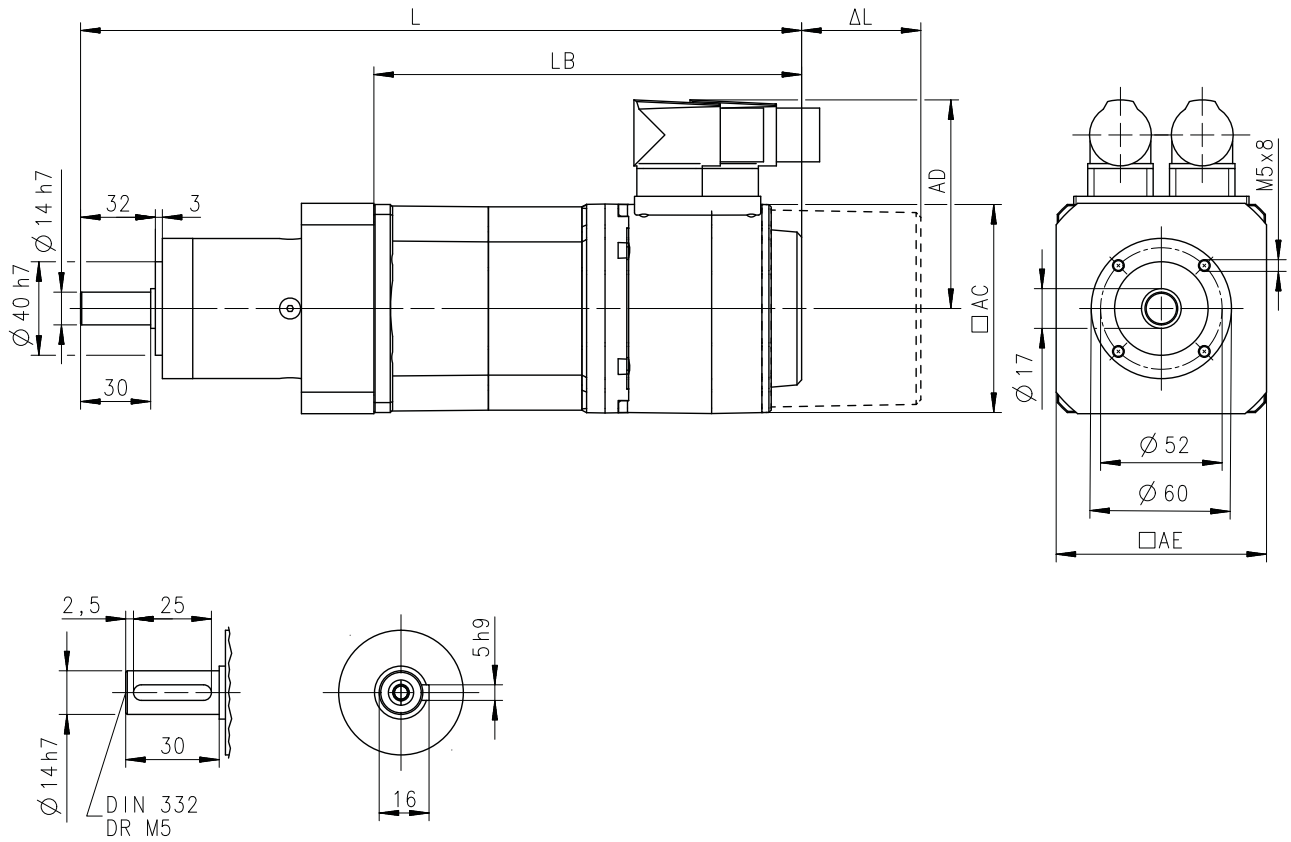


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Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	250.5	250.5	280.5	280.5	310.5	310.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g700-P44 with MCS06

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



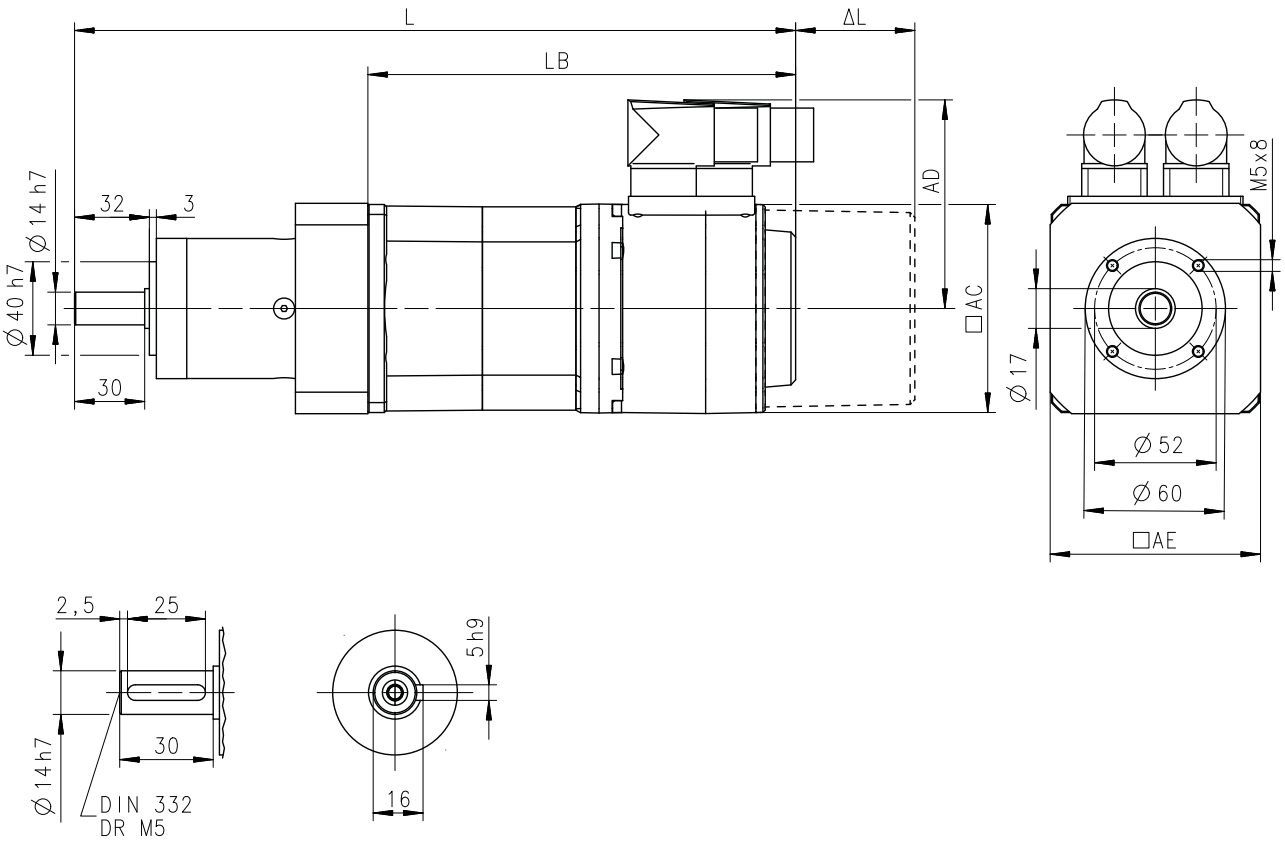
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Motor			MCS 06	
			C41- C41L	C60- C60L
Total length	L	mm	263	263
Motor length	LB	mm	132	132
Motor diameter	AC	mm	86	86
Motor/connection distance	AD	mm	77	77
Gearbox diameter	AE	mm	70	70



g700-P44 with MCS09

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

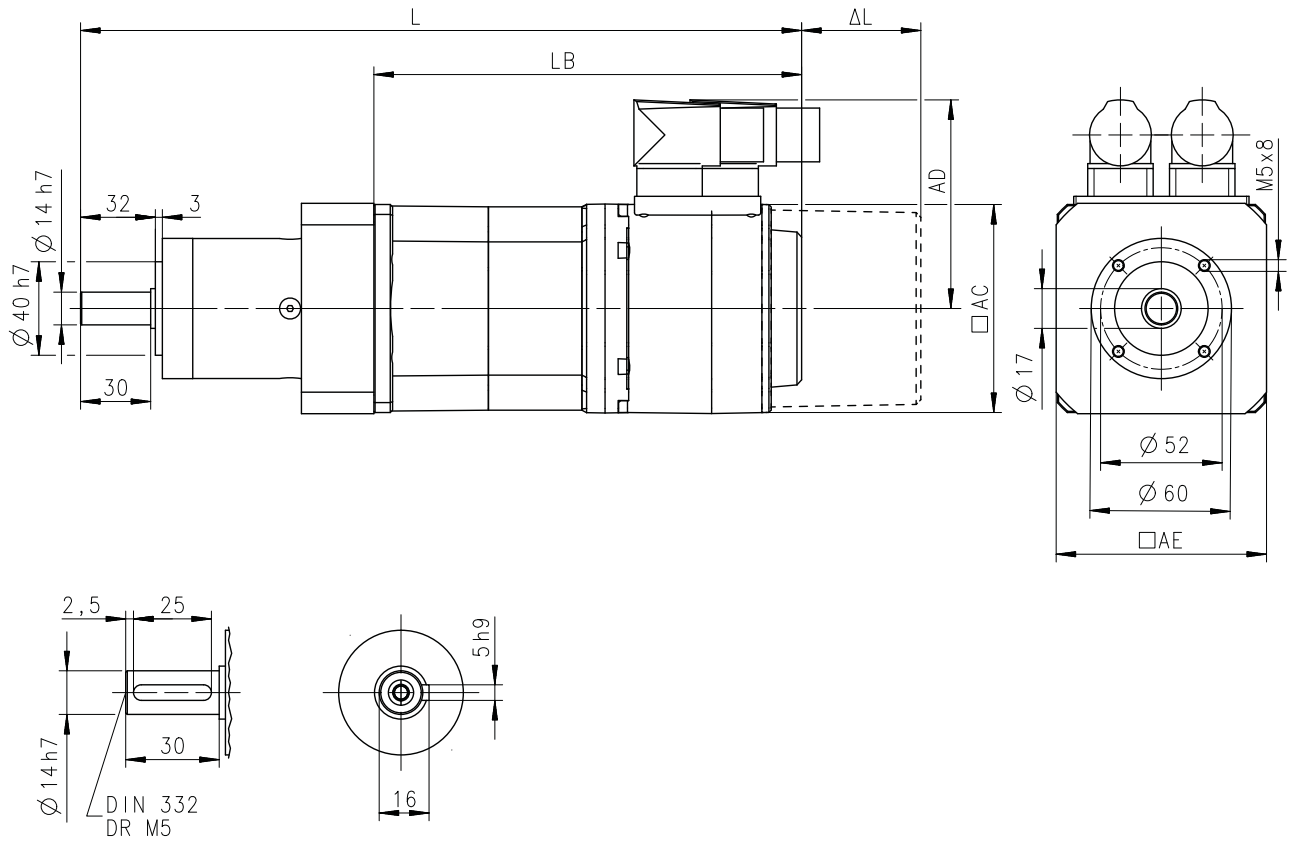


8800792-00

Motor			MCS 09			
			D41- D41L	D60- D60L	F38- F38L	F60- F60L
Total length	L	mm	295	295	315	315
Motor length	LB	mm	182	182	202	202
Motor diameter	AC	mm	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90

g700-P44 with MCS09

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



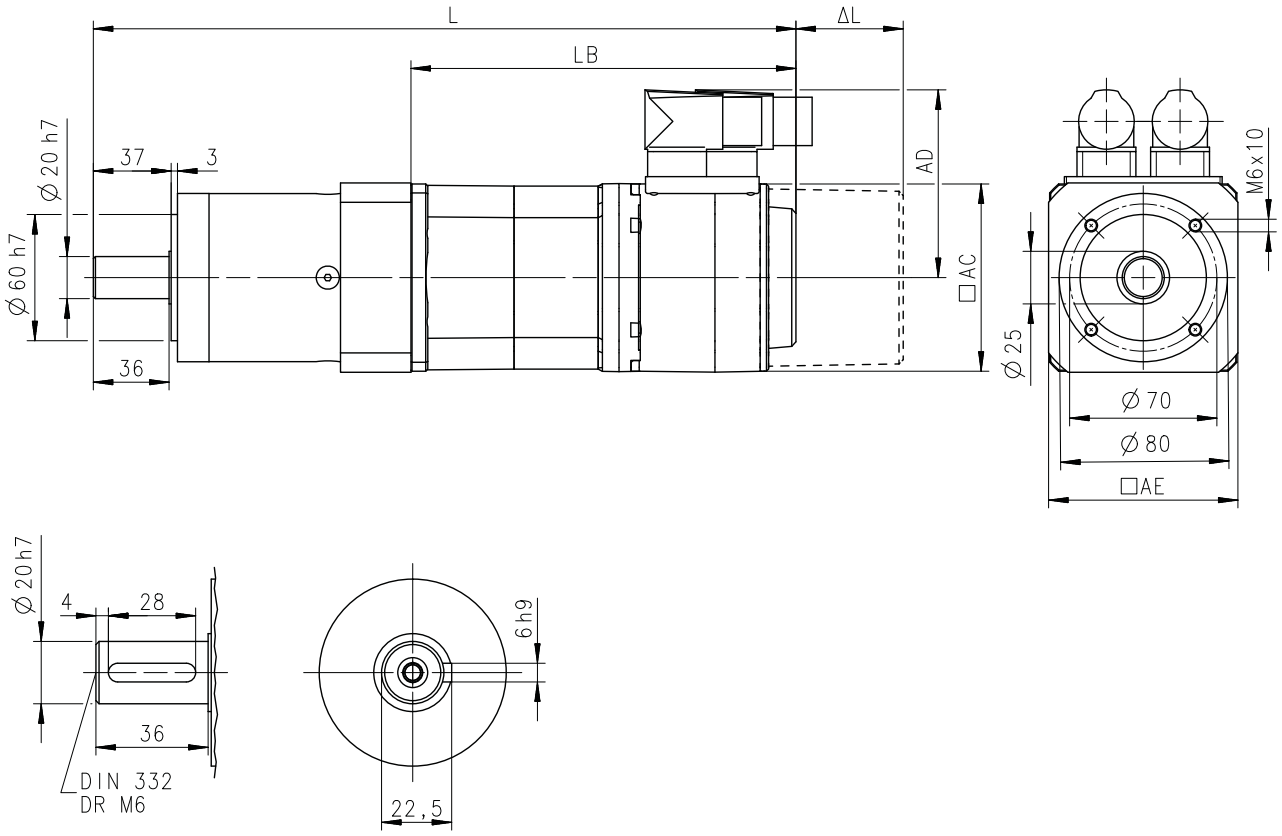
8800792-00

Motor			MCS 09			
			D41- D41L	D60- D60L	F38- F38L	F60- F60L
Total length	L	mm	307.5	307.5	327.5	327.5
Motor length	LB	mm	182	182	202	202
Motor diameter	AC	mm	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90



g700-P130 with MCS06

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

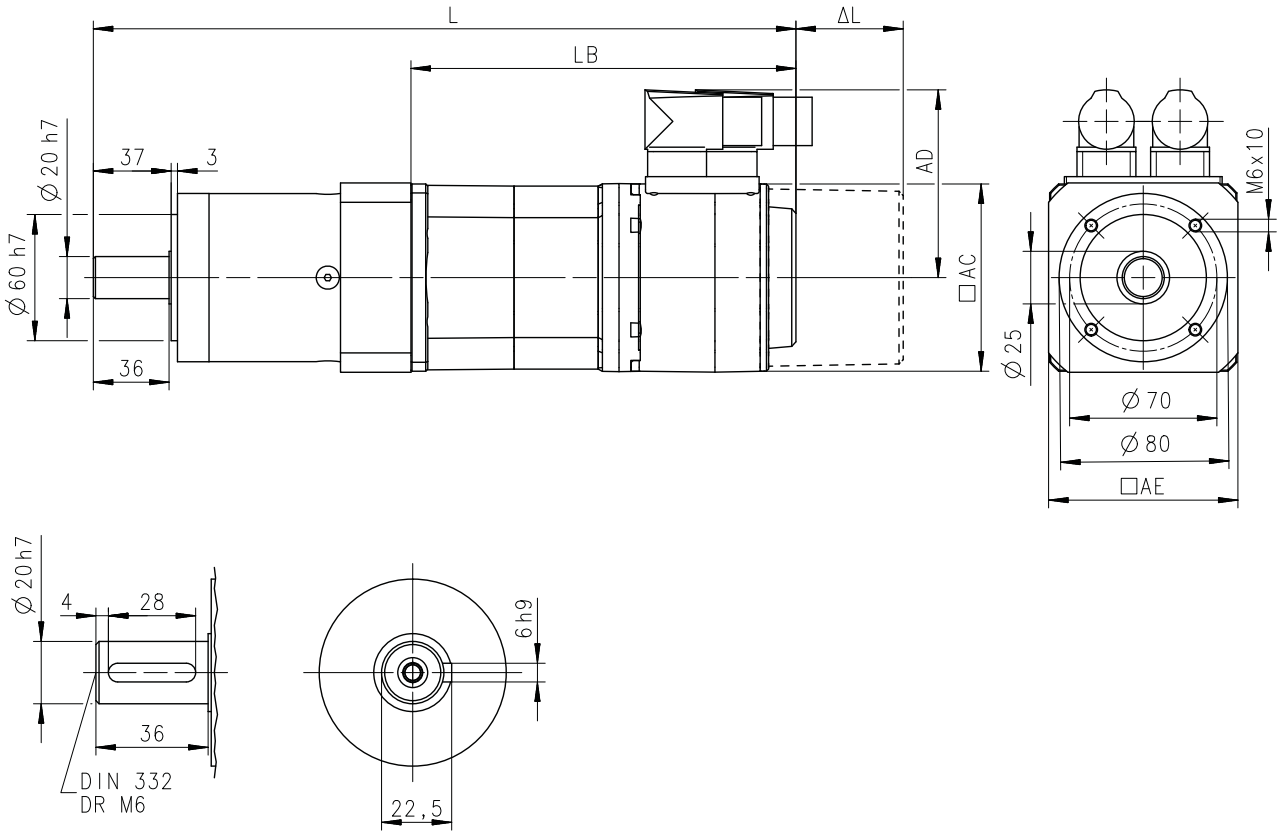


8800793-00

Motor			MCS 06			
			F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	295.5	295.5	325.5	325.5
Motor length	LB	mm	162	162	192	192
Motor diameter	AC	mm	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80

g700-P130 with MCS06

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

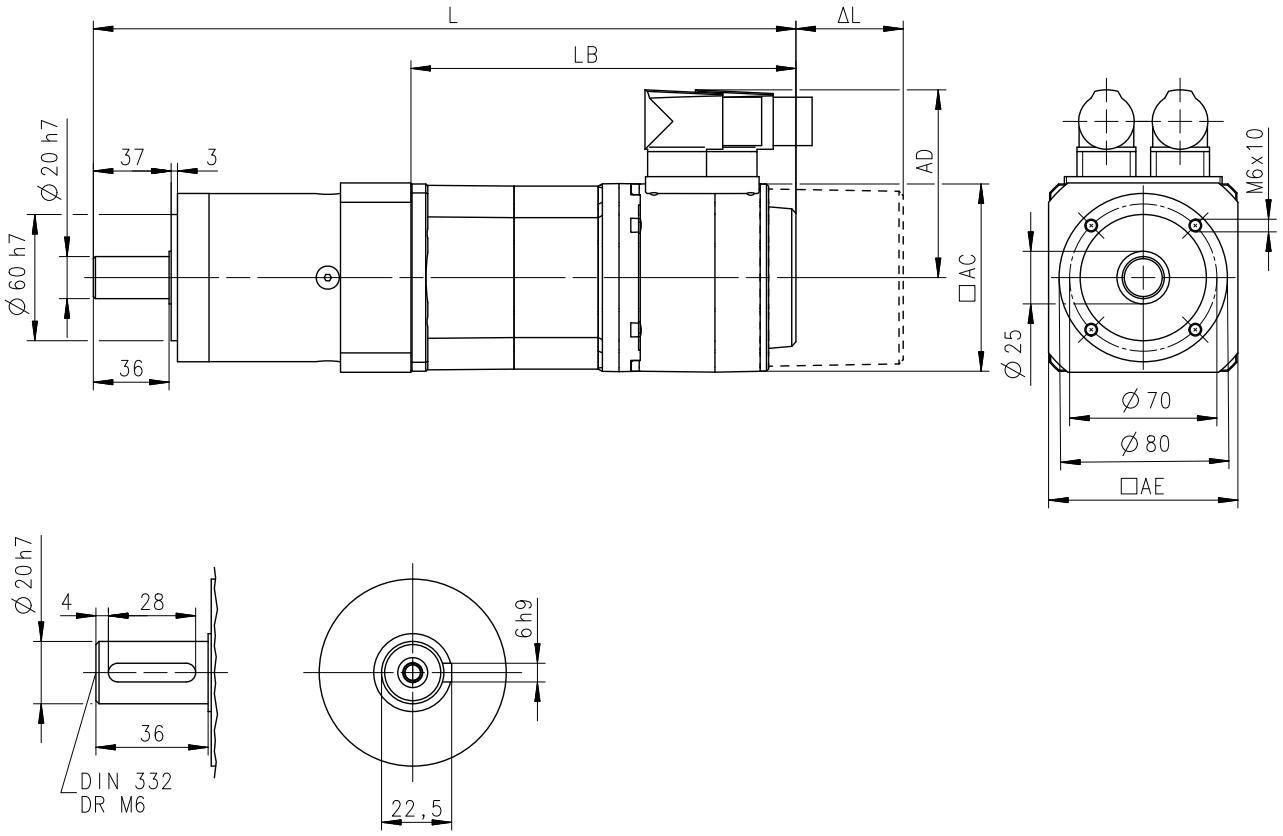


8800793-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	283	283	313	313	343	343
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80	80	80

g700-P130 with MCS06

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

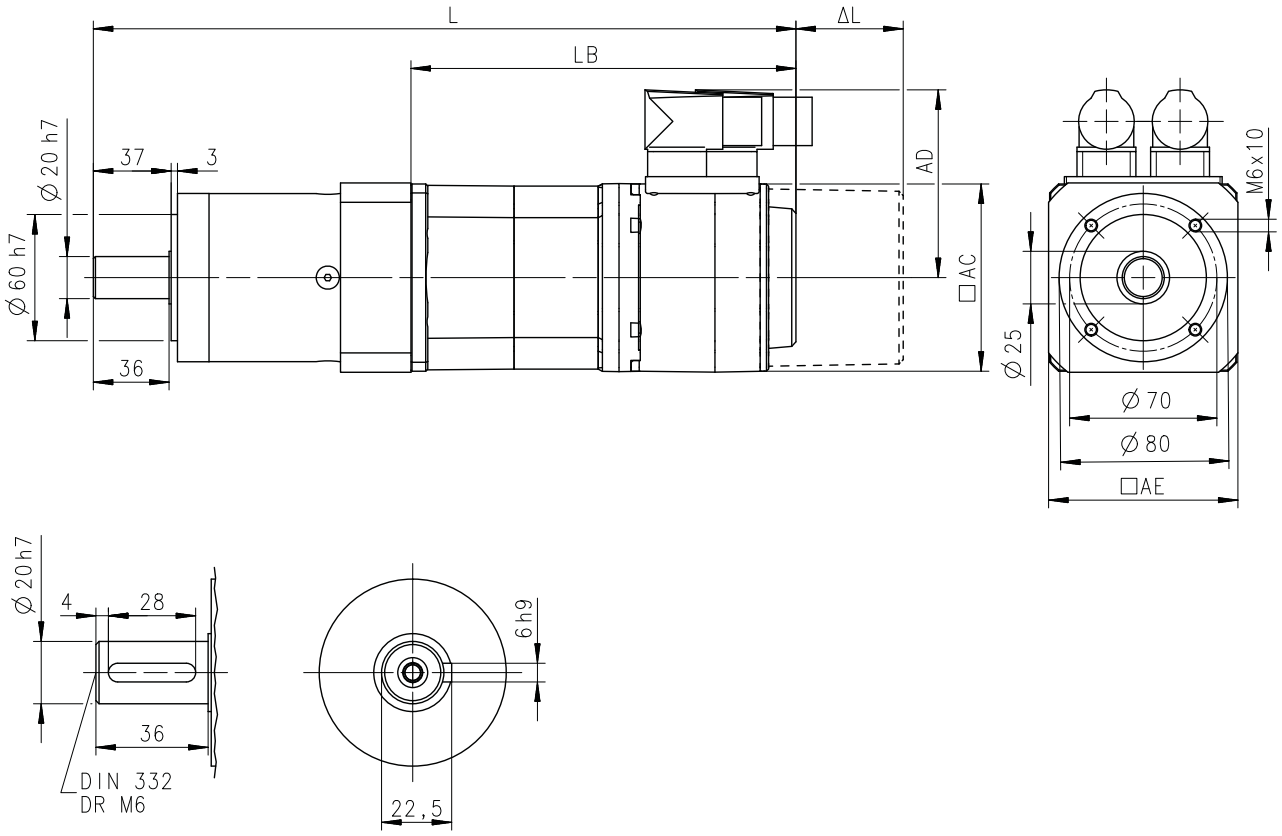


8800793-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	300.5	300.5	330.5	330.5	360.5	360.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80	80	80

g700-P130 with MCS09

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



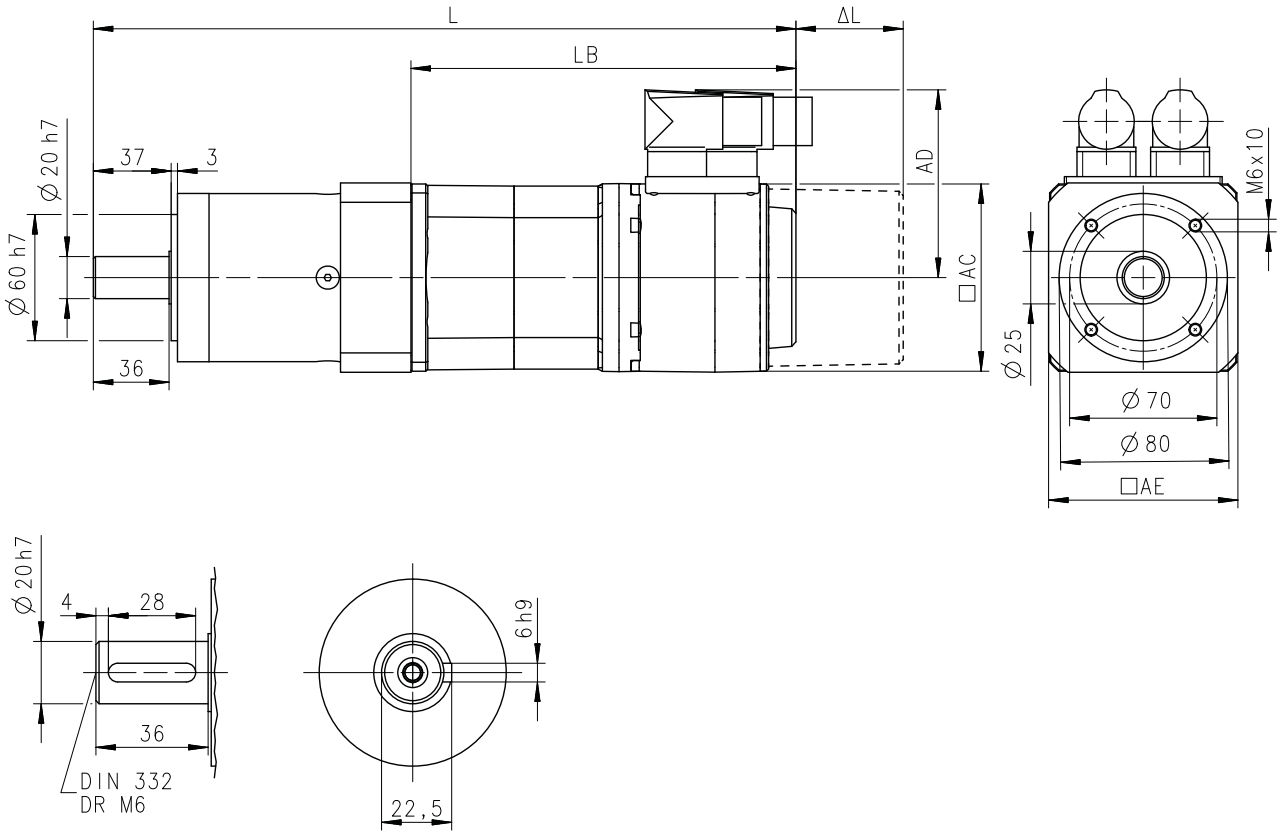
8800793-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	315.5	315.5	335.5	335.5	355.5	355.5	395.5	395.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g700-P130 with MCS09

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

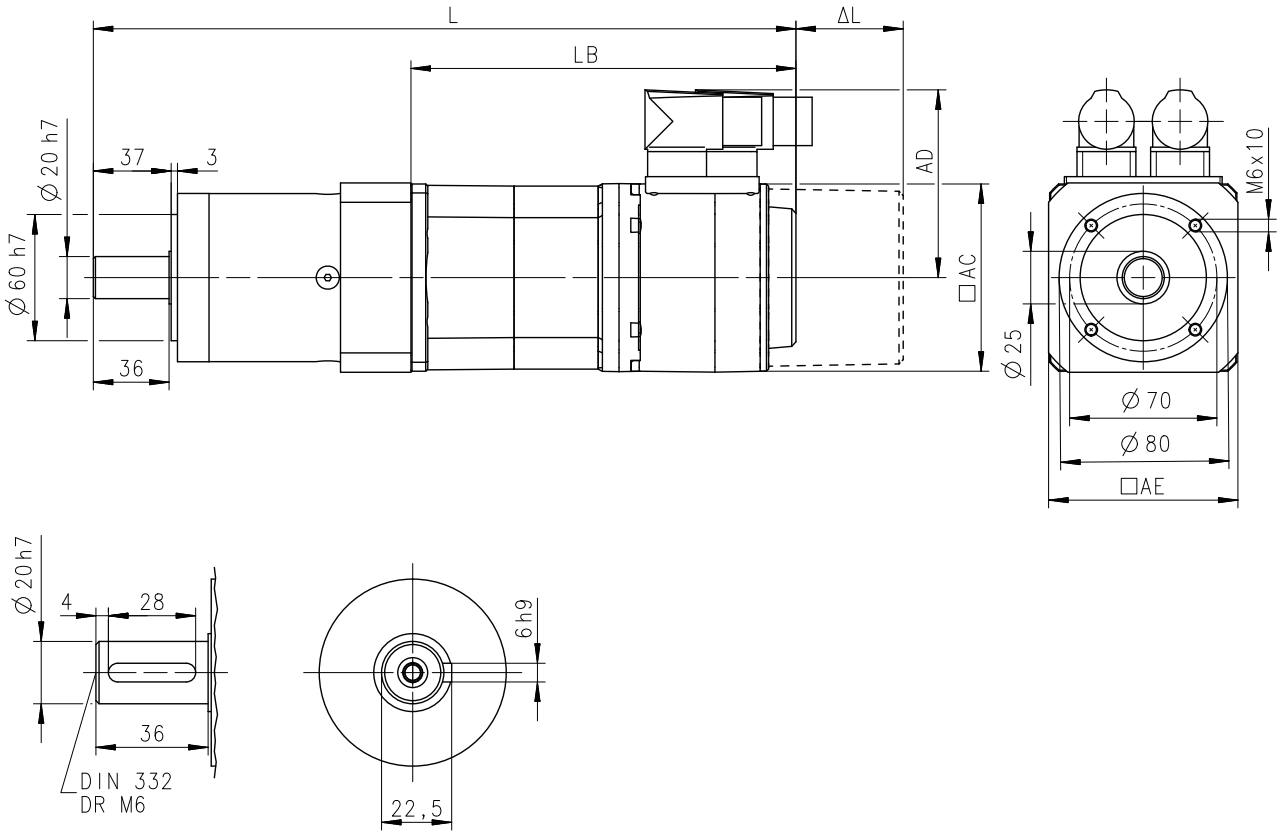


8800793-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	333	333	353	353	373	373	413	413
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g700-P130 with MCS09

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



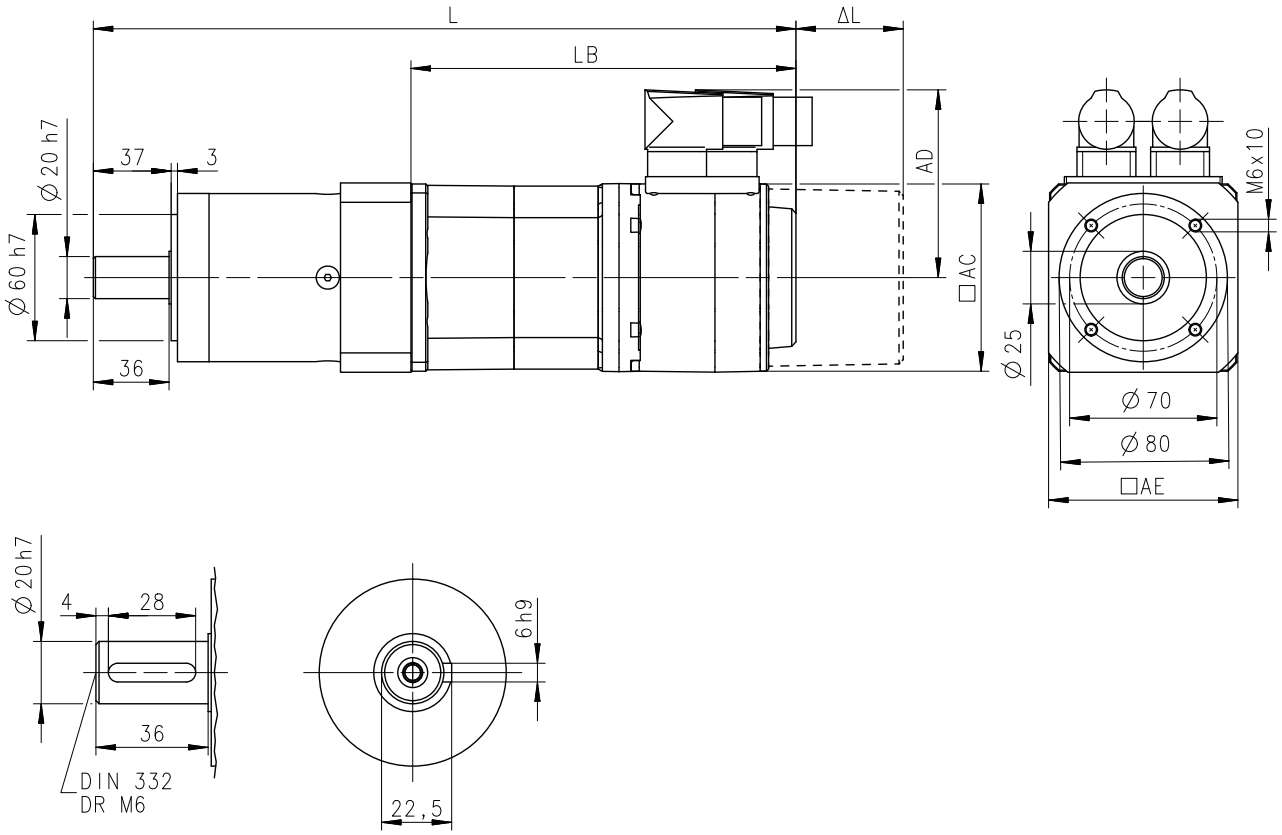
8800793-00

Motor			MCS 09
			D60- D60L
Total length	L	mm	350.5
Motor length	LB	mm	182
Motor diameter	AC	mm	89
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90



g700-P130 with MCS12

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

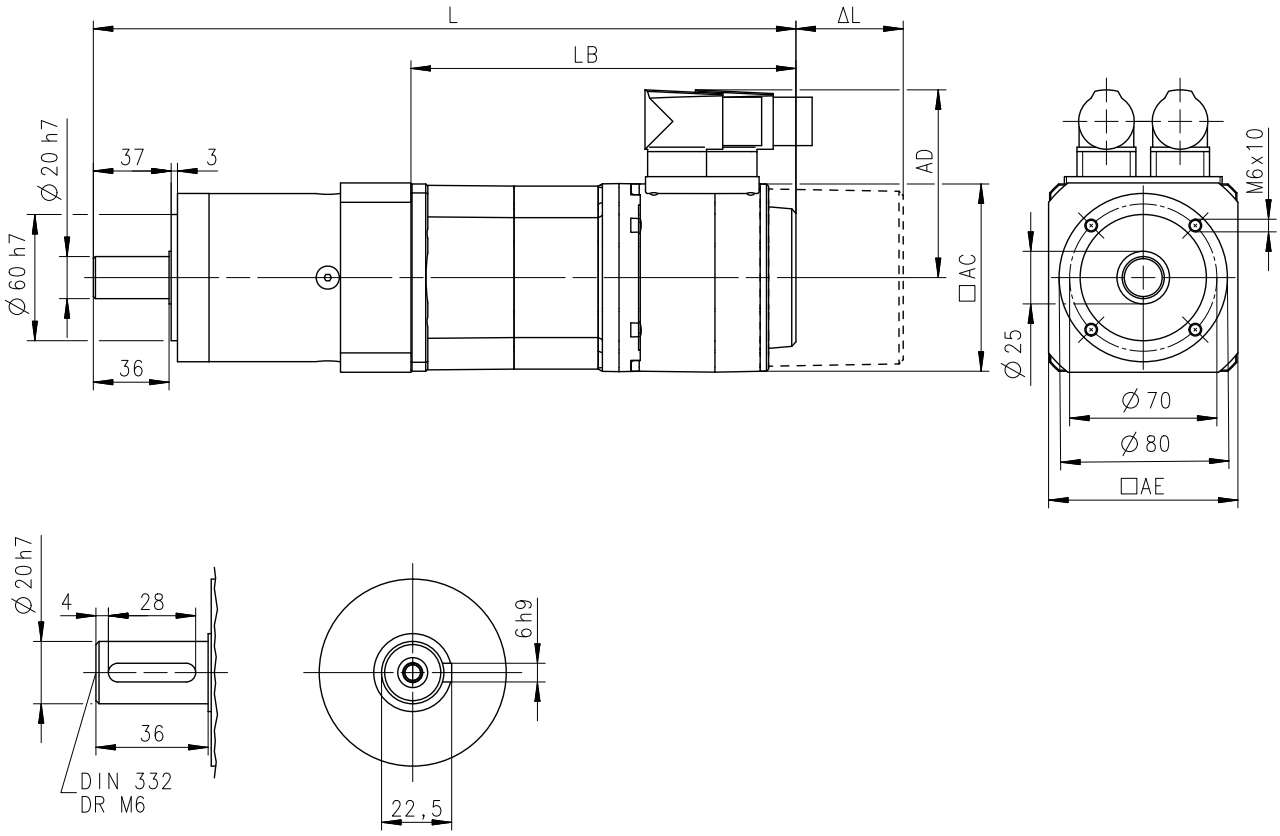


8800793-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	404.5	331.5	404.5	331.5	371.5	371.5	371.5
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115

g700-P130 with MCS12

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



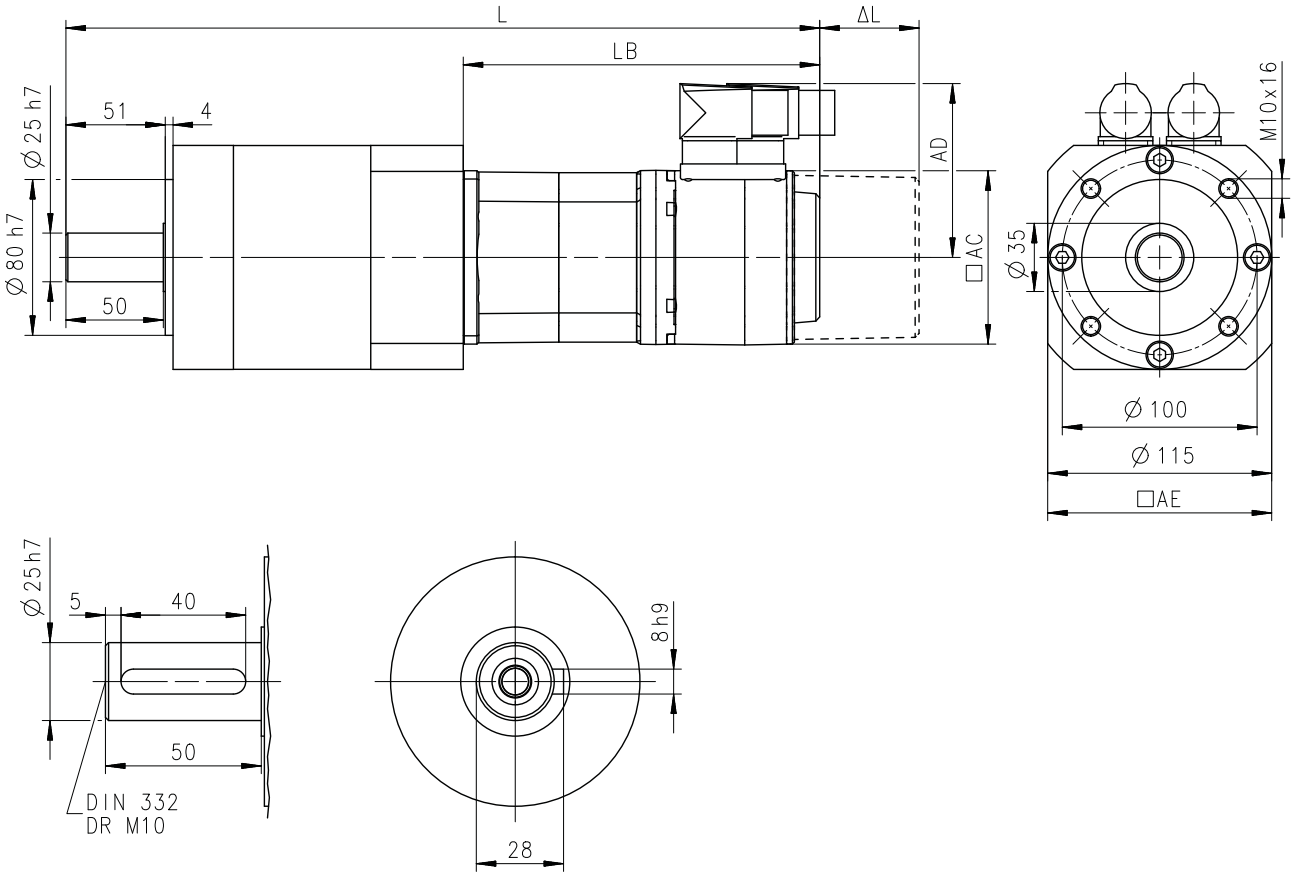
8800793-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	422	349	422	349	389	389	389
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115



g700-P260 with MCS06

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

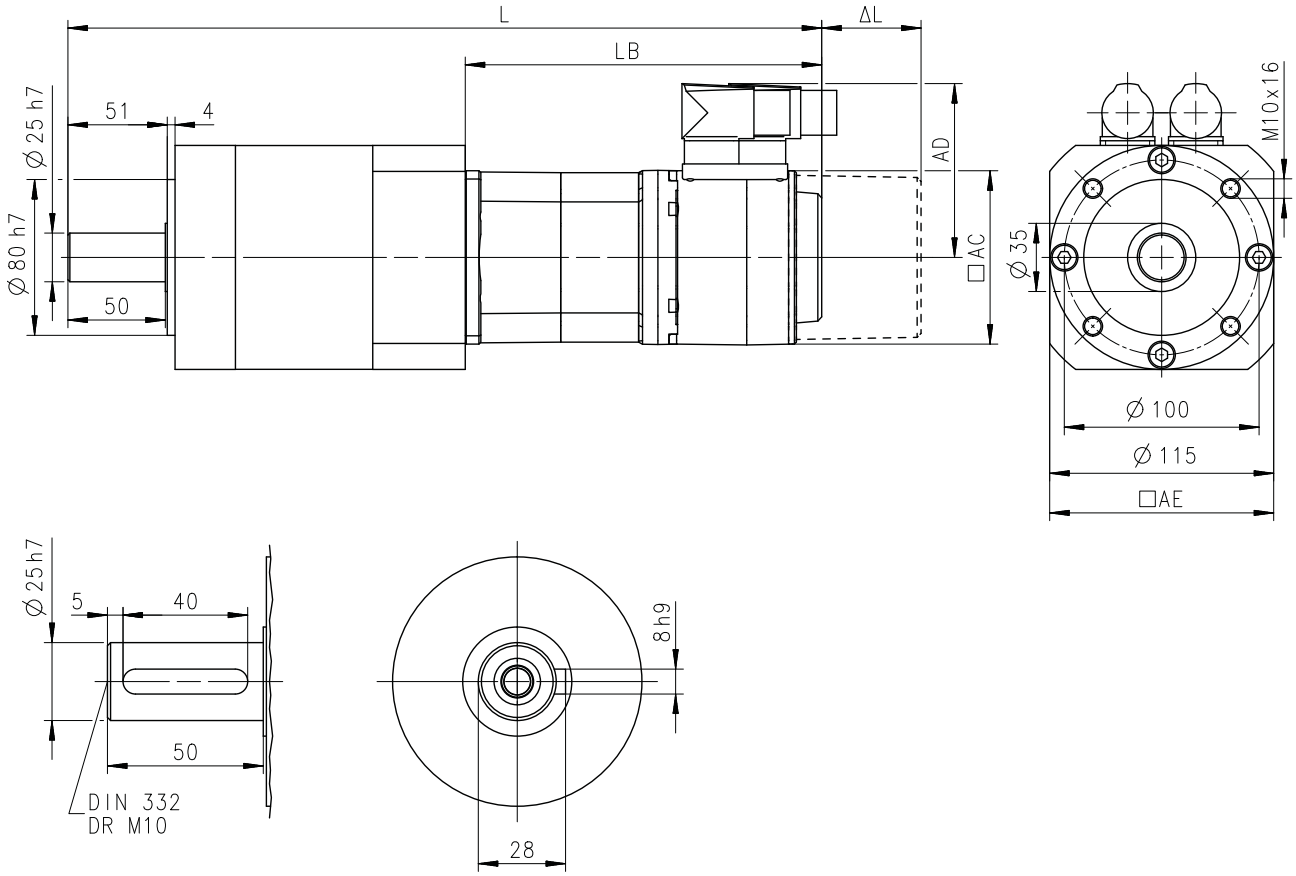


8800794-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	336	336	366	366	396	396
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115	115

g700-P260 with MCS06

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



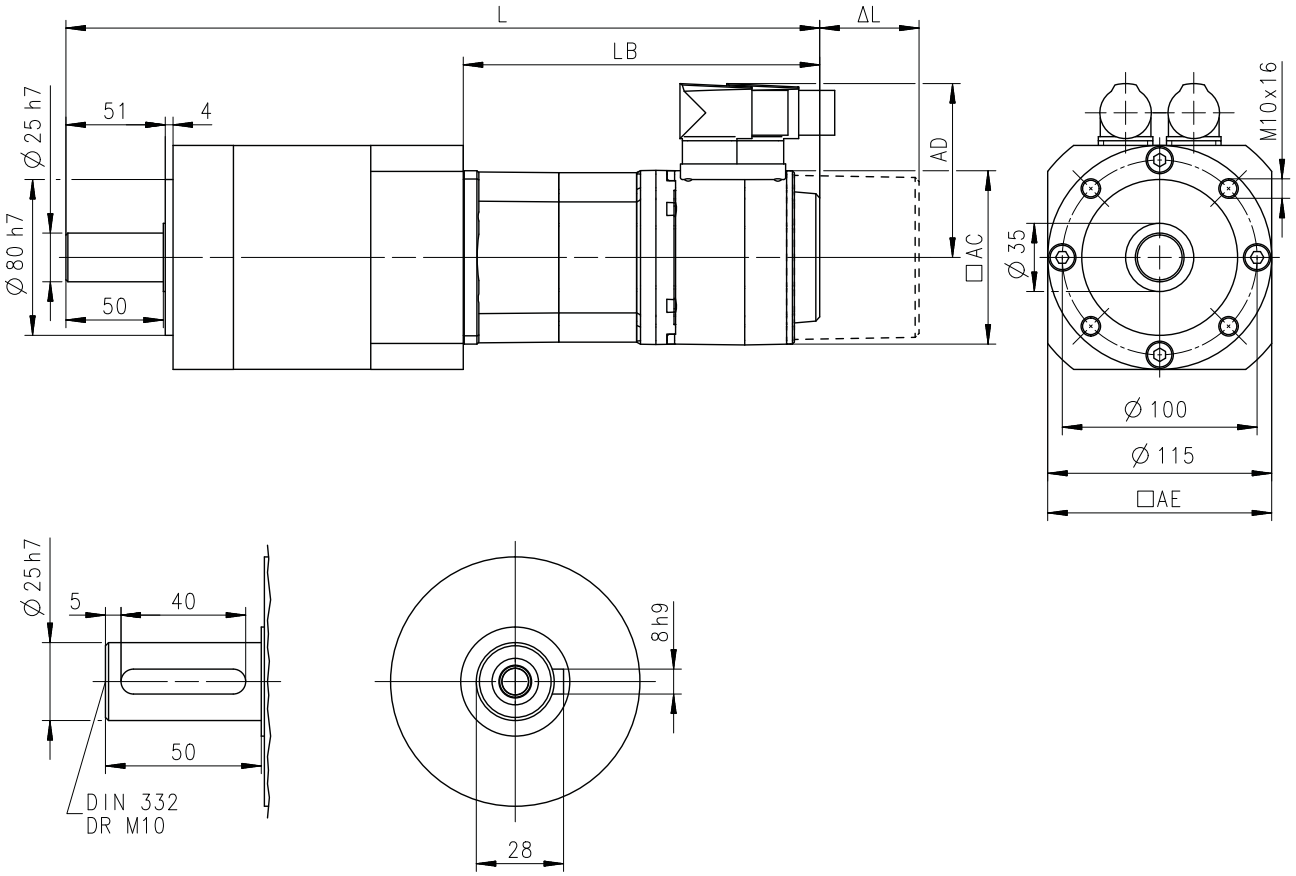
8800794-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	363.5	363.5	393.5	393.5	423.5	423.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115	115



g700-P260 with MCS09

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

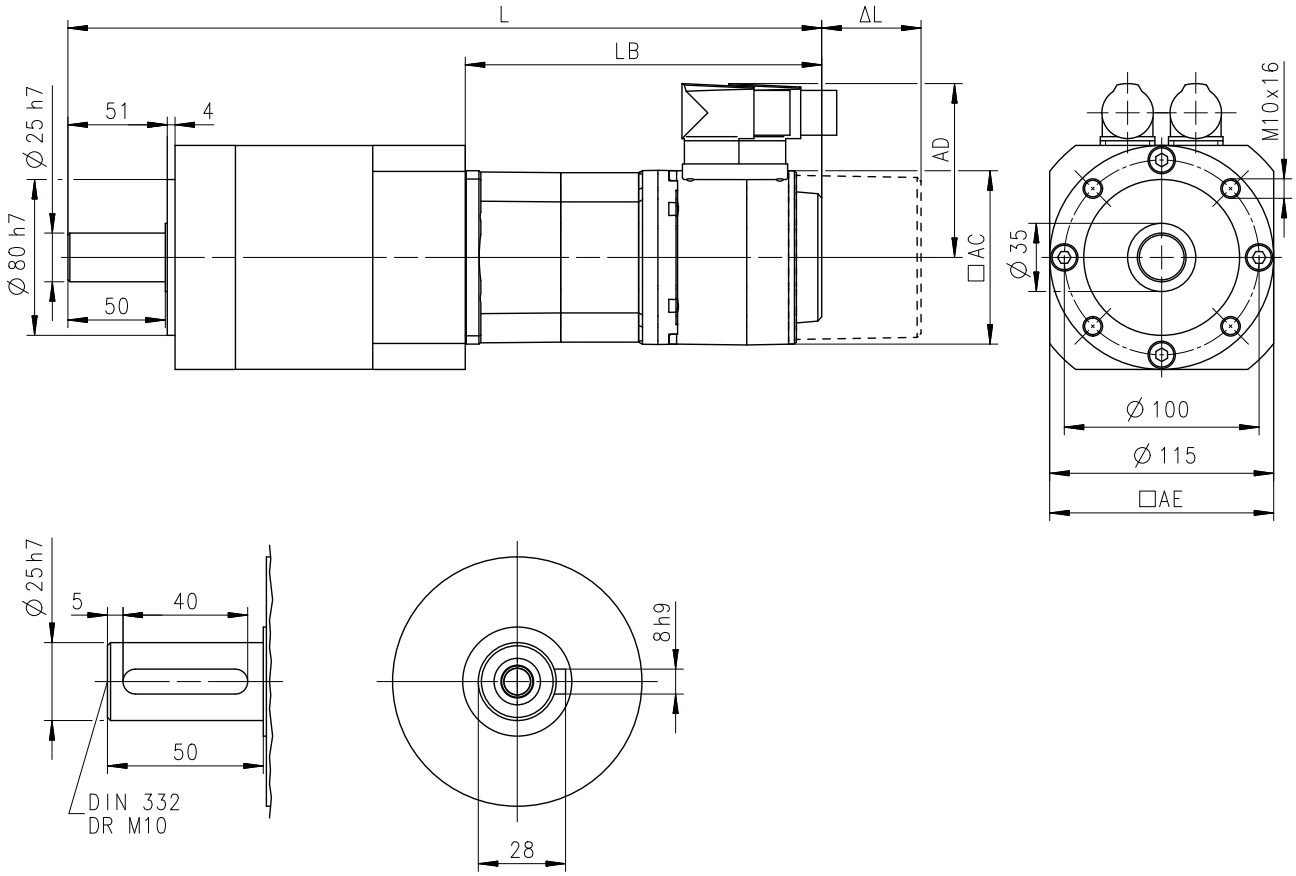


8800794-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	358.5	358.5	378.5	378.5	398.5	398.5	438.5	438.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115

g700-P260 with MCS09

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



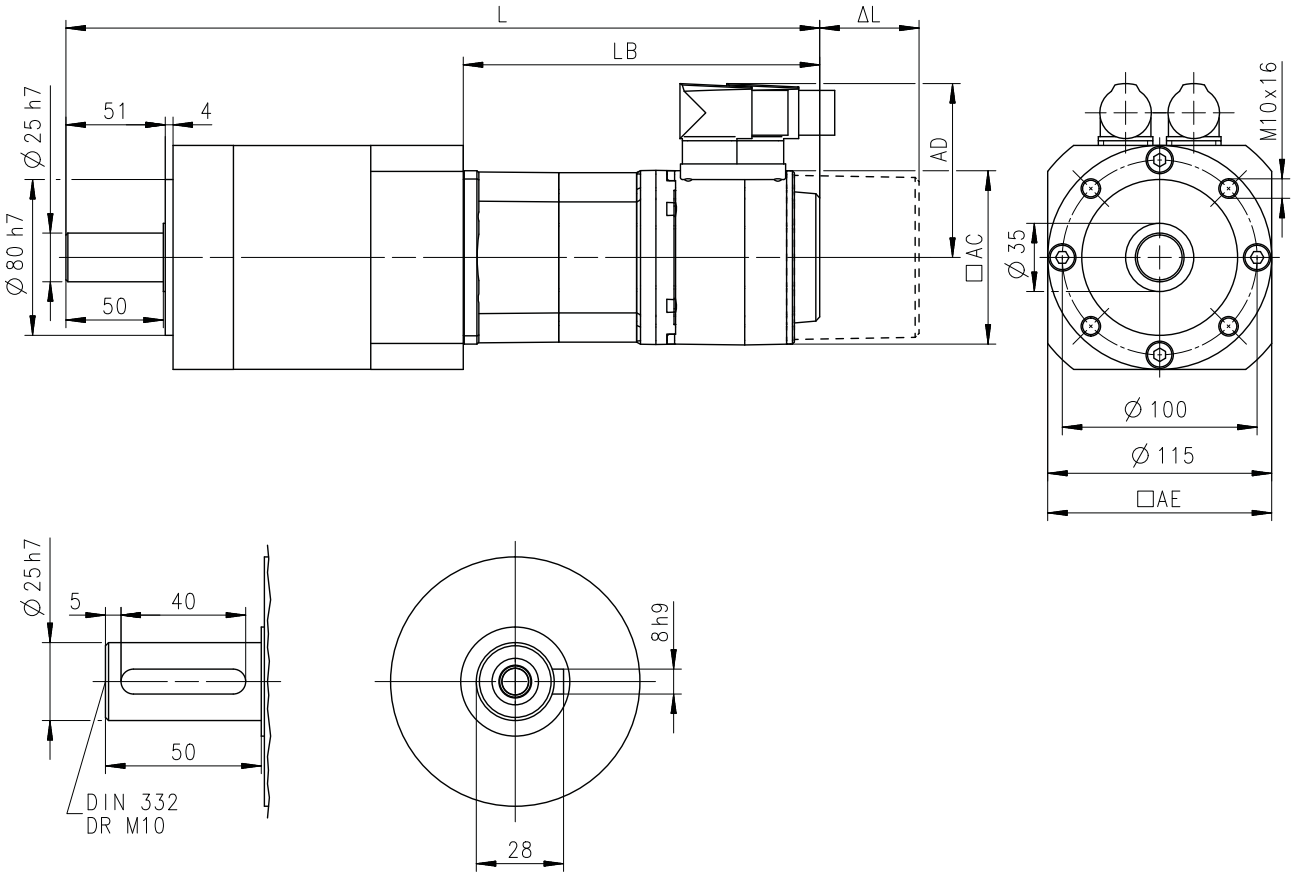
8800794-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	386	386	406	406	426	426	466	466
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115



g700-P260 with MCS09

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

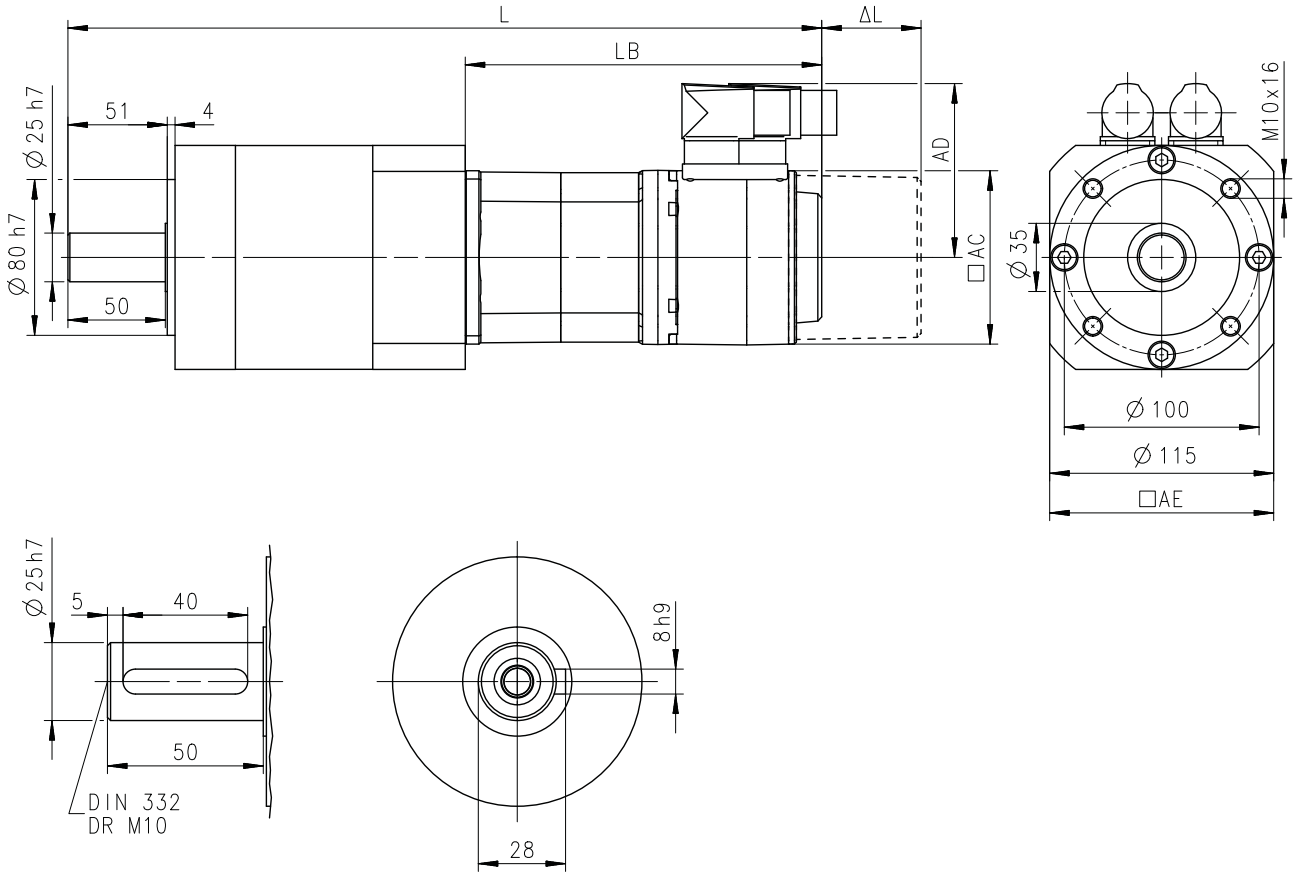


8800794-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	413.5	413.5	433.5	433.5	453.5	453.5	493.5	493.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115

g700-P260 with MCS12

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



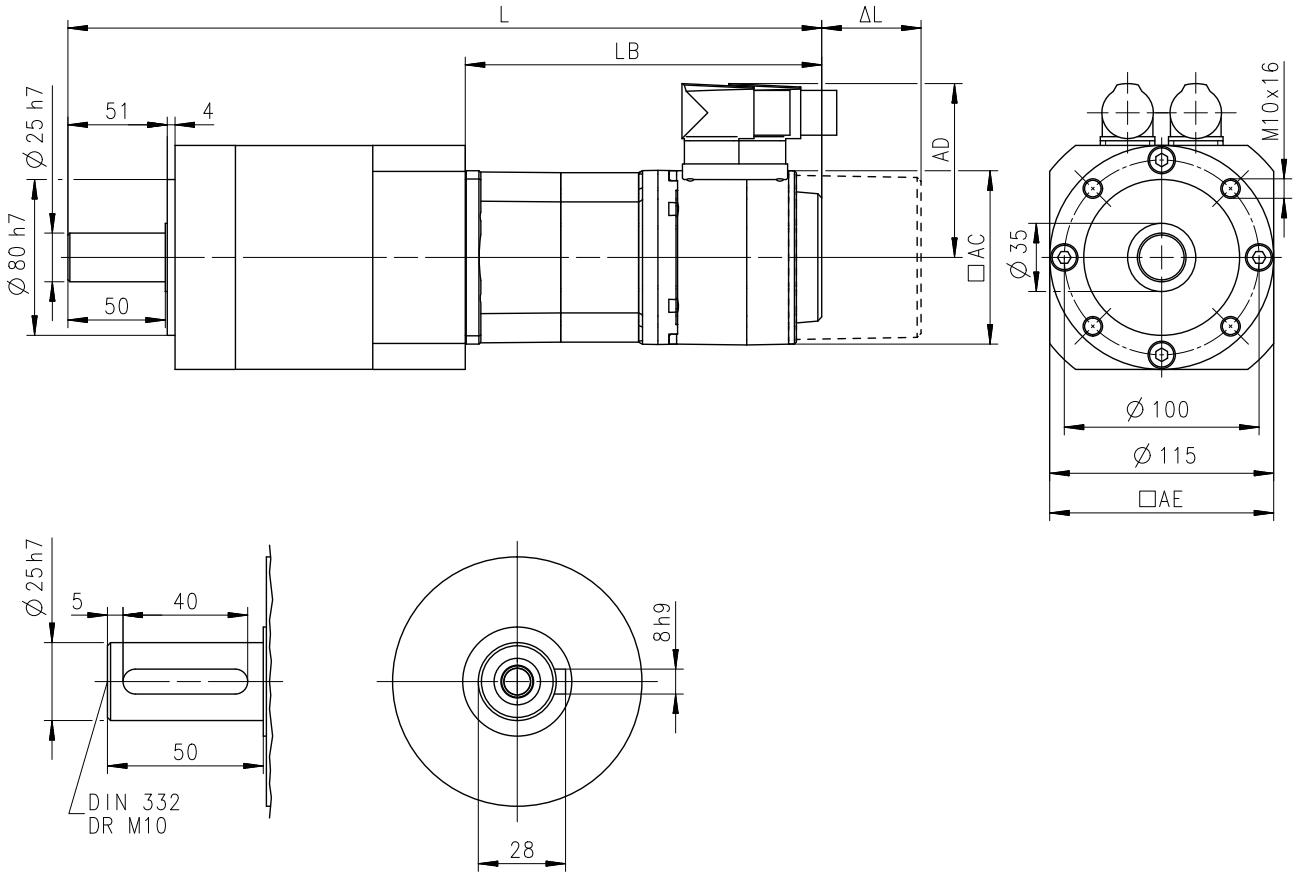
8800794-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	437.5	364.5	437.5	364.5	477.5	404.5	404.5	477.5	404.5	527.5	444.5	517.5	444.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115



g700-P260 with MCS12

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

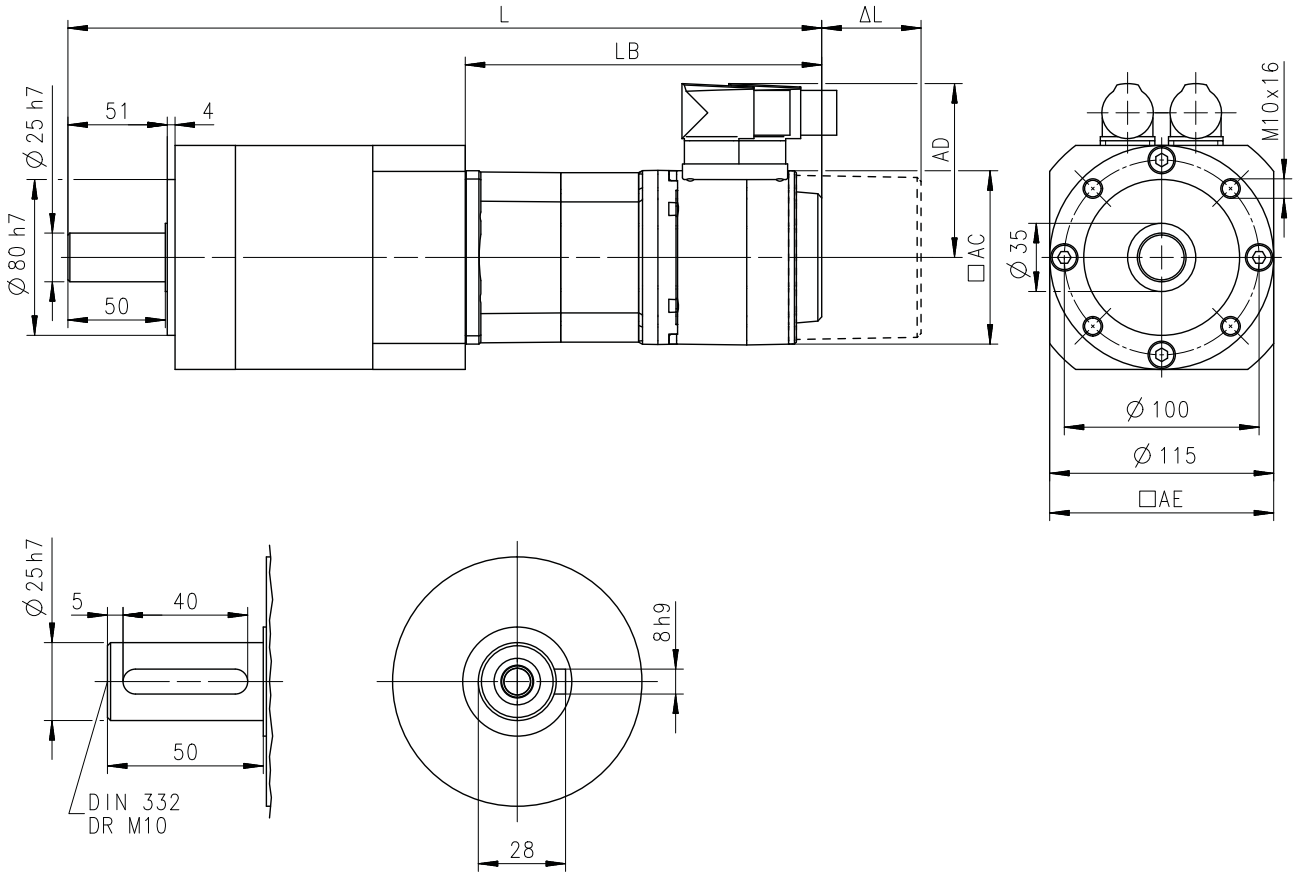


8800794-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	465	392	465	392	505	432	432	505	432	555	472	545	472
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115

g700-P260 with MCS12

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



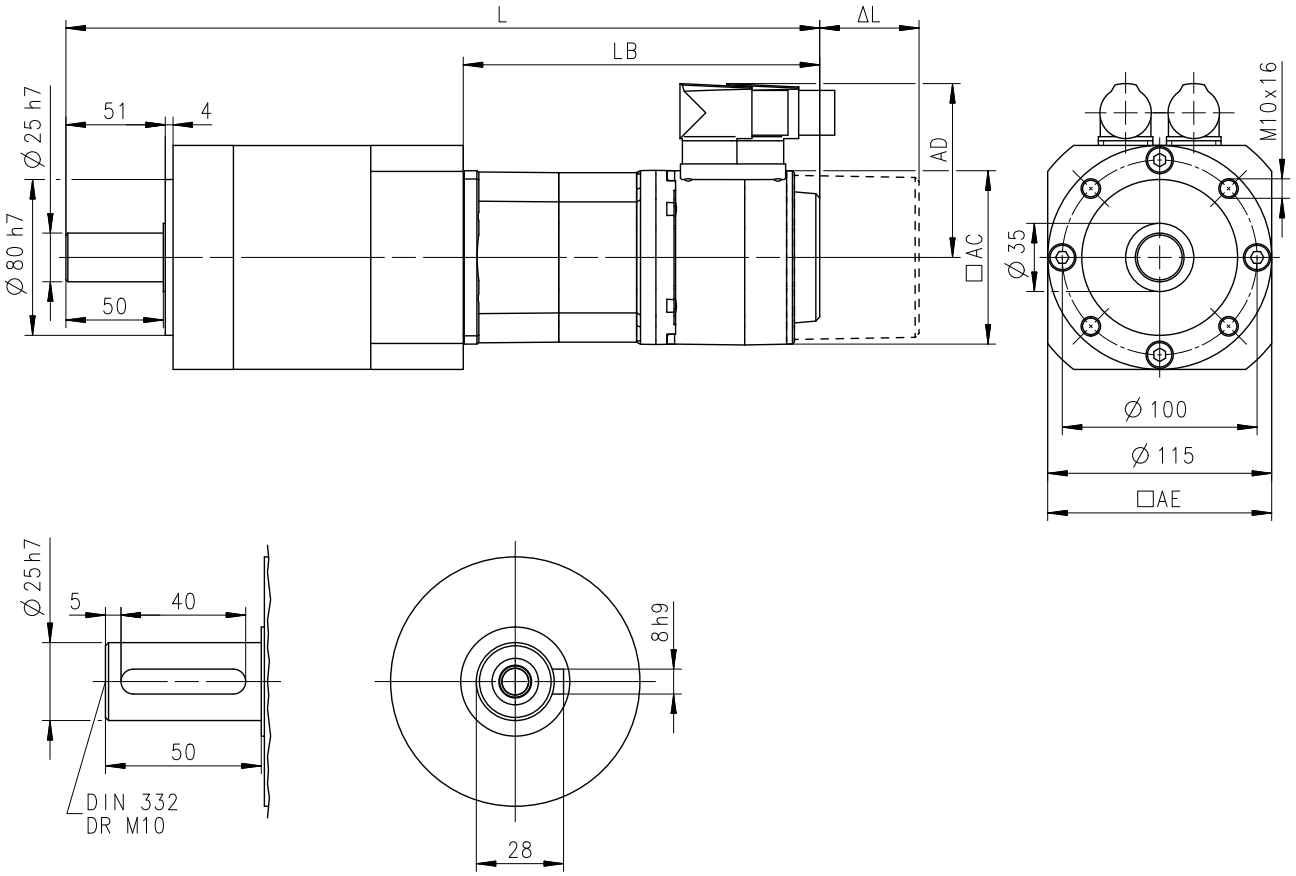
8800794-00

Motor			MCS 12
			D41- D41L
Total length	L	mm	419.5
Motor length	LB	mm	188
Motor diameter	AC	mm	116
Motor/connection distance	AD	mm	105
Gearbox diameter	AE	mm	115



g700-P260 with MCS14

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

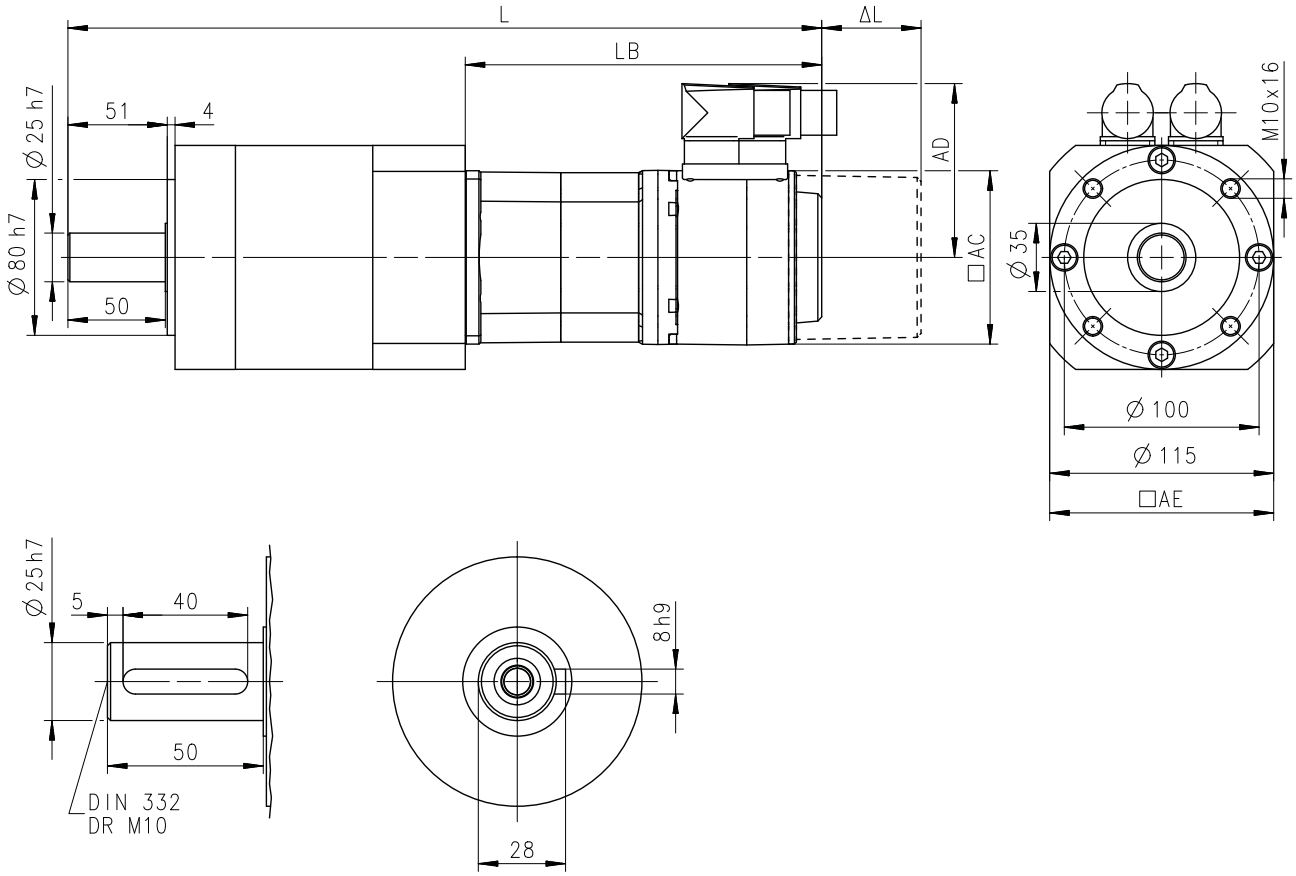


8800794-00

Motor			MCS 14							
			D14-	D15-	D30-	D36-	H15-	H32-	L15-	L32-
Total length	L	mm	475.5	387.5	475.5	387.5	427.5	427.5	467.5	467.5
Motor length	LB	mm	289	201	289	201	241	241	281	281
Motor diameter	AC	mm	167	143	167	143	143	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	117	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140

g700-P260 with MCS14

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



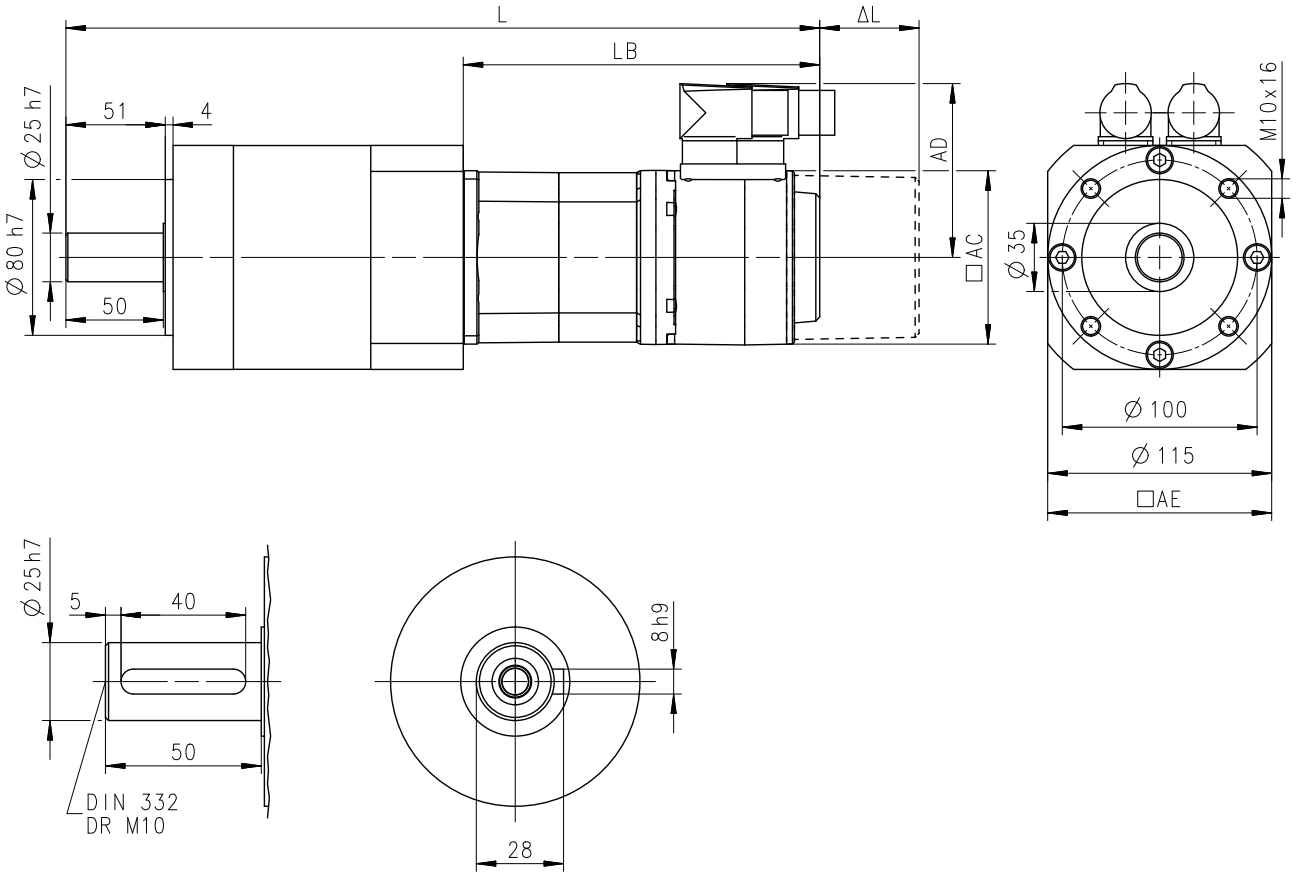
8800794-00

Motor			MCS 14							
			D14-	D15-	D30-	D36-	H15-	H32-	L15-	L32-
Total length	L	mm	503	415	503	415	455	455	495	495
Motor length	LB	mm	289	201	289	201	241	241	281	281
Motor diameter	AC	mm	167	143	167	143	143	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	117	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140



g700-P260 with MCS19

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

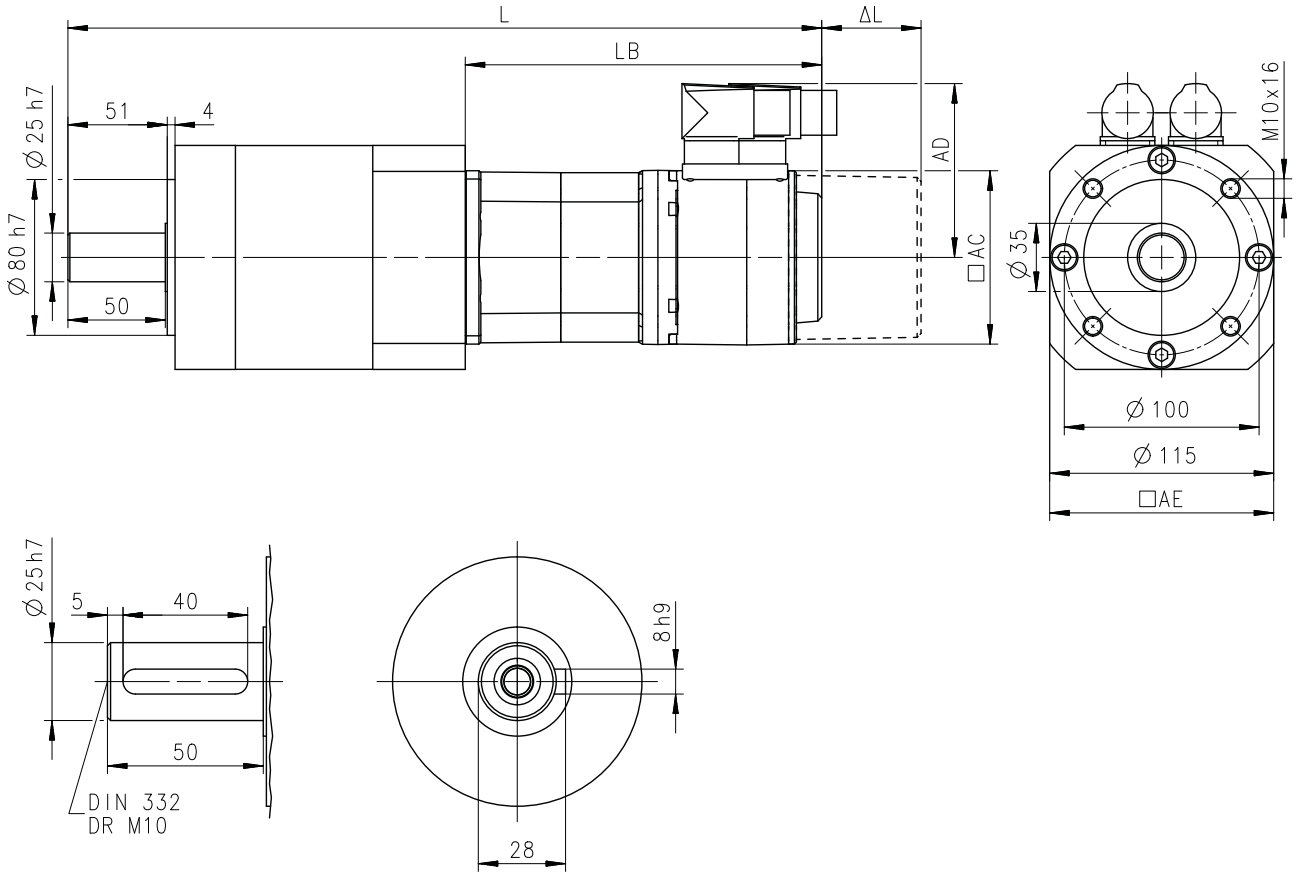


8800794-00

Motor			MCS 19	
			F14-	F30-
Total length	L	mm	424	424
Motor length	LB	mm	220	220
Motor diameter	AC	mm	192	192
Motor/connection distance	AD	mm	142	171
Gearbox diameter	AE	mm	190	190

g700-P260 with MCS19

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



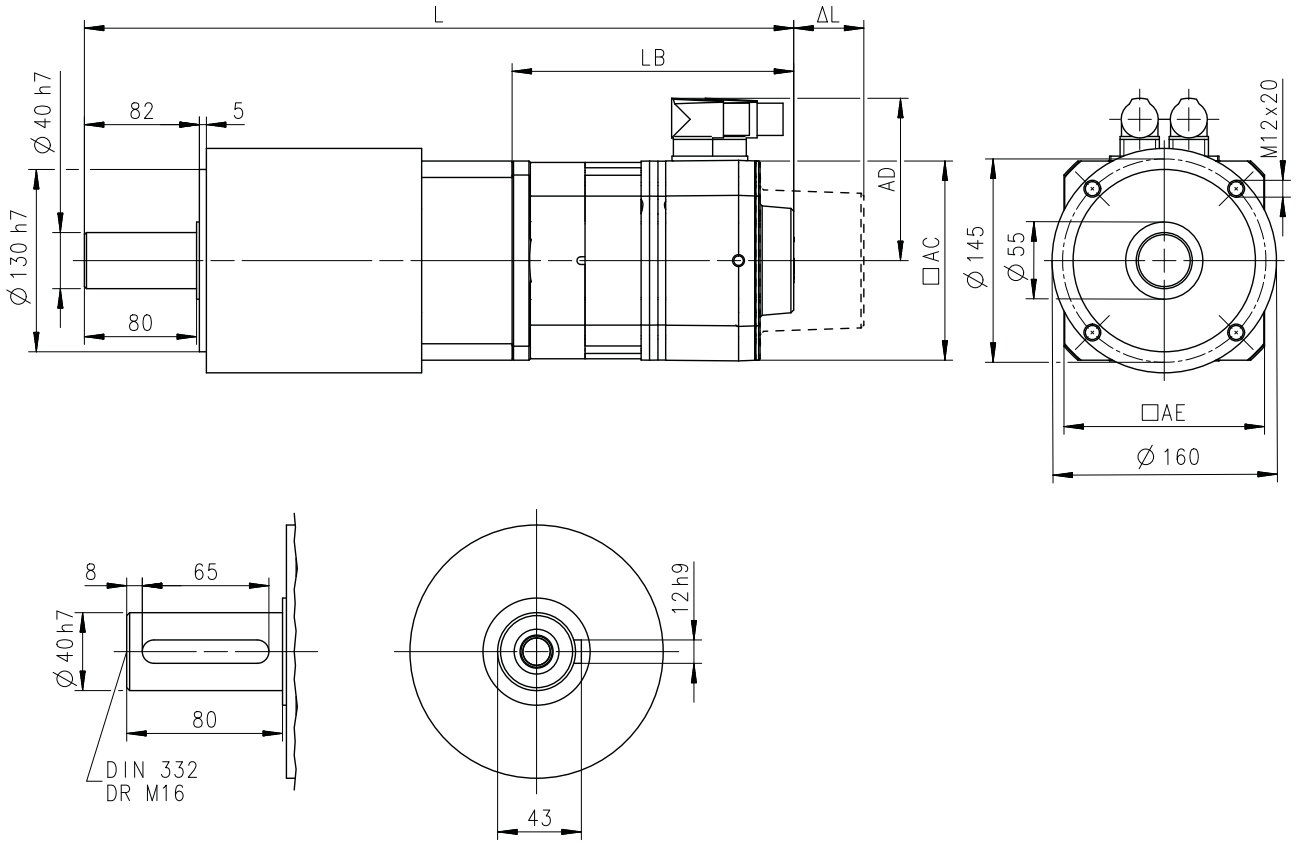
8800794-00

Motor			MCS 19
			F30-
Total length	L	mm	451.5
Motor length	LB	mm	220
Motor diameter	AC	mm	192
Motor/connection distance	AD	mm	171
Gearbox diameter	AE	mm	190



g700-P800 with MCS12

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

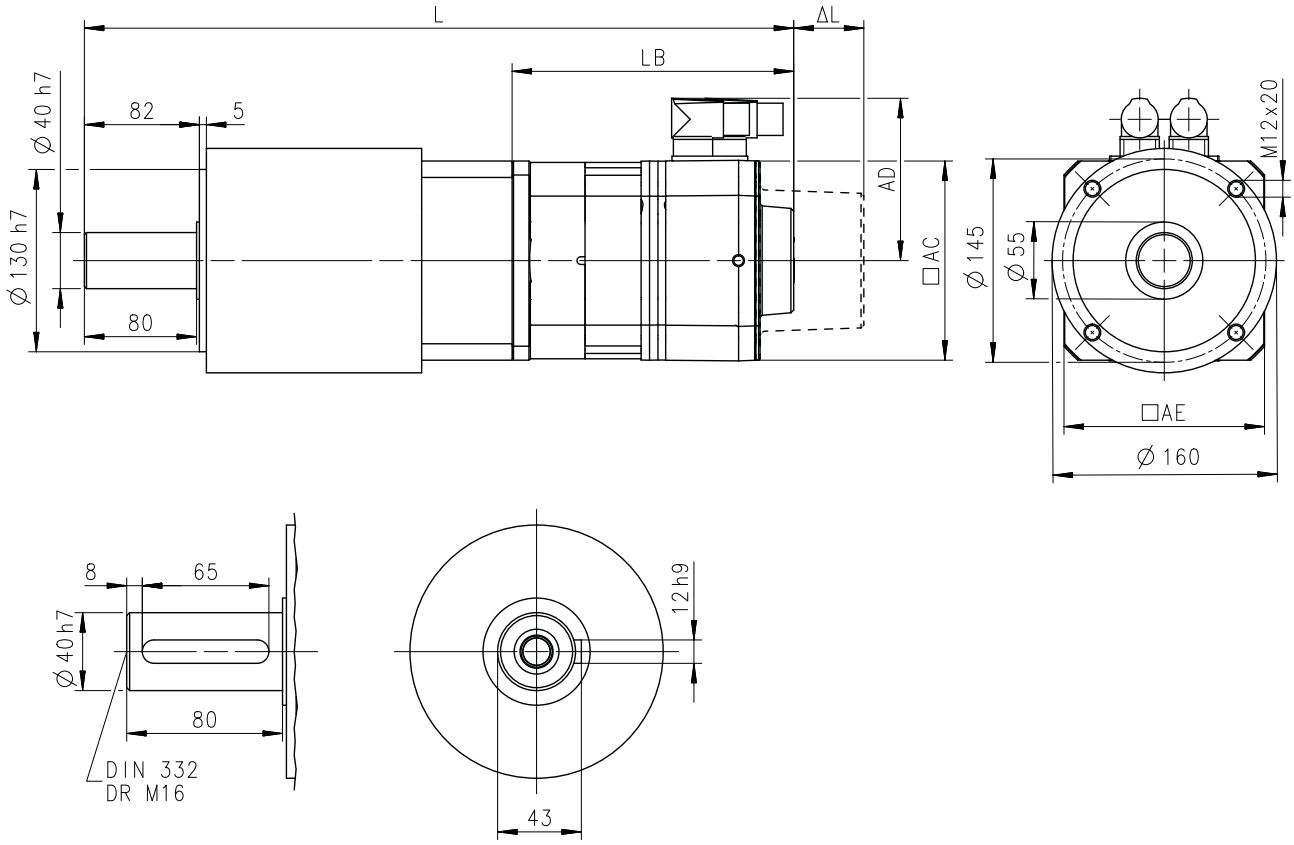


8800795-00

Motor			MCS 12						
			H14-	H15- H15L	H34-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	556.5	483.5	556.5	606.5	523.5	596.5	523.5
Motor length	LB	mm	301	228	301	351	268	341	268
Motor diameter	AC	mm	140	116	140	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	140	140	140	140	140	140	140

g700-P800 with MCS12

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



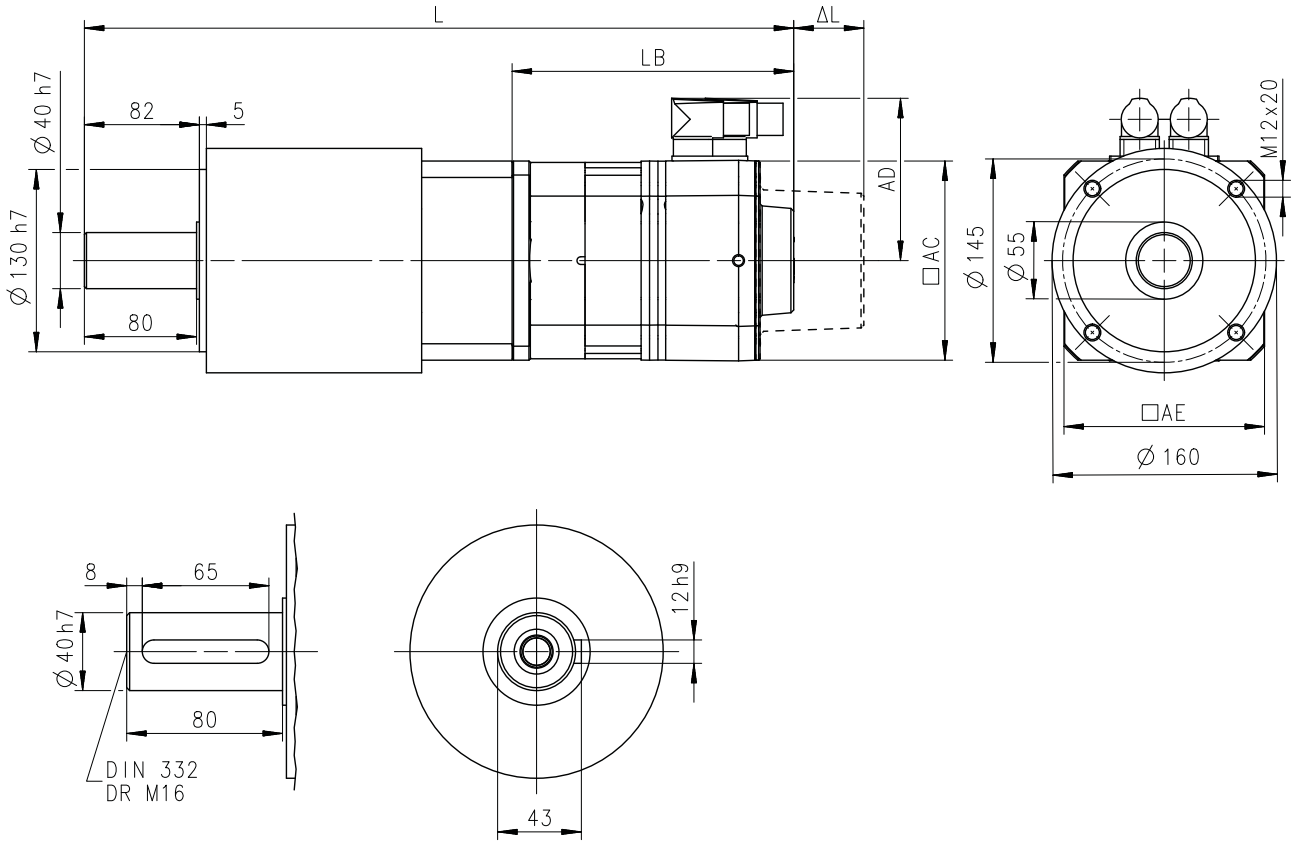
8800795-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	566	493	566	493	606	533	533	606	533	656	573	646	573
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140	140	140	140	140	140



g700-P800 with MCS14

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

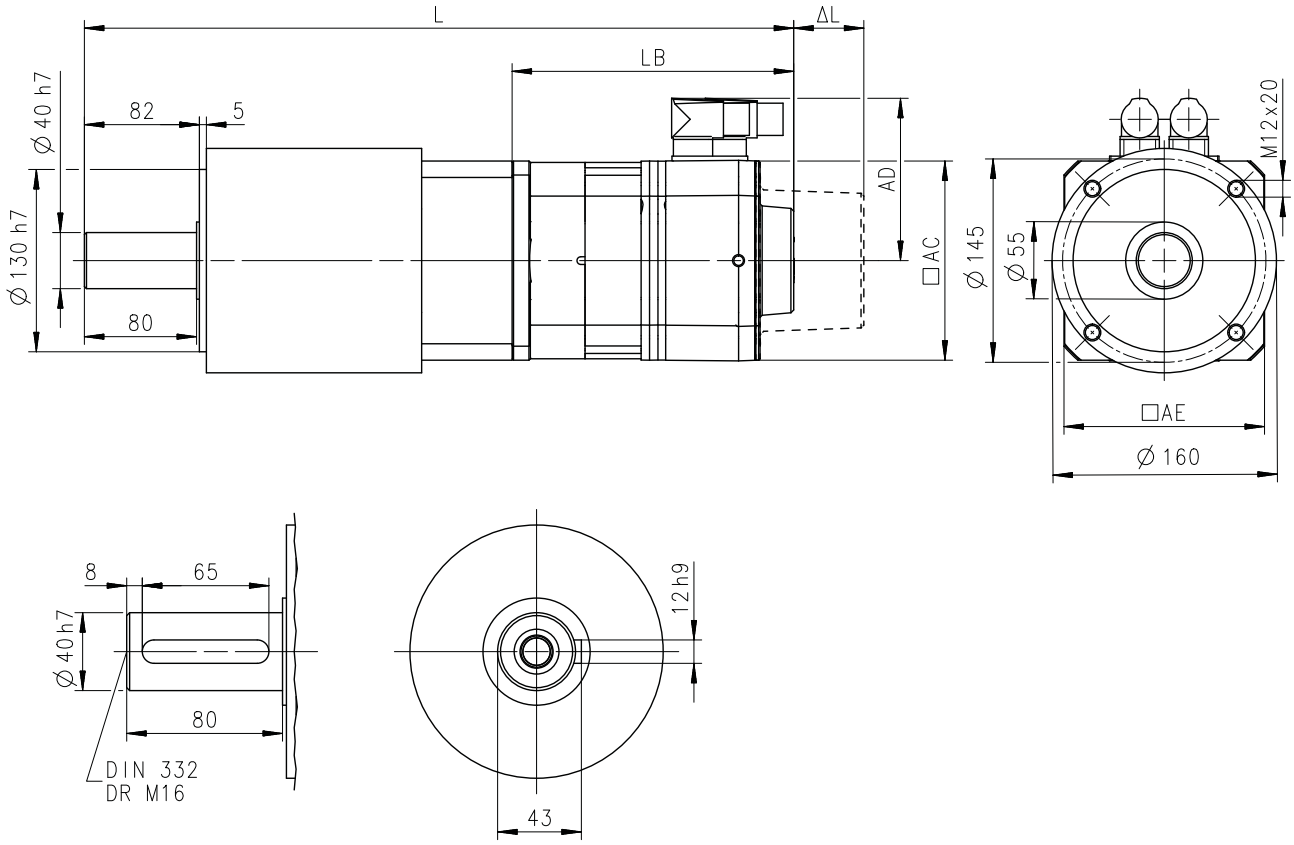


8800795-00

Motor			MCS 14													
			D14-	D30-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	544.5	544.5	584.5	496.5	584.5	496.5	624.5	536.5	624.5	536.5	664.5	576.5	664.5	576.5
Motor length	LB	mm	289	289	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	167	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140	140	140	140	140	140	140

g700-P800 with MCS14

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



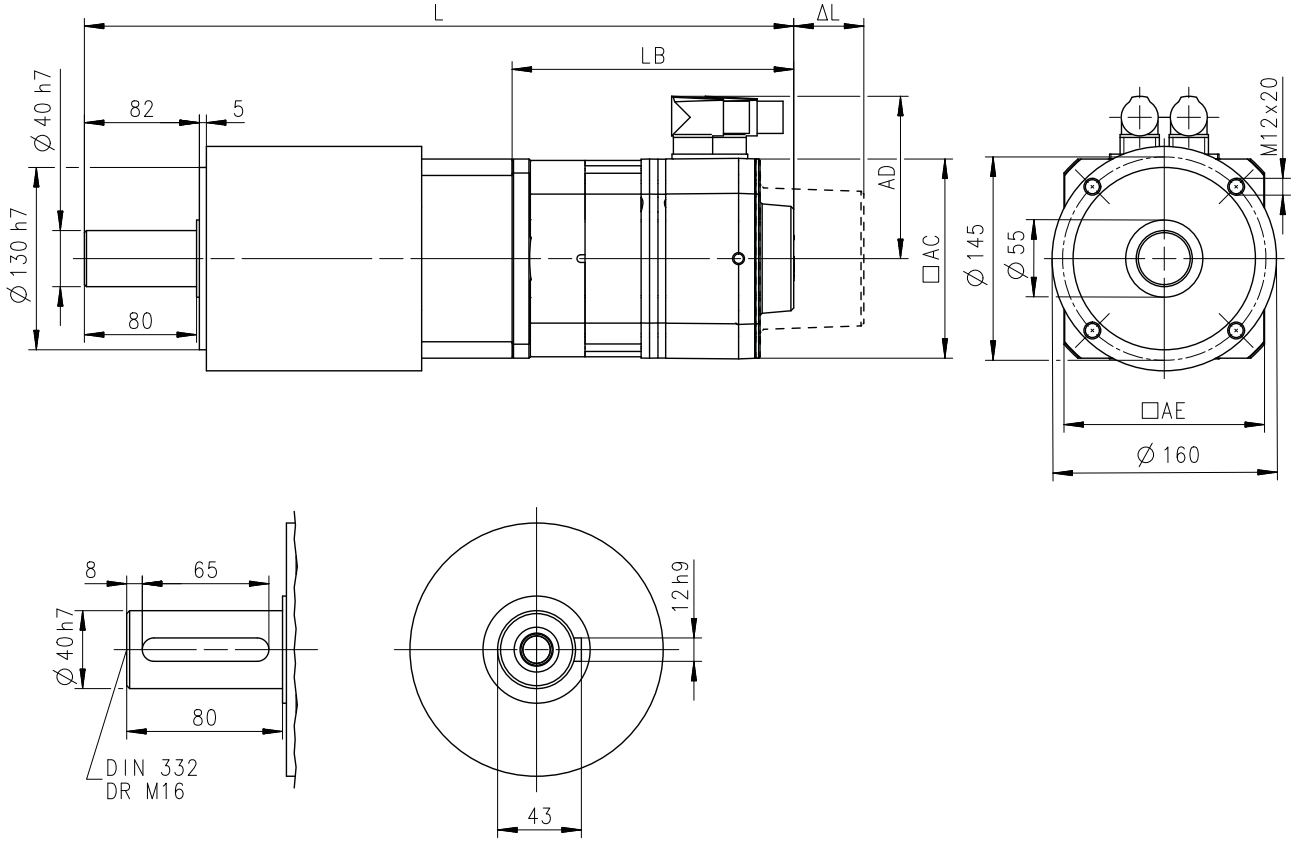
8800795-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	594	506	594	506	634	546	634	546	674	586	674	586	714	626	714	626
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140



g700-P800 with MCS19

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

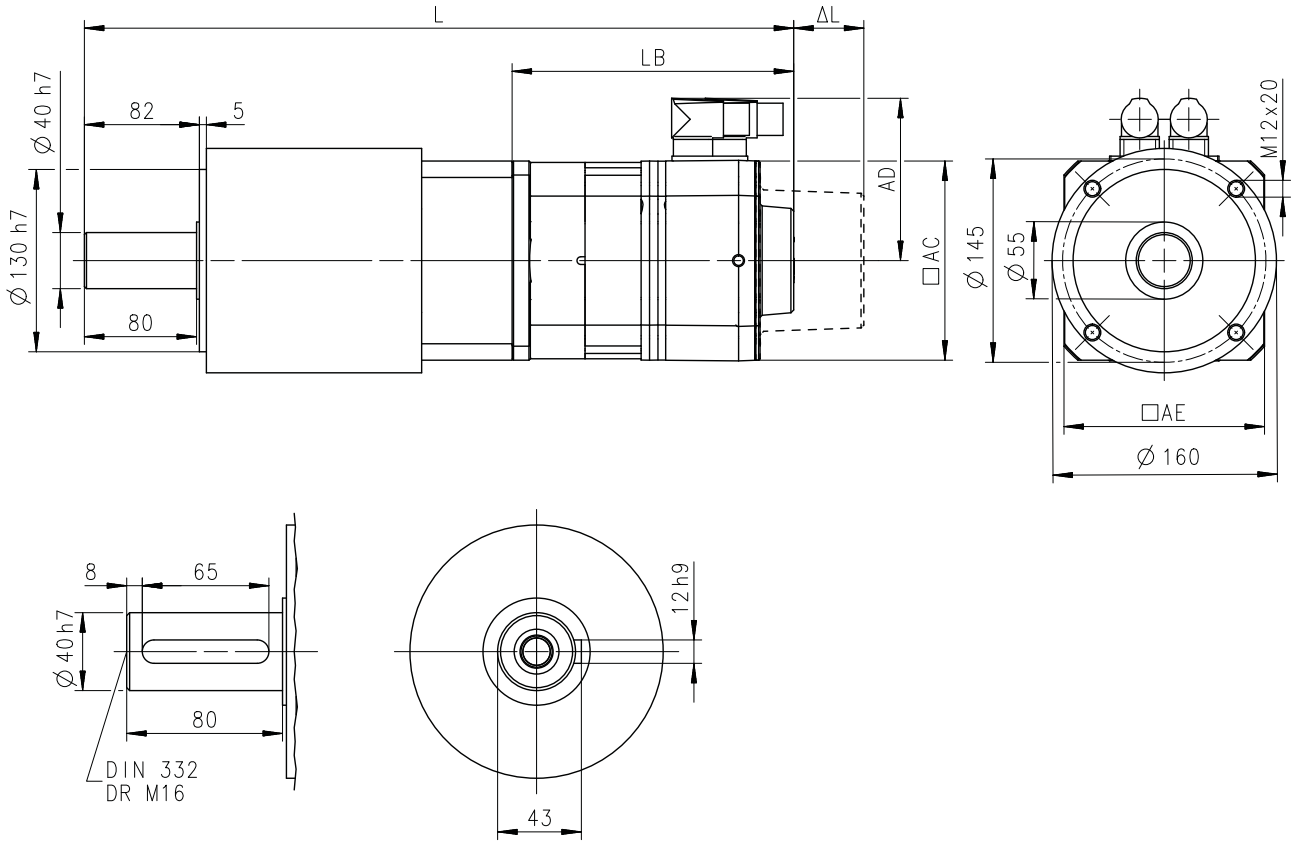


8800795-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	592.5	485.5	592.5	485.5	632.5	525.5	632.5	525.5	692.5	585.5	692.5	585.5
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190

g700-P800 with MCS19

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



8800795-00

Motor			MCS 19										
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P14-	P29-	P30-
Total length	L	mm	642	535	642	535	682	575	682	575	635	742	635
Motor length	LB	mm	327	220	327	220	367	260	367	260	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190



Planetary gearbox g720-P

The modular system

g720-P planetary gearbox with MCS synchronous servo motor

Gearbox		**g720-P44**	**g720-P130**	**g720-P260**
Min. motor assignment		**MCS06**	**MCS06**	**MCS06**
Max. motor assignment		**MCS09**	**MCS12**	**MCS19**
Technical data				
Max. output torque	Nm	44	130	260
Min. input torque	Nm	0.6	0.6	0.6
Max. input torque	Nm	4.5	17	72
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	20 x 36	25 x 50
Smooth solid shaft	mm	16 x 28	20 x 36	25 x 50
Shaft material		**Steel**		
Shaft sealing ring material		**NBR**		
Gearbox design		**Without foot with centering**		
Gearbox stages		1/2/3	1/2/3	1/2/3
Output flange	mm	60	80	120
Lubricant		**Standard** Food compatible		
Cooling		**Self-ventilated** Forced ventilated		
Motor connection		**Connector** Terminal box		
Holding brake		**Without** With		
Feedback				
Without functional safety		**Digital absolute value encoder for One Cable Technology (OCT)** Resolver Absolute value encoder		
With functional safety		Digital absolute value encoder for One Cable Technology (OCT) Resolver Absolute value encoder		
Temperature monitoring		MCS06: PT1000 temperature sensor MCS09 ... MCS19: PT1000 temperature sensor and 2x PTC thermistor		



Gearbox data

g720-P44, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	28.0	10	3
4	38.0	10	4
5	40.0	10	4
7	25.0	10	3
8	18.0	10	3
10	15.0	10	3

g720-P44, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
9	44.0	12	4
12	44.0	12	4
15	44.0	12	4
16	44.0	12	4
20	44.0	12	4
25	40.0	12	4
32	44.0	12	4
40	40.0	12	4

g720-P44, 3-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
60	44.0	15	4
80	44.0	15	4

g720-P130, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	85.0	7	9
4	115	7	12
5	110	7	13
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
64	50.0	9	10

g720-P130, 3-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
60	110	11	13
80	120	11	13
100	120	11	13
120	110	11	13
160	120	11	13
200	110	11	13
256	120	11	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
4	155	7	18
5	195	7	19
8	120	7	16
7	135	7	16
10	95.0	7	15

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



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
160	260	11	19
200	230	11	19
256	260	11	19
320	230	11	19

Radial forces and axial forces

Gearbox			g720-P44	g720-P130	g720-P260
Bearing service life 20000 h					
Speed		rpm	100	100	100
Radial force	F_{rad}	N	900	2050	2950
Axial force	F_{ax}	N	1000	2500	2500
Bearing service life 30000 h					
Speed		rpm	100	100	100
Radial force	F_{rad}	N	700	1700	2400
Axial force	F_{ax}	N	800	2000	2100
Max. radial force	$F_{rad, max}$	N	1500	2500	4000
Max. axial force	$F_{ax, max}$	N	1950	3800	3800



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.25 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.5	579	5.0	25.0	289	0.212	7	P44	06C41-	1	3.4
3.5	579	5.0	25.0	289	0.212	7	P44	06C41L	1	3.4
4.2	506	3.9	18.0	253	0.209	8	P44	06C41-	1	3.4
4.2	506	3.9	18.0	253	0.209	8	P44	06C41L	1	3.4
5.3	338	4.9	44.0	169	0.259	12	P44	06C41-	2	3.6
5.3	338	4.9	44.0	169	0.259	12	P44	06C41L	2	3.6
5.6	405	2.6	15.0	203	0.206	10	P44	06C41-	1	3.4
5.6	405	2.6	15.0	203	0.206	10	P44	06C41L	1	3.4
7.0	270	4.3	44.0	135	0.217	15	P44	06C41-	2	3.6
7.0	270	4.3	44.0	135	0.217	15	P44	06C41L	2	3.6
7.7	253	4.0	44.0	127	0.225	16	P44	06C41L	2	3.6
7.7	253	4.0	44.0	127	0.225	16	P44	06C41-	2	3.6
10.0	203	3.4	44.0	101	0.216	20	P44	06C41-	2	3.6
10.0	203	3.4	44.0	101	0.216	20	P44	06C41L	2	3.6
13.0	162	2.8	40.0	81.0	0.215	25	P44	06C41-	2	3.6
13.0	162	2.8	40.0	81.0	0.215	25	P44	06C41L	2	3.6
17.0	127	2.4	44.0	63.0	0.206	32	P44	06C41-	2	3.6
17.0	127	2.4	44.0	63.0	0.206	32	P44	06C41L	2	3.6
18.0	101	4.9	110	51.0	0.506	40	P130	06C41-	2	6.0
18.0	101	4.9	110	51.0	0.506	40	P130	06C41L	2	6.0
23.0	101	1.8	40.0	51.0	0.206	40	P44	06C41L	2	3.6
23.0	101	1.8	40.0	51.0	0.206	40	P44	06C41-	2	3.6
24.0	50.6	6.0	260	25.0	1.710	80	P260	06C41-	3	13
24.0	50.6	6.0	260	25.0	1.710	80	P260	06C41L	3	13
28.0	67.5	3.3	110	34.0	0.724	60	P130	06C41L	3	6.5
28.0	67.5	3.3	110	34.0	0.724	60	P130	06C41-	3	6.5
32.0	67.5	1.3	44.0	34.0	0.216	60	P44	06C41-	3	3.8
32.0	67.5	1.3	44.0	34.0	0.216	60	P44	06C41L	3	3.8
32.0	63.3	3.5	120	32.0	1.554	64	P260	06C41-	2	11
32.0	63.3	3.5	120	32.0	1.554	64	P260	06C41L	2	11
34.0	63.3	1.5	50.0	32.0	0.506	64	P130	06C41-	2	6.0
34.0	63.3	1.5	50.0	32.0	0.506	64	P130	06C41L	2	6.0
37.0	40.5	4.8	260	20.0	1.703	100	P260	06C41-	3	13
37.0	40.5	4.8	260	20.0	1.703	100	P260	06C41L	3	13
40.0	50.6	2.8	120	25.0	0.545	80	P130	06C41-	3	6.5
40.0	50.6	2.8	120	25.0	0.545	80	P130	06C41L	3	6.5
43.0	50.6	1.0	44.0	25.0	0.215	80	P44	06C41L	3	3.8
43.0	50.6	1.0	44.0	25.0	0.215	80	P44	06C41-	3	3.8
53.0	40.5	2.2	120	20.0	0.544	100	P130	06C41-	3	6.5
53.0	40.5	2.2	120	20.0	0.544	100	P130	06C41L	3	6.5
53.0	33.8	3.6	230	17.0	2.319	120	P260	06C41-	3	13
53.0	33.8	3.6	230	17.0	2.319	120	P260	06C41L	3	13
64.0	33.8	1.7	110	17.0	0.730	120	P130	06C41-	3	6.5
64.0	33.8	1.7	110	17.0	0.730	120	P130	06C41L	3	6.5
76.0	25.3	3.1	260	13.0	1.556	160	P260	06C41L	3	13
76.0	25.3	3.1	260	13.0	1.556	160	P260	06C41-	3	13
84.0	25.3	1.4	120	13.0	0.505	160	P130	06C41L	3	6.5
84.0	25.3	1.4	120	13.0	0.505	160	P130	06C41-	3	6.5



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
101	20.3	2.3	230	10.0	1.556	200	P260	06C41-	3	13
101	20.3	2.3	230	10.0	1.556	200	P260	06C41L	3	13
102	20.3	1.1	110	10.0	0.505	200	P130	06C41-	3	6.5
102	20.3	1.1	110	10.0	0.505	200	P130	06C41L	3	6.5
127	15.8	2.0	260	8.0	1.553	256	P260	06C41-	3	13
127	15.8	2.0	260	8.0	1.553	256	P260	06C41L	3	13
152	12.7	1.5	230	6.0	1.553	320	P260	06C41-	3	13
152	12.7	1.5	230	6.0	1.553	320	P260	06C41L	3	13



0.31 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
2.9	857	5.3	25.0	429	0.212	7	P44	06C60L	1	3.4
2.9	857	5.3	25.0	429	0.212	7	P44	06C60-	1	3.4
3.4	750	4.6	18.0	375	0.209	8	P44	06C60L	1	3.4
3.4	750	4.6	18.0	375	0.209	8	P44	06C60-	1	3.4
4.3	500	5.2	44.0	250	0.259	12	P44	06C60-	2	3.6
4.3	500	5.2	44.0	250	0.259	12	P44	06C60L	2	3.6
4.6	600	3.1	15.0	300	0.206	10	P44	06C60-	1	3.4
4.6	600	3.1	15.0	300	0.206	10	P44	06C60L	1	3.4
5.7	400	4.6	44.0	200	0.217	15	P44	06C60-	2	3.6
5.7	400	4.6	44.0	200	0.217	15	P44	06C60L	2	3.6
6.3	375	4.3	44.0	188	0.225	16	P44	06C60-	2	3.6
6.3	375	4.3	44.0	188	0.225	16	P44	06C60L	2	3.6
8.3	300	3.6	44.0	150	0.216	20	P44	06C60L	2	3.6
8.3	300	3.6	44.0	150	0.216	20	P44	06C60-	2	3.6
11.0	240	3.1	40.0	120	0.215	25	P44	06C60-	2	3.6
11.0	240	3.1	40.0	120	0.215	25	P44	06C60L	2	3.6
13.0	150	5.9	110	75.0	0.506	40	P130	06C60-	2	6.0
13.0	150	5.9	110	75.0	0.506	40	P130	06C60L	2	6.0
14.0	188	2.6	44.0	94.0	0.206	32	P44	06C60-	2	3.6
14.0	188	2.6	44.0	94.0	0.206	32	P44	06C60L	2	3.6
19.0	150	2.1	40.0	75.0	0.206	40	P44	06C60-	2	3.6
19.0	150	2.1	40.0	75.0	0.206	40	P44	06C60L	2	3.6
21.0	100	4.0	110	50.0	0.724	60	P130	06C60-	3	6.5
21.0	100	4.0	110	50.0	0.724	60	P130	06C60L	3	6.5
25.0	93.8	4.2	120	47.0	1.554	64	P260	06C60-	2	11
25.0	93.8	4.2	120	47.0	1.554	64	P260	06C60L	2	11
26.0	60.0	5.8	260	30.0	1.703	100	P260	06C60-	3	13
26.0	60.0	5.8	260	30.0	1.703	100	P260	06C60L	3	13
27.0	100	1.6	44.0	50.0	0.216	60	P44	06C60-	3	3.8
27.0	100	1.6	44.0	50.0	0.216	60	P44	06C60L	3	3.8
28.0	93.8	1.8	50.0	47.0	0.506	64	P130	06C60-	2	6.0
28.0	93.8	1.8	50.0	47.0	0.506	64	P130	06C60L	2	6.0
31.0	75.0	3.3	120	38.0	0.545	80	P130	06C60-	3	6.5
31.0	75.0	3.3	120	38.0	0.545	80	P130	06C60L	3	6.5
36.0	75.0	1.2	44.0	38.0	0.215	80	P44	06C60-	3	3.8
36.0	75.0	1.2	44.0	38.0	0.215	80	P44	06C60L	3	3.8
40.0	50.0	4.4	230	25.0	2.319	120	P260	06C60-	3	13
40.0	50.0	4.4	230	25.0	2.319	120	P260	06C60L	3	13
42.0	60.0	2.7	120	30.0	0.544	100	P130	06C60L	3	6.5
42.0	60.0	2.7	120	30.0	0.544	100	P130	06C60-	3	6.5
53.0	50.0	2.1	110	25.0	0.730	120	P130	06C60-	3	6.5
53.0	50.0	2.1	110	25.0	0.730	120	P130	06C60L	3	6.5
58.0	37.5	3.7	260	19.0	1.556	160	P260	06C60-	3	13
58.0	37.5	3.7	260	19.0	1.556	160	P260	06C60L	3	13
70.0	37.5	1.7	120	19.0	0.505	160	P130	06C60-	3	6.5
70.0	37.5	1.7	120	19.0	0.505	160	P130	06C60L	3	6.5
83.0	30.0	2.7	230	15.0	1.556	200	P260	06C60L	3	13
83.0	30.0	2.7	230	15.0	1.556	200	P260	06C60-	3	13
85.0	30.0	1.3	110	15.0	0.505	200	P130	06C60L	3	6.5
85.0	30.0	1.3	110	15.0	0.505	200	P130	06C60-	3	6.5
106	23.4	2.5	260	12.0	1.553	256	P260	06C60-	3	13



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
106	23.4	2.5	260	12.0	1.553	256	P260	06C60L	3	13
108	23.4	1.1	120	12.0	0.506	256	P130	06C60L	3	6.5
108	23.4	1.1	120	12.0	0.506	256	P130	06C60-	3	6.5
126	18.8	1.8	230	9.0	1.553	320	P260	06C60-	3	13
126	18.8	1.8	230	9.0	1.553	320	P260	06C60L	3	13



0.51 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.0	1013	5.2	38.0	506	0.319	4	P44	06F41L	1	3.8
4.0	1013	5.2	38.0	506	0.319	4	P44	06F41-	1	3.8
5.2	810	4.3	40.0	405	0.304	5	P44	06F41-	1	3.8
5.2	810	4.3	40.0	405	0.304	5	P44	06F41L	1	3.8
7.9	579	2.5	25.0	289	0.292	7	P44	06F41-	1	3.8
7.9	579	2.5	25.0	289	0.292	7	P44	06F41L	1	3.8
7.9	506	5.4	50.0	253	0.608	8	P130	06F41-	1	5.9
7.9	506	5.4	50.0	253	0.608	8	P130	06F41L	1	5.9
9.2	506	1.9	18.0	253	0.289	8	P44	06F41-	1	3.8
9.2	506	1.9	18.0	253	0.289	8	P44	06F41L	1	3.8
9.4	450	3.0	44.0	225	0.343	9	P44	06F41-	2	4.0
9.4	450	3.0	44.0	225	0.343	9	P44	06F41L	2	4.0
11.0	405	3.3	38.0	203	0.591	10	P130	06F41-	1	5.9
11.0	405	3.3	38.0	203	0.591	10	P130	06F41L	1	5.9
12.0	405	1.3	15.0	203	0.286	10	P44	06F41-	1	3.8
12.0	405	1.3	15.0	203	0.286	10	P44	06F41L	1	3.8
13.0	338	2.4	44.0	169	0.339	12	P44	06F41L	2	4.0
13.0	338	2.4	44.0	169	0.339	12	P44	06F41-	2	4.0
17.0	270	2.1	44.0	135	0.297	15	P44	06F41-	2	4.0
17.0	270	2.1	44.0	135	0.297	15	P44	06F41L	2	4.0
17.0	203	5.2	120	101	0.629	20	P130	06F41-	2	6.4
17.0	203	5.2	120	101	0.629	20	P130	06F41L	2	6.4
18.0	253	2.0	44.0	127	0.305	16	P44	06F41-	2	4.0
18.0	253	2.0	44.0	127	0.305	16	P44	06F41L	2	4.0
23.0	203	1.7	44.0	101	0.296	20	P44	06F41-	2	4.0
23.0	203	1.7	44.0	101	0.296	20	P44	06F41L	2	4.0
24.0	162	3.9	110	81.0	0.626	25	P130	06F41L	2	6.4
24.0	162	3.9	110	81.0	0.626	25	P130	06F41-	2	6.4
28.0	162	1.4	40.0	81.0	0.295	25	P44	06F41L	2	4.0
28.0	162	1.4	40.0	81.0	0.295	25	P44	06F41-	2	4.0
33.0	127	3.3	120	63.0	0.587	32	P130	06F41-	2	6.4
33.0	127	3.3	120	63.0	0.587	32	P130	06F41L	2	6.4
35.0	101	5.1	230	51.0	1.637	40	P260	06F41-	2	11
35.0	101	5.1	230	51.0	1.637	40	P260	06F41L	2	11
36.0	127	1.2	44.0	63.0	0.286	32	P44	06F41-	2	4.0
36.0	127	1.2	44.0	63.0	0.286	32	P44	06F41L	2	4.0
44.0	101	2.4	110	51.0	0.586	40	P130	06F41-	2	6.4
44.0	101	2.4	110	51.0	0.586	40	P130	06F41L	2	6.4
51.0	67.5	3.9	260	34.0	2.416	60	P260	06F41-	3	13
51.0	67.5	3.9	260	34.0	2.416	60	P260	06F41L	3	13
65.0	67.5	1.7	110	34.0	0.804	60	P130	06F41L	3	6.9
65.0	67.5	1.7	110	34.0	0.804	60	P130	06F41-	3	6.9
68.0	63.3	1.8	120	32.0	1.634	64	P260	06F41-	2	11
68.0	63.3	1.8	120	32.0	1.634	64	P260	06F41L	2	11
77.0	50.6	3.0	260	25.0	1.790	80	P260	06F41-	3	13
77.0	50.6	3.0	260	25.0	1.790	80	P260	06F41L	3	13
86.0	50.6	1.4	120	25.0	0.625	80	P130	06F41-	3	6.9
86.0	50.6	1.4	120	25.0	0.625	80	P130	06F41L	3	6.9
103	40.5	2.4	260	20.0	1.783	100	P260	06F41-	3	13
103	40.5	2.4	260	20.0	1.783	100	P260	06F41L	3	13
108	40.5	1.1	120	20.0	0.624	100	P130	06F41-	3	6.9



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
108	40.5	1.1	120	20.0	0.624	100	P130	06F41L	3	6.9
127	33.8	1.8	230	17.0	2.399	120	P260	06F41-	3	13
127	33.8	1.8	230	17.0	2.399	120	P260	06F41L	3	13
167	25.3	1.6	260	13.0	1.636	160	P260	06F41-	3	13
167	25.3	1.6	260	13.0	1.636	160	P260	06F41L	3	13
202	20.3	1.1	230	10.0	1.636	200	P260	06F41L	3	13
202	20.3	1.1	230	10.0	1.636	200	P260	06F41-	3	13
255	15.8	1.0	260	8.0	1.633	256	P260	06F41-	3	13
255	15.8	1.0	260	8.0	1.633	256	P260	06F41L	3	13



0.57 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.8	1200	5.1	40.0	600	0.304	5	P44	06F60-	1	3.8
3.8	1200	5.1	40.0	600	0.304	5	P44	06F60L	1	3.8
5.8	857	2.9	25.0	429	0.292	7	P44	06F60L	1	3.8
5.8	857	2.9	25.0	429	0.292	7	P44	06F60-	1	3.8
6.7	750	2.6	18.0	375	0.289	8	P44	06F60-	1	3.8
6.7	750	2.6	18.0	375	0.289	8	P44	06F60L	1	3.8
6.7	667	3.6	44.0	333	0.343	9	P44	06F60-	2	4.0
6.7	667	3.6	44.0	333	0.343	9	P44	06F60L	2	4.0
7.8	600	4.4	38.0	300	0.591	10	P130	06F60-	1	5.9
7.8	600	4.4	38.0	300	0.591	10	P130	06F60L	1	5.9
8.6	600	1.7	15.0	300	0.286	10	P44	06F60-	1	3.8
8.6	600	1.7	15.0	300	0.286	10	P44	06F60L	1	3.8
9.5	500	2.9	44.0	250	0.339	12	P44	06F60-	2	4.0
9.5	500	2.9	44.0	250	0.339	12	P44	06F60L	2	4.0
12.0	400	2.5	44.0	200	0.297	15	P44	06F60-	2	4.0
12.0	400	2.5	44.0	200	0.297	15	P44	06F60L	2	4.0
13.0	375	2.4	44.0	188	0.305	16	P44	06F60-	2	4.0
13.0	375	2.4	44.0	188	0.305	16	P44	06F60L	2	4.0
16.0	240	5.2	110	120	0.626	25	P130	06F60L	2	6.4
16.0	240	5.2	110	120	0.626	25	P130	06F60-	2	6.4
17.0	300	2.0	44.0	150	0.296	20	P44	06F60-	2	4.0
17.0	300	2.0	44.0	150	0.296	20	P44	06F60L	2	4.0
21.0	240	1.7	40.0	120	0.295	25	P44	06F60-	2	4.0
21.0	240	1.7	40.0	120	0.295	25	P44	06F60L	2	4.0
22.0	188	4.4	120	94.0	0.587	32	P130	06F60-	2	6.4
22.0	188	4.4	120	94.0	0.587	32	P130	06F60L	2	6.4
27.0	188	1.5	44.0	94.0	0.286	32	P44	06F60-	2	4.0
27.0	188	1.5	44.0	94.0	0.286	32	P44	06F60L	2	4.0
31.0	150	3.3	110	75.0	0.586	40	P130	06F60L	2	6.4
31.0	150	3.3	110	75.0	0.586	40	P130	06F60-	2	6.4
31.0	100	5.2	260	50.0	2.416	60	P260	06F60-	3	13
31.0	100	5.2	260	50.0	2.416	60	P260	06F60L	3	13
34.0	150	1.2	40.0	75.0	0.286	40	P44	06F60-	2	4.0
34.0	150	1.2	40.0	75.0	0.286	40	P44	06F60L	2	4.0
47.0	100	2.2	110	50.0	0.804	60	P130	06F60-	3	6.9
47.0	100	2.2	110	50.0	0.804	60	P130	06F60L	3	6.9
51.0	93.8	2.3	120	47.0	1.634	64	P260	06F60L	2	11
51.0	93.8	2.3	120	47.0	1.634	64	P260	06F60-	2	11
51.0	75.0	4.0	260	38.0	1.790	80	P260	06F60-	3	13
51.0	75.0	4.0	260	38.0	1.790	80	P260	06F60L	3	13
65.0	75.0	1.8	120	38.0	0.625	80	P130	06F60-	3	6.9
65.0	75.0	1.8	120	38.0	0.625	80	P130	06F60L	3	6.9
70.0	60.0	3.2	260	30.0	1.783	100	P260	06F60-	3	13
70.0	60.0	3.2	260	30.0	1.783	100	P260	06F60L	3	13
81.0	60.0	1.5	120	30.0	0.624	100	P130	06F60-	3	6.9
81.0	60.0	1.5	120	30.0	0.624	100	P130	06F60L	3	6.9
93.0	50.0	2.4	230	25.0	2.399	120	P260	06F60-	3	13
93.0	50.0	2.4	230	25.0	2.399	120	P260	06F60L	3	13
96.0	50.0	1.1	110	25.0	0.810	120	P130	06F60-	3	6.9
96.0	50.0	1.1	110	25.0	0.810	120	P130	06F60L	3	6.9
125	37.5	2.1	260	19.0	1.636	160	P260	06F60L	3	13



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
125	37.5	2.1	260	19.0	1.636	160	P260	06F60-	3	13
151	30.0	1.5	230	15.0	1.636	200	P260	06F60-	3	13
151	30.0	1.5	230	15.0	1.636	200	P260	06F60L	3	13
191	23.4	1.4	260	12.0	1.633	256	P260	06F60-	3	13
191	23.4	1.4	260	12.0	1.633	256	P260	06F60L	3	13
228	18.8	1.0	230	9.0	1.633	320	P260	06F60L	3	13
228	18.8	1.0	230	9.0	1.633	320	P260	06F60-	3	13



0.64 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.7	1350	5.2	28.0	675	0.442	3	P44	06I41-	1	4.5
3.7	1350	5.2	28.0	675	0.442	3	P44	06I41L	1	4.5
5.3	1013	4.1	38.0	506	0.399	4	P44	06I41-	1	4.5
5.3	1013	4.1	38.0	506	0.399	4	P44	06I41L	1	4.5
6.8	810	3.4	40.0	405	0.384	5	P44	06I41-	1	4.5
6.8	810	3.4	40.0	405	0.384	5	P44	06I41L	1	4.5
10.0	579	2.0	25.0	289	0.372	7	P44	06I41-	1	4.5
10.0	579	2.0	25.0	289	0.372	7	P44	06I41L	1	4.5
10.0	506	4.3	50.0	253	0.688	8	P130	06I41-	1	6.6
10.0	506	4.3	50.0	253	0.688	8	P130	06I41L	1	6.6
12.0	506	1.6	18.0	253	0.369	8	P44	06I41-	1	4.5
12.0	506	1.6	18.0	253	0.369	8	P44	06I41L	1	4.5
12.0	450	2.4	44.0	225	0.423	9	P44	06I41-	2	4.7
12.0	450	2.4	44.0	225	0.423	9	P44	06I41L	2	4.7
14.0	405	1.0	15.0	203	0.366	10	P44	06I41-	1	4.5
14.0	405	1.0	15.0	203	0.366	10	P44	06I41L	1	4.5
14.0	405	2.6	38.0	203	0.671	10	P130	06I41-	1	6.6
14.0	405	2.6	38.0	203	0.671	10	P130	06I41L	1	6.6
16.0	270	5.1	110	135	0.891	15	P130	06I41L	2	7.1
16.0	270	5.1	110	135	0.891	15	P130	06I41-	2	7.1
17.0	338	2.0	44.0	169	0.419	12	P44	06I41-	2	4.7
17.0	338	2.0	44.0	169	0.419	12	P44	06I41L	2	4.7
17.0	253	5.2	120	127	0.754	16	P130	06I41L	2	7.1
17.0	253	5.2	120	127	0.754	16	P130	06I41-	2	7.1
21.0	270	1.7	44.0	135	0.377	15	P44	06I41-	2	4.7
21.0	270	1.7	44.0	135	0.377	15	P44	06I41L	2	4.7
23.0	253	1.6	44.0	127	0.385	16	P44	06I41-	2	4.7
23.0	253	1.6	44.0	127	0.385	16	P44	06I41L	2	4.7
24.0	203	4.2	120	101	0.709	20	P130	06I41-	2	7.1
24.0	203	4.2	120	101	0.709	20	P130	06I41L	2	7.1
28.0	203	1.4	44.0	101	0.376	20	P44	06I41-	2	4.7
28.0	203	1.4	44.0	101	0.376	20	P44	06I41L	2	4.7
32.0	162	3.1	110	81.0	0.706	25	P130	06I41L	2	7.1
32.0	162	3.1	110	81.0	0.706	25	P130	06I41-	2	7.1
33.0	127	5.7	260	63.0	1.720	32	P260	06I41-	2	12
33.0	127	5.7	260	63.0	1.720	32	P260	06I41L	2	12
35.0	162	1.1	40.0	81.0	0.375	25	P44	06I41-	2	4.7
35.0	162	1.1	40.0	81.0	0.375	25	P44	06I41L	2	4.7
43.0	127	2.6	120	63.0	0.667	32	P130	06I41-	2	7.1
43.0	127	2.6	120	63.0	0.667	32	P130	06I41L	2	7.1
48.0	101	4.1	230	51.0	1.717	40	P260	06I41-	2	12
48.0	101	4.1	230	51.0	1.717	40	P260	06I41L	2	12
56.0	101	2.0	110	51.0	0.666	40	P130	06I41-	2	7.1
56.0	101	2.0	110	51.0	0.666	40	P130	06I41L	2	7.1
71.0	67.5	3.1	260	34.0	2.496	60	P260	06I41-	3	14
71.0	67.5	3.1	260	34.0	2.496	60	P260	06I41L	3	14
81.0	67.5	1.3	110	34.0	0.884	60	P130	06I41-	3	7.6
81.0	67.5	1.3	110	34.0	0.884	60	P130	06I41L	3	7.6
85.0	63.3	1.4	120	32.0	1.714	64	P260	06I41L	2	12
85.0	63.3	1.4	120	32.0	1.714	64	P260	06I41-	2	12
103	50.6	2.4	260	25.0	1.870	80	P260	06I41-	3	14



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
103	50.6	2.4	260	25.0	1.870	80	P260	06I41L	3	14
108	50.6	1.1	120	25.0	0.705	80	P130	06I41-	3	7.6
108	50.6	1.1	120	25.0	0.705	80	P130	06I41L	3	7.6
135	40.5	1.9	260	20.0	1.863	100	P260	06I41-	3	14
135	40.5	1.9	260	20.0	1.863	100	P260	06I41L	3	14
158	33.8	1.5	230	17.0	2.479	120	P260	06I41-	3	14
158	33.8	1.5	230	17.0	2.479	120	P260	06I41L	3	14
209	25.3	1.3	260	13.0	1.716	160	P260	06I41-	3	14
209	25.3	1.3	260	13.0	1.716	160	P260	06I41L	3	14



0.75 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
2.9	2000	5.8	28.0	1000	0.442	3	P44	06I60-	1	4.5
2.9	2000	5.8	28.0	1000	0.442	3	P44	06I60L	1	4.5
4.1	1500	4.6	38.0	750	0.399	4	P44	06I60-	1	4.5
4.1	1500	4.6	38.0	750	0.399	4	P44	06I60L	1	4.5
5.3	1200	3.8	40.0	600	0.384	5	P44	06I60-	1	4.5
5.3	1200	3.8	40.0	600	0.384	5	P44	06I60L	1	4.5
7.9	750	5.4	50.0	375	0.688	8	P130	06I60-	1	6.6
7.9	750	5.4	50.0	375	0.688	8	P130	06I60L	1	6.6
8.0	857	2.2	25.0	429	0.372	7	P44	06I60L	1	4.5
8.0	857	2.2	25.0	429	0.372	7	P44	06I60-	1	4.5
9.2	750	1.9	18.0	375	0.369	8	P44	06I60-	1	4.5
9.2	750	1.9	18.0	375	0.369	8	P44	06I60L	1	4.5
9.6	667	2.7	44.0	333	0.423	9	P44	06I60-	2	4.7
9.6	667	2.7	44.0	333	0.423	9	P44	06I60L	2	4.7
11.0	600	3.3	38.0	300	0.671	10	P130	06I60-	1	6.6
11.0	600	3.3	38.0	300	0.671	10	P130	06I60L	1	6.6
12.0	600	1.3	15.0	300	0.366	10	P44	06I60-	1	4.5
12.0	600	1.3	15.0	300	0.366	10	P44	06I60L	1	4.5
13.0	500	2.2	44.0	250	0.419	12	P44	06I60-	2	4.7
13.0	500	2.2	44.0	250	0.419	12	P44	06I60L	2	4.7
17.0	400	1.9	44.0	200	0.377	15	P44	06I60-	2	4.7
17.0	400	1.9	44.0	200	0.377	15	P44	06I60L	2	4.7
17.0	300	5.1	120	150	0.709	20	P130	06I60-	2	7.1
17.0	300	5.1	120	150	0.709	20	P130	06I60L	2	7.1
18.0	375	1.8	44.0	188	0.385	16	P44	06I60L	2	4.7
18.0	375	1.8	44.0	188	0.385	16	P44	06I60-	2	4.7
23.0	300	1.5	44.0	150	0.376	20	P44	06I60-	2	4.7
23.0	300	1.5	44.0	150	0.376	20	P44	06I60L	2	4.7
24.0	240	3.9	110	120	0.706	25	P130	06I60-	2	7.1
24.0	240	3.9	110	120	0.706	25	P130	06I60L	2	7.1
28.0	240	1.3	40.0	120	0.375	25	P44	06I60L	2	4.7
28.0	240	1.3	40.0	120	0.375	25	P44	06I60-	2	4.7
33.0	188	3.3	120	94.0	0.667	32	P130	06I60-	2	7.1
33.0	188	3.3	120	94.0	0.667	32	P130	06I60L	2	7.1
35.0	150	5.1	230	75.0	1.717	40	P260	06I60-	2	12
35.0	150	5.1	230	75.0	1.717	40	P260	06I60L	2	12
36.0	188	1.1	44.0	94.0	0.366	32	P44	06I60-	2	4.7
36.0	188	1.1	44.0	94.0	0.366	32	P44	06I60L	2	4.7
44.0	150	2.4	110	75.0	0.666	40	P130	06I60-	2	7.1
44.0	150	2.4	110	75.0	0.666	40	P130	06I60L	2	7.1
51.0	100	3.9	260	50.0	2.496	60	P260	06I60-	3	14
51.0	100	3.9	260	50.0	2.496	60	P260	06I60L	3	14
65.0	100	1.7	110	50.0	0.884	60	P130	06I60-	3	7.6
65.0	100	1.7	110	50.0	0.884	60	P130	06I60L	3	7.6
68.0	93.8	1.8	120	47.0	1.714	64	P260	06I60-	2	12
68.0	93.8	1.8	120	47.0	1.714	64	P260	06I60L	2	12
77.0	75.0	3.0	260	38.0	1.870	80	P260	06I60-	3	14
77.0	75.0	3.0	260	38.0	1.870	80	P260	06I60L	3	14
86.0	75.0	1.4	120	38.0	0.705	80	P130	06I60-	3	7.6
86.0	75.0	1.4	120	38.0	0.705	80	P130	06I60L	3	7.6
103	60.0	2.4	260	30.0	1.863	100	P260	06I60-	3	14



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
103	60.0	2.4	260	30.0	1.863	100	P260	06I60L	3	14
108	60.0	1.1	120	30.0	0.704	100	P130	06I60-	3	7.6
108	60.0	1.1	120	30.0	0.704	100	P130	06I60L	3	7.6
127	50.0	1.8	230	25.0	2.479	120	P260	06I60-	3	14
127	50.0	1.8	230	25.0	2.479	120	P260	06I60L	3	14
167	37.5	1.6	260	19.0	1.716	160	P260	06I60-	3	14
167	37.5	1.6	260	19.0	1.716	160	P260	06I60L	3	14
202	30.0	1.1	230	15.0	1.716	200	P260	06I60-	3	14
202	30.0	1.1	230	15.0	1.716	200	P260	06I60L	3	14
255	23.4	1.0	260	12.0	1.713	256	P260	06I60-	3	14
255	23.4	1.0	260	12.0	1.713	256	P260	06I60L	3	14



1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.6	1350	5.7	85.0	675	1.883	3	P130	09D41-	1	8.0
5.6	1350	5.7	85.0	675	1.883	3	P130	09D41L	1	8.1
6.2	1350	3.4	28.0	675	1.262	3	P44	09D41-	1	5.9
6.2	1350	3.4	28.0	675	1.262	3	P44	09D41L	1	6.0
8.6	1013	2.7	38.0	506	1.220	4	P44	09D41-	1	5.9
8.6	1013	2.7	38.0	506	1.220	4	P44	09D41L	1	6.0
11.0	810	2.2	40.0	405	1.205	5	P44	09D41-	1	5.9
11.0	810	2.2	40.0	405	1.205	5	P44	09D41L	1	6.0
14.0	579	4.2	65.0	289	1.502	7	P130	09D41-	1	8.0
14.0	579	4.2	65.0	289	1.502	7	P130	09D41L	1	8.1
15.0	579	1.3	25.0	289	1.192	7	P44	09D41L	1	6.0
15.0	579	1.3	25.0	289	1.192	7	P44	09D41-	1	5.9
16.0	450	4.4	130	225	1.725	9	P130	09D41-	2	8.5
16.0	450	4.4	130	225	1.725	9	P130	09D41L	2	8.6
17.0	506	2.8	50.0	253	1.488	8	P130	09D41-	1	8.0
17.0	506	2.8	50.0	253	1.488	8	P130	09D41L	1	8.1
18.0	506	1.0	18.0	253	1.190	8	P44	09D41L	1	6.0
18.0	506	1.0	18.0	253	1.190	8	P44	09D41-	1	5.9
19.0	450	1.6	44.0	225	1.243	9	P44	09D41-	2	6.1
19.0	450	1.6	44.0	225	1.243	9	P44	09D41L	2	6.2
20.0	405	4.3	95.0	203	2.481	10	P260	09D41-	1	11
20.0	405	4.3	95.0	203	2.481	10	P260	09D41L	1	12
21.0	338	4.3	120	169	1.699	12	P130	09D41-	2	8.5
21.0	338	4.3	120	169	1.699	12	P130	09D41L	2	8.6
22.0	405	1.7	38.0	203	1.471	10	P130	09D41-	1	8.0
22.0	405	1.7	38.0	203	1.471	10	P130	09D41L	1	8.1
26.0	338	1.3	44.0	169	1.239	12	P44	09D41L	2	6.2
26.0	338	1.3	44.0	169	1.239	12	P44	09D41-	2	6.1
29.0	270	3.3	110	135	1.691	15	P130	09D41-	2	8.5
29.0	270	3.3	110	135	1.691	15	P130	09D41L	2	8.6
31.0	253	3.4	120	127	1.554	16	P130	09D41-	2	8.5
31.0	253	3.4	120	127	1.554	16	P130	09D41L	2	8.6
31.0	203	5.9	260	101	2.674	20	P260	09D41-	2	13
31.0	203	5.9	260	101	2.674	20	P260	09D41L	2	14
32.0	270	1.1	44.0	135	1.197	15	P44	09D41-	2	6.1
32.0	270	1.1	44.0	135	1.197	15	P44	09D41L	2	6.2
35.0	253	1.0	44.0	127	1.206	16	P44	09D41-	2	6.1
35.0	253	1.0	44.0	127	1.206	16	P44	09D41L	2	6.2
41.0	203	2.7	120	101	1.509	20	P130	09D41L	2	8.6
41.0	203	2.7	120	101	1.509	20	P130	09D41-	2	8.5
45.0	162	4.2	230	81.0	2.666	25	P260	09D41-	2	13
45.0	162	4.2	230	81.0	2.666	25	P260	09D41L	2	14
54.0	162	2.0	110	81.0	1.506	25	P130	09D41-	2	8.5
54.0	162	2.0	110	81.0	1.506	25	P130	09D41L	2	8.6
60.0	127	3.7	260	63.0	2.520	32	P260	09D41L	2	14
60.0	127	3.7	260	63.0	2.520	32	P260	09D41-	2	13
69.0	127	1.7	120	63.0	1.467	32	P130	09D41-	2	8.5
69.0	127	1.7	120	63.0	1.467	32	P130	09D41L	2	8.6
82.0	101	2.7	230	51.0	2.517	40	P260	09D41-	2	13
82.0	101	2.7	230	51.0	2.517	40	P260	09D41L	2	14
86.0	101	1.3	110	51.0	1.466	40	P130	09D41-	2	8.5



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
86.0	101	1.3	110	51.0	1.466	40	P130	09D41L	2	8.6
124	67.5	2.1	260	34.0	3.296	60	P260	09D41-	3	15
124	67.5	2.1	260	34.0	3.296	60	P260	09D41L	3	16
166	50.6	1.6	260	25.0	2.670	80	P260	09D41-	3	15
166	50.6	1.6	260	25.0	2.670	80	P260	09D41L	3	16
207	40.5	1.3	260	20.0	2.663	100	P260	09D41L	3	16
207	40.5	1.3	260	20.0	2.663	100	P260	09D41-	3	15



1.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.8	2000	3.8	28.0	1000	1.262	3	P44	09D60-	1	5.9
4.8	2000	3.8	28.0	1000	1.262	3	P44	09D60L	1	6.0
6.6	1500	3.1	38.0	750	1.220	4	P44	09D60-	1	5.9
6.6	1500	3.1	38.0	750	1.220	4	P44	09D60L	1	6.0
8.4	1200	2.5	40.0	600	1.205	5	P44	09D60-	1	5.9
8.4	1200	2.5	40.0	600	1.205	5	P44	09D60L	1	6.0
11.0	857	5.0	65.0	429	1.502	7	P130	09D60-	1	8.0
11.0	857	5.0	65.0	429	1.502	7	P130	09D60L	1	8.1
12.0	857	1.5	25.0	429	1.192	7	P44	09D60-	1	5.9
12.0	857	1.5	25.0	429	1.192	7	P44	09D60L	1	6.0
12.0	667	5.0	130	333	1.725	9	P130	09D60L	2	8.6
12.0	667	5.0	130	333	1.725	9	P130	09D60-	2	8.5
13.0	750	3.6	50.0	375	1.488	8	P130	09D60-	1	8.0
13.0	750	3.6	50.0	375	1.488	8	P130	09D60L	1	8.1
14.0	750	1.3	18.0	375	1.190	8	P44	09D60-	1	5.9
14.0	750	1.3	18.0	375	1.190	8	P44	09D60L	1	6.0
15.0	667	1.8	44.0	333	1.243	9	P44	09D60-	2	6.1
15.0	667	1.8	44.0	333	1.243	9	P44	09D60L	2	6.2
15.0	650	2.9	85.0	325	4.783	3	P130	12D20-	1	10
15.0	650	2.9	85.0	325	4.783	3	P130	12D20L	1	10
15.0	600	5.4	95.0	300	2.481	10	P260	09D60-	1	11
15.0	600	5.4	95.0	300	2.481	10	P260	09D60L	1	12
16.0	500	4.9	120	250	1.699	12	P130	09D60-	2	8.5
16.0	500	4.9	120	250	1.699	12	P130	09D60L	2	8.6
17.0	600	2.2	38.0	300	1.471	10	P130	09D60L	1	8.1
17.0	600	2.2	38.0	300	1.471	10	P130	09D60-	1	8.0
19.0	488	4.7	115	244	4.548	4	P130	12D20-	1	10
19.0	488	4.7	115	244	4.548	4	P130	12D20L	1	10
20.0	500	1.4	44.0	250	1.239	12	P44	09D60L	2	6.2
20.0	500	1.4	44.0	250	1.239	12	P44	09D60-	2	6.1
21.0	400	4.1	110	200	1.691	15	P130	09D60-	2	8.5
21.0	400	4.1	110	200	1.691	15	P130	09D60L	2	8.6
23.0	375	4.0	120	188	1.554	16	P130	09D60L	2	8.6
23.0	375	4.0	120	188	1.554	16	P130	09D60-	2	8.5
24.0	390	4.0	110	195	4.469	5	P130	12D20L	1	10
24.0	390	4.0	110	195	4.469	5	P130	12D20-	1	10
25.0	400	1.3	44.0	200	1.197	15	P44	09D60-	2	6.1
25.0	400	1.3	44.0	200	1.197	15	P44	09D60L	2	6.2
27.0	375	1.2	44.0	188	1.206	16	P44	09D60-	2	6.1
27.0	375	1.2	44.0	188	1.206	16	P44	09D60L	2	6.2
30.0	300	3.4	120	150	1.509	20	P130	09D60-	2	8.5
30.0	300	3.4	120	150	1.509	20	P130	09D60L	2	8.6
32.0	240	5.4	230	120	2.666	25	P260	09D60-	2	13
32.0	240	5.4	230	120	2.666	25	P260	09D60L	2	14
34.0	300	1.0	44.0	150	1.196	20	P44	09D60-	2	6.1
34.0	300	1.0	44.0	150	1.196	20	P44	09D60L	2	6.2
34.0	279	3.6	135	139	5.469	7	P260	12D20-	1	14
34.0	279	3.6	135	139	5.469	7	P260	12D20L	1	14
37.0	279	1.7	65.0	139	4.402	7	P130	12D20L	1	10
37.0	279	1.7	65.0	139	4.402	7	P130	12D20-	1	10
40.0	240	2.6	110	120	1.506	25	P130	09D60-	2	8.5



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
40.0	240	2.6	110	120	1.506	25	P130	09D60L	2	8.6
40.0	217	3.9	210	108	6.292	9	P260	12D20-	2	16
40.0	217	3.9	210	108	6.292	9	P260	12D20L	2	16
41.0	244	2.8	120	122	5.436	8	P260	12D20-	1	14
41.0	244	2.8	120	122	5.436	8	P260	12D20L	1	14
42.0	244	1.2	50.0	122	4.388	8	P130	12D20-	1	10
42.0	244	1.2	50.0	122	4.388	8	P130	12D20L	1	10
43.0	188	4.8	260	94.0	2.520	32	P260	09D60-	2	13
43.0	188	4.8	260	94.0	2.520	32	P260	09D60L	2	14
45.0	217	2.3	130	108	4.625	9	P130	12D20L	2	11
45.0	217	2.3	130	108	4.625	9	P130	12D20-	2	11
52.0	163	4.1	260	81.0	6.226	12	P260	12D20-	2	16
52.0	163	4.1	260	81.0	6.226	12	P260	12D20L	2	16
53.0	195	1.8	95.0	98.0	5.381	10	P260	12D20-	1	14
53.0	195	1.8	95.0	98.0	5.381	10	P260	12D20L	1	14
53.0	188	2.2	120	94.0	1.467	32	P130	09D60-	2	8.5
53.0	188	2.2	120	94.0	1.467	32	P130	09D60L	2	8.6
61.0	150	3.4	230	75.0	2.517	40	P260	09D60-	2	13
61.0	150	3.4	230	75.0	2.517	40	P260	09D60L	2	14
62.0	163	1.9	120	81.0	4.599	12	P130	12D20-	2	11
62.0	163	1.9	120	81.0	4.599	12	P130	12D20L	2	11
68.0	150	1.6	110	75.0	1.466	40	P130	09D60-	2	8.5
68.0	150	1.6	110	75.0	1.466	40	P130	09D60L	2	8.6
72.0	130	2.9	230	65.0	6.204	15	P260	12D20-	2	16
72.0	130	2.9	230	65.0	6.204	15	P260	12D20L	2	16
76.0	122	3.1	260	61.0	5.748	16	P260	12D20-	2	16
76.0	122	3.1	260	61.0	5.748	16	P260	12D20L	2	16
78.0	130	1.4	110	65.0	4.591	15	P130	12D20-	2	11
78.0	130	1.4	110	65.0	4.591	15	P130	12D20L	2	11
83.0	122	1.4	120	61.0	4.454	16	P130	12D20-	2	11
83.0	122	1.4	120	61.0	4.454	16	P130	12D20L	2	11
91.0	100	2.6	260	50.0	3.296	60	P260	09D60L	3	16
91.0	100	2.6	260	50.0	3.296	60	P260	09D60-	3	15
97.0	100	1.1	110	50.0	1.684	60	P130	09D60-	3	9.0
97.0	100	1.1	110	50.0	1.684	60	P130	09D60L	3	9.1
100	97.5	2.5	260	49.0	5.574	20	P260	12D20-	2	16
100	97.5	2.5	260	49.0	5.574	20	P260	12D20L	2	16
103	97.5	1.1	120	49.0	4.409	20	P130	12D20-	2	11
103	97.5	1.1	120	49.0	4.409	20	P130	12D20L	2	11
103	93.8	1.2	120	47.0	2.514	64	P260	09D60-	2	13
103	93.8	1.2	120	47.0	2.514	64	P260	09D60L	2	14
129	78.0	1.8	230	39.0	5.566	25	P260	12D20L	2	16
129	78.0	1.8	230	39.0	5.566	25	P260	12D20-	2	16
130	75.0	2.0	260	38.0	2.670	80	P260	09D60-	3	15
130	75.0	2.0	260	38.0	2.670	80	P260	09D60L	3	16
162	60.0	1.6	260	30.0	2.663	100	P260	09D60-	3	15
162	60.0	1.6	260	30.0	2.663	100	P260	09D60L	3	16
165	60.9	1.6	260	30.0	5.420	32	P260	12D20-	2	16
165	60.9	1.6	260	30.0	5.420	32	P260	12D20L	2	16
190	50.0	1.2	230	25.0	3.279	120	P260	09D60-	3	15
190	50.0	1.2	230	25.0	3.279	120	P260	09D60L	3	16
207	48.8	1.1	230	24.0	5.417	40	P260	12D20L	2	16



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
207	48.8	1.1	230	24.0	5.417	40	P260	12D20-	2	16
251	37.5	1.0	260	19.0	2.516	160	P260	09D60-	3	15
251	37.5	1.0	260	19.0	2.516	160	P260	09D60L	3	16



1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.1	1250	4.3	85.0	625	2.283	3	P130	09F38-	1	8.9
8.1	1250	4.3	85.0	625	2.283	3	P130	09F38L	1	9.0
8.7	1250	2.6	28.0	625	1.662	3	P44	09F38-	1	6.8
8.7	1250	2.6	28.0	625	1.662	3	P44	09F38L	1	6.9
12.0	938	2.0	38.0	469	1.620	4	P44	09F38-	1	6.8
12.0	938	2.0	38.0	469	1.620	4	P44	09F38L	1	6.9
13.0	750	5.8	110	375	1.969	5	P130	09F38L	1	9.0
13.0	750	5.8	110	375	1.969	5	P130	09F38-	1	8.9
15.0	750	1.7	40.0	375	1.605	5	P44	09F38-	1	6.8
15.0	750	1.7	40.0	375	1.605	5	P44	09F38L	1	6.9
19.0	417	5.7	210	208	3.792	9	P260	09F38-	2	14
19.0	417	5.7	210	208	3.792	9	P260	09F38L	2	14
20.0	536	3.1	65.0	268	1.902	7	P130	09F38-	1	8.9
20.0	536	3.1	65.0	268	1.902	7	P130	09F38L	1	9.0
21.0	469	5.0	120	234	2.936	8	P260	09F38-	1	12
21.0	469	5.0	120	234	2.936	8	P260	09F38L	1	12
24.0	469	2.1	50.0	234	1.888	8	P130	09F38-	1	8.9
24.0	469	2.1	50.0	234	1.888	8	P130	09F38L	1	9.0
24.0	417	3.4	130	208	2.125	9	P130	09F38-	2	9.4
24.0	417	3.4	130	208	2.125	9	P130	09F38L	2	9.5
26.0	417	1.2	44.0	208	1.643	9	P44	09F38-	2	7.0
26.0	417	1.2	44.0	208	1.643	9	P44	09F38L	2	7.1
28.0	375	3.2	95.0	188	2.881	10	P260	09F38-	1	12
28.0	375	3.2	95.0	188	2.881	10	P260	09F38L	1	12
30.0	375	1.3	38.0	188	1.871	10	P130	09F38-	1	8.9
30.0	375	1.3	38.0	188	1.871	10	P130	09F38L	1	9.0
32.0	313	3.3	120	156	2.099	12	P130	09F38-	2	9.4
32.0	313	3.3	120	156	2.099	12	P130	09F38L	2	9.5
33.0	250	5.2	230	125	3.704	15	P260	09F38-	2	14
33.0	250	5.2	230	125	3.704	15	P260	09F38L	2	14
35.0	234	5.5	260	117	3.248	16	P260	09F38L	2	14
35.0	234	5.5	260	117	3.248	16	P260	09F38-	2	14
42.0	250	2.5	110	125	2.091	15	P130	09F38-	2	9.4
42.0	250	2.5	110	125	2.091	15	P130	09F38L	2	9.5
45.0	234	2.5	120	117	1.954	16	P130	09F38-	2	9.4
45.0	234	2.5	120	117	1.954	16	P130	09F38L	2	9.5
48.0	188	4.4	260	94.0	3.074	20	P260	09F38-	2	14
48.0	188	4.4	260	94.0	3.074	20	P260	09F38L	2	14
58.0	188	2.0	120	94.0	1.909	20	P130	09F38-	2	9.4
58.0	188	2.0	120	94.0	1.909	20	P130	09F38L	2	9.5
67.0	150	3.1	230	75.0	3.066	25	P260	09F38L	2	14
67.0	150	3.1	230	75.0	3.066	25	P260	09F38-	2	14
73.0	150	1.5	110	75.0	1.906	25	P130	09F38-	2	9.4
73.0	150	1.5	110	75.0	1.906	25	P130	09F38L	2	9.5
88.0	117	2.8	260	59.0	2.920	32	P260	09F38-	2	14
88.0	117	2.8	260	59.0	2.920	32	P260	09F38L	2	14
93.0	117	1.3	120	59.0	1.867	32	P130	09F38-	2	9.4
93.0	117	1.3	120	59.0	1.867	32	P130	09F38L	2	9.5
117	93.8	2.0	230	47.0	2.917	40	P260	09F38-	2	14
117	93.8	2.0	230	47.0	2.917	40	P260	09F38L	2	14
167	62.5	1.5	260	31.0	3.696	60	P260	09F38-	3	16



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
167	62.5	1.5	260	31.0	3.696	60	P260	09F38L	3	16
223	46.9	1.2	260	23.0	3.070	80	P260	09F38-	3	16
223	46.9	1.2	260	23.0	3.070	80	P260	09F38L	3	16

1.45 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
24.0	500	4.3	115	250	10.493	3	P260	14D15-	1	36
32.0	375	4.3	155	188	9.953	4	P260	14D15-	1	36
40.0	300	4.3	195	150	9.744	5	P260	14D15-	1	36
61.0	214	2.2	135	107	9.569	7	P260	14D15-	1	36
71.0	188	1.7	120	94.0	9.536	8	P260	14D15-	1	36
75.0	167	2.5	210	83.0	10.392	9	P260	14D15-	2	38
88.0	150	1.1	95.0	75.0	9.481	10	P260	14D15-	1	36
100	125	2.5	260	63.0	10.326	12	P260	14D15-	2	38
130	100	1.7	230	50.0	10.304	15	P260	14D15-	2	38
138	93.8	1.8	260	47.0	9.848	16	P260	14D15-	2	38
173	75.0	1.5	260	38.0	9.674	20	P260	14D15-	2	38
216	60.0	1.1	230	30.0	9.666	25	P260	14D15-	2	38



1.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.1	2000	4.8	85.0	1000	2.283	3	P130	09F60-	1	8.9
6.1	2000	4.8	85.0	1000	2.283	3	P130	09F60L	1	9.0
6.7	2000	2.9	28.0	1000	1.662	3	P44	09F60-	1	6.8
6.7	2000	2.9	28.0	1000	1.662	3	P44	09F60L	1	6.9
9.1	1500	2.3	38.0	750	1.620	4	P44	09F60L	1	6.9
9.1	1500	2.3	38.0	750	1.620	4	P44	09F60-	1	6.8
12.0	1200	1.9	40.0	600	1.605	5	P44	09F60L	1	6.9
12.0	1200	1.9	40.0	600	1.605	5	P44	09F60-	1	6.8
15.0	857	3.8	65.0	429	1.902	7	P130	09F60-	1	8.9
15.0	857	3.8	65.0	429	1.902	7	P130	09F60L	1	9.0
16.0	857	1.1	25.0	429	1.592	7	P44	09F60-	1	6.8
16.0	857	1.1	25.0	429	1.592	7	P44	09F60L	1	6.9
18.0	750	2.7	50.0	375	1.888	8	P130	09F60-	1	8.9
18.0	750	2.7	50.0	375	1.888	8	P130	09F60L	1	9.0
18.0	667	3.8	130	333	2.125	9	P130	09F60-	2	9.4
18.0	667	3.8	130	333	2.125	9	P130	09F60L	2	9.5
20.0	667	1.4	44.0	333	1.643	9	P44	09F60-	2	7.0
20.0	667	1.4	44.0	333	1.643	9	P44	09F60L	2	7.1
21.0	600	4.1	95.0	300	2.881	10	P260	09F60-	1	12
21.0	600	4.1	95.0	300	2.881	10	P260	09F60L	1	12
23.0	600	1.7	38.0	300	1.871	10	P130	09F60-	1	8.9
23.0	600	1.7	38.0	300	1.871	10	P130	09F60L	1	9.0
24.0	500	3.7	120	250	2.099	12	P130	09F60-	2	9.4
24.0	500	3.7	120	250	2.099	12	P130	09F60L	2	9.5
27.0	500	1.1	44.0	250	1.639	12	P44	09F60-	2	7.0
27.0	500	1.1	44.0	250	1.639	12	P44	09F60L	2	7.1
31.0	400	3.1	110	200	2.091	15	P130	09F60-	2	9.4
31.0	400	3.1	110	200	2.091	15	P130	09F60L	2	9.5
33.0	375	3.0	120	188	1.954	16	P130	09F60-	2	9.4
33.0	375	3.0	120	188	1.954	16	P130	09F60L	2	9.5
33.0	300	5.6	260	150	3.074	20	P260	09F60-	2	14
33.0	300	5.6	260	150	3.074	20	P260	09F60L	2	14
43.0	300	2.6	120	150	1.909	20	P130	09F60-	2	9.4
43.0	300	2.6	120	150	1.909	20	P130	09F60L	2	9.5
48.0	240	4.0	230	120	3.066	25	P260	09F60-	2	14
48.0	240	4.0	230	120	3.066	25	P260	09F60L	2	14
56.0	240	1.9	110	120	1.906	25	P130	09F60-	2	9.4
56.0	240	1.9	110	120	1.906	25	P130	09F60L	2	9.5
64.0	188	3.6	260	94.0	2.920	32	P260	09F60L	2	14
64.0	188	3.6	260	94.0	2.920	32	P260	09F60-	2	14
72.0	188	1.6	120	94.0	1.867	32	P130	09F60-	2	9.4
72.0	188	1.6	120	94.0	1.867	32	P130	09F60L	2	9.5
87.0	150	2.6	230	75.0	2.917	40	P260	09F60-	2	14
87.0	150	2.6	230	75.0	2.917	40	P260	09F60L	2	14
90.0	150	1.2	110	75.0	1.866	40	P130	09F60-	2	9.4
90.0	150	1.2	110	75.0	1.866	40	P130	09F60L	2	9.5
130	100	2.0	260	50.0	3.696	60	P260	09F60-	3	16
130	100	2.0	260	50.0	3.696	60	P260	09F60L	3	16
173	75.0	1.5	260	38.0	3.070	80	P260	09F60-	3	16
173	75.0	1.5	260	38.0	3.070	80	P260	09F60L	3	16
216	60.0	1.2	260	30.0	3.063	100	P260	09F60-	3	16



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
216	60.0	1.2	260	30.0	3.063	100	P260	09F60L	3	16



1.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
10.0	1350	3.4	85.0	675	2.683	3	P130	09H41-	1	9.8
10.0	1350	3.4	85.0	675	2.683	3	P130	09H41L	1	9.9
12.0	1013	5.5	115	506	2.448	4	P130	09H41-	1	9.8
12.0	1013	5.5	115	506	2.448	4	P130	09H41L	1	9.9
16.0	810	4.6	110	405	2.369	5	P130	09H41-	1	9.8
16.0	810	4.6	110	405	2.369	5	P130	09H41L	1	9.9
22.0	579	5.2	135	289	3.369	7	P260	09H41-	1	13
22.0	579	5.2	135	289	3.369	7	P260	09H41L	1	13
25.0	579	2.5	65.0	289	2.302	7	P130	09H41-	1	9.8
25.0	579	2.5	65.0	289	2.302	7	P130	09H41L	1	9.9
26.0	450	4.6	210	225	4.192	9	P260	09H41-	2	15
26.0	450	4.6	210	225	4.192	9	P260	09H41L	2	15
27.0	506	4.1	120	253	3.336	8	P260	09H41-	1	13
27.0	506	4.1	120	253	3.336	8	P260	09H41L	1	13
27.0	500	3.9	115	250	9.693	3	P260	12H15-	1	17
27.0	500	3.9	115	250	9.693	3	P260	12H15L	1	17
29.0	506	1.7	50.0	253	2.288	8	P130	09H41-	1	9.8
29.0	506	1.7	50.0	253	2.288	8	P130	09H41L	1	9.9
29.0	500	1.8	85.0	250	8.083	3	P130	12H15-	1	13
29.0	500	1.8	85.0	250	8.083	3	P130	12H15L	1	13
30.0	338	5.9	260	169	4.126	12	P260	09H41-	2	15
30.0	338	5.9	260	169	4.126	12	P260	09H41L	2	15
31.0	450	2.7	130	225	2.525	9	P130	09H41-	2	10
31.0	450	2.7	130	225	2.525	9	P130	09H41L	2	10
35.0	375	4.0	155	188	9.153	4	P260	12H15L	1	17
35.0	375	4.0	155	188	9.153	4	P260	12H15-	1	17
36.0	405	1.0	38.0	203	2.271	10	P130	09H41-	1	9.8
36.0	405	1.0	38.0	203	2.271	10	P130	09H41L	1	9.9
36.0	405	2.6	95.0	203	3.281	10	P260	09H41L	1	13
36.0	405	2.6	95.0	203	3.281	10	P260	09H41-	1	13
37.0	375	2.8	115	188	7.848	4	P130	12H15-	1	13
37.0	375	2.8	115	188	7.848	4	P130	12H15L	1	13
41.0	338	2.6	120	169	2.499	12	P130	09H41-	2	10
41.0	338	2.6	120	169	2.499	12	P130	09H41L	2	10
44.0	300	4.0	195	150	8.944	5	P260	12H15-	1	17
44.0	300	4.0	195	150	8.944	5	P260	12H15L	1	17
45.0	270	4.2	230	135	4.104	15	P260	09H41-	2	15
45.0	270	4.2	230	135	4.104	15	P260	09H41L	2	15
47.0	253	4.5	260	127	3.648	16	P260	09H41-	2	15
47.0	253	4.5	260	127	3.648	16	P260	09H41L	2	15
48.0	300	2.2	110	150	7.769	5	P130	12H15-	1	13
48.0	300	2.2	110	150	7.769	5	P130	12H15L	1	13
54.0	270	2.0	110	135	2.491	15	P130	09H41-	2	10
54.0	270	2.0	110	135	2.491	15	P130	09H41L	2	10
57.0	253	2.1	120	127	2.354	16	P130	09H41-	2	10
57.0	253	2.1	120	127	2.354	16	P130	09H41L	2	10
63.0	203	3.6	260	101	3.474	20	P260	09H41-	2	15
63.0	203	3.6	260	101	3.474	20	P260	09H41L	2	15
67.0	214	2.0	135	107	8.769	7	P260	12H15L	1	17
67.0	214	2.0	135	107	8.769	7	P260	12H15-	1	17
71.0	203	1.6	120	101	2.309	20	P130	09H41-	2	10



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
71.0	203	1.6	120	101	2.309	20	P130	09H41L	2	10
77.0	188	1.6	120	94.0	8.736	8	P260	12H15L	1	17
77.0	188	1.6	120	94.0	8.736	8	P260	12H15-	1	17
83.0	167	2.3	210	83.0	9.592	9	P260	12H15-	2	19
83.0	167	2.3	210	83.0	9.592	9	P260	12H15L	2	19
85.0	167	1.4	130	83.0	7.925	9	P130	12H15-	2	14
85.0	167	1.4	130	83.0	7.925	9	P130	12H15L	2	14
86.0	162	2.6	230	81.0	3.466	25	P260	09H41-	2	15
86.0	162	2.6	230	81.0	3.466	25	P260	09H41L	2	15
89.0	162	1.2	110	81.0	2.306	25	P130	09H41-	2	10
89.0	162	1.2	110	81.0	2.306	25	P130	09H41L	2	10
111	125	2.3	260	63.0	9.526	12	P260	12H15L	2	19
111	125	2.3	260	63.0	9.526	12	P260	12H15-	2	19
112	127	2.3	260	63.0	3.320	32	P260	09H41-	2	15
112	127	2.3	260	63.0	3.320	32	P260	09H41L	2	15
113	125	1.0	120	63.0	7.899	12	P130	12H15-	2	14
113	125	1.0	120	63.0	7.899	12	P130	12H15L	2	14
114	127	1.0	120	63.0	2.267	32	P130	09H41-	2	10
114	127	1.0	120	63.0	2.267	32	P130	09H41L	2	10
141	100	1.6	230	50.0	9.504	15	P260	12H15L	2	19
141	100	1.6	230	50.0	9.504	15	P260	12H15-	2	19
143	101	1.6	230	51.0	3.317	40	P260	09H41-	2	15
143	101	1.6	230	51.0	3.317	40	P260	09H41L	2	15
150	93.8	1.7	260	47.0	9.048	16	P260	12H15-	2	19
150	93.8	1.7	260	47.0	9.048	16	P260	12H15L	2	19
188	75.0	1.4	260	38.0	8.874	20	P260	12H15-	2	19
188	75.0	1.4	260	38.0	8.874	20	P260	12H15L	2	19
205	67.5	1.2	260	34.0	4.096	60	P260	09H41-	3	17
205	67.5	1.2	260	34.0	4.096	60	P260	09H41L	3	17



1.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
12.0	1350	3.0	85.0	675	4.783	3	P130	12D41-	1	10
12.0	1350	3.0	85.0	675	4.783	3	P130	12D41L	1	10
15.0	1013	4.9	115	506	4.548	4	P130	12D41-	1	10
15.0	1013	4.9	115	506	4.548	4	P130	12D41L	1	10
19.0	810	4.1	110	405	4.469	5	P130	12D41-	1	10
19.0	810	4.1	110	405	4.469	5	P130	12D41L	1	10
26.0	579	4.6	135	289	5.469	7	P260	12D41-	1	14
26.0	579	4.6	135	289	5.469	7	P260	12D41L	1	14
29.0	579	2.2	65.0	289	4.402	7	P130	12D41-	1	10
29.0	579	2.2	65.0	289	4.402	7	P130	12D41L	1	10
31.0	506	3.6	120	253	5.436	8	P260	12D41-	1	14
31.0	506	3.6	120	253	5.436	8	P260	12D41L	1	14
31.0	450	4.0	210	225	6.292	9	P260	12D41L	2	16
31.0	450	4.0	210	225	6.292	9	P260	12D41-	2	16
33.0	506	1.5	50.0	253	4.388	8	P130	12D41-	1	10
33.0	506	1.5	50.0	253	4.388	8	P130	12D41L	1	10
35.0	450	2.4	130	225	4.625	9	P130	12D41-	2	11
35.0	450	2.4	130	225	4.625	9	P130	12D41L	2	11
37.0	338	5.3	260	169	6.226	12	P260	12D41-	2	16
37.0	338	5.3	260	169	6.226	12	P260	12D41L	2	16
41.0	405	2.3	95.0	203	5.381	10	P260	12D41-	1	14
41.0	405	2.3	95.0	203	5.381	10	P260	12D41L	1	14
47.0	338	2.3	120	169	4.599	12	P130	12D41-	2	11
47.0	338	2.3	120	169	4.599	12	P130	12D41L	2	11
53.0	270	3.7	230	135	6.204	15	P260	12D41-	2	16
53.0	270	3.7	230	135	6.204	15	P260	12D41L	2	16
55.0	253	3.9	260	127	5.748	16	P260	12D41-	2	16
55.0	253	3.9	260	127	5.748	16	P260	12D41L	2	16
61.0	270	1.8	110	135	4.591	15	P130	12D41-	2	11
61.0	270	1.8	110	135	4.591	15	P130	12D41L	2	11
65.0	253	1.8	120	127	4.454	16	P130	12D41L	2	11
65.0	253	1.8	120	127	4.454	16	P130	12D41-	2	11
74.0	203	3.2	260	101	5.574	20	P260	12D41-	2	16
74.0	203	3.2	260	101	5.574	20	P260	12D41L	2	16
81.0	203	1.5	120	101	4.409	20	P130	12D41L	2	11
81.0	203	1.5	120	101	4.409	20	P130	12D41-	2	11
99.0	162	2.3	230	81.0	5.566	25	P260	12D41-	2	16
99.0	162	2.3	230	81.0	5.566	25	P260	12D41L	2	16
101	162	1.1	110	81.0	4.406	25	P130	12D41-	2	11
101	162	1.1	110	81.0	4.406	25	P130	12D41L	2	11
129	127	2.0	260	63.0	5.420	32	P260	12D41L	2	16
129	127	2.0	260	63.0	5.420	32	P260	12D41-	2	16
162	101	1.4	230	51.0	5.417	40	P260	12D41-	2	16
162	101	1.4	230	51.0	5.417	40	P260	12D41L	2	16
232	67.5	1.1	260	34.0	6.196	60	P260	12D41-	3	18
232	67.5	1.1	260	34.0	6.196	60	P260	12D41L	3	18



1.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.0	2000	3.9	85.0	1000	2.683	3	P130	09H60-	1	9.8
8.0	2000	3.9	85.0	1000	2.683	3	P130	09H60L	1	9.9
9.8	1700	3.4	85.0	850	3.583	3	P130	09L51-	1	12
12.0	1350	2.9	85.0	675	3.583	3	P130	09L41-	1	12
12.0	1350	2.9	85.0	675	3.583	3	P130	09L41L	1	12
12.0	1275	5.4	115	638	3.348	4	P130	09L51-	1	12
12.0	1200	5.2	110	600	2.369	5	P130	09H60-	1	9.8
12.0	1200	5.2	110	600	2.369	5	P130	09H60L	1	9.9
15.0	1020	4.5	110	510	3.269	5	P130	09L51-	1	12
15.0	1013	4.7	115	506	3.348	4	P130	09L41L	1	12
15.0	1013	4.7	115	506	3.348	4	P130	09L41-	1	12
19.0	857	3.0	65.0	429	2.302	7	P130	09H60-	1	9.8
19.0	857	3.0	65.0	429	2.302	7	P130	09H60L	1	9.9
19.0	667	5.1	210	333	4.192	9	P260	09H60-	2	15
19.0	667	5.1	210	333	4.192	9	P260	09H60L	2	15
20.0	810	3.9	110	405	3.269	5	P130	09L41-	1	12
20.0	810	3.9	110	405	3.269	5	P130	09L41L	1	12
20.0	750	5.2	120	375	3.336	8	P260	09H60-	1	13
20.0	750	5.2	120	375	3.336	8	P260	09H60L	1	13
21.0	729	5.5	135	364	4.269	7	P260	09L51-	1	15
23.0	750	2.2	50.0	375	2.288	8	P130	09H60-	1	9.8
23.0	750	2.2	50.0	375	2.288	8	P130	09H60L	1	9.9
23.0	667	3.0	130	333	2.525	9	P130	09H60-	2	10
23.0	667	3.0	130	333	2.525	9	P130	09H60L	2	10
24.0	729	2.6	65.0	364	3.202	7	P130	09L51-	1	12
25.0	638	4.3	120	319	4.236	8	P260	09L51-	1	15
25.0	567	4.5	210	283	5.092	9	P260	09L51-	2	17
27.0	600	3.3	95.0	300	3.281	10	P260	09H60-	1	13
27.0	600	3.3	95.0	300	3.281	10	P260	09H60L	1	13
27.0	579	4.4	135	289	4.269	7	P260	09L41L	1	15
27.0	579	4.4	135	289	4.269	7	P260	09L41-	1	15
28.0	638	1.8	50.0	319	3.188	8	P130	09L51-	1	12
29.0	600	1.3	38.0	300	2.271	10	P130	09H60-	1	9.8
29.0	600	1.3	38.0	300	2.271	10	P130	09H60L	1	9.9
29.0	567	2.6	130	283	3.425	9	P130	09L51-	2	12
29.0	425	5.9	260	213	5.026	12	P260	09L51-	2	17
30.0	579	2.1	65.0	289	3.202	7	P130	09L41-	1	12
30.0	579	2.1	65.0	289	3.202	7	P130	09L41L	1	12
31.0	500	2.9	120	250	2.499	12	P130	09H60L	2	10
31.0	500	2.9	120	250	2.499	12	P130	09H60-	2	10
32.0	506	3.4	120	253	4.236	8	P260	09L41-	1	15
32.0	506	3.4	120	253	4.236	8	P260	09L41L	1	15
32.0	400	5.3	230	200	4.104	15	P260	09H60-	2	15
32.0	400	5.3	230	200	4.104	15	P260	09H60L	2	15
33.0	450	3.9	210	225	5.092	9	P260	09L41-	2	17
33.0	450	3.9	210	225	5.092	9	P260	09L41L	2	17
33.0	375	5.5	260	188	3.648	16	P260	09H60L	2	15
33.0	375	5.5	260	188	3.648	16	P260	09H60-	2	15
34.0	510	2.7	95.0	255	4.181	10	P260	09L51-	1	15
35.0	510	1.1	38.0	255	3.171	10	P130	09L51-	1	12
35.0	506	1.4	50.0	253	3.188	8	P130	09L41L	1	12



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
35.0	506	1.4	50.0	253	3.188	8	P130	09L41-	1	12
37.0	450	2.3	130	225	3.425	9	P130	09L41-	2	12
37.0	450	2.3	130	225	3.425	9	P130	09L41L	2	12
39.0	425	2.6	120	213	3.399	12	P130	09L51-	2	12
39.0	338	5.0	260	169	5.026	12	P260	09L41-	2	17
39.0	338	5.0	260	169	5.026	12	P260	09L41L	2	17
41.0	400	2.5	110	200	2.491	15	P130	09H60-	2	10
41.0	400	2.5	110	200	2.491	15	P130	09H60L	2	10
42.0	340	4.4	230	170	5.004	15	P260	09L51-	2	17
43.0	405	2.2	95.0	203	4.181	10	P260	09L41L	1	15
43.0	405	2.2	95.0	203	4.181	10	P260	09L41-	1	15
43.0	319	4.7	260	159	4.548	16	P260	09L51-	2	17
44.0	375	2.4	120	188	2.354	16	P130	09H60-	2	10
44.0	375	2.4	120	188	2.354	16	P130	09H60L	2	10
46.0	300	4.5	260	150	3.474	20	P260	09H60-	2	15
46.0	300	4.5	260	150	3.474	20	P260	09H60L	2	15
50.0	340	2.1	110	170	3.391	15	P130	09L51-	2	12
50.0	338	2.2	120	169	3.399	12	P130	09L41-	2	12
50.0	338	2.2	120	169	3.399	12	P130	09L41L	2	12
54.0	319	2.1	120	159	3.254	16	P130	09L51-	2	12
56.0	300	2.1	120	150	2.309	20	P130	09H60-	2	10
56.0	300	2.1	120	150	2.309	20	P130	09H60L	2	10
56.0	270	3.6	230	135	5.004	15	P260	09L41-	2	17
56.0	270	3.6	230	135	5.004	15	P260	09L41L	2	17
59.0	255	3.8	260	128	4.374	20	P260	09L51-	2	17
59.0	253	3.8	260	127	4.548	16	P260	09L41-	2	17
59.0	253	3.8	260	127	4.548	16	P260	09L41L	2	17
63.0	270	1.7	110	135	3.391	15	P130	09L41L	2	12
63.0	270	1.7	110	135	3.391	15	P130	09L41-	2	12
64.0	240	3.2	230	120	3.466	25	P260	09H60-	2	15
64.0	240	3.2	230	120	3.466	25	P260	09H60L	2	15
68.0	255	1.7	120	128	3.209	20	P130	09L51-	2	12
68.0	253	1.7	120	127	3.254	16	P130	09L41-	2	12
68.0	253	1.7	120	127	3.254	16	P130	09L41L	2	12
71.0	240	1.5	110	120	2.306	25	P130	09H60L	2	10
71.0	240	1.5	110	120	2.306	25	P130	09H60-	2	10
78.0	203	3.0	260	101	4.374	20	P260	09L41-	2	17
78.0	203	3.0	260	101	4.374	20	P260	09L41L	2	17
80.0	204	2.7	230	102	4.366	25	P260	09L51-	2	17
85.0	204	1.3	110	102	3.206	25	P130	09L51-	2	12
85.0	203	1.4	120	101	3.209	20	P130	09L41L	2	12
85.0	203	1.4	120	101	3.209	20	P130	09L41-	2	12
85.0	188	2.9	260	94.0	3.320	32	P260	09H60L	2	15
85.0	188	2.9	260	94.0	3.320	32	P260	09H60-	2	15
90.0	188	1.3	120	94.0	2.267	32	P130	09H60L	2	10
90.0	188	1.3	120	94.0	2.267	32	P130	09H60-	2	10
105	162	2.2	230	81.0	4.366	25	P260	09L41L	2	17
105	162	2.2	230	81.0	4.366	25	P260	09L41-	2	17
105	159	2.4	260	80.0	4.220	32	P260	09L51-	2	17
106	162	1.0	110	81.0	3.206	25	P130	09L41-	2	12
106	162	1.0	110	81.0	3.206	25	P130	09L41L	2	12
108	159	1.1	120	80.0	3.167	32	P130	09L51-	2	12



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
112	150	2.0	230	75.0	3.317	40	P260	09H60-	2	15
112	150	2.0	230	75.0	3.317	40	P260	09H60L	2	15
135	128	1.7	230	64.0	4.217	40	P260	09L51-	2	17
135	127	1.9	260	63.0	4.220	32	P260	09L41-	2	17
135	127	1.9	260	63.0	4.220	32	P260	09L41L	2	17
162	100	1.6	260	50.0	4.096	60	P260	09H60-	3	17
162	100	1.6	260	50.0	4.096	60	P260	09H60L	3	17
169	101	1.4	230	51.0	4.217	40	P260	09L41L	2	17
169	101	1.4	230	51.0	4.217	40	P260	09L41-	2	17
194	85.0	1.3	260	43.0	4.996	60	P260	09L51-	3	19
216	75.0	1.2	260	38.0	3.470	80	P260	09H60-	3	17
216	75.0	1.2	260	38.0	3.470	80	P260	09H60L	3	17
243	67.5	1.1	260	34.0	4.996	60	P260	09L41-	3	19
243	67.5	1.1	260	34.0	4.996	60	P260	09L41L	3	19

2.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
20.0	1000	4.9	115	500	9.693	3	P260	12H30L	1	17
23.0	1000	1.8	85.0	500	8.083	3	P130	12H30L	1	13
27.0	750	4.9	155	375	9.153	4	P260	12H30L	1	17
30.0	750	2.9	115	375	7.848	4	P130	12H30L	1	13
34.0	600	5.0	195	300	8.944	5	P260	12H30L	1	17
38.0	600	2.4	110	300	7.769	5	P130	12H30L	1	13
45.0	500	2.4	115	250	16.593	3	P260	14H15-	1	41
53.0	429	2.5	135	214	8.769	7	P260	12H30L	1	17
54.0	429	1.2	65.0	214	7.702	7	P130	12H30L	1	13
60.0	375	2.5	155	188	16.053	4	P260	14H15-	1	41
61.0	375	1.9	120	188	8.736	8	P260	12H30L	1	17
66.0	333	2.4	210	167	9.592	9	P260	12H30L	2	19
68.0	333	1.4	130	167	7.925	9	P130	12H30L	2	14
75.0	300	2.5	195	150	15.844	5	P260	14H15-	1	41
77.0	300	1.2	95.0	150	8.681	10	P260	12H30L	1	17
85.0	250	2.8	260	125	9.526	12	P260	12H30L	2	19
90.0	250	1.3	120	125	7.899	12	P130	12H30L	2	14
108	214	1.2	135	107	15.669	7	P260	14H15-	1	41
113	200	2.0	230	100	9.504	15	P260	12H30L	2	19
119	188	2.1	260	94.0	9.048	16	P260	12H30L	2	19
135	167	1.5	210	83.0	16.492	9	P260	14H15-	2	43
150	150	1.7	260	75.0	8.874	20	P260	12H30L	2	19
180	125	1.4	260	63.0	16.426	12	P260	14H15-	2	43
188	120	1.2	230	60.0	8.866	25	P260	12H30L	2	19
241	93.8	1.1	260	47.0	15.948	16	P260	14H15-	2	43
241	93.8	1.1	260	47.0	8.720	32	P260	12H30L	2	19



2.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
19.0	1200	5.1	115	600	10.493	3	P260	14D36-	1	36
19.0	1175	5.1	115	588	9.693	3	P260	12H35-	1	17
22.0	1175	1.8	85.0	588	8.083	3	P130	12H35-	1	13
25.0	900	5.3	155	450	9.953	4	P260	14D36-	1	36
25.0	881	5.3	155	441	9.153	4	P260	12H35-	1	17
28.0	881	2.9	115	441	7.848	4	P130	12H35-	1	13
31.0	720	5.3	195	360	9.744	5	P260	14D36-	1	36
31.0	705	5.3	195	353	8.944	5	P260	12H35-	1	17
35.0	705	2.4	110	353	7.769	5	P130	12H35-	1	13
37.0	650	2.9	115	325	12.993	3	P260	12L20-	1	20
37.0	650	2.9	115	325	12.993	3	P260	12L20L	1	20
49.0	514	2.7	135	257	9.569	7	P260	14D36-	1	36
49.0	504	2.7	135	252	8.769	7	P260	12H35-	1	17
50.0	504	1.3	65.0	252	7.702	7	P130	12H35-	1	13
50.0	488	2.9	155	244	12.453	4	P260	12L20L	1	20
50.0	488	2.9	155	244	12.453	4	P260	12L20-	1	20
57.0	450	2.1	120	225	9.536	8	P260	14D36-	1	36
57.0	441	2.1	120	220	8.736	8	P260	12H35-	1	17
62.0	400	2.4	210	200	10.392	9	P260	14D36-	2	38
62.0	392	2.4	210	196	9.592	9	P260	12H35-	2	19
62.0	390	3.0	195	195	12.244	5	P260	12L20-	1	20
62.0	390	3.0	195	195	12.244	5	P260	12L20L	1	20
63.0	392	1.4	130	196	7.925	9	P130	12H35-	2	14
72.0	360	1.3	95.0	180	9.481	10	P260	14D36-	1	36
72.0	353	1.3	95.0	176	8.681	10	P260	12H35-	1	17
78.0	300	3.0	260	150	10.326	12	P260	14D36-	2	38
78.0	294	3.0	260	147	9.526	12	P260	12H35-	2	19
85.0	294	1.4	120	147	7.899	12	P130	12H35-	2	14
91.0	279	1.5	135	139	12.069	7	P260	12L20L	1	20
91.0	279	1.5	135	139	12.069	7	P260	12L20-	1	20
104	244	1.2	120	122	12.036	8	P260	12L20-	1	20
104	244	1.2	120	122	12.036	8	P260	12L20L	1	20
105	240	2.1	230	120	10.304	15	P260	14D36-	2	38
105	235	2.1	230	118	9.504	15	P260	12H35-	2	19
106	235	1.0	110	118	7.891	15	P130	12H35-	2	14
111	225	2.3	260	113	9.848	16	P260	14D36-	2	38
111	220	2.3	260	110	9.048	16	P260	12H35-	2	19
113	220	1.0	120	110	7.754	16	P130	12H35-	2	14
114	217	1.6	210	108	12.892	9	P260	12L20-	2	22
114	217	1.6	210	108	12.892	9	P260	12L20L	2	22
141	180	1.8	260	90.0	9.674	20	P260	14D36-	2	38
141	176	1.8	260	88.0	8.874	20	P260	12H35-	2	19
152	163	1.7	260	81.0	12.826	12	P260	12L20-	2	22
152	163	1.7	260	81.0	12.826	12	P260	12L20L	2	22
176	144	1.3	230	72.0	9.666	25	P260	14D36-	2	38
176	141	1.3	230	71.0	8.866	25	P260	12H35-	2	19
190	130	1.2	230	65.0	12.804	15	P260	12L20L	2	22
190	130	1.2	230	65.0	12.804	15	P260	12L20-	2	22
203	122	1.3	260	61.0	12.348	16	P260	12L20-	2	22
203	122	1.3	260	61.0	12.348	16	P260	12L20L	2	22
226	113	1.1	260	56.0	9.520	32	P260	14D36-	2	38



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
226	110	1.1	260	55.0	8.720	32	P260	12H35-	2	19
254	97.5	1.0	260	49.0	12.174	20	P260	12L20-	2	22
254	97.5	1.0	260	49.0	12.174	20	P260	12L20L	2	22

3.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
66.0	500	1.7	115	250	25.793	3	P260	14L15-	1	45
88.0	375	1.7	155	188	25.253	4	P260	14L15-	1	45
110	300	1.7	195	150	25.044	5	P260	14L15-	1	45
195	167	1.0	210	83.0	25.692	9	P260	14L15-	2	47

4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
78.0	475	1.5	115	238	69.755	3	P260	19F14-	1	56
104	356	1.5	155	178	69.215	4	P260	19F14-	1	56
130	285	1.5	195	143	69.006	5	P260	19F14-	1	56

4.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
30.0	1350	3.4	115	675	12.993	3	P260	12L41-	1	20
39.0	1075	2.8	115	538	16.593	3	P260	14H32-	1	41
39.0	1013	3.6	155	506	12.453	4	P260	12L41-	1	20
49.0	810	3.6	195	405	12.244	5	P260	12L41-	1	20
52.0	806	2.8	155	403	16.053	4	P260	14H32-	1	41
65.0	645	2.8	195	323	15.844	5	P260	14H32-	1	41
74.0	579	1.8	135	289	12.069	7	P260	12L41-	1	20
84.0	506	1.4	120	253	12.036	8	P260	12L41-	1	20
93.0	450	1.6	210	225	12.892	9	P260	12L41-	2	22
94.0	461	1.4	135	230	15.669	7	P260	14H32-	1	41
108	403	1.1	120	202	15.636	8	P260	14H32-	1	41
118	358	1.3	210	179	16.492	9	P260	14H32-	2	43
124	338	2.1	260	169	12.826	12	P260	12L41-	2	22
155	270	1.5	230	135	12.804	15	P260	12L41-	2	22
158	269	1.6	260	134	16.426	12	P260	14H32-	2	43
165	253	1.5	260	127	12.348	16	P260	12L41-	2	22
197	215	1.1	230	108	16.404	15	P260	14H32-	2	43
207	203	1.2	260	101	12.174	20	P260	12L41-	2	22
211	202	1.2	260	101	15.948	16	P260	14H32-	2	43



5.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
49.0	1075	2.3	115	538	25.793	3	P260	14L32-	1	45
65.0	806	2.3	155	403	25.253	4	P260	14L32-	1	45
81.0	645	2.3	195	323	25.044	5	P260	14L32-	1	45
116	461	1.2	135	230	24.869	7	P260	14L32-	1	45
146	358	1.1	210	179	25.692	9	P260	14L32-	2	47
194	269	1.3	260	134	25.626	12	P260	14L32-	2	47

6.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
60.0	1000	1.9	115	500	69.755	3	P260	19F30-	1	56
81.0	750	1.9	155	375	69.215	4	P260	19F30-	1	56
101	600	1.9	195	300	69.006	5	P260	19F30-	1	56
237	250	1.1	260	125	69.588	12	P260	19F30-	2	58



Inverter power supply 400 V, forced ventilated motors

1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	550	5.6	115	275	6.393	3	P260	12D17-	1	16
20.0	550	2.4	85.0	275	4.783	3	P130	12D17-	1	12
23.0	413	5.7	155	206	5.853	4	P260	12D17-	1	16
25.0	413	3.9	115	206	4.548	4	P130	12D17-	1	12
28.0	330	5.7	195	165	5.644	5	P260	12D17-	1	16
32.0	330	3.2	110	165	4.469	5	P130	12D17-	1	12
45.0	236	2.8	135	118	5.469	7	P260	12D17-	1	16
47.0	236	1.4	65.0	118	4.402	7	P130	12D17-	1	12
53.0	206	2.2	120	103	5.436	8	P260	12D17-	1	16
54.0	183	3.2	210	92.0	6.292	9	P260	12D17-	2	18
59.0	183	1.9	130	92.0	4.625	9	P130	12D17-	2	13
67.0	165	1.4	95.0	83.0	5.381	10	P260	12D17-	1	16
72.0	138	3.2	260	69.0	6.226	12	P260	12D17-	2	18
79.0	138	1.5	120	69.0	4.599	12	P130	12D17-	2	13
97.0	110	2.3	230	55.0	6.204	15	P260	12D17-	2	18
99.0	110	1.1	110	55.0	4.591	15	P130	12D17-	2	13
102	103	2.4	260	52.0	5.748	16	P260	12D17-	2	18
105	103	1.1	120	52.0	4.454	16	P130	12D17-	2	13
132	82.5	1.9	260	41.0	5.574	20	P260	12D17-	2	18
165	66.0	1.4	230	33.0	5.566	25	P260	12D17-	2	18
211	51.6	1.2	260	26.0	5.420	32	P260	12D17-	2	18

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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
33.0	450	3.3	115	225	9.693	3	P260	12H14-	1	19
33.0	450	3.3	115	225	10.493	3	P260	14D14-	1	40
44.0	338	3.3	155	169	9.153	4	P260	12H14-	1	19
44.0	338	3.3	155	169	9.953	4	P260	14D14-	1	40
54.0	270	3.3	195	135	9.744	5	P260	14D14-	1	40
54.0	270	3.3	195	135	8.944	5	P260	12H14-	1	19
81.0	193	1.7	135	96.0	9.569	7	P260	14D14-	1	40
81.0	193	1.7	135	96.0	8.769	7	P260	12H14-	1	19
92.0	169	1.3	120	84.0	8.736	8	P260	12H14-	1	19
92.0	169	1.3	120	84.0	9.536	8	P260	14D14-	1	40
101	150	2.0	210	75.0	10.392	9	P260	14D14-	2	42
101	150	2.0	210	75.0	9.592	9	P260	12H14-	2	21
135	113	1.9	260	56.0	9.526	12	P260	12H14-	2	21
135	113	1.9	260	56.0	10.326	12	P260	14D14-	2	42
169	90.0	1.3	230	45.0	10.304	15	P260	14D14-	2	42
169	90.0	1.3	230	45.0	9.504	15	P260	12H14-	2	21
180	84.4	1.4	260	42.0	9.048	16	P260	12H14-	2	21
180	84.4	1.4	260	42.0	9.848	16	P260	14D14-	2	42
226	67.5	1.1	260	34.0	8.874	20	P260	12H14-	2	21
226	67.5	1.1	260	34.0	9.674	20	P260	14D14-	2	42



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	1175	2.3	85.0	588	4.783	3	P130	12D35-	1	12
21.0	881	3.6	115	441	4.548	4	P130	12D35-	1	12
28.0	705	3.0	110	353	4.469	5	P130	12D35-	1	12
38.0	504	3.3	135	252	5.469	7	P260	12D35-	1	16
40.0	504	1.6	65.0	252	4.402	7	P130	12D35-	1	12
45.0	441	2.6	120	220	5.436	8	P260	12D35-	1	16
46.0	441	1.1	50.0	220	4.388	8	P130	12D35-	1	12
47.0	392	3.0	210	196	6.292	9	P260	12D35-	2	18
51.0	392	1.8	130	196	4.625	9	P130	12D35-	2	13
58.0	353	1.6	95.0	176	5.381	10	P260	12D35-	1	16
59.0	294	3.8	260	147	6.226	12	P260	12D35-	2	18
68.0	294	1.7	120	147	4.599	12	P130	12D35-	2	13
80.0	235	2.7	230	118	6.204	15	P260	12D35-	2	18
85.0	235	1.3	110	118	4.591	15	P130	12D35-	2	13
85.0	220	2.8	260	110	5.748	16	P260	12D35-	2	18
90.0	220	1.3	120	110	4.454	16	P130	12D35-	2	13
111	176	2.3	260	88.0	5.574	20	P260	12D35-	2	18
113	176	1.0	120	88.0	4.409	20	P130	12D35-	2	13
141	141	1.6	230	71.0	5.566	25	P260	12D35-	2	18
180	110	1.4	260	55.0	5.420	32	P260	12D35-	2	18
226	88.1	1.0	230	44.0	5.417	40	P260	12D35-	2	18

2.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
48.0	550	2.3	115	275	12.993	3	P260	12L17-	1	22
64.0	413	2.3	155	206	12.453	4	P260	12L17-	1	22
80.0	330	2.3	195	165	12.244	5	P260	12L17-	1	22
114	236	1.2	135	118	12.069	7	P260	12L17-	1	22
144	183	1.3	210	92.0	12.892	9	P260	12L17-	2	24
192	138	1.3	260	69.0	12.826	12	P260	12L17-	2	24

3.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1000	3.7	115	500	10.493	3	P260	14D30-	1	40
37.0	750	3.8	155	375	9.953	4	P260	14D30-	1	40
47.0	600	3.8	195	300	9.744	5	P260	14D30-	1	40
71.0	429	1.9	135	214	9.569	7	P260	14D30-	1	40
81.0	375	1.5	120	188	9.536	8	P260	14D30-	1	40
89.0	333	1.8	210	167	10.392	9	P260	14D30-	2	42
117	250	2.2	260	125	10.326	12	P260	14D30-	2	42
148	200	1.5	230	100	10.304	15	P260	14D30-	2	42
158	188	1.6	260	94.0	9.848	16	P260	14D30-	2	42
197	150	1.3	260	75.0	9.674	20	P260	14D30-	2	42



3.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1125	3.7	115	563	9.693	3	P260	12H34-	1	19
37.0	844	3.8	155	422	9.153	4	P260	12H34-	1	19
47.0	675	3.8	195	338	8.944	5	P260	12H34-	1	19
71.0	482	1.9	135	241	8.769	7	P260	12H34-	1	19
81.0	422	1.5	120	211	8.736	8	P260	12H34-	1	19
89.0	375	1.7	210	188	9.592	9	P260	12H34-	2	21
117	281	2.2	260	141	9.526	12	P260	12H34-	2	21
148	225	1.5	230	113	9.504	15	P260	12H34-	2	21
158	211	1.6	260	105	9.048	16	P260	12H34-	2	21
197	169	1.3	260	84.0	8.874	20	P260	12H34-	2	21

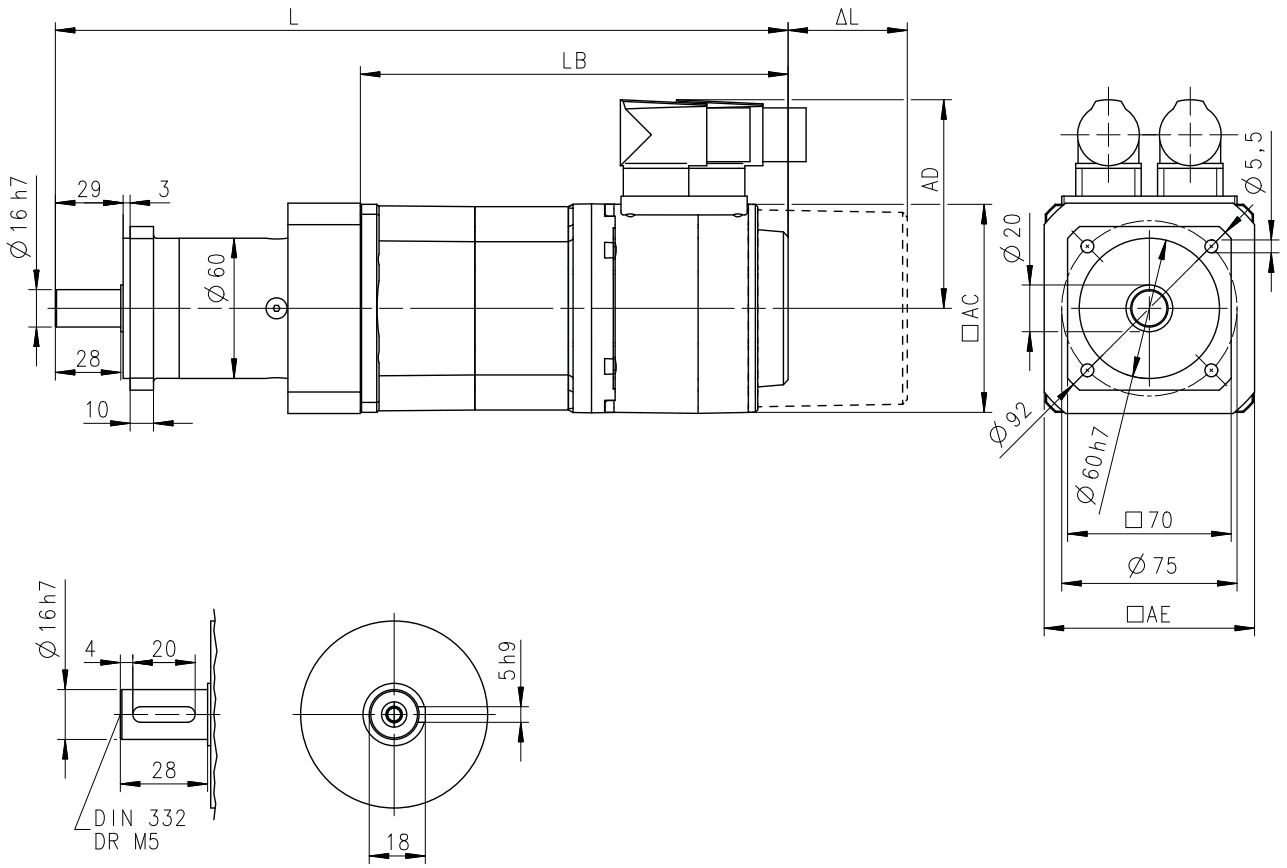
5.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g720-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
39.0	1300	2.7	115	650	12.993	3	P260	12L39-	1	22
52.0	975	2.8	155	488	12.453	4	P260	12L39-	1	22
65.0	780	2.8	195	390	12.244	5	P260	12L39-	1	22
94.0	557	1.4	135	279	12.069	7	P260	12L39-	1	22
108	488	1.1	120	244	12.036	8	P260	12L39-	1	22
118	433	1.3	210	217	12.892	9	P260	12L39-	2	24
158	325	1.6	260	163	12.826	12	P260	12L39-	2	24
197	260	1.1	230	130	12.804	15	P260	12L39-	2	24
211	244	1.2	260	122	12.348	16	P260	12L39-	2	24

Basic dimensions

g720-P44 with MCS06

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

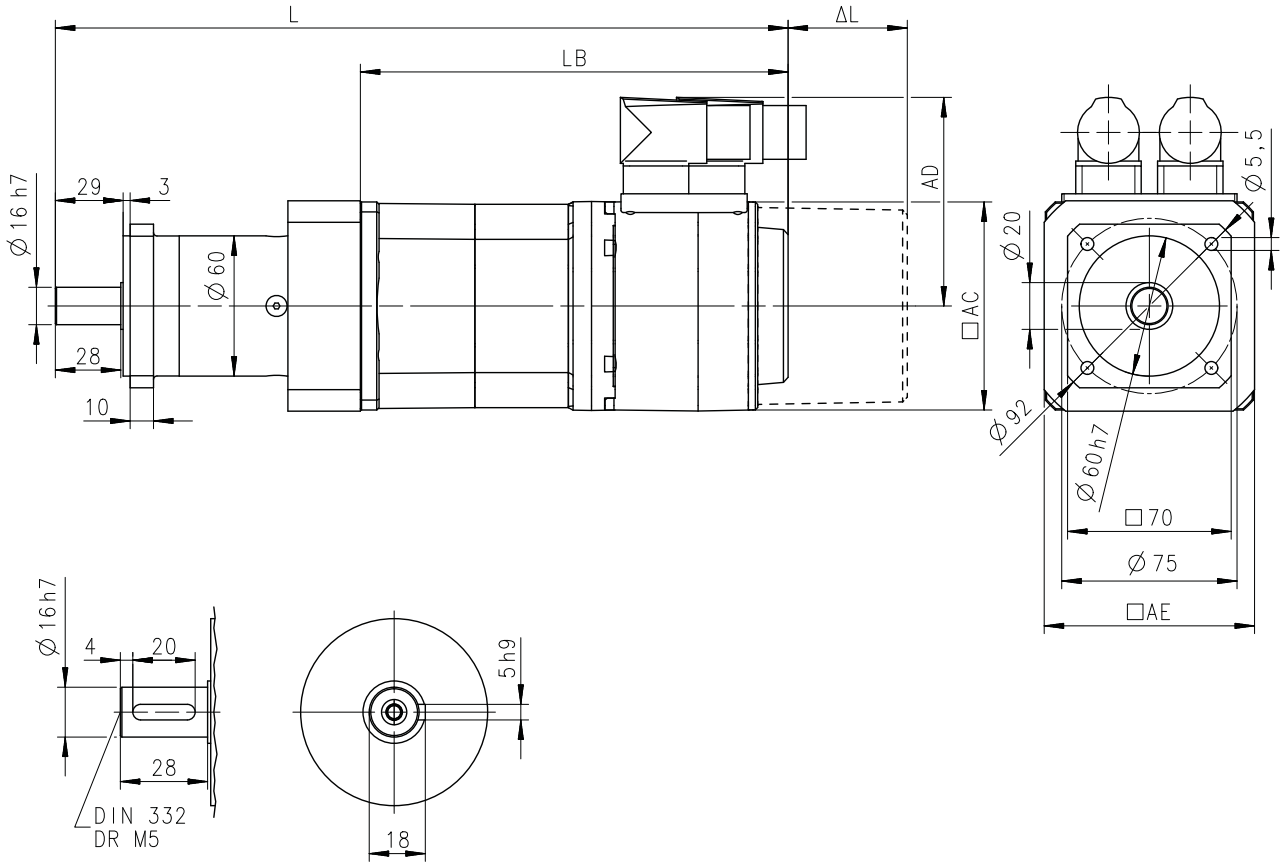


8800796-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	243	243	273	273	303	303
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g720-P44 with MCS06

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

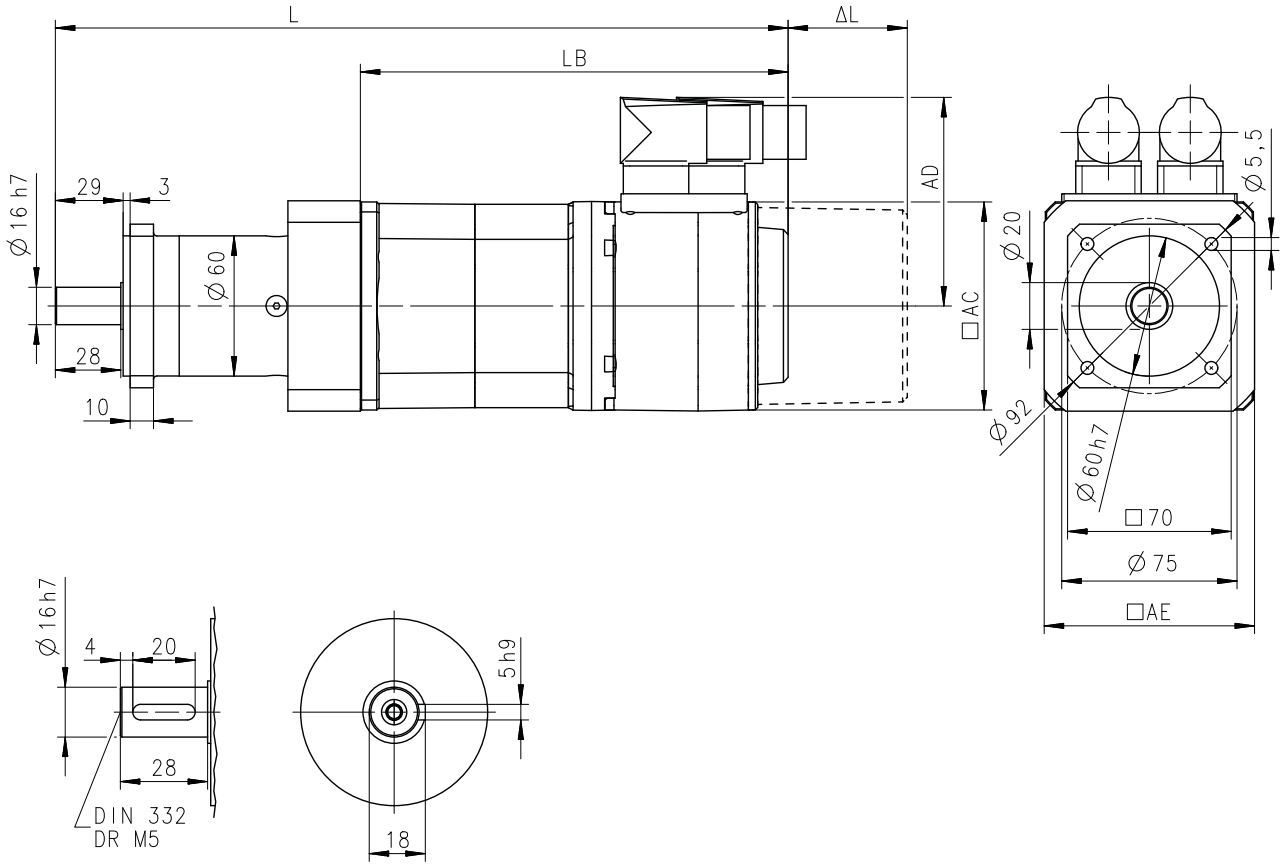


8800796-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	255.5	255.5	285.5	285.5	315.5	315.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g720-P44 with MCS06

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



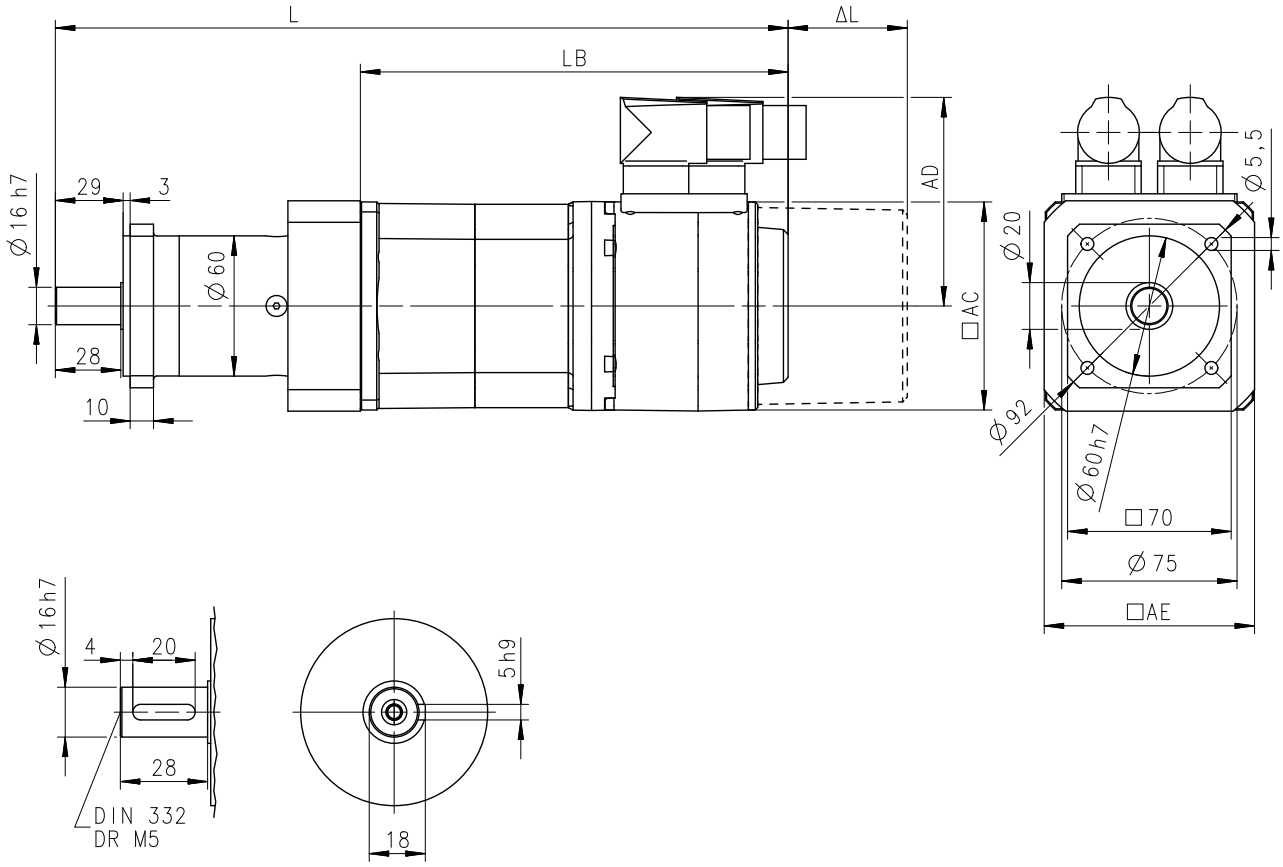
8800796-00

Motor			MCS 06	
			C41- C41L	C60- C60L
Total length	L	mm	268	268
Motor length	LB	mm	132	132
Motor diameter	AC	mm	86	86
Motor/connection distance	AD	mm	77	77
Gearbox diameter	AE	mm	70	70



g720-P44 with MCS09

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

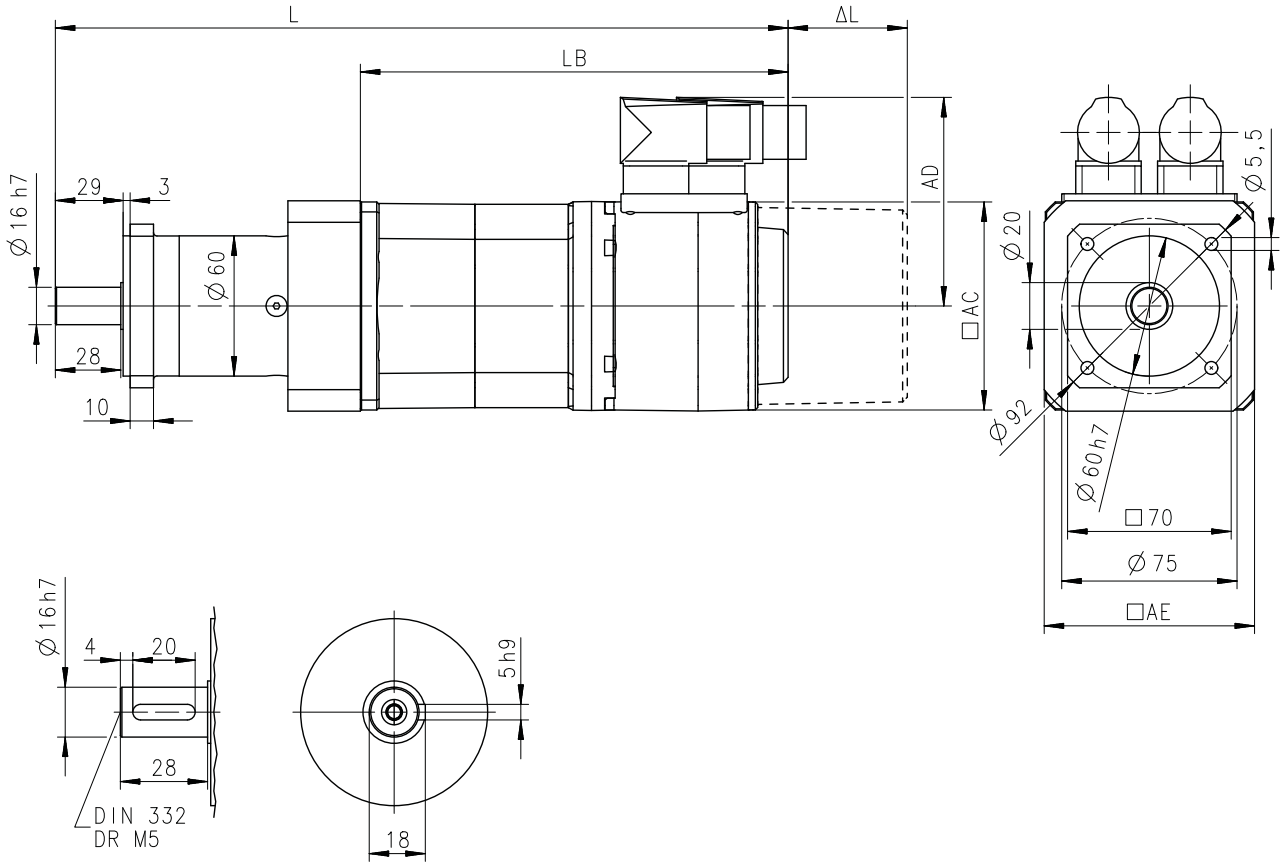


8800796-00

Motor			MCS 09			
			D41- D41L	D60- D60L	F38- F38L	F60- F60L
Total length	L	mm	300	300	320	320
Motor length	LB	mm	182	182	202	202
Motor diameter	AC	mm	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90

g720-P44 with MCS09

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



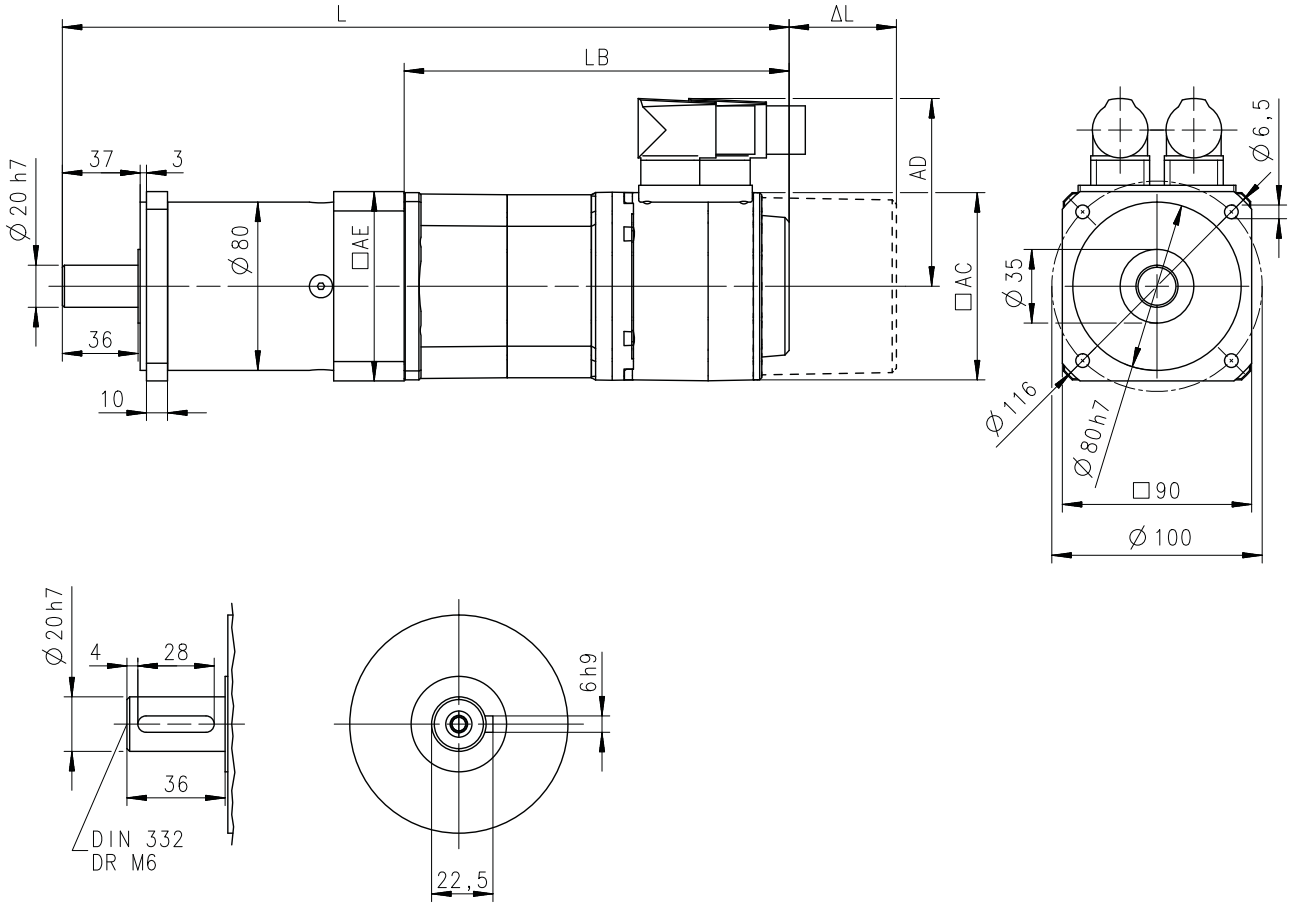
8800796-00

Motor			MCS 09			
			D41- D41L	D60- D60L	F38- F38L	F60- F60L
Total length	L	mm	312.5	312.5	332.5	332.5
Motor length	LB	mm	182	182	202	202
Motor diameter	AC	mm	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90



g720-P130 with MCS06

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

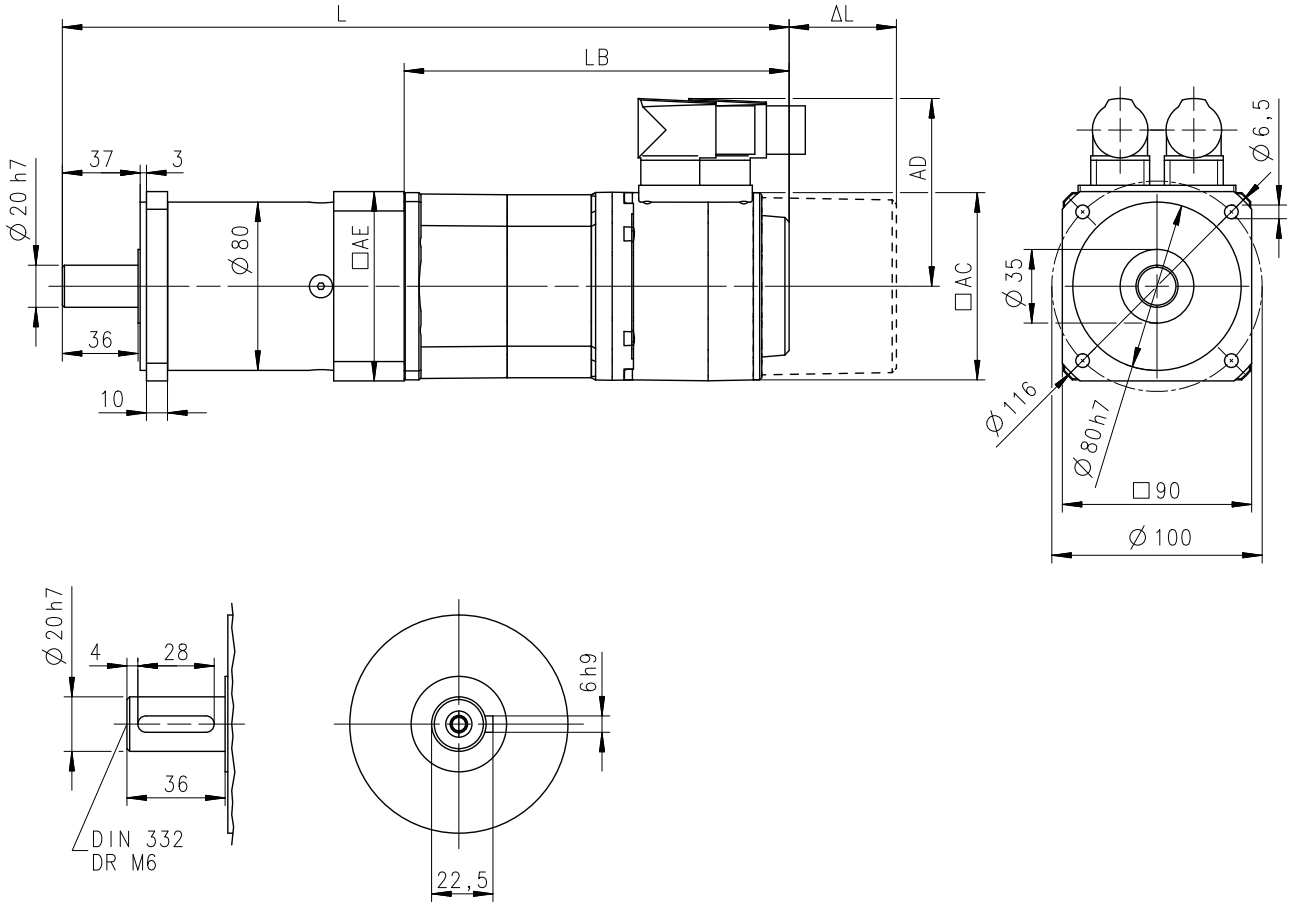


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Motor			MCS 06			
			F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	307	307	337	337
Motor length	LB	mm	162	162	192	192
Motor diameter	AC	mm	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80

g720-P130 with MCS06

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



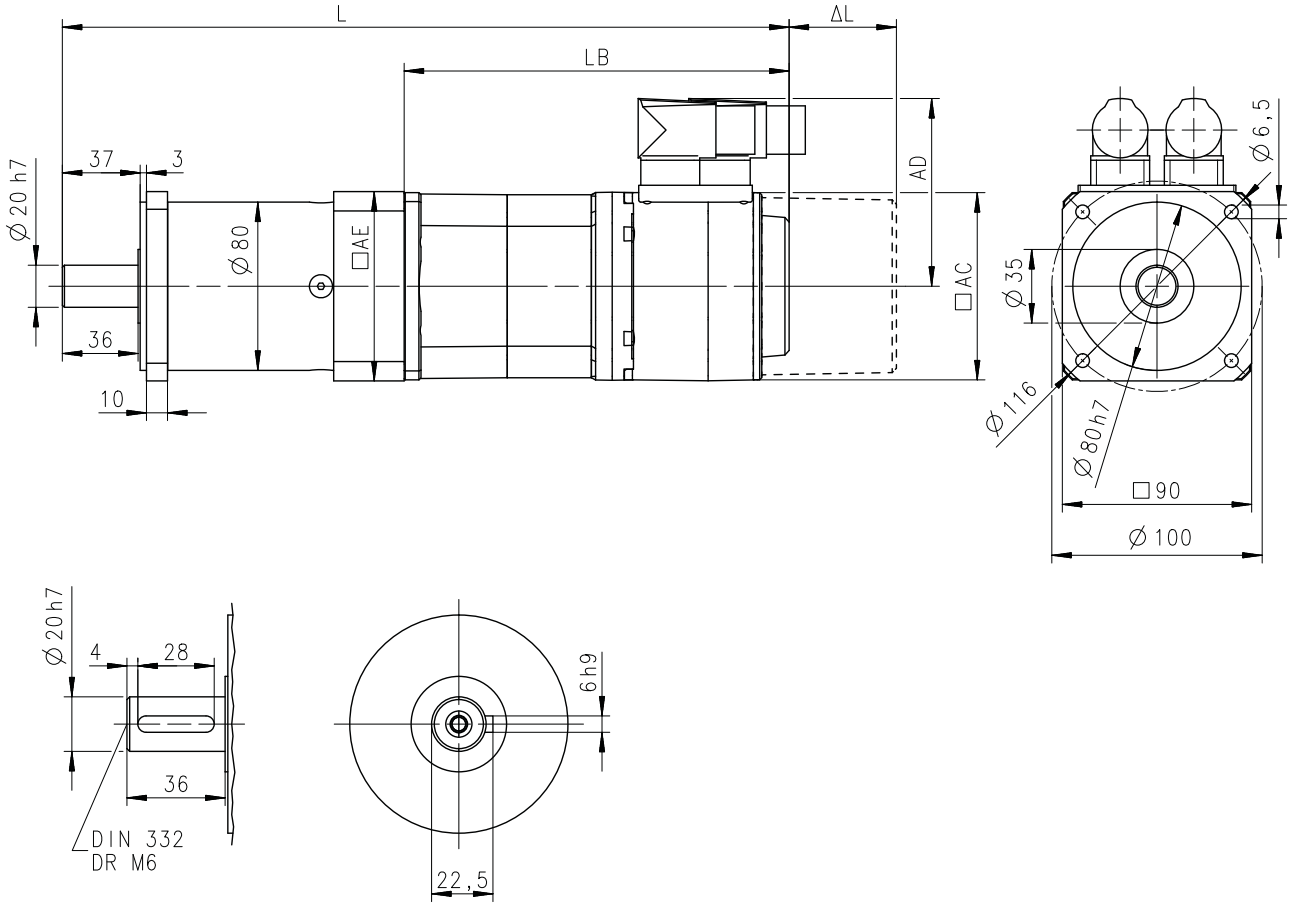
8800797-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	294.5	294.5	324.5	324.5	354.5	354.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80	80	80



g720-P130 with MCS06

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

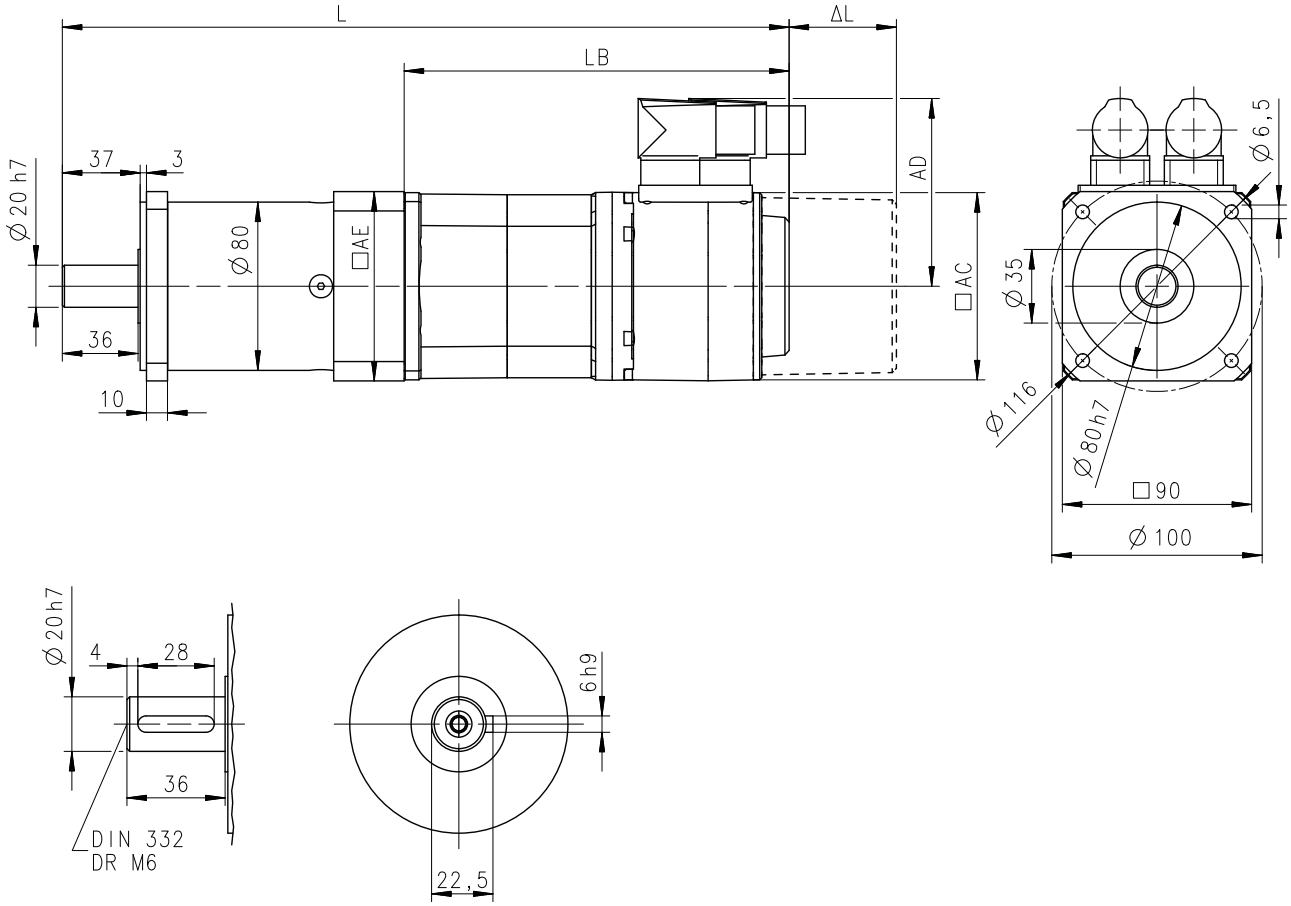


8800797-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	312	312	342	342	372	372
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80	80	80

g720-P130 with MCS09

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



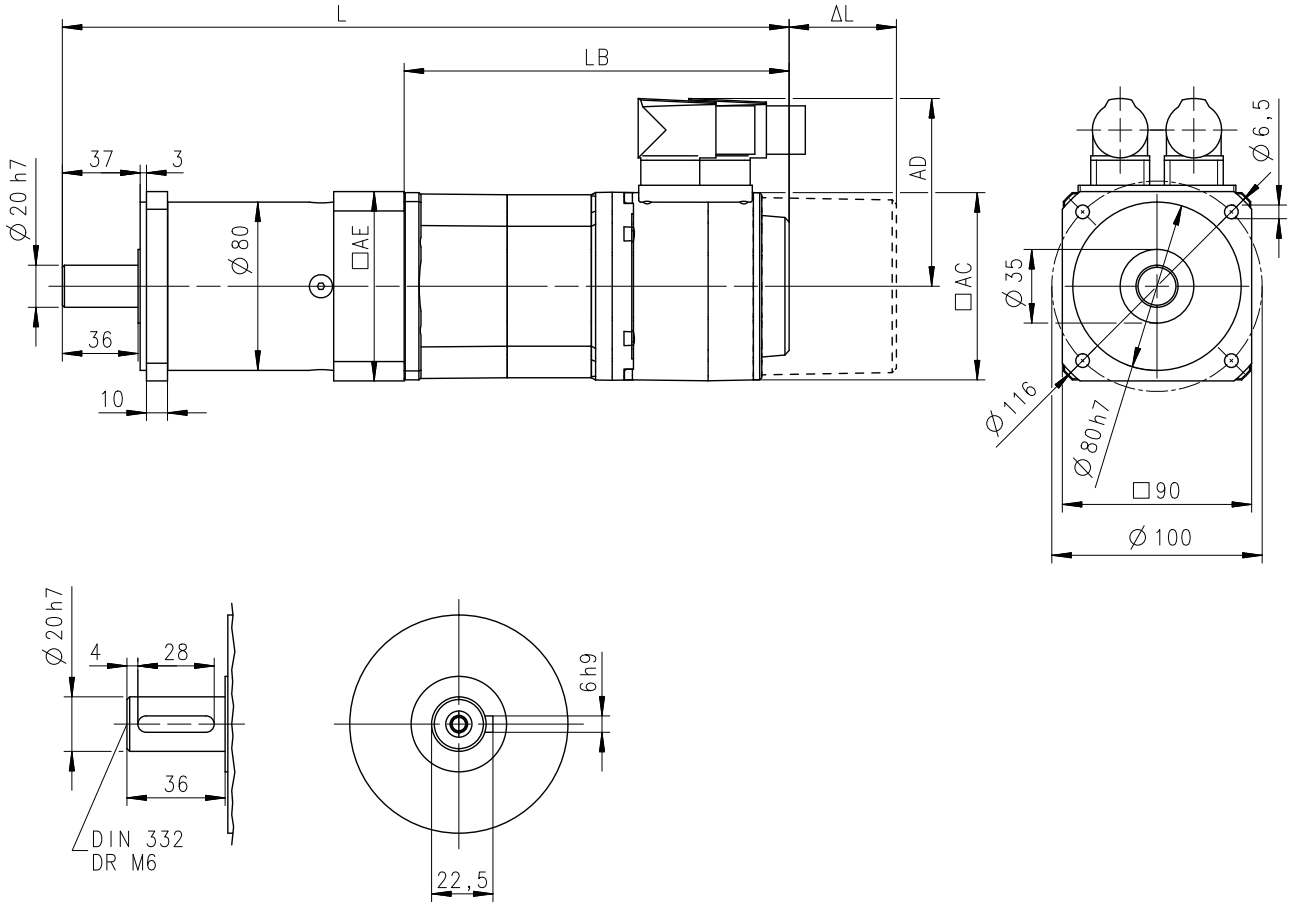
8800797-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	327	327	347	347	367	367	407	407
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g720-P130 with MCS09

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

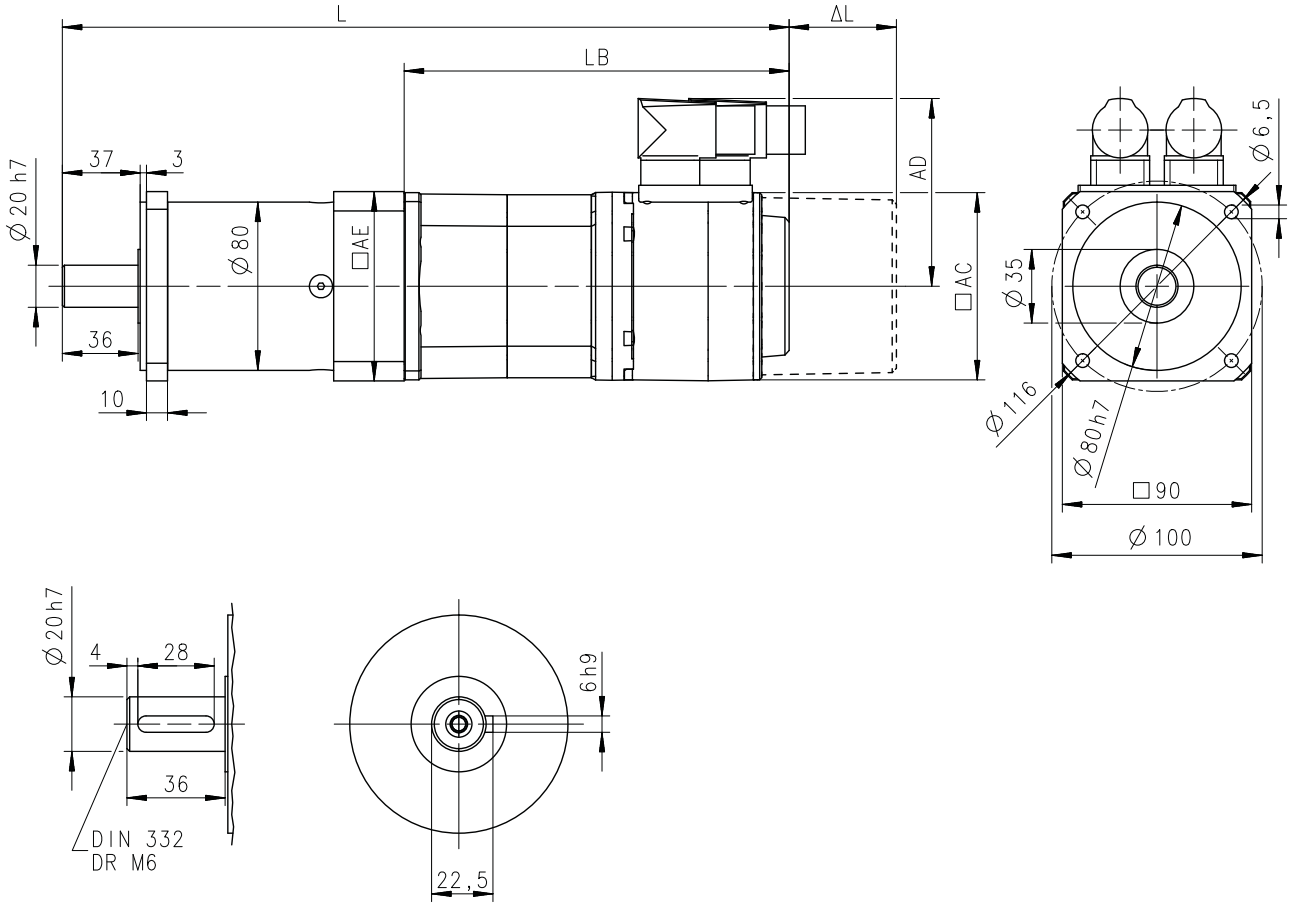


8800797-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	344.5	344.5	364.5	364.5	384.5	384.5	424.5	424.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g720-P130 with MCS09

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



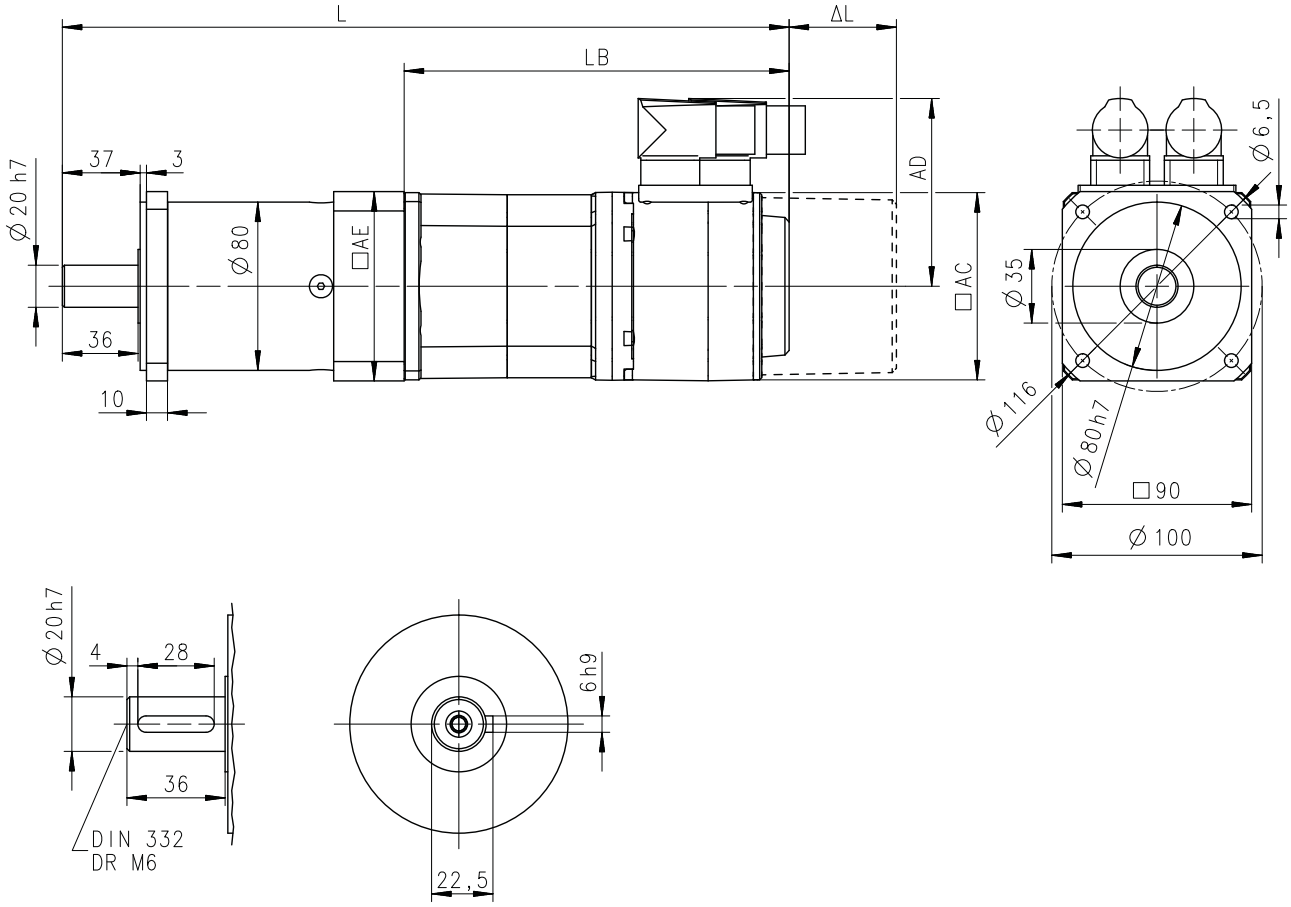
8800797-00

Motor			MCS 09
			D60- D60L
Total length	L	mm	362
Motor length	LB	mm	182
Motor diameter	AC	mm	89
Motor/connection distance	AD	mm	90
Gearbox diameter	AE	mm	90



g720-P130 with MCS12

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

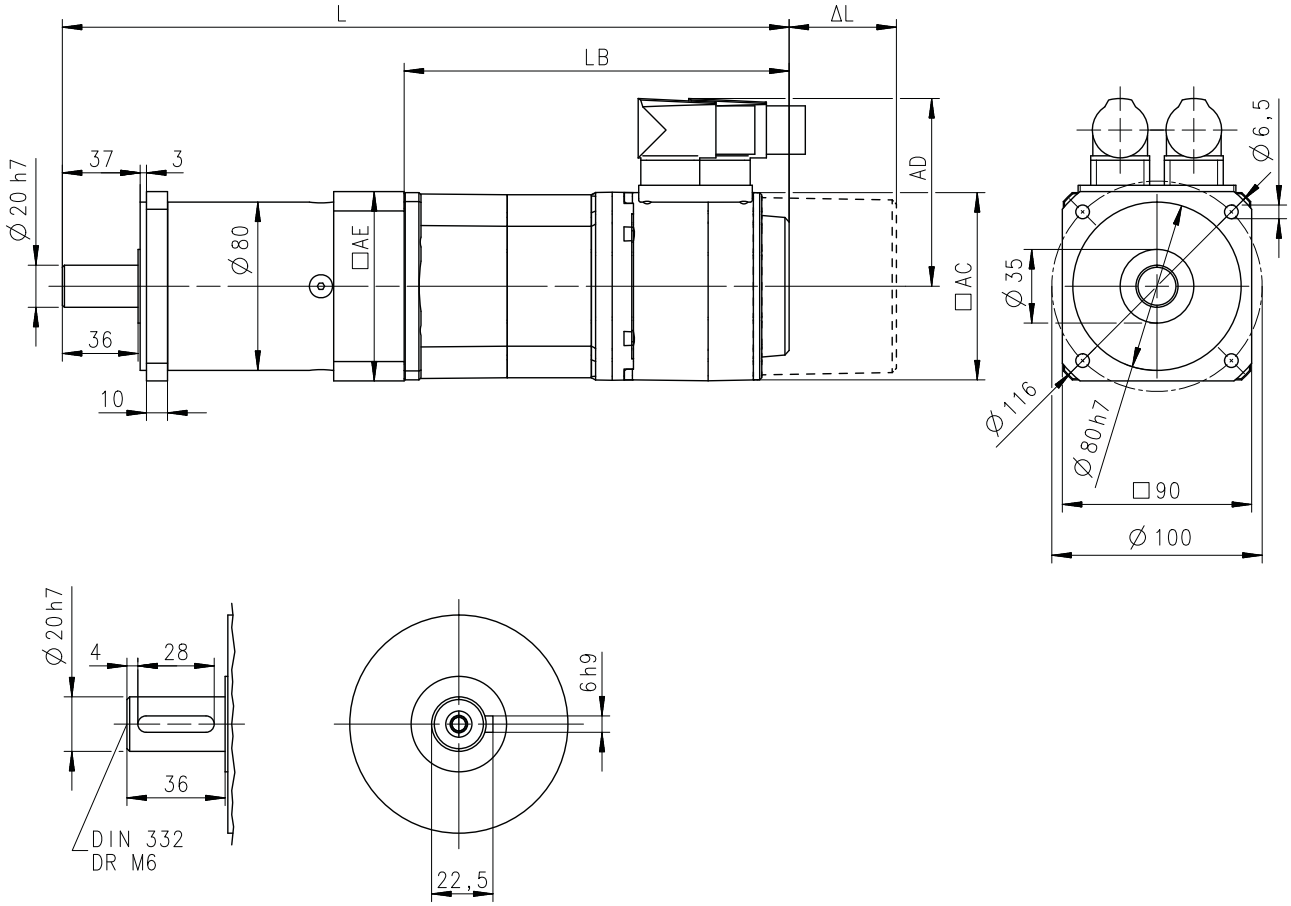


8800797-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	416	343	416	343	383	383	383
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115

g720-P130 with MCS12

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

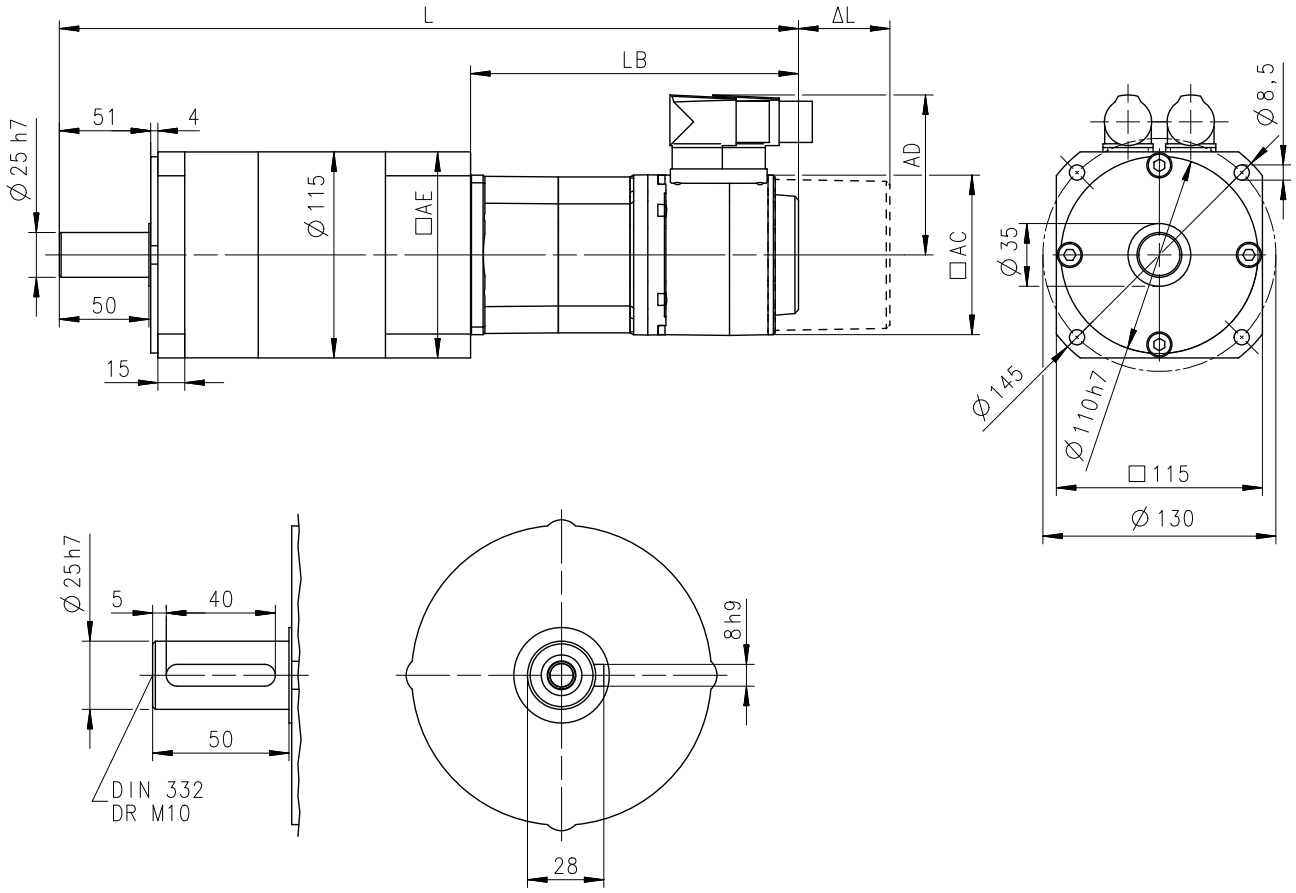


8800797-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	433.5	360.5	433.5	360.5	400.5	400.5	400.5
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115

g720-P260 with MCS06

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

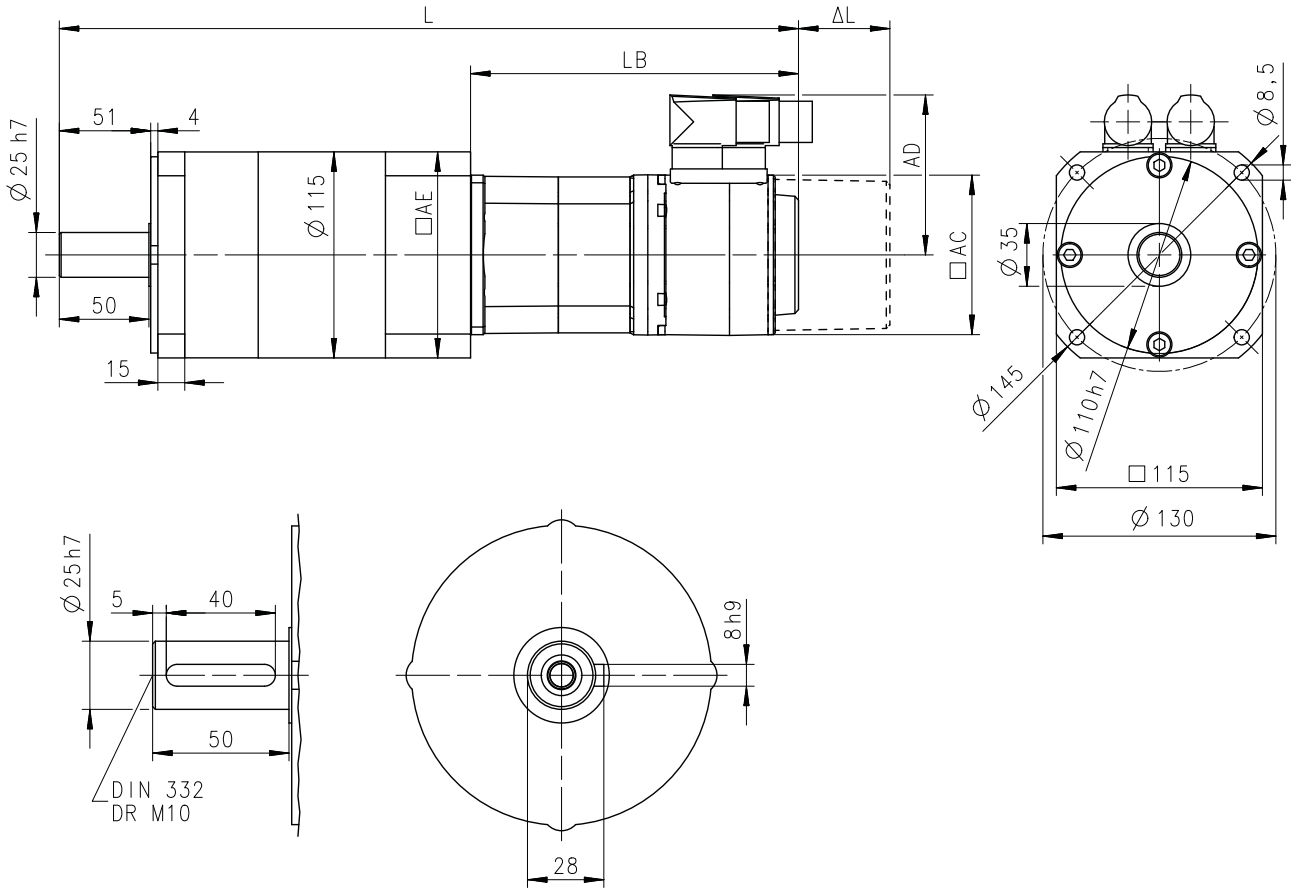


8800798-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	361.5	361.5	391.5	391.5	421.5	421.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115	115

g720-P260 with MCS06

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



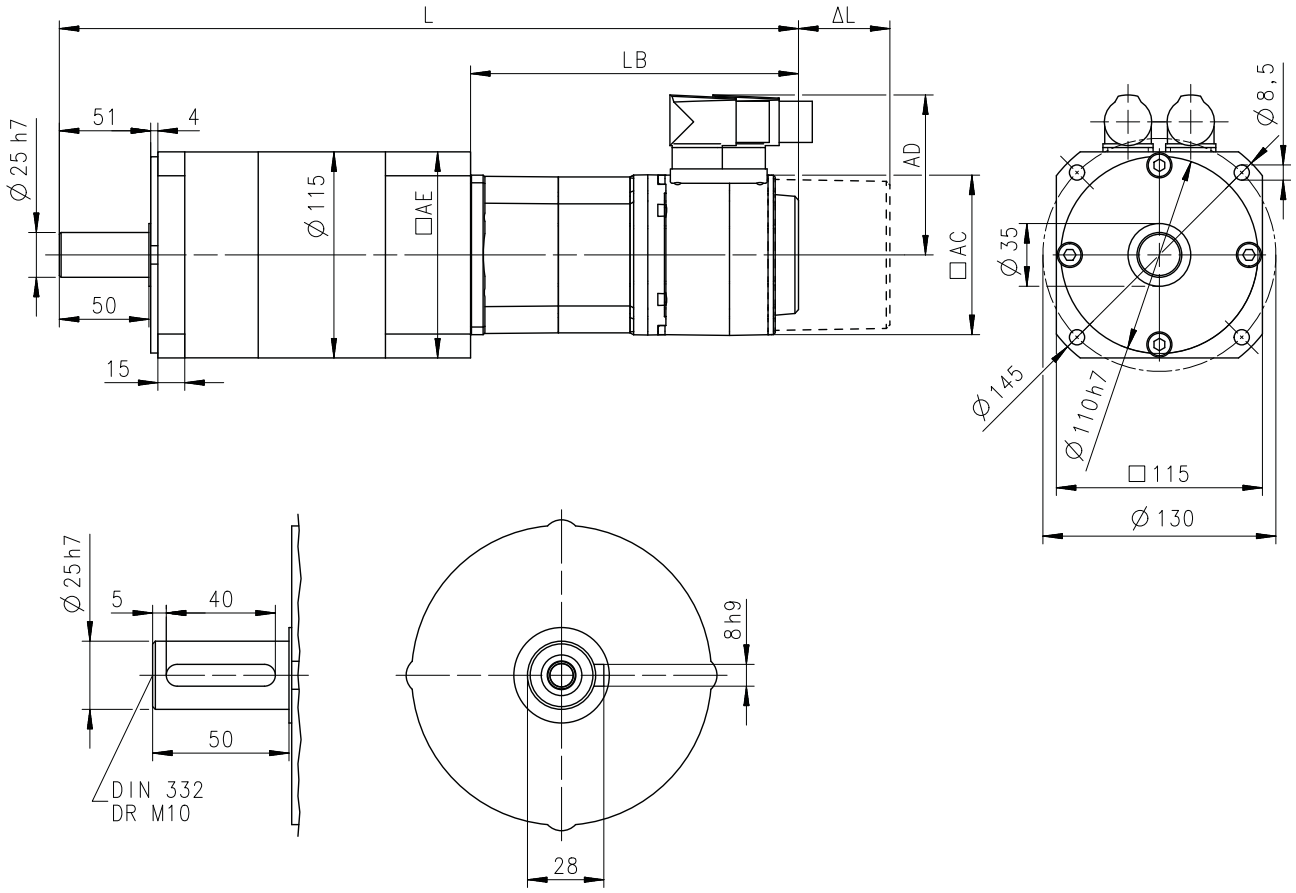
8800798-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	389	389	419	419	449	449
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115	115



g720-P260 with MCS09

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

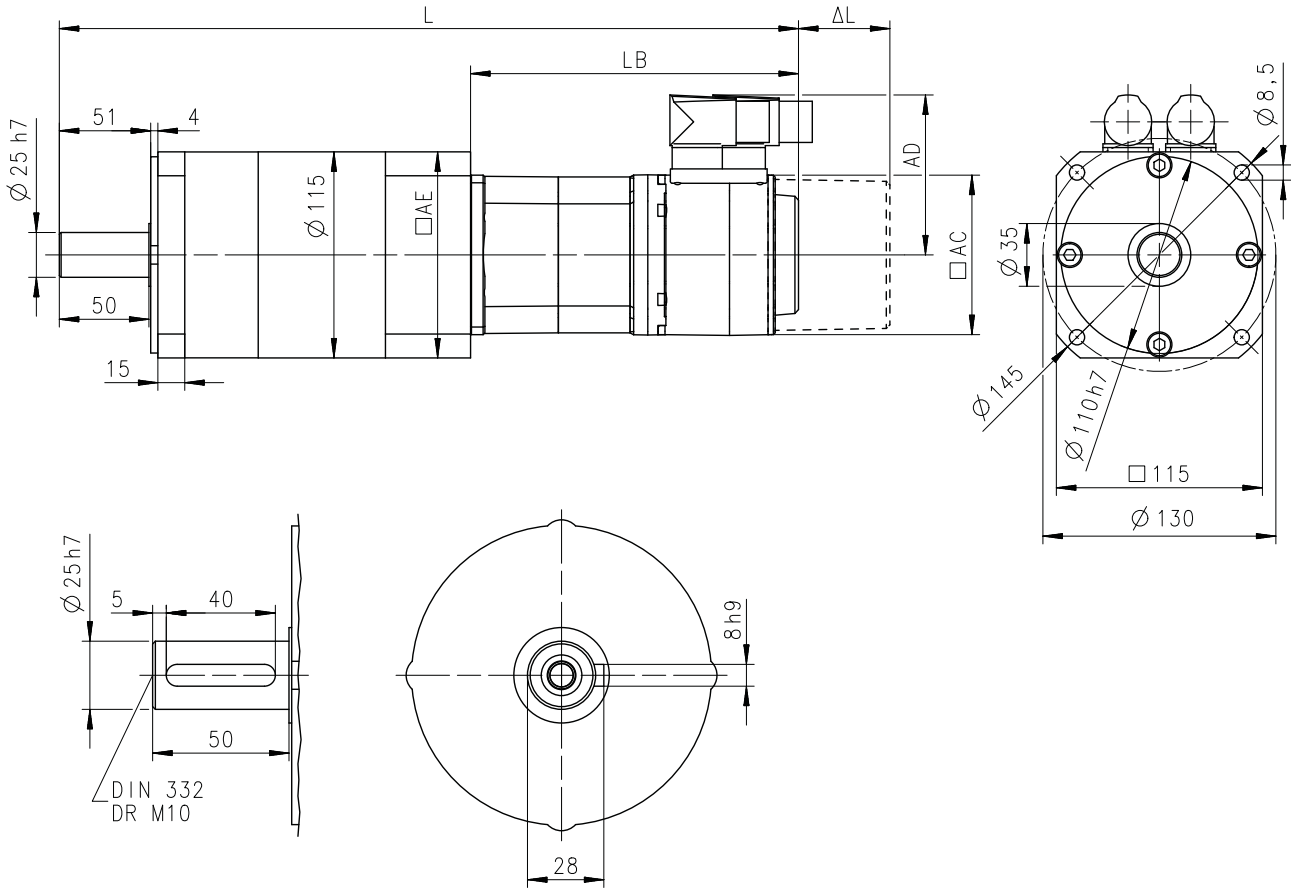


8800798-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	383.5	383.5	403.5	403.5	423.5	423.5	463.5	463.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115

g720-P260 with MCS09

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



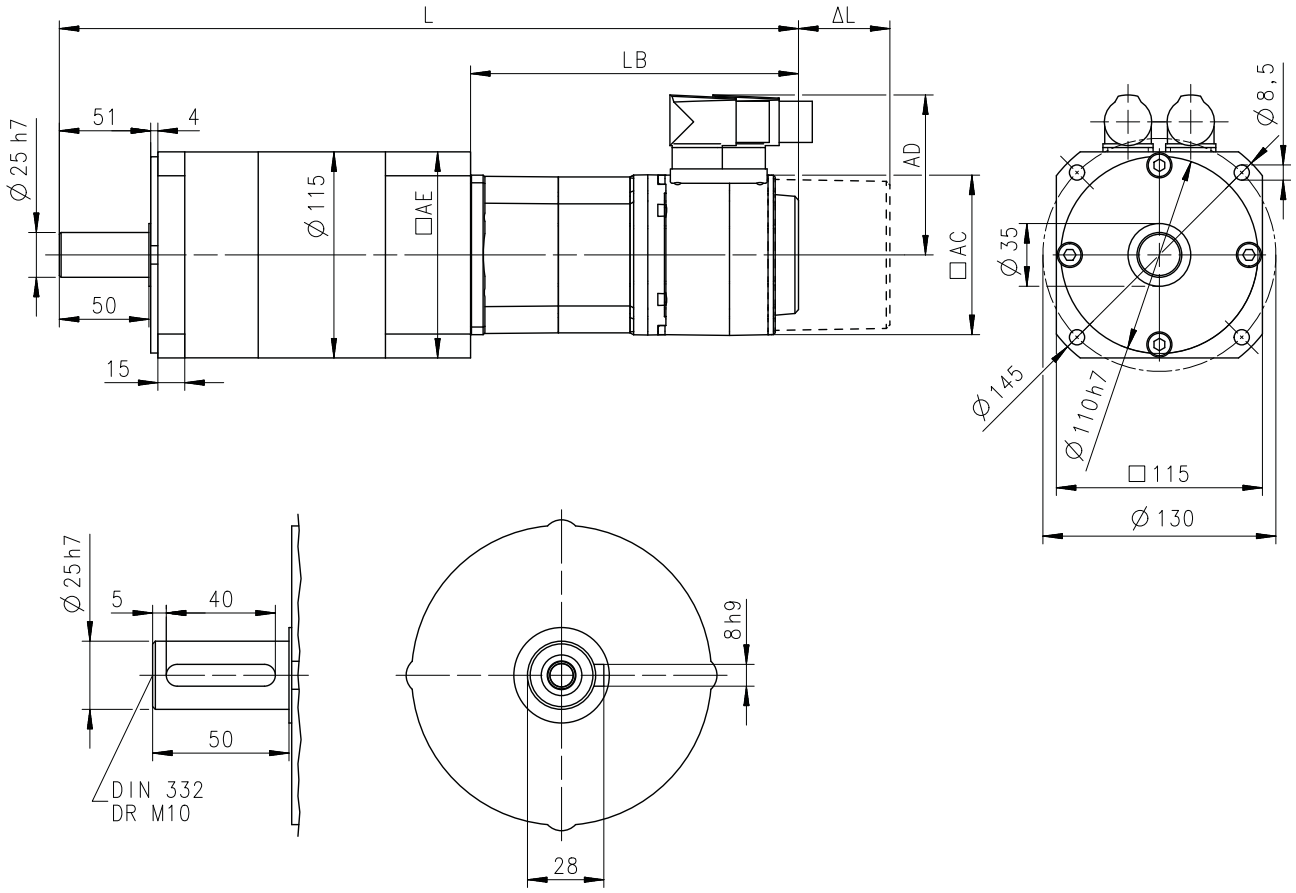
8800798-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	411.5	411.5	431.5	431.5	451.5	451.5	491.5	491.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115



g720-P260 with MCS09

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

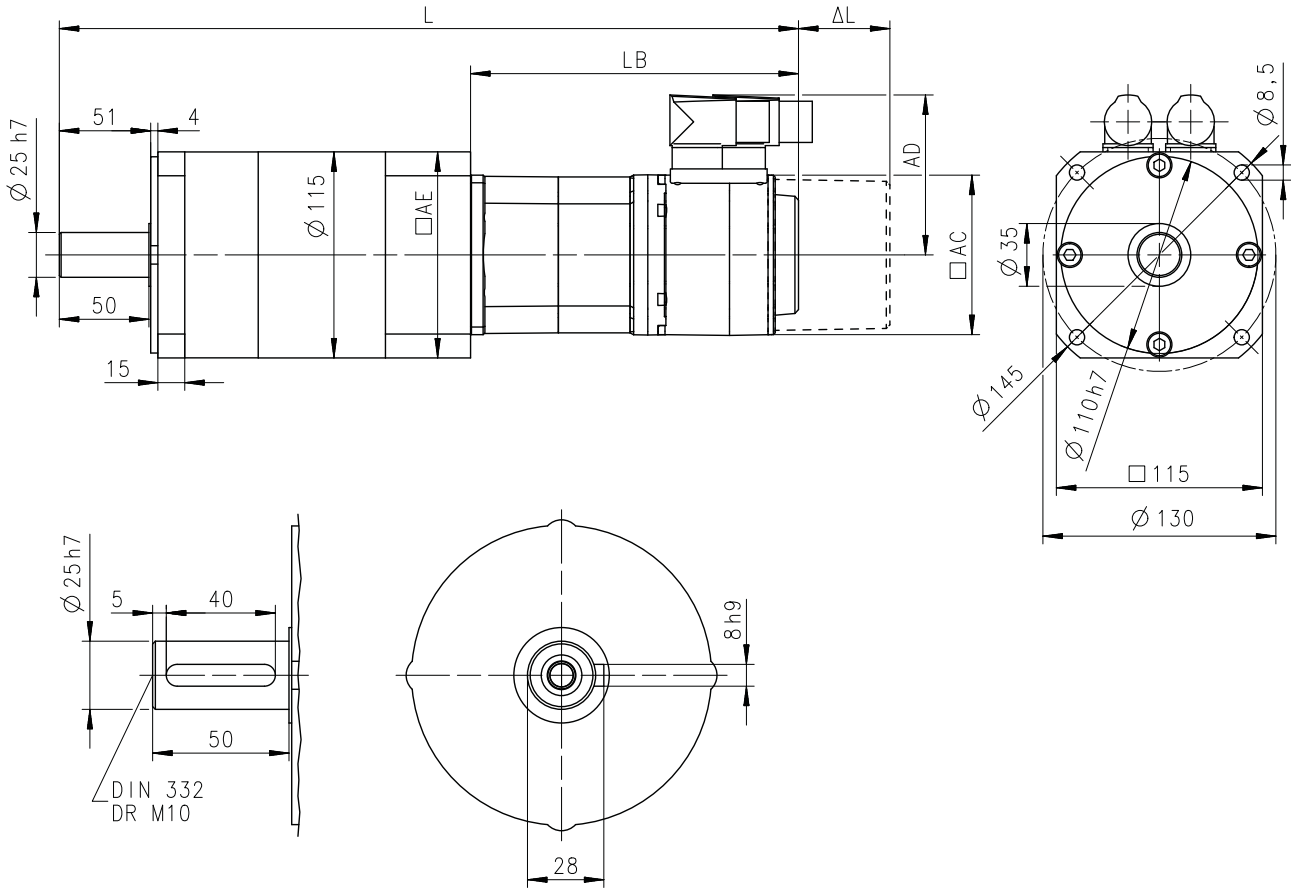


8800798-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	439	439	459	459	479	479	519	519
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115

g720-P260 with MCS12

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



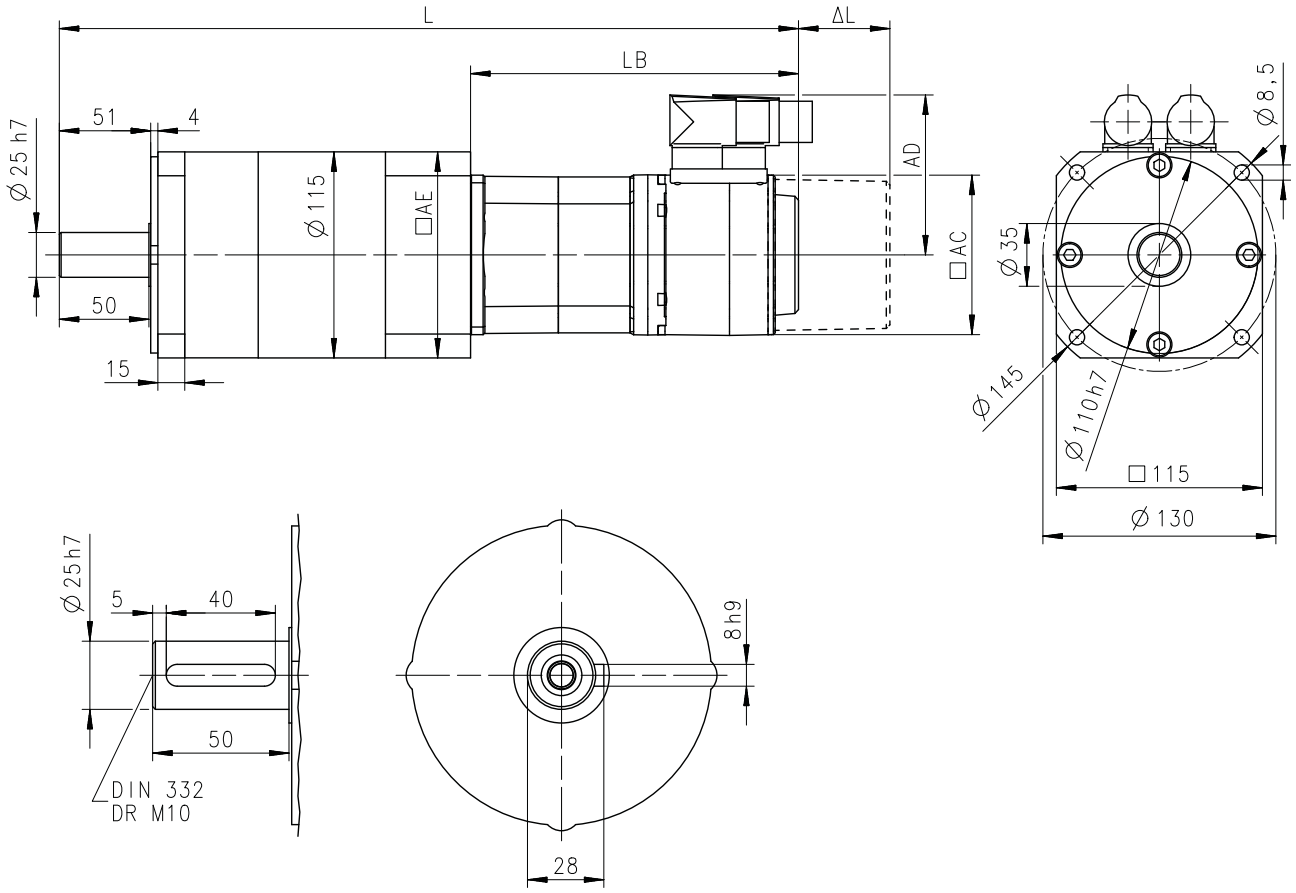
8800798-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	462.5	389.5	462.5	389.5	502.5	429.5	429.5	502.5	429.5	552.5	469.5	542.5	469.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115



g720-P260 with MCS12

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

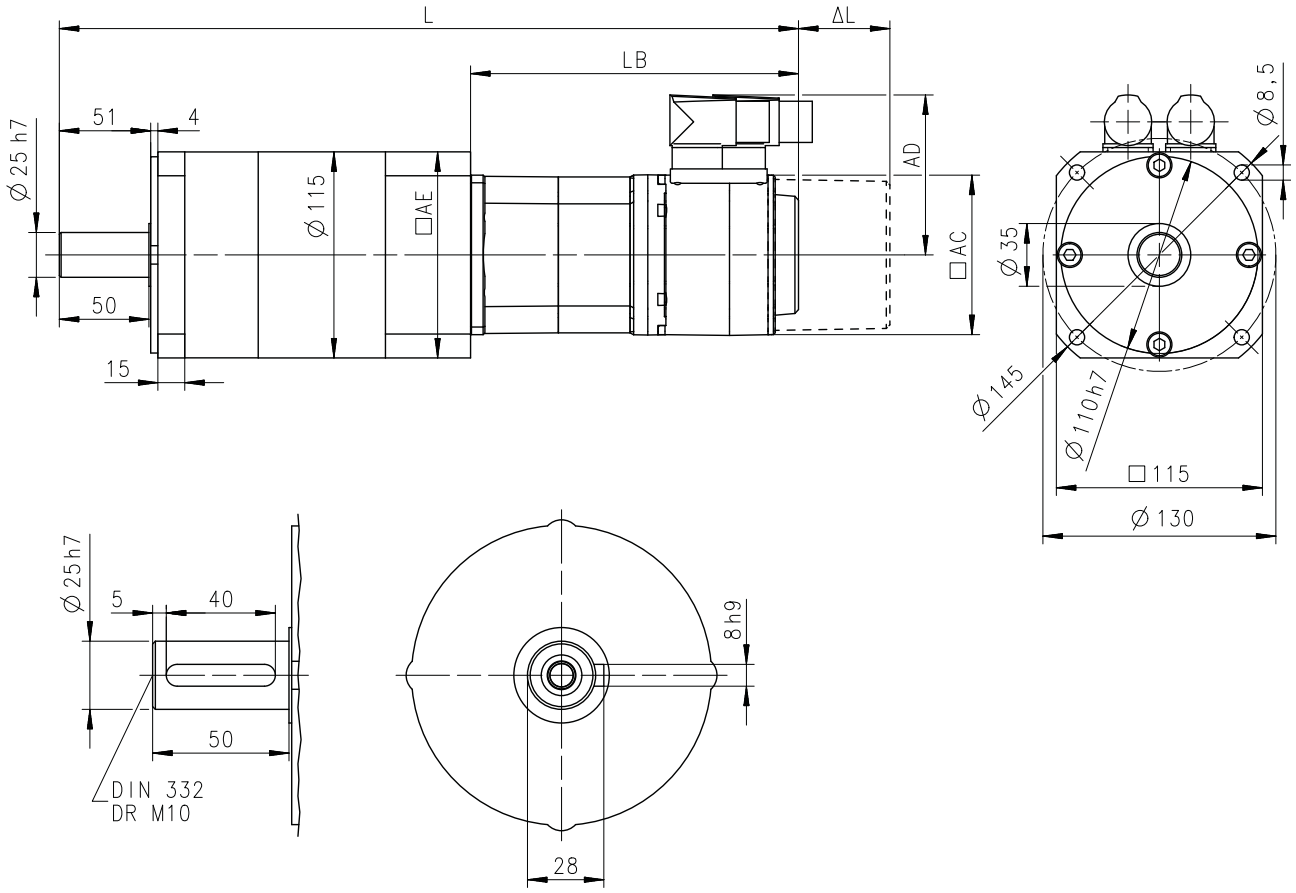


8800798-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	490.5	417.5	490.5	417.5	530.5	457.5	457.5	530.5	457.5	580.5	497.5	570.5	497.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115

g720-P260 with MCS12

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



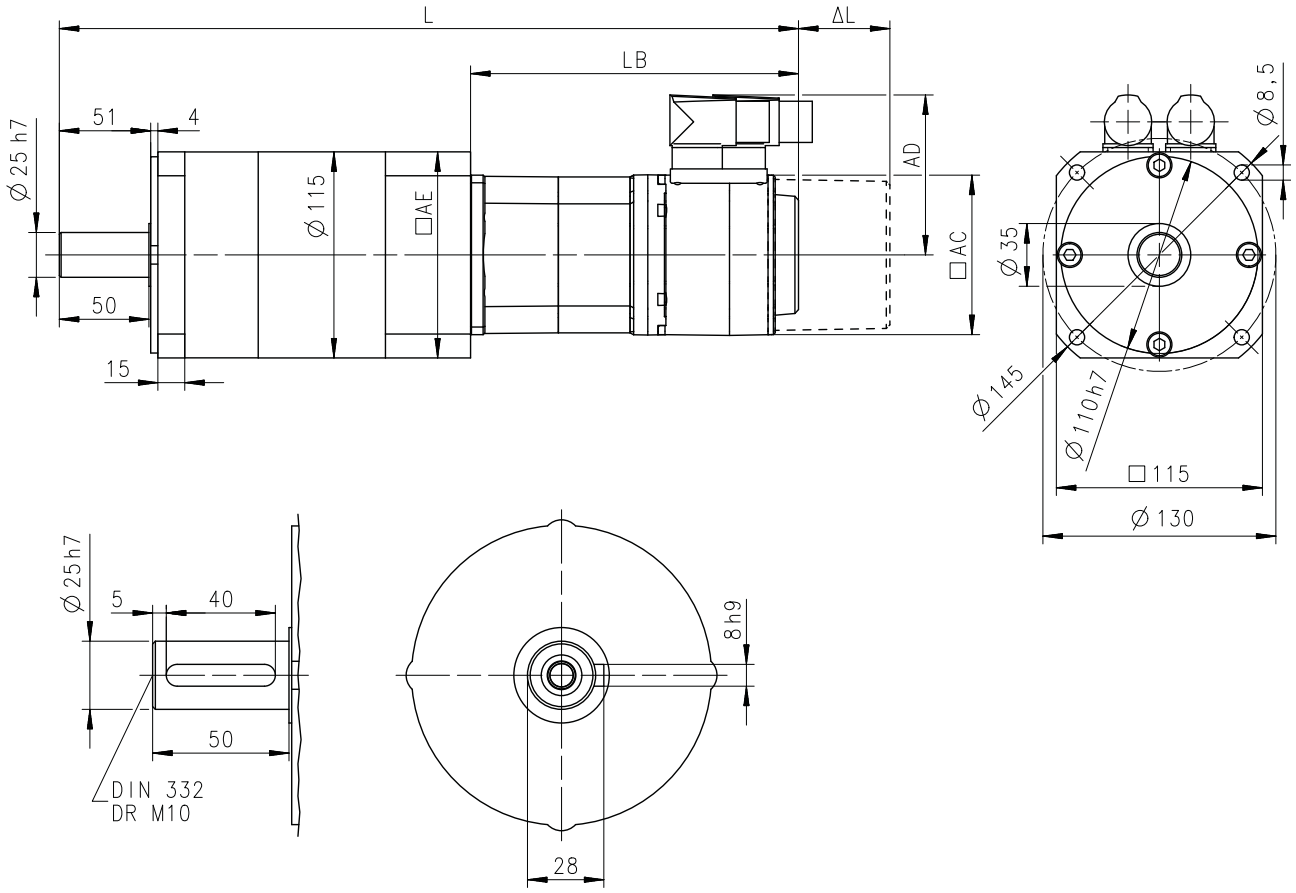
8800798-00

Motor			MCS 12
			D41- D41L
Total length	L	mm	445
Motor length	LB	mm	188
Motor diameter	AC	mm	116
Motor/connection distance	AD	mm	105
Gearbox diameter	AE	mm	115



g720-P260 with MCS14

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

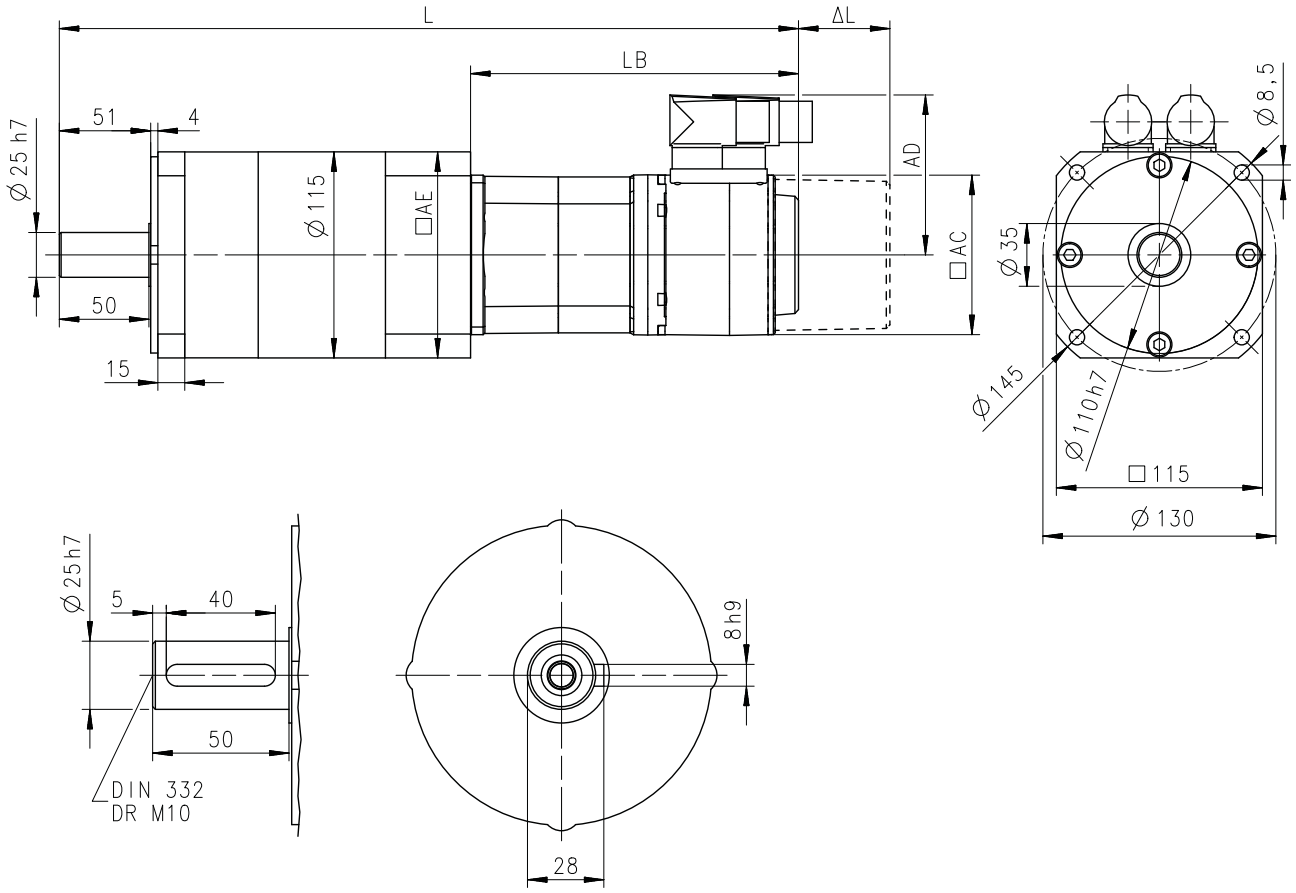


8800798-00

Motor			MCS 14							
			D14-	D15-	D30-	D36-	H15-	H32-	L15-	L32-
Total length	L	mm	500.5	412.5	500.5	412.5	452.5	452.5	492.5	492.5
Motor length	LB	mm	289	201	289	201	241	241	281	281
Motor diameter	AC	mm	167	143	167	143	143	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	117	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140

g720-P260 with MCS14

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



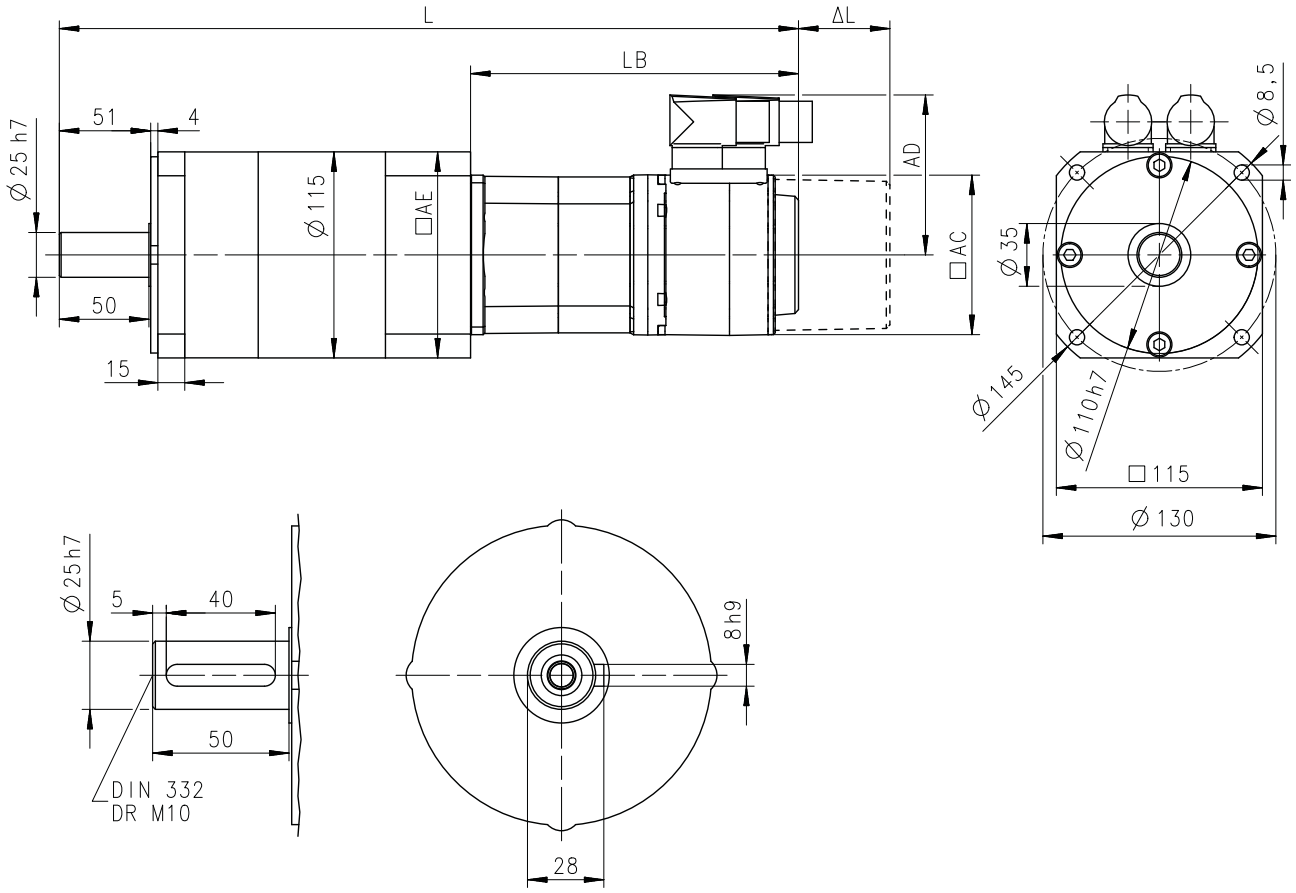
8800798-00

Motor			MCS 14							
			D14-	D15-	D30-	D36-	H15-	H32-	L15-	L32-
Total length	L	mm	528.5	440.5	528.5	440.5	480.5	480.5	520.5	520.5
Motor length	LB	mm	289	201	289	201	241	241	281	281
Motor diameter	AC	mm	167	143	167	143	143	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	117	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140



g720-P260 with MCS19

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

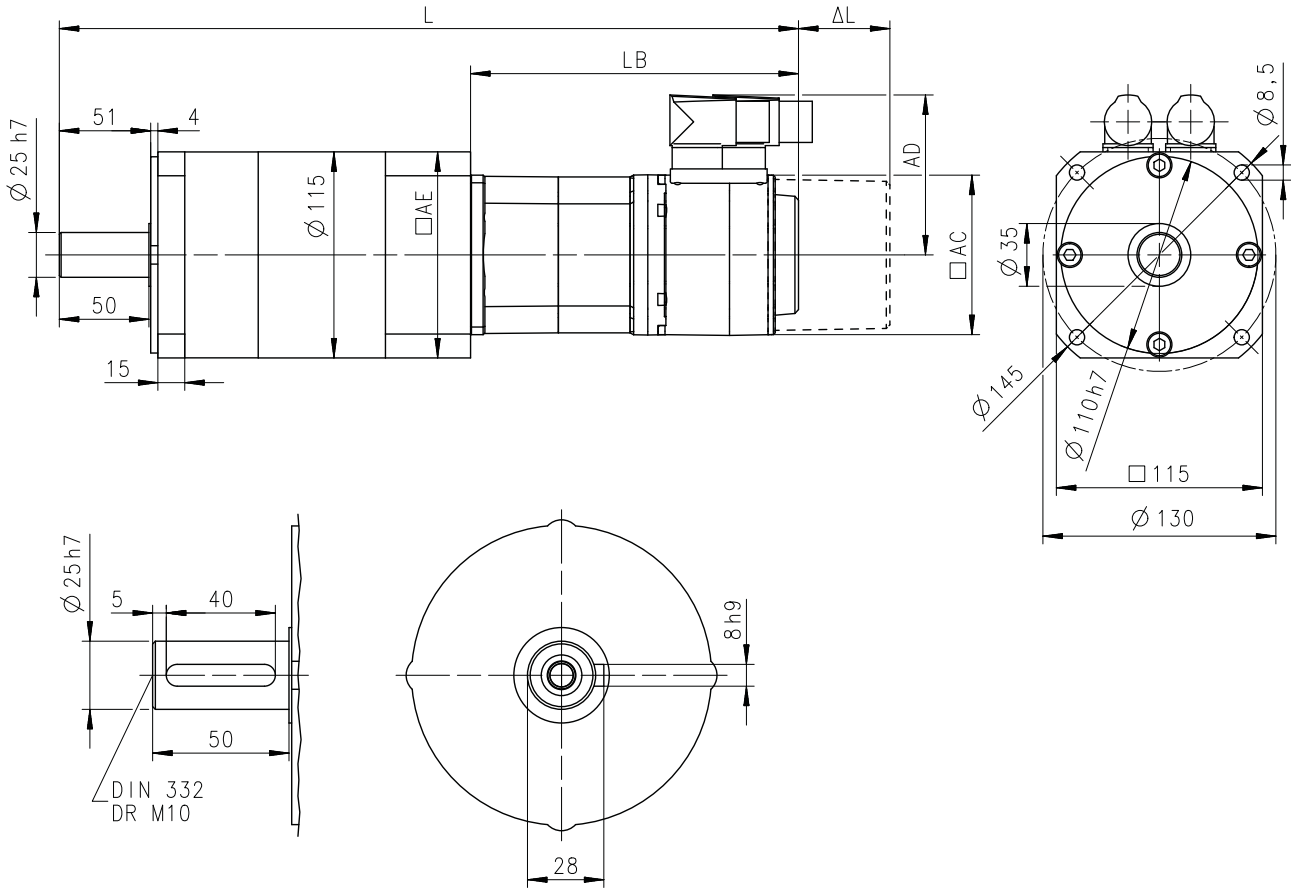


8800798-00

Motor			MCS 19	
			F14-	F30-
Total length	L	mm	449	449
Motor length	LB	mm	220	220
Motor diameter	AC	mm	192	192
Motor/connection distance	AD	mm	142	171
Gearbox diameter	AE	mm	190	190

g720-P260 with MCS19

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



8800798-00

Motor			MCS 19
			F30-
Total length	L	mm	477
Motor length	LB	mm	220
Motor diameter	AC	mm	192
Motor/connection distance	AD	mm	171
Gearbox diameter	AE	mm	190



Planetary gearbox g730-P

The modular system

g730-P planetary gearbox with MCS synchronous servo motor

Gearbox		**g730-P15**	**g730-P33**	**g730-P97**	**g730-P195**	**g730-P460**
Min. motor assignment		**MCS06**	**MCS06**	**MCS06**	**MCS06**	**MCS12**
Max. motor assignment		**MCS06**	**MCS09**	**MCS12**	**MCS19**	**MCS19**
Technical data						
Max. output torque	Nm	15	33	97	195	460
Min. input torque	Nm	0.6	0.6	0.6	0.6	4.3
Max. input torque	Nm	2.4	5.5	10	27	72
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	12 x 18	16 x 28	22 x 36	32 x 58	40 x 82
Smooth solid shaft	mm	12 x 18	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	1/2
Output flange	mm	50	70	90	120	155
Lubricant		**Standard** Food compatible				
Cooling		**Self-ventilated** Forced ventilated				
Motor connection		**Connector** Terminal box				
Holding brake		**Without** With				
Feedback						
Without functional safety		**Digital absolute value encoder for One Cable Technology (OCT)** Resolver Absolute value encoder				
With functional safety		Digital absolute value encoder for One Cable Technology (OCT) Resolver Absolute value encoder				
Temperature monitoring		MCS06: PT1000 temperature sensor MCS09 ... MCS19: PT1000 temperature sensor and 2x PTC thermistor				



Gearbox data

g730-P15, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	11.0	15	1
4	15.0	15	1
5	13.0	15	1
7	8.5	15	1
8	6.0	15	1
10	5.0	15	1

g730-P15, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
9	12.0	19	1
12	15.0	19	1
15	13.0	19	1
16	15.0	19	1
20	15.0	19	1
25	13.0	19	1
32	15.0	19	1

g730-P33, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	28.0	10	5
4	33.0	10	5
5	30.0	10	6
7	25.0	10	5
8	18.0	10	4
10	15.0	10	4

g730-P33, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
9	33.0	12	5
12	33.0	12	6
15	33.0	12	5
16	33.0	12	6
20	33.0	12	6
25	30.0	12	6
32	33.0	12	6
40	30.0	12	6



g730-P97, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	85.0	7	10
4	90.0	7	15
5	82.0	7	15
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
64	50.0	9	12

g730-P195, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	115	7	32
4	155	7	39
5	172	7	40
8	120	7	31
7	135	7	31
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
100	95.0	9	22



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-P15	g730-P33	g730-P97	g730-P195	g730-P460
Bearing service life 20000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	N	800	1050	1900	2500	5200
Axial force	F_{ax}	N	1000	1350	2000	4000	7000
Bearing service life 30000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	N	700	900	1700	2150	4600
Axial force	F_{ax}	N	800	1000	1500	3000	6000
Max. radial force	$F_{rad, max}$	N	1300	1650	3100	4000	8400
Max. axial force	$F_{ax, max}$	N	1000	2100	3800	5900	11000



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.25 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
1.7	1350	2.4	11.0	675	0.216	3	P15	06C41-	1	3.0
1.7	1350	2.4	11.0	675	0.216	3	P15	06C41L	1	3.0
2.0	1013	5.2	15.0	506	0.208	4	P15	06C41L	1	3.0
2.0	1013	5.2	15.0	506	0.208	4	P15	06C41-	1	3.0
2.6	810	4.4	13.0	405	0.206	5	P15	06C41-	1	3.0
2.6	810	4.4	13.0	405	0.206	5	P15	06C41L	1	3.0
3.5	579	5.0	25.0	289	0.218	7	P33	06C41-	1	3.8
3.5	579	5.0	25.0	289	0.218	7	P33	06C41L	1	3.8
4.0	579	2.1	8.5	289	0.203	7	P15	06C41-	1	3.0
4.0	579	2.1	8.5	289	0.203	7	P15	06C41L	1	3.0
4.1	450	4.6	33.0	225	0.266	9	P33	06C41-	2	4.1
4.1	450	4.6	33.0	225	0.266	9	P33	06C41L	2	4.1
4.2	506	3.9	18.0	253	0.214	8	P33	06C41L	1	3.8
4.2	506	3.9	18.0	253	0.214	8	P33	06C41-	1	3.8
4.5	506	1.3	6.0	253	0.203	8	P15	06C41L	1	3.0
4.5	506	1.3	6.0	253	0.203	8	P15	06C41-	1	3.0
5.1	450	1.2	12.0	225	0.213	9	P15	06C41L	2	3.2
5.1	450	1.2	12.0	225	0.213	9	P15	06C41-	2	3.2
5.6	405	2.6	15.0	203	0.209	10	P33	06C41-	1	3.8
5.6	405	2.6	15.0	203	0.209	10	P33	06C41L	1	3.8
5.9	338	3.7	33.0	169	0.261	12	P33	06C41-	2	4.1
5.9	338	3.7	33.0	169	0.261	12	P33	06C41L	2	4.1
6.7	338	2.2	15.0	169	0.212	12	P15	06C41L	2	3.2
6.7	338	2.2	15.0	169	0.212	12	P15	06C41-	2	3.2
7.7	270	3.3	33.0	135	0.218	15	P33	06C41L	2	4.1
7.7	270	3.3	33.0	135	0.218	15	P33	06C41-	2	4.1
8.3	253	3.0	33.0	127	0.227	16	P33	06C41-	2	4.1
8.3	253	3.0	33.0	127	0.227	16	P33	06C41L	2	4.1
8.5	270	1.5	13.0	135	0.212	15	P15	06C41-	2	3.2
8.5	270	1.5	13.0	135	0.212	15	P15	06C41L	2	3.2
9.0	253	1.7	15.0	127	0.206	16	P15	06C41-	2	3.2
9.0	253	1.7	15.0	127	0.206	16	P15	06C41L	2	3.2
10.0	162	5.8	82.0	81.0	0.546	25	P97	06C41L	2	6.0
10.0	162	5.8	82.0	81.0	0.546	25	P97	06C41-	2	6.0
11.0	203	1.3	15.0	101	0.204	20	P15	06C41-	2	3.2
11.0	203	1.3	15.0	101	0.204	20	P15	06C41L	2	3.2
11.0	203	2.6	33.0	101	0.216	20	P33	06C41-	2	4.1
11.0	203	2.6	33.0	101	0.216	20	P33	06C41L	2	4.1
14.0	162	2.1	30.0	81.0	0.215	25	P33	06C41L	2	4.1
14.0	162	2.1	30.0	81.0	0.215	25	P33	06C41-	2	4.1
14.0	127	5.0	90.0	63.0	0.508	32	P97	06C41-	2	6.0
14.0	127	5.0	90.0	63.0	0.508	32	P97	06C41L	2	6.0
18.0	127	1.8	33.0	63.0	0.207	32	P33	06C41-	2	4.1
18.0	127	1.8	33.0	63.0	0.207	32	P33	06C41L	2	4.1
20.0	101	3.6	82.0	51.0	0.506	40	P97	06C41-	2	6.0
20.0	101	3.6	82.0	51.0	0.506	40	P97	06C41L	2	6.0
22.0	101	1.3	30.0	51.0	0.206	40	P33	06C41L	2	4.1
22.0	101	1.3	30.0	51.0	0.206	40	P33	06C41-	2	4.1



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
32.0	63.3	3.5	120	32.0	1.555	64	P195	06C41-	2	12
32.0	63.3	3.5	120	32.0	1.555	64	P195	06C41L	2	12
34.0	63.3	1.5	50.0	32.0	0.507	64	P97	06C41-	2	6.0
34.0	63.3	1.5	50.0	32.0	0.507	64	P97	06C41L	2	6.0
50.0	40.5	1.9	95.0	20.0	1.516	100	P195	06C41-	2	12
50.0	40.5	1.9	95.0	20.0	1.516	100	P195	06C41L	2	12



0.31 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
1.4	2000	2.6	11.0	1000	0.216	3	P15	06C60-	1	3.0
1.4	2000	2.6	11.0	1000	0.216	3	P15	06C60L	1	3.0
1.6	1500	5.6	15.0	750	0.208	4	P15	06C60-	1	3.0
1.6	1500	5.6	15.0	750	0.208	4	P15	06C60L	1	3.0
2.1	1200	4.6	13.0	600	0.206	5	P15	06C60-	1	3.0
2.1	1200	4.6	13.0	600	0.206	5	P15	06C60L	1	3.0
2.9	857	5.3	25.0	429	0.218	7	P33	06C60-	1	3.8
2.9	857	5.3	25.0	429	0.218	7	P33	06C60L	1	3.8
3.3	857	2.6	8.5	429	0.203	7	P15	06C60L	1	3.0
3.3	857	2.6	8.5	429	0.203	7	P15	06C60-	1	3.0
3.3	667	4.9	33.0	333	0.266	9	P33	06C60-	2	4.1
3.3	667	4.9	33.0	333	0.266	9	P33	06C60L	2	4.1
3.4	750	4.7	18.0	375	0.214	8	P33	06C60-	1	3.8
3.4	750	4.7	18.0	375	0.214	8	P33	06C60L	1	3.8
3.8	750	1.6	6.0	375	0.203	8	P15	06C60-	1	3.0
3.8	750	1.6	6.0	375	0.203	8	P15	06C60L	1	3.0
4.2	667	1.2	12.0	333	0.213	9	P15	06C60L	2	3.2
4.2	667	1.2	12.0	333	0.213	9	P15	06C60-	2	3.2
4.6	600	1.1	5.0	300	0.202	10	P15	06C60-	1	3.0
4.6	600	1.1	5.0	300	0.202	10	P15	06C60L	1	3.0
4.6	600	3.2	15.0	300	0.209	10	P33	06C60-	1	3.8
4.6	600	3.2	15.0	300	0.209	10	P33	06C60L	1	3.8
4.8	500	3.9	33.0	250	0.261	12	P33	06C60L	2	4.1
4.8	500	3.9	33.0	250	0.261	12	P33	06C60-	2	4.1
5.4	500	2.6	15.0	250	0.212	12	P15	06C60-	2	3.2
5.4	500	2.6	15.0	250	0.212	12	P15	06C60L	2	3.2
6.3	400	3.5	33.0	200	0.218	15	P33	06C60-	2	4.1
6.3	400	3.5	33.0	200	0.218	15	P33	06C60L	2	4.1
6.8	375	3.2	33.0	188	0.227	16	P33	06C60L	2	4.1
6.8	375	3.2	33.0	188	0.227	16	P33	06C60-	2	4.1
7.1	400	1.8	13.0	200	0.212	15	P15	06C60-	2	3.2
7.1	400	1.8	13.0	200	0.212	15	P15	06C60L	2	3.2
7.5	375	2.0	15.0	188	0.206	16	P15	06C60-	2	3.2
7.5	375	2.0	15.0	188	0.206	16	P15	06C60L	2	3.2
8.9	300	2.8	33.0	150	0.216	20	P33	06C60-	2	4.1
8.9	300	2.8	33.0	150	0.216	20	P33	06C60L	2	4.1
9.3	300	1.6	15.0	150	0.204	20	P15	06C60L	2	3.2
9.3	300	1.6	15.0	150	0.204	20	P15	06C60-	2	3.2
11.0	240	1.1	13.0	120	0.204	25	P15	06C60-	2	3.2
11.0	240	1.1	13.0	120	0.204	25	P15	06C60L	2	3.2
11.0	240	2.3	30.0	120	0.215	25	P33	06C60-	2	4.1
11.0	240	2.3	30.0	120	0.215	25	P33	06C60L	2	4.1
11.0	188	6.0	90.0	94.0	0.508	32	P97	06C60-	2	6.0
11.0	188	6.0	90.0	94.0	0.508	32	P97	06C60L	2	6.0
15.0	188	1.0	15.0	94.0	0.202	32	P15	06C60-	2	3.2
15.0	188	1.0	15.0	94.0	0.202	32	P15	06C60L	2	3.2
15.0	188	2.0	33.0	94.0	0.207	32	P33	06C60-	2	4.1
15.0	188	2.0	33.0	94.0	0.207	32	P33	06C60L	2	4.1
15.0	150	4.4	82.0	75.0	0.506	40	P97	06C60L	2	6.0
15.0	150	4.4	82.0	75.0	0.506	40	P97	06C60-	2	6.0
19.0	150	1.6	30.0	75.0	0.206	40	P33	06C60-	2	4.1



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
19.0	150	1.6	30.0	75.0	0.206	40	P33	06C60L	2	4.1
25.0	93.8	4.2	120	47.0	1.555	64	P195	06C60-	2	12
25.0	93.8	4.2	120	47.0	1.555	64	P195	06C60L	2	12
28.0	93.8	1.8	50.0	47.0	0.507	64	P97	06C60-	2	6.0
28.0	93.8	1.8	50.0	47.0	0.507	64	P97	06C60L	2	6.0
42.0	60.0	2.3	95.0	30.0	1.516	100	P195	06C60L	2	12
42.0	60.0	2.3	95.0	30.0	1.516	100	P195	06C60-	2	12



0.51 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.0	1350	4.9	28.0	675	0.394	3	P33	06F41-	1	4.2
3.0	1350	4.9	28.0	675	0.394	3	P33	06F41L	1	4.2
4.3	1013	3.9	33.0	506	0.337	4	P33	06F41L	1	4.2
4.3	1013	3.9	33.0	506	0.337	4	P33	06F41-	1	4.2
5.5	810	3.3	30.0	405	0.315	5	P33	06F41-	1	4.2
5.5	810	3.3	30.0	405	0.315	5	P33	06F41L	1	4.2
7.8	450	5.1	97.0	225	0.845	9	P97	06F41-	2	6.4
7.8	450	5.1	97.0	225	0.845	9	P97	06F41L	2	6.4
7.9	579	2.5	25.0	289	0.298	7	P33	06F41-	1	4.2
7.9	579	2.5	25.0	289	0.298	7	P33	06F41L	1	4.2
7.9	506	5.4	50.0	253	0.614	8	P97	06F41-	1	5.7
7.9	506	5.4	50.0	253	0.614	8	P97	06F41L	1	5.7
9.2	506	2.0	18.0	253	0.294	8	P33	06F41-	1	4.2
9.2	506	2.0	18.0	253	0.294	8	P33	06F41L	1	4.2
9.9	450	2.3	33.0	225	0.346	9	P33	06F41-	2	4.5
9.9	450	2.3	33.0	225	0.346	9	P33	06F41L	2	4.5
11.0	405	1.3	15.0	203	0.289	10	P33	06F41-	1	4.2
11.0	405	1.3	15.0	203	0.289	10	P33	06F41L	1	4.2
11.0	405	3.3	38.0	203	0.594	10	P97	06F41-	1	5.7
11.0	405	3.3	38.0	203	0.594	10	P97	06F41L	1	5.7
13.0	270	4.8	82.0	135	0.812	15	P97	06F41-	2	6.4
13.0	270	4.8	82.0	135	0.812	15	P97	06F41L	2	6.4
14.0	338	1.8	33.0	169	0.341	12	P33	06F41-	2	4.5
14.0	338	1.8	33.0	169	0.341	12	P33	06F41L	2	4.5
14.0	253	4.9	90.0	127	0.673	16	P97	06F41-	2	6.4
14.0	253	4.9	90.0	127	0.673	16	P97	06F41L	2	6.4
17.0	270	1.6	33.0	135	0.298	15	P33	06F41-	2	4.5
17.0	270	1.6	33.0	135	0.298	15	P33	06F41L	2	4.5
18.0	253	1.5	33.0	127	0.307	16	P33	06F41-	2	4.5
18.0	253	1.5	33.0	127	0.307	16	P33	06F41L	2	4.5
19.0	203	4.0	90.0	101	0.630	20	P97	06F41-	2	6.4
19.0	203	4.0	90.0	101	0.630	20	P97	06F41L	2	6.4
23.0	203	1.3	33.0	101	0.296	20	P33	06F41-	2	4.5
23.0	203	1.3	33.0	101	0.296	20	P33	06F41L	2	4.5
26.0	162	2.9	82.0	81.0	0.626	25	P97	06F41L	2	6.4
26.0	162	2.9	82.0	81.0	0.626	25	P97	06F41-	2	6.4
27.0	127	5.4	195	63.0	1.643	32	P195	06F41L	2	12
27.0	127	5.4	195	63.0	1.643	32	P195	06F41-	2	12
28.0	162	1.1	30.0	81.0	0.295	25	P33	06F41-	2	4.5
28.0	162	1.1	30.0	81.0	0.295	25	P33	06F41L	2	4.5
35.0	127	2.5	90.0	63.0	0.588	32	P97	06F41-	2	6.4
35.0	127	2.5	90.0	63.0	0.588	32	P97	06F41L	2	6.4
39.0	101	3.9	172	51.0	1.639	40	P195	06F41L	2	12
39.0	101	3.9	172	51.0	1.639	40	P195	06F41-	2	12
45.0	101	1.8	82.0	51.0	0.586	40	P97	06F41-	2	6.4
45.0	101	1.8	82.0	51.0	0.586	40	P97	06F41L	2	6.4
68.0	63.3	1.8	120	32.0	1.635	64	P195	06F41-	2	12
68.0	63.3	1.8	120	32.0	1.635	64	P195	06F41L	2	12



0.57 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
2.2	2000	5.8	28.0	1000	0.394	3	P33	06F60-	1	4.2
2.2	2000	5.8	28.0	1000	0.394	3	P33	06F60L	1	4.2
3.1	1500	4.6	33.0	750	0.337	4	P33	06F60-	1	4.2
3.1	1500	4.6	33.0	750	0.337	4	P33	06F60L	1	4.2
4.0	1200	3.9	30.0	600	0.315	5	P33	06F60-	1	4.2
4.0	1200	3.9	30.0	600	0.315	5	P33	06F60L	1	4.2
5.8	857	2.9	25.0	429	0.298	7	P33	06F60-	1	4.2
5.8	857	2.9	25.0	429	0.298	7	P33	06F60L	1	4.2
6.7	750	2.6	18.0	375	0.294	8	P33	06F60L	1	4.2
6.7	750	2.6	18.0	375	0.294	8	P33	06F60-	1	4.2
7.2	667	2.7	33.0	333	0.346	9	P33	06F60L	2	4.5
7.2	667	2.7	33.0	333	0.346	9	P33	06F60-	2	4.5
7.8	600	4.4	38.0	300	0.594	10	P97	06F60-	1	5.7
7.8	600	4.4	38.0	300	0.594	10	P97	06F60L	1	5.7
8.5	600	1.8	15.0	300	0.289	10	P33	06F60L	1	4.2
8.5	600	1.8	15.0	300	0.289	10	P33	06F60-	1	4.2
10.0	500	2.2	33.0	250	0.341	12	P33	06F60-	2	4.5
10.0	500	2.2	33.0	250	0.341	12	P33	06F60L	2	4.5
13.0	400	1.9	33.0	200	0.298	15	P33	06F60-	2	4.5
13.0	400	1.9	33.0	200	0.298	15	P33	06F60L	2	4.5
13.0	300	5.2	90.0	150	0.630	20	P97	06F60-	2	6.4
13.0	300	5.2	90.0	150	0.630	20	P97	06F60L	2	6.4
14.0	375	1.8	33.0	188	0.307	16	P33	06F60-	2	4.5
14.0	375	1.8	33.0	188	0.307	16	P33	06F60L	2	4.5
17.0	300	1.5	33.0	150	0.296	20	P33	06F60-	2	4.5
17.0	300	1.5	33.0	150	0.296	20	P33	06F60L	2	4.5
18.0	240	3.8	82.0	120	0.626	25	P97	06F60-	2	6.4
18.0	240	3.8	82.0	120	0.626	25	P97	06F60L	2	6.4
21.0	240	1.3	30.0	120	0.295	25	P33	06F60L	2	4.5
21.0	240	1.3	30.0	120	0.295	25	P33	06F60-	2	4.5
24.0	188	3.3	90.0	94.0	0.588	32	P97	06F60-	2	6.4
24.0	188	3.3	90.0	94.0	0.588	32	P97	06F60L	2	6.4
26.0	150	5.1	172	75.0	1.639	40	P195	06F60-	2	12
26.0	150	5.1	172	75.0	1.639	40	P195	06F60L	2	12
27.0	188	1.1	33.0	94.0	0.287	32	P33	06F60-	2	4.5
27.0	188	1.1	33.0	94.0	0.287	32	P33	06F60L	2	4.5
33.0	150	2.4	82.0	75.0	0.586	40	P97	06F60L	2	6.4
33.0	150	2.4	82.0	75.0	0.586	40	P97	06F60-	2	6.4
51.0	93.8	2.3	120	47.0	1.635	64	P195	06F60-	2	12
51.0	93.8	2.3	120	47.0	1.635	64	P195	06F60L	2	12
75.0	60.0	1.3	95.0	30.0	1.596	100	P195	06F60-	2	12
75.0	60.0	1.3	95.0	30.0	1.596	100	P195	06F60L	2	12



0.64 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.0	1350	3.9	28.0	675	0.474	3	P33	06I41L	1	4.9
4.0	1350	3.9	28.0	675	0.474	3	P33	06I41-	1	4.9
5.5	1013	3.1	33.0	506	0.417	4	P33	06I41L	1	4.9
5.5	1013	3.1	33.0	506	0.417	4	P33	06I41-	1	4.9
7.0	810	2.6	30.0	405	0.395	5	P33	06I41L	1	4.9
7.0	810	2.6	30.0	405	0.395	5	P33	06I41-	1	4.9
10.0	579	2.0	25.0	289	0.378	7	P33	06I41L	1	4.9
10.0	579	2.0	25.0	289	0.378	7	P33	06I41-	1	4.9
10.0	506	4.3	50.0	253	0.694	8	P97	06I41-	1	6.4
10.0	506	4.3	50.0	253	0.694	8	P97	06I41L	1	6.4
11.0	450	4.1	97.0	225	0.925	9	P97	06I41L	2	7.1
11.0	450	4.1	97.0	225	0.925	9	P97	06I41-	2	7.1
12.0	506	1.6	18.0	253	0.374	8	P33	06I41-	1	4.9
12.0	506	1.6	18.0	253	0.374	8	P33	06I41L	1	4.9
13.0	450	1.8	33.0	225	0.426	9	P33	06I41-	2	5.2
13.0	450	1.8	33.0	225	0.426	9	P33	06I41L	2	5.2
13.0	338	5.0	90.0	169	0.901	12	P97	06I41-	2	7.1
13.0	338	5.0	90.0	169	0.901	12	P97	06I41L	2	7.1
14.0	405	1.1	15.0	203	0.369	10	P33	06I41-	1	4.9
14.0	405	1.1	15.0	203	0.369	10	P33	06I41L	1	4.9
14.0	405	2.6	38.0	203	0.674	10	P97	06I41-	1	6.4
14.0	405	2.6	38.0	203	0.674	10	P97	06I41L	1	6.4
17.0	338	1.5	33.0	169	0.421	12	P33	06I41-	2	5.2
17.0	338	1.5	33.0	169	0.421	12	P33	06I41L	2	5.2
18.0	270	3.8	82.0	135	0.892	15	P97	06I41-	2	7.1
18.0	270	3.8	82.0	135	0.892	15	P97	06I41L	2	7.1
19.0	253	3.9	90.0	127	0.753	16	P97	06I41-	2	7.1
19.0	253	3.9	90.0	127	0.753	16	P97	06I41L	2	7.1
21.0	270	1.3	33.0	135	0.378	15	P33	06I41-	2	5.2
21.0	270	1.3	33.0	135	0.378	15	P33	06I41L	2	5.2
23.0	253	1.2	33.0	127	0.387	16	P33	06I41L	2	5.2
23.0	253	1.2	33.0	127	0.387	16	P33	06I41-	2	5.2
26.0	203	3.2	90.0	101	0.710	20	P97	06I41-	2	7.1
26.0	203	3.2	90.0	101	0.710	20	P97	06I41L	2	7.1
28.0	203	1.0	33.0	101	0.376	20	P33	06I41-	2	5.2
28.0	203	1.0	33.0	101	0.376	20	P33	06I41L	2	5.2
28.0	162	4.8	172	81.0	1.871	25	P195	06I41L	2	13
28.0	162	4.8	172	81.0	1.871	25	P195	06I41-	2	13
34.0	162	2.3	82.0	81.0	0.706	25	P97	06I41-	2	7.1
34.0	162	2.3	82.0	81.0	0.706	25	P97	06I41L	2	7.1
37.0	127	4.3	195	63.0	1.723	32	P195	06I41-	2	13
37.0	127	4.3	195	63.0	1.723	32	P195	06I41L	2	13
45.0	127	2.0	90.0	63.0	0.668	32	P97	06I41L	2	7.1
45.0	127	2.0	90.0	63.0	0.668	32	P97	06I41-	2	7.1
52.0	101	3.1	172	51.0	1.719	40	P195	06I41-	2	13
52.0	101	3.1	172	51.0	1.719	40	P195	06I41L	2	13
56.0	101	1.5	82.0	51.0	0.666	40	P97	06I41-	2	7.1
56.0	101	1.5	82.0	51.0	0.666	40	P97	06I41L	2	7.1
85.0	63.3	1.4	120	32.0	1.715	64	P195	06I41-	2	13
85.0	63.3	1.4	120	32.0	1.715	64	P195	06I41L	2	13



0.75 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.1	2000	4.3	28.0	1000	0.474	3	P33	06I60-	1	4.9
3.1	2000	4.3	28.0	1000	0.474	3	P33	06I60L	1	4.9
4.3	1500	3.4	33.0	750	0.417	4	P33	06I60-	1	4.9
4.3	1500	3.4	33.0	750	0.417	4	P33	06I60L	1	4.9
5.5	1200	2.9	30.0	600	0.395	5	P33	06I60-	1	4.9
5.5	1200	2.9	30.0	600	0.395	5	P33	06I60L	1	4.9
7.9	750	5.4	50.0	375	0.694	8	P97	06I60-	1	6.4
7.9	750	5.4	50.0	375	0.694	8	P97	06I60L	1	6.4
8.0	857	2.2	25.0	429	0.378	7	P33	06I60-	1	4.9
8.0	857	2.2	25.0	429	0.378	7	P33	06I60L	1	4.9
8.3	667	4.5	97.0	333	0.925	9	P97	06I60L	2	7.1
8.3	667	4.5	97.0	333	0.925	9	P97	06I60-	2	7.1
9.2	750	2.0	18.0	375	0.374	8	P33	06I60-	1	4.9
9.2	750	2.0	18.0	375	0.374	8	P33	06I60L	1	4.9
10.0	667	2.0	33.0	333	0.426	9	P33	06I60-	2	5.2
10.0	667	2.0	33.0	333	0.426	9	P33	06I60L	2	5.2
10.0	500	5.5	90.0	250	0.901	12	P97	06I60L	2	7.1
10.0	500	5.5	90.0	250	0.901	12	P97	06I60-	2	7.1
11.0	600	1.3	15.0	300	0.369	10	P33	06I60L	1	4.9
11.0	600	1.3	15.0	300	0.369	10	P33	06I60-	1	4.9
11.0	600	3.3	38.0	300	0.674	10	P97	06I60-	1	6.4
11.0	600	3.3	38.0	300	0.674	10	P97	06I60L	1	6.4
14.0	500	1.6	33.0	250	0.421	12	P33	06I60-	2	5.2
14.0	500	1.6	33.0	250	0.421	12	P33	06I60L	2	5.2
14.0	400	4.6	82.0	200	0.892	15	P97	06I60-	2	7.1
14.0	400	4.6	82.0	200	0.892	15	P97	06I60L	2	7.1
15.0	375	4.5	90.0	188	0.753	16	P97	06I60-	2	7.1
15.0	375	4.5	90.0	188	0.753	16	P97	06I60L	2	7.1
17.0	400	1.4	33.0	200	0.378	15	P33	06I60-	2	5.2
17.0	400	1.4	33.0	200	0.378	15	P33	06I60L	2	5.2
18.0	375	1.3	33.0	188	0.387	16	P33	06I60-	2	5.2
18.0	375	1.3	33.0	188	0.387	16	P33	06I60L	2	5.2
19.0	300	3.9	90.0	150	0.710	20	P97	06I60L	2	7.1
19.0	300	3.9	90.0	150	0.710	20	P97	06I60-	2	7.1
23.0	300	1.2	33.0	150	0.376	20	P33	06I60-	2	5.2
23.0	300	1.2	33.0	150	0.376	20	P33	06I60L	2	5.2
26.0	240	2.9	82.0	120	0.706	25	P97	06I60-	2	7.1
26.0	240	2.9	82.0	120	0.706	25	P97	06I60L	2	7.1
27.0	188	5.4	195	94.0	1.723	32	P195	06I60-	2	13
27.0	188	5.4	195	94.0	1.723	32	P195	06I60L	2	13
35.0	188	2.5	90.0	94.0	0.668	32	P97	06I60-	2	7.1
35.0	188	2.5	90.0	94.0	0.668	32	P97	06I60L	2	7.1
39.0	150	3.9	172	75.0	1.719	40	P195	06I60L	2	13
39.0	150	3.9	172	75.0	1.719	40	P195	06I60-	2	13
45.0	150	1.8	82.0	75.0	0.666	40	P97	06I60L	2	7.1
45.0	150	1.8	82.0	75.0	0.666	40	P97	06I60-	2	7.1
68.0	93.8	1.8	120	47.0	1.715	64	P195	06I60-	2	13
68.0	93.8	1.8	120	47.0	1.715	64	P195	06I60L	2	13



1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.6	1350	5.7	85.0	675	1.889	3	P97	09D41L	1	7.9
5.6	1350	5.7	85.0	675	1.889	3	P97	09D41-	1	7.8
6.5	1350	2.5	28.0	675	1.295	3	P33	09D41-	1	6.3
6.5	1350	2.5	28.0	675	1.295	3	P33	09D41L	1	6.4
8.8	1013	2.0	33.0	506	1.238	4	P33	09D41-	1	6.3
8.8	1013	2.0	33.0	506	1.238	4	P33	09D41L	1	6.4
9.3	810	5.7	82.0	405	1.576	5	P97	09D41-	1	7.8
9.3	810	5.7	82.0	405	1.576	5	P97	09D41L	1	7.9
11.0	810	1.7	30.0	405	1.216	5	P33	09D41-	1	6.3
11.0	810	1.7	30.0	405	1.216	5	P33	09D41L	1	6.4
14.0	579	4.2	65.0	289	1.509	7	P97	09D41L	1	7.9
14.0	579	4.2	65.0	289	1.509	7	P97	09D41-	1	7.8
14.0	450	5.7	157	225	3.434	9	P195	09D41-	2	15
14.0	450	5.7	157	225	3.434	9	P195	09D41L	2	15
15.0	579	1.3	25.0	289	1.199	7	P33	09D41-	1	6.3
15.0	579	1.3	25.0	289	1.199	7	P33	09D41L	1	6.4
17.0	506	2.8	50.0	253	1.494	8	P97	09D41-	1	7.8
17.0	506	2.8	50.0	253	1.494	8	P97	09D41L	1	7.9
18.0	506	1.0	18.0	253	1.195	8	P33	09D41-	1	6.3
18.0	506	1.0	18.0	253	1.195	8	P33	09D41L	1	6.4
19.0	450	1.2	33.0	225	1.247	9	P33	09D41-	2	6.6
19.0	450	1.2	33.0	225	1.247	9	P33	09D41L	2	6.7
19.0	450	2.7	97.0	225	1.725	9	P97	09D41-	2	8.5
19.0	450	2.7	97.0	225	1.725	9	P97	09D41L	2	8.6
20.0	405	4.3	95.0	203	2.519	10	P195	09D41-	1	12
20.0	405	4.3	95.0	203	2.519	10	P195	09D41L	1	12
22.0	405	1.7	38.0	203	1.474	10	P97	09D41-	1	7.8
22.0	405	1.7	38.0	203	1.474	10	P97	09D41L	1	7.9
24.0	338	3.2	90.0	169	1.701	12	P97	09D41L	2	8.6
24.0	338	3.2	90.0	169	1.701	12	P97	09D41-	2	8.5
25.0	270	5.2	172	135	3.318	15	P195	09D41-	2	15
25.0	270	5.2	172	135	3.318	15	P195	09D41L	2	15
26.0	253	5.5	195	127	2.860	16	P195	09D41L	2	15
26.0	253	5.5	195	127	2.860	16	P195	09D41-	2	15
31.0	270	2.5	82.0	135	1.692	15	P97	09D41-	2	8.5
31.0	270	2.5	82.0	135	1.692	15	P97	09D41L	2	8.6
33.0	253	2.6	90.0	127	1.553	16	P97	09D41-	2	8.5
33.0	253	2.6	90.0	127	1.553	16	P97	09D41L	2	8.6
35.0	203	4.5	195	101	2.682	20	P195	09D41-	2	15
35.0	203	4.5	195	101	2.682	20	P195	09D41L	2	15
43.0	203	2.1	90.0	101	1.510	20	P97	09D41-	2	8.5
43.0	203	2.1	90.0	101	1.510	20	P97	09D41L	2	8.6
49.0	162	3.2	172	81.0	2.671	25	P195	09D41-	2	15
49.0	162	3.2	172	81.0	2.671	25	P195	09D41L	2	15
54.0	162	1.5	82.0	81.0	1.506	25	P97	09D41L	2	8.6
54.0	162	1.5	82.0	81.0	1.506	25	P97	09D41-	2	8.5
65.0	127	2.8	195	63.0	2.523	32	P195	09D41-	2	15
65.0	127	2.8	195	63.0	2.523	32	P195	09D41L	2	15
69.0	127	1.3	90.0	63.0	1.468	32	P97	09D41-	2	8.5
69.0	127	1.3	90.0	63.0	1.468	32	P97	09D41L	2	8.6
86.0	101	2.0	172	51.0	2.519	40	P195	09D41L	2	15



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
86.0	101	2.0	172	51.0	2.519	40	P195	09D41-	2	15



1.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.0	2000	2.9	28.0	1000	1.295	3	P33	09D60-	1	6.3
5.0	2000	2.9	28.0	1000	1.295	3	P33	09D60L	1	6.4
6.8	1500	2.3	33.0	750	1.238	4	P33	09D60-	1	6.3
6.8	1500	2.3	33.0	750	1.238	4	P33	09D60L	1	6.4
8.6	1200	1.9	30.0	600	1.216	5	P33	09D60-	1	6.3
8.6	1200	1.9	30.0	600	1.216	5	P33	09D60L	1	6.4
11.0	857	5.0	65.0	429	1.509	7	P97	09D60-	1	7.8
11.0	857	5.0	65.0	429	1.509	7	P97	09D60L	1	7.9
12.0	857	1.5	25.0	429	1.199	7	P33	09D60L	1	6.4
12.0	857	1.5	25.0	429	1.199	7	P33	09D60-	1	6.3
13.0	750	3.6	50.0	375	1.494	8	P97	09D60L	1	7.9
13.0	750	3.6	50.0	375	1.494	8	P97	09D60-	1	7.8
14.0	750	1.3	18.0	375	1.195	8	P33	09D60L	1	6.4
14.0	750	1.3	18.0	375	1.195	8	P33	09D60-	1	6.3
14.0	667	3.0	97.0	333	1.725	9	P97	09D60-	2	8.5
14.0	667	3.0	97.0	333	1.725	9	P97	09D60L	2	8.6
15.0	667	1.4	33.0	333	1.247	9	P33	09D60L	2	6.7
15.0	667	1.4	33.0	333	1.247	9	P33	09D60-	2	6.6
15.0	650	2.9	85.0	325	4.789	3	P97	12D20-	1	10
15.0	650	2.9	85.0	325	4.789	3	P97	12D20L	1	10
15.0	600	5.5	95.0	300	2.519	10	P195	09D60-	1	12
15.0	600	5.5	95.0	300	2.519	10	P195	09D60L	1	12
17.0	600	2.2	38.0	300	1.474	10	P97	09D60-	1	7.8
17.0	600	2.2	38.0	300	1.474	10	P97	09D60L	1	7.9
18.0	500	3.7	90.0	250	1.701	12	P97	09D60-	2	8.5
18.0	500	3.7	90.0	250	1.701	12	P97	09D60L	2	8.6
20.0	500	1.1	33.0	250	1.241	12	P33	09D60L	2	6.7
20.0	500	1.1	33.0	250	1.241	12	P33	09D60-	2	6.6
20.0	488	3.6	90.0	244	4.557	4	P97	12D20L	1	10
20.0	488	3.6	90.0	244	4.557	4	P97	12D20-	1	10
23.0	400	3.1	82.0	200	1.692	15	P97	09D60L	2	8.6
23.0	400	3.1	82.0	200	1.692	15	P97	09D60-	2	8.5
25.0	390	3.0	82.0	195	4.476	5	P97	12D20-	1	10
25.0	390	3.0	82.0	195	4.476	5	P97	12D20L	1	10
25.0	375	3.0	90.0	188	1.553	16	P97	09D60-	2	8.5
25.0	375	3.0	90.0	188	1.553	16	P97	09D60L	2	8.6
25.0	300	5.7	195	150	2.682	20	P195	09D60-	2	15
25.0	300	5.7	195	150	2.682	20	P195	09D60L	2	15
32.0	300	2.6	90.0	150	1.510	20	P97	09D60-	2	8.5
32.0	300	2.6	90.0	150	1.510	20	P97	09D60L	2	8.6
34.0	279	3.6	135	139	5.546	7	P195	12D20L	1	15
34.0	279	3.6	135	139	5.546	7	P195	12D20-	1	15
36.0	240	4.0	172	120	2.671	25	P195	09D60-	2	15
36.0	240	4.0	172	120	2.671	25	P195	09D60L	2	15
37.0	279	1.7	65.0	139	4.409	7	P97	12D20-	1	10
37.0	279	1.7	65.0	139	4.409	7	P97	12D20L	1	10
41.0	244	2.8	120	122	5.495	8	P195	12D20-	1	15
41.0	244	2.8	120	122	5.495	8	P195	12D20L	1	15
42.0	244	1.2	50.0	122	4.394	8	P97	12D20-	1	10
42.0	244	1.2	50.0	122	4.394	8	P97	12D20L	1	10
42.0	240	1.9	82.0	120	1.506	25	P97	09D60-	2	8.5



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
42.0	240	1.9	82.0	120	1.506	25	P97	09D60L	2	8.6
43.0	217	3.0	157	108	6.334	9	P195	12D20-	2	17
43.0	217	3.0	157	108	6.334	9	P195	12D20L	2	17
47.0	217	1.4	97.0	108	4.625	9	P97	12D20L	2	11
47.0	217	1.4	97.0	108	4.625	9	P97	12D20-	2	11
48.0	188	3.6	195	94.0	2.523	32	P195	09D60-	2	15
48.0	188	3.6	195	94.0	2.523	32	P195	09D60L	2	15
49.0	195	3.9	210	98.0	8.932	10	P460	12D20-	1	24
49.0	195	3.9	210	98.0	8.932	10	P460	12D20L	1	24
53.0	195	1.8	95.0	98.0	5.419	10	P195	12D20-	1	15
53.0	195	1.8	95.0	98.0	5.419	10	P195	12D20L	1	15
54.0	188	1.7	90.0	94.0	1.468	32	P97	09D60-	2	8.5
54.0	188	1.7	90.0	94.0	1.468	32	P97	09D60L	2	8.6
57.0	163	3.1	195	81.0	6.248	12	P195	12D20L	2	17
57.0	163	3.1	195	81.0	6.248	12	P195	12D20-	2	17
61.0	122	5.5	460	61.0	11.108	16	P460	12D20-	2	28
61.0	122	5.5	460	61.0	11.108	16	P460	12D20L	2	28
62.0	163	1.4	90.0	81.0	4.601	12	P97	12D20-	2	11
62.0	163	1.4	90.0	81.0	4.601	12	P97	12D20L	2	11
65.0	150	2.6	172	75.0	2.519	40	P195	09D60L	2	15
65.0	150	2.6	172	75.0	2.519	40	P195	09D60-	2	15
68.0	150	1.2	82.0	75.0	1.466	40	P97	09D60-	2	8.5
68.0	150	1.2	82.0	75.0	1.466	40	P97	09D60L	2	8.6
77.0	130	2.2	172	65.0	6.218	15	P195	12D20-	2	17
77.0	130	2.2	172	65.0	6.218	15	P195	12D20L	2	17
78.0	130	1.0	82.0	65.0	4.592	15	P97	12D20-	2	11
78.0	130	1.0	82.0	65.0	4.592	15	P97	12D20L	2	11
81.0	122	2.3	195	61.0	5.760	16	P195	12D20-	2	17
81.0	122	2.3	195	61.0	5.760	16	P195	12D20L	2	17
83.0	122	1.1	90.0	61.0	4.453	16	P97	12D20-	2	11
83.0	122	1.1	90.0	61.0	4.453	16	P97	12D20L	2	11
85.0	97.5	4.4	460	49.0	10.172	20	P460	12D20L	2	28
85.0	97.5	4.4	460	49.0	10.172	20	P460	12D20-	2	28
103	97.5	1.9	195	49.0	5.582	20	P195	12D20L	2	17
103	97.5	1.9	195	49.0	5.582	20	P195	12D20-	2	17
103	93.8	1.2	120	47.0	2.515	64	P195	09D60-	2	15
103	93.8	1.2	120	47.0	2.515	64	P195	09D60L	2	15
116	78.0	3.4	445	39.0	10.117	25	P460	12D20-	2	28
116	78.0	3.4	445	39.0	10.117	25	P460	12D20L	2	28
129	78.0	1.3	172	39.0	5.571	25	P195	12D20-	2	17
129	78.0	1.3	172	39.0	5.571	25	P195	12D20L	2	17
165	60.9	1.2	195	30.0	5.423	32	P195	12D20-	2	17
165	60.9	1.2	195	30.0	5.423	32	P195	12D20L	2	17
204	48.8	2.2	460	24.0	9.107	40	P460	12D20L	2	28
204	48.8	2.2	460	24.0	9.107	40	P460	12D20-	2	28
259	39.0	1.7	445	20.0	8.774	50	P460	12D20L	2	28
259	39.0	1.7	445	20.0	8.774	50	P460	12D20-	2	28



1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.1	1250	4.3	85.0	625	2.289	3	P97	09F38-	1	8.7
8.1	1250	4.3	85.0	625	2.289	3	P97	09F38L	1	8.8
8.9	1250	1.9	28.0	625	1.695	3	P33	09F38-	1	7.2
8.9	1250	1.9	28.0	625	1.695	3	P33	09F38L	1	7.3
10.0	938	5.2	90.0	469	2.057	4	P97	09F38L	1	8.8
10.0	938	5.2	90.0	469	2.057	4	P97	09F38-	1	8.7
12.0	938	1.5	33.0	469	1.638	4	P33	09F38-	1	7.2
12.0	938	1.5	33.0	469	1.638	4	P33	09F38L	1	7.3
13.0	750	4.3	82.0	375	1.976	5	P97	09F38-	1	8.7
13.0	750	4.3	82.0	375	1.976	5	P97	09F38L	1	8.8
15.0	750	1.3	30.0	375	1.616	5	P33	09F38L	1	7.3
15.0	750	1.3	30.0	375	1.616	5	P33	09F38-	1	7.2
20.0	536	3.1	65.0	268	1.909	7	P97	09F38-	1	8.7
20.0	536	3.1	65.0	268	1.909	7	P97	09F38L	1	8.8
21.0	469	5.0	120	234	2.995	8	P195	09F38-	1	13
21.0	469	5.0	120	234	2.995	8	P195	09F38L	1	13
22.0	417	4.3	157	208	3.834	9	P195	09F38-	2	15
22.0	417	4.3	157	208	3.834	9	P195	09F38L	2	16
24.0	469	2.1	50.0	234	1.894	8	P97	09F38-	1	8.7
24.0	469	2.1	50.0	234	1.894	8	P97	09F38L	1	8.8
26.0	417	2.0	97.0	208	2.125	9	P97	09F38-	2	9.4
26.0	417	2.0	97.0	208	2.125	9	P97	09F38L	2	9.5
26.0	313	5.5	195	156	3.748	12	P195	09F38-	2	15
26.0	313	5.5	195	156	3.748	12	P195	09F38L	2	16
28.0	375	3.2	95.0	188	2.919	10	P195	09F38-	1	13
28.0	375	3.2	95.0	188	2.919	10	P195	09F38L	1	13
30.0	375	1.3	38.0	188	1.874	10	P97	09F38-	1	8.7
30.0	375	1.3	38.0	188	1.874	10	P97	09F38L	1	8.8
34.0	313	2.5	90.0	156	2.101	12	P97	09F38-	2	9.4
34.0	313	2.5	90.0	156	2.101	12	P97	09F38L	2	9.5
38.0	250	3.9	172	125	3.718	15	P195	09F38-	2	15
38.0	250	3.9	172	125	3.718	15	P195	09F38L	2	16
39.0	234	4.1	195	117	3.260	16	P195	09F38-	2	15
39.0	234	4.1	195	117	3.260	16	P195	09F38L	2	16
44.0	250	1.8	82.0	125	2.092	15	P97	09F38-	2	9.4
44.0	250	1.8	82.0	125	2.092	15	P97	09F38L	2	9.5
47.0	234	1.9	90.0	117	1.953	16	P97	09F38-	2	9.4
47.0	234	1.9	90.0	117	1.953	16	P97	09F38L	2	9.5
53.0	188	3.3	195	94.0	3.082	20	P195	09F38-	2	15
53.0	188	3.3	195	94.0	3.082	20	P195	09F38L	2	16
58.0	188	1.5	90.0	94.0	1.910	20	P97	09F38-	2	9.4
58.0	188	1.5	90.0	94.0	1.910	20	P97	09F38L	2	9.5
71.0	150	2.3	172	75.0	3.071	25	P195	09F38-	2	15
71.0	150	2.3	172	75.0	3.071	25	P195	09F38L	2	16
73.0	150	1.1	82.0	75.0	1.906	25	P97	09F38L	2	9.5
73.0	150	1.1	82.0	75.0	1.906	25	P97	09F38-	2	9.4
93.0	117	2.1	195	59.0	2.923	32	P195	09F38-	2	15
93.0	117	2.1	195	59.0	2.923	32	P195	09F38L	2	16
115	93.8	1.5	172	47.0	2.919	40	P195	09F38-	2	15
115	93.8	1.5	172	47.0	2.919	40	P195	09F38L	2	16



1.45 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
24.0	500	4.1	115	250	10.864	3	P195	14D15-	1	37
32.0	375	4.3	155	188	10.151	4	P195	14D15-	1	37
41.0	300	3.8	172	150	9.868	5	P195	14D15-	1	37
61.0	214	2.2	135	107	9.646	7	P195	14D15-	1	37
71.0	188	1.7	120	94.0	9.595	8	P195	14D15-	1	37
78.0	167	1.9	157	83.0	10.434	9	P195	14D15-	2	39
87.0	150	2.4	210	75.0	13.032	10	P460	14D15-	1	46
88.0	150	1.1	95.0	75.0	9.519	10	P195	14D15-	1	37
104	125	1.8	195	63.0	10.348	12	P195	14D15-	2	39
125	93.8	3.3	460	47.0	15.208	16	P460	14D15-	2	50
130	100	1.3	172	50.0	10.318	15	P195	14D15-	2	39
138	93.8	1.4	195	47.0	9.860	16	P195	14D15-	2	39
165	75.0	2.6	460	38.0	14.272	20	P460	14D15-	2	50
173	75.0	1.1	195	38.0	9.682	20	P195	14D15-	2	39
216	60.0	2.0	445	30.0	14.217	25	P460	14D15-	2	50
346	37.5	1.3	460	19.0	13.207	40	P460	14D15-	2	50
432	30.0	1.0	445	15.0	12.874	50	P460	14D15-	2	50



1.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.1	2000	4.8	85.0	1000	2.289	3	P97	09F60-	1	8.7
6.1	2000	4.8	85.0	1000	2.289	3	P97	09F60L	1	8.8
6.9	2000	2.2	28.0	1000	1.695	3	P33	09F60-	1	7.2
6.9	2000	2.2	28.0	1000	1.695	3	P33	09F60L	1	7.3
7.7	1500	5.8	90.0	750	2.057	4	P97	09F60L	1	8.8
7.7	1500	5.8	90.0	750	2.057	4	P97	09F60-	1	8.7
9.2	1500	1.7	33.0	750	1.638	4	P33	09F60-	1	7.2
9.2	1500	1.7	33.0	750	1.638	4	P33	09F60L	1	7.3
10.0	1200	4.9	82.0	600	1.976	5	P97	09F60-	1	8.7
10.0	1200	4.9	82.0	600	1.976	5	P97	09F60L	1	8.8
12.0	1200	1.5	30.0	600	1.616	5	P33	09F60-	1	7.2
12.0	1200	1.5	30.0	600	1.616	5	P33	09F60L	1	7.3
15.0	857	3.8	65.0	429	1.909	7	P97	09F60L	1	8.8
15.0	857	3.8	65.0	429	1.909	7	P97	09F60-	1	8.7
16.0	857	1.1	25.0	429	1.599	7	P33	09F60L	1	7.3
16.0	857	1.1	25.0	429	1.599	7	P33	09F60-	1	7.2
16.0	667	4.9	157	333	3.834	9	P195	09F60L	2	16
16.0	667	4.9	157	333	3.834	9	P195	09F60-	2	15
18.0	750	2.7	50.0	375	1.894	8	P97	09F60L	1	8.8
18.0	750	2.7	50.0	375	1.894	8	P97	09F60-	1	8.7
20.0	667	1.0	33.0	333	1.647	9	P33	09F60-	2	7.5
20.0	667	1.0	33.0	333	1.647	9	P33	09F60L	2	7.6
20.0	667	2.3	97.0	333	2.125	9	P97	09F60-	2	9.4
20.0	667	2.3	97.0	333	2.125	9	P97	09F60L	2	9.5
21.0	600	4.1	95.0	300	2.919	10	P195	09F60-	1	13
21.0	600	4.1	95.0	300	2.919	10	P195	09F60L	1	13
23.0	600	1.7	38.0	300	1.874	10	P97	09F60-	1	8.7
23.0	600	1.7	38.0	300	1.874	10	P97	09F60L	1	8.8
26.0	500	2.8	90.0	250	2.101	12	P97	09F60-	2	9.4
26.0	500	2.8	90.0	250	2.101	12	P97	09F60L	2	9.5
26.0	400	5.0	172	200	3.718	15	P195	09F60-	2	15
26.0	400	5.0	172	200	3.718	15	P195	09F60L	2	16
28.0	375	5.2	195	188	3.260	16	P195	09F60-	2	15
28.0	375	5.2	195	188	3.260	16	P195	09F60L	2	16
33.0	400	2.3	82.0	200	2.092	15	P97	09F60L	2	9.5
33.0	400	2.3	82.0	200	2.092	15	P97	09F60-	2	9.4
35.0	375	2.3	90.0	188	1.953	16	P97	09F60-	2	9.4
35.0	375	2.3	90.0	188	1.953	16	P97	09F60L	2	9.5
37.0	300	4.3	195	150	3.082	20	P195	09F60-	2	15
37.0	300	4.3	195	150	3.082	20	P195	09F60L	2	16
45.0	300	2.0	90.0	150	1.910	20	P97	09F60-	2	9.4
45.0	300	2.0	90.0	150	1.910	20	P97	09F60L	2	9.5
52.0	240	3.0	172	120	3.071	25	P195	09F60-	2	15
52.0	240	3.0	172	120	3.071	25	P195	09F60L	2	16
56.0	240	1.4	82.0	120	1.906	25	P97	09F60-	2	9.4
56.0	240	1.4	82.0	120	1.906	25	P97	09F60L	2	9.5
68.0	188	2.7	195	94.0	2.923	32	P195	09F60-	2	15
68.0	188	2.7	195	94.0	2.923	32	P195	09F60L	2	16
72.0	188	1.3	90.0	94.0	1.868	32	P97	09F60-	2	9.4
72.0	188	1.3	90.0	94.0	1.868	32	P97	09F60L	2	9.5
89.0	150	1.9	172	75.0	2.919	40	P195	09F60-	2	15



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
89.0	150	1.9	172	75.0	2.919	40	P195	09F60L	2	16



1.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
10.0	1350	3.4	85.0	675	2.689	3	P97	09H41-	1	9.6
10.0	1350	3.4	85.0	675	2.689	3	P97	09H41L	1	9.7
13.0	1013	4.1	90.0	506	2.457	4	P97	09H41-	1	9.6
13.0	1013	4.1	90.0	506	2.457	4	P97	09H41L	1	9.7
17.0	810	3.5	82.0	405	2.376	5	P97	09H41-	1	9.6
17.0	810	3.5	82.0	405	2.376	5	P97	09H41L	1	9.7
22.0	579	5.2	135	289	3.446	7	P195	09H41-	1	14
22.0	579	5.2	135	289	3.446	7	P195	09H41L	1	14
25.0	579	2.5	65.0	289	2.309	7	P97	09H41-	1	9.6
25.0	579	2.5	65.0	289	2.309	7	P97	09H41L	1	9.7
27.0	506	4.1	120	253	3.395	8	P195	09H41L	1	14
27.0	506	4.1	120	253	3.395	8	P195	09H41-	1	14
27.0	500	3.7	115	250	10.064	3	P195	12H15-	1	18
27.0	500	3.7	115	250	10.064	3	P195	12H15L	1	18
29.0	506	1.7	50.0	253	2.294	8	P97	09H41-	1	9.6
29.0	506	1.7	50.0	253	2.294	8	P97	09H41L	1	9.7
29.0	500	1.8	85.0	250	8.089	3	P97	12H15-	1	13
29.0	500	1.8	85.0	250	8.089	3	P97	12H15L	1	13
29.0	450	3.5	157	225	4.234	9	P195	09H41-	2	16
29.0	450	3.5	157	225	4.234	9	P195	09H41L	2	16
32.0	450	1.6	97.0	225	2.525	9	P97	09H41-	2	10
32.0	450	1.6	97.0	225	2.525	9	P97	09H41L	2	10
35.0	375	4.0	155	188	9.351	4	P195	12H15L	1	18
35.0	375	4.0	155	188	9.351	4	P195	12H15-	1	18
35.0	338	4.5	195	169	4.148	12	P195	09H41-	2	16
35.0	338	4.5	195	169	4.148	12	P195	09H41L	2	16
36.0	405	1.0	38.0	203	2.274	10	P97	09H41-	1	9.6
36.0	405	1.0	38.0	203	2.274	10	P97	09H41L	1	9.7
36.0	405	2.6	95.0	203	3.319	10	P195	09H41-	1	14
36.0	405	2.6	95.0	203	3.319	10	P195	09H41L	1	14
38.0	375	2.1	90.0	188	7.857	4	P97	12H15-	1	13
38.0	375	2.1	90.0	188	7.857	4	P97	12H15L	1	13
43.0	338	2.0	90.0	169	2.501	12	P97	09H41-	2	10
43.0	338	2.0	90.0	169	2.501	12	P97	09H41L	2	10
45.0	300	3.5	172	150	9.068	5	P195	12H15-	1	18
45.0	300	3.5	172	150	9.068	5	P195	12H15L	1	18
48.0	300	1.7	82.0	150	7.776	5	P97	12H15-	1	13
48.0	300	1.7	82.0	150	7.776	5	P97	12H15L	1	13
49.0	270	3.1	172	135	4.118	15	P195	09H41L	2	16
49.0	270	3.1	172	135	4.118	15	P195	09H41-	2	16
51.0	253	3.3	195	127	3.660	16	P195	09H41-	2	16
51.0	253	3.3	195	127	3.660	16	P195	09H41L	2	16
54.0	270	1.5	82.0	135	2.492	15	P97	09H41-	2	10
54.0	270	1.5	82.0	135	2.492	15	P97	09H41L	2	10
57.0	253	1.5	90.0	127	2.353	16	P97	09H41-	2	10
57.0	253	1.5	90.0	127	2.353	16	P97	09H41L	2	10
67.0	214	2.0	135	107	8.846	7	P195	12H15-	1	18
67.0	214	2.0	135	107	8.846	7	P195	12H15L	1	18
68.0	203	2.7	195	101	3.482	20	P195	09H41-	2	16
68.0	203	2.7	195	101	3.482	20	P195	09H41L	2	16
71.0	203	1.3	90.0	101	2.310	20	P97	09H41-	2	10



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
71.0	203	1.3	90.0	101	2.310	20	P97	09H41L	2	10
77.0	188	1.6	120	94.0	8.795	8	P195	12H15-	1	18
77.0	188	1.6	120	94.0	8.795	8	P195	12H15L	1	18
85.0	167	1.8	157	83.0	9.634	9	P195	12H15L	2	20
85.0	167	1.8	157	83.0	9.634	9	P195	12H15-	2	20
89.0	162	1.9	172	81.0	3.471	25	P195	09H41L	2	16
89.0	162	1.9	172	81.0	3.471	25	P195	09H41-	2	16
95.0	150	2.2	210	75.0	12.232	10	P460	12H15L	1	27
95.0	150	2.2	210	75.0	12.232	10	P460	12H15-	1	27
113	125	1.7	195	63.0	9.548	12	P195	12H15-	2	20
113	125	1.7	195	63.0	9.548	12	P195	12H15L	2	20
114	127	1.7	195	63.0	3.323	32	P195	09H41L	2	16
114	127	1.7	195	63.0	3.323	32	P195	09H41-	2	16
139	93.8	3.0	460	47.0	14.408	16	P460	12H15-	2	31
139	93.8	3.0	460	47.0	14.408	16	P460	12H15L	2	31
141	101	1.2	172	51.0	3.319	40	P195	09H41-	2	16
141	101	1.2	172	51.0	3.319	40	P195	09H41L	2	16
141	100	1.2	172	50.0	9.518	15	P195	12H15L	2	20
141	100	1.2	172	50.0	9.518	15	P195	12H15-	2	20
150	93.8	1.3	195	47.0	9.060	16	P195	12H15-	2	20
150	93.8	1.3	195	47.0	9.060	16	P195	12H15L	2	20
182	75.0	2.4	460	38.0	13.472	20	P460	12H15L	2	31
182	75.0	2.4	460	38.0	13.472	20	P460	12H15-	2	31
188	75.0	1.0	195	38.0	8.882	20	P195	12H15L	2	20
188	75.0	1.0	195	38.0	8.882	20	P195	12H15-	2	20
235	60.0	1.9	445	30.0	13.417	25	P460	12H15L	2	31
235	60.0	1.9	445	30.0	13.417	25	P460	12H15-	2	31
376	37.5	1.2	460	19.0	12.407	40	P460	12H15-	2	31
376	37.5	1.2	460	19.0	12.407	40	P460	12H15L	2	31



1.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
12.0	1350	3.0	85.0	675	4.789	3	P97	12D41L	1	10
12.0	1350	3.0	85.0	675	4.789	3	P97	12D41-	1	10
15.0	1013	3.7	90.0	506	4.557	4	P97	12D41-	1	10
15.0	1013	3.7	90.0	506	4.557	4	P97	12D41L	1	10
20.0	810	3.1	82.0	405	4.476	5	P97	12D41-	1	10
20.0	810	3.1	82.0	405	4.476	5	P97	12D41L	1	10
26.0	579	4.6	135	289	5.546	7	P195	12D41-	1	15
26.0	579	4.6	135	289	5.546	7	P195	12D41L	1	15
29.0	579	2.2	65.0	289	4.409	7	P97	12D41-	1	10
29.0	579	2.2	65.0	289	4.409	7	P97	12D41L	1	10
31.0	506	3.6	120	253	5.495	8	P195	12D41-	1	15
31.0	506	3.6	120	253	5.495	8	P195	12D41L	1	15
33.0	506	1.5	50.0	253	4.394	8	P97	12D41L	1	10
33.0	506	1.5	50.0	253	4.394	8	P97	12D41-	1	10
34.0	450	3.1	157	225	6.334	9	P195	12D41L	2	17
34.0	450	3.1	157	225	6.334	9	P195	12D41-	2	17
36.0	450	1.4	97.0	225	4.625	9	P97	12D41-	2	11
36.0	450	1.4	97.0	225	4.625	9	P97	12D41L	2	11
36.0	405	5.0	210	203	8.932	10	P460	12D41L	1	24
36.0	405	5.0	210	203	8.932	10	P460	12D41-	1	24
41.0	405	2.3	95.0	203	5.419	10	P195	12D41-	1	15
41.0	405	2.3	95.0	203	5.419	10	P195	12D41L	1	15
42.0	338	3.9	195	169	6.248	12	P195	12D41L	2	17
42.0	338	3.9	195	169	6.248	12	P195	12D41-	2	17
49.0	338	1.7	90.0	169	4.601	12	P97	12D41-	2	11
49.0	338	1.7	90.0	169	4.601	12	P97	12D41L	2	11
57.0	270	2.8	172	135	6.218	15	P195	12D41-	2	17
57.0	270	2.8	172	135	6.218	15	P195	12D41L	2	17
59.0	203	5.6	460	101	10.172	20	P460	12D41-	2	28
59.0	203	5.6	460	101	10.172	20	P460	12D41L	2	28
60.0	253	3.0	195	127	5.760	16	P195	12D41-	2	17
60.0	253	3.0	195	127	5.760	16	P195	12D41L	2	17
61.0	270	1.3	82.0	135	4.592	15	P97	12D41-	2	11
61.0	270	1.3	82.0	135	4.592	15	P97	12D41L	2	11
65.0	253	1.4	90.0	127	4.453	16	P97	12D41-	2	11
65.0	253	1.4	90.0	127	4.453	16	P97	12D41L	2	11
79.0	203	2.4	195	101	5.582	20	P195	12D41-	2	17
79.0	203	2.4	195	101	5.582	20	P195	12D41L	2	17
81.0	203	1.1	90.0	101	4.410	20	P97	12D41-	2	11
81.0	203	1.1	90.0	101	4.410	20	P97	12D41L	2	11
84.0	162	4.3	445	81.0	10.117	25	P460	12D41L	2	28
84.0	162	4.3	445	81.0	10.117	25	P460	12D41-	2	28
101	162	1.7	172	81.0	5.571	25	P195	12D41-	2	17
101	162	1.7	172	81.0	5.571	25	P195	12D41L	2	17
129	127	1.5	195	63.0	5.423	32	P195	12D41-	2	17
129	127	1.5	195	63.0	5.423	32	P195	12D41L	2	17
152	101	2.8	460	51.0	9.107	40	P460	12D41L	2	28
152	101	2.8	460	51.0	9.107	40	P460	12D41-	2	28
160	101	1.1	172	51.0	5.419	40	P195	12D41-	2	17
160	101	1.1	172	51.0	5.419	40	P195	12D41L	2	17
199	81.0	2.2	445	41.0	8.774	50	P460	12D41-	2	28



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
199	81.0	2.2	445	41.0	8.774	50	P460	12D41L	2	28



1.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.0	2000	3.9	85.0	1000	2.689	3	P97	09H60L	1	9.7
8.0	2000	3.9	85.0	1000	2.689	3	P97	09H60-	1	9.6
9.8	1700	3.4	85.0	850	3.589	3	P97	09L51-	1	11
10.0	1500	4.7	90.0	750	2.457	4	P97	09H60-	1	9.6
10.0	1500	4.7	90.0	750	2.457	4	P97	09H60L	1	9.7
12.0	1350	2.9	85.0	675	3.589	3	P97	09L41-	1	11
12.0	1350	2.9	85.0	675	3.589	3	P97	09L41L	1	12
13.0	1275	4.1	90.0	638	3.357	4	P97	09L51-	1	11
13.0	1200	3.9	82.0	600	2.376	5	P97	09H60-	1	9.6
13.0	1200	3.9	82.0	600	2.376	5	P97	09H60L	1	9.7
16.0	1020	3.4	82.0	510	3.276	5	P97	09L51-	1	11
16.0	1013	3.5	90.0	506	3.357	4	P97	09L41L	1	12
16.0	1013	3.5	90.0	506	3.357	4	P97	09L41-	1	11
19.0	857	3.0	65.0	429	2.309	7	P97	09H60-	1	9.6
19.0	857	3.0	65.0	429	2.309	7	P97	09H60L	1	9.7
20.0	750	5.2	120	375	3.395	8	P195	09H60L	1	14
20.0	750	5.2	120	375	3.395	8	P195	09H60-	1	14
21.0	810	2.9	82.0	405	3.276	5	P97	09L41-	1	11
21.0	810	2.9	82.0	405	3.276	5	P97	09L41L	1	12
21.0	729	5.5	135	364	4.346	7	P195	09L51-	1	16
22.0	667	3.9	157	333	4.234	9	P195	09H60-	2	16
22.0	667	3.9	157	333	4.234	9	P195	09H60L	2	16
23.0	750	2.2	50.0	375	2.294	8	P97	09H60L	1	9.7
23.0	750	2.2	50.0	375	2.294	8	P97	09H60-	1	9.6
24.0	729	2.6	65.0	364	3.209	7	P97	09L51-	1	11
25.0	667	1.8	97.0	333	2.525	9	P97	09H60-	2	10
25.0	667	1.8	97.0	333	2.525	9	P97	09H60L	2	10
25.0	638	4.3	120	319	4.295	8	P195	09L51-	1	16
26.0	500	5.1	195	250	4.148	12	P195	09H60L	2	16
26.0	500	5.1	195	250	4.148	12	P195	09H60-	2	16
27.0	600	3.3	95.0	300	3.319	10	P195	09H60-	1	14
27.0	600	3.3	95.0	300	3.319	10	P195	09H60L	1	14
27.0	579	4.4	135	289	4.346	7	P195	09L41L	1	16
27.0	579	4.4	135	289	4.346	7	P195	09L41-	1	16
27.0	567	3.4	157	283	5.134	9	P195	09L51-	2	18
28.0	638	1.8	50.0	319	3.194	8	P97	09L51-	1	11
29.0	600	1.3	38.0	300	2.274	10	P97	09H60-	1	9.6
29.0	600	1.3	38.0	300	2.274	10	P97	09H60L	1	9.7
30.0	579	2.1	65.0	289	3.209	7	P97	09L41-	1	11
30.0	579	2.1	65.0	289	3.209	7	P97	09L41L	1	12
30.0	567	1.6	97.0	283	3.425	9	P97	09L51-	2	12
32.0	506	3.4	120	253	4.295	8	P195	09L41-	1	16
32.0	506	3.4	120	253	4.295	8	P195	09L41L	1	16
33.0	510	2.8	95.0	255	4.219	10	P195	09L51-	1	16
33.0	500	2.2	90.0	250	2.501	12	P97	09H60-	2	10
33.0	500	2.2	90.0	250	2.501	12	P97	09H60L	2	10
33.0	425	4.4	195	213	5.048	12	P195	09L51-	2	18
35.0	510	1.1	38.0	255	3.174	10	P97	09L51-	1	11
35.0	506	1.4	50.0	253	3.194	8	P97	09L41-	1	11
35.0	506	1.4	50.0	253	3.194	8	P97	09L41L	1	12
35.0	450	2.9	157	225	5.134	9	P195	09L41-	2	18



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
35.0	450	2.9	157	225	5.134	9	P195	09L41L	2	18
36.0	400	4.0	172	200	4.118	15	P195	09H60-	2	16
36.0	400	4.0	172	200	4.118	15	P195	09H60L	2	16
38.0	450	1.4	97.0	225	3.425	9	P97	09L41-	2	12
38.0	450	1.4	97.0	225	3.425	9	P97	09L41L	2	12
38.0	375	4.1	195	188	3.660	16	P195	09H60L	2	16
38.0	375	4.1	195	188	3.660	16	P195	09H60-	2	16
41.0	425	1.9	90.0	213	3.401	12	P97	09L51-	2	12
42.0	400	1.8	82.0	200	2.492	15	P97	09H60-	2	10
42.0	400	1.8	82.0	200	2.492	15	P97	09H60L	2	10
43.0	405	2.2	95.0	203	4.219	10	P195	09L41-	1	16
43.0	405	2.2	95.0	203	4.219	10	P195	09L41L	1	16
44.0	338	3.8	195	169	5.048	12	P195	09L41-	2	18
44.0	338	3.8	195	169	5.048	12	P195	09L41L	2	18
45.0	375	1.8	90.0	188	2.353	16	P97	09H60-	2	10
45.0	375	1.8	90.0	188	2.353	16	P97	09H60L	2	10
46.0	340	3.3	172	170	5.018	15	P195	09L51-	2	18
48.0	319	3.5	195	159	4.560	16	P195	09L51-	2	18
50.0	300	3.4	195	150	3.482	20	P195	09H60-	2	16
50.0	300	3.4	195	150	3.482	20	P195	09H60L	2	16
51.0	340	1.6	82.0	170	3.392	15	P97	09L51-	2	12
51.0	338	1.7	90.0	169	3.401	12	P97	09L41-	2	12
51.0	338	1.7	90.0	169	3.401	12	P97	09L41L	2	12
54.0	319	1.6	90.0	159	3.253	16	P97	09L51-	2	12
56.0	300	1.6	90.0	150	2.310	20	P97	09H60-	2	10
56.0	300	1.6	90.0	150	2.310	20	P97	09H60L	2	10
60.0	270	2.7	172	135	5.018	15	P195	09L41-	2	18
60.0	270	2.7	172	135	5.018	15	P195	09L41L	2	18
63.0	270	1.3	82.0	135	3.392	15	P97	09L41-	2	12
63.0	270	1.3	82.0	135	3.392	15	P97	09L41L	2	12
63.0	255	2.9	195	128	4.382	20	P195	09L51-	2	18
64.0	253	2.8	195	127	4.560	16	P195	09L41-	2	18
64.0	253	2.8	195	127	4.560	16	P195	09L41L	2	18
68.0	255	1.3	90.0	128	3.210	20	P97	09L51-	2	12
68.0	253	1.3	90.0	127	3.253	16	P97	09L41L	2	12
68.0	253	1.3	90.0	127	3.253	16	P97	09L41-	2	12
68.0	240	2.4	172	120	3.471	25	P195	09H60-	2	16
68.0	240	2.4	172	120	3.471	25	P195	09H60L	2	16
71.0	240	1.2	82.0	120	2.306	25	P97	09H60L	2	10
71.0	240	1.2	82.0	120	2.306	25	P97	09H60-	2	10
83.0	203	2.3	195	101	4.382	20	P195	09L41-	2	18
83.0	203	2.3	195	101	4.382	20	P195	09L41L	2	18
85.0	204	2.0	172	102	4.371	25	P195	09L51-	2	18
85.0	203	1.1	90.0	101	3.210	20	P97	09L41-	2	12
85.0	203	1.1	90.0	101	3.210	20	P97	09L41L	2	12
89.0	188	2.2	195	94.0	3.323	32	P195	09H60-	2	16
89.0	188	2.2	195	94.0	3.323	32	P195	09H60L	2	16
106	162	1.6	172	81.0	4.371	25	P195	09L41-	2	18
106	162	1.6	172	81.0	4.371	25	P195	09L41L	2	18
108	159	1.8	195	80.0	4.223	32	P195	09L51-	2	18
112	150	1.5	172	75.0	3.319	40	P195	09H60-	2	16
112	150	1.5	172	75.0	3.319	40	P195	09H60L	2	16



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
134	128	1.3	172	64.0	4.219	40	P195	09L51-	2	18
135	127	1.4	195	63.0	4.223	32	P195	09L41-	2	18
135	127	1.4	195	63.0	4.223	32	P195	09L41L	2	18
167	101	1.0	172	51.0	4.219	40	P195	09L41-	2	18
167	101	1.0	172	51.0	4.219	40	P195	09L41L	2	18

2.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
21.0	1000	3.8	115	500	10.064	3	P195	12H30L	1	18
23.0	1000	1.8	85.0	500	8.089	3	P97	12H30L	1	13
27.0	750	4.9	155	375	9.351	4	P195	12H30L	1	18
31.0	750	2.2	90.0	375	7.857	4	P97	12H30L	1	13
35.0	600	4.1	172	300	9.068	5	P195	12H30L	1	18
38.0	600	1.8	82.0	300	7.776	5	P97	12H30L	1	13
45.0	500	2.3	115	250	16.964	3	P195	14H15-	1	42
53.0	429	2.5	135	214	8.846	7	P195	12H30L	1	18
54.0	429	1.2	65.0	214	7.709	7	P97	12H30L	1	13
60.0	375	2.5	155	188	16.251	4	P195	14H15-	1	42
61.0	375	1.9	120	188	8.795	8	P195	12H30L	1	18
65.0	300	5.7	445	150	20.682	5	P460	14H15-	1	51
68.0	333	1.8	157	167	9.634	9	P195	12H30L	2	20
75.0	300	2.7	210	150	12.232	10	P460	12H30L	1	27
76.0	300	2.2	172	150	15.968	5	P195	14H15-	1	42
77.0	300	1.2	95.0	150	8.719	10	P195	12H30L	1	18
89.0	250	2.1	195	125	9.548	12	P195	12H30L	2	20
105	188	3.7	460	94.0	14.408	16	P460	12H30L	2	31
108	214	1.2	135	107	15.746	7	P195	14H15-	1	42
113	200	1.5	172	100	9.518	15	P195	12H30L	2	20
120	188	1.6	195	94.0	9.060	16	P195	12H30L	2	20
135	167	1.1	157	83.0	16.534	9	P195	14H15-	2	44
139	150	3.0	460	75.0	13.472	20	P460	12H30L	2	31
150	150	1.3	195	75.0	8.882	20	P195	12H30L	2	20
154	150	1.4	210	75.0	19.132	10	P460	14H15-	1	51
180	125	1.1	195	63.0	16.448	12	P195	14H15-	2	44
184	120	2.3	445	60.0	13.417	25	P460	12H30L	2	31
241	93.8	1.9	460	47.0	21.308	16	P460	14H15-	2	55
301	75.0	1.5	460	38.0	20.372	20	P460	14H15-	2	55
301	75.0	1.5	460	38.0	12.407	40	P460	12H30L	2	31
376	60.0	1.2	445	30.0	20.317	25	P460	14H15-	2	55
376	60.0	1.2	445	30.0	12.074	50	P460	12H30L	2	31



2.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
20.0	1200	3.8	115	600	10.864	3	P195	14D36-	1	37
20.0	1175	3.9	115	588	10.064	3	P195	12H35-	1	18
22.0	1175	1.8	85.0	588	8.089	3	P97	12H35-	1	13
25.0	900	5.0	155	450	10.151	4	P195	14D36-	1	37
25.0	881	5.0	155	441	9.351	4	P195	12H35-	1	18
29.0	881	2.2	90.0	441	7.857	4	P97	12H35-	1	13
33.0	720	4.1	172	360	9.868	5	P195	14D36-	1	37
33.0	705	4.1	172	353	9.068	5	P195	12H35-	1	18
36.0	705	1.8	82.0	353	7.776	5	P97	12H35-	1	13
38.0	650	2.6	115	325	13.364	3	P195	12L20-	1	21
38.0	650	2.6	115	325	13.364	3	P195	12L20L	1	21
49.0	514	2.7	135	257	9.646	7	P195	14D36-	1	37
49.0	504	2.7	135	252	8.846	7	P195	12H35-	1	18
50.0	504	1.3	65.0	252	7.709	7	P97	12H35-	1	13
50.0	488	2.9	155	244	12.651	4	P195	12L20-	1	21
50.0	488	2.9	155	244	12.651	4	P195	12L20L	1	21
57.0	450	2.1	120	225	9.595	8	P195	14D36-	1	37
57.0	441	2.1	120	220	8.795	8	P195	12H35-	1	18
63.0	400	1.8	157	200	10.434	9	P195	14D36-	2	39
63.0	392	1.8	157	196	9.634	9	P195	12H35-	2	20
63.0	390	2.6	172	195	12.368	5	P195	12L20-	1	21
63.0	390	2.6	172	195	12.368	5	P195	12L20L	1	21
69.0	360	2.9	210	180	13.032	10	P460	14D36-	1	46
69.0	353	2.9	210	176	12.232	10	P460	12H35-	1	27
72.0	360	1.3	95.0	180	9.519	10	P195	14D36-	1	37
72.0	353	1.3	95.0	176	8.719	10	P195	12H35-	1	18
83.0	300	2.3	195	150	10.348	12	P195	14D36-	2	39
83.0	294	2.3	195	147	9.548	12	P195	12H35-	2	20
85.0	294	1.0	90.0	147	7.901	12	P97	12H35-	2	14
91.0	279	1.5	135	139	12.146	7	P195	12L20-	1	21
91.0	279	1.5	135	139	12.146	7	P195	12L20L	1	21
96.0	225	4.0	460	113	15.208	16	P460	14D36-	2	50
96.0	220	4.0	460	110	14.408	16	P460	12H35-	2	31
104	244	1.2	120	122	12.095	8	P195	12L20L	1	21
104	244	1.2	120	122	12.095	8	P195	12L20-	1	21
106	240	1.6	172	120	10.318	15	P195	14D36-	2	39
106	235	1.6	172	118	9.518	15	P195	12H35-	2	20
113	225	1.7	195	113	9.860	16	P195	14D36-	2	39
113	220	1.7	195	110	9.060	16	P195	12H35-	2	20
114	217	1.2	157	108	12.934	9	P195	12L20L	2	23
114	217	1.2	157	108	12.934	9	P195	12L20-	2	23
128	180	3.2	460	90.0	14.272	20	P460	14D36-	2	50
128	176	3.2	460	88.0	13.472	20	P460	12H35-	2	31
130	195	1.6	210	98.0	15.532	10	P460	12L20-	1	30
130	195	1.6	210	98.0	15.532	10	P460	12L20L	1	30
141	180	1.4	195	90.0	9.682	20	P195	14D36-	2	39
141	176	1.4	195	88.0	8.882	20	P195	12H35-	2	20
152	163	1.3	195	81.0	12.848	12	P195	12L20-	2	23
152	163	1.3	195	81.0	12.848	12	P195	12L20L	2	23
170	144	2.5	445	72.0	14.217	25	P460	14D36-	2	50
170	141	2.5	445	71.0	13.417	25	P460	12H35-	2	31



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
200	122	2.2	460	61.0	17.708	16	P460	12L20-	2	34
200	122	2.2	460	61.0	17.708	16	P460	12L20L	2	34
254	97.5	1.8	460	49.0	16.772	20	P460	12L20-	2	34
254	97.5	1.8	460	49.0	16.772	20	P460	12L20L	2	34
282	90.0	1.6	460	45.0	13.207	40	P460	14D36-	2	50
282	88.1	1.6	460	44.0	12.407	40	P460	12H35-	2	31
317	78.0	1.4	445	39.0	16.717	25	P460	12L20-	2	34
317	78.0	1.4	445	39.0	16.717	25	P460	12L20L	2	34
353	72.0	1.3	445	36.0	12.874	50	P460	14D36-	2	50
353	70.5	1.3	445	35.0	12.074	50	P460	12H35-	2	31

3.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
66.0	500	1.6	115	250	26.164	3	P195	14L15-	1	46
77.0	375	5.1	460	188	31.011	4	P460	14L15-	1	55
88.0	375	1.7	155	188	25.451	4	P195	14L15-	1	46
101	300	4.0	445	150	29.882	5	P460	14L15-	1	55
110	300	1.5	172	150	25.168	5	P195	14L15-	1	46
346	93.8	1.3	460	47.0	30.508	16	P460	14L15-	2	59
432	75.0	1.0	460	38.0	29.572	20	P460	14L15-	2	59

4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
78.0	475	1.4	115	238	70.126	3	P195	19F14-	1	57
94.0	356	4.4	460	178	72.611	4	P460	19F14-	1	66
104	356	1.5	155	178	69.413	4	P195	19F14-	1	57
122	285	3.4	445	143	71.482	5	P460	19F14-	1	66
130	285	1.3	172	143	69.129	5	P195	19F14-	1	57
406	89.1	1.1	460	45.0	72.108	16	P460	19F14-	2	70

4.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
106	338	3.9	460	169	42.311	4	P460	14P14-	1	60
138	270	3.0	445	135	41.182	5	P460	14P14-	1	60



4.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
31.0	1350	2.5	115	675	13.364	3	P195	12L41-	1	21
40.0	1075	2.1	115	538	16.964	3	P195	14H32-	1	42
40.0	1013	3.3	155	506	12.651	4	P195	12L41-	1	21
51.0	810	2.7	172	405	12.368	5	P195	12L41-	1	21
52.0	806	2.8	155	403	16.251	4	P195	14H32-	1	42
57.0	645	5.8	445	323	20.682	5	P460	14H32-	1	51
66.0	645	2.3	172	323	15.968	5	P195	14H32-	1	42
74.0	579	1.8	135	289	12.146	7	P195	12L41-	1	21
84.0	506	1.4	120	253	12.095	8	P195	12L41-	1	21
93.0	450	1.2	157	225	12.934	9	P195	12L41-	2	23
94.0	461	1.4	135	230	15.746	7	P195	14H32-	1	42
106	405	2.0	210	203	15.532	10	P460	12L41-	1	30
108	403	1.1	120	202	15.695	8	P195	14H32-	1	42
118	358	1.0	157	179	16.534	9	P195	14H32-	2	44
124	338	1.5	195	169	12.848	12	P195	12L41-	2	23
134	323	1.6	210	161	19.132	10	P460	14H32-	1	51
155	270	1.1	172	135	12.818	15	P195	12L41-	2	23
157	253	2.7	460	127	17.708	16	P460	12L41-	2	34
158	269	1.2	195	134	16.448	12	P195	14H32-	2	44
165	253	1.2	195	127	12.360	16	P195	12L41-	2	23
204	203	2.2	460	101	16.772	20	P460	12L41-	2	34
208	202	2.1	460	101	21.308	16	P460	14H32-	2	55
259	162	1.7	445	81.0	16.717	25	P460	12L41-	2	34
263	161	1.7	460	81.0	20.372	20	P460	14H32-	2	55
329	129	1.3	445	65.0	20.317	25	P460	14H32-	2	55
414	101	1.1	460	51.0	15.707	40	P460	12L41-	2	34

5.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
50.0	1075	1.7	115	538	26.164	3	P195	14L32-	1	46
56.0	806	5.6	460	403	31.011	4	P460	14L32-	1	55
65.0	806	2.3	155	403	25.451	4	P195	14L32-	1	46
73.0	645	4.7	445	323	29.882	5	P460	14L32-	1	55
83.0	645	1.9	172	323	25.168	5	P195	14L32-	1	46
116	461	1.2	135	230	24.946	7	P195	14L32-	1	46
165	323	1.3	210	161	28.332	10	P460	14L32-	1	55
259	202	1.7	460	101	30.508	16	P460	14L32-	2	59
323	161	1.4	460	81.0	29.572	20	P460	14L32-	2	59
404	129	1.1	445	65.0	29.517	25	P460	14L32-	2	59

6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
148	356	2.9	460	178	112.611	4	P460	19J14-	1	73
190	285	2.3	445	143	111.482	5	P460	19J14-	1	73



6.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
60.0	1000	1.4	115	500	70.126	3	P195	19F30-	1	57
72.0	750	4.7	460	375	72.611	4	P460	19F30-	1	66
81.0	750	1.9	155	375	69.413	4	P195	19F30-	1	57
93.0	600	3.9	445	300	71.482	5	P460	19F30-	1	66
101	600	1.6	172	300	69.129	5	P195	19F30-	1	57
202	300	1.0	210	150	69.932	10	P460	19F30-	1	66
316	188	1.4	460	94.0	72.108	16	P460	19F30-	2	70
395	150	1.1	460	75.0	71.172	20	P460	19F30-	2	70

7.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
72.0	806	4.6	460	403	42.311	4	P460	14P32-	1	60
93.0	645	3.9	445	323	41.182	5	P460	14P32-	1	60
202	323	1.0	210	161	39.632	10	P460	14P32-	1	60
316	202	1.4	460	101	41.808	16	P460	14P32-	2	64
395	161	1.1	460	81.0	40.872	20	P460	14P32-	2	64

7.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
193	338	2.3	460	169	167.611	4	P460	19P14-	1	83
245	270	1.8	445	135	166.482	5	P460	19P14-	1	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	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
105	750	3.4	460	375	112.611	4	P460	19J30-	1	73
134	600	2.9	445	300	111.482	5	P460	19J30-	1	73
436	188	1.0	460	94.0	112.108	16	P460	19J30-	2	77

10 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
117	750	3.1	460	375	167.611	4	P460	19P30-	1	83
150	600	2.6	445	300	166.482	5	P460	19P30-	1	83



Inverter power supply 400 V, forced ventilated motors

1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	550	5.2	115	275	6.764	3	P195	12D17-	1	17
20.0	550	2.4	85.0	275	4.789	3	P97	12D17-	1	12
23.0	413	5.7	155	206	6.051	4	P195	12D17-	1	17
26.0	413	2.9	90.0	206	4.557	4	P97	12D17-	1	12
29.0	330	5.0	172	165	5.768	5	P195	12D17-	1	17
33.0	330	2.4	82.0	165	4.476	5	P97	12D17-	1	12
45.0	236	2.8	135	118	5.546	7	P195	12D17-	1	17
47.0	236	1.4	65.0	118	4.409	7	P97	12D17-	1	12
53.0	206	2.2	120	103	5.495	8	P195	12D17-	1	17
57.0	183	2.5	157	92.0	6.334	9	P195	12D17-	2	19
59.0	183	1.1	97.0	92.0	4.625	9	P97	12D17-	2	13
64.0	165	3.1	210	83.0	8.932	10	P460	12D17-	1	26
67.0	165	1.4	95.0	83.0	5.419	10	P195	12D17-	1	17
77.0	138	2.4	195	69.0	6.248	12	P195	12D17-	2	19
79.0	138	1.1	90.0	69.0	4.601	12	P97	12D17-	2	13
87.0	103	4.3	460	52.0	11.108	16	P460	12D17-	2	30
99.0	110	1.7	172	55.0	6.218	15	P195	12D17-	2	19
105	103	1.8	195	52.0	5.760	16	P195	12D17-	2	19
118	82.5	3.4	460	41.0	10.172	20	P460	12D17-	2	30
132	82.5	1.5	195	41.0	5.582	20	P195	12D17-	2	19
157	66.0	2.7	445	33.0	10.117	25	P460	12D17-	2	30
165	66.0	1.0	172	33.0	5.571	25	P195	12D17-	2	19
263	41.3	1.7	460	21.0	9.107	40	P460	12D17-	2	30
329	33.0	1.3	445	17.0	8.774	50	P460	12D17-	2	30



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
33.0	450	3.2	115	225	10.864	3	P195	14D14-	1	41
33.0	450	3.2	115	225	10.064	3	P195	12H14-	1	20
44.0	338	3.3	155	169	9.351	4	P195	12H14-	1	20
44.0	338	3.3	155	169	10.151	4	P195	14D14-	1	41
55.0	270	2.9	172	135	9.068	5	P195	12H14-	1	20
55.0	270	2.9	172	135	9.868	5	P195	14D14-	1	41
81.0	193	1.7	135	96.0	8.846	7	P195	12H14-	1	20
81.0	193	1.7	135	96.0	9.646	7	P195	14D14-	1	41
92.0	169	1.3	120	84.0	8.795	8	P195	12H14-	1	20
92.0	169	1.3	120	84.0	9.595	8	P195	14D14-	1	41
102	150	1.5	157	75.0	9.634	9	P195	12H14-	2	22
102	150	1.5	157	75.0	10.434	9	P195	14D14-	2	43
115	135	1.8	210	68.0	13.032	10	P460	14D14-	1	50
115	135	1.8	210	68.0	12.232	10	P460	12H14-	1	29
135	113	1.4	195	56.0	9.548	12	P195	12H14-	2	22
135	113	1.4	195	56.0	10.348	12	P195	14D14-	2	43
174	84.4	2.5	460	42.0	14.408	16	P460	12H14-	2	33
174	84.4	2.5	460	42.0	15.208	16	P460	14D14-	2	54
180	84.4	1.1	195	42.0	9.060	16	P195	12H14-	2	22
180	84.4	1.1	195	42.0	9.860	16	P195	14D14-	2	43
226	67.5	2.0	460	34.0	13.472	20	P460	12H14-	2	33
226	67.5	2.0	460	34.0	14.272	20	P460	14D14-	2	54
282	54.0	1.6	445	27.0	13.417	25	P460	12H14-	2	33
282	54.0	1.6	445	27.0	14.217	25	P460	14D14-	2	54
451	33.8	1.0	460	17.0	12.407	40	P460	12H14-	2	33
451	33.8	1.0	460	17.0	13.207	40	P460	14D14-	2	54



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
15.0	1175	4.8	115	588	6.764	3	P195	12D35-	1	17
17.0	1175	2.3	85.0	588	4.789	3	P97	12D35-	1	12
22.0	881	2.7	90.0	441	4.557	4	P97	12D35-	1	12
25.0	705	5.2	172	353	5.768	5	P195	12D35-	1	17
28.0	705	2.3	82.0	353	4.476	5	P97	12D35-	1	12
38.0	504	3.3	135	252	5.546	7	P195	12D35-	1	17
40.0	504	1.6	65.0	252	4.409	7	P97	12D35-	1	12
45.0	441	2.6	120	220	5.495	8	P195	12D35-	1	17
46.0	441	1.1	50.0	220	4.394	8	P97	12D35-	1	12
50.0	392	2.3	157	196	6.334	9	P195	12D35-	2	19
51.0	392	1.1	97.0	196	4.625	9	P97	12D35-	2	13
54.0	353	3.6	210	176	8.932	10	P460	12D35-	1	26
58.0	353	1.7	95.0	176	5.419	10	P195	12D35-	1	17
64.0	294	2.8	195	147	6.248	12	P195	12D35-	2	19
68.0	294	1.3	90.0	147	4.601	12	P97	12D35-	2	13
70.0	220	5.0	460	110	11.108	16	P460	12D35-	2	30
85.0	235	2.0	172	118	6.218	15	P195	12D35-	2	19
89.0	220	2.1	195	110	5.760	16	P195	12D35-	2	19
96.0	176	4.0	460	88.0	10.172	20	P460	12D35-	2	30
113	176	1.7	195	88.0	5.582	20	P195	12D35-	2	19
130	141	3.1	445	71.0	10.117	25	P460	12D35-	2	30
141	141	1.2	172	71.0	5.571	25	P195	12D35-	2	19
180	110	1.1	195	55.0	5.423	32	P195	12D35-	2	19
225	88.1	2.0	460	44.0	9.107	40	P460	12D35-	2	30
282	70.5	1.6	445	35.0	8.774	50	P460	12D35-	2	30

2.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
49.0	550	2.1	115	275	13.364	3	P195	12L17-	1	23
64.0	413	2.3	155	206	12.651	4	P195	12L17-	1	23
70.0	330	5.3	445	165	17.082	5	P460	12L17-	1	32
81.0	330	2.1	172	165	12.368	5	P195	12L17-	1	23
114	236	1.2	135	118	12.146	7	P195	12L17-	1	23
144	183	1.0	157	92.0	12.934	9	P195	12L17-	2	25
163	165	1.3	210	83.0	15.532	10	P460	12L17-	1	32
256	103	1.8	460	52.0	17.708	16	P460	12L17-	2	36
320	82.5	1.4	460	41.0	16.772	20	P460	12L17-	2	36
400	66.0	1.1	445	33.0	16.717	25	P460	12L17-	2	36

3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
79.0	300	5.0	460	150	21.811	4	P460	14H12-	1	55
104	240	3.9	445	120	20.682	5	P460	14H12-	1	55
353	75.0	1.3	460	38.0	21.308	16	P460	14H12-	2	59
442	60.0	1.0	460	30.0	20.372	20	P460	14H12-	2	59



3.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
29.0	1000	2.9	115	500	10.864	3	P195	14D30-	1	41
37.0	750	3.8	155	375	10.151	4	P195	14D30-	1	41
48.0	600	3.1	172	300	9.868	5	P195	14D30-	1	41
71.0	429	1.9	135	214	9.646	7	P195	14D30-	1	41
81.0	375	1.5	120	188	9.595	8	P195	14D30-	1	41
89.0	333	1.4	157	167	10.434	9	P195	14D30-	2	43
101	300	2.1	210	150	13.032	10	P460	14D30-	1	50
118	250	1.6	195	125	10.348	12	P195	14D30-	2	43
148	200	1.1	172	100	10.318	15	P195	14D30-	2	43
148	188	2.9	460	94.0	15.208	16	P460	14D30-	2	54
158	188	1.2	195	94.0	9.860	16	P195	14D30-	2	43
193	150	2.3	460	75.0	14.272	20	P460	14D30-	2	54
247	120	1.8	445	60.0	14.217	25	P460	14D30-	2	54
395	75.0	1.2	460	38.0	13.207	40	P460	14D30-	2	54

3.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
29.0	1125	2.8	115	563	10.064	3	P195	12H34-	1	20
38.0	844	3.6	155	422	9.351	4	P195	12H34-	1	20
48.0	675	3.0	172	338	9.068	5	P195	12H34-	1	20
71.0	482	1.9	135	241	8.846	7	P195	12H34-	1	20
81.0	422	1.5	120	211	8.795	8	P195	12H34-	1	20
89.0	375	1.3	157	188	9.634	9	P195	12H34-	2	22
101	338	2.1	210	169	12.232	10	P460	12H34-	1	29
118	281	1.6	195	141	9.548	12	P195	12H34-	2	22
148	225	1.1	172	113	9.518	15	P195	12H34-	2	22
148	211	2.9	460	105	14.408	16	P460	12H34-	2	33
158	211	1.2	195	105	9.060	16	P195	12H34-	2	22
193	169	2.3	460	84.0	13.472	20	P460	12H34-	2	33
247	135	1.8	445	68.0	13.417	25	P460	12H34-	2	33
395	84.4	1.2	460	42.0	12.407	40	P460	12H34-	2	33

4.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
108	338	3.9	460	169	31.011	4	P460	14L14-	1	59
140	270	3.0	445	135	29.882	5	P460	14L14-	1	59

4.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
156	263	2.8	460	131	42.311	4	P460	14P11-	1	64
200	210	2.2	445	105	41.182	5	P460	14P11-	1	64



4.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
139	300	3.1	460	150	72.611	4	P460	19F12-	1	72
179	240	2.4	445	120	71.482	5	P460	19F12-	1	72

5.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
40.0	1300	2.0	115	650	13.364	3	P195	12L39-	1	23
52.0	975	2.6	155	488	12.651	4	P195	12L39-	1	23
58.0	780	5.5	445	390	17.082	5	P460	12L39-	1	32
67.0	780	2.2	172	390	12.368	5	P195	12L39-	1	23
94.0	557	1.4	135	279	12.146	7	P195	12L39-	1	23
108	488	1.1	120	244	12.095	8	P195	12L39-	1	23
134	390	1.6	210	195	15.532	10	P460	12L39-	1	32
158	325	1.2	195	163	12.848	12	P195	12L39-	2	25
208	244	2.1	460	122	17.708	16	P460	12L39-	2	36
263	195	1.7	460	98.0	16.772	20	P460	12L39-	2	36
329	156	1.3	445	78.0	16.717	25	P460	12L39-	2	36

6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
69.0	694	5.0	460	347	21.811	4	P460	14H28-	1	55
90.0	555	4.1	445	278	20.682	5	P460	14H28-	1	55
197	278	1.1	210	139	19.132	10	P460	14H28-	1	55
308	173	1.5	460	87.0	21.308	16	P460	14H28-	2	59
385	139	1.2	460	69.0	20.372	20	P460	14H28-	2	59

7.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
240	300	1.9	460	150	112.611	4	P460	19J12-	1	79
300	240	1.5	445	120	111.482	5	P460	19J12-	1	79

8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
90.0	750	3.9	460	375	31.011	4	P460	14L30-	1	59
116	600	3.2	445	300	29.882	5	P460	14L30-	1	59
384	188	1.2	460	94.0	30.508	16	P460	14L30-	2	63



9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
276	300	1.6	460	150	167.611	4	P460	19P12-	1	89
346	240	1.3	445	120	166.482	5	P460	19P12-	1	89

9.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
121	656	3.1	460	328	42.311	4	P460	14P26-	1	64
154	525	2.6	445	263	41.182	5	P460	14P26-	1	64

9.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
119	713	3.1	460	356	72.611	4	P460	19F29-	1	72
152	570	2.6	445	285	71.482	5	P460	19F29-	1	72

15.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
194	713	2.0	460	356	112.611	4	P460	19J29-	1	79
242	570	1.7	445	285	111.482	5	P460	19J29-	1	79

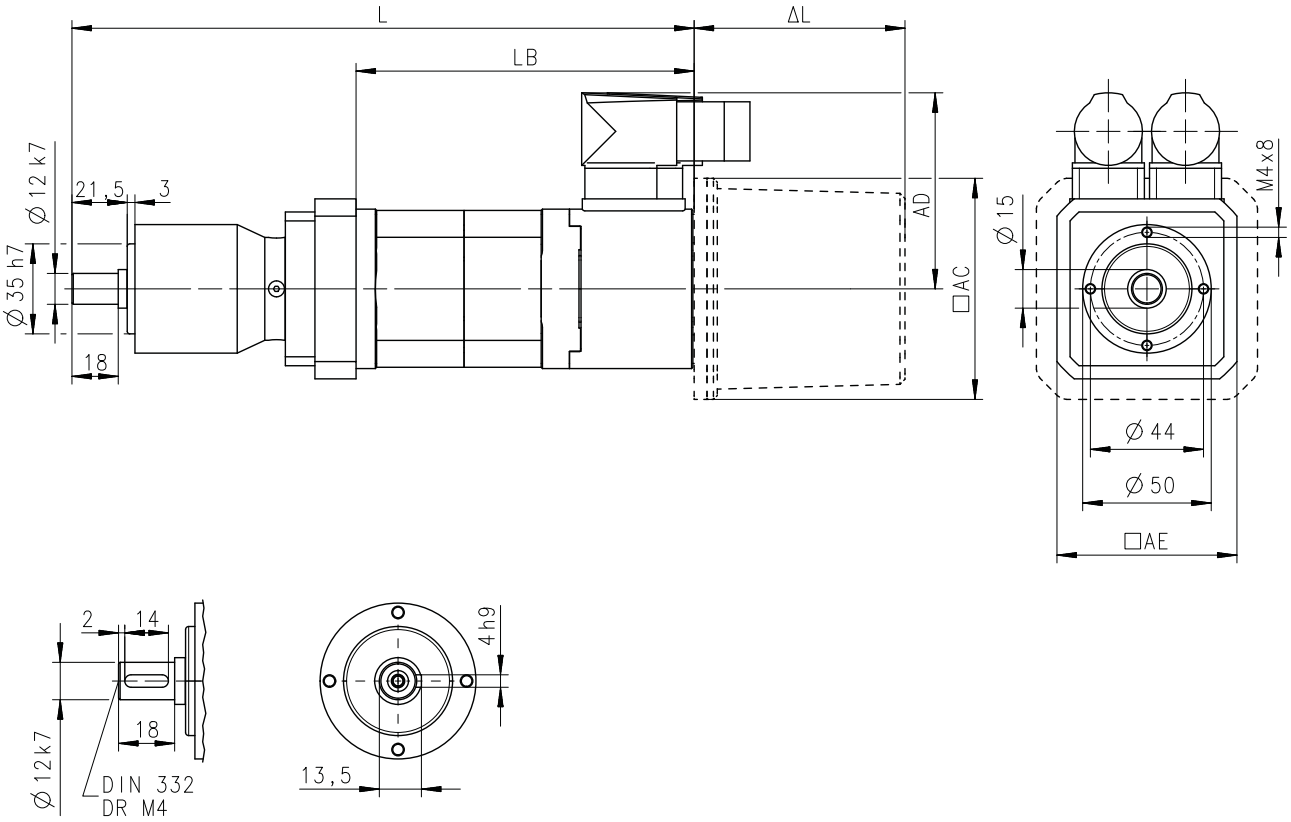
15.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g730-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
204	713	1.9	460	356	167.611	4	P460	19P29-	1	89
254	570	1.6	445	285	166.482	5	P460	19P29-	1	89

Basic dimensions

g730-P15 with MCS06

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



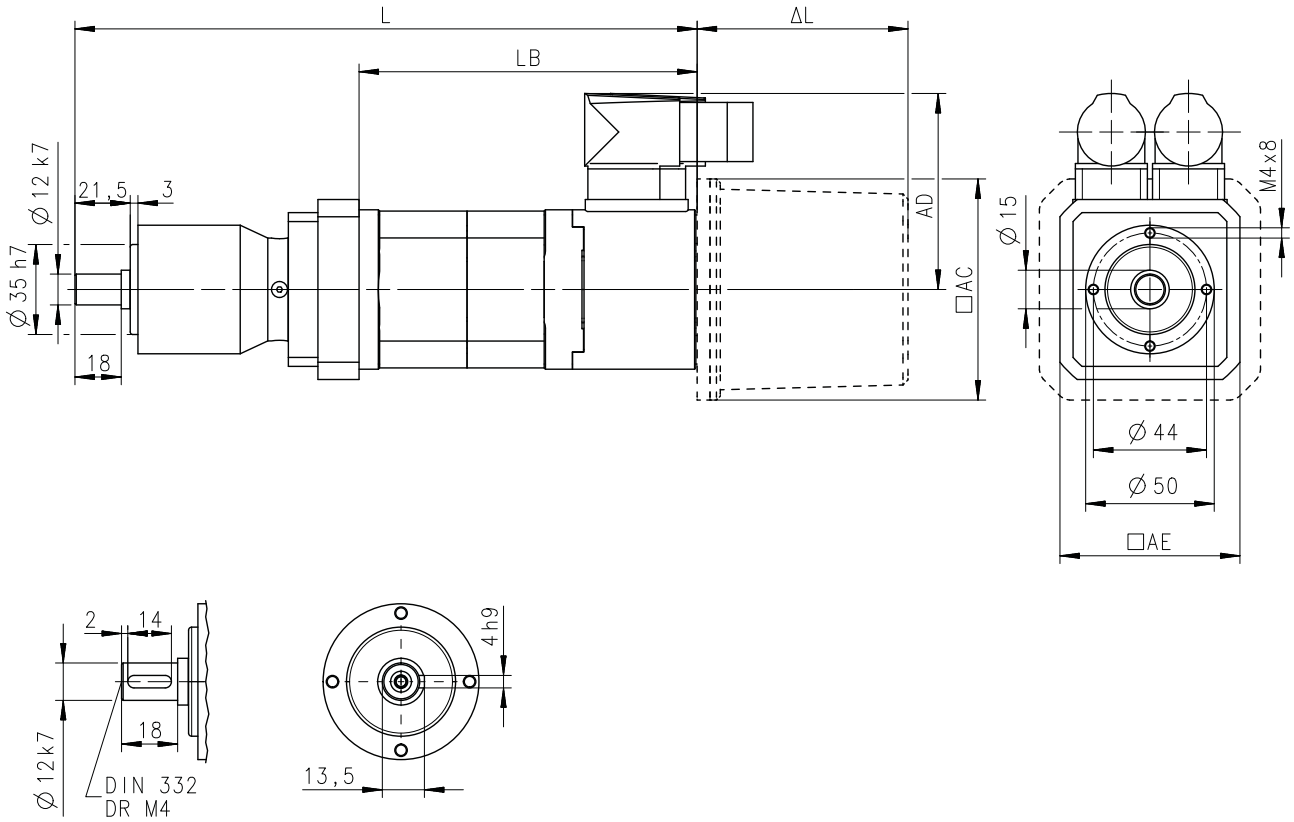
8800799-00

Motor			MCS 06	
			C41- C41L	C60- C60L
Total length	L	mm	230	230
Motor length	LB	mm	132	132
Motor diameter	AC	mm	86	86
Motor/connection distance	AD	mm	77	77
Gearbox diameter	AE	mm	70	70



g730-P15 with MCS06

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

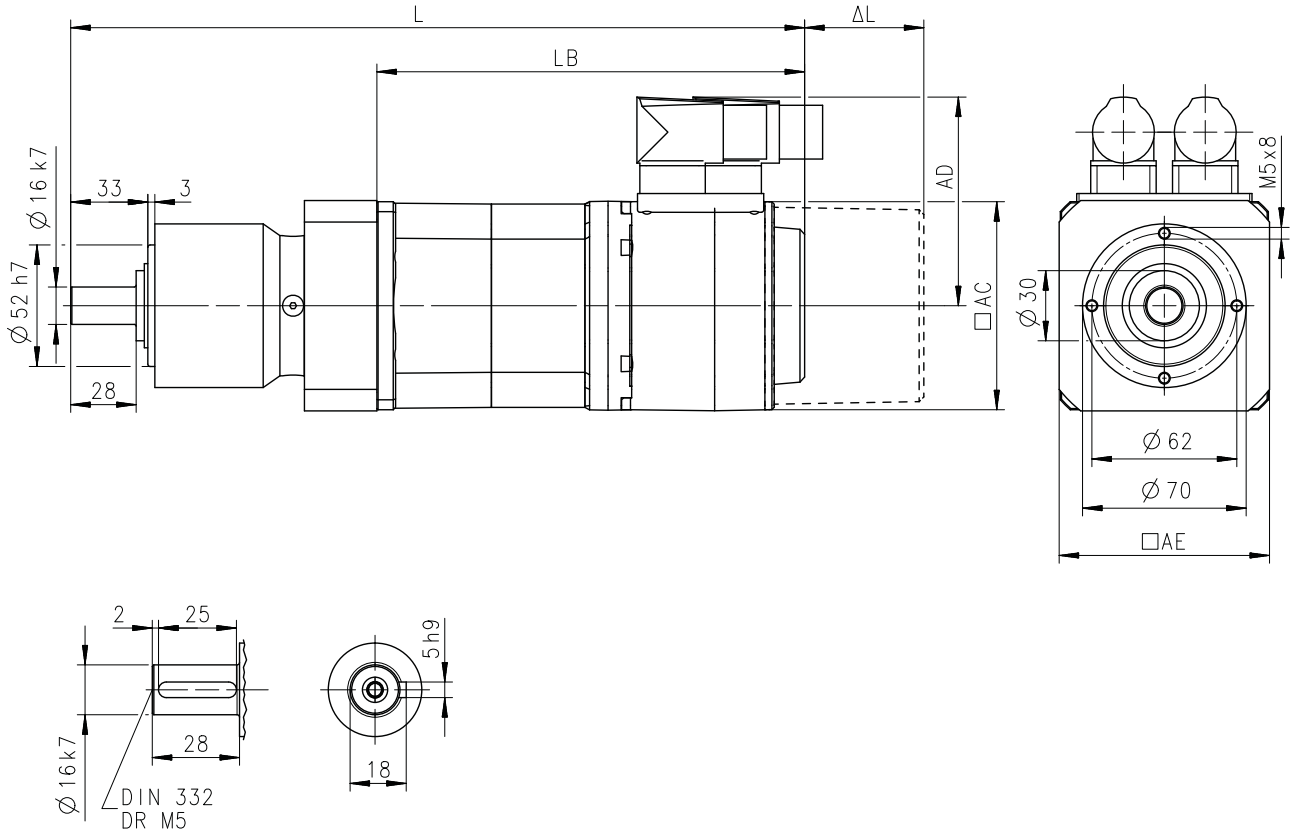


8800799-00

Motor			MCS 06	
			C41- C41L	C60- C60L
Total length	L	mm	242.5	242.5
Motor length	LB	mm	132	132
Motor diameter	AC	mm	86	86
Motor/connection distance	AD	mm	77	77
Gearbox diameter	AE	mm	70	70

g730-P33 with MCS06

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



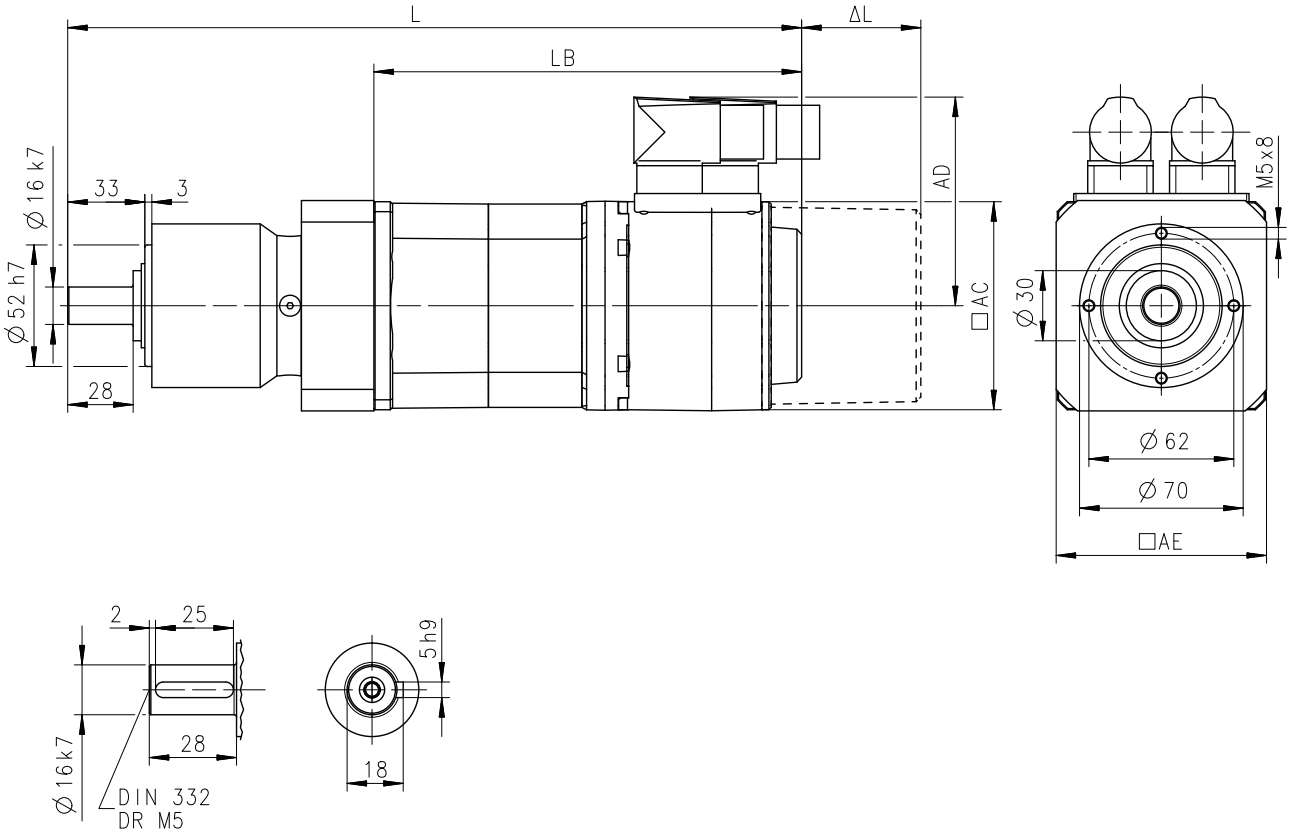
8800800-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	243	243	273	273	303	303
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70



g730-P33 with MCS06

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

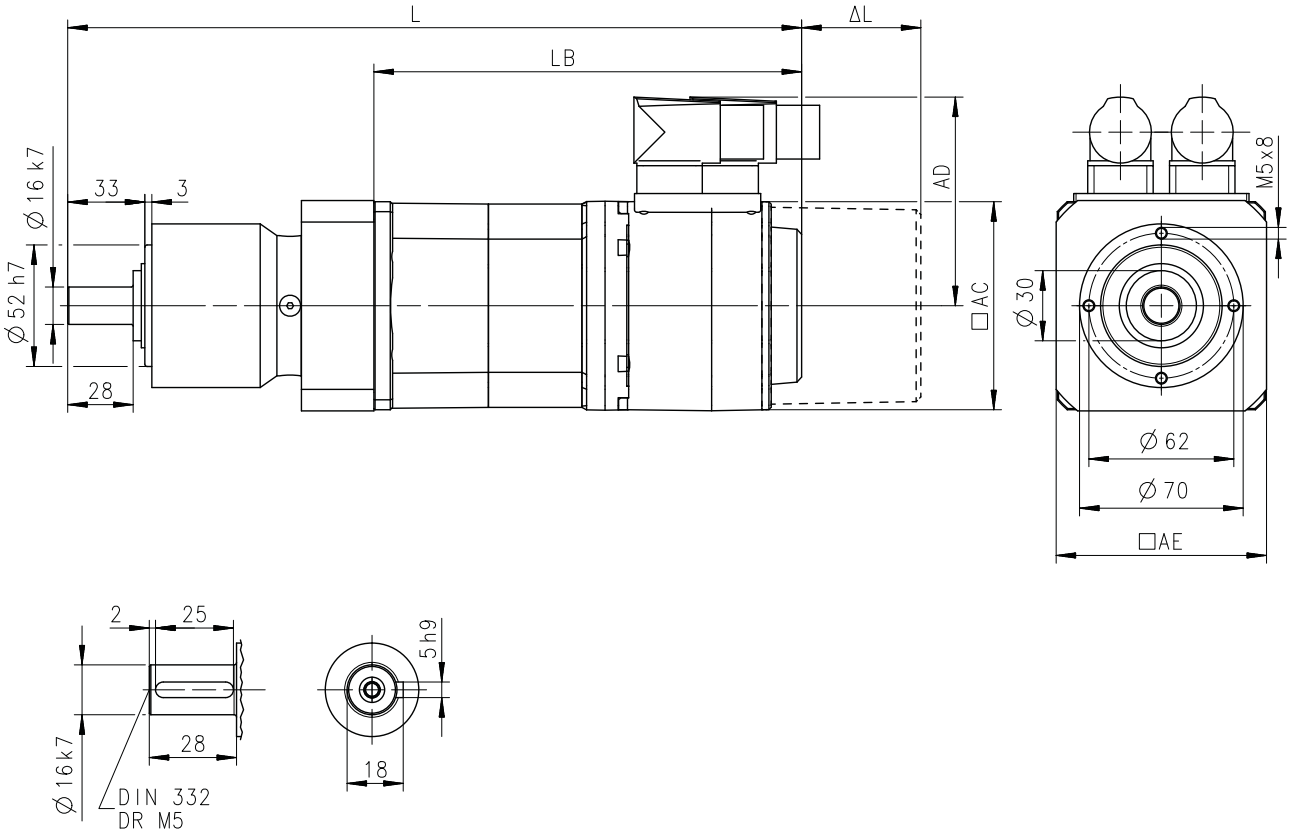


8800800-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	256	256	286	286	316	316
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g730-P33 with MCS09

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



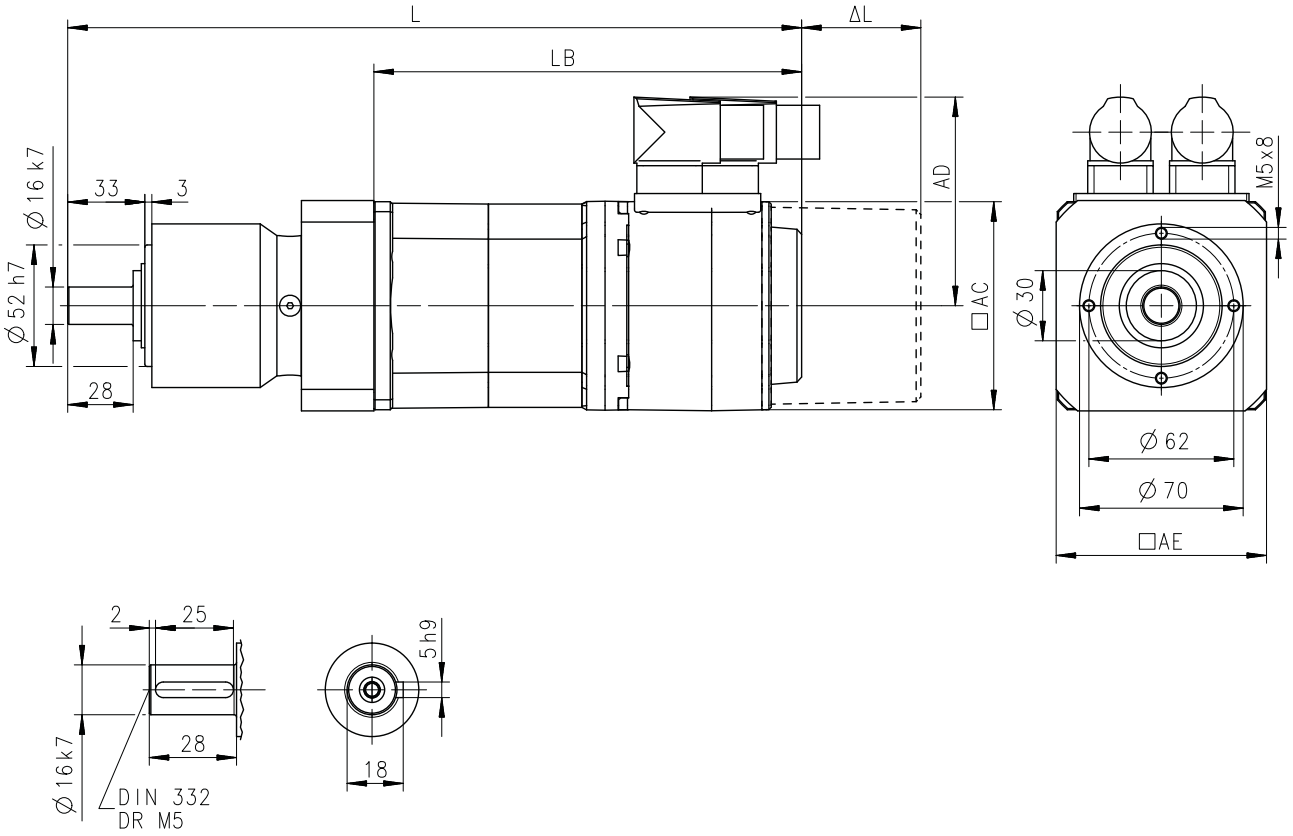
8800800-00

Motor			MCS 09			
			D41- D41L	D60- D60L	F38- F38L	F60- F60L
Total length	L	mm	300	300	320	320
Motor length	LB	mm	182	182	202	202
Motor diameter	AC	mm	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90



g730-P33 with MCS09

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

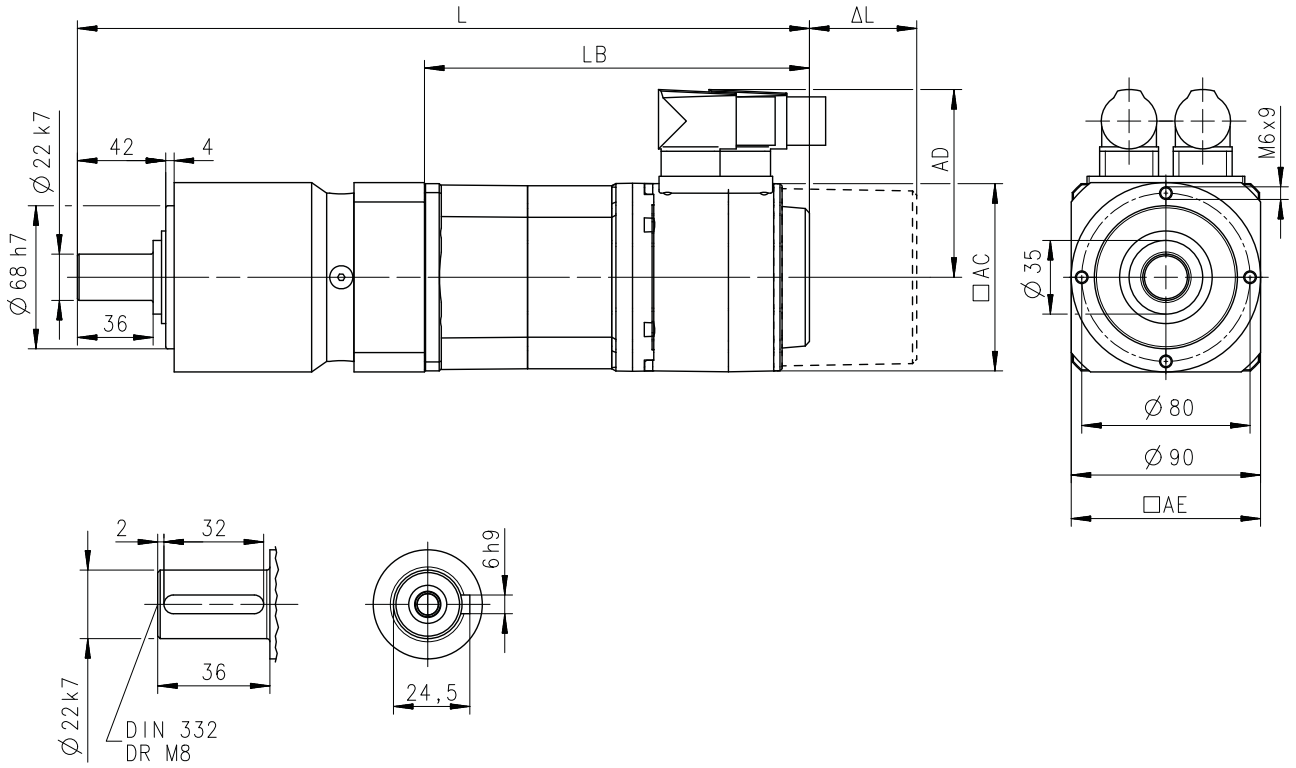


8800800-00

Motor			MCS 09		
			D41- D41L	D60- D60L	F60- F60L
Total length	L	mm	313	313	333
Motor length	LB	mm	182	182	202
Motor diameter	AC	mm	89	89	89
Motor/connection distance	AD	mm	90	90	90
Gearbox diameter	AE	mm	90	90	90

g730-P97 with MCS06

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



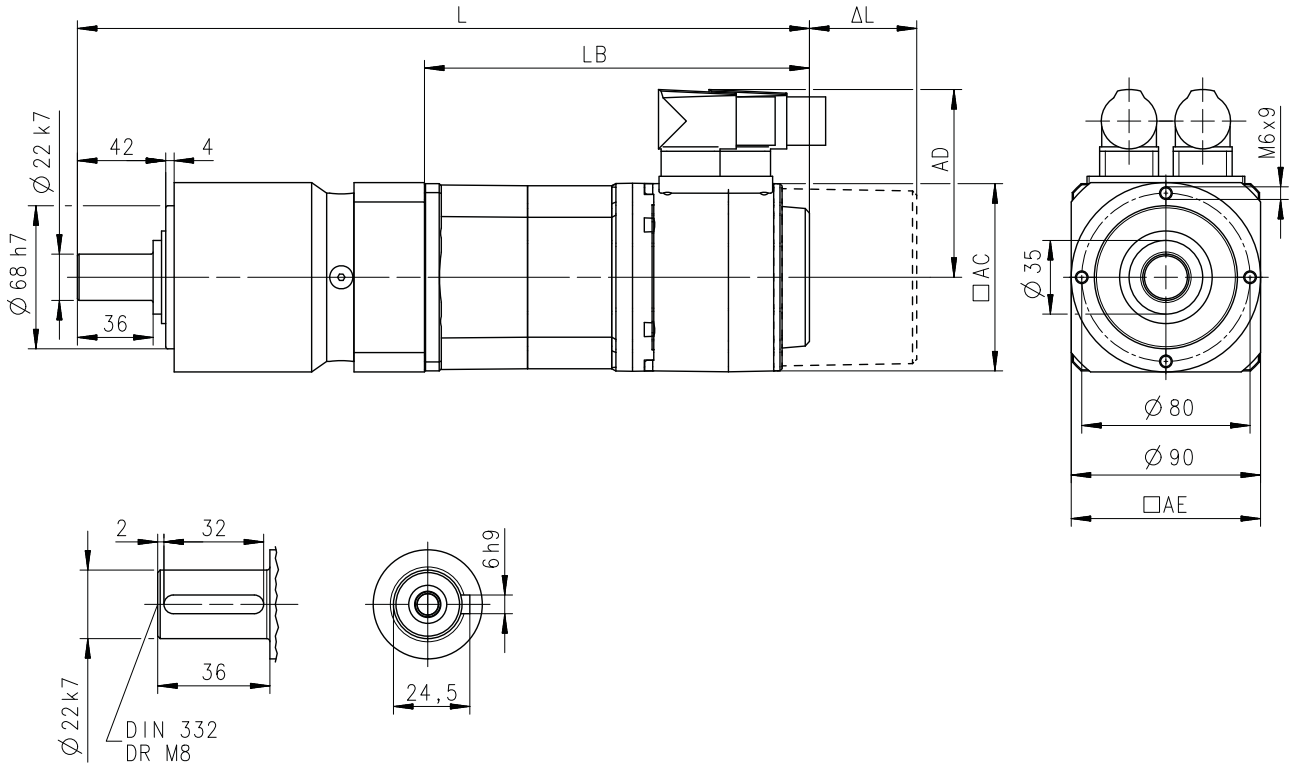
8800801-00

Motor			MCS 06			
			F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	309	309	339	339
Motor length	LB	mm	162	162	192	192
Motor diameter	AC	mm	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80



g730-P97 with MCS06

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

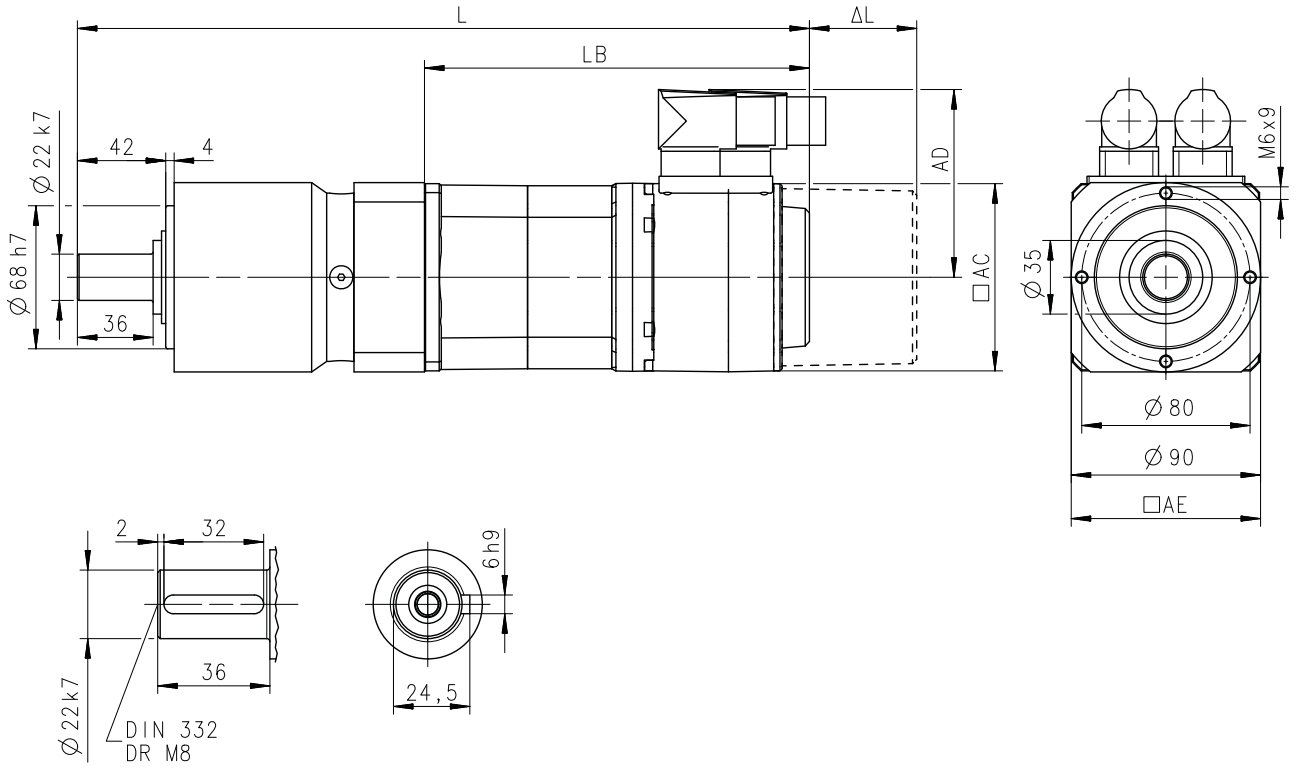


8800801-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	297	297	327	327	357	357
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80	80	80

g730-P97 with MCS09

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



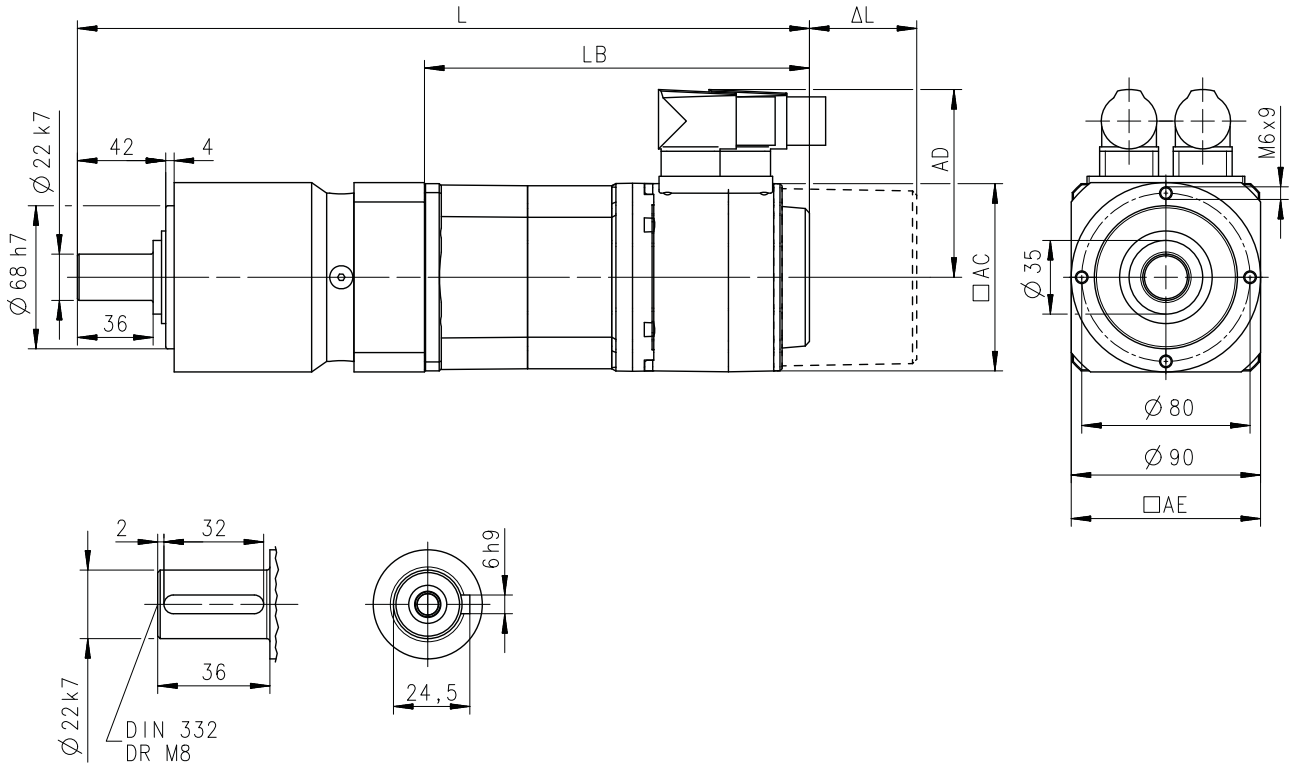
8800801-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	329	329	349	349	369	369	409	409
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g730-P97 with MCS09

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

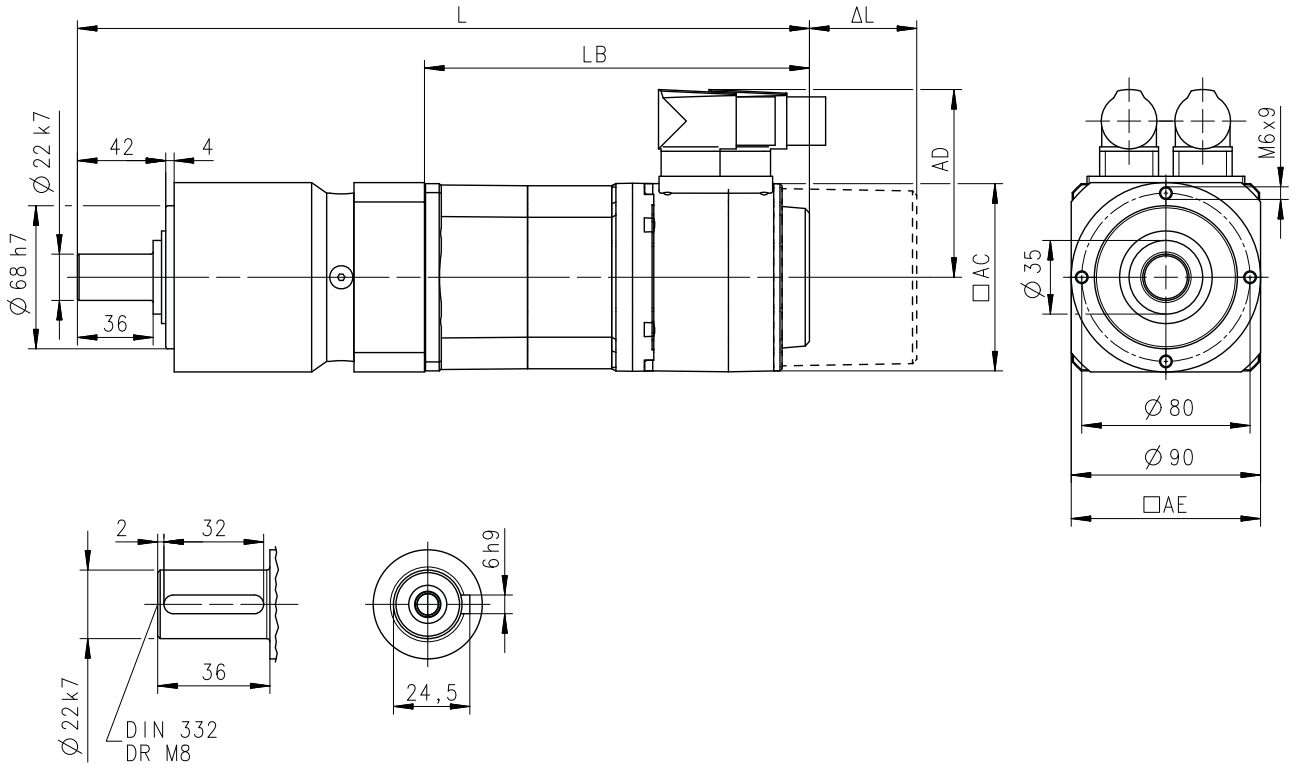


8800801-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	347	347	367	367	387	387	427	427
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g730-P97 with MCS12

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



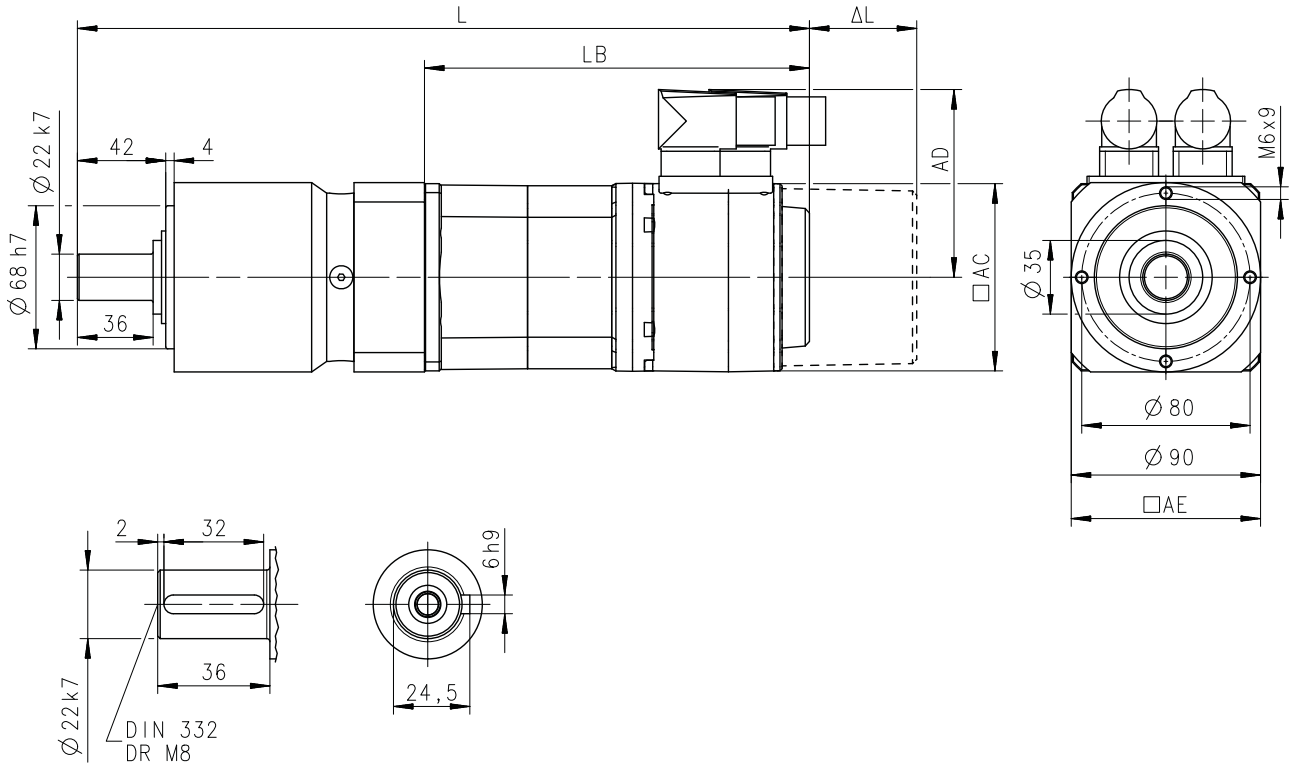
8800801-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	418	345	418	345	385	385	385
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115



g730-P97 with MCS12

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

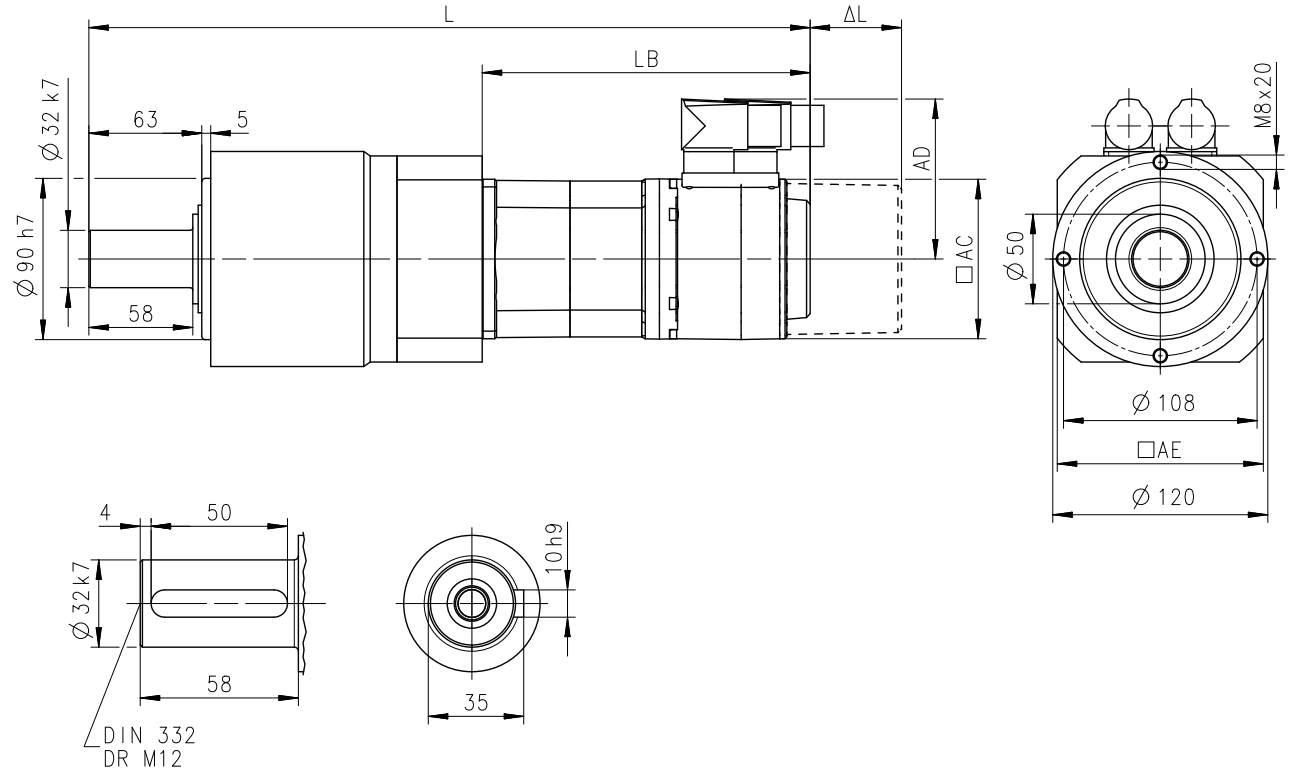


8800801-00

Motor			MCS 12				
			D17-	D20- D20L	D35-	D41- D41L	H35-
Total length	L	mm	436	363	436	363	403
Motor length	LB	mm	261	188	261	188	228
Motor diameter	AC	mm	140	116	140	116	116
Motor/connection distance	AD	mm	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115

g730-P195 with MCS06

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



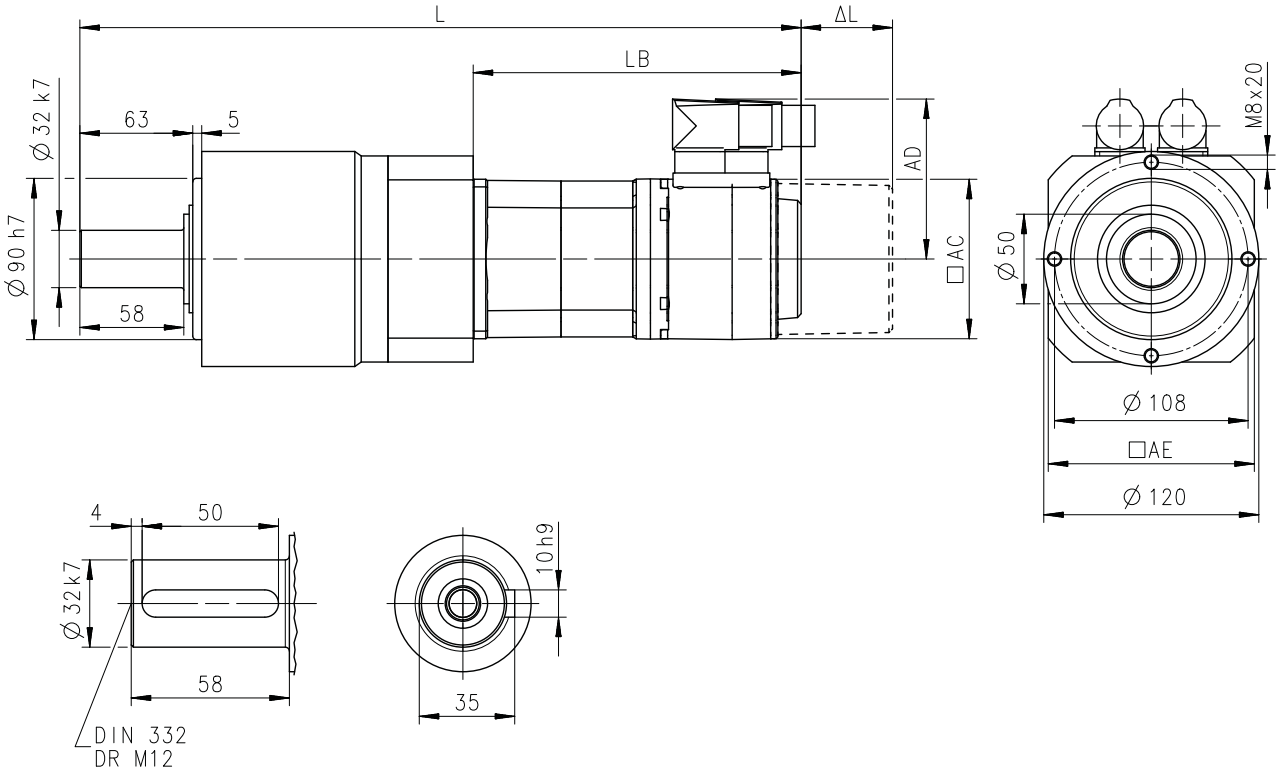
8800802-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	351.5	351.5	381.5	381.5	411.5	411.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115	115



g730-P195 with MCS09

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

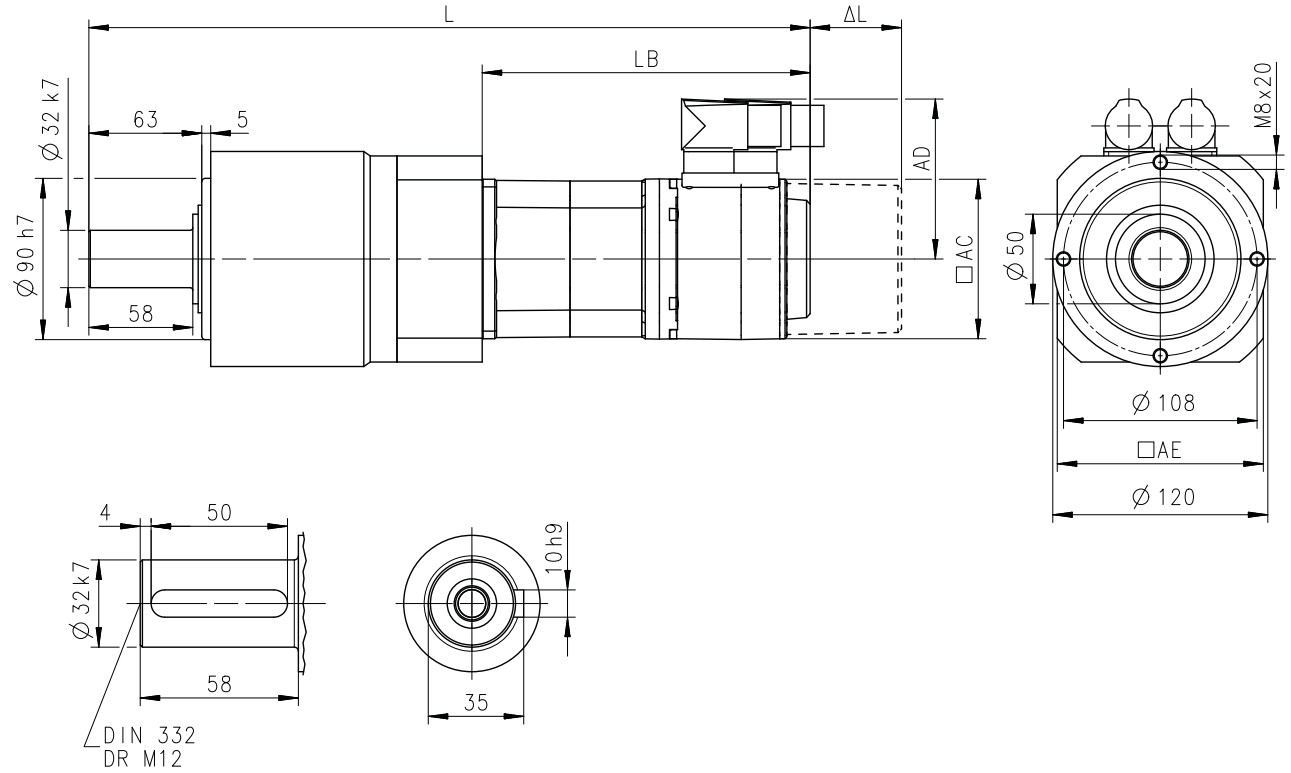


8800802-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	374	374	394	394	414	414	454	454
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115

g730-P195 with MCS09

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



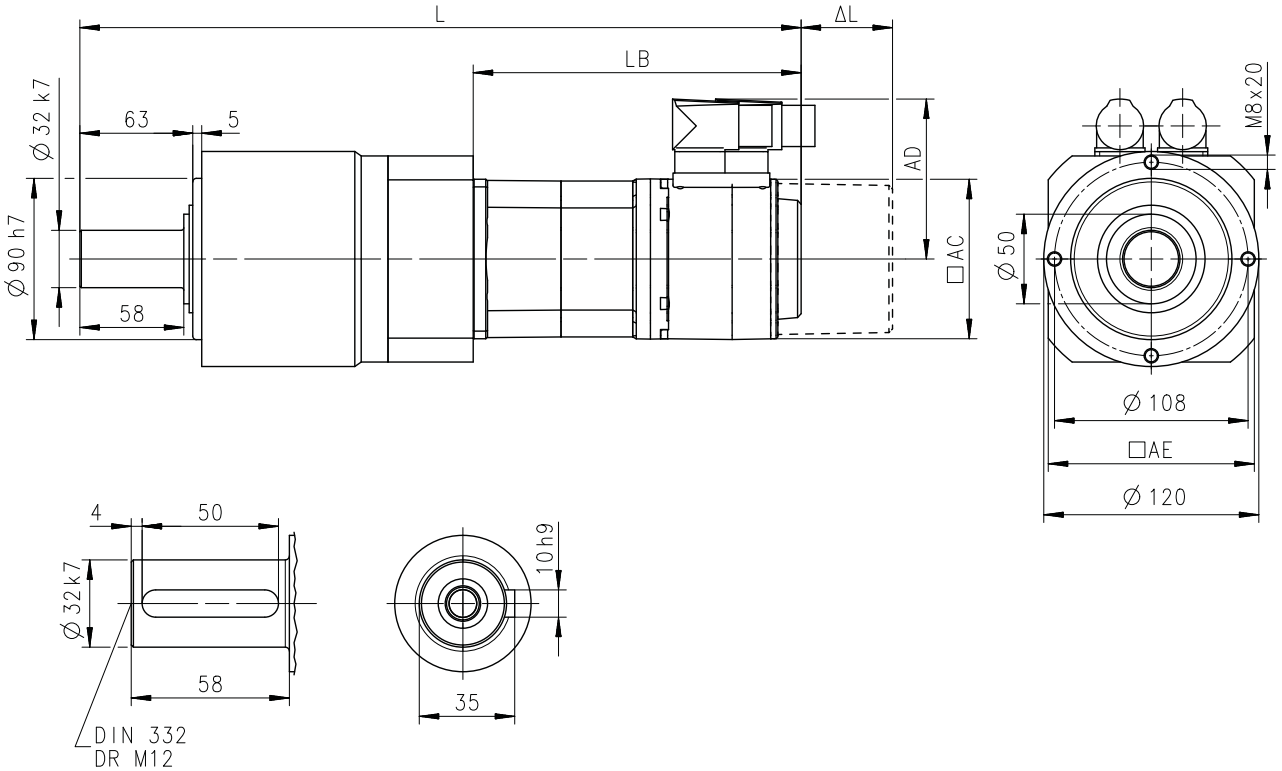
8800802-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	401.5	401.5	421.5	421.5	441.5	441.5	481.5	481.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115



g730-P195 with MCS12

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

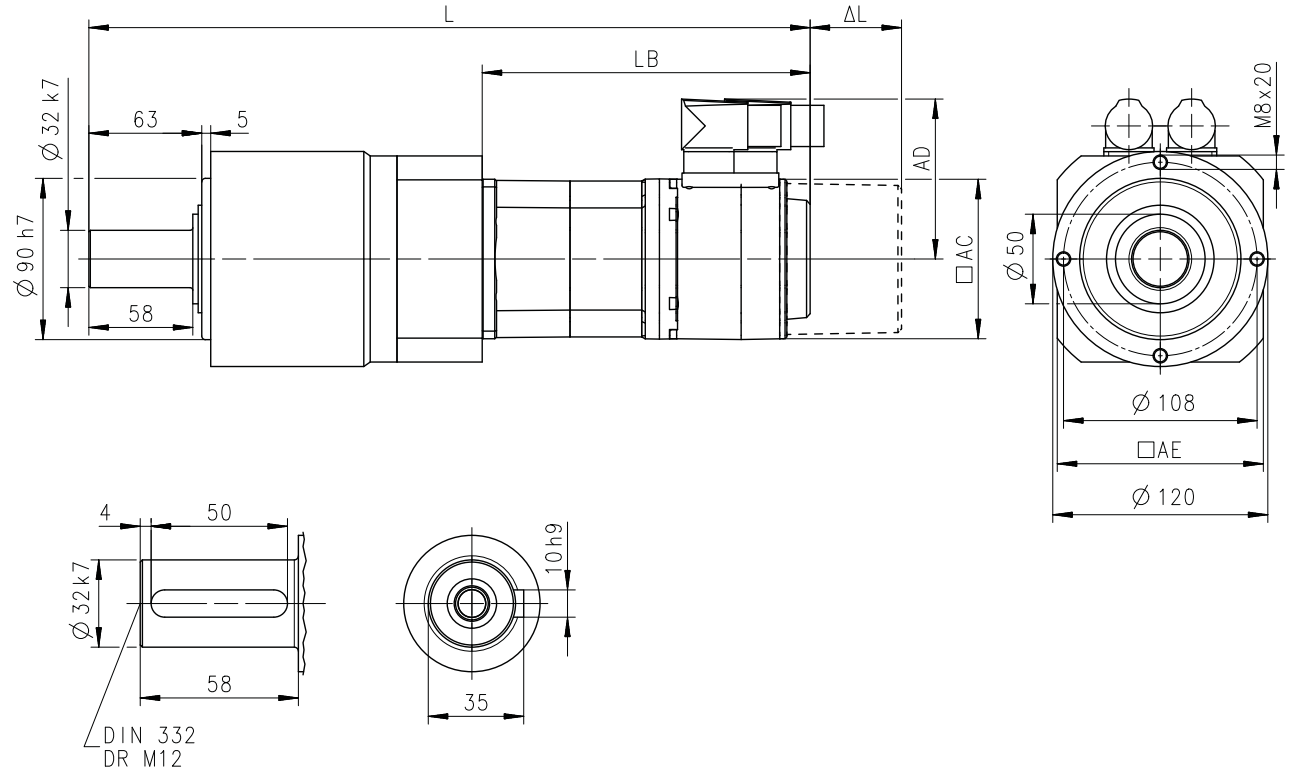


8800802-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	453	380	453	380	493	420	420	493	420	543	460	533	460
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115

g730-P195 with MCS12

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



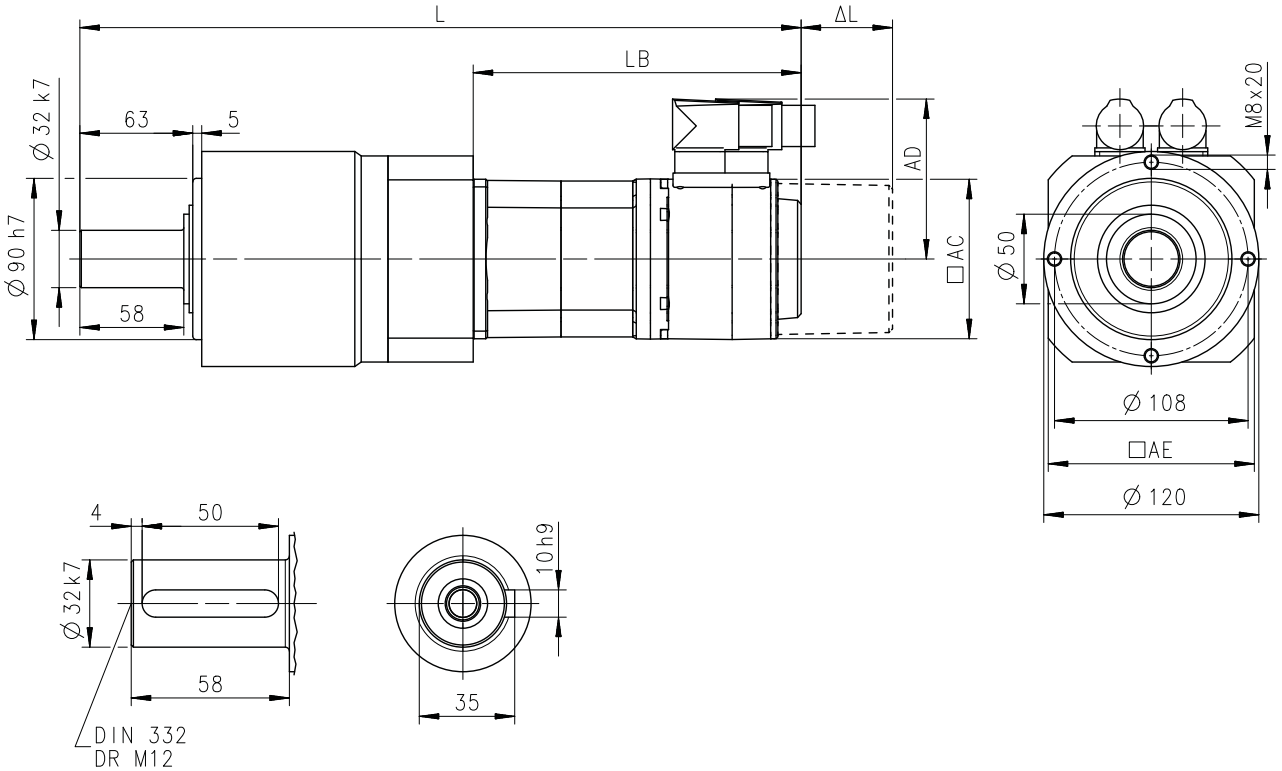
8800802-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	480.5	407.5	480.5	407.5	520.5	447.5	447.5	520.5	447.5	570.5	487.5	560.5	487.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115



g730-P195 with MCS14

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

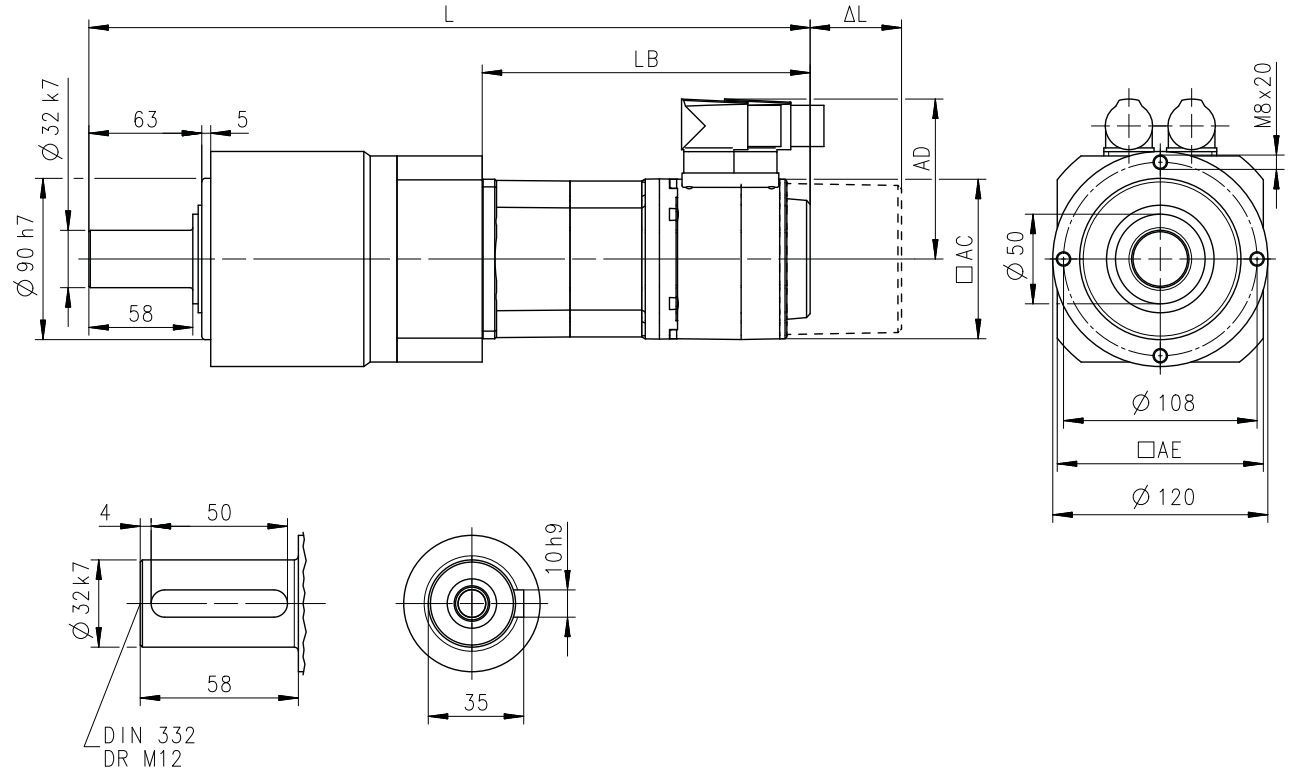


8800802-00

Motor			MCS 14							
			D14-	D15-	D30-	D36-	H15-	H32-	L15-	L32-
Total length	L	mm	491	403	491	403	443	443	483	483
Motor length	LB	mm	289	201	289	201	241	241	281	281
Motor diameter	AC	mm	167	143	167	143	143	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	117	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140

g730-P195 with MCS14

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



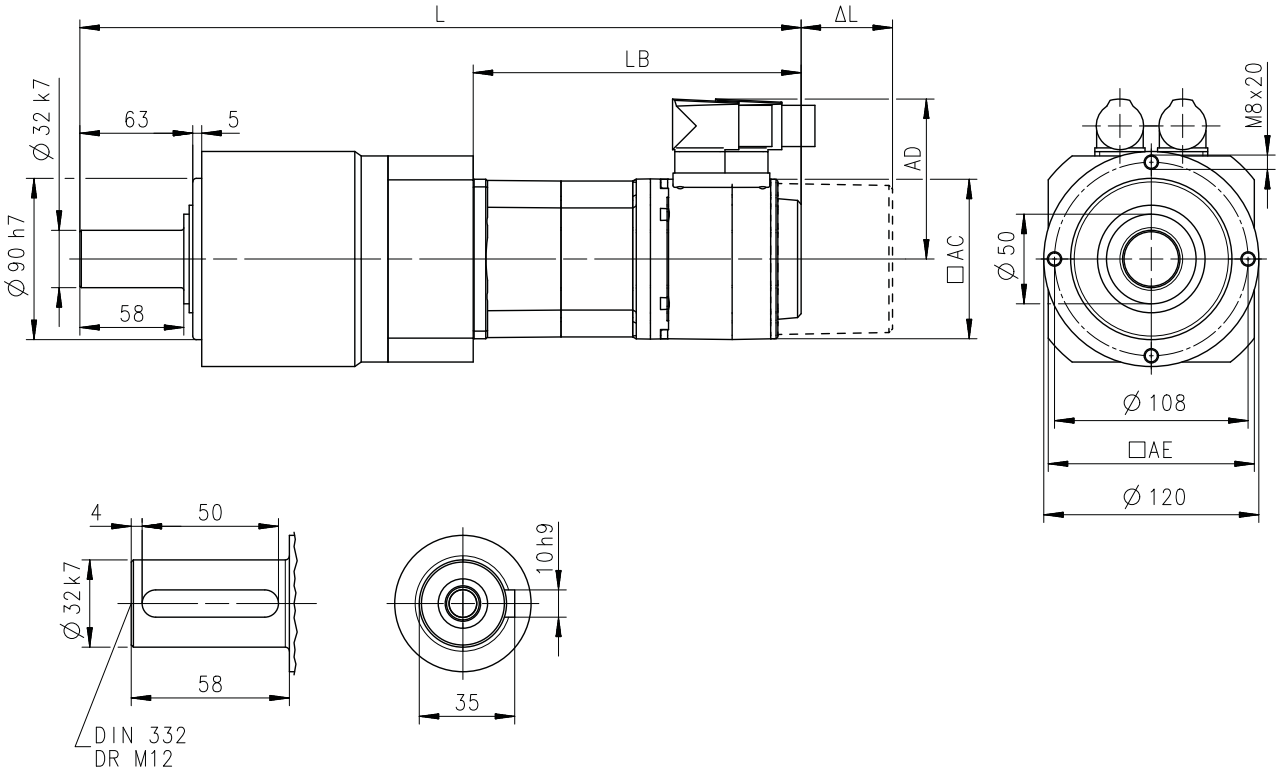
8800802-00

Motor			MCS 14					
			D14-	D15-	D30-	D36-	H15-	H32-
Total length	L	mm	518.5	430.5	518.5	430.5	470.5	470.5
Motor length	LB	mm	289	201	289	201	241	241
Motor diameter	AC	mm	167	143	167	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117
Gearbox diameter	AE	mm	140	140	140	140	140	140



g730-P195 with MCS19

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

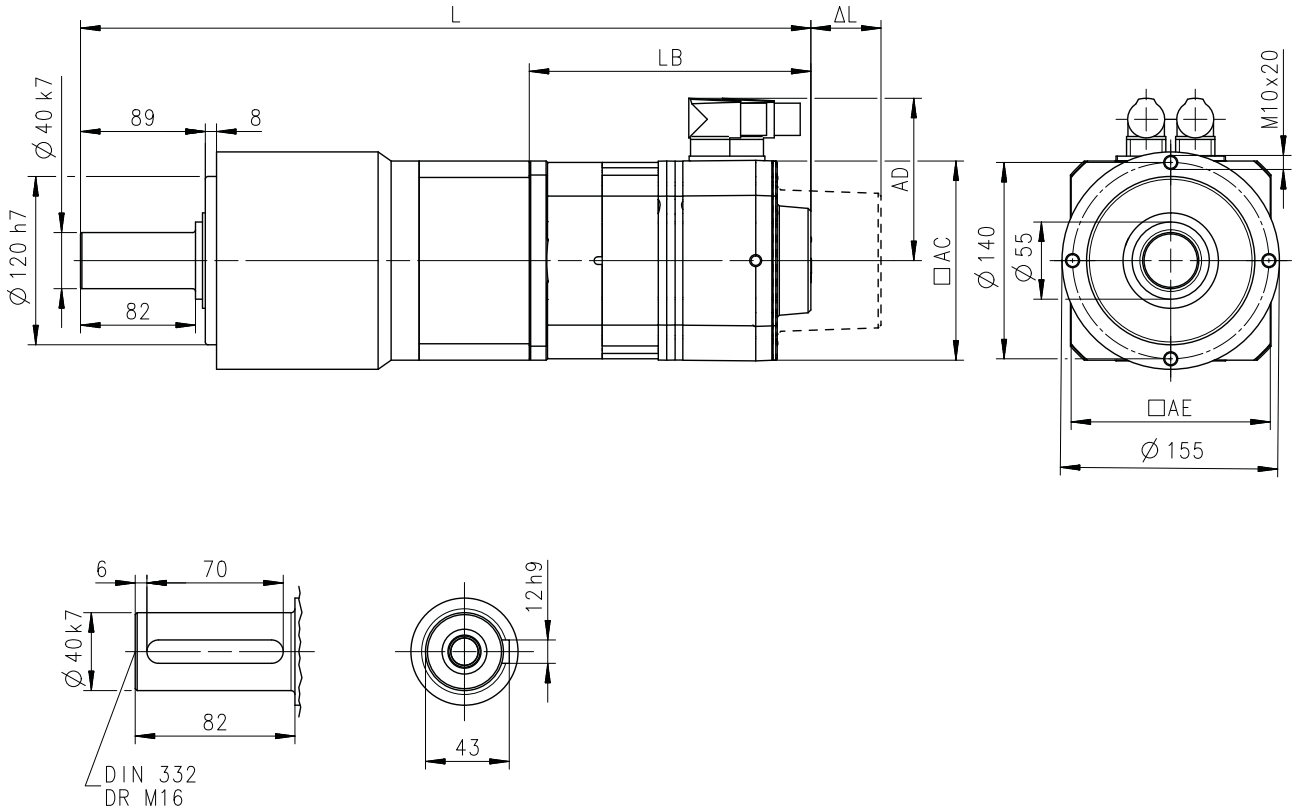


8800802-00

Motor			MCS 19	
			F14-	F30-
Total length	L	mm	439.5	439.5
Motor length	LB	mm	220	220
Motor diameter	AC	mm	192	192
Motor/connection distance	AD	mm	142	171
Gearbox diameter	AE	mm	190	190

g730-P460 with MCS12

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



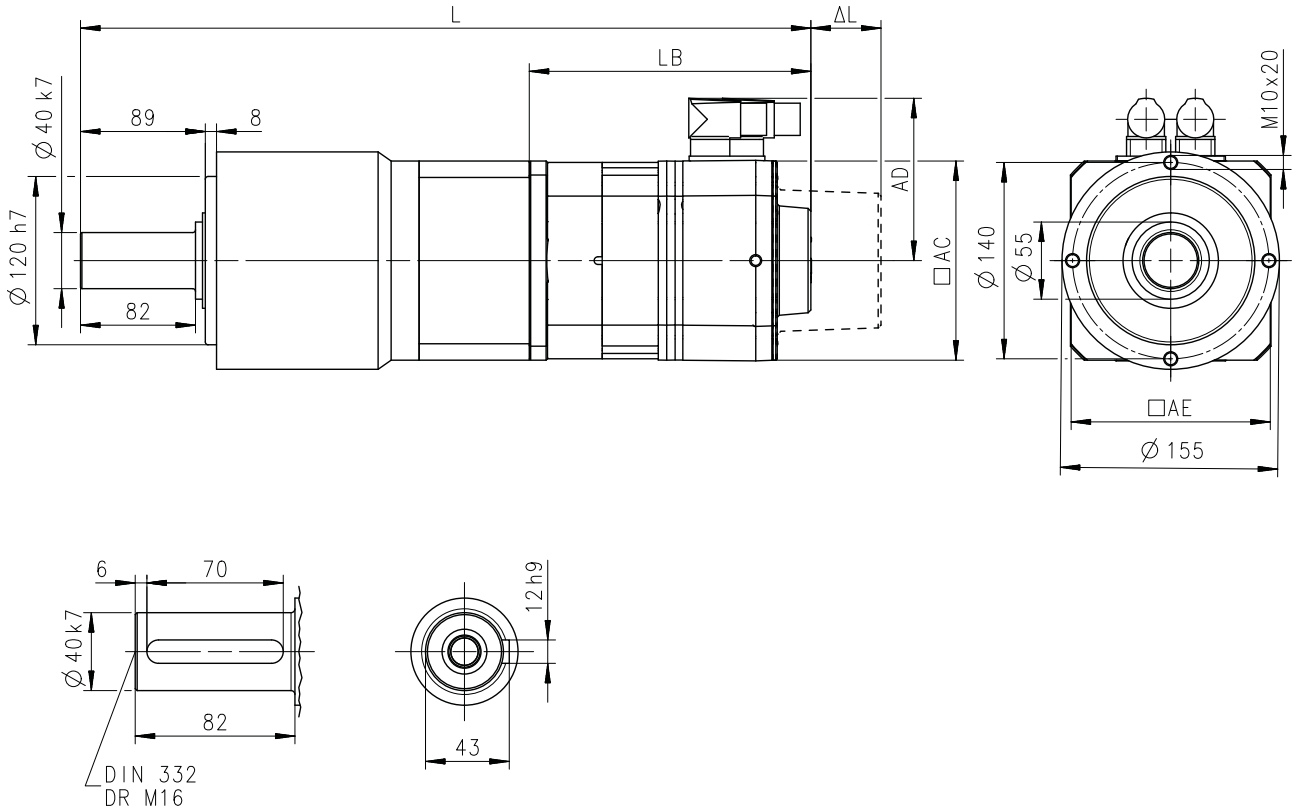
8800803-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	536.5	463.5	536.5	463.5	576.5	503.5	503.5	576.5	503.5	626.5	543.5	616.5	543.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142



g730-P460 with MCS12

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

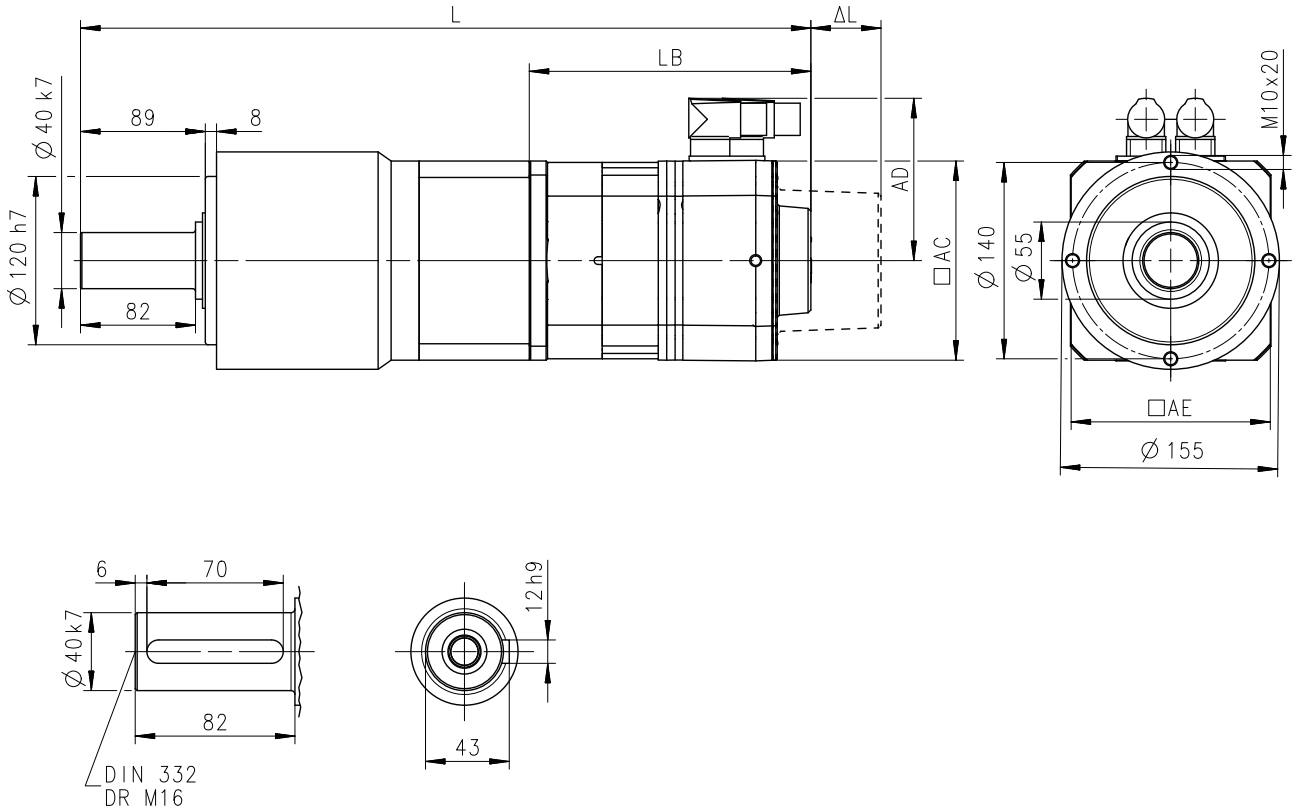


8800803-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	581	508	581	508	621	548	548	621	548	671	588	661	588
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142

g730-P460 with MCS14

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



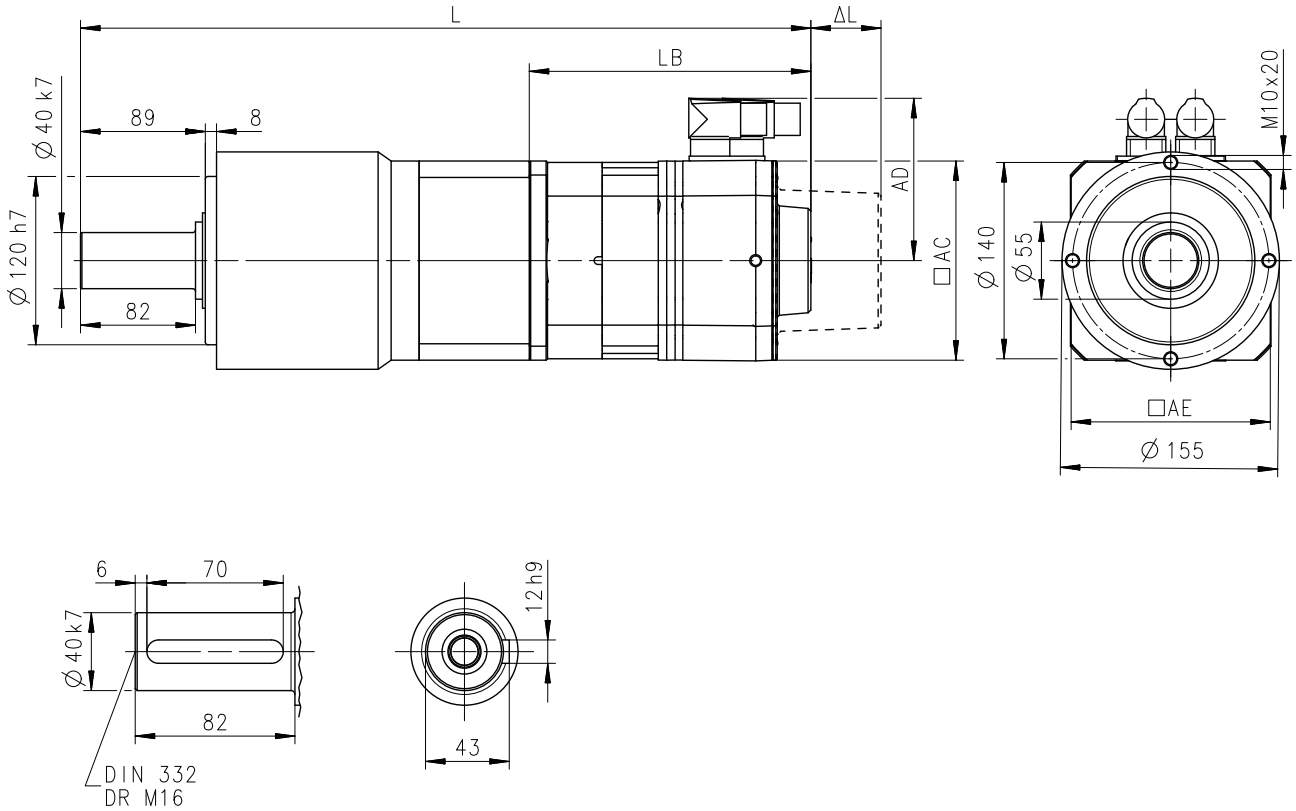
8800803-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	564.5	476.5	564.5	476.5	604.5	516.5	604.5	516.5	644.5	556.5	644.5	556.5	684.5	596.5	684.5	596.5
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142



g730-P460 with MCS14

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

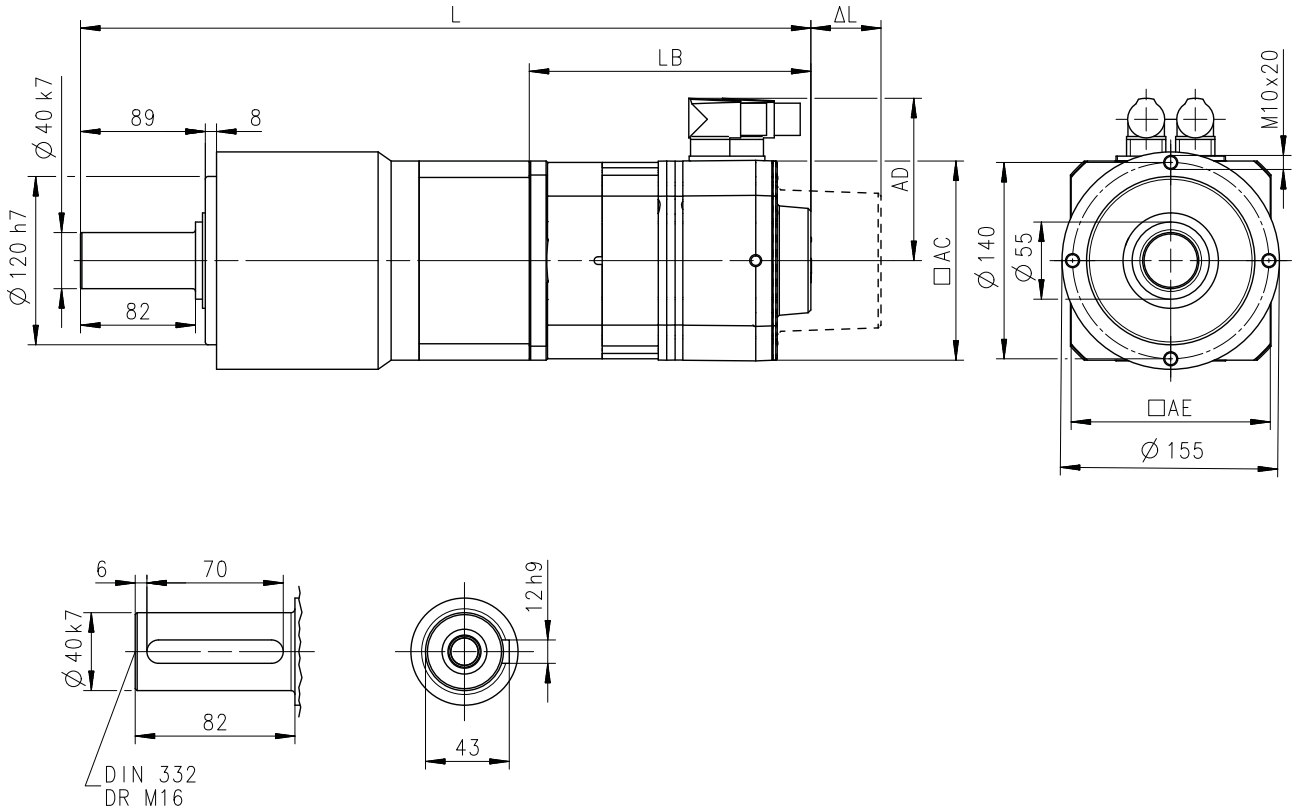


8800803-00

Motor			MCS 14											
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L15-	L30-	L32-	P32-
Total length	L	mm	609	521	609	521	649	561	649	561	601	689	601	641
Motor length	LB	mm	289	201	289	201	329	241	329	241	281	369	281	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	143	167	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	146	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142

g730-P460 with MCS19

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



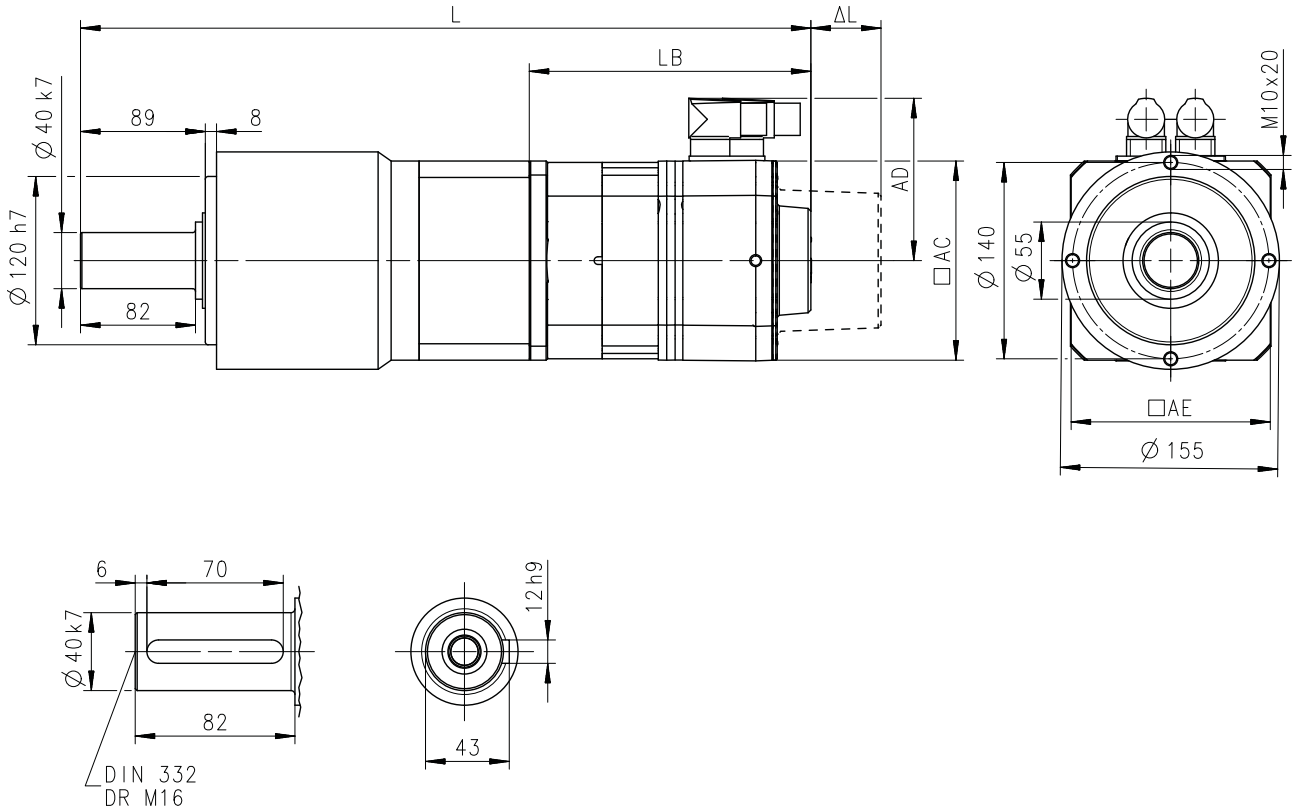
8800803-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	612.5	505.5	612.5	505.5	652.5	545.5	652.5	545.5	712.5	605.5	712.5	605.5
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190



g730-P460 with MCS19

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



8800803-00

Motor			MCS 19		
			F14-	F30-	J30-
Total length	L	mm	550	550	590
Motor length	LB	mm	220	220	260
Motor diameter	AC	mm	192	192	192
Motor/connection distance	AD	mm	142	171	171
Gearbox diameter	AE	mm	190	190	190

Planetary gearbox g750-P

The modular system

g750-P planetary gearbox with MCS synchronous servo motor

Gearbox		**g750-P44**	**g750-P130**	**g750-P260**
Min. motor assignment		**MCS06**	**MCS06**	**MCS06**
Max. motor assignment		**MCS09**	**MCS12**	**MCS19**
Technical data				
Max. output torque	Nm	44	130	260
Min. input torque	Nm	0.6	0.6	0.6
Max. input torque	Nm	4.5	17	72
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
Smooth solid shaft	mm	16 x 28	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	1/2
Output flange	mm	60	80	120
Lubricant		**Standard** Food compatible		
Cooling		**Self-ventilated** Forced ventilated		
Motor connection		**Connector** Terminal box		
Holding brake		**Without** With		
Feedback				
Without functional safety		**Digital absolute value encoder for One Cable Technology (OCT)** Resolver Absolute value encoder		
With functional safety		Digital absolute value encoder for One Cable Technology (OCT) Resolver Absolute value encoder		
Temperature monitoring		MCS06: PT1000 temperature sensor MCS09 ... MCS19: PT1000 temperature sensor and 2x PTC thermistor		



Gearbox data

g750-P44, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	28.0	10	4
4	38.0	10	4
5	40.0	10	4
7	25.0	10	4
8	18.0	10	4
10	15.0	10	3

g750-P44, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
9	44.0	12	4
12	44.0	12	5
15	44.0	12	4
16	44.0	12	5
20	44.0	12	5
25	40.0	12	5
32	44.0	12	5
40	40.0	12	5

g750-P130, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	85.0	7	9
4	115	7	11
5	110	7	12
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
64	50.0	9	10



g750-P260, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	115	7	22
4	155	7	26
5	195	7	26
8	120	7	22
7	135	7	22
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
100	95.0	9	17

Radial forces and axial forces

Gearbox			g750-P44	g750-P130	g750-P260
Bearing service life 20000 h					
Speed		rpm	100	100	100
Radial force	F_{rad}	N	3200	5500	6000
Axial force	F_{ax}	N	4400	6400	8000
Bearing service life 30000 h					
Speed		rpm	100	100	100
Radial force	F_{rad}	N	3200	4800	5400
Axial force	F_{ax}	N	3900	5700	7000
Max. radial force	$F_{rad, max}$	N	3200	5500	6000
Max. axial force	$F_{ax, max}$	N	4400	6400	8000



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.25 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.5	579	5.1	25.0	289	0.218	7	P44	06C41-	1	3.7
3.5	579	5.1	25.0	289	0.218	7	P44	06C41L	1	3.7
4.2	506	4.0	18.0	253	0.214	8	P44	06C41-	1	3.7
4.2	506	4.0	18.0	253	0.214	8	P44	06C41L	1	3.7
5.3	338	4.9	44.0	169	0.269	12	P44	06C41-	2	3.9
5.3	338	4.9	44.0	169	0.269	12	P44	06C41L	2	3.9
5.6	405	2.7	15.0	203	0.209	10	P44	06C41L	1	3.7
5.6	405	2.7	15.0	203	0.209	10	P44	06C41-	1	3.7
7.0	270	4.3	44.0	135	0.221	15	P44	06C41-	2	3.9
7.0	270	4.3	44.0	135	0.221	15	P44	06C41L	2	3.9
7.7	253	4.0	44.0	127	0.231	16	P44	06C41-	2	3.9
7.7	253	4.0	44.0	127	0.231	16	P44	06C41L	2	3.9
10.0	203	3.5	44.0	101	0.219	20	P44	06C41-	2	3.9
10.0	203	3.5	44.0	101	0.219	20	P44	06C41L	2	3.9
13.0	162	2.8	40.0	81.0	0.218	25	P44	06C41-	2	3.9
13.0	162	2.8	40.0	81.0	0.218	25	P44	06C41L	2	3.9
17.0	127	2.4	44.0	63.0	0.208	32	P44	06C41-	2	3.9
17.0	127	2.4	44.0	63.0	0.208	32	P44	06C41L	2	3.9
18.0	101	4.9	110	51.0	0.508	40	P130	06C41L	2	5.7
18.0	101	4.9	110	51.0	0.508	40	P130	06C41-	2	5.7
22.0	101	1.8	40.0	51.0	0.207	40	P44	06C41-	2	3.9
22.0	101	1.8	40.0	51.0	0.207	40	P44	06C41L	2	3.9
32.0	63.3	3.5	120	32.0	1.557	64	P260	06C41-	2	11
32.0	63.3	3.5	120	32.0	1.557	64	P260	06C41L	2	11
34.0	63.3	1.5	50.0	32.0	0.509	64	P130	06C41-	2	5.7
34.0	63.3	1.5	50.0	32.0	0.509	64	P130	06C41L	2	5.7
50.0	40.5	1.9	95.0	20.0	1.518	100	P260	06C41-	2	11
50.0	40.5	1.9	95.0	20.0	1.518	100	P260	06C41L	2	11



0.31 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
2.9	857	5.4	25.0	429	0.218	7	P44	06C60-	1	3.7
2.9	857	5.4	25.0	429	0.218	7	P44	06C60L	1	3.7
3.4	750	4.8	18.0	375	0.214	8	P44	06C60L	1	3.7
3.4	750	4.8	18.0	375	0.214	8	P44	06C60-	1	3.7
4.3	500	5.3	44.0	250	0.269	12	P44	06C60L	2	3.9
4.3	500	5.3	44.0	250	0.269	12	P44	06C60-	2	3.9
4.6	600	3.2	15.0	300	0.209	10	P44	06C60-	1	3.7
4.6	600	3.2	15.0	300	0.209	10	P44	06C60L	1	3.7
5.7	400	4.6	44.0	200	0.221	15	P44	06C60L	2	3.9
5.7	400	4.6	44.0	200	0.221	15	P44	06C60-	2	3.9
6.2	375	4.3	44.0	188	0.231	16	P44	06C60-	2	3.9
6.2	375	4.3	44.0	188	0.231	16	P44	06C60L	2	3.9
8.2	300	3.7	44.0	150	0.219	20	P44	06C60-	2	3.9
8.2	300	3.7	44.0	150	0.219	20	P44	06C60L	2	3.9
11.0	240	3.1	40.0	120	0.218	25	P44	06C60-	2	3.9
11.0	240	3.1	40.0	120	0.218	25	P44	06C60L	2	3.9
13.0	150	5.9	110	75.0	0.508	40	P130	06C60-	2	5.7
13.0	150	5.9	110	75.0	0.508	40	P130	06C60L	2	5.7
14.0	188	2.7	44.0	94.0	0.208	32	P44	06C60-	2	3.9
14.0	188	2.7	44.0	94.0	0.208	32	P44	06C60L	2	3.9
19.0	150	2.2	40.0	75.0	0.207	40	P44	06C60-	2	3.9
19.0	150	2.2	40.0	75.0	0.207	40	P44	06C60L	2	3.9
25.0	93.8	4.2	120	47.0	1.557	64	P260	06C60L	2	11
25.0	93.8	4.2	120	47.0	1.557	64	P260	06C60-	2	11
28.0	93.8	1.8	50.0	47.0	0.509	64	P130	06C60-	2	5.7
28.0	93.8	1.8	50.0	47.0	0.509	64	P130	06C60L	2	5.7
42.0	60.0	2.3	95.0	30.0	1.518	100	P260	06C60-	2	11
42.0	60.0	2.3	95.0	30.0	1.518	100	P260	06C60L	2	11



0.51 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.0	1013	5.2	38.0	506	0.340	4	P44	06F41-	1	4.1
4.0	1013	5.2	38.0	506	0.340	4	P44	06F41L	1	4.1
5.2	810	4.3	40.0	405	0.317	5	P44	06F41-	1	4.1
5.2	810	4.3	40.0	405	0.317	5	P44	06F41L	1	4.1
7.9	579	2.5	25.0	289	0.298	7	P44	06F41-	1	4.1
7.9	579	2.5	25.0	289	0.298	7	P44	06F41L	1	4.1
7.9	506	5.4	50.0	253	0.607	8	P130	06F41-	1	5.4
7.9	506	5.4	50.0	253	0.607	8	P130	06F41L	1	5.4
9.0	506	2.0	18.0	253	0.294	8	P44	06F41-	1	4.1
9.0	506	2.0	18.0	253	0.294	8	P44	06F41L	1	4.1
9.3	450	3.1	44.0	225	0.355	9	P44	06F41-	2	4.3
9.3	450	3.1	44.0	225	0.355	9	P44	06F41L	2	4.3
11.0	405	1.3	15.0	203	0.289	10	P44	06F41-	1	4.1
11.0	405	1.3	15.0	203	0.289	10	P44	06F41L	1	4.1
11.0	405	3.4	38.0	203	0.590	10	P130	06F41-	1	5.4
11.0	405	3.4	38.0	203	0.590	10	P130	06F41L	1	5.4
13.0	338	2.5	44.0	169	0.349	12	P44	06F41-	2	4.3
13.0	338	2.5	44.0	169	0.349	12	P44	06F41L	2	4.3
17.0	270	2.2	44.0	135	0.301	15	P44	06F41-	2	4.3
17.0	270	2.2	44.0	135	0.301	15	P44	06F41L	2	4.3
17.0	203	5.3	120	101	0.635	20	P130	06F41L	2	6.1
17.0	203	5.3	120	101	0.635	20	P130	06F41-	2	6.1
18.0	253	2.0	44.0	127	0.311	16	P44	06F41-	2	4.3
18.0	253	2.0	44.0	127	0.311	16	P44	06F41L	2	4.3
23.0	203	1.7	44.0	101	0.299	20	P44	06F41-	2	4.3
23.0	203	1.7	44.0	101	0.299	20	P44	06F41L	2	4.3
24.0	162	3.9	110	81.0	0.632	25	P130	06F41-	2	6.1
24.0	162	3.9	110	81.0	0.632	25	P130	06F41L	2	6.1
28.0	162	1.4	40.0	81.0	0.298	25	P44	06F41-	2	4.3
28.0	162	1.4	40.0	81.0	0.298	25	P44	06F41L	2	4.3
33.0	127	3.3	120	63.0	0.590	32	P130	06F41-	2	6.1
33.0	127	3.3	120	63.0	0.590	32	P130	06F41L	2	6.1
35.0	101	5.1	230	51.0	1.641	40	P260	06F41-	2	12
35.0	101	5.1	230	51.0	1.641	40	P260	06F41L	2	12
36.0	127	1.2	44.0	63.0	0.288	32	P44	06F41L	2	4.3
36.0	127	1.2	44.0	63.0	0.288	32	P44	06F41-	2	4.3
44.0	101	2.4	110	51.0	0.588	40	P130	06F41-	2	6.1
44.0	101	2.4	110	51.0	0.588	40	P130	06F41L	2	6.1
68.0	63.3	1.8	120	32.0	1.637	64	P260	06F41-	2	12
68.0	63.3	1.8	120	32.0	1.637	64	P260	06F41L	2	12



0.57 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.8	1200	5.1	40.0	600	0.317	5	P44	06F60-	1	4.1
3.8	1200	5.1	40.0	600	0.317	5	P44	06F60L	1	4.1
5.8	857	3.0	25.0	429	0.298	7	P44	06F60L	1	4.1
5.8	857	3.0	25.0	429	0.298	7	P44	06F60-	1	4.1
6.7	750	2.7	18.0	375	0.294	8	P44	06F60L	1	4.1
6.7	750	2.7	18.0	375	0.294	8	P44	06F60-	1	4.1
6.7	667	3.6	44.0	333	0.355	9	P44	06F60-	2	4.3
6.7	667	3.6	44.0	333	0.355	9	P44	06F60L	2	4.3
7.7	600	4.5	38.0	300	0.590	10	P130	06F60-	1	5.4
7.7	600	4.5	38.0	300	0.590	10	P130	06F60L	1	5.4
8.4	600	1.8	15.0	300	0.289	10	P44	06F60-	1	4.1
8.4	600	1.8	15.0	300	0.289	10	P44	06F60L	1	4.1
9.5	500	2.9	44.0	250	0.349	12	P44	06F60-	2	4.3
9.5	500	2.9	44.0	250	0.349	12	P44	06F60L	2	4.3
12.0	400	2.6	44.0	200	0.301	15	P44	06F60L	2	4.3
12.0	400	2.6	44.0	200	0.301	15	P44	06F60-	2	4.3
13.0	375	2.4	44.0	188	0.311	16	P44	06F60-	2	4.3
13.0	375	2.4	44.0	188	0.311	16	P44	06F60L	2	4.3
16.0	240	5.2	110	120	0.632	25	P130	06F60-	2	6.1
16.0	240	5.2	110	120	0.632	25	P130	06F60L	2	6.1
17.0	300	2.0	44.0	150	0.299	20	P44	06F60-	2	4.3
17.0	300	2.0	44.0	150	0.299	20	P44	06F60L	2	4.3
21.0	240	1.7	40.0	120	0.298	25	P44	06F60-	2	4.3
21.0	240	1.7	40.0	120	0.298	25	P44	06F60L	2	4.3
22.0	188	4.4	120	94.0	0.590	32	P130	06F60-	2	6.1
22.0	188	4.4	120	94.0	0.590	32	P130	06F60L	2	6.1
27.0	188	1.5	44.0	94.0	0.288	32	P44	06F60-	2	4.3
27.0	188	1.5	44.0	94.0	0.288	32	P44	06F60L	2	4.3
31.0	150	3.3	110	75.0	0.588	40	P130	06F60-	2	6.1
31.0	150	3.3	110	75.0	0.588	40	P130	06F60L	2	6.1
33.0	150	1.2	40.0	75.0	0.287	40	P44	06F60-	2	4.3
33.0	150	1.2	40.0	75.0	0.287	40	P44	06F60L	2	4.3
51.0	93.8	2.3	120	47.0	1.637	64	P260	06F60-	2	12
51.0	93.8	2.3	120	47.0	1.637	64	P260	06F60L	2	12
75.0	60.0	1.3	95.0	30.0	1.598	100	P260	06F60-	2	12
75.0	60.0	1.3	95.0	30.0	1.598	100	P260	06F60L	2	12



0.64 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.7	1350	5.3	28.0	675	0.478	3	P44	06I41-	1	4.8
3.7	1350	5.3	28.0	675	0.478	3	P44	06I41L	1	4.8
5.2	1013	4.2	38.0	506	0.420	4	P44	06I41-	1	4.8
5.2	1013	4.2	38.0	506	0.420	4	P44	06I41L	1	4.8
6.8	810	3.5	40.0	405	0.397	5	P44	06I41-	1	4.8
6.8	810	3.5	40.0	405	0.397	5	P44	06I41L	1	4.8
10.0	579	2.0	25.0	289	0.378	7	P44	06I41-	1	4.8
10.0	579	2.0	25.0	289	0.378	7	P44	06I41L	1	4.8
10.0	506	4.3	50.0	253	0.687	8	P130	06I41L	1	6.1
10.0	506	4.3	50.0	253	0.687	8	P130	06I41-	1	6.1
11.0	506	1.6	18.0	253	0.374	8	P44	06I41-	1	4.8
11.0	506	1.6	18.0	253	0.374	8	P44	06I41L	1	4.8
12.0	450	2.5	44.0	225	0.435	9	P44	06I41L	2	5.0
12.0	450	2.5	44.0	225	0.435	9	P44	06I41-	2	5.0
14.0	405	1.1	15.0	203	0.369	10	P44	06I41-	1	4.8
14.0	405	1.1	15.0	203	0.369	10	P44	06I41L	1	4.8
14.0	405	2.7	38.0	203	0.670	10	P130	06I41-	1	6.1
14.0	405	2.7	38.0	203	0.670	10	P130	06I41L	1	6.1
16.0	270	5.2	110	135	0.907	15	P130	06I41-	2	6.8
16.0	270	5.2	110	135	0.907	15	P130	06I41L	2	6.8
17.0	338	2.0	44.0	169	0.429	12	P44	06I41-	2	5.0
17.0	338	2.0	44.0	169	0.429	12	P44	06I41L	2	5.0
17.0	253	5.2	120	127	0.760	16	P130	06I41-	2	6.8
17.0	253	5.2	120	127	0.760	16	P130	06I41L	2	6.8
21.0	270	1.7	44.0	135	0.381	15	P44	06I41-	2	5.0
21.0	270	1.7	44.0	135	0.381	15	P44	06I41L	2	5.0
23.0	253	1.6	44.0	127	0.391	16	P44	06I41-	2	5.0
23.0	253	1.6	44.0	127	0.391	16	P44	06I41L	2	5.0
24.0	203	4.2	120	101	0.715	20	P130	06I41-	2	6.8
24.0	203	4.2	120	101	0.715	20	P130	06I41L	2	6.8
28.0	203	1.4	44.0	101	0.379	20	P44	06I41-	2	5.0
28.0	203	1.4	44.0	101	0.379	20	P44	06I41L	2	5.0
32.0	162	3.1	110	81.0	0.712	25	P130	06I41-	2	6.8
32.0	162	3.1	110	81.0	0.712	25	P130	06I41L	2	6.8
33.0	127	5.7	260	63.0	1.724	32	P260	06I41-	2	12
33.0	127	5.7	260	63.0	1.724	32	P260	06I41L	2	12
35.0	162	1.1	40.0	81.0	0.378	25	P44	06I41-	2	5.0
35.0	162	1.1	40.0	81.0	0.378	25	P44	06I41L	2	5.0
43.0	127	2.6	120	63.0	0.670	32	P130	06I41-	2	6.8
43.0	127	2.6	120	63.0	0.670	32	P130	06I41L	2	6.8
48.0	101	4.1	230	51.0	1.721	40	P260	06I41-	2	12
48.0	101	4.1	230	51.0	1.721	40	P260	06I41L	2	12
56.0	101	2.0	110	51.0	0.668	40	P130	06I41L	2	6.8
56.0	101	2.0	110	51.0	0.668	40	P130	06I41-	2	6.8
85.0	63.3	1.4	120	32.0	1.717	64	P260	06I41-	2	12
85.0	63.3	1.4	120	32.0	1.717	64	P260	06I41L	2	12



0.75 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
2.9	2000	5.9	28.0	1000	0.478	3	P44	06I60-	1	4.8
2.9	2000	5.9	28.0	1000	0.478	3	P44	06I60L	1	4.8
4.1	1500	4.6	38.0	750	0.420	4	P44	06I60-	1	4.8
4.1	1500	4.6	38.0	750	0.420	4	P44	06I60L	1	4.8
5.3	1200	3.9	40.0	600	0.397	5	P44	06I60L	1	4.8
5.3	1200	3.9	40.0	600	0.397	5	P44	06I60-	1	4.8
7.9	750	5.4	50.0	375	0.687	8	P130	06I60L	1	6.1
7.9	750	5.4	50.0	375	0.687	8	P130	06I60-	1	6.1
8.0	857	2.3	25.0	429	0.378	7	P44	06I60-	1	4.8
8.0	857	2.3	25.0	429	0.378	7	P44	06I60L	1	4.8
9.0	750	2.0	18.0	375	0.374	8	P44	06I60-	1	4.8
9.0	750	2.0	18.0	375	0.374	8	P44	06I60L	1	4.8
9.6	667	2.7	44.0	333	0.435	9	P44	06I60-	2	5.0
9.6	667	2.7	44.0	333	0.435	9	P44	06I60L	2	5.0
11.0	600	1.3	15.0	300	0.369	10	P44	06I60-	1	4.8
11.0	600	1.3	15.0	300	0.369	10	P44	06I60L	1	4.8
11.0	600	3.4	38.0	300	0.670	10	P130	06I60-	1	6.1
11.0	600	3.4	38.0	300	0.670	10	P130	06I60L	1	6.1
13.0	500	2.2	44.0	250	0.429	12	P44	06I60-	2	5.0
13.0	500	2.2	44.0	250	0.429	12	P44	06I60L	2	5.0
17.0	400	1.9	44.0	200	0.381	15	P44	06I60-	2	5.0
17.0	400	1.9	44.0	200	0.381	15	P44	06I60L	2	5.0
17.0	300	5.2	120	150	0.715	20	P130	06I60-	2	6.8
17.0	300	5.2	120	150	0.715	20	P130	06I60L	2	6.8
18.0	375	1.8	44.0	188	0.391	16	P44	06I60-	2	5.0
18.0	375	1.8	44.0	188	0.391	16	P44	06I60L	2	5.0
23.0	300	1.5	44.0	150	0.379	20	P44	06I60-	2	5.0
23.0	300	1.5	44.0	150	0.379	20	P44	06I60L	2	5.0
24.0	240	3.9	110	120	0.712	25	P130	06I60-	2	6.8
24.0	240	3.9	110	120	0.712	25	P130	06I60L	2	6.8
28.0	240	1.3	40.0	120	0.378	25	P44	06I60-	2	5.0
28.0	240	1.3	40.0	120	0.378	25	P44	06I60L	2	5.0
33.0	188	3.3	120	94.0	0.670	32	P130	06I60-	2	6.8
33.0	188	3.3	120	94.0	0.670	32	P130	06I60L	2	6.8
35.0	150	5.1	230	75.0	1.721	40	P260	06I60-	2	12
35.0	150	5.1	230	75.0	1.721	40	P260	06I60L	2	12
36.0	188	1.1	44.0	94.0	0.368	32	P44	06I60-	2	5.0
36.0	188	1.1	44.0	94.0	0.368	32	P44	06I60L	2	5.0
44.0	150	2.4	110	75.0	0.668	40	P130	06I60-	2	6.8
44.0	150	2.4	110	75.0	0.668	40	P130	06I60L	2	6.8
68.0	93.8	1.8	120	47.0	1.717	64	P260	06I60-	2	12
68.0	93.8	1.8	120	47.0	1.717	64	P260	06I60L	2	12



1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.6	1350	5.7	85.0	675	1.875	3	P130	09D41-	1	7.5
5.6	1350	5.7	85.0	675	1.875	3	P130	09D41L	1	7.6
6.2	1350	3.5	28.0	675	1.298	3	P44	09D41L	1	6.3
6.2	1350	3.5	28.0	675	1.298	3	P44	09D41-	1	6.2
8.6	1013	2.7	38.0	506	1.240	4	P44	09D41L	1	6.3
8.6	1013	2.7	38.0	506	1.240	4	P44	09D41-	1	6.2
11.0	810	2.3	40.0	405	1.218	5	P44	09D41-	1	6.2
11.0	810	2.3	40.0	405	1.218	5	P44	09D41L	1	6.3
14.0	579	4.2	65.0	289	1.501	7	P130	09D41-	1	7.5
14.0	579	4.2	65.0	289	1.501	7	P130	09D41L	1	7.6
15.0	579	1.3	25.0	289	1.199	7	P44	09D41-	1	6.2
15.0	579	1.3	25.0	289	1.199	7	P44	09D41L	1	6.3
16.0	450	4.5	130	225	1.741	9	P130	09D41-	2	8.2
16.0	450	4.5	130	225	1.741	9	P130	09D41L	2	8.3
17.0	506	1.0	18.0	253	1.195	8	P44	09D41-	1	6.2
17.0	506	1.0	18.0	253	1.195	8	P44	09D41L	1	6.3
17.0	506	2.8	50.0	253	1.487	8	P130	09D41-	1	7.5
17.0	506	2.8	50.0	253	1.487	8	P130	09D41L	1	7.6
19.0	450	1.6	44.0	225	1.255	9	P44	09D41-	2	6.4
19.0	450	1.6	44.0	225	1.255	9	P44	09D41L	2	6.5
20.0	405	4.3	95.0	203	2.490	10	P260	09D41-	1	12
20.0	405	4.3	95.0	203	2.490	10	P260	09D41L	1	12
21.0	338	4.3	120	169	1.715	12	P130	09D41-	2	8.2
21.0	338	4.3	120	169	1.715	12	P130	09D41L	2	8.3
22.0	405	1.8	38.0	203	1.470	10	P130	09D41-	1	7.5
22.0	405	1.8	38.0	203	1.470	10	P130	09D41L	1	7.6
26.0	338	1.3	44.0	169	1.250	12	P44	09D41-	2	6.4
26.0	338	1.3	44.0	169	1.250	12	P44	09D41L	2	6.5
29.0	270	3.4	110	135	1.707	15	P130	09D41-	2	8.2
29.0	270	3.4	110	135	1.707	15	P130	09D41L	2	8.3
31.0	253	3.4	120	127	1.560	16	P130	09D41-	2	8.2
31.0	253	3.4	120	127	1.560	16	P130	09D41L	2	8.3
31.0	203	6.0	260	101	2.685	20	P260	09D41L	2	14
31.0	203	6.0	260	101	2.685	20	P260	09D41-	2	14
32.0	270	1.1	44.0	135	1.202	15	P44	09D41-	2	6.4
32.0	270	1.1	44.0	135	1.202	15	P44	09D41L	2	6.5
35.0	253	1.1	44.0	127	1.212	16	P44	09D41-	2	6.4
35.0	253	1.1	44.0	127	1.212	16	P44	09D41L	2	6.5
41.0	203	2.8	120	101	1.515	20	P130	09D41-	2	8.2
41.0	203	2.8	120	101	1.515	20	P130	09D41L	2	8.3
45.0	162	4.2	230	81.0	2.677	25	P260	09D41-	2	14
45.0	162	4.2	230	81.0	2.677	25	P260	09D41L	2	14
54.0	162	2.0	110	81.0	1.512	25	P130	09D41L	2	8.3
54.0	162	2.0	110	81.0	1.512	25	P130	09D41-	2	8.2
60.0	127	3.7	260	63.0	2.524	32	P260	09D41-	2	14
60.0	127	3.7	260	63.0	2.524	32	P260	09D41L	2	14
69.0	127	1.7	120	63.0	1.470	32	P130	09D41-	2	8.2
69.0	127	1.7	120	63.0	1.470	32	P130	09D41L	2	8.3
82.0	101	2.7	230	51.0	2.521	40	P260	09D41-	2	14
82.0	101	2.7	230	51.0	2.521	40	P260	09D41L	2	14
86.0	101	1.3	110	51.0	1.468	40	P130	09D41-	2	8.2



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
86.0	101	1.3	110	51.0	1.468	40	P130	09D41L	2	8.3



1.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.8	2000	3.9	28.0	1000	1.298	3	P44	09D60-	1	6.2
4.8	2000	3.9	28.0	1000	1.298	3	P44	09D60L	1	6.3
6.6	1500	3.1	38.0	750	1.240	4	P44	09D60-	1	6.2
6.6	1500	3.1	38.0	750	1.240	4	P44	09D60L	1	6.3
8.4	1200	2.6	40.0	600	1.218	5	P44	09D60L	1	6.3
8.4	1200	2.6	40.0	600	1.218	5	P44	09D60-	1	6.2
11.0	857	5.1	65.0	429	1.501	7	P130	09D60-	1	7.5
11.0	857	5.1	65.0	429	1.501	7	P130	09D60L	1	7.6
12.0	857	1.5	25.0	429	1.199	7	P44	09D60-	1	6.2
12.0	857	1.5	25.0	429	1.199	7	P44	09D60L	1	6.3
12.0	667	5.1	130	333	1.741	9	P130	09D60L	2	8.3
12.0	667	5.1	130	333	1.741	9	P130	09D60-	2	8.2
13.0	750	3.6	50.0	375	1.487	8	P130	09D60-	1	7.5
13.0	750	3.6	50.0	375	1.487	8	P130	09D60L	1	7.6
14.0	750	1.3	18.0	375	1.195	8	P44	09D60-	1	6.2
14.0	750	1.3	18.0	375	1.195	8	P44	09D60L	1	6.3
15.0	667	1.8	44.0	333	1.255	9	P44	09D60-	2	6.4
15.0	667	1.8	44.0	333	1.255	9	P44	09D60L	2	6.5
15.0	650	3.0	85.0	325	4.775	3	P130	12D20-	1	9.7
15.0	650	3.0	85.0	325	4.775	3	P130	12D20L	1	9.8
15.0	600	5.5	95.0	300	2.490	10	P260	09D60-	1	12
15.0	600	5.5	95.0	300	2.490	10	P260	09D60L	1	12
16.0	500	4.9	120	250	1.715	12	P130	09D60-	2	8.2
16.0	500	4.9	120	250	1.715	12	P130	09D60L	2	8.3
17.0	600	2.3	38.0	300	1.470	10	P130	09D60-	1	7.5
17.0	600	2.3	38.0	300	1.470	10	P130	09D60L	1	7.6
19.0	488	4.8	115	244	4.540	4	P130	12D20L	1	9.8
19.0	488	4.8	115	244	4.540	4	P130	12D20-	1	9.7
20.0	500	1.5	44.0	250	1.250	12	P44	09D60-	2	6.4
20.0	500	1.5	44.0	250	1.250	12	P44	09D60L	2	6.5
21.0	400	4.1	110	200	1.707	15	P130	09D60-	2	8.2
21.0	400	4.1	110	200	1.707	15	P130	09D60L	2	8.3
23.0	375	4.0	120	188	1.560	16	P130	09D60-	2	8.2
23.0	375	4.0	120	188	1.560	16	P130	09D60L	2	8.3
24.0	390	4.0	110	195	4.466	5	P130	12D20L	1	9.8
24.0	390	4.0	110	195	4.466	5	P130	12D20-	1	9.7
25.0	400	1.3	44.0	200	1.202	15	P44	09D60-	2	6.4
25.0	400	1.3	44.0	200	1.202	15	P44	09D60L	2	6.5
27.0	375	1.2	44.0	188	1.212	16	P44	09D60L	2	6.5
27.0	375	1.2	44.0	188	1.212	16	P44	09D60-	2	6.4
30.0	300	3.5	120	150	1.515	20	P130	09D60-	2	8.2
30.0	300	3.5	120	150	1.515	20	P130	09D60L	2	8.3
32.0	240	5.4	230	120	2.677	25	P260	09D60-	2	14
32.0	240	5.4	230	120	2.677	25	P260	09D60L	2	14
34.0	300	1.0	44.0	150	1.200	20	P44	09D60-	2	6.4
34.0	300	1.0	44.0	150	1.200	20	P44	09D60L	2	6.5
34.0	279	3.6	135	139	5.486	7	P260	12D20-	1	14
34.0	279	3.6	135	139	5.486	7	P260	12D20L	1	14
37.0	279	1.8	65.0	139	4.401	7	P130	12D20-	1	9.7
37.0	279	1.8	65.0	139	4.401	7	P130	12D20L	1	9.8
40.0	240	2.6	110	120	1.512	25	P130	09D60L	2	8.3



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
40.0	240	2.6	110	120	1.512	25	P130	09D60-	2	8.2
40.0	217	4.0	210	108	6.326	9	P260	12D20-	2	16
40.0	217	4.0	210	108	6.326	9	P260	12D20L	2	16
41.0	244	2.8	120	122	5.434	8	P260	12D20-	1	14
41.0	244	2.8	120	122	5.434	8	P260	12D20L	1	14
42.0	244	1.2	50.0	122	4.387	8	P130	12D20L	1	9.8
42.0	244	1.2	50.0	122	4.387	8	P130	12D20-	1	9.7
43.0	188	4.8	260	94.0	2.524	32	P260	09D60-	2	14
43.0	188	4.8	260	94.0	2.524	32	P260	09D60L	2	14
45.0	217	2.3	130	108	4.641	9	P130	12D20-	2	10
45.0	217	2.3	130	108	4.641	9	P130	12D20L	2	11
52.0	163	4.1	260	81.0	6.256	12	P260	12D20-	2	16
52.0	163	4.1	260	81.0	6.256	12	P260	12D20L	2	16
53.0	195	1.8	95.0	98.0	5.390	10	P260	12D20-	1	14
53.0	195	1.8	95.0	98.0	5.390	10	P260	12D20L	1	14
53.0	188	2.2	120	94.0	1.470	32	P130	09D60-	2	8.2
53.0	188	2.2	120	94.0	1.470	32	P130	09D60L	2	8.3
61.0	150	3.4	230	75.0	2.521	40	P260	09D60L	2	14
61.0	150	3.4	230	75.0	2.521	40	P260	09D60-	2	14
62.0	163	1.9	120	81.0	4.615	12	P130	12D20-	2	10
62.0	163	1.9	120	81.0	4.615	12	P130	12D20L	2	11
68.0	150	1.6	110	75.0	1.468	40	P130	09D60-	2	8.2
68.0	150	1.6	110	75.0	1.468	40	P130	09D60L	2	8.3
72.0	130	2.9	230	65.0	6.233	15	P260	12D20-	2	16
72.0	130	2.9	230	65.0	6.233	15	P260	12D20L	2	16
76.0	122	3.1	260	61.0	5.765	16	P260	12D20-	2	16
76.0	122	3.1	260	61.0	5.765	16	P260	12D20L	2	16
78.0	130	1.4	110	65.0	4.607	15	P130	12D20-	2	10
78.0	130	1.4	110	65.0	4.607	15	P130	12D20L	2	11
83.0	122	1.4	120	61.0	4.460	16	P130	12D20-	2	10
83.0	122	1.4	120	61.0	4.460	16	P130	12D20L	2	11
100	97.5	2.5	260	49.0	5.585	20	P260	12D20-	2	16
100	97.5	2.5	260	49.0	5.585	20	P260	12D20L	2	16
103	97.5	1.2	120	49.0	4.415	20	P130	12D20-	2	10
103	97.5	1.2	120	49.0	4.415	20	P130	12D20L	2	11
103	93.8	1.2	120	47.0	2.517	64	P260	09D60-	2	14
103	93.8	1.2	120	47.0	2.517	64	P260	09D60L	2	14
129	78.0	1.8	230	39.0	5.577	25	P260	12D20-	2	16
129	78.0	1.8	230	39.0	5.577	25	P260	12D20L	2	16
165	60.9	1.6	260	30.0	5.424	32	P260	12D20-	2	16
165	60.9	1.6	260	30.0	5.424	32	P260	12D20L	2	16
207	48.8	1.1	230	24.0	5.421	40	P260	12D20-	2	16
207	48.8	1.1	230	24.0	5.421	40	P260	12D20L	2	16



1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.1	1250	4.3	85.0	625	2.275	3	P130	09F38L	1	8.5
8.1	1250	4.3	85.0	625	2.275	3	P130	09F38-	1	8.4
8.7	1250	2.6	28.0	625	1.698	3	P44	09F38-	1	7.1
8.7	1250	2.6	28.0	625	1.698	3	P44	09F38L	1	7.2
12.0	938	2.1	38.0	469	1.640	4	P44	09F38-	1	7.1
12.0	938	2.1	38.0	469	1.640	4	P44	09F38L	1	7.2
13.0	750	5.8	110	375	1.966	5	P130	09F38-	1	8.4
13.0	750	5.8	110	375	1.966	5	P130	09F38L	1	8.5
15.0	750	1.7	40.0	375	1.618	5	P44	09F38-	1	7.1
15.0	750	1.7	40.0	375	1.618	5	P44	09F38L	1	7.2
19.0	417	5.8	210	208	3.826	9	P260	09F38L	2	15
19.0	417	5.8	210	208	3.826	9	P260	09F38-	2	15
20.0	536	3.1	65.0	268	1.901	7	P130	09F38L	1	8.5
20.0	536	3.1	65.0	268	1.901	7	P130	09F38-	1	8.4
21.0	536	1.0	25.0	268	1.599	7	P44	09F38-	1	7.1
21.0	536	1.0	25.0	268	1.599	7	P44	09F38L	1	7.2
21.0	469	5.0	120	234	2.934	8	P260	09F38-	1	13
21.0	469	5.0	120	234	2.934	8	P260	09F38L	1	13
24.0	469	2.1	50.0	234	1.887	8	P130	09F38-	1	8.4
24.0	469	2.1	50.0	234	1.887	8	P130	09F38L	1	8.5
24.0	417	3.4	130	208	2.141	9	P130	09F38-	2	9.1
24.0	417	3.4	130	208	2.141	9	P130	09F38L	2	9.2
26.0	417	1.2	44.0	208	1.655	9	P44	09F38L	2	7.4
26.0	417	1.2	44.0	208	1.655	9	P44	09F38-	2	7.3
28.0	375	3.2	95.0	188	2.890	10	P260	09F38L	1	13
28.0	375	3.2	95.0	188	2.890	10	P260	09F38-	1	13
29.0	375	1.3	38.0	188	1.870	10	P130	09F38-	1	8.4
29.0	375	1.3	38.0	188	1.870	10	P130	09F38L	1	8.5
32.0	313	3.3	120	156	2.115	12	P130	09F38-	2	9.1
32.0	313	3.3	120	156	2.115	12	P130	09F38L	2	9.2
33.0	250	5.2	230	125	3.733	15	P260	09F38L	2	15
33.0	250	5.2	230	125	3.733	15	P260	09F38-	2	15
35.0	234	5.5	260	117	3.265	16	P260	09F38L	2	15
35.0	234	5.5	260	117	3.265	16	P260	09F38-	2	15
42.0	250	2.5	110	125	2.107	15	P130	09F38-	2	9.1
42.0	250	2.5	110	125	2.107	15	P130	09F38L	2	9.2
45.0	234	2.5	120	117	1.960	16	P130	09F38L	2	9.2
45.0	234	2.5	120	117	1.960	16	P130	09F38-	2	9.1
48.0	188	4.4	260	94.0	3.085	20	P260	09F38-	2	15
48.0	188	4.4	260	94.0	3.085	20	P260	09F38L	2	15
58.0	188	2.0	120	94.0	1.915	20	P130	09F38-	2	9.1
58.0	188	2.0	120	94.0	1.915	20	P130	09F38L	2	9.2
67.0	150	3.1	230	75.0	3.077	25	P260	09F38-	2	15
67.0	150	3.1	230	75.0	3.077	25	P260	09F38L	2	15
73.0	150	1.5	110	75.0	1.912	25	P130	09F38-	2	9.1
73.0	150	1.5	110	75.0	1.912	25	P130	09F38L	2	9.2
88.0	117	2.8	260	59.0	2.924	32	P260	09F38-	2	15
88.0	117	2.8	260	59.0	2.924	32	P260	09F38L	2	15
93.0	117	1.3	120	59.0	1.870	32	P130	09F38-	2	9.1
93.0	117	1.3	120	59.0	1.870	32	P130	09F38L	2	9.2
117	93.8	2.0	230	47.0	2.921	40	P260	09F38-	2	15



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
117	93.8	2.0	230	47.0	2.921	40	P260	09F38L	2	15

1.45 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
24.0	500	4.3	115	250	10.586	3	P260	14D15-	1	36
32.0	375	4.3	155	188	10.005	4	P260	14D15-	1	36
40.0	300	4.4	195	150	9.777	5	P260	14D15-	1	36
61.0	214	2.2	135	107	9.586	7	P260	14D15-	1	36
71.0	188	1.7	120	94.0	9.534	8	P260	14D15-	1	36
75.0	167	2.6	210	83.0	10.426	9	P260	14D15-	2	38
88.0	150	1.1	95.0	75.0	9.490	10	P260	14D15-	1	36
100	125	2.5	260	63.0	10.356	12	P260	14D15-	2	38
130	100	1.7	230	50.0	10.333	15	P260	14D15-	2	38
138	93.8	1.8	260	47.0	9.865	16	P260	14D15-	2	38
173	75.0	1.5	260	38.0	9.685	20	P260	14D15-	2	38
216	60.0	1.1	230	30.0	9.677	25	P260	14D15-	2	38



1.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.1	2000	4.9	85.0	961	2.275	3	P130	09F60-	1	8.4
6.1	2000	4.9	85.0	961	2.275	3	P130	09F60L	1	8.5
6.6	2000	2.9	28.0	1000	1.698	3	P44	09F60L	1	7.2
6.6	2000	2.9	28.0	1000	1.698	3	P44	09F60-	1	7.1
9.1	1500	2.3	38.0	750	1.640	4	P44	09F60L	1	7.2
9.1	1500	2.3	38.0	750	1.640	4	P44	09F60-	1	7.1
12.0	1200	1.9	40.0	600	1.618	5	P44	09F60-	1	7.1
12.0	1200	1.9	40.0	600	1.618	5	P44	09F60L	1	7.2
15.0	857	3.8	65.0	429	1.901	7	P130	09F60-	1	8.4
15.0	857	3.8	65.0	429	1.901	7	P130	09F60L	1	8.5
16.0	857	1.1	25.0	429	1.599	7	P44	09F60L	1	7.2
16.0	857	1.1	25.0	429	1.599	7	P44	09F60-	1	7.1
18.0	750	2.7	50.0	375	1.887	8	P130	09F60-	1	8.4
18.0	750	2.7	50.0	375	1.887	8	P130	09F60L	1	8.5
18.0	667	3.8	130	333	2.141	9	P130	09F60-	2	9.1
18.0	667	3.8	130	333	2.141	9	P130	09F60L	2	9.2
20.0	667	1.4	44.0	333	1.655	9	P44	09F60-	2	7.3
20.0	667	1.4	44.0	333	1.655	9	P44	09F60L	2	7.4
21.0	600	4.1	95.0	300	2.890	10	P260	09F60-	1	13
21.0	600	4.1	95.0	300	2.890	10	P260	09F60L	1	13
23.0	600	1.7	38.0	300	1.870	10	P130	09F60-	1	8.4
23.0	600	1.7	38.0	300	1.870	10	P130	09F60L	1	8.5
24.0	500	3.7	120	250	2.115	12	P130	09F60-	2	9.1
24.0	500	3.7	120	250	2.115	12	P130	09F60L	2	9.2
27.0	500	1.1	44.0	250	1.650	12	P44	09F60-	2	7.3
27.0	500	1.1	44.0	250	1.650	12	P44	09F60L	2	7.4
31.0	400	3.1	110	200	2.107	15	P130	09F60-	2	9.1
31.0	400	3.1	110	200	2.107	15	P130	09F60L	2	9.2
33.0	375	3.0	120	188	1.960	16	P130	09F60-	2	9.1
33.0	375	3.0	120	188	1.960	16	P130	09F60L	2	9.2
33.0	300	5.7	260	150	3.085	20	P260	09F60-	2	15
33.0	300	5.7	260	150	3.085	20	P260	09F60L	2	15
43.0	300	2.6	120	150	1.915	20	P130	09F60-	2	9.1
43.0	300	2.6	120	150	1.915	20	P130	09F60L	2	9.2
48.0	240	4.0	230	120	3.077	25	P260	09F60-	2	15
48.0	240	4.0	230	120	3.077	25	P260	09F60L	2	15
56.0	240	1.9	110	120	1.912	25	P130	09F60L	2	9.2
56.0	240	1.9	110	120	1.912	25	P130	09F60-	2	9.1
64.0	188	3.6	260	94.0	2.924	32	P260	09F60-	2	15
64.0	188	3.6	260	94.0	2.924	32	P260	09F60L	2	15
72.0	188	1.6	120	94.0	1.870	32	P130	09F60L	2	9.2
72.0	188	1.6	120	94.0	1.870	32	P130	09F60-	2	9.1
87.0	150	2.6	230	75.0	2.921	40	P260	09F60-	2	15
87.0	150	2.6	230	75.0	2.921	40	P260	09F60L	2	15
90.0	150	1.2	110	75.0	1.868	40	P130	09F60-	2	9.1
90.0	150	1.2	110	75.0	1.868	40	P130	09F60L	2	9.2



1.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
10.0	1350	3.5	85.0	675	2.675	3	P130	09H41L	1	9.4
10.0	1350	3.5	85.0	675	2.675	3	P130	09H41-	1	9.3
12.0	1013	5.6	115	506	2.440	4	P130	09H41-	1	9.3
12.0	1013	5.6	115	506	2.440	4	P130	09H41L	1	9.4
16.0	810	4.7	110	405	2.366	5	P130	09H41-	1	9.3
16.0	810	4.7	110	405	2.366	5	P130	09H41L	1	9.4
22.0	579	5.2	135	289	3.386	7	P260	09H41-	1	13
22.0	579	5.2	135	289	3.386	7	P260	09H41L	1	14
25.0	579	2.6	65.0	289	2.301	7	P130	09H41L	1	9.4
25.0	579	2.6	65.0	289	2.301	7	P130	09H41-	1	9.3
26.0	500	4.0	115	250	9.786	3	P260	12H15-	1	17
26.0	500	4.0	115	250	9.786	3	P260	12H15L	1	17
26.0	450	4.6	210	225	4.226	9	P260	09H41L	2	16
26.0	450	4.6	210	225	4.226	9	P260	09H41-	2	15
27.0	506	4.1	120	253	3.334	8	P260	09H41-	1	13
27.0	506	4.1	120	253	3.334	8	P260	09H41L	1	14
29.0	506	1.7	50.0	253	2.287	8	P130	09H41-	1	9.3
29.0	506	1.7	50.0	253	2.287	8	P130	09H41L	1	9.4
29.0	500	1.8	85.0	250	8.075	3	P130	12H15-	1	13
29.0	500	1.8	85.0	250	8.075	3	P130	12H15L	1	13
30.0	450	2.7	130	225	2.541	9	P130	09H41-	2	10
30.0	450	2.7	130	225	2.541	9	P130	09H41L	2	10
30.0	338	5.9	260	169	4.156	12	P260	09H41-	2	15
30.0	338	5.9	260	169	4.156	12	P260	09H41L	2	16
35.0	375	4.0	155	188	9.205	4	P260	12H15-	1	17
35.0	375	4.0	155	188	9.205	4	P260	12H15L	1	17
36.0	405	1.1	38.0	203	2.270	10	P130	09H41-	1	9.3
36.0	405	1.1	38.0	203	2.270	10	P130	09H41L	1	9.4
36.0	405	2.6	95.0	203	3.290	10	P260	09H41-	1	13
36.0	405	2.6	95.0	203	3.290	10	P260	09H41L	1	14
37.0	375	2.9	115	188	7.840	4	P130	12H15-	1	13
37.0	375	2.9	115	188	7.840	4	P130	12H15L	1	13
41.0	338	2.6	120	169	2.515	12	P130	09H41-	2	10
41.0	338	2.6	120	169	2.515	12	P130	09H41L	2	10
44.0	300	4.0	195	150	8.977	5	P260	12H15-	1	17
44.0	300	4.0	195	150	8.977	5	P260	12H15L	1	17
45.0	270	4.2	230	135	4.133	15	P260	09H41L	2	16
45.0	270	4.2	230	135	4.133	15	P260	09H41-	2	15
47.0	300	2.3	110	150	7.766	5	P130	12H15-	1	13
47.0	300	2.3	110	150	7.766	5	P130	12H15L	1	13
47.0	253	4.5	260	127	3.665	16	P260	09H41-	2	15
47.0	253	4.5	260	127	3.665	16	P260	09H41L	2	16
53.0	270	2.0	110	135	2.507	15	P130	09H41-	2	10
53.0	270	2.0	110	135	2.507	15	P130	09H41L	2	10
57.0	253	2.1	120	127	2.360	16	P130	09H41-	2	10
57.0	253	2.1	120	127	2.360	16	P130	09H41L	2	10
63.0	203	3.6	260	101	3.485	20	P260	09H41-	2	15
63.0	203	3.6	260	101	3.485	20	P260	09H41L	2	16
67.0	214	2.0	135	107	8.786	7	P260	12H15-	1	17
67.0	214	2.0	135	107	8.786	7	P260	12H15L	1	17
71.0	203	1.7	120	101	2.315	20	P130	09H41L	2	10



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
71.0	203	1.7	120	101	2.315	20	P130	09H41-	2	10
77.0	188	1.6	120	94.0	8.734	8	P260	12H15L	1	17
77.0	188	1.6	120	94.0	8.734	8	P260	12H15-	1	17
82.0	167	2.4	210	83.0	9.626	9	P260	12H15-	2	19
82.0	167	2.4	210	83.0	9.626	9	P260	12H15L	2	19
85.0	167	1.4	130	83.0	7.941	9	P130	12H15-	2	14
85.0	167	1.4	130	83.0	7.941	9	P130	12H15L	2	14
86.0	162	2.6	230	81.0	3.477	25	P260	09H41-	2	15
86.0	162	2.6	230	81.0	3.477	25	P260	09H41L	2	16
89.0	162	1.2	110	81.0	2.312	25	P130	09H41L	2	10
89.0	162	1.2	110	81.0	2.312	25	P130	09H41-	2	10
111	125	2.3	260	63.0	9.556	12	P260	12H15-	2	19
111	125	2.3	260	63.0	9.556	12	P260	12H15L	2	19
112	127	2.3	260	63.0	3.324	32	P260	09H41-	2	15
112	127	2.3	260	63.0	3.324	32	P260	09H41L	2	16
113	125	1.0	120	63.0	7.915	12	P130	12H15-	2	14
113	125	1.0	120	63.0	7.915	12	P130	12H15L	2	14
114	127	1.0	120	63.0	2.270	32	P130	09H41-	2	10
114	127	1.0	120	63.0	2.270	32	P130	09H41L	2	10
141	100	1.6	230	50.0	9.533	15	P260	12H15-	2	19
141	100	1.6	230	50.0	9.533	15	P260	12H15L	2	19
143	101	1.6	230	51.0	3.321	40	P260	09H41-	2	15
143	101	1.6	230	51.0	3.321	40	P260	09H41L	2	16
150	93.8	1.7	260	47.0	9.065	16	P260	12H15-	2	19
150	93.8	1.7	260	47.0	9.065	16	P260	12H15L	2	19
188	75.0	1.4	260	38.0	8.885	20	P260	12H15-	2	19
188	75.0	1.4	260	38.0	8.885	20	P260	12H15L	2	19



1.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
12.0	1350	3.1	85.0	675	4.775	3	P130	12D41-	1	9.7
12.0	1350	3.1	85.0	675	4.775	3	P130	12D41L	1	9.8
15.0	1013	4.9	115	506	4.540	4	P130	12D41L	1	9.8
15.0	1013	4.9	115	506	4.540	4	P130	12D41-	1	9.7
19.0	810	4.1	110	405	4.466	5	P130	12D41-	1	9.7
19.0	810	4.1	110	405	4.466	5	P130	12D41L	1	9.8
26.0	579	4.6	135	289	5.486	7	P260	12D41L	1	14
26.0	579	4.6	135	289	5.486	7	P260	12D41-	1	14
29.0	579	2.3	65.0	289	4.401	7	P130	12D41-	1	9.7
29.0	579	2.3	65.0	289	4.401	7	P130	12D41L	1	9.8
31.0	506	3.6	120	253	5.434	8	P260	12D41-	1	14
31.0	506	3.6	120	253	5.434	8	P260	12D41L	1	14
31.0	450	4.1	210	225	6.326	9	P260	12D41-	2	16
31.0	450	4.1	210	225	6.326	9	P260	12D41L	2	16
33.0	506	1.5	50.0	253	4.387	8	P130	12D41L	1	9.8
33.0	506	1.5	50.0	253	4.387	8	P130	12D41-	1	9.7
35.0	450	2.4	130	225	4.641	9	P130	12D41L	2	11
35.0	450	2.4	130	225	4.641	9	P130	12D41-	2	10
37.0	338	5.3	260	169	6.256	12	P260	12D41-	2	16
37.0	338	5.3	260	169	6.256	12	P260	12D41L	2	16
41.0	405	2.3	95.0	203	5.390	10	P260	12D41-	1	14
41.0	405	2.3	95.0	203	5.390	10	P260	12D41L	1	14
47.0	338	2.3	120	169	4.615	12	P130	12D41L	2	11
47.0	338	2.3	120	169	4.615	12	P130	12D41-	2	10
53.0	270	3.7	230	135	6.233	15	P260	12D41-	2	16
53.0	270	3.7	230	135	6.233	15	P260	12D41L	2	16
55.0	253	3.9	260	127	5.765	16	P260	12D41-	2	16
55.0	253	3.9	260	127	5.765	16	P260	12D41L	2	16
61.0	270	1.8	110	135	4.607	15	P130	12D41-	2	10
61.0	270	1.8	110	135	4.607	15	P130	12D41L	2	11
65.0	253	1.8	120	127	4.460	16	P130	12D41-	2	10
65.0	253	1.8	120	127	4.460	16	P130	12D41L	2	11
74.0	203	3.2	260	101	5.585	20	P260	12D41-	2	16
74.0	203	3.2	260	101	5.585	20	P260	12D41L	2	16
81.0	203	1.5	120	101	4.415	20	P130	12D41L	2	11
81.0	203	1.5	120	101	4.415	20	P130	12D41-	2	10
99.0	162	2.3	230	81.0	5.577	25	P260	12D41-	2	16
99.0	162	2.3	230	81.0	5.577	25	P260	12D41L	2	16
101	162	1.1	110	81.0	4.412	25	P130	12D41L	2	11
101	162	1.1	110	81.0	4.412	25	P130	12D41-	2	10
129	127	2.0	260	63.0	5.424	32	P260	12D41L	2	16
129	127	2.0	260	63.0	5.424	32	P260	12D41-	2	16
162	101	1.4	230	51.0	5.421	40	P260	12D41-	2	16
162	101	1.4	230	51.0	5.421	40	P260	12D41L	2	16



1.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.0	2000	3.9	85.0	915	2.675	3	P130	09H60L	1	9.4
8.0	2000	3.9	85.0	915	2.675	3	P130	09H60-	1	9.3
9.8	1700	3.4	85.0	850	3.575	3	P130	09L51-	1	11
12.0	1350	2.9	85.0	675	3.575	3	P130	09L41-	1	11
12.0	1350	2.9	85.0	675	3.575	3	P130	09L41L	1	11
12.0	1275	5.5	115	638	3.340	4	P130	09L51-	1	11
12.0	1200	5.2	110	600	2.366	5	P130	09H60L	1	9.4
12.0	1200	5.2	110	600	2.366	5	P130	09H60-	1	9.3
15.0	1020	4.6	110	510	3.266	5	P130	09L51-	1	11
15.0	1013	4.7	115	506	3.340	4	P130	09L41-	1	11
15.0	1013	4.7	115	506	3.340	4	P130	09L41L	1	11
19.0	857	3.0	65.0	429	2.301	7	P130	09H60-	1	9.3
19.0	857	3.0	65.0	429	2.301	7	P130	09H60L	1	9.4
19.0	667	5.2	210	333	4.226	9	P260	09H60-	2	15
19.0	667	5.2	210	333	4.226	9	P260	09H60L	2	16
20.0	810	3.9	110	405	3.266	5	P130	09L41-	1	11
20.0	810	3.9	110	405	3.266	5	P130	09L41L	1	11
20.0	750	5.2	120	375	3.334	8	P260	09H60-	1	13
20.0	750	5.2	120	375	3.334	8	P260	09H60L	1	14
21.0	729	5.5	135	364	4.286	7	P260	09L51-	1	15
23.0	750	2.2	50.0	375	2.287	8	P130	09H60L	1	9.4
23.0	750	2.2	50.0	375	2.287	8	P130	09H60-	1	9.3
23.0	667	3.0	130	333	2.541	9	P130	09H60L	2	10
23.0	667	3.0	130	333	2.541	9	P130	09H60-	2	10
24.0	729	2.7	65.0	364	3.201	7	P130	09L51-	1	11
25.0	638	4.3	120	319	4.234	8	P260	09L51-	1	15
25.0	567	4.5	210	283	5.126	9	P260	09L51-	2	17
27.0	600	3.3	95.0	300	3.290	10	P260	09H60-	1	13
27.0	600	3.3	95.0	300	3.290	10	P260	09H60L	1	14
27.0	579	4.4	135	289	4.286	7	P260	09L41-	1	15
27.0	579	4.4	135	289	4.286	7	P260	09L41L	1	15
28.0	638	1.8	50.0	319	3.187	8	P130	09L51-	1	11
28.0	600	1.4	38.0	300	2.270	10	P130	09H60L	1	9.4
28.0	600	1.4	38.0	300	2.270	10	P130	09H60-	1	9.3
29.0	567	2.7	130	283	3.441	9	P130	09L51-	2	12
29.0	425	5.9	260	213	5.056	12	P260	09L51-	2	17
30.0	579	2.2	65.0	289	3.201	7	P130	09L41-	1	11
30.0	579	2.2	65.0	289	3.201	7	P130	09L41L	1	11
31.0	500	2.9	120	250	2.515	12	P130	09H60-	2	10
31.0	500	2.9	120	250	2.515	12	P130	09H60L	2	10
32.0	506	3.5	120	253	4.234	8	P260	09L41-	1	15
32.0	506	3.5	120	253	4.234	8	P260	09L41L	1	15
32.0	400	5.3	230	200	4.133	15	P260	09H60-	2	15
32.0	400	5.3	230	200	4.133	15	P260	09H60L	2	16
33.0	510	2.8	95.0	255	4.190	10	P260	09L51-	1	15
33.0	450	3.9	210	225	5.126	9	P260	09L41-	2	17
33.0	450	3.9	210	225	5.126	9	P260	09L41L	2	17
33.0	375	5.5	260	188	3.665	16	P260	09H60-	2	15
33.0	375	5.5	260	188	3.665	16	P260	09H60L	2	16
34.0	510	1.1	38.0	255	3.170	10	P130	09L51-	1	11
35.0	506	1.5	50.0	253	3.187	8	P130	09L41-	1	11



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
35.0	506	1.5	50.0	253	3.187	8	P130	09L41L	1	11
37.0	450	2.3	130	225	3.441	9	P130	09L41-	2	12
37.0	450	2.3	130	225	3.441	9	P130	09L41L	2	12
39.0	425	2.6	120	213	3.415	12	P130	09L51-	2	12
39.0	338	5.0	260	169	5.056	12	P260	09L41-	2	17
39.0	338	5.0	260	169	5.056	12	P260	09L41L	2	17
41.0	400	2.5	110	200	2.507	15	P130	09H60L	2	10
41.0	400	2.5	110	200	2.507	15	P130	09H60-	2	10
42.0	340	4.4	230	170	5.033	15	P260	09L51-	2	17
43.0	405	2.2	95.0	203	4.190	10	P260	09L41-	1	15
43.0	405	2.2	95.0	203	4.190	10	P260	09L41L	1	15
43.0	319	4.7	260	159	4.565	16	P260	09L51-	2	17
44.0	375	2.4	120	188	2.360	16	P130	09H60-	2	10
44.0	375	2.4	120	188	2.360	16	P130	09H60L	2	10
46.0	300	4.6	260	150	3.485	20	P260	09H60L	2	16
46.0	300	4.6	260	150	3.485	20	P260	09H60-	2	15
50.0	340	2.1	110	170	3.407	15	P130	09L51-	2	12
50.0	338	2.2	120	169	3.415	12	P130	09L41-	2	12
50.0	338	2.2	120	169	3.415	12	P130	09L41L	2	12
54.0	319	2.1	120	159	3.260	16	P130	09L51-	2	12
56.0	300	2.1	120	150	2.315	20	P130	09H60-	2	10
56.0	300	2.1	120	150	2.315	20	P130	09H60L	2	10
56.0	270	3.6	230	135	5.033	15	P260	09L41-	2	17
56.0	270	3.6	230	135	5.033	15	P260	09L41L	2	17
59.0	255	3.8	260	128	4.385	20	P260	09L51-	2	17
59.0	253	3.8	260	127	4.565	16	P260	09L41L	2	17
59.0	253	3.8	260	127	4.565	16	P260	09L41-	2	17
63.0	270	1.7	110	135	3.407	15	P130	09L41-	2	12
63.0	270	1.7	110	135	3.407	15	P130	09L41L	2	12
64.0	240	3.2	230	120	3.477	25	P260	09H60-	2	15
64.0	240	3.2	230	120	3.477	25	P260	09H60L	2	16
68.0	255	1.8	120	128	3.215	20	P130	09L51-	2	12
68.0	253	1.7	120	127	3.260	16	P130	09L41L	2	12
68.0	253	1.7	120	127	3.260	16	P130	09L41-	2	12
71.0	240	1.5	110	120	2.312	25	P130	09H60-	2	10
71.0	240	1.5	110	120	2.312	25	P130	09H60L	2	10
78.0	203	3.0	260	101	4.385	20	P260	09L41-	2	17
78.0	203	3.0	260	101	4.385	20	P260	09L41L	2	17
80.0	204	2.7	230	102	4.377	25	P260	09L51-	2	17
85.0	204	1.3	110	102	3.212	25	P130	09L51-	2	12
85.0	203	1.4	120	101	3.215	20	P130	09L41-	2	12
85.0	203	1.4	120	101	3.215	20	P130	09L41L	2	12
85.0	188	2.9	260	94.0	3.324	32	P260	09H60-	2	15
85.0	188	2.9	260	94.0	3.324	32	P260	09H60L	2	16
90.0	188	1.3	120	94.0	2.270	32	P130	09H60L	2	10
90.0	188	1.3	120	94.0	2.270	32	P130	09H60-	2	10
105	162	2.2	230	81.0	4.377	25	P260	09L41-	2	17
105	162	2.2	230	81.0	4.377	25	P260	09L41L	2	17
105	159	2.4	260	80.0	4.224	32	P260	09L51-	2	17
106	162	1.0	110	81.0	3.212	25	P130	09L41-	2	12
106	162	1.0	110	81.0	3.212	25	P130	09L41L	2	12
108	159	1.1	120	80.0	3.170	32	P130	09L51-	2	12



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
112	150	2.0	230	75.0	3.321	40	P260	09H60-	2	15
112	150	2.0	230	75.0	3.321	40	P260	09H60L	2	16
135	128	1.7	230	64.0	4.221	40	P260	09L51-	2	17
135	127	1.9	260	63.0	4.224	32	P260	09L41L	2	17
135	127	1.9	260	63.0	4.224	32	P260	09L41-	2	17
169	101	1.4	230	51.0	4.221	40	P260	09L41-	2	17
169	101	1.4	230	51.0	4.221	40	P260	09L41L	2	17

2.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
20.0	1000	4.9	115	500	9.786	3	P260	12H30L	1	17
23.0	1000	1.8	85.0	500	8.075	3	P130	12H30L	1	13
27.0	750	5.0	155	375	9.205	4	P260	12H30L	1	17
30.0	750	2.9	115	375	7.840	4	P130	12H30L	1	13
34.0	600	5.0	195	300	8.977	5	P260	12H30L	1	17
38.0	600	2.4	110	300	7.766	5	P130	12H30L	1	13
45.0	500	2.5	115	250	16.686	3	P260	14H15-	1	41
53.0	429	2.5	135	214	8.786	7	P260	12H30L	1	17
54.0	429	1.2	65.0	214	7.701	7	P130	12H30L	1	13
60.0	375	2.5	155	188	16.105	4	P260	14H15-	1	41
61.0	375	2.0	120	188	8.734	8	P260	12H30L	1	17
66.0	333	2.4	210	167	9.626	9	P260	12H30L	2	19
68.0	333	1.4	130	167	7.941	9	P130	12H30L	2	14
75.0	300	2.5	195	150	15.877	5	P260	14H15-	1	41
77.0	300	1.2	95.0	150	8.690	10	P260	12H30L	1	17
85.0	250	2.8	260	125	9.556	12	P260	12H30L	2	19
90.0	250	1.3	120	125	7.915	12	P130	12H30L	2	14
108	214	1.2	135	107	15.686	7	P260	14H15-	1	41
113	200	2.0	230	100	9.533	15	P260	12H30L	2	19
119	188	2.1	260	94.0	9.065	16	P260	12H30L	2	19
135	167	1.5	210	83.0	16.526	9	P260	14H15-	2	43
150	150	1.7	260	75.0	8.885	20	P260	12H30L	2	19
180	125	1.4	260	63.0	16.456	12	P260	14H15-	2	43
188	120	1.2	230	60.0	8.877	25	P260	12H30L	2	19
241	93.8	1.1	260	47.0	15.965	16	P260	14H15-	2	43
241	93.8	1.1	260	47.0	8.724	32	P260	12H30L	2	19



2.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
19.0	1200	5.2	115	600	10.586	3	P260	14D36-	1	36
19.0	1175	5.2	115	588	9.786	3	P260	12H35-	1	17
22.0	1175	1.8	85.0	588	8.075	3	P130	12H35-	1	13
25.0	900	5.3	155	450	10.005	4	P260	14D36-	1	36
25.0	881	5.3	155	441	9.205	4	P260	12H35-	1	17
28.0	881	2.9	115	441	7.840	4	P130	12H35-	1	13
31.0	720	5.4	195	360	9.777	5	P260	14D36-	1	36
31.0	705	5.4	195	353	8.977	5	P260	12H35-	1	17
35.0	705	2.5	110	353	7.766	5	P130	12H35-	1	13
37.0	650	2.9	115	325	13.086	3	P260	12L20-	1	20
37.0	650	2.9	115	325	13.086	3	P260	12L20L	1	20
49.0	514	2.7	135	257	9.586	7	P260	14D36-	1	36
49.0	504	2.7	135	252	8.786	7	P260	12H35-	1	17
50.0	504	1.3	65.0	252	7.701	7	P130	12H35-	1	13
50.0	488	3.0	155	244	12.505	4	P260	12L20-	1	20
50.0	488	3.0	155	244	12.505	4	P260	12L20L	1	20
57.0	450	2.1	120	225	9.534	8	P260	14D36-	1	36
57.0	441	2.1	120	220	8.734	8	P260	12H35-	1	17
61.0	400	2.4	210	200	10.426	9	P260	14D36-	2	38
61.0	392	2.4	210	196	9.626	9	P260	12H35-	2	19
62.0	390	3.0	195	195	12.277	5	P260	12L20-	1	20
62.0	390	3.0	195	195	12.277	5	P260	12L20L	1	20
63.0	392	1.4	130	196	7.941	9	P130	12H35-	2	14
72.0	360	1.3	95.0	180	9.490	10	P260	14D36-	1	36
72.0	353	1.3	95.0	176	8.690	10	P260	12H35-	1	17
78.0	300	3.0	260	150	10.356	12	P260	14D36-	2	38
78.0	294	3.0	260	147	9.556	12	P260	12H35-	2	19
85.0	294	1.4	120	147	7.915	12	P130	12H35-	2	14
91.0	279	1.5	135	139	12.086	7	P260	12L20-	1	20
91.0	279	1.5	135	139	12.086	7	P260	12L20L	1	20
104	244	1.2	120	122	12.034	8	P260	12L20-	1	20
104	244	1.2	120	122	12.034	8	P260	12L20L	1	20
105	240	2.1	230	120	10.333	15	P260	14D36-	2	38
105	235	2.1	230	118	9.533	15	P260	12H35-	2	19
106	235	1.0	110	118	7.907	15	P130	12H35-	2	14
111	225	2.3	260	113	9.865	16	P260	14D36-	2	38
111	220	2.3	260	110	9.065	16	P260	12H35-	2	19
113	220	1.0	120	110	7.760	16	P130	12H35-	2	14
114	217	1.6	210	108	12.926	9	P260	12L20-	2	22
114	217	1.6	210	108	12.926	9	P260	12L20L	2	22
141	180	1.8	260	90.0	9.685	20	P260	14D36-	2	38
141	176	1.8	260	88.0	8.885	20	P260	12H35-	2	19
152	163	1.7	260	81.0	12.856	12	P260	12L20-	2	22
152	163	1.7	260	81.0	12.856	12	P260	12L20L	2	22
176	144	1.3	230	72.0	9.677	25	P260	14D36-	2	38
176	141	1.3	230	71.0	8.877	25	P260	12H35-	2	19
190	130	1.2	230	65.0	12.833	15	P260	12L20-	2	22
190	130	1.2	230	65.0	12.833	15	P260	12L20L	2	22
203	122	1.3	260	61.0	12.365	16	P260	12L20-	2	22
203	122	1.3	260	61.0	12.365	16	P260	12L20L	2	22
226	113	1.1	260	56.0	9.524	32	P260	14D36-	2	38



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
226	110	1.1	260	55.0	8.724	32	P260	12H35-	2	19
254	97.5	1.0	260	49.0	12.185	20	P260	12L20L	2	22
254	97.5	1.0	260	49.0	12.185	20	P260	12L20-	2	22

3.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
66.0	500	1.7	115	250	25.886	3	P260	14L15-	1	46
88.0	375	1.7	155	188	25.305	4	P260	14L15-	1	46
110	300	1.8	195	150	25.077	5	P260	14L15-	1	46
195	167	1.0	210	83.0	25.726	9	P260	14L15-	2	48

4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
78.0	475	1.5	115	238	69.848	3	P260	19F14-	1	56
104	356	1.5	155	178	69.267	4	P260	19F14-	1	56
130	285	1.5	195	143	69.039	5	P260	19F14-	1	56

4.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
30.0	1350	3.4	115	675	13.086	3	P260	12L41-	1	20
39.0	1075	2.8	115	538	16.686	3	P260	14H32-	1	41
39.0	1013	3.6	155	506	12.505	4	P260	12L41-	1	20
49.0	810	3.7	195	405	12.277	5	P260	12L41-	1	20
52.0	806	2.9	155	403	16.105	4	P260	14H32-	1	41
65.0	645	2.9	195	323	15.877	5	P260	14H32-	1	41
74.0	579	1.8	135	289	12.086	7	P260	12L41-	1	20
84.0	506	1.4	120	253	12.034	8	P260	12L41-	1	20
93.0	450	1.6	210	225	12.926	9	P260	12L41-	2	22
94.0	461	1.4	135	230	15.686	7	P260	14H32-	1	41
108	403	1.1	120	202	15.634	8	P260	14H32-	1	41
118	358	1.3	210	179	16.526	9	P260	14H32-	2	43
124	338	2.1	260	169	12.856	12	P260	12L41-	2	22
155	270	1.5	230	135	12.833	15	P260	12L41-	2	22
158	269	1.6	260	134	16.456	12	P260	14H32-	2	43
165	253	1.5	260	127	12.365	16	P260	12L41-	2	22
197	215	1.1	230	108	16.433	15	P260	14H32-	2	43
207	203	1.2	260	101	12.185	20	P260	12L41-	2	22
211	202	1.2	260	101	15.965	16	P260	14H32-	2	43



5.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
49.0	1075	2.3	115	538	25.886	3	P260	14L32-	1	46
65.0	806	2.3	155	403	25.305	4	P260	14L32-	1	46
81.0	645	2.3	195	323	25.077	5	P260	14L32-	1	46
116	461	1.2	135	230	24.886	7	P260	14L32-	1	46
146	358	1.1	210	179	25.726	9	P260	14L32-	2	48
194	269	1.3	260	134	25.656	12	P260	14L32-	2	48

6.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
60.0	1000	1.9	115	500	69.848	3	P260	19F30-	1	56
81.0	750	1.9	155	375	69.267	4	P260	19F30-	1	56
101	600	1.9	195	300	69.039	5	P260	19F30-	1	56
237	250	1.1	260	125	69.618	12	P260	19F30-	2	58



Inverter power supply 400 V, forced ventilated motors

1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	550	5.7	115	275	6.486	3	P260	12D17-	1	16
20.0	550	2.5	85.0	275	4.775	3	P130	12D17-	1	12
23.0	413	5.7	155	206	5.905	4	P260	12D17-	1	16
25.0	413	4.0	115	206	4.540	4	P130	12D17-	1	12
28.0	330	5.7	195	165	5.677	5	P260	12D17-	1	16
32.0	330	3.2	110	165	4.466	5	P130	12D17-	1	12
45.0	236	2.8	135	118	5.486	7	P260	12D17-	1	16
47.0	236	1.4	65.0	118	4.401	7	P130	12D17-	1	12
53.0	206	2.2	120	103	5.434	8	P260	12D17-	1	16
54.0	183	3.3	210	92.0	6.326	9	P260	12D17-	2	18
59.0	183	1.9	130	92.0	4.641	9	P130	12D17-	2	13
67.0	165	1.4	95.0	83.0	5.390	10	P260	12D17-	1	16
72.0	138	3.2	260	69.0	6.256	12	P260	12D17-	2	18
79.0	138	1.5	120	69.0	4.615	12	P130	12D17-	2	13
97.0	110	2.3	230	55.0	6.233	15	P260	12D17-	2	18
99.0	110	1.1	110	55.0	4.607	15	P130	12D17-	2	13
102	103	2.4	260	52.0	5.765	16	P260	12D17-	2	18
105	103	1.1	120	52.0	4.460	16	P130	12D17-	2	13
132	82.5	2.0	260	41.0	5.585	20	P260	12D17-	2	18
165	66.0	1.4	230	33.0	5.577	25	P260	12D17-	2	18
211	51.6	1.2	260	26.0	5.424	32	P260	12D17-	2	18

1.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
33.0	450	3.3	115	225	9.786	3	P260	12H14-	1	19
33.0	450	3.3	115	225	10.586	3	P260	14D14-	1	40
44.0	338	3.3	155	169	9.205	4	P260	12H14-	1	19
44.0	338	3.3	155	169	10.005	4	P260	14D14-	1	40
54.0	270	3.4	195	135	8.977	5	P260	12H14-	1	19
54.0	270	3.4	195	135	9.777	5	P260	14D14-	1	40
81.0	193	1.7	135	96.0	9.586	7	P260	14D14-	1	40
81.0	193	1.7	135	96.0	8.786	7	P260	12H14-	1	19
92.0	169	1.3	120	84.0	9.534	8	P260	14D14-	1	40
92.0	169	1.3	120	84.0	8.734	8	P260	12H14-	1	19
101	150	2.0	210	75.0	9.626	9	P260	12H14-	2	21
101	150	2.0	210	75.0	10.426	9	P260	14D14-	2	42
135	113	1.9	260	56.0	9.556	12	P260	12H14-	2	21
135	113	1.9	260	56.0	10.356	12	P260	14D14-	2	42
169	90.0	1.3	230	45.0	9.533	15	P260	12H14-	2	21
169	90.0	1.3	230	45.0	10.333	15	P260	14D14-	2	42
180	84.4	1.4	260	42.0	9.065	16	P260	12H14-	2	21
180	84.4	1.4	260	42.0	9.865	16	P260	14D14-	2	42
226	67.5	1.1	260	34.0	8.885	20	P260	12H14-	2	21
226	67.5	1.1	260	34.0	9.685	20	P260	14D14-	2	42



2.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	1175	2.3	85.0	588	4.775	3	P130	12D35-	1	12
21.0	881	3.7	115	441	4.540	4	P130	12D35-	1	12
28.0	705	3.1	110	353	4.466	5	P130	12D35-	1	12
38.0	504	3.3	135	252	5.486	7	P260	12D35-	1	16
40.0	504	1.6	65.0	252	4.401	7	P130	12D35-	1	12
45.0	441	2.6	120	220	5.434	8	P260	12D35-	1	16
46.0	441	1.1	50.0	220	4.387	8	P130	12D35-	1	12
47.0	392	3.0	210	196	6.326	9	P260	12D35-	2	18
51.0	392	1.8	130	196	4.641	9	P130	12D35-	2	13
58.0	353	1.7	95.0	176	5.390	10	P260	12D35-	1	16
59.0	294	3.8	260	147	6.256	12	P260	12D35-	2	18
68.0	294	1.7	120	147	4.615	12	P130	12D35-	2	13
80.0	235	2.7	230	118	6.233	15	P260	12D35-	2	18
85.0	235	1.3	110	118	4.607	15	P130	12D35-	2	13
85.0	220	2.8	260	110	5.765	16	P260	12D35-	2	18
90.0	220	1.3	120	110	4.460	16	P130	12D35-	2	13
110	176	2.3	260	88.0	5.585	20	P260	12D35-	2	18
113	176	1.1	120	88.0	4.415	20	P130	12D35-	2	13
141	141	1.6	230	71.0	5.577	25	P260	12D35-	2	18
180	110	1.4	260	55.0	5.424	32	P260	12D35-	2	18
226	88.1	1.0	230	44.0	5.421	40	P260	12D35-	2	18

2.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
48.0	550	2.3	115	275	13.086	3	P260	12L17-	1	22
64.0	413	2.4	155	206	12.505	4	P260	12L17-	1	22
80.0	330	2.4	195	165	12.277	5	P260	12L17-	1	22
114	236	1.2	135	118	12.086	7	P260	12L17-	1	22
144	183	1.4	210	92.0	12.926	9	P260	12L17-	2	24
192	138	1.3	260	69.0	12.856	12	P260	12L17-	2	24

3.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1000	3.8	115	500	10.586	3	P260	14D30-	1	40
37.0	750	3.8	155	375	10.005	4	P260	14D30-	1	40
47.0	600	3.8	195	300	9.777	5	P260	14D30-	1	40
71.0	429	1.9	135	214	9.586	7	P260	14D30-	1	40
81.0	375	1.5	120	188	9.534	8	P260	14D30-	1	40
89.0	333	1.8	210	167	10.426	9	P260	14D30-	2	42
117	250	2.2	260	125	10.356	12	P260	14D30-	2	42
148	200	1.5	230	100	10.333	15	P260	14D30-	2	42
158	188	1.6	260	94.0	9.865	16	P260	14D30-	2	42
197	150	1.3	260	75.0	9.685	20	P260	14D30-	2	42



3.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1125	3.8	115	563	9.786	3	P260	12H34-	1	19
37.0	844	3.8	155	422	9.205	4	P260	12H34-	1	19
47.0	675	3.8	195	338	8.977	5	P260	12H34-	1	19
71.0	482	1.9	135	241	8.786	7	P260	12H34-	1	19
81.0	422	1.5	120	211	8.734	8	P260	12H34-	1	19
89.0	375	1.8	210	188	9.626	9	P260	12H34-	2	21
117	281	2.2	260	141	9.556	12	P260	12H34-	2	21
148	225	1.5	230	113	9.533	15	P260	12H34-	2	21
158	211	1.6	260	105	9.065	16	P260	12H34-	2	21
197	169	1.3	260	84.0	8.885	20	P260	12H34-	2	21

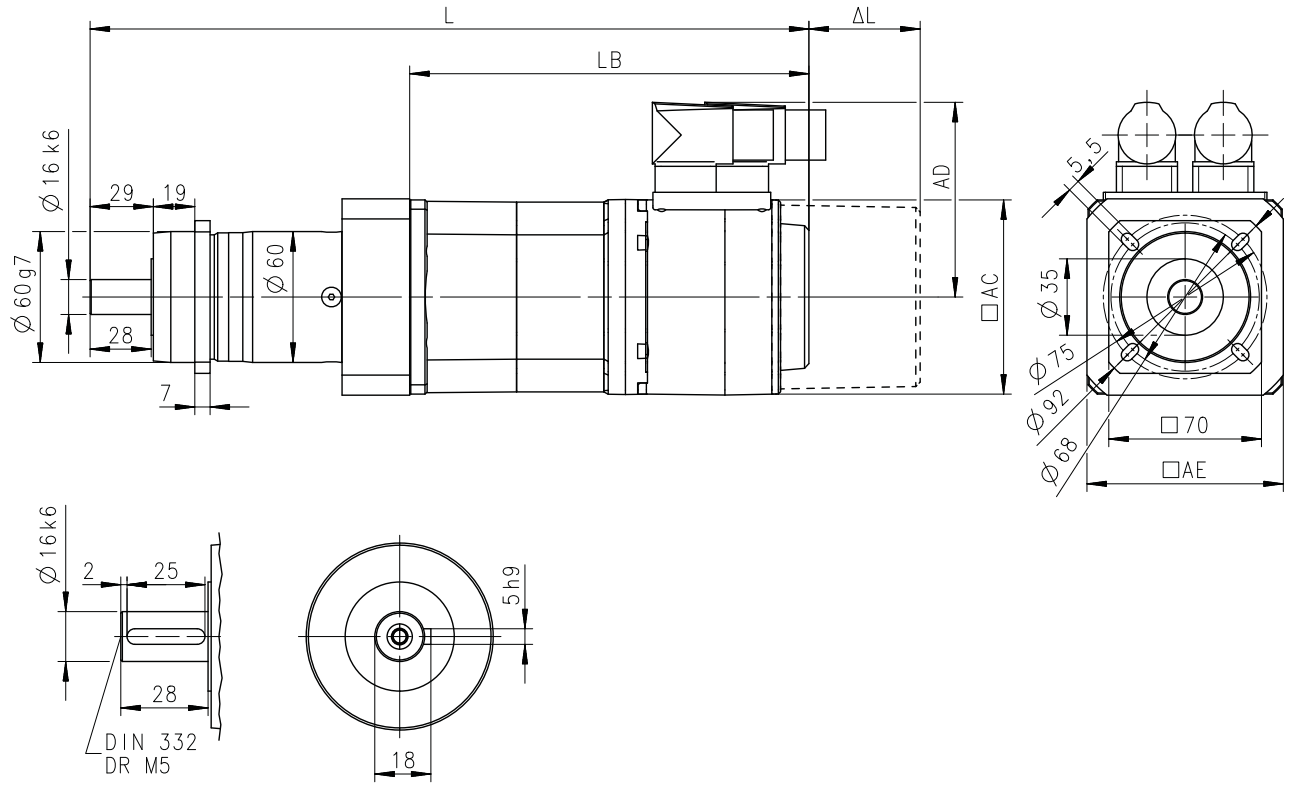
5.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g750-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
39.0	1300	2.7	115	650	13.086	3	P260	12L39-	1	22
52.0	975	2.9	155	488	12.505	4	P260	12L39-	1	22
65.0	780	2.9	195	390	12.277	5	P260	12L39-	1	22
94.0	557	1.4	135	279	12.086	7	P260	12L39-	1	22
108	488	1.1	120	244	12.034	8	P260	12L39-	1	22
118	433	1.3	210	217	12.926	9	P260	12L39-	2	24
158	325	1.6	260	163	12.856	12	P260	12L39-	2	24
197	260	1.1	230	130	12.833	15	P260	12L39-	2	24
211	244	1.2	260	122	12.365	16	P260	12L39-	2	24

Basic dimensions

g750-P44 with MCS06

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

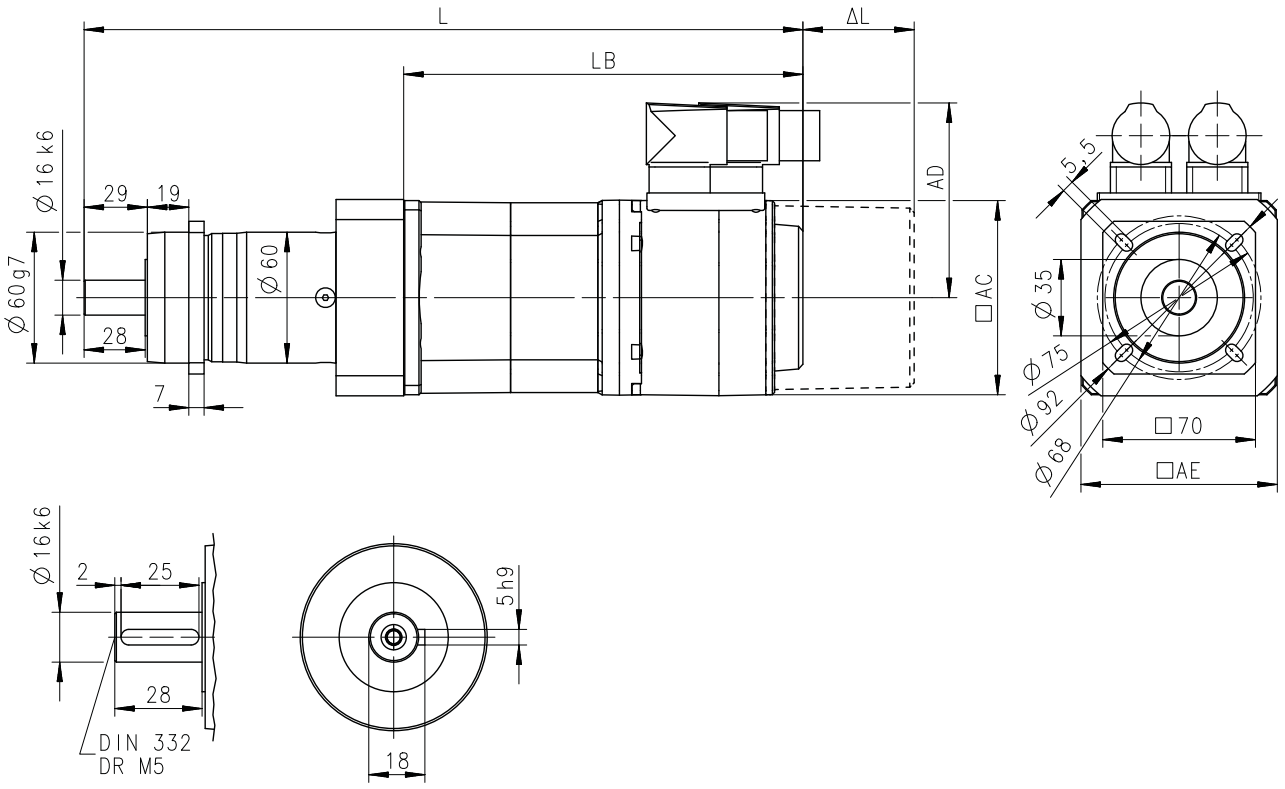


8800804-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	259	259	289	289	319	319
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g750-P44 with MCS06

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

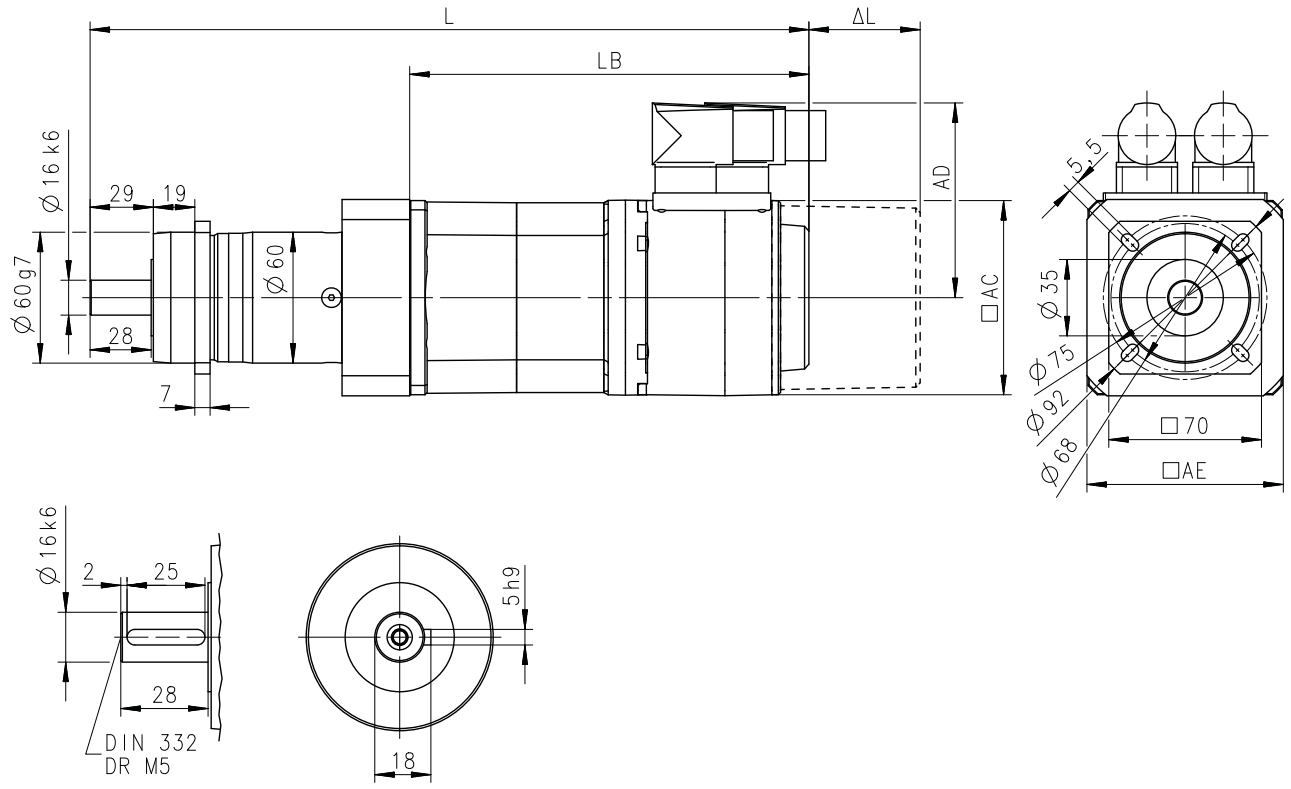


8800804-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	271.5	271.5	301.5	301.5	331.5	331.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g750-P44 with MCS09

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



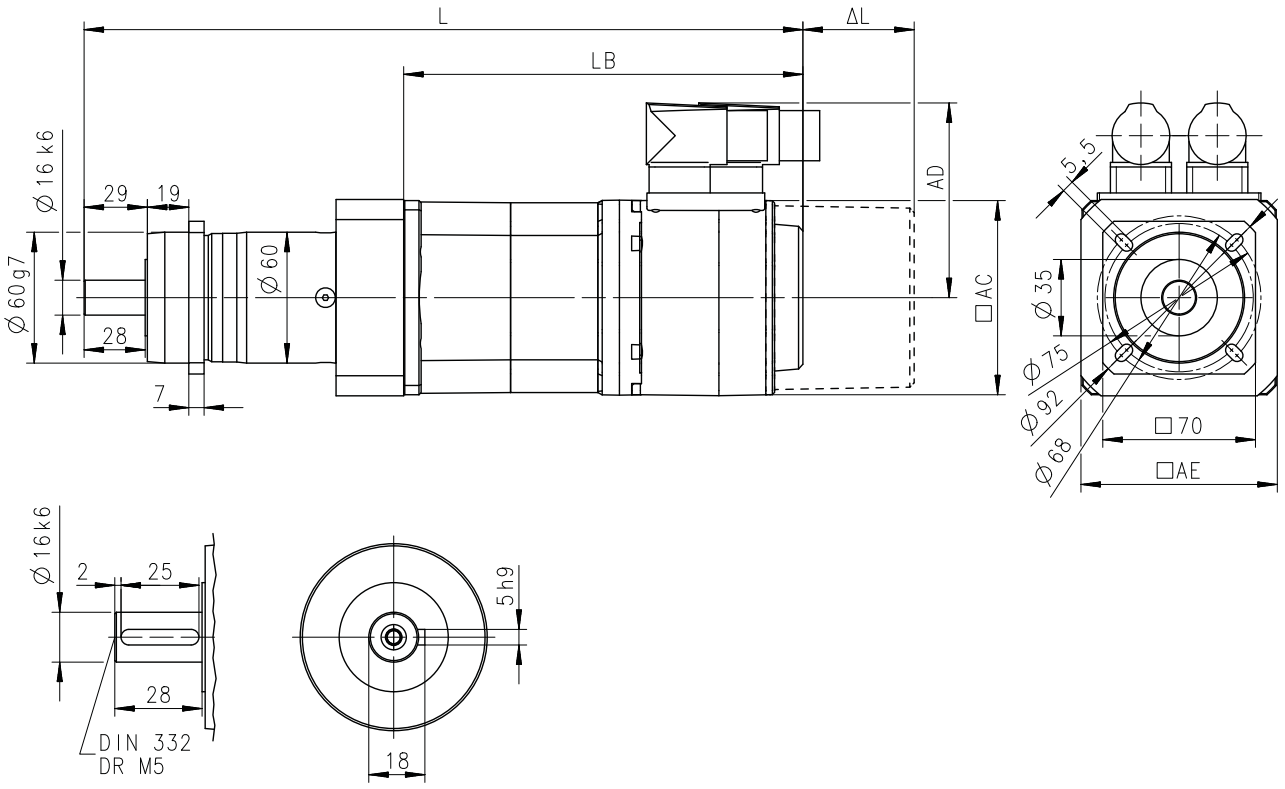
8800804-00

Motor			MCS 09			
			D41- D41L	D60- D60L	F38- F38L	F60- F60L
Total length	L	mm	316	316	336	336
Motor length	LB	mm	182	182	202	202
Motor diameter	AC	mm	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90



g750-P44 with MCS09

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

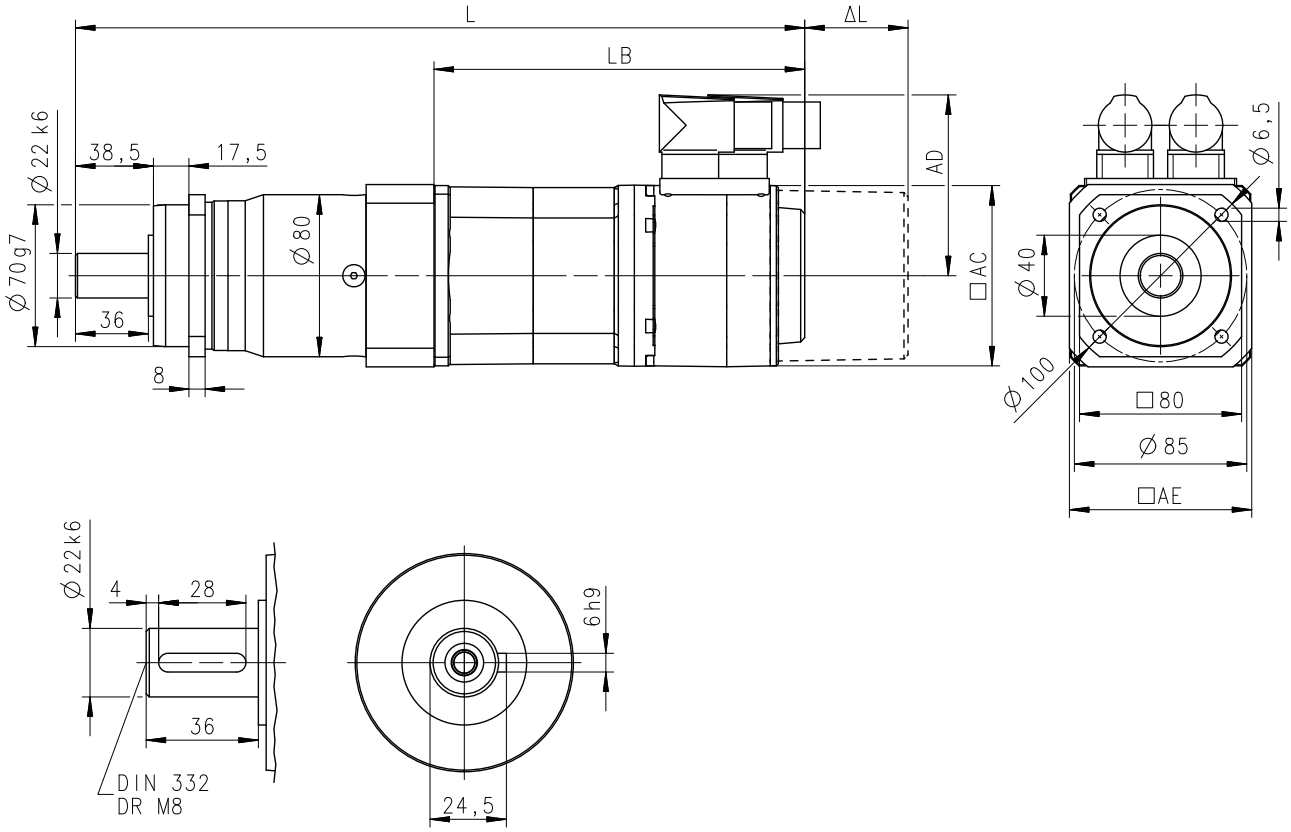


8800804-00

Motor			MCS 09			
			D41- D41L	D60- D60L	F38- F38L	F60- F60L
Total length	L	mm	328.5	328.5	348.5	348.5
Motor length	LB	mm	182	182	202	202
Motor diameter	AC	mm	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90

g750-P130 with MCS06

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



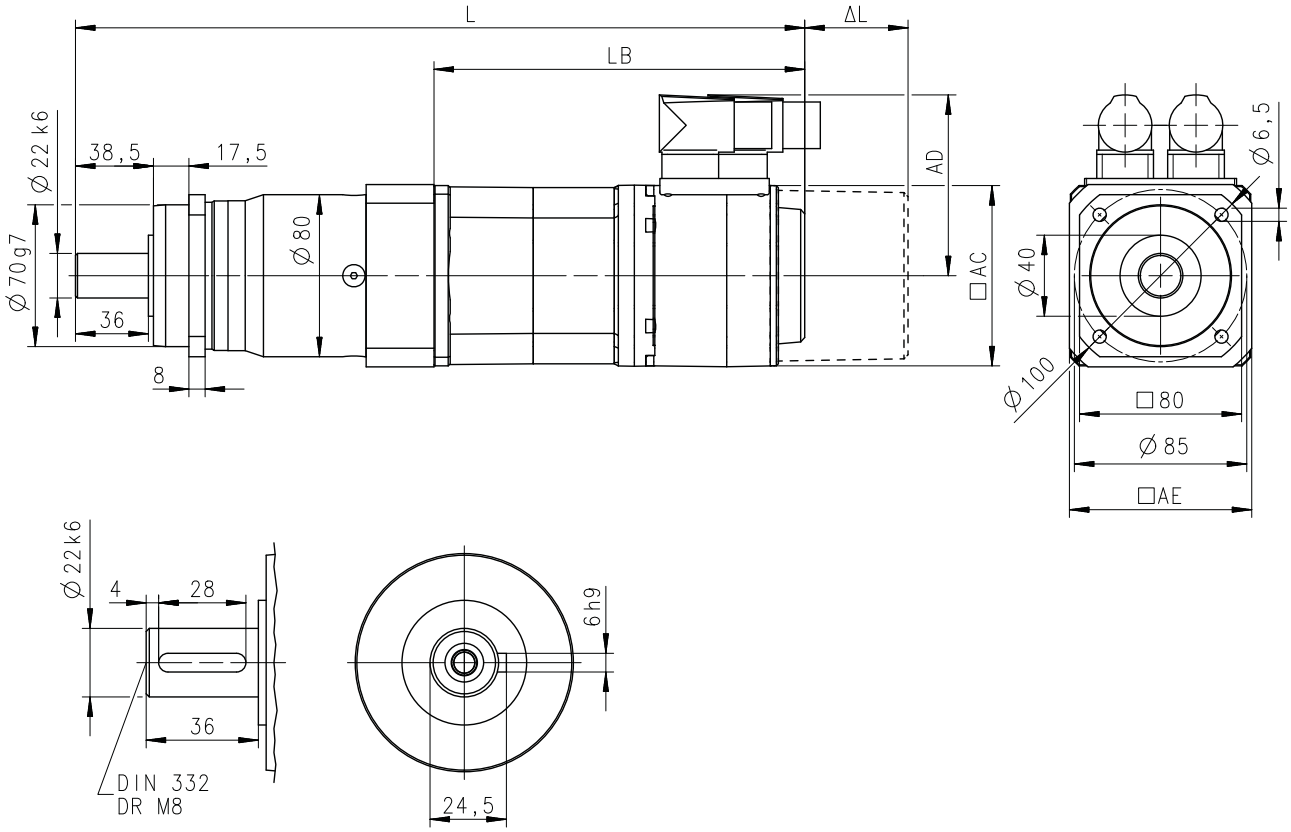
8800805-00

Motor			MCS 06			
			F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	321	321	351	351
Motor length	LB	mm	162	162	192	192
Motor diameter	AC	mm	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80



g750-P130 with MCS06

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

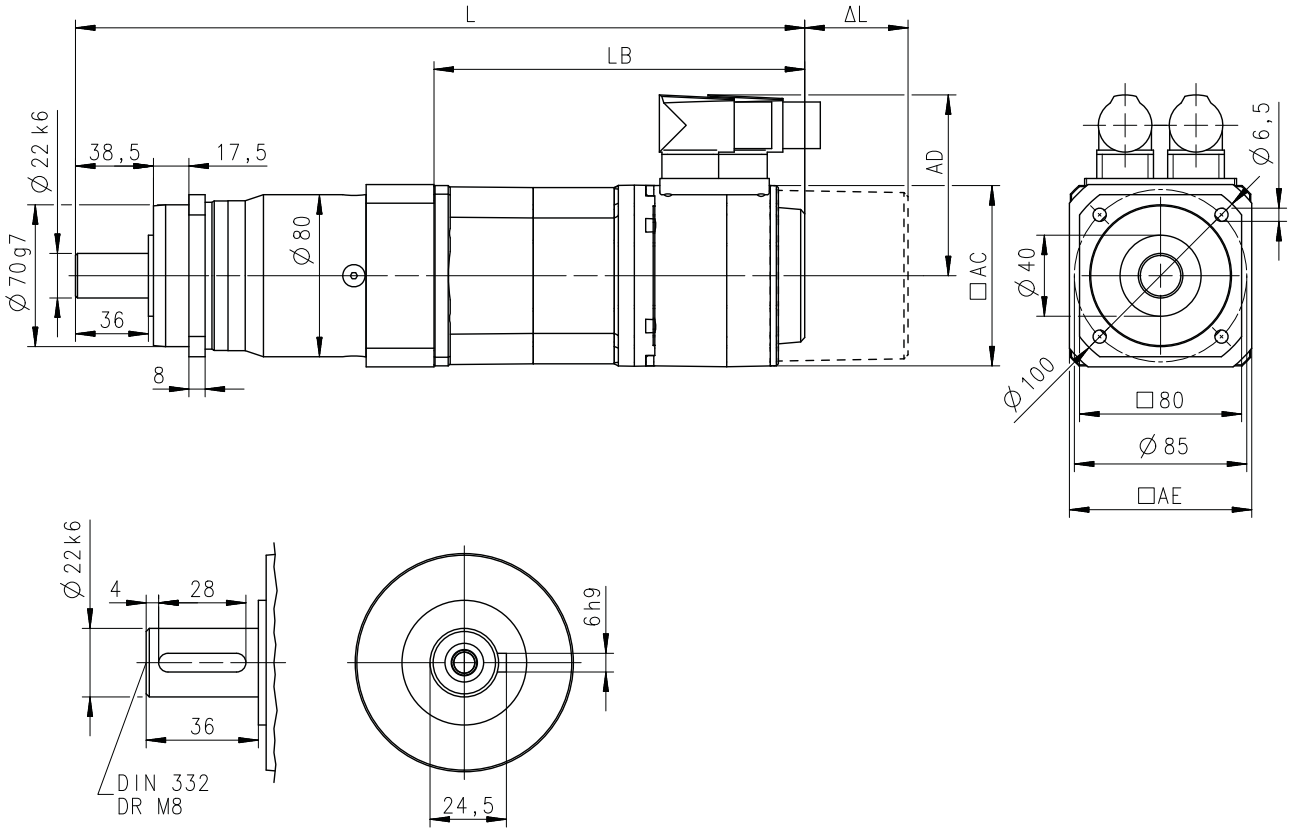


8800805-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	309	309	339	339	369	369
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80	80	80

g750-P130 with MCS09

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



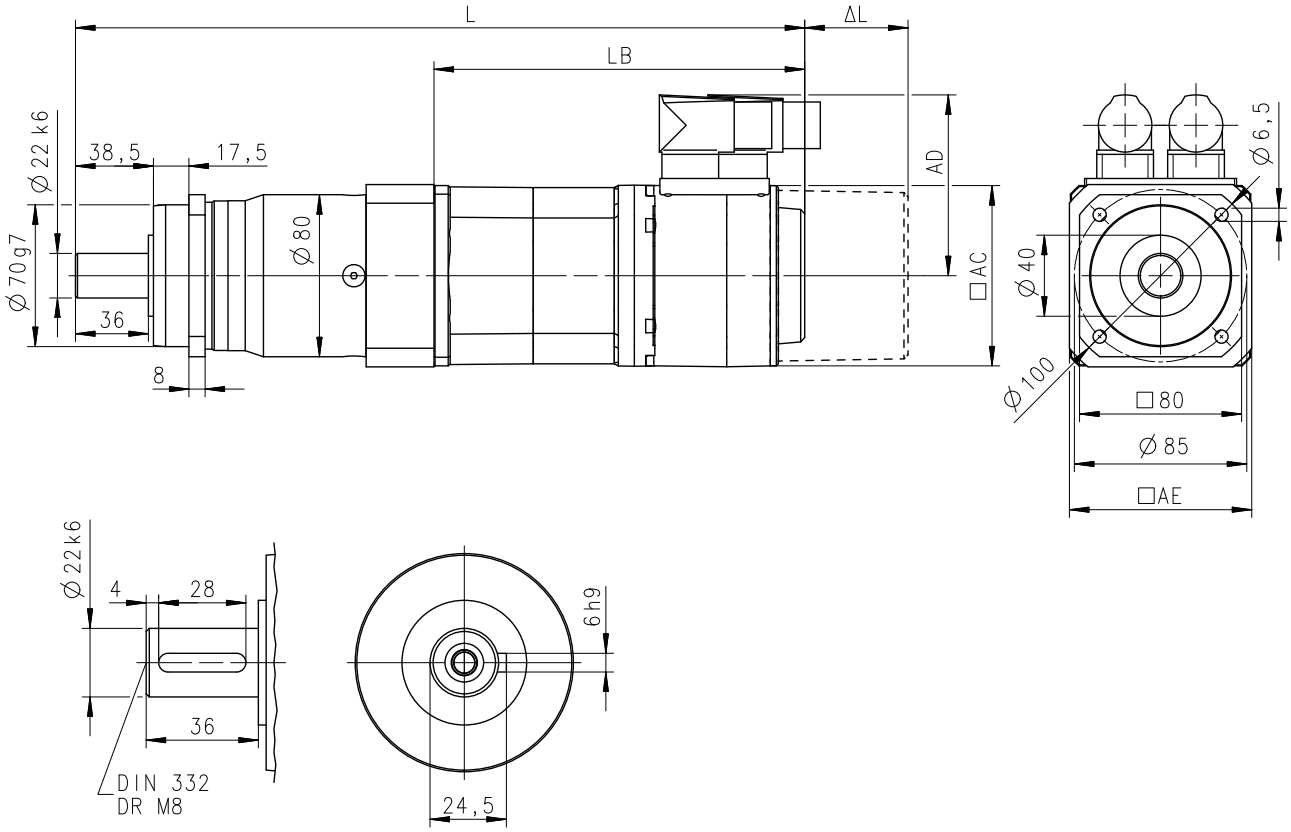
8800805-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	341	341	361	361	381	381	421	421
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g750-P130 with MCS09

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

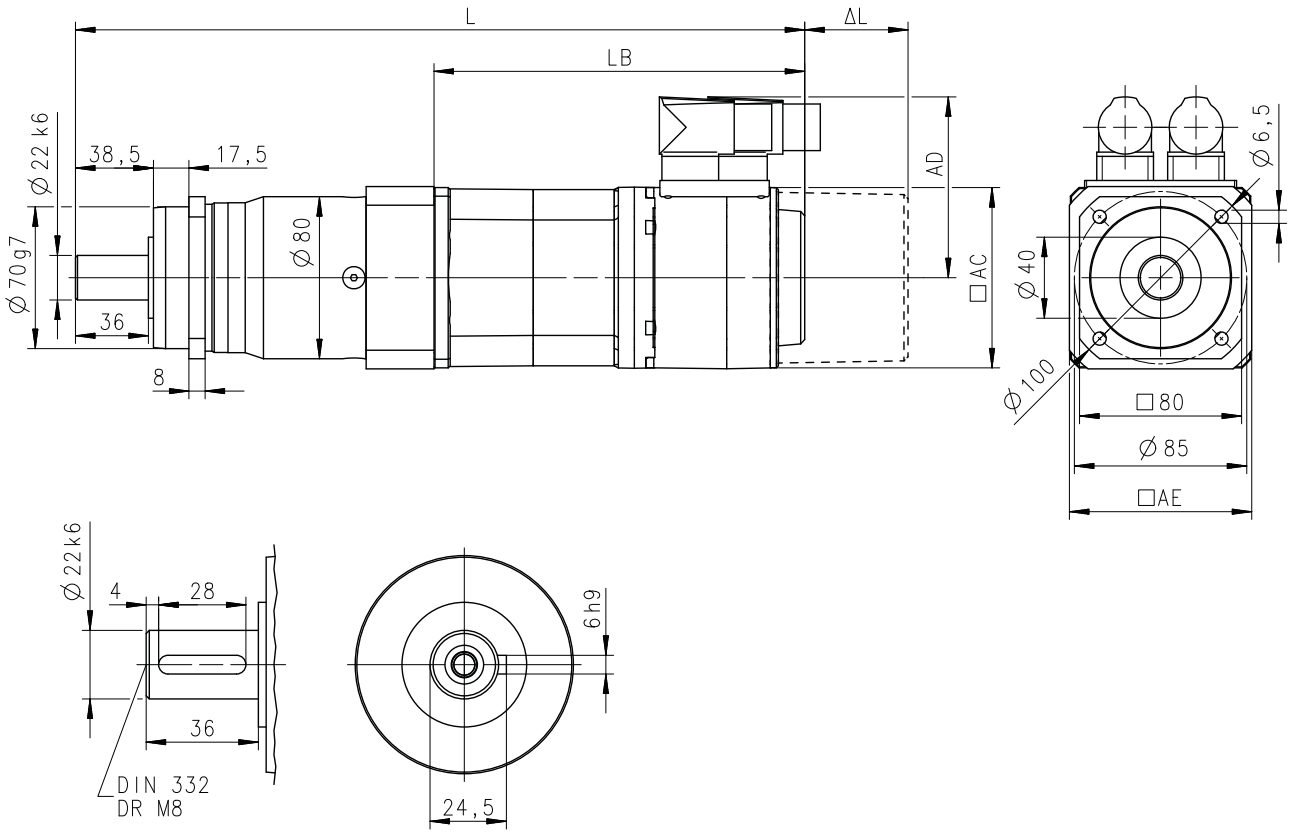


8800805-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	359	359	379	379	399	399	439	439
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g750-P130 with MCS12

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



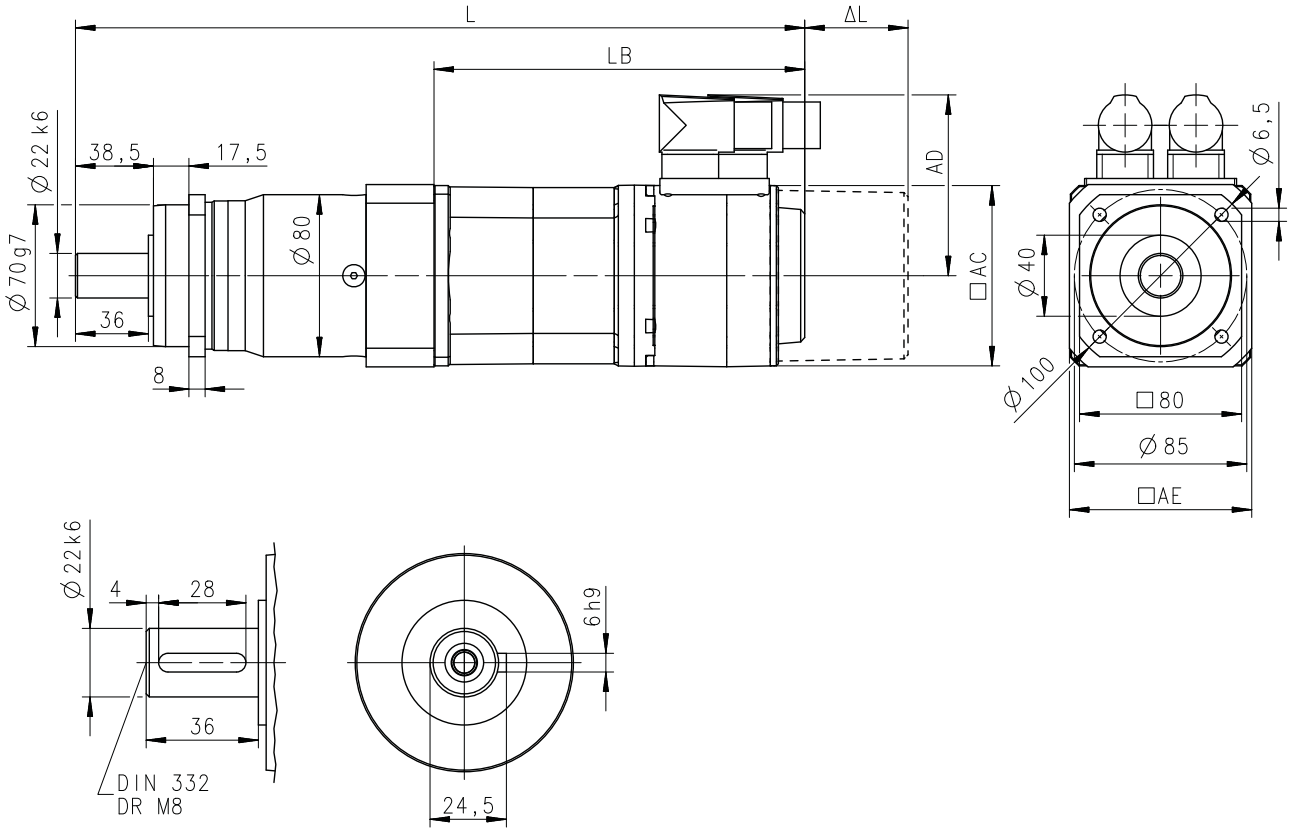
8800805-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	430	357	430	357	397	397	397
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115



g750-P130 with MCS12

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

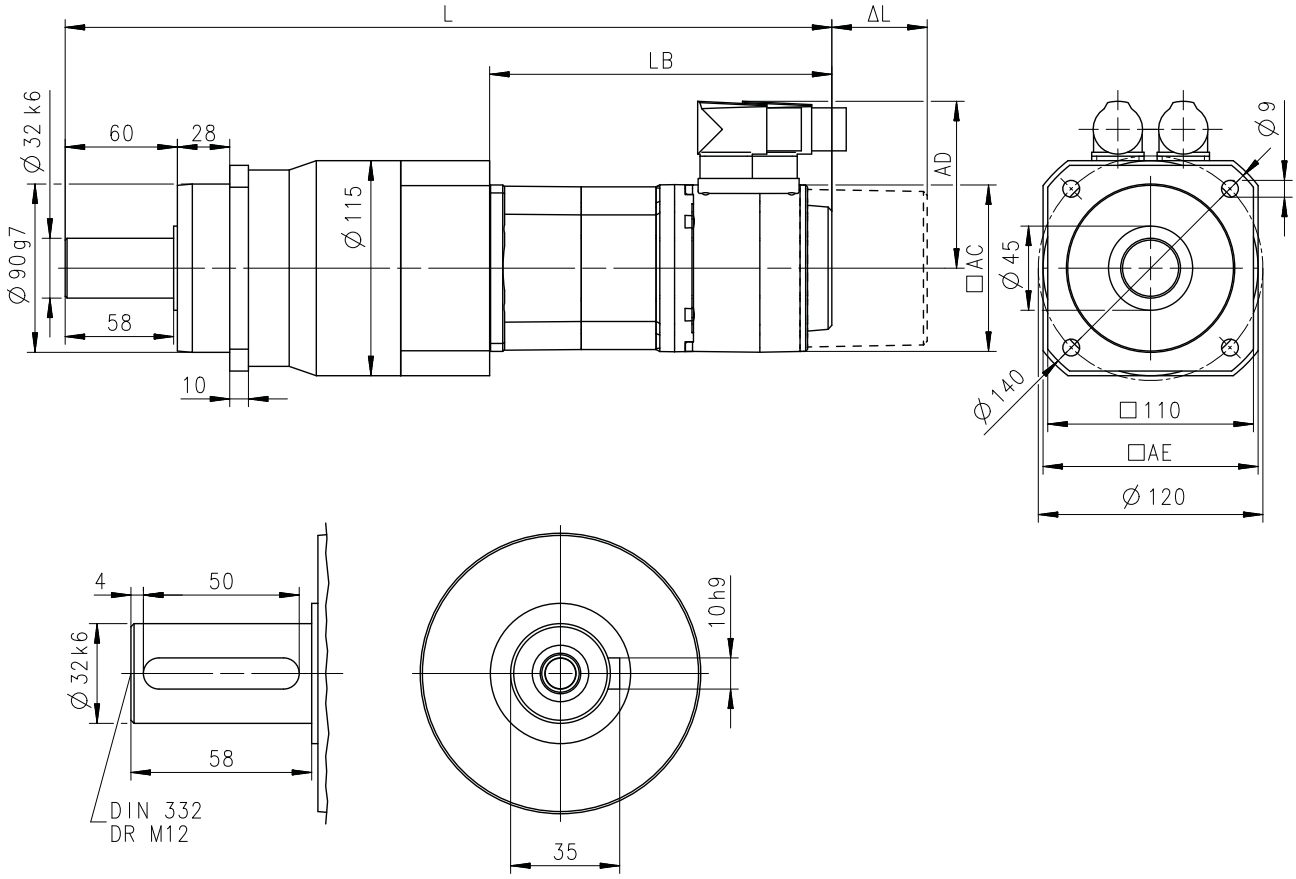


8800805-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	448	375	448	375	415	415	415
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115

g750-P260 with MCS06

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



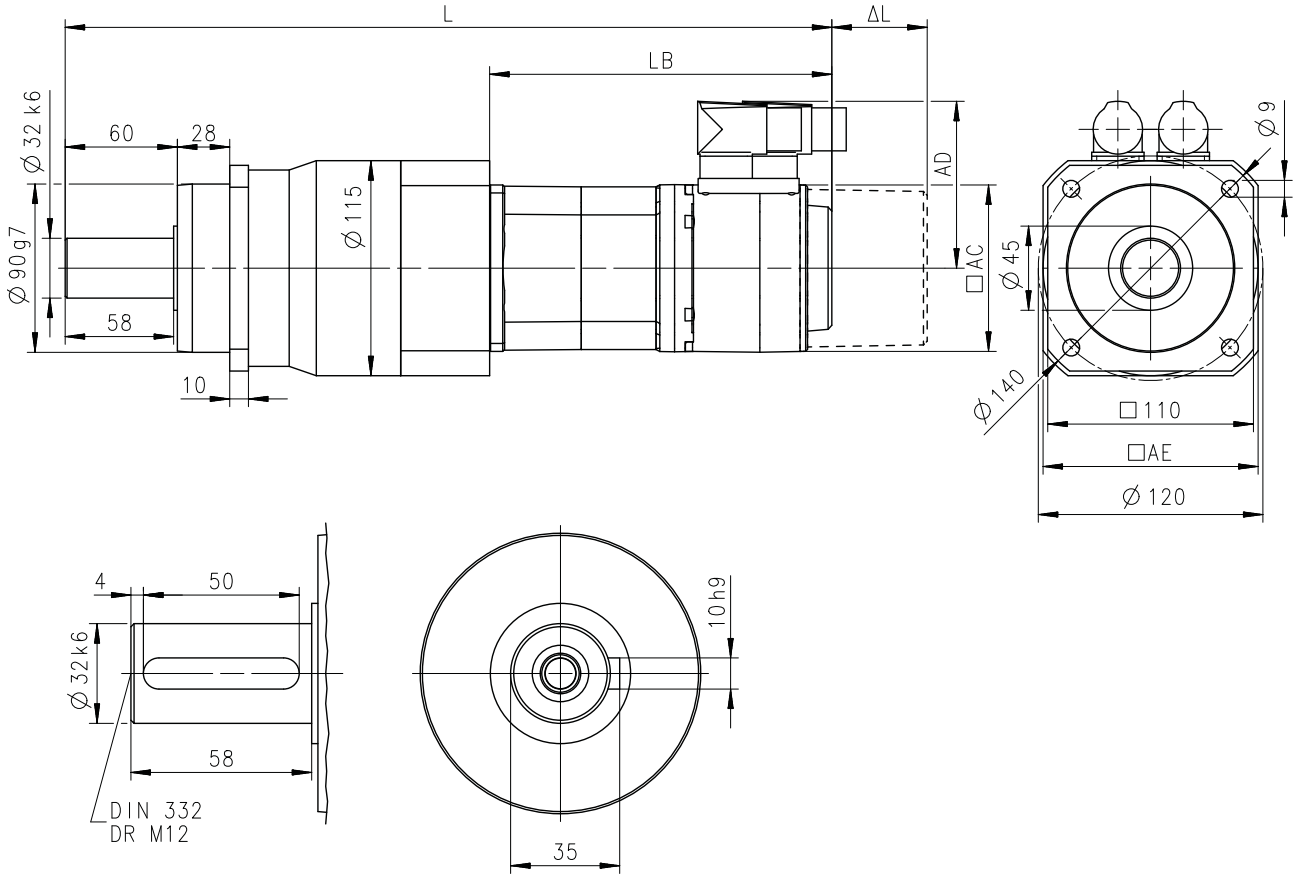
8800806-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	359	359	389	389	419	419
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115	115



g750-P260 with MCS09

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

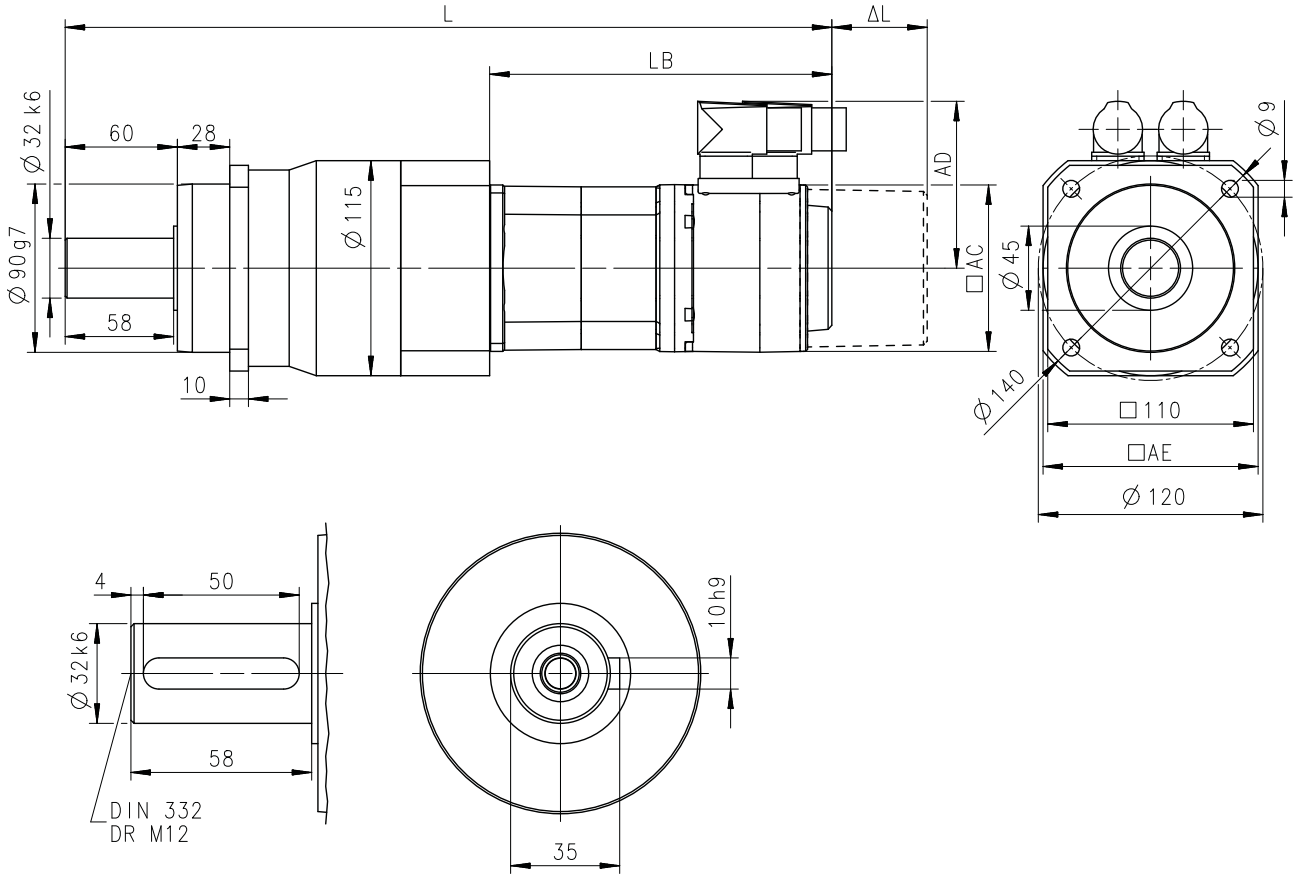


8800806-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	381.5	381.5	401.5	401.5	421.5	421.5	461.5	461.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115

g750-P260 with MCS09

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



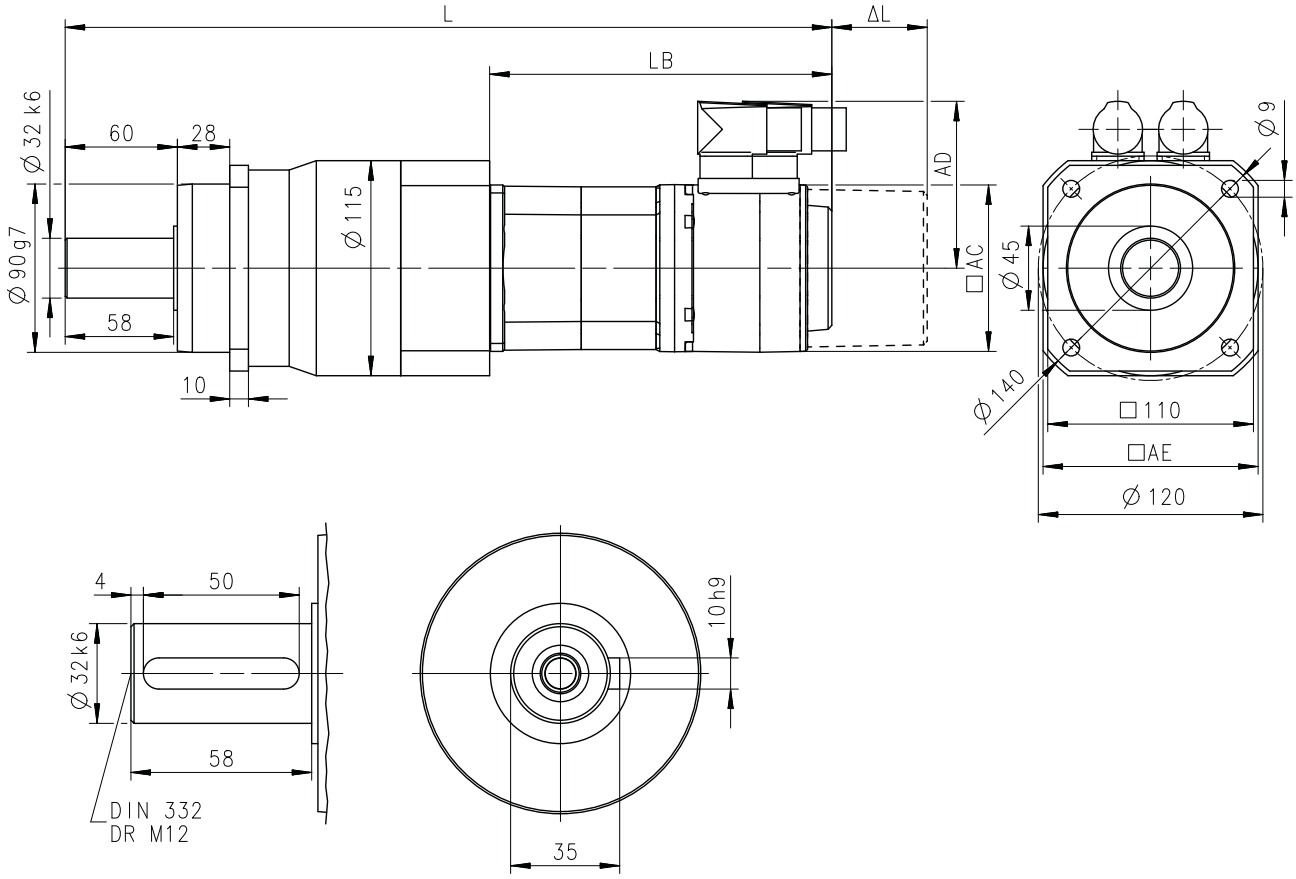
8800806-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	409	409	429	429	449	449	489	489
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115



g750-P260 with MCS12

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

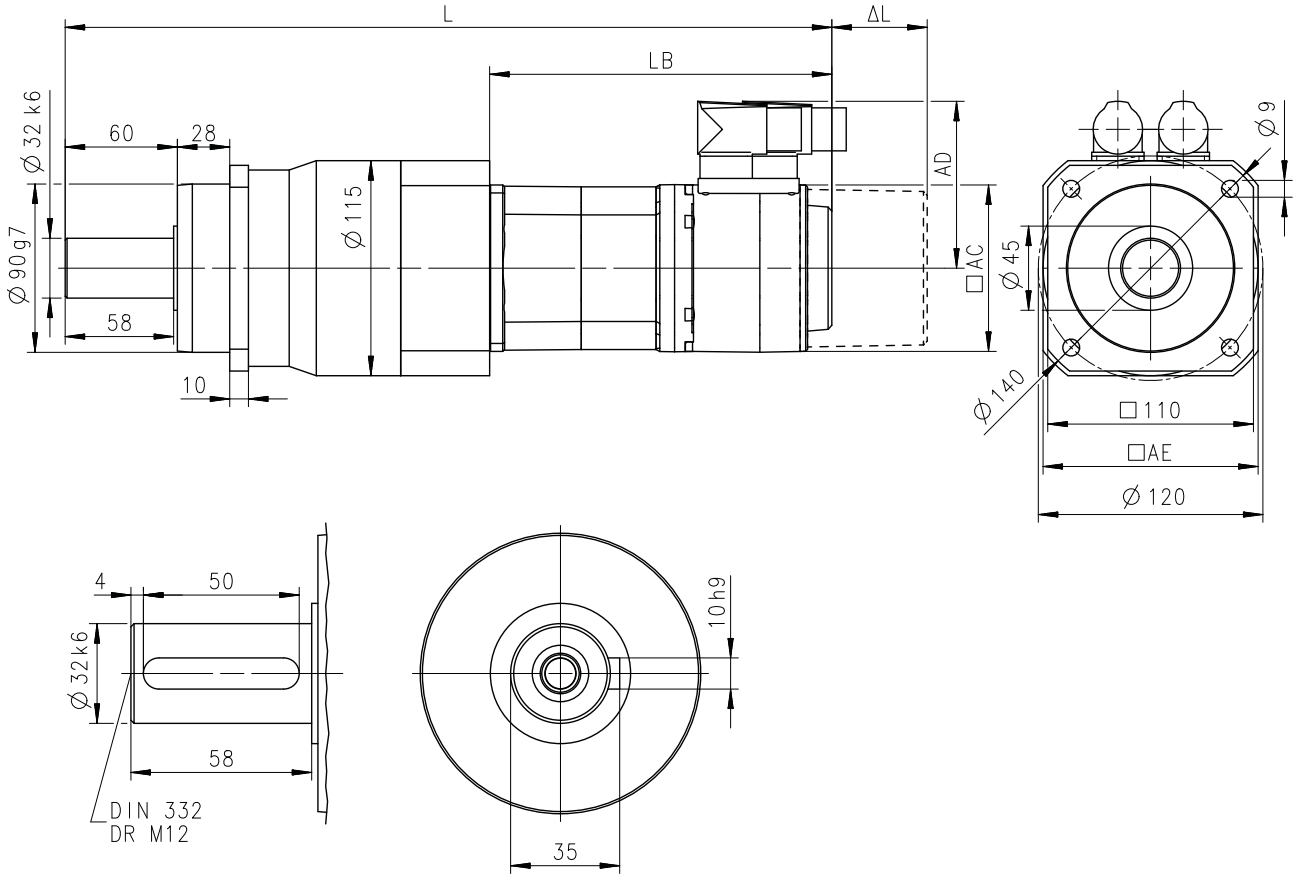


8800806-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	460.5	387.5	460.5	387.5	500.5	427.5	427.5	500.5	427.5	550.5	467.5	540.5	467.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115

g750-P260 with MCS12

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



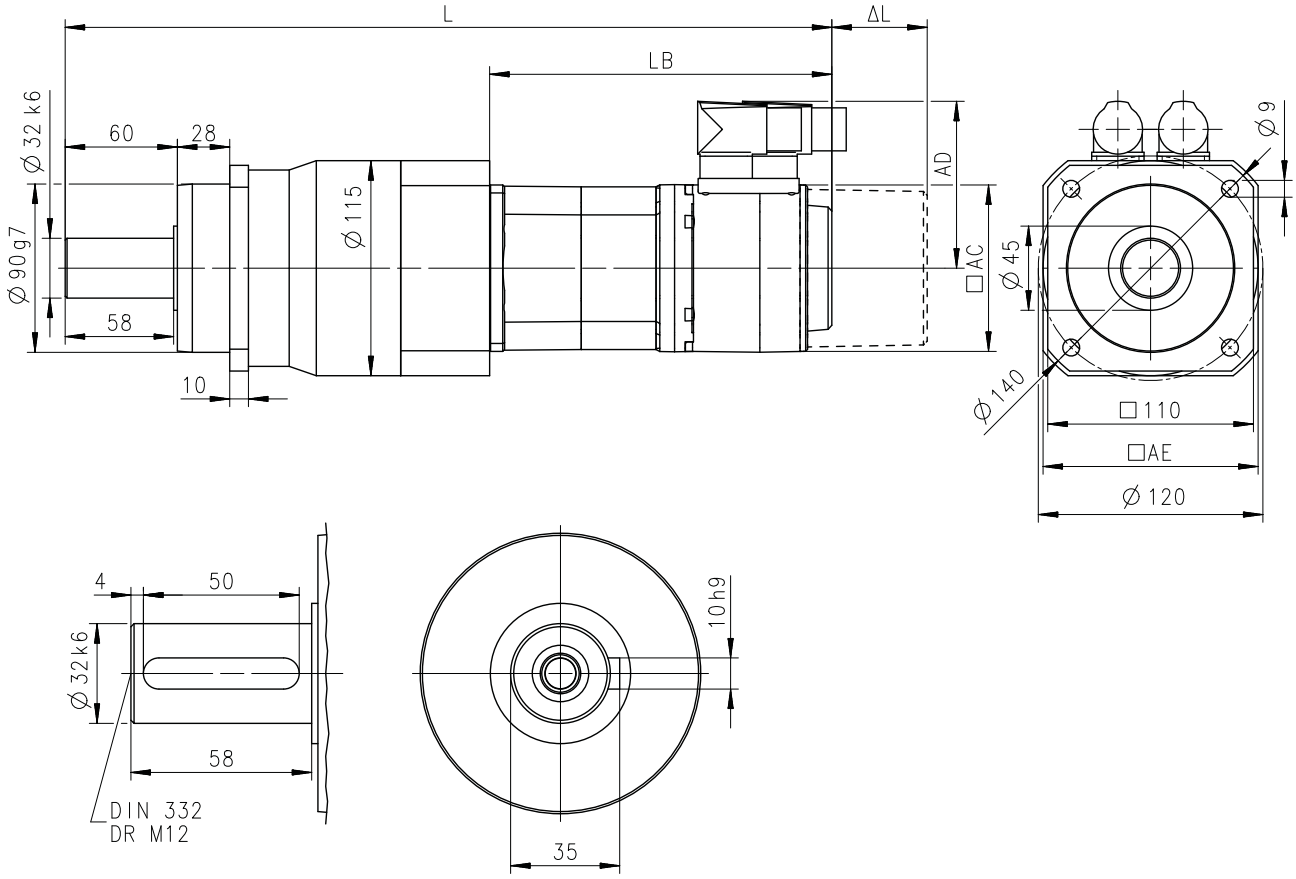
8800806-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	488	415	488	415	528	455	455	528	455	578	495	568	495
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115



g750-P260 with MCS14

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

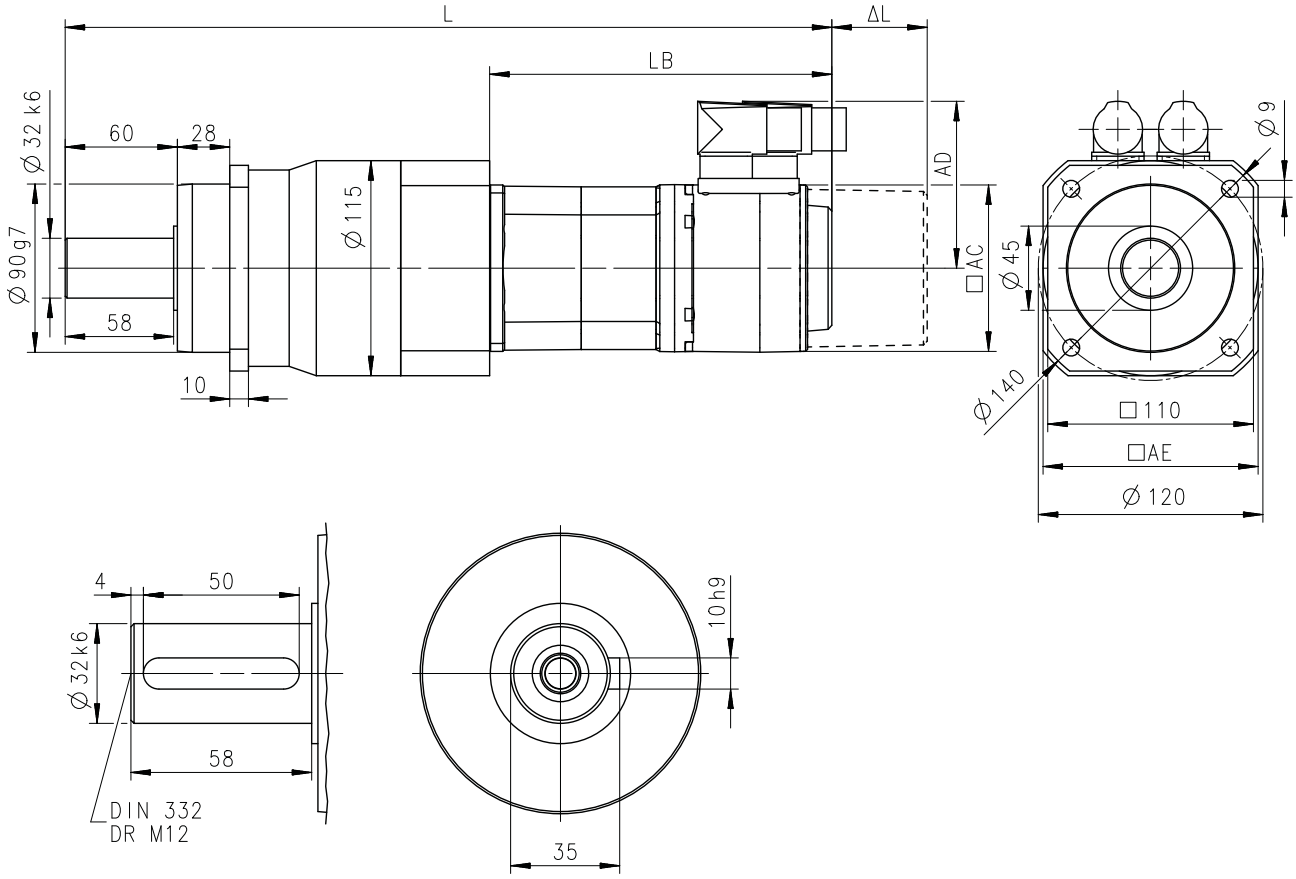


8800806-00

Motor			MCS 14							
			D14-	D15-	D30-	D36-	H15-	H32-	L15-	L32-
Total length	L	mm	498.5	410.5	498.5	410.5	450.5	450.5	490.5	490.5
Motor length	LB	mm	289	201	289	201	241	241	281	281
Motor diameter	AC	mm	167	143	167	143	143	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	117	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140

g750-P260 with MCS14

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



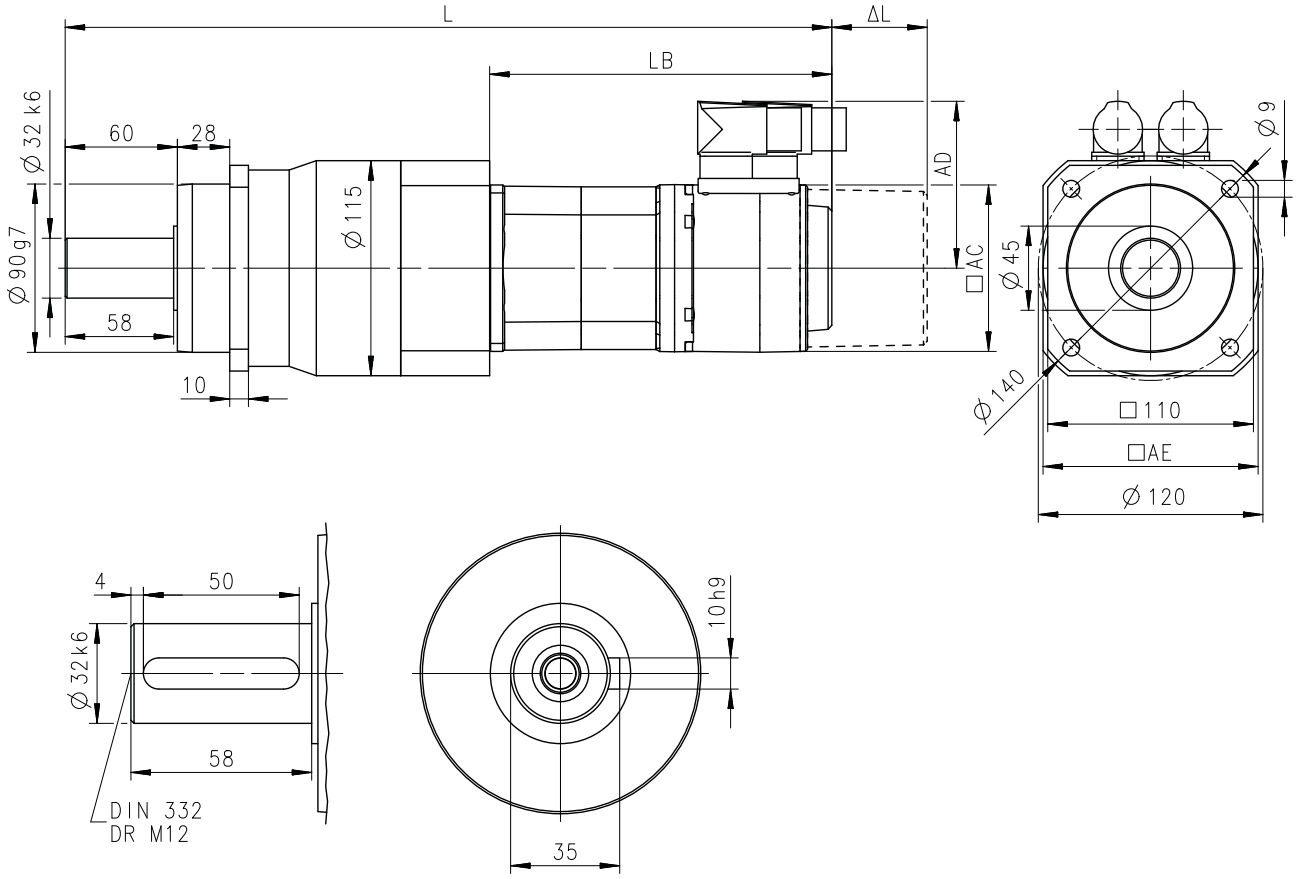
8800806-00

Motor			MCS 14							
			D14-	D15-	D30-	D36-	H15-	H32-	L15-	L32-
Total length	L	mm	526	438	526	438	478	478	518	518
Motor length	LB	mm	289	201	289	201	241	241	281	281
Motor diameter	AC	mm	167	143	167	143	143	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	117	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140



g750-P260 with MCS19

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

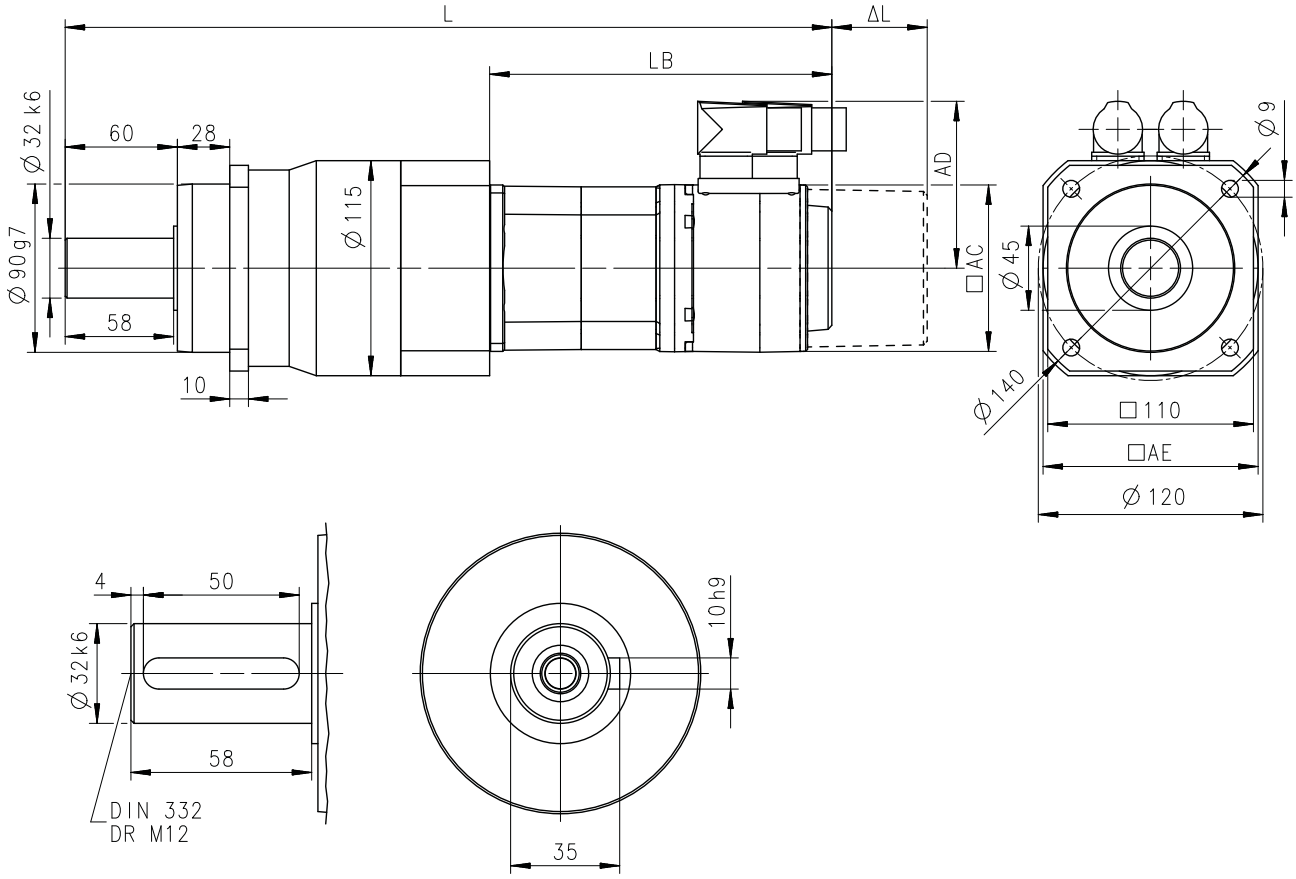


8800806-00

Motor			MCS 19	
			F14-	F30-
Total length	L	mm	447	447
Motor length	LB	mm	220	220
Motor diameter	AC	mm	192	192
Motor/connection distance	AD	mm	142	171
Gearbox diameter	AE	mm	190	190

g750-P260 with MCS19

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



8800806-00

Motor			MCS 19
			F30-
Total length	L	mm	474.5
Motor length	LB	mm	220
Motor diameter	AC	mm	192
Motor/connection distance	AD	mm	171
Gearbox diameter	AE	mm	190



Planetary gearbox g780-P

The modular system

g780-P planetary gearbox with MCS synchronous servo motor

Gearbox		**g780-P44**	**g780-P130**	**g780-P260**
Min. motor assignment		**MCS06**	**MCS06**	**MCS06**
Max. motor assignment		**MCS09**	**MCS12**	**MCS19**
Technical data				
Max. output torque	Nm	44	130	260
Min. input torque	Nm	0.6	0.6	0.6
Max. input torque	Nm	4.5	17	72
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	31.5 x 6	40 x 6
Gearbox design		**Without foot with centering**		
Gearbox stages		1/2	1/2	1/2
Output flange	mm	64	90	110
Lubricant		**Standard** Food compatible		
Cooling		**Self-ventilated** Forced ventilated		
Motor connection		**Connector** Terminal box		
Holding brake		**Without** With		
Feedback				
Without functional safety		**Digital absolute value encoder for One Cable Technology (OCT)** Resolver Absolute value encoder		
With functional safety		Digital absolute value encoder for One Cable Technology (OCT) Resolver Absolute value encoder		
Temperature monitoring		MCS06: PT1000 temperature sensor MCS09 ... MCS19: PT1000 temperature sensor and 2x PTC thermistor		



Gearbox data

g780-P44, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	28.0	10	8
4	38.0	10	10
5	40.0	10	11
7	25.0	10	8
8	18.0	10	7
10	15.0	10	6

g780-P44, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
9	44.0	12	10
12	44.0	12	11
15	44.0	12	10
16	44.0	12	12
20	44.0	12	12
25	40.0	12	12
32	44.0	12	11
40	40.0	12	12

g780-P130, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	85.0	7	16
4	115	7	32
5	110	7	34
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
64	50.0	9	20



g780-P260, 1-stage gearboxes

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

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
100	95.0	9	30

Radial forces and axial forces

Gearbox			g780-P44	g780-P130	g780-P260
Bearing service life 20000 h					
Speed		rpm	100	100	100
Radial force	F_{rad}	N	550	1400	2400
Axial force	F_{ax}	N	1200	3000	3300
Bearing service life 30000 h					
Speed		rpm	100	100	100
Radial force	F_{rad}	N	500	1200	2100
Axial force	F_{ax}	N	1200	3000	3300
Max. radial force	$F_{rad, max}$	N	900	2200	3800
Max. axial force	$F_{ax, max}$	N	1200	3300	5200



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.25 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.5	579	5.0	25.0	289	0.224	7	P44	06C41-	1	3.4
3.5	579	5.0	25.0	289	0.224	7	P44	06C41L	1	3.4
4.2	506	4.0	18.0	253	0.219	8	P44	06C41L	1	3.4
4.2	506	4.0	18.0	253	0.219	8	P44	06C41-	1	3.4
5.3	338	4.9	44.0	169	0.263	12	P44	06C41-	2	3.8
5.3	338	4.9	44.0	169	0.263	12	P44	06C41L	2	3.8
5.6	405	2.7	15.0	203	0.212	10	P44	06C41-	1	3.4
5.6	405	2.7	15.0	203	0.212	10	P44	06C41L	1	3.4
7.0	270	4.3	44.0	135	0.219	15	P44	06C41-	2	3.8
7.0	270	4.3	44.0	135	0.219	15	P44	06C41L	2	3.8
7.7	253	4.0	44.0	127	0.228	16	P44	06C41-	2	3.8
7.7	253	4.0	44.0	127	0.228	16	P44	06C41L	2	3.8
10.0	203	3.5	44.0	101	0.217	20	P44	06C41-	2	3.8
10.0	203	3.5	44.0	101	0.217	20	P44	06C41L	2	3.8
13.0	162	2.8	40.0	81.0	0.216	25	P44	06C41-	2	3.8
13.0	162	2.8	40.0	81.0	0.216	25	P44	06C41L	2	3.8
17.0	127	2.4	44.0	63.0	0.207	32	P44	06C41-	2	3.8
17.0	127	2.4	44.0	63.0	0.207	32	P44	06C41L	2	3.8
18.0	101	4.9	110	51.0	0.508	40	P130	06C41-	2	5.6
18.0	101	4.9	110	51.0	0.508	40	P130	06C41L	2	5.6
22.0	101	1.8	40.0	51.0	0.206	40	P44	06C41-	2	3.8
22.0	101	1.8	40.0	51.0	0.206	40	P44	06C41L	2	3.8
32.0	63.3	3.5	120	32.0	1.556	64	P260	06C41-	2	11
32.0	63.3	3.5	120	32.0	1.556	64	P260	06C41L	2	11
34.0	63.3	1.5	50.0	32.0	0.507	64	P130	06C41-	2	5.6
34.0	63.3	1.5	50.0	32.0	0.507	64	P130	06C41L	2	5.6
50.0	40.5	1.9	95.0	20.0	1.517	100	P260	06C41-	2	11
50.0	40.5	1.9	95.0	20.0	1.517	100	P260	06C41L	2	11



0.31 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
2.9	857	5.4	25.0	429	0.224	7	P44	06C60-	1	3.4
2.9	857	5.4	25.0	429	0.224	7	P44	06C60L	1	3.4
3.4	750	4.7	18.0	375	0.219	8	P44	06C60-	1	3.4
3.4	750	4.7	18.0	375	0.219	8	P44	06C60L	1	3.4
4.3	500	5.2	44.0	250	0.263	12	P44	06C60-	2	3.8
4.3	500	5.2	44.0	250	0.263	12	P44	06C60L	2	3.8
4.6	600	3.2	15.0	300	0.212	10	P44	06C60-	1	3.4
4.6	600	3.2	15.0	300	0.212	10	P44	06C60L	1	3.4
5.7	400	4.6	44.0	200	0.219	15	P44	06C60-	2	3.8
5.7	400	4.6	44.0	200	0.219	15	P44	06C60L	2	3.8
6.2	375	4.3	44.0	188	0.228	16	P44	06C60-	2	3.8
6.2	375	4.3	44.0	188	0.228	16	P44	06C60L	2	3.8
8.2	300	3.7	44.0	150	0.217	20	P44	06C60L	2	3.8
8.2	300	3.7	44.0	150	0.217	20	P44	06C60-	2	3.8
11.0	240	3.1	40.0	120	0.216	25	P44	06C60L	2	3.8
11.0	240	3.1	40.0	120	0.216	25	P44	06C60-	2	3.8
13.0	150	5.9	110	75.0	0.508	40	P130	06C60-	2	5.6
13.0	150	5.9	110	75.0	0.508	40	P130	06C60L	2	5.6
14.0	188	2.7	44.0	94.0	0.207	32	P44	06C60-	2	3.8
14.0	188	2.7	44.0	94.0	0.207	32	P44	06C60L	2	3.8
19.0	150	2.2	40.0	75.0	0.206	40	P44	06C60L	2	3.8
19.0	150	2.2	40.0	75.0	0.206	40	P44	06C60-	2	3.8
25.0	93.8	4.2	120	47.0	1.556	64	P260	06C60-	2	11
25.0	93.8	4.2	120	47.0	1.556	64	P260	06C60L	2	11
28.0	93.8	1.8	50.0	47.0	0.507	64	P130	06C60-	2	5.6
28.0	93.8	1.8	50.0	47.0	0.507	64	P130	06C60L	2	5.6
42.0	60.0	2.3	95.0	30.0	1.517	100	P260	06C60L	2	11
42.0	60.0	2.3	95.0	30.0	1.517	100	P260	06C60-	2	11



0.51 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.0	1013	5.2	38.0	506	0.358	4	P44	06F41-	1	3.8
4.0	1013	5.2	38.0	506	0.358	4	P44	06F41L	1	3.8
5.2	810	4.3	40.0	405	0.329	5	P44	06F41-	1	3.8
5.2	810	4.3	40.0	405	0.329	5	P44	06F41L	1	3.8
7.9	579	2.5	25.0	289	0.304	7	P44	06F41-	1	3.8
7.9	579	2.5	25.0	289	0.304	7	P44	06F41L	1	3.8
7.9	506	5.4	50.0	253	0.663	8	P130	06F41L	1	5.6
7.9	506	5.4	50.0	253	0.663	8	P130	06F41-	1	5.6
9.1	506	2.0	18.0	253	0.299	8	P44	06F41-	1	3.8
9.1	506	2.0	18.0	253	0.299	8	P44	06F41L	1	3.8
9.3	450	3.1	44.0	225	0.350	9	P44	06F41-	2	4.2
9.3	450	3.1	44.0	225	0.350	9	P44	06F41L	2	4.2
11.0	405	1.3	15.0	203	0.292	10	P44	06F41-	1	3.8
11.0	405	1.3	15.0	203	0.292	10	P44	06F41L	1	3.8
11.0	405	3.3	38.0	203	0.626	10	P130	06F41-	1	5.6
11.0	405	3.3	38.0	203	0.626	10	P130	06F41L	1	5.6
13.0	338	2.4	44.0	169	0.343	12	P44	06F41-	2	4.2
13.0	338	2.4	44.0	169	0.343	12	P44	06F41L	2	4.2
17.0	270	2.1	44.0	135	0.299	15	P44	06F41-	2	4.2
17.0	270	2.1	44.0	135	0.299	15	P44	06F41L	2	4.2
17.0	203	5.2	120	101	0.638	20	P130	06F41-	2	6.0
17.0	203	5.2	120	101	0.638	20	P130	06F41L	2	6.0
18.0	253	2.0	44.0	127	0.308	16	P44	06F41-	2	4.2
18.0	253	2.0	44.0	127	0.308	16	P44	06F41L	2	4.2
23.0	203	1.7	44.0	101	0.297	20	P44	06F41-	2	4.2
23.0	203	1.7	44.0	101	0.297	20	P44	06F41L	2	4.2
24.0	162	3.9	110	81.0	0.632	25	P130	06F41-	2	6.0
24.0	162	3.9	110	81.0	0.632	25	P130	06F41L	2	6.0
28.0	162	1.4	40.0	81.0	0.296	25	P44	06F41L	2	4.2
28.0	162	1.4	40.0	81.0	0.296	25	P44	06F41-	2	4.2
33.0	127	3.3	120	63.0	0.591	32	P130	06F41-	2	6.0
33.0	127	3.3	120	63.0	0.591	32	P130	06F41L	2	6.0
35.0	101	5.1	230	51.0	1.643	40	P260	06F41-	2	12
35.0	101	5.1	230	51.0	1.643	40	P260	06F41L	2	12
36.0	127	1.2	44.0	63.0	0.287	32	P44	06F41L	2	4.2
36.0	127	1.2	44.0	63.0	0.287	32	P44	06F41-	2	4.2
44.0	101	2.4	110	51.0	0.588	40	P130	06F41-	2	6.0
44.0	101	2.4	110	51.0	0.588	40	P130	06F41L	2	6.0
68.0	63.3	1.8	120	32.0	1.636	64	P260	06F41-	2	12
68.0	63.3	1.8	120	32.0	1.636	64	P260	06F41L	2	12



0.57 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.8	1200	5.1	40.0	600	0.329	5	P44	06F60-	1	3.8
3.8	1200	5.1	40.0	600	0.329	5	P44	06F60L	1	3.8
5.8	857	3.0	25.0	429	0.304	7	P44	06F60-	1	3.8
5.8	857	3.0	25.0	429	0.304	7	P44	06F60L	1	3.8
6.7	750	2.6	18.0	375	0.299	8	P44	06F60-	1	3.8
6.7	750	2.6	18.0	375	0.299	8	P44	06F60L	1	3.8
6.7	667	3.6	44.0	333	0.350	9	P44	06F60-	2	4.2
6.7	667	3.6	44.0	333	0.350	9	P44	06F60L	2	4.2
7.8	600	4.4	38.0	300	0.626	10	P130	06F60L	1	5.6
7.8	600	4.4	38.0	300	0.626	10	P130	06F60-	1	5.6
8.5	600	1.8	15.0	300	0.292	10	P44	06F60-	1	3.8
8.5	600	1.8	15.0	300	0.292	10	P44	06F60L	1	3.8
9.5	500	2.9	44.0	250	0.343	12	P44	06F60-	2	4.2
9.5	500	2.9	44.0	250	0.343	12	P44	06F60L	2	4.2
12.0	400	2.5	44.0	200	0.299	15	P44	06F60-	2	4.2
12.0	400	2.5	44.0	200	0.299	15	P44	06F60L	2	4.2
13.0	375	2.4	44.0	188	0.308	16	P44	06F60-	2	4.2
13.0	375	2.4	44.0	188	0.308	16	P44	06F60L	2	4.2
16.0	240	5.2	110	120	0.632	25	P130	06F60-	2	6.0
16.0	240	5.2	110	120	0.632	25	P130	06F60L	2	6.0
17.0	300	2.0	44.0	150	0.297	20	P44	06F60L	2	4.2
17.0	300	2.0	44.0	150	0.297	20	P44	06F60-	2	4.2
21.0	240	1.7	40.0	120	0.296	25	P44	06F60-	2	4.2
21.0	240	1.7	40.0	120	0.296	25	P44	06F60L	2	4.2
22.0	188	4.4	120	94.0	0.591	32	P130	06F60-	2	6.0
22.0	188	4.4	120	94.0	0.591	32	P130	06F60L	2	6.0
27.0	188	1.5	44.0	94.0	0.287	32	P44	06F60L	2	4.2
27.0	188	1.5	44.0	94.0	0.287	32	P44	06F60-	2	4.2
31.0	150	3.3	110	75.0	0.588	40	P130	06F60L	2	6.0
31.0	150	3.3	110	75.0	0.588	40	P130	06F60-	2	6.0
33.0	150	1.2	40.0	75.0	0.286	40	P44	06F60-	2	4.2
33.0	150	1.2	40.0	75.0	0.286	40	P44	06F60L	2	4.2
51.0	93.8	2.3	120	47.0	1.636	64	P260	06F60-	2	12
51.0	93.8	2.3	120	47.0	1.636	64	P260	06F60L	2	12
75.0	60.0	1.3	95.0	30.0	1.597	100	P260	06F60-	2	12
75.0	60.0	1.3	95.0	30.0	1.597	100	P260	06F60L	2	12



0.64 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
3.7	1350	5.2	28.0	675	0.510	3	P44	06I41-	1	4.5
3.7	1350	5.2	28.0	675	0.510	3	P44	06I41L	1	4.5
5.2	1013	4.2	38.0	506	0.438	4	P44	06I41-	1	4.5
5.2	1013	4.2	38.0	506	0.438	4	P44	06I41L	1	4.5
6.8	810	3.5	40.0	405	0.409	5	P44	06I41-	1	4.5
6.8	810	3.5	40.0	405	0.409	5	P44	06I41L	1	4.5
10.0	579	2.0	25.0	289	0.384	7	P44	06I41-	1	4.5
10.0	579	2.0	25.0	289	0.384	7	P44	06I41L	1	4.5
10.0	506	4.3	50.0	253	0.743	8	P130	06I41-	1	6.3
10.0	506	4.3	50.0	253	0.743	8	P130	06I41L	1	6.3
11.0	506	1.6	18.0	253	0.379	8	P44	06I41-	1	4.5
11.0	506	1.6	18.0	253	0.379	8	P44	06I41L	1	4.5
12.0	450	2.5	44.0	225	0.430	9	P44	06I41-	2	4.9
12.0	450	2.5	44.0	225	0.430	9	P44	06I41L	2	4.9
14.0	405	1.1	15.0	203	0.372	10	P44	06I41-	1	4.5
14.0	405	1.1	15.0	203	0.372	10	P44	06I41L	1	4.5
14.0	405	2.7	38.0	203	0.706	10	P130	06I41-	1	6.3
14.0	405	2.7	38.0	203	0.706	10	P130	06I41L	1	6.3
16.0	270	5.1	110	135	0.906	15	P130	06I41L	2	6.7
16.0	270	5.1	110	135	0.906	15	P130	06I41-	2	6.7
17.0	338	2.0	44.0	169	0.423	12	P44	06I41-	2	4.9
17.0	338	2.0	44.0	169	0.423	12	P44	06I41L	2	4.9
17.0	253	5.2	120	127	0.765	16	P130	06I41L	2	6.7
17.0	253	5.2	120	127	0.765	16	P130	06I41-	2	6.7
21.0	270	1.7	44.0	135	0.379	15	P44	06I41-	2	4.9
21.0	270	1.7	44.0	135	0.379	15	P44	06I41L	2	4.9
23.0	253	1.6	44.0	127	0.388	16	P44	06I41L	2	4.9
23.0	253	1.6	44.0	127	0.388	16	P44	06I41-	2	4.9
24.0	203	4.2	120	101	0.718	20	P130	06I41-	2	6.7
24.0	203	4.2	120	101	0.718	20	P130	06I41L	2	6.7
28.0	203	1.4	44.0	101	0.377	20	P44	06I41-	2	4.9
28.0	203	1.4	44.0	101	0.377	20	P44	06I41L	2	4.9
32.0	162	3.1	110	81.0	0.712	25	P130	06I41-	2	6.7
32.0	162	3.1	110	81.0	0.712	25	P130	06I41L	2	6.7
33.0	127	5.7	260	63.0	1.729	32	P260	06I41-	2	12
33.0	127	5.7	260	63.0	1.729	32	P260	06I41L	2	12
35.0	162	1.1	40.0	81.0	0.376	25	P44	06I41-	2	4.9
35.0	162	1.1	40.0	81.0	0.376	25	P44	06I41L	2	4.9
43.0	127	2.6	120	63.0	0.671	32	P130	06I41L	2	6.7
43.0	127	2.6	120	63.0	0.671	32	P130	06I41-	2	6.7
48.0	101	4.1	230	51.0	1.723	40	P260	06I41L	2	12
48.0	101	4.1	230	51.0	1.723	40	P260	06I41-	2	12
56.0	101	2.0	110	51.0	0.668	40	P130	06I41L	2	6.7
56.0	101	2.0	110	51.0	0.668	40	P130	06I41-	2	6.7
85.0	63.3	1.4	120	32.0	1.716	64	P260	06I41-	2	12
85.0	63.3	1.4	120	32.0	1.716	64	P260	06I41L	2	12



0.75 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
2.9	2000	5.8	28.0	1000	0.510	3	P44	06I60-	1	4.5
2.9	2000	5.8	28.0	1000	0.510	3	P44	06I60L	1	4.5
4.1	1500	4.6	38.0	750	0.438	4	P44	06I60-	1	4.5
4.1	1500	4.6	38.0	750	0.438	4	P44	06I60L	1	4.5
5.3	1200	3.9	40.0	600	0.409	5	P44	06I60-	1	4.5
5.3	1200	3.9	40.0	600	0.409	5	P44	06I60L	1	4.5
7.9	750	5.4	50.0	375	0.743	8	P130	06I60-	1	6.3
7.9	750	5.4	50.0	375	0.743	8	P130	06I60L	1	6.3
8.0	857	2.2	25.0	429	0.384	7	P44	06I60-	1	4.5
8.0	857	2.2	25.0	429	0.384	7	P44	06I60L	1	4.5
9.1	750	2.0	18.0	375	0.379	8	P44	06I60-	1	4.5
9.1	750	2.0	18.0	375	0.379	8	P44	06I60L	1	4.5
9.6	667	2.7	44.0	333	0.430	9	P44	06I60-	2	4.9
9.6	667	2.7	44.0	333	0.430	9	P44	06I60L	2	4.9
11.0	600	1.3	15.0	300	0.372	10	P44	06I60-	1	4.5
11.0	600	1.3	15.0	300	0.372	10	P44	06I60L	1	4.5
11.0	600	3.3	38.0	300	0.706	10	P130	06I60-	1	6.3
11.0	600	3.3	38.0	300	0.706	10	P130	06I60L	1	6.3
13.0	500	2.2	44.0	250	0.423	12	P44	06I60L	2	4.9
13.0	500	2.2	44.0	250	0.423	12	P44	06I60-	2	4.9
17.0	400	1.9	44.0	200	0.379	15	P44	06I60-	2	4.9
17.0	400	1.9	44.0	200	0.379	15	P44	06I60L	2	4.9
17.0	300	5.1	120	150	0.718	20	P130	06I60-	2	6.7
17.0	300	5.1	120	150	0.718	20	P130	06I60L	2	6.7
18.0	375	1.8	44.0	188	0.388	16	P44	06I60-	2	4.9
18.0	375	1.8	44.0	188	0.388	16	P44	06I60L	2	4.9
23.0	300	1.5	44.0	150	0.377	20	P44	06I60-	2	4.9
23.0	300	1.5	44.0	150	0.377	20	P44	06I60L	2	4.9
24.0	240	3.9	110	120	0.712	25	P130	06I60-	2	6.7
24.0	240	3.9	110	120	0.712	25	P130	06I60L	2	6.7
28.0	240	1.3	40.0	120	0.376	25	P44	06I60-	2	4.9
28.0	240	1.3	40.0	120	0.376	25	P44	06I60L	2	4.9
33.0	188	3.3	120	94.0	0.671	32	P130	06I60-	2	6.7
33.0	188	3.3	120	94.0	0.671	32	P130	06I60L	2	6.7
35.0	150	5.1	230	75.0	1.723	40	P260	06I60-	2	12
35.0	150	5.1	230	75.0	1.723	40	P260	06I60L	2	12
36.0	188	1.1	44.0	94.0	0.367	32	P44	06I60-	2	4.9
36.0	188	1.1	44.0	94.0	0.367	32	P44	06I60L	2	4.9
44.0	150	2.4	110	75.0	0.668	40	P130	06I60-	2	6.7
44.0	150	2.4	110	75.0	0.668	40	P130	06I60L	2	6.7
68.0	93.8	1.8	120	47.0	1.716	64	P260	06I60L	2	12
68.0	93.8	1.8	120	47.0	1.716	64	P260	06I60-	2	12



1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.6	1350	5.7	85.0	675	2.264	3	P130	09D41L	1	7.8
5.6	1350	5.7	85.0	675	2.264	3	P130	09D41-	1	7.7
6.2	1350	3.4	28.0	675	1.331	3	P44	09D41-	1	5.9
6.2	1350	3.4	28.0	675	1.331	3	P44	09D41L	1	6.0
8.6	1013	2.7	38.0	506	1.259	4	P44	09D41L	1	6.0
8.6	1013	2.7	38.0	506	1.259	4	P44	09D41-	1	5.9
11.0	810	2.3	40.0	405	1.230	5	P44	09D41-	1	5.9
11.0	810	2.3	40.0	405	1.230	5	P44	09D41L	1	6.0
14.0	579	4.2	65.0	289	1.574	7	P130	09D41-	1	7.7
14.0	579	4.2	65.0	289	1.574	7	P130	09D41L	1	7.8
15.0	579	1.3	25.0	289	1.205	7	P44	09D41-	1	5.9
15.0	579	1.3	25.0	289	1.205	7	P44	09D41L	1	6.0
16.0	450	4.4	130	225	1.766	9	P130	09D41-	2	8.1
16.0	450	4.4	130	225	1.766	9	P130	09D41L	2	8.2
17.0	506	1.0	18.0	253	1.199	8	P44	09D41-	1	5.9
17.0	506	1.0	18.0	253	1.199	8	P44	09D41L	1	6.0
17.0	506	2.8	50.0	253	1.543	8	P130	09D41-	1	7.7
17.0	506	2.8	50.0	253	1.543	8	P130	09D41L	1	7.8
19.0	450	1.6	44.0	225	1.251	9	P44	09D41L	2	6.4
19.0	450	1.6	44.0	225	1.251	9	P44	09D41-	2	6.3
20.0	405	4.3	95.0	203	2.584	10	P260	09D41L	1	12
20.0	405	4.3	95.0	203	2.584	10	P260	09D41-	1	12
21.0	338	4.3	120	169	1.724	12	P130	09D41L	2	8.2
21.0	338	4.3	120	169	1.724	12	P130	09D41-	2	8.1
22.0	405	1.7	38.0	203	1.506	10	P130	09D41-	1	7.7
22.0	405	1.7	38.0	203	1.506	10	P130	09D41L	1	7.8
26.0	338	1.3	44.0	169	1.243	12	P44	09D41-	2	6.3
26.0	338	1.3	44.0	169	1.243	12	P44	09D41L	2	6.4
29.0	270	3.3	110	135	1.706	15	P130	09D41L	2	8.2
29.0	270	3.3	110	135	1.706	15	P130	09D41-	2	8.1
31.0	253	3.4	120	127	1.565	16	P130	09D41-	2	8.1
31.0	253	3.4	120	127	1.565	16	P130	09D41L	2	8.2
31.0	203	5.9	260	101	2.697	20	P260	09D41L	2	14
31.0	203	5.9	260	101	2.697	20	P260	09D41-	2	14
32.0	270	1.1	44.0	135	1.200	15	P44	09D41-	2	6.3
32.0	270	1.1	44.0	135	1.200	15	P44	09D41L	2	6.4
35.0	253	1.1	44.0	127	1.208	16	P44	09D41-	2	6.3
35.0	253	1.1	44.0	127	1.208	16	P44	09D41L	2	6.4
41.0	203	2.7	120	101	1.518	20	P130	09D41L	2	8.2
41.0	203	2.7	120	101	1.518	20	P130	09D41-	2	8.1
45.0	162	4.2	230	81.0	2.681	25	P260	09D41L	2	14
45.0	162	4.2	230	81.0	2.681	25	P260	09D41-	2	14
54.0	162	2.0	110	81.0	1.512	25	P130	09D41-	2	8.1
54.0	162	2.0	110	81.0	1.512	25	P130	09D41L	2	8.2
60.0	127	3.7	260	63.0	2.529	32	P260	09D41-	2	14
60.0	127	3.7	260	63.0	2.529	32	P260	09D41L	2	14
69.0	127	1.7	120	63.0	1.471	32	P130	09D41L	2	8.2
69.0	127	1.7	120	63.0	1.471	32	P130	09D41-	2	8.1
82.0	101	2.7	230	51.0	2.523	40	P260	09D41-	2	14
82.0	101	2.7	230	51.0	2.523	40	P260	09D41L	2	14
86.0	101	1.3	110	51.0	1.468	40	P130	09D41-	2	8.1



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
86.0	101	1.3	110	51.0	1.468	40	P130	09D41L	2	8.2



1.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.8	2000	3.9	28.0	1000	1.331	3	P44	09D60L	1	6.0
4.8	2000	3.9	28.0	1000	1.331	3	P44	09D60-	1	5.9
6.6	1500	3.1	38.0	750	1.259	4	P44	09D60-	1	5.9
6.6	1500	3.1	38.0	750	1.259	4	P44	09D60L	1	6.0
8.4	1200	2.6	40.0	600	1.230	5	P44	09D60-	1	5.9
8.4	1200	2.6	40.0	600	1.230	5	P44	09D60L	1	6.0
11.0	857	5.0	65.0	429	1.574	7	P130	09D60-	1	7.7
11.0	857	5.0	65.0	429	1.574	7	P130	09D60L	1	7.8
12.0	857	1.5	25.0	429	1.205	7	P44	09D60-	1	5.9
12.0	857	1.5	25.0	429	1.205	7	P44	09D60L	1	6.0
12.0	667	5.0	130	333	1.766	9	P130	09D60-	2	8.1
12.0	667	5.0	130	333	1.766	9	P130	09D60L	2	8.2
13.0	750	3.6	50.0	375	1.543	8	P130	09D60-	1	7.7
13.0	750	3.6	50.0	375	1.543	8	P130	09D60L	1	7.8
14.0	750	1.3	18.0	375	1.199	8	P44	09D60-	1	5.9
14.0	750	1.3	18.0	375	1.199	8	P44	09D60L	1	6.0
15.0	667	1.8	44.0	333	1.251	9	P44	09D60-	2	6.3
15.0	667	1.8	44.0	333	1.251	9	P44	09D60L	2	6.4
15.0	650	2.9	85.0	325	5.164	3	P130	12D20L	1	10
15.0	650	2.9	85.0	325	5.164	3	P130	12D20-	1	9.9
15.0	600	5.5	95.0	300	2.584	10	P260	09D60-	1	12
15.0	600	5.5	95.0	300	2.584	10	P260	09D60L	1	12
16.0	500	4.9	120	250	1.724	12	P130	09D60L	2	8.2
16.0	500	4.9	120	250	1.724	12	P130	09D60-	2	8.1
17.0	600	2.2	38.0	300	1.506	10	P130	09D60-	1	7.7
17.0	600	2.2	38.0	300	1.506	10	P130	09D60L	1	7.8
19.0	488	4.7	115	244	4.764	4	P130	12D20L	1	10
19.0	488	4.7	115	244	4.764	4	P130	12D20-	1	9.9
20.0	500	1.4	44.0	250	1.243	12	P44	09D60-	2	6.3
20.0	500	1.4	44.0	250	1.243	12	P44	09D60L	2	6.4
21.0	400	4.1	110	200	1.706	15	P130	09D60-	2	8.1
21.0	400	4.1	110	200	1.706	15	P130	09D60L	2	8.2
23.0	375	4.0	120	188	1.565	16	P130	09D60L	2	8.2
23.0	375	4.0	120	188	1.565	16	P130	09D60-	2	8.1
24.0	390	4.0	110	195	4.610	5	P130	12D20-	1	9.9
24.0	390	4.0	110	195	4.610	5	P130	12D20L	1	10
25.0	400	1.3	44.0	200	1.200	15	P44	09D60L	2	6.4
25.0	400	1.3	44.0	200	1.200	15	P44	09D60-	2	6.3
27.0	375	1.2	44.0	188	1.208	16	P44	09D60-	2	6.3
27.0	375	1.2	44.0	188	1.208	16	P44	09D60L	2	6.4
30.0	300	3.4	120	150	1.518	20	P130	09D60-	2	8.1
30.0	300	3.4	120	150	1.518	20	P130	09D60L	2	8.2
32.0	240	5.4	230	120	2.681	25	P260	09D60-	2	14
32.0	240	5.4	230	120	2.681	25	P260	09D60L	2	14
34.0	300	1.0	44.0	150	1.198	20	P44	09D60L	2	6.4
34.0	300	1.0	44.0	150	1.198	20	P44	09D60-	2	6.3
34.0	279	3.6	135	139	5.659	7	P260	12D20-	1	14
34.0	279	3.6	135	139	5.659	7	P260	12D20L	1	14
37.0	279	1.7	65.0	139	4.474	7	P130	12D20-	1	9.9
37.0	279	1.7	65.0	139	4.474	7	P130	12D20L	1	10
40.0	240	2.6	110	120	1.512	25	P130	09D60-	2	8.1



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
40.0	240	2.6	110	120	1.512	25	P130	09D60L	2	8.2
40.0	217	3.9	210	108	6.407	9	P260	12D20-	2	16
40.0	217	3.9	210	108	6.407	9	P260	12D20L	2	16
41.0	244	2.8	120	122	5.582	8	P260	12D20-	1	14
41.0	244	2.8	120	122	5.582	8	P260	12D20L	1	14
42.0	244	1.2	50.0	122	4.443	8	P130	12D20-	1	9.9
42.0	244	1.2	50.0	122	4.443	8	P130	12D20L	1	10
43.0	188	4.8	260	94.0	2.529	32	P260	09D60-	2	14
43.0	188	4.8	260	94.0	2.529	32	P260	09D60L	2	14
45.0	217	2.3	130	108	4.666	9	P130	12D20-	2	10
45.0	217	2.3	130	108	4.666	9	P130	12D20L	2	10
52.0	163	4.1	260	81.0	6.290	12	P260	12D20-	2	16
52.0	163	4.1	260	81.0	6.290	12	P260	12D20L	2	16
53.0	195	1.8	95.0	98.0	5.484	10	P260	12D20-	1	14
53.0	195	1.8	95.0	98.0	5.484	10	P260	12D20L	1	14
53.0	188	2.2	120	94.0	1.471	32	P130	09D60-	2	8.1
53.0	188	2.2	120	94.0	1.471	32	P130	09D60L	2	8.2
61.0	150	3.4	230	75.0	2.523	40	P260	09D60-	2	14
61.0	150	3.4	230	75.0	2.523	40	P260	09D60L	2	14
62.0	163	1.9	120	81.0	4.624	12	P130	12D20-	2	10
62.0	163	1.9	120	81.0	4.624	12	P130	12D20L	2	10
68.0	150	1.6	110	75.0	1.468	40	P130	09D60-	2	8.1
68.0	150	1.6	110	75.0	1.468	40	P130	09D60L	2	8.2
72.0	130	2.9	230	65.0	6.245	15	P260	12D20-	2	16
72.0	130	2.9	230	65.0	6.245	15	P260	12D20L	2	16
76.0	122	3.1	260	61.0	5.784	16	P260	12D20-	2	16
76.0	122	3.1	260	61.0	5.784	16	P260	12D20L	2	16
78.0	130	1.4	110	65.0	4.606	15	P130	12D20-	2	10
78.0	130	1.4	110	65.0	4.606	15	P130	12D20L	2	10
83.0	122	1.4	120	61.0	4.465	16	P130	12D20-	2	10
83.0	122	1.4	120	61.0	4.465	16	P130	12D20L	2	10
100	97.5	2.5	260	49.0	5.597	20	P260	12D20L	2	16
100	97.5	2.5	260	49.0	5.597	20	P260	12D20-	2	16
103	97.5	1.1	120	49.0	4.418	20	P130	12D20-	2	10
103	97.5	1.1	120	49.0	4.418	20	P130	12D20L	2	10
103	93.8	1.2	120	47.0	2.516	64	P260	09D60-	2	14
103	93.8	1.2	120	47.0	2.516	64	P260	09D60L	2	14
129	78.0	1.8	230	39.0	5.581	25	P260	12D20-	2	16
129	78.0	1.8	230	39.0	5.581	25	P260	12D20L	2	16
165	60.9	1.6	260	30.0	5.429	32	P260	12D20-	2	16
165	60.9	1.6	260	30.0	5.429	32	P260	12D20L	2	16
207	48.8	1.1	230	24.0	5.423	40	P260	12D20-	2	16
207	48.8	1.1	230	24.0	5.423	40	P260	12D20L	2	16



1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.1	1250	4.3	85.0	625	2.664	3	P130	09F38L	1	8.7
8.1	1250	4.3	85.0	625	2.664	3	P130	09F38-	1	8.6
8.7	1250	2.6	28.0	625	1.731	3	P44	09F38-	1	6.8
8.7	1250	2.6	28.0	625	1.731	3	P44	09F38L	1	6.9
12.0	938	2.1	38.0	469	1.659	4	P44	09F38-	1	6.8
12.0	938	2.1	38.0	469	1.659	4	P44	09F38L	1	6.9
13.0	750	5.8	110	375	2.110	5	P130	09F38-	1	8.6
13.0	750	5.8	110	375	2.110	5	P130	09F38L	1	8.7
15.0	750	1.7	40.0	375	1.630	5	P44	09F38-	1	6.8
15.0	750	1.7	40.0	375	1.630	5	P44	09F38L	1	6.9
20.0	536	3.1	65.0	268	1.974	7	P130	09F38-	1	8.6
20.0	536	3.1	65.0	268	1.974	7	P130	09F38L	1	8.7
21.0	469	5.0	120	234	3.082	8	P260	09F38-	1	13
21.0	469	5.0	120	234	3.082	8	P260	09F38L	1	13
24.0	469	2.1	50.0	234	1.943	8	P130	09F38L	1	8.7
24.0	469	2.1	50.0	234	1.943	8	P130	09F38-	1	8.6
24.0	417	3.4	130	208	2.166	9	P130	09F38-	2	9.0
24.0	417	3.4	130	208	2.166	9	P130	09F38L	2	9.1
26.0	417	1.2	44.0	208	1.651	9	P44	09F38-	2	7.2
26.0	417	1.2	44.0	208	1.651	9	P44	09F38L	2	7.3
28.0	375	3.2	95.0	188	2.984	10	P260	09F38-	1	13
28.0	375	3.2	95.0	188	2.984	10	P260	09F38L	1	13
29.0	375	1.3	38.0	188	1.906	10	P130	09F38-	1	8.6
29.0	375	1.3	38.0	188	1.906	10	P130	09F38L	1	8.7
32.0	313	3.3	120	156	2.124	12	P130	09F38L	2	9.1
32.0	313	3.3	120	156	2.124	12	P130	09F38-	2	9.0
33.0	250	5.2	230	125	3.745	15	P260	09F38-	2	15
33.0	250	5.2	230	125	3.745	15	P260	09F38L	2	15
35.0	234	5.5	260	117	3.284	16	P260	09F38-	2	15
35.0	234	5.5	260	117	3.284	16	P260	09F38L	2	15
42.0	250	2.5	110	125	2.106	15	P130	09F38-	2	9.0
42.0	250	2.5	110	125	2.106	15	P130	09F38L	2	9.1
45.0	234	2.5	120	117	1.965	16	P130	09F38-	2	9.0
45.0	234	2.5	120	117	1.965	16	P130	09F38L	2	9.1
48.0	188	4.4	260	94.0	3.097	20	P260	09F38-	2	15
48.0	188	4.4	260	94.0	3.097	20	P260	09F38L	2	15
58.0	188	2.0	120	94.0	1.918	20	P130	09F38-	2	9.0
58.0	188	2.0	120	94.0	1.918	20	P130	09F38L	2	9.1
67.0	150	3.1	230	75.0	3.081	25	P260	09F38-	2	15
67.0	150	3.1	230	75.0	3.081	25	P260	09F38L	2	15
73.0	150	1.5	110	75.0	1.912	25	P130	09F38-	2	9.0
73.0	150	1.5	110	75.0	1.912	25	P130	09F38L	2	9.1
88.0	117	2.8	260	59.0	2.929	32	P260	09F38-	2	15
88.0	117	2.8	260	59.0	2.929	32	P260	09F38L	2	15
93.0	117	1.3	120	59.0	1.871	32	P130	09F38-	2	9.0
93.0	117	1.3	120	59.0	1.871	32	P130	09F38L	2	9.1
117	93.8	2.0	230	47.0	2.923	40	P260	09F38L	2	15
117	93.8	2.0	230	47.0	2.923	40	P260	09F38-	2	15



1.45 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
24.0	500	4.3	115	250	11.530	3	P260	14D15-	1	36
32.0	375	4.3	155	188	10.528	4	P260	14D15-	1	36
40.0	300	4.3	195	150	10.116	5	P260	14D15-	1	36
61.0	214	2.2	135	107	9.759	7	P260	14D15-	1	36
71.0	188	1.7	120	94.0	9.682	8	P260	14D15-	1	36
75.0	167	2.5	210	83.0	10.507	9	P260	14D15-	2	38
88.0	150	1.1	95.0	75.0	9.584	10	P260	14D15-	1	36
100	125	2.5	260	63.0	10.390	12	P260	14D15-	2	38
130	100	1.7	230	50.0	10.345	15	P260	14D15-	2	38
138	93.8	1.8	260	47.0	9.884	16	P260	14D15-	2	38
173	75.0	1.5	260	38.0	9.697	20	P260	14D15-	2	38
216	60.0	1.1	230	30.0	9.681	25	P260	14D15-	2	38



1.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.1	2000	4.8	85.0	1000	2.664	3	P130	09F60-	1	8.6
6.1	2000	4.8	85.0	1000	2.664	3	P130	09F60L	1	8.7
6.7	2000	2.9	28.0	1000	1.731	3	P44	09F60L	1	6.9
6.7	2000	2.9	28.0	1000	1.731	3	P44	09F60-	1	6.8
9.1	1500	2.3	38.0	750	1.659	4	P44	09F60-	1	6.8
9.1	1500	2.3	38.0	750	1.659	4	P44	09F60L	1	6.9
12.0	1200	1.9	40.0	600	1.630	5	P44	09F60-	1	6.8
12.0	1200	1.9	40.0	600	1.630	5	P44	09F60L	1	6.9
15.0	857	3.8	65.0	429	1.974	7	P130	09F60-	1	8.6
15.0	857	3.8	65.0	429	1.974	7	P130	09F60L	1	8.7
16.0	857	1.1	25.0	429	1.605	7	P44	09F60-	1	6.8
16.0	857	1.1	25.0	429	1.605	7	P44	09F60L	1	6.9
18.0	750	2.7	50.0	375	1.943	8	P130	09F60-	1	8.6
18.0	750	2.7	50.0	375	1.943	8	P130	09F60L	1	8.7
18.0	667	3.8	130	333	2.166	9	P130	09F60-	2	9.0
18.0	667	3.8	130	333	2.166	9	P130	09F60L	2	9.1
20.0	667	1.4	44.0	333	1.651	9	P44	09F60-	2	7.2
20.0	667	1.4	44.0	333	1.651	9	P44	09F60L	2	7.3
21.0	600	4.1	95.0	300	2.984	10	P260	09F60-	1	13
21.0	600	4.1	95.0	300	2.984	10	P260	09F60L	1	13
23.0	600	1.7	38.0	300	1.906	10	P130	09F60L	1	8.7
23.0	600	1.7	38.0	300	1.906	10	P130	09F60-	1	8.6
24.0	500	3.7	120	250	2.124	12	P130	09F60L	2	9.1
24.0	500	3.7	120	250	2.124	12	P130	09F60-	2	9.0
27.0	500	1.1	44.0	250	1.643	12	P44	09F60-	2	7.2
27.0	500	1.1	44.0	250	1.643	12	P44	09F60L	2	7.3
31.0	400	3.1	110	200	2.106	15	P130	09F60-	2	9.0
31.0	400	3.1	110	200	2.106	15	P130	09F60L	2	9.1
33.0	375	3.0	120	188	1.965	16	P130	09F60L	2	9.1
33.0	375	3.0	120	188	1.965	16	P130	09F60-	2	9.0
33.0	300	5.6	260	150	3.097	20	P260	09F60-	2	15
33.0	300	5.6	260	150	3.097	20	P260	09F60L	2	15
43.0	300	2.6	120	150	1.918	20	P130	09F60-	2	9.0
43.0	300	2.6	120	150	1.918	20	P130	09F60L	2	9.1
48.0	240	4.0	230	120	3.081	25	P260	09F60-	2	15
48.0	240	4.0	230	120	3.081	25	P260	09F60L	2	15
56.0	240	1.9	110	120	1.912	25	P130	09F60-	2	9.0
56.0	240	1.9	110	120	1.912	25	P130	09F60L	2	9.1
64.0	188	3.6	260	94.0	2.929	32	P260	09F60-	2	15
64.0	188	3.6	260	94.0	2.929	32	P260	09F60L	2	15
72.0	188	1.6	120	94.0	1.871	32	P130	09F60L	2	9.1
72.0	188	1.6	120	94.0	1.871	32	P130	09F60-	2	9.0
87.0	150	2.6	230	75.0	2.923	40	P260	09F60-	2	15
87.0	150	2.6	230	75.0	2.923	40	P260	09F60L	2	15
90.0	150	1.2	110	75.0	1.868	40	P130	09F60-	2	9.0
90.0	150	1.2	110	75.0	1.868	40	P130	09F60L	2	9.1



1.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
10.0	1350	3.4	85.0	675	3.064	3	P130	09H41L	1	9.6
10.0	1350	3.4	85.0	675	3.064	3	P130	09H41-	1	9.5
12.0	1013	5.5	115	506	2.664	4	P130	09H41-	1	9.5
12.0	1013	5.5	115	506	2.664	4	P130	09H41L	1	9.6
16.0	810	4.6	110	405	2.510	5	P130	09H41L	1	9.6
16.0	810	4.6	110	405	2.510	5	P130	09H41-	1	9.5
22.0	579	5.2	135	289	3.559	7	P260	09H41L	1	14
22.0	579	5.2	135	289	3.559	7	P260	09H41-	1	14
25.0	579	2.5	65.0	289	2.374	7	P130	09H41L	1	9.6
25.0	579	2.5	65.0	289	2.374	7	P130	09H41-	1	9.5
26.0	450	4.6	210	225	4.307	9	P260	09H41-	2	16
26.0	450	4.6	210	225	4.307	9	P260	09H41L	2	16
27.0	506	4.1	120	253	3.482	8	P260	09H41-	1	14
27.0	506	4.1	120	253	3.482	8	P260	09H41L	1	14
27.0	500	3.9	115	250	10.730	3	P260	12H15-	1	17
27.0	500	3.9	115	250	10.730	3	P260	12H15L	1	17
29.0	506	1.7	50.0	253	2.343	8	P130	09H41-	1	9.5
29.0	506	1.7	50.0	253	2.343	8	P130	09H41L	1	9.6
29.0	500	1.8	85.0	250	8.464	3	P130	12H15-	1	13
29.0	500	1.8	85.0	250	8.464	3	P130	12H15L	1	13
30.0	338	5.9	260	169	4.190	12	P260	09H41-	2	16
30.0	338	5.9	260	169	4.190	12	P260	09H41L	2	16
31.0	450	2.7	130	225	2.566	9	P130	09H41-	2	9.9
31.0	450	2.7	130	225	2.566	9	P130	09H41L	2	10
35.0	375	4.0	155	188	9.728	4	P260	12H15-	1	17
35.0	375	4.0	155	188	9.728	4	P260	12H15L	1	17
36.0	405	1.1	38.0	203	2.306	10	P130	09H41L	1	9.6
36.0	405	1.1	38.0	203	2.306	10	P130	09H41-	1	9.5
36.0	405	2.6	95.0	203	3.384	10	P260	09H41-	1	14
36.0	405	2.6	95.0	203	3.384	10	P260	09H41L	1	14
37.0	375	2.8	115	188	8.064	4	P130	12H15-	1	13
37.0	375	2.8	115	188	8.064	4	P130	12H15L	1	13
41.0	338	2.6	120	169	2.524	12	P130	09H41L	2	10
41.0	338	2.6	120	169	2.524	12	P130	09H41-	2	9.9
44.0	300	4.0	195	150	9.316	5	P260	12H15-	1	17
44.0	300	4.0	195	150	9.316	5	P260	12H15L	1	17
45.0	270	4.2	230	135	4.145	15	P260	09H41L	2	16
45.0	270	4.2	230	135	4.145	15	P260	09H41-	2	16
47.0	253	4.5	260	127	3.684	16	P260	09H41L	2	16
47.0	253	4.5	260	127	3.684	16	P260	09H41-	2	16
48.0	300	2.2	110	150	7.910	5	P130	12H15-	1	13
48.0	300	2.2	110	150	7.910	5	P130	12H15L	1	13
54.0	270	2.0	110	135	2.506	15	P130	09H41-	2	9.9
54.0	270	2.0	110	135	2.506	15	P130	09H41L	2	10
57.0	253	2.1	120	127	2.365	16	P130	09H41-	2	9.9
57.0	253	2.1	120	127	2.365	16	P130	09H41L	2	10
63.0	203	3.6	260	101	3.497	20	P260	09H41-	2	16
63.0	203	3.6	260	101	3.497	20	P260	09H41L	2	16
67.0	214	2.0	135	107	8.959	7	P260	12H15L	1	17
67.0	214	2.0	135	107	8.959	7	P260	12H15-	1	17
71.0	203	1.6	120	101	2.318	20	P130	09H41-	2	9.9



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
71.0	203	1.6	120	101	2.318	20	P130	09H41L	2	10
77.0	188	1.6	120	94.0	8.882	8	P260	12H15L	1	17
77.0	188	1.6	120	94.0	8.882	8	P260	12H15-	1	17
83.0	167	2.3	210	83.0	9.707	9	P260	12H15-	2	19
83.0	167	2.3	210	83.0	9.707	9	P260	12H15L	2	19
85.0	167	1.4	130	83.0	7.966	9	P130	12H15-	2	13
85.0	167	1.4	130	83.0	7.966	9	P130	12H15L	2	14
86.0	162	2.6	230	81.0	3.481	25	P260	09H41L	2	16
86.0	162	2.6	230	81.0	3.481	25	P260	09H41-	2	16
89.0	162	1.2	110	81.0	2.312	25	P130	09H41-	2	9.9
89.0	162	1.2	110	81.0	2.312	25	P130	09H41L	2	10
111	125	2.3	260	63.0	9.590	12	P260	12H15L	2	19
111	125	2.3	260	63.0	9.590	12	P260	12H15-	2	19
112	127	2.3	260	63.0	3.329	32	P260	09H41-	2	16
112	127	2.3	260	63.0	3.329	32	P260	09H41L	2	16
113	125	1.0	120	63.0	7.924	12	P130	12H15L	2	14
113	125	1.0	120	63.0	7.924	12	P130	12H15-	2	13
114	127	1.0	120	63.0	2.271	32	P130	09H41-	2	9.9
114	127	1.0	120	63.0	2.271	32	P130	09H41L	2	10
141	100	1.6	230	50.0	9.545	15	P260	12H15-	2	19
141	100	1.6	230	50.0	9.545	15	P260	12H15L	2	19
143	101	1.6	230	51.0	3.323	40	P260	09H41L	2	16
143	101	1.6	230	51.0	3.323	40	P260	09H41-	2	16
150	93.8	1.7	260	47.0	9.084	16	P260	12H15-	2	19
150	93.8	1.7	260	47.0	9.084	16	P260	12H15L	2	19
188	75.0	1.4	260	38.0	8.897	20	P260	12H15-	2	19
188	75.0	1.4	260	38.0	8.897	20	P260	12H15L	2	19



1.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
12.0	1350	3.0	85.0	675	5.164	3	P130	12D41-	1	9.9
12.0	1350	3.0	85.0	675	5.164	3	P130	12D41L	1	10
15.0	1013	4.9	115	506	4.764	4	P130	12D41-	1	9.9
15.0	1013	4.9	115	506	4.764	4	P130	12D41L	1	10
19.0	810	4.1	110	405	4.610	5	P130	12D41-	1	9.9
19.0	810	4.1	110	405	4.610	5	P130	12D41L	1	10
26.0	579	4.6	135	289	5.659	7	P260	12D41-	1	14
26.0	579	4.6	135	289	5.659	7	P260	12D41L	1	14
29.0	579	2.2	65.0	289	4.474	7	P130	12D41-	1	9.9
29.0	579	2.2	65.0	289	4.474	7	P130	12D41L	1	10
31.0	506	3.6	120	253	5.582	8	P260	12D41L	1	14
31.0	506	3.6	120	253	5.582	8	P260	12D41-	1	14
31.0	450	4.0	210	225	6.407	9	P260	12D41-	2	16
31.0	450	4.0	210	225	6.407	9	P260	12D41L	2	16
33.0	506	1.5	50.0	253	4.443	8	P130	12D41-	1	9.9
33.0	506	1.5	50.0	253	4.443	8	P130	12D41L	1	10
35.0	450	2.4	130	225	4.666	9	P130	12D41-	2	10
35.0	450	2.4	130	225	4.666	9	P130	12D41L	2	10
37.0	338	5.3	260	169	6.290	12	P260	12D41-	2	16
37.0	338	5.3	260	169	6.290	12	P260	12D41L	2	16
41.0	405	2.3	95.0	203	5.484	10	P260	12D41-	1	14
41.0	405	2.3	95.0	203	5.484	10	P260	12D41L	1	14
47.0	338	2.3	120	169	4.624	12	P130	12D41-	2	10
47.0	338	2.3	120	169	4.624	12	P130	12D41L	2	10
53.0	270	3.7	230	135	6.245	15	P260	12D41-	2	16
53.0	270	3.7	230	135	6.245	15	P260	12D41L	2	16
55.0	253	3.9	260	127	5.784	16	P260	12D41-	2	16
55.0	253	3.9	260	127	5.784	16	P260	12D41L	2	16
61.0	270	1.8	110	135	4.606	15	P130	12D41-	2	10
61.0	270	1.8	110	135	4.606	15	P130	12D41L	2	10
65.0	253	1.8	120	127	4.465	16	P130	12D41L	2	10
65.0	253	1.8	120	127	4.465	16	P130	12D41-	2	10
74.0	203	3.2	260	101	5.597	20	P260	12D41-	2	16
74.0	203	3.2	260	101	5.597	20	P260	12D41L	2	16
81.0	203	1.5	120	101	4.418	20	P130	12D41-	2	10
81.0	203	1.5	120	101	4.418	20	P130	12D41L	2	10
99.0	162	2.3	230	81.0	5.581	25	P260	12D41-	2	16
99.0	162	2.3	230	81.0	5.581	25	P260	12D41L	2	16
101	162	1.1	110	81.0	4.412	25	P130	12D41L	2	10
101	162	1.1	110	81.0	4.412	25	P130	12D41-	2	10
129	127	2.0	260	63.0	5.429	32	P260	12D41L	2	16
129	127	2.0	260	63.0	5.429	32	P260	12D41-	2	16
162	101	1.4	230	51.0	5.423	40	P260	12D41-	2	16
162	101	1.4	230	51.0	5.423	40	P260	12D41L	2	16



1.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.0	2000	3.9	85.0	1000	3.064	3	P130	09H60-	1	9.5
8.0	2000	3.9	85.0	1000	3.064	3	P130	09H60L	1	9.6
9.8	1700	3.4	85.0	850	3.964	3	P130	09L51-	1	11
12.0	1350	2.9	85.0	675	3.964	3	P130	09L41L	1	11
12.0	1350	2.9	85.0	675	3.964	3	P130	09L41-	1	11
12.0	1275	5.4	115	638	3.564	4	P130	09L51-	1	11
12.0	1200	5.2	110	600	2.510	5	P130	09H60-	1	9.5
12.0	1200	5.2	110	600	2.510	5	P130	09H60L	1	9.6
15.0	1020	4.5	110	510	3.410	5	P130	09L51-	1	11
15.0	1013	4.7	115	506	3.564	4	P130	09L41-	1	11
15.0	1013	4.7	115	506	3.564	4	P130	09L41L	1	11
19.0	857	3.0	65.0	429	2.374	7	P130	09H60-	1	9.5
19.0	857	3.0	65.0	429	2.374	7	P130	09H60L	1	9.6
19.0	667	5.1	210	333	4.307	9	P260	09H60-	2	16
19.0	667	5.1	210	333	4.307	9	P260	09H60L	2	16
20.0	810	3.9	110	405	3.410	5	P130	09L41-	1	11
20.0	810	3.9	110	405	3.410	5	P130	09L41L	1	11
20.0	750	5.2	120	375	3.482	8	P260	09H60-	1	14
20.0	750	5.2	120	375	3.482	8	P260	09H60L	1	14
21.0	729	5.5	135	364	4.459	7	P260	09L51-	1	15
23.0	750	2.2	50.0	375	2.343	8	P130	09H60-	1	9.5
23.0	750	2.2	50.0	375	2.343	8	P130	09H60L	1	9.6
23.0	667	3.0	130	333	2.566	9	P130	09H60-	2	9.9
23.0	667	3.0	130	333	2.566	9	P130	09H60L	2	10
24.0	729	2.6	65.0	364	3.274	7	P130	09L51-	1	11
25.0	638	4.3	120	319	4.382	8	P260	09L51-	1	15
25.0	567	4.5	210	283	5.207	9	P260	09L51-	2	17
27.0	600	3.3	95.0	300	3.384	10	P260	09H60-	1	14
27.0	600	3.3	95.0	300	3.384	10	P260	09H60L	1	14
27.0	579	4.4	135	289	4.459	7	P260	09L41-	1	15
27.0	579	4.4	135	289	4.459	7	P260	09L41L	1	16
28.0	638	1.8	50.0	319	3.243	8	P130	09L51-	1	11
29.0	600	1.3	38.0	300	2.306	10	P130	09H60-	1	9.5
29.0	600	1.3	38.0	300	2.306	10	P130	09H60L	1	9.6
29.0	567	2.6	130	283	3.466	9	P130	09L51-	2	12
29.0	425	5.9	260	213	5.090	12	P260	09L51-	2	17
30.0	579	2.1	65.0	289	3.274	7	P130	09L41L	1	11
30.0	579	2.1	65.0	289	3.274	7	P130	09L41-	1	11
31.0	500	2.9	120	250	2.524	12	P130	09H60L	2	10
31.0	500	2.9	120	250	2.524	12	P130	09H60-	2	9.9
32.0	506	3.4	120	253	4.382	8	P260	09L41-	1	15
32.0	506	3.4	120	253	4.382	8	P260	09L41L	1	16
32.0	400	5.3	230	200	4.145	15	P260	09H60-	2	16
32.0	400	5.3	230	200	4.145	15	P260	09H60L	2	16
33.0	510	2.8	95.0	255	4.284	10	P260	09L51-	1	15
33.0	450	3.9	210	225	5.207	9	P260	09L41-	2	17
33.0	450	3.9	210	225	5.207	9	P260	09L41L	2	18
33.0	375	5.5	260	188	3.684	16	P260	09H60-	2	16
33.0	375	5.5	260	188	3.684	16	P260	09H60L	2	16
34.0	510	1.1	38.0	255	3.206	10	P130	09L51-	1	11
35.0	506	1.5	50.0	253	3.243	8	P130	09L41-	1	11



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
35.0	506	1.5	50.0	253	3.243	8	P130	09L41L	1	11
37.0	450	2.3	130	225	3.466	9	P130	09L41-	2	12
37.0	450	2.3	130	225	3.466	9	P130	09L41L	2	12
39.0	425	2.6	120	213	3.424	12	P130	09L51-	2	12
39.0	338	5.0	260	169	5.090	12	P260	09L41-	2	17
39.0	338	5.0	260	169	5.090	12	P260	09L41L	2	18
41.0	400	2.5	110	200	2.506	15	P130	09H60-	2	9.9
41.0	400	2.5	110	200	2.506	15	P130	09H60L	2	10
42.0	340	4.4	230	170	5.045	15	P260	09L51-	2	17
43.0	405	2.2	95.0	203	4.284	10	P260	09L41L	1	16
43.0	405	2.2	95.0	203	4.284	10	P260	09L41-	1	15
43.0	319	4.7	260	159	4.584	16	P260	09L51-	2	17
44.0	375	2.4	120	188	2.365	16	P130	09H60-	2	9.9
44.0	375	2.4	120	188	2.365	16	P130	09H60L	2	10
46.0	300	4.5	260	150	3.497	20	P260	09H60-	2	16
46.0	300	4.5	260	150	3.497	20	P260	09H60L	2	16
50.0	340	2.1	110	170	3.406	15	P130	09L51-	2	12
50.0	338	2.2	120	169	3.424	12	P130	09L41-	2	12
50.0	338	2.2	120	169	3.424	12	P130	09L41L	2	12
54.0	319	2.1	120	159	3.265	16	P130	09L51-	2	12
56.0	300	2.1	120	150	2.318	20	P130	09H60-	2	9.9
56.0	300	2.1	120	150	2.318	20	P130	09H60L	2	10
56.0	270	3.6	230	135	5.045	15	P260	09L41-	2	17
56.0	270	3.6	230	135	5.045	15	P260	09L41L	2	18
59.0	255	3.8	260	128	4.397	20	P260	09L51-	2	17
59.0	253	3.8	260	127	4.584	16	P260	09L41-	2	17
59.0	253	3.8	260	127	4.584	16	P260	09L41L	2	18
63.0	270	1.7	110	135	3.406	15	P130	09L41-	2	12
63.0	270	1.7	110	135	3.406	15	P130	09L41L	2	12
64.0	240	3.2	230	120	3.481	25	P260	09H60-	2	16
64.0	240	3.2	230	120	3.481	25	P260	09H60L	2	16
68.0	255	1.7	120	128	3.218	20	P130	09L51-	2	12
68.0	253	1.7	120	127	3.265	16	P130	09L41-	2	12
68.0	253	1.7	120	127	3.265	16	P130	09L41L	2	12
71.0	240	1.5	110	120	2.312	25	P130	09H60-	2	9.9
71.0	240	1.5	110	120	2.312	25	P130	09H60L	2	10
78.0	203	3.0	260	101	4.397	20	P260	09L41-	2	17
78.0	203	3.0	260	101	4.397	20	P260	09L41L	2	18
80.0	204	2.7	230	102	4.381	25	P260	09L51-	2	17
85.0	204	1.3	110	102	3.212	25	P130	09L51-	2	12
85.0	203	1.4	120	101	3.218	20	P130	09L41-	2	12
85.0	203	1.4	120	101	3.218	20	P130	09L41L	2	12
85.0	188	2.9	260	94.0	3.329	32	P260	09H60-	2	16
85.0	188	2.9	260	94.0	3.329	32	P260	09H60L	2	16
90.0	188	1.3	120	94.0	2.271	32	P130	09H60-	2	9.9
90.0	188	1.3	120	94.0	2.271	32	P130	09H60L	2	10
105	162	2.2	230	81.0	4.381	25	P260	09L41-	2	17
105	162	2.2	230	81.0	4.381	25	P260	09L41L	2	18
105	159	2.4	260	80.0	4.229	32	P260	09L51-	2	17
106	162	1.0	110	81.0	3.212	25	P130	09L41-	2	12
106	162	1.0	110	81.0	3.212	25	P130	09L41L	2	12
108	159	1.1	120	80.0	3.171	32	P130	09L51-	2	12



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
112	150	2.0	230	75.0	3.323	40	P260	09H60L	2	16
112	150	2.0	230	75.0	3.323	40	P260	09H60-	2	16
135	128	1.7	230	64.0	4.223	40	P260	09L51-	2	17
135	127	1.9	260	63.0	4.229	32	P260	09L41L	2	18
135	127	1.9	260	63.0	4.229	32	P260	09L41-	2	17
169	101	1.4	230	51.0	4.223	40	P260	09L41-	2	17
169	101	1.4	230	51.0	4.223	40	P260	09L41L	2	18

2.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
20.0	1000	4.9	115	500	10.730	3	P260	12H30L	1	17
23.0	1000	1.8	85.0	500	8.464	3	P130	12H30L	1	13
27.0	750	4.9	155	375	9.728	4	P260	12H30L	1	17
30.0	750	2.9	115	375	8.064	4	P130	12H30L	1	13
34.0	600	5.0	195	300	9.316	5	P260	12H30L	1	17
38.0	600	2.4	110	300	7.910	5	P130	12H30L	1	13
45.0	500	2.4	115	250	17.630	3	P260	14H15-	1	41
53.0	429	2.5	135	214	8.959	7	P260	12H30L	1	17
54.0	429	1.2	65.0	214	7.774	7	P130	12H30L	1	13
60.0	375	2.5	155	188	16.628	4	P260	14H15-	1	41
61.0	375	1.9	120	188	8.882	8	P260	12H30L	1	17
66.0	333	2.4	210	167	9.707	9	P260	12H30L	2	19
68.0	333	1.4	130	167	7.966	9	P130	12H30L	2	14
75.0	300	2.5	195	150	16.216	5	P260	14H15-	1	41
77.0	300	1.2	95.0	150	8.784	10	P260	12H30L	1	17
85.0	250	2.8	260	125	9.590	12	P260	12H30L	2	19
90.0	250	1.3	120	125	7.924	12	P130	12H30L	2	14
108	214	1.2	135	107	15.859	7	P260	14H15-	1	41
113	200	2.0	230	100	9.545	15	P260	12H30L	2	19
119	188	2.1	260	94.0	9.084	16	P260	12H30L	2	19
135	167	1.5	210	83.0	16.607	9	P260	14H15-	2	43
150	150	1.7	260	75.0	8.897	20	P260	12H30L	2	19
180	125	1.4	260	63.0	16.490	12	P260	14H15-	2	43
188	120	1.2	230	60.0	8.881	25	P260	12H30L	2	19
241	93.8	1.1	260	47.0	15.984	16	P260	14H15-	2	43
241	93.8	1.1	260	47.0	8.729	32	P260	12H30L	2	19



2.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
19.0	1200	5.1	115	600	11.530	3	P260	14D36-	1	36
19.0	1175	5.1	115	588	10.730	3	P260	12H35-	1	17
22.0	1175	1.8	85.0	588	8.464	3	P130	12H35-	1	13
25.0	900	5.3	155	450	10.528	4	P260	14D36-	1	36
25.0	881	5.3	155	441	9.728	4	P260	12H35-	1	17
28.0	881	2.9	115	441	8.064	4	P130	12H35-	1	13
31.0	720	5.3	195	360	10.116	5	P260	14D36-	1	36
31.0	705	5.3	195	353	9.316	5	P260	12H35-	1	17
35.0	705	2.4	110	353	7.910	5	P130	12H35-	1	13
37.0	650	2.9	115	325	14.030	3	P260	12L20-	1	20
37.0	650	2.9	115	325	14.030	3	P260	12L20L	1	20
49.0	514	2.7	135	257	9.759	7	P260	14D36-	1	36
49.0	504	2.7	135	252	8.959	7	P260	12H35-	1	17
50.0	504	1.3	65.0	252	7.774	7	P130	12H35-	1	13
50.0	488	2.9	155	244	13.028	4	P260	12L20-	1	20
50.0	488	2.9	155	244	13.028	4	P260	12L20L	1	20
57.0	450	2.1	120	225	9.682	8	P260	14D36-	1	36
57.0	441	2.1	120	220	8.882	8	P260	12H35-	1	17
62.0	400	2.4	210	200	10.507	9	P260	14D36-	2	38
62.0	392	2.4	210	196	9.707	9	P260	12H35-	2	19
62.0	390	3.0	195	195	12.616	5	P260	12L20-	1	20
62.0	390	3.0	195	195	12.616	5	P260	12L20L	1	20
63.0	392	1.4	130	196	7.966	9	P130	12H35-	2	13
72.0	360	1.3	95.0	180	9.584	10	P260	14D36-	1	36
72.0	353	1.3	95.0	176	8.784	10	P260	12H35-	1	17
78.0	300	3.0	260	150	10.390	12	P260	14D36-	2	38
78.0	294	3.0	260	147	9.590	12	P260	12H35-	2	19
85.0	294	1.4	120	147	7.924	12	P130	12H35-	2	13
91.0	279	1.5	135	139	12.259	7	P260	12L20-	1	20
91.0	279	1.5	135	139	12.259	7	P260	12L20L	1	20
104	244	1.2	120	122	12.182	8	P260	12L20-	1	20
104	244	1.2	120	122	12.182	8	P260	12L20L	1	20
105	240	2.1	230	120	10.345	15	P260	14D36-	2	38
105	235	2.1	230	118	9.545	15	P260	12H35-	2	19
106	235	1.0	110	118	7.906	15	P130	12H35-	2	13
111	225	2.3	260	113	9.884	16	P260	14D36-	2	38
111	220	2.3	260	110	9.084	16	P260	12H35-	2	19
113	220	1.0	120	110	7.765	16	P130	12H35-	2	13
114	217	1.6	210	108	13.007	9	P260	12L20-	2	22
114	217	1.6	210	108	13.007	9	P260	12L20L	2	22
141	180	1.8	260	90.0	9.697	20	P260	14D36-	2	38
141	176	1.8	260	88.0	8.897	20	P260	12H35-	2	19
152	163	1.7	260	81.0	12.890	12	P260	12L20L	2	22
152	163	1.7	260	81.0	12.890	12	P260	12L20-	2	22
176	144	1.3	230	72.0	9.681	25	P260	14D36-	2	38
176	141	1.3	230	71.0	8.881	25	P260	12H35-	2	19
190	130	1.2	230	65.0	12.845	15	P260	12L20-	2	22
190	130	1.2	230	65.0	12.845	15	P260	12L20L	2	22
203	122	1.3	260	61.0	12.384	16	P260	12L20-	2	22
203	122	1.3	260	61.0	12.384	16	P260	12L20L	2	22
226	113	1.1	260	56.0	9.529	32	P260	14D36-	2	38



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
226	110	1.1	260	55.0	8.729	32	P260	12H35-	2	19
254	97.5	1.0	260	49.0	12.197	20	P260	12L20-	2	22
254	97.5	1.0	260	49.0	12.197	20	P260	12L20L	2	22

3.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
66.0	500	1.7	115	250	26.830	3	P260	14L15-	1	46
88.0	375	1.7	155	188	25.828	4	P260	14L15-	1	46
110	300	1.7	195	150	25.416	5	P260	14L15-	1	46
195	167	1.0	210	83.0	25.807	9	P260	14L15-	2	48

4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
78.0	475	1.5	115	238	70.791	3	P260	19F14-	1	56
104	356	1.5	155	178	69.790	4	P260	19F14-	1	56
130	285	1.5	195	143	69.378	5	P260	19F14-	1	56
228	158	1.0	240	79.0	69.769	9	P260	19F14-	2	58

4.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
30.0	1350	3.4	115	675	14.030	3	P260	12L41-	1	20
39.0	1075	2.8	115	538	17.630	3	P260	14H32-	1	41
39.0	1013	3.6	155	506	13.028	4	P260	12L41-	1	20
49.0	810	3.6	195	405	12.616	5	P260	12L41-	1	20
52.0	806	2.8	155	403	16.628	4	P260	14H32-	1	41
65.0	645	2.8	195	323	16.216	5	P260	14H32-	1	41
74.0	579	1.8	135	289	12.259	7	P260	12L41-	1	20
84.0	506	1.4	120	253	12.182	8	P260	12L41-	1	20
93.0	450	1.6	210	225	13.007	9	P260	12L41-	2	22
94.0	461	1.4	135	230	15.859	7	P260	14H32-	1	41
108	403	1.1	120	202	15.782	8	P260	14H32-	1	41
118	358	1.3	210	179	16.607	9	P260	14H32-	2	43
124	338	2.1	260	169	12.890	12	P260	12L41-	2	22
155	270	1.5	230	135	12.845	15	P260	12L41-	2	22
158	269	1.6	260	134	16.490	12	P260	14H32-	2	43
165	253	1.5	260	127	12.384	16	P260	12L41-	2	22
197	215	1.1	230	108	16.445	15	P260	14H32-	2	43
207	203	1.2	260	101	12.197	20	P260	12L41-	2	22
211	202	1.2	260	101	15.984	16	P260	14H32-	2	43



5.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
49.0	1075	2.3	115	538	26.830	3	P260	14L32-	1	46
65.0	806	2.3	155	403	25.828	4	P260	14L32-	1	46
81.0	645	2.3	195	323	25.416	5	P260	14L32-	1	46
116	461	1.2	135	230	25.059	7	P260	14L32-	1	46
146	358	1.1	210	179	25.807	9	P260	14L32-	2	48
194	269	1.3	260	134	25.690	12	P260	14L32-	2	48

6.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
60.0	1000	1.9	115	500	70.791	3	P260	19F30-	1	56
81.0	750	1.9	155	375	69.790	4	P260	19F30-	1	56
101	600	1.9	195	300	69.378	5	P260	19F30-	1	56
178	333	1.0	240	167	69.769	9	P260	19F30-	2	58
237	250	1.1	260	125	69.652	12	P260	19F30-	2	58



Inverter power supply 400 V, forced ventilated motors

1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	550	5.6	115	275	7.430	3	P260	12D17-	1	16
20.0	550	2.4	85.0	275	5.164	3	P130	12D17-	1	12
23.0	413	5.7	155	206	6.428	4	P260	12D17-	1	16
25.0	413	3.9	115	206	4.764	4	P130	12D17-	1	12
28.0	330	5.7	195	165	6.016	5	P260	12D17-	1	16
32.0	330	3.2	110	165	4.610	5	P130	12D17-	1	12
45.0	236	2.8	135	118	5.659	7	P260	12D17-	1	16
47.0	236	1.4	65.0	118	4.474	7	P130	12D17-	1	12
53.0	206	2.2	120	103	5.582	8	P260	12D17-	1	16
54.0	183	3.2	210	92.0	6.407	9	P260	12D17-	2	18
59.0	183	1.9	130	92.0	4.666	9	P130	12D17-	2	12
67.0	165	1.4	95.0	83.0	5.484	10	P260	12D17-	1	16
72.0	138	3.2	260	69.0	6.290	12	P260	12D17-	2	18
79.0	138	1.5	120	69.0	4.624	12	P130	12D17-	2	12
97.0	110	2.3	230	55.0	6.245	15	P260	12D17-	2	18
99.0	110	1.1	110	55.0	4.606	15	P130	12D17-	2	12
102	103	2.4	260	52.0	5.784	16	P260	12D17-	2	18
105	103	1.1	120	52.0	4.465	16	P130	12D17-	2	12
132	82.5	1.9	260	41.0	5.597	20	P260	12D17-	2	18
165	66.0	1.4	230	33.0	5.581	25	P260	12D17-	2	18
211	51.6	1.2	260	26.0	5.429	32	P260	12D17-	2	18

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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
33.0	450	3.3	115	225	10.730	3	P260	12H14-	1	19
33.0	450	3.3	115	225	11.530	3	P260	14D14-	1	40
44.0	338	3.3	155	169	9.728	4	P260	12H14-	1	19
44.0	338	3.3	155	169	10.528	4	P260	14D14-	1	40
54.0	270	3.3	195	135	9.316	5	P260	12H14-	1	19
54.0	270	3.3	195	135	10.116	5	P260	14D14-	1	40
81.0	193	1.7	135	96.0	8.959	7	P260	12H14-	1	19
81.0	193	1.7	135	96.0	9.759	7	P260	14D14-	1	40
92.0	169	1.3	120	84.0	8.882	8	P260	12H14-	1	19
92.0	169	1.3	120	84.0	9.682	8	P260	14D14-	1	40
101	150	2.0	210	75.0	9.707	9	P260	12H14-	2	21
101	150	2.0	210	75.0	10.507	9	P260	14D14-	2	42
135	113	1.9	260	56.0	9.590	12	P260	12H14-	2	21
135	113	1.9	260	56.0	10.390	12	P260	14D14-	2	42
169	90.0	1.3	230	45.0	9.545	15	P260	12H14-	2	21
169	90.0	1.3	230	45.0	10.345	15	P260	14D14-	2	42
180	84.4	1.4	260	42.0	9.084	16	P260	12H14-	2	21
180	84.4	1.4	260	42.0	9.884	16	P260	14D14-	2	42
226	67.5	1.1	260	34.0	8.897	20	P260	12H14-	2	21
226	67.5	1.1	260	34.0	9.697	20	P260	14D14-	2	42



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	1175	2.3	85.0	588	5.164	3	P130	12D35-	1	12
21.0	881	3.6	115	441	4.764	4	P130	12D35-	1	12
28.0	705	3.0	110	353	4.610	5	P130	12D35-	1	12
38.0	504	3.3	135	252	5.659	7	P260	12D35-	1	16
40.0	504	1.6	65.0	252	4.474	7	P130	12D35-	1	12
45.0	441	2.6	120	220	5.582	8	P260	12D35-	1	16
46.0	441	1.1	50.0	220	4.443	8	P130	12D35-	1	12
47.0	392	3.0	210	196	6.407	9	P260	12D35-	2	18
51.0	392	1.8	130	196	4.666	9	P130	12D35-	2	12
58.0	353	1.7	95.0	176	5.484	10	P260	12D35-	1	16
59.0	294	3.8	260	147	6.290	12	P260	12D35-	2	18
68.0	294	1.7	120	147	4.624	12	P130	12D35-	2	12
80.0	235	2.7	230	118	6.245	15	P260	12D35-	2	18
85.0	235	1.3	110	118	4.606	15	P130	12D35-	2	12
85.0	220	2.8	260	110	5.784	16	P260	12D35-	2	18
90.0	220	1.3	120	110	4.465	16	P130	12D35-	2	12
111	176	2.3	260	88.0	5.597	20	P260	12D35-	2	18
113	176	1.0	120	88.0	4.418	20	P130	12D35-	2	12
141	141	1.6	230	71.0	5.581	25	P260	12D35-	2	18
180	110	1.4	260	55.0	5.429	32	P260	12D35-	2	18
226	88.1	1.0	230	44.0	5.423	40	P260	12D35-	2	18

2.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
48.0	550	2.3	115	275	14.030	3	P260	12L17-	1	22
64.0	413	2.3	155	206	13.028	4	P260	12L17-	1	22
80.0	330	2.3	195	165	12.616	5	P260	12L17-	1	22
114	236	1.2	135	118	12.259	7	P260	12L17-	1	22
144	183	1.3	210	92.0	13.007	9	P260	12L17-	2	24
192	138	1.3	260	69.0	12.890	12	P260	12L17-	2	24

3.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1000	3.7	115	500	11.530	3	P260	14D30-	1	40
37.0	750	3.8	155	375	10.528	4	P260	14D30-	1	40
47.0	600	3.8	195	300	10.116	5	P260	14D30-	1	40
71.0	429	1.9	135	214	9.759	7	P260	14D30-	1	40
81.0	375	1.5	120	188	9.682	8	P260	14D30-	1	40
89.0	333	1.8	210	167	10.507	9	P260	14D30-	2	42
117	250	2.2	260	125	10.390	12	P260	14D30-	2	42
148	200	1.5	230	100	10.345	15	P260	14D30-	2	42
158	188	1.6	260	94.0	9.884	16	P260	14D30-	2	42
197	150	1.3	260	75.0	9.697	20	P260	14D30-	2	42



3.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1125	3.7	115	563	10.730	3	P260	12H34-	1	19
37.0	844	3.8	155	422	9.728	4	P260	12H34-	1	19
47.0	675	3.8	195	338	9.316	5	P260	12H34-	1	19
71.0	482	1.9	135	241	8.959	7	P260	12H34-	1	19
81.0	422	1.5	120	211	8.882	8	P260	12H34-	1	19
89.0	375	1.7	210	188	9.707	9	P260	12H34-	2	21
117	281	2.2	260	141	9.590	12	P260	12H34-	2	21
148	225	1.5	230	113	9.545	15	P260	12H34-	2	21
158	211	1.6	260	105	9.084	16	P260	12H34-	2	21
197	169	1.3	260	84.0	8.897	20	P260	12H34-	2	21

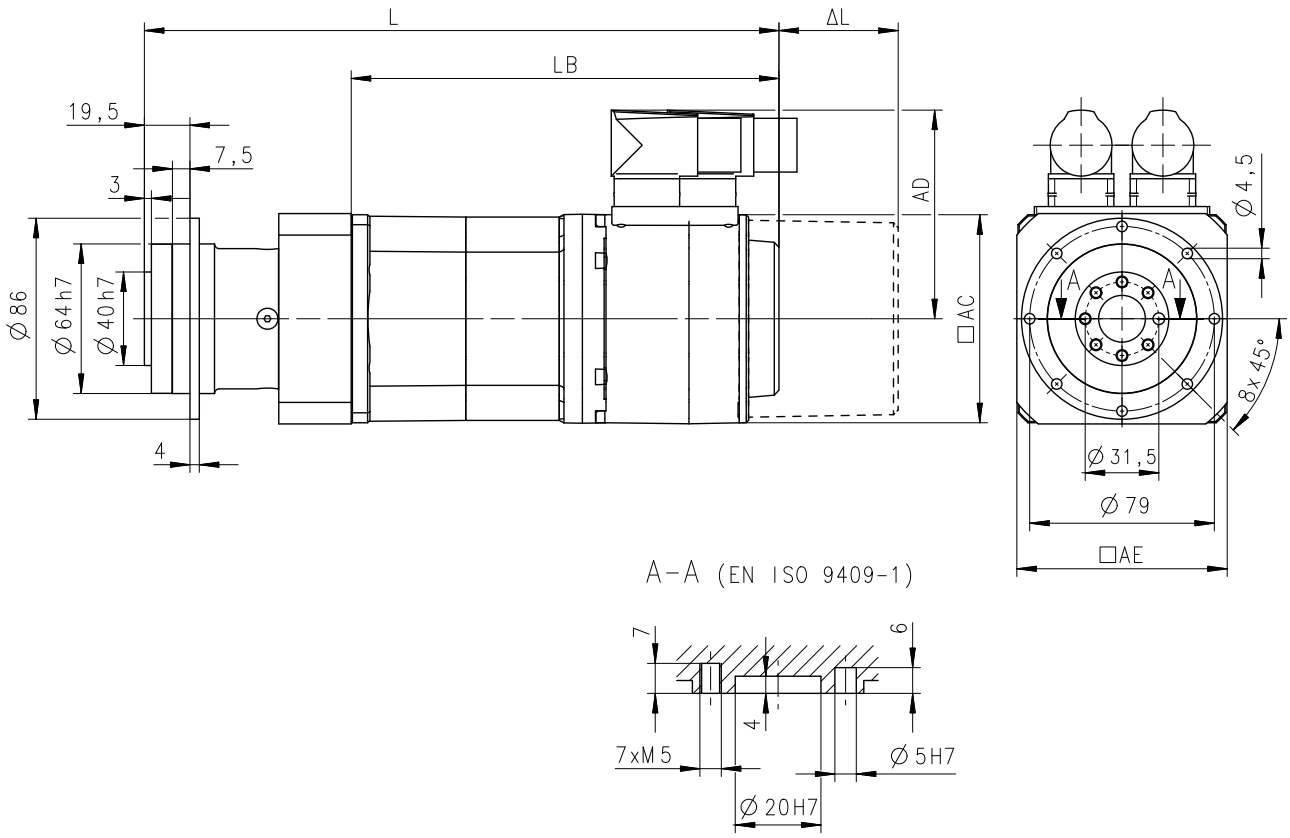
5.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g780-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
39.0	1300	2.7	115	650	14.030	3	P260	12L39-	1	22
52.0	975	2.8	155	488	13.028	4	P260	12L39-	1	22
65.0	780	2.8	195	390	12.616	5	P260	12L39-	1	22
94.0	557	1.4	135	279	12.259	7	P260	12L39-	1	22
108	488	1.1	120	244	12.182	8	P260	12L39-	1	22
118	433	1.3	210	217	13.007	9	P260	12L39-	2	24
158	325	1.6	260	163	12.890	12	P260	12L39-	2	24
197	260	1.1	230	130	12.845	15	P260	12L39-	2	24
211	244	1.2	260	122	12.384	16	P260	12L39-	2	24

Basic dimensions

g780-P44 with MCS06

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

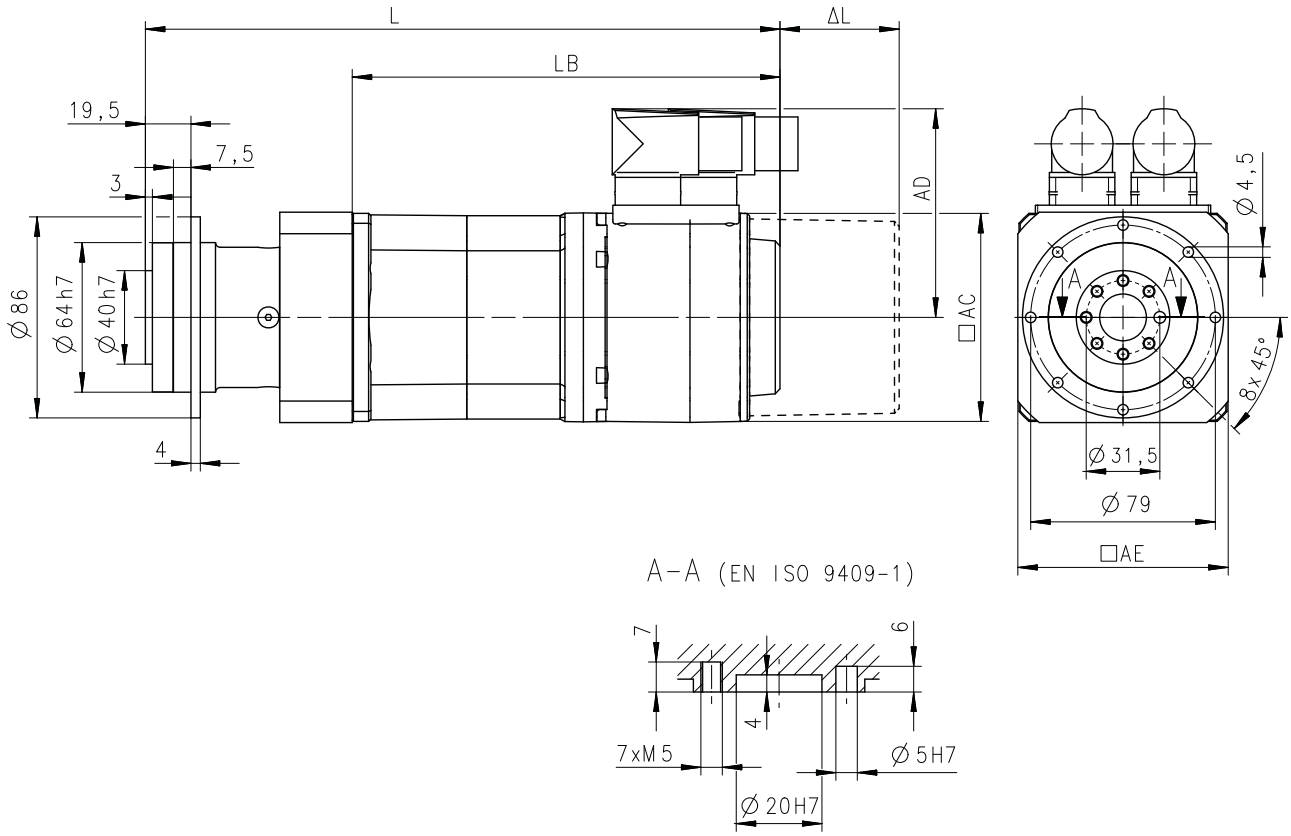


8800807-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	201	201	231	231	261	261
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g780-P44 with MCS06

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



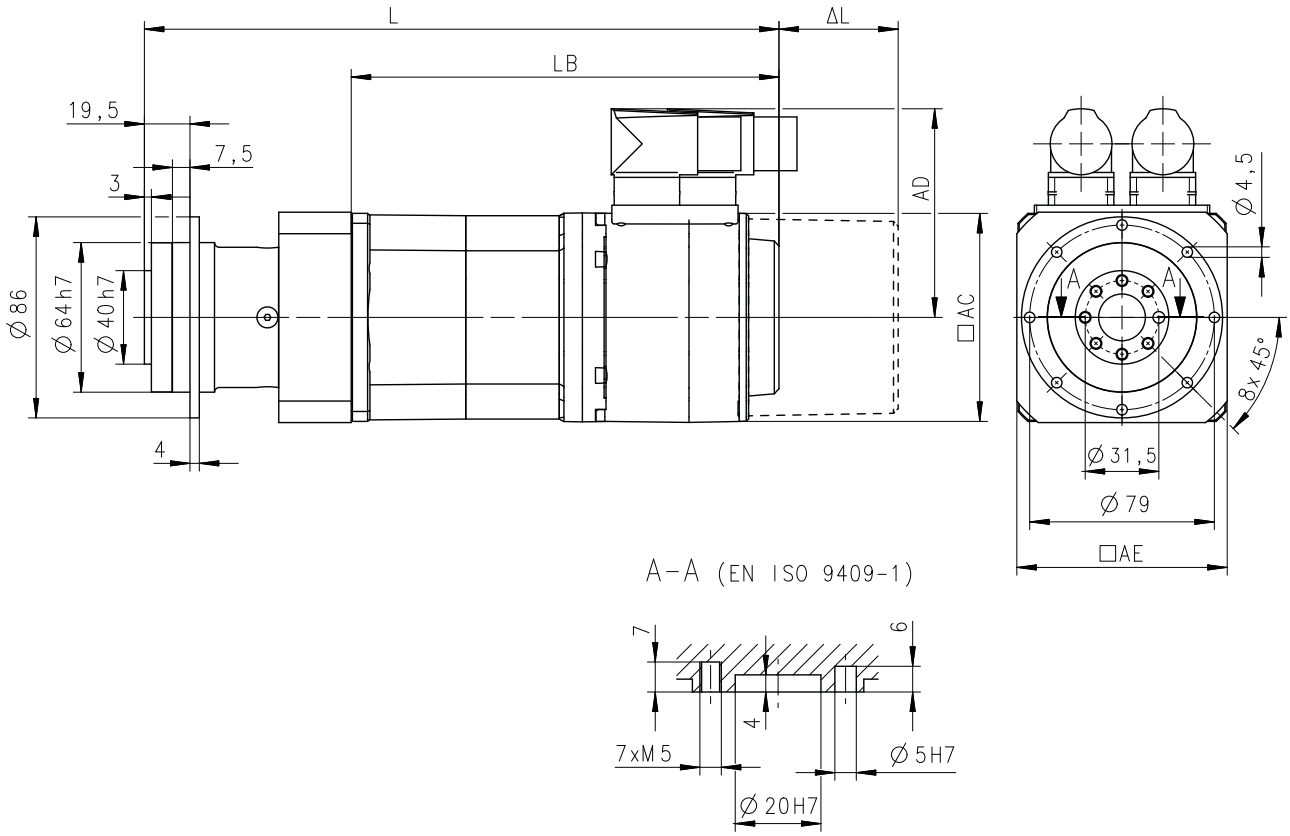
8800807-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	213.5	213.5	243.5	243.5	273.5	273.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70



g780-P44 with MCS09

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

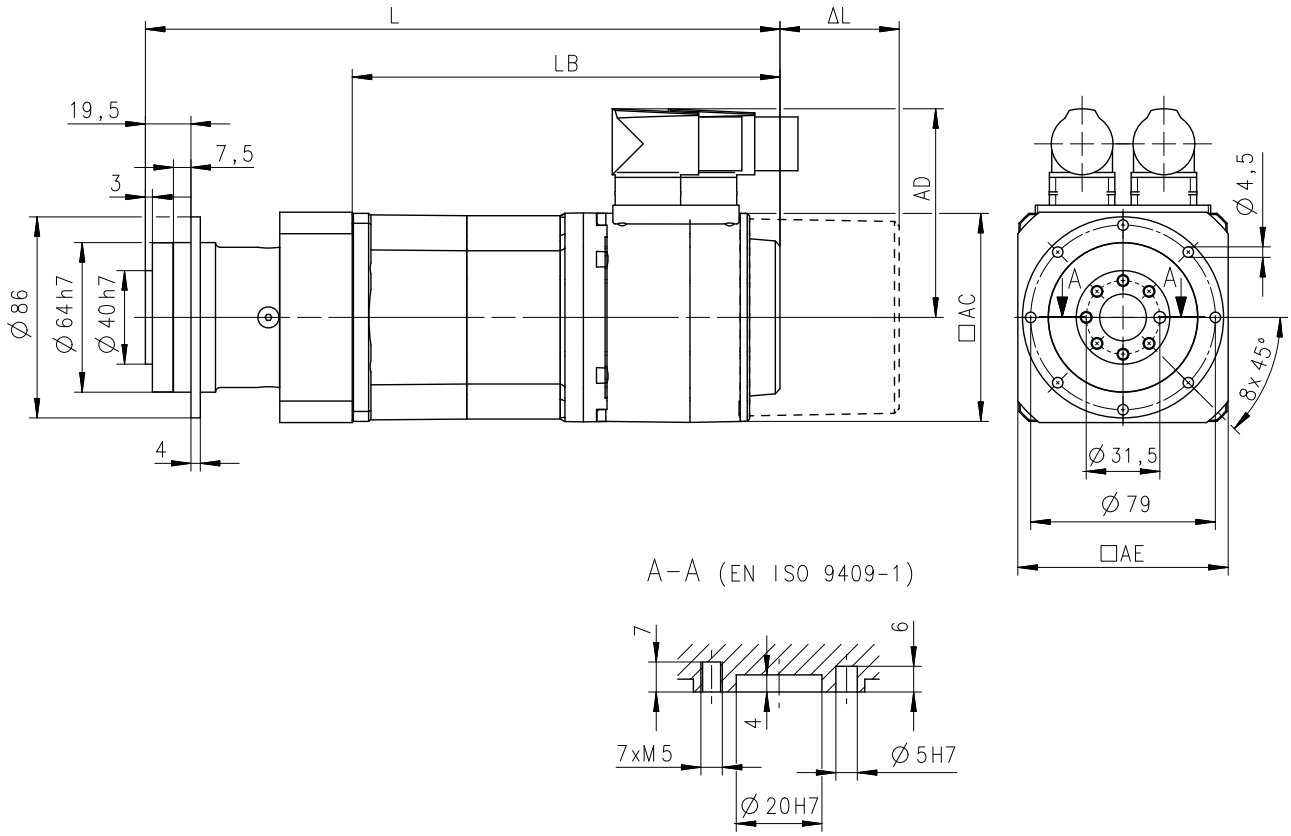


8800807-00

Motor			MCS 09			
			D41- D41L	D60- D60L	F38- F38L	F60- F60L
Total length	L	mm	258	258	278	278
Motor length	LB	mm	182	182	202	202
Motor diameter	AC	mm	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90

g780-P44 with MCS09

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

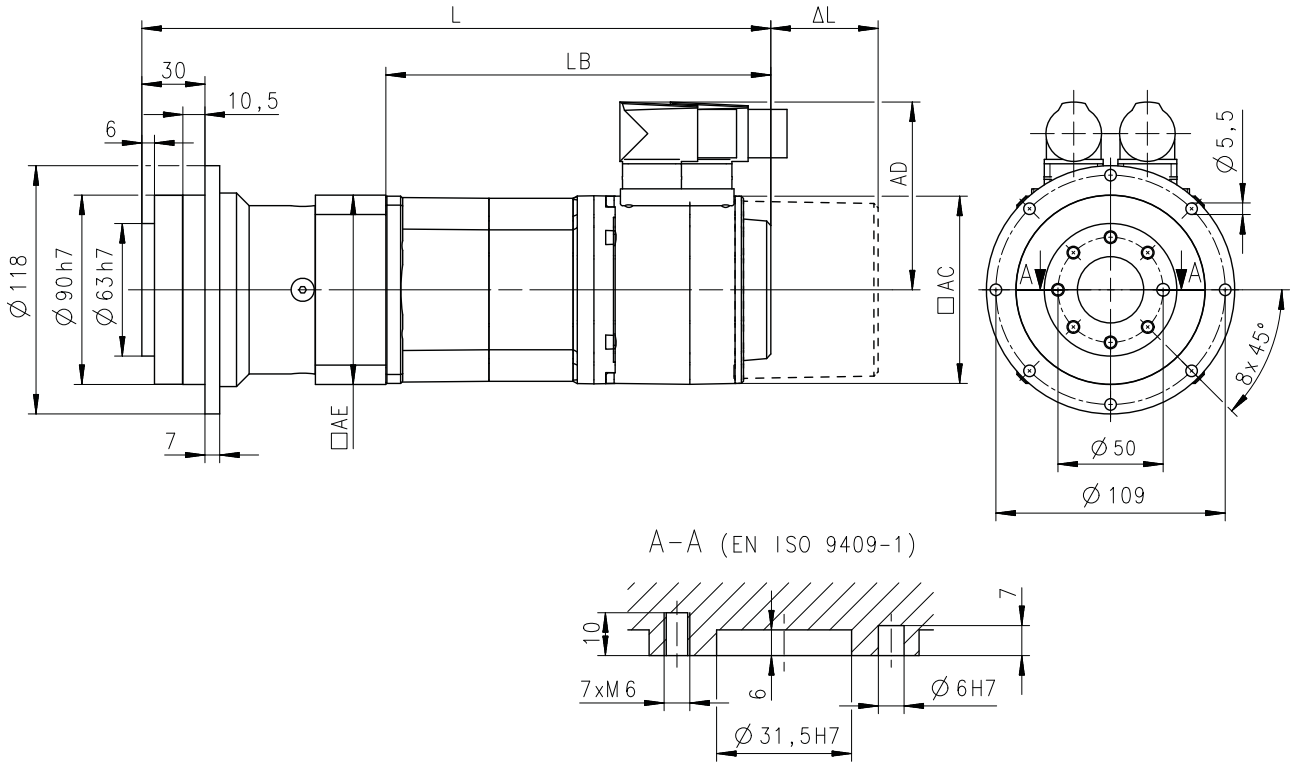


8800807-00

Motor			MCS 09			
			D41- D41L	D60- D60L	F38- F38L	F60- F60L
Total length	L	mm	270.5	270.5	290.5	290.5
Motor length	LB	mm	182	182	202	202
Motor diameter	AC	mm	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90

g780-P130 with MCS06

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

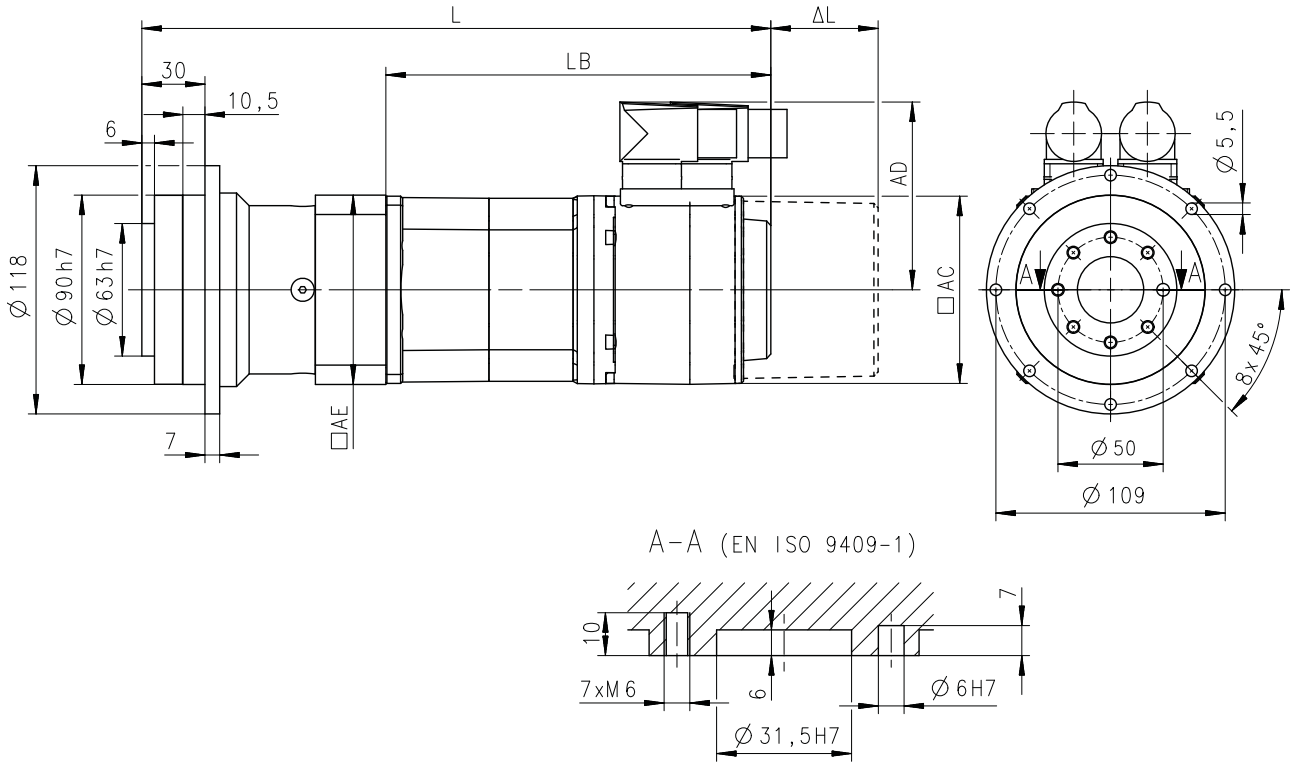


8800808-00

Motor			MCS 06			
			F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	260.5	260.5	290.5	290.5
Motor length	LB	mm	162	162	192	192
Motor diameter	AC	mm	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80

g780-P130 with MCS06

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

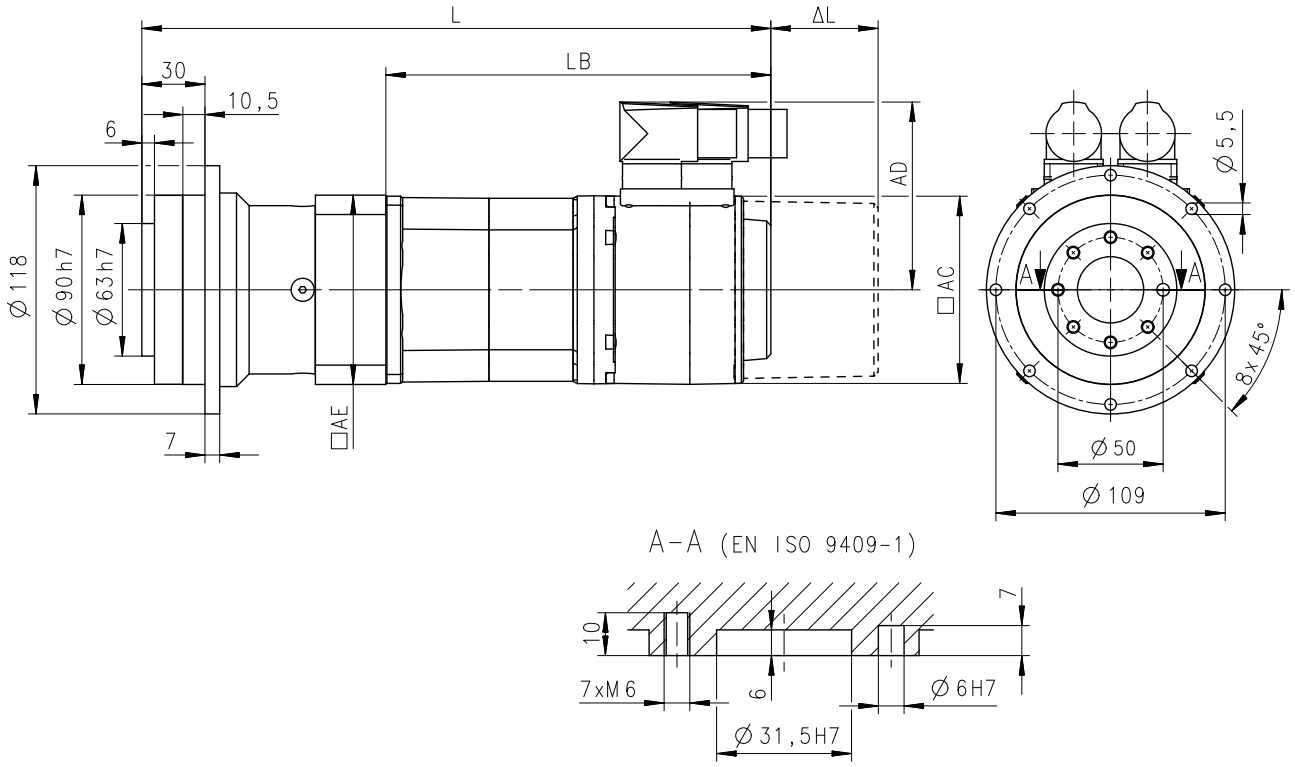


8800808-00

Motor			MCS 06					
			C41-C41L	C60-C60L	F41-F41L	F60-F60L	I41-I41L	I60-I60L
Total length	L	mm	248	248	278	278	308	308
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	80	80	80	80	80	80

g780-P130 with MCS09

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

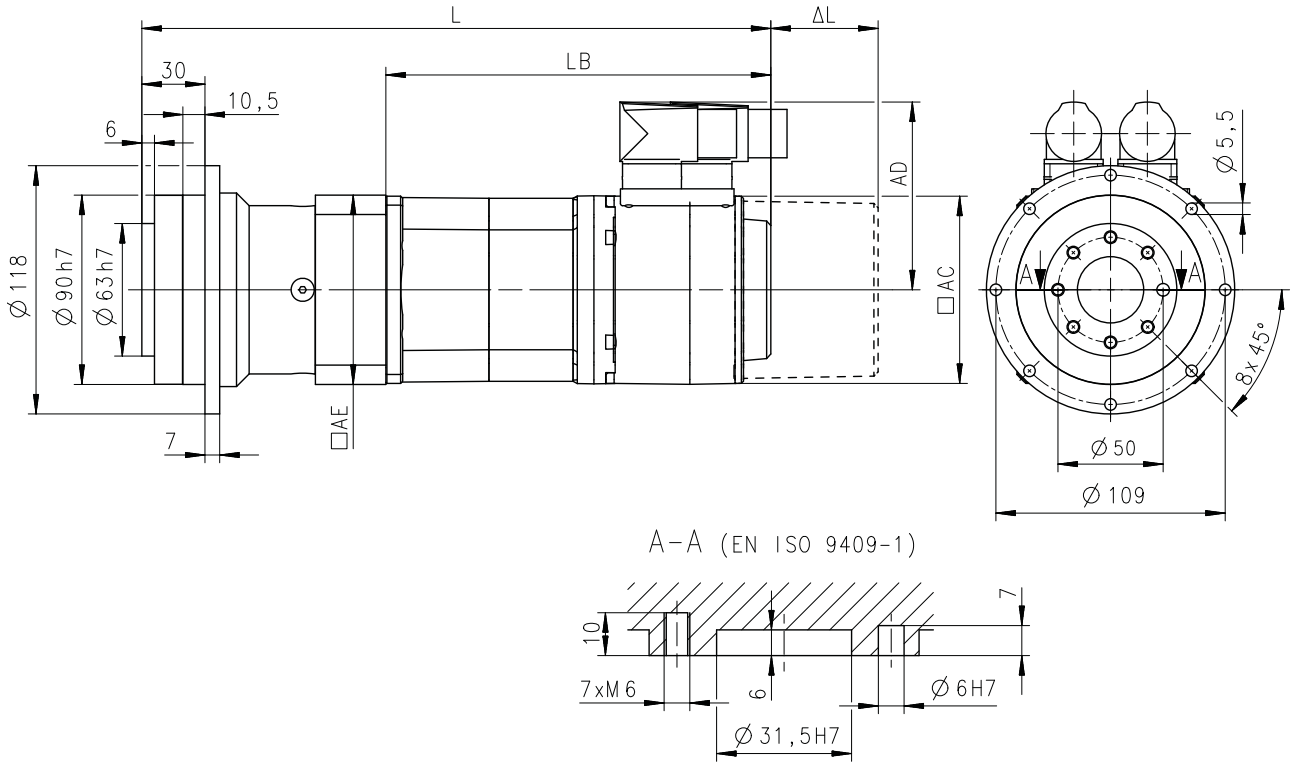


8800808-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	280.5	280.5	300.5	300.5	320.5	320.5	360.5	360.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g780-P130 with MCS09

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



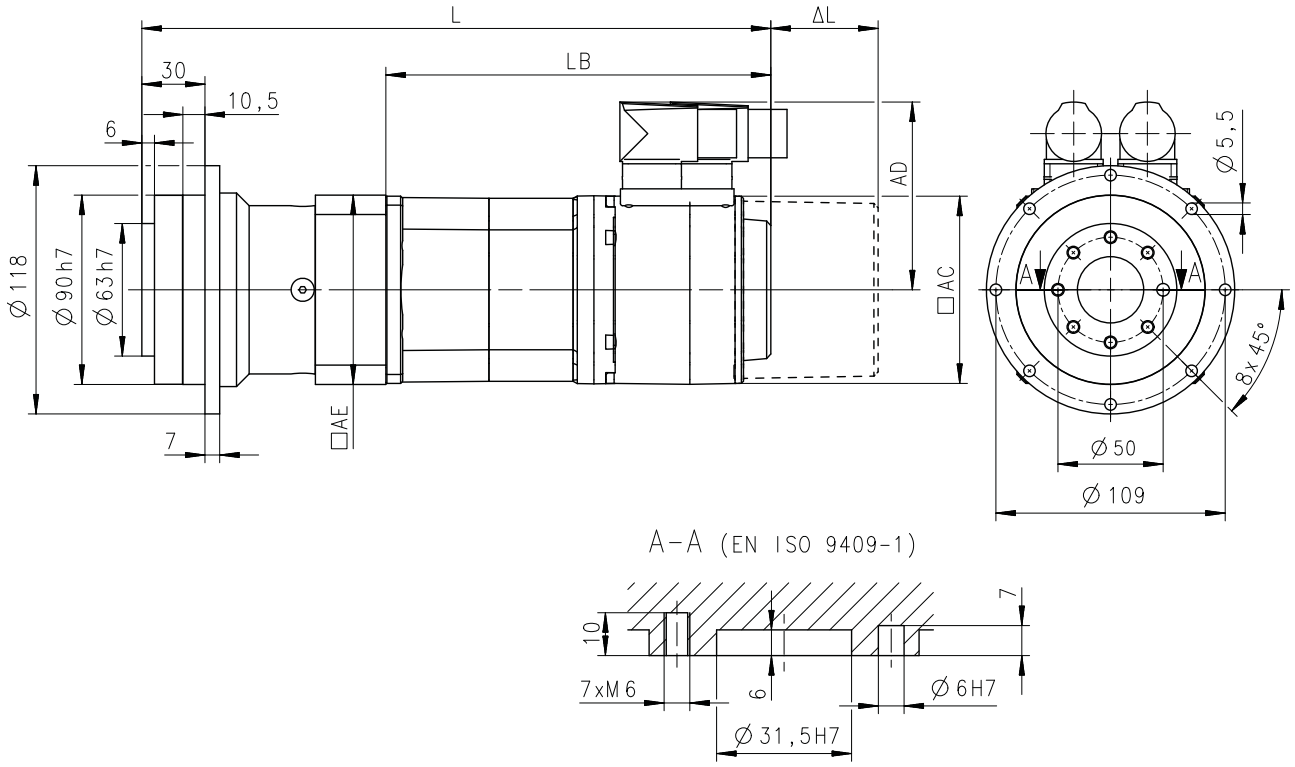
8800808-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	298	298	318	318	338	338	378	378
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g780-P130 with MCS12

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

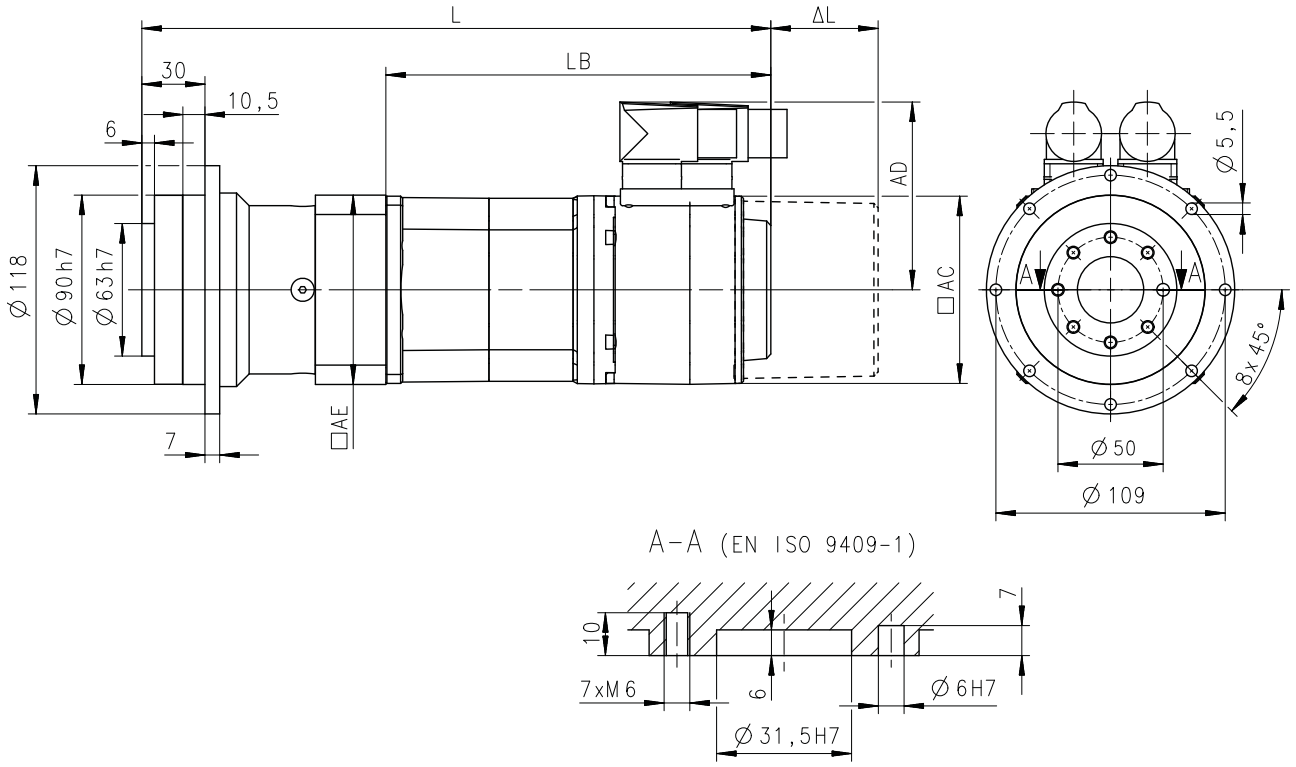


8800808-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	369.5	296.5	369.5	296.5	336.5	336.5	336.5
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115

g780-P130 with MCS12

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



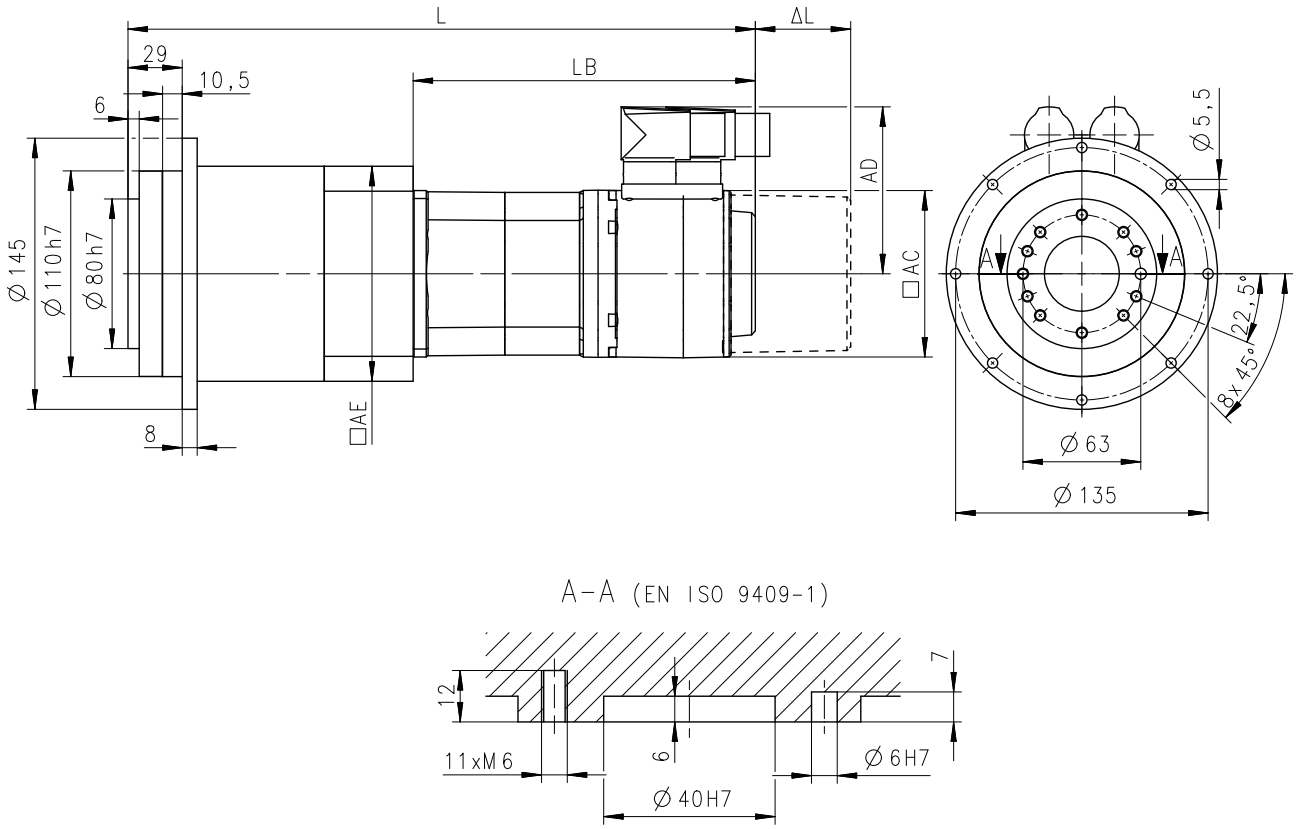
8800808-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	387	314	387	314	354	354	354
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115



g780-P260 with MCS06

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

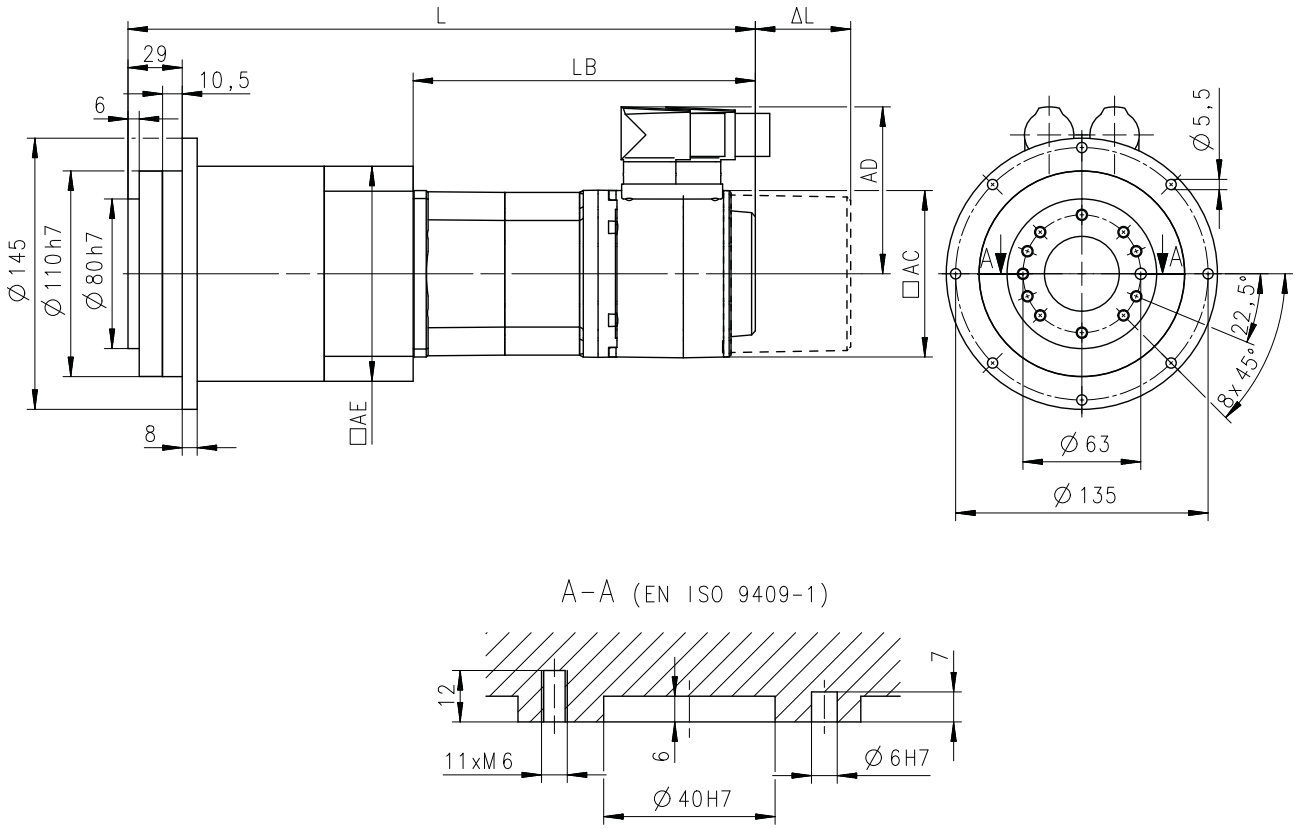


8800809-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	284.5	284.5	314.5	314.5	344.5	344.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115	115

g780-P260 with MCS09

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



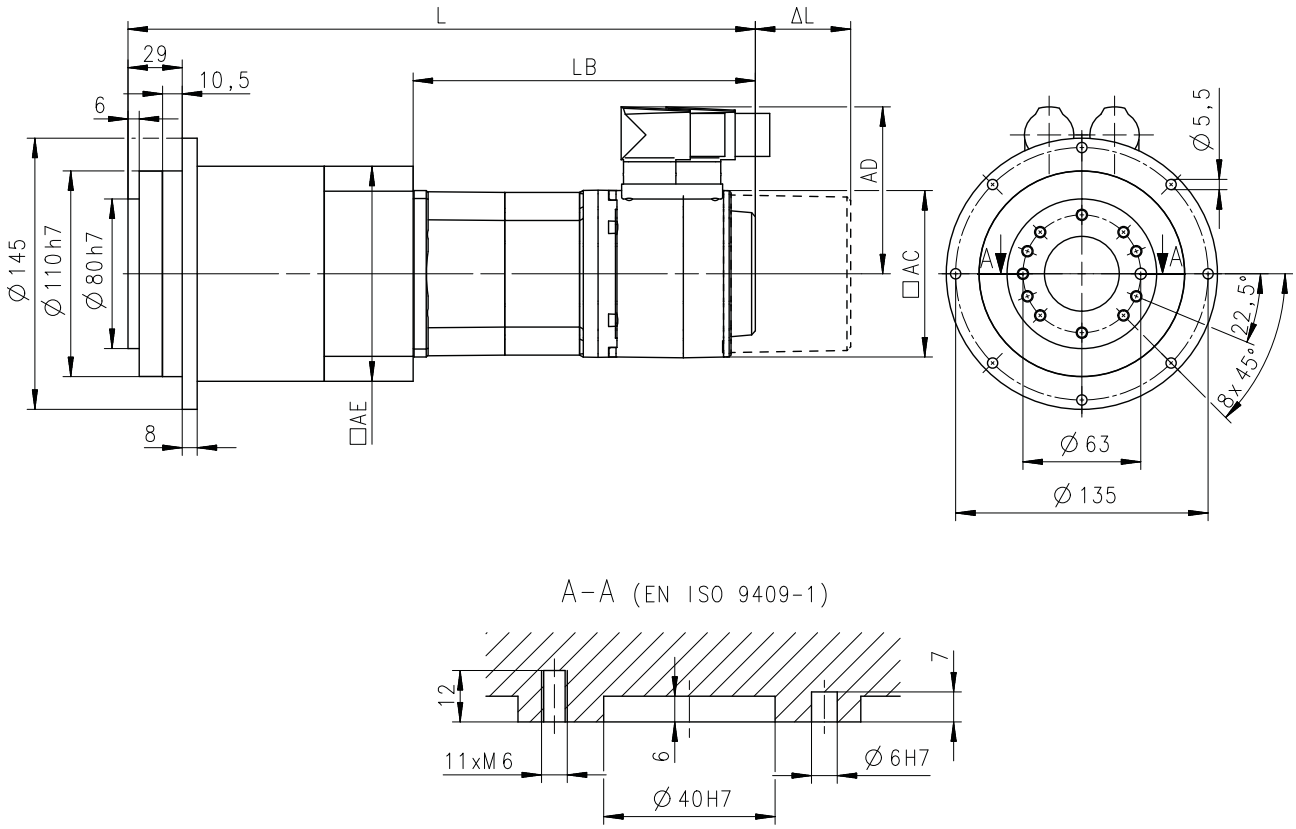
8800809-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	307.5	307.5	327.5	327.5	347.5	347.5	387.5	387.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115



g780-P260 with MCS09

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

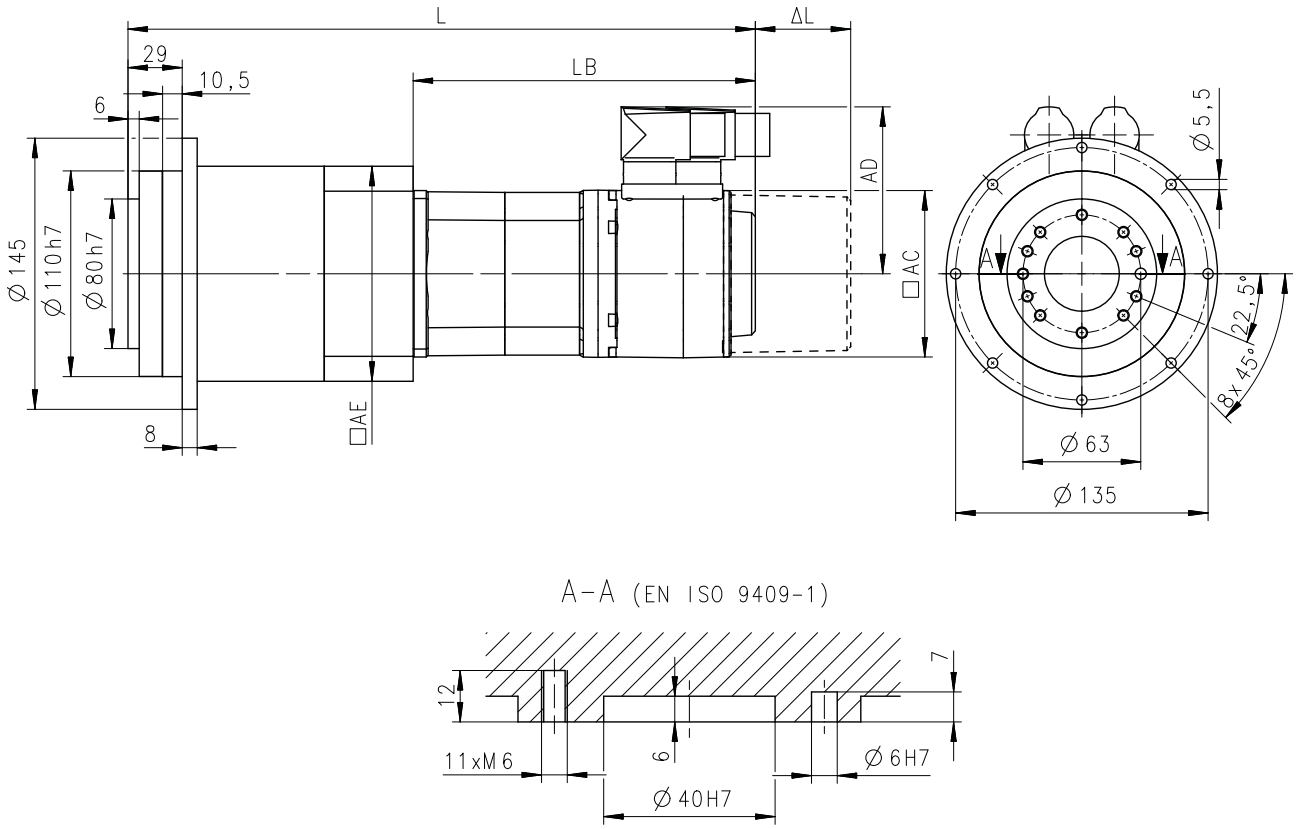


8800809-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	334.5	334.5	354.5	354.5	374.5	374.5	414.5	414.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115

g780-P260 with MCS12

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



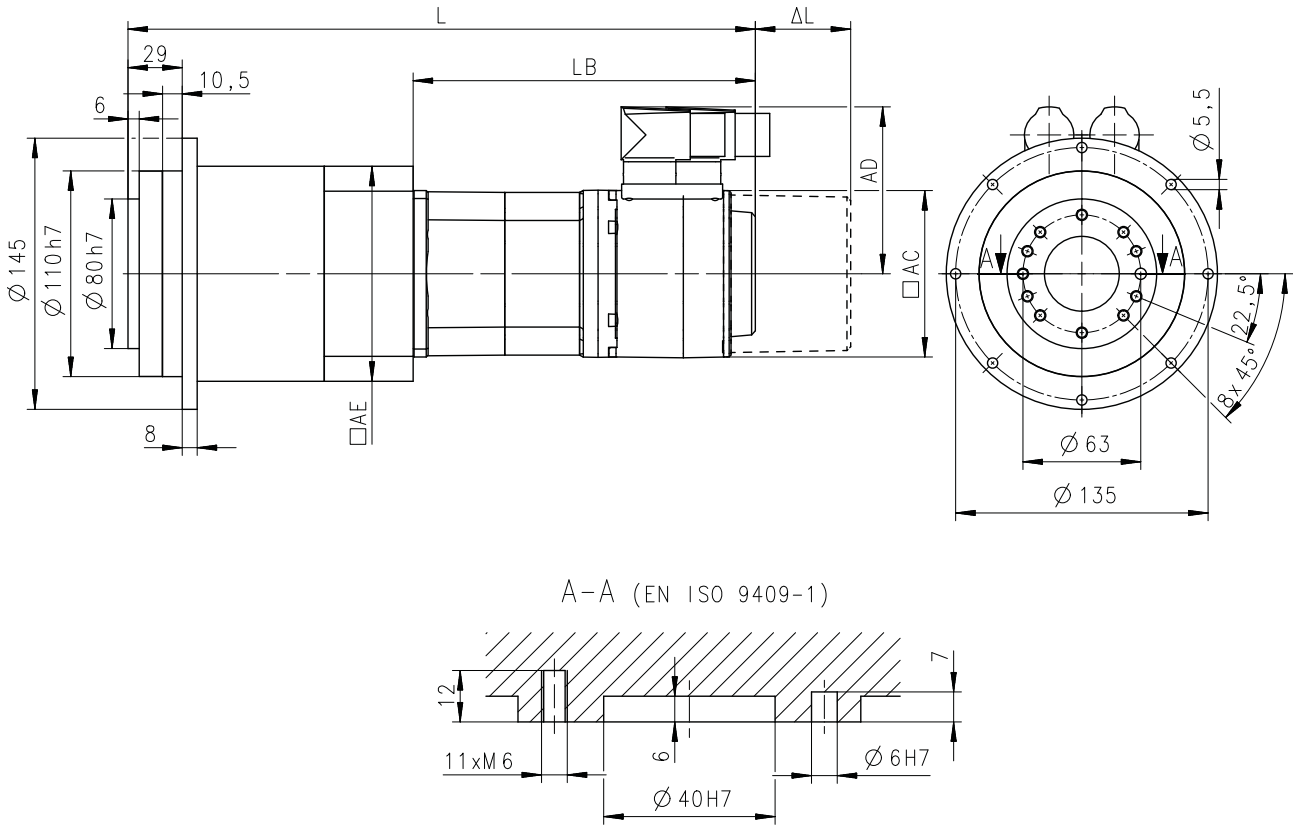
8800809-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	386.5	313.5	386.5	313.5	426.5	353.5	353.5	426.5	353.5	476.5	393.5	466.5	393.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115



g780-P260 with MCS12

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

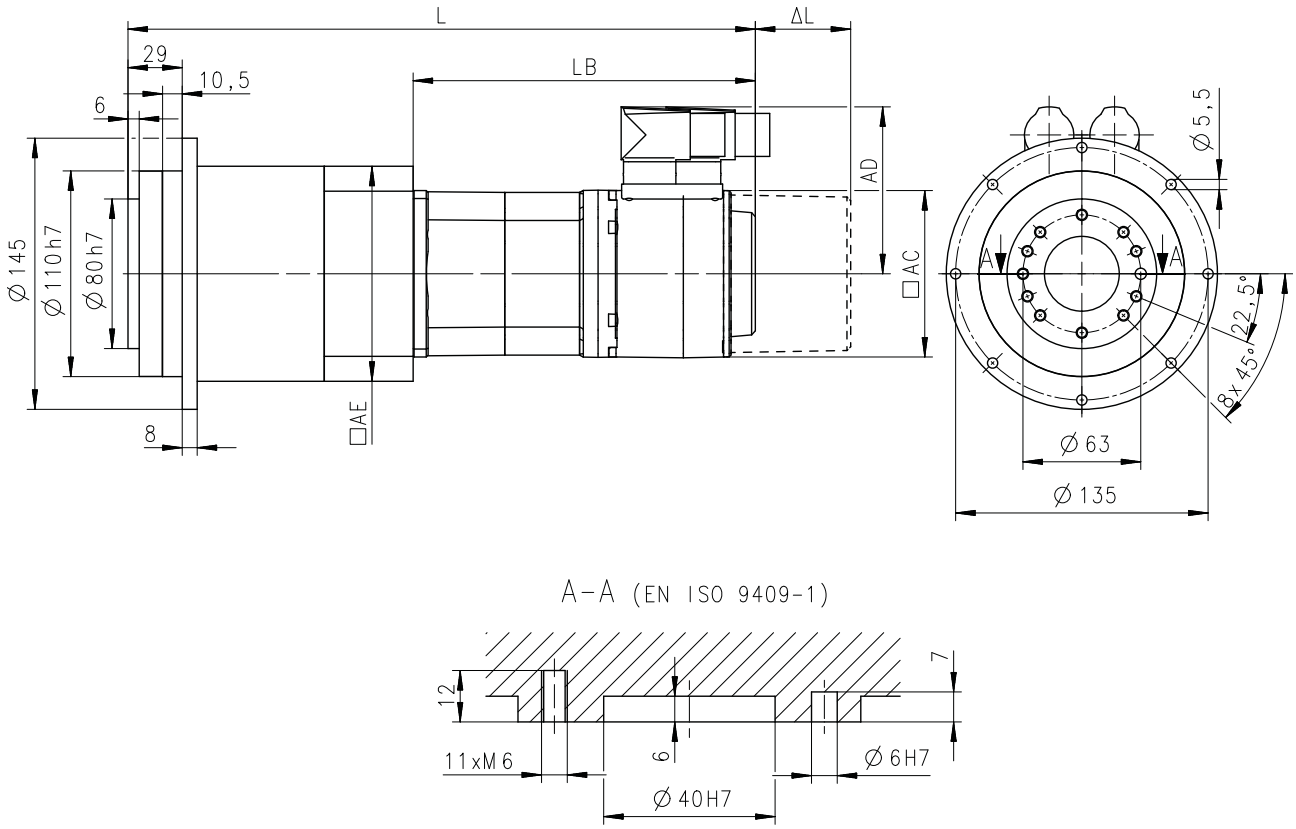


8800809-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	413.5	340.5	413.5	340.5	453.5	380.5	380.5	453.5	380.5	503.5	420.5	493.5	420.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115

g780-P260 with MCS14

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



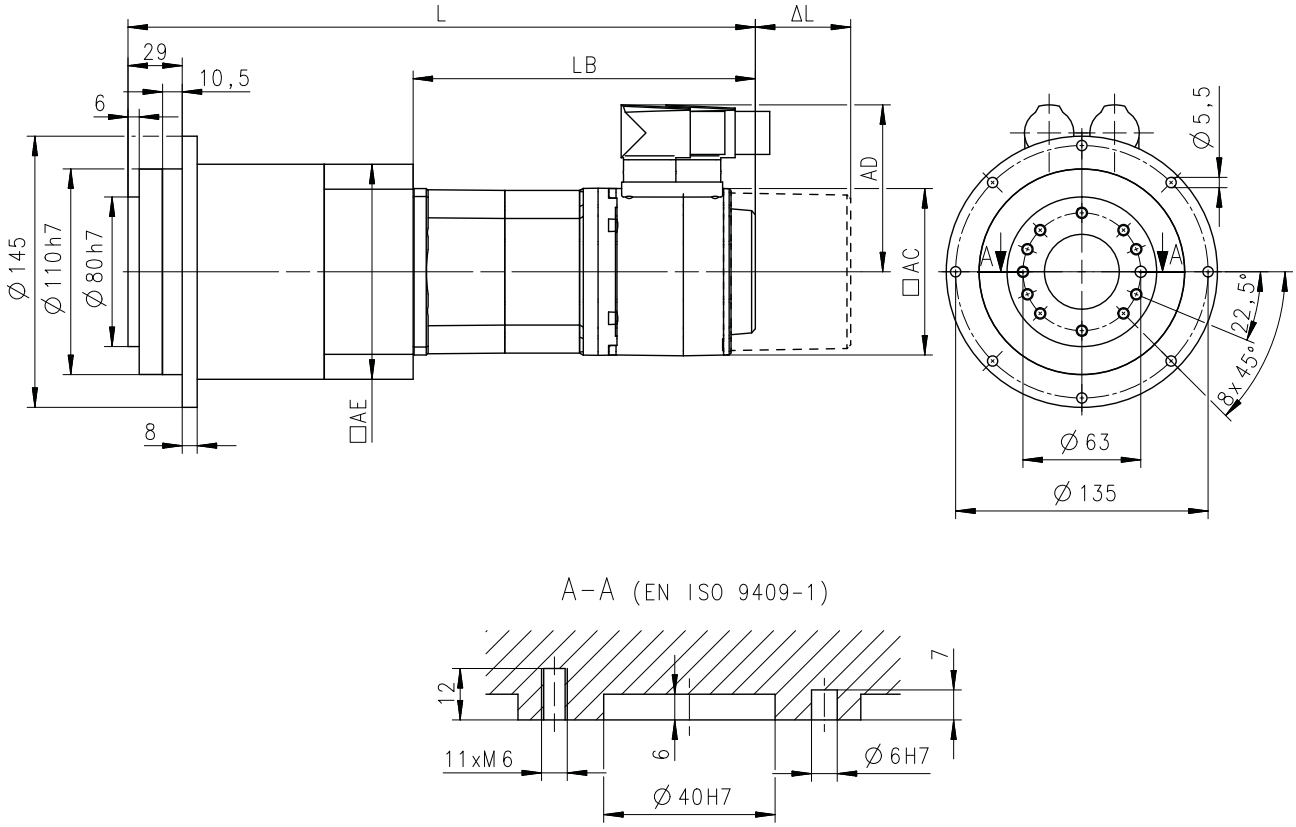
8800809-00

Motor			MCS 14							
			D14-	D15-	D30-	D36-	H15-	H32-	L15-	L32-
Total length	L	mm	424.5	336.5	424.5	336.5	376.5	376.5	416.5	416.5
Motor length	LB	mm	289	201	289	201	241	241	281	281
Motor diameter	AC	mm	167	143	167	143	143	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	117	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140



g780-P260 with MCS14

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

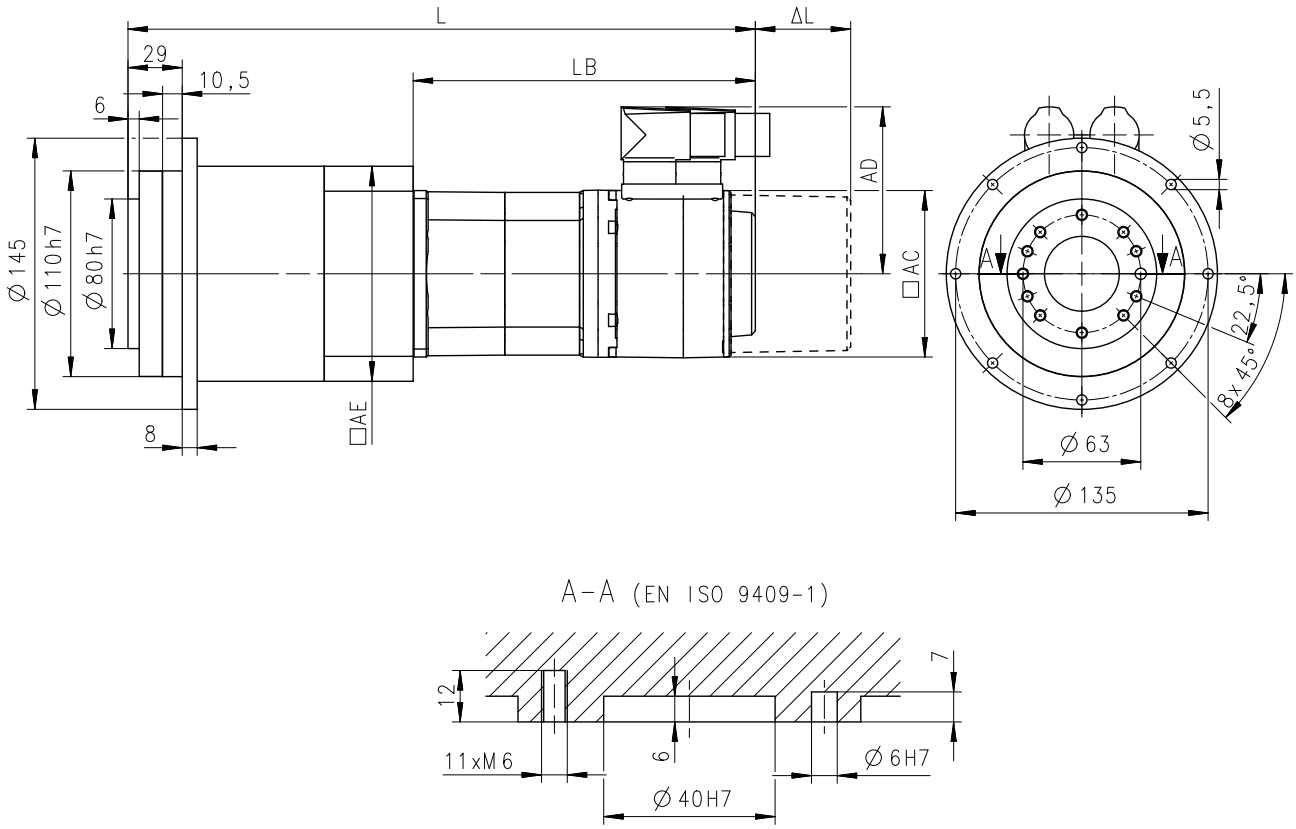


8800809-00

Motor			MCS 14							
			D14-	D15-	D30-	D36-	H15-	H32-	L15-	L32-
Total length	L	mm	451.5	363.5	451.5	363.5	403.5	403.5	443.5	443.5
Motor length	LB	mm	289	201	289	201	241	241	281	281
Motor diameter	AC	mm	167	143	167	143	143	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	117	146
Gearbox diameter	AE	mm	140	140	140	140	140	140	140	140

g780-P260 with MCS19

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

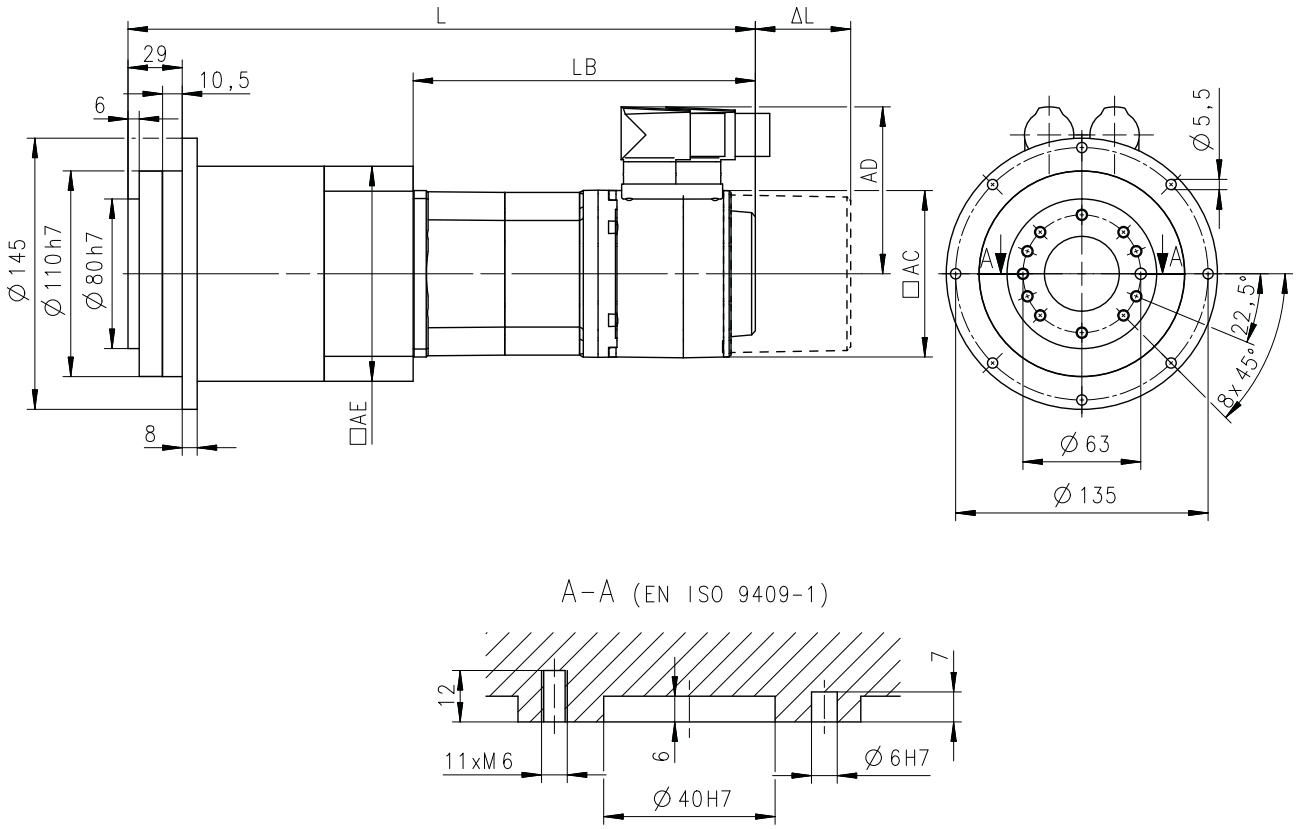


8800809-00

Motor			MCS 19	
			F14-	F30-
Total length	L	mm	373	373
Motor length	LB	mm	220	220
Motor diameter	AC	mm	192	192
Motor/connection distance	AD	mm	142	171
Gearbox diameter	AE	mm	190	190

g780-P260 with MCS19

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



8800809-00

Motor			MCS 19	
			F14-	F30-
Total length	L	mm	400	400
Motor length	LB	mm	220	220
Motor diameter	AC	mm	192	192
Motor/connection distance	AD	mm	142	171
Gearbox diameter	AE	mm	190	190

Planetary gearbox g820-P

The modular system

g820-P planetary gearbox with MCS synchronous servo motor

Gearbox		**g820-P40**	**g820-P80**	**g820-P180**	**g820-P470**
Min. motor assignment		**MCS06**	**MCS06**	**MCS06**	**MCS06**
Max. motor assignment		**MCS12**	**MCS14**	**MCS19**	**MCS19**
Technical data					
Max. output torque	Nm	40	80	180	470
Min. input torque	Nm	0.6	0.6	0.6	0.6
Max. input torque	Nm	17	42	72	72
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		**Connector** Terminal box			
Holding brake		**Without** With			
Feedback					
Without functional safety		**Digital absolute value encoder for One Cable Technology (OCT)** Resolver Absolute value encoder			
With functional safety		Digital absolute value encoder for One Cable Technology (OCT) Resolver Absolute value encoder			
Temperature monitoring		MCS06: PT1000 temperature sensor MCS09 ... MCS19: PT1000 temperature sensor and 2x PTC thermistor			



Gearbox data

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	5
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
25	40.0	5	6
35	40.0	5	6
40	39.0	5	6
50	40.0	5	6
70	37.0	5	5

g820-P80, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	54.0	3	10
4	80.0	3	12
5	80.0	3	13
7	78.0	3	12
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	13
35	80.0	5	13
40	80.0	5	13
50	80.0	5	13
70	78.0	5	12
100	59.0	5	11



g820-P180, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	135	3	23
4	180	3	31
5	175	3	33
8	155	3	33
7	175	3	32
10	140	3	32

g820-P180, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
12	135	5	27
15	135	5	27
16	180	5	34
20	180	5	34
25	175	5	35
35	175	5	34
40	180	5	32
50	175	5	34
70	175	5	33
100	140	5	32

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	60
15	380	5	60
20	450	5	68
16	450	5	68
25	405	5	71
35	405	5	70
40	470	5	67
50	405	5	69
70	355	5	66
100	305	5	60



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



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.25 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.1	405	4.9	28.0	203	0.267	10	P40	06C41-	1	3.7
5.1	405	4.9	28.0	203	0.267	10	P40	06C41L	1	3.7
5.6	338	4.3	29.0	169	0.315	12	P40	06C41-	2	4.5
5.6	338	4.3	29.0	169	0.315	12	P40	06C41L	2	4.5
7.5	270	3.5	29.0	135	0.293	15	P40	06C41L	2	4.5
7.5	270	3.5	29.0	135	0.293	15	P40	06C41-	2	4.5
7.5	253	4.3	39.0	127	0.314	16	P40	06C41-	2	4.5
7.5	253	4.3	39.0	127	0.314	16	P40	06C41L	2	4.5
10.0	203	3.5	39.0	101	0.290	20	P40	06C41L	2	4.5
10.0	203	3.5	39.0	101	0.290	20	P40	06C41-	2	4.5
11.0	162	5.0	80.0	81.0	0.294	25	P80	06C41-	2	6.0
11.0	162	5.0	80.0	81.0	0.294	25	P80	06C41L	2	6.0
13.0	162	2.9	40.0	81.0	0.289	25	P40	06C41L	2	4.5
13.0	162	2.9	40.0	81.0	0.289	25	P40	06C41-	2	4.5
17.0	116	4.0	80.0	58.0	0.275	35	P80	06C41-	2	6.0
17.0	116	4.0	80.0	58.0	0.275	35	P80	06C41L	2	6.0
19.0	116	2.1	40.0	58.0	0.272	35	P40	06C41-	2	4.5
19.0	116	2.1	40.0	58.0	0.272	35	P40	06C41L	2	4.5
20.0	101	3.6	80.0	51.0	0.266	40	P80	06C41-	2	6.0
20.0	101	3.6	80.0	51.0	0.266	40	P80	06C41L	2	6.0
22.0	101	1.8	39.0	51.0	0.264	40	P40	06C41-	2	4.5
22.0	101	1.8	39.0	51.0	0.264	40	P40	06C41L	2	4.5
26.0	81.0	2.9	80.0	41.0	0.265	50	P80	06C41-	2	6.0
26.0	81.0	2.9	80.0	41.0	0.265	50	P80	06C41L	2	6.0
27.0	81.0	1.5	40.0	41.0	0.264	50	P40	06C41-	2	4.5
27.0	81.0	1.5	40.0	41.0	0.264	50	P40	06C41L	2	4.5
32.0	57.9	4.5	175	29.0	0.462	70	P180	06C41-	2	9.4
32.0	57.9	4.5	175	29.0	0.462	70	P180	06C41L	2	9.4
37.0	57.9	1.0	37.0	29.0	0.263	70	P40	06C41L	2	4.5
37.0	57.9	1.0	37.0	29.0	0.263	70	P40	06C41-	2	4.5
39.0	57.9	2.0	78.0	29.0	0.264	70	P80	06C41-	2	6.0
39.0	57.9	2.0	78.0	29.0	0.264	70	P80	06C41L	2	6.0
41.0	40.5	5.7	305	20.0	1.271	100	P470	06C41-	2	17
41.0	40.5	5.7	305	20.0	1.271	100	P470	06C41L	2	17
52.0	40.5	1.1	59.0	20.0	0.264	100	P80	06C41L	2	6.0
52.0	40.5	1.1	59.0	20.0	0.264	100	P80	06C41-	2	6.0
53.0	40.5	2.6	140	20.0	0.461	100	P180	06C41-	2	9.4
53.0	40.5	2.6	140	20.0	0.461	100	P180	06C41L	2	9.4



0.31 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.0	600	5.9	28.0	300	0.267	10	P40	06C60-	1	3.7
4.0	600	5.9	28.0	300	0.267	10	P40	06C60L	1	3.7
4.3	500	5.1	29.0	250	0.315	12	P40	06C60-	2	4.5
4.3	500	5.1	29.0	250	0.315	12	P40	06C60L	2	4.5
5.7	375	5.2	39.0	188	0.314	16	P40	06C60-	2	4.5
5.7	375	5.2	39.0	188	0.314	16	P40	06C60L	2	4.5
5.9	400	4.2	29.0	200	0.293	15	P40	06C60L	2	4.5
5.9	400	4.2	29.0	200	0.293	15	P40	06C60-	2	4.5
7.9	300	4.2	39.0	150	0.290	20	P40	06C60-	2	4.5
7.9	300	4.2	39.0	150	0.290	20	P40	06C60L	2	4.5
8.9	240	5.3	80.0	120	0.294	25	P80	06C60-	2	6.0
8.9	240	5.3	80.0	120	0.294	25	P80	06C60L	2	6.0
10.0	240	3.4	40.0	120	0.289	25	P40	06C60-	2	4.5
10.0	240	3.4	40.0	120	0.289	25	P40	06C60L	2	4.5
14.0	171	4.2	80.0	86.0	0.275	35	P80	06C60-	2	6.0
14.0	171	4.2	80.0	86.0	0.275	35	P80	06C60L	2	6.0
16.0	171	2.5	40.0	86.0	0.272	35	P40	06C60-	2	4.5
16.0	171	2.5	40.0	86.0	0.272	35	P40	06C60L	2	4.5
16.0	150	4.3	80.0	75.0	0.266	40	P80	06C60-	2	6.0
16.0	150	4.3	80.0	75.0	0.266	40	P80	06C60L	2	6.0
18.0	150	2.1	39.0	75.0	0.264	40	P40	06C60-	2	4.5
18.0	150	2.1	39.0	75.0	0.264	40	P40	06C60L	2	4.5
21.0	120	3.4	80.0	60.0	0.265	50	P80	06C60-	2	6.0
21.0	120	3.4	80.0	60.0	0.265	50	P80	06C60L	2	6.0
23.0	120	1.8	40.0	60.0	0.264	50	P40	06C60-	2	4.5
23.0	120	1.8	40.0	60.0	0.264	50	P40	06C60L	2	4.5
25.0	85.7	5.4	175	43.0	0.462	70	P180	06C60-	2	9.4
25.0	85.7	5.4	175	43.0	0.462	70	P180	06C60L	2	9.4
30.0	85.7	1.2	37.0	43.0	0.263	70	P40	06C60-	2	4.5
30.0	85.7	1.2	37.0	43.0	0.263	70	P40	06C60L	2	4.5
32.0	85.7	2.4	78.0	43.0	0.264	70	P80	06C60-	2	6.0
32.0	85.7	2.4	78.0	43.0	0.264	70	P80	06C60L	2	6.0
43.0	60.0	3.2	140	30.0	0.461	100	P180	06C60L	2	9.4
43.0	60.0	3.2	140	30.0	0.461	100	P180	06C60-	2	9.4
44.0	60.0	1.4	59.0	30.0	0.264	100	P80	06C60L	2	6.0
44.0	60.0	1.4	59.0	30.0	0.264	100	P80	06C60-	2	6.0



0.51 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.2	579	4.6	37.0	289	0.358	7	P40	06F41-	1	4.1
7.2	579	4.6	37.0	289	0.358	7	P40	06F41L	1	4.1
8.3	506	4.3	39.0	253	0.353	8	P40	06F41-	1	4.1
8.3	506	4.3	39.0	253	0.353	8	P40	06F41L	1	4.1
10.0	405	5.1	59.0	203	0.547	10	P80	06F41-	1	5.4
10.0	405	5.1	59.0	203	0.547	10	P80	06F41L	1	5.4
11.0	405	2.5	28.0	203	0.347	10	P40	06F41-	1	4.1
11.0	405	2.5	28.0	203	0.347	10	P40	06F41L	1	4.1
12.0	338	4.0	54.0	169	0.420	12	P80	06F41-	2	6.4
12.0	338	4.0	54.0	169	0.420	12	P80	06F41L	2	6.4
13.0	338	2.1	29.0	169	0.395	12	P40	06F41-	2	4.9
13.0	338	2.1	29.0	169	0.395	12	P40	06F41L	2	4.9
15.0	270	3.2	54.0	135	0.388	15	P80	06F41L	2	6.4
15.0	270	3.2	54.0	135	0.388	15	P80	06F41-	2	6.4
15.0	253	4.0	80.0	127	0.403	16	P80	06F41L	2	6.4
15.0	253	4.0	80.0	127	0.403	16	P80	06F41-	2	6.4
17.0	270	1.7	29.0	135	0.373	15	P40	06F41-	2	4.9
17.0	270	1.7	29.0	135	0.373	15	P40	06F41L	2	4.9
18.0	253	2.2	39.0	127	0.394	16	P40	06F41-	2	4.9
18.0	253	2.2	39.0	127	0.394	16	P40	06F41L	2	4.9
20.0	203	3.4	80.0	101	0.378	20	P80	06F41-	2	6.4
20.0	203	3.4	80.0	101	0.378	20	P80	06F41L	2	6.4
23.0	203	1.7	39.0	101	0.370	20	P40	06F41-	2	4.9
23.0	203	1.7	39.0	101	0.370	20	P40	06F41L	2	4.9
27.0	162	2.5	80.0	81.0	0.374	25	P80	06F41-	2	6.4
27.0	162	2.5	80.0	81.0	0.374	25	P80	06F41L	2	6.4
28.0	162	1.4	40.0	81.0	0.369	25	P40	06F41-	2	4.9
28.0	162	1.4	40.0	81.0	0.369	25	P40	06F41L	2	4.9
32.0	116	4.4	175	58.0	0.580	35	P180	06F41-	2	9.8
32.0	116	4.4	175	58.0	0.580	35	P180	06F41L	2	9.8
39.0	116	1.0	40.0	58.0	0.352	35	P40	06F41-	2	4.9
39.0	116	1.0	40.0	58.0	0.352	35	P40	06F41L	2	4.9
39.0	116	2.0	80.0	58.0	0.355	35	P80	06F41-	2	6.4
39.0	116	2.0	80.0	58.0	0.355	35	P80	06F41L	2	6.4
39.0	101	4.0	180	51.0	0.548	40	P180	06F41-	2	9.8
39.0	101	4.0	180	51.0	0.548	40	P180	06F41L	2	9.8
45.0	101	1.8	80.0	51.0	0.346	40	P80	06F41-	2	6.4
45.0	101	1.8	80.0	51.0	0.346	40	P80	06F41L	2	6.4
52.0	81.0	3.1	175	41.0	0.545	50	P180	06F41L	2	9.8
52.0	81.0	3.1	175	41.0	0.545	50	P180	06F41-	2	9.8
56.0	81.0	1.4	80.0	41.0	0.345	50	P80	06F41-	2	6.4
56.0	81.0	1.4	80.0	41.0	0.345	50	P80	06F41L	2	6.4
64.0	57.9	4.6	355	29.0	1.369	70	P470	06F41-	2	17
64.0	57.9	4.6	355	29.0	1.369	70	P470	06F41L	2	17
77.0	57.9	1.0	78.0	29.0	0.344	70	P80	06F41L	2	6.4
77.0	57.9	1.0	78.0	29.0	0.344	70	P80	06F41-	2	6.4
78.0	57.9	2.2	175	29.0	0.542	70	P180	06F41-	2	9.8
78.0	57.9	2.2	175	29.0	0.542	70	P180	06F41L	2	9.8
106	40.5	2.8	305	20.0	1.351	100	P470	06F41-	2	17
106	40.5	2.8	305	20.0	1.351	100	P470	06F41L	2	17
107	40.5	1.3	140	20.0	0.541	100	P180	06F41-	2	9.8



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
107	40.5	1.3	140	20.0	0.541	100	P180	06F41L	2	9.8



0.57 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.1	857	5.9	37.0	429	0.358	7	P40	06F60-	1	4.1
5.1	857	5.9	37.0	429	0.358	7	P40	06F60L	1	4.1
6.0	750	5.3	39.0	375	0.353	8	P40	06F60-	1	4.1
6.0	750	5.3	39.0	375	0.353	8	P40	06F60L	1	4.1
7.7	500	5.3	54.0	250	0.420	12	P80	06F60-	2	6.4
7.7	500	5.3	54.0	250	0.420	12	P80	06F60L	2	6.4
8.2	600	3.3	28.0	300	0.347	10	P40	06F60L	1	4.1
8.2	600	3.3	28.0	300	0.347	10	P40	06F60-	1	4.1
9.5	500	2.9	29.0	250	0.395	12	P40	06F60-	2	4.9
9.5	500	2.9	29.0	250	0.395	12	P40	06F60L	2	4.9
11.0	400	4.2	54.0	200	0.388	15	P80	06F60-	2	6.4
11.0	400	4.2	54.0	200	0.388	15	P80	06F60L	2	6.4
11.0	375	4.6	80.0	188	0.403	16	P80	06F60L	2	6.4
11.0	375	4.6	80.0	188	0.403	16	P80	06F60-	2	6.4
12.0	400	2.3	29.0	200	0.373	15	P40	06F60-	2	4.9
12.0	400	2.3	29.0	200	0.373	15	P40	06F60L	2	4.9
13.0	375	2.9	39.0	188	0.394	16	P40	06F60-	2	4.9
13.0	375	2.9	39.0	188	0.394	16	P40	06F60L	2	4.9
14.0	300	4.0	80.0	150	0.378	20	P80	06F60-	2	6.4
14.0	300	4.0	80.0	150	0.378	20	P80	06F60L	2	6.4
17.0	300	2.3	39.0	150	0.370	20	P40	06F60-	2	4.9
17.0	300	2.3	39.0	150	0.370	20	P40	06F60L	2	4.9
20.0	240	2.9	80.0	120	0.374	25	P80	06F60-	2	6.4
20.0	240	2.9	80.0	120	0.374	25	P80	06F60L	2	6.4
21.0	240	1.9	40.0	120	0.369	25	P40	06F60-	2	4.9
21.0	240	1.9	40.0	120	0.369	25	P40	06F60L	2	4.9
21.0	171	5.7	175	86.0	0.580	35	P180	06F60-	2	9.8
21.0	171	5.7	175	86.0	0.580	35	P180	06F60L	2	9.8
26.0	150	5.3	180	75.0	0.548	40	P180	06F60-	2	9.8
26.0	150	5.3	180	75.0	0.548	40	P180	06F60L	2	9.8
29.0	171	1.4	40.0	86.0	0.352	35	P40	06F60-	2	4.9
29.0	171	1.4	40.0	86.0	0.352	35	P40	06F60L	2	4.9
29.0	171	2.3	80.0	86.0	0.355	35	P80	06F60-	2	6.4
29.0	171	2.3	80.0	86.0	0.355	35	P80	06F60L	2	6.4
33.0	150	1.2	39.0	75.0	0.344	40	P40	06F60-	2	4.9
33.0	150	1.2	39.0	75.0	0.344	40	P40	06F60L	2	4.9
33.0	150	2.4	80.0	75.0	0.346	40	P80	06F60-	2	6.4
33.0	150	2.4	80.0	75.0	0.346	40	P80	06F60L	2	6.4
36.0	120	4.1	175	60.0	0.545	50	P180	06F60L	2	9.8
36.0	120	4.1	175	60.0	0.545	50	P180	06F60-	2	9.8
42.0	120	1.9	80.0	60.0	0.345	50	P80	06F60-	2	6.4
42.0	120	1.9	80.0	60.0	0.345	50	P80	06F60L	2	6.4
55.0	85.7	3.0	175	43.0	0.542	70	P180	06F60-	2	9.8
55.0	85.7	3.0	175	43.0	0.542	70	P180	06F60L	2	9.8
58.0	85.7	1.3	78.0	43.0	0.344	70	P80	06F60-	2	6.4
58.0	85.7	1.3	78.0	43.0	0.344	70	P80	06F60L	2	6.4
73.0	60.0	3.8	305	30.0	1.351	100	P470	06F60-	2	17
73.0	60.0	3.8	305	30.0	1.351	100	P470	06F60L	2	17
80.0	60.0	1.8	140	30.0	0.541	100	P180	06F60L	2	9.8
80.0	60.0	1.8	140	30.0	0.541	100	P180	06F60-	2	9.8



0.64 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.2	810	5.3	40.0	405	0.460	5	P40	06I41-	1	4.8
6.2	810	5.3	40.0	405	0.460	5	P40	06I41L	1	4.8
9.4	579	3.7	37.0	289	0.438	7	P40	06I41-	1	4.8
9.4	579	3.7	37.0	289	0.438	7	P40	06I41L	1	4.8
11.0	506	3.4	39.0	253	0.433	8	P40	06I41L	1	4.8
11.0	506	3.4	39.0	253	0.433	8	P40	06I41-	1	4.8
13.0	405	4.1	59.0	203	0.627	10	P80	06I41-	1	6.1
13.0	405	4.1	59.0	203	0.627	10	P80	06I41L	1	6.1
14.0	405	2.0	28.0	203	0.427	10	P40	06I41-	1	4.8
14.0	405	2.0	28.0	203	0.427	10	P40	06I41L	1	4.8
15.0	338	3.2	54.0	169	0.500	12	P80	06I41-	2	7.1
15.0	338	3.2	54.0	169	0.500	12	P80	06I41L	2	7.1
17.0	338	1.7	29.0	169	0.475	12	P40	06I41L	2	5.6
17.0	338	1.7	29.0	169	0.475	12	P40	06I41-	2	5.6
20.0	270	2.5	54.0	135	0.468	15	P80	06I41-	2	7.1
20.0	270	2.5	54.0	135	0.468	15	P80	06I41L	2	7.1
21.0	270	1.4	29.0	135	0.453	15	P40	06I41L	2	5.6
21.0	270	1.4	29.0	135	0.453	15	P40	06I41-	2	5.6
21.0	253	3.2	80.0	127	0.483	16	P80	06I41-	2	7.1
21.0	253	3.2	80.0	127	0.483	16	P80	06I41L	2	7.1
23.0	253	1.7	39.0	127	0.474	16	P40	06I41-	2	5.6
23.0	253	1.7	39.0	127	0.474	16	P40	06I41L	2	5.6
27.0	203	2.7	80.0	101	0.458	20	P80	06I41-	2	7.1
27.0	203	2.7	80.0	101	0.458	20	P80	06I41L	2	7.1
28.0	203	1.4	39.0	101	0.450	20	P40	06I41-	2	5.6
28.0	203	1.4	39.0	101	0.450	20	P40	06I41L	2	5.6
28.0	162	4.9	175	81.0	0.729	25	P180	06I41-	2	11
28.0	162	4.9	175	81.0	0.729	25	P180	06I41L	2	11
35.0	162	1.2	40.0	81.0	0.449	25	P40	06I41-	2	5.6
35.0	162	1.2	40.0	81.0	0.449	25	P40	06I41L	2	5.6
35.0	162	2.0	80.0	81.0	0.454	25	P80	06I41L	2	7.1
35.0	162	2.0	80.0	81.0	0.454	25	P80	06I41-	2	7.1
44.0	116	3.5	175	58.0	0.660	35	P180	06I41-	2	11
44.0	116	3.5	175	58.0	0.660	35	P180	06I41L	2	11
49.0	116	1.6	80.0	58.0	0.435	35	P80	06I41-	2	7.1
49.0	116	1.6	80.0	58.0	0.435	35	P80	06I41L	2	7.1
51.0	81.0	5.7	405	41.0	1.460	50	P470	06I41-	2	18
51.0	81.0	5.7	405	41.0	1.460	50	P470	06I41L	2	18
52.0	101	3.2	180	51.0	0.628	40	P180	06I41-	2	11
52.0	101	3.2	180	51.0	0.628	40	P180	06I41L	2	11
56.0	101	1.4	80.0	51.0	0.426	40	P80	06I41-	2	7.1
56.0	101	1.4	80.0	51.0	0.426	40	P80	06I41L	2	7.1
68.0	81.0	2.5	175	41.0	0.625	50	P180	06I41-	2	11
68.0	81.0	2.5	175	41.0	0.625	50	P180	06I41L	2	11
70.0	81.0	1.2	80.0	41.0	0.425	50	P80	06I41-	2	7.1
70.0	81.0	1.2	80.0	41.0	0.425	50	P80	06I41L	2	7.1
86.0	57.9	3.7	355	29.0	1.449	70	P470	06I41-	2	18
86.0	57.9	3.7	355	29.0	1.449	70	P470	06I41L	2	18
98.0	57.9	1.8	175	29.0	0.622	70	P180	06I41L	2	11
98.0	57.9	1.8	175	29.0	0.622	70	P180	06I41-	2	11
134	40.5	1.1	140	20.0	0.621	100	P180	06I41-	2	11



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
134	40.5	1.1	140	20.0	0.621	100	P180	06I41L	2	11
135	40.5	2.3	305	20.0	1.431	100	P470	06I41L	2	18
135	40.5	2.3	305	20.0	1.431	100	P470	06I41-	2	18



0.75 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.8	1200	5.9	40.0	600	0.460	5	P40	06I60-	1	4.8
4.8	1200	5.9	40.0	600	0.460	5	P40	06I60L	1	4.8
7.2	857	4.5	37.0	429	0.438	7	P40	06I60-	1	4.8
7.2	857	4.5	37.0	429	0.438	7	P40	06I60L	1	4.8
8.5	750	4.0	39.0	375	0.433	8	P40	06I60-	1	4.8
8.5	750	4.0	39.0	375	0.433	8	P40	06I60L	1	4.8
10.0	600	5.1	59.0	300	0.627	10	P80	06I60-	1	6.1
10.0	600	5.1	59.0	300	0.627	10	P80	06I60L	1	6.1
11.0	600	2.5	28.0	300	0.427	10	P40	06I60-	1	4.8
11.0	600	2.5	28.0	300	0.427	10	P40	06I60L	1	4.8
12.0	500	4.0	54.0	250	0.500	12	P80	06I60L	2	7.1
12.0	500	4.0	54.0	250	0.500	12	P80	06I60-	2	7.1
13.0	500	2.1	29.0	250	0.475	12	P40	06I60-	2	5.6
13.0	500	2.1	29.0	250	0.475	12	P40	06I60L	2	5.6
15.0	400	3.2	54.0	200	0.468	15	P80	06I60-	2	7.1
15.0	400	3.2	54.0	200	0.468	15	P80	06I60L	2	7.1
16.0	375	3.5	80.0	188	0.483	16	P80	06I60-	2	7.1
16.0	375	3.5	80.0	188	0.483	16	P80	06I60L	2	7.1
17.0	400	1.7	29.0	200	0.453	15	P40	06I60-	2	5.6
17.0	400	1.7	29.0	200	0.453	15	P40	06I60L	2	5.6
18.0	375	2.2	39.0	188	0.474	16	P40	06I60-	2	5.6
18.0	375	2.2	39.0	188	0.474	16	P40	06I60L	2	5.6
21.0	300	3.0	80.0	150	0.458	20	P80	06I60-	2	7.1
21.0	300	3.0	80.0	150	0.458	20	P80	06I60L	2	7.1
21.0	240	5.3	175	120	0.729	25	P180	06I60L	2	11
21.0	240	5.3	175	120	0.729	25	P180	06I60-	2	11
23.0	300	1.7	39.0	150	0.450	20	P40	06I60-	2	5.6
23.0	300	1.7	39.0	150	0.450	20	P40	06I60L	2	5.6
28.0	240	1.4	40.0	120	0.449	25	P40	06I60-	2	5.6
28.0	240	1.4	40.0	120	0.449	25	P40	06I60L	2	5.6
28.0	240	2.2	80.0	120	0.454	25	P80	06I60-	2	7.1
28.0	240	2.2	80.0	120	0.454	25	P80	06I60L	2	7.1
33.0	171	4.3	175	86.0	0.660	35	P180	06I60-	2	11
33.0	171	4.3	175	86.0	0.660	35	P180	06I60L	2	11
39.0	171	1.0	40.0	86.0	0.432	35	P40	06I60-	2	5.6
39.0	171	1.0	40.0	86.0	0.432	35	P40	06I60L	2	5.6
39.0	171	1.8	80.0	86.0	0.435	35	P80	06I60-	2	7.1
39.0	171	1.8	80.0	86.0	0.435	35	P80	06I60L	2	7.1
39.0	150	4.0	180	75.0	0.628	40	P180	06I60-	2	11
39.0	150	4.0	180	75.0	0.628	40	P180	06I60L	2	11
45.0	150	1.8	80.0	75.0	0.426	40	P80	06I60-	2	7.1
45.0	150	1.8	80.0	75.0	0.426	40	P80	06I60L	2	7.1
52.0	120	3.1	175	60.0	0.625	50	P180	06I60L	2	11
52.0	120	3.1	175	60.0	0.625	50	P180	06I60-	2	11
56.0	120	1.4	80.0	60.0	0.425	50	P80	06I60-	2	7.1
56.0	120	1.4	80.0	60.0	0.425	50	P80	06I60L	2	7.1
64.0	85.7	4.6	355	43.0	1.449	70	P470	06I60-	2	18
64.0	85.7	4.6	355	43.0	1.449	70	P470	06I60L	2	18
78.0	85.7	2.2	175	43.0	0.622	70	P180	06I60L	2	11
78.0	85.7	2.2	175	43.0	0.622	70	P180	06I60-	2	11
106	60.0	2.8	305	30.0	1.431	100	P470	06I60-	2	18



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
106	60.0	2.8	305	30.0	1.431	100	P470	06I60L	2	18
107	60.0	1.3	140	30.0	0.621	100	P180	06I60-	2	11
107	60.0	1.3	140	30.0	0.621	100	P180	06I60L	2	11



1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.0	1350	4.2	29.0	675	1.383	3	P40	09D41L	1	6.3
6.0	1350	4.2	29.0	675	1.383	3	P40	09D41-	1	6.2
8.0	1013	4.2	39.0	506	1.310	4	P40	09D41-	1	6.2
8.0	1013	4.2	39.0	506	1.310	4	P40	09D41L	1	6.3
10.0	810	3.5	40.0	405	1.282	5	P40	09D41-	1	6.2
10.0	810	3.5	40.0	405	1.282	5	P40	09D41L	1	6.3
14.0	579	4.8	78.0	289	1.464	7	P80	09D41-	1	7.5
14.0	579	4.8	78.0	289	1.464	7	P80	09D41L	1	7.6
15.0	579	2.4	37.0	289	1.260	7	P40	09D41-	1	6.2
15.0	579	2.4	37.0	289	1.260	7	P40	09D41L	1	6.3
16.0	506	4.3	75.0	253	1.446	8	P80	09D41L	1	7.6
16.0	506	4.3	75.0	253	1.446	8	P80	09D41-	1	7.5
17.0	506	2.2	39.0	253	1.255	8	P40	09D41-	1	6.2
17.0	506	2.2	39.0	253	1.255	8	P40	09D41L	1	6.3
20.0	338	5.1	135	169	1.700	12	P180	09D41L	2	12
20.0	338	5.1	135	169	1.700	12	P180	09D41-	2	12
21.0	405	2.7	59.0	203	1.427	10	P80	09D41-	1	7.5
21.0	405	2.7	59.0	203	1.427	10	P80	09D41L	1	7.6
22.0	405	1.3	28.0	203	1.249	10	P40	09D41L	1	6.3
22.0	405	1.3	28.0	203	1.249	10	P40	09D41-	1	6.2
26.0	338	1.1	29.0	169	1.297	12	P40	09D41L	2	7.1
26.0	338	1.1	29.0	169	1.297	12	P40	09D41-	2	7.0
26.0	338	2.1	54.0	169	1.322	12	P80	09D41-	2	8.5
26.0	338	2.1	54.0	169	1.322	12	P80	09D41L	2	8.6
27.0	270	4.1	135	135	1.581	15	P180	09D41-	2	12
27.0	270	4.1	135	135	1.581	15	P180	09D41L	2	12
27.0	253	5.1	180	127	1.642	16	P180	09D41-	2	12
27.0	253	5.1	180	127	1.642	16	P180	09D41L	2	12
32.0	270	1.7	54.0	135	1.290	15	P80	09D41L	2	8.6
32.0	270	1.7	54.0	135	1.290	15	P80	09D41-	2	8.5
34.0	253	2.1	80.0	127	1.305	16	P80	09D41-	2	8.5
34.0	253	2.1	80.0	127	1.305	16	P80	09D41L	2	8.6
35.0	253	1.1	39.0	127	1.296	16	P40	09D41-	2	7.0
35.0	253	1.1	39.0	127	1.296	16	P40	09D41L	2	7.1
37.0	203	4.1	180	101	1.544	20	P180	09D41L	2	12
37.0	203	4.1	180	101	1.544	20	P180	09D41-	2	12
43.0	203	1.8	80.0	101	1.280	20	P80	09D41-	2	8.5
43.0	203	1.8	80.0	101	1.280	20	P80	09D41L	2	8.6
49.0	162	3.2	175	81.0	1.529	25	P180	09D41-	2	12
49.0	162	3.2	175	81.0	1.529	25	P180	09D41L	2	12
54.0	162	1.3	80.0	81.0	1.276	25	P80	09D41L	2	8.6
54.0	162	1.3	80.0	81.0	1.276	25	P80	09D41-	2	8.5
57.0	116	5.3	405	58.0	2.110	35	P470	09D41-	2	19
57.0	116	5.3	405	58.0	2.110	35	P470	09D41L	2	19
65.0	101	5.4	470	51.0	1.984	40	P470	09D41L	2	19
65.0	101	5.4	470	51.0	1.984	40	P470	09D41-	2	19
74.0	116	2.3	175	58.0	1.460	35	P180	09D41-	2	12
74.0	116	2.3	175	58.0	1.460	35	P180	09D41L	2	12
76.0	116	1.0	80.0	58.0	1.257	35	P80	09D41-	2	8.5
76.0	116	1.0	80.0	58.0	1.257	35	P80	09D41L	2	8.6
86.0	101	2.1	180	51.0	1.428	40	P180	09D41-	2	12



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
86.0	101	2.1	180	51.0	1.428	40	P180	09D41L	2	12
94.0	81.0	3.8	405	41.0	1.970	50	P470	09D41-	2	19
94.0	81.0	3.8	405	41.0	1.970	50	P470	09D41L	2	19
108	81.0	1.6	175	41.0	1.425	50	P180	09D41-	2	12
108	81.0	1.6	175	41.0	1.425	50	P180	09D41L	2	12
147	57.9	2.4	355	29.0	1.959	70	P470	09D41-	2	19
147	57.9	2.4	355	29.0	1.959	70	P470	09D41L	2	19
150	57.9	1.2	175	29.0	1.422	70	P180	09D41-	2	12
150	57.9	1.2	175	29.0	1.422	70	P180	09D41L	2	12
207	40.5	1.5	305	20.0	1.941	100	P470	09D41L	2	19
207	40.5	1.5	305	20.0	1.941	100	P470	09D41-	2	19



1.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.6	2000	4.7	29.0	1000	1.383	3	P40	09D60-	1	6.2
4.6	2000	4.7	29.0	1000	1.383	3	P40	09D60L	1	6.3
6.1	1500	4.8	39.0	750	1.310	4	P40	09D60-	1	6.2
6.1	1500	4.8	39.0	750	1.310	4	P40	09D60L	1	6.3
8.0	1200	3.9	40.0	600	1.282	5	P40	09D60-	1	6.2
8.0	1200	3.9	40.0	600	1.282	5	P40	09D60L	1	6.3
10.0	857	5.4	78.0	429	1.464	7	P80	09D60-	1	7.5
10.0	857	5.4	78.0	429	1.464	7	P80	09D60L	1	7.6
12.0	857	3.0	37.0	429	1.260	7	P40	09D60-	1	6.2
12.0	857	3.0	37.0	429	1.260	7	P40	09D60L	1	6.3
12.0	750	5.1	75.0	375	1.446	8	P80	09D60-	1	7.5
12.0	750	5.1	75.0	375	1.446	8	P80	09D60L	1	7.6
13.0	750	2.6	39.0	375	1.255	8	P40	09D60-	1	6.2
13.0	750	2.6	39.0	375	1.255	8	P40	09D60L	1	6.3
15.0	650	3.4	54.0	325	4.895	3	P80	12D20-	1	9.7
15.0	650	3.4	54.0	325	4.895	3	P80	12D20L	1	9.8
16.0	650	1.8	29.0	325	4.517	3	P40	12D20L	1	8.5
16.0	650	1.8	29.0	325	4.517	3	P40	12D20-	1	8.4
16.0	600	3.4	59.0	300	1.427	10	P80	09D60-	1	7.5
16.0	600	3.4	59.0	300	1.427	10	P80	09D60L	1	7.6
17.0	600	1.6	28.0	300	1.249	10	P40	09D60-	1	6.2
17.0	600	1.6	28.0	300	1.249	10	P40	09D60L	1	6.3
19.0	500	2.6	54.0	250	1.322	12	P80	09D60-	2	8.5
19.0	500	2.6	54.0	250	1.322	12	P80	09D60L	2	8.6
19.0	400	5.2	135	200	1.581	15	P180	09D60-	2	12
19.0	400	5.2	135	200	1.581	15	P180	09D60L	2	12
20.0	500	1.4	29.0	250	1.297	12	P40	09D60L	2	7.1
20.0	500	1.4	29.0	250	1.297	12	P40	09D60-	2	7.0
20.0	488	3.8	80.0	244	4.643	4	P80	12D20-	1	9.7
20.0	488	3.8	80.0	244	4.643	4	P80	12D20L	1	9.8
20.0	375	5.7	180	188	1.642	16	P180	09D60L	2	12
20.0	375	5.7	180	188	1.642	16	P180	09D60-	2	12
21.0	488	1.8	39.0	244	4.444	4	P40	12D20-	1	8.4
21.0	488	1.8	39.0	244	4.444	4	P40	12D20L	1	8.5
25.0	400	1.2	29.0	200	1.275	15	P40	09D60-	2	7.0
25.0	400	1.2	29.0	200	1.275	15	P40	09D60L	2	7.1
25.0	400	2.1	54.0	200	1.290	15	P80	09D60-	2	8.5
25.0	400	2.1	54.0	200	1.290	15	P80	09D60L	2	8.6
25.0	390	3.0	80.0	195	4.548	5	P80	12D20-	1	9.7
25.0	390	3.0	80.0	195	4.548	5	P80	12D20L	1	9.8
26.0	390	1.5	40.0	195	4.417	5	P40	12D20-	1	8.4
26.0	390	1.5	40.0	195	4.417	5	P40	12D20L	1	8.5
26.0	375	2.3	80.0	188	1.305	16	P80	09D60-	2	8.5
26.0	375	2.3	80.0	188	1.305	16	P80	09D60L	2	8.6
26.0	300	4.9	180	150	1.544	20	P180	09D60-	2	12
26.0	300	4.9	180	150	1.544	20	P180	09D60L	2	12
27.0	375	1.4	39.0	188	1.296	16	P40	09D60-	2	7.0
27.0	375	1.4	39.0	188	1.296	16	P40	09D60L	2	7.1
33.0	279	4.6	175	139	5.018	7	P180	12D20-	1	13
33.0	279	4.6	175	139	5.018	7	P180	12D20L	1	13
34.0	300	1.2	39.0	150	1.272	20	P40	09D60-	2	7.0



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
34.0	300	1.2	39.0	150	1.272	20	P40	09D60L	2	7.1
34.0	300	2.0	80.0	150	1.280	20	P80	09D60-	2	8.5
34.0	300	2.0	80.0	150	1.280	20	P80	09D60L	2	8.6
37.0	279	1.0	37.0	139	4.394	7	P40	12D20-	1	8.4
37.0	279	1.0	37.0	139	4.394	7	P40	12D20L	1	8.5
37.0	279	2.1	78.0	139	4.474	7	P80	12D20-	1	9.7
37.0	279	2.1	78.0	139	4.474	7	P80	12D20L	1	9.8
37.0	240	3.6	175	120	1.529	25	P180	09D60-	2	12
37.0	240	3.6	175	120	1.529	25	P180	09D60L	2	12
39.0	244	3.6	155	122	4.934	8	P180	12D20-	1	13
39.0	244	3.6	155	122	4.934	8	P180	12D20L	1	13
42.0	244	1.8	75.0	122	4.456	8	P80	12D20-	1	9.7
42.0	244	1.8	75.0	122	4.456	8	P80	12D20L	1	9.8
42.0	240	1.5	80.0	120	1.276	25	P80	09D60-	2	8.5
42.0	240	1.5	80.0	120	1.276	25	P80	09D60L	2	8.6
44.0	163	6.0	380	81.0	6.003	12	P470	12D20-	2	21
44.0	163	6.0	380	81.0	6.003	12	P470	12D20L	2	21
45.0	195	5.7	305	98.0	10.539	10	P470	12D20L	1	20
45.0	195	5.7	305	98.0	10.539	10	P470	12D20-	1	20
51.0	195	2.6	140	98.0	4.874	10	P180	12D20L	1	13
51.0	195	2.6	140	98.0	4.874	10	P180	12D20-	1	13
53.0	195	1.1	59.0	98.0	4.436	10	P80	12D20-	1	9.7
53.0	195	1.1	59.0	98.0	4.436	10	P80	12D20L	1	9.8
56.0	171	2.8	175	86.0	1.460	35	P180	09D60-	2	12
56.0	171	2.8	175	86.0	1.460	35	P180	09D60L	2	12
59.0	171	1.2	80.0	86.0	1.257	35	P80	09D60-	2	8.5
59.0	171	1.2	80.0	86.0	1.257	35	P80	09D60L	2	8.6
61.0	163	2.1	135	81.0	4.709	12	P180	12D20L	2	14
61.0	163	2.1	135	81.0	4.709	12	P180	12D20-	2	14
61.0	130	4.8	380	65.0	5.481	15	P470	12D20-	2	21
61.0	130	4.8	380	65.0	5.481	15	P470	12D20L	2	21
62.0	122	5.3	450	61.0	5.725	16	P470	12D20-	2	21
62.0	122	5.3	450	61.0	5.725	16	P470	12D20L	2	21
64.0	150	2.6	180	75.0	1.428	40	P180	09D60L	2	12
64.0	150	2.6	180	75.0	1.428	40	P180	09D60-	2	12
67.0	120	4.8	405	60.0	1.970	50	P470	09D60-	2	19
67.0	120	4.8	405	60.0	1.970	50	P470	09D60L	2	19
68.0	150	1.2	80.0	75.0	1.248	40	P80	09D60L	2	8.6
68.0	150	1.2	80.0	75.0	1.248	40	P80	09D60-	2	8.5
78.0	130	1.7	135	65.0	4.590	15	P180	12D20-	2	14
78.0	130	1.7	135	65.0	4.590	15	P180	12D20L	2	14
82.0	122	2.1	180	61.0	4.652	16	P180	12D20-	2	14
82.0	122	2.1	180	61.0	4.652	16	P180	12D20L	2	14
84.0	120	2.1	175	60.0	1.425	50	P180	09D60L	2	12
84.0	120	2.1	175	60.0	1.425	50	P180	09D60-	2	12
86.0	97.5	4.3	450	49.0	5.304	20	P470	12D20-	2	21
86.0	97.5	4.3	450	49.0	5.304	20	P470	12D20L	2	21
103	97.5	1.7	180	49.0	4.553	20	P180	12D20-	2	14
103	97.5	1.7	180	49.0	4.553	20	P180	12D20L	2	14
109	85.7	3.1	355	43.0	1.959	70	P470	09D60-	2	19
109	85.7	3.1	355	43.0	1.959	70	P470	09D60L	2	19
117	85.7	1.5	175	43.0	1.422	70	P180	09D60-	2	12



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
117	85.7	1.5	175	43.0	1.422	70	P180	09D60L	2	12
119	78.0	3.1	405	39.0	5.248	25	P470	12D20L	2	21
119	78.0	3.1	405	39.0	5.248	25	P470	12D20-	2	21
129	78.0	1.3	175	39.0	4.539	25	P180	12D20-	2	14
129	78.0	1.3	175	39.0	4.539	25	P180	12D20L	2	14
162	60.0	1.9	305	30.0	1.941	100	P470	09D60-	2	19
162	60.0	1.9	305	30.0	1.941	100	P470	09D60L	2	19
178	55.7	2.2	405	28.0	5.010	35	P470	12D20-	2	21
178	55.7	2.2	405	28.0	5.010	35	P470	12D20L	2	21
203	48.8	2.3	470	24.0	4.884	40	P470	12D20-	2	21
203	48.8	2.3	470	24.0	4.884	40	P470	12D20L	2	21
259	39.0	1.6	405	20.0	4.870	50	P470	12D20-	2	21
259	39.0	1.6	405	20.0	4.870	50	P470	12D20L	2	21
354	27.9	1.0	355	14.0	4.859	70	P470	12D20-	2	21
354	27.9	1.0	355	14.0	4.859	70	P470	12D20L	2	21



1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.6	1250	5.7	54.0	625	2.285	3	P80	09F38-	1	8.4
7.6	1250	5.7	54.0	625	2.285	3	P80	09F38L	1	8.5
8.5	1250	3.2	29.0	625	1.783	3	P40	09F38-	1	7.1
8.5	1250	3.2	29.0	625	1.783	3	P40	09F38L	1	7.2
11.0	938	3.2	39.0	469	1.710	4	P40	09F38-	1	7.1
11.0	938	3.2	39.0	469	1.710	4	P40	09F38L	1	7.2
13.0	750	4.8	80.0	375	1.938	5	P80	09F38-	1	8.4
13.0	750	4.8	80.0	375	1.938	5	P80	09F38L	1	8.5
14.0	750	2.6	40.0	375	1.682	5	P40	09F38-	1	7.1
14.0	750	2.6	40.0	375	1.682	5	P40	09F38L	1	7.2
19.0	536	3.6	78.0	268	1.864	7	P80	09F38-	1	8.4
19.0	536	3.6	78.0	268	1.864	7	P80	09F38L	1	8.5
21.0	536	1.8	37.0	268	1.660	7	P40	09F38-	1	7.1
21.0	536	1.8	37.0	268	1.660	7	P40	09F38L	1	7.2
23.0	469	3.2	75.0	234	1.846	8	P80	09F38-	1	8.4
23.0	469	3.2	75.0	234	1.846	8	P80	09F38L	1	8.5
24.0	469	1.7	39.0	234	1.655	8	P40	09F38-	1	7.1
24.0	469	1.7	39.0	234	1.655	8	P40	09F38L	1	7.2
26.0	375	4.7	140	188	2.374	10	P180	09F38-	1	11
26.0	375	4.7	140	188	2.374	10	P180	09F38L	1	11
30.0	375	2.0	59.0	188	1.827	10	P80	09F38L	1	8.5
30.0	375	2.0	59.0	188	1.827	10	P80	09F38-	1	8.4
30.0	313	3.8	135	156	2.100	12	P180	09F38-	2	13
30.0	313	3.8	135	156	2.100	12	P180	09F38L	2	13
35.0	313	1.5	54.0	156	1.722	12	P80	09F38-	2	9.4
35.0	313	1.5	54.0	156	1.722	12	P80	09F38L	2	9.5
40.0	250	3.0	135	125	1.981	15	P180	09F38-	2	13
40.0	250	3.0	135	125	1.981	15	P180	09F38L	2	13
40.0	234	3.8	180	117	2.042	16	P180	09F38-	2	13
40.0	234	3.8	180	117	2.042	16	P180	09F38L	2	13
44.0	250	1.2	54.0	125	1.690	15	P80	09F38L	2	9.5
44.0	250	1.2	54.0	125	1.690	15	P80	09F38-	2	9.4
47.0	234	1.6	80.0	117	1.705	16	P80	09F38L	2	9.5
47.0	234	1.6	80.0	117	1.705	16	P80	09F38-	2	9.4
54.0	188	3.0	180	94.0	1.944	20	P180	09F38-	2	13
54.0	188	3.0	180	94.0	1.944	20	P180	09F38L	2	13
54.0	150	5.5	405	75.0	2.748	25	P470	09F38-	2	20
54.0	150	5.5	405	75.0	2.748	25	P470	09F38L	2	20
58.0	188	1.3	80.0	94.0	1.680	20	P80	09F38-	2	9.4
58.0	188	1.3	80.0	94.0	1.680	20	P80	09F38L	2	9.5
71.0	150	2.4	175	75.0	1.929	25	P180	09F38L	2	13
71.0	150	2.4	175	75.0	1.929	25	P180	09F38-	2	13
87.0	107	3.9	405	54.0	2.510	35	P470	09F38-	2	20
87.0	107	3.9	405	54.0	2.510	35	P470	09F38L	2	20
99.0	93.8	4.0	470	47.0	2.384	40	P470	09F38-	2	20
99.0	93.8	4.0	470	47.0	2.384	40	P470	09F38L	2	20
102	107	1.7	175	54.0	1.860	35	P180	09F38-	2	13
102	107	1.7	175	54.0	1.860	35	P180	09F38L	2	13
117	93.8	1.5	180	47.0	1.828	40	P180	09F38-	2	13
117	93.8	1.5	180	47.0	1.828	40	P180	09F38L	2	13
137	75.0	2.8	405	38.0	2.370	50	P470	09F38-	2	20



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
137	75.0	2.8	405	38.0	2.370	50	P470	09F38L	2	20
146	75.0	1.2	175	38.0	1.825	50	P180	09F38-	2	13
146	75.0	1.2	175	38.0	1.825	50	P180	09F38L	2	13
200	53.6	1.8	355	27.0	2.359	70	P470	09F38-	2	20
200	53.6	1.8	355	27.0	2.359	70	P470	09F38L	2	20
279	37.5	1.1	305	19.0	2.341	100	P470	09F38L	2	20
279	37.5	1.1	305	19.0	2.341	100	P470	09F38-	2	20

1.45 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
23.0	500	5.0	135	250	11.041	3	P180	14D15-	1	35
26.0	500	2.0	54.0	250	9.545	3	P80	14D15-	1	32
31.0	375	5.0	180	188	10.049	4	P180	14D15-	1	35
35.0	375	2.2	80.0	188	9.292	4	P80	14D15-	1	32
41.0	300	3.9	175	150	9.654	5	P180	14D15-	1	35
44.0	300	1.8	80.0	150	9.197	5	P80	14D15-	1	32
52.0	214	5.6	355	107	15.247	7	P470	14D15-	1	42
60.0	214	2.8	175	107	9.408	7	P180	14D15-	1	35
62.0	214	1.3	78.0	107	8.848	7	P80	14D15-	1	32
62.0	188	4.9	350	94.0	14.973	8	P470	14D15-	1	42
70.0	188	2.2	155	94.0	9.324	8	P180	14D15-	1	35
71.0	188	1.1	75.0	94.0	8.830	8	P80	14D15-	1	32
83.0	150	3.4	305	75.0	14.639	10	P470	14D15-	1	42
88.0	150	1.6	140	75.0	9.264	10	P180	14D15-	1	35
92.0	125	3.6	380	63.0	10.393	12	P470	14D15-	2	44
104	125	1.3	135	63.0	9.359	12	P180	14D15-	2	37
121	100	2.9	380	50.0	9.872	15	P470	14D15-	2	44
126	93.8	3.2	450	47.0	10.116	16	P470	14D15-	2	44
130	100	1.0	135	50.0	9.240	15	P180	14D15-	2	37
138	93.8	1.3	180	47.0	9.301	16	P180	14D15-	2	37
166	75.0	2.6	450	38.0	9.694	20	P470	14D15-	2	44
173	75.0	1.0	180	38.0	9.203	20	P180	14D15-	2	37
216	60.0	1.9	405	30.0	9.639	25	P470	14D15-	2	44
303	42.9	1.3	405	21.0	9.401	35	P470	14D15-	2	44
346	37.5	1.3	470	19.0	9.274	40	P470	14D15-	2	44



1.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.5	2000	3.5	29.0	1000	1.783	3	P40	09F60-	1	7.1
6.5	2000	3.5	29.0	1000	1.783	3	P40	09F60L	1	7.2
8.6	1500	3.6	39.0	750	1.710	4	P40	09F60-	1	7.1
8.6	1500	3.6	39.0	750	1.710	4	P40	09F60L	1	7.2
9.9	1200	5.4	80.0	600	1.938	5	P80	09F60-	1	8.4
9.9	1200	5.4	80.0	600	1.938	5	P80	09F60L	1	8.5
11.0	1200	2.9	40.0	600	1.682	5	P40	09F60-	1	7.1
11.0	1200	2.9	40.0	600	1.682	5	P40	09F60L	1	7.2
15.0	857	4.1	78.0	429	1.864	7	P80	09F60L	1	8.5
15.0	857	4.1	78.0	429	1.864	7	P80	09F60-	1	8.4
16.0	857	2.2	37.0	429	1.660	7	P40	09F60-	1	7.1
16.0	857	2.2	37.0	429	1.660	7	P40	09F60L	1	7.2
17.0	750	3.8	75.0	375	1.846	8	P80	09F60-	1	8.4
17.0	750	3.8	75.0	375	1.846	8	P80	09F60L	1	8.5
18.0	750	2.0	39.0	375	1.655	8	P40	09F60-	1	7.1
18.0	750	2.0	39.0	375	1.655	8	P40	09F60L	1	7.2
19.0	600	5.8	140	300	2.374	10	P180	09F60-	1	11
19.0	600	5.8	140	300	2.374	10	P180	09F60L	1	11
21.0	500	4.9	135	250	2.100	12	P180	09F60L	2	13
21.0	500	4.9	135	250	2.100	12	P180	09F60-	2	13
23.0	600	1.2	28.0	300	1.649	10	P40	09F60-	1	7.1
23.0	600	1.2	28.0	300	1.649	10	P40	09F60L	1	7.2
23.0	600	2.6	59.0	300	1.827	10	P80	09F60-	1	8.4
23.0	600	2.6	59.0	300	1.827	10	P80	09F60L	1	8.5
27.0	500	1.1	29.0	250	1.697	12	P40	09F60-	2	7.9
27.0	500	1.1	29.0	250	1.697	12	P40	09F60L	2	8.0
27.0	500	2.0	54.0	250	1.722	12	P80	09F60-	2	9.4
27.0	500	2.0	54.0	250	1.722	12	P80	09F60L	2	9.5
29.0	400	3.9	135	200	1.981	15	P180	09F60-	2	13
29.0	400	3.9	135	200	1.981	15	P180	09F60L	2	13
30.0	375	4.3	180	188	2.042	16	P180	09F60-	2	13
30.0	375	4.3	180	188	2.042	16	P180	09F60L	2	13
34.0	400	1.6	54.0	200	1.690	15	P80	09F60-	2	9.4
34.0	400	1.6	54.0	200	1.690	15	P80	09F60L	2	9.5
36.0	375	1.1	39.0	188	1.696	16	P40	09F60L	2	8.0
36.0	375	1.1	39.0	188	1.696	16	P40	09F60-	2	7.9
36.0	375	1.7	80.0	188	1.705	16	P80	09F60-	2	9.4
36.0	375	1.7	80.0	188	1.705	16	P80	09F60L	2	9.5
39.0	300	3.7	180	150	1.944	20	P180	09F60-	2	13
39.0	300	3.7	180	150	1.944	20	P180	09F60L	2	13
45.0	300	1.5	80.0	150	1.680	20	P80	09F60-	2	9.4
45.0	300	1.5	80.0	150	1.680	20	P80	09F60L	2	9.5
54.0	240	2.7	175	120	1.929	25	P180	09F60-	2	13
54.0	240	2.7	175	120	1.929	25	P180	09F60L	2	13
56.0	240	1.1	80.0	120	1.676	25	P80	09F60L	2	9.5
56.0	240	1.1	80.0	120	1.676	25	P80	09F60-	2	9.4
62.0	171	4.9	405	86.0	2.510	35	P470	09F60-	2	20
62.0	171	4.9	405	86.0	2.510	35	P470	09F60L	2	20
69.0	150	5.2	470	75.0	2.384	40	P470	09F60-	2	20
69.0	150	5.2	470	75.0	2.384	40	P470	09F60L	2	20
78.0	171	2.1	175	86.0	1.860	35	P180	09F60-	2	13



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
78.0	171	2.1	175	86.0	1.860	35	P180	09F60L	2	13
90.0	150	2.0	180	75.0	1.828	40	P180	09F60L	2	13
90.0	150	2.0	180	75.0	1.828	40	P180	09F60-	2	13
99.0	120	3.6	405	60.0	2.370	50	P470	09F60-	2	20
99.0	120	3.6	405	60.0	2.370	50	P470	09F60L	2	20
113	120	1.6	175	60.0	1.825	50	P180	09F60L	2	13
113	120	1.6	175	60.0	1.825	50	P180	09F60-	2	13
154	85.7	2.3	355	43.0	2.359	70	P470	09F60-	2	20
154	85.7	2.3	355	43.0	2.359	70	P470	09F60L	2	20
156	85.7	1.1	175	43.0	1.822	70	P180	09F60-	2	13
156	85.7	1.1	175	43.0	1.822	70	P180	09F60L	2	13
216	60.0	1.4	305	30.0	2.341	100	P470	09F60-	2	20
216	60.0	1.4	305	30.0	2.341	100	P470	09F60L	2	20



1.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
9.8	1350	4.5	54.0	675	2.685	3	P80	09H41-	1	9.3
9.8	1350	4.5	54.0	675	2.685	3	P80	09H41L	1	9.4
11.0	1350	2.5	29.0	675	2.183	3	P40	09H41-	1	8.0
11.0	1350	2.5	29.0	675	2.183	3	P40	09H41L	1	8.1
13.0	1013	5.0	80.0	506	2.433	4	P80	09H41-	1	9.3
13.0	1013	5.0	80.0	506	2.433	4	P80	09H41L	1	9.4
14.0	1013	2.6	39.0	506	2.110	4	P40	09H41-	1	8.0
14.0	1013	2.6	39.0	506	2.110	4	P40	09H41L	1	8.1
17.0	810	3.8	80.0	405	2.338	5	P80	09H41-	1	9.3
17.0	810	3.8	80.0	405	2.338	5	P80	09H41L	1	9.4
18.0	810	2.1	40.0	405	2.082	5	P40	09H41-	1	8.0
18.0	810	2.1	40.0	405	2.082	5	P40	09H41L	1	8.1
22.0	579	5.7	175	289	2.918	7	P180	09H41-	1	12
22.0	579	5.7	175	289	2.918	7	P180	09H41L	1	12
25.0	579	1.5	37.0	289	2.060	7	P40	09H41-	1	8.0
25.0	579	1.5	37.0	289	2.060	7	P40	09H41L	1	8.1
25.0	579	2.9	78.0	289	2.264	7	P80	09H41-	1	9.3
25.0	579	2.9	78.0	289	2.264	7	P80	09H41L	1	9.4
25.0	506	5.2	155	253	2.834	8	P180	09H41-	1	12
25.0	506	5.2	155	253	2.834	8	P180	09H41L	1	12
26.0	500	4.6	135	250	9.950	3	P180	12H15-	1	16
26.0	500	4.6	135	250	9.950	3	P180	12H15L	1	16
28.0	506	2.6	75.0	253	2.246	8	P80	09H41-	1	9.3
28.0	506	2.6	75.0	253	2.246	8	P80	09H41L	1	9.4
29.0	506	1.4	39.0	253	2.055	8	P40	09H41L	1	8.1
29.0	506	1.4	39.0	253	2.055	8	P40	09H41-	1	8.0
29.0	500	1.9	54.0	250	8.195	3	P80	12H15L	1	13
29.0	500	1.9	54.0	250	8.195	3	P80	12H15-	1	13
34.0	405	3.8	140	203	2.774	10	P180	09H41-	1	12
34.0	405	3.8	140	203	2.774	10	P180	09H41L	1	12
34.0	375	4.6	180	188	8.958	4	P180	12H15-	1	16
34.0	375	4.6	180	188	8.958	4	P180	12H15L	1	16
36.0	405	1.6	59.0	203	2.227	10	P80	09H41L	1	9.4
36.0	405	1.6	59.0	203	2.227	10	P80	09H41-	1	9.3
38.0	375	1.0	39.0	188	7.744	4	P40	12H15-	1	12
38.0	375	1.0	39.0	188	7.744	4	P40	12H15L	1	12
38.0	375	2.1	80.0	188	7.943	4	P80	12H15-	1	13
38.0	375	2.1	80.0	188	7.943	4	P80	12H15L	1	13
39.0	338	3.1	135	169	2.500	12	P180	09H41-	2	14
39.0	338	3.1	135	169	2.500	12	P180	09H41L	2	14
43.0	338	1.3	54.0	169	2.122	12	P80	09H41-	2	10
43.0	338	1.3	54.0	169	2.122	12	P80	09H41L	2	10
45.0	300	3.6	175	150	8.564	5	P180	12H15-	1	16
45.0	300	3.6	175	150	8.564	5	P180	12H15L	1	16
48.0	300	1.7	80.0	150	7.848	5	P80	12H15-	1	13
48.0	300	1.7	80.0	150	7.848	5	P80	12H15L	1	13
50.0	203	5.9	450	101	3.204	20	P470	09H41-	2	21
50.0	203	5.9	450	101	3.204	20	P470	09H41L	2	21
52.0	270	2.5	135	135	2.381	15	P180	09H41-	2	14
52.0	270	2.5	135	135	2.381	15	P180	09H41L	2	14
53.0	253	3.1	180	127	2.442	16	P180	09H41-	2	14



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
53.0	253	3.1	180	127	2.442	16	P180	09H41L	2	14
57.0	253	1.3	80.0	127	2.105	16	P80	09H41L	2	10
57.0	253	1.3	80.0	127	2.105	16	P80	09H41-	2	10
58.0	214	5.2	355	107	14.447	7	P470	12H15L	1	23
58.0	214	5.2	355	107	14.447	7	P470	12H15-	1	23
66.0	214	2.6	175	107	8.318	7	P180	12H15-	1	16
66.0	214	2.6	175	107	8.318	7	P180	12H15L	1	16
67.0	214	1.2	78.0	107	7.774	7	P80	12H15-	1	13
67.0	214	1.2	78.0	107	7.774	7	P80	12H15L	1	13
69.0	203	2.5	180	101	2.344	20	P180	09H41-	2	14
69.0	203	2.5	180	101	2.344	20	P180	09H41L	2	14
69.0	188	4.5	350	94.0	14.173	8	P470	12H15-	1	23
69.0	188	4.5	350	94.0	14.173	8	P470	12H15L	1	23
71.0	203	1.1	80.0	101	2.080	20	P80	09H41L	2	10
71.0	203	1.1	80.0	101	2.080	20	P80	09H41-	2	10
73.0	162	4.5	405	81.0	3.148	25	P470	09H41-	2	21
73.0	162	4.5	405	81.0	3.148	25	P470	09H41L	2	21
77.0	188	2.0	155	94.0	8.234	8	P180	12H15-	1	16
77.0	188	2.0	155	94.0	8.234	8	P180	12H15L	1	16
89.0	162	1.9	175	81.0	2.329	25	P180	09H41-	2	14
89.0	162	1.9	175	81.0	2.329	25	P180	09H41L	2	14
91.0	150	3.1	305	75.0	13.839	10	P470	12H15L	1	23
91.0	150	3.1	305	75.0	13.839	10	P470	12H15-	1	23
96.0	150	1.4	140	75.0	8.174	10	P180	12H15-	1	16
96.0	150	1.4	140	75.0	8.174	10	P180	12H15L	1	16
102	125	3.3	380	63.0	9.303	12	P470	12H15-	2	24
102	125	3.3	380	63.0	9.303	12	P470	12H15L	2	25
113	125	1.2	135	63.0	8.009	12	P180	12H15-	2	17
113	125	1.2	135	63.0	8.009	12	P180	12H15L	2	17
114	116	3.2	405	58.0	2.910	35	P470	09H41-	2	21
114	116	3.2	405	58.0	2.910	35	P470	09H41L	2	21
125	116	1.4	175	58.0	2.260	35	P180	09H41L	2	14
125	116	1.4	175	58.0	2.260	35	P180	09H41-	2	14
130	101	3.3	470	51.0	2.784	40	P470	09H41-	2	21
130	101	3.3	470	51.0	2.784	40	P470	09H41L	2	21
134	100	2.6	380	50.0	8.781	15	P470	12H15-	2	24
134	100	2.6	380	50.0	8.781	15	P470	12H15L	2	25
140	93.8	2.9	450	47.0	9.025	16	P470	12H15-	2	24
140	93.8	2.9	450	47.0	9.025	16	P470	12H15L	2	25
143	101	1.3	180	51.0	2.228	40	P180	09H41L	2	14
143	101	1.3	180	51.0	2.228	40	P180	09H41-	2	14
150	93.8	1.2	180	47.0	7.952	16	P180	12H15-	2	17
150	93.8	1.2	180	47.0	7.952	16	P180	12H15L	2	17
175	81.0	2.3	405	41.0	2.770	50	P470	09H41-	2	21
175	81.0	2.3	405	41.0	2.770	50	P470	09H41L	2	21
183	75.0	2.3	450	38.0	8.604	20	P470	12H15-	2	24
183	75.0	2.3	450	38.0	8.604	20	P470	12H15L	2	25
235	60.0	1.7	405	30.0	8.548	25	P470	12H15-	2	24
235	60.0	1.7	405	30.0	8.548	25	P470	12H15L	2	25
245	57.9	1.5	355	29.0	2.759	70	P470	09H41L	2	21
245	57.9	1.5	355	29.0	2.759	70	P470	09H41-	2	21
329	42.9	1.2	405	21.0	8.310	35	P470	12H15-	2	24



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
329	42.9	1.2	405	21.0	8.310	35	P470	12H15L	2	25
376	37.5	1.2	470	19.0	8.184	40	P470	12H15-	2	24
376	37.5	1.2	470	19.0	8.184	40	P470	12H15L	2	25



1.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
11.0	1350	4.0	54.0	675	4.895	3	P80	12D41L	1	9.8
11.0	1350	4.0	54.0	675	4.895	3	P80	12D41-	1	9.7
12.0	1350	2.2	29.0	675	4.517	3	P40	12D41-	1	8.4
12.0	1350	2.2	29.0	675	4.517	3	P40	12D41L	1	8.5
15.0	1013	4.4	80.0	506	4.643	4	P80	12D41L	1	9.8
15.0	1013	4.4	80.0	506	4.643	4	P80	12D41-	1	9.7
16.0	1013	2.3	39.0	506	4.444	4	P40	12D41-	1	8.4
16.0	1013	2.3	39.0	506	4.444	4	P40	12D41L	1	8.5
19.0	810	3.4	80.0	405	4.548	5	P80	12D41-	1	9.7
19.0	810	3.4	80.0	405	4.548	5	P80	12D41L	1	9.8
21.0	810	1.8	40.0	405	4.417	5	P40	12D41-	1	8.4
21.0	810	1.8	40.0	405	4.417	5	P40	12D41L	1	8.5
25.0	579	5.1	175	289	5.018	7	P180	12D41L	1	13
25.0	579	5.1	175	289	5.018	7	P180	12D41-	1	13
28.0	579	2.5	78.0	289	4.474	7	P80	12D41-	1	9.7
28.0	579	2.5	78.0	289	4.474	7	P80	12D41L	1	9.8
29.0	579	1.3	37.0	289	4.394	7	P40	12D41L	1	8.5
29.0	579	1.3	37.0	289	4.394	7	P40	12D41-	1	8.4
29.0	506	4.6	155	253	4.934	8	P180	12D41L	1	13
29.0	506	4.6	155	253	4.934	8	P180	12D41-	1	13
33.0	506	1.2	39.0	253	4.390	8	P40	12D41L	1	8.5
33.0	506	1.2	39.0	253	4.390	8	P40	12D41-	1	8.4
33.0	506	2.3	75.0	253	4.456	8	P80	12D41-	1	9.7
33.0	506	2.3	75.0	253	4.456	8	P80	12D41L	1	9.8
39.0	405	3.4	140	203	4.874	10	P180	12D41L	1	13
39.0	405	3.4	140	203	4.874	10	P180	12D41-	1	13
41.0	405	1.4	59.0	203	4.436	10	P80	12D41-	1	9.7
41.0	405	1.4	59.0	203	4.436	10	P80	12D41L	1	9.8
46.0	338	2.7	135	169	4.709	12	P180	12D41-	2	14
46.0	338	2.7	135	169	4.709	12	P180	12D41L	2	14
49.0	338	1.1	54.0	169	4.456	12	P80	12D41-	2	11
49.0	338	1.1	54.0	169	4.456	12	P80	12D41L	2	11
60.0	270	2.2	135	135	4.590	15	P180	12D41-	2	14
60.0	270	2.2	135	135	4.590	15	P180	12D41L	2	14
61.0	253	2.7	180	127	4.652	16	P180	12D41-	2	14
61.0	253	2.7	180	127	4.652	16	P180	12D41L	2	14
61.0	203	5.3	450	101	5.304	20	P470	12D41-	2	21
61.0	203	5.3	450	101	5.304	20	P470	12D41L	2	21
65.0	253	1.1	80.0	127	4.440	16	P80	12D41-	2	11
65.0	253	1.1	80.0	127	4.440	16	P80	12D41L	2	11
80.0	203	2.2	180	101	4.553	20	P180	12D41-	2	14
80.0	203	2.2	180	101	4.553	20	P180	12D41L	2	14
87.0	162	3.9	405	81.0	5.248	25	P470	12D41-	2	21
87.0	162	3.9	405	81.0	5.248	25	P470	12D41L	2	21
101	162	1.7	175	81.0	4.539	25	P180	12D41-	2	14
101	162	1.7	175	81.0	4.539	25	P180	12D41L	2	14
133	116	2.8	405	58.0	5.010	35	P470	12D41-	2	21
133	116	2.8	405	58.0	5.010	35	P470	12D41L	2	21
141	116	1.2	175	58.0	4.470	35	P180	12D41-	2	14
141	116	1.2	175	58.0	4.470	35	P180	12D41L	2	14
151	101	2.9	470	51.0	4.884	40	P470	12D41-	2	21



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
151	101	2.9	470	51.0	4.884	40	P470	12D41L	2	21
162	101	1.1	180	51.0	4.438	40	P180	12D41L	2	14
162	101	1.1	180	51.0	4.438	40	P180	12D41-	2	14
202	81.0	2.0	405	41.0	4.870	50	P470	12D41-	2	21
202	81.0	2.0	405	41.0	4.870	50	P470	12D41L	2	21
277	57.9	1.3	355	29.0	4.859	70	P470	12D41-	2	21
277	57.9	1.3	355	29.0	4.859	70	P470	12D41L	2	21



1.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.5	2000	5.1	54.0	1000	2.685	3	P80	09H60-	1	9.3
7.5	2000	5.1	54.0	1000	2.685	3	P80	09H60L	1	9.4
8.3	2000	2.8	29.0	1000	2.183	3	P40	09H60-	1	8.0
8.3	2000	2.8	29.0	1000	2.183	3	P40	09H60L	1	8.1
9.3	1700	4.4	54.0	850	3.585	3	P80	09L51-	1	11
9.8	1500	5.6	80.0	750	2.433	4	P80	09H60L	1	9.4
9.8	1500	5.6	80.0	750	2.433	4	P80	09H60-	1	9.3
10.0	1700	2.5	29.0	850	3.083	3	P40	09L51-	1	9.8
11.0	1500	2.9	39.0	750	2.110	4	P40	09H60L	1	8.1
11.0	1500	2.9	39.0	750	2.110	4	P40	09H60-	1	8.0
12.0	1350	3.8	54.0	675	3.585	3	P80	09L41-	1	11
12.0	1350	3.8	54.0	675	3.585	3	P80	09L41L	1	11
12.0	1275	4.9	80.0	638	3.333	4	P80	09L51-	1	11
13.0	1350	2.1	29.0	675	3.083	3	P40	09L41-	1	9.8
13.0	1350	2.1	29.0	675	3.083	3	P40	09L41L	1	9.9
13.0	1200	4.3	80.0	600	2.338	5	P80	09H60-	1	9.3
13.0	1200	4.3	80.0	600	2.338	5	P80	09H60L	1	9.4
14.0	1275	2.5	39.0	638	3.010	4	P40	09L51-	1	9.8
14.0	1200	2.4	40.0	600	2.082	5	P40	09H60-	1	8.0
14.0	1200	2.4	40.0	600	2.082	5	P40	09H60L	1	8.1
16.0	1020	3.8	80.0	510	3.238	5	P80	09L51-	1	11
16.0	1013	4.2	80.0	506	3.333	4	P80	09L41-	1	11
16.0	1013	4.2	80.0	506	3.333	4	P80	09L41L	1	11
17.0	1020	2.1	40.0	510	2.982	5	P40	09L51-	1	9.8
17.0	1013	2.2	39.0	506	3.010	4	P40	09L41-	1	9.8
17.0	1013	2.2	39.0	506	3.010	4	P40	09L41L	1	9.9
19.0	857	3.2	78.0	429	2.264	7	P80	09H60-	1	9.3
19.0	857	3.2	78.0	429	2.264	7	P80	09H60L	1	9.4
19.0	750	5.7	155	375	2.834	8	P180	09H60-	1	12
19.0	750	5.7	155	375	2.834	8	P180	09H60L	1	12
20.0	857	1.8	37.0	429	2.060	7	P40	09H60-	1	8.0
20.0	857	1.8	37.0	429	2.060	7	P40	09H60L	1	8.1
20.0	810	3.2	80.0	405	3.238	5	P80	09L41-	1	11
20.0	810	3.2	80.0	405	3.238	5	P80	09L41L	1	11
21.0	729	5.6	175	364	3.818	7	P180	09L51-	1	14
22.0	810	1.8	40.0	405	2.982	5	P40	09L41-	1	9.8
22.0	810	1.8	40.0	405	2.982	5	P40	09L41L	1	9.9
22.0	750	3.0	75.0	375	2.246	8	P80	09H60-	1	9.3
22.0	750	3.0	75.0	375	2.246	8	P80	09H60L	1	9.4
23.0	750	1.6	39.0	375	2.055	8	P40	09H60-	1	8.0
23.0	750	1.6	39.0	375	2.055	8	P40	09H60L	1	8.1
23.0	729	2.8	78.0	364	3.164	7	P80	09L51-	1	11
24.0	729	1.6	37.0	364	2.960	7	P40	09L51-	1	9.8
24.0	638	5.1	155	319	3.734	8	P180	09L51-	1	14
26.0	600	4.6	140	300	2.774	10	P180	09H60-	1	12
26.0	600	4.6	140	300	2.774	10	P180	09H60L	1	12
27.0	638	1.4	39.0	319	2.955	8	P40	09L51-	1	9.8
27.0	638	2.7	75.0	319	3.146	8	P80	09L51-	1	11
27.0	579	4.8	175	289	3.818	7	P180	09L41L	1	14
27.0	579	4.8	175	289	3.818	7	P180	09L41-	1	14
29.0	600	2.1	59.0	300	2.227	10	P80	09H60-	1	9.3



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
29.0	600	2.1	59.0	300	2.227	10	P80	09H60L	1	9.4
29.0	500	3.9	135	250	2.500	12	P180	09H60L	2	14
29.0	500	3.9	135	250	2.500	12	P180	09H60-	2	14
30.0	579	1.2	37.0	289	2.960	7	P40	09L41-	1	9.8
30.0	579	1.2	37.0	289	2.960	7	P40	09L41L	1	9.9
30.0	579	2.4	78.0	289	3.164	7	P80	09L41-	1	11
30.0	579	2.4	78.0	289	3.164	7	P80	09L41L	1	11
31.0	506	4.4	155	253	3.734	8	P180	09L41L	1	14
31.0	506	4.4	155	253	3.734	8	P180	09L41-	1	14
32.0	510	4.0	140	255	3.674	10	P180	09L51-	1	14
34.0	506	1.1	39.0	253	2.955	8	P40	09L41-	1	9.8
34.0	506	1.1	39.0	253	2.955	8	P40	09L41L	1	9.9
34.0	506	2.2	75.0	253	3.146	8	P80	09L41-	1	11
34.0	506	2.2	75.0	253	3.146	8	P80	09L41L	1	11
34.0	500	1.6	54.0	250	2.122	12	P80	09H60-	2	10
34.0	500	1.6	54.0	250	2.122	12	P80	09H60L	2	10
35.0	510	1.7	59.0	255	3.127	10	P80	09L51-	1	11
37.0	425	3.3	135	213	3.400	12	P180	09L51-	2	16
39.0	400	3.1	135	200	2.381	15	P180	09H60-	2	14
39.0	400	3.1	135	200	2.381	15	P180	09H60L	2	14
40.0	375	3.4	180	188	2.442	16	P180	09H60-	2	14
40.0	375	3.4	180	188	2.442	16	P180	09H60L	2	14
41.0	425	1.3	54.0	213	3.022	12	P80	09L51-	2	12
41.0	405	3.2	140	203	3.674	10	P180	09L41-	1	14
41.0	405	3.2	140	203	3.674	10	P180	09L41L	1	14
42.0	400	1.3	54.0	200	2.090	15	P80	09H60-	2	10
42.0	400	1.3	54.0	200	2.090	15	P80	09H60L	2	10
43.0	405	1.4	59.0	203	3.127	10	P80	09L41-	1	11
43.0	405	1.4	59.0	203	3.127	10	P80	09L41L	1	11
45.0	375	1.4	80.0	188	2.105	16	P80	09H60-	2	10
45.0	375	1.4	80.0	188	2.105	16	P80	09H60L	2	10
45.0	270	5.9	380	135	4.281	15	P470	09L41-	2	23
45.0	270	5.9	380	135	4.281	15	P470	09L41L	2	23
48.0	340	2.6	135	170	3.281	15	P180	09L51-	2	16
48.0	338	2.6	135	169	3.400	12	P180	09L41-	2	16
48.0	338	2.6	135	169	3.400	12	P180	09L41L	2	16
48.0	253	5.8	450	127	4.525	16	P470	09L41-	2	23
48.0	253	5.8	450	127	4.525	16	P470	09L41L	2	23
49.0	255	5.8	450	128	4.104	20	P470	09L51-	2	23
50.0	319	3.0	180	159	3.342	16	P180	09L51-	2	16
51.0	340	1.1	54.0	170	2.990	15	P80	09L51-	2	12
51.0	338	1.1	54.0	169	3.022	12	P80	09L41-	2	12
51.0	338	1.1	54.0	169	3.022	12	P80	09L41L	2	12
52.0	300	3.0	180	150	2.344	20	P180	09H60-	2	14
52.0	300	3.0	180	150	2.344	20	P180	09H60L	2	14
54.0	319	1.2	80.0	159	3.005	16	P80	09L51-	2	12
55.0	240	4.9	405	120	3.148	25	P470	09H60-	2	21
55.0	240	4.9	405	120	3.148	25	P470	09H60L	2	21
56.0	300	1.2	80.0	150	2.080	20	P80	09H60-	2	10
56.0	300	1.2	80.0	150	2.080	20	P80	09H60L	2	10
63.0	270	2.1	135	135	3.281	15	P180	09L41-	2	16
63.0	270	2.1	135	135	3.281	15	P180	09L41L	2	16



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
65.0	255	2.6	180	128	3.244	20	P180	09L51-	2	16
65.0	253	2.6	180	127	3.342	16	P180	09L41-	2	16
65.0	253	2.6	180	127	3.342	16	P180	09L41L	2	16
66.0	203	5.0	450	101	4.104	20	P470	09L41-	2	23
66.0	203	5.0	450	101	4.104	20	P470	09L41L	2	23
68.0	255	1.1	80.0	128	2.980	20	P80	09L51-	2	12
68.0	253	1.1	80.0	127	3.005	16	P80	09L41-	2	12
68.0	253	1.1	80.0	127	3.005	16	P80	09L41L	2	12
70.0	240	2.1	175	120	2.329	25	P180	09H60L	2	14
70.0	240	2.1	175	120	2.329	25	P180	09H60-	2	14
70.0	204	4.4	405	102	4.048	25	P470	09L51-	2	23
84.0	203	2.1	180	101	3.244	20	P180	09L41-	2	16
84.0	203	2.1	180	101	3.244	20	P180	09L41L	2	16
84.0	171	4.0	405	86.0	2.910	35	P470	09H60-	2	21
84.0	171	4.0	405	86.0	2.910	35	P470	09H60L	2	21
85.0	204	1.9	175	102	3.229	25	P180	09L51-	2	16
92.0	162	3.8	405	81.0	4.048	25	P470	09L41-	2	23
92.0	162	3.8	405	81.0	4.048	25	P470	09L41L	2	23
95.0	150	4.1	470	75.0	2.784	40	P470	09H60L	2	21
95.0	150	4.1	470	75.0	2.784	40	P470	09H60-	2	21
99.0	171	1.7	175	86.0	2.260	35	P180	09H60-	2	14
99.0	171	1.7	175	86.0	2.260	35	P180	09H60L	2	14
106	162	1.6	175	81.0	3.229	25	P180	09L41-	2	16
106	162	1.6	175	81.0	3.229	25	P180	09L41L	2	16
106	146	3.4	405	73.0	3.810	35	P470	09L51-	2	23
113	150	1.6	180	75.0	2.228	40	P180	09H60-	2	14
113	150	1.6	180	75.0	2.228	40	P180	09H60L	2	14
118	146	1.5	175	73.0	3.160	35	P180	09L51-	2	16
121	128	3.4	470	64.0	3.684	40	P470	09L51-	2	23
132	120	2.9	405	60.0	2.770	50	P470	09H60-	2	21
132	120	2.9	405	60.0	2.770	50	P470	09H60L	2	21
135	128	1.3	180	64.0	3.128	40	P180	09L51-	2	16
140	116	2.7	405	58.0	3.810	35	P470	09L41L	2	23
140	116	2.7	405	58.0	3.810	35	P470	09L41-	2	23
141	120	1.2	175	60.0	2.225	50	P180	09H60-	2	14
141	120	1.2	175	60.0	2.225	50	P180	09H60L	2	14
148	116	1.2	175	58.0	3.160	35	P180	09L41-	2	16
148	116	1.2	175	58.0	3.160	35	P180	09L41L	2	16
160	101	2.8	470	51.0	3.684	40	P470	09L41-	2	23
160	101	2.8	470	51.0	3.684	40	P470	09L41L	2	23
164	102	2.4	405	51.0	3.670	50	P470	09L51-	2	23
169	102	1.0	175	51.0	3.125	50	P180	09L51-	2	16
169	101	1.1	180	51.0	3.128	40	P180	09L41-	2	16
169	101	1.1	180	51.0	3.128	40	P180	09L41L	2	16
193	85.7	1.8	355	43.0	2.759	70	P470	09H60-	2	21
193	85.7	1.8	355	43.0	2.759	70	P470	09H60L	2	21
212	81.0	1.9	405	41.0	3.670	50	P470	09L41-	2	23
212	81.0	1.9	405	41.0	3.670	50	P470	09L41L	2	23
232	72.9	1.5	355	36.0	3.659	70	P470	09L51-	2	23
270	60.0	1.1	305	30.0	2.741	100	P470	09H60L	2	21
270	60.0	1.1	305	30.0	2.741	100	P470	09H60-	2	21
290	57.9	1.2	355	29.0	3.659	70	P470	09L41-	2	23



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
290	57.9	1.2	355	29.0	3.659	70	P470	09L41L	2	23

2.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
20.0	1000	5.3	135	500	9.950	3	P180	12H30L	1	16
23.0	1000	1.3	29.0	500	7.817	3	P40	12H30L	1	12
23.0	1000	2.3	54.0	500	8.195	3	P80	12H30L	1	13
27.0	750	5.3	180	375	8.958	4	P180	12H30L	1	16
30.0	750	2.6	80.0	375	7.943	4	P80	12H30L	1	13
31.0	750	1.3	39.0	375	7.744	4	P40	12H30L	1	12
35.0	600	4.0	175	300	8.564	5	P180	12H30L	1	16
38.0	600	1.0	40.0	300	7.717	5	P40	12H30L	1	12
38.0	600	2.0	80.0	300	7.848	5	P80	12H30L	1	13
44.0	500	2.9	135	250	17.141	3	P180	14H15-	1	40
46.0	500	1.2	54.0	250	15.645	3	P80	14H15-	1	37
52.0	429	3.0	175	214	8.318	7	P180	12H30L	1	16
52.0	375	5.6	350	188	14.173	8	P470	12H30L	1	23
54.0	429	1.4	78.0	214	7.774	7	P80	12H30L	1	13
59.0	375	2.9	180	188	16.149	4	P180	14H15-	1	40
60.0	375	2.5	155	188	8.234	8	P180	12H30L	1	16
61.0	375	1.2	75.0	188	7.756	8	P80	12H30L	1	13
61.0	375	1.3	80.0	188	15.392	4	P80	14H15-	1	37
67.0	300	5.2	405	150	22.535	5	P470	14H15-	1	47
71.0	300	3.9	305	150	13.839	10	P470	12H30L	1	23
76.0	300	2.2	175	150	15.754	5	P180	14H15-	1	40
76.0	250	4.1	380	125	9.303	12	P470	12H30L	2	25
77.0	300	1.0	80.0	150	15.297	5	P80	14H15-	1	37
77.0	300	1.8	140	150	8.174	10	P180	12H30L	1	16
90.0	250	1.5	135	125	8.009	12	P180	12H30L	2	17
102	214	3.2	355	107	21.347	7	P470	14H15-	1	47
102	200	3.3	380	100	8.781	15	P470	12H30L	2	25
106	188	3.6	450	94.0	9.025	16	P470	12H30L	2	25
108	214	1.6	175	107	15.508	7	P180	14H15-	1	40
113	200	1.2	135	100	7.890	15	P180	12H30L	2	17
119	188	2.8	350	94.0	21.073	8	P470	14H15-	1	47
120	188	1.5	180	94.0	7.952	16	P180	12H30L	2	17
123	188	1.3	155	94.0	15.424	8	P180	14H15-	1	40
140	150	2.9	450	75.0	8.604	20	P470	12H30L	2	25
150	150	1.2	180	75.0	7.853	20	P180	12H30L	2	17
154	150	2.0	305	75.0	20.739	10	P470	14H15-	1	47
180	125	2.1	380	63.0	16.493	12	P470	14H15-	2	49
186	120	2.1	405	60.0	8.548	25	P470	12H30L	2	25
226	100	1.7	380	50.0	15.972	15	P470	14H15-	2	49
241	93.8	1.8	450	47.0	16.216	16	P470	14H15-	2	49
263	85.7	1.5	405	43.0	8.310	35	P470	12H30L	2	25
301	75.0	1.5	450	38.0	15.794	20	P470	14H15-	2	49
301	75.0	1.6	470	38.0	8.184	40	P470	12H30L	2	25
376	60.0	1.1	405	30.0	15.739	25	P470	14H15-	2	49
376	60.0	1.1	405	30.0	8.170	50	P470	12H30L	2	25



2.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
19.0	1200	5.4	135	600	11.041	3	P180	14D36-	1	35
19.0	1175	5.4	135	588	9.950	3	P180	12H35-	1	16
21.0	1200	2.4	54.0	600	9.545	3	P80	14D36-	1	32
21.0	1175	2.4	54.0	588	8.195	3	P80	12H35-	1	13
22.0	1175	1.3	29.0	588	7.817	3	P40	12H35-	1	12
25.0	900	5.3	180	450	10.049	4	P180	14D36-	1	35
25.0	881	5.3	180	441	8.958	4	P180	12H35-	1	16
28.0	900	2.6	80.0	450	9.292	4	P80	14D36-	1	32
28.0	881	2.6	80.0	441	7.943	4	P80	12H35-	1	13
29.0	881	1.3	39.0	441	7.744	4	P40	12H35-	1	12
33.0	720	4.0	175	360	9.654	5	P180	14D36-	1	35
33.0	705	4.0	175	353	8.564	5	P180	12H35-	1	16
36.0	720	2.0	80.0	360	9.197	5	P80	14D36-	1	32
36.0	705	1.1	40.0	353	7.717	5	P40	12H35-	1	12
36.0	705	2.0	80.0	353	7.848	5	P80	12H35-	1	13
37.0	650	3.4	135	325	13.250	3	P180	12L20-	1	19
37.0	650	3.4	135	325	13.250	3	P180	12L20L	1	19
39.0	650	1.4	54.0	325	11.495	3	P80	12L20-	1	16
39.0	650	1.4	54.0	325	11.495	3	P80	12L20L	1	16
48.0	514	3.0	175	257	9.408	7	P180	14D36-	1	35
48.0	504	3.0	175	252	8.318	7	P180	12H35-	1	16
49.0	488	3.4	180	244	12.258	4	P180	12L20L	1	19
49.0	488	3.4	180	244	12.258	4	P180	12L20-	1	19
50.0	514	1.5	78.0	257	8.848	7	P80	14D36-	1	32
50.0	504	1.5	78.0	252	7.774	7	P80	12H35-	1	13
52.0	488	1.5	80.0	244	11.243	4	P80	12L20-	1	16
52.0	488	1.5	80.0	244	11.243	4	P80	12L20L	1	16
56.0	450	2.7	155	225	9.324	8	P180	14D36-	1	35
56.0	441	2.7	155	220	8.234	8	P180	12H35-	1	16
58.0	450	1.3	75.0	225	8.830	8	P80	14D36-	1	32
58.0	441	1.3	75.0	220	7.756	8	P80	12H35-	1	13
63.0	390	2.7	175	195	11.864	5	P180	12L20-	1	19
63.0	390	2.7	175	195	11.864	5	P180	12L20L	1	19
65.0	390	1.2	80.0	195	11.148	5	P80	12L20L	1	16
65.0	390	1.2	80.0	195	11.148	5	P80	12L20-	1	16
65.0	360	4.2	305	180	14.639	10	P470	14D36-	1	42
65.0	353	4.2	305	176	13.839	10	P470	12H35-	1	23
69.0	300	4.4	380	150	10.393	12	P470	14D36-	2	44
69.0	294	4.4	380	147	9.303	12	P470	12H35-	2	24
72.0	360	1.9	140	180	9.264	10	P180	14D36-	1	35
72.0	353	1.9	140	176	8.174	10	P180	12H35-	1	16
84.0	279	3.8	355	139	17.747	7	P470	12L20-	1	26
84.0	279	3.8	355	139	17.747	7	P470	12L20L	1	26
85.0	300	1.6	135	150	9.359	12	P180	14D36-	2	37
85.0	294	1.6	135	147	8.009	12	P180	12H35-	2	17
91.0	279	1.9	175	139	11.618	7	P180	12L20-	1	19
91.0	279	1.9	175	139	11.618	7	P180	12L20L	1	19
94.0	240	3.5	380	120	9.872	15	P470	14D36-	2	44
94.0	235	3.5	380	118	8.781	15	P470	12H35-	2	24
98.0	244	3.3	350	122	17.473	8	P470	12L20L	1	26
98.0	244	3.3	350	122	17.473	8	P470	12L20-	1	26



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
99.0	225	3.6	450	113	10.116	16	P470	14D36-	2	44
99.0	220	3.7	450	110	9.025	16	P470	12H35-	2	24
104	244	1.5	155	122	11.534	8	P180	12L20-	1	19
104	244	1.5	155	122	11.534	8	P180	12L20L	1	19
106	240	1.3	135	120	9.240	15	P180	14D36-	2	37
106	235	1.3	135	118	7.890	15	P180	12H35-	2	17
113	225	1.6	180	113	9.301	16	P180	14D36-	2	37
113	220	1.6	180	110	7.952	16	P180	12H35-	2	17
128	195	2.3	305	98.0	17.139	10	P470	12L20-	1	26
128	195	2.3	305	98.0	17.139	10	P470	12L20L	1	26
129	180	3.1	450	90.0	9.694	20	P470	14D36-	2	44
129	176	3.1	450	88.0	8.604	20	P470	12H35-	2	24
130	195	1.1	140	98.0	11.474	10	P180	12L20-	1	19
130	195	1.1	140	98.0	11.474	10	P180	12L20L	1	19
141	180	1.3	180	90.0	9.203	20	P180	14D36-	2	37
141	176	1.3	180	88.0	7.853	20	P180	12H35-	2	17
147	163	2.4	380	81.0	12.603	12	P470	12L20-	2	28
147	163	2.4	380	81.0	12.603	12	P470	12L20L	2	28
173	144	2.3	405	72.0	9.639	25	P470	14D36-	2	44
173	141	2.3	405	71.0	8.548	25	P470	12H35-	2	24
190	130	2.0	380	65.0	12.081	15	P470	12L20-	2	28
190	130	2.0	380	65.0	12.081	15	P470	12L20L	2	28
200	122	2.2	450	61.0	12.325	16	P470	12L20L	2	28
200	122	2.2	450	61.0	12.325	16	P470	12L20-	2	28
247	103	1.6	405	51.0	9.401	35	P470	14D36-	2	44
247	101	1.6	405	50.0	8.310	35	P470	12H35-	2	24
254	97.5	1.7	450	49.0	11.904	20	P470	12L20-	2	28
254	97.5	1.7	450	49.0	11.904	20	P470	12L20L	2	28
282	90.0	1.7	470	45.0	9.274	40	P470	14D36-	2	44
282	88.1	1.7	470	44.0	8.184	40	P470	12H35-	2	24
317	78.0	1.3	405	39.0	11.848	25	P470	12L20-	2	28
317	78.0	1.3	405	39.0	11.848	25	P470	12L20L	2	28
353	72.0	1.2	405	36.0	9.260	50	P470	14D36-	2	44
353	70.5	1.2	405	35.0	8.170	50	P470	12H35-	2	24



3.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
56.0	500	5.6	380	250	37.840	3	P470	14L15-	1	52
66.0	500	2.0	135	250	26.341	3	P180	14L15-	1	44
76.0	375	5.2	470	188	33.192	4	P470	14L15-	1	52
88.0	375	2.0	180	188	25.349	4	P180	14L15-	1	44
103	300	3.6	405	150	31.735	5	P470	14L15-	1	52
110	300	1.6	175	150	24.954	5	P180	14L15-	1	44
153	214	2.3	355	107	30.547	7	P470	14L15-	1	52
155	214	1.1	175	107	24.708	7	P180	14L15-	1	44
177	188	2.0	350	94.0	30.273	8	P470	14L15-	1	52
221	150	1.4	305	75.0	29.939	10	P470	14L15-	1	52
259	125	1.4	380	63.0	25.693	12	P470	14L15-	2	53
324	100	1.2	380	50.0	25.172	15	P470	14L15-	2	53
346	93.8	1.3	450	47.0	25.416	16	P470	14L15-	2	53
432	75.0	1.0	450	38.0	24.994	20	P470	14L15-	2	53

4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
69.0	475	4.8	380	238	79.440	3	P470	19F14-	1	62
78.0	475	1.7	135	238	70.505	3	P180	19F14-	1	55
93.0	356	4.4	470	178	74.792	4	P470	19F14-	1	62
104	356	1.7	180	178	69.513	4	P180	19F14-	1	55
124	285	3.1	405	143	73.335	5	P470	19F14-	1	62
130	285	1.3	175	143	69.119	5	P180	19F14-	1	55
181	204	1.9	355	102	72.147	7	P470	19F14-	1	62
207	178	1.7	350	89.0	71.873	8	P470	19F14-	1	62
259	143	1.2	305	71.0	71.539	10	P470	19F14-	1	62
305	119	1.2	380	59.0	69.485	12	P470	19F14-	2	63
406	89.1	1.1	450	45.0	69.207	16	P470	19F14-	2	63

4.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
78.0	450	4.3	380	225	49.140	3	P470	14P14-	1	57
86.0	450	1.5	135	225	37.641	3	P180	14P14-	1	49
106	338	4.0	470	169	44.492	4	P470	14P14-	1	57
115	338	1.5	180	169	36.649	4	P180	14P14-	1	49
139	270	2.8	405	135	43.035	5	P470	14P14-	1	57
144	270	1.2	175	135	36.254	5	P180	14P14-	1	49
202	193	1.7	355	96.0	41.847	7	P470	14P14-	1	57
230	169	1.5	350	84.0	41.573	8	P470	14P14-	1	57
288	135	1.1	305	68.0	41.239	10	P470	14P14-	1	57
338	113	1.1	380	56.0	36.993	12	P470	14P14-	2	58



4.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
30.0	1350	3.5	135	675	13.250	3	P180	12L41-	1	19
32.0	1350	1.6	54.0	675	11.495	3	P80	12L41-	1	16
39.0	1075	3.0	135	538	17.141	3	P180	14H32-	1	40
40.0	1075	1.3	54.0	538	15.645	3	P80	14H32-	1	37
40.0	1013	3.5	180	506	12.258	4	P180	12L41-	1	19
42.0	1013	1.7	80.0	506	11.243	4	P80	12L41-	1	16
51.0	810	2.6	175	405	11.864	5	P180	12L41-	1	19
52.0	806	2.9	180	403	16.149	4	P180	14H32-	1	40
53.0	810	1.3	80.0	405	11.148	5	P80	12L41-	1	16
54.0	806	1.4	80.0	403	15.392	4	P80	14H32-	1	37
56.0	645	5.9	405	323	22.535	5	P470	14H32-	1	47
66.0	579	4.7	355	289	17.747	7	P470	12L41-	1	26
67.0	645	1.1	80.0	323	15.297	5	P80	14H32-	1	37
67.0	645	2.2	175	323	15.754	5	P180	14H32-	1	40
74.0	579	2.0	175	289	11.618	7	P180	12L41-	1	19
77.0	506	4.1	350	253	17.473	8	P470	12L41-	1	26
84.0	506	1.8	155	253	11.534	8	P180	12L41-	1	19
87.0	461	3.7	355	230	21.347	7	P470	14H32-	1	47
94.0	461	1.7	175	230	15.508	7	P180	14H32-	1	40
102	405	2.9	305	203	17.139	10	P470	12L41-	1	26
102	403	3.2	350	202	21.073	8	P470	14H32-	1	47
106	405	1.3	140	203	11.474	10	P180	12L41-	1	19
108	403	1.4	155	202	15.424	8	P180	14H32-	1	40
115	338	3.0	380	169	12.603	12	P470	12L41-	2	28
124	338	1.1	135	169	11.309	12	P180	12L41-	2	20
133	323	2.3	305	161	20.739	10	P470	14H32-	1	47
134	323	1.0	140	161	15.364	10	P180	14H32-	1	40
150	270	2.4	380	135	12.081	15	P470	12L41-	2	28
154	269	2.4	380	134	16.493	12	P470	14H32-	2	49
161	253	2.4	450	127	12.325	16	P470	12L41-	2	28
165	253	1.1	180	127	11.252	16	P180	12L41-	2	20
197	215	1.9	380	108	15.972	15	P470	14H32-	2	49
206	203	2.1	450	101	11.904	20	P470	12L41-	2	28
210	202	2.0	450	101	16.216	16	P470	14H32-	2	49
259	162	1.5	405	81.0	11.848	25	P470	12L41-	2	28
263	161	1.7	450	81.0	15.794	20	P470	14H32-	2	49
329	129	1.2	405	65.0	15.739	25	P470	14H32-	2	49
362	116	1.1	405	58.0	11.610	35	P470	12L41-	2	28
414	101	1.1	470	51.0	11.484	40	P470	12L41-	2	28



5.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
49.0	1075	2.4	135	538	26.341	3	P180	14L32-	1	44
65.0	806	2.4	180	403	25.349	4	P180	14L32-	1	44
73.0	645	4.8	405	323	31.735	5	P470	14L32-	1	52
83.0	645	1.8	175	323	24.954	5	P180	14L32-	1	44
111	461	3.0	355	230	30.547	7	P470	14L32-	1	52
116	461	1.4	175	230	24.708	7	P180	14L32-	1	44
129	403	2.6	350	202	30.273	8	P470	14L32-	1	52
132	403	1.2	155	202	24.624	8	P180	14L32-	1	44
165	323	1.8	305	161	29.939	10	P470	14L32-	1	52
194	269	1.9	380	134	25.693	12	P470	14L32-	2	53
243	215	1.5	380	108	25.172	15	P470	14L32-	2	53
259	202	1.6	450	101	25.416	16	P470	14L32-	2	53
323	161	1.4	450	81.0	24.994	20	P470	14L32-	2	53

6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
109	475	3.2	380	238	119.440	3	P470	19J14-	1	69
115	475	1.2	135	238	110.505	3	P180	19J14-	1	62
147	356	3.0	470	178	114.792	4	P470	19J14-	1	69
154	356	1.2	180	178	109.513	4	P180	19J14-	1	62
191	285	2.1	405	143	113.335	5	P470	19J14-	1	69
269	204	1.3	355	102	112.147	7	P470	19J14-	1	69
307	178	1.1	350	89.0	111.873	8	P470	19J14-	1	69

6.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
52.0	1000	5.4	380	500	79.440	3	P470	19F30-	1	62
60.0	1000	2.1	135	500	70.505	3	P180	19F30-	1	55
69.0	750	5.4	470	375	74.792	4	P470	19F30-	1	62
81.0	750	2.0	180	375	69.513	4	P180	19F30-	1	55
93.0	600	3.9	405	300	73.335	5	P470	19F30-	1	62
101	600	1.5	175	300	69.119	5	P180	19F30-	1	55
138	429	2.5	355	214	72.147	7	P470	19F30-	1	62
141	429	1.1	175	214	68.873	7	P180	19F30-	1	55
160	375	2.2	350	188	71.873	8	P470	19F30-	1	62
202	300	1.5	305	150	71.539	10	P470	19F30-	1	62
237	250	1.6	380	125	69.485	12	P470	19F30-	2	63
296	200	1.3	380	100	68.963	15	P470	19F30-	2	63
316	188	1.4	450	94.0	69.207	16	P470	19F30-	2	63
395	150	1.1	450	75.0	68.786	20	P470	19F30-	2	63



7.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
52.0	1075	5.2	380	538	49.140	3	P470	14P32-	1	57
60.0	1075	2.0	135	538	37.641	3	P180	14P32-	1	49
70.0	806	5.3	470	403	44.492	4	P470	14P32-	1	57
81.0	806	2.0	180	403	36.649	4	P180	14P32-	1	49
93.0	645	3.9	405	323	43.035	5	P470	14P32-	1	57
101	645	1.5	175	323	36.254	5	P180	14P32-	1	49
138	461	2.5	355	230	41.847	7	P470	14P32-	1	57
141	461	1.1	175	230	36.008	7	P180	14P32-	1	49
160	403	2.2	350	202	41.573	8	P470	14P32-	1	57
202	323	1.5	305	161	41.239	10	P470	14P32-	1	57
237	269	1.6	380	134	36.993	12	P470	14P32-	2	58
296	215	1.3	380	108	36.472	15	P470	14P32-	2	58
316	202	1.4	450	101	36.716	16	P470	14P32-	2	58
395	161	1.1	450	81.0	36.294	20	P470	14P32-	2	58

7.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
144	450	2.5	380	225	174.440	3	P470	19P14-	1	79
193	338	2.4	470	169	169.792	4	P470	19P14-	1	79
245	270	1.6	405	135	168.335	5	P470	19P14-	1	79
343	193	1.0	355	96.0	167.147	7	P470	19P14-	1	79

9.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
77.0	1000	3.9	380	500	119.440	3	P470	19J30-	1	69
84.0	1000	1.5	135	500	110.505	3	P180	19J30-	1	62
102	750	3.9	470	375	114.792	4	P470	19J30-	1	69
111	750	1.5	180	375	109.513	4	P180	19J30-	1	62
134	600	2.9	405	300	113.335	5	P470	19J30-	1	69
139	600	1.1	175	300	109.119	5	P180	19J30-	1	62
195	429	1.8	355	214	112.147	7	P470	19J30-	1	69
223	375	1.6	350	188	111.873	8	P470	19J30-	1	69
278	300	1.1	305	150	111.539	10	P470	19J30-	1	69
327	250	1.1	380	125	109.485	12	P470	19J30-	2	70

10 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
86.0	1000	3.5	380	500	174.440	3	P470	19P30-	1	79
115	750	3.6	470	375	169.792	4	P470	19P30-	1	79
150	600	2.6	405	300	168.335	5	P470	19P30-	1	79
215	429	1.6	355	214	167.147	7	P470	19P30-	1	79
246	375	1.4	350	188	166.873	8	P470	19P30-	1	79



Inverter power supply 400 V, forced ventilated motors

1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
20.0	550	1.4	29.0	275	4.517	3	P40	12D17-	1	11
20.0	550	2.7	54.0	275	4.895	3	P80	12D17-	1	12
26.0	413	3.0	80.0	206	4.643	4	P80	12D17-	1	12
27.0	413	1.4	39.0	206	4.444	4	P40	12D17-	1	11
29.0	330	5.1	175	165	5.264	5	P180	12D17-	1	15
33.0	330	2.4	80.0	165	4.548	5	P80	12D17-	1	12
34.0	330	1.2	40.0	165	4.417	5	P40	12D17-	1	11
44.0	236	3.6	175	118	5.018	7	P180	12D17-	1	15
47.0	236	1.6	78.0	118	4.474	7	P80	12D17-	1	12
52.0	206	2.9	155	103	4.934	8	P180	12D17-	1	15
54.0	206	1.4	75.0	103	4.456	8	P80	12D17-	1	12
60.0	165	4.5	305	83.0	10.539	10	P470	12D17-	1	22
63.0	138	4.7	380	69.0	6.003	12	P470	12D17-	2	23
67.0	165	2.1	140	83.0	4.874	10	P180	12D17-	1	15
79.0	138	1.7	135	69.0	4.709	12	P180	12D17-	2	16
86.0	110	3.8	380	55.0	5.481	15	P470	12D17-	2	23
88.0	103	4.2	450	52.0	5.725	16	P470	12D17-	2	23
99.0	110	1.3	135	55.0	4.590	15	P180	12D17-	2	16
105	103	1.7	180	52.0	4.652	16	P180	12D17-	2	16
118	82.5	3.4	450	41.0	5.304	20	P470	12D17-	2	23
132	82.5	1.3	180	41.0	4.553	20	P180	12D17-	2	16
159	66.0	2.4	405	33.0	5.248	25	P470	12D17-	2	23
165	66.0	1.1	175	33.0	4.539	25	P180	12D17-	2	16
230	47.1	1.7	405	24.0	5.010	35	P470	12D17-	2	23
263	41.3	1.8	470	21.0	4.884	40	P470	12D17-	2	23
329	33.0	1.2	405	17.0	4.870	50	P470	12D17-	2	23



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
32.0	450	3.8	135	225	9.950	3	P180	12H14-	1	18
32.0	450	3.8	135	225	11.041	3	P180	14D14-	1	39
35.0	450	1.6	54.0	225	8.195	3	P80	12H14-	1	15
35.0	450	1.6	54.0	225	9.545	3	P80	14D14-	1	36
43.0	338	3.8	180	169	8.958	4	P180	12H14-	1	18
43.0	338	3.8	180	169	10.049	4	P180	14D14-	1	39
46.0	338	1.7	80.0	169	9.292	4	P80	14D14-	1	36
46.0	338	1.7	80.0	169	7.943	4	P80	12H14-	1	15
55.0	270	3.0	175	135	8.564	5	P180	12H14-	1	18
55.0	270	3.0	175	135	9.654	5	P180	14D14-	1	39
58.0	270	1.4	80.0	135	7.848	5	P80	12H14-	1	15
58.0	270	1.4	80.0	135	9.197	5	P80	14D14-	1	36
73.0	193	4.3	355	96.0	14.447	7	P470	12H14-	1	25
73.0	193	4.3	355	96.0	15.247	7	P470	14D14-	1	46
80.0	193	2.1	175	96.0	8.318	7	P180	12H14-	1	18
80.0	193	2.1	175	96.0	9.408	7	P180	14D14-	1	39
85.0	169	3.8	350	84.0	14.973	8	P470	14D14-	1	46
85.0	169	3.8	350	84.0	14.173	8	P470	12H14-	1	25
92.0	169	1.7	155	84.0	8.234	8	P180	12H14-	1	18
92.0	169	1.7	155	84.0	9.324	8	P180	14D14-	1	39
112	135	2.6	305	68.0	13.839	10	P470	12H14-	1	25
112	135	2.6	305	68.0	14.639	10	P470	14D14-	1	46
115	135	1.2	140	68.0	8.174	10	P180	12H14-	1	18
115	135	1.2	140	68.0	9.264	10	P180	14D14-	1	39
128	113	2.8	380	56.0	9.303	12	P470	12H14-	2	27
128	113	2.8	380	56.0	10.393	12	P470	14D14-	2	48
167	90.0	2.2	380	45.0	8.781	15	P470	12H14-	2	27
167	90.0	2.2	380	45.0	9.872	15	P470	14D14-	2	48
175	84.4	2.4	450	42.0	9.025	16	P470	12H14-	2	27
175	84.4	2.4	450	42.0	10.116	16	P470	14D14-	2	48
226	67.5	2.0	450	34.0	8.604	20	P470	12H14-	2	27
226	67.5	2.0	450	34.0	9.694	20	P470	14D14-	2	48
282	54.0	1.4	405	27.0	8.548	25	P470	12H14-	2	27
282	54.0	1.4	405	27.0	9.639	25	P470	14D14-	2	48
395	38.6	1.0	405	19.0	9.401	35	P470	14D14-	2	48
395	38.6	1.0	405	19.0	8.310	35	P470	12H14-	2	27
451	33.8	1.0	470	17.0	8.184	40	P470	12H14-	2	27
451	33.8	1.0	470	17.0	9.274	40	P470	14D14-	2	48



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	1175	1.7	29.0	588	4.517	3	P40	12D35-	1	11
17.0	1175	3.0	54.0	588	4.895	3	P80	12D35-	1	12
22.0	881	3.3	80.0	441	4.643	4	P80	12D35-	1	12
23.0	881	1.7	39.0	441	4.444	4	P40	12D35-	1	11
25.0	705	5.1	175	353	5.264	5	P180	12D35-	1	15
28.0	705	2.5	80.0	353	4.548	5	P80	12D35-	1	12
29.0	705	1.4	40.0	353	4.417	5	P40	12D35-	1	11
37.0	504	3.8	175	252	5.018	7	P180	12D35-	1	15
40.0	504	1.9	78.0	252	4.474	7	P80	12D35-	1	12
44.0	441	3.3	155	220	4.934	8	P180	12D35-	1	15
46.0	441	1.6	75.0	220	4.456	8	P80	12D35-	1	12
50.0	353	5.2	305	176	10.539	10	P470	12D35-	1	22
50.0	294	5.5	380	147	6.003	12	P470	12D35-	2	23
57.0	353	2.4	140	176	4.874	10	P180	12D35-	1	15
58.0	353	1.0	59.0	176	4.436	10	P80	12D35-	1	12
68.0	294	2.0	135	147	4.709	12	P180	12D35-	2	16
69.0	235	4.4	380	118	5.481	15	P470	12D35-	2	23
73.0	220	4.6	450	110	5.725	16	P470	12D35-	2	23
85.0	235	1.6	135	118	4.590	15	P180	12D35-	2	16
90.0	220	2.0	180	110	4.652	16	P180	12D35-	2	16
97.0	176	3.9	450	88.0	5.304	20	P470	12D35-	2	23
113	176	1.6	180	88.0	4.553	20	P180	12D35-	2	16
132	141	2.8	405	71.0	5.248	25	P470	12D35-	2	23
141	141	1.2	175	71.0	4.539	25	P180	12D35-	2	16
197	101	2.0	405	50.0	5.010	35	P470	12D35-	2	23
225	88.1	2.1	470	44.0	4.884	40	P470	12D35-	2	23
282	70.5	1.4	405	35.0	4.870	50	P470	12D35-	2	23

2.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
48.0	550	2.7	135	275	13.250	3	P180	12L17-	1	21
49.0	550	1.1	54.0	275	11.495	3	P80	12L17-	1	18
63.0	413	2.7	180	206	12.258	4	P180	12L17-	1	21
65.0	413	1.2	80.0	206	11.243	4	P80	12L17-	1	18
72.0	330	4.9	405	165	18.935	5	P470	12L17-	1	28
81.0	330	2.1	175	165	11.864	5	P180	12L17-	1	21
109	236	3.0	355	118	17.747	7	P470	12L17-	1	28
114	236	1.5	175	118	11.618	7	P180	12L17-	1	21
127	206	2.7	350	103	17.473	8	P470	12L17-	1	28
131	206	1.2	155	103	11.534	8	P180	12L17-	1	21
163	165	1.9	305	83.0	17.139	10	P470	12L17-	1	28
192	138	1.9	380	69.0	12.603	12	P470	12L17-	2	30
240	110	1.6	380	55.0	12.081	15	P470	12L17-	2	30
256	103	1.7	450	52.0	12.325	16	P470	12L17-	2	30
320	82.5	1.4	450	41.0	11.904	20	P470	12L17-	2	30
400	66.0	1.0	405	33.0	11.848	25	P470	12L17-	2	30



3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
58.0	400	5.5	380	200	28.640	3	P470	14H12-	1	51
68.0	400	2.0	135	200	17.141	3	P180	14H12-	1	44
79.0	300	5.1	470	150	23.992	4	P470	14H12-	1	51
90.0	300	2.0	180	150	16.149	4	P180	14H12-	1	44
106	240	3.5	405	120	22.535	5	P470	14H12-	1	51
113	240	1.5	175	120	15.754	5	P180	14H12-	1	44
157	171	2.2	355	86.0	21.347	7	P470	14H12-	1	51
158	171	1.1	175	86.0	15.508	7	P180	14H12-	1	44
180	150	1.9	350	75.0	21.073	8	P470	14H12-	1	51
226	120	1.3	305	60.0	20.739	10	P470	14H12-	1	51
265	100	1.4	380	50.0	16.493	12	P470	14H12-	2	53
331	80.0	1.1	380	40.0	15.972	15	P470	14H12-	2	53
353	75.0	1.3	450	38.0	16.216	16	P470	14H12-	2	53

3.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1000	4.1	135	500	11.041	3	P180	14D30-	1	39
30.0	1000	1.8	54.0	500	9.545	3	P80	14D30-	1	36
37.0	750	4.0	180	375	10.049	4	P180	14D30-	1	39
40.0	750	2.0	80.0	375	9.292	4	P80	14D30-	1	36
48.0	600	3.0	175	300	9.654	5	P180	14D30-	1	39
50.0	600	1.5	80.0	300	9.197	5	P80	14D30-	1	36
62.0	429	4.9	355	214	15.247	7	P470	14D30-	1	46
70.0	429	2.3	175	214	9.408	7	P180	14D30-	1	39
71.0	429	1.1	78.0	214	8.848	7	P80	14D30-	1	36
73.0	375	4.3	350	188	14.973	8	P470	14D30-	1	46
81.0	375	1.9	155	188	9.324	8	P180	14D30-	1	39
97.0	300	3.0	305	150	14.639	10	P470	14D30-	1	46
101	300	1.4	140	150	9.264	10	P180	14D30-	1	39
108	250	3.1	380	125	10.393	12	P470	14D30-	2	48
118	250	1.1	135	125	9.359	12	P180	14D30-	2	40
142	200	2.5	380	100	9.872	15	P470	14D30-	2	48
149	188	2.8	450	94.0	10.116	16	P470	14D30-	2	48
158	188	1.1	180	94.0	9.301	16	P180	14D30-	2	40
194	150	2.2	450	75.0	9.694	20	P470	14D30-	2	48
247	120	1.6	405	60.0	9.639	25	P470	14D30-	2	48
345	85.7	1.2	405	43.0	9.401	35	P470	14D30-	2	48
395	75.0	1.2	470	38.0	9.274	40	P470	14D30-	2	48



3.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1125	3.9	135	563	9.950	3	P180	12H34-	1	18
30.0	1125	1.7	54.0	563	8.195	3	P80	12H34-	1	15
37.0	844	3.9	180	422	8.958	4	P180	12H34-	1	18
40.0	844	1.9	80.0	422	7.943	4	P80	12H34-	1	15
48.0	675	2.9	175	338	8.564	5	P180	12H34-	1	18
50.0	675	1.5	80.0	338	7.848	5	P80	12H34-	1	15
62.0	482	4.9	355	241	14.447	7	P470	12H34-	1	25
70.0	482	2.2	175	241	8.318	7	P180	12H34-	1	18
71.0	482	1.1	78.0	241	7.774	7	P80	12H34-	1	15
73.0	422	4.3	350	211	14.173	8	P470	12H34-	1	25
81.0	422	1.9	155	211	8.234	8	P180	12H34-	1	18
97.0	338	3.0	305	169	13.839	10	P470	12H34-	1	25
101	338	1.4	140	169	8.174	10	P180	12H34-	1	18
108	281	3.1	380	141	9.303	12	P470	12H34-	2	27
118	281	1.1	135	141	8.009	12	P180	12H34-	2	19
142	225	2.5	380	113	8.781	15	P470	12H34-	2	27
150	211	2.7	450	105	9.025	16	P470	12H34-	2	27
158	211	1.1	180	105	7.952	16	P180	12H34-	2	19
194	169	2.2	450	84.0	8.604	20	P470	12H34-	2	27
247	135	1.6	405	68.0	8.548	25	P470	12H34-	2	27
345	96.4	1.2	405	48.0	8.310	35	P470	12H34-	2	27
395	84.4	1.2	470	42.0	8.184	40	P470	12H34-	2	27

4.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
80.0	450	4.2	380	225	37.840	3	P470	14L14-	1	56
88.0	450	1.5	135	225	26.341	3	P180	14L14-	1	48
108	338	3.9	470	169	33.192	4	P470	14L14-	1	56
117	338	1.5	180	169	25.349	4	P180	14L14-	1	48
142	270	2.7	405	135	31.735	5	P470	14L14-	1	56
146	270	1.2	175	135	24.954	5	P180	14L14-	1	48
205	193	1.7	355	96.0	30.547	7	P470	14L14-	1	56
234	169	1.5	350	84.0	30.273	8	P470	14L14-	1	56
293	135	1.0	305	68.0	29.939	10	P470	14L14-	1	56
344	113	1.1	380	56.0	25.693	12	P470	14L14-	2	57

4.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
116	350	3.1	380	175	49.140	3	P470	14P11-	1	61
121	350	1.1	135	175	37.641	3	P180	14P11-	1	53
156	263	2.9	470	131	44.492	4	P470	14P11-	1	61
161	263	1.1	180	131	36.649	4	P180	14P11-	1	53
202	210	2.0	405	105	43.035	5	P470	14P11-	1	61
282	150	1.2	355	75.0	41.847	7	P470	14P11-	1	61
323	131	1.1	350	66.0	41.573	8	P470	14P11-	1	61



4.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
103	400	3.4	380	200	79.440	3	P470	19F12-	1	68
109	400	1.2	135	200	70.505	3	P180	19F12-	1	61
139	300	3.2	470	150	74.792	4	P470	19F12-	1	68
146	300	1.2	180	150	69.513	4	P180	19F12-	1	61
181	240	2.2	405	120	73.335	5	P470	19F12-	1	68
255	171	1.4	355	86.0	72.147	7	P470	19F12-	1	68
292	150	1.2	350	75.0	71.873	8	P470	19F12-	1	68

5.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
39.0	1300	2.8	135	650	13.250	3	P180	12L39-	1	21
40.0	1300	1.2	54.0	650	11.495	3	P80	12L39-	1	18
52.0	975	2.8	180	488	12.258	4	P180	12L39-	1	21
54.0	975	1.4	80.0	488	11.243	4	P80	12L39-	1	18
56.0	780	5.9	405	390	18.935	5	P470	12L39-	1	28
67.0	780	1.1	80.0	390	11.148	5	P80	12L39-	1	18
67.0	780	2.1	175	390	11.864	5	P180	12L39-	1	21
87.0	557	3.7	355	279	17.747	7	P470	12L39-	1	28
94.0	557	1.6	175	279	11.618	7	P180	12L39-	1	21
102	488	3.2	350	244	17.473	8	P470	12L39-	1	28
108	488	1.4	155	244	11.534	8	P180	12L39-	1	21
133	390	2.3	305	195	17.139	10	P470	12L39-	1	28
134	390	1.0	140	195	11.474	10	P180	12L39-	1	21
154	325	2.4	380	163	12.603	12	P470	12L39-	2	30
197	260	1.9	380	130	12.081	15	P470	12L39-	2	30
211	244	1.9	450	122	12.325	16	P470	12L39-	2	30
263	195	1.6	450	98.0	11.904	20	P470	12L39-	2	30
329	156	1.2	405	78.0	11.848	25	P470	12L39-	2	30

6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
50.0	925	5.6	380	463	28.640	3	P470	14H28-	1	51
59.0	925	2.1	135	463	17.141	3	P180	14H28-	1	44
67.0	694	5.7	470	347	23.992	4	P470	14H28-	1	51
78.0	694	2.1	180	347	16.149	4	P180	14H28-	1	44
90.0	555	4.0	405	278	22.535	5	P470	14H28-	1	51
98.0	555	1.6	175	278	15.754	5	P180	14H28-	1	44
135	396	2.5	355	198	21.347	7	P470	14H28-	1	51
138	396	1.2	175	198	15.508	7	P180	14H28-	1	44
156	347	2.2	350	173	21.073	8	P470	14H28-	1	51
197	278	1.5	305	139	20.739	10	P470	14H28-	1	51
231	231	1.6	380	116	16.493	12	P470	14H28-	2	53
289	185	1.3	380	93.0	15.972	15	P470	14H28-	2	53
308	173	1.4	450	87.0	16.216	16	P470	14H28-	2	53
385	139	1.1	450	69.0	15.794	20	P470	14H28-	2	53



7.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
179	400	2.1	380	200	119.440	3	P470	19J12-	1	75
240	300	1.9	470	150	114.792	4	P470	19J12-	1	75
300	240	1.3	405	120	113.335	5	P470	19J12-	1	75

8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
66.0	1000	4.4	380	500	37.840	3	P470	14L30-	1	56
73.0	1000	1.7	135	500	26.341	3	P180	14L30-	1	48
88.0	750	4.5	470	375	33.192	4	P470	14L30-	1	56
98.0	750	1.7	180	375	25.349	4	P180	14L30-	1	48
116	600	3.2	405	300	31.735	5	P470	14L30-	1	56
122	600	1.3	175	300	24.954	5	P180	14L30-	1	48
171	429	2.0	355	214	30.547	7	P470	14L30-	1	56
196	375	1.8	350	188	30.273	8	P470	14L30-	1	56
245	300	1.2	305	150	29.939	10	P470	14L30-	1	56
288	250	1.3	380	125	25.693	12	P470	14L30-	2	57
360	200	1.0	380	100	25.172	15	P470	14L30-	2	57
384	188	1.1	450	94.0	25.416	16	P470	14L30-	2	57

9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
207	400	1.8	380	200	174.440	3	P470	19P12-	1	85
276	300	1.7	470	150	169.792	4	P470	19P12-	1	85
346	240	1.2	405	120	168.335	5	P470	19P12-	1	85

9.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
89.0	875	3.5	380	438	49.140	3	P470	14P26-	1	61
95.0	875	1.4	135	438	37.641	3	P180	14P26-	1	53
118	656	3.6	470	328	44.492	4	P470	14P26-	1	61
127	656	1.3	180	328	36.649	4	P180	14P26-	1	53
155	525	2.5	405	263	43.035	5	P470	14P26-	1	61
158	525	1.0	175	263	36.254	5	P180	14P26-	1	53
222	375	1.6	355	188	41.847	7	P470	14P26-	1	61
253	328	1.4	350	164	41.573	8	P470	14P26-	1	61



9.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
88.0	950	3.5	380	475	79.440	3	P470	19F29-	1	68
117	713	3.6	470	356	74.792	4	P470	19F29-	1	68
152	570	2.5	405	285	73.335	5	P470	19F29-	1	68
218	407	1.6	355	204	72.147	7	P470	19F29-	1	68
250	356	1.4	350	178	71.873	8	P470	19F29-	1	68

15.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
144	950	2.3	380	475	119.440	3	P470	19J29-	1	75
192	713	2.3	470	356	114.792	4	P470	19J29-	1	75
242	570	1.6	405	285	113.335	5	P470	19J29-	1	75
339	407	1.0	355	204	112.147	7	P470	19J29-	1	75

15.8 kW

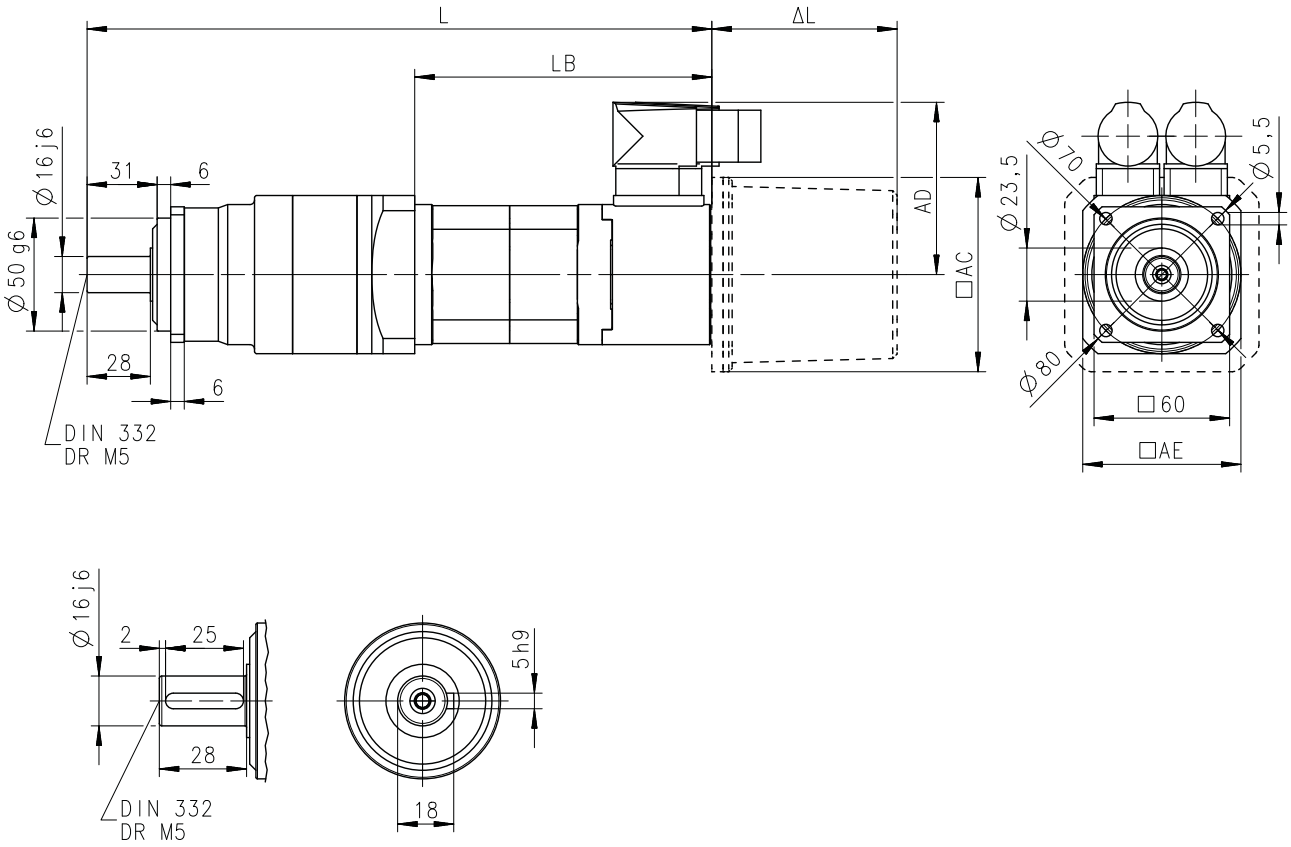
Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g820-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
152	950	2.2	380	475	174.440	3	P470	19P29-	1	85
202	713	2.2	470	356	169.792	4	P470	19P29-	1	85
254	570	1.6	405	285	168.335	5	P470	19P29-	1	85



Basic dimensions

g820-P40 with MCS06

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

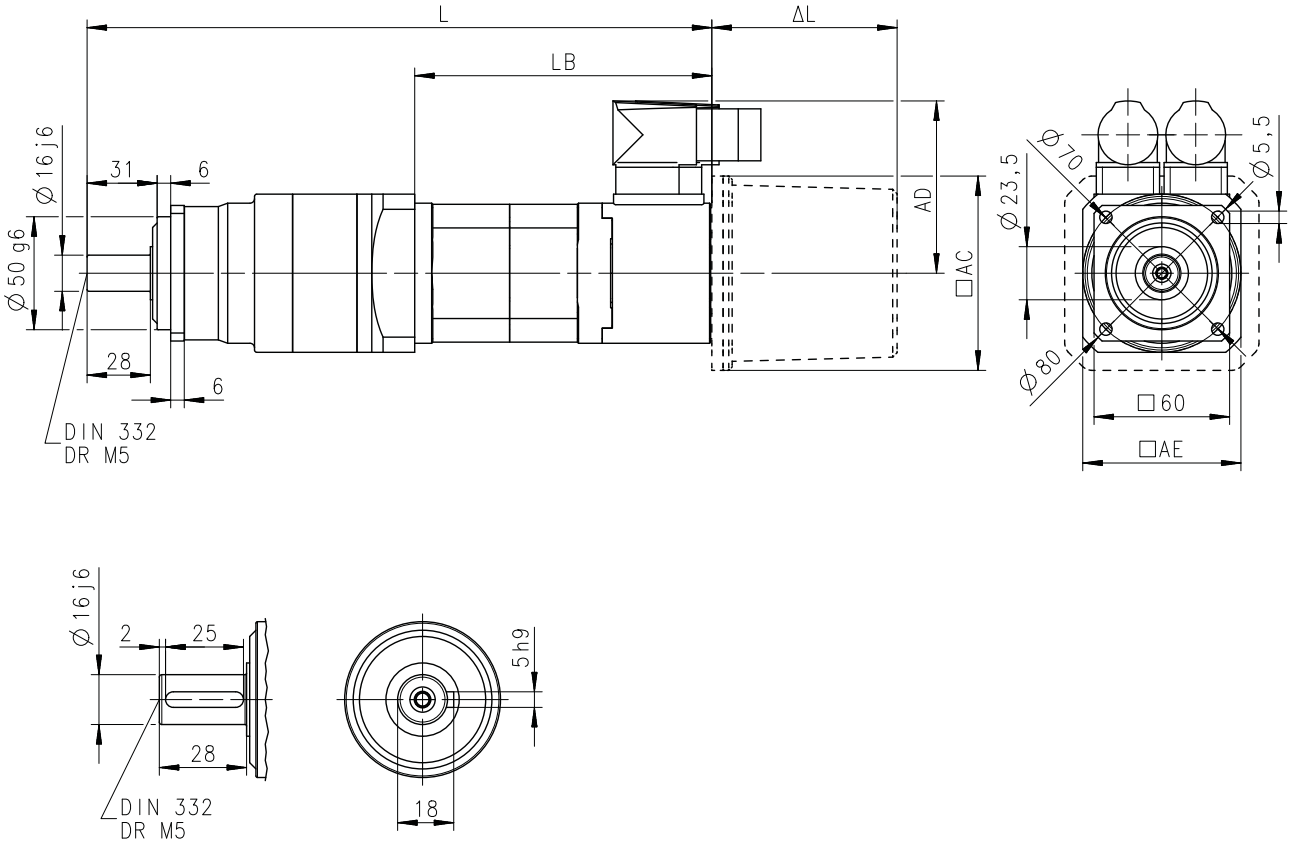


8800822-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	248.5	248.5	278.5	278.5	308.5	308.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g820-P40 with MCS06

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



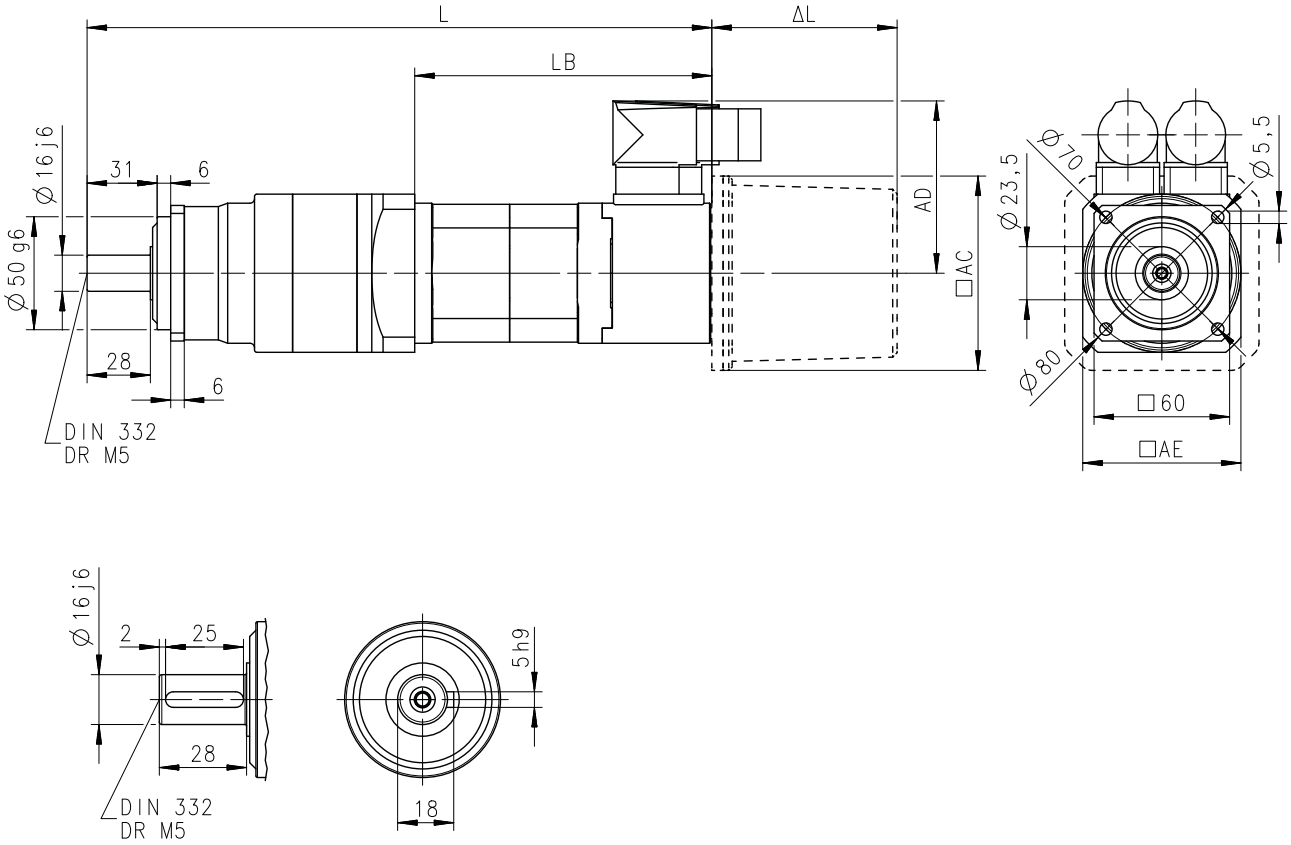
8800822-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	277	277	307	307	337	337
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70



g820-P40 with MCS09

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

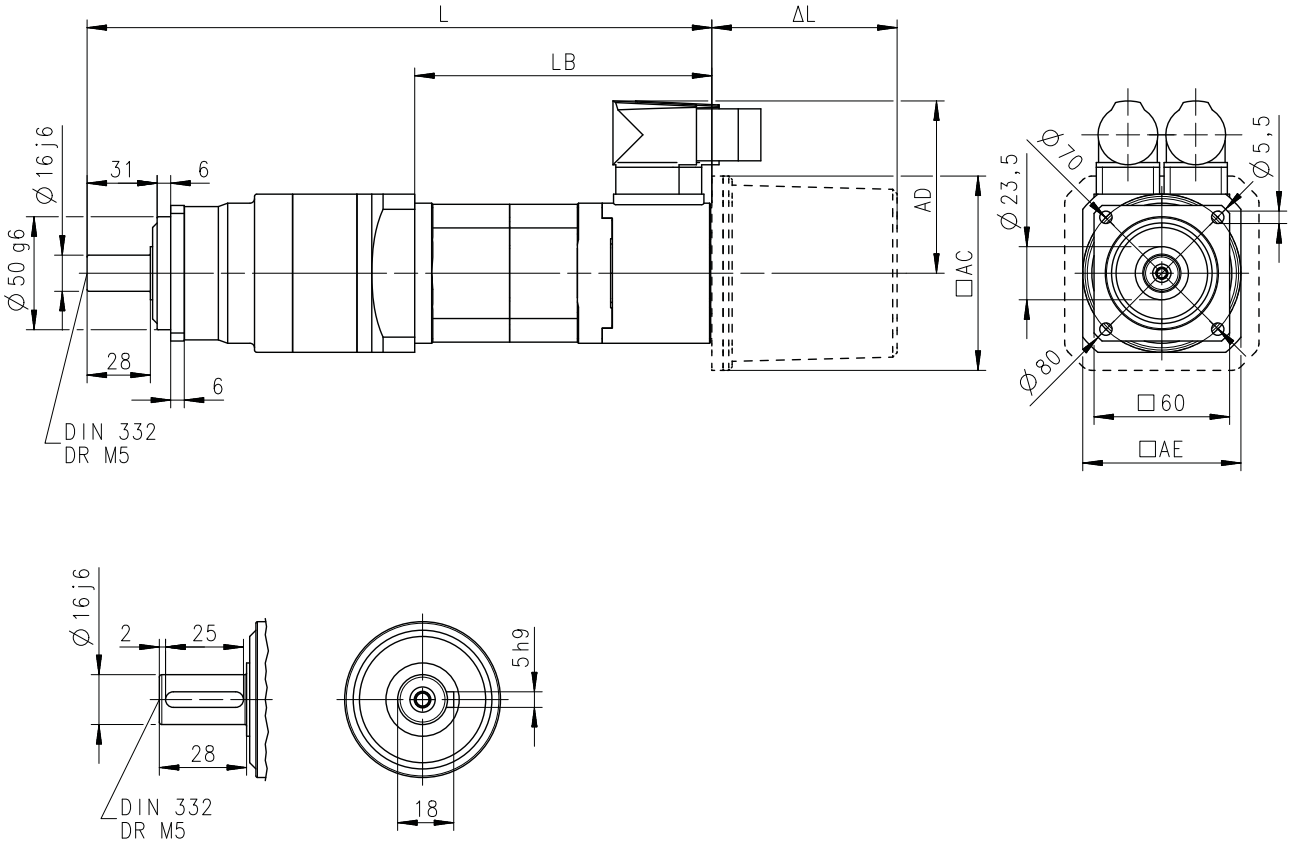


8800822-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	305.5	305.5	325.5	325.5	345.5	345.5	385.5	385.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g820-P40 with MCS09

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



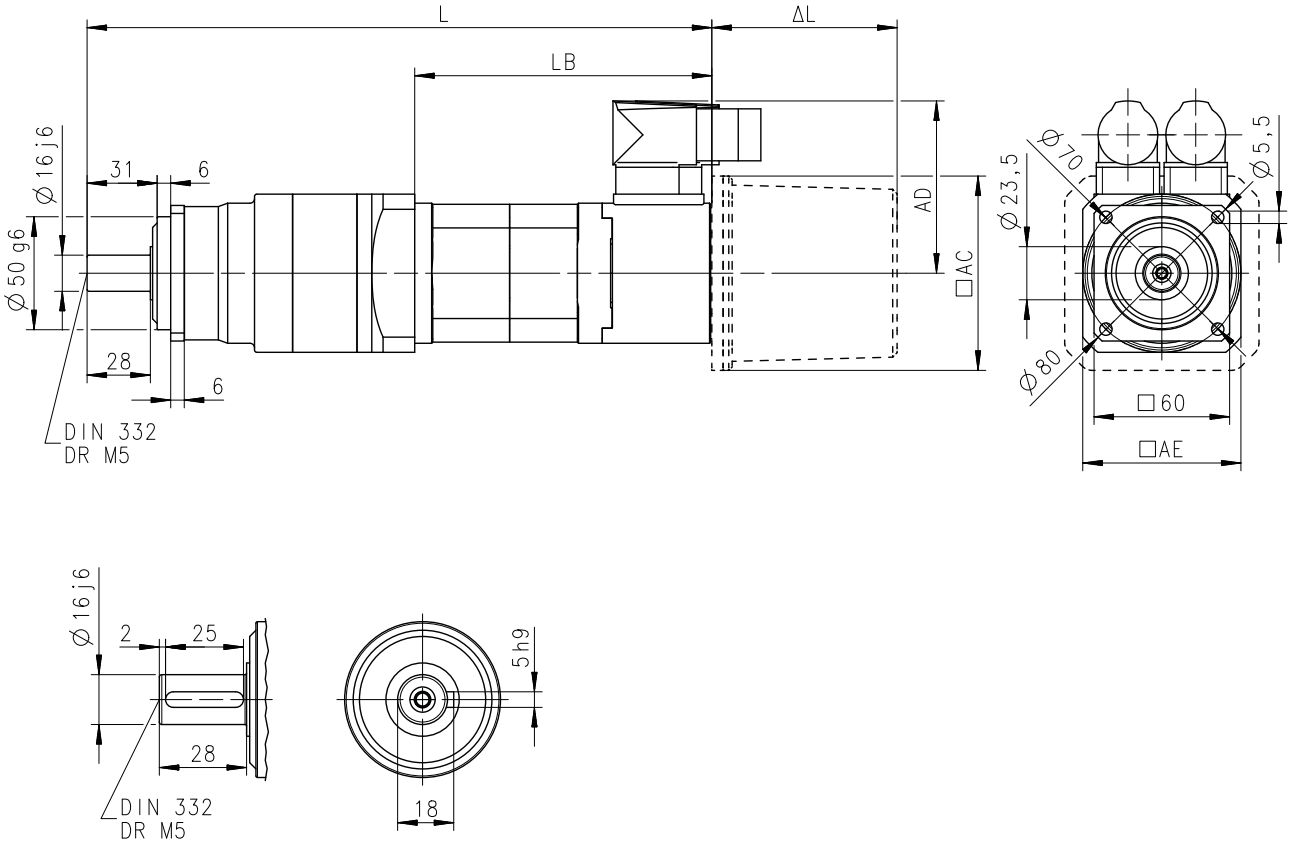
8800822-00

Motor			MCS 09		
			D41- D41L	D60- D60L	F60- F60L
Total length	L	mm	334	334	354
Motor length	LB	mm	182	182	202
Motor diameter	AC	mm	89	89	89
Motor/connection distance	AD	mm	90	90	90
Gearbox diameter	AE	mm	90	90	90



g820-P40 with MCS12

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

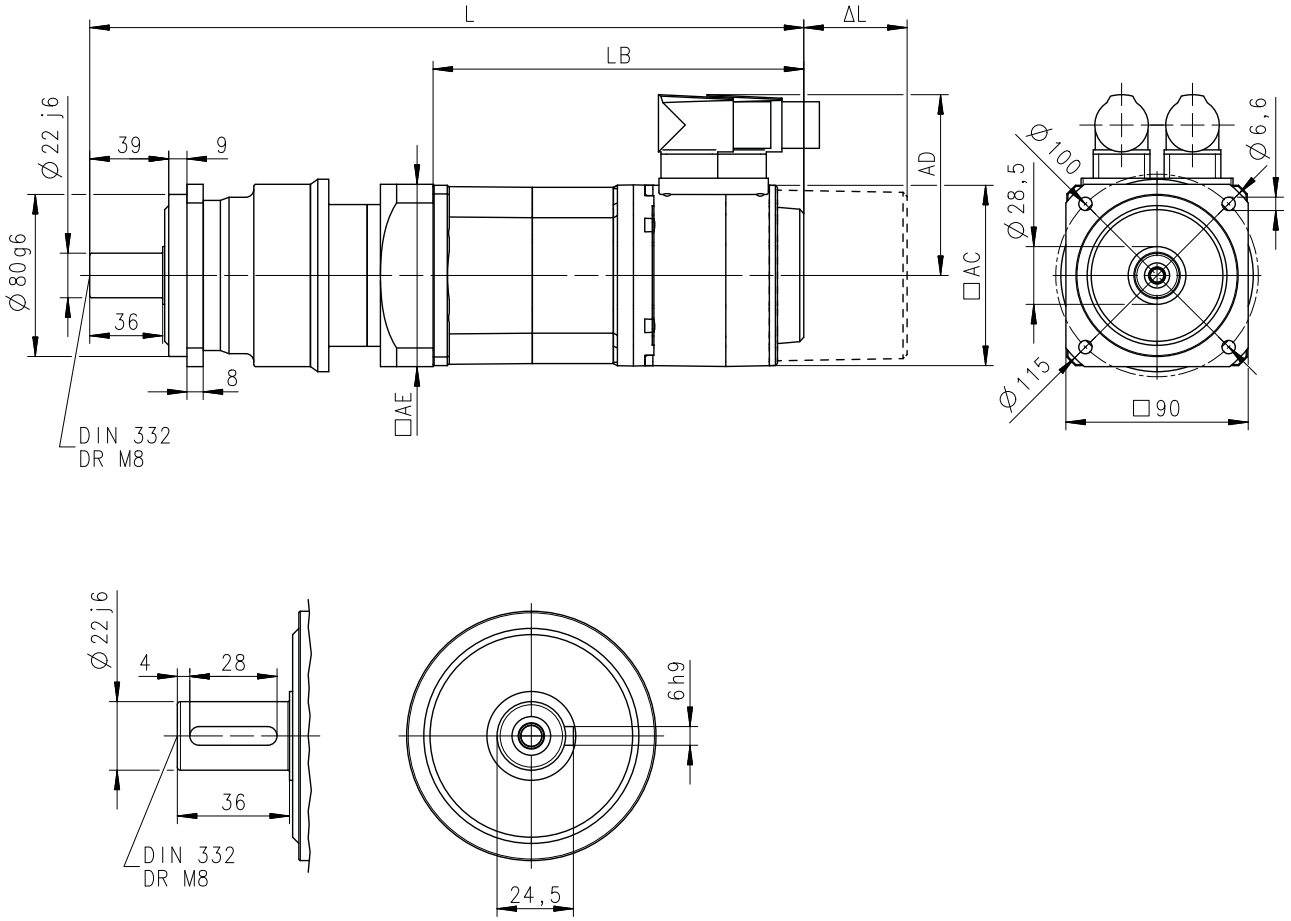


8800822-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	395	322	395	322	362	362	362
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115

g820-P80 with MCS06

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



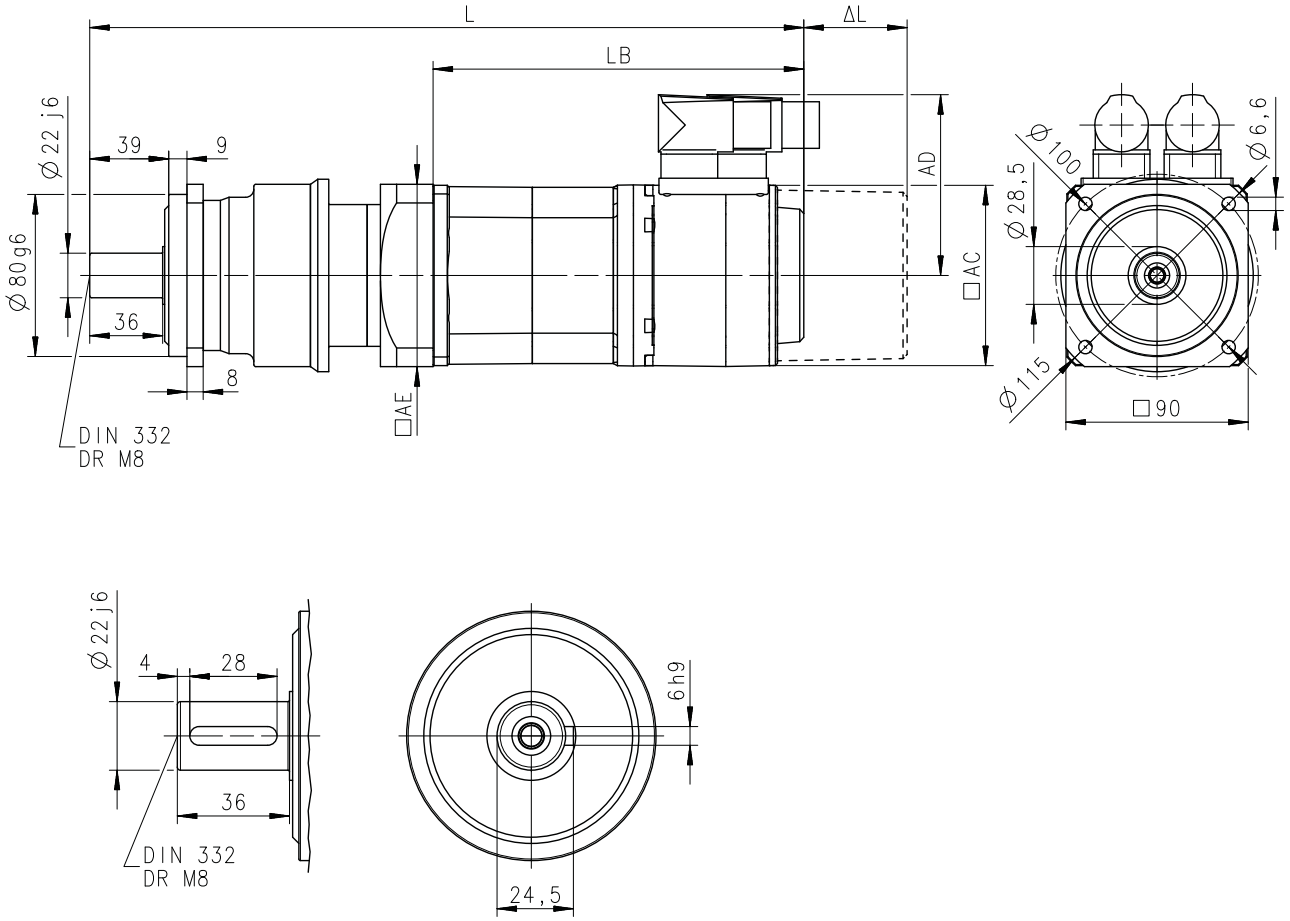
8800823-00

Motor			MCS 06		
			F41- F41L	I41- I41L	I60- I60L
Total length	L	mm	302.5	332.5	332.5
Motor length	LB	mm	162	192	192
Motor diameter	AC	mm	86	86	86
Motor/connection distance	AD	mm	77	77	77
Gearbox diameter	AE	mm	90	90	90



g820-P80 with MCS06

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

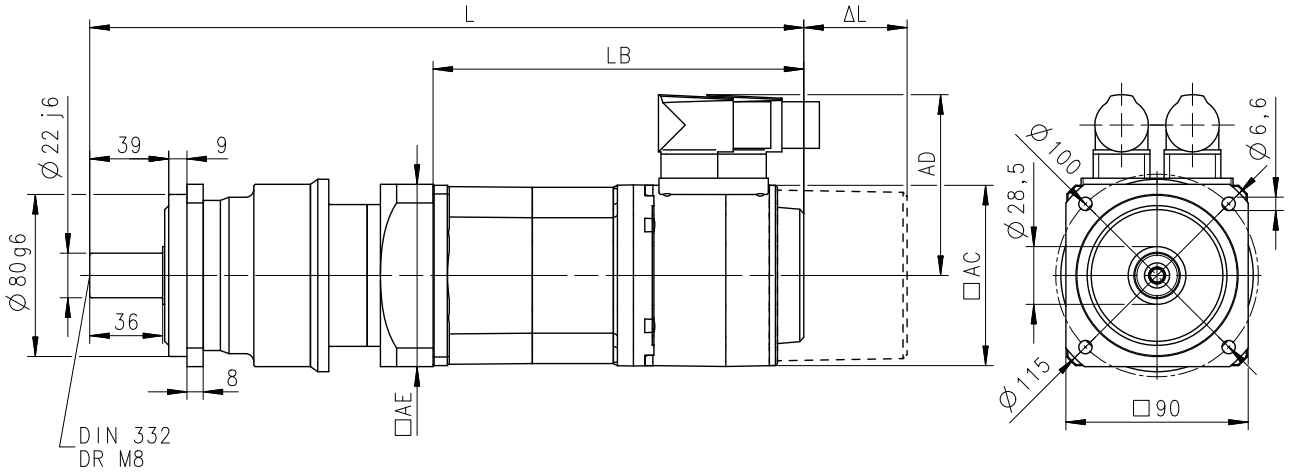


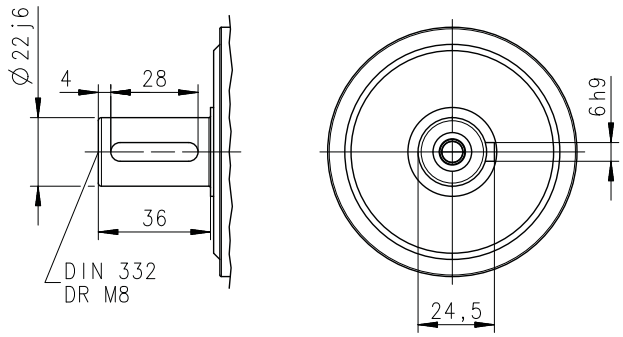
8800823-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	294.5	294.5	324.5	324.5	354.5	354.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g820-P80 with MCS09

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





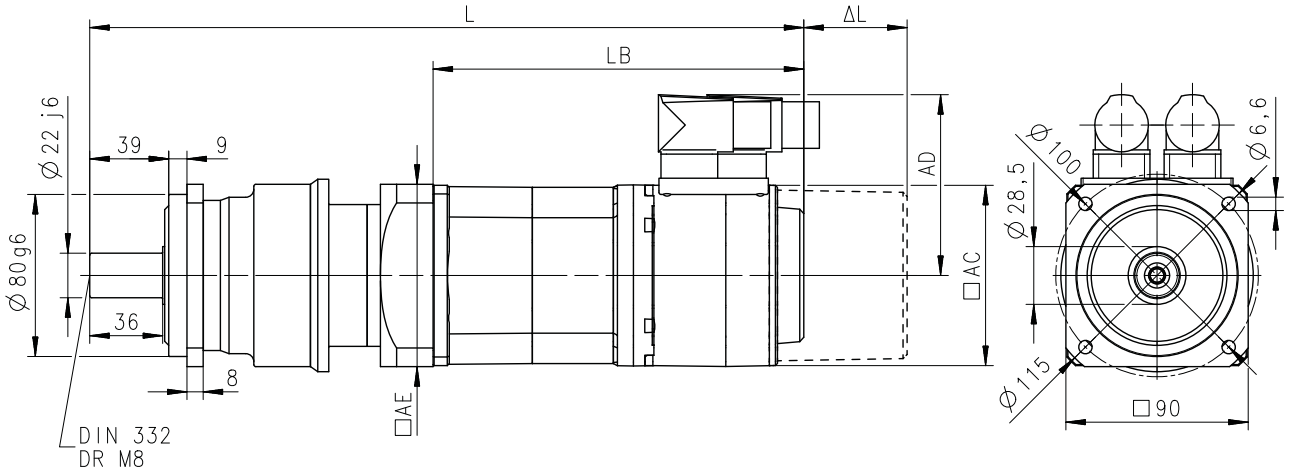
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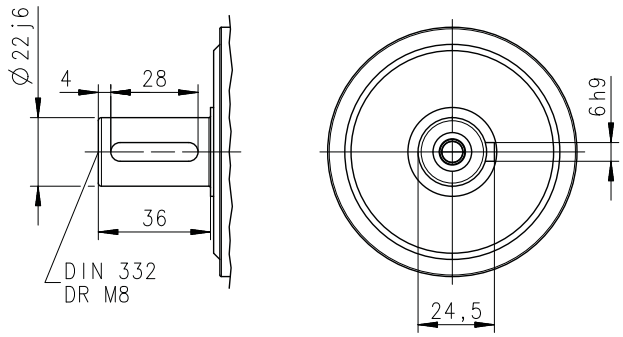
Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	322.5	322.5	342.5	342.5	362.5	362.5	402.5	402.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g820-P80 with MCS09

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



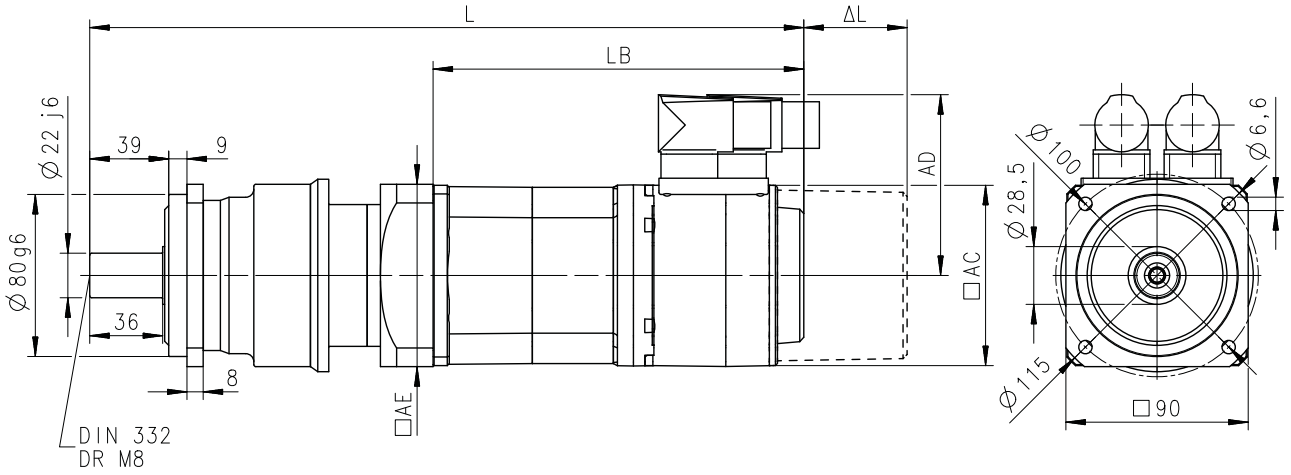


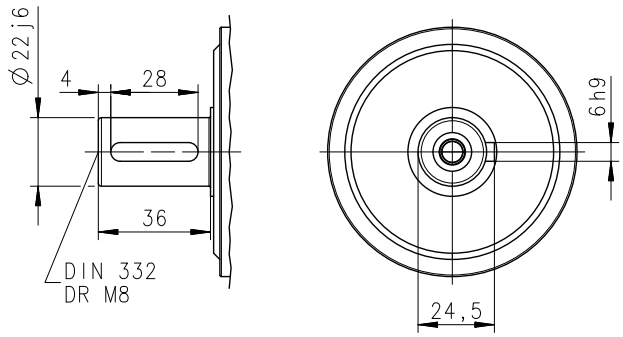
8800823-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	351.5	351.5	371.5	371.5	391.5	391.5	431.5	431.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g820-P80 with MCS12

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





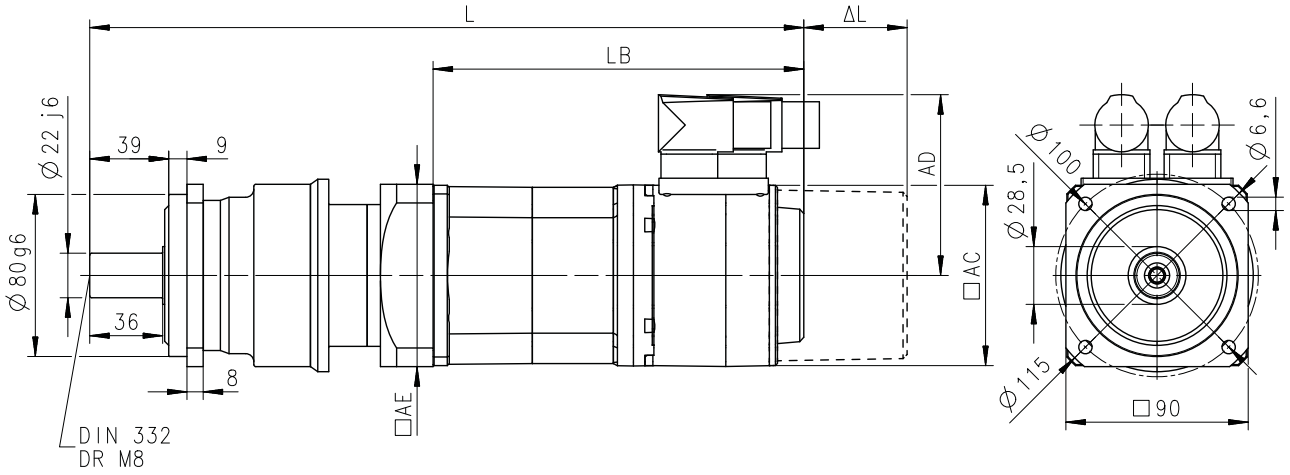
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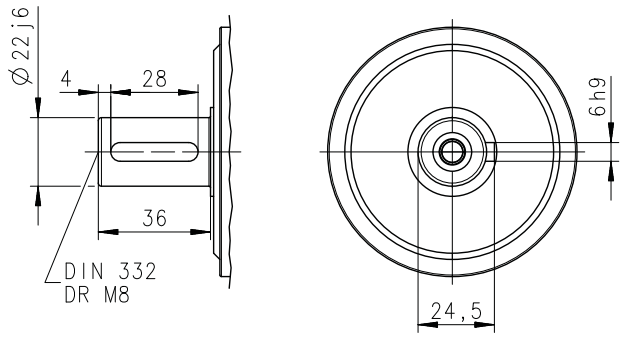
Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	411.5	338.5	411.5	338.5	451.5	378.5	378.5	451.5	378.5	501.5	418.5	491.5	418.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115



g820-P80 with MCS12

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



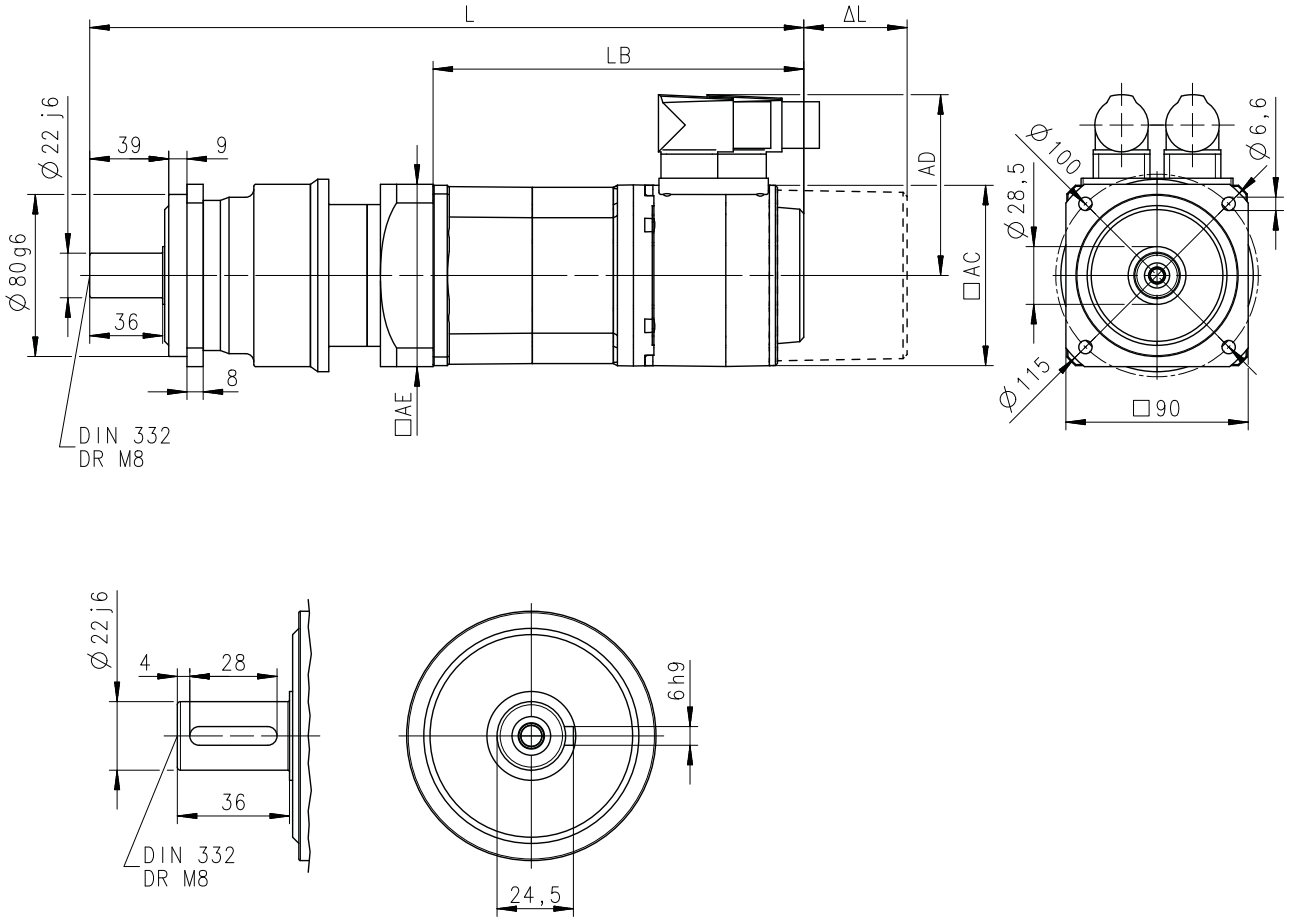


8800823-00

Motor			MCS 12
			D41- D41L
Total length	L	mm	368
Motor length	LB	mm	188
Motor diameter	AC	mm	116
Motor/connection distance	AD	mm	105
Gearbox diameter	AE	mm	115

g820-P80 with MCS14

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



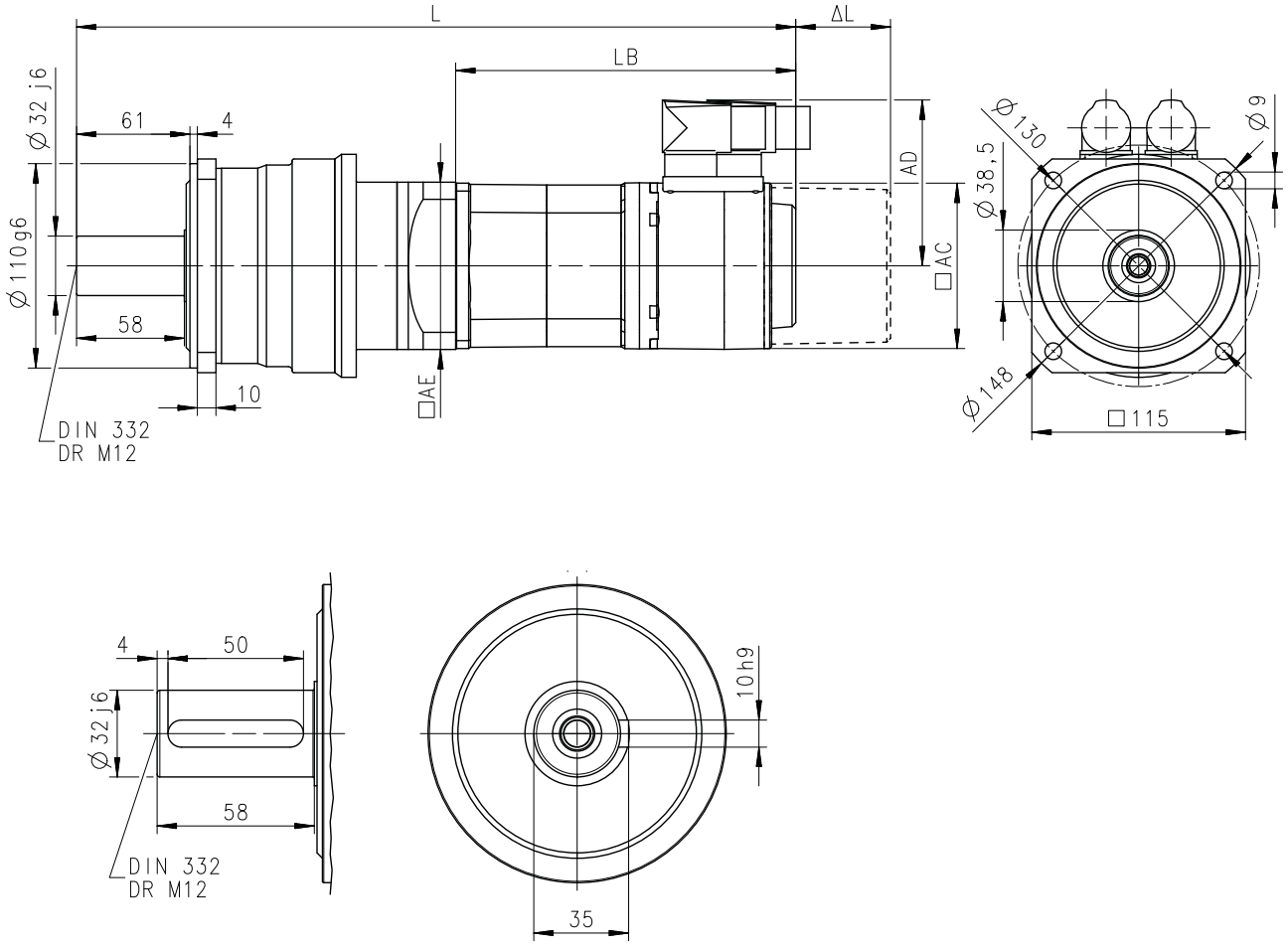
8800823-00

Motor			MCS 14					
			D14-	D15-	D30-	D36-	H15-	H32-
Total length	L	mm	449.5	361.5	449.5	361.5	401.5	401.5
Motor length	LB	mm	289	201	289	201	241	241
Motor diameter	AC	mm	167	143	167	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117
Gearbox diameter	AE	mm	142	142	142	142	142	142



g820-P180 with MCS06

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

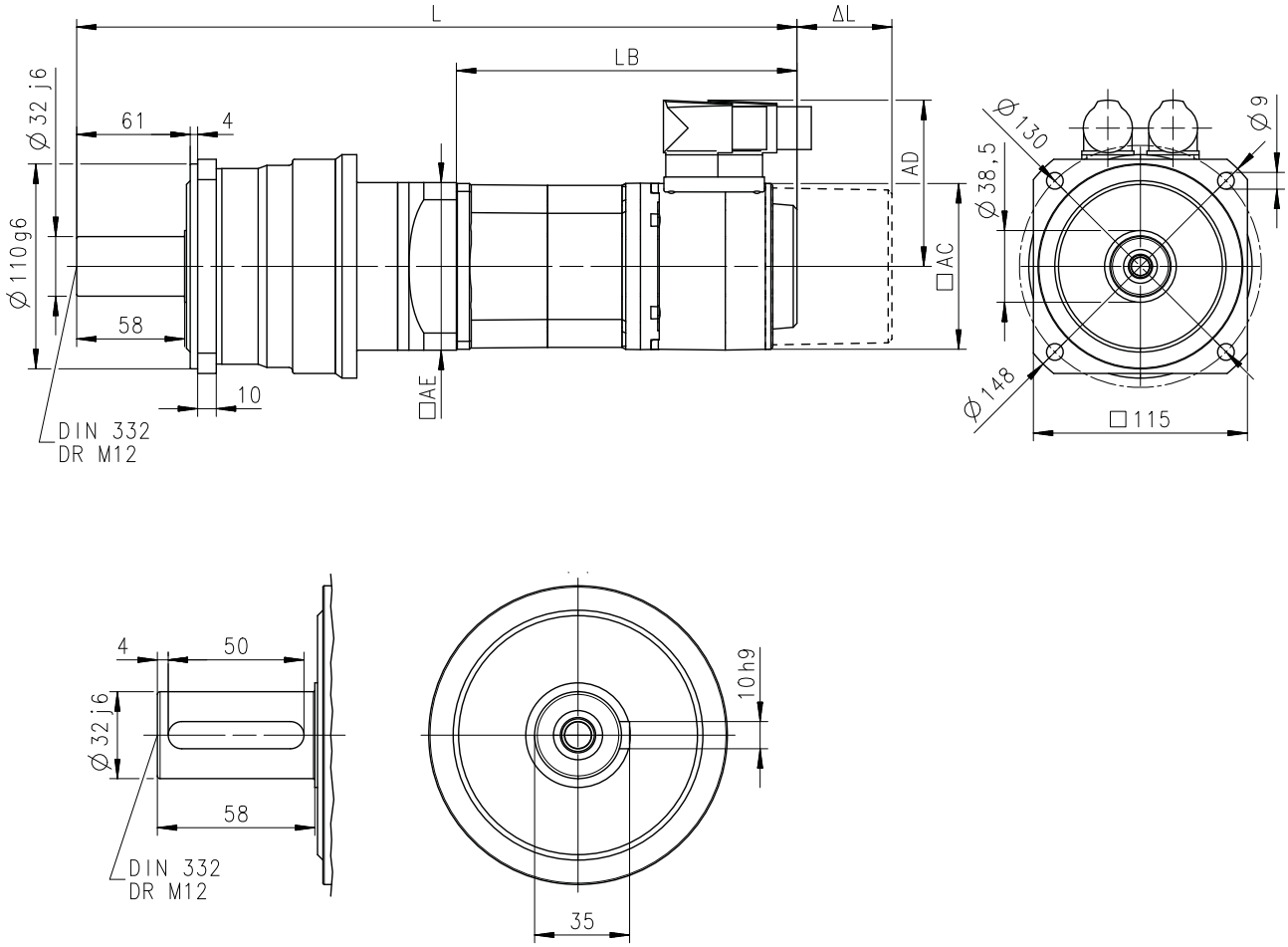


8800824-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	336	336	366	366	396	396
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	90	90	90	90	90	90

g820-P180 with MCS09

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



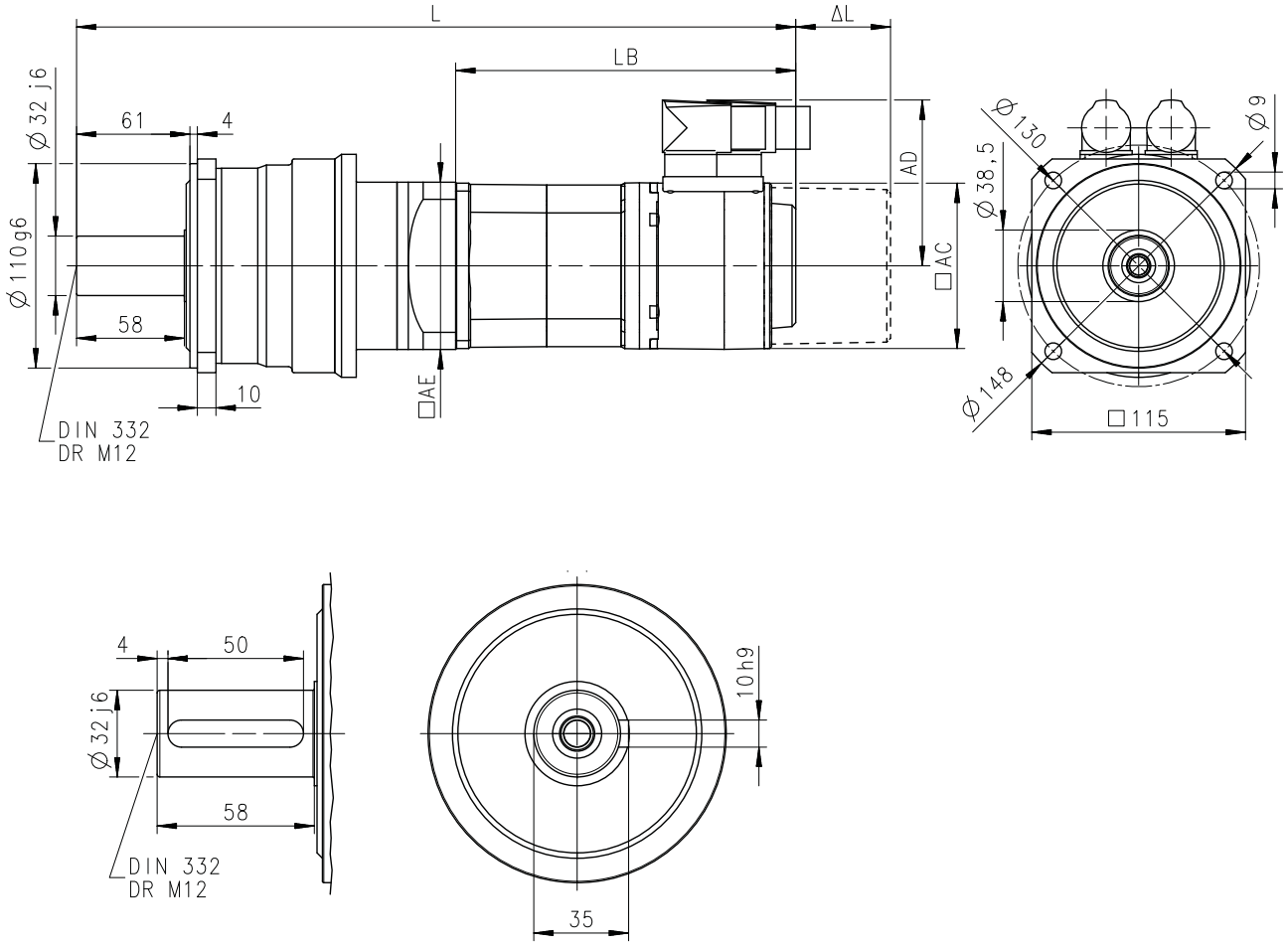
8800824-00

Motor			MCS 09					
			F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	384.5	384.5	404.5	404.5	444.5	444.5
Motor length	LB	mm	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115



g820-P180 with MCS09

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

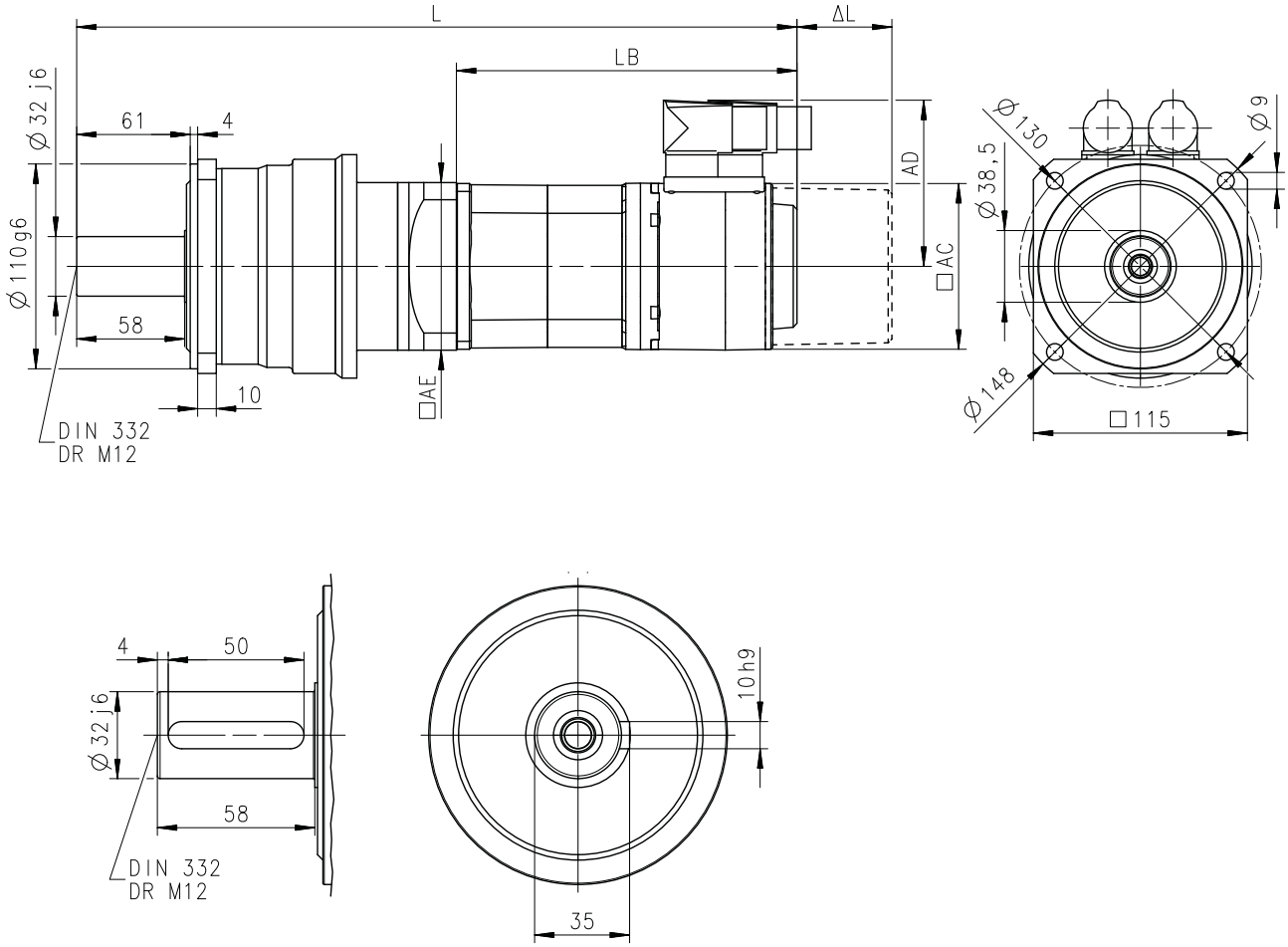


8800824-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	386	386	406	406	426	426	466	466
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g820-P180 with MCS12

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



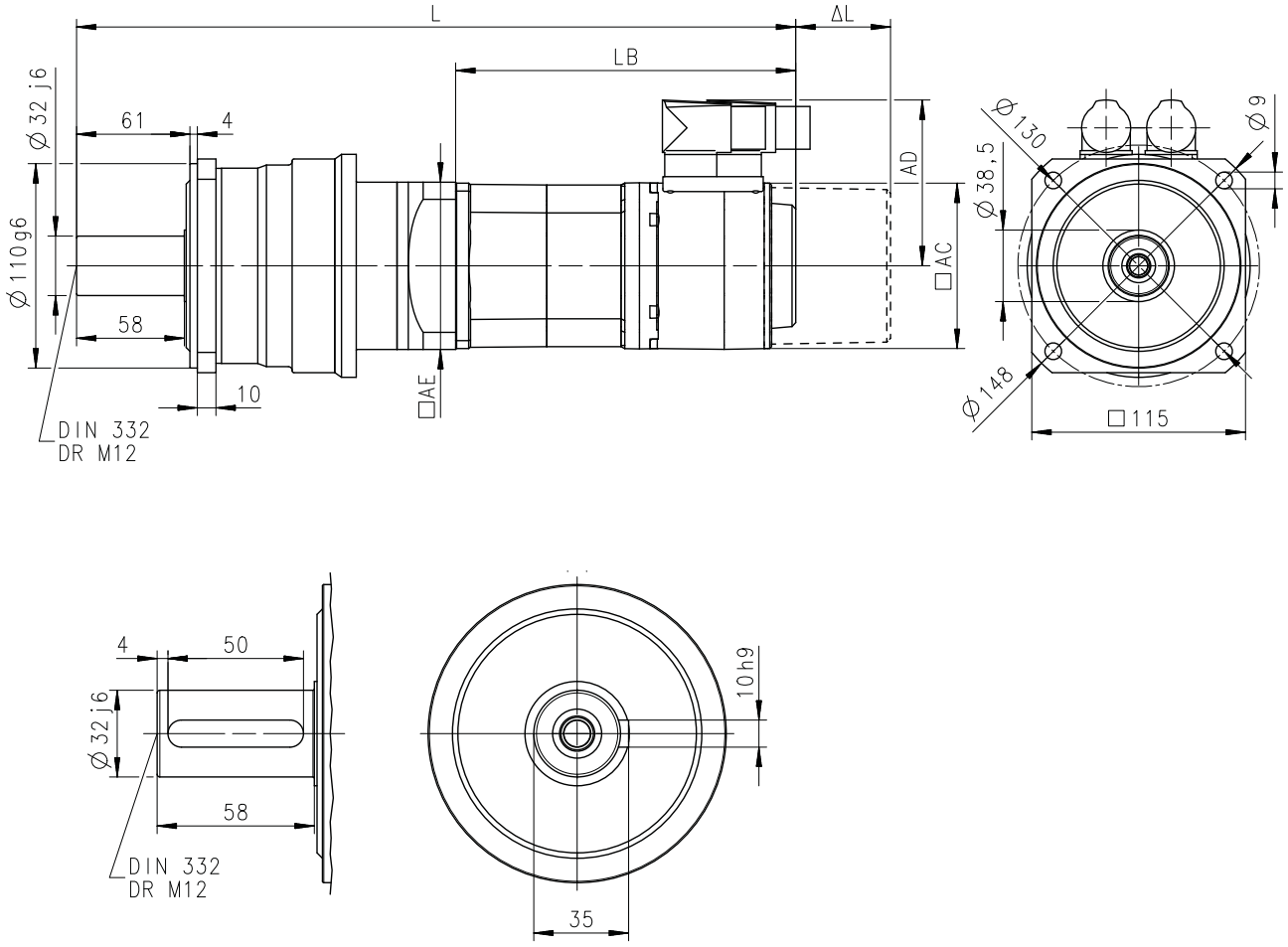
8800824-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	443.5	370.5	443.5	370.5	483.5	410.5	410.5	483.5	410.5	533.5	450.5	523.5	450.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	120	120	120	120	120	120	120	120	120	120	120	120	120



g820-P180 with MCS12

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

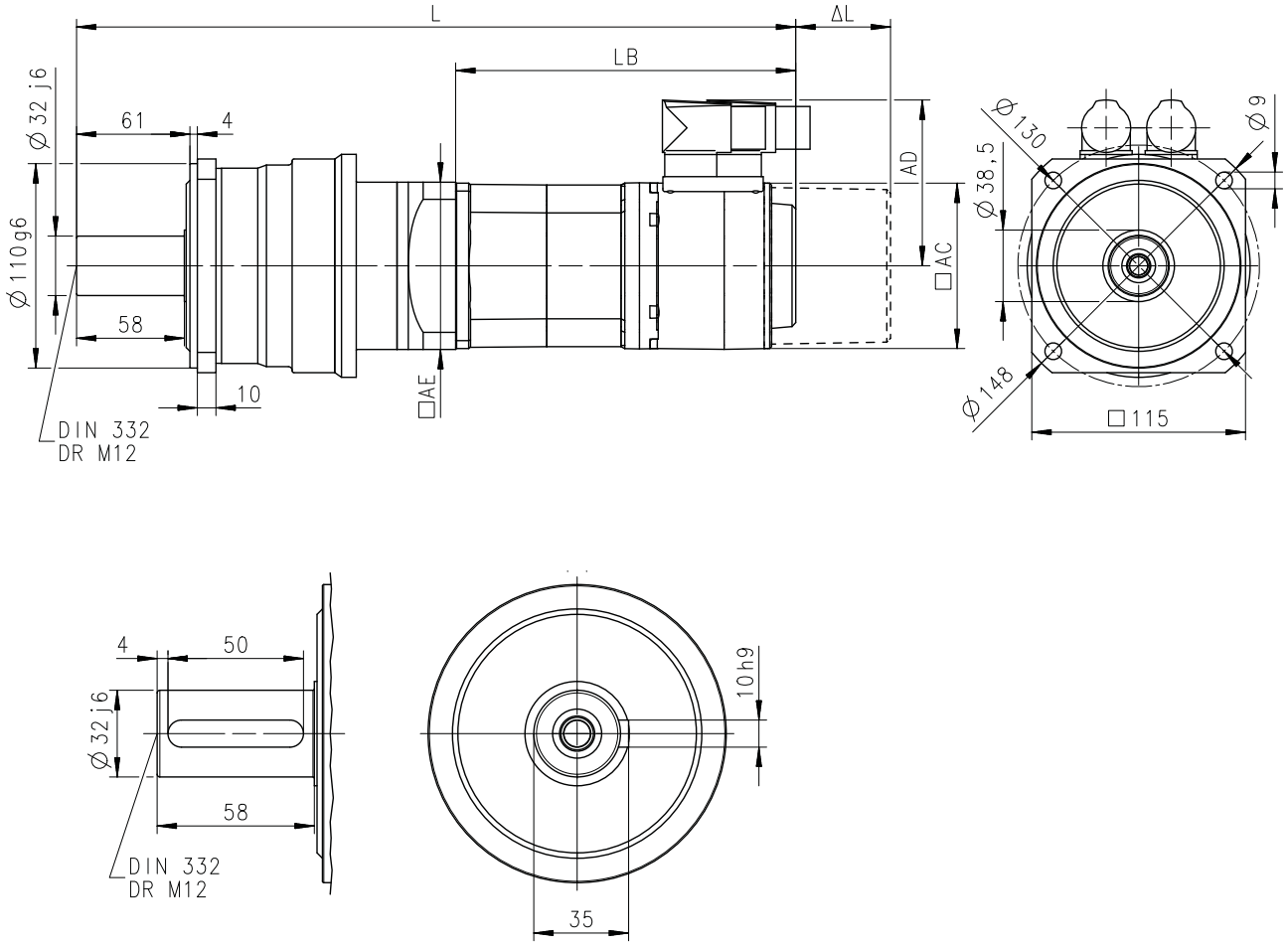


8800824-00

Motor			MCS 12								
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H34-	H35-	L41-
Total length	L	mm	475	402	475	402	442	442	515	442	482
Motor length	LB	mm	261	188	261	188	228	228	301	228	268
Motor diameter	AC	mm	140	116	140	116	116	116	140	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115

g820-P180 with MCS14

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



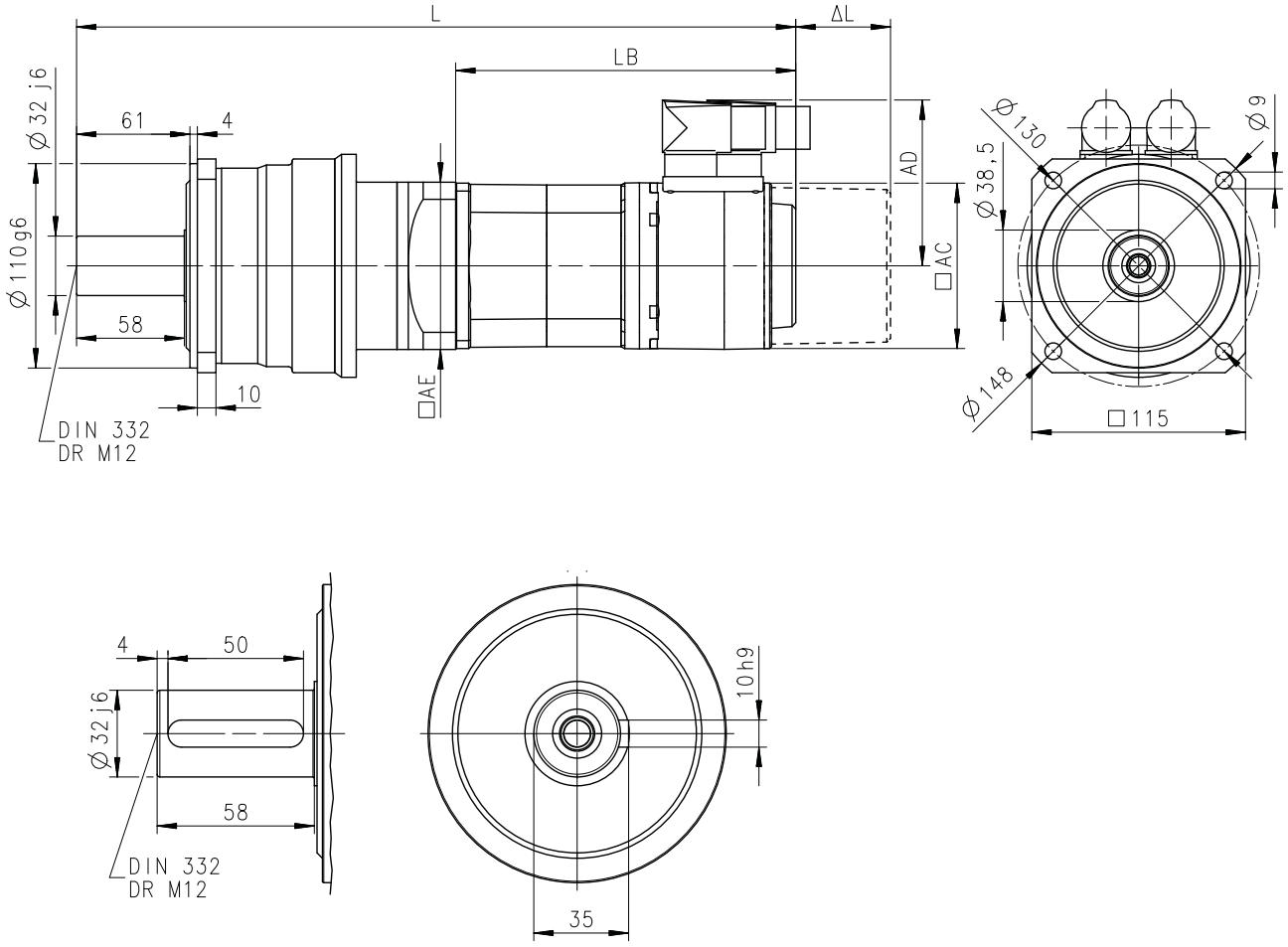
8800824-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	481.5	393.5	481.5	393.5	521.5	433.5	521.5	433.5	561.5	473.5	561.5	473.5	601.5	513.5	601.5	513.5
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142



g820-P180 with MCS14

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

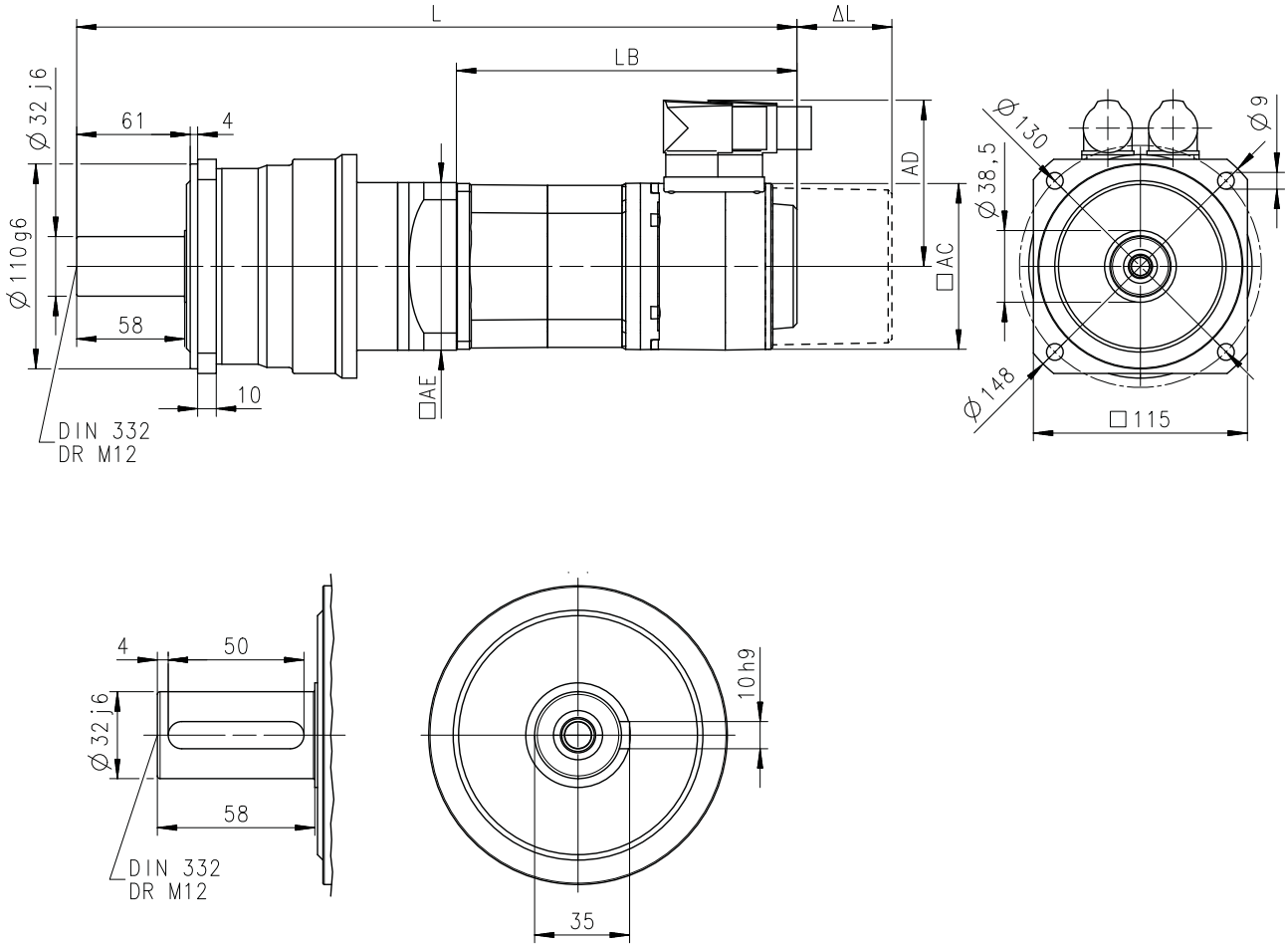


8800824-00

Motor			MCS 14		
			D15-	D30-	D36-
Total length	L	mm	425	513	425
Motor length	LB	mm	201	289	201
Motor diameter	AC	mm	143	167	143
Motor/connection distance	AD	mm	117	117	117
Gearbox diameter	AE	mm	142	142	142

g820-P180 with MCS19

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



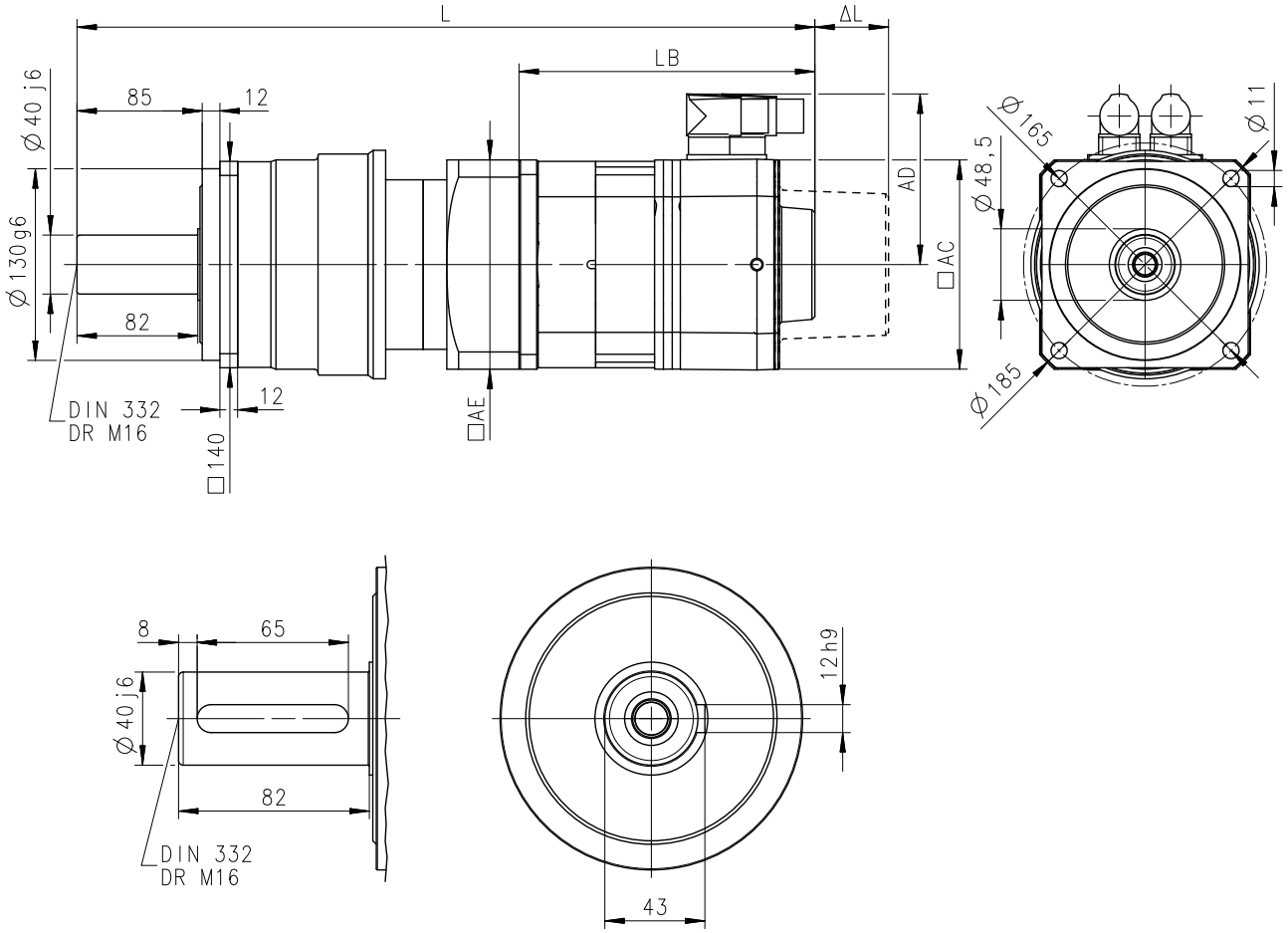
8800824-00

Motor			MCS 19				
			F12-	F14-	F30-	J14-	J30-
Total length	L	mm	530.5	423.5	423.5	463.5	463.5
Motor length	LB	mm	327	220	220	260	260
Motor diameter	AC	mm	212	192	192	192	192
Motor/connection distance	AD	mm	142	142	171	142	171
Gearbox diameter	AE	mm	190	190	190	190	190



g820-P470 with MCS06

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

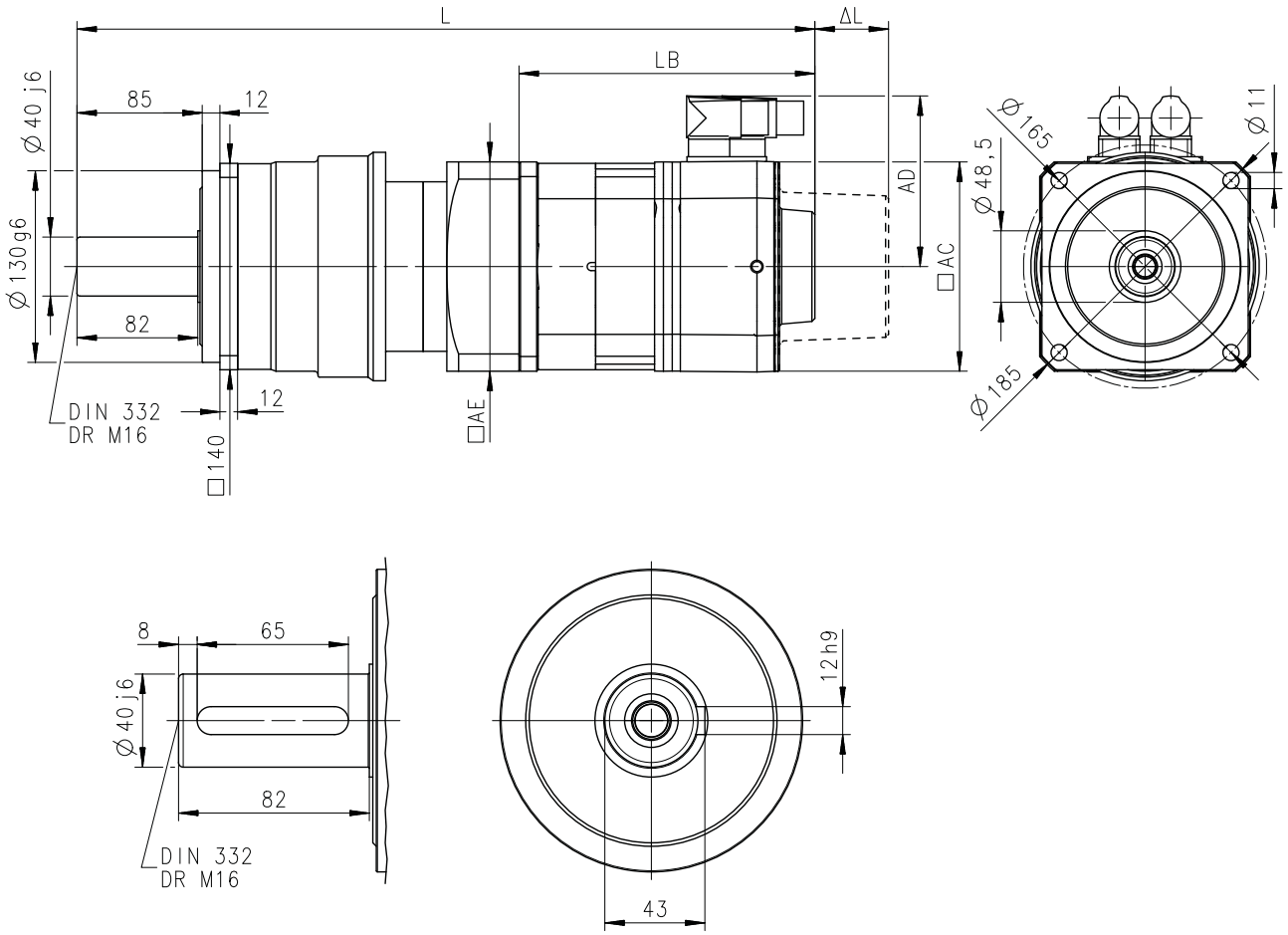


8800825-00

Motor			MCS 06				
			C41- C41L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	410.5	440.5	440.5	470.5	470.5
Motor length	LB	mm	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115

g820-P470 with MCS09

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



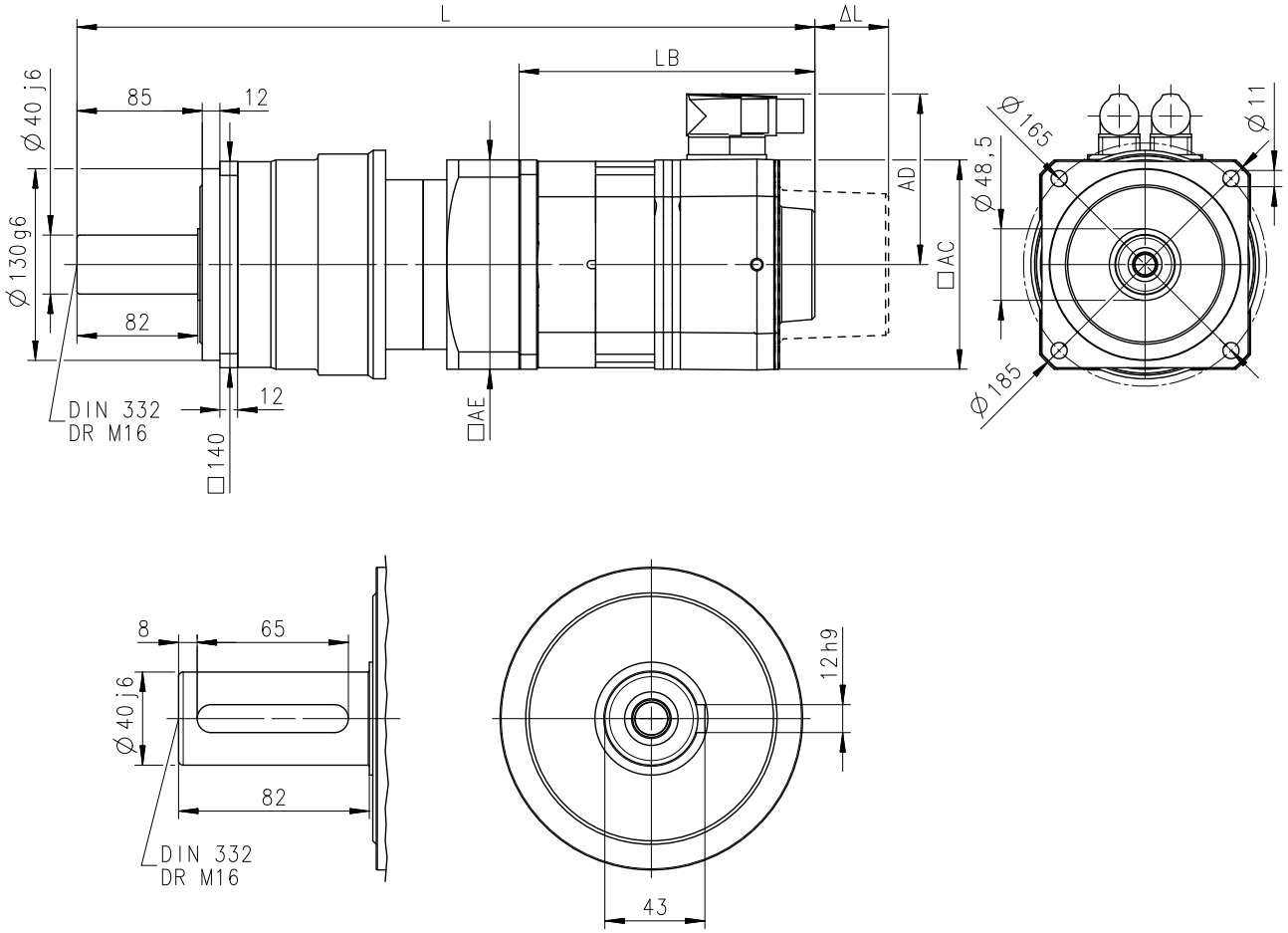
8800825-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	460.5	460.5	480.5	480.5	500.5	500.5	540.5	540.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115



g820-P470 with MCS12

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

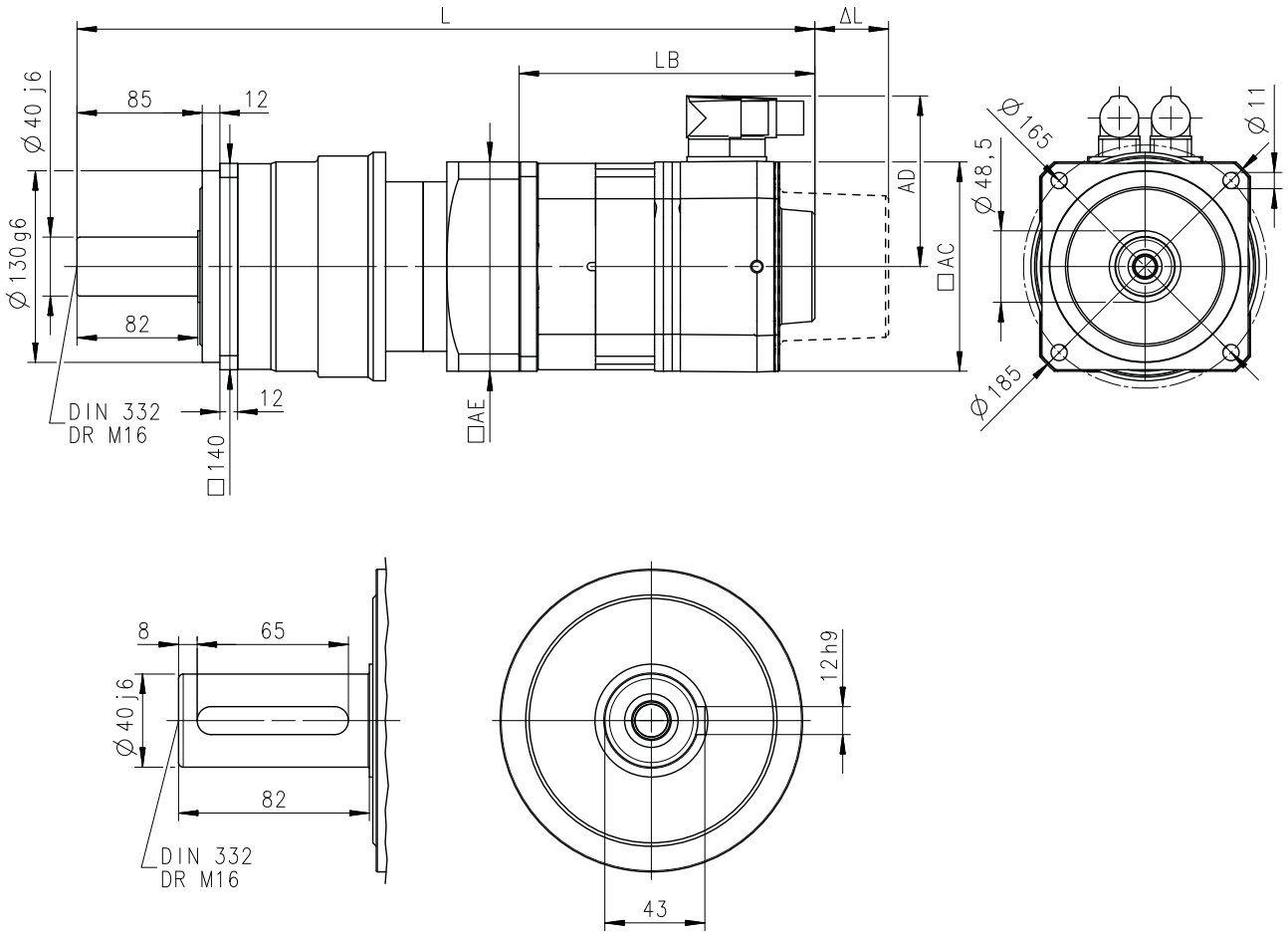


8800825-00

Motor			MCS 12											
			D17-	D20- D20L	D35-	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	508.5	435.5	508.5	548.5	475.5	475.5	548.5	475.5	598.5	515.5	588.5	515.5
Motor length	LB	mm	261	188	261	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	150	150	150	150	150	150	150	150	150	150	150	150

g820-P470 with MCS12

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



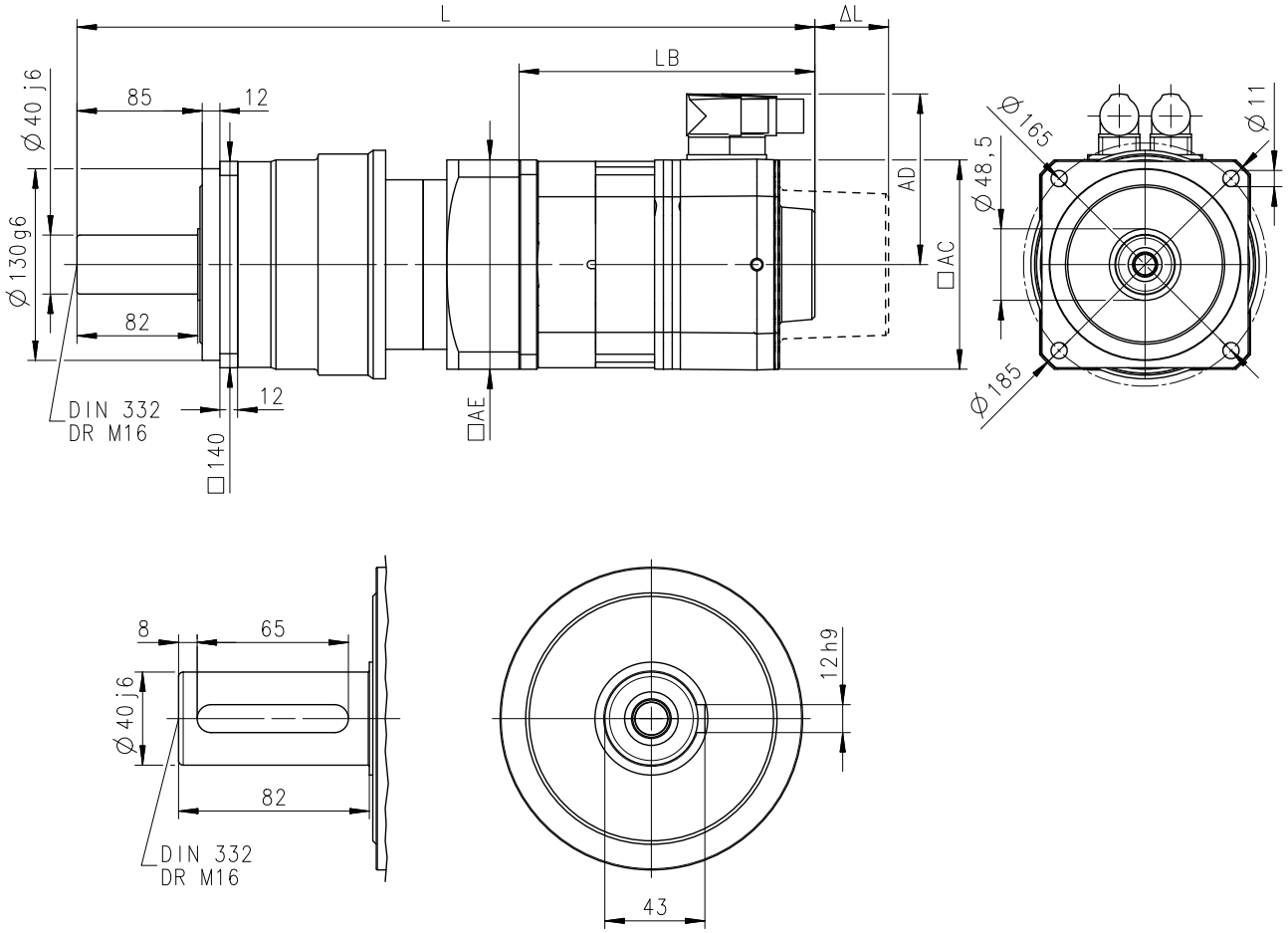
8800825-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	539.5	466.5	539.5	466.5	579.5	506.5	506.5	579.5	506.5	629.5	546.5	619.5	546.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	120	120	120	120	120	120	120	120	120	120	120	120	120



g820-P470 with MCS14

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

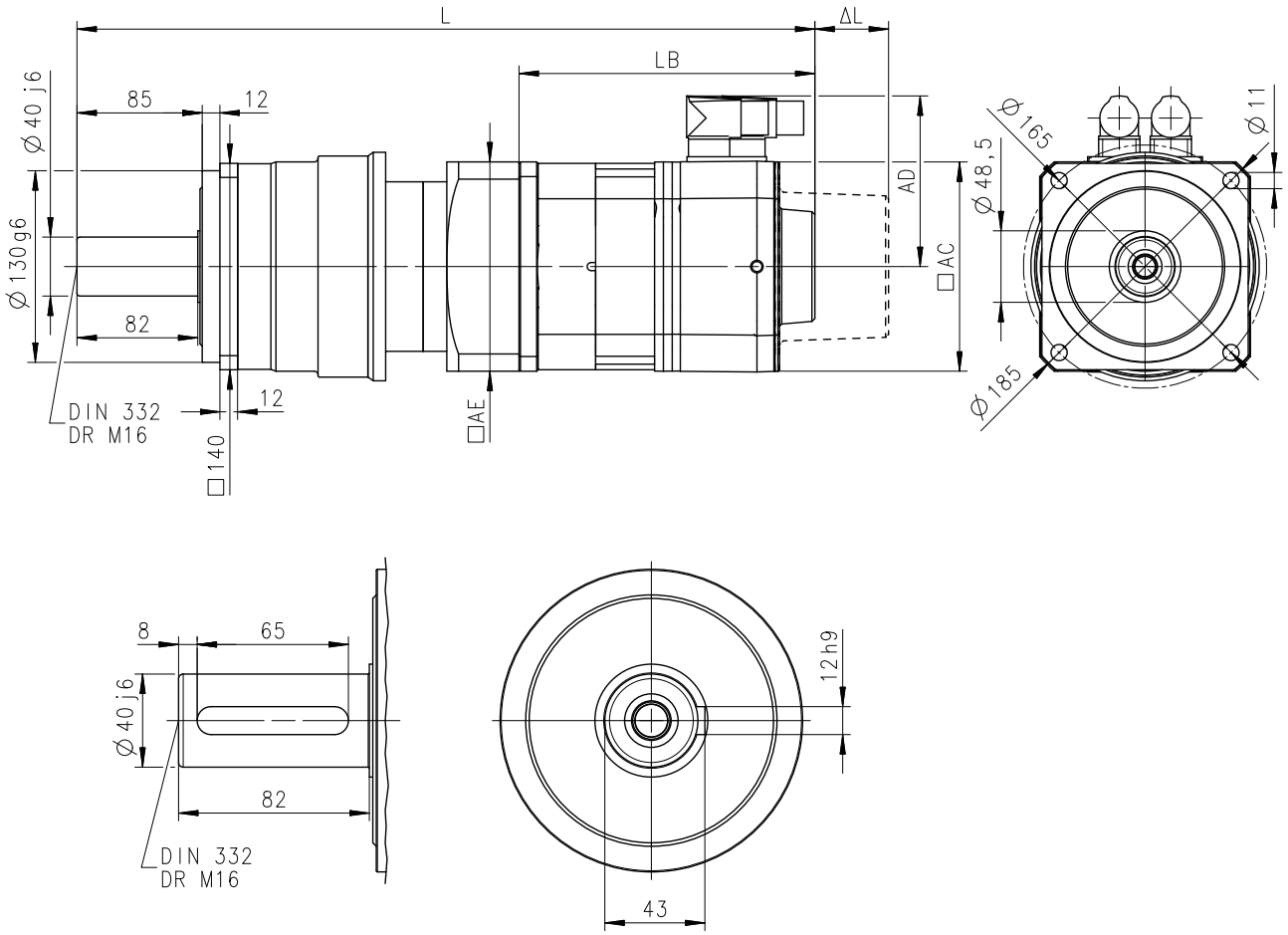


8800825-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	536.5	448.5	536.5	448.5	576.5	488.5	576.5	488.5	616.5	528.5	616.5	528.5	656.5	568.5	656.5	568.5
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150

g820-P470 with MCS14

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



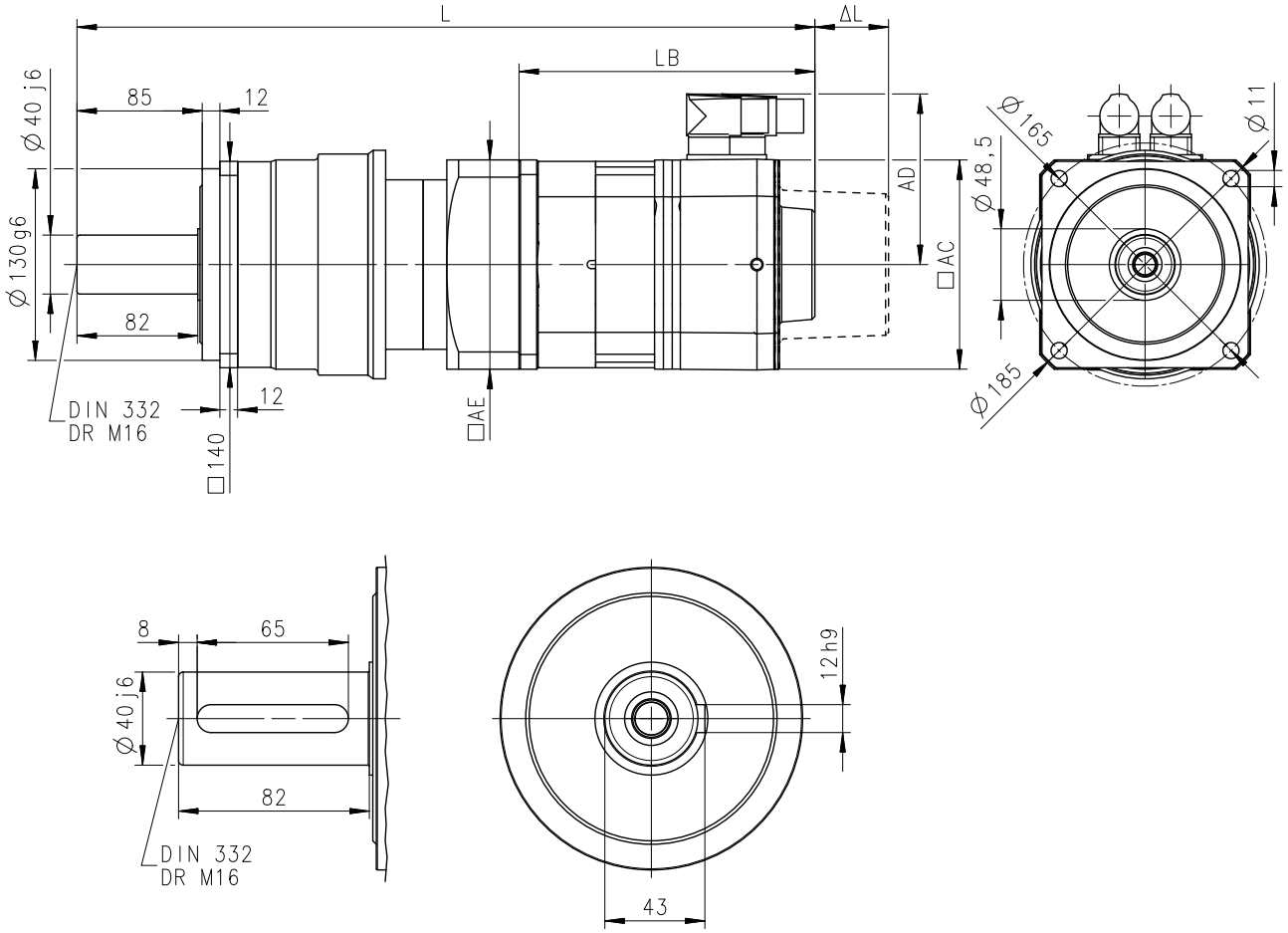
8800825-00

Motor			MCS 14													
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P14-	P32-
Total length	L	mm	577.5	489.5	577.5	489.5	617.5	529.5	617.5	529.5	657.5	569.5	657.5	569.5	609.5	609.5
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	321	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142



g820-P470 with MCS19

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

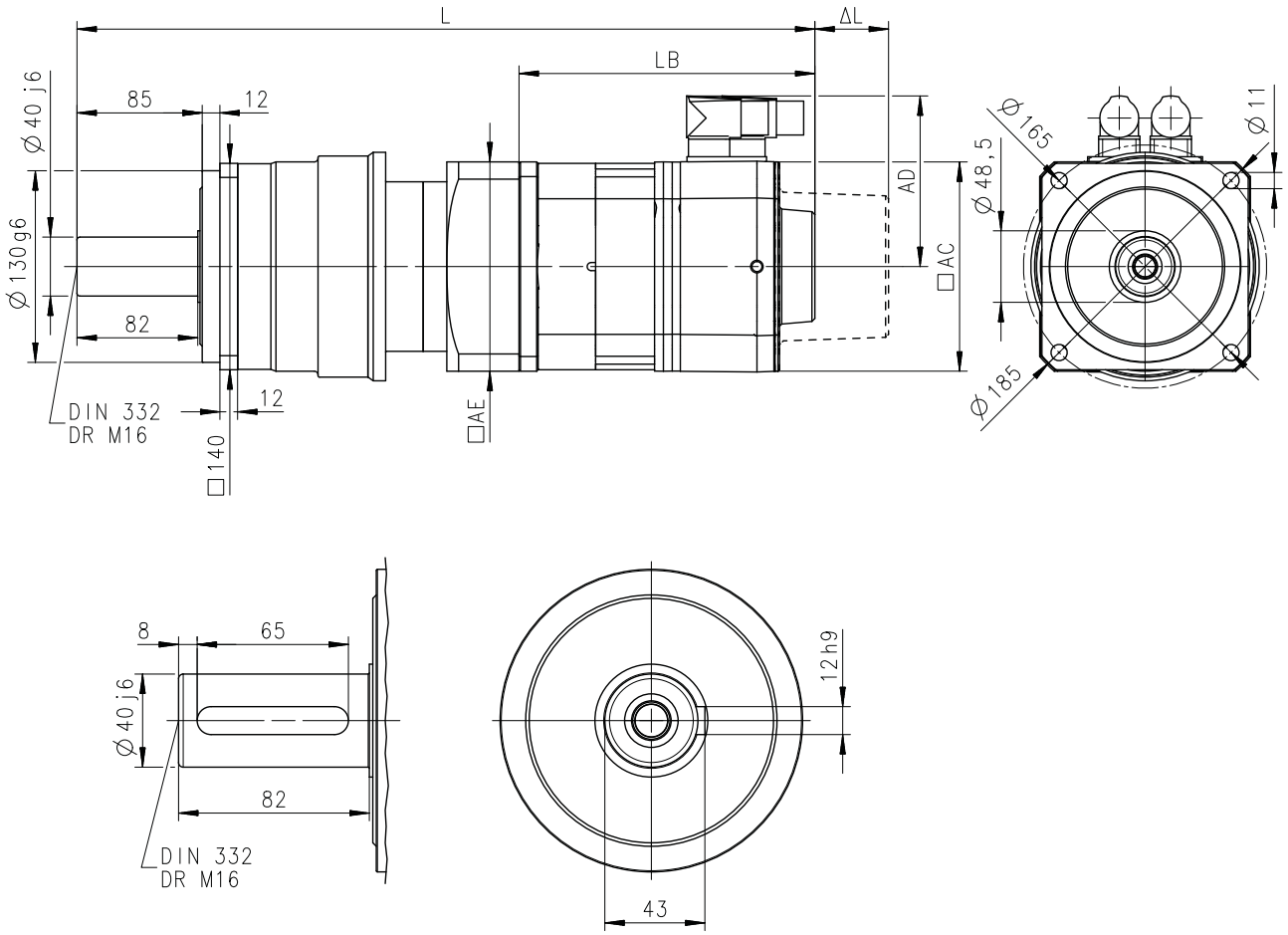


8800825-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	584.5	477.5	584.5	477.5	624.5	517.5	624.5	517.5	684.5	577.5	684.5	577.5
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190

g820-P470 with MCS19

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



8800825-00

Motor			MCS 19		
			F14-	F30-	J30-
Total length	L	mm	519.5	519.5	559.5
Motor length	LB	mm	220	220	260
Motor diameter	AC	mm	192	192	192
Motor/connection distance	AD	mm	142	171	171
Gearbox diameter	AE	mm	190	190	190



Planetary gearbox g840-P

The modular system

g840-P planetary gearbox with MCS synchronous servo motor

Gearbox		**g840-P77**	**g840-P150**	**g840-P300**	**g840-P1000**	**g840-P1800**
Min. motor assignment		**MCS06**	**MCS06**	**MCS06**	**MCS06**	**MCS12**
Max. motor assignment		**MCS12**	**MCS14**	**MCS19**	**MCS19**	**MCS19**
Technical data						
Max. output torque	Nm	77	150	300	1000	1800
Min. input torque	Nm	0.6	0.6	0.6	0.6	17
Max. input torque	Nm	17	42	72	72	72
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 (Values in brackets: length of toothing)		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		**Connector** Terminal box				
Holding brake		**Without** With				
Feedback						
Without functional safety		**Digital absolute value encoder for One Cable Technology (OCT)** Resolver Absolute value encoder				
With functional safety		Digital absolute value encoder for One Cable Technology (OCT) Resolver Absolute value encoder				
Temperature monitoring		MCS06: PT1000 temperature sensor MCS09 ... MCS19: PT1000 temperature sensor and 2x PTC thermistor				



Gearbox data

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
40	65.0	5	5
64	40.0	5	4

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
64	80.0	5	11
100	60.0	5	10



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
8	150	3	24
10	125	3	24
7	180	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
100	125	5	23

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
7	530	3	68
8	450	3	66
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



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}	N	3200	5500	6000	12500	21000
Axial force	F_{ax}	N	4400	6400	8000	15000	21000
Bearing service life 30000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	N	3200	4800	5400	11400	18000
Axial force	F_{ax}	N	3900	5700	7000	13200	18500
Max. radial force	$F_{rad, max}$	N	3200	5500	6000	12500	21000
Max. axial force	$F_{ax, max}$	N	4400	6400	8000	15000	21000



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.25 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.8	338	6.0	68.0	169	0.389	12	P77	06C41L	2	4.7
4.8	338	6.0	68.0	169	0.389	12	P77	06C41-	2	4.7
5.1	405	4.9	27.0	203	0.356	10	P77	06C41-	1	4.2
5.1	405	4.9	27.0	203	0.356	10	P77	06C41L	1	4.2
6.4	253	5.9	77.0	127	0.384	16	P77	06C41-	2	4.7
6.4	253	5.9	77.0	127	0.384	16	P77	06C41L	2	4.7
6.5	270	5.1	68.0	135	0.371	15	P77	06C41L	2	4.7
6.5	270	5.1	68.0	135	0.371	15	P77	06C41-	2	4.7
8.7	203	5.1	77.0	101	0.368	20	P77	06C41L	2	4.7
8.7	203	5.1	77.0	101	0.368	20	P77	06C41-	2	4.7
12.0	162	4.3	65.0	81.0	0.366	25	P77	06C41-	2	4.7
12.0	162	4.3	65.0	81.0	0.366	25	P77	06C41L	2	4.7
16.0	127	3.7	77.0	63.0	0.353	32	P77	06C41-	2	4.7
16.0	127	3.7	77.0	63.0	0.353	32	P77	06C41L	2	4.7
21.0	101	3.0	65.0	51.0	0.353	40	P77	06C41L	2	4.7
21.0	101	3.0	65.0	51.0	0.353	40	P77	06C41-	2	4.7
30.0	63.3	4.4	150	32.0	2.099	64	P300	06C41-	2	12
30.0	63.3	4.4	150	32.0	2.099	64	P300	06C41L	2	12
31.0	63.3	1.3	40.0	32.0	0.352	64	P77	06C41-	2	4.7
31.0	63.3	1.3	40.0	32.0	0.352	64	P77	06C41L	2	4.7
33.0	63.3	2.4	80.0	32.0	0.697	64	P150	06C41-	2	6.5
33.0	63.3	2.4	80.0	32.0	0.697	64	P150	06C41L	2	6.5
48.0	40.5	1.3	60.0	20.0	0.684	100	P150	06C41L	2	6.5
48.0	40.5	1.3	60.0	20.0	0.684	100	P150	06C41-	2	6.5
49.0	40.5	2.5	125	20.0	2.073	100	P300	06C41-	2	12
49.0	40.5	2.5	125	20.0	2.073	100	P300	06C41L	2	12



0.31 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.0	600	5.9	27.0	300	0.356	10	P77	06C60-	1	4.2
4.0	600	5.9	27.0	300	0.356	10	P77	06C60L	1	4.2
5.2	400	5.4	68.0	200	0.371	15	P77	06C60-	2	4.7
5.2	400	5.4	68.0	200	0.371	15	P77	06C60L	2	4.7
7.0	300	5.4	77.0	150	0.368	20	P77	06C60-	2	4.7
7.0	300	5.4	77.0	150	0.368	20	P77	06C60L	2	4.7
9.5	240	4.6	65.0	120	0.366	25	P77	06C60-	2	4.7
9.5	240	4.6	65.0	120	0.366	25	P77	06C60L	2	4.7
13.0	188	4.0	77.0	94.0	0.353	32	P77	06C60-	2	4.7
13.0	188	4.0	77.0	94.0	0.353	32	P77	06C60L	2	4.7
17.0	150	3.4	65.0	75.0	0.353	40	P77	06C60L	2	4.7
17.0	150	3.4	65.0	75.0	0.353	40	P77	06C60-	2	4.7
23.0	93.8	5.3	150	47.0	2.099	64	P300	06C60L	2	12
23.0	93.8	5.3	150	47.0	2.099	64	P300	06C60-	2	12
26.0	93.8	1.5	40.0	47.0	0.352	64	P77	06C60-	2	4.7
26.0	93.8	1.5	40.0	47.0	0.352	64	P77	06C60L	2	4.7
28.0	93.8	2.9	80.0	47.0	0.697	64	P150	06C60L	2	6.5
28.0	93.8	2.9	80.0	47.0	0.697	64	P150	06C60-	2	6.5
40.0	60.0	1.5	60.0	30.0	0.684	100	P150	06C60L	2	6.5
40.0	60.0	1.5	60.0	30.0	0.684	100	P150	06C60-	2	6.5
41.0	60.0	3.1	125	30.0	2.073	100	P300	06C60-	2	12
41.0	60.0	3.1	125	30.0	2.073	100	P300	06C60L	2	12



0.51 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.1	579	4.9	45.0	289	0.448	7	P77	06F41-	1	4.6
7.1	579	4.9	45.0	289	0.448	7	P77	06F41L	1	4.6
8.3	506	4.4	40.0	253	0.443	8	P77	06F41-	1	4.6
8.3	506	4.4	40.0	253	0.443	8	P77	06F41L	1	4.6
9.9	338	5.6	110	169	0.919	12	P150	06F41-	2	6.9
9.9	338	5.6	110	169	0.919	12	P150	06F41L	2	6.9
10.0	405	5.3	60.0	203	0.780	10	P150	06F41L	1	6.0
10.0	405	5.3	60.0	203	0.780	10	P150	06F41-	1	6.0
11.0	405	2.5	27.0	203	0.436	10	P77	06F41L	1	4.6
11.0	405	2.5	27.0	203	0.436	10	P77	06F41-	1	4.6
13.0	338	3.0	68.0	169	0.469	12	P77	06F41-	2	5.1
13.0	338	3.0	68.0	169	0.469	12	P77	06F41L	2	5.1
13.0	270	4.8	110	135	0.850	15	P150	06F41L	2	6.9
13.0	270	4.8	110	135	0.850	15	P150	06F41-	2	6.9
16.0	270	2.6	68.0	135	0.451	15	P77	06F41L	2	5.1
16.0	270	2.6	68.0	135	0.451	15	P77	06F41-	2	5.1
16.0	203	5.8	150	101	0.839	20	P150	06F41-	2	6.9
16.0	203	5.8	150	101	0.839	20	P150	06F41L	2	6.9
17.0	253	3.0	77.0	127	0.464	16	P77	06F41-	2	5.1
17.0	253	3.0	77.0	127	0.464	16	P77	06F41L	2	5.1
22.0	203	2.5	77.0	101	0.448	20	P77	06F41-	2	5.1
22.0	203	2.5	77.0	101	0.448	20	P77	06F41L	2	5.1
22.0	162	4.9	140	81.0	0.836	25	P150	06F41-	2	6.9
22.0	162	4.9	140	81.0	0.836	25	P150	06F41L	2	6.9
28.0	162	2.2	65.0	81.0	0.446	25	P77	06F41-	2	5.1
28.0	162	2.2	65.0	81.0	0.446	25	P77	06F41L	2	5.1
30.0	127	4.2	150	63.0	0.780	32	P150	06F41-	2	6.9
30.0	127	4.2	150	63.0	0.780	32	P150	06F41L	2	6.9
32.0	101	5.8	260	51.0	2.183	40	P300	06F41-	2	12
32.0	101	5.8	260	51.0	2.183	40	P300	06F41L	2	12
35.0	127	1.9	77.0	63.0	0.433	32	P77	06F41L	2	5.1
35.0	127	1.9	77.0	63.0	0.433	32	P77	06F41-	2	5.1
41.0	101	3.1	140	51.0	0.779	40	P150	06F41-	2	6.9
41.0	101	3.1	140	51.0	0.779	40	P150	06F41L	2	6.9
43.0	101	1.5	65.0	51.0	0.433	40	P77	06F41L	2	5.1
43.0	101	1.5	65.0	51.0	0.433	40	P77	06F41-	2	5.1
67.0	63.3	1.2	80.0	32.0	0.777	64	P150	06F41-	2	6.9
67.0	63.3	1.2	80.0	32.0	0.777	64	P150	06F41L	2	6.9
68.0	63.3	2.2	150	32.0	2.179	64	P300	06F41-	2	12
68.0	63.3	2.2	150	32.0	2.179	64	P300	06F41L	2	12
98.0	40.5	1.3	125	20.0	2.153	100	P300	06F41-	2	12
98.0	40.5	1.3	125	20.0	2.153	100	P300	06F41L	2	12



0.57 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.1	857	5.8	45.0	429	0.448	7	P77	06F60-	1	4.6
5.1	857	5.8	45.0	429	0.448	7	P77	06F60L	1	4.6
6.0	750	5.3	40.0	375	0.443	8	P77	06F60-	1	4.6
6.0	750	5.3	40.0	375	0.443	8	P77	06F60L	1	4.6
8.2	600	3.3	27.0	300	0.436	10	P77	06F60-	1	4.6
8.2	600	3.3	27.0	300	0.436	10	P77	06F60L	1	4.6
9.0	500	3.5	68.0	250	0.469	12	P77	06F60-	2	5.1
9.0	500	3.5	68.0	250	0.469	12	P77	06F60L	2	5.1
9.2	400	5.7	110	200	0.850	15	P150	06F60-	2	6.9
9.2	400	5.7	110	200	0.850	15	P150	06F60L	2	6.9
12.0	400	3.0	68.0	200	0.451	15	P77	06F60-	2	5.1
12.0	400	3.0	68.0	200	0.451	15	P77	06F60L	2	5.1
12.0	375	3.5	77.0	188	0.464	16	P77	06F60L	2	5.1
12.0	375	3.5	77.0	188	0.464	16	P77	06F60-	2	5.1
15.0	240	5.8	140	120	0.836	25	P150	06F60-	2	6.9
15.0	240	5.8	140	120	0.836	25	P150	06F60L	2	6.9
16.0	300	3.0	77.0	150	0.448	20	P77	06F60-	2	5.1
16.0	300	3.0	77.0	150	0.448	20	P77	06F60L	2	5.1
20.0	240	2.6	65.0	120	0.446	25	P77	06F60-	2	5.1
20.0	240	2.6	65.0	120	0.446	25	P77	06F60L	2	5.1
21.0	188	5.0	150	94.0	0.780	32	P150	06F60-	2	6.9
21.0	188	5.0	150	94.0	0.780	32	P150	06F60L	2	6.9
26.0	188	2.2	77.0	94.0	0.433	32	P77	06F60-	2	5.1
26.0	188	2.2	77.0	94.0	0.433	32	P77	06F60L	2	5.1
28.0	150	4.2	140	75.0	0.779	40	P150	06F60-	2	6.9
28.0	150	4.2	140	75.0	0.779	40	P150	06F60L	2	6.9
32.0	150	1.9	65.0	75.0	0.433	40	P77	06F60-	2	5.1
32.0	150	1.9	65.0	75.0	0.433	40	P77	06F60L	2	5.1
50.0	93.8	1.6	80.0	47.0	0.777	64	P150	06F60-	2	6.9
50.0	93.8	1.6	80.0	47.0	0.777	64	P150	06F60L	2	6.9
50.0	93.8	3.0	150	47.0	2.179	64	P300	06F60-	2	12
50.0	93.8	3.0	150	47.0	2.179	64	P300	06F60L	2	12
74.0	60.0	1.7	125	30.0	2.153	100	P300	06F60L	2	12
74.0	60.0	1.7	125	30.0	2.153	100	P300	06F60-	2	12



0.64 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.3	810	5.1	65.0	405	0.552	5	P77	06I41L	1	5.3
6.3	810	5.1	65.0	405	0.552	5	P77	06I41-	1	5.3
9.3	579	3.9	45.0	289	0.528	7	P77	06I41-	1	5.3
9.3	579	3.9	45.0	289	0.528	7	P77	06I41L	1	5.3
11.0	506	3.5	40.0	253	0.523	8	P77	06I41-	1	5.3
11.0	506	3.5	40.0	253	0.523	8	P77	06I41L	1	5.3
13.0	405	4.2	60.0	203	0.860	10	P150	06I41-	1	6.7
13.0	405	4.2	60.0	203	0.860	10	P150	06I41L	1	6.7
14.0	405	2.0	27.0	203	0.516	10	P77	06I41-	1	5.3
14.0	405	2.0	27.0	203	0.516	10	P77	06I41L	1	5.3
14.0	338	4.5	110	169	0.999	12	P150	06I41-	2	7.6
14.0	338	4.5	110	169	0.999	12	P150	06I41L	2	7.6
16.0	338	2.4	68.0	169	0.549	12	P77	06I41-	2	5.8
16.0	338	2.4	68.0	169	0.549	12	P77	06I41L	2	5.8
17.0	253	5.4	150	127	0.982	16	P150	06I41L	2	7.6
17.0	253	5.4	150	127	0.982	16	P150	06I41-	2	7.6
18.0	270	3.8	110	135	0.930	15	P150	06I41-	2	7.6
18.0	270	3.8	110	135	0.930	15	P150	06I41L	2	7.6
21.0	270	2.0	68.0	135	0.531	15	P77	06I41-	2	5.8
21.0	270	2.0	68.0	135	0.531	15	P77	06I41L	2	5.8
22.0	253	2.4	77.0	127	0.544	16	P77	06I41-	2	5.8
22.0	253	2.4	77.0	127	0.544	16	P77	06I41L	2	5.8
23.0	203	4.6	150	101	0.919	20	P150	06I41-	2	7.6
23.0	203	4.6	150	101	0.919	20	P150	06I41L	2	7.6
28.0	203	2.0	77.0	101	0.528	20	P77	06I41-	2	5.8
28.0	203	2.0	77.0	101	0.528	20	P77	06I41L	2	5.8
30.0	162	3.9	140	81.0	0.916	25	P150	06I41L	2	7.6
30.0	162	3.9	140	81.0	0.916	25	P150	06I41-	2	7.6
35.0	162	1.7	65.0	81.0	0.526	25	P77	06I41-	2	5.8
35.0	162	1.7	65.0	81.0	0.526	25	P77	06I41L	2	5.8
41.0	127	3.3	150	63.0	0.860	32	P150	06I41L	2	7.6
41.0	127	3.3	150	63.0	0.860	32	P150	06I41-	2	7.6
44.0	127	1.5	77.0	63.0	0.513	32	P77	06I41L	2	5.8
44.0	127	1.5	77.0	63.0	0.513	32	P77	06I41-	2	5.8
45.0	101	4.7	260	51.0	2.263	40	P300	06I41L	2	13
45.0	101	4.7	260	51.0	2.263	40	P300	06I41-	2	13
54.0	101	1.2	65.0	51.0	0.513	40	P77	06I41-	2	5.8
54.0	101	1.2	65.0	51.0	0.513	40	P77	06I41L	2	5.8
54.0	101	2.5	140	51.0	0.859	40	P150	06I41L	2	7.6
54.0	101	2.5	140	51.0	0.859	40	P150	06I41-	2	7.6
84.0	63.3	1.8	150	32.0	2.259	64	P300	06I41-	2	13
84.0	63.3	1.8	150	32.0	2.259	64	P300	06I41L	2	13
123	40.5	1.0	125	20.0	2.233	100	P300	06I41-	2	13
123	40.5	1.0	125	20.0	2.233	100	P300	06I41L	2	13



0.75 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.9	1200	5.6	65.0	600	0.552	5	P77	06I60-	1	5.3
4.9	1200	5.6	65.0	600	0.552	5	P77	06I60L	1	5.3
7.3	857	4.4	45.0	429	0.528	7	P77	06I60L	1	5.3
7.3	857	4.4	45.0	429	0.528	7	P77	06I60-	1	5.3
8.5	750	4.0	40.0	375	0.523	8	P77	06I60-	1	5.3
8.5	750	4.0	40.0	375	0.523	8	P77	06I60L	1	5.3
10.0	600	5.3	60.0	300	0.860	10	P150	06I60-	1	6.7
10.0	600	5.3	60.0	300	0.860	10	P150	06I60L	1	6.7
11.0	600	2.5	27.0	300	0.516	10	P77	06I60-	1	5.3
11.0	600	2.5	27.0	300	0.516	10	P77	06I60L	1	5.3
11.0	500	5.0	110	250	0.999	12	P150	06I60-	2	7.6
11.0	500	5.0	110	250	0.999	12	P150	06I60L	2	7.6
13.0	500	2.7	68.0	250	0.549	12	P77	06I60-	2	5.8
13.0	500	2.7	68.0	250	0.549	12	P77	06I60L	2	5.8
14.0	400	4.3	110	200	0.930	15	P150	06I60-	2	7.6
14.0	400	4.3	110	200	0.930	15	P150	06I60L	2	7.6
17.0	400	2.3	68.0	200	0.531	15	P77	06I60-	2	5.8
17.0	400	2.3	68.0	200	0.531	15	P77	06I60L	2	5.8
17.0	375	2.6	77.0	188	0.544	16	P77	06I60L	2	5.8
17.0	375	2.6	77.0	188	0.544	16	P77	06I60-	2	5.8
17.0	300	5.1	150	150	0.919	20	P150	06I60-	2	7.6
17.0	300	5.1	150	150	0.919	20	P150	06I60L	2	7.6
22.0	300	2.3	77.0	150	0.528	20	P77	06I60-	2	5.8
22.0	300	2.3	77.0	150	0.528	20	P77	06I60L	2	5.8
23.0	240	4.3	140	120	0.916	25	P150	06I60-	2	7.6
23.0	240	4.3	140	120	0.916	25	P150	06I60L	2	7.6
28.0	240	1.9	65.0	120	0.526	25	P77	06I60-	2	5.8
28.0	240	1.9	65.0	120	0.526	25	P77	06I60L	2	5.8
31.0	188	3.7	150	94.0	0.860	32	P150	06I60-	2	7.6
31.0	188	3.7	150	94.0	0.860	32	P150	06I60L	2	7.6
32.0	150	5.8	260	75.0	2.263	40	P300	06I60L	2	13
32.0	150	5.8	260	75.0	2.263	40	P300	06I60-	2	13
35.0	188	1.7	77.0	94.0	0.513	32	P77	06I60-	2	5.8
35.0	188	1.7	77.0	94.0	0.513	32	P77	06I60L	2	5.8
41.0	150	3.1	140	75.0	0.859	40	P150	06I60-	2	7.6
41.0	150	3.1	140	75.0	0.859	40	P150	06I60L	2	7.6
43.0	150	1.4	65.0	75.0	0.513	40	P77	06I60-	2	5.8
43.0	150	1.4	65.0	75.0	0.513	40	P77	06I60L	2	5.8
67.0	93.8	1.2	80.0	47.0	0.857	64	P150	06I60-	2	7.6
67.0	93.8	1.2	80.0	47.0	0.857	64	P150	06I60L	2	7.6
68.0	93.8	2.2	150	47.0	2.259	64	P300	06I60-	2	13
68.0	93.8	2.2	150	47.0	2.259	64	P300	06I60L	2	13
98.0	60.0	1.3	125	30.0	2.233	100	P300	06I60-	2	13
98.0	60.0	1.3	125	30.0	2.233	100	P300	06I60L	2	13



1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.1	1350	4.0	45.0	675	1.465	3	P77	09D41-	1	6.7
6.1	1350	4.0	45.0	675	1.465	3	P77	09D41L	1	6.8
8.1	1013	4.0	60.0	506	1.382	4	P77	09D41-	1	6.7
8.1	1013	4.0	60.0	506	1.382	4	P77	09D41L	1	6.8
10.0	810	3.3	65.0	405	1.352	5	P77	09D41-	1	6.7
10.0	810	3.3	65.0	405	1.352	5	P77	09D41L	1	6.8
13.0	579	5.8	90.0	289	1.699	7	P150	09D41-	1	8.1
13.0	579	5.8	90.0	289	1.699	7	P150	09D41L	1	8.2
15.0	579	2.6	45.0	289	1.328	7	P77	09D41-	1	6.7
15.0	579	2.6	45.0	289	1.328	7	P77	09D41L	1	6.8
16.0	506	4.5	80.0	253	1.682	8	P150	09D41-	1	8.1
16.0	506	4.5	80.0	253	1.682	8	P150	09D41L	1	8.2
17.0	506	2.3	40.0	253	1.323	8	P77	09D41-	1	6.7
17.0	506	2.3	40.0	253	1.323	8	P77	09D41L	1	6.8
19.0	405	5.7	125	203	3.042	10	P300	09D41-	1	12
19.0	405	5.7	125	203	3.042	10	P300	09D41L	1	12
21.0	405	1.3	27.0	203	1.316	10	P77	09D41-	1	6.7
21.0	405	1.3	27.0	203	1.316	10	P77	09D41L	1	6.8
21.0	405	2.8	60.0	203	1.660	10	P150	09D41-	1	8.1
21.0	405	2.8	60.0	203	1.660	10	P150	09D41L	1	8.2
24.0	338	2.9	110	169	1.799	12	P150	09D41L	2	9.1
24.0	338	2.9	110	169	1.799	12	P150	09D41-	2	9.0
25.0	270	5.2	250	135	3.272	15	P300	09D41-	2	14
25.0	270	5.2	250	135	3.272	15	P300	09D41L	2	14
26.0	338	1.6	68.0	169	1.349	12	P77	09D41-	2	7.2
26.0	338	1.6	68.0	169	1.349	12	P77	09D41L	2	7.3
31.0	270	2.5	110	135	1.730	15	P150	09D41-	2	9.0
31.0	270	2.5	110	135	1.730	15	P150	09D41L	2	9.1
31.0	253	3.5	150	127	1.782	16	P150	09D41-	2	9.0
31.0	253	3.5	150	127	1.782	16	P150	09D41L	2	9.1
31.0	203	5.8	300	101	3.255	20	P300	09D41-	2	14
31.0	203	5.8	300	101	3.255	20	P300	09D41L	2	14
32.0	270	1.3	68.0	135	1.331	15	P77	09D41-	2	7.2
32.0	270	1.3	68.0	135	1.331	15	P77	09D41L	2	7.3
35.0	253	1.6	77.0	127	1.344	16	P77	09D41-	2	7.2
35.0	253	1.6	77.0	127	1.344	16	P77	09D41L	2	7.3
40.0	203	3.0	150	101	1.719	20	P150	09D41-	2	9.0
40.0	203	3.0	150	101	1.719	20	P150	09D41L	2	9.1
43.0	203	1.3	77.0	101	1.328	20	P77	09D41-	2	7.2
43.0	203	1.3	77.0	101	1.328	20	P77	09D41L	2	7.3
43.0	162	4.8	260	81.0	3.234	25	P300	09D41L	2	14
43.0	162	4.8	260	81.0	3.234	25	P300	09D41-	2	14
52.0	162	2.5	140	81.0	1.716	25	P150	09D41-	2	9.0
52.0	162	2.5	140	81.0	1.716	25	P150	09D41L	2	9.1
53.0	162	1.1	65.0	81.0	1.326	25	P77	09D41-	2	7.2
53.0	162	1.1	65.0	81.0	1.326	25	P77	09D41L	2	7.3
58.0	127	4.2	300	63.0	3.067	32	P300	09D41-	2	14
58.0	127	4.2	300	63.0	3.067	32	P300	09D41L	2	14
68.0	127	2.2	150	63.0	1.660	32	P150	09D41-	2	9.0
68.0	127	2.2	150	63.0	1.660	32	P150	09D41L	2	9.1
80.0	101	3.0	260	51.0	3.063	40	P300	09D41-	2	14



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
80.0	101	3.0	260	51.0	3.063	40	P300	09D41L	2	14
86.0	101	1.6	140	51.0	1.659	40	P150	09D41-	2	9.0
86.0	101	1.6	140	51.0	1.659	40	P150	09D41L	2	9.1
130	63.3	1.2	150	32.0	3.059	64	P300	09D41-	2	14
130	63.3	1.2	150	32.0	3.059	64	P300	09D41L	2	14



1.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.6	2000	4.6	45.0	755	1.465	3	P77	09D60-	1	6.7
4.6	2000	4.6	45.0	755	1.465	3	P77	09D60L	1	6.8
6.2	1500	4.5	60.0	650	1.382	4	P77	09D60-	1	6.7
6.2	1500	4.5	60.0	650	1.382	4	P77	09D60L	1	6.8
8.0	1200	3.8	65.0	584	1.352	5	P77	09D60-	1	6.7
8.0	1200	3.8	65.0	584	1.352	5	P77	09D60L	1	6.8
12.0	857	2.9	45.0	429	1.328	7	P77	09D60-	1	6.7
12.0	857	2.9	45.0	429	1.328	7	P77	09D60L	1	6.8
12.0	750	5.8	80.0	375	1.682	8	P150	09D60-	1	8.1
12.0	750	5.8	80.0	375	1.682	8	P150	09D60L	1	8.2
13.0	750	2.6	40.0	375	1.323	8	P77	09D60-	1	6.7
13.0	750	2.6	40.0	375	1.323	8	P77	09D60L	1	6.8
15.0	650	3.9	100	325	5.028	3	P150	12D20L	1	10
15.0	650	3.9	100	325	5.028	3	P150	12D20-	1	10
16.0	650	2.1	45.0	325	4.527	3	P77	12D20-	1	8.9
16.0	650	2.1	45.0	325	4.527	3	P77	12D20L	1	9.0
16.0	600	3.5	60.0	300	1.660	10	P150	09D60-	1	8.1
16.0	600	3.5	60.0	300	1.660	10	P150	09D60L	1	8.2
17.0	600	1.6	27.0	300	1.316	10	P77	09D60-	1	6.7
17.0	600	1.6	27.0	300	1.316	10	P77	09D60L	1	6.8
18.0	500	3.3	110	250	1.799	12	P150	09D60-	2	9.0
18.0	500	3.3	110	250	1.799	12	P150	09D60L	2	9.1
18.0	400	5.9	250	200	3.272	15	P300	09D60-	2	14
18.0	400	5.9	250	200	3.272	15	P300	09D60L	2	14
19.0	488	4.7	140	244	4.767	4	P150	12D20-	1	10
19.0	488	4.7	140	244	4.767	4	P150	12D20L	1	10
20.0	500	1.8	68.0	250	1.349	12	P77	09D60-	2	7.2
20.0	500	1.8	68.0	250	1.349	12	P77	09D60L	2	7.3
21.0	488	2.1	60.0	244	4.444	4	P77	12D20-	1	8.9
21.0	488	2.1	60.0	244	4.444	4	P77	12D20L	1	9.0
23.0	375	4.0	150	188	1.782	16	P150	09D60L	2	9.1
23.0	375	4.0	150	188	1.782	16	P150	09D60-	2	9.0
24.0	400	2.8	110	200	1.730	15	P150	09D60-	2	9.0
24.0	400	2.8	110	200	1.730	15	P150	09D60L	2	9.1
24.0	390	4.0	140	195	4.674	5	P150	12D20-	1	10
24.0	390	4.0	140	195	4.674	5	P150	12D20L	1	10
25.0	400	1.5	68.0	200	1.331	15	P77	09D60L	2	7.3
25.0	400	1.5	68.0	200	1.331	15	P77	09D60-	2	7.2
26.0	390	1.7	65.0	195	4.414	5	P77	12D20-	1	8.9
26.0	390	1.7	65.0	195	4.414	5	P77	12D20L	1	9.0
27.0	375	1.8	77.0	188	1.344	16	P77	09D60-	2	7.2
27.0	375	1.8	77.0	188	1.344	16	P77	09D60L	2	7.3
30.0	300	3.4	150	150	1.719	20	P150	09D60-	2	9.0
30.0	300	3.4	150	150	1.719	20	P150	09D60L	2	9.1
31.0	240	5.5	260	120	3.234	25	P300	09D60-	2	14
31.0	240	5.5	260	120	3.234	25	P300	09D60L	2	14
33.0	279	4.8	180	139	6.037	7	P300	12D20-	1	14
33.0	279	4.8	180	139	6.037	7	P300	12D20L	1	14
34.0	300	1.5	77.0	150	1.328	20	P77	09D60-	2	7.2
34.0	300	1.5	77.0	150	1.328	20	P77	09D60L	2	7.3
36.0	279	2.4	90.0	139	4.599	7	P150	12D20-	1	10



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
36.0	279	2.4	90.0	139	4.599	7	P150	12D20L	1	10
37.0	279	1.2	45.0	139	4.390	7	P77	12D20-	1	8.9
37.0	279	1.2	45.0	139	4.390	7	P77	12D20L	1	9.0
40.0	244	3.6	150	122	5.982	8	P300	12D20-	1	14
40.0	244	3.6	150	122	5.982	8	P300	12D20L	1	14
40.0	240	2.9	140	120	1.716	25	P150	09D60-	2	9.0
40.0	240	2.9	140	120	1.716	25	P150	09D60L	2	9.1
41.0	240	1.3	65.0	120	1.326	25	P77	09D60-	2	7.2
41.0	240	1.3	65.0	120	1.326	25	P77	09D60L	2	7.3
42.0	244	1.9	80.0	122	4.582	8	P150	12D20-	1	10
42.0	244	1.9	80.0	122	4.582	8	P150	12D20L	1	10
43.0	188	4.8	300	94.0	3.067	32	P300	09D60-	2	14
43.0	188	4.8	300	94.0	3.067	32	P300	09D60L	2	14
44.0	195	5.8	305	98.0	11.008	10	P1000	12D20L	1	23
44.0	195	5.8	305	98.0	11.008	10	P1000	12D20-	1	23
52.0	195	1.2	60.0	98.0	4.560	10	P150	12D20L	1	10
52.0	195	1.2	60.0	98.0	4.560	10	P150	12D20-	1	10
52.0	195	2.4	125	98.0	5.942	10	P300	12D20-	1	14
52.0	195	2.4	125	98.0	5.942	10	P300	12D20L	1	14
52.0	188	2.5	150	94.0	1.660	32	P150	09D60-	2	9.0
52.0	188	2.5	150	94.0	1.660	32	P150	09D60L	2	9.1
53.0	188	1.1	77.0	94.0	1.313	32	P77	09D60-	2	7.2
53.0	188	1.1	77.0	94.0	1.313	32	P77	09D60L	2	7.3
57.0	163	3.2	250	81.0	6.373	12	P300	12D20L	2	17
57.0	163	3.2	250	81.0	6.373	12	P300	12D20-	2	17
58.0	150	3.9	260	75.0	3.063	40	P300	09D60-	2	14
58.0	150	3.9	260	75.0	3.063	40	P300	09D60L	2	14
62.0	163	1.5	110	81.0	4.699	12	P150	12D20-	2	11
62.0	163	1.5	110	81.0	4.699	12	P150	12D20L	2	11
67.0	150	2.1	140	75.0	1.659	40	P150	09D60-	2	9.0
67.0	150	2.1	140	75.0	1.659	40	P150	09D60L	2	9.1
73.0	122	3.5	300	61.0	6.330	16	P300	12D20-	2	17
73.0	122	3.5	300	61.0	6.330	16	P300	12D20L	2	17
74.0	130	2.7	250	65.0	6.172	15	P300	12D20-	2	17
74.0	130	2.7	250	65.0	6.172	15	P300	12D20L	2	17
78.0	130	1.3	110	65.0	4.630	15	P150	12D20L	2	11
78.0	130	1.3	110	65.0	4.630	15	P150	12D20-	2	11
83.0	122	1.8	150	61.0	4.682	16	P150	12D20-	2	11
83.0	122	1.8	150	61.0	4.682	16	P150	12D20L	2	11
97.0	97.5	2.9	300	49.0	6.155	20	P300	12D20-	2	17
97.0	97.5	2.9	300	49.0	6.155	20	P300	12D20L	2	17
101	93.8	1.5	150	47.0	3.059	64	P300	09D60-	2	14
101	93.8	1.5	150	47.0	3.059	64	P300	09D60L	2	14
103	97.5	1.4	150	49.0	4.619	20	P150	12D20-	2	11
103	97.5	1.4	150	49.0	4.619	20	P150	12D20L	2	11
116	60.9	6.0	1000	30.0	11.087	32	P1000	12D20-	2	28
116	60.9	6.0	1000	30.0	11.087	32	P1000	12D20L	2	28
129	78.0	1.1	140	39.0	4.616	25	P150	12D20L	2	11
129	78.0	1.1	140	39.0	4.616	25	P150	12D20-	2	11
129	78.0	2.0	260	39.0	6.134	25	P300	12D20-	2	17
129	78.0	2.0	260	39.0	6.134	25	P300	12D20L	2	17
165	60.9	1.8	300	30.0	5.967	32	P300	12D20-	2	17



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
165	60.9	1.8	300	30.0	5.967	32	P300	12D20L	2	17
171	48.8	4.4	900	24.0	11.058	40	P1000	12D20-	2	28
171	48.8	4.4	900	24.0	11.058	40	P1000	12D20L	2	28
205	48.8	1.3	260	24.0	5.963	40	P300	12D20-	2	17
205	48.8	1.3	260	24.0	5.963	40	P300	12D20L	2	17
313	30.5	1.4	450	15.0	11.035	64	P1000	12D20-	2	28
313	30.5	1.4	450	15.0	11.035	64	P1000	12D20L	2	28



1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.5	1250	5.7	100	625	2.528	3	P150	09F38-	1	9.0
7.5	1250	5.7	100	625	2.528	3	P150	09F38L	1	9.1
8.5	1250	3.1	45.0	625	1.865	3	P77	09F38-	1	7.6
8.5	1250	3.1	45.0	625	1.865	3	P77	09F38L	1	7.7
11.0	938	3.0	60.0	469	1.782	4	P77	09F38L	1	7.7
11.0	938	3.0	60.0	469	1.782	4	P77	09F38-	1	7.6
13.0	750	5.8	140	375	2.174	5	P150	09F38L	1	9.1
13.0	750	5.8	140	375	2.174	5	P150	09F38-	1	9.0
15.0	750	2.5	65.0	375	1.752	5	P77	09F38-	1	7.6
15.0	750	2.5	65.0	375	1.752	5	P77	09F38L	1	7.7
19.0	536	4.3	90.0	268	2.099	7	P150	09F38-	1	9.0
19.0	536	4.3	90.0	268	2.099	7	P150	09F38L	1	9.1
21.0	536	2.0	45.0	268	1.728	7	P77	09F38-	1	7.6
21.0	536	2.0	45.0	268	1.728	7	P77	09F38L	1	7.7
22.0	469	3.4	80.0	234	2.082	8	P150	09F38-	1	9.0
22.0	469	3.4	80.0	234	2.082	8	P150	09F38L	1	9.1
24.0	469	1.7	40.0	234	1.723	8	P77	09F38-	1	7.6
24.0	469	1.7	40.0	234	1.723	8	P77	09F38L	1	7.7
27.0	375	4.2	125	188	3.442	10	P300	09F38-	1	13
27.0	375	4.2	125	188	3.442	10	P300	09F38L	1	13
28.0	313	4.6	250	156	3.873	12	P300	09F38-	2	15
28.0	313	4.6	250	156	3.873	12	P300	09F38L	2	15
29.0	375	2.0	60.0	188	2.060	10	P150	09F38-	1	9.0
29.0	375	2.0	60.0	188	2.060	10	P150	09F38L	1	9.1
34.0	313	2.2	110	156	2.199	12	P150	09F38-	2	9.9
34.0	313	2.2	110	156	2.199	12	P150	09F38L	2	10
35.0	313	1.2	68.0	156	1.749	12	P77	09F38L	2	8.2
35.0	313	1.2	68.0	156	1.749	12	P77	09F38-	2	8.1
36.0	234	5.1	300	117	3.830	16	P300	09F38-	2	15
36.0	234	5.1	300	117	3.830	16	P300	09F38L	2	15
37.0	250	3.9	250	125	3.672	15	P300	09F38L	2	15
37.0	250	3.9	250	125	3.672	15	P300	09F38-	2	15
44.0	250	1.0	68.0	125	1.731	15	P77	09F38-	2	8.1
44.0	250	1.0	68.0	125	1.731	15	P77	09F38L	2	8.2
44.0	250	1.9	110	125	2.130	15	P150	09F38-	2	9.9
44.0	250	1.9	110	125	2.130	15	P150	09F38L	2	10
44.0	234	2.7	150	117	2.182	16	P150	09F38-	2	9.9
44.0	234	2.7	150	117	2.182	16	P150	09F38L	2	10
47.0	234	1.2	77.0	117	1.744	16	P77	09F38-	2	8.1
47.0	234	1.2	77.0	117	1.744	16	P77	09F38L	2	8.2
48.0	188	4.4	300	94.0	3.655	20	P300	09F38-	2	15
48.0	188	4.4	300	94.0	3.655	20	P300	09F38L	2	15
57.0	188	2.3	150	94.0	2.119	20	P150	09F38L	2	10
57.0	188	2.3	150	94.0	2.119	20	P150	09F38-	2	9.9
58.0	188	1.0	77.0	94.0	1.728	20	P77	09F38-	2	8.1
58.0	188	1.0	77.0	94.0	1.728	20	P77	09F38L	2	8.2
64.0	150	3.6	260	75.0	3.634	25	P300	09F38-	2	15
64.0	150	3.6	260	75.0	3.634	25	P300	09F38L	2	15
73.0	150	1.9	140	75.0	2.116	25	P150	09F38-	2	9.9
73.0	150	1.9	140	75.0	2.116	25	P150	09F38L	2	10
85.0	117	3.2	300	59.0	3.467	32	P300	09F38-	2	15



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
85.0	117	3.2	300	59.0	3.467	32	P300	09F38L	2	15
93.0	117	1.6	150	59.0	2.060	32	P150	09F38-	2	9.9
93.0	117	1.6	150	59.0	2.060	32	P150	09F38L	2	10
114	93.8	2.3	260	47.0	3.463	40	P300	09F38-	2	15
114	93.8	2.3	260	47.0	3.463	40	P300	09F38L	2	15
115	93.8	1.2	140	47.0	2.059	40	P150	09F38L	2	10
115	93.8	1.2	140	47.0	2.059	40	P150	09F38-	2	9.9

1.45 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
23.0	500	5.2	230	250	11.356	3	P300	14D15-	1	36
26.0	500	2.5	100	250	9.579	3	P150	14D15-	1	33
30.0	375	5.8	300	188	10.590	4	P300	14D15-	1	36
34.0	375	3.1	140	188	9.319	4	P150	14D15-	1	33
39.0	300	4.9	260	150	10.334	5	P300	14D15-	1	36
43.0	300	2.6	140	150	9.225	5	P150	14D15-	1	33
60.0	214	2.9	180	107	10.137	7	P300	14D15-	1	36
62.0	214	1.5	90.0	107	9.150	7	P150	14D15-	1	33
70.0	188	2.1	150	94.0	10.082	8	P300	14D15-	1	36
71.0	188	1.1	80.0	94.0	9.133	8	P150	14D15-	1	33
75.0	125	5.7	780	63.0	17.913	12	P1000	14D15-	2	50
83.0	150	3.5	305	75.0	15.108	10	P1000	14D15-	1	45
88.0	150	1.4	125	75.0	10.042	10	P300	14D15-	1	36
102	100	4.9	780	50.0	16.182	15	P1000	14D15-	2	50
103	125	2.0	250	63.0	10.473	12	P300	14D15-	2	39
125	75.0	5.7	1000	38.0	16.001	20	P1000	14D15-	2	50
130	100	1.7	250	50.0	10.272	15	P300	14D15-	2	39
137	93.8	2.2	300	47.0	10.430	16	P300	14D15-	2	39
138	93.8	1.1	150	47.0	9.234	16	P150	14D15-	2	34
173	75.0	1.7	300	38.0	10.255	20	P300	14D15-	2	39
182	60.0	4.1	900	30.0	15.928	25	P1000	14D15-	2	50
216	60.0	1.2	260	30.0	10.234	25	P300	14D15-	2	39
244	46.9	3.6	1000	23.0	15.187	32	P1000	14D15-	2	50
263	37.5	5.2	1800	19.0	32.545	40	P1800	14D15-	2	74
277	46.9	1.1	300	23.0	10.067	32	P300	14D15-	2	39
330	37.5	2.6	900	19.0	15.158	40	P1000	14D15-	2	50
530	23.4	1.9	1000	12.0	32.426	64	P1800	14D15-	2	74



1.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.5	2000	3.4	45.0	719	1.865	3	P77	09F60-	1	7.6
6.5	2000	3.4	45.0	719	1.865	3	P77	09F60L	1	7.7
8.7	1500	3.4	60.0	616	1.782	4	P77	09F60-	1	7.6
8.7	1500	3.4	60.0	616	1.782	4	P77	09F60L	1	7.7
11.0	1200	2.8	65.0	548	1.752	5	P77	09F60-	1	7.6
11.0	1200	2.8	65.0	548	1.752	5	P77	09F60L	1	7.7
14.0	857	5.0	90.0	429	2.099	7	P150	09F60-	1	9.0
14.0	857	5.0	90.0	429	2.099	7	P150	09F60L	1	9.1
16.0	857	2.2	45.0	429	1.728	7	P77	09F60-	1	7.6
16.0	857	2.2	45.0	429	1.728	7	P77	09F60L	1	7.7
17.0	750	4.3	80.0	375	2.082	8	P150	09F60-	1	9.0
17.0	750	4.3	80.0	375	2.082	8	P150	09F60L	1	9.1
18.0	750	2.0	40.0	375	1.723	8	P77	09F60-	1	7.6
18.0	750	2.0	40.0	375	1.723	8	P77	09F60L	1	7.7
20.0	600	5.4	125	300	3.442	10	P300	09F60-	1	13
20.0	600	5.4	125	300	3.442	10	P300	09F60L	1	13
21.0	500	5.2	250	239	3.873	12	P300	09F60-	2	15
21.0	500	5.2	250	239	3.873	12	P300	09F60L	2	15
22.0	600	1.2	27.0	300	1.716	10	P77	09F60L	1	7.7
22.0	600	1.2	27.0	300	1.716	10	P77	09F60-	1	7.6
22.0	600	2.6	60.0	300	2.060	10	P150	09F60-	1	9.0
22.0	600	2.6	60.0	300	2.060	10	P150	09F60L	1	9.1
26.0	500	2.5	110	250	2.199	12	P150	09F60-	2	9.9
26.0	500	2.5	110	250	2.199	12	P150	09F60L	2	10
26.0	375	5.7	300	188	3.830	16	P300	09F60L	2	15
26.0	375	5.7	300	188	3.830	16	P300	09F60-	2	15
27.0	500	1.3	68.0	250	1.749	12	P77	09F60-	2	8.1
27.0	500	1.3	68.0	250	1.749	12	P77	09F60L	2	8.2
28.0	400	4.4	250	200	3.672	15	P300	09F60-	2	15
28.0	400	4.4	250	200	3.672	15	P300	09F60L	2	15
33.0	375	3.0	150	188	2.182	16	P150	09F60-	2	9.9
33.0	375	3.0	150	188	2.182	16	P150	09F60L	2	10
34.0	400	1.1	68.0	200	1.731	15	P77	09F60-	2	8.1
34.0	400	1.1	68.0	200	1.731	15	P77	09F60L	2	8.2
34.0	400	2.1	110	200	2.130	15	P150	09F60-	2	9.9
34.0	400	2.1	110	200	2.130	15	P150	09F60L	2	10
35.0	300	4.9	300	150	3.655	20	P300	09F60-	2	15
35.0	300	4.9	300	150	3.655	20	P300	09F60L	2	15
36.0	375	1.3	77.0	188	1.744	16	P77	09F60L	2	8.2
36.0	375	1.3	77.0	188	1.744	16	P77	09F60-	2	8.1
43.0	300	2.6	150	150	2.119	20	P150	09F60-	2	9.9
43.0	300	2.6	150	150	2.119	20	P150	09F60L	2	10
45.0	300	1.1	77.0	150	1.728	20	P77	09F60L	2	8.2
45.0	300	1.1	77.0	150	1.728	20	P77	09F60-	2	8.1
47.0	240	4.1	260	120	3.634	25	P300	09F60-	2	15
47.0	240	4.1	260	120	3.634	25	P300	09F60L	2	15
56.0	240	2.2	140	120	2.116	25	P150	09F60L	2	10
56.0	240	2.2	140	120	2.116	25	P150	09F60-	2	9.9
64.0	188	3.6	300	94.0	3.467	32	P300	09F60-	2	15
64.0	188	3.6	300	94.0	3.467	32	P300	09F60L	2	15
72.0	188	1.9	150	94.0	2.060	32	P150	09F60-	2	9.9



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
72.0	188	1.9	150	94.0	2.060	32	P150	09F60L	2	10
84.0	150	2.9	260	75.0	3.463	40	P300	09F60L	2	15
84.0	150	2.9	260	75.0	3.463	40	P300	09F60-	2	15
89.0	150	1.6	140	75.0	2.059	40	P150	09F60-	2	9.9
89.0	150	1.6	140	75.0	2.059	40	P150	09F60L	2	10
135	93.8	1.1	150	47.0	3.459	64	P300	09F60-	2	15
135	93.8	1.1	150	47.0	3.459	64	P300	09F60L	2	15



1.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
9.8	1350	4.6	100	675	2.928	3	P150	09H41-	1	9.9
9.8	1350	4.6	100	675	2.928	3	P150	09H41L	1	10
11.0	1350	2.4	45.0	675	2.265	3	P77	09H41L	1	8.6
11.0	1350	2.4	45.0	675	2.265	3	P77	09H41-	1	8.5
12.0	1013	5.5	140	506	2.667	4	P150	09H41-	1	9.9
12.0	1013	5.5	140	506	2.667	4	P150	09H41L	1	10
14.0	1013	2.4	60.0	506	2.182	4	P77	09H41-	1	8.5
14.0	1013	2.4	60.0	506	2.182	4	P77	09H41L	1	8.6
16.0	810	4.6	140	405	2.574	5	P150	09H41-	1	9.9
16.0	810	4.6	140	405	2.574	5	P150	09H41L	1	10
18.0	810	2.0	65.0	405	2.152	5	P77	09H41-	1	8.5
18.0	810	2.0	65.0	405	2.152	5	P77	09H41L	1	8.6
24.0	579	3.5	90.0	289	2.499	7	P150	09H41-	1	9.9
24.0	579	3.5	90.0	289	2.499	7	P150	09H41L	1	10
25.0	579	1.6	45.0	289	2.128	7	P77	09H41L	1	8.6
25.0	579	1.6	45.0	289	2.128	7	P77	09H41-	1	8.5
25.0	506	5.1	150	253	3.882	8	P300	09H41-	1	14
25.0	506	5.1	150	253	3.882	8	P300	09H41L	1	14
25.0	500	4.8	230	250	10.556	3	P300	12H15L	1	17
25.0	500	4.8	230	250	10.556	3	P300	12H15-	1	17
28.0	506	2.7	80.0	253	2.482	8	P150	09H41-	1	9.9
28.0	506	2.7	80.0	253	2.482	8	P150	09H41L	1	10
28.0	500	2.3	100	250	8.328	3	P150	12H15-	1	13
28.0	500	2.3	100	250	8.328	3	P150	12H15L	1	14
29.0	506	1.4	40.0	253	2.123	8	P77	09H41-	1	8.5
29.0	506	1.4	40.0	253	2.123	8	P77	09H41L	1	8.6
29.0	500	1.2	45.0	250	7.827	3	P77	12H15-	1	12
29.0	500	1.2	45.0	250	7.827	3	P77	12H15L	1	12
33.0	375	5.3	300	188	9.790	4	P300	12H15-	1	17
33.0	375	5.3	300	188	9.790	4	P300	12H15L	1	17
34.0	405	3.4	125	203	3.842	10	P300	09H41-	1	14
34.0	405	3.4	125	203	3.842	10	P300	09H41L	1	14
36.0	405	1.7	60.0	203	2.460	10	P150	09H41-	1	9.9
36.0	405	1.7	60.0	203	2.460	10	P150	09H41L	1	10
37.0	375	2.8	140	188	8.067	4	P150	12H15L	1	14
37.0	375	2.8	140	188	8.067	4	P150	12H15-	1	13
38.0	375	1.2	60.0	188	7.744	4	P77	12H15-	1	12
38.0	375	1.2	60.0	188	7.744	4	P77	12H15L	1	12
38.0	338	3.7	250	169	4.273	12	P300	09H41-	2	16
38.0	338	3.7	250	169	4.273	12	P300	09H41L	2	16
43.0	338	1.8	110	169	2.599	12	P150	09H41-	2	11
43.0	338	1.8	110	169	2.599	12	P150	09H41L	2	11
43.0	300	4.5	260	150	9.534	5	P300	12H15-	1	17
43.0	300	4.5	260	150	9.534	5	P300	12H15L	1	17
47.0	300	2.4	140	150	7.974	5	P150	12H15-	1	13
47.0	300	2.4	140	150	7.974	5	P150	12H15L	1	14
48.0	300	1.0	65.0	150	7.714	5	P77	12H15L	1	12
48.0	300	1.0	65.0	150	7.714	5	P77	12H15-	1	12
48.0	253	4.1	300	127	4.230	16	P300	09H41-	2	16
48.0	253	4.1	300	127	4.230	16	P300	09H41L	2	16
49.0	270	3.1	250	135	4.072	15	P300	09H41-	2	16

Technical data

Planetary gearbox g840-P
Selection tables
Inverter power supply 400 V, self-ventilated motors



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
49.0	270	3.1	250	135	4.072	15	P300	09H41L	2	16
54.0	270	1.5	110	135	2.530	15	P150	09H41-	2	11
54.0	270	1.5	110	135	2.530	15	P150	09H41L	2	11
57.0	253	2.1	150	127	2.582	16	P150	09H41-	2	11
57.0	253	2.1	150	127	2.582	16	P150	09H41L	2	11
64.0	203	3.5	300	101	4.055	20	P300	09H41-	2	16
64.0	203	3.5	300	101	4.055	20	P300	09H41L	2	16
65.0	214	2.7	180	107	9.337	7	P300	12H15-	1	17
65.0	214	2.7	180	107	9.337	7	P300	12H15L	1	17
65.0	188	5.8	450	94.0	14.637	8	P1000	12H15L	1	26
65.0	188	5.8	450	94.0	14.637	8	P1000	12H15-	1	26
67.0	214	1.3	90.0	107	7.899	7	P150	12H15L	1	14
67.0	214	1.3	90.0	107	7.899	7	P150	12H15-	1	13
71.0	203	1.8	150	101	2.519	20	P150	09H41-	2	11
71.0	203	1.8	150	101	2.519	20	P150	09H41L	2	11
77.0	188	1.0	80.0	94.0	7.882	8	P150	12H15-	1	13
77.0	188	1.0	80.0	94.0	7.882	8	P150	12H15L	1	14
77.0	188	2.0	150	94.0	9.282	8	P300	12H15-	1	17
77.0	188	2.0	150	94.0	9.282	8	P300	12H15L	1	17
83.0	162	2.9	260	81.0	4.034	25	P300	09H41-	2	16
83.0	162	2.9	260	81.0	4.034	25	P300	09H41L	2	16
85.0	125	5.3	780	63.0	17.113	12	P1000	12H15-	2	31
85.0	125	5.3	780	63.0	17.113	12	P1000	12H15L	2	31
89.0	162	1.5	140	81.0	2.516	25	P150	09H41-	2	11
89.0	162	1.5	140	81.0	2.516	25	P150	09H41L	2	11
91.0	150	3.2	305	75.0	14.308	10	P1000	12H15-	1	26
91.0	150	3.2	305	75.0	14.308	10	P1000	12H15L	1	26
96.0	150	1.3	125	75.0	9.242	10	P300	12H15-	1	17
96.0	150	1.3	125	75.0	9.242	10	P300	12H15L	1	17
110	127	2.5	300	63.0	3.867	32	P300	09H41-	2	16
110	127	2.5	300	63.0	3.867	32	P300	09H41L	2	16
113	125	1.9	250	63.0	9.673	12	P300	12H15L	2	20
113	125	1.9	250	63.0	9.673	12	P300	12H15-	2	20
114	127	1.3	150	63.0	2.460	32	P150	09H41-	2	11
114	127	1.3	150	63.0	2.460	32	P150	09H41L	2	11
115	100	4.5	780	50.0	15.382	15	P1000	12H15-	2	31
115	100	4.5	780	50.0	15.382	15	P1000	12H15L	2	31
141	101	1.8	260	51.0	3.863	40	P300	09H41L	2	16
141	101	1.8	260	51.0	3.863	40	P300	09H41-	2	16
141	100	1.6	250	50.0	9.472	15	P300	12H15L	2	20
141	100	1.6	250	50.0	9.472	15	P300	12H15-	2	20
142	75.0	5.3	1000	38.0	15.201	20	P1000	12H15L	2	31
142	75.0	5.3	1000	38.0	15.201	20	P1000	12H15-	2	31
150	93.8	2.0	300	47.0	9.630	16	P300	12H15L	2	20
150	93.8	2.0	300	47.0	9.630	16	P300	12H15-	2	20
188	75.0	1.6	300	38.0	9.455	20	P300	12H15-	2	20
188	75.0	1.6	300	38.0	9.455	20	P300	12H15L	2	20
204	60.0	3.8	900	30.0	15.128	25	P1000	12H15L	2	31
204	60.0	3.8	900	30.0	15.128	25	P1000	12H15-	2	31
235	60.0	1.1	260	30.0	9.434	25	P300	12H15L	2	20
235	60.0	1.1	260	30.0	9.434	25	P300	12H15-	2	20
272	46.9	3.3	1000	23.0	14.387	32	P1000	12H15-	2	31



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
272	46.9	3.3	1000	23.0	14.387	32	P1000	12H15L	2	31
365	37.5	2.4	900	19.0	14.358	40	P1000	12H15-	2	31
365	37.5	2.4	900	19.0	14.358	40	P1000	12H15L	2	31



1.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
11.0	1350	4.0	100	675	5.028	3	P150	12D41-	1	10
11.0	1350	4.0	100	675	5.028	3	P150	12D41L	1	10
12.0	1350	2.2	45.0	662	4.527	3	P77	12D41L	1	9.0
12.0	1350	2.2	45.0	662	4.527	3	P77	12D41-	1	8.9
15.0	1013	4.9	140	506	4.767	4	P150	12D41L	1	10
15.0	1013	4.9	140	506	4.767	4	P150	12D41-	1	10
16.0	1013	2.1	60.0	506	4.444	4	P77	12D41L	1	9.0
16.0	1013	2.1	60.0	506	4.444	4	P77	12D41-	1	8.9
19.0	810	4.1	140	405	4.674	5	P150	12D41-	1	10
19.0	810	4.1	140	405	4.674	5	P150	12D41L	1	10
21.0	810	1.8	65.0	405	4.414	5	P77	12D41-	1	8.9
21.0	810	1.8	65.0	405	4.414	5	P77	12D41L	1	9.0
24.0	579	5.9	180	289	6.037	7	P300	12D41-	1	14
24.0	579	5.9	180	289	6.037	7	P300	12D41L	1	14
28.0	579	3.1	90.0	289	4.599	7	P150	12D41-	1	10
28.0	579	3.1	90.0	289	4.599	7	P150	12D41L	1	10
29.0	579	1.4	45.0	289	4.390	7	P77	12D41-	1	8.9
29.0	579	1.4	45.0	289	4.390	7	P77	12D41L	1	9.0
30.0	506	4.5	150	253	5.982	8	P300	12D41-	1	14
30.0	506	4.5	150	253	5.982	8	P300	12D41L	1	14
32.0	506	2.4	80.0	253	4.582	8	P150	12D41-	1	10
32.0	506	2.4	80.0	253	4.582	8	P150	12D41L	1	10
33.0	506	1.2	40.0	253	4.385	8	P77	12D41L	1	9.0
33.0	506	1.2	40.0	253	4.385	8	P77	12D41-	1	8.9
40.0	405	3.0	125	203	5.942	10	P300	12D41-	1	14
40.0	405	3.0	125	203	5.942	10	P300	12D41L	1	14
41.0	405	1.5	60.0	203	4.560	10	P150	12D41-	1	10
41.0	405	1.5	60.0	203	4.560	10	P150	12D41L	1	10
44.0	338	3.2	250	169	6.373	12	P300	12D41-	2	17
44.0	338	3.2	250	169	6.373	12	P300	12D41L	2	17
49.0	338	1.6	110	169	4.699	12	P150	12D41-	2	11
49.0	338	1.6	110	169	4.699	12	P150	12D41L	2	11
57.0	270	2.8	250	135	6.172	15	P300	12D41-	2	17
57.0	270	2.8	250	135	6.172	15	P300	12D41L	2	17
57.0	253	3.6	300	127	6.330	16	P300	12D41-	2	17
57.0	253	3.6	300	127	6.330	16	P300	12D41L	2	17
61.0	270	1.3	110	135	4.630	15	P150	12D41-	2	11
61.0	270	1.3	110	135	4.630	15	P150	12D41L	2	11
65.0	253	1.9	150	127	4.682	16	P150	12D41-	2	11
65.0	253	1.9	150	127	4.682	16	P150	12D41L	2	11
74.0	203	3.1	300	101	6.155	20	P300	12D41-	2	17
74.0	203	3.1	300	101	6.155	20	P300	12D41L	2	17
81.0	203	1.6	150	101	4.619	20	P150	12D41L	2	11
81.0	203	1.6	150	101	4.619	20	P150	12D41-	2	11
97.0	162	2.6	260	81.0	6.134	25	P300	12D41-	2	17
97.0	162	2.6	260	81.0	6.134	25	P300	12D41L	2	17
101	162	1.4	140	81.0	4.616	25	P150	12D41-	2	11
101	162	1.4	140	81.0	4.616	25	P150	12D41L	2	11
119	101	5.6	900	51.0	11.058	40	P1000	12D41L	2	28
119	101	5.6	900	51.0	11.058	40	P1000	12D41-	2	28
127	127	2.2	300	63.0	5.967	32	P300	12D41-	2	17



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
127	127	2.2	300	63.0	5.967	32	P300	12D41L	2	17
129	127	1.2	150	63.0	4.560	32	P150	12D41-	2	11
129	127	1.2	150	63.0	4.560	32	P150	12D41L	2	11
160	101	1.6	260	51.0	5.963	40	P300	12D41-	2	17
160	101	1.6	260	51.0	5.963	40	P300	12D41L	2	17
245	63.3	1.8	450	32.0	11.035	64	P1000	12D41-	2	28
245	63.3	1.8	450	32.0	11.035	64	P1000	12D41L	2	28



1.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.5	2000	5.1	100	754	2.928	3	P150	09H60-	1	9.9
7.5	2000	5.1	100	754	2.928	3	P150	09H60L	1	10
8.4	2000	2.7	45.0	692	2.265	3	P77	09H60-	1	8.5
8.4	2000	2.7	45.0	692	2.265	3	P77	09H60L	1	8.6
9.3	1700	4.5	100	734	3.828	3	P150	09L51-	1	12
10.0	1700	2.4	45.0	675	3.165	3	P77	09L51-	1	10
11.0	1500	2.7	60.0	590	2.182	4	P77	09H60-	1	8.5
11.0	1500	2.7	60.0	590	2.182	4	P77	09H60L	1	8.6
12.0	1350	3.9	100	675	3.828	3	P150	09L41-	1	12
12.0	1350	3.9	100	675	3.828	3	P150	09L41L	1	12
12.0	1275	5.4	140	638	3.567	4	P150	09L51-	1	12
12.0	1200	5.2	140	600	2.574	5	P150	09H60-	1	9.9
12.0	1200	5.2	140	600	2.574	5	P150	09H60L	1	10
13.0	1350	2.1	45.0	656	3.165	3	P77	09L41-	1	10
13.0	1350	2.1	45.0	656	3.165	3	P77	09L41L	1	10
14.0	1275	2.4	60.0	575	3.082	4	P77	09L51-	1	10
14.0	1200	2.3	65.0	521	2.152	5	P77	09H60-	1	8.5
14.0	1200	2.3	65.0	521	2.152	5	P77	09H60L	1	8.6
15.0	1020	4.5	140	510	3.474	5	P150	09L51-	1	12
15.0	1013	4.7	140	506	3.567	4	P150	09L41-	1	12
15.0	1013	4.7	140	506	3.567	4	P150	09L41L	1	12
17.0	1020	2.0	65.0	504	3.052	5	P77	09L51-	1	10
17.0	1013	2.0	60.0	506	3.082	4	P77	09L41-	1	10
17.0	1013	2.0	60.0	506	3.082	4	P77	09L41L	1	10
18.0	857	4.0	90.0	429	2.499	7	P150	09H60L	1	10
18.0	857	4.0	90.0	429	2.499	7	P150	09H60-	1	9.9
20.0	857	1.8	45.0	429	2.128	7	P77	09H60-	1	8.5
20.0	857	1.8	45.0	429	2.128	7	P77	09H60L	1	8.6
20.0	810	3.9	140	405	3.474	5	P150	09L41-	1	12
20.0	810	3.9	140	405	3.474	5	P150	09L41L	1	12
22.0	810	1.7	65.0	405	3.052	5	P77	09L41-	1	10
22.0	810	1.7	65.0	405	3.052	5	P77	09L41L	1	10
22.0	750	3.5	80.0	375	2.482	8	P150	09H60-	1	9.9
22.0	750	3.5	80.0	375	2.482	8	P150	09H60L	1	10
23.0	750	1.6	40.0	375	2.123	8	P77	09H60-	1	8.5
23.0	750	1.6	40.0	375	2.123	8	P77	09H60L	1	8.6
23.0	729	3.5	90.0	364	3.399	7	P150	09L51-	1	12
24.0	729	1.5	45.0	364	3.028	7	P77	09L51-	1	10
24.0	638	5.4	150	319	4.782	8	P300	09L51-	1	15
26.0	600	4.3	125	300	3.842	10	P300	09H60-	1	14
26.0	600	4.3	125	300	3.842	10	P300	09H60L	1	14
26.0	579	5.7	180	289	4.837	7	P300	09L41-	1	15
26.0	579	5.7	180	289	4.837	7	P300	09L41L	1	15
27.0	638	1.4	40.0	319	3.023	8	P77	09L51-	1	10
27.0	638	2.9	80.0	319	3.382	8	P150	09L51-	1	12
28.0	500	4.1	250	228	4.273	12	P300	09H60-	2	16
28.0	500	4.1	250	228	4.273	12	P300	09H60L	2	16
29.0	600	2.1	60.0	300	2.460	10	P150	09H60-	1	9.9
29.0	600	2.1	60.0	300	2.460	10	P150	09H60L	1	10
29.0	579	3.0	90.0	289	3.399	7	P150	09L41-	1	12
29.0	579	3.0	90.0	289	3.399	7	P150	09L41L	1	12



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
30.0	579	1.3	45.0	289	3.028	7	P77	09L41L	1	10
30.0	579	1.3	45.0	289	3.028	7	P77	09L41-	1	10
31.0	506	4.3	150	253	4.782	8	P300	09L41-	1	15
31.0	506	4.3	150	253	4.782	8	P300	09L41L	1	15
32.0	510	3.6	125	255	4.742	10	P300	09L51-	1	15
34.0	510	1.8	60.0	255	3.360	10	P150	09L51-	1	12
34.0	506	1.2	40.0	253	3.023	8	P77	09L41-	1	10
34.0	506	1.2	40.0	253	3.023	8	P77	09L41L	1	10
34.0	506	2.3	80.0	253	3.382	8	P150	09L41-	1	12
34.0	506	2.3	80.0	253	3.382	8	P150	09L41L	1	12
34.0	500	1.1	68.0	245	2.149	12	P77	09H60-	2	9.0
34.0	500	1.1	68.0	245	2.149	12	P77	09H60L	2	9.1
34.0	500	2.0	110	250	2.599	12	P150	09H60-	2	11
34.0	500	2.0	110	250	2.599	12	P150	09H60L	2	11
36.0	425	3.6	250	213	5.173	12	P300	09L51-	2	18
36.0	375	4.6	300	181	4.230	16	P300	09H60-	2	16
36.0	375	4.6	300	181	4.230	16	P300	09H60L	2	16
37.0	400	3.5	250	200	4.072	15	P300	09H60-	2	16
37.0	400	3.5	250	200	4.072	15	P300	09H60L	2	16
41.0	425	1.7	110	213	3.499	12	P150	09L51-	2	13
42.0	405	2.9	125	203	4.742	10	P300	09L41-	1	15
42.0	405	2.9	125	203	4.742	10	P300	09L41L	1	15
42.0	400	1.7	110	200	2.530	15	P150	09H60-	2	11
42.0	400	1.7	110	200	2.530	15	P150	09H60L	2	11
43.0	405	1.4	60.0	203	3.360	10	P150	09L41-	1	12
43.0	405	1.4	60.0	203	3.360	10	P150	09L41L	1	12
44.0	375	2.4	150	188	2.582	16	P150	09H60L	2	11
44.0	375	2.4	150	188	2.582	16	P150	09H60-	2	11
45.0	375	1.1	77.0	188	2.144	16	P77	09H60-	2	9.0
45.0	375	1.1	77.0	188	2.144	16	P77	09H60L	2	9.1
46.0	319	4.0	300	159	5.130	16	P300	09L51-	2	18
47.0	340	3.1	250	170	4.972	15	P300	09L51-	2	18
47.0	338	3.1	250	169	5.173	12	P300	09L41-	2	18
47.0	338	3.1	250	169	5.173	12	P300	09L41L	2	18
48.0	300	3.9	300	150	4.055	20	P300	09H60-	2	16
48.0	300	3.9	300	150	4.055	20	P300	09H60L	2	16
51.0	340	1.5	110	170	3.430	15	P150	09L51-	2	13
51.0	338	1.5	110	169	3.499	12	P150	09L41-	2	13
51.0	338	1.5	110	169	3.499	12	P150	09L41L	2	13
54.0	319	2.1	150	159	3.482	16	P150	09L51-	2	13
56.0	300	2.1	150	150	2.519	20	P150	09H60L	2	11
56.0	300	2.1	150	150	2.519	20	P150	09H60-	2	11
60.0	270	2.7	250	135	4.972	15	P300	09L41L	2	18
60.0	270	2.7	250	135	4.972	15	P300	09L41-	2	18
60.0	255	3.4	300	128	4.955	20	P300	09L51-	2	18
60.0	253	3.4	300	127	5.130	16	P300	09L41-	2	18
60.0	253	3.4	300	127	5.130	16	P300	09L41L	2	18
63.0	270	1.3	110	135	3.430	15	P150	09L41-	2	13
63.0	270	1.3	110	135	3.430	15	P150	09L41L	2	13
64.0	240	3.3	260	120	4.034	25	P300	09H60-	2	16
64.0	240	3.3	260	120	4.034	25	P300	09H60L	2	16
68.0	255	1.8	150	128	3.419	20	P150	09L51-	2	13

Technical data

Planetary gearbox g840-P
Selection tables
Inverter power supply 400 V, self-ventilated motors



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
68.0	253	1.8	150	127	3.482	16	P150	09L41-	2	13
68.0	253	1.8	150	127	3.482	16	P150	09L41L	2	13
71.0	240	1.7	140	120	2.516	25	P150	09H60-	2	11
71.0	240	1.7	140	120	2.516	25	P150	09H60L	2	11
79.0	204	2.9	260	102	4.934	25	P300	09L51-	2	18
79.0	203	2.9	300	101	4.955	20	P300	09L41-	2	18
79.0	203	2.9	300	101	4.955	20	P300	09L41L	2	18
85.0	204	1.5	140	102	3.416	25	P150	09L51-	2	13
85.0	203	1.5	150	101	3.419	20	P150	09L41-	2	13
85.0	203	1.5	150	101	3.419	20	P150	09L41L	2	13
85.0	188	2.9	300	94.0	3.867	32	P300	09H60-	2	16
85.0	188	2.9	300	94.0	3.867	32	P300	09H60L	2	16
90.0	188	1.5	150	94.0	2.460	32	P150	09H60-	2	11
90.0	188	1.5	150	94.0	2.460	32	P150	09H60L	2	11
102	162	2.5	260	81.0	4.934	25	P300	09L41L	2	18
102	162	2.5	260	81.0	4.934	25	P300	09L41-	2	18
104	159	2.5	300	80.0	4.767	32	P300	09L51-	2	18
106	162	1.3	140	81.0	3.416	25	P150	09L41-	2	13
106	162	1.3	140	81.0	3.416	25	P150	09L41L	2	13
108	159	1.3	150	80.0	3.360	32	P150	09L51-	2	13
110	150	2.3	260	75.0	3.863	40	P300	09H60-	2	16
110	150	2.3	260	75.0	3.863	40	P300	09H60L	2	16
112	150	1.3	140	75.0	2.459	40	P150	09H60-	2	11
112	150	1.3	140	75.0	2.459	40	P150	09H60L	2	11
134	128	1.1	140	64.0	3.359	40	P150	09L51-	2	13
134	128	1.9	260	64.0	4.763	40	P300	09L51-	2	18
134	127	2.1	300	63.0	4.767	32	P300	09L41-	2	18
134	127	2.1	300	63.0	4.767	32	P300	09L41L	2	18
135	127	1.1	150	63.0	3.360	32	P150	09L41-	2	13
135	127	1.1	150	63.0	3.360	32	P150	09L41L	2	13
167	101	1.6	260	51.0	4.763	40	P300	09L41-	2	18
167	101	1.6	260	51.0	4.763	40	P300	09L41L	2	18



2.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
20.0	1000	4.9	230	500	10.556	3	P300	12H30L	1	17
23.0	1000	1.3	45.0	500	7.827	3	P77	12H30L	1	12
23.0	1000	2.4	100	500	8.328	3	P150	12H30L	1	14
26.0	750	5.4	300	375	9.790	4	P300	12H30L	1	17
30.0	750	2.9	140	375	8.067	4	P150	12H30L	1	14
31.0	750	1.2	60.0	375	7.744	4	P77	12H30L	1	12
34.0	600	4.6	260	300	9.534	5	P300	12H30L	1	17
38.0	600	1.0	65.0	300	7.714	5	P77	12H30L	1	12
38.0	600	2.4	140	300	7.974	5	P150	12H30L	1	14
44.0	500	3.0	230	250	17.456	3	P300	14H15-	1	41
46.0	500	1.5	100	250	15.679	3	P150	14H15-	1	38
51.0	429	3.3	180	214	9.337	7	P300	12H30L	1	17
54.0	429	1.7	90.0	214	7.899	7	P150	12H30L	1	14
58.0	375	3.3	300	188	16.690	4	P300	14H15-	1	41
60.0	375	2.4	150	188	9.282	8	P300	12H30L	1	17
61.0	375	1.3	80.0	188	7.882	8	P150	12H30L	1	14
61.0	375	1.8	140	188	15.419	4	P150	14H15-	1	38
68.0	250	5.4	780	125	17.113	12	P1000	12H30L	2	31
70.0	300	4.0	305	150	14.308	10	P1000	12H30L	1	26
74.0	300	2.8	260	150	16.434	5	P300	14H15-	1	41
77.0	300	1.5	140	150	15.325	5	P150	14H15-	1	38
77.0	300	1.6	125	150	9.242	10	P300	12H30L	1	17
90.0	250	1.9	250	125	9.673	12	P300	12H30L	2	20
91.0	200	4.6	780	100	15.382	15	P1000	12H30L	2	31
95.0	214	4.9	530	107	21.823	7	P1000	14H15-	1	50
108	214	1.7	180	107	16.237	7	P300	14H15-	1	41
111	150	5.5	1000	75.0	15.201	20	P1000	12H30L	2	31
113	200	1.6	250	100	9.472	15	P300	12H30L	2	20
115	188	3.6	450	94.0	21.537	8	P1000	14H15-	1	50
119	188	2.1	300	94.0	9.630	16	P300	12H30L	2	20
120	188	1.1	150	94.0	7.982	16	P150	12H30L	2	14
123	188	1.2	150	94.0	16.182	8	P300	14H15-	1	41
140	150	4.1	630	75.0	37.076	10	P1800	14H15-	1	65
150	150	1.8	300	75.0	9.455	20	P300	12H30L	2	20
151	120	4.6	900	60.0	15.128	25	P1000	12H30L	2	31
154	150	2.0	305	75.0	21.208	10	P1000	14H15-	1	50
163	125	3.3	780	63.0	24.013	12	P1000	14H15-	2	55
166	100	5.6	1500	50.0	43.271	15	P1800	14H15-	2	79
180	125	1.2	250	63.0	16.573	12	P300	14H15-	2	44
188	120	1.4	260	60.0	9.434	25	P300	12H30L	2	20
205	93.8	4.0	1000	47.0	14.387	32	P1000	12H30L	2	31
205	93.8	4.0	1000	47.0	23.730	16	P1000	14H15-	2	55
212	100	2.8	780	50.0	22.282	15	P1000	14H15-	2	55
213	75.0	5.9	1800	38.0	42.486	20	P1800	14H15-	2	79
226	100	1.0	250	50.0	16.372	15	P300	14H15-	2	44
241	93.8	1.2	300	47.0	16.530	16	P300	14H15-	2	44
241	93.8	1.3	300	47.0	9.267	32	P300	12H30L	2	20
272	75.0	3.3	1000	38.0	22.101	20	P1000	14H15-	2	55
279	75.0	3.0	900	38.0	14.358	40	P1000	12H30L	2	31
299	60.0	4.7	1800	30.0	42.252	25	P1800	14H15-	2	79
366	60.0	2.4	900	30.0	22.028	25	P1000	14H15-	2	55



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
420	46.9	3.7	1800	23.0	38.736	32	P1800	14H15-	2	79
479	46.9	2.1	1000	23.0	21.287	32	P1000	14H15-	2	55
557	37.5	3.0	1800	19.0	38.645	40	P1800	14H15-	2	79
602	37.5	1.5	900	19.0	21.258	40	P1000	14H15-	2	55
922	23.4	1.1	1000	12.0	38.526	64	P1800	14H15-	2	79



2.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
19.0	1200	4.9	230	600	11.356	3	P300	14D36-	1	36
19.0	1175	5.0	230	588	10.556	3	P300	12H35-	1	17
21.0	1200	2.4	100	600	9.579	3	P150	14D36-	1	33
21.0	1175	2.4	100	588	8.328	3	P150	12H35-	1	13
22.0	1175	1.3	45.0	588	7.827	3	P77	12H35-	1	12
25.0	900	5.5	300	450	10.590	4	P300	14D36-	1	36
25.0	881	5.5	300	441	9.790	4	P300	12H35-	1	17
28.0	900	2.9	140	450	9.319	4	P150	14D36-	1	33
28.0	881	2.9	140	441	8.067	4	P150	12H35-	1	13
29.0	881	1.3	60.0	441	7.744	4	P77	12H35-	1	12
32.0	720	4.6	260	360	10.334	5	P300	14D36-	1	36
32.0	705	4.6	260	353	9.534	5	P300	12H35-	1	17
35.0	720	2.4	140	360	9.225	5	P150	14D36-	1	33
35.0	705	2.4	140	353	7.974	5	P150	12H35-	1	13
36.0	705	1.1	65.0	353	7.714	5	P77	12H35-	1	12
37.0	650	3.3	230	325	13.856	3	P300	12L20L	1	20
37.0	650	3.3	230	325	13.856	3	P300	12L20-	1	20
39.0	650	1.6	100	325	11.628	3	P150	12L20-	1	17
39.0	650	1.6	100	325	11.628	3	P150	12L20L	1	17
47.0	514	3.5	180	257	10.137	7	P300	14D36-	1	36
47.0	504	3.5	180	252	9.337	7	P300	12H35-	1	17
48.0	488	3.7	300	244	13.090	4	P300	12L20-	1	20
48.0	488	3.7	300	244	13.090	4	P300	12L20L	1	20
50.0	514	1.8	90.0	257	9.150	7	P150	14D36-	1	33
50.0	504	1.8	90.0	252	7.899	7	P150	12H35-	1	13
52.0	488	1.9	140	244	11.367	4	P150	12L20-	1	17
52.0	488	1.9	140	244	11.367	4	P150	12L20L	1	17
56.0	450	2.6	150	225	10.082	8	P300	14D36-	1	36
56.0	441	2.6	150	220	9.282	8	P300	12H35-	1	17
58.0	450	1.4	80.0	225	9.133	8	P150	14D36-	1	33
58.0	441	1.4	80.0	220	7.882	8	P150	12H35-	1	13
62.0	390	3.1	260	195	12.834	5	P300	12L20-	1	20
62.0	390	3.1	260	195	12.834	5	P300	12L20L	1	20
63.0	300	5.4	780	136	17.913	12	P1000	14D36-	2	50
63.0	294	5.4	780	136	17.113	12	P1000	12H35-	2	31
65.0	390	1.6	140	195	11.274	5	P150	12L20L	1	17
65.0	390	1.6	140	195	11.274	5	P150	12L20-	1	17
65.0	360	4.2	305	180	15.108	10	P1000	14D36-	1	45
65.0	353	4.2	305	176	14.308	10	P1000	12H35-	1	26
72.0	360	1.7	125	180	10.042	10	P300	14D36-	1	36
72.0	353	1.7	125	176	9.242	10	P300	12H35-	1	17
76.0	279	5.8	530	139	18.223	7	P1000	12L20-	1	29
76.0	279	5.8	530	139	18.223	7	P1000	12L20L	1	29
85.0	300	1.9	250	150	10.473	12	P300	14D36-	2	39
85.0	294	1.9	250	147	9.673	12	P300	12H35-	2	20
85.0	240	4.6	780	120	16.182	15	P1000	14D36-	2	50
85.0	235	4.7	780	118	15.382	15	P1000	12H35-	2	31
91.0	279	2.0	180	139	12.637	7	P300	12L20-	1	20
91.0	279	2.0	180	139	12.637	7	P300	12L20L	1	20
94.0	244	4.3	450	122	17.937	8	P1000	12L20L	1	29
94.0	244	4.3	450	122	17.937	8	P1000	12L20-	1	29



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
103	180	5.6	1000	90.0	16.001	20	P1000	14D36-	2	50
103	176	5.6	1000	88.0	15.201	20	P1000	12H35-	2	31
104	244	1.5	150	122	12.582	8	P300	12L20-	1	20
104	244	1.5	150	122	12.582	8	P300	12L20L	1	20
106	240	1.6	250	120	10.272	15	P300	14D36-	2	39
106	235	1.7	250	118	9.472	15	P300	12H35-	2	20
112	225	2.1	300	113	10.430	16	P300	14D36-	2	39
112	220	2.2	300	110	9.630	16	P300	12H35-	2	20
113	225	1.1	150	113	9.234	16	P150	14D36-	2	34
113	220	1.1	150	110	7.982	16	P150	12H35-	2	14
128	195	2.4	305	98.0	17.608	10	P1000	12L20-	1	29
128	195	2.4	305	98.0	17.608	10	P1000	12L20L	1	29
134	163	3.6	780	81.0	20.413	12	P1000	12L20-	2	34
134	163	3.6	780	81.0	20.413	12	P1000	12L20L	2	34
141	180	1.8	300	90.0	10.255	20	P300	14D36-	2	39
141	176	1.8	300	88.0	9.455	20	P300	12H35-	2	20
141	144	4.7	900	72.0	15.928	25	P1000	14D36-	2	50
141	141	4.7	900	71.0	15.128	25	P1000	12H35-	2	31
152	163	1.3	250	81.0	12.973	12	P300	12L20-	2	23
152	163	1.3	250	81.0	12.973	12	P300	12L20L	2	23
167	122	4.4	1000	61.0	20.130	16	P1000	12L20-	2	34
167	122	4.4	1000	61.0	20.130	16	P1000	12L20L	2	34
175	130	3.1	780	65.0	18.682	15	P1000	12L20L	2	34
175	130	3.1	780	65.0	18.682	15	P1000	12L20-	2	34
176	144	1.5	260	72.0	10.234	25	P300	14D36-	2	39
176	141	1.5	260	71.0	9.434	25	P300	12H35-	2	20
190	130	1.1	250	65.0	12.772	15	P300	12L20-	2	23
190	130	1.1	250	65.0	12.772	15	P300	12L20L	2	23
191	110	4.0	1000	55.0	14.387	32	P1000	12H35-	2	31
192	113	4.0	1000	56.0	15.187	32	P1000	14D36-	2	50
203	122	1.4	300	61.0	12.930	16	P300	12L20-	2	23
203	122	1.4	300	61.0	12.930	16	P300	12L20L	2	23
221	97.5	3.7	1000	49.0	18.501	20	P1000	12L20-	2	34
221	97.5	3.7	1000	49.0	18.501	20	P1000	12L20L	2	34
226	113	1.3	300	56.0	10.067	32	P300	14D36-	2	39
226	110	1.3	300	55.0	9.267	32	P300	12H35-	2	20
254	97.5	1.2	300	49.0	12.755	20	P300	12L20L	2	23
254	97.5	1.2	300	49.0	12.755	20	P300	12L20-	2	23
257	90.0	3.2	900	45.0	15.158	40	P1000	14D36-	2	50
257	88.1	3.2	900	44.0	14.358	40	P1000	12H35-	2	31
298	78.0	2.8	900	39.0	18.428	25	P1000	12L20-	2	34
298	78.0	2.8	900	39.0	18.428	25	P1000	12L20L	2	34
393	60.9	2.4	1000	30.0	17.687	32	P1000	12L20-	2	34
393	60.9	2.4	1000	30.0	17.687	32	P1000	12L20L	2	34
427	56.3	1.1	450	28.0	15.135	64	P1000	14D36-	2	50
427	55.1	1.1	450	28.0	14.335	64	P1000	12H35-	2	31
432	56.3	2.3	1000	28.0	32.426	64	P1800	14D36-	2	74
508	48.8	1.8	900	24.0	17.658	40	P1000	12L20-	2	34
508	48.8	1.8	900	24.0	17.658	40	P1000	12L20L	2	34
630	36.0	1.0	630	18.0	30.530	100	P1800	14D36-	2	74



3.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
55.0	500	5.9	450	250	38.670	3	P1000	14L15-	1	55
66.0	500	2.1	230	250	26.656	3	P300	14L15-	1	46
87.0	375	2.3	300	188	25.890	4	P300	14L15-	1	46
92.0	300	5.9	750	150	31.938	5	P1000	14L15-	1	55
110	300	2.0	260	150	25.634	5	P300	14L15-	1	46
146	214	3.4	530	107	31.023	7	P1000	14L15-	1	55
150	188	5.6	1000	94.0	48.400	8	P1800	14L15-	1	69
155	214	1.2	180	107	25.437	7	P300	14L15-	1	46
173	188	2.5	450	94.0	30.737	8	P1000	14L15-	1	55
211	125	4.5	1500	63.0	59.403	12	P1800	14L15-	2	84
213	150	2.9	630	75.0	46.276	10	P1800	14L15-	1	69
221	150	1.4	305	75.0	30.408	10	P1000	14L15-	1	55
254	125	2.3	780	63.0	33.213	12	P1000	14L15-	2	59
265	93.8	5.2	1800	47.0	58.182	16	P1800	14L15-	2	84
279	100	3.9	1500	50.0	52.471	15	P1800	14L15-	2	84
324	100	2.0	780	50.0	31.482	15	P1000	14L15-	2	59
326	93.8	2.8	1000	47.0	32.930	16	P1000	14L15-	2	59
364	75.0	4.1	1800	38.0	51.686	20	P1800	14L15-	2	84
423	75.0	2.3	1000	38.0	31.301	20	P1000	14L15-	2	59
488	60.0	3.3	1800	30.0	51.452	25	P1800	14L15-	2	84
541	60.0	1.7	900	30.0	31.228	25	P1000	14L15-	2	59
662	46.9	2.6	1800	23.0	47.936	32	P1800	14L15-	2	84
692	46.9	1.4	1000	23.0	30.487	32	P1000	14L15-	2	59
860	37.5	2.1	1800	19.0	47.845	40	P1800	14L15-	2	84
865	37.5	1.0	900	19.0	30.458	40	P1000	14L15-	2	59



4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
68.0	475	5.1	450	238	80.270	3	P1000	19F14-	1	65
78.0	475	1.8	230	238	69.986	3	P300	19F14-	1	56
88.0	356	5.7	600	178	75.502	4	P1000	19F14-	1	65
104	356	2.0	300	178	69.219	4	P300	19F14-	1	56
113	285	5.1	750	143	73.538	5	P1000	19F14-	1	65
130	285	1.7	260	143	68.963	5	P300	19F14-	1	56
175	204	2.9	530	102	72.623	7	P1000	19F14-	1	65
183	178	4.8	1000	89.0	90.000	8	P1800	19F14-	1	80
206	178	2.2	450	89.0	72.337	8	P1000	19F14-	1	65
255	143	2.4	630	71.0	87.876	10	P1800	19F14-	1	80
259	143	1.2	305	71.0	72.008	10	P1000	19F14-	1	65
261	119	3.9	1500	59.0	101.003	12	P1800	19F14-	2	94
305	119	2.0	780	59.0	74.813	12	P1000	19F14-	2	70
334	89.1	4.4	1800	45.0	99.782	16	P1800	19F14-	2	94
343	95.0	3.3	1500	48.0	94.071	15	P1800	19F14-	2	94
381	95.0	1.7	780	48.0	73.082	15	P1000	19F14-	2	70
394	89.1	2.4	1000	45.0	74.530	16	P1000	19F14-	2	70
451	71.3	3.5	1800	36.0	93.286	20	P1800	19F14-	2	94
508	71.3	2.0	1000	36.0	72.901	20	P1000	19F14-	2	70
596	57.0	2.8	1800	29.0	93.052	25	P1800	19F14-	2	94
635	57.0	1.4	900	29.0	72.828	25	P1000	19F14-	2	70
800	44.5	2.2	1800	22.0	89.536	32	P1800	19F14-	2	94
812	44.5	1.2	1000	22.0	72.087	32	P1000	19F14-	2	70
1015	35.6	1.8	1800	18.0	89.445	40	P1800	19F14-	2	94



4.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
77.0	450	4.7	450	225	49.970	3	P1000	14P14-	1	60
86.0	450	1.7	230	225	37.956	3	P300	14P14-	1	51
100	338	5.2	600	169	45.202	4	P1000	14P14-	1	60
115	338	1.8	300	169	37.190	4	P300	14P14-	1	51
128	270	4.7	750	135	43.238	5	P1000	14P14-	1	60
144	270	1.6	260	135	36.934	5	P300	14P14-	1	51
197	193	2.6	530	96.0	42.323	7	P1000	14P14-	1	60
208	169	4.3	1000	84.0	59.700	8	P1800	14P14-	1	74
230	169	1.9	450	84.0	42.037	8	P1000	14P14-	1	60
286	135	2.2	630	68.0	57.576	10	P1800	14P14-	1	74
288	135	1.1	305	68.0	41.708	10	P1000	14P14-	1	60
299	113	3.6	1500	56.0	70.703	12	P1800	14P14-	2	89
338	113	1.8	780	56.0	44.513	12	P1000	14P14-	2	64
386	84.4	4.0	1800	42.0	69.482	16	P1800	14P14-	2	89
390	90.0	3.1	1500	45.0	63.771	15	P1800	14P14-	2	89
423	90.0	1.6	780	45.0	42.782	15	P1000	14P14-	2	64
445	84.4	2.2	1000	42.0	44.230	16	P1000	14P14-	2	64
515	67.5	3.2	1800	34.0	62.986	20	P1800	14P14-	2	89
564	67.5	1.8	1000	34.0	42.601	20	P1000	14P14-	2	64
677	54.0	2.5	1800	27.0	62.752	25	P1800	14P14-	2	89
705	54.0	1.3	900	27.0	42.528	25	P1000	14P14-	2	64
902	42.2	1.1	1000	21.0	41.787	32	P1000	14P14-	2	64
902	42.2	2.0	1800	21.0	59.236	32	P1800	14P14-	2	89
1128	33.8	1.6	1800	17.0	59.145	40	P1800	14P14-	2	89



4.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
30.0	1350	3.2	230	554	13.856	3	P300	12L41-	1	20
32.0	1350	1.6	100	583	11.628	3	P150	12L41-	1	17
39.0	1075	2.7	230	529	17.456	3	P300	14H32-	1	41
39.0	1013	3.6	300	467	13.090	4	P300	12L41-	1	20
40.0	1075	1.3	100	538	15.679	3	P150	14H32-	1	38
42.0	1013	1.9	140	495	11.367	4	P150	12L41-	1	17
51.0	810	3.0	260	405	12.834	5	P300	12L41-	1	20
51.0	806	3.0	300	403	16.690	4	P300	14H32-	1	41
53.0	810	1.6	140	405	11.274	5	P150	12L41-	1	17
54.0	806	1.6	140	403	15.419	4	P150	14H32-	1	38
66.0	645	2.6	260	323	16.434	5	P300	14H32-	1	41
67.0	645	1.3	140	323	15.325	5	P150	14H32-	1	38
73.0	579	2.3	180	289	12.637	7	P300	12L41-	1	20
73.0	506	5.3	450	253	17.937	8	P1000	12L41-	1	29
74.0	579	1.2	90.0	289	11.199	7	P150	12L41-	1	17
80.0	461	5.6	530	230	21.823	7	P1000	14H32-	1	50
84.0	506	1.8	150	253	12.582	8	P300	12L41-	1	20
94.0	461	1.9	180	230	16.237	7	P300	14H32-	1	41
98.0	403	4.1	450	202	21.537	8	P1000	14H32-	1	50
102	405	2.9	305	203	17.608	10	P1000	12L41-	1	29
106	405	1.2	125	203	12.542	10	P300	12L41-	1	20
108	403	1.4	150	202	16.182	8	P300	14H32-	1	41
110	338	3.6	780	122	20.413	12	P1000	12L41-	2	34
112	269	5.9	1500	108	50.203	12	P1800	14H32-	2	79
119	323	4.7	630	161	37.076	10	P1800	14H32-	1	65
124	338	1.3	250	169	12.973	12	P300	12L41-	2	23
133	323	2.3	305	161	21.208	10	P1000	14H32-	1	50
137	253	4.3	1000	99.0	20.130	16	P1000	12L41-	2	34
143	270	3.1	780	115	18.682	15	P1000	12L41-	2	34
146	269	3.0	780	116	24.013	12	P1000	14H32-	2	55
153	215	5.1	1500	104	43.271	15	P1800	14H32-	2	79
155	270	1.1	250	135	12.772	15	P300	12L41-	2	23
158	269	1.1	250	134	16.573	12	P300	14H32-	2	44
165	253	1.4	300	127	12.930	16	P300	12L41-	2	23
181	203	3.7	1000	92.0	18.501	20	P1000	12L41-	2	34
185	202	3.6	1000	95.0	23.730	16	P1000	14H32-	2	55
189	215	2.6	780	108	22.282	15	P1000	14H32-	2	55
207	203	1.2	300	101	12.755	20	P300	12L41-	2	23
211	202	1.2	300	101	16.530	16	P300	14H32-	2	44
238	162	3.1	900	78.0	18.428	25	P1000	12L41-	2	34
242	161	3.1	1000	81.0	22.101	20	P1000	14H32-	2	55
254	129	5.1	1800	65.0	42.252	25	P1800	14H32-	2	79
259	162	1.0	260	81.0	12.734	25	P300	12L41-	2	23
263	161	1.0	300	81.0	16.355	20	P300	14H32-	2	44
315	129	2.6	900	65.0	22.028	25	P1000	14H32-	2	55
315	127	2.6	1000	63.0	17.687	32	P1000	12L41-	2	34
351	101	4.2	1800	50.0	38.736	32	P1800	14H32-	2	79
408	101	2.2	900	51.0	17.658	40	P1000	12L41-	2	34
414	101	2.2	1000	50.0	21.287	32	P1000	14H32-	2	55
471	80.6	3.4	1800	40.0	38.645	40	P1800	14H32-	2	79
526	80.6	1.7	900	40.0	21.258	40	P1000	14H32-	2	55



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
806	50.4	1.2	1000	25.0	38.526	64	P1800	14H32-	2	79

5.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
49.0	1075	2.2	230	499	26.656	3	P300	14L32-	1	46
65.0	806	2.5	300	403	25.890	4	P300	14L32-	1	46
82.0	645	2.1	260	323	25.634	5	P300	14L32-	1	46
103	461	4.5	530	230	31.023	7	P1000	14L32-	1	55
116	461	1.5	180	230	25.437	7	P300	14L32-	1	46
125	403	3.4	450	202	30.737	8	P1000	14L32-	1	55
132	403	1.1	150	202	25.382	8	P300	14L32-	1	46
153	323	3.8	630	161	46.276	10	P1800	14L32-	1	69
154	269	4.8	1500	103	59.403	12	P1800	14L32-	2	84
165	323	1.9	305	161	30.408	10	P1000	14L32-	1	55
186	202	5.8	1800	84.0	58.182	16	P1800	14L32-	2	84
188	269	2.4	780	109	33.213	12	P1000	14L32-	2	59
204	215	4.1	1500	98.0	52.471	15	P1800	14L32-	2	84
241	215	2.1	780	103	31.482	15	P1000	14L32-	2	59
241	202	2.9	1000	90.0	32.930	16	P1000	14L32-	2	59
253	161	4.9	1800	80.0	51.686	20	P1800	14L32-	2	84
311	161	2.5	1000	81.0	31.301	20	P1000	14L32-	2	59
341	129	4.1	1800	63.0	51.452	25	P1800	14L32-	2	84
401	129	2.1	900	65.0	31.228	25	P1000	14L32-	2	59
462	101	3.4	1800	50.0	47.936	32	P1800	14L32-	2	84
517	101	1.8	1000	50.0	30.487	32	P1000	14L32-	2	59
609	80.6	2.8	1800	40.0	47.845	40	P1800	14L32-	2	84
647	80.6	1.4	900	40.0	30.458	40	P1000	14L32-	2	59
991	50.4	1.0	1000	25.0	47.726	64	P1800	14L32-	2	84



6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
108	475	3.5	450	238	120.270	3	P1000	19J14-	1	72
115	475	1.2	230	238	109.986	3	P300	19J14-	1	63
142	356	3.9	600	178	115.502	4	P1000	19J14-	1	72
154	356	1.4	300	178	109.219	4	P300	19J14-	1	63
180	285	3.5	750	143	113.538	5	P1000	19J14-	1	72
192	285	1.1	260	143	108.963	5	P300	19J14-	1	63
238	204	4.8	1300	102	131.055	7	P1800	19J14-	1	87
269	204	2.0	530	102	112.623	7	P1000	19J14-	1	72
292	178	3.2	1000	89.0	130.000	8	P1800	19J14-	1	87
307	178	1.5	450	89.0	112.337	8	P1000	19J14-	1	72
384	143	1.6	630	71.0	127.876	10	P1800	19J14-	1	87
430	119	2.6	1500	59.0	141.003	12	P1800	19J14-	2	101
451	119	1.3	780	59.0	114.813	12	P1000	19J14-	2	77
553	95.0	2.3	1500	48.0	134.071	15	P1800	19J14-	2	101
559	89.1	3.0	1800	45.0	139.782	16	P1800	19J14-	2	101
564	95.0	1.2	780	48.0	113.082	15	P1000	19J14-	2	77
602	89.1	1.6	1000	45.0	114.530	16	P1000	19J14-	2	77
731	71.3	2.4	1800	36.0	133.286	20	P1800	19J14-	2	101
752	71.3	1.3	1000	36.0	112.901	20	P1000	19J14-	2	77
940	57.0	1.9	1800	29.0	133.052	25	P1800	19J14-	2	101
1203	44.5	1.5	1800	22.0	129.536	32	P1800	19J14-	2	101
1504	35.6	1.2	1800	18.0	129.445	40	P1800	19J14-	2	101



6.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
52.0	1000	5.3	450	337	80.270	3	P1000	19F30-	1	65
60.0	1000	1.9	230	473	69.986	3	P300	19F30-	1	56
80.0	750	2.1	300	375	69.219	4	P300	19F30-	1	56
87.0	600	5.3	750	274	73.538	5	P1000	19F30-	1	65
101	600	1.7	260	300	68.963	5	P300	19F30-	1	56
131	429	3.7	530	214	72.623	7	P1000	19F30-	1	65
141	429	1.3	180	214	71.091	7	P300	19F30-	1	56
156	375	2.8	450	188	72.337	8	P1000	19F30-	1	65
192	300	3.1	630	150	87.876	10	P1800	19F30-	1	80
201	250	4.0	1500	98.0	101.003	12	P1800	19F30-	2	94
202	300	1.5	305	150	72.008	10	P1000	19F30-	1	65
236	250	2.0	780	103	74.813	12	P1000	19F30-	2	70
250	188	4.8	1800	81.0	99.782	16	P1800	19F30-	2	94
264	200	3.4	1500	94.0	94.071	15	P1800	19F30-	2	94
296	200	1.8	780	97.0	73.082	15	P1000	19F30-	2	70
305	188	2.5	1000	85.0	74.530	16	P1000	19F30-	2	70
332	150	4.1	1800	75.0	93.286	20	P1800	19F30-	2	94
392	150	2.1	1000	75.0	72.901	20	P1000	19F30-	2	70
441	120	3.4	1800	60.0	93.052	25	P1800	19F30-	2	94
494	120	1.8	900	60.0	72.828	25	P1000	19F30-	2	70
593	93.8	2.8	1800	47.0	89.536	32	P1800	19F30-	2	94
632	93.8	1.5	1000	47.0	72.087	32	P1000	19F30-	2	70
773	75.0	2.3	1800	38.0	89.445	40	P1800	19F30-	2	94
790	75.0	1.1	900	38.0	72.058	40	P1000	19F30-	2	70



7.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
53.0	1075	5.2	450	335	49.970	3	P1000	14P32-	1	60
60.0	1075	1.8	230	470	37.956	3	P300	14P32-	1	51
81.0	806	2.0	300	386	37.190	4	P300	14P32-	1	51
88.0	645	5.1	750	272	43.238	5	P1000	14P32-	1	60
101	645	1.7	260	323	36.934	5	P300	14P32-	1	51
131	461	3.7	530	230	42.323	7	P1000	14P32-	1	60
141	461	1.3	180	230	36.737	7	P300	14P32-	1	51
156	403	2.8	450	202	42.037	8	P1000	14P32-	1	60
192	323	3.1	630	161	57.576	10	P1800	14P32-	1	74
202	323	1.5	305	161	41.708	10	P1000	14P32-	1	60
203	269	3.9	1500	98.0	70.703	12	P1800	14P32-	2	89
237	269	2.0	780	102	44.513	12	P1000	14P32-	2	64
252	202	4.7	1800	80.0	69.482	16	P1800	14P32-	2	89
266	215	3.4	1500	93.0	63.771	15	P1800	14P32-	2	89
296	215	1.7	780	97.0	42.782	15	P1000	14P32-	2	64
306	202	2.4	1000	85.0	44.230	16	P1000	14P32-	2	64
335	161	4.0	1800	76.0	62.986	20	P1800	14P32-	2	89
393	161	2.1	1000	78.0	42.601	20	P1000	14P32-	2	64
443	129	3.4	1800	61.0	62.752	25	P1800	14P32-	2	89
494	129	1.7	900	65.0	42.528	25	P1000	14P32-	2	64
593	101	2.8	1800	50.0	59.236	32	P1800	14P32-	2	89
632	101	1.5	1000	50.0	41.787	32	P1000	14P32-	2	64
773	80.6	2.3	1800	40.0	59.145	40	P1800	14P32-	2	89
790	80.6	1.1	900	40.0	41.758	40	P1000	14P32-	2	64

7.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
126	450	5.4	1000	225	223.815	3	P1800	19P14-	1	97
142	450	2.8	450	225	175.270	3	P1000	19P14-	1	82
187	338	3.0	600	169	170.502	4	P1000	19P14-	1	82
210	270	5.4	1600	135	189.391	5	P1800	19P14-	1	97
237	270	2.8	750	135	168.538	5	P1000	19P14-	1	82
318	193	3.8	1300	96.0	186.055	7	P1800	19P14-	1	97
343	193	1.5	530	96.0	167.623	7	P1000	19P14-	1	82
383	169	2.5	1000	84.0	185.000	8	P1800	19P14-	1	97
392	169	1.1	450	84.0	167.337	8	P1000	19P14-	1	82
490	135	1.3	630	68.0	182.876	10	P1800	19P14-	1	97
571	113	2.1	1500	56.0	196.003	12	P1800	19P14-	2	111
575	113	1.1	780	56.0	169.813	12	P1000	19P14-	2	87
719	90.0	1.8	1500	45.0	189.071	15	P1800	19P14-	2	111
749	84.4	2.3	1800	42.0	194.782	16	P1800	19P14-	2	111
767	84.4	1.3	1000	42.0	169.530	16	P1000	19P14-	2	87
959	67.5	1.0	1000	34.0	167.901	20	P1000	19P14-	2	87
959	67.5	1.9	1800	34.0	188.286	20	P1800	19P14-	2	111
1199	54.0	1.5	1800	27.0	188.052	25	P1800	19P14-	2	111
1534	42.2	1.2	1800	21.0	184.536	32	P1800	19P14-	2	111



9.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
77.0	1000	3.8	450	317	120.270	3	P1000	19J30-	1	72
84.0	1000	1.3	230	426	109.986	3	P300	19J30-	1	63
99.0	750	4.6	600	293	115.502	4	P1000	19J30-	1	72
111	750	1.5	300	344	109.219	4	P300	19J30-	1	63
129	600	3.8	750	250	113.538	5	P1000	19J30-	1	72
139	600	1.3	260	300	108.963	5	P300	19J30-	1	63
165	429	5.7	1300	214	131.055	7	P1800	19J30-	1	87
189	429	2.7	530	214	112.623	7	P1000	19J30-	1	72
200	375	4.4	1000	188	130.000	8	P1800	19J30-	1	87
223	375	2.0	450	188	112.337	8	P1000	19J30-	1	72
275	300	2.3	630	150	127.876	10	P1800	19J30-	1	87
278	300	1.1	305	150	112.008	10	P1000	19J30-	1	72
305	250	2.9	1500	90.0	141.003	12	P1800	19J30-	2	101
327	250	1.5	780	92.0	114.813	12	P1000	19J30-	2	77
388	188	3.5	1800	74.0	139.782	16	P1800	19J30-	2	101
394	200	2.5	1500	86.0	134.071	15	P1800	19J30-	2	101
409	200	1.3	780	87.0	113.082	15	P1000	19J30-	2	77
436	188	1.8	1000	77.0	114.530	16	P1000	19J30-	2	77
505	150	3.0	1800	70.0	133.286	20	P1800	19J30-	2	101
545	150	1.5	1000	70.0	112.901	20	P1000	19J30-	2	77
657	120	2.5	1800	56.0	133.052	25	P1800	19J30-	2	101
682	120	1.3	900	60.0	112.828	25	P1000	19J30-	2	77
870	93.8	2.0	1800	47.0	129.536	32	P1800	19J30-	2	101
872	93.8	1.1	1000	47.0	112.087	32	P1000	19J30-	2	77
1090	75.0	1.7	1800	38.0	129.445	40	P1800	19J30-	2	101

10 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
87.0	1000	3.5	450	310	175.270	3	P1000	19P30-	1	82
112	750	4.2	600	286	170.502	4	P1000	19P30-	1	82
144	600	3.5	750	242	168.538	5	P1000	19P30-	1	82
186	429	5.2	1300	214	186.055	7	P1800	19P30-	1	97
211	429	2.4	530	214	167.623	7	P1000	19P30-	1	82
225	375	4.0	1000	188	185.000	8	P1800	19P30-	1	97
246	375	1.8	450	188	167.337	8	P1000	19P30-	1	82
307	300	2.1	630	150	182.876	10	P1800	19P30-	1	97
344	250	2.6	1500	88.0	196.003	12	P1800	19P30-	2	111
361	250	1.3	780	89.0	169.813	12	P1000	19P30-	2	87
440	188	3.2	1800	72.0	194.782	16	P1800	19P30-	2	111
443	200	2.3	1500	84.0	189.071	15	P1800	19P30-	2	111
451	200	1.2	780	84.0	168.082	15	P1000	19P30-	2	87
481	188	1.6	1000	75.0	169.530	16	P1000	19P30-	2	87
570	150	2.7	1800	69.0	188.286	20	P1800	19P30-	2	111
602	150	1.4	1000	68.0	167.901	20	P1000	19P30-	2	87
738	120	2.3	1800	55.0	188.052	25	P1800	19P30-	2	111
752	120	1.2	900	59.0	167.828	25	P1000	19P30-	2	87
963	93.8	1.9	1800	47.0	184.536	32	P1800	19P30-	2	111
1203	75.0	1.5	1800	38.0	184.445	40	P1800	19P30-	2	111



Inverter power supply 400 V, forced ventilated motors

1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
19.0	550	3.2	100	275	5.028	3	P150	12D17-	1	12
20.0	550	1.7	45.0	275	4.527	3	P77	12D17-	1	11
25.0	413	3.9	140	206	4.767	4	P150	12D17-	1	12
27.0	413	1.7	60.0	206	4.444	4	P77	12D17-	1	11
32.0	330	3.3	140	165	4.674	5	P150	12D17-	1	12
34.0	330	1.4	65.0	165	4.414	5	P77	12D17-	1	11
44.0	236	3.8	180	118	6.037	7	P300	12D17-	1	16
47.0	236	1.9	90.0	118	4.599	7	P150	12D17-	1	12
52.0	206	2.8	150	103	5.982	8	P300	12D17-	1	16
54.0	206	1.5	80.0	103	4.582	8	P150	12D17-	1	12
60.0	165	4.5	305	83.0	11.008	10	P1000	12D17-	1	25
67.0	165	1.9	125	83.0	5.942	10	P300	12D17-	1	16
75.0	138	2.6	250	69.0	6.373	12	P300	12D17-	2	19
79.0	138	1.3	110	69.0	4.699	12	P150	12D17-	2	13
97.0	110	2.2	250	55.0	6.172	15	P300	12D17-	2	19
99.0	110	1.1	110	55.0	4.630	15	P150	12D17-	2	13
99.0	103	2.8	300	52.0	6.330	16	P300	12D17-	2	19
105	103	1.4	150	52.0	4.682	16	P150	12D17-	2	13
123	66.0	5.4	900	33.0	11.828	25	P1000	12D17-	2	30
129	82.5	2.3	300	41.0	6.155	20	P300	12D17-	2	19
132	82.5	1.1	150	41.0	4.619	20	P150	12D17-	2	13
165	66.0	1.6	260	33.0	6.134	25	P300	12D17-	2	19
168	51.6	4.7	1000	26.0	11.087	32	P1000	12D17-	2	30
211	51.6	1.4	300	26.0	5.967	32	P300	12D17-	2	19
235	41.3	3.4	900	21.0	11.058	40	P1000	12D17-	2	30
399	25.8	1.1	450	13.0	11.035	64	P1000	12D17-	2	30



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
31.0	450	4.1	230	225	10.556	3	P300	12H14-	1	19
31.0	450	4.1	230	225	11.356	3	P300	14D14-	1	40
35.0	450	2.0	100	225	8.328	3	P150	12H14-	1	16
35.0	450	2.0	100	225	9.579	3	P150	14D14-	1	37
41.0	338	4.6	300	169	9.790	4	P300	12H14-	1	19
41.0	338	4.6	300	169	10.590	4	P300	14D14-	1	40
45.0	338	2.4	140	169	8.067	4	P150	12H14-	1	16
45.0	338	2.4	140	169	9.319	4	P150	14D14-	1	37
53.0	270	3.9	260	135	9.534	5	P300	12H14-	1	19
53.0	270	3.9	260	135	10.334	5	P300	14D14-	1	40
58.0	270	2.0	140	135	9.225	5	P150	14D14-	1	37
58.0	270	2.0	140	135	7.974	5	P150	12H14-	1	16
80.0	193	2.2	180	96.0	9.337	7	P300	12H14-	1	19
80.0	193	2.2	180	96.0	10.137	7	P300	14D14-	1	40
81.0	193	1.1	90.0	96.0	7.899	7	P150	12H14-	1	16
81.0	193	1.1	90.0	96.0	9.150	7	P150	14D14-	1	37
81.0	169	4.8	450	84.0	14.637	8	P1000	12H14-	1	28
81.0	169	4.8	450	84.0	15.437	8	P1000	14D14-	1	49
92.0	169	1.6	150	84.0	9.282	8	P300	12H14-	1	19
92.0	169	1.6	150	84.0	10.082	8	P300	14D14-	1	40
99.0	135	5.5	630	68.0	30.976	10	P1800	14D14-	1	64
110	113	4.5	780	56.0	17.113	12	P1000	12H14-	2	33
110	113	4.5	780	56.0	17.913	12	P1000	14D14-	2	54
112	135	2.7	305	68.0	15.108	10	P1000	14D14-	1	49
112	135	2.7	305	68.0	14.308	10	P1000	12H14-	1	28
115	135	1.1	125	68.0	9.242	10	P300	12H14-	1	19
115	135	1.1	125	68.0	10.042	10	P300	14D14-	1	40
134	84.4	5.5	1000	42.0	16.830	16	P1000	12H14-	2	33
134	84.4	5.5	1000	42.0	17.630	16	P1000	14D14-	2	54
135	113	1.6	250	56.0	9.673	12	P300	12H14-	2	22
135	113	1.6	250	56.0	10.473	12	P300	14D14-	2	43
145	90.0	3.9	780	45.0	15.382	15	P1000	12H14-	2	33
145	90.0	3.9	780	45.0	16.182	15	P1000	14D14-	2	54
169	90.0	1.4	250	45.0	9.472	15	P300	12H14-	2	22
169	90.0	1.4	250	45.0	10.272	15	P300	14D14-	2	43
180	84.4	1.6	300	42.0	9.630	16	P300	12H14-	2	22
180	84.4	1.6	300	42.0	10.430	16	P300	14D14-	2	43
186	67.5	4.4	1000	34.0	15.201	20	P1000	12H14-	2	33
186	67.5	4.4	1000	34.0	16.001	20	P1000	14D14-	2	54
226	67.5	1.3	300	34.0	9.455	20	P300	12H14-	2	22
226	67.5	1.3	300	34.0	10.255	20	P300	14D14-	2	43
258	54.0	3.2	900	27.0	15.128	25	P1000	12H14-	2	33
258	54.0	3.2	900	27.0	15.928	25	P1000	14D14-	2	54
282	42.2	4.9	1800	21.0	32.636	32	P1800	14D14-	2	78
341	42.2	2.7	1000	21.0	14.387	32	P1000	12H14-	2	33
341	42.2	2.7	1000	21.0	15.187	32	P1000	14D14-	2	54
384	33.8	4.0	1800	17.0	32.545	40	P1800	14D14-	2	78
451	33.8	2.0	900	17.0	14.358	40	P1000	12H14-	2	33
451	33.8	2.0	900	17.0	15.158	40	P1000	14D14-	2	54
691	21.1	1.5	1000	11.0	32.426	64	P1800	14D14-	2	78



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	1175	1.6	45.0	588	4.527	3	P77	12D35-	1	11
17.0	1175	3.0	100	588	5.028	3	P150	12D35-	1	12
21.0	881	3.6	140	441	4.767	4	P150	12D35-	1	12
23.0	881	1.6	60.0	441	4.444	4	P77	12D35-	1	11
24.0	705	5.8	260	353	6.234	5	P300	12D35-	1	16
28.0	705	3.0	140	353	4.674	5	P150	12D35-	1	12
29.0	705	1.3	65.0	353	4.414	5	P77	12D35-	1	11
36.0	504	4.4	180	252	6.037	7	P300	12D35-	1	16
40.0	504	1.0	45.0	252	4.390	7	P77	12D35-	1	11
40.0	504	2.2	90.0	252	4.599	7	P150	12D35-	1	12
44.0	441	3.3	150	220	5.982	8	P300	12D35-	1	16
46.0	441	1.7	80.0	220	4.582	8	P150	12D35-	1	12
50.0	353	5.3	305	176	11.008	10	P1000	12D35-	1	25
57.0	353	1.1	60.0	176	4.560	10	P150	12D35-	1	12
57.0	353	2.2	125	176	5.942	10	P300	12D35-	1	16
61.0	235	5.8	780	118	12.082	15	P1000	12D35-	2	30
66.0	294	2.4	250	147	6.373	12	P300	12D35-	2	19
68.0	294	1.2	110	147	4.699	12	P150	12D35-	2	13
84.0	235	2.1	250	118	6.172	15	P300	12D35-	2	19
86.0	220	2.7	300	110	6.330	16	P300	12D35-	2	19
90.0	220	1.4	150	110	4.682	16	P150	12D35-	2	13
100	141	5.9	900	71.0	11.828	25	P1000	12D35-	2	30
110	176	2.3	300	88.0	6.155	20	P300	12D35-	2	19
113	176	1.2	150	88.0	4.619	20	P150	12D35-	2	13
140	110	5.1	1000	55.0	11.087	32	P1000	12D35-	2	30
141	141	1.8	260	71.0	6.134	25	P300	12D35-	2	19
180	110	1.7	300	55.0	5.967	32	P300	12D35-	2	19
192	88.1	4.0	900	44.0	11.058	40	P1000	12D35-	2	30
223	88.1	1.2	260	44.0	5.963	40	P300	12D35-	2	19
342	55.1	1.3	450	28.0	11.035	64	P1000	12D35-	2	30



2.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
47.0	550	2.7	230	275	13.856	3	P300	12L17-	1	22
49.0	550	1.3	100	275	11.628	3	P150	12L17-	1	19
62.0	413	3.1	300	206	13.090	4	P300	12L17-	1	22
65.0	413	1.6	140	206	11.367	4	P150	12L17-	1	19
80.0	330	2.6	260	165	12.834	5	P300	12L17-	1	22
82.0	330	1.4	140	165	11.274	5	P150	12L17-	1	19
102	236	4.6	530	118	18.223	7	P1000	12L17-	1	31
114	236	1.6	180	118	12.637	7	P300	12L17-	1	22
123	206	3.4	450	103	17.937	8	P1000	12L17-	1	31
131	206	1.2	150	103	12.582	8	P300	12L17-	1	22
163	165	1.9	305	83.0	17.608	10	P1000	12L17-	1	31
177	138	3.0	780	69.0	20.413	12	P1000	12L17-	2	36
192	138	1.1	250	69.0	12.973	12	P300	12L17-	2	25
225	103	3.6	1000	52.0	20.130	16	P1000	12L17-	2	36
229	110	2.6	780	55.0	18.682	15	P1000	12L17-	2	36
256	103	1.2	300	52.0	12.930	16	P300	12L17-	2	25
294	82.5	3.1	1000	41.0	18.501	20	P1000	12L17-	2	36
393	66.0	2.2	900	33.0	18.428	25	P1000	12L17-	2	36
511	51.6	1.9	1000	26.0	17.687	32	P1000	12L17-	2	36
639	41.3	1.4	900	21.0	17.658	40	P1000	12L17-	2	36

3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
67.0	400	2.2	230	200	17.456	3	P300	14H12-	1	45
89.0	300	2.4	300	150	16.690	4	P300	14H12-	1	45
113	240	2.1	260	120	16.434	5	P300	14H12-	1	45
149	171	3.3	530	86.0	21.823	7	P1000	14H12-	1	54
154	150	5.5	1000	75.0	39.200	8	P1800	14H12-	1	69
158	171	1.1	180	86.0	16.237	7	P300	14H12-	1	45
177	150	2.5	450	75.0	21.537	8	P1000	14H12-	1	54
211	100	4.7	1500	50.0	50.203	12	P1800	14H12-	2	83
218	120	2.8	630	60.0	37.076	10	P1800	14H12-	1	69
226	120	1.4	305	60.0	21.208	10	P1000	14H12-	1	54
257	100	2.4	780	50.0	24.013	12	P1000	14H12-	2	59
273	75.0	5.0	1800	38.0	48.982	16	P1800	14H12-	2	83
281	80.0	4.0	1500	40.0	43.271	15	P1800	14H12-	2	83
330	80.0	2.1	780	40.0	22.282	15	P1000	14H12-	2	59
332	75.0	2.8	1000	38.0	23.730	16	P1000	14H12-	2	59
375	60.0	4.0	1800	30.0	42.486	20	P1800	14H12-	2	83
434	60.0	2.2	1000	30.0	22.101	20	P1000	14H12-	2	59
502	48.0	3.2	1800	24.0	42.252	25	P1800	14H12-	2	83
552	48.0	1.6	900	24.0	22.028	25	P1000	14H12-	2	59
680	37.5	2.5	1800	19.0	38.736	32	P1800	14H12-	2	83
707	37.5	1.4	1000	19.0	21.287	32	P1000	14H12-	2	59
881	30.0	2.0	1800	15.0	38.645	40	P1800	14H12-	2	83
884	30.0	1.0	900	15.0	21.258	40	P1000	14H12-	2	59



3.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1000	3.7	230	500	11.356	3	P300	14D30-	1	40
30.0	1000	1.8	100	500	9.579	3	P150	14D30-	1	37
37.0	750	4.1	300	375	10.590	4	P300	14D30-	1	40
40.0	750	2.2	140	375	9.319	4	P150	14D30-	1	37
47.0	600	3.5	260	300	10.334	5	P300	14D30-	1	40
50.0	600	1.8	140	300	9.225	5	P150	14D30-	1	37
69.0	429	2.5	180	214	10.137	7	P300	14D30-	1	40
69.0	375	5.5	450	188	15.437	8	P1000	14D30-	1	49
71.0	429	1.3	90.0	214	9.150	7	P150	14D30-	1	37
81.0	375	1.9	150	188	10.082	8	P300	14D30-	1	40
96.0	300	3.0	305	150	15.108	10	P1000	14D30-	1	49
100	250	4.1	780	125	17.913	12	P1000	14D30-	2	54
101	300	1.2	125	150	10.042	10	P300	14D30-	1	40
118	250	1.5	250	125	10.473	12	P300	14D30-	2	43
124	188	4.9	1000	94.0	17.630	16	P1000	14D30-	2	54
132	200	3.5	780	100	16.182	15	P1000	14D30-	2	54
148	200	1.2	250	100	10.272	15	P300	14D30-	2	43
158	188	1.6	300	94.0	10.430	16	P300	14D30-	2	43
165	150	4.2	1000	75.0	16.001	20	P1000	14D30-	2	54
197	150	1.4	300	75.0	10.255	20	P300	14D30-	2	43
219	120	3.5	900	60.0	15.928	25	P1000	14D30-	2	54
230	93.8	5.6	1800	47.0	32.636	32	P1800	14D30-	2	78
247	120	1.1	260	60.0	10.234	25	P300	14D30-	2	43
292	93.8	3.0	1000	47.0	15.187	32	P1000	14D30-	2	54
320	75.0	4.6	1800	38.0	32.545	40	P1800	14D30-	2	78
387	75.0	2.3	900	38.0	15.158	40	P1000	14D30-	2	54
605	46.9	1.7	1000	23.0	32.426	64	P1800	14D30-	2	78



3.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1125	3.6	230	563	10.556	3	P300	12H34-	1	19
30.0	1125	1.7	100	563	8.328	3	P150	12H34-	1	16
37.0	844	4.0	300	422	9.790	4	P300	12H34-	1	19
40.0	844	2.1	140	422	8.067	4	P150	12H34-	1	16
48.0	675	3.4	260	338	9.534	5	P300	12H34-	1	19
50.0	675	1.8	140	338	7.974	5	P150	12H34-	1	16
69.0	482	2.5	180	241	9.337	7	P300	12H34-	1	19
69.0	422	5.5	450	211	14.637	8	P1000	12H34-	1	28
71.0	482	1.3	90.0	241	7.899	7	P150	12H34-	1	16
81.0	422	1.9	150	211	9.282	8	P300	12H34-	1	19
96.0	338	3.0	305	169	14.308	10	P1000	12H34-	1	28
101	338	1.2	125	169	9.242	10	P300	12H34-	1	19
101	281	3.9	780	125	17.113	12	P1000	12H34-	2	33
118	281	1.4	250	141	9.673	12	P300	12H34-	2	22
126	211	4.7	1000	102	16.830	16	P1000	12H34-	2	33
133	225	3.4	780	113	15.382	15	P1000	12H34-	2	33
148	225	1.2	250	113	9.472	15	P300	12H34-	2	22
158	211	1.6	300	105	9.630	16	P300	12H34-	2	22
167	169	4.1	1000	84.0	15.201	20	P1000	12H34-	2	33
197	169	1.3	300	84.0	9.455	20	P300	12H34-	2	22
221	135	3.4	900	68.0	15.128	25	P1000	12H34-	2	33
247	135	1.1	260	68.0	9.434	25	P300	12H34-	2	22
294	106	2.9	1000	53.0	14.387	32	P1000	12H34-	2	33
387	84.4	2.3	900	42.0	14.358	40	P1000	12H34-	2	33



4.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
78.0	450	4.6	450	225	38.670	3	P1000	14L14-	1	59
88.0	450	1.6	230	225	26.656	3	P300	14L14-	1	50
102	338	5.1	600	169	33.902	4	P1000	14L14-	1	59
117	338	1.8	300	169	25.890	4	P300	14L14-	1	50
131	270	4.6	750	135	31.938	5	P1000	14L14-	1	59
146	270	1.5	260	135	25.634	5	P300	14L14-	1	50
200	193	2.6	530	96.0	31.023	7	P1000	14L14-	1	59
213	169	4.2	1000	84.0	48.400	8	P1800	14L14-	1	73
234	169	1.9	450	84.0	30.737	8	P1000	14L14-	1	59
291	135	2.2	630	68.0	46.276	10	P1800	14L14-	1	73
293	135	1.0	305	68.0	30.408	10	P1000	14L14-	1	59
305	113	3.5	1500	56.0	59.403	12	P1800	14L14-	2	88
344	113	1.8	780	56.0	33.213	12	P1000	14L14-	2	63
394	84.4	3.9	1800	42.0	58.182	16	P1800	14L14-	2	88
398	90.0	3.0	1500	45.0	52.471	15	P1800	14L14-	2	88
430	90.0	1.5	780	45.0	31.482	15	P1000	14L14-	2	63
454	84.4	2.2	1000	42.0	32.930	16	P1000	14L14-	2	63
526	67.5	3.1	1800	34.0	51.686	20	P1800	14L14-	2	88
573	67.5	1.7	1000	34.0	31.301	20	P1000	14L14-	2	63
691	54.0	2.5	1800	27.0	51.452	25	P1800	14L14-	2	88
717	54.0	1.2	900	27.0	31.228	25	P1000	14L14-	2	63
917	42.2	1.1	1000	21.0	30.487	32	P1000	14L14-	2	63
917	42.2	1.9	1800	21.0	47.936	32	P1800	14L14-	2	88
1147	33.8	1.6	1800	17.0	47.845	40	P1800	14L14-	2	88



4.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
113	350	3.6	450	175	49.970	3	P1000	14P11-	1	64
121	350	1.3	230	175	37.956	3	P300	14P11-	1	55
150	263	3.7	600	131	45.202	4	P1000	14P11-	1	64
161	263	1.4	300	131	37.190	4	P300	14P11-	1	55
188	210	3.6	750	105	43.238	5	P1000	14P11-	1	64
202	210	1.2	260	105	36.934	5	P300	14P11-	1	55
252	150	4.6	1300	75.0	60.755	7	P1800	14P11-	1	78
282	150	1.9	530	75.0	42.323	7	P1000	14P11-	1	64
308	131	3.1	1000	66.0	59.700	8	P1800	14P11-	1	78
323	131	1.4	450	66.0	42.037	8	P1000	14P11-	1	64
403	105	1.6	630	53.0	57.576	10	P1800	14P11-	1	78
447	87.5	2.8	1500	44.0	70.703	12	P1800	14P11-	2	93
474	87.5	1.4	780	44.0	44.513	12	P1000	14P11-	2	68
577	70.0	2.4	1500	35.0	63.771	15	P1800	14P11-	2	93
592	70.0	1.2	780	35.0	42.782	15	P1000	14P11-	2	68
593	65.6	2.8	1800	33.0	69.482	16	P1800	14P11-	2	93
632	65.6	1.6	1000	33.0	44.230	16	P1000	14P11-	2	68
775	52.5	2.3	1800	26.0	62.986	20	P1800	14P11-	2	93
790	52.5	1.3	1000	26.0	42.601	20	P1000	14P11-	2	68
987	42.0	1.8	1800	21.0	62.752	25	P1800	14P11-	2	93
1263	32.8	1.4	1800	16.0	59.236	32	P1800	14P11-	2	93
1579	26.3	1.1	1800	13.0	59.145	40	P1800	14P11-	2	93

4.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
101	400	3.8	450	200	80.270	3	P1000	19F12-	1	71
109	400	1.4	230	200	69.986	3	P300	19F12-	1	62
133	300	4.1	600	150	75.502	4	P1000	19F12-	1	71
146	300	1.5	300	150	69.219	4	P300	19F12-	1	62
169	240	3.8	750	120	73.538	5	P1000	19F12-	1	71
182	240	1.3	260	120	68.963	5	P300	19F12-	1	62
223	171	5.0	1300	86.0	91.055	7	P1800	19F12-	1	86
255	171	2.1	530	86.0	72.623	7	P1000	19F12-	1	71
275	150	3.4	1000	75.0	90.000	8	P1800	19F12-	1	86
292	150	1.5	450	75.0	72.337	8	P1000	19F12-	1	71
365	120	1.7	630	60.0	87.876	10	P1800	19F12-	1	86
399	100	2.9	1500	50.0	101.003	12	P1800	19F12-	2	100
429	100	1.5	780	50.0	74.813	12	P1000	19F12-	2	76
516	80.0	2.5	1500	40.0	94.071	15	P1800	19F12-	2	100
524	75.0	3.1	1800	38.0	99.782	16	P1800	19F12-	2	100
536	80.0	1.3	780	40.0	73.082	15	P1000	19F12-	2	76
572	75.0	1.7	1000	38.0	74.530	16	P1000	19F12-	2	76
688	60.0	2.5	1800	30.0	93.286	20	P1800	19F12-	2	100
714	60.0	1.4	1000	30.0	72.901	20	P1000	19F12-	2	76
893	48.0	2.0	1800	24.0	93.052	25	P1800	19F12-	2	100
1143	37.5	1.6	1800	19.0	89.536	32	P1800	19F12-	2	100
1429	30.0	1.3	1800	15.0	89.445	40	P1800	19F12-	2	100



5.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
39.0	1300	2.6	230	520	13.856	3	P300	12L39-	1	22
40.0	1300	1.3	100	549	11.628	3	P150	12L39-	1	19
52.0	975	2.9	300	434	13.090	4	P300	12L39-	1	22
54.0	975	1.5	140	461	11.367	4	P150	12L39-	1	19
66.0	780	2.4	260	390	12.834	5	P300	12L39-	1	22
67.0	780	1.3	140	390	11.274	5	P150	12L39-	1	19
80.0	557	5.6	530	279	18.223	7	P1000	12L39-	1	31
94.0	557	1.8	180	279	12.637	7	P300	12L39-	1	22
98.0	488	4.1	450	244	17.937	8	P1000	12L39-	1	31
108	488	1.4	150	244	12.582	8	P300	12L39-	1	22
133	390	2.3	305	195	17.608	10	P1000	12L39-	1	31
148	325	2.8	780	114	20.413	12	P1000	12L39-	2	36
158	325	1.0	250	163	12.973	12	P300	12L39-	2	25
188	244	3.4	1000	93.0	20.130	16	P1000	12L39-	2	36
191	260	2.4	780	107	18.682	15	P1000	12L39-	2	36
211	244	1.1	300	122	12.930	16	P300	12L39-	2	25
245	195	2.9	1000	87.0	18.501	20	P1000	12L39-	2	36
318	156	2.4	900	74.0	18.428	25	P1000	12L39-	2	36
418	122	2.1	1000	61.0	17.687	32	P1000	12L39-	2	36
526	97.5	1.7	900	49.0	17.658	40	P1000	12L39-	2	36

6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
50.0	925	5.5	450	340	29.470	3	P1000	14H28-	1	54
59.0	925	2.0	230	463	17.456	3	P300	14H28-	1	45
78.0	694	2.2	300	347	16.690	4	P300	14H28-	1	45
84.0	555	5.5	750	277	22.738	5	P1000	14H28-	1	54
98.0	555	1.8	260	278	16.434	5	P300	14H28-	1	45
127	396	3.8	530	198	21.823	7	P1000	14H28-	1	54
138	396	1.3	180	198	16.237	7	P300	14H28-	1	45
152	347	2.8	450	173	21.537	8	P1000	14H28-	1	54
187	278	3.2	630	139	37.076	10	P1800	14H28-	1	69
193	231	4.2	1500	100	50.203	12	P1800	14H28-	2	83
197	278	1.6	305	139	21.208	10	P1000	14H28-	1	54
229	231	2.1	780	105	24.013	12	P1000	14H28-	2	59
238	173	5.1	1800	81.0	48.982	16	P1800	14H28-	2	83
254	185	3.6	1500	93.0	43.271	15	P1800	14H28-	2	83
289	185	1.8	780	93.0	22.282	15	P1000	14H28-	2	59
295	173	2.6	1000	86.0	23.730	16	P1000	14H28-	2	59
319	139	4.3	1800	69.0	42.486	20	P1800	14H28-	2	83
380	139	2.2	1000	69.0	22.101	20	P1000	14H28-	2	59
424	111	3.6	1800	56.0	42.252	25	P1800	14H28-	2	83
482	111	1.8	900	56.0	22.028	25	P1000	14H28-	2	59
576	86.7	2.9	1800	43.0	38.736	32	P1800	14H28-	2	83
617	86.7	1.6	1000	43.0	21.287	32	P1000	14H28-	2	59
752	69.4	2.3	1800	35.0	38.645	40	P1800	14H28-	2	83
771	69.4	1.2	900	35.0	21.258	40	P1000	14H28-	2	59



7.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
161	400	4.6	1000	200	168.815	3	P1800	19J12-	1	93
177	400	2.3	450	200	120.270	3	P1000	19J12-	1	78
207	300	5.3	1300	150	141.474	4	P1800	19J12-	1	93
235	300	2.5	600	150	115.502	4	P1000	19J12-	1	78
268	240	4.6	1600	120	134.391	5	P1800	19J12-	1	93
296	240	2.3	750	120	113.538	5	P1000	19J12-	1	78
401	171	3.1	1300	86.0	131.055	7	P1800	19J12-	1	93
420	171	1.3	530	86.0	112.623	7	P1000	19J12-	1	78
479	150	2.1	1000	75.0	130.000	8	P1800	19J12-	1	93
600	120	1.1	630	60.0	127.876	10	P1800	19J12-	1	93
705	100	1.8	1500	50.0	141.003	12	P1800	19J12-	2	107
881	80.0	1.5	1500	40.0	134.071	15	P1800	19J12-	2	107
940	75.0	1.1	1000	38.0	114.530	16	P1000	19J12-	2	83
940	75.0	1.9	1800	38.0	139.782	16	P1800	19J12-	2	107
1175	60.0	1.5	1800	30.0	133.286	20	P1800	19J12-	2	107
1469	48.0	1.2	1800	24.0	133.052	25	P1800	19J12-	2	107

8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
66.0	1000	4.3	450	325	38.670	3	P1000	14L30-	1	59
73.0	1000	1.5	230	445	26.656	3	P300	14L30-	1	50
85.0	750	5.2	600	303	33.902	4	P1000	14L30-	1	59
98.0	750	1.7	300	362	25.890	4	P300	14L30-	1	50
111	600	4.3	750	259	31.938	5	P1000	14L30-	1	59
122	600	1.4	260	300	25.634	5	P300	14L30-	1	50
164	429	3.1	530	214	31.023	7	P1000	14L30-	1	59
171	429	1.0	180	214	25.437	7	P300	14L30-	1	50
171	375	5.1	1000	188	48.400	8	P1800	14L30-	1	73
194	375	2.3	450	188	30.737	8	P1000	14L30-	1	59
239	300	2.6	630	150	46.276	10	P1800	14L30-	1	73
245	300	1.3	305	150	30.408	10	P1000	14L30-	1	59
260	250	3.3	1500	93.0	59.403	12	P1800	14L30-	2	88
288	250	1.7	780	97.0	33.213	12	P1000	14L30-	2	63
327	188	4.0	1800	77.0	58.182	16	P1800	14L30-	2	88
337	200	2.8	1500	89.0	52.471	15	P1800	14L30-	2	88
360	200	1.4	780	91.0	31.482	15	P1000	14L30-	2	63
383	188	2.0	1000	80.0	32.930	16	P1000	14L30-	2	63
430	150	3.4	1800	73.0	51.686	20	P1800	14L30-	2	88
479	150	1.7	1000	74.0	31.301	20	P1000	14L30-	2	63
562	120	2.8	1800	58.0	51.452	25	P1800	14L30-	2	88
599	120	1.5	900	60.0	31.228	25	P1000	14L30-	2	63
749	93.8	2.3	1800	47.0	47.936	32	P1800	14L30-	2	88
767	93.8	1.3	1000	47.0	30.487	32	P1000	14L30-	2	63
959	75.0	1.9	1800	38.0	47.845	40	P1800	14L30-	2	88



9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
190	400	4.0	1000	200	223.815	3	P1800	19P12-	1	103
207	400	2.0	450	200	175.270	3	P1000	19P12-	1	88
246	300	4.6	1300	150	196.474	4	P1800	19P12-	1	103
275	300	2.2	600	150	170.502	4	P1000	19P12-	1	88
317	240	4.0	1600	120	189.391	5	P1800	19P12-	1	103
345	240	2.0	750	120	168.538	5	P1000	19P12-	1	88
471	171	2.7	1300	86.0	186.055	7	P1800	19P12-	1	103
484	171	1.1	530	86.0	167.623	7	P1000	19P12-	1	88
553	150	1.8	1000	75.0	185.000	8	P1800	19P12-	1	103
812	100	1.5	1500	50.0	196.003	12	P1800	19P12-	2	117
1015	80.0	1.3	1500	40.0	189.071	15	P1800	19P12-	2	117
1083	75.0	1.6	1800	38.0	194.782	16	P1800	19P12-	2	117
1354	60.0	1.3	1800	30.0	188.286	20	P1800	19P12-	2	117
1692	48.0	1.1	1800	24.0	188.052	25	P1800	19P12-	2	117

9.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
89.0	875	3.5	450	311	49.970	3	P1000	14P26-	1	64
95.0	875	1.2	230	413	37.956	3	P300	14P26-	1	55
115	656	4.2	600	287	45.202	4	P1000	14P26-	1	64
127	656	1.4	300	328	37.190	4	P300	14P26-	1	55
149	525	3.5	750	243	43.238	5	P1000	14P26-	1	64
158	525	1.2	260	263	36.934	5	P300	14P26-	1	55
192	375	5.3	1300	188	60.755	7	P1800	14P26-	1	78
218	375	2.4	530	188	42.323	7	P1000	14P26-	1	64
233	328	3.9	1000	164	59.700	8	P1800	14P26-	1	78
253	328	1.8	450	164	42.037	8	P1000	14P26-	1	64
317	263	2.0	630	131	57.576	10	P1800	14P26-	1	78
354	219	2.7	1500	88.0	70.703	12	P1800	14P26-	2	93
372	219	1.4	780	89.0	44.513	12	P1000	14P26-	2	68
452	164	3.2	1800	73.0	69.482	16	P1800	14P26-	2	93
456	175	2.3	1500	84.0	63.771	15	P1800	14P26-	2	93
465	175	1.2	780	85.0	42.782	15	P1000	14P26-	2	68
496	164	1.6	1000	75.0	44.230	16	P1000	14P26-	2	68
587	131	2.7	1800	66.0	62.986	20	P1800	14P26-	2	93
620	131	1.4	1000	66.0	42.601	20	P1000	14P26-	2	68
759	105	2.3	1800	53.0	62.752	25	P1800	14P26-	2	93
776	105	1.2	900	53.0	42.528	25	P1000	14P26-	2	68
993	82.0	1.8	1800	41.0	59.236	32	P1800	14P26-	2	93
1241	65.6	1.5	1800	33.0	59.145	40	P1800	14P26-	2	93



9.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
88.0	950	3.5	450	310	80.270	3	P1000	19F29-	1	71
114	713	4.2	600	286	75.502	4	P1000	19F29-	1	71
147	570	3.5	750	242	73.538	5	P1000	19F29-	1	71
189	407	5.2	1300	204	91.055	7	P1800	19F29-	1	86
215	407	2.4	530	204	72.623	7	P1000	19F29-	1	71
229	356	4.0	1000	178	90.000	8	P1800	19F29-	1	86
250	356	1.8	450	178	72.337	8	P1000	19F29-	1	71
312	285	2.0	630	143	87.876	10	P1800	19F29-	1	86
349	238	2.6	1500	88.0	101.003	12	P1800	19F29-	2	100
367	238	1.3	780	89.0	74.813	12	P1000	19F29-	2	76
447	178	3.2	1800	72.0	99.782	16	P1800	19F29-	2	100
450	190	2.3	1500	84.0	94.071	15	P1800	19F29-	2	100
458	190	1.2	780	84.0	73.082	15	P1000	19F29-	2	76
489	178	1.6	1000	75.0	74.530	16	P1000	19F29-	2	76
579	143	2.7	1800	69.0	93.286	20	P1800	19F29-	2	100
611	143	1.4	1000	68.0	72.901	20	P1000	19F29-	2	76
749	114	2.3	1800	55.0	93.052	25	P1800	19F29-	2	100
764	114	1.2	900	57.0	72.828	25	P1000	19F29-	2	76
978	89.1	1.8	1800	45.0	89.536	32	P1800	19F29-	2	100
1222	71.3	1.5	1800	36.0	89.445	40	P1800	19F29-	2	100

15.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
131	950	4.4	1000	274	168.815	3	P1800	19J29-	1	93
144	950	2.2	450	283	120.270	3	P1000	19J29-	1	78
168	713	5.2	1300	240	141.474	4	P1800	19J29-	1	93
188	713	2.7	600	252	115.502	4	P1000	19J29-	1	78
219	570	4.4	1600	220	134.391	5	P1800	19J29-	1	93
240	570	2.2	750	209	113.538	5	P1000	19J29-	1	78
320	407	3.3	1300	196	131.055	7	P1800	19J29-	1	93
339	407	1.6	530	193	112.623	7	P1000	19J29-	1	78
379	356	2.6	1000	178	130.000	8	P1800	19J29-	1	93
388	356	1.2	450	178	112.337	8	P1000	19J29-	1	78
485	285	1.3	630	143	127.876	10	P1800	19J29-	1	93
570	238	1.7	1500	76.0	141.003	12	P1800	19J29-	2	107
712	190	1.5	1500	73.0	134.071	15	P1800	19J29-	2	107
758	178	2.0	1800	64.0	139.782	16	P1800	19J29-	2	107
760	178	1.0	1000	63.0	114.530	16	P1000	19J29-	2	83
949	143	1.7	1800	60.0	133.286	20	P1800	19J29-	2	107
1187	114	1.5	1800	49.0	133.052	25	P1800	19J29-	2	107
1519	89.1	1.2	1800	45.0	129.536	32	P1800	19J29-	2	107



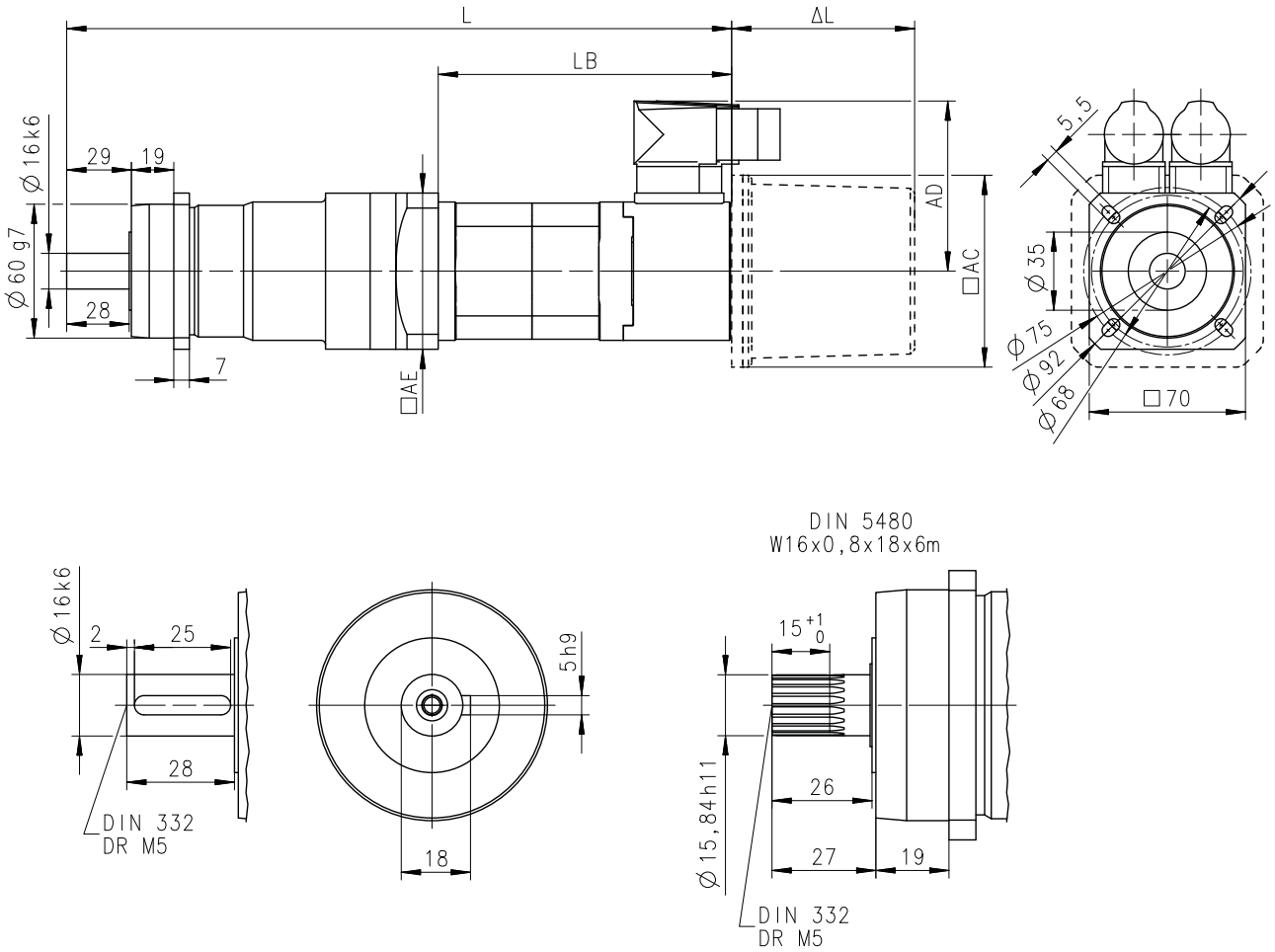
15.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g840-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
139	950	4.2	1000	270	223.815	3	P1800	19P29-	1	103
152	950	2.1	450	280	175.270	3	P1000	19P29-	1	88
178	713	5.0	1300	237	196.474	4	P1800	19P29-	1	103
199	713	2.6	600	248	170.502	4	P1000	19P29-	1	88
232	570	4.1	1600	216	189.391	5	P1800	19P29-	1	103
253	570	2.1	750	206	168.538	5	P1000	19P29-	1	88
339	407	3.2	1300	193	186.055	7	P1800	19P29-	1	103
356	407	1.5	530	190	167.623	7	P1000	19P29-	1	88
400	356	2.4	1000	178	185.000	8	P1800	19P29-	1	103
407	356	1.1	450	178	167.337	8	P1000	19P29-	1	88
509	285	1.2	630	143	182.876	10	P1800	19P29-	1	103
598	238	1.6	1500	75.0	196.003	12	P1800	19P29-	2	117
747	190	1.4	1500	71.0	189.071	15	P1800	19P29-	2	117
797	178	1.9	1800	63.0	194.782	16	P1800	19P29-	2	117
996	143	1.7	1800	59.0	188.286	20	P1800	19P29-	2	117
1246	114	1.4	1800	48.0	188.052	25	P1800	19P29-	2	117
1594	89.1	1.1	1800	45.0	184.536	32	P1800	19P29-	2	117

Basic dimensions

g840-P77 with MCS06

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



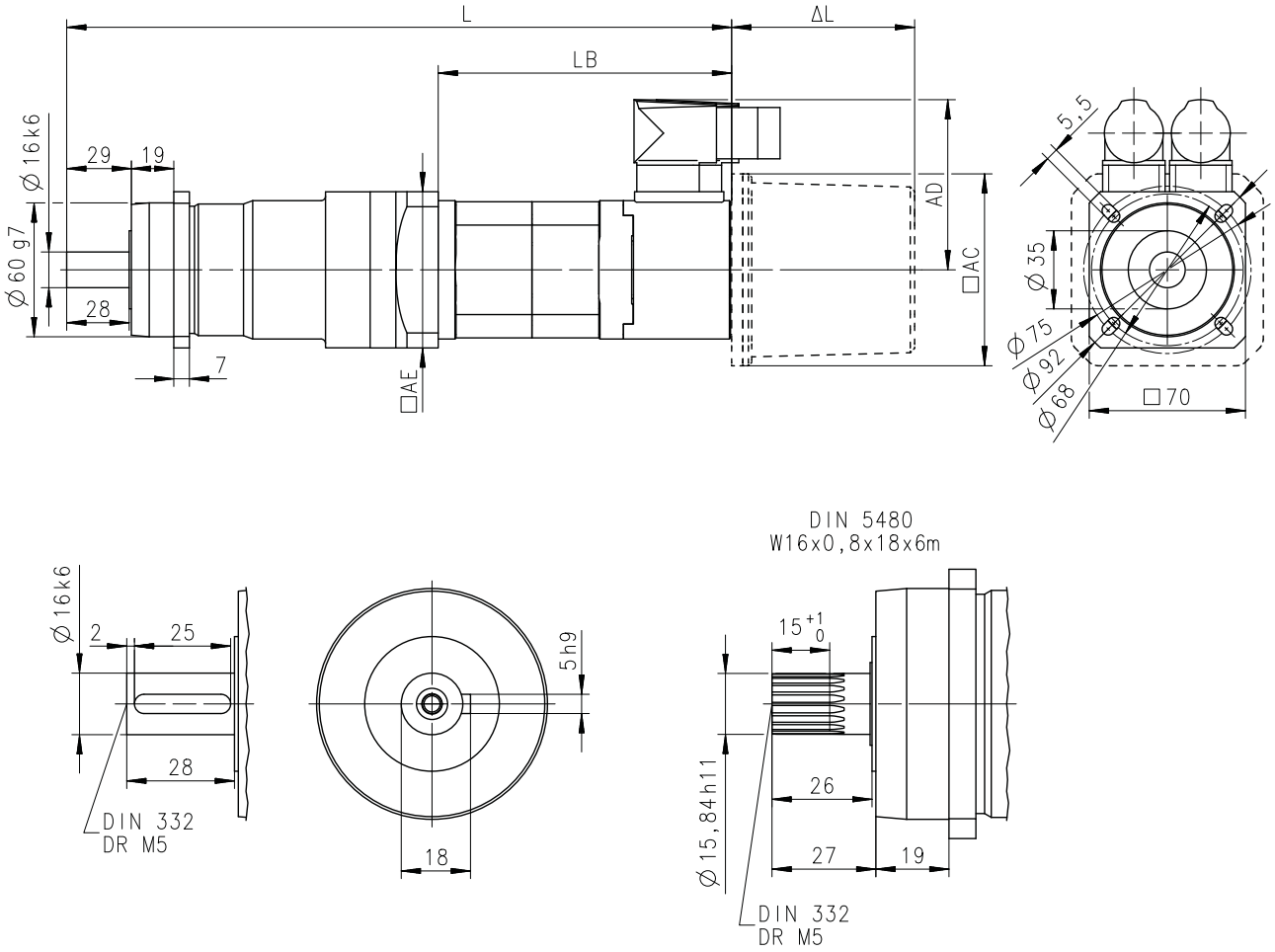
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Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	269.5	269.5	299.5	299.5	329.5	329.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70



g840-P77 with MCS06

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

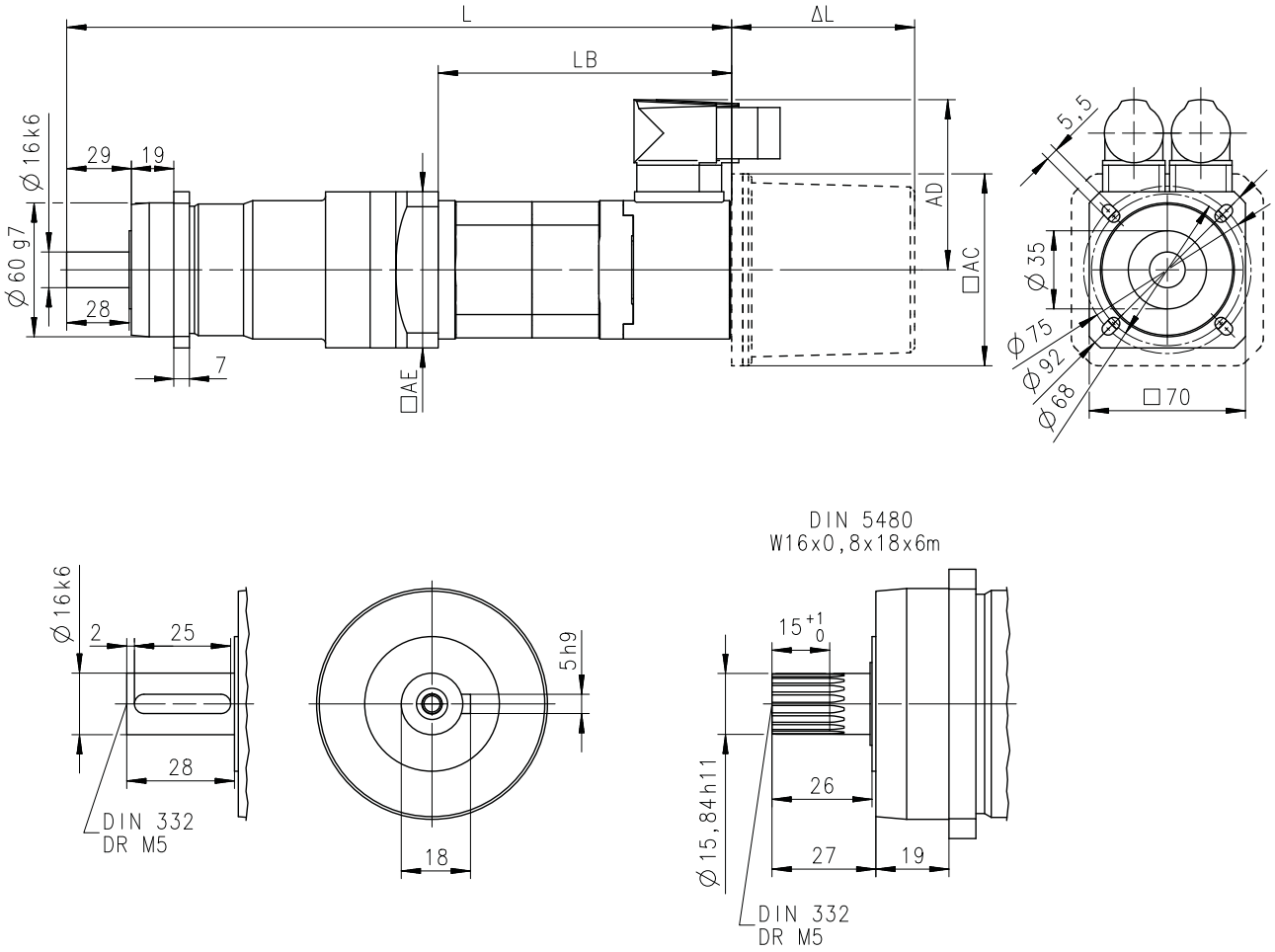


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Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	296.5	296.5	326.5	326.5	356.5	356.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g840-P77 with MCS09

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



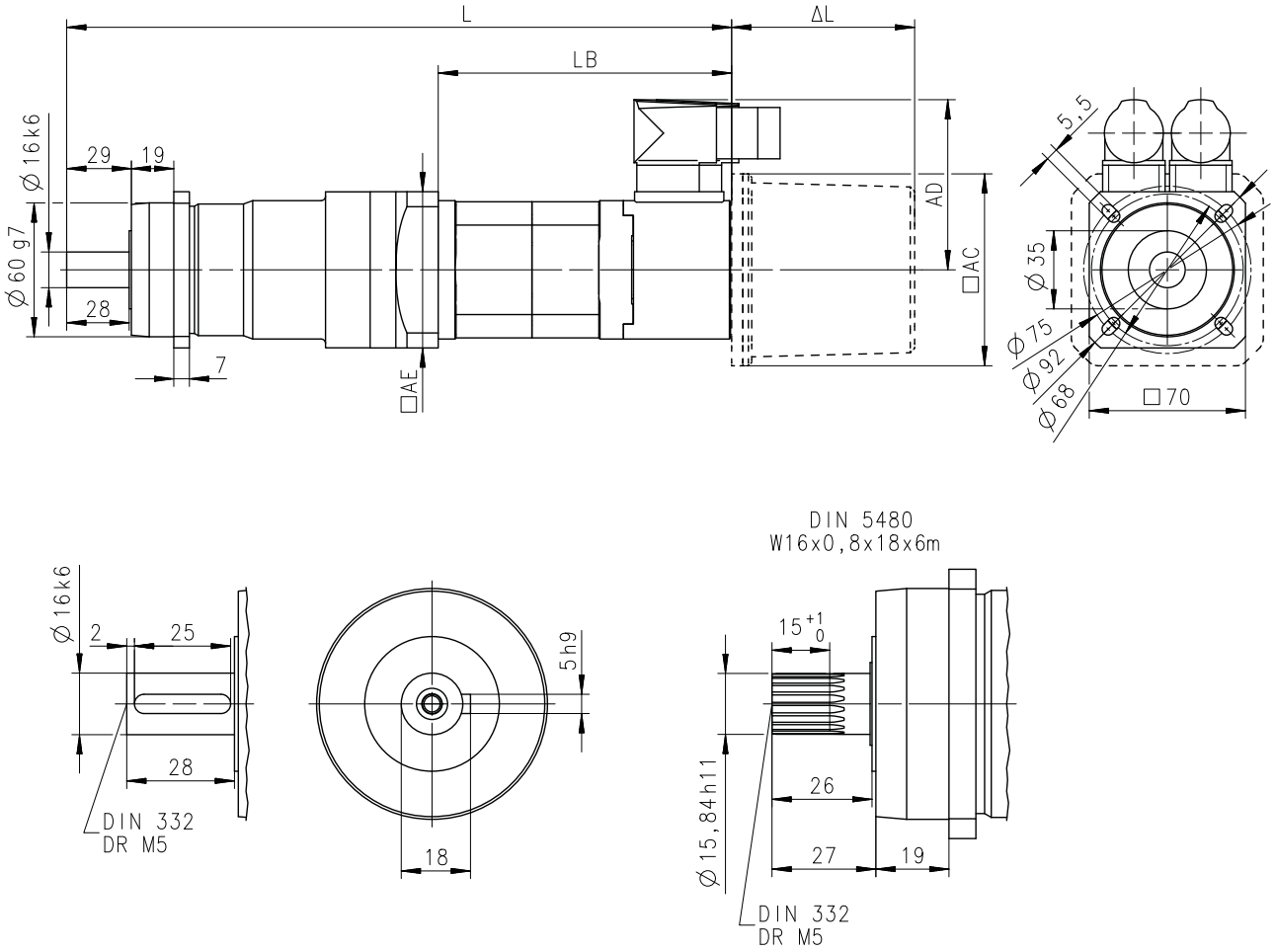
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Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	326.5	326.5	346.5	346.5	366.5	366.5	406.5	406.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g840-P77 with MCS09

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

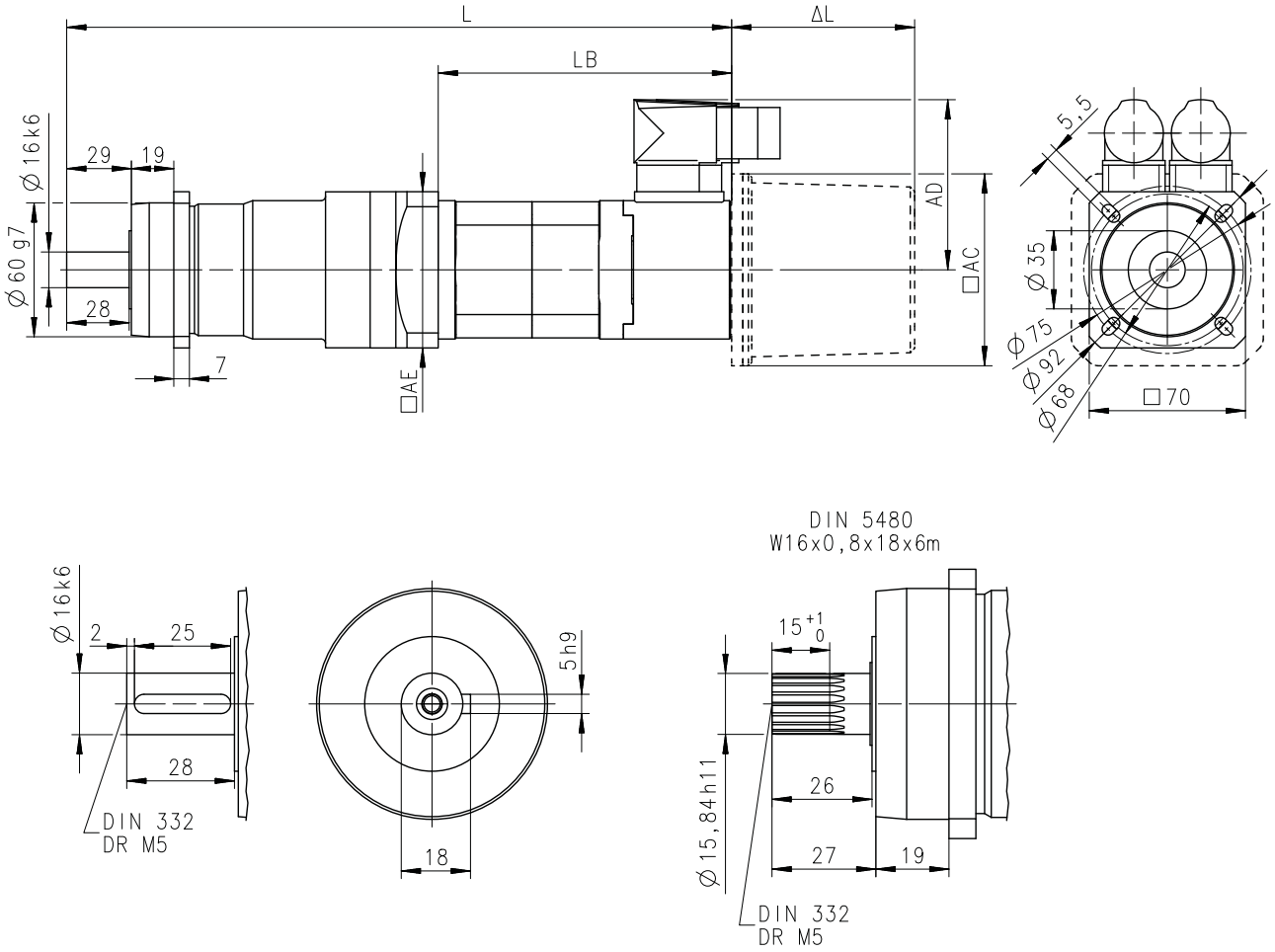


8800828-00

Motor			MCS 09				
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H60- H60L
Total length	L	mm	355.5	355.5	375.5	375.5	395.5
Motor length	LB	mm	182	182	202	202	222
Motor diameter	AC	mm	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90

g840-P77 with MCS12

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



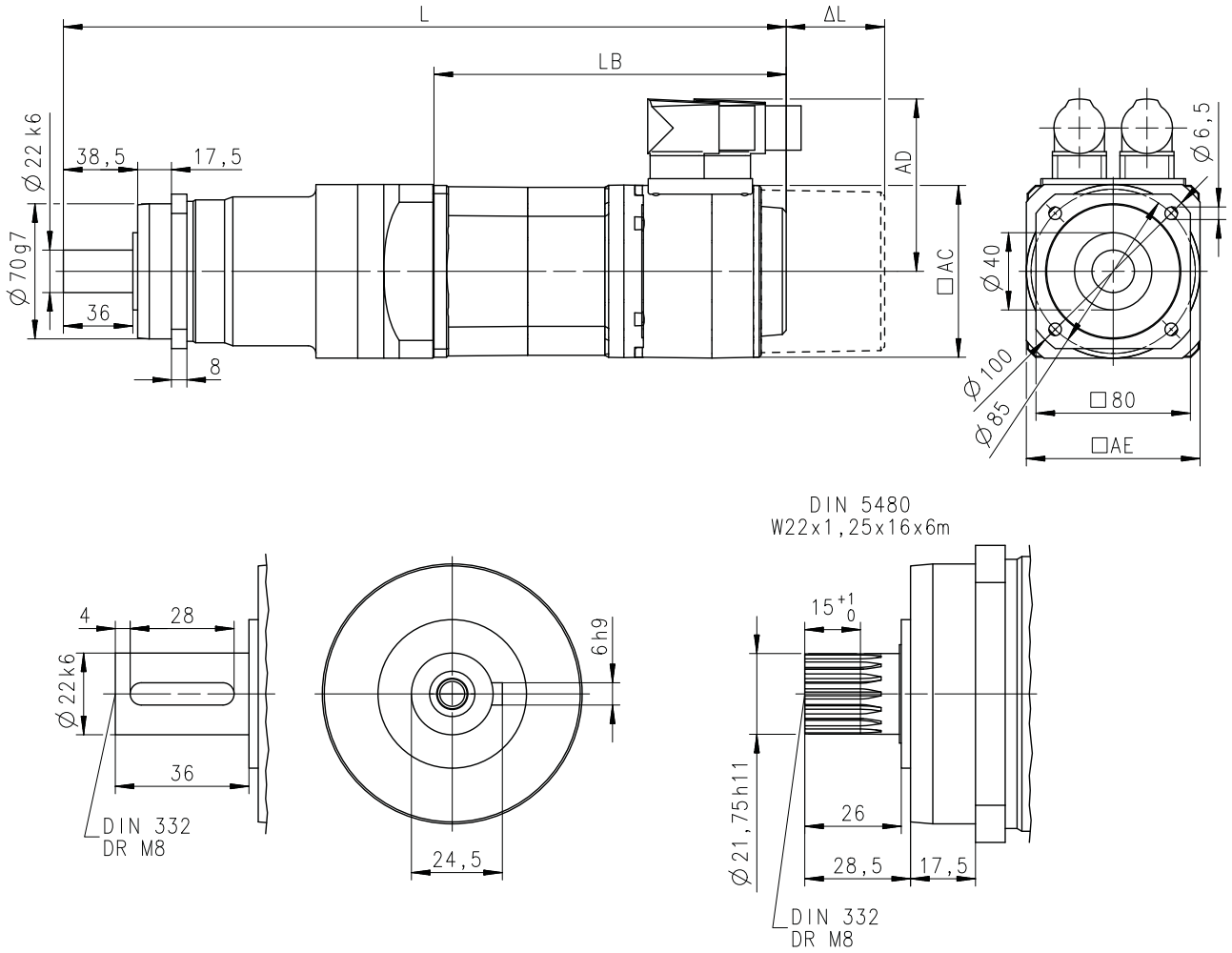
8800828-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	416	343	416	343	383	383	383
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115



g840-P150 with MCS06

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

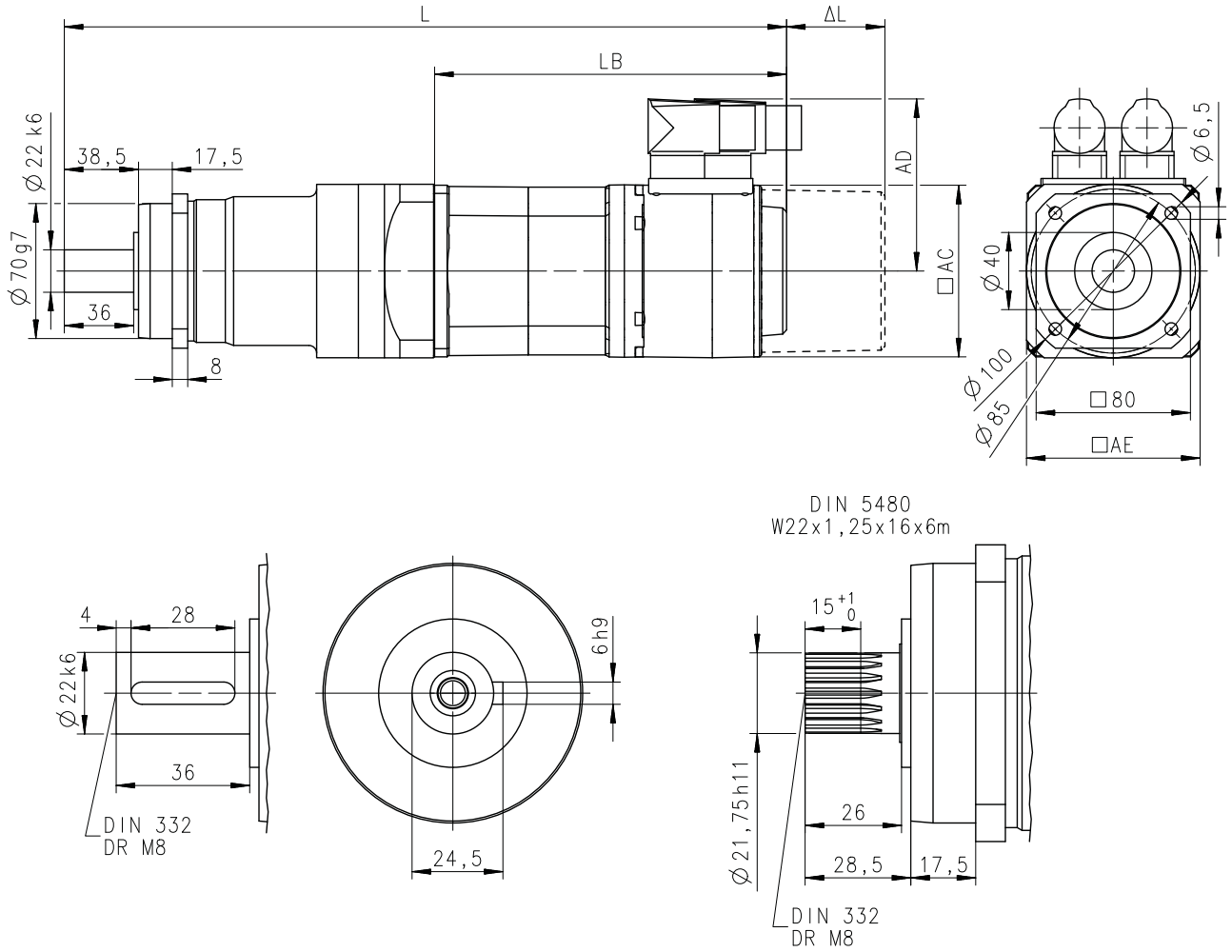


8800826-00

Motor			MCS 06		
			F41- F41L	I41- I41L	I60- I60L
Total length	L	mm	321.5	351.5	351.5
Motor length	LB	mm	162	192	192
Motor diameter	AC	mm	86	86	86
Motor/connection distance	AD	mm	77	77	77
Gearbox diameter	AE	mm	90	90	90

g840-P150 with MCS06

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



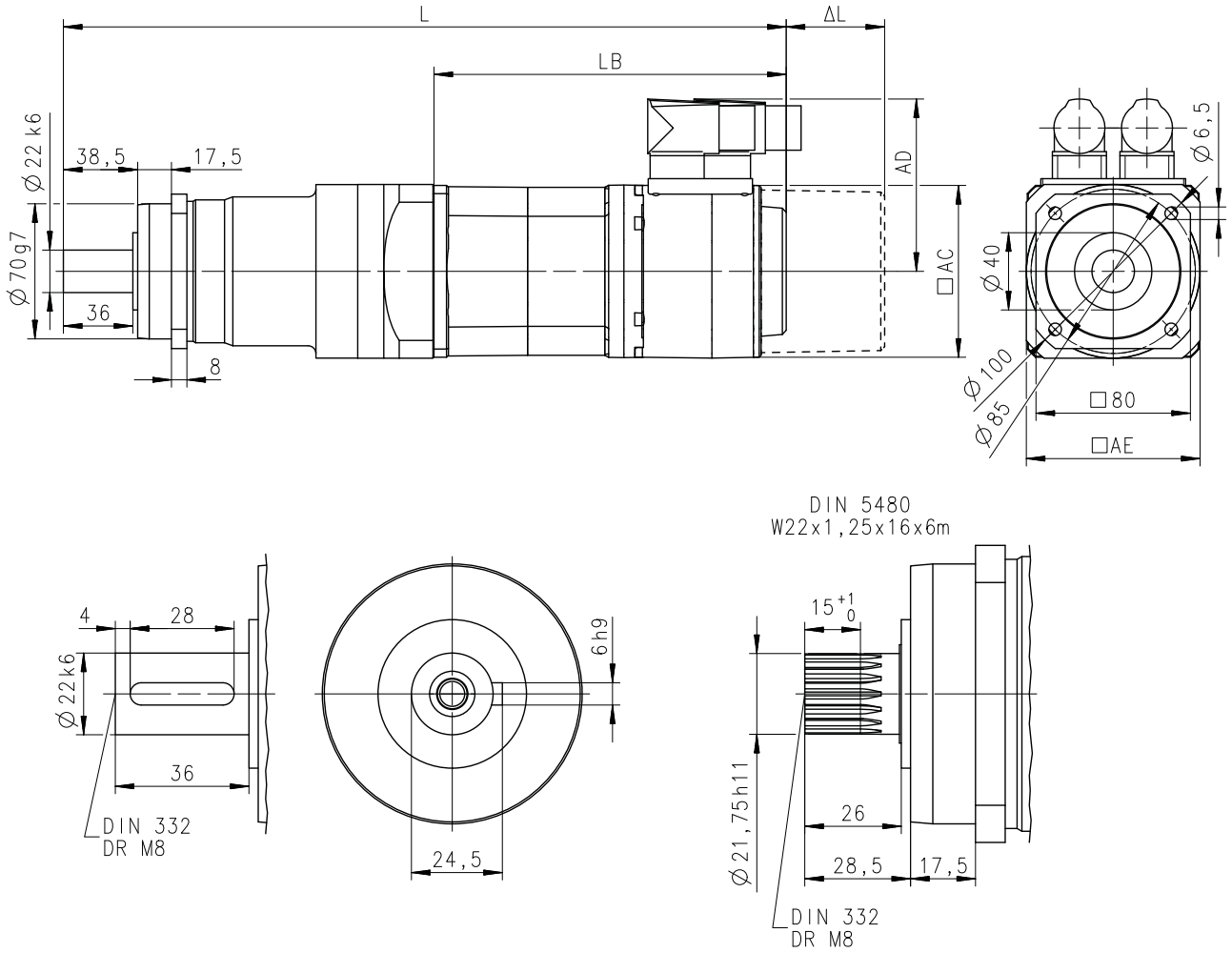
8800826-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	323.5	323.5	353.5	353.5	383.5	383.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	90	90	90	90	90	90



g840-P150 with MCS09

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

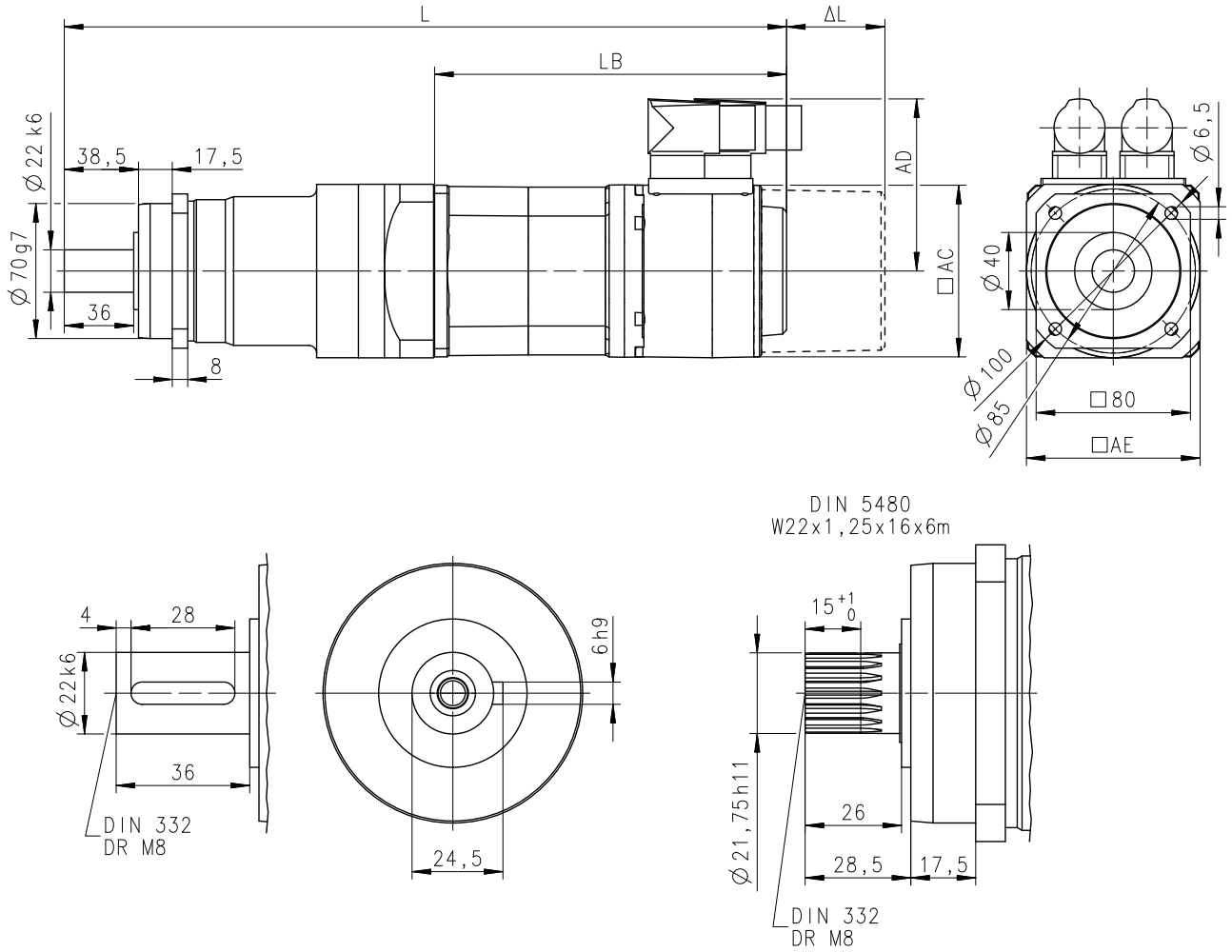


8800826-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	341.5	341.5	361.5	361.5	381.5	381.5	421.5	421.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g840-P150 with MCS09

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



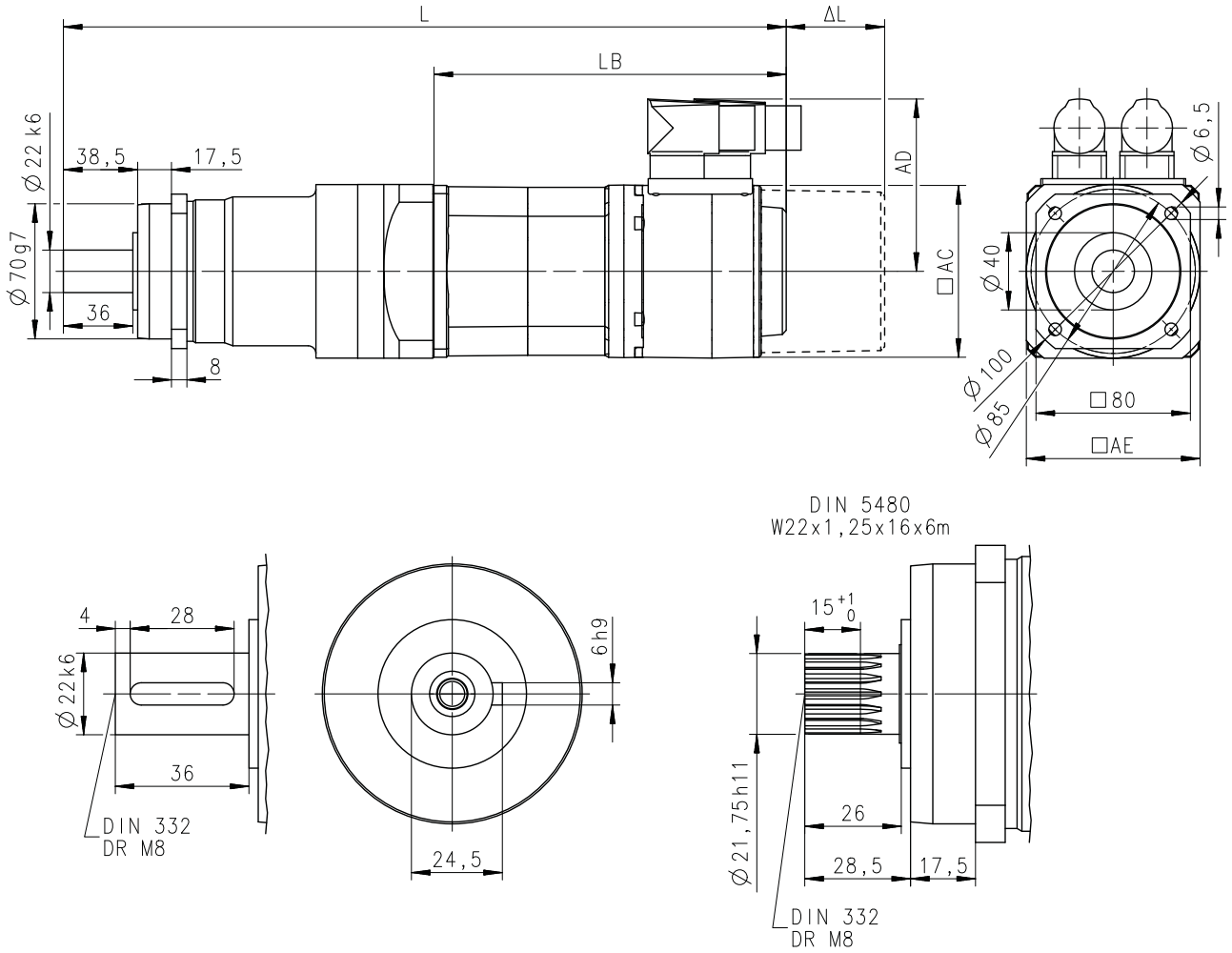
8800826-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	373.5	373.5	393.5	393.5	413.5	413.5	453.5	453.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g840-P150 with MCS12

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

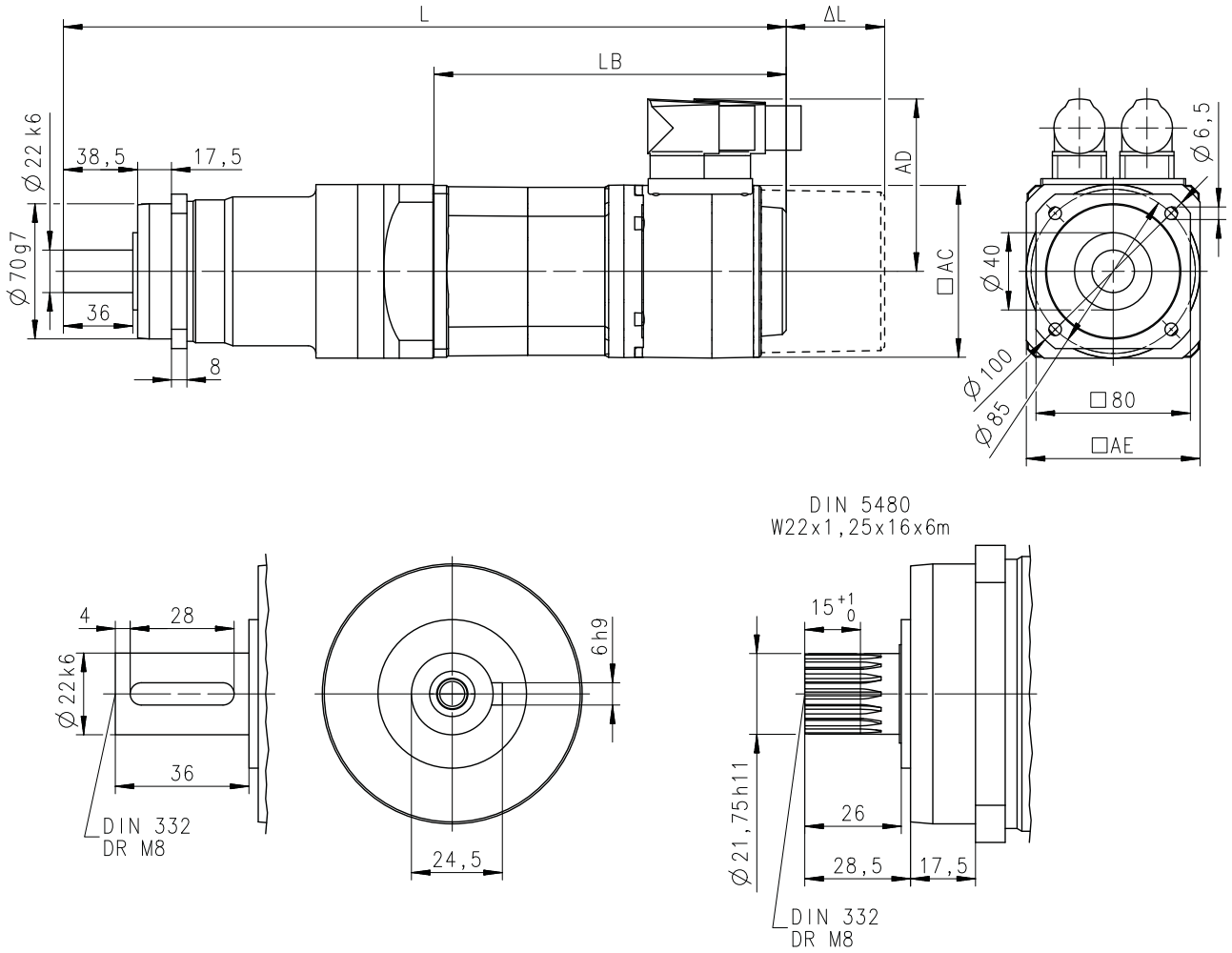


8800826-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	430.5	357.5	430.5	357.5	470.5	397.5	397.5	470.5	397.5	520.5	437.5	510.5	437.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115

g840-P150 with MCS12

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



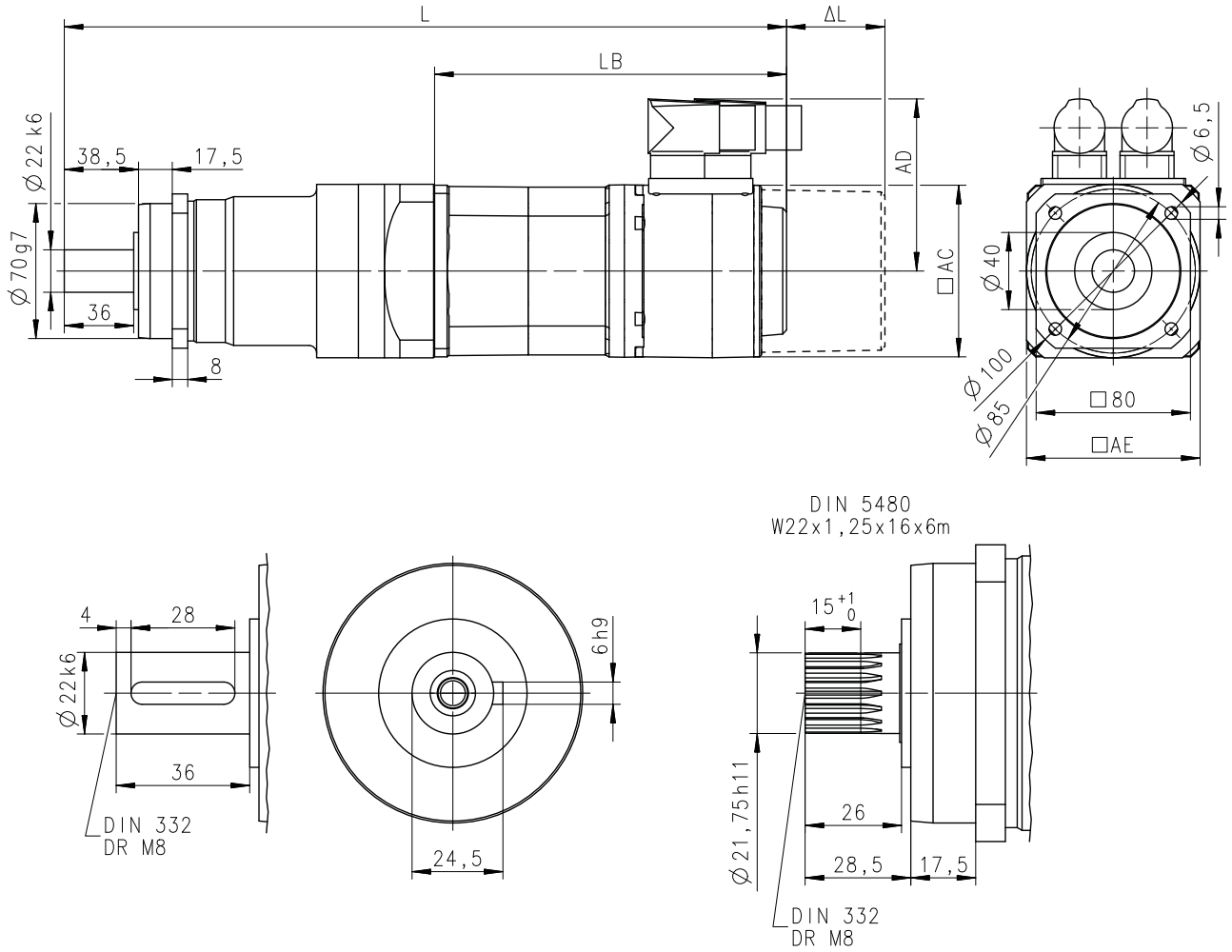
8800826-00

Motor			MCS 12					
			D17-	D20- D20L	D35-	D41- D41L	H30L	H35-
Total length	L	mm	462.5	389.5	462.5	389.5	429.5	429.5
Motor length	LB	mm	261	188	261	188	228	228
Motor diameter	AC	mm	140	116	140	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115



g840-P150 with MCS14

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

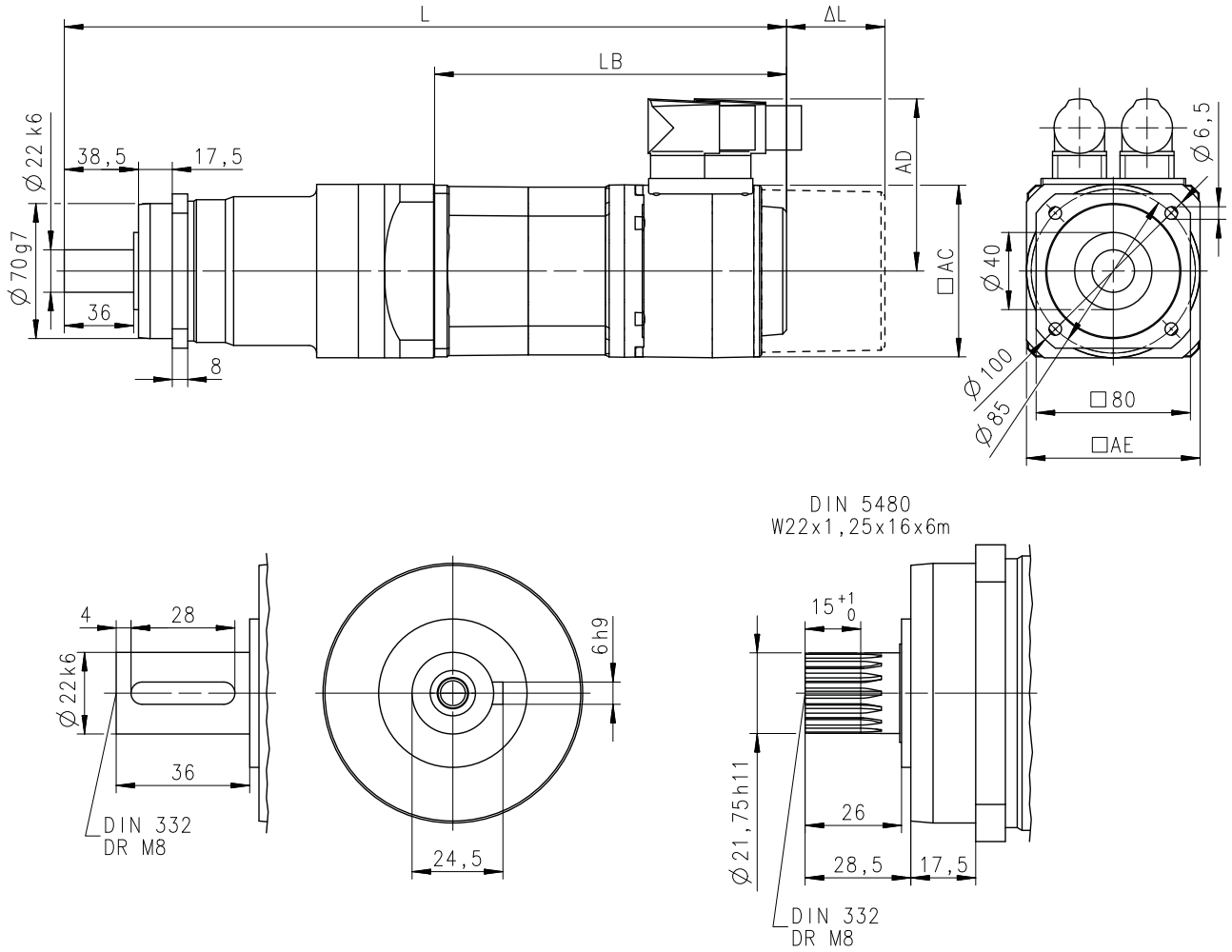


8800826-00

Motor			MCS 14					
			D14-	D15-	D30-	D36-	H15-	H32-
Total length	L	mm	468.5	380.5	468.5	380.5	420.5	420.5
Motor length	LB	mm	289	201	289	201	241	241
Motor diameter	AC	mm	167	143	167	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117
Gearbox diameter	AE	mm	142	142	142	142	142	142

g840-P150 with MCS14

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



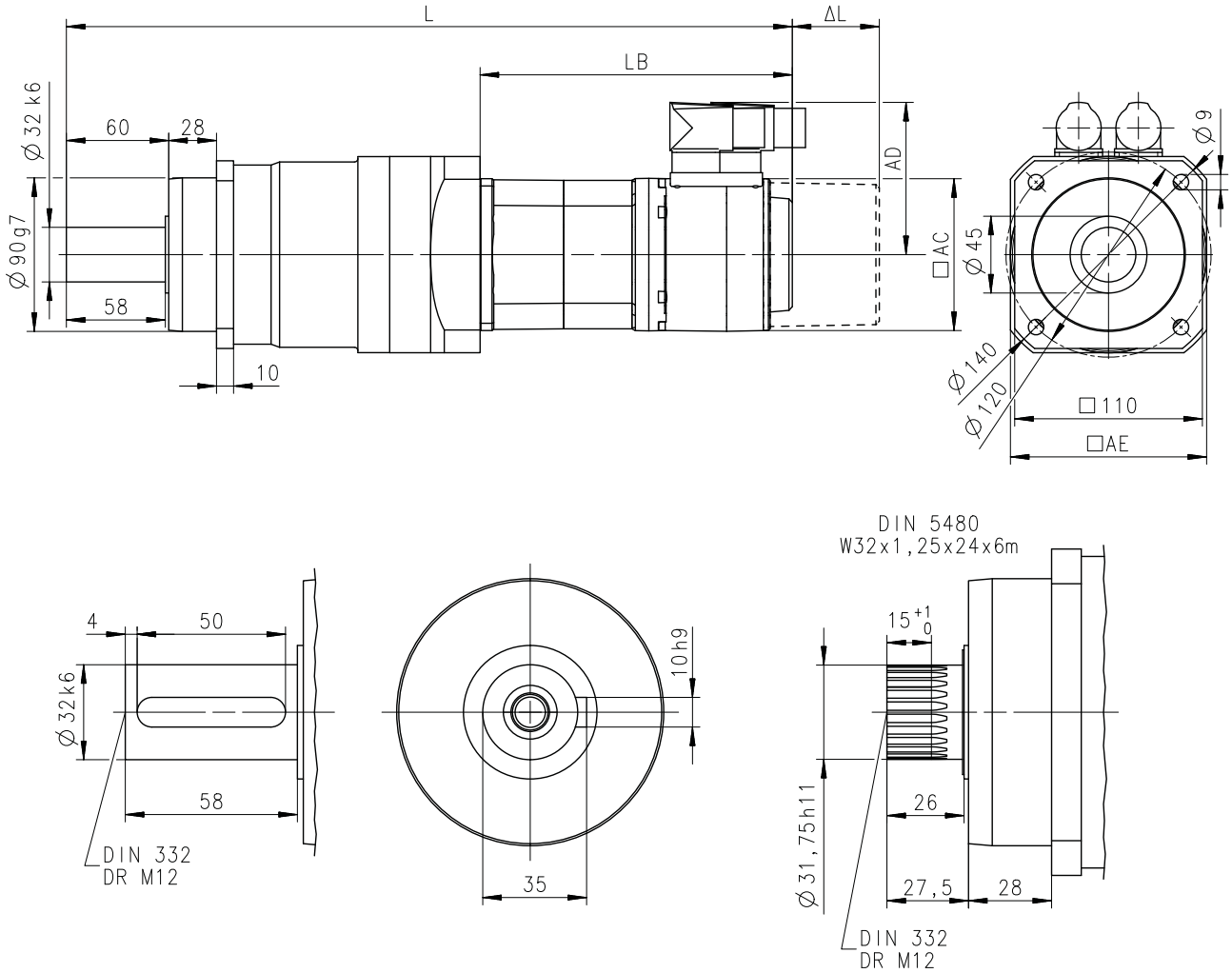
8800826-00

Motor			MCS 14	
			D15-	D36-
Total length	L	mm	412.5	412.5
Motor length	LB	mm	201	201
Motor diameter	AC	mm	143	143
Motor/connection distance	AD	mm	117	117
Gearbox diameter	AE	mm	142	142



g840-P300 with MCS06

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

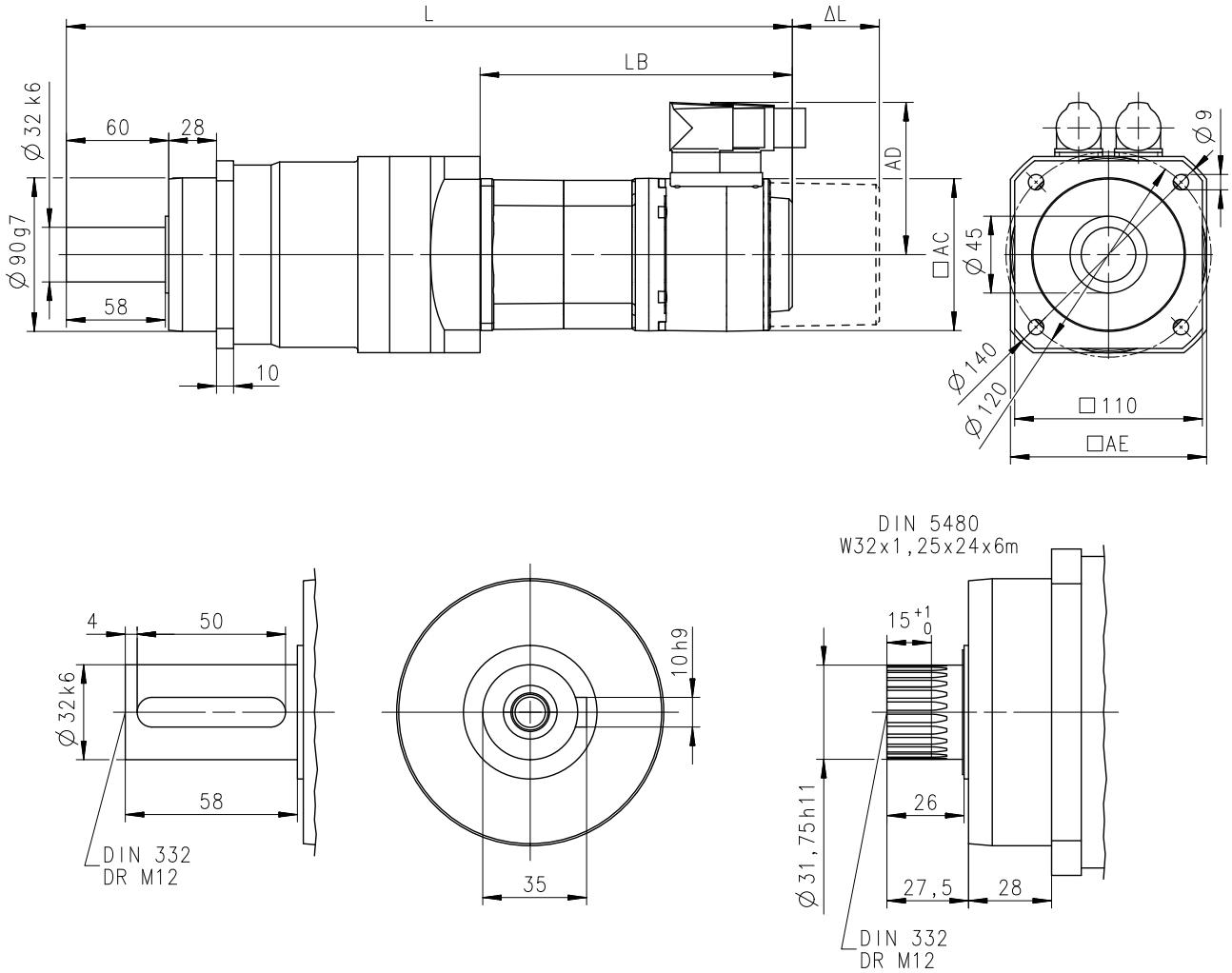


8800827-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	373	373	403	403	433	433
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115	115

g840-P300 with MCS09

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



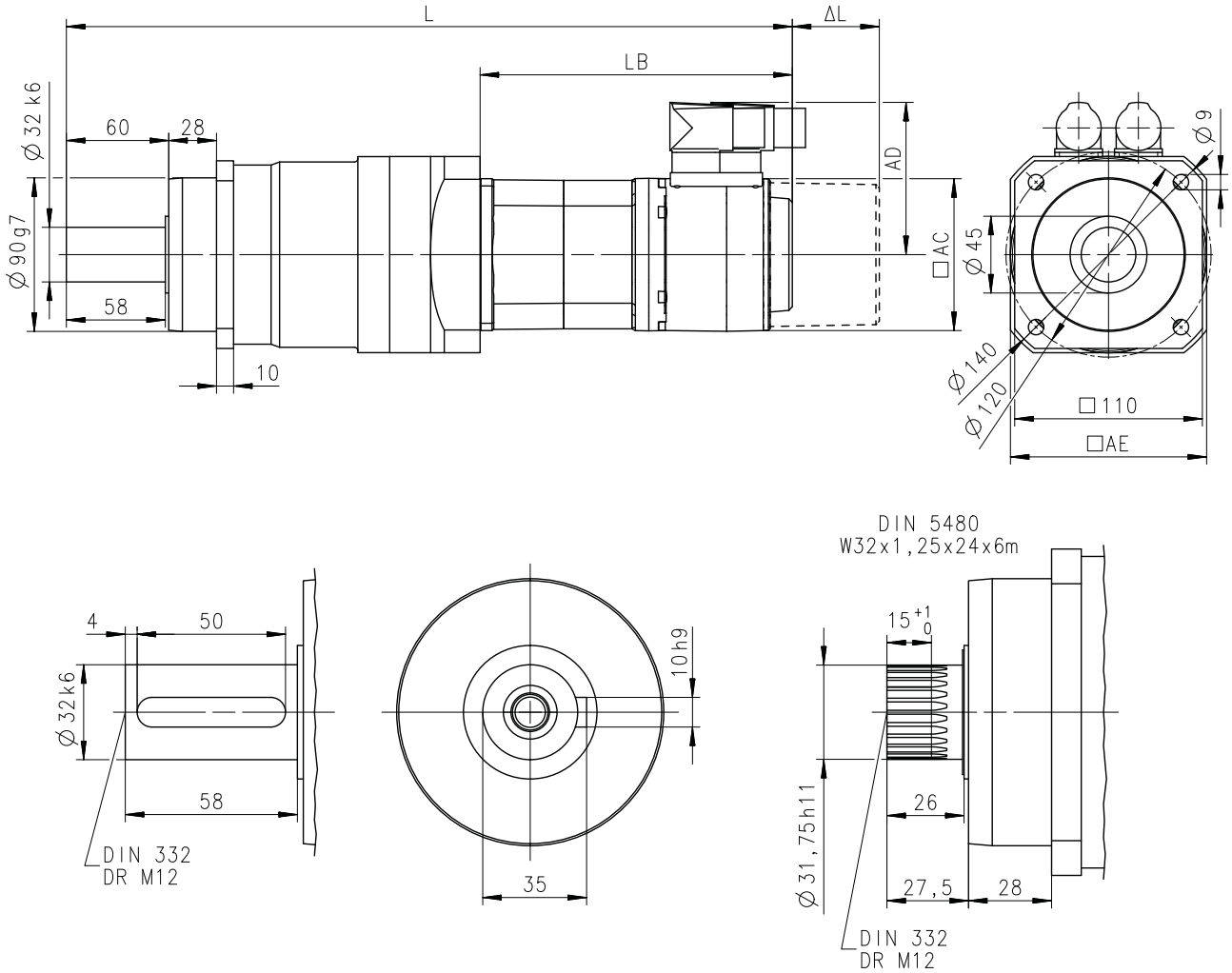
8800827-00

Motor			MCS 09						
			D41- D41L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	383	403	403	423	423	463	463
Motor length	LB	mm	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115



g840-P300 with MCS09

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

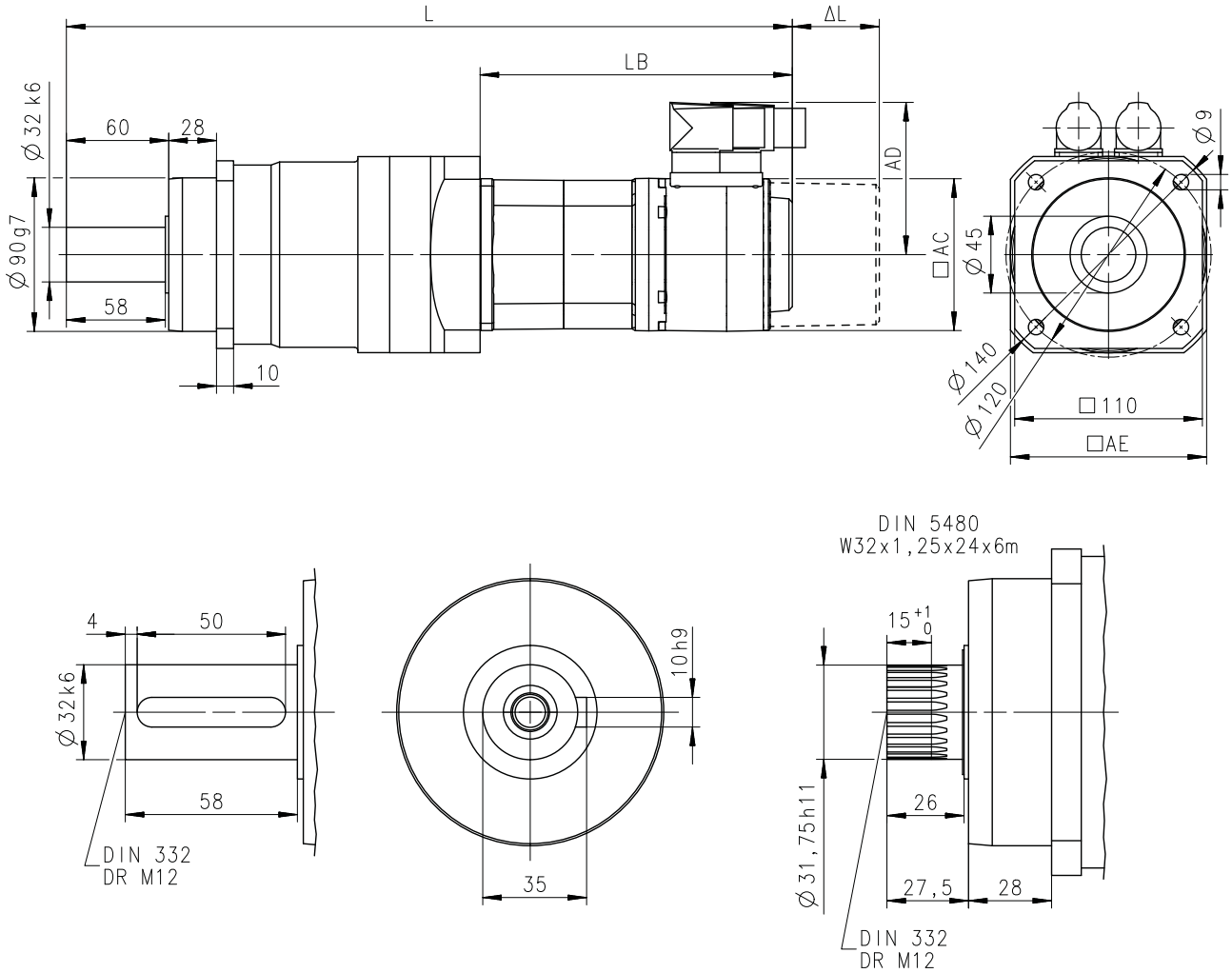


8800827-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	423	423	443	443	463	463	503	503
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115

g840-P300 with MCS12

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



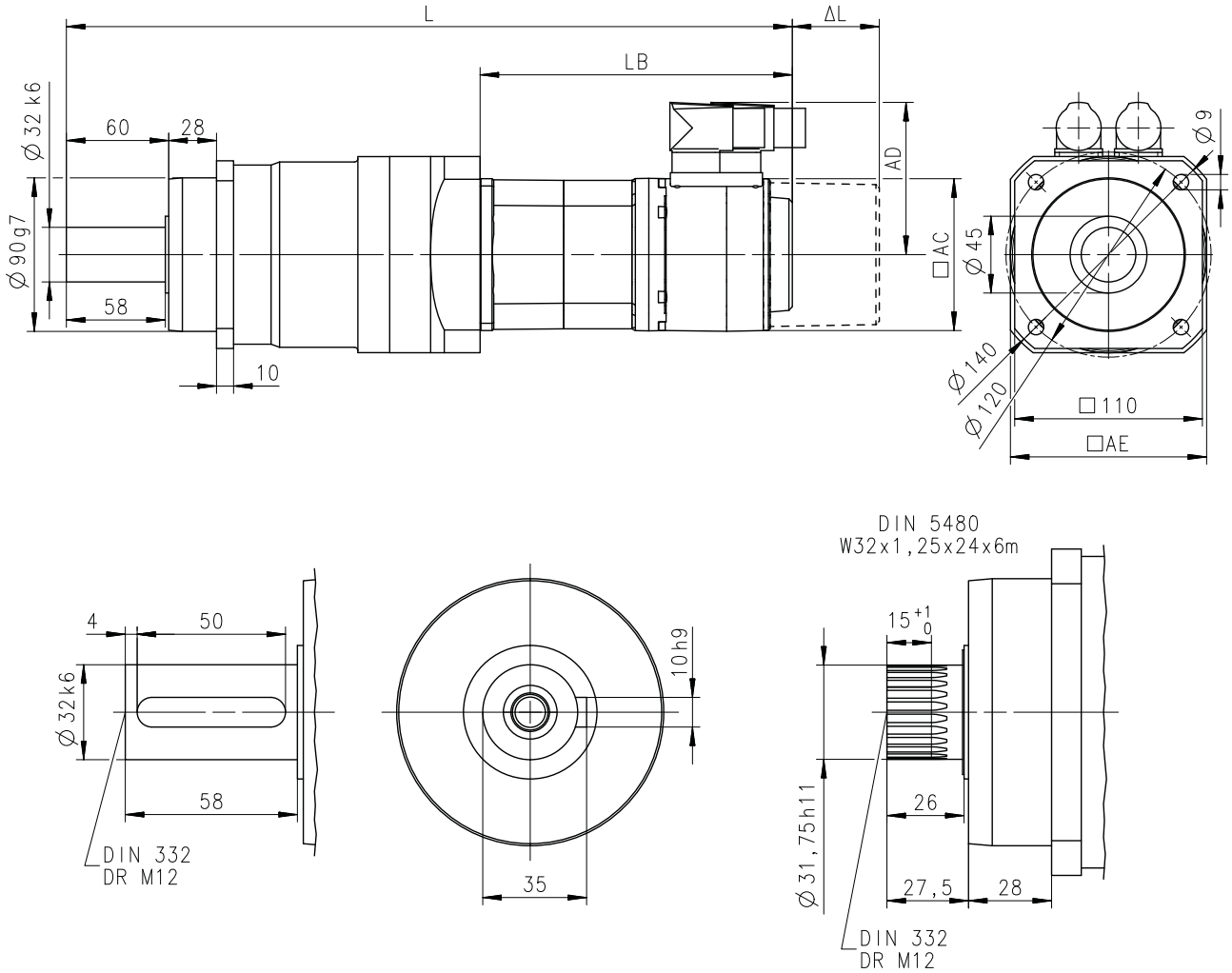
8800827-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	462	389	462	389	502	429	429	502	429	552	469	542	469
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	120	120	120	120	120	120	120	120	120	120	120	120	120



g840-P300 with MCS12

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

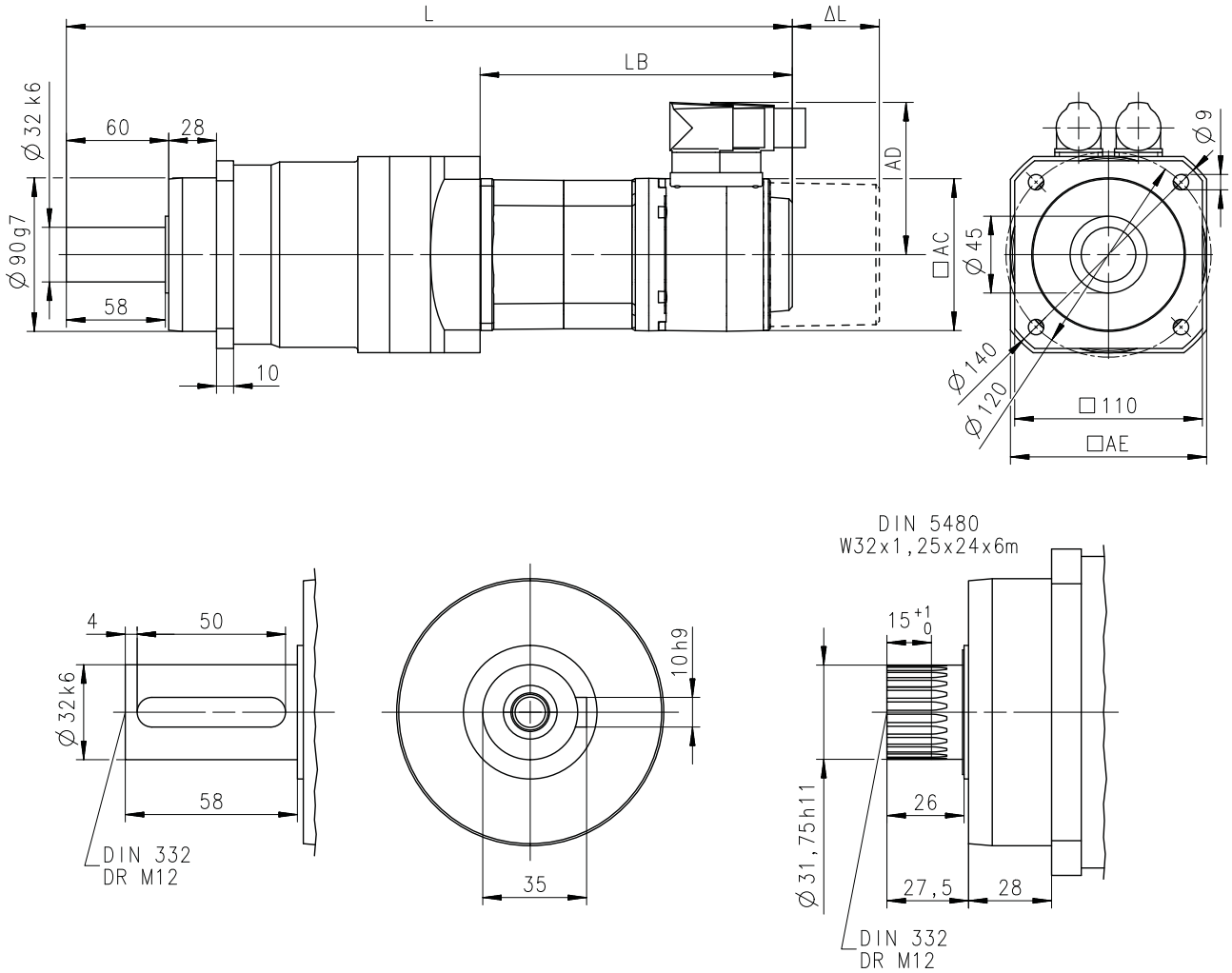


8800827-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	502	429	502	429	542	469	469	542	469	592	509	582	509
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	120	120	120	120	120	120	120	120	120	120	120	120	120

g840-P300 with MCS14

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



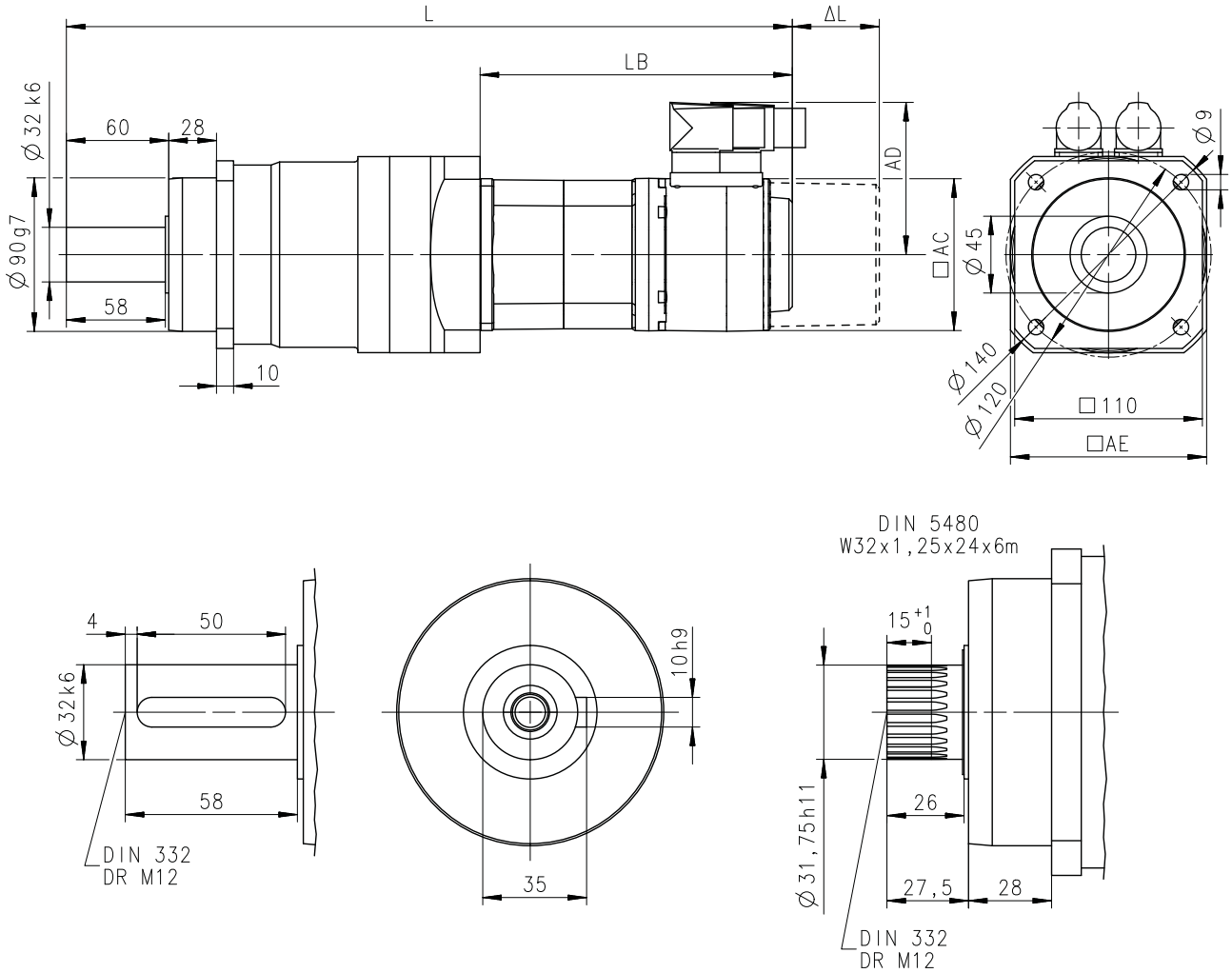
8800827-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	500	412	500	412	540	452	540	452	580	492	580	492	620	532	620	532
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142



g840-P300 with MCS14

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

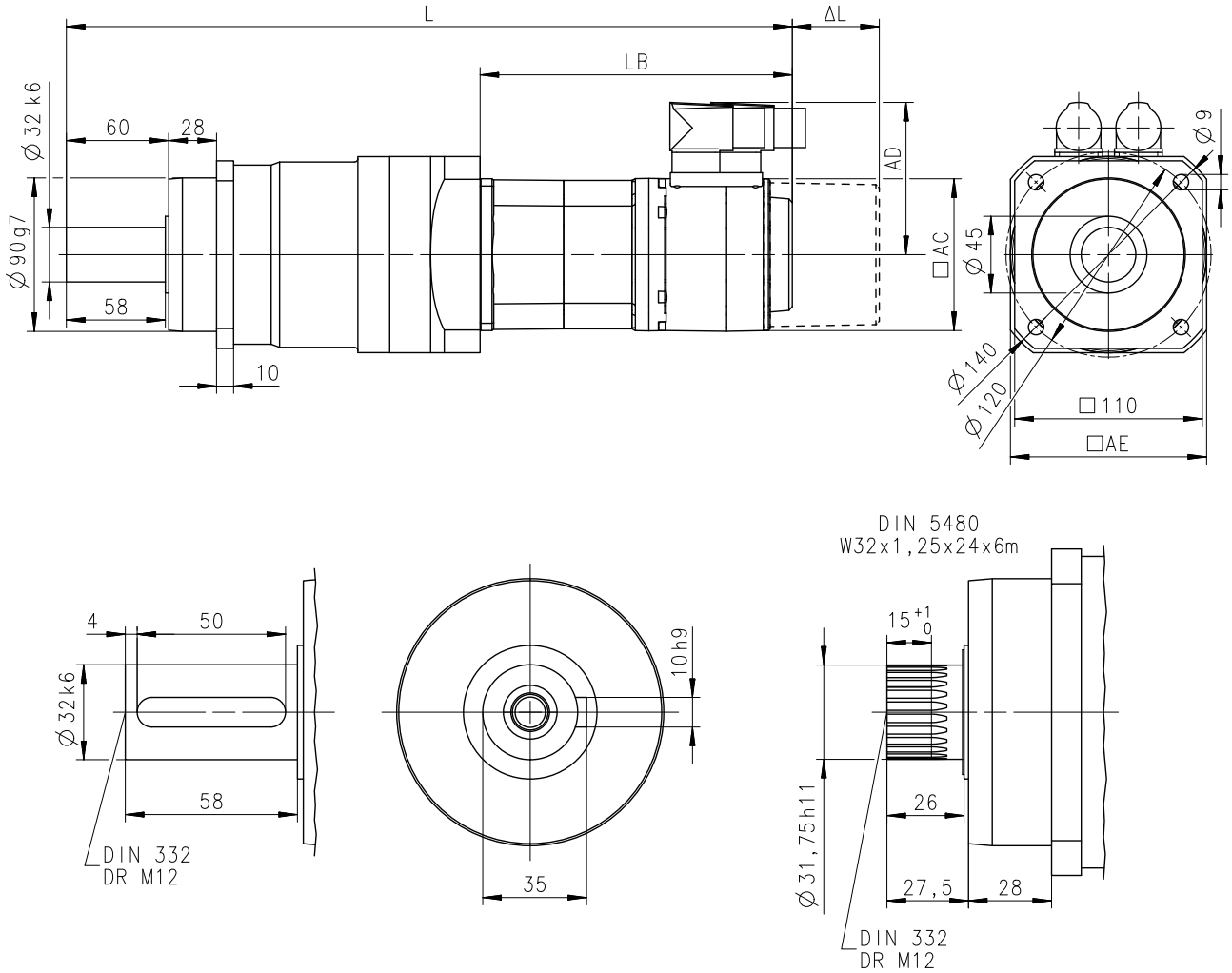


8800827-00

Motor			MCS 14					
			D14-	D15-	D30-	D36-	H15-	H32-
Total length	L	mm	540	452	540	452	492	492
Motor length	LB	mm	289	201	289	201	241	241
Motor diameter	AC	mm	167	143	167	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117
Gearbox diameter	AE	mm	142	142	142	142	142	142

g840-P300 with MCS19

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



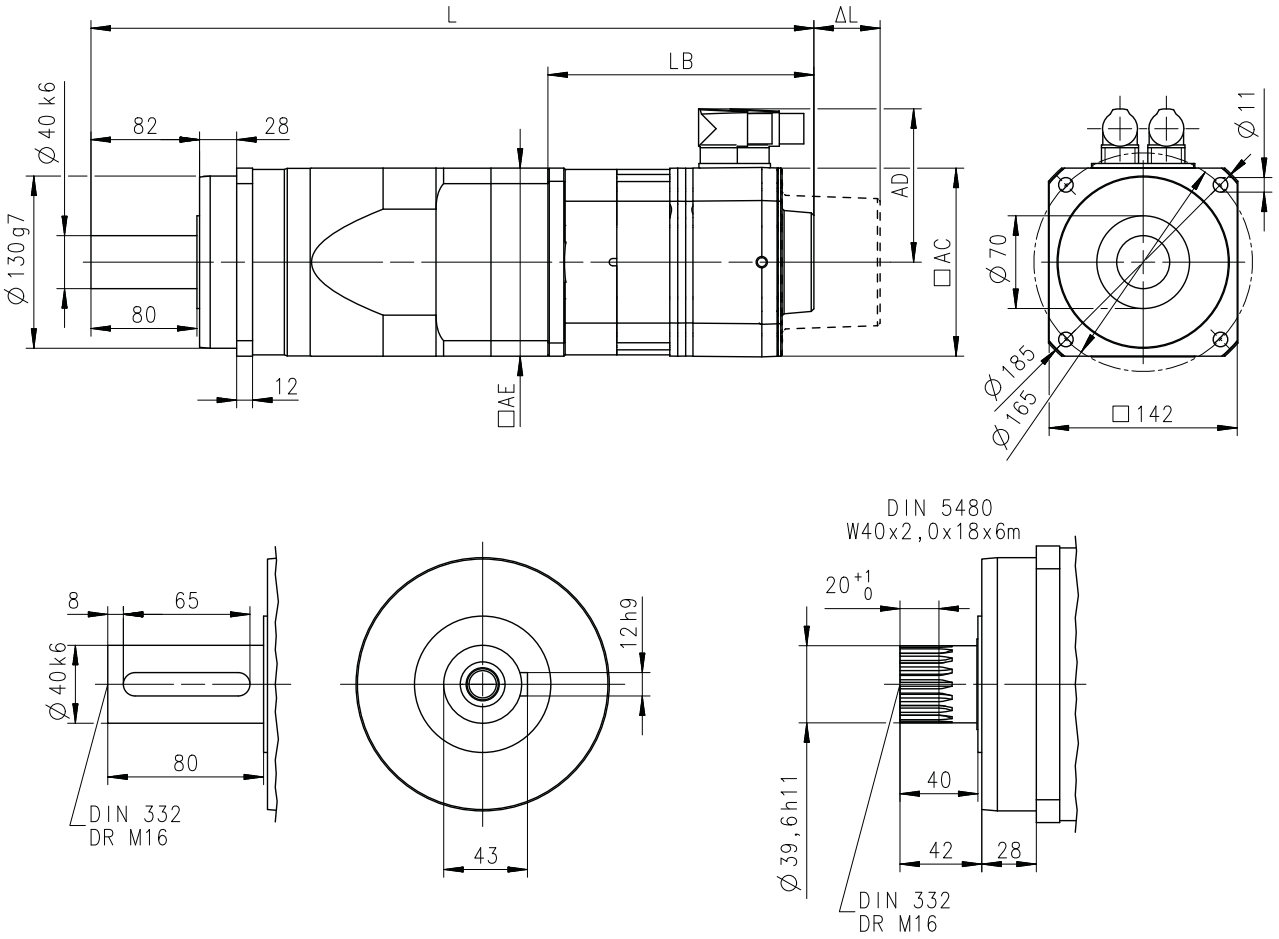
8800827-00

Motor			MCS 19				
			F12-	F14-	F30-	J14-	J30-
Total length	L	mm	548	441	441	481	481
Motor length	LB	mm	327	220	220	260	260
Motor diameter	AC	mm	212	192	192	192	192
Motor/connection distance	AD	mm	142	142	171	142	171
Gearbox diameter	AE	mm	190	190	190	190	190



g840-P1000 with MCS12

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

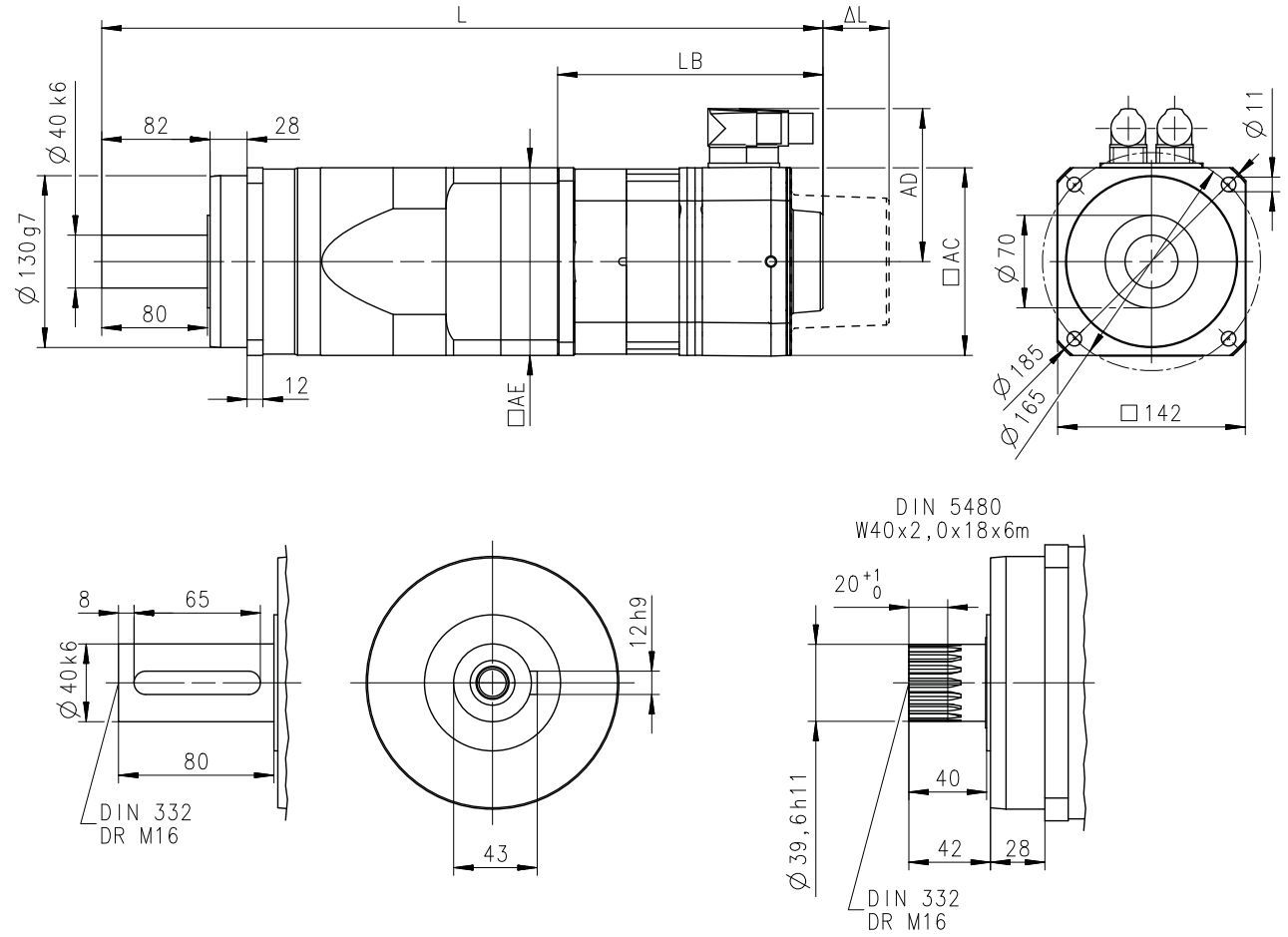


8800829-00

Motor			MCS 12											
			D17-	D20- D20L	D35-	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	537	464	537	577	504	504	577	504	627	544	617	544
Motor length	LB	mm	261	188	261	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142

g840-P1000 with MCS12

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



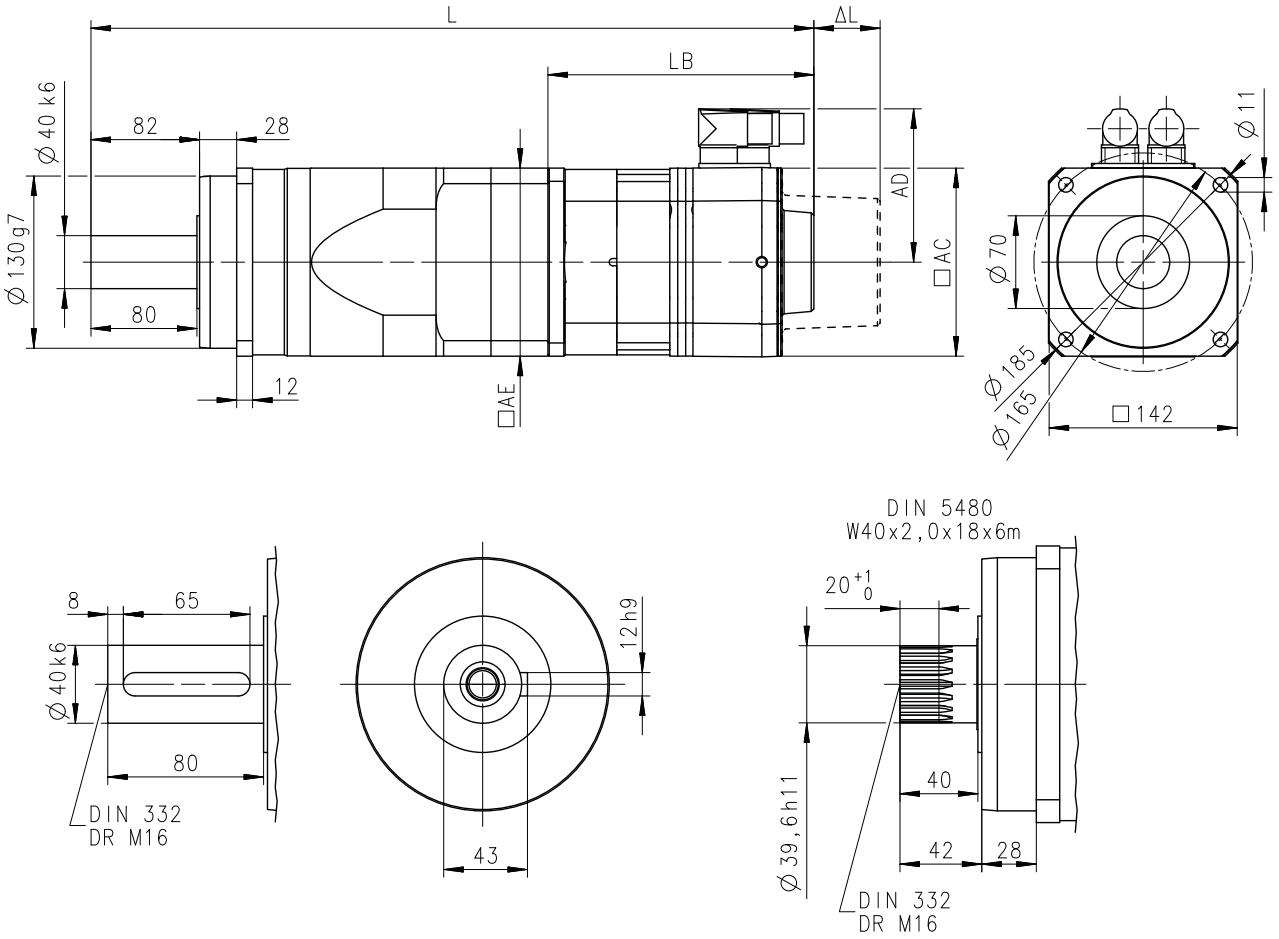
8800829-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	596	523	596	523	636	563	563	636	563	686	603	676	603
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142



g840-P1000 with MCS14

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

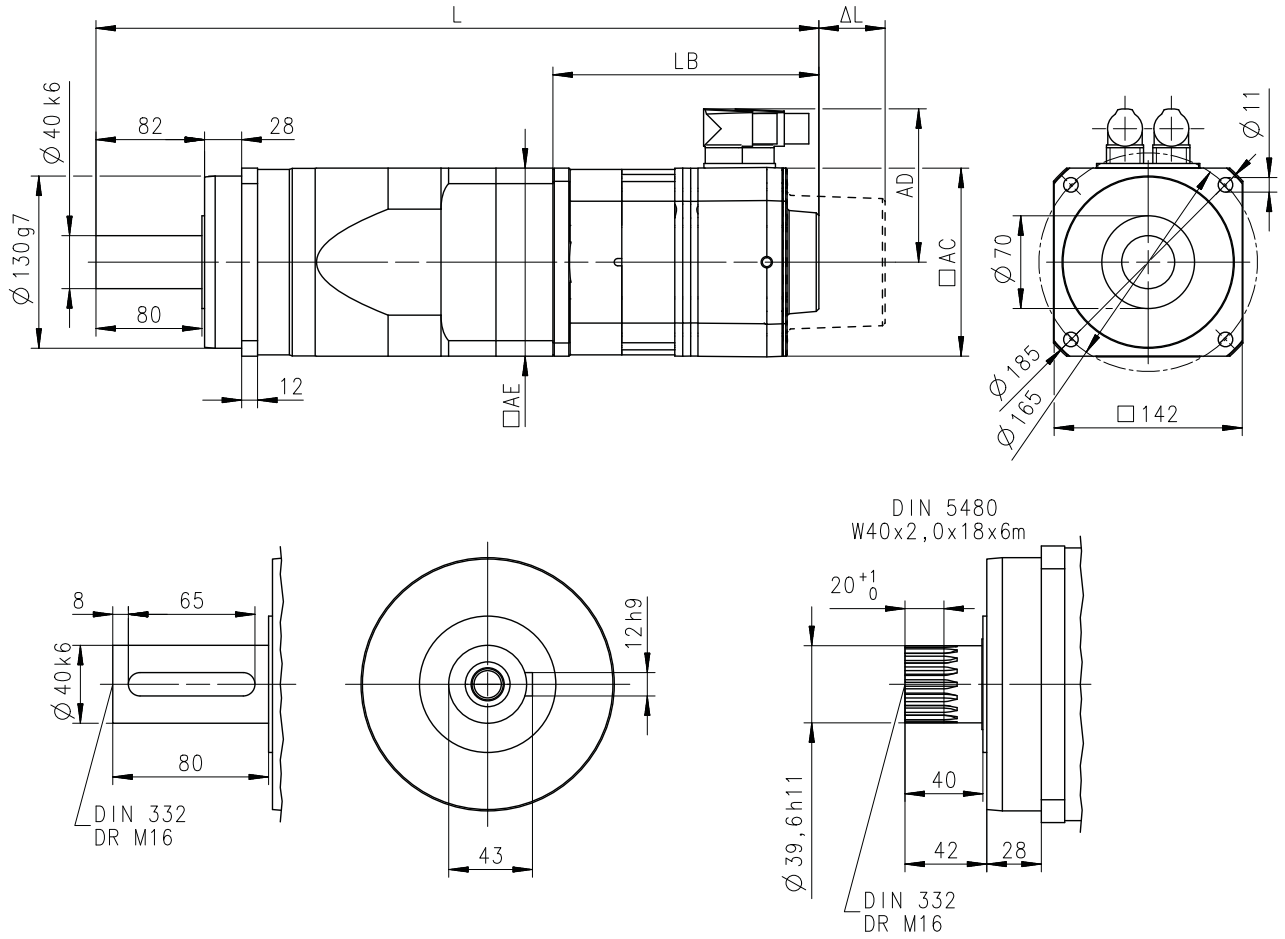


8800829-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	565	477	565	477	605	517	605	517	645	557	645	557	685	597	685	597
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142

g840-P1000 with MCS14

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



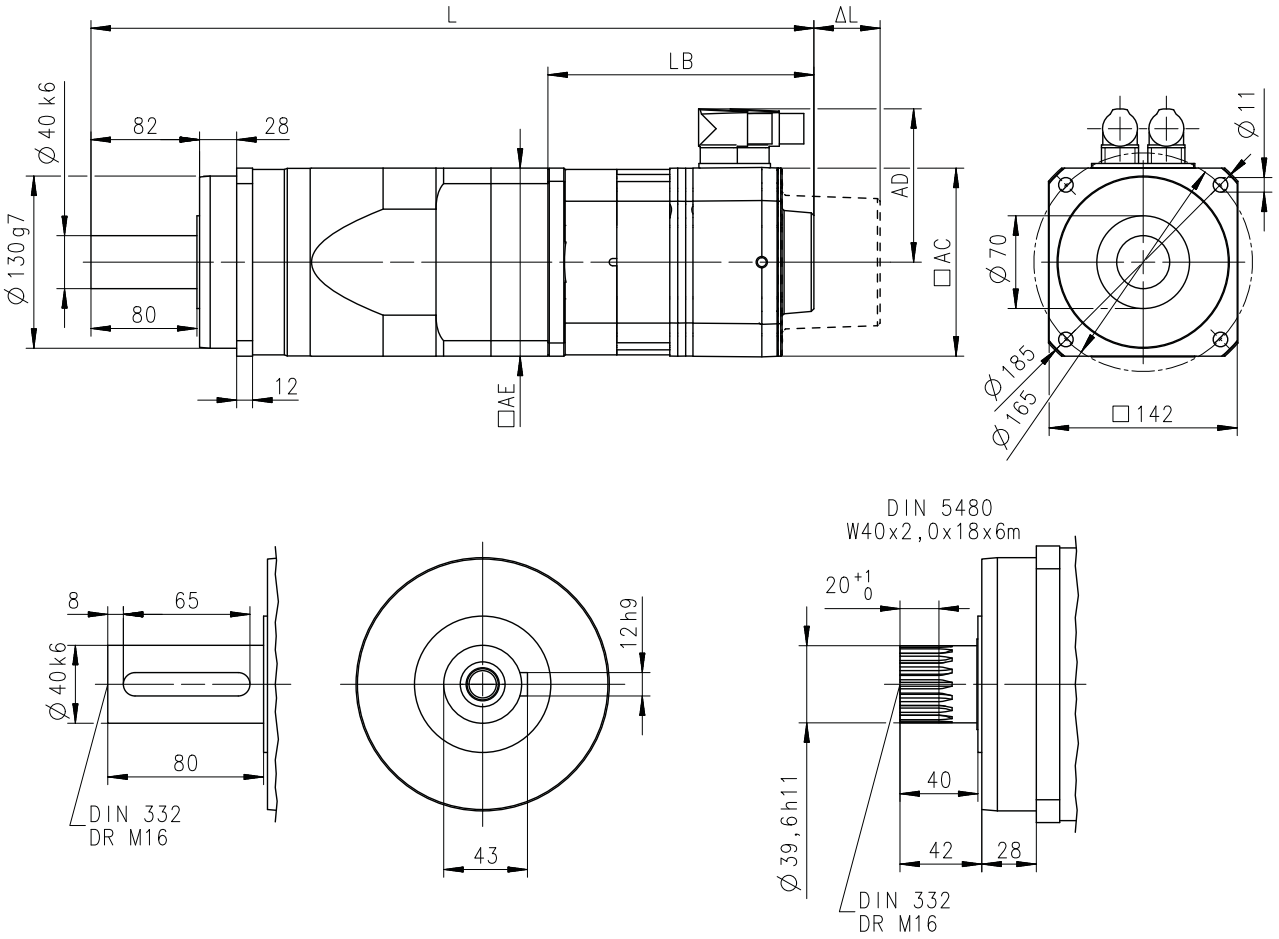
8800829-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	624	536	624	536	664	576	664	576	704	616	704	616	744	656	744	656
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142



g840-P1000 with MCS19

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

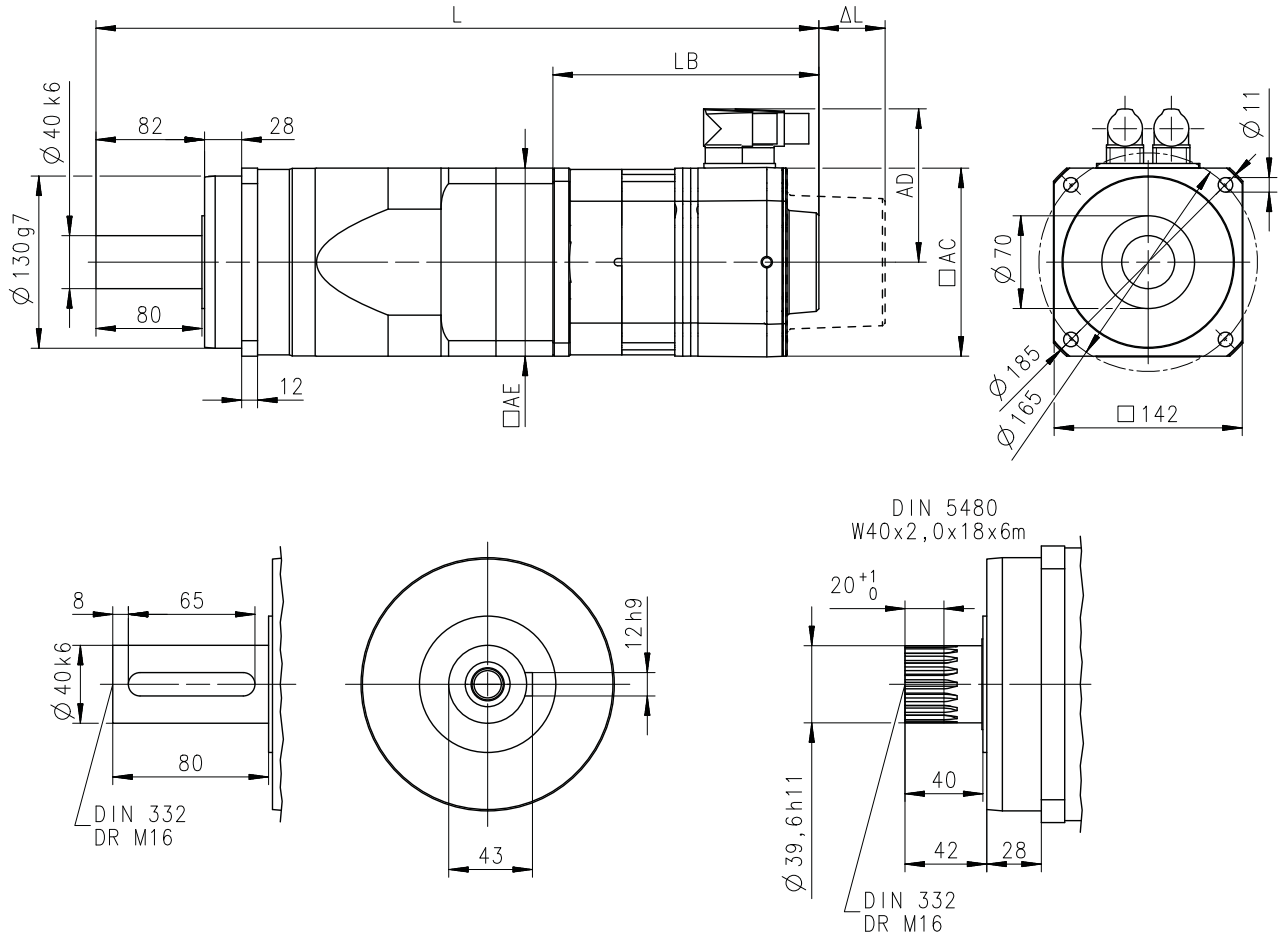


8800829-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	613	506	613	506	653	546	653	546	713	606	713	606
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190

g840-P1000 with MCS19

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



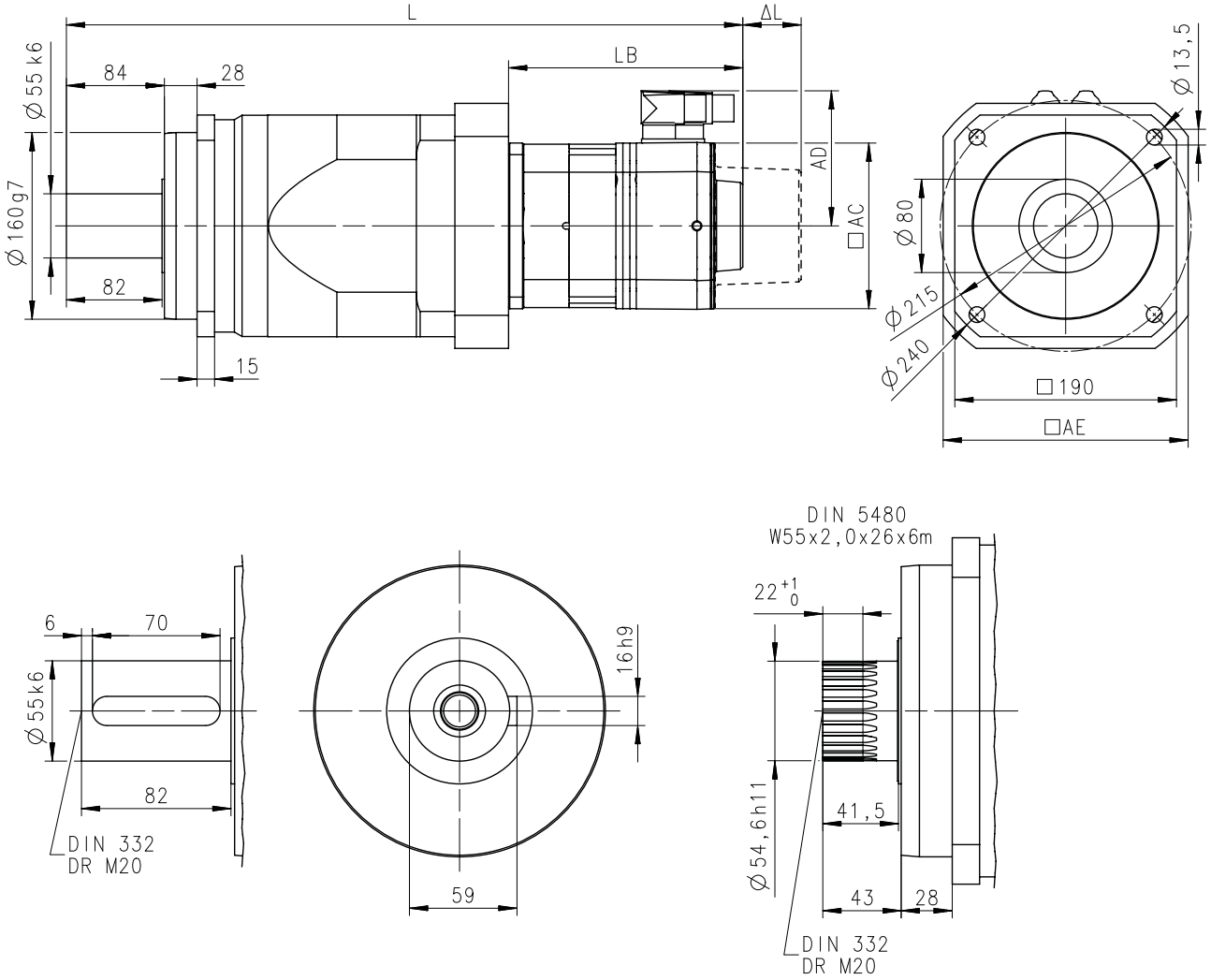
8800829-00

Motor			MCS 19									
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P14-	P30-
Total length	L	mm	672	565	672	565	712	605	712	605	665	665
Motor length	LB	mm	327	220	327	220	367	260	367	260	320	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	192	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190



g840-P1800 with MCS14

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

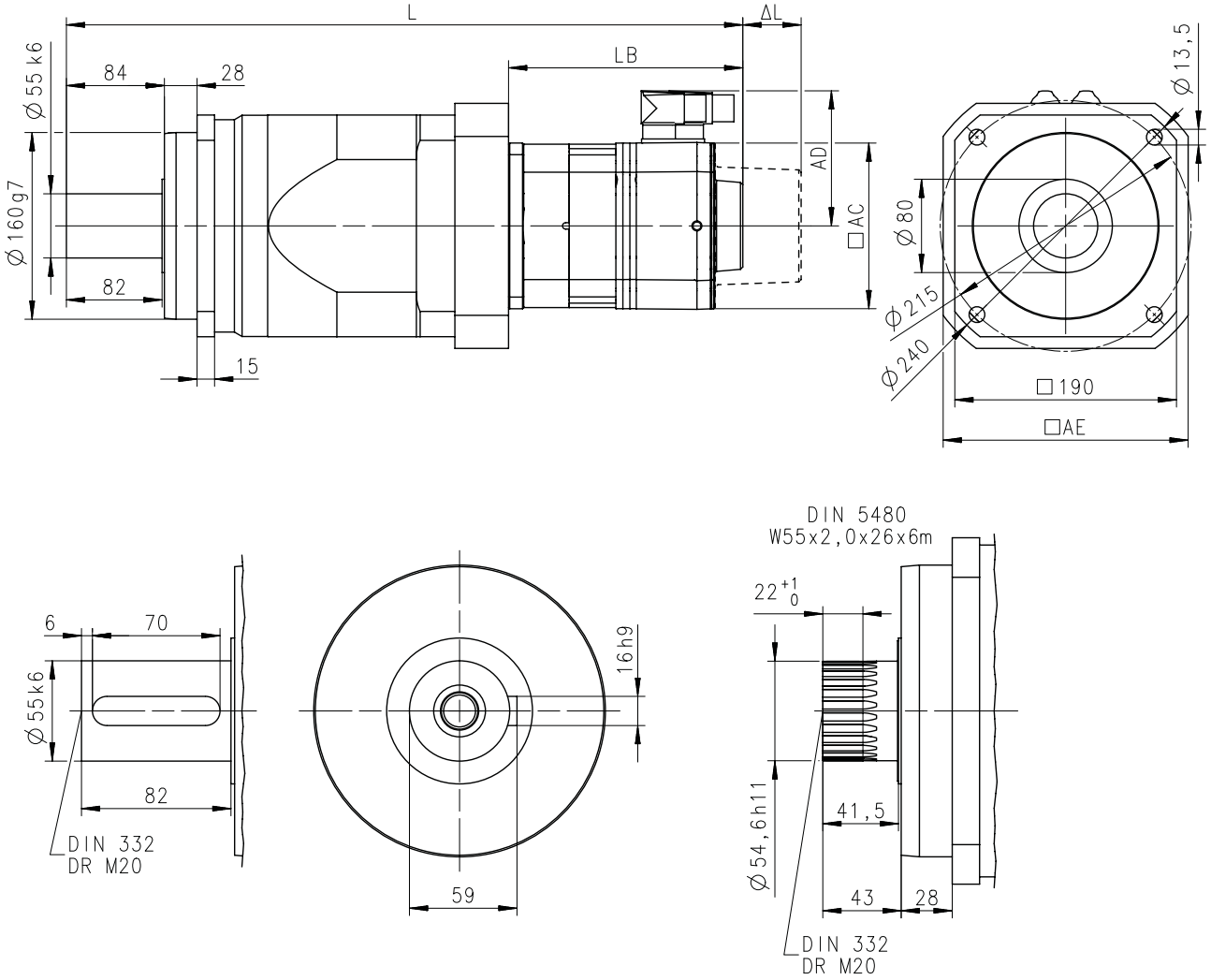


8800830-00

Motor			MCS 14												
			D14-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	599.5	639.5	551.5	639.5	551.5	679.5	591.5	679.5	591.5	719.5	631.5	719.5	631.5
Motor length	LB	mm	289	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190	190

g840-P1800 with MCS14

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



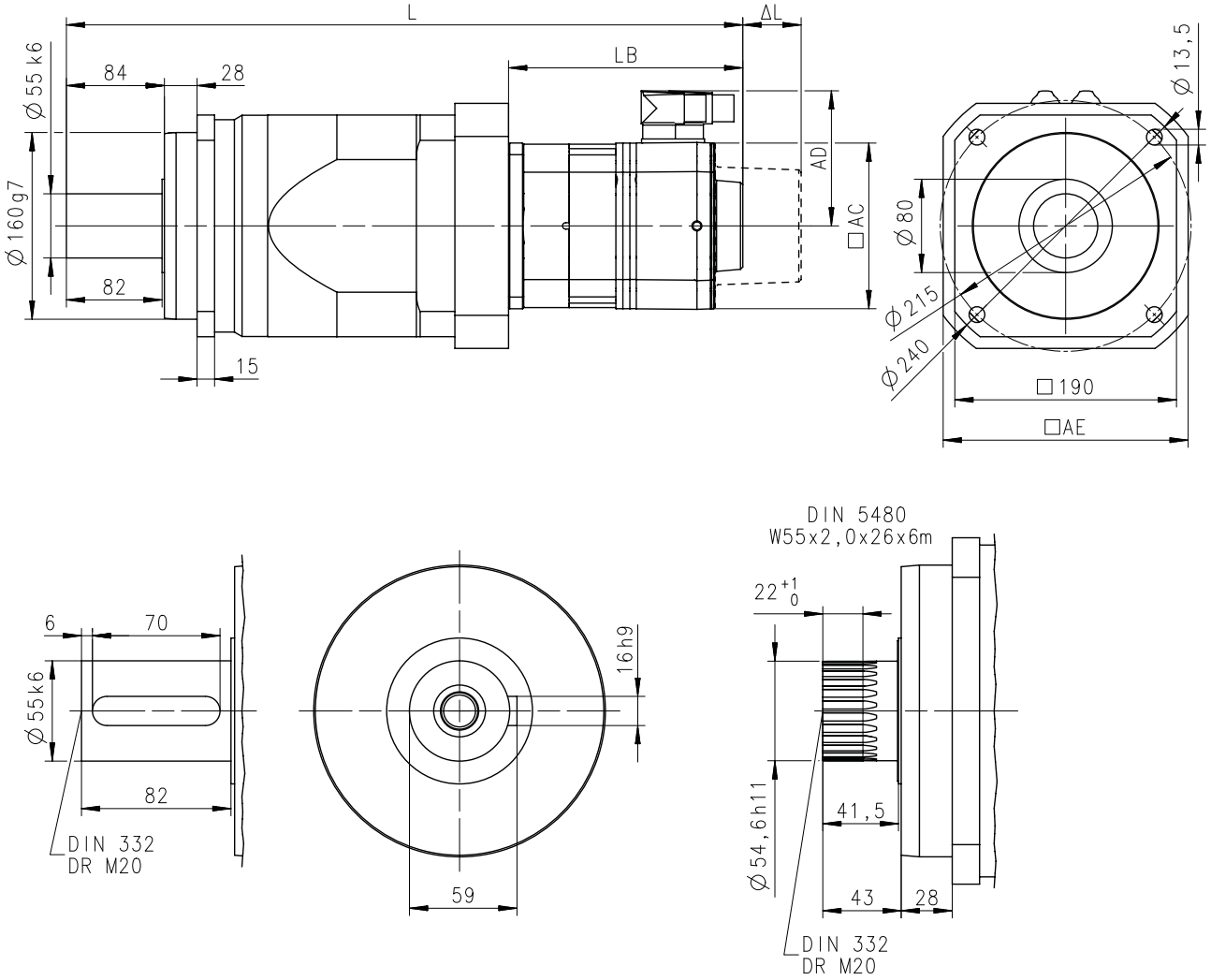
8800830-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	671.5	583.5	671.5	583.5	711.5	623.5	711.5	623.5	751.5	663.5	751.5	663.5	791.5	703.5	791.5	703.5
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190



g840-P1800 with MCS19

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

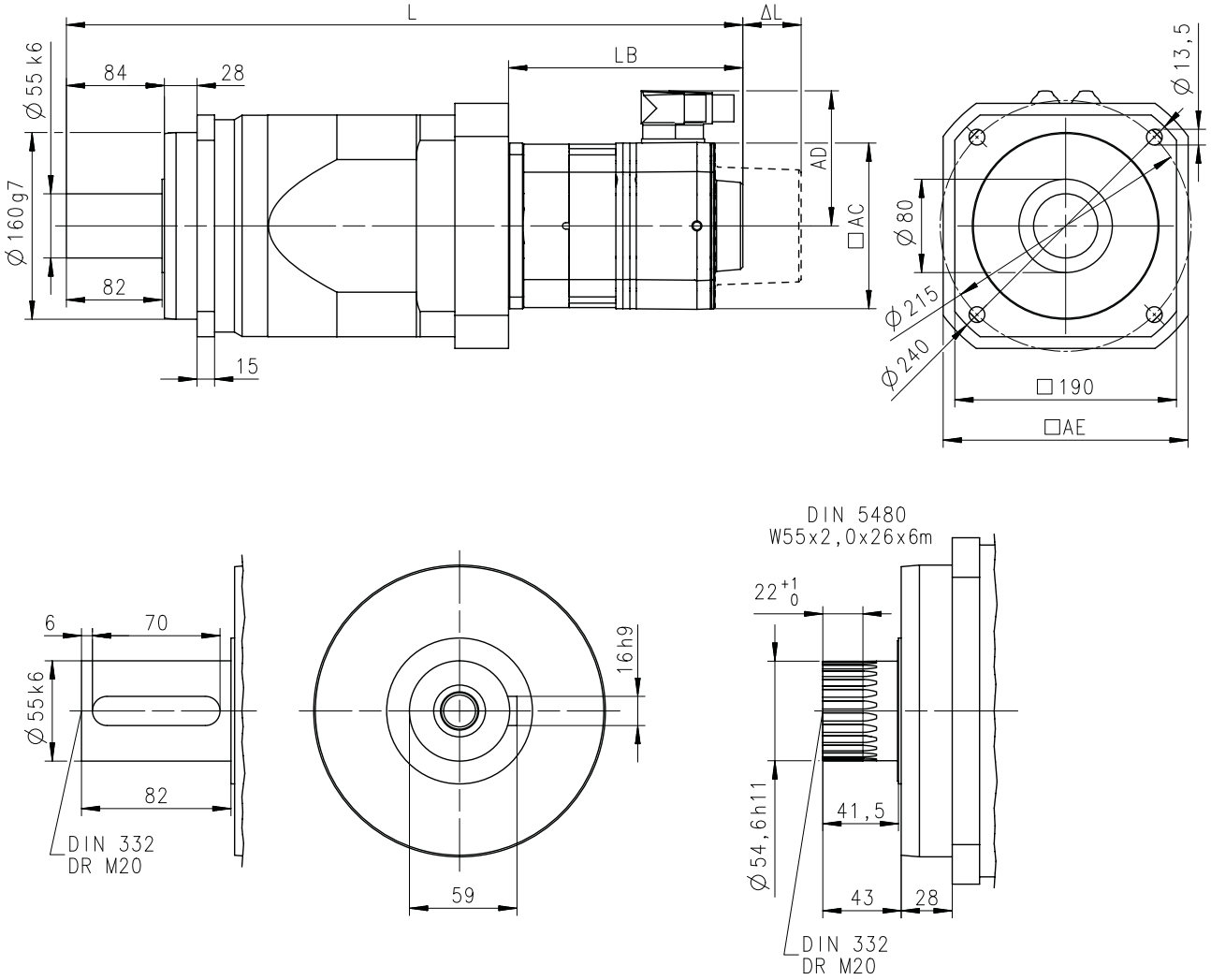


8800830-00

Motor			MCS 19										
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	637.5	530.5	637.5	530.5	677.5	570.5	677.5	570.5	737.5	630.5	737.5	630.5
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190

g840-P1800 with MCS19

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



8800830-00

Motor			MCS 19										
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	709.5	602.5	709.5	602.5	749.5	642.5	749.5	642.5	809.5	702.5	809.5	702.5
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190



Planetary gearbox g850-P

The modular system

g850-P planetary gearbox with MCS synchronous servo motor

Gearbox		**g850-P40**	**g850-P80**	**g850-P180**	**g850-P470**	**g850-P950**
Min. motor assignment		**MCS06**	**MCS06**	**MCS06**	**MCS06**	**MCS12**
Max. motor assignment		**MCS12**	**MCS14**	**MCS19**	**MCS19**	**MCS19**
Technical data						
Max. output torque	Nm	40	80	180	470	950
Min. input torque	Nm	0.6	0.6	0.6	0.6	17
Max. input torque	Nm	17	42	72	72	72
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 (Values in brackets: length of toothing)		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		**Connector** Terminal box				
Holding brake		**Without** With				
Feedback						
Without functional safety		**Digital absolute value encoder for One Cable Technology (OCT)** Resolver Absolute value encoder				
With functional safety		Digital absolute value encoder for One Cable Technology (OCT) Resolver Absolute value encoder				
Temperature monitoring		MCS06: PT1000 temperature sensor MCS09 ... MCS19: PT1000 temperature sensor and 2x PTC thermistor				



Gearbox data

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	4
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
25	40.0	5	5
35	40.0	5	5
40	39.0	5	5
50	40.0	5	5
70	37.0	5	4

g850-P80, 1-stage gearboxes

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

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
50	80.0	5	14
70	78.0	5	12
100	59.0	5	11



g850-P180, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
3	135	3	23
4	180	3	30
5	175	3	32
7	175	3	31
10	140	3	31

g850-P180, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
12	135	5	29
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
100	140	5	32

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	68
15	380	5	69
20	450	5	76
16	450	5	75
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

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}	N	3200	5500	6000	13000	20000
Axial force	F_{ax}	N	4400	6400	8000	15000	19000
Bearing service life 30000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	N	3200	4800	5400	11500	17500
Axial force	F_{ax}	N	3900	5700	7000	13500	18500
Max. radial force	$F_{rad, max}$	N	3200	5500	6000	13000	20000
Max. axial force	$F_{ax, max}$	N	4400	6400	8000	15000	19000



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.25 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.1	405	4.9	28.0	203	0.268	10	P40	06C41L	1	4.2
5.1	405	4.9	28.0	203	0.268	10	P40	06C41-	1	4.2
5.6	338	4.3	29.0	169	0.317	12	P40	06C41-	2	5.0
5.6	338	4.3	29.0	169	0.317	12	P40	06C41L	2	5.0
7.5	270	3.5	29.0	135	0.294	15	P40	06C41-	2	5.0
7.5	270	3.5	29.0	135	0.294	15	P40	06C41L	2	5.0
7.5	253	4.3	39.0	127	0.315	16	P40	06C41-	2	5.0
7.5	253	4.3	39.0	127	0.315	16	P40	06C41L	2	5.0
10.0	203	3.5	39.0	101	0.290	20	P40	06C41-	2	5.0
10.0	203	3.5	39.0	101	0.290	20	P40	06C41L	2	5.0
11.0	162	5.0	80.0	81.0	0.295	25	P80	06C41-	2	6.6
11.0	162	5.0	80.0	81.0	0.295	25	P80	06C41L	2	6.6
13.0	162	2.9	40.0	81.0	0.289	25	P40	06C41-	2	5.0
13.0	162	2.9	40.0	81.0	0.289	25	P40	06C41L	2	5.0
17.0	116	4.0	80.0	58.0	0.275	35	P80	06C41-	2	6.6
17.0	116	4.0	80.0	58.0	0.275	35	P80	06C41L	2	6.6
19.0	116	2.1	40.0	58.0	0.272	35	P40	06C41-	2	5.0
19.0	116	2.1	40.0	58.0	0.272	35	P40	06C41L	2	5.0
20.0	101	3.6	80.0	51.0	0.266	40	P80	06C41-	2	6.6
20.0	101	3.6	80.0	51.0	0.266	40	P80	06C41L	2	6.6
22.0	101	1.8	39.0	51.0	0.264	40	P40	06C41-	2	5.0
22.0	101	1.8	39.0	51.0	0.264	40	P40	06C41L	2	5.0
26.0	81.0	2.9	80.0	41.0	0.265	50	P80	06C41-	2	6.6
26.0	81.0	2.9	80.0	41.0	0.265	50	P80	06C41L	2	6.6
27.0	81.0	1.5	40.0	41.0	0.264	50	P40	06C41-	2	5.0
27.0	81.0	1.5	40.0	41.0	0.264	50	P40	06C41L	2	5.0
32.0	57.9	4.5	175	29.0	0.462	70	P180	06C41-	2	11
32.0	57.9	4.5	175	29.0	0.462	70	P180	06C41L	2	11
37.0	57.9	1.0	37.0	29.0	0.263	70	P40	06C41-	2	5.0
37.0	57.9	1.0	37.0	29.0	0.263	70	P40	06C41L	2	5.0
39.0	57.9	2.0	78.0	29.0	0.264	70	P80	06C41-	2	6.6
39.0	57.9	2.0	78.0	29.0	0.264	70	P80	06C41L	2	6.6
41.0	40.5	5.6	305	20.0	1.271	100	P470	06C41L	2	19
41.0	40.5	5.6	305	20.0	1.271	100	P470	06C41-	2	19
52.0	40.5	1.1	59.0	20.0	0.264	100	P80	06C41-	2	6.6
52.0	40.5	1.1	59.0	20.0	0.264	100	P80	06C41L	2	6.6
53.0	40.5	2.6	140	20.0	0.461	100	P180	06C41L	2	11
53.0	40.5	2.6	140	20.0	0.461	100	P180	06C41-	2	11



0.31 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.0	600	5.9	28.0	300	0.268	10	P40	06C60-	1	4.2
4.0	600	5.9	28.0	300	0.268	10	P40	06C60L	1	4.2
4.3	500	5.1	29.0	250	0.317	12	P40	06C60L	2	5.0
4.3	500	5.1	29.0	250	0.317	12	P40	06C60-	2	5.0
5.7	375	5.2	39.0	188	0.315	16	P40	06C60-	2	5.0
5.7	375	5.2	39.0	188	0.315	16	P40	06C60L	2	5.0
5.9	400	4.2	29.0	200	0.294	15	P40	06C60-	2	5.0
5.9	400	4.2	29.0	200	0.294	15	P40	06C60L	2	5.0
7.9	300	4.2	39.0	150	0.290	20	P40	06C60-	2	5.0
7.9	300	4.2	39.0	150	0.290	20	P40	06C60L	2	5.0
8.9	240	5.3	80.0	120	0.295	25	P80	06C60L	2	6.6
8.9	240	5.3	80.0	120	0.295	25	P80	06C60-	2	6.6
10.0	240	3.4	40.0	120	0.289	25	P40	06C60L	2	5.0
10.0	240	3.4	40.0	120	0.289	25	P40	06C60-	2	5.0
14.0	171	4.2	80.0	86.0	0.275	35	P80	06C60L	2	6.6
14.0	171	4.2	80.0	86.0	0.275	35	P80	06C60-	2	6.6
16.0	171	2.5	40.0	86.0	0.272	35	P40	06C60-	2	5.0
16.0	171	2.5	40.0	86.0	0.272	35	P40	06C60L	2	5.0
16.0	150	4.3	80.0	75.0	0.266	40	P80	06C60L	2	6.6
16.0	150	4.3	80.0	75.0	0.266	40	P80	06C60-	2	6.6
18.0	150	2.1	39.0	75.0	0.264	40	P40	06C60-	2	5.0
18.0	150	2.1	39.0	75.0	0.264	40	P40	06C60L	2	5.0
21.0	120	3.4	80.0	60.0	0.265	50	P80	06C60-	2	6.6
21.0	120	3.4	80.0	60.0	0.265	50	P80	06C60L	2	6.6
23.0	120	1.8	40.0	60.0	0.264	50	P40	06C60-	2	5.0
23.0	120	1.8	40.0	60.0	0.264	50	P40	06C60L	2	5.0
25.0	85.7	5.4	175	43.0	0.462	70	P180	06C60-	2	11
25.0	85.7	5.4	175	43.0	0.462	70	P180	06C60L	2	11
30.0	85.7	1.2	37.0	43.0	0.263	70	P40	06C60-	2	5.0
30.0	85.7	1.2	37.0	43.0	0.263	70	P40	06C60L	2	5.0
32.0	85.7	2.4	78.0	43.0	0.264	70	P80	06C60-	2	6.6
32.0	85.7	2.4	78.0	43.0	0.264	70	P80	06C60L	2	6.6
43.0	60.0	3.2	140	30.0	0.461	100	P180	06C60-	2	11
43.0	60.0	3.2	140	30.0	0.461	100	P180	06C60L	2	11
44.0	60.0	1.4	59.0	30.0	0.264	100	P80	06C60-	2	6.6
44.0	60.0	1.4	59.0	30.0	0.264	100	P80	06C60L	2	6.6



0.51 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.2	579	4.5	37.0	289	0.360	7	P40	06F41-	1	4.6
7.2	579	4.5	37.0	289	0.360	7	P40	06F41L	1	4.6
10.0	405	5.1	59.0	203	0.550	10	P80	06F41-	1	6.0
10.0	405	5.1	59.0	203	0.550	10	P80	06F41L	1	6.0
11.0	405	2.5	28.0	203	0.348	10	P40	06F41-	1	4.6
11.0	405	2.5	28.0	203	0.348	10	P40	06F41L	1	4.6
12.0	338	4.0	54.0	169	0.424	12	P80	06F41-	2	7.0
12.0	338	4.0	54.0	169	0.424	12	P80	06F41L	2	7.0
13.0	338	2.1	29.0	169	0.397	12	P40	06F41-	2	5.4
13.0	338	2.1	29.0	169	0.397	12	P40	06F41L	2	5.4
15.0	270	3.2	54.0	135	0.391	15	P80	06F41L	2	7.0
15.0	270	3.2	54.0	135	0.391	15	P80	06F41-	2	7.0
15.0	253	4.0	80.0	127	0.406	16	P80	06F41-	2	7.0
15.0	253	4.0	80.0	127	0.406	16	P80	06F41L	2	7.0
17.0	270	1.7	29.0	135	0.374	15	P40	06F41-	2	5.4
17.0	270	1.7	29.0	135	0.374	15	P40	06F41L	2	5.4
18.0	253	2.2	39.0	127	0.395	16	P40	06F41L	2	5.4
18.0	253	2.2	39.0	127	0.395	16	P40	06F41-	2	5.4
20.0	203	3.4	80.0	101	0.379	20	P80	06F41-	2	7.0
20.0	203	3.4	80.0	101	0.379	20	P80	06F41L	2	7.0
23.0	203	1.7	39.0	101	0.370	20	P40	06F41-	2	5.4
23.0	203	1.7	39.0	101	0.370	20	P40	06F41L	2	5.4
27.0	162	2.5	80.0	81.0	0.375	25	P80	06F41-	2	7.0
27.0	162	2.5	80.0	81.0	0.375	25	P80	06F41L	2	7.0
28.0	162	1.4	40.0	81.0	0.369	25	P40	06F41-	2	5.4
28.0	162	1.4	40.0	81.0	0.369	25	P40	06F41L	2	5.4
32.0	116	4.4	175	58.0	0.580	35	P180	06F41-	2	11
32.0	116	4.4	175	58.0	0.580	35	P180	06F41L	2	11
39.0	116	1.0	40.0	58.0	0.352	35	P40	06F41L	2	5.4
39.0	116	1.0	40.0	58.0	0.352	35	P40	06F41-	2	5.4
39.0	116	2.0	80.0	58.0	0.355	35	P80	06F41L	2	7.0
39.0	116	2.0	80.0	58.0	0.355	35	P80	06F41-	2	7.0
39.0	101	4.0	180	51.0	0.548	40	P180	06F41-	2	11
39.0	101	4.0	180	51.0	0.548	40	P180	06F41L	2	11
45.0	101	1.8	80.0	51.0	0.346	40	P80	06F41-	2	7.0
45.0	101	1.8	80.0	51.0	0.346	40	P80	06F41L	2	7.0
52.0	81.0	3.1	175	41.0	0.544	50	P180	06F41-	2	11
52.0	81.0	3.1	175	41.0	0.544	50	P180	06F41L	2	11
56.0	81.0	1.4	80.0	41.0	0.345	50	P80	06F41-	2	7.0
56.0	81.0	1.4	80.0	41.0	0.345	50	P80	06F41L	2	7.0
64.0	57.9	4.5	355	29.0	1.369	70	P470	06F41-	2	20
64.0	57.9	4.5	355	29.0	1.369	70	P470	06F41L	2	20
77.0	57.9	1.0	78.0	29.0	0.344	70	P80	06F41-	2	7.0
77.0	57.9	1.0	78.0	29.0	0.344	70	P80	06F41L	2	7.0
78.0	57.9	2.2	175	29.0	0.542	70	P180	06F41-	2	11
78.0	57.9	2.2	175	29.0	0.542	70	P180	06F41L	2	11
106	40.5	2.8	305	20.0	1.351	100	P470	06F41-	2	20
106	40.5	2.8	305	20.0	1.351	100	P470	06F41L	2	20
107	40.5	1.3	140	20.0	0.541	100	P180	06F41-	2	11
107	40.5	1.3	140	20.0	0.541	100	P180	06F41L	2	11



0.57 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.1	857	5.8	37.0	429	0.360	7	P40	06F60-	1	4.6
5.1	857	5.8	37.0	429	0.360	7	P40	06F60L	1	4.6
7.7	500	5.3	54.0	250	0.424	12	P80	06F60-	2	7.0
7.7	500	5.3	54.0	250	0.424	12	P80	06F60L	2	7.0
8.2	600	3.3	28.0	300	0.348	10	P40	06F60-	1	4.6
8.2	600	3.3	28.0	300	0.348	10	P40	06F60L	1	4.6
9.5	500	2.9	29.0	250	0.397	12	P40	06F60-	2	5.4
9.5	500	2.9	29.0	250	0.397	12	P40	06F60L	2	5.4
11.0	400	4.2	54.0	200	0.391	15	P80	06F60L	2	7.0
11.0	400	4.2	54.0	200	0.391	15	P80	06F60-	2	7.0
11.0	375	4.6	80.0	188	0.406	16	P80	06F60L	2	7.0
11.0	375	4.6	80.0	188	0.406	16	P80	06F60-	2	7.0
12.0	400	2.3	29.0	200	0.374	15	P40	06F60-	2	5.4
12.0	400	2.3	29.0	200	0.374	15	P40	06F60L	2	5.4
13.0	375	2.9	39.0	188	0.395	16	P40	06F60-	2	5.4
13.0	375	2.9	39.0	188	0.395	16	P40	06F60L	2	5.4
14.0	300	4.0	80.0	150	0.379	20	P80	06F60-	2	7.0
14.0	300	4.0	80.0	150	0.379	20	P80	06F60L	2	7.0
17.0	300	2.3	39.0	150	0.370	20	P40	06F60L	2	5.4
17.0	300	2.3	39.0	150	0.370	20	P40	06F60-	2	5.4
20.0	240	2.9	80.0	120	0.375	25	P80	06F60-	2	7.0
20.0	240	2.9	80.0	120	0.375	25	P80	06F60L	2	7.0
21.0	240	1.9	40.0	120	0.369	25	P40	06F60-	2	5.4
21.0	240	1.9	40.0	120	0.369	25	P40	06F60L	2	5.4
21.0	171	5.7	175	86.0	0.580	35	P180	06F60-	2	11
21.0	171	5.7	175	86.0	0.580	35	P180	06F60L	2	11
26.0	150	5.3	180	75.0	0.548	40	P180	06F60L	2	11
26.0	150	5.3	180	75.0	0.548	40	P180	06F60-	2	11
29.0	171	1.4	40.0	86.0	0.352	35	P40	06F60L	2	5.4
29.0	171	1.4	40.0	86.0	0.352	35	P40	06F60-	2	5.4
29.0	171	2.3	80.0	86.0	0.355	35	P80	06F60L	2	7.0
29.0	171	2.3	80.0	86.0	0.355	35	P80	06F60-	2	7.0
33.0	150	1.2	39.0	75.0	0.344	40	P40	06F60L	2	5.4
33.0	150	1.2	39.0	75.0	0.344	40	P40	06F60-	2	5.4
33.0	150	2.4	80.0	75.0	0.346	40	P80	06F60L	2	7.0
33.0	150	2.4	80.0	75.0	0.346	40	P80	06F60-	2	7.0
36.0	120	4.1	175	60.0	0.544	50	P180	06F60-	2	11
36.0	120	4.1	175	60.0	0.544	50	P180	06F60L	2	11
42.0	120	1.9	80.0	60.0	0.345	50	P80	06F60L	2	7.0
42.0	120	1.9	80.0	60.0	0.345	50	P80	06F60-	2	7.0
55.0	85.7	3.0	175	43.0	0.542	70	P180	06F60-	2	11
55.0	85.7	3.0	175	43.0	0.542	70	P180	06F60L	2	11
58.0	85.7	1.3	78.0	43.0	0.344	70	P80	06F60-	2	7.0
58.0	85.7	1.3	78.0	43.0	0.344	70	P80	06F60L	2	7.0
74.0	60.0	3.7	305	30.0	1.351	100	P470	06F60-	2	20
74.0	60.0	3.7	305	30.0	1.351	100	P470	06F60L	2	20
80.0	60.0	1.8	140	30.0	0.541	100	P180	06F60-	2	11
80.0	60.0	1.8	140	30.0	0.541	100	P180	06F60L	2	11



0.64 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.2	810	5.3	40.0	405	0.465	5	P40	06I41-	1	5.3
6.2	810	5.3	40.0	405	0.465	5	P40	06I41L	1	5.3
9.4	579	3.6	37.0	289	0.440	7	P40	06I41L	1	5.3
9.4	579	3.6	37.0	289	0.440	7	P40	06I41-	1	5.3
13.0	405	4.1	59.0	203	0.630	10	P80	06I41-	1	6.7
13.0	405	4.1	59.0	203	0.630	10	P80	06I41L	1	6.7
14.0	405	2.0	28.0	203	0.428	10	P40	06I41-	1	5.3
14.0	405	2.0	28.0	203	0.428	10	P40	06I41L	1	5.3
15.0	338	3.2	54.0	169	0.504	12	P80	06I41-	2	7.7
15.0	338	3.2	54.0	169	0.504	12	P80	06I41L	2	7.7
17.0	338	1.7	29.0	169	0.477	12	P40	06I41-	2	6.1
17.0	338	1.7	29.0	169	0.477	12	P40	06I41L	2	6.1
20.0	270	2.5	54.0	135	0.471	15	P80	06I41L	2	7.7
20.0	270	2.5	54.0	135	0.471	15	P80	06I41-	2	7.7
21.0	270	1.4	29.0	135	0.454	15	P40	06I41-	2	6.1
21.0	270	1.4	29.0	135	0.454	15	P40	06I41L	2	6.1
21.0	253	3.2	80.0	127	0.486	16	P80	06I41-	2	7.7
21.0	253	3.2	80.0	127	0.486	16	P80	06I41L	2	7.7
23.0	253	1.7	39.0	127	0.475	16	P40	06I41-	2	6.1
23.0	253	1.7	39.0	127	0.475	16	P40	06I41L	2	6.1
27.0	203	2.7	80.0	101	0.459	20	P80	06I41L	2	7.7
27.0	203	2.7	80.0	101	0.459	20	P80	06I41-	2	7.7
28.0	203	1.4	39.0	101	0.450	20	P40	06I41-	2	6.1
28.0	203	1.4	39.0	101	0.450	20	P40	06I41L	2	6.1
28.0	162	4.9	175	81.0	0.729	25	P180	06I41-	2	12
28.0	162	4.9	175	81.0	0.729	25	P180	06I41L	2	12
35.0	162	1.2	40.0	81.0	0.449	25	P40	06I41L	2	6.1
35.0	162	1.2	40.0	81.0	0.449	25	P40	06I41-	2	6.1
35.0	162	2.0	80.0	81.0	0.455	25	P80	06I41-	2	7.7
35.0	162	2.0	80.0	81.0	0.455	25	P80	06I41L	2	7.7
44.0	116	3.5	175	58.0	0.660	35	P180	06I41-	2	12
44.0	116	3.5	175	58.0	0.660	35	P180	06I41L	2	12
49.0	116	1.6	80.0	58.0	0.435	35	P80	06I41-	2	7.7
49.0	116	1.6	80.0	58.0	0.435	35	P80	06I41L	2	7.7
51.0	81.0	5.7	405	41.0	1.460	50	P470	06I41-	2	20
51.0	81.0	5.7	405	41.0	1.460	50	P470	06I41L	2	20
52.0	101	3.2	180	51.0	0.628	40	P180	06I41L	2	12
52.0	101	3.2	180	51.0	0.628	40	P180	06I41-	2	12
56.0	101	1.4	80.0	51.0	0.426	40	P80	06I41-	2	7.7
56.0	101	1.4	80.0	51.0	0.426	40	P80	06I41L	2	7.7
68.0	81.0	2.5	175	41.0	0.624	50	P180	06I41L	2	12
68.0	81.0	2.5	175	41.0	0.624	50	P180	06I41-	2	12
70.0	81.0	1.2	80.0	41.0	0.425	50	P80	06I41-	2	7.7
70.0	81.0	1.2	80.0	41.0	0.425	50	P80	06I41L	2	7.7
87.0	57.9	3.6	355	29.0	1.449	70	P470	06I41-	2	20
87.0	57.9	3.6	355	29.0	1.449	70	P470	06I41L	2	20
98.0	57.9	1.8	175	29.0	0.622	70	P180	06I41-	2	12
98.0	57.9	1.8	175	29.0	0.622	70	P180	06I41L	2	12
134	40.5	1.1	140	20.0	0.621	100	P180	06I41-	2	12
134	40.5	1.1	140	20.0	0.621	100	P180	06I41L	2	12
137	40.5	2.2	305	20.0	1.431	100	P470	06I41-	2	20



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
137	40.5	2.2	305	20.0	1.431	100	P470	06I41L	2	20



0.75 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.8	1200	5.9	40.0	600	0.465	5	P40	06I60-	1	5.3
4.8	1200	5.9	40.0	600	0.465	5	P40	06I60L	1	5.3
7.3	857	4.4	37.0	429	0.440	7	P40	06I60-	1	5.3
7.3	857	4.4	37.0	429	0.440	7	P40	06I60L	1	5.3
10.0	600	5.1	59.0	300	0.630	10	P80	06I60-	1	6.7
10.0	600	5.1	59.0	300	0.630	10	P80	06I60L	1	6.7
11.0	600	2.5	28.0	300	0.428	10	P40	06I60L	1	5.3
11.0	600	2.5	28.0	300	0.428	10	P40	06I60-	1	5.3
12.0	500	4.0	54.0	250	0.504	12	P80	06I60L	2	7.7
12.0	500	4.0	54.0	250	0.504	12	P80	06I60-	2	7.7
13.0	500	2.1	29.0	250	0.477	12	P40	06I60-	2	6.1
13.0	500	2.1	29.0	250	0.477	12	P40	06I60L	2	6.1
15.0	400	3.2	54.0	200	0.471	15	P80	06I60L	2	7.7
15.0	400	3.2	54.0	200	0.471	15	P80	06I60-	2	7.7
16.0	375	3.5	80.0	188	0.486	16	P80	06I60-	2	7.7
16.0	375	3.5	80.0	188	0.486	16	P80	06I60L	2	7.7
17.0	400	1.7	29.0	200	0.454	15	P40	06I60L	2	6.1
17.0	400	1.7	29.0	200	0.454	15	P40	06I60-	2	6.1
18.0	375	2.2	39.0	188	0.475	16	P40	06I60-	2	6.1
18.0	375	2.2	39.0	188	0.475	16	P40	06I60L	2	6.1
21.0	300	3.0	80.0	150	0.459	20	P80	06I60L	2	7.7
21.0	300	3.0	80.0	150	0.459	20	P80	06I60-	2	7.7
21.0	240	5.3	175	120	0.729	25	P180	06I60-	2	12
21.0	240	5.3	175	120	0.729	25	P180	06I60L	2	12
23.0	300	1.7	39.0	150	0.450	20	P40	06I60-	2	6.1
23.0	300	1.7	39.0	150	0.450	20	P40	06I60L	2	6.1
28.0	240	1.4	40.0	120	0.449	25	P40	06I60-	2	6.1
28.0	240	1.4	40.0	120	0.449	25	P40	06I60L	2	6.1
28.0	240	2.2	80.0	120	0.455	25	P80	06I60-	2	7.7
28.0	240	2.2	80.0	120	0.455	25	P80	06I60L	2	7.7
33.0	171	4.3	175	86.0	0.660	35	P180	06I60-	2	12
33.0	171	4.3	175	86.0	0.660	35	P180	06I60L	2	12
39.0	171	1.0	40.0	86.0	0.432	35	P40	06I60-	2	6.1
39.0	171	1.0	40.0	86.0	0.432	35	P40	06I60L	2	6.1
39.0	171	1.8	80.0	86.0	0.435	35	P80	06I60-	2	7.7
39.0	171	1.8	80.0	86.0	0.435	35	P80	06I60L	2	7.7
39.0	150	4.0	180	75.0	0.628	40	P180	06I60L	2	12
39.0	150	4.0	180	75.0	0.628	40	P180	06I60-	2	12
45.0	150	1.8	80.0	75.0	0.426	40	P80	06I60L	2	7.7
45.0	150	1.8	80.0	75.0	0.426	40	P80	06I60-	2	7.7
52.0	120	3.1	175	60.0	0.624	50	P180	06I60-	2	12
52.0	120	3.1	175	60.0	0.624	50	P180	06I60L	2	12
56.0	120	1.4	80.0	60.0	0.425	50	P80	06I60L	2	7.7
56.0	120	1.4	80.0	60.0	0.425	50	P80	06I60-	2	7.7
64.0	85.7	4.5	355	43.0	1.449	70	P470	06I60-	2	20
64.0	85.7	4.5	355	43.0	1.449	70	P470	06I60L	2	20
78.0	85.7	2.2	175	43.0	0.622	70	P180	06I60-	2	12
78.0	85.7	2.2	175	43.0	0.622	70	P180	06I60L	2	12
106	60.0	2.8	305	30.0	1.431	100	P470	06I60-	2	20
106	60.0	2.8	305	30.0	1.431	100	P470	06I60L	2	20
107	60.0	1.3	140	30.0	0.621	100	P180	06I60L	2	12



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
107	60.0	1.3	140	30.0	0.621	100	P180	06I60-	2	12



1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.0	1350	4.2	29.0	675	1.394	3	P40	09D41-	1	6.7
6.0	1350	4.2	29.0	675	1.394	3	P40	09D41L	1	6.8
8.0	1013	4.2	39.0	506	1.316	4	P40	09D41-	1	6.7
8.0	1013	4.2	39.0	506	1.316	4	P40	09D41L	1	6.8
10.0	810	3.5	40.0	405	1.287	5	P40	09D41-	1	6.7
10.0	810	3.5	40.0	405	1.287	5	P40	09D41L	1	6.8
14.0	579	4.8	78.0	289	1.470	7	P80	09D41-	1	8.1
14.0	579	4.8	78.0	289	1.470	7	P80	09D41L	1	8.2
15.0	579	2.4	37.0	289	1.262	7	P40	09D41-	1	6.7
15.0	579	2.4	37.0	289	1.262	7	P40	09D41L	1	6.8
20.0	338	5.1	135	169	1.700	12	P180	09D41L	2	13
20.0	338	5.1	135	169	1.700	12	P180	09D41-	2	13
21.0	405	2.7	59.0	203	1.430	10	P80	09D41-	1	8.1
21.0	405	2.7	59.0	203	1.430	10	P80	09D41L	1	8.2
22.0	405	1.3	28.0	203	1.250	10	P40	09D41L	1	6.8
22.0	405	1.3	28.0	203	1.250	10	P40	09D41-	1	6.7
26.0	338	1.1	29.0	169	1.299	12	P40	09D41-	2	7.5
26.0	338	1.1	29.0	169	1.299	12	P40	09D41L	2	7.6
26.0	338	2.1	54.0	169	1.327	12	P80	09D41-	2	9.1
26.0	338	2.1	54.0	169	1.327	12	P80	09D41L	2	9.2
27.0	270	4.1	135	135	1.581	15	P180	09D41-	2	13
27.0	270	4.1	135	135	1.581	15	P180	09D41L	2	13
27.0	253	5.1	180	127	1.641	16	P180	09D41-	2	13
27.0	253	5.1	180	127	1.641	16	P180	09D41L	2	13
32.0	270	1.7	54.0	135	1.293	15	P80	09D41-	2	9.1
32.0	270	1.7	54.0	135	1.293	15	P80	09D41L	2	9.2
34.0	253	2.1	80.0	127	1.308	16	P80	09D41L	2	9.2
34.0	253	2.1	80.0	127	1.308	16	P80	09D41-	2	9.1
35.0	253	1.1	39.0	127	1.297	16	P40	09D41-	2	7.5
35.0	253	1.1	39.0	127	1.297	16	P40	09D41L	2	7.6
37.0	203	4.1	180	101	1.543	20	P180	09D41-	2	13
37.0	203	4.1	180	101	1.543	20	P180	09D41L	2	13
43.0	203	1.8	80.0	101	1.282	20	P80	09D41-	2	9.1
43.0	203	1.8	80.0	101	1.282	20	P80	09D41L	2	9.2
49.0	162	3.2	175	81.0	1.529	25	P180	09D41-	2	13
49.0	162	3.2	175	81.0	1.529	25	P180	09D41L	2	13
54.0	162	1.3	80.0	81.0	1.277	25	P80	09D41-	2	9.1
54.0	162	1.3	80.0	81.0	1.277	25	P80	09D41L	2	9.2
57.0	116	5.2	405	58.0	2.110	35	P470	09D41-	2	22
57.0	116	5.2	405	58.0	2.110	35	P470	09D41L	2	22
65.0	101	5.3	470	51.0	1.985	40	P470	09D41-	2	22
65.0	101	5.3	470	51.0	1.985	40	P470	09D41L	2	22
74.0	116	2.3	175	58.0	1.460	35	P180	09D41-	2	13
74.0	116	2.3	175	58.0	1.460	35	P180	09D41L	2	13
76.0	116	1.0	80.0	58.0	1.257	35	P80	09D41-	2	9.1
76.0	116	1.0	80.0	58.0	1.257	35	P80	09D41L	2	9.2
86.0	101	2.1	180	51.0	1.428	40	P180	09D41-	2	13
86.0	101	2.1	180	51.0	1.428	40	P180	09D41L	2	13
94.0	81.0	3.7	405	41.0	1.970	50	P470	09D41-	2	22
94.0	81.0	3.7	405	41.0	1.970	50	P470	09D41L	2	22
108	81.0	1.6	175	41.0	1.424	50	P180	09D41-	2	13



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
108	81.0	1.6	175	41.0	1.424	50	P180	09D41L	2	13
147	57.9	2.4	355	29.0	1.959	70	P470	09D41-	2	22
147	57.9	2.4	355	29.0	1.959	70	P470	09D41L	2	22
150	57.9	1.2	175	29.0	1.422	70	P180	09D41-	2	13
150	57.9	1.2	175	29.0	1.422	70	P180	09D41L	2	13
209	40.5	1.5	305	20.0	1.940	100	P470	09D41-	2	22
209	40.5	1.5	305	20.0	1.940	100	P470	09D41L	2	22



1.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.6	2000	4.7	29.0	1000	1.394	3	P40	09D60-	1	6.7
4.6	2000	4.7	29.0	1000	1.394	3	P40	09D60L	1	6.8
6.1	1500	4.8	39.0	750	1.316	4	P40	09D60-	1	6.7
6.1	1500	4.8	39.0	750	1.316	4	P40	09D60L	1	6.8
8.0	1200	3.9	40.0	600	1.287	5	P40	09D60-	1	6.7
8.0	1200	3.9	40.0	600	1.287	5	P40	09D60L	1	6.8
10.0	857	5.4	78.0	429	1.470	7	P80	09D60-	1	8.1
10.0	857	5.4	78.0	429	1.470	7	P80	09D60L	1	8.2
12.0	857	2.9	37.0	429	1.262	7	P40	09D60-	1	6.7
12.0	857	2.9	37.0	429	1.262	7	P40	09D60L	1	6.8
15.0	650	3.4	54.0	325	4.920	3	P80	12D20-	1	10
15.0	650	3.4	54.0	325	4.920	3	P80	12D20L	1	10
16.0	650	1.8	29.0	325	4.528	3	P40	12D20-	1	8.9
16.0	650	1.8	29.0	325	4.528	3	P40	12D20L	1	9.0
16.0	600	3.4	59.0	300	1.430	10	P80	09D60-	1	8.1
16.0	600	3.4	59.0	300	1.430	10	P80	09D60L	1	8.2
17.0	600	1.6	28.0	300	1.250	10	P40	09D60L	1	6.8
17.0	600	1.6	28.0	300	1.250	10	P40	09D60-	1	6.7
19.0	500	2.6	54.0	250	1.327	12	P80	09D60L	2	9.2
19.0	500	2.6	54.0	250	1.327	12	P80	09D60-	2	9.1
19.0	400	5.2	135	200	1.581	15	P180	09D60-	2	13
19.0	400	5.2	135	200	1.581	15	P180	09D60L	2	13
20.0	500	1.4	29.0	250	1.299	12	P40	09D60L	2	7.6
20.0	500	1.4	29.0	250	1.299	12	P40	09D60-	2	7.5
20.0	488	3.8	80.0	244	4.657	4	P80	12D20-	1	10
20.0	488	3.8	80.0	244	4.657	4	P80	12D20L	1	10
20.0	375	5.7	180	188	1.641	16	P180	09D60-	2	13
20.0	375	5.7	180	188	1.641	16	P180	09D60L	2	13
21.0	488	1.8	39.0	244	4.450	4	P40	12D20-	1	8.9
21.0	488	1.8	39.0	244	4.450	4	P40	12D20L	1	9.0
25.0	400	1.2	29.0	200	1.276	15	P40	09D60-	2	7.5
25.0	400	1.2	29.0	200	1.276	15	P40	09D60L	2	7.6
25.0	400	2.1	54.0	200	1.293	15	P80	09D60L	2	9.2
25.0	400	2.1	54.0	200	1.293	15	P80	09D60-	2	9.1
25.0	390	3.0	80.0	195	4.557	5	P80	12D20-	1	10
25.0	390	3.0	80.0	195	4.557	5	P80	12D20L	1	10
26.0	390	1.5	40.0	195	4.421	5	P40	12D20-	1	8.9
26.0	390	1.5	40.0	195	4.421	5	P40	12D20L	1	9.0
26.0	375	2.3	80.0	188	1.308	16	P80	09D60-	2	9.1
26.0	375	2.3	80.0	188	1.308	16	P80	09D60L	2	9.2
26.0	300	4.9	180	150	1.543	20	P180	09D60-	2	13
26.0	300	4.9	180	150	1.543	20	P180	09D60L	2	13
27.0	375	1.4	39.0	188	1.297	16	P40	09D60-	2	7.5
27.0	375	1.4	39.0	188	1.297	16	P40	09D60L	2	7.6
33.0	279	4.6	175	139	4.983	7	P180	12D20-	1	14
33.0	279	4.6	175	139	4.983	7	P180	12D20L	1	14
34.0	300	1.2	39.0	150	1.273	20	P40	09D60-	2	7.5
34.0	300	1.2	39.0	150	1.273	20	P40	09D60L	2	7.6
34.0	300	2.0	80.0	150	1.282	20	P80	09D60-	2	9.1
34.0	300	2.0	80.0	150	1.282	20	P80	09D60L	2	9.2
37.0	279	1.0	37.0	139	4.396	7	P40	12D20-	1	8.9



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
37.0	279	1.0	37.0	139	4.396	7	P40	12D20L	1	9.0
37.0	279	2.1	78.0	139	4.479	7	P80	12D20-	1	10
37.0	279	2.1	78.0	139	4.479	7	P80	12D20L	1	10
37.0	240	3.6	175	120	1.529	25	P180	09D60L	2	13
37.0	240	3.6	175	120	1.529	25	P180	09D60-	2	13
42.0	240	1.5	80.0	120	1.277	25	P80	09D60L	2	9.2
42.0	240	1.5	80.0	120	1.277	25	P80	09D60-	2	9.1
44.0	195	5.8	305	98.0	10.475	10	P470	12D20-	1	23
44.0	195	5.8	305	98.0	10.475	10	P470	12D20L	1	23
44.0	163	6.0	380	81.0	5.962	12	P470	12D20L	2	24
44.0	163	6.0	380	81.0	5.962	12	P470	12D20-	2	24
51.0	195	2.6	140	98.0	4.857	10	P180	12D20-	1	14
51.0	195	2.6	140	98.0	4.857	10	P180	12D20L	1	14
53.0	195	1.1	59.0	98.0	4.439	10	P80	12D20-	1	10
53.0	195	1.1	59.0	98.0	4.439	10	P80	12D20L	1	10
56.0	171	2.8	175	86.0	1.460	35	P180	09D60-	2	13
56.0	171	2.8	175	86.0	1.460	35	P180	09D60L	2	13
59.0	171	1.2	80.0	86.0	1.257	35	P80	09D60L	2	9.2
59.0	171	1.2	80.0	86.0	1.257	35	P80	09D60-	2	9.1
61.0	163	2.1	135	81.0	4.710	12	P180	12D20-	2	15
61.0	163	2.1	135	81.0	4.710	12	P180	12D20L	2	16
61.0	130	4.8	380	65.0	5.455	15	P470	12D20L	2	24
61.0	130	4.8	380	65.0	5.455	15	P470	12D20-	2	24
62.0	122	5.3	450	61.0	5.734	16	P470	12D20-	2	24
62.0	122	5.3	450	61.0	5.734	16	P470	12D20L	2	24
64.0	150	2.6	180	75.0	1.428	40	P180	09D60-	2	13
64.0	150	2.6	180	75.0	1.428	40	P180	09D60L	2	13
67.0	120	4.7	405	60.0	1.970	50	P470	09D60-	2	22
67.0	120	4.7	405	60.0	1.970	50	P470	09D60L	2	22
68.0	150	1.2	80.0	75.0	1.248	40	P80	09D60-	2	9.1
68.0	150	1.2	80.0	75.0	1.248	40	P80	09D60L	2	9.2
78.0	130	1.7	135	65.0	4.591	15	P180	12D20-	2	15
78.0	130	1.7	135	65.0	4.591	15	P180	12D20L	2	16
82.0	122	2.1	180	61.0	4.651	16	P180	12D20-	2	15
82.0	122	2.1	180	61.0	4.651	16	P180	12D20L	2	16
84.0	120	2.1	175	60.0	1.424	50	P180	09D60-	2	13
84.0	120	2.1	175	60.0	1.424	50	P180	09D60L	2	13
86.0	97.5	4.3	450	49.0	5.309	20	P470	12D20-	2	24
86.0	97.5	4.3	450	49.0	5.309	20	P470	12D20L	2	24
103	97.5	1.7	180	49.0	4.553	20	P180	12D20-	2	15
103	97.5	1.7	180	49.0	4.553	20	P180	12D20L	2	16
109	85.7	3.0	355	43.0	1.959	70	P470	09D60-	2	22
109	85.7	3.0	355	43.0	1.959	70	P470	09D60L	2	22
117	85.7	1.5	175	43.0	1.422	70	P180	09D60L	2	13
117	85.7	1.5	175	43.0	1.422	70	P180	09D60-	2	13
119	78.0	3.1	405	39.0	5.248	25	P470	12D20-	2	24
119	78.0	3.1	405	39.0	5.248	25	P470	12D20L	2	24
129	78.0	1.3	175	39.0	4.539	25	P180	12D20-	2	15
129	78.0	1.3	175	39.0	4.539	25	P180	12D20L	2	16
139	55.7	5.1	950	28.0	10.941	35	P950	12D20L	2	47
139	55.7	5.1	950	28.0	10.941	35	P950	12D20-	2	47
164	60.0	1.9	305	30.0	1.940	100	P470	09D60L	2	22



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
164	60.0	1.9	305	30.0	1.940	100	P470	09D60-	2	22
168	48.8	4.5	950	24.0	10.502	40	P950	12D20-	2	47
168	48.8	4.5	950	24.0	10.502	40	P950	12D20L	2	47
178	55.7	2.2	405	28.0	5.010	35	P470	12D20L	2	24
178	55.7	2.2	405	28.0	5.010	35	P470	12D20-	2	24
203	48.8	2.2	470	24.0	4.885	40	P470	12D20-	2	24
203	48.8	2.2	470	24.0	4.885	40	P470	12D20L	2	24
227	39.0	3.6	950	20.0	10.438	50	P950	12D20L	2	47
227	39.0	3.6	950	20.0	10.438	50	P950	12D20-	2	47
259	39.0	1.6	405	20.0	4.870	50	P470	12D20-	2	24
259	39.0	1.6	405	20.0	4.870	50	P470	12D20L	2	24
349	27.9	2.5	900	14.0	10.384	70	P950	12D20-	2	47
349	27.9	2.5	900	14.0	10.384	70	P950	12D20L	2	47
501	19.5	1.5	750	10.0	10.360	100	P950	12D20-	2	47
501	19.5	1.5	750	10.0	10.360	100	P950	12D20L	2	47



1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.6	1250	5.7	54.0	625	2.311	3	P80	09F38-	1	9.0
7.6	1250	5.7	54.0	625	2.311	3	P80	09F38L	1	9.1
8.5	1250	3.2	29.0	625	1.794	3	P40	09F38L	1	7.7
8.5	1250	3.2	29.0	625	1.794	3	P40	09F38-	1	7.6
11.0	938	3.2	39.0	469	1.716	4	P40	09F38-	1	7.6
11.0	938	3.2	39.0	469	1.716	4	P40	09F38L	1	7.7
13.0	750	4.8	80.0	375	1.948	5	P80	09F38L	1	9.1
13.0	750	4.8	80.0	375	1.948	5	P80	09F38-	1	9.0
14.0	750	2.6	40.0	375	1.687	5	P40	09F38-	1	7.6
14.0	750	2.6	40.0	375	1.687	5	P40	09F38L	1	7.7
19.0	536	3.6	78.0	268	1.870	7	P80	09F38-	1	9.0
19.0	536	3.6	78.0	268	1.870	7	P80	09F38L	1	9.1
21.0	536	1.8	37.0	268	1.662	7	P40	09F38-	1	7.6
21.0	536	1.8	37.0	268	1.662	7	P40	09F38L	1	7.7
26.0	375	4.7	140	188	2.357	10	P180	09F38L	1	13
26.0	375	4.7	140	188	2.357	10	P180	09F38-	1	13
30.0	375	2.0	59.0	188	1.830	10	P80	09F38L	1	9.1
30.0	375	2.0	59.0	188	1.830	10	P80	09F38-	1	9.0
30.0	313	3.8	135	156	2.100	12	P180	09F38-	2	14
30.0	313	3.8	135	156	2.100	12	P180	09F38L	2	14
35.0	313	1.5	54.0	156	1.727	12	P80	09F38-	2	10
35.0	313	1.5	54.0	156	1.727	12	P80	09F38L	2	10
40.0	250	3.0	135	125	1.981	15	P180	09F38-	2	14
40.0	250	3.0	135	125	1.981	15	P180	09F38L	2	14
40.0	234	3.8	180	117	2.041	16	P180	09F38-	2	14
40.0	234	3.8	180	117	2.041	16	P180	09F38L	2	14
44.0	250	1.2	54.0	125	1.693	15	P80	09F38-	2	10
44.0	250	1.2	54.0	125	1.693	15	P80	09F38L	2	10
47.0	234	1.6	80.0	117	1.708	16	P80	09F38-	2	10
47.0	234	1.6	80.0	117	1.708	16	P80	09F38L	2	10
54.0	188	3.0	180	94.0	1.943	20	P180	09F38-	2	14
54.0	188	3.0	180	94.0	1.943	20	P180	09F38L	2	14
54.0	150	5.4	405	75.0	2.748	25	P470	09F38L	2	23
54.0	150	5.4	405	75.0	2.748	25	P470	09F38-	2	23
58.0	188	1.3	80.0	94.0	1.682	20	P80	09F38-	2	10
58.0	188	1.3	80.0	94.0	1.682	20	P80	09F38L	2	10
71.0	150	2.4	175	75.0	1.929	25	P180	09F38-	2	14
71.0	150	2.4	175	75.0	1.929	25	P180	09F38L	2	14
88.0	107	3.9	405	54.0	2.510	35	P470	09F38-	2	23
88.0	107	3.9	405	54.0	2.510	35	P470	09F38L	2	23
100	93.8	4.0	470	47.0	2.385	40	P470	09F38-	2	23
100	93.8	4.0	470	47.0	2.385	40	P470	09F38L	2	23
102	107	1.7	175	54.0	1.860	35	P180	09F38-	2	14
102	107	1.7	175	54.0	1.860	35	P180	09F38L	2	14
117	93.8	1.5	180	47.0	1.828	40	P180	09F38-	2	14
117	93.8	1.5	180	47.0	1.828	40	P180	09F38L	2	14
138	75.0	2.8	405	38.0	2.370	50	P470	09F38-	2	23
138	75.0	2.8	405	38.0	2.370	50	P470	09F38L	2	23
146	75.0	1.2	175	38.0	1.824	50	P180	09F38-	2	14
146	75.0	1.2	175	38.0	1.824	50	P180	09F38L	2	14
202	53.6	1.8	355	27.0	2.359	70	P470	09F38-	2	23



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
202	53.6	1.8	355	27.0	2.359	70	P470	09F38L	2	23
282	37.5	1.1	305	19.0	2.340	100	P470	09F38-	2	23
282	37.5	1.1	305	19.0	2.340	100	P470	09F38L	2	23

1.45 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
23.0	500	5.0	135	250	10.875	3	P180	14D15-	1	36
26.0	500	2.0	54.0	250	9.569	3	P80	14D15-	1	33
31.0	375	5.0	180	188	9.947	4	P180	14D15-	1	36
35.0	375	2.2	80.0	188	9.306	4	P80	14D15-	1	33
41.0	300	3.9	175	150	9.585	5	P180	14D15-	1	36
44.0	300	1.8	80.0	150	9.206	5	P80	14D15-	1	33
52.0	214	5.7	355	107	15.114	7	P470	14D15-	1	45
60.0	214	2.8	175	107	9.373	7	P180	14D15-	1	36
62.0	214	1.3	78.0	107	8.853	7	P80	14D15-	1	33
83.0	150	3.5	305	75.0	14.575	10	P470	14D15-	1	45
88.0	150	1.6	140	75.0	9.247	10	P180	14D15-	1	36
92.0	125	3.6	380	63.0	10.352	12	P470	14D15-	2	46
104	125	1.3	135	63.0	9.359	12	P180	14D15-	2	38
121	100	2.9	380	50.0	9.845	15	P470	14D15-	2	46
126	93.8	3.2	450	47.0	10.125	16	P470	14D15-	2	46
129	75.0	5.4	950	38.0	16.286	20	P950	14D15-	2	69
130	100	1.0	135	50.0	9.240	15	P180	14D15-	2	38
138	93.8	1.3	180	47.0	9.301	16	P180	14D15-	2	38
166	75.0	2.6	450	38.0	9.700	20	P470	14D15-	2	46
173	75.0	1.0	180	38.0	9.203	20	P180	14D15-	2	38
179	60.0	4.3	950	30.0	16.030	25	P950	14D15-	2	69
216	60.0	1.8	405	30.0	9.638	25	P470	14D15-	2	46
278	42.9	3.1	950	21.0	15.041	35	P950	14D15-	2	69
303	42.9	1.3	405	21.0	9.400	35	P470	14D15-	2	46
328	37.5	2.7	950	19.0	14.602	40	P950	14D15-	2	69
346	37.5	1.3	470	19.0	9.276	40	P470	14D15-	2	46
427	30.0	2.2	950	15.0	14.538	50	P950	14D15-	2	69
605	21.4	1.5	900	11.0	14.484	70	P950	14D15-	2	69



1.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.5	2000	3.5	29.0	1000	1.794	3	P40	09F60-	1	7.6
6.5	2000	3.5	29.0	1000	1.794	3	P40	09F60L	1	7.7
8.6	1500	3.6	39.0	750	1.716	4	P40	09F60-	1	7.6
8.6	1500	3.6	39.0	750	1.716	4	P40	09F60L	1	7.7
9.9	1200	5.4	80.0	600	1.948	5	P80	09F60-	1	9.0
9.9	1200	5.4	80.0	600	1.948	5	P80	09F60L	1	9.1
11.0	1200	2.9	40.0	600	1.687	5	P40	09F60-	1	7.6
11.0	1200	2.9	40.0	600	1.687	5	P40	09F60L	1	7.7
15.0	857	4.1	78.0	429	1.870	7	P80	09F60-	1	9.0
15.0	857	4.1	78.0	429	1.870	7	P80	09F60L	1	9.1
16.0	857	2.2	37.0	429	1.662	7	P40	09F60-	1	7.6
16.0	857	2.2	37.0	429	1.662	7	P40	09F60L	1	7.7
19.0	600	5.8	140	300	2.357	10	P180	09F60-	1	13
19.0	600	5.8	140	300	2.357	10	P180	09F60L	1	13
21.0	500	4.9	135	250	2.100	12	P180	09F60-	2	14
21.0	500	4.9	135	250	2.100	12	P180	09F60L	2	14
23.0	600	1.2	28.0	300	1.650	10	P40	09F60-	1	7.6
23.0	600	1.2	28.0	300	1.650	10	P40	09F60L	1	7.7
23.0	600	2.6	59.0	300	1.830	10	P80	09F60-	1	9.0
23.0	600	2.6	59.0	300	1.830	10	P80	09F60L	1	9.1
27.0	500	1.1	29.0	250	1.699	12	P40	09F60-	2	8.4
27.0	500	1.1	29.0	250	1.699	12	P40	09F60L	2	8.5
27.0	500	2.0	54.0	250	1.727	12	P80	09F60-	2	10
27.0	500	2.0	54.0	250	1.727	12	P80	09F60L	2	10
29.0	400	3.9	135	200	1.981	15	P180	09F60-	2	14
29.0	400	3.9	135	200	1.981	15	P180	09F60L	2	14
30.0	375	4.3	180	188	2.041	16	P180	09F60-	2	14
30.0	375	4.3	180	188	2.041	16	P180	09F60L	2	14
34.0	400	1.6	54.0	200	1.693	15	P80	09F60-	2	10
34.0	400	1.6	54.0	200	1.693	15	P80	09F60L	2	10
36.0	375	1.1	39.0	188	1.697	16	P40	09F60-	2	8.4
36.0	375	1.1	39.0	188	1.697	16	P40	09F60L	2	8.5
36.0	375	1.7	80.0	188	1.708	16	P80	09F60-	2	10
36.0	375	1.7	80.0	188	1.708	16	P80	09F60L	2	10
39.0	300	3.7	180	150	1.943	20	P180	09F60L	2	14
39.0	300	3.7	180	150	1.943	20	P180	09F60-	2	14
45.0	300	1.5	80.0	150	1.682	20	P80	09F60-	2	10
45.0	300	1.5	80.0	150	1.682	20	P80	09F60L	2	10
54.0	240	2.7	175	120	1.929	25	P180	09F60L	2	14
54.0	240	2.7	175	120	1.929	25	P180	09F60-	2	14
56.0	240	1.1	80.0	120	1.677	25	P80	09F60-	2	10
56.0	240	1.1	80.0	120	1.677	25	P80	09F60L	2	10
62.0	171	4.9	405	86.0	2.510	35	P470	09F60-	2	23
62.0	171	4.9	405	86.0	2.510	35	P470	09F60L	2	23
69.0	150	5.1	470	75.0	2.385	40	P470	09F60-	2	23
69.0	150	5.1	470	75.0	2.385	40	P470	09F60L	2	23
78.0	171	2.1	175	86.0	1.860	35	P180	09F60-	2	14
78.0	171	2.1	175	86.0	1.860	35	P180	09F60L	2	14
90.0	150	2.0	180	75.0	1.828	40	P180	09F60L	2	14
90.0	150	2.0	180	75.0	1.828	40	P180	09F60-	2	14
100	120	3.6	405	60.0	2.370	50	P470	09F60-	2	23



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
100	120	3.6	405	60.0	2.370	50	P470	09F60L	2	23
113	120	1.6	175	60.0	1.824	50	P180	09F60-	2	14
113	120	1.6	175	60.0	1.824	50	P180	09F60L	2	14
155	85.7	2.3	355	43.0	2.359	70	P470	09F60L	2	23
155	85.7	2.3	355	43.0	2.359	70	P470	09F60-	2	23
156	85.7	1.1	175	43.0	1.822	70	P180	09F60-	2	14
156	85.7	1.1	175	43.0	1.822	70	P180	09F60L	2	14
218	60.0	1.4	305	30.0	2.340	100	P470	09F60-	2	23
218	60.0	1.4	305	30.0	2.340	100	P470	09F60L	2	23



1.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
9.8	1350	4.5	54.0	675	2.711	3	P80	09H41L	1	10
9.8	1350	4.5	54.0	675	2.711	3	P80	09H41-	1	9.9
11.0	1350	2.5	29.0	675	2.194	3	P40	09H41-	1	8.5
11.0	1350	2.5	29.0	675	2.194	3	P40	09H41L	1	8.6
13.0	1013	5.0	80.0	506	2.447	4	P80	09H41L	1	10
13.0	1013	5.0	80.0	506	2.447	4	P80	09H41-	1	9.9
14.0	1013	2.6	39.0	506	2.116	4	P40	09H41-	1	8.5
14.0	1013	2.6	39.0	506	2.116	4	P40	09H41L	1	8.6
17.0	810	3.8	80.0	405	2.348	5	P80	09H41L	1	10
17.0	810	3.8	80.0	405	2.348	5	P80	09H41-	1	9.9
18.0	810	2.1	40.0	405	2.087	5	P40	09H41-	1	8.5
18.0	810	2.1	40.0	405	2.087	5	P40	09H41L	1	8.6
22.0	579	5.7	175	289	2.883	7	P180	09H41-	1	14
22.0	579	5.7	175	289	2.883	7	P180	09H41L	1	14
25.0	579	2.9	78.0	289	2.270	7	P80	09H41-	1	9.9
25.0	579	2.9	78.0	289	2.270	7	P80	09H41L	1	10
26.0	579	1.4	37.0	289	2.062	7	P40	09H41-	1	8.5
26.0	579	1.4	37.0	289	2.062	7	P40	09H41L	1	8.6
26.0	500	4.6	135	250	9.784	3	P180	12H15L	1	17
26.0	500	4.6	135	250	9.784	3	P180	12H15-	1	17
29.0	500	1.0	29.0	250	7.828	3	P40	12H15-	1	12
29.0	500	1.0	29.0	250	7.828	3	P40	12H15L	1	12
29.0	500	1.9	54.0	250	8.220	3	P80	12H15-	1	13
29.0	500	1.9	54.0	250	8.220	3	P80	12H15L	1	14
34.0	405	3.8	140	203	2.757	10	P180	09H41-	1	14
34.0	405	3.8	140	203	2.757	10	P180	09H41L	1	14
34.0	375	4.6	180	188	8.857	4	P180	12H15L	1	17
34.0	375	4.6	180	188	8.857	4	P180	12H15-	1	17
36.0	405	1.6	59.0	203	2.230	10	P80	09H41L	1	10
36.0	405	1.6	59.0	203	2.230	10	P80	09H41-	1	9.9
38.0	375	1.0	39.0	188	7.750	4	P40	12H15-	1	12
38.0	375	1.0	39.0	188	7.750	4	P40	12H15L	1	12
38.0	375	2.1	80.0	188	7.957	4	P80	12H15-	1	13
38.0	375	2.1	80.0	188	7.957	4	P80	12H15L	1	14
39.0	338	3.1	135	169	2.500	12	P180	09H41-	2	15
39.0	338	3.1	135	169	2.500	12	P180	09H41L	2	15
43.0	338	1.3	54.0	169	2.127	12	P80	09H41-	2	11
43.0	338	1.3	54.0	169	2.127	12	P80	09H41L	2	11
45.0	300	3.6	175	150	8.494	5	P180	12H15-	1	17
45.0	300	3.6	175	150	8.494	5	P180	12H15L	1	17
48.0	300	1.7	80.0	150	7.857	5	P80	12H15L	1	14
48.0	300	1.7	80.0	150	7.857	5	P80	12H15-	1	13
50.0	203	5.9	450	101	3.209	20	P470	09H41-	2	24
50.0	203	5.9	450	101	3.209	20	P470	09H41L	2	24
52.0	270	2.5	135	135	2.381	15	P180	09H41-	2	15
52.0	270	2.5	135	135	2.381	15	P180	09H41L	2	15
53.0	253	3.1	180	127	2.441	16	P180	09H41-	2	15
53.0	253	3.1	180	127	2.441	16	P180	09H41L	2	15
57.0	253	1.3	80.0	127	2.108	16	P80	09H41-	2	11
57.0	253	1.3	80.0	127	2.108	16	P80	09H41L	2	11
58.0	214	5.2	355	107	14.314	7	P470	12H15-	1	26

Technical data

Planetary gearbox g850-P
Selection tables
Inverter power supply 400 V, self-ventilated motors



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
58.0	214	5.2	355	107	14.314	7	P470	12H15L	1	26
66.0	214	2.6	175	107	8.283	7	P180	12H15-	1	17
66.0	214	2.6	175	107	8.283	7	P180	12H15L	1	17
67.0	214	1.2	78.0	107	7.779	7	P80	12H15-	1	13
67.0	214	1.2	78.0	107	7.779	7	P80	12H15L	1	14
69.0	203	2.5	180	101	2.343	20	P180	09H41-	2	15
69.0	203	2.5	180	101	2.343	20	P180	09H41L	2	15
71.0	203	1.1	80.0	101	2.082	20	P80	09H41-	2	11
71.0	203	1.1	80.0	101	2.082	20	P80	09H41L	2	11
73.0	162	4.4	405	81.0	3.148	25	P470	09H41-	2	24
73.0	162	4.4	405	81.0	3.148	25	P470	09H41L	2	24
89.0	162	1.9	175	81.0	2.329	25	P180	09H41-	2	15
89.0	162	1.9	175	81.0	2.329	25	P180	09H41L	2	15
91.0	150	3.2	305	75.0	13.775	10	P470	12H15-	1	26
91.0	150	3.2	305	75.0	13.775	10	P470	12H15L	1	26
96.0	150	1.4	140	75.0	8.157	10	P180	12H15L	1	17
96.0	150	1.4	140	75.0	8.157	10	P180	12H15-	1	17
101	100	5.8	845	50.0	16.186	15	P950	12H15L	2	50
101	100	5.8	845	50.0	16.186	15	P950	12H15-	2	50
102	125	3.3	380	63.0	9.262	12	P470	12H15-	2	27
102	125	3.3	380	63.0	9.262	12	P470	12H15L	2	27
113	125	1.2	135	63.0	8.010	12	P180	12H15-	2	19
113	125	1.2	135	63.0	8.010	12	P180	12H15L	2	19
114	116	3.2	405	58.0	2.910	35	P470	09H41-	2	24
114	116	3.2	405	58.0	2.910	35	P470	09H41L	2	24
125	116	1.4	175	58.0	2.260	35	P180	09H41-	2	15
125	116	1.4	175	58.0	2.260	35	P180	09H41L	2	15
130	101	3.2	470	51.0	2.785	40	P470	09H41L	2	24
130	101	3.2	470	51.0	2.785	40	P470	09H41-	2	24
134	100	2.6	380	50.0	8.755	15	P470	12H15-	2	27
134	100	2.6	380	50.0	8.755	15	P470	12H15L	2	27
140	93.8	2.9	450	47.0	9.034	16	P470	12H15-	2	27
140	93.8	2.9	450	47.0	9.034	16	P470	12H15L	2	27
143	101	1.3	180	51.0	2.228	40	P180	09H41L	2	15
143	101	1.3	180	51.0	2.228	40	P180	09H41-	2	15
147	75.0	5.0	950	38.0	15.486	20	P950	12H15-	2	50
147	75.0	5.0	950	38.0	15.486	20	P950	12H15L	2	50
150	93.8	1.2	180	47.0	7.951	16	P180	12H15-	2	19
150	93.8	1.2	180	47.0	7.951	16	P180	12H15L	2	19
175	81.0	2.2	405	41.0	2.770	50	P470	09H41-	2	24
175	81.0	2.2	405	41.0	2.770	50	P470	09H41L	2	24
183	75.0	2.3	450	38.0	8.609	20	P470	12H15-	2	27
183	75.0	2.3	450	38.0	8.609	20	P470	12H15L	2	27
201	60.0	4.0	950	30.0	15.230	25	P950	12H15-	2	50
201	60.0	4.0	950	30.0	15.230	25	P950	12H15L	2	50
235	60.0	1.7	405	30.0	8.548	25	P470	12H15-	2	27
235	60.0	1.7	405	30.0	8.548	25	P470	12H15L	2	27
247	57.9	1.4	355	29.0	2.759	70	P470	09H41-	2	24
247	57.9	1.4	355	29.0	2.759	70	P470	09H41L	2	24
309	42.9	2.8	950	21.0	14.241	35	P950	12H15-	2	50
309	42.9	2.8	950	21.0	14.241	35	P950	12H15L	2	50
329	42.9	1.2	405	21.0	8.310	35	P470	12H15-	2	27



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
329	42.9	1.2	405	21.0	8.310	35	P470	12H15L	2	27
363	37.5	2.5	950	19.0	13.802	40	P950	12H15-	2	50
363	37.5	2.5	950	19.0	13.802	40	P950	12H15L	2	50
376	37.5	1.2	470	19.0	8.185	40	P470	12H15-	2	27
376	37.5	1.2	470	19.0	8.185	40	P470	12H15L	2	27
470	30.0	2.0	950	15.0	13.738	50	P950	12H15-	2	50
470	30.0	2.0	950	15.0	13.738	50	P950	12H15L	2	50
658	21.4	1.4	900	11.0	13.684	70	P950	12H15-	2	50
658	21.4	1.4	900	11.0	13.684	70	P950	12H15L	2	50



1.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
11.0	1350	4.0	54.0	675	4.920	3	P80	12D41-	1	10
11.0	1350	4.0	54.0	675	4.920	3	P80	12D41L	1	10
12.0	1350	2.3	29.0	675	4.528	3	P40	12D41L	1	9.0
12.0	1350	2.3	29.0	675	4.528	3	P40	12D41-	1	8.9
15.0	1013	4.4	80.0	506	4.657	4	P80	12D41-	1	10
15.0	1013	4.4	80.0	506	4.657	4	P80	12D41L	1	10
16.0	1013	2.3	39.0	506	4.450	4	P40	12D41-	1	8.9
16.0	1013	2.3	39.0	506	4.450	4	P40	12D41L	1	9.0
19.0	810	3.4	80.0	405	4.557	5	P80	12D41L	1	10
19.0	810	3.4	80.0	405	4.557	5	P80	12D41-	1	10
21.0	810	1.8	40.0	405	4.421	5	P40	12D41L	1	9.0
21.0	810	1.8	40.0	405	4.421	5	P40	12D41-	1	8.9
25.0	579	5.1	175	289	4.983	7	P180	12D41-	1	14
25.0	579	5.1	175	289	4.983	7	P180	12D41L	1	14
28.0	579	2.5	78.0	289	4.479	7	P80	12D41-	1	10
28.0	579	2.5	78.0	289	4.479	7	P80	12D41L	1	10
29.0	579	1.3	37.0	289	4.396	7	P40	12D41-	1	8.9
29.0	579	1.3	37.0	289	4.396	7	P40	12D41L	1	9.0
39.0	405	3.4	140	203	4.857	10	P180	12D41-	1	14
39.0	405	3.4	140	203	4.857	10	P180	12D41L	1	14
41.0	405	1.4	59.0	203	4.439	10	P80	12D41-	1	10
41.0	405	1.4	59.0	203	4.439	10	P80	12D41L	1	10
46.0	338	2.7	135	169	4.710	12	P180	12D41-	2	15
46.0	338	2.7	135	169	4.710	12	P180	12D41L	2	16
49.0	338	1.1	54.0	169	4.461	12	P80	12D41L	2	11
49.0	338	1.1	54.0	169	4.461	12	P80	12D41-	2	11
60.0	270	2.2	135	135	4.591	15	P180	12D41-	2	15
60.0	270	2.2	135	135	4.591	15	P180	12D41L	2	16
61.0	253	2.7	180	127	4.651	16	P180	12D41L	2	16
61.0	253	2.7	180	127	4.651	16	P180	12D41-	2	15
61.0	203	5.3	450	101	5.309	20	P470	12D41L	2	24
61.0	203	5.3	450	101	5.309	20	P470	12D41-	2	24
65.0	253	1.1	80.0	127	4.443	16	P80	12D41-	2	11
65.0	253	1.1	80.0	127	4.443	16	P80	12D41L	2	11
80.0	203	2.2	180	101	4.553	20	P180	12D41-	2	15
80.0	203	2.2	180	101	4.553	20	P180	12D41L	2	16
87.0	162	3.9	405	81.0	5.248	25	P470	12D41-	2	24
87.0	162	3.9	405	81.0	5.248	25	P470	12D41L	2	24
101	162	1.7	175	81.0	4.539	25	P180	12D41-	2	15
101	162	1.7	175	81.0	4.539	25	P180	12D41L	2	16
116	101	5.8	950	51.0	10.502	40	P950	12D41-	2	47
116	101	5.8	950	51.0	10.502	40	P950	12D41L	2	47
133	116	2.8	405	58.0	5.010	35	P470	12D41-	2	24
133	116	2.8	405	58.0	5.010	35	P470	12D41L	2	24
141	116	1.2	175	58.0	4.470	35	P180	12D41-	2	15
141	116	1.2	175	58.0	4.470	35	P180	12D41L	2	16
151	101	2.9	470	51.0	4.885	40	P470	12D41-	2	24
151	101	2.9	470	51.0	4.885	40	P470	12D41L	2	24
162	101	1.1	180	51.0	4.438	40	P180	12D41L	2	16
162	101	1.1	180	51.0	4.438	40	P180	12D41-	2	15
162	81.0	4.7	950	41.0	10.438	50	P950	12D41L	2	47



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
162	81.0	4.7	950	41.0	10.438	50	P950	12D41-	2	47
202	81.0	2.0	405	41.0	4.870	50	P470	12D41-	2	24
202	81.0	2.0	405	41.0	4.870	50	P470	12D41L	2	24
258	57.9	3.2	900	29.0	10.384	70	P950	12D41-	2	47
258	57.9	3.2	900	29.0	10.384	70	P950	12D41L	2	47
280	57.9	1.3	355	29.0	4.859	70	P470	12D41L	2	24
280	57.9	1.3	355	29.0	4.859	70	P470	12D41-	2	24
391	40.5	1.9	750	20.0	10.360	100	P950	12D41-	2	47
391	40.5	1.9	750	20.0	10.360	100	P950	12D41L	2	47



1.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.5	2000	5.1	54.0	934	2.711	3	P80	09H60-	1	9.9
7.5	2000	5.1	54.0	934	2.711	3	P80	09H60L	1	10
8.3	2000	2.8	29.0	1000	2.194	3	P40	09H60-	1	8.5
8.3	2000	2.8	29.0	1000	2.194	3	P40	09H60L	1	8.6
9.3	1700	4.4	54.0	850	3.611	3	P80	09L51-	1	12
9.8	1500	5.6	80.0	750	2.447	4	P80	09H60-	1	9.9
9.8	1500	5.6	80.0	750	2.447	4	P80	09H60L	1	10
10.0	1700	2.5	29.0	850	3.094	3	P40	09L51-	1	10
11.0	1500	2.9	39.0	750	2.116	4	P40	09H60-	1	8.5
11.0	1500	2.9	39.0	750	2.116	4	P40	09H60L	1	8.6
12.0	1350	3.8	54.0	675	3.611	3	P80	09L41-	1	12
12.0	1350	3.8	54.0	675	3.611	3	P80	09L41L	1	12
12.0	1275	4.9	80.0	638	3.347	4	P80	09L51-	1	12
13.0	1350	2.1	29.0	675	3.094	3	P40	09L41-	1	10
13.0	1350	2.1	29.0	675	3.094	3	P40	09L41L	1	10
13.0	1200	4.3	80.0	600	2.348	5	P80	09H60L	1	10
13.0	1200	4.3	80.0	600	2.348	5	P80	09H60-	1	9.9
14.0	1275	2.5	39.0	638	3.016	4	P40	09L51-	1	10
14.0	1200	2.4	40.0	600	2.087	5	P40	09H60-	1	8.5
14.0	1200	2.4	40.0	600	2.087	5	P40	09H60L	1	8.6
16.0	1020	3.8	80.0	510	3.248	5	P80	09L51-	1	12
16.0	1013	4.2	80.0	506	3.347	4	P80	09L41L	1	12
16.0	1013	4.2	80.0	506	3.347	4	P80	09L41-	1	12
17.0	1020	2.1	40.0	510	2.987	5	P40	09L51-	1	10
17.0	1013	2.2	39.0	506	3.016	4	P40	09L41-	1	10
17.0	1013	2.2	39.0	506	3.016	4	P40	09L41L	1	10
19.0	857	3.2	78.0	429	2.270	7	P80	09H60-	1	9.9
19.0	857	3.2	78.0	429	2.270	7	P80	09H60L	1	10
20.0	857	1.7	37.0	429	2.062	7	P40	09H60-	1	8.5
20.0	857	1.7	37.0	429	2.062	7	P40	09H60L	1	8.6
20.0	810	3.2	80.0	405	3.248	5	P80	09L41-	1	12
20.0	810	3.2	80.0	405	3.248	5	P80	09L41L	1	12
21.0	729	5.6	175	364	3.783	7	P180	09L51-	1	15
22.0	810	1.8	40.0	405	2.987	5	P40	09L41-	1	10
22.0	810	1.8	40.0	405	2.987	5	P40	09L41L	1	10
23.0	729	2.8	78.0	364	3.170	7	P80	09L51-	1	12
24.0	729	1.5	37.0	364	2.962	7	P40	09L51-	1	10
26.0	600	4.6	140	300	2.757	10	P180	09H60-	1	14
26.0	600	4.6	140	300	2.757	10	P180	09H60L	1	14
27.0	579	4.8	175	289	3.783	7	P180	09L41-	1	15
27.0	579	4.8	175	289	3.783	7	P180	09L41L	1	15
29.0	600	2.1	59.0	300	2.230	10	P80	09H60-	1	9.9
29.0	600	2.1	59.0	300	2.230	10	P80	09H60L	1	10
29.0	500	3.9	135	250	2.500	12	P180	09H60-	2	15
29.0	500	3.9	135	250	2.500	12	P180	09H60L	2	15
30.0	579	1.2	37.0	289	2.962	7	P40	09L41L	1	10
30.0	579	1.2	37.0	289	2.962	7	P40	09L41-	1	10
30.0	579	2.4	78.0	289	3.170	7	P80	09L41-	1	12
30.0	579	2.4	78.0	289	3.170	7	P80	09L41L	1	12
32.0	510	4.0	140	255	3.657	10	P180	09L51-	1	15
34.0	500	1.6	54.0	250	2.127	12	P80	09H60-	2	11



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
34.0	500	1.6	54.0	250	2.127	12	P80	09H60L	2	11
35.0	510	1.7	59.0	255	3.130	10	P80	09L51-	1	12
37.0	425	3.3	135	213	3.400	12	P180	09L51-	2	17
39.0	400	3.1	135	200	2.381	15	P180	09H60-	2	15
39.0	400	3.1	135	200	2.381	15	P180	09H60L	2	15
40.0	375	3.4	180	188	2.441	16	P180	09H60-	2	15
40.0	375	3.4	180	188	2.441	16	P180	09H60L	2	15
41.0	425	1.3	54.0	213	3.027	12	P80	09L51-	2	13
41.0	405	3.2	140	203	3.657	10	P180	09L41-	1	15
41.0	405	3.2	140	203	3.657	10	P180	09L41L	1	15
42.0	400	1.3	54.0	200	2.093	15	P80	09H60L	2	11
42.0	400	1.3	54.0	200	2.093	15	P80	09H60-	2	11
43.0	405	1.4	59.0	203	3.130	10	P80	09L41-	1	12
43.0	405	1.4	59.0	203	3.130	10	P80	09L41L	1	12
45.0	375	1.4	80.0	188	2.108	16	P80	09H60-	2	11
45.0	375	1.4	80.0	188	2.108	16	P80	09H60L	2	11
45.0	270	5.9	380	135	4.255	15	P470	09L41L	2	26
45.0	270	5.9	380	135	4.255	15	P470	09L41-	2	25
48.0	340	2.6	135	170	3.281	15	P180	09L51-	2	17
48.0	338	2.6	135	169	3.400	12	P180	09L41-	2	17
48.0	338	2.6	135	169	3.400	12	P180	09L41L	2	17
48.0	253	5.8	450	127	4.534	16	P470	09L41-	2	25
48.0	253	5.8	450	127	4.534	16	P470	09L41L	2	26
49.0	255	5.8	450	128	4.109	20	P470	09L51-	2	25
50.0	319	3.0	180	159	3.341	16	P180	09L51-	2	17
51.0	340	1.1	54.0	170	2.993	15	P80	09L51-	2	13
51.0	338	1.1	54.0	169	3.027	12	P80	09L41L	2	13
51.0	338	1.1	54.0	169	3.027	12	P80	09L41-	2	13
52.0	300	3.0	180	150	2.343	20	P180	09H60-	2	15
52.0	300	3.0	180	150	2.343	20	P180	09H60L	2	15
54.0	319	1.2	80.0	159	3.008	16	P80	09L51-	2	13
55.0	240	4.9	405	120	3.148	25	P470	09H60L	2	24
55.0	240	4.9	405	120	3.148	25	P470	09H60-	2	24
56.0	300	1.2	80.0	150	2.082	20	P80	09H60L	2	11
56.0	300	1.2	80.0	150	2.082	20	P80	09H60-	2	11
63.0	270	2.1	135	135	3.281	15	P180	09L41-	2	17
63.0	270	2.1	135	135	3.281	15	P180	09L41L	2	17
65.0	255	2.6	180	128	3.243	20	P180	09L51-	2	17
65.0	253	2.6	180	127	3.341	16	P180	09L41-	2	17
65.0	253	2.6	180	127	3.341	16	P180	09L41L	2	17
66.0	203	5.0	450	101	4.109	20	P470	09L41-	2	25
66.0	203	5.0	450	101	4.109	20	P470	09L41L	2	26
68.0	255	1.1	80.0	128	2.982	20	P80	09L51-	2	13
68.0	253	1.1	80.0	127	3.008	16	P80	09L41-	2	13
68.0	253	1.1	80.0	127	3.008	16	P80	09L41L	2	13
70.0	240	2.1	175	120	2.329	25	P180	09H60-	2	15
70.0	240	2.1	175	120	2.329	25	P180	09H60L	2	15
70.0	204	4.3	405	102	4.048	25	P470	09L51-	2	25
84.0	203	2.1	180	101	3.243	20	P180	09L41-	2	17
84.0	203	2.1	180	101	3.243	20	P180	09L41L	2	17
85.0	204	1.9	175	102	3.229	25	P180	09L51-	2	17
85.0	171	3.9	405	86.0	2.910	35	P470	09H60-	2	24



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
85.0	171	3.9	405	86.0	2.910	35	P470	09H60L	2	24
92.0	162	3.7	405	81.0	4.048	25	P470	09L41-	2	25
92.0	162	3.7	405	81.0	4.048	25	P470	09L41L	2	26
95.0	150	4.1	470	75.0	2.785	40	P470	09H60-	2	24
95.0	150	4.1	470	75.0	2.785	40	P470	09H60L	2	24
99.0	171	1.7	175	86.0	2.260	35	P180	09H60L	2	15
99.0	171	1.7	175	86.0	2.260	35	P180	09H60-	2	15
106	162	1.6	175	81.0	3.229	25	P180	09L41-	2	17
106	162	1.6	175	81.0	3.229	25	P180	09L41L	2	17
107	146	3.4	405	73.0	3.810	35	P470	09L51-	2	25
113	150	1.6	180	75.0	2.228	40	P180	09H60-	2	15
113	150	1.6	180	75.0	2.228	40	P180	09H60L	2	15
118	146	1.5	175	73.0	3.160	35	P180	09L51-	2	17
121	128	3.4	470	64.0	3.685	40	P470	09L51-	2	25
132	120	2.8	405	60.0	2.770	50	P470	09H60-	2	24
132	120	2.8	405	60.0	2.770	50	P470	09H60L	2	24
135	128	1.3	180	64.0	3.128	40	P180	09L51-	2	17
141	120	1.2	175	60.0	2.224	50	P180	09H60-	2	15
141	120	1.2	175	60.0	2.224	50	P180	09H60L	2	15
141	116	2.7	405	58.0	3.810	35	P470	09L41-	2	25
141	116	2.7	405	58.0	3.810	35	P470	09L41L	2	26
148	116	1.2	175	58.0	3.160	35	P180	09L41-	2	17
148	116	1.2	175	58.0	3.160	35	P180	09L41L	2	17
160	101	2.7	470	51.0	3.685	40	P470	09L41-	2	25
160	101	2.7	470	51.0	3.685	40	P470	09L41L	2	26
165	102	2.4	405	51.0	3.670	50	P470	09L51-	2	25
169	102	1.0	175	51.0	3.124	50	P180	09L51-	2	17
169	101	1.1	180	51.0	3.128	40	P180	09L41-	2	17
169	101	1.1	180	51.0	3.128	40	P180	09L41L	2	17
195	85.7	1.8	355	43.0	2.759	70	P470	09H60-	2	24
195	85.7	1.8	355	43.0	2.759	70	P470	09H60L	2	24
212	81.0	1.9	405	41.0	3.670	50	P470	09L41-	2	25
212	81.0	1.9	405	41.0	3.670	50	P470	09L41L	2	26
234	72.9	1.5	355	36.0	3.659	70	P470	09L51-	2	25
273	60.0	1.1	305	30.0	2.740	100	P470	09H60-	2	24
273	60.0	1.1	305	30.0	2.740	100	P470	09H60L	2	24
293	57.9	1.2	355	29.0	3.659	70	P470	09L41L	2	26
293	57.9	1.2	355	29.0	3.659	70	P470	09L41-	2	25



2.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
20.0	1000	5.3	135	500	9.784	3	P180	12H30L	1	17
23.0	1000	1.3	29.0	500	7.828	3	P40	12H30L	1	12
23.0	1000	2.3	54.0	500	8.220	3	P80	12H30L	1	14
27.0	750	5.3	180	375	8.857	4	P180	12H30L	1	17
30.0	750	2.6	80.0	375	7.957	4	P80	12H30L	1	14
31.0	750	1.3	39.0	375	7.750	4	P40	12H30L	1	12
35.0	600	4.0	175	300	8.494	5	P180	12H30L	1	17
38.0	600	1.0	40.0	300	7.721	5	P40	12H30L	1	12
38.0	600	2.0	80.0	300	7.857	5	P80	12H30L	1	14
44.0	500	2.9	135	250	16.975	3	P180	14H15-	1	41
46.0	500	1.2	54.0	250	15.669	3	P80	14H15-	1	38
52.0	429	3.0	175	214	8.283	7	P180	12H30L	1	17
54.0	429	1.4	78.0	214	7.779	7	P80	12H30L	1	14
59.0	375	2.9	180	188	16.047	4	P180	14H15-	1	41
61.0	375	1.3	80.0	188	15.406	4	P80	14H15-	1	38
67.0	300	5.2	405	150	22.275	5	P470	14H15-	1	50
70.0	300	4.0	305	150	13.775	10	P470	12H30L	1	26
76.0	300	2.2	175	150	15.685	5	P180	14H15-	1	41
76.0	250	4.1	380	125	9.262	12	P470	12H30L	2	27
77.0	300	1.0	80.0	150	15.306	5	P80	14H15-	1	38
77.0	300	1.8	140	150	8.157	10	P180	12H30L	1	17
90.0	250	1.5	135	125	8.010	12	P180	12H30L	2	19
102	214	3.3	355	107	21.214	7	P470	14H15-	1	50
102	200	3.3	380	100	8.755	15	P470	12H30L	2	27
106	188	3.6	450	94.0	9.034	16	P470	12H30L	2	27
108	214	1.6	175	107	15.473	7	P180	14H15-	1	41
113	200	1.2	135	100	7.891	15	P180	12H30L	2	19
120	188	1.5	180	94.0	7.951	16	P180	12H30L	2	19
135	150	4.8	750	75.0	35.895	10	P950	14H15-	1	70
140	150	2.9	450	75.0	8.609	20	P470	12H30L	2	27
146	125	4.5	845	63.0	24.854	12	P950	14H15-	2	74
147	120	5.0	950	60.0	15.230	25	P950	12H30L	2	50
150	150	1.2	180	75.0	7.853	20	P180	12H30L	2	19
154	150	2.0	305	75.0	20.675	10	P470	14H15-	1	50
180	125	2.1	380	63.0	16.452	12	P470	14H15-	2	51
186	120	2.1	405	60.0	8.548	25	P470	12H30L	2	27
198	100	3.6	845	50.0	23.086	15	P950	14H15-	2	74
207	93.8	3.9	950	47.0	23.759	16	P950	14H15-	2	74
226	100	1.7	380	50.0	15.945	15	P470	14H15-	2	51
233	85.7	3.5	950	43.0	14.241	35	P950	12H30L	2	50
241	93.8	1.8	450	47.0	16.225	16	P470	14H15-	2	51
263	85.7	1.5	405	43.0	8.310	35	P470	12H30L	2	27
276	75.0	3.1	950	38.0	13.802	40	P950	12H30L	2	50
276	75.0	3.1	950	38.0	22.386	20	P950	14H15-	2	74
301	75.0	1.5	450	38.0	15.800	20	P470	14H15-	2	51
301	75.0	1.5	470	38.0	8.185	40	P470	12H30L	2	27
362	60.0	2.5	950	30.0	13.738	50	P950	12H30L	2	50
363	60.0	2.5	950	30.0	22.130	25	P950	14H15-	2	74
376	60.0	1.1	405	30.0	15.738	25	P470	14H15-	2	51
376	60.0	1.1	405	30.0	8.170	50	P470	12H30L	2	27
526	42.9	1.7	900	21.0	13.684	70	P950	12H30L	2	50



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
526	42.9	1.8	950	21.0	21.141	35	P950	14H15-	2	74
602	37.5	1.6	950	19.0	20.702	40	P950	14H15-	2	74
728	30.0	1.0	750	15.0	13.660	100	P950	12H30L	2	50
752	30.0	1.3	950	15.0	20.638	50	P950	14H15-	2	74



2.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
19.0	1200	5.4	135	600	10.875	3	P180	14D36-	1	36
19.0	1175	5.4	135	588	9.784	3	P180	12H35-	1	17
21.0	1200	2.4	54.0	600	9.569	3	P80	14D36-	1	33
21.0	1175	2.4	54.0	588	8.220	3	P80	12H35-	1	13
22.0	1175	1.3	29.0	588	7.828	3	P40	12H35-	1	12
25.0	900	5.3	180	450	9.947	4	P180	14D36-	1	36
25.0	881	5.3	180	441	8.857	4	P180	12H35-	1	17
28.0	900	2.6	80.0	450	9.306	4	P80	14D36-	1	33
28.0	881	2.6	80.0	441	7.957	4	P80	12H35-	1	13
29.0	881	1.3	39.0	441	7.750	4	P40	12H35-	1	12
33.0	720	4.0	175	360	9.585	5	P180	14D36-	1	36
33.0	705	4.0	175	353	8.494	5	P180	12H35-	1	17
36.0	720	2.0	80.0	360	9.206	5	P80	14D36-	1	33
36.0	705	1.1	40.0	353	7.721	5	P40	12H35-	1	12
36.0	705	2.0	80.0	353	7.857	5	P80	12H35-	1	13
37.0	650	3.4	135	325	13.084	3	P180	12L20-	1	20
37.0	650	3.4	135	325	13.084	3	P180	12L20L	1	20
39.0	650	1.4	54.0	325	11.520	3	P80	12L20-	1	17
39.0	650	1.4	54.0	325	11.520	3	P80	12L20L	1	17
48.0	514	3.0	175	257	9.373	7	P180	14D36-	1	36
48.0	504	3.0	175	252	8.283	7	P180	12H35-	1	17
49.0	488	3.4	180	244	12.157	4	P180	12L20-	1	20
49.0	488	3.4	180	244	12.157	4	P180	12L20L	1	20
50.0	514	1.5	78.0	257	8.853	7	P80	14D36-	1	33
50.0	504	1.5	78.0	252	7.779	7	P80	12H35-	1	13
52.0	488	1.5	80.0	244	11.257	4	P80	12L20L	1	17
52.0	488	1.5	80.0	244	11.257	4	P80	12L20-	1	17
63.0	390	2.7	175	195	11.794	5	P180	12L20-	1	20
63.0	390	2.7	175	195	11.794	5	P180	12L20L	1	20
65.0	390	1.2	80.0	195	11.157	5	P80	12L20-	1	17
65.0	390	1.2	80.0	195	11.157	5	P80	12L20L	1	17
65.0	360	4.2	305	180	14.575	10	P470	14D36-	1	45
65.0	353	4.2	305	176	13.775	10	P470	12H35-	1	26
69.0	300	4.4	380	150	10.352	12	P470	14D36-	2	46
69.0	294	4.4	380	147	9.262	12	P470	12H35-	2	27
72.0	360	1.9	140	180	9.247	10	P180	14D36-	1	36
72.0	353	1.9	140	176	8.157	10	P180	12H35-	1	17
84.0	279	3.9	355	139	17.614	7	P470	12L20-	1	29
84.0	279	3.9	355	139	17.614	7	P470	12L20L	1	29
85.0	300	1.6	135	150	9.359	12	P180	14D36-	2	38
85.0	294	1.6	135	147	8.010	12	P180	12H35-	2	19
91.0	279	1.9	175	139	11.583	7	P180	12L20-	1	20
91.0	279	1.9	175	139	11.583	7	P180	12L20L	1	20
94.0	240	3.5	380	120	9.845	15	P470	14D36-	2	46
94.0	235	3.5	380	118	8.755	15	P470	12H35-	2	27
99.0	225	3.6	450	113	10.125	16	P470	14D36-	2	46
99.0	220	3.7	450	110	9.034	16	P470	12H35-	2	27
106	240	1.3	135	120	9.240	15	P180	14D36-	2	38
106	235	1.3	135	118	7.891	15	P180	12H35-	2	19
113	225	1.6	180	113	9.301	16	P180	14D36-	2	38
113	220	1.6	180	110	7.951	16	P180	12H35-	2	19

Technical data

Planetary gearbox g850-P
Selection tables
Inverter power supply 400 V, self-ventilated motors



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
114	163	5.4	845	81.0	21.254	12	P950	12L20L	2	53
114	163	5.4	845	81.0	21.254	12	P950	12L20-	2	53
128	195	2.4	305	98.0	17.075	10	P470	12L20L	1	29
128	195	2.4	305	98.0	17.075	10	P470	12L20-	1	29
129	180	3.1	450	90.0	9.700	20	P470	14D36-	2	46
129	176	3.1	450	88.0	8.609	20	P470	12H35-	2	27
130	195	1.1	140	98.0	11.457	10	P180	12L20-	1	20
130	195	1.1	140	98.0	11.457	10	P180	12L20L	1	20
133	144	5.3	950	72.0	16.030	25	P950	14D36-	2	69
133	141	5.3	950	71.0	15.230	25	P950	12H35-	2	50
141	180	1.3	180	90.0	9.203	20	P180	14D36-	2	38
141	176	1.3	180	88.0	7.853	20	P180	12H35-	2	19
147	163	2.4	380	81.0	12.562	12	P470	12L20-	2	30
147	163	2.4	380	81.0	12.562	12	P470	12L20L	2	30
158	130	4.3	845	65.0	19.486	15	P950	12L20-	2	53
158	130	4.3	845	65.0	19.486	15	P950	12L20L	2	53
164	122	4.6	950	61.0	20.159	16	P950	12L20-	2	53
164	122	4.6	950	61.0	20.159	16	P950	12L20L	2	53
173	144	2.3	405	72.0	9.638	25	P470	14D36-	2	46
173	141	2.3	405	71.0	8.548	25	P470	12H35-	2	27
190	130	2.0	380	65.0	12.055	15	P470	12L20-	2	30
190	130	2.0	380	65.0	12.055	15	P470	12L20L	2	30
200	122	2.2	450	61.0	12.334	16	P470	12L20-	2	30
200	122	2.2	450	61.0	12.334	16	P470	12L20L	2	30
214	103	3.8	950	51.0	15.041	35	P950	14D36-	2	69
214	101	3.8	950	50.0	14.241	35	P950	12H35-	2	50
222	97.5	3.7	950	49.0	18.786	20	P950	12L20-	2	53
222	97.5	3.7	950	49.0	18.786	20	P950	12L20L	2	53
247	103	1.6	405	51.0	9.400	35	P470	14D36-	2	46
247	101	1.6	405	50.0	8.310	35	P470	12H35-	2	27
254	97.5	1.7	450	49.0	11.909	20	P470	12L20-	2	30
254	97.5	1.7	450	49.0	11.909	20	P470	12L20L	2	30
255	90.0	3.3	950	45.0	14.602	40	P950	14D36-	2	69
255	88.1	3.3	950	44.0	13.802	40	P950	12H35-	2	50
282	90.0	1.6	470	45.0	9.276	40	P470	14D36-	2	46
282	88.1	1.6	470	44.0	8.185	40	P470	12H35-	2	27
295	78.0	2.9	950	39.0	18.530	25	P950	12L20-	2	53
295	78.0	2.9	950	39.0	18.530	25	P950	12L20L	2	53
317	78.0	1.3	405	39.0	11.848	25	P470	12L20-	2	30
317	78.0	1.3	405	39.0	11.848	25	P470	12L20L	2	30
335	72.0	2.7	950	36.0	14.538	50	P950	14D36-	2	69
335	70.5	2.7	950	35.0	13.738	50	P950	12H35-	2	50
353	72.0	1.1	405	36.0	9.260	50	P470	14D36-	2	46
353	70.5	1.1	405	35.0	8.170	50	P470	12H35-	2	27
441	55.7	2.1	950	28.0	17.541	35	P950	12L20L	2	53
441	55.7	2.1	950	28.0	17.541	35	P950	12L20-	2	53
494	51.4	1.8	900	26.0	14.484	70	P950	14D36-	2	69
494	50.4	1.8	900	25.0	13.684	70	P950	12H35-	2	50
508	48.8	1.8	950	24.0	17.102	40	P950	12L20-	2	53
508	48.8	1.8	950	24.0	17.102	40	P950	12L20L	2	53
635	39.0	1.5	950	20.0	17.038	50	P950	12L20-	2	53
635	39.0	1.5	950	20.0	17.038	50	P950	12L20L	2	53



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
683	36.0	1.1	750	18.0	14.460	100	P950	14D36-	2	69
683	35.3	1.1	750	18.0	13.660	100	P950	12H35-	2	50
888	27.9	1.0	900	14.0	16.984	70	P950	12L20L	2	53
888	27.9	1.0	900	14.0	16.984	70	P950	12L20-	2	53

3.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
56.0	500	5.6	380	250	36.512	3	P470	14L15-	1	55
66.0	500	2.0	135	250	26.175	3	P180	14L15-	1	46
76.0	375	5.2	470	188	32.956	4	P470	14L15-	1	55
88.0	375	2.0	180	188	25.247	4	P180	14L15-	1	46
103	300	3.6	405	150	31.475	5	P470	14L15-	1	55
110	300	1.6	175	150	24.885	5	P180	14L15-	1	46
131	214	5.7	900	107	47.939	7	P950	14L15-	1	75
153	214	2.3	355	107	30.414	7	P470	14L15-	1	55
155	214	1.1	175	107	24.673	7	P180	14L15-	1	46
208	150	3.4	750	75.0	45.095	10	P950	14L15-	1	75
221	150	1.4	305	75.0	29.875	10	P470	14L15-	1	55
237	125	3.2	845	63.0	34.054	12	P950	14L15-	2	79
259	125	1.4	380	63.0	25.652	12	P470	14L15-	2	56
312	100	2.5	845	50.0	32.286	15	P950	14L15-	2	79
324	100	1.2	380	50.0	25.145	15	P470	14L15-	2	56
328	93.8	2.7	950	47.0	32.959	16	P950	14L15-	2	79
346	93.8	1.3	450	47.0	25.425	16	P470	14L15-	2	56
428	75.0	2.2	950	38.0	31.586	20	P950	14L15-	2	79
432	75.0	1.0	450	38.0	25.000	20	P470	14L15-	2	56
541	60.0	1.7	950	30.0	31.330	25	P950	14L15-	2	79
757	42.9	1.2	950	21.0	30.341	35	P950	14L15-	2	79
865	37.5	1.1	950	19.0	29.902	40	P950	14L15-	2	79



4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
69.0	475	4.8	380	238	78.112	3	P470	19F14-	1	65
78.0	475	1.7	135	238	70.339	3	P180	19F14-	1	56
93.0	356	4.4	470	178	74.556	4	P470	19F14-	1	65
104	356	1.7	180	178	69.411	4	P180	19F14-	1	56
124	285	3.1	405	143	73.075	5	P470	19F14-	1	65
130	285	1.3	175	143	69.049	5	P180	19F14-	1	56
160	204	4.9	900	102	89.539	7	P950	19F14-	1	85
181	204	1.9	355	102	72.014	7	P470	19F14-	1	65
250	143	2.9	750	71.0	86.695	10	P950	19F14-	1	85
259	143	1.2	305	71.0	71.475	10	P470	19F14-	1	65
289	119	2.7	845	59.0	75.654	12	P950	19F14-	2	89
305	119	1.2	380	59.0	69.817	12	P470	19F14-	2	66
376	95.0	2.2	845	48.0	73.886	15	P950	19F14-	2	89
397	89.1	2.3	950	45.0	74.559	16	P950	19F14-	2	89
406	89.1	1.1	450	45.0	69.589	16	P470	19F14-	2	66
508	71.3	1.8	950	36.0	73.186	20	P950	19F14-	2	89
635	57.0	1.5	950	29.0	72.930	25	P950	19F14-	2	89
888	40.7	1.1	950	20.0	71.941	35	P950	19F14-	2	89

4.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
78.0	450	4.3	380	225	47.812	3	P470	14P14-	1	59
86.0	450	1.5	135	225	37.475	3	P180	14P14-	1	51
106	338	4.0	470	169	44.256	4	P470	14P14-	1	59
115	338	1.5	180	169	36.547	4	P180	14P14-	1	51
139	270	2.8	405	135	42.775	5	P470	14P14-	1	59
144	270	1.2	175	135	36.185	5	P180	14P14-	1	51
182	193	4.4	900	96.0	59.239	7	P950	14P14-	1	80
202	193	1.7	355	96.0	41.714	7	P470	14P14-	1	59
281	135	2.6	750	68.0	56.395	10	P950	14P14-	1	80
288	135	1.1	305	68.0	41.175	10	P470	14P14-	1	59
328	113	2.4	845	56.0	45.354	12	P950	14P14-	2	83
338	113	1.1	380	56.0	36.952	12	P470	14P14-	2	61
423	90.0	1.9	845	45.0	43.586	15	P950	14P14-	2	83
449	84.4	2.1	950	42.0	44.259	16	P950	14P14-	2	83
564	67.5	1.7	950	34.0	42.886	20	P950	14P14-	2	83
705	54.0	1.3	950	27.0	42.630	25	P950	14P14-	2	83



4.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
30.0	1350	3.5	135	675	13.084	3	P180	12L41-	1	20
32.0	1350	1.6	54.0	675	11.520	3	P80	12L41-	1	17
39.0	1075	3.0	135	538	16.975	3	P180	14H32-	1	41
40.0	1075	1.3	54.0	538	15.669	3	P80	14H32-	1	38
40.0	1013	3.5	180	506	12.157	4	P180	12L41-	1	20
42.0	1013	1.7	80.0	506	11.257	4	P80	12L41-	1	17
51.0	810	2.6	175	405	11.794	5	P180	12L41-	1	20
52.0	806	2.9	180	403	16.047	4	P180	14H32-	1	41
53.0	810	1.3	80.0	405	11.157	5	P80	12L41-	1	17
54.0	806	1.4	80.0	403	15.406	4	P80	14H32-	1	38
56.0	645	5.9	405	323	22.275	5	P470	14H32-	1	50
65.0	579	4.8	355	289	17.614	7	P470	12L41-	1	29
67.0	645	1.1	80.0	323	15.306	5	P80	14H32-	1	38
67.0	645	2.2	175	323	15.685	5	P180	14H32-	1	41
74.0	579	2.0	175	289	11.583	7	P180	12L41-	1	20
87.0	461	3.7	355	230	21.214	7	P470	14H32-	1	50
94.0	461	1.7	175	230	15.473	7	P180	14H32-	1	41
102	405	2.9	305	203	17.075	10	P470	12L41-	1	29
106	405	1.3	140	203	11.457	10	P180	12L41-	1	20
115	338	3.0	380	169	12.562	12	P470	12L41-	2	30
116	323	5.3	750	161	35.895	10	P950	14H32-	1	70
117	270	5.3	845	135	19.486	15	P950	12L41-	2	53
120	269	5.2	845	134	24.854	12	P950	14H32-	2	74
121	253	5.6	950	111	20.159	16	P950	12L41-	2	53
124	338	1.1	135	169	11.310	12	P180	12L41-	2	22
133	323	2.3	305	161	20.675	10	P470	14H32-	1	50
134	323	1.0	140	161	15.347	10	P180	14H32-	1	41
150	270	2.4	380	135	12.055	15	P470	12L41-	2	30
154	269	2.4	380	134	16.452	12	P470	14H32-	2	51
161	253	2.4	450	127	12.334	16	P470	12L41-	2	30
165	253	1.1	180	127	11.251	16	P180	12L41-	2	22
166	215	4.2	845	108	23.086	15	P950	14H32-	2	74
168	203	4.5	950	101	18.786	20	P950	12L41-	2	53
173	202	4.4	950	101	23.759	16	P950	14H32-	2	74
197	215	1.9	380	108	15.945	15	P470	14H32-	2	51
206	203	2.1	450	101	11.909	20	P470	12L41-	2	30
210	202	2.0	450	101	16.225	16	P470	14H32-	2	51
228	162	3.6	950	81.0	18.530	25	P950	12L41-	2	53
233	161	3.5	950	81.0	22.386	20	P950	14H32-	2	74
259	162	1.5	405	81.0	11.848	25	P470	12L41-	2	30
263	161	1.7	450	81.0	15.800	20	P470	14H32-	2	51
309	129	2.8	950	65.0	22.130	25	P950	14H32-	2	74
329	129	1.2	405	65.0	15.738	25	P470	14H32-	2	51
347	116	2.6	950	58.0	17.541	35	P950	12L41-	2	53
362	116	1.1	405	58.0	11.610	35	P470	12L41-	2	30
406	101	2.3	950	51.0	17.102	40	P950	12L41-	2	53
414	101	1.1	470	51.0	11.485	40	P470	12L41-	2	30
460	92.1	2.0	950	46.0	21.141	35	P950	14H32-	2	74
517	81.0	1.8	950	41.0	17.038	50	P950	12L41-	2	53
526	80.6	1.8	950	40.0	20.702	40	P950	14H32-	2	74
658	64.5	1.4	950	32.0	20.638	50	P950	14H32-	2	74



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
724	57.9	1.2	900	29.0	16.984	70	P950	12L41-	2	53

5.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
49.0	1075	2.4	135	538	26.175	3	P180	14L32-	1	46
65.0	806	2.4	180	403	25.247	4	P180	14L32-	1	46
73.0	645	4.8	405	323	31.475	5	P470	14L32-	1	55
83.0	645	1.8	175	323	24.885	5	P180	14L32-	1	46
111	461	3.0	355	230	30.414	7	P470	14L32-	1	55
116	461	1.4	175	230	24.673	7	P180	14L32-	1	46
149	323	4.3	750	161	45.095	10	P950	14L32-	1	75
162	269	4.2	845	134	34.054	12	P950	14L32-	2	79
165	323	1.9	305	161	29.875	10	P470	14L32-	1	55
194	269	1.9	380	134	25.652	12	P470	14L32-	2	56
218	215	3.4	845	108	32.286	15	P950	14L32-	2	79
228	202	3.6	950	101	32.959	16	P950	14L32-	2	79
243	215	1.5	380	108	25.145	15	P470	14L32-	2	56
259	202	1.6	450	101	25.425	16	P470	14L32-	2	56
302	161	2.9	950	81.0	31.586	20	P950	14L32-	2	79
323	161	1.4	450	81.0	25.000	20	P470	14L32-	2	56
395	129	2.3	950	65.0	31.330	25	P950	14L32-	2	79
566	92.1	1.6	950	46.0	30.341	35	P950	14L32-	2	79
647	80.6	1.4	950	40.0	29.902	40	P950	14L32-	2	79
808	64.5	1.2	950	32.0	29.838	50	P950	14L32-	2	79

6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
109	475	3.2	380	238	118.112	3	P470	19J14-	1	72
115	475	1.2	135	238	110.339	3	P180	19J14-	1	63
147	356	3.0	470	178	114.556	4	P470	19J14-	1	72
154	356	1.2	180	178	109.411	4	P180	19J14-	1	63
169	285	4.9	950	143	134.383	5	P950	19J14-	1	92
191	285	2.1	405	143	113.075	5	P470	19J14-	1	72
254	204	3.3	900	102	129.539	7	P950	19J14-	1	92
269	204	1.3	355	102	112.014	7	P470	19J14-	1	72
384	143	1.9	750	71.0	126.695	10	P950	19J14-	1	92
451	119	1.8	845	59.0	115.654	12	P950	19J14-	2	96
564	95.0	1.5	845	48.0	113.886	15	P950	19J14-	2	96
602	89.1	1.6	950	45.0	114.559	16	P950	19J14-	2	96
752	71.3	1.2	950	36.0	113.186	20	P950	19J14-	2	96



6.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
52.0	1000	5.4	380	351	78.112	3	P470	19F30-	1	65
60.0	1000	2.1	135	500	70.339	3	P180	19F30-	1	56
69.0	750	5.4	470	341	74.556	4	P470	19F30-	1	65
81.0	750	2.0	180	375	69.411	4	P180	19F30-	1	56
93.0	600	3.9	405	300	73.075	5	P470	19F30-	1	65
101	600	1.5	175	300	69.049	5	P180	19F30-	1	56
122	429	5.3	900	214	89.539	7	P950	19F30-	1	85
138	429	2.5	355	214	72.014	7	P470	19F30-	1	65
141	429	1.1	175	214	68.837	7	P180	19F30-	1	56
188	300	3.6	750	150	86.695	10	P950	19F30-	1	85
202	300	1.5	305	150	71.475	10	P470	19F30-	1	65
211	250	3.5	845	125	75.654	12	P950	19F30-	2	89
237	250	1.6	380	125	69.817	12	P470	19F30-	2	66
279	200	2.8	845	100	73.886	15	P950	19F30-	2	89
294	188	3.0	950	94.0	74.559	16	P950	19F30-	2	89
296	200	1.3	380	100	69.310	15	P470	19F30-	2	66
316	188	1.4	450	94.0	69.589	16	P470	19F30-	2	66
384	150	2.4	950	75.0	73.186	20	P950	19F30-	2	89
395	150	1.1	450	75.0	69.164	20	P470	19F30-	2	66
494	120	1.9	950	60.0	72.930	25	P950	19F30-	2	89
691	85.7	1.4	950	43.0	71.941	35	P950	19F30-	2	89
790	75.0	1.2	950	38.0	71.502	40	P950	19F30-	2	89

7.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
52.0	1075	5.2	380	351	47.812	3	P470	14P32-	1	59
60.0	1075	2.0	135	538	37.475	3	P180	14P32-	1	51
70.0	806	5.3	470	340	44.256	4	P470	14P32-	1	59
81.0	806	2.0	180	403	36.547	4	P180	14P32-	1	51
93.0	645	3.9	405	323	42.775	5	P470	14P32-	1	59
101	645	1.5	175	323	36.185	5	P180	14P32-	1	51
122	461	5.2	900	230	59.239	7	P950	14P32-	1	80
138	461	2.5	355	230	41.714	7	P470	14P32-	1	59
141	461	1.1	175	230	35.973	7	P180	14P32-	1	51
189	323	3.5	750	161	56.395	10	P950	14P32-	1	80
202	323	1.5	305	161	41.175	10	P470	14P32-	1	59
211	269	3.5	845	132	45.354	12	P950	14P32-	2	83
237	269	1.6	380	134	36.952	12	P470	14P32-	2	61
279	215	2.8	845	108	43.586	15	P950	14P32-	2	83
294	202	3.0	950	101	44.259	16	P950	14P32-	2	83
296	215	1.3	380	108	36.445	15	P470	14P32-	2	61
316	202	1.4	450	101	36.725	16	P470	14P32-	2	61
384	161	2.4	950	81.0	42.886	20	P950	14P32-	2	83
395	161	1.1	450	81.0	36.300	20	P470	14P32-	2	61
494	129	1.9	950	65.0	42.630	25	P950	14P32-	2	83
691	92.1	1.4	950	46.0	41.641	35	P950	14P32-	2	83
790	80.6	1.2	950	40.0	41.202	40	P950	14P32-	2	83



7.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
125	450	5.6	845	225	213.182	3	P950	19P14-	1	102
144	450	2.5	380	225	173.112	3	P470	19P14-	1	82
173	338	4.8	950	169	195.779	4	P950	19P14-	1	102
193	338	2.4	470	169	169.556	4	P470	19P14-	1	82
226	270	3.8	950	135	189.383	5	P950	19P14-	1	102
245	270	1.6	405	135	168.075	5	P470	19P14-	1	82
335	193	2.6	900	96.0	184.539	7	P950	19P14-	1	102
343	193	1.0	355	96.0	167.014	7	P470	19P14-	1	82
490	135	1.5	750	68.0	181.695	10	P950	19P14-	1	102
575	113	1.4	845	56.0	170.654	12	P950	19P14-	2	106
719	90.0	1.1	845	45.0	168.886	15	P950	19P14-	2	106
767	84.4	1.2	950	42.0	169.559	16	P950	19P14-	2	106

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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
77.0	1000	3.9	380	345	118.112	3	P470	19J30-	1	72
84.0	1000	1.5	135	500	110.339	3	P180	19J30-	1	63
102	750	3.9	470	328	114.556	4	P470	19J30-	1	72
111	750	1.5	180	375	109.411	4	P180	19J30-	1	63
119	600	5.5	950	243	134.383	5	P950	19J30-	1	92
134	600	2.9	405	300	113.075	5	P470	19J30-	1	72
139	600	1.1	175	300	109.049	5	P180	19J30-	1	63
180	429	3.9	900	214	129.539	7	P950	19J30-	1	92
195	429	1.8	355	214	112.014	7	P470	19J30-	1	72
271	300	2.6	750	150	126.695	10	P950	19J30-	1	92
278	300	1.1	305	150	111.475	10	P470	19J30-	1	72
315	250	2.5	845	125	115.654	12	P950	19J30-	2	96
327	250	1.1	380	125	109.817	12	P470	19J30-	2	73
409	200	2.0	845	100	113.886	15	P950	19J30-	2	96
432	188	2.1	950	94.0	114.559	16	P950	19J30-	2	96
545	150	1.7	950	75.0	113.186	20	P950	19J30-	2	96
682	120	1.4	950	60.0	112.930	25	P950	19J30-	2	96



10 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
86.0	1000	3.5	380	343	173.112	3	P470	19P30-	1	82
115	750	3.6	470	324	169.556	4	P470	19P30-	1	82
135	600	4.9	950	240	189.383	5	P950	19P30-	1	102
150	600	2.6	405	300	168.075	5	P470	19P30-	1	82
202	429	3.5	900	214	184.539	7	P950	19P30-	1	102
215	429	1.6	355	214	167.014	7	P470	19P30-	1	82
302	300	2.4	750	150	181.695	10	P950	19P30-	1	102
354	250	2.3	845	125	170.654	12	P950	19P30-	2	106
451	200	1.8	845	100	168.886	15	P950	19P30-	2	106
481	188	1.9	950	94.0	169.559	16	P950	19P30-	2	106
602	150	1.6	950	75.0	168.186	20	P950	19P30-	2	106
752	120	1.2	950	60.0	167.930	25	P950	19P30-	2	106



Inverter power supply 400 V, forced ventilated motors

1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
20.0	550	1.4	29.0	275	4.528	3	P40	12D17-	1	11
20.0	550	2.7	54.0	275	4.920	3	P80	12D17-	1	12
26.0	413	3.0	80.0	206	4.657	4	P80	12D17-	1	12
27.0	413	1.4	39.0	206	4.450	4	P40	12D17-	1	11
29.0	330	5.1	175	165	5.194	5	P180	12D17-	1	16
33.0	330	2.4	80.0	165	4.557	5	P80	12D17-	1	12
34.0	330	1.2	40.0	165	4.421	5	P40	12D17-	1	11
44.0	236	3.6	175	118	4.983	7	P180	12D17-	1	16
47.0	236	1.6	78.0	118	4.479	7	P80	12D17-	1	12
60.0	165	4.5	305	83.0	10.475	10	P470	12D17-	1	25
63.0	138	4.7	380	69.0	5.962	12	P470	12D17-	2	26
67.0	165	2.1	140	83.0	4.857	10	P180	12D17-	1	16
79.0	138	1.7	135	69.0	4.710	12	P180	12D17-	2	18
86.0	110	3.8	380	55.0	5.455	15	P470	12D17-	2	26
88.0	103	4.2	450	52.0	5.734	16	P470	12D17-	2	26
99.0	110	1.3	135	55.0	4.591	15	P180	12D17-	2	18
105	103	1.7	180	52.0	4.651	16	P180	12D17-	2	18
118	82.5	3.4	450	41.0	5.309	20	P470	12D17-	2	26
120	66.0	5.7	950	33.0	11.930	25	P950	12D17-	2	49
132	82.5	1.3	180	41.0	4.553	20	P180	12D17-	2	18
159	66.0	2.4	405	33.0	5.248	25	P470	12D17-	2	26
165	66.0	1.1	175	33.0	4.539	25	P180	12D17-	2	18
195	47.1	4.0	950	24.0	10.941	35	P950	12D17-	2	49
230	47.1	1.7	405	24.0	5.010	35	P470	12D17-	2	26
233	41.3	3.5	950	21.0	10.502	40	P950	12D17-	2	49
263	41.3	1.8	470	21.0	4.885	40	P470	12D17-	2	26
308	33.0	2.9	950	17.0	10.438	50	P950	12D17-	2	49
329	33.0	1.2	405	17.0	4.870	50	P470	12D17-	2	26
461	23.6	2.0	900	12.0	10.384	70	P950	12D17-	2	49
637	16.5	1.2	750	8.0	10.360	100	P950	12D17-	2	49



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
32.0	450	3.8	135	225	9.784	3	P180	12H14-	1	19
32.0	450	3.8	135	225	10.875	3	P180	14D14-	1	40
35.0	450	1.6	54.0	225	9.569	3	P80	14D14-	1	37
35.0	450	1.6	54.0	225	8.220	3	P80	12H14-	1	16
43.0	338	3.8	180	169	8.857	4	P180	12H14-	1	19
43.0	338	3.8	180	169	9.947	4	P180	14D14-	1	40
46.0	338	1.7	80.0	169	9.306	4	P80	14D14-	1	37
46.0	338	1.7	80.0	169	7.957	4	P80	12H14-	1	16
55.0	270	3.0	175	135	8.494	5	P180	12H14-	1	19
55.0	270	3.0	175	135	9.585	5	P180	14D14-	1	40
58.0	270	1.4	80.0	135	9.206	5	P80	14D14-	1	37
58.0	270	1.4	80.0	135	7.857	5	P80	12H14-	1	16
73.0	193	4.4	355	96.0	15.114	7	P470	14D14-	1	49
73.0	193	4.4	355	96.0	14.314	7	P470	12H14-	1	28
80.0	193	2.1	175	96.0	8.283	7	P180	12H14-	1	19
80.0	193	2.1	175	96.0	9.373	7	P180	14D14-	1	40
112	135	2.7	305	68.0	13.775	10	P470	12H14-	1	28
112	135	2.7	305	68.0	14.575	10	P470	14D14-	1	49
115	135	1.2	140	68.0	8.157	10	P180	12H14-	1	19
115	135	1.2	140	68.0	9.247	10	P180	14D14-	1	40
128	113	2.8	380	56.0	9.262	12	P470	12H14-	2	29
128	113	2.8	380	56.0	10.352	12	P470	14D14-	2	50
133	90.0	4.8	845	45.0	16.186	15	P950	12H14-	2	52
133	90.0	4.8	845	45.0	16.986	15	P950	14D14-	2	73
138	84.4	5.2	950	42.0	16.859	16	P950	12H14-	2	52
138	84.4	5.2	950	42.0	17.659	16	P950	14D14-	2	73
167	90.0	2.2	380	45.0	8.755	15	P470	12H14-	2	29
167	90.0	2.2	380	45.0	9.845	15	P470	14D14-	2	50
175	84.4	2.4	450	42.0	10.125	16	P470	14D14-	2	50
175	84.4	2.4	450	42.0	9.034	16	P470	12H14-	2	29
190	67.5	4.1	950	34.0	15.486	20	P950	12H14-	2	52
190	67.5	4.1	950	34.0	16.286	20	P950	14D14-	2	73
226	67.5	2.0	450	34.0	8.609	20	P470	12H14-	2	29
226	67.5	2.0	450	34.0	9.700	20	P470	14D14-	2	50
255	54.0	3.3	950	27.0	16.030	25	P950	14D14-	2	73
255	54.0	3.3	950	27.0	15.230	25	P950	12H14-	2	52
282	54.0	1.4	405	27.0	9.638	25	P470	14D14-	2	50
282	54.0	1.4	405	27.0	8.548	25	P470	12H14-	2	29
384	38.6	2.4	950	19.0	14.241	35	P950	12H14-	2	52
384	38.6	2.4	950	19.0	15.041	35	P950	14D14-	2	73
395	38.6	1.0	405	19.0	9.400	35	P470	14D14-	2	50
395	38.6	1.0	405	19.0	8.310	35	P470	12H14-	2	29
449	33.8	2.1	950	17.0	13.802	40	P950	12H14-	2	52
449	33.8	2.1	950	17.0	14.602	40	P950	14D14-	2	73
451	33.8	1.0	470	17.0	9.276	40	P470	14D14-	2	50
451	33.8	1.0	470	17.0	8.185	40	P470	12H14-	2	29
564	27.0	1.7	950	14.0	13.738	50	P950	12H14-	2	52
564	27.0	1.7	950	14.0	14.538	50	P950	14D14-	2	73
790	19.3	1.1	900	10.0	13.684	70	P950	12H14-	2	52
790	19.3	1.1	900	10.0	14.484	70	P950	14D14-	2	73



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
17.0	1175	1.7	29.0	588	4.528	3	P40	12D35-	1	11
17.0	1175	3.0	54.0	588	4.920	3	P80	12D35-	1	12
22.0	881	3.3	80.0	441	4.657	4	P80	12D35-	1	12
23.0	881	1.7	39.0	441	4.450	4	P40	12D35-	1	11
25.0	705	5.1	175	353	5.194	5	P180	12D35-	1	16
28.0	705	2.5	80.0	353	4.557	5	P80	12D35-	1	12
29.0	705	1.4	40.0	353	4.421	5	P40	12D35-	1	11
37.0	504	3.8	175	252	4.983	7	P180	12D35-	1	16
40.0	504	1.9	78.0	252	4.479	7	P80	12D35-	1	12
50.0	353	5.3	305	176	10.475	10	P470	12D35-	1	25
50.0	294	5.5	380	147	5.962	12	P470	12D35-	2	26
57.0	353	2.4	140	176	4.857	10	P180	12D35-	1	16
58.0	353	1.0	59.0	176	4.439	10	P80	12D35-	1	12
68.0	294	2.0	135	147	4.710	12	P180	12D35-	2	18
69.0	235	4.4	380	118	5.455	15	P470	12D35-	2	26
73.0	220	4.6	450	110	5.734	16	P470	12D35-	2	26
85.0	235	1.6	135	118	4.591	15	P180	12D35-	2	18
90.0	220	2.0	180	110	4.651	16	P180	12D35-	2	18
97.0	176	3.9	450	88.0	5.309	20	P470	12D35-	2	26
113	176	1.6	180	88.0	4.553	20	P180	12D35-	2	18
132	141	2.8	405	71.0	5.248	25	P470	12D35-	2	26
141	141	1.2	175	71.0	4.539	25	P180	12D35-	2	18
158	101	4.7	950	50.0	10.941	35	P950	12D35-	2	49
190	88.1	4.1	950	44.0	10.502	40	P950	12D35-	2	49
197	101	2.0	405	50.0	5.010	35	P470	12D35-	2	26
225	88.1	2.0	470	44.0	4.885	40	P470	12D35-	2	26
254	70.5	3.3	950	35.0	10.438	50	P950	12D35-	2	49
282	70.5	1.4	405	35.0	4.870	50	P470	12D35-	2	26
387	50.4	2.3	900	25.0	10.384	70	P950	12D35-	2	49
546	35.3	1.4	750	18.0	10.360	100	P950	12D35-	2	49



2.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
48.0	550	2.7	135	275	13.084	3	P180	12L17-	1	22
49.0	550	1.1	54.0	275	11.520	3	P80	12L17-	1	19
63.0	413	2.7	180	206	12.157	4	P180	12L17-	1	22
65.0	413	1.2	80.0	206	11.257	4	P80	12L17-	1	19
72.0	330	4.9	405	165	18.675	5	P470	12L17-	1	31
81.0	330	2.1	175	165	11.794	5	P180	12L17-	1	22
109	236	3.1	355	118	17.614	7	P470	12L17-	1	31
114	236	1.5	175	118	11.583	7	P180	12L17-	1	22
159	138	4.3	845	69.0	21.254	12	P950	12L17-	2	55
163	165	1.9	305	83.0	17.075	10	P470	12L17-	1	31
192	138	1.9	380	69.0	12.562	12	P470	12L17-	2	32
214	110	3.4	845	55.0	19.486	15	P950	12L17-	2	55
224	103	3.6	950	52.0	20.159	16	P950	12L17-	2	55
240	110	1.6	380	55.0	12.055	15	P470	12L17-	2	32
256	103	1.7	450	52.0	12.334	16	P470	12L17-	2	32
298	82.5	2.9	950	41.0	18.786	20	P950	12L17-	2	55
320	82.5	1.4	450	41.0	11.909	20	P470	12L17-	2	32
390	66.0	2.3	950	33.0	18.530	25	P950	12L17-	2	55
559	47.1	1.7	950	24.0	17.541	35	P950	12L17-	2	55
639	41.3	1.5	950	21.0	17.102	40	P950	12L17-	2	55
799	33.0	1.2	950	17.0	17.038	50	P950	12L17-	2	55

3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
58.0	400	5.5	380	200	27.312	3	P470	14H12-	1	54
68.0	400	2.0	135	200	16.975	3	P180	14H12-	1	45
79.0	300	5.1	470	150	23.756	4	P470	14H12-	1	54
90.0	300	2.0	180	150	16.047	4	P180	14H12-	1	45
106	240	3.5	405	120	22.275	5	P470	14H12-	1	54
113	240	1.5	175	120	15.685	5	P180	14H12-	1	45
134	171	5.6	900	86.0	38.739	7	P950	14H12-	1	74
156	171	2.2	355	86.0	21.214	7	P470	14H12-	1	54
158	171	1.1	175	86.0	15.473	7	P180	14H12-	1	45
213	120	3.3	750	60.0	35.895	10	P950	14H12-	1	74
226	120	1.4	305	60.0	20.675	10	P470	14H12-	1	54
244	100	3.1	845	50.0	24.854	12	P950	14H12-	2	78
265	100	1.4	380	50.0	16.452	12	P470	14H12-	2	55
320	80.0	2.5	845	40.0	23.086	15	P950	14H12-	2	78
331	80.0	1.1	380	40.0	15.945	15	P470	14H12-	2	55
337	75.0	2.6	950	38.0	23.759	16	P950	14H12-	2	78
353	75.0	1.3	450	38.0	16.225	16	P470	14H12-	2	55
438	60.0	2.1	950	30.0	22.386	20	P950	14H12-	2	78
552	48.0	1.7	950	24.0	22.130	25	P950	14H12-	2	78
773	34.3	1.2	950	17.0	21.141	35	P950	14H12-	2	78
884	30.0	1.1	950	15.0	20.702	40	P950	14H12-	2	78



3.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1000	4.1	135	500	10.875	3	P180	14D30-	1	40
30.0	1000	1.8	54.0	500	9.569	3	P80	14D30-	1	37
37.0	750	4.0	180	375	9.947	4	P180	14D30-	1	40
40.0	750	2.0	80.0	375	9.306	4	P80	14D30-	1	37
48.0	600	3.0	175	300	9.585	5	P180	14D30-	1	40
50.0	600	1.5	80.0	300	9.206	5	P80	14D30-	1	37
62.0	429	5.0	355	214	15.114	7	P470	14D30-	1	49
70.0	429	2.3	175	214	9.373	7	P180	14D30-	1	40
71.0	429	1.1	78.0	214	8.853	7	P80	14D30-	1	37
96.0	300	3.0	305	150	14.575	10	P470	14D30-	1	49
101	300	1.4	140	150	9.247	10	P180	14D30-	1	40
108	250	3.1	380	125	10.352	12	P470	14D30-	2	50
109	200	5.5	845	100	16.986	15	P950	14D30-	2	73
112	188	5.9	950	94.0	17.659	16	P950	14D30-	2	73
118	250	1.1	135	125	9.359	12	P180	14D30-	2	42
142	200	2.5	380	100	9.845	15	P470	14D30-	2	50
149	188	2.8	450	94.0	10.125	16	P470	14D30-	2	50
158	188	1.1	180	94.0	9.301	16	P180	14D30-	2	42
158	150	4.7	950	75.0	16.286	20	P950	14D30-	2	73
194	150	2.2	450	75.0	9.700	20	P470	14D30-	2	50
214	120	3.8	950	60.0	16.030	25	P950	14D30-	2	73
247	120	1.6	405	60.0	9.638	25	P470	14D30-	2	50
328	85.7	2.7	950	43.0	15.041	35	P950	14D30-	2	73
345	85.7	1.2	405	43.0	9.400	35	P470	14D30-	2	50
384	75.0	2.4	950	38.0	14.602	40	P950	14D30-	2	73
395	75.0	1.2	470	38.0	9.276	40	P470	14D30-	2	50
494	60.0	1.9	950	30.0	14.538	50	P950	14D30-	2	73
691	42.9	1.3	900	21.0	14.484	70	P950	14D30-	2	73



3.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
28.0	1125	3.9	135	563	9.784	3	P180	12H34-	1	19
30.0	1125	1.7	54.0	563	8.220	3	P80	12H34-	1	16
37.0	844	3.9	180	422	8.857	4	P180	12H34-	1	19
40.0	844	1.9	80.0	422	7.957	4	P80	12H34-	1	16
48.0	675	2.9	175	338	8.494	5	P180	12H34-	1	19
50.0	675	1.5	80.0	338	7.857	5	P80	12H34-	1	16
62.0	482	5.0	355	241	14.314	7	P470	12H34-	1	28
70.0	482	2.2	175	241	8.283	7	P180	12H34-	1	19
71.0	482	1.1	78.0	241	7.779	7	P80	12H34-	1	16
96.0	338	3.0	305	169	13.775	10	P470	12H34-	1	28
101	338	1.4	140	169	8.157	10	P180	12H34-	1	19
108	281	3.1	380	141	9.262	12	P470	12H34-	2	29
109	225	5.5	845	113	16.186	15	P950	12H34-	2	52
112	211	5.9	950	105	16.859	16	P950	12H34-	2	52
118	281	1.1	135	141	8.010	12	P180	12H34-	2	21
142	225	2.5	380	113	8.755	15	P470	12H34-	2	29
150	211	2.7	450	105	9.034	16	P470	12H34-	2	29
158	211	1.1	180	105	7.951	16	P180	12H34-	2	21
158	169	4.7	950	84.0	15.486	20	P950	12H34-	2	52
194	169	2.2	450	84.0	8.609	20	P470	12H34-	2	29
214	135	3.8	950	68.0	15.230	25	P950	12H34-	2	52
247	135	1.6	405	68.0	8.548	25	P470	12H34-	2	29
328	96.4	2.7	950	48.0	14.241	35	P950	12H34-	2	52
345	96.4	1.2	405	48.0	8.310	35	P470	12H34-	2	29
384	84.4	2.4	950	42.0	13.802	40	P950	12H34-	2	52
395	84.4	1.2	470	42.0	8.185	40	P470	12H34-	2	29
494	67.5	1.9	950	34.0	13.738	50	P950	12H34-	2	52
691	48.2	1.3	900	24.0	13.684	70	P950	12H34-	2	52

4.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
80.0	450	4.2	380	225	36.512	3	P470	14L14-	1	58
88.0	450	1.5	135	225	26.175	3	P180	14L14-	1	50
108	338	3.9	470	169	32.956	4	P470	14L14-	1	58
117	338	1.5	180	169	25.247	4	P180	14L14-	1	50
142	270	2.7	405	135	31.475	5	P470	14L14-	1	58
146	270	1.2	175	135	24.885	5	P180	14L14-	1	50
185	193	4.3	900	96.0	47.939	7	P950	14L14-	1	79
205	193	1.7	355	96.0	30.414	7	P470	14L14-	1	58
286	135	2.5	750	68.0	45.095	10	P950	14L14-	1	79
293	135	1.0	305	68.0	29.875	10	P470	14L14-	1	58
334	113	2.4	845	56.0	34.054	12	P950	14L14-	2	82
344	113	1.1	380	56.0	25.652	12	P470	14L14-	2	60
430	90.0	1.9	845	45.0	32.286	15	P950	14L14-	2	82
458	84.4	2.0	950	42.0	32.959	16	P950	14L14-	2	82
573	67.5	1.6	950	34.0	31.586	20	P950	14L14-	2	82
717	54.0	1.3	950	27.0	31.330	25	P950	14L14-	2	82



4.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
116	350	3.1	380	175	47.812	3	P470	14P11-	1	63
121	350	1.1	135	175	37.475	3	P180	14P11-	1	55
136	263	5.8	950	131	70.479	4	P950	14P11-	1	84
156	263	2.9	470	131	44.256	4	P470	14P11-	1	63
161	263	1.1	180	131	36.547	4	P180	14P11-	1	55
180	210	4.6	950	105	64.083	5	P950	14P11-	1	84
202	210	2.0	405	105	42.775	5	P470	14P11-	1	63
269	150	3.1	900	75.0	59.239	7	P950	14P11-	1	84
282	150	1.2	355	75.0	41.714	7	P470	14P11-	1	63
403	105	1.8	750	53.0	56.395	10	P950	14P11-	1	84
474	87.5	1.7	845	44.0	45.354	12	P950	14P11-	2	87
592	70.0	1.4	845	35.0	43.586	15	P950	14P11-	2	87
632	65.6	1.5	950	33.0	44.259	16	P950	14P11-	2	87
790	52.5	1.2	950	26.0	42.886	20	P950	14P11-	2	87

4.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
103	400	3.4	380	200	78.112	3	P470	19F12-	1	71
109	400	1.2	135	200	70.339	3	P180	19F12-	1	62
139	300	3.2	470	150	74.556	4	P470	19F12-	1	71
146	300	1.2	180	150	69.411	4	P180	19F12-	1	62
159	240	5.1	950	120	94.383	5	P950	19F12-	1	91
181	240	2.2	405	120	73.075	5	P470	19F12-	1	71
240	171	3.5	900	86.0	89.539	7	P950	19F12-	1	91
255	171	1.4	355	86.0	72.014	7	P470	19F12-	1	71
364	120	2.0	750	60.0	86.695	10	P950	19F12-	1	91
429	100	1.9	845	50.0	75.654	12	P950	19F12-	2	95
536	80.0	1.5	845	40.0	73.886	15	P950	19F12-	2	95
572	75.0	1.6	950	38.0	74.559	16	P950	19F12-	2	95
714	60.0	1.3	950	30.0	73.186	20	P950	19F12-	2	95
893	48.0	1.0	950	24.0	72.930	25	P950	19F12-	2	95



5.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
39.0	1300	2.8	135	650	13.084	3	P180	12L39-	1	22
40.0	1300	1.2	54.0	650	11.520	3	P80	12L39-	1	19
52.0	975	2.8	180	488	12.157	4	P180	12L39-	1	22
54.0	975	1.4	80.0	488	11.257	4	P80	12L39-	1	19
56.0	780	5.9	405	335	18.675	5	P470	12L39-	1	31
67.0	780	1.1	80.0	390	11.157	5	P80	12L39-	1	19
67.0	780	2.1	175	390	11.794	5	P180	12L39-	1	22
87.0	557	3.7	355	279	17.614	7	P470	12L39-	1	31
94.0	557	1.6	175	279	11.583	7	P180	12L39-	1	22
120	325	5.2	845	138	21.254	12	P950	12L39-	2	55
133	390	2.3	305	195	17.075	10	P470	12L39-	1	31
134	390	1.0	140	195	11.457	10	P180	12L39-	1	22
154	325	2.4	380	163	12.562	12	P470	12L39-	2	32
166	260	4.2	845	130	19.486	15	P950	12L39-	2	55
173	244	4.4	950	108	20.159	16	P950	12L39-	2	55
197	260	1.9	380	130	12.055	15	P470	12L39-	2	32
211	244	1.9	450	122	12.334	16	P470	12L39-	2	32
233	195	3.5	950	98.0	18.786	20	P950	12L39-	2	55
263	195	1.6	450	98.0	11.909	20	P470	12L39-	2	32
309	156	2.8	950	78.0	18.530	25	P950	12L39-	2	55
329	156	1.2	405	78.0	11.848	25	P470	12L39-	2	32
460	111	2.0	950	56.0	17.541	35	P950	12L39-	2	55
526	97.5	1.8	950	49.0	17.102	40	P950	12L39-	2	55
658	78.0	1.4	950	39.0	17.038	50	P950	12L39-	2	55



6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
50.0	925	5.6	380	352	27.312	3	P470	14H28-	1	54
59.0	925	2.1	135	463	16.975	3	P180	14H28-	1	45
67.0	694	5.7	470	342	23.756	4	P470	14H28-	1	54
78.0	694	2.1	180	347	16.047	4	P180	14H28-	1	45
90.0	555	4.0	405	278	22.275	5	P470	14H28-	1	54
98.0	555	1.6	175	278	15.685	5	P180	14H28-	1	45
117	396	5.6	900	198	38.739	7	P950	14H28-	1	74
135	396	2.6	355	198	21.214	7	P470	14H28-	1	54
138	396	1.2	175	198	15.473	7	P180	14H28-	1	45
182	278	3.8	750	139	35.895	10	P950	14H28-	1	74
197	278	1.6	305	139	20.675	10	P470	14H28-	1	54
205	231	3.5	845	116	24.854	12	P950	14H28-	2	78
231	231	1.6	380	116	16.452	12	P470	14H28-	2	55
271	185	2.8	845	93.0	23.086	15	P950	14H28-	2	78
285	173	3.0	950	87.0	23.759	16	P950	14H28-	2	78
289	185	1.3	380	93.0	15.945	15	P470	14H28-	2	55
308	173	1.4	450	87.0	16.225	16	P470	14H28-	2	55
374	139	2.4	950	69.0	22.386	20	P950	14H28-	2	78
385	139	1.1	450	69.0	15.800	20	P470	14H28-	2	55
482	111	1.9	950	56.0	22.130	25	P950	14H28-	2	78
674	79.3	1.4	950	40.0	21.141	35	P950	14H28-	2	78
771	69.4	1.2	950	35.0	20.702	40	P950	14H28-	2	78

7.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
161	400	4.6	845	200	158.182	3	P950	19J12-	1	98
179	400	2.1	380	200	118.112	3	P470	19J12-	1	78
221	300	3.9	950	150	140.779	4	P950	19J12-	1	98
240	300	1.9	470	150	114.556	4	P470	19J12-	1	78
286	240	3.1	950	120	134.383	5	P950	19J12-	1	98
300	240	1.3	405	120	113.075	5	P470	19J12-	1	78
418	171	2.1	900	86.0	129.539	7	P950	19J12-	1	98
600	120	1.2	750	60.0	126.695	10	P950	19J12-	1	98
705	100	1.2	845	50.0	115.654	12	P950	19J12-	2	102



8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
66.0	1000	4.4	380	347	36.512	3	P470	14L30-	1	58
73.0	1000	1.7	135	500	26.175	3	P180	14L30-	1	50
88.0	750	4.5	470	333	32.956	4	P470	14L30-	1	58
98.0	750	1.7	180	375	25.247	4	P180	14L30-	1	50
116	600	3.2	405	300	31.475	5	P470	14L30-	1	58
122	600	1.3	175	300	24.885	5	P180	14L30-	1	50
154	429	4.4	900	214	47.939	7	P950	14L30-	1	79
171	429	2.1	355	214	30.414	7	P470	14L30-	1	58
235	300	3.0	750	150	45.095	10	P950	14L30-	1	79
245	300	1.3	305	150	29.875	10	P470	14L30-	1	58
270	250	2.9	845	125	34.054	12	P950	14L30-	2	82
288	250	1.3	380	125	25.652	12	P470	14L30-	2	60
352	200	2.3	845	100	32.286	15	P950	14L30-	2	82
360	200	1.0	380	100	25.145	15	P470	14L30-	2	60
371	188	2.4	950	94.0	32.959	16	P950	14L30-	2	82
384	188	1.1	450	94.0	25.425	16	P470	14L30-	2	60
479	150	1.9	950	75.0	31.586	20	P950	14L30-	2	82
599	120	1.6	950	60.0	31.330	25	P950	14L30-	2	82
839	85.7	1.1	950	43.0	30.341	35	P950	14L30-	2	82

9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
190	400	4.0	845	200	213.182	3	P950	19P12-	1	108
207	400	1.8	380	200	173.112	3	P470	19P12-	1	88
261	300	3.4	950	150	195.779	4	P950	19P12-	1	108
276	300	1.7	470	150	169.556	4	P470	19P12-	1	88
336	240	2.7	950	120	189.383	5	P950	19P12-	1	108
346	240	1.2	405	120	168.075	5	P470	19P12-	1	88
484	171	1.8	900	86.0	184.539	7	P950	19P12-	1	108
691	120	1.1	750	60.0	181.695	10	P950	19P12-	1	108
812	100	1.0	845	50.0	170.654	12	P950	19P12-	2	112



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
89.0	875	3.5	380	343	47.812	3	P470	14P26-	1	63
95.0	875	1.4	135	438	37.475	3	P180	14P26-	1	55
118	656	3.6	470	325	44.256	4	P470	14P26-	1	63
127	656	1.3	180	328	36.547	4	P180	14P26-	1	55
139	525	5.0	950	240	64.083	5	P950	14P26-	1	84
155	525	2.5	405	263	42.775	5	P470	14P26-	1	63
158	525	1.0	175	263	36.185	5	P180	14P26-	1	55
208	375	3.5	900	188	59.239	7	P950	14P26-	1	84
222	375	1.6	355	188	41.714	7	P470	14P26-	1	63
312	263	2.3	750	131	56.395	10	P950	14P26-	1	84
367	219	2.2	845	109	45.354	12	P950	14P26-	2	87
465	175	1.8	845	88.0	43.586	15	P950	14P26-	2	87
496	164	1.9	950	82.0	44.259	16	P950	14P26-	2	87
620	131	1.5	950	66.0	42.886	20	P950	14P26-	2	87
776	105	1.2	950	53.0	42.630	25	P950	14P26-	2	87

9.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
88.0	950	3.5	380	343	78.112	3	P470	19F29-	1	71
117	713	3.6	470	324	74.556	4	P470	19F29-	1	71
137	570	4.9	950	240	94.383	5	P950	19F29-	1	91
152	570	2.5	405	285	73.075	5	P470	19F29-	1	71
205	407	3.5	900	204	89.539	7	P950	19F29-	1	91
218	407	1.6	355	204	72.014	7	P470	19F29-	1	71
307	285	2.4	750	143	86.695	10	P950	19F29-	1	91
360	238	2.2	845	119	75.654	12	P950	19F29-	2	95
458	190	1.8	845	95.0	73.886	15	P950	19F29-	2	95
489	178	1.9	950	89.0	74.559	16	P950	19F29-	2	95
611	143	1.5	950	71.0	73.186	20	P950	19F29-	2	95
764	114	1.2	950	57.0	72.930	25	P950	19F29-	2	95

15.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
129	950	4.7	845	266	158.182	3	P950	19J29-	1	98
144	950	2.3	380	334	118.112	3	P470	19J29-	1	78
177	713	4.0	950	233	140.779	4	P950	19J29-	1	98
192	713	2.3	470	307	114.556	4	P470	19J29-	1	78
231	570	3.2	950	226	134.383	5	P950	19J29-	1	98
242	570	1.6	405	285	113.075	5	P470	19J29-	1	78
336	407	2.3	900	204	129.539	7	P950	19J29-	1	98
339	407	1.0	355	204	112.014	7	P470	19J29-	1	78
485	285	1.5	750	143	126.695	10	P950	19J29-	1	98
570	238	1.4	845	118	115.654	12	P950	19J29-	2	102
712	190	1.2	845	95.0	113.886	15	P950	19J29-	2	102
760	178	1.2	950	89.0	114.559	16	P950	19J29-	2	102



15.8 kW

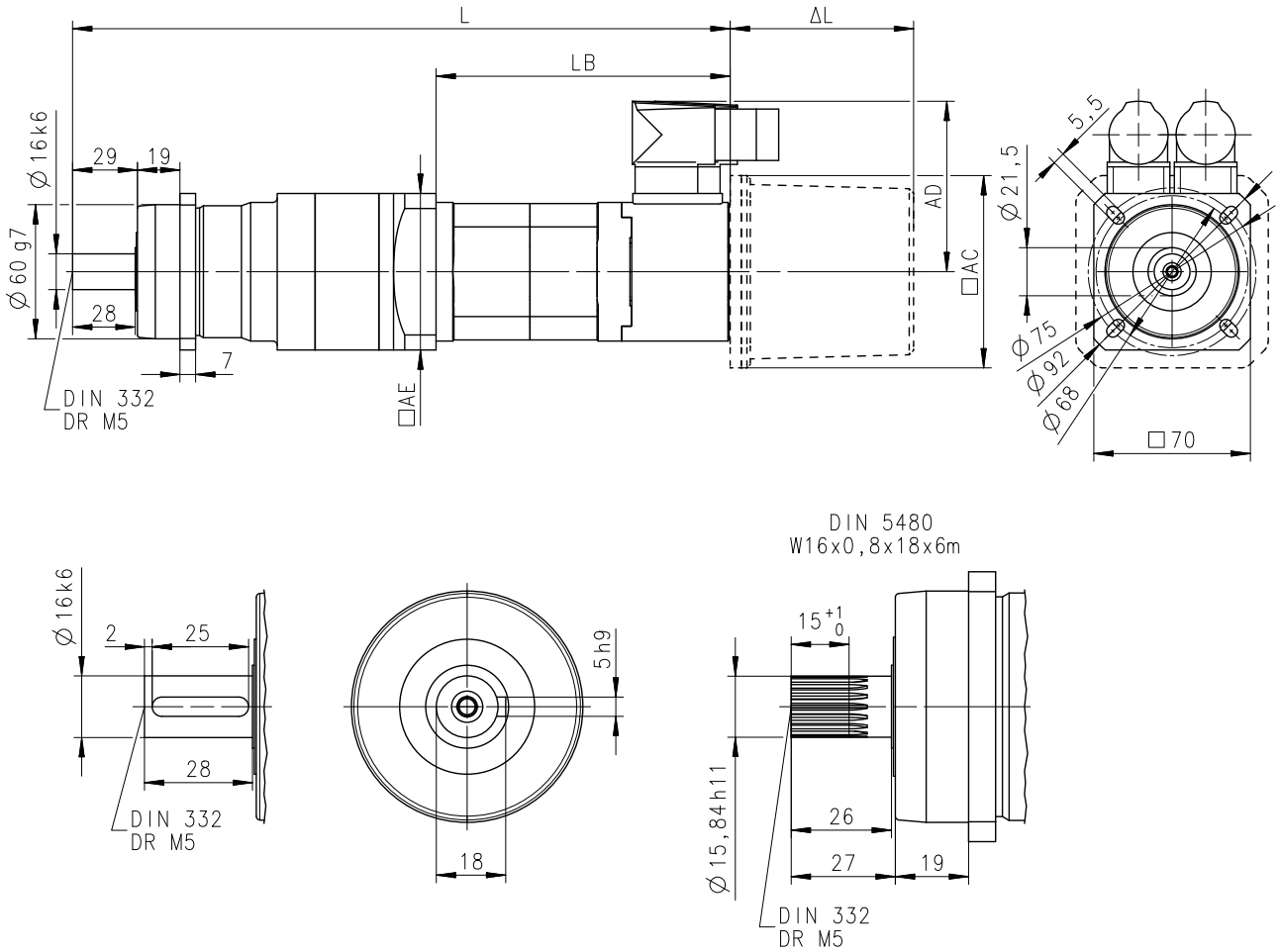
Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g850-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
137	950	4.5	845	265	213.182	3	P950	19P29-	1	108
152	950	2.2	380	333	173.112	3	P470	19P29-	1	88
188	713	3.9	950	231	195.779	4	P950	19P29-	1	108
202	713	2.2	470	305	169.556	4	P470	19P29-	1	88
244	570	3.0	950	224	189.383	5	P950	19P29-	1	108
254	570	1.6	405	285	168.075	5	P470	19P29-	1	88
354	407	2.2	900	204	184.539	7	P950	19P29-	1	108
509	285	1.5	750	143	181.695	10	P950	19P29-	1	108
598	238	1.4	845	117	170.654	12	P950	19P29-	2	112
747	190	1.1	845	95.0	168.886	15	P950	19P29-	2	112
797	178	1.2	950	89.0	169.559	16	P950	19P29-	2	112



Basic dimensions

g850-P40 with MCS06

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

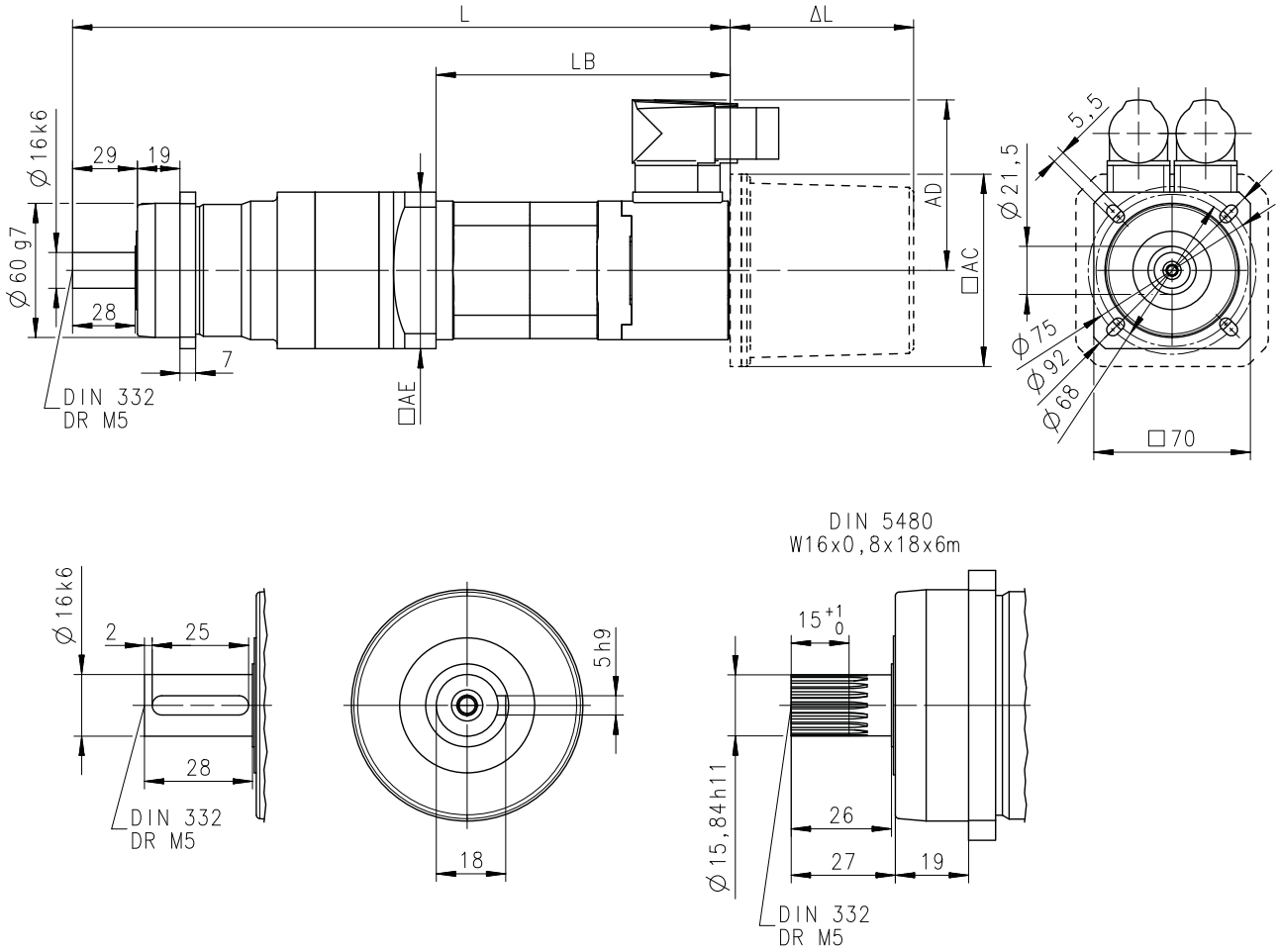


8800835-00

Motor			MCS 06					
			C41-C41L	C60-C60L	F41-F41L	F60-F60L	I41-I41L	I60-I60L
Total length	L	mm	266	266	296	296	326	326
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g850-P40 with MCS06

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



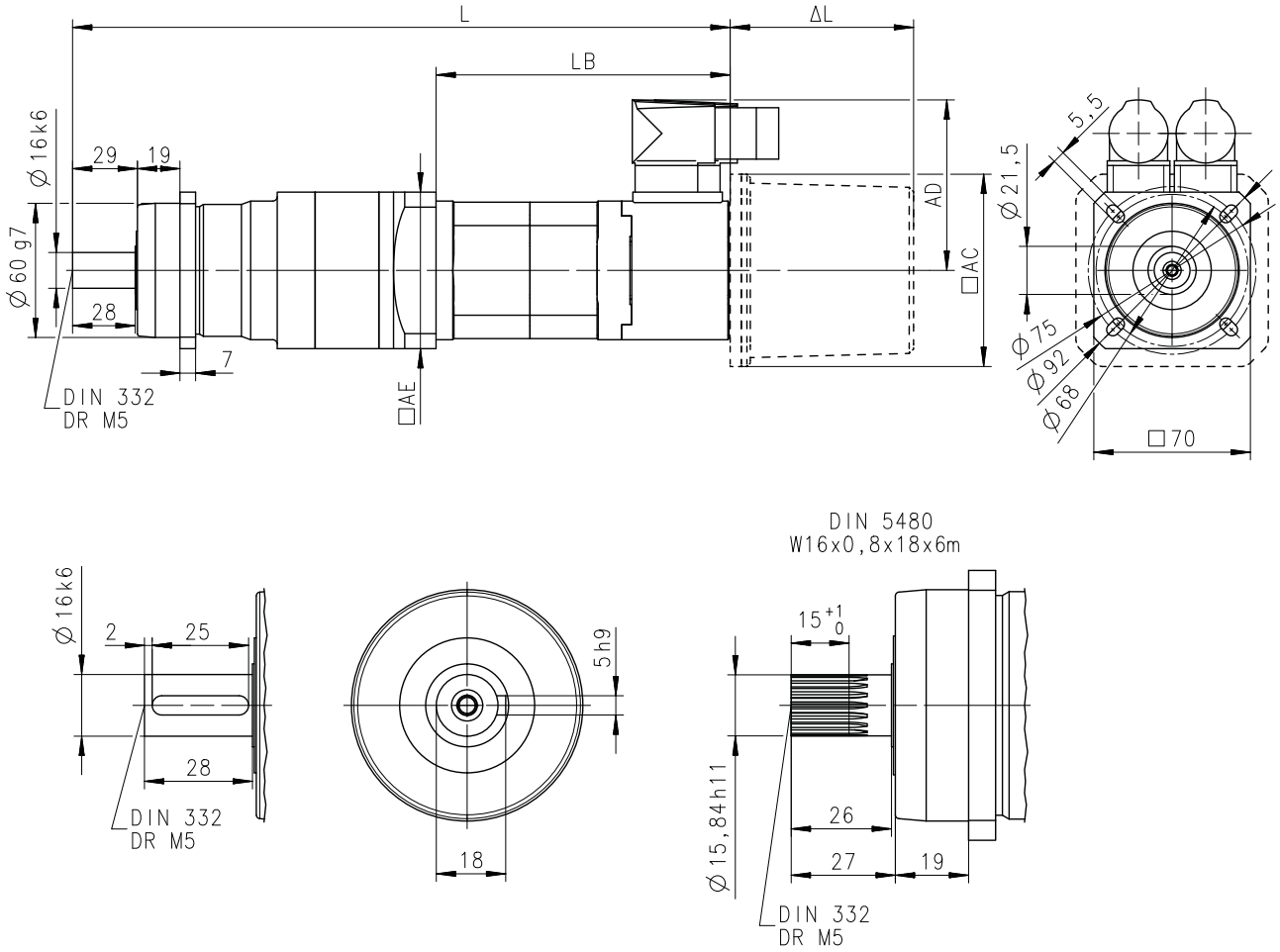
8800835-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	294.5	294.5	324.5	324.5	354.5	354.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70



g850-P40 with MCS09

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

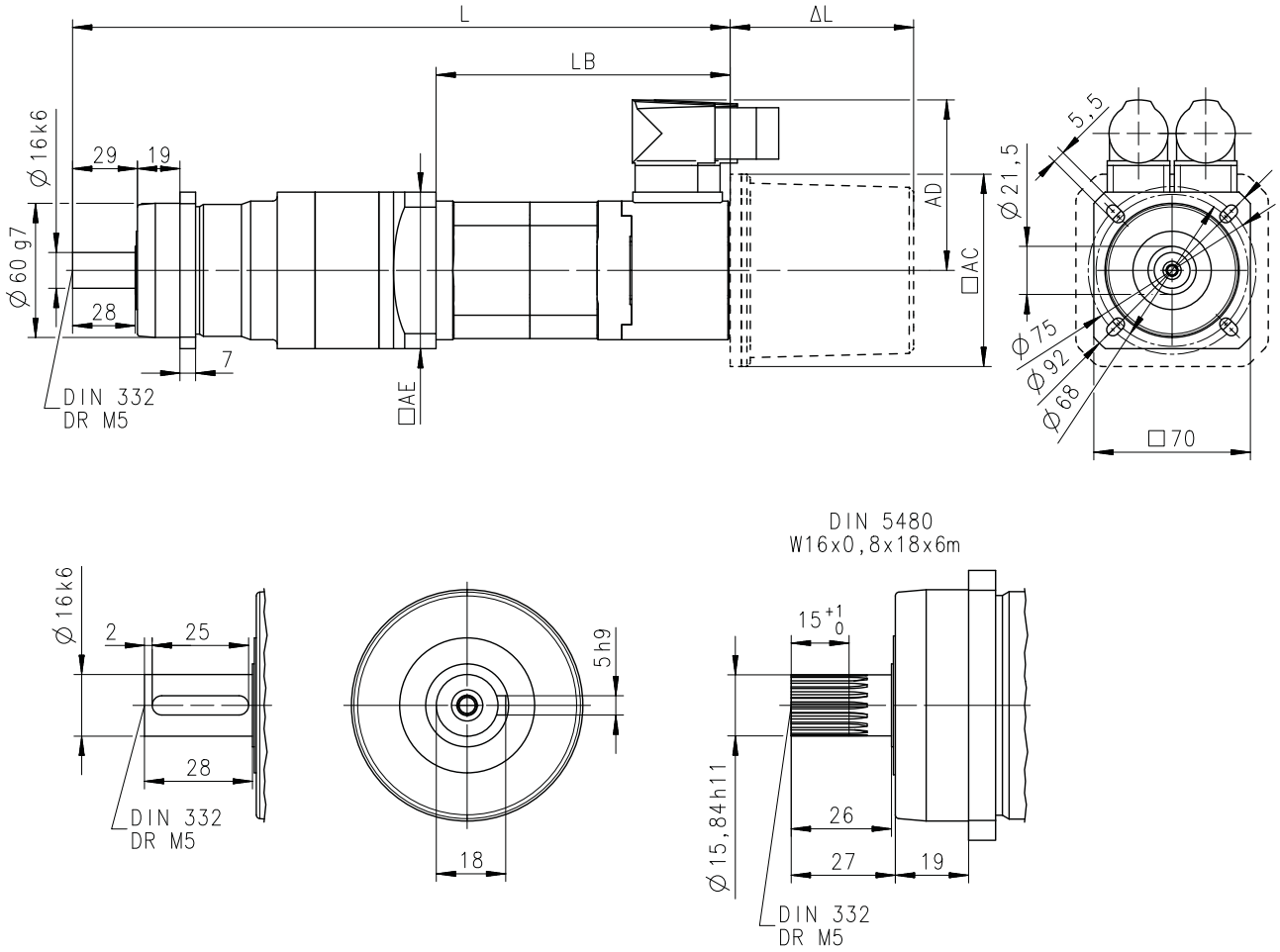


8800835-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	323	323	343	343	363	363	403	403
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g850-P40 with MCS09

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



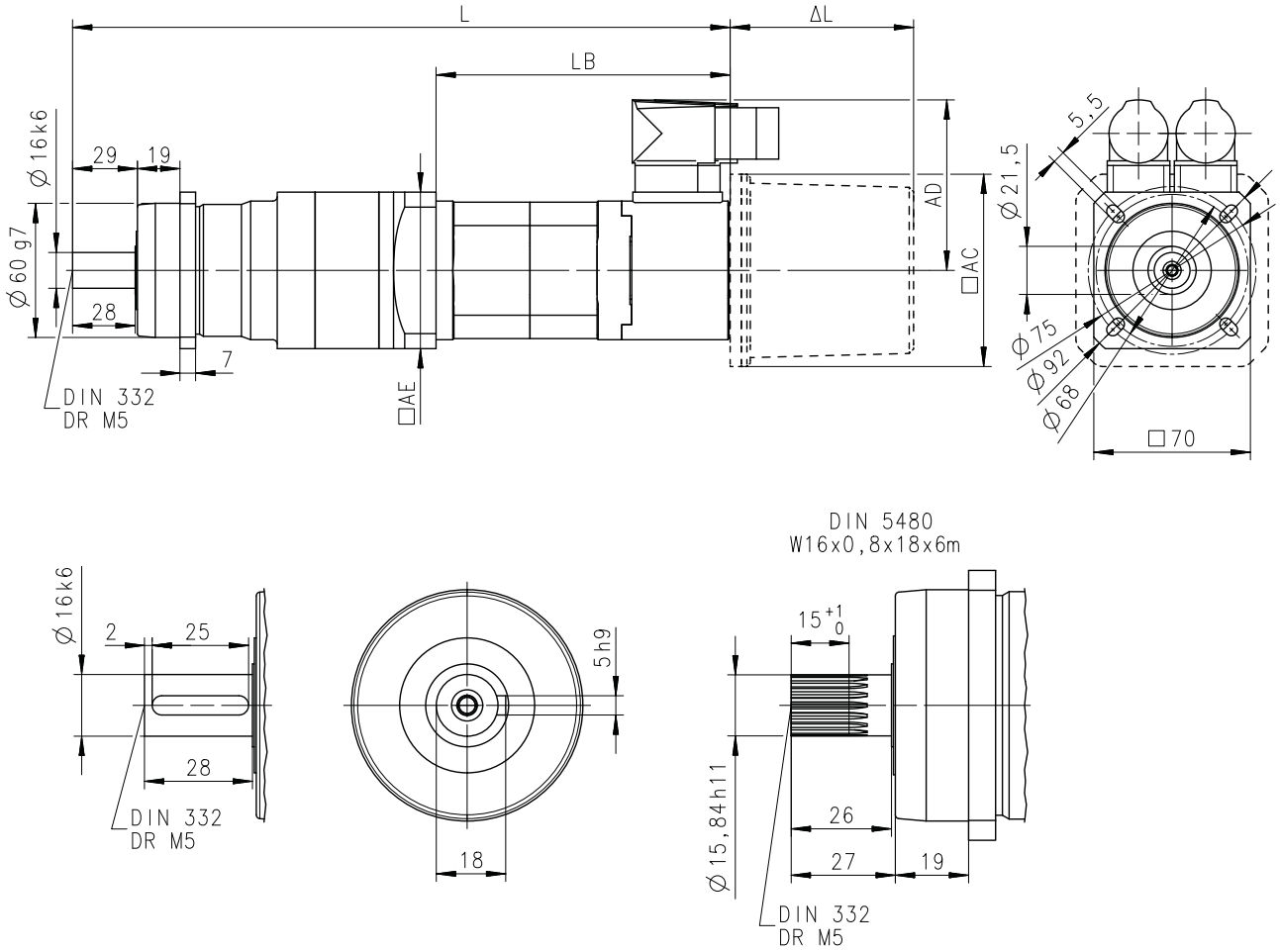
8800835-00

Motor			MCS 09		
			D41- D41L	D60- D60L	F60- F60L
Total length	L	mm	351.5	351.5	371.5
Motor length	LB	mm	182	182	202
Motor diameter	AC	mm	89	89	89
Motor/connection distance	AD	mm	90	90	90
Gearbox diameter	AE	mm	90	90	90



g850-P40 with MCS12

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

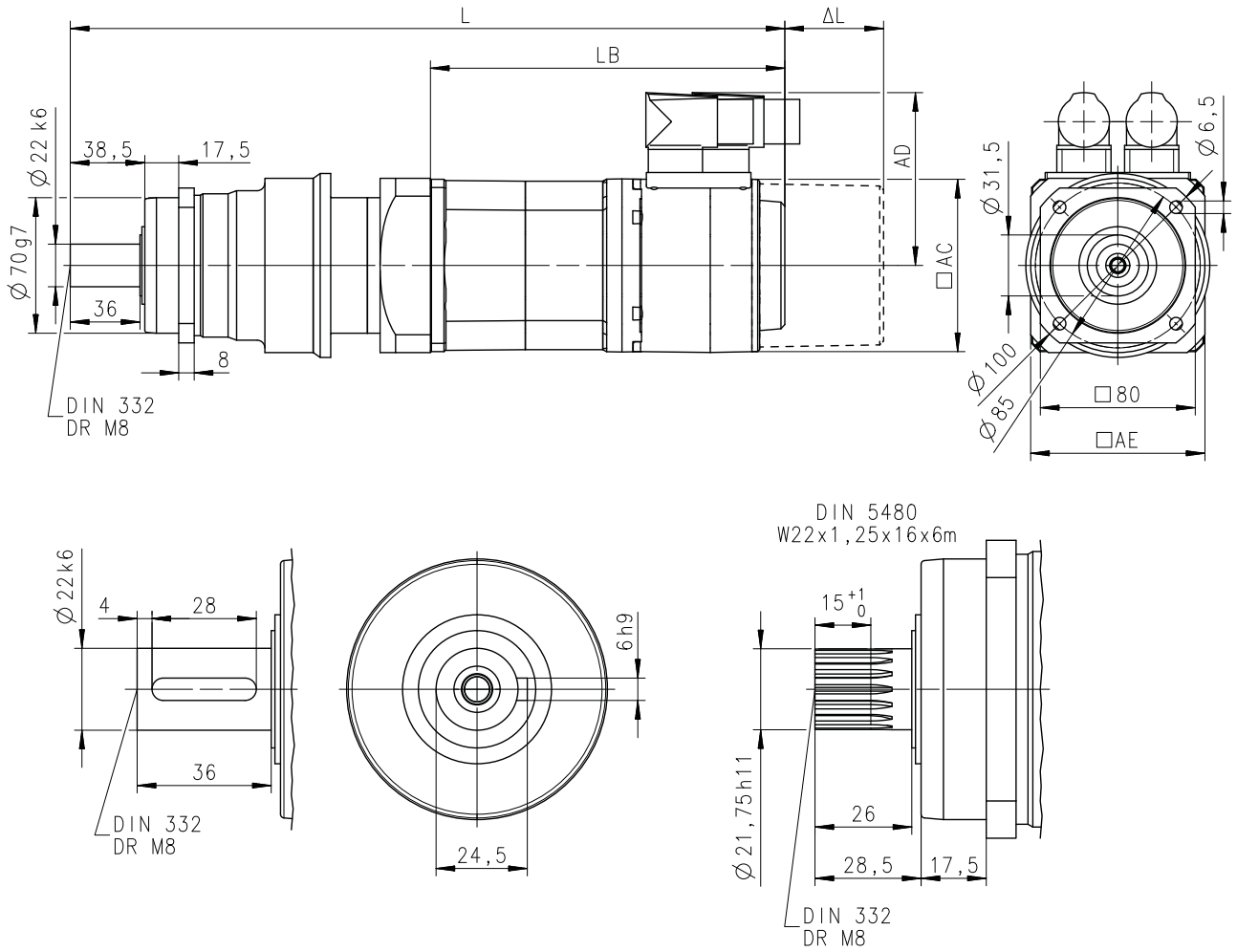


8800835-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	412.5	339.5	412.5	339.5	379.5	379.5	379.5
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115

g850-P80 with MCS06

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



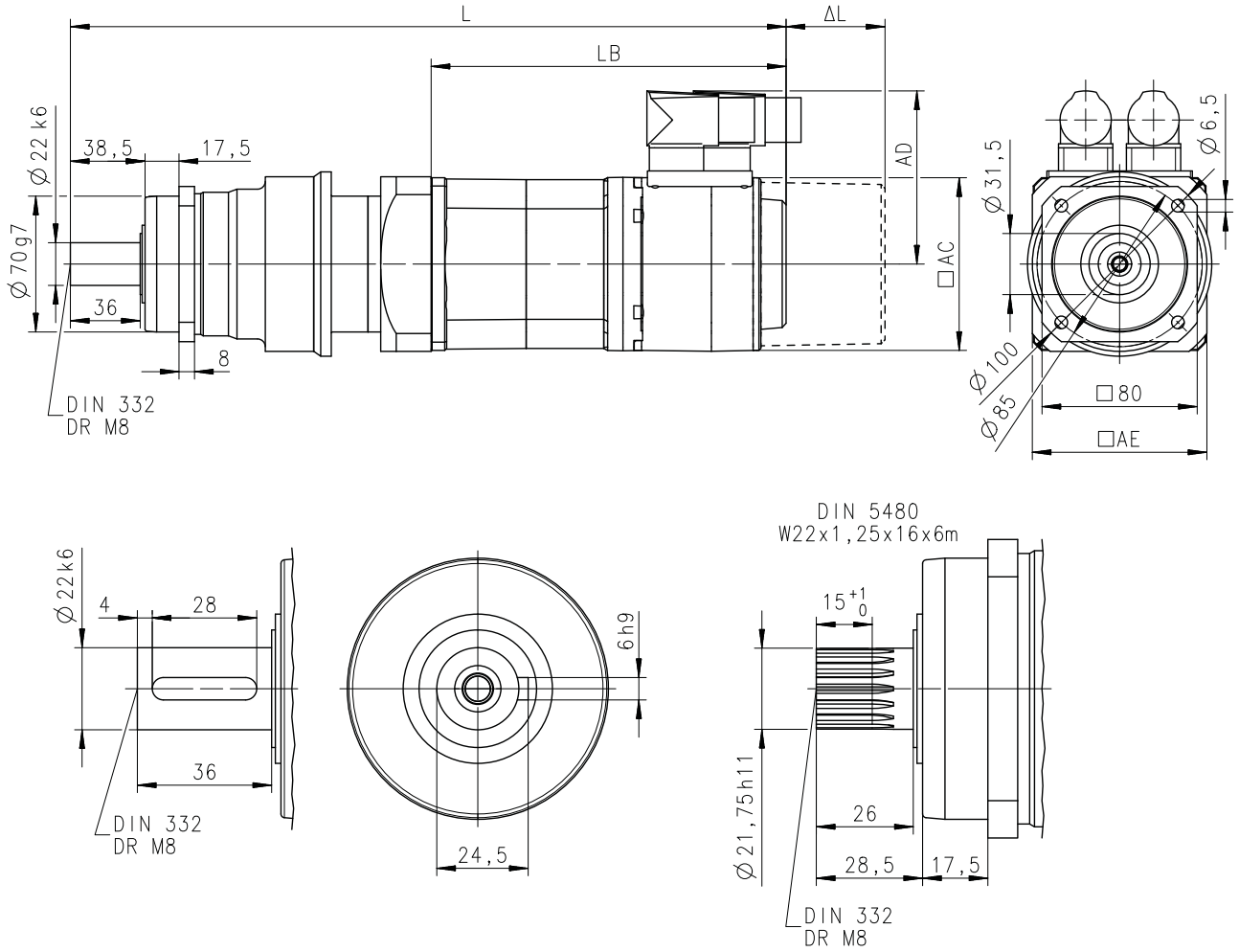
8800836-00

Motor			MCS 06		
			F41- F41L	I41- I41L	I60- I60L
Total length	L	mm	319	349	349
Motor length	LB	mm	162	192	192
Motor diameter	AC	mm	86	86	86
Motor/connection distance	AD	mm	77	77	77
Gearbox diameter	AE	mm	90	90	90



g850-P80 with MCS06

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

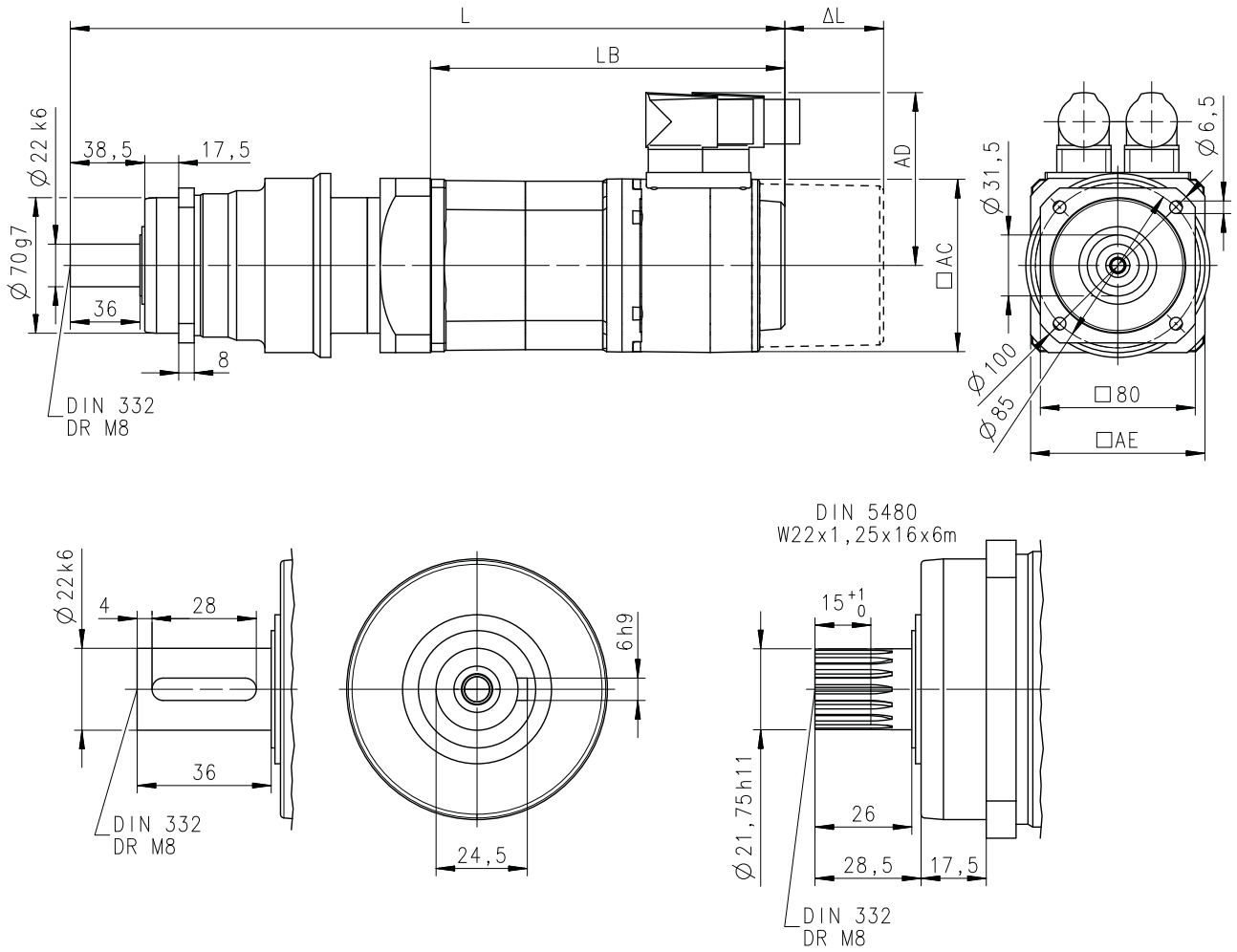


8800836-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	311	311	341	341	371	371
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g850-P80 with MCS09

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



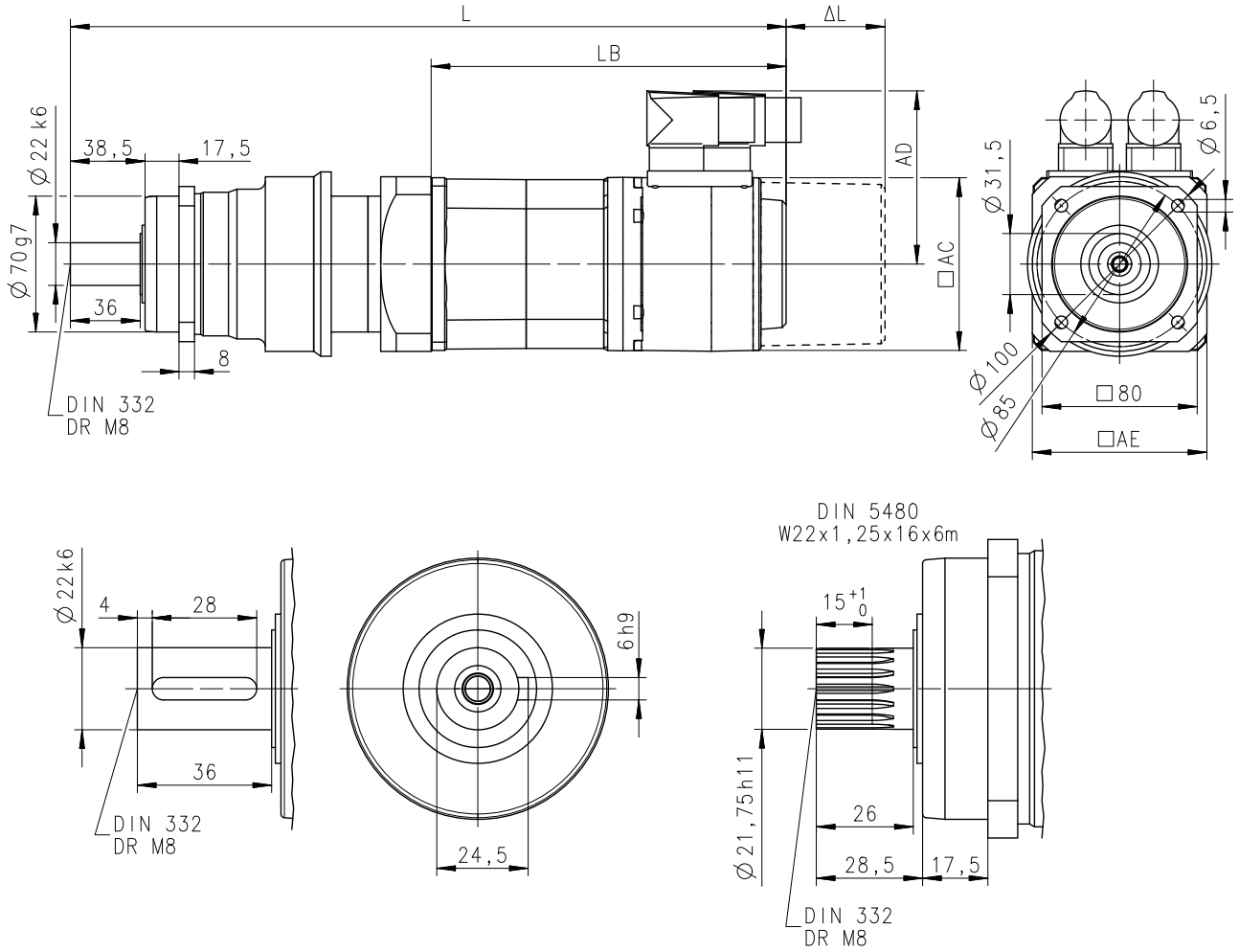
8800836-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	339	339	359	359	379	379	419	419
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g850-P80 with MCS09

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

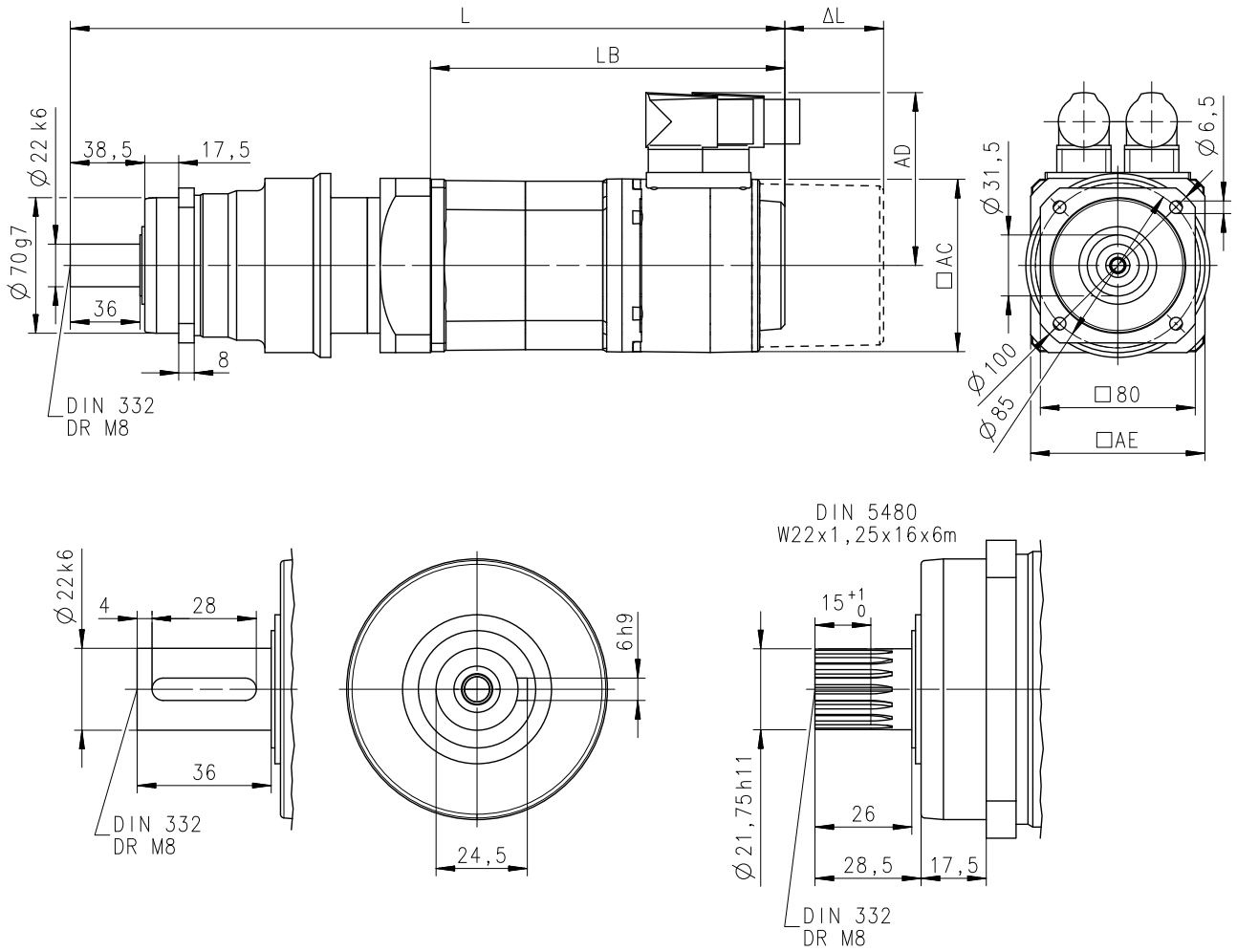


8800836-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	368	368	388	388	408	408	448	448
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g850-P80 with MCS12

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



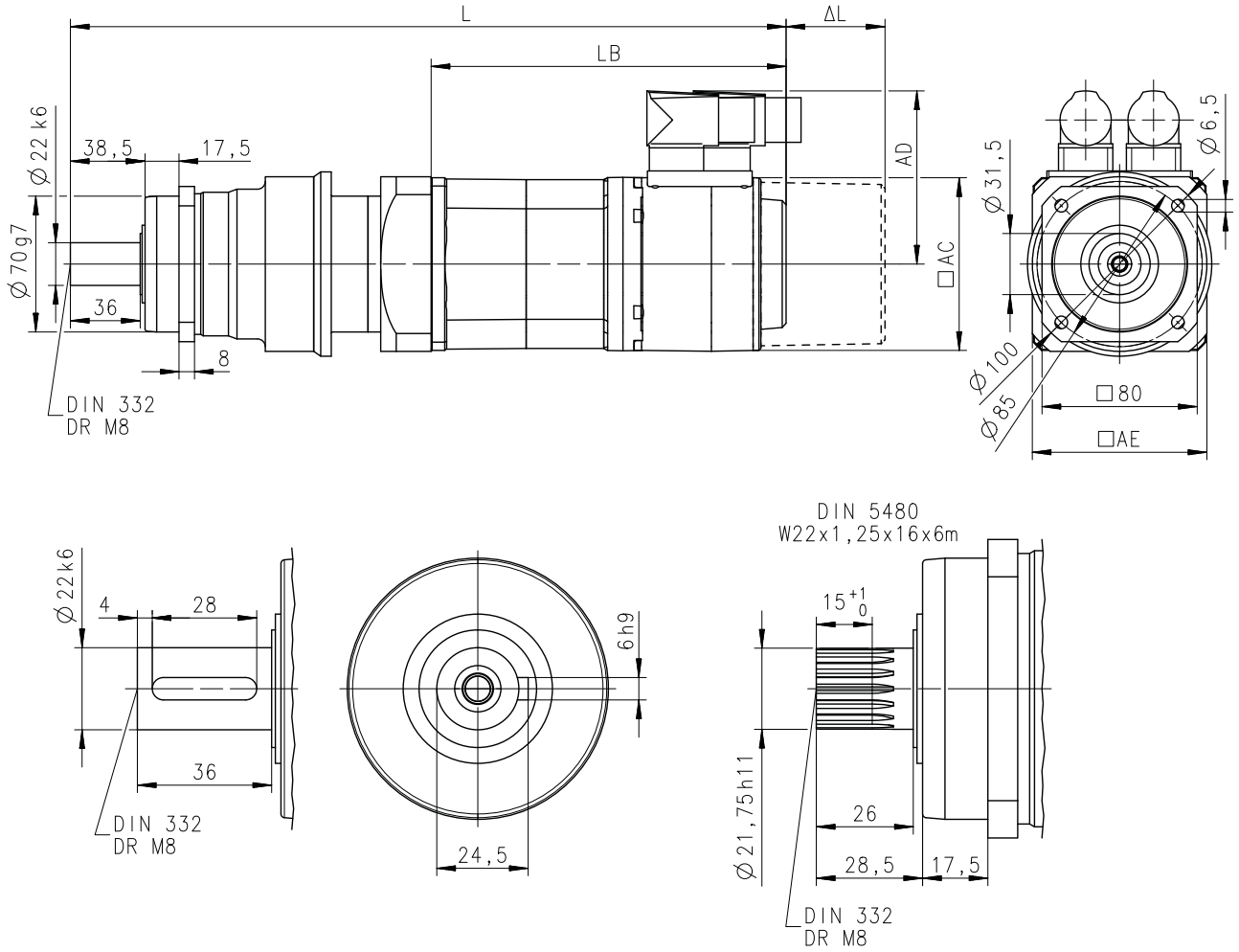
8800836-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	428	355	428	355	468	395	395	468	395	518	435	508	435
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115



g850-P80 with MCS12

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

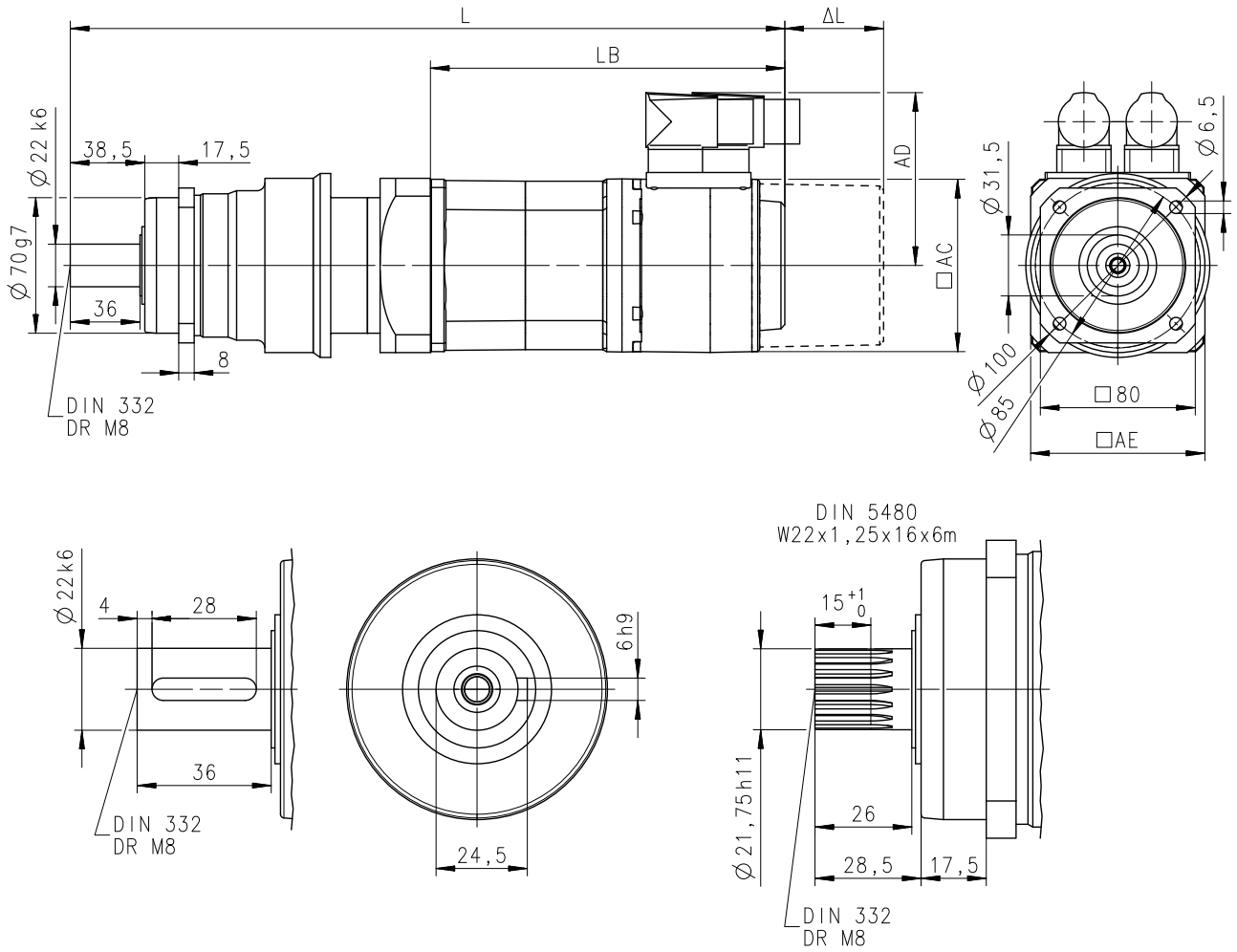


8800836-00

Motor			MCS 12
			D41- D41L
Total length	L	mm	384.5
Motor length	LB	mm	188
Motor diameter	AC	mm	116
Motor/connection distance	AD	mm	105
Gearbox diameter	AE	mm	115

g850-P80 with MCS14

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



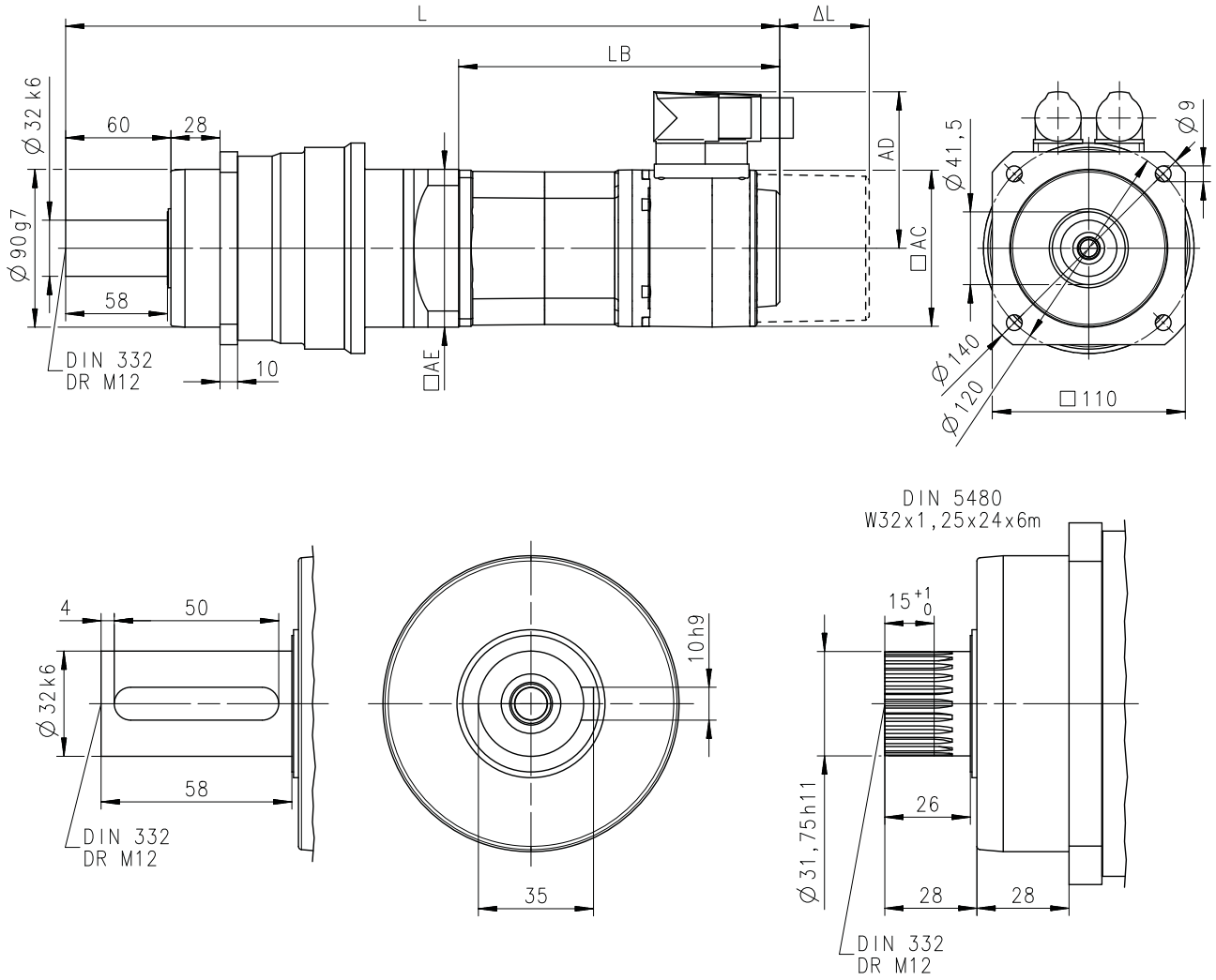
8800836-00

Motor			MCS 14					
			D14-	D15-	D30-	D36-	H15-	H32-
Total length	L	mm	466	378	466	378	418	418
Motor length	LB	mm	289	201	289	201	241	241
Motor diameter	AC	mm	167	143	167	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117
Gearbox diameter	AE	mm	142	142	142	142	142	142



g850-P180 with MCS06

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

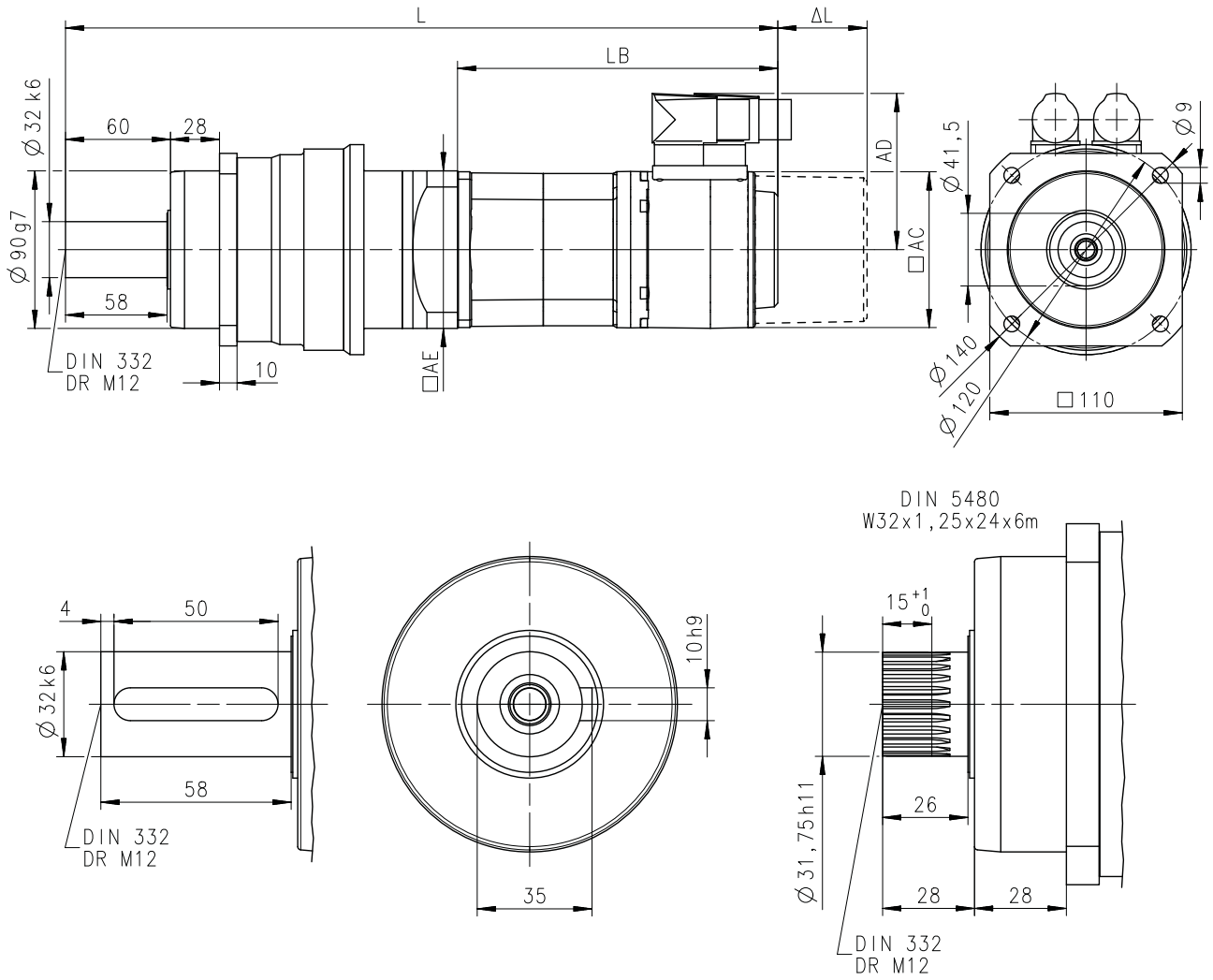


8800837-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	356	356	386	386	416	416
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	90	90	90	90	90	90

g850-P180 with MCS09

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



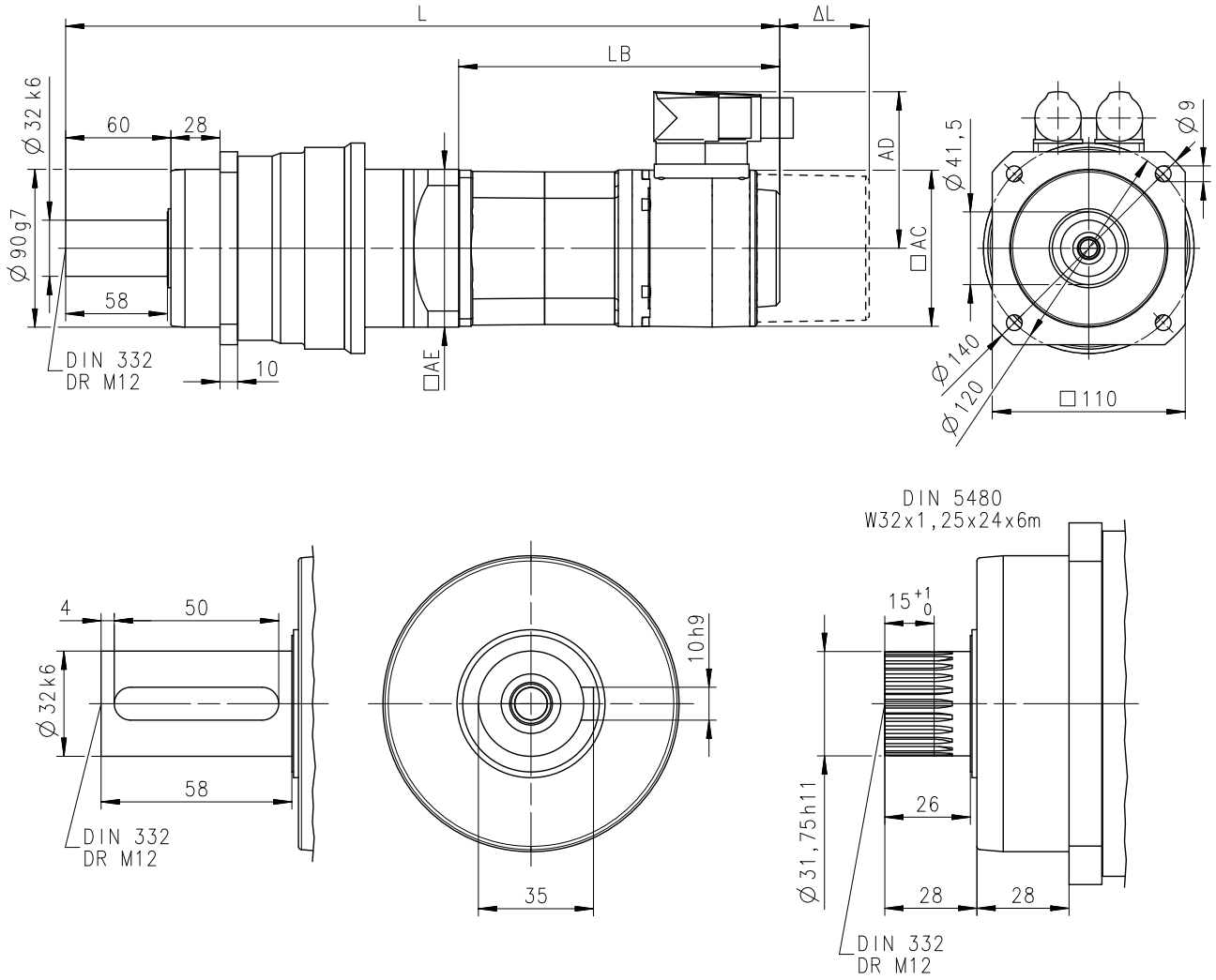
8800837-00

Motor			MCS 09					
			F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	404.5	404.5	424.5	424.5	464.5	464.5
Motor length	LB	mm	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115



g850-P180 with MCS09

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

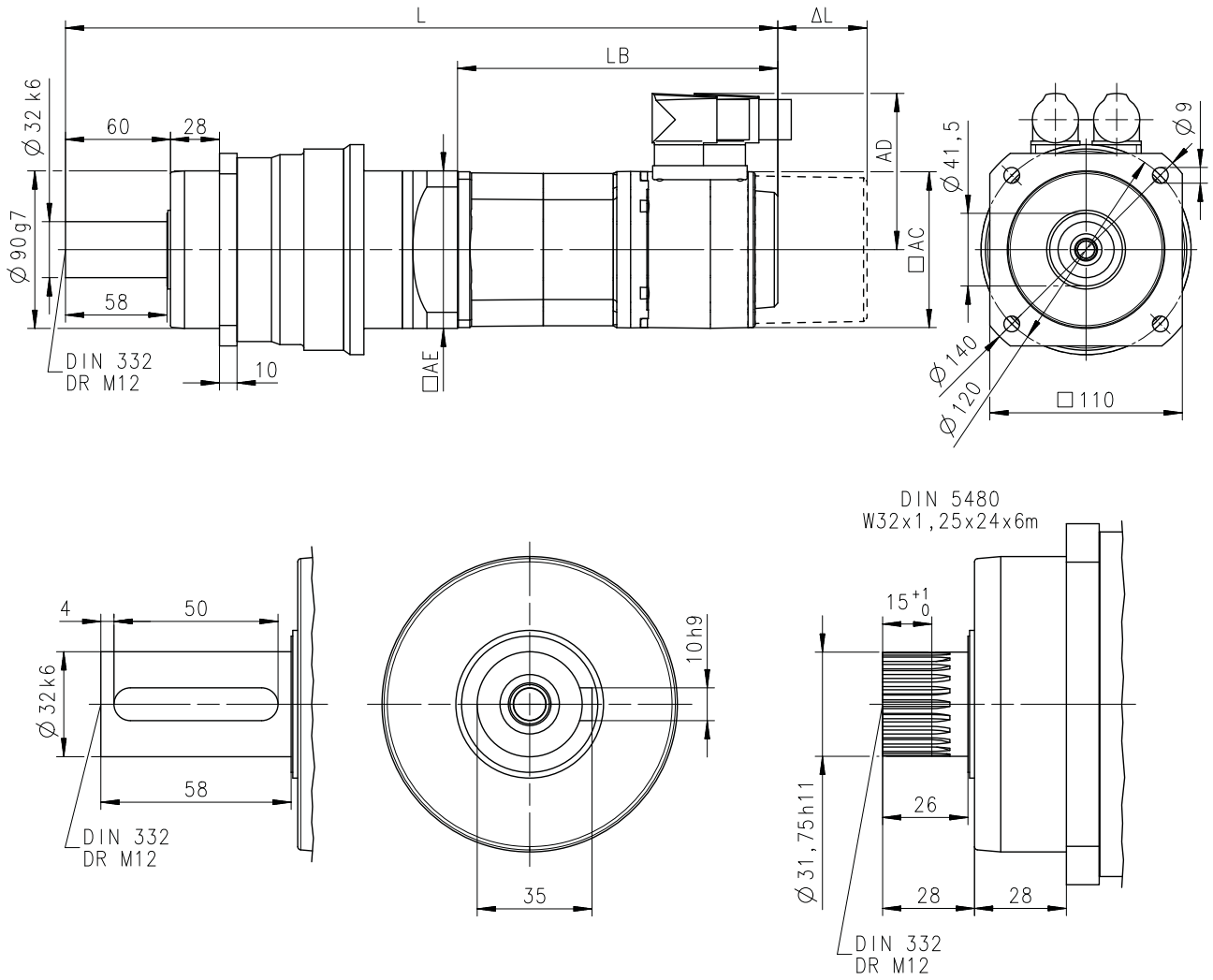


8800837-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	406	406	426	426	446	446	486	486
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g850-P180 with MCS12

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



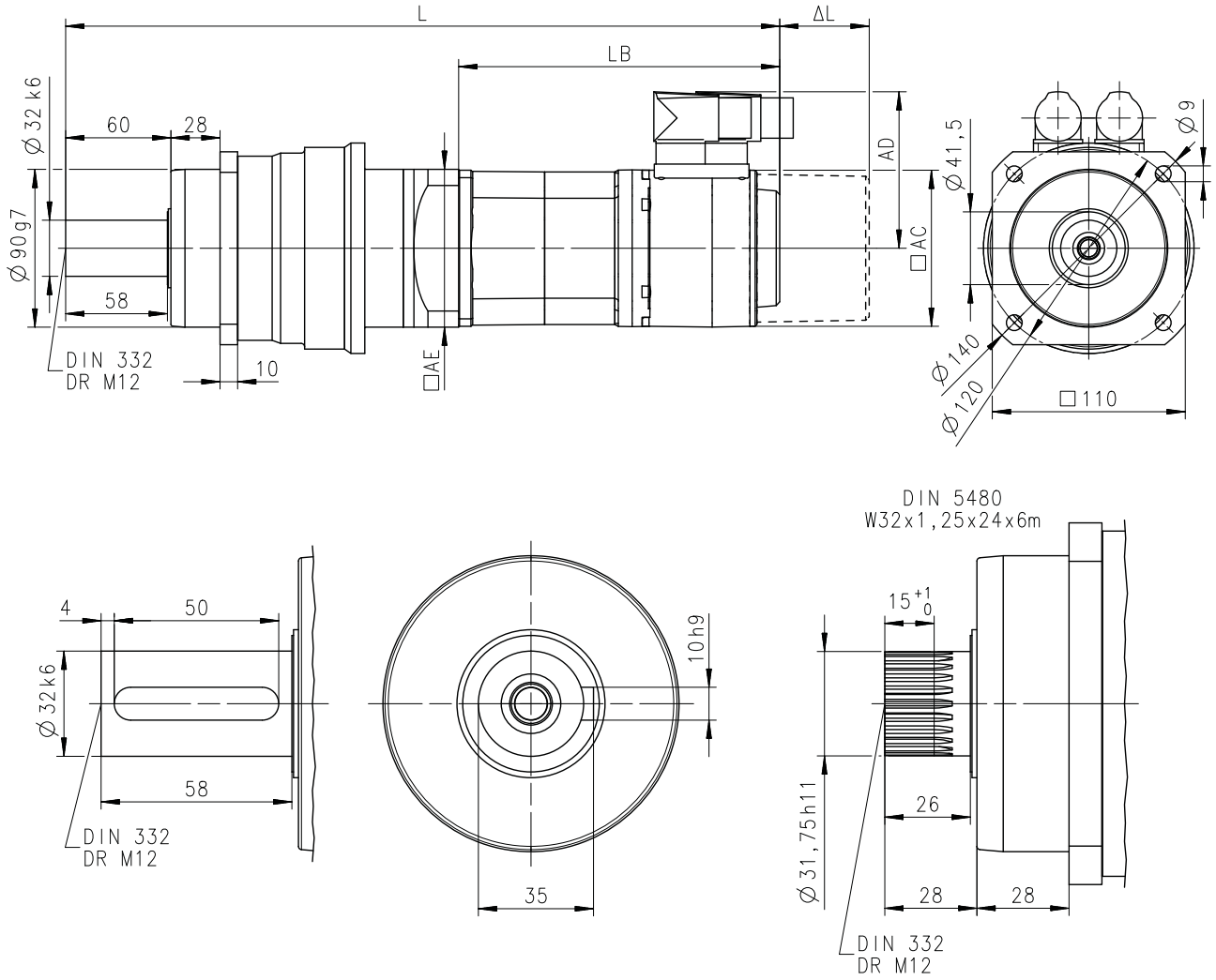
8800837-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	463.5	390.5	463.5	390.5	503.5	430.5	430.5	503.5	430.5	553.5	470.5	543.5	470.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	120	120	120	120	120	120	120	120	120	120	120	120	120



g850-P180 with MCS12

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

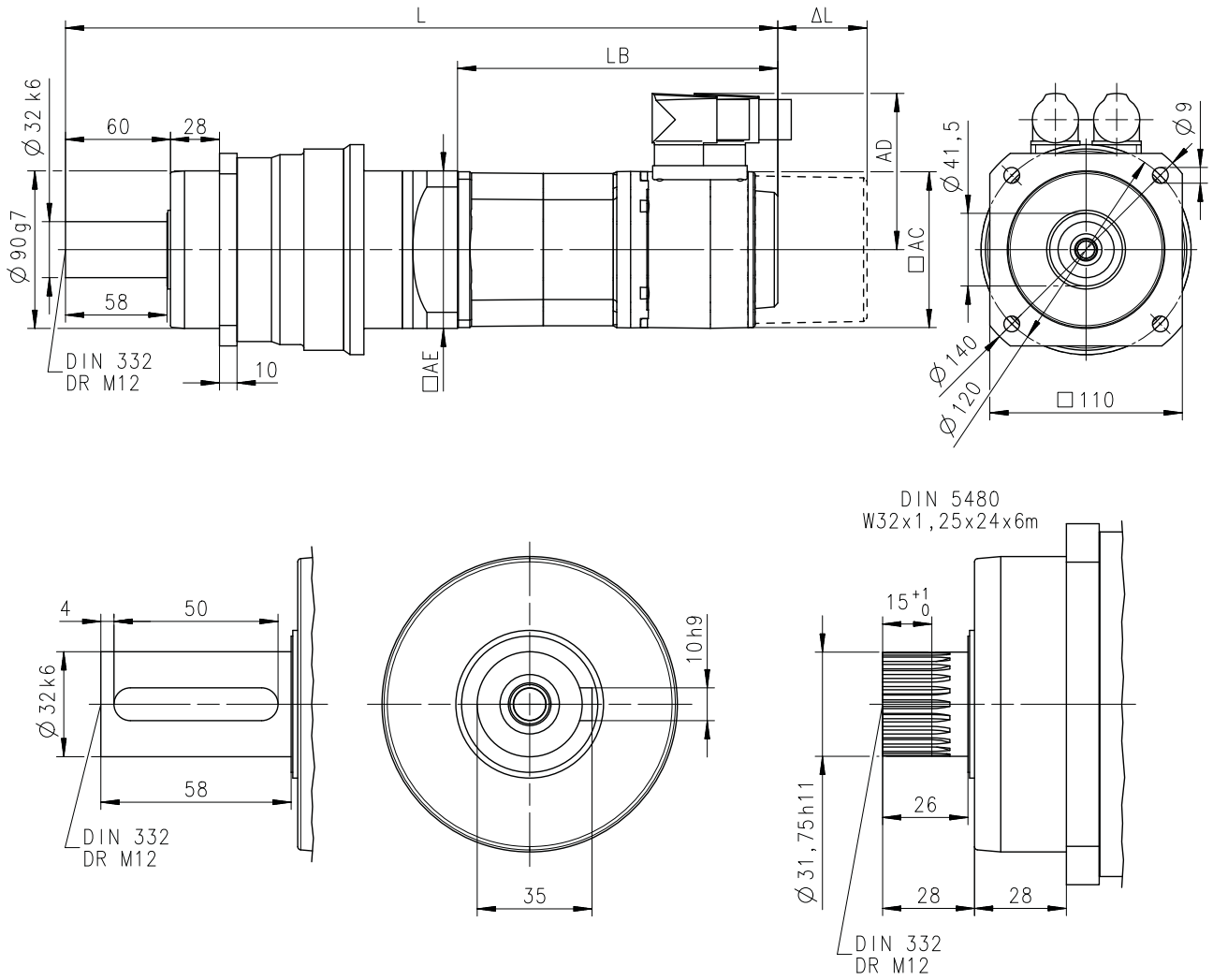


8800837-00

Motor			MCS 12								
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H34-	H35-	L41-
Total length	L	mm	495	422	495	422	462	462	535	462	502
Motor length	LB	mm	261	188	261	188	228	228	301	228	268
Motor diameter	AC	mm	140	116	140	116	116	116	140	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115

g850-P180 with MCS14

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



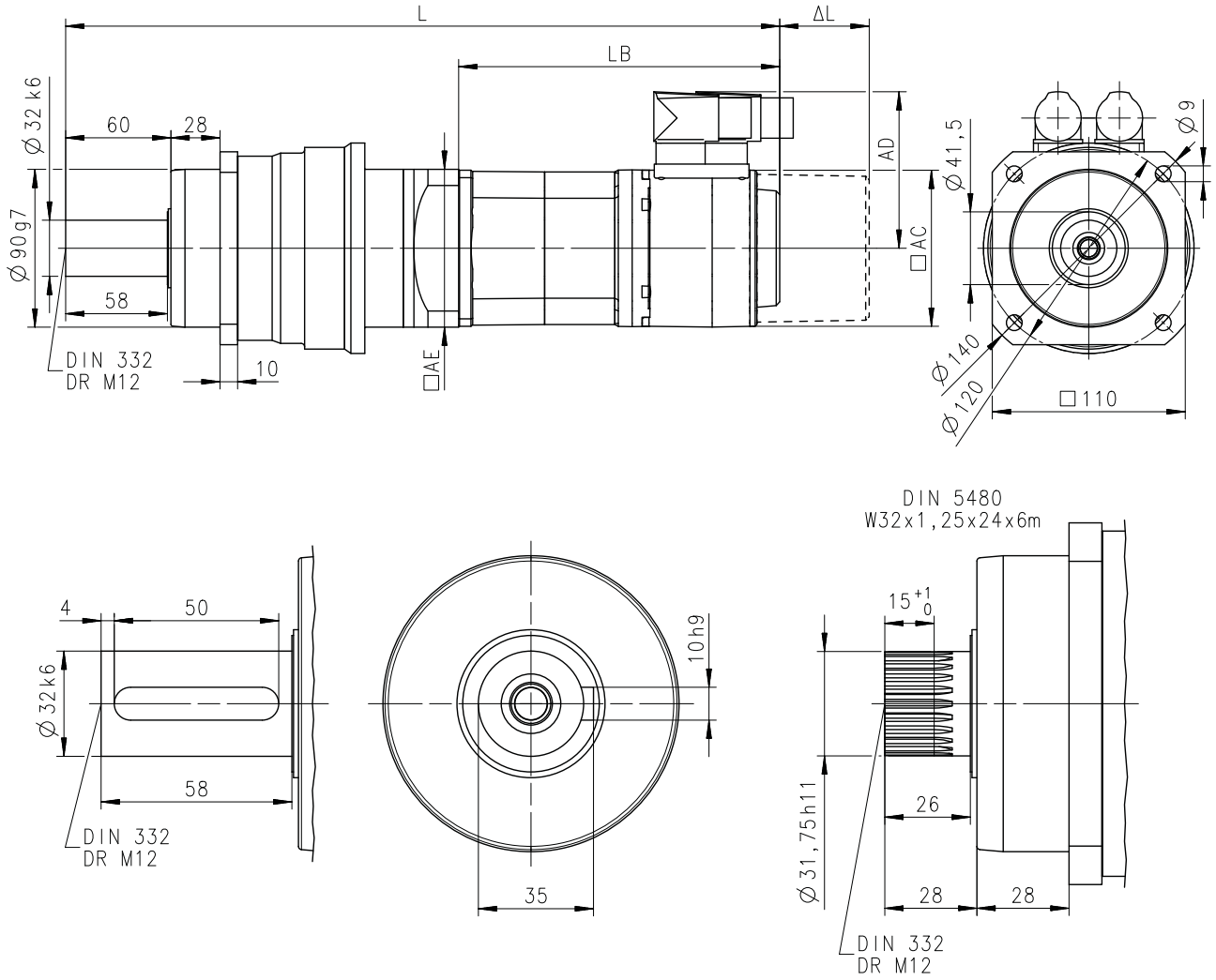
8800837-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	501.5	413.5	501.5	413.5	541.5	453.5	541.5	453.5	581.5	493.5	581.5	493.5	621.5	533.5	621.5	533.5
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142



g850-P180 with MCS14

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

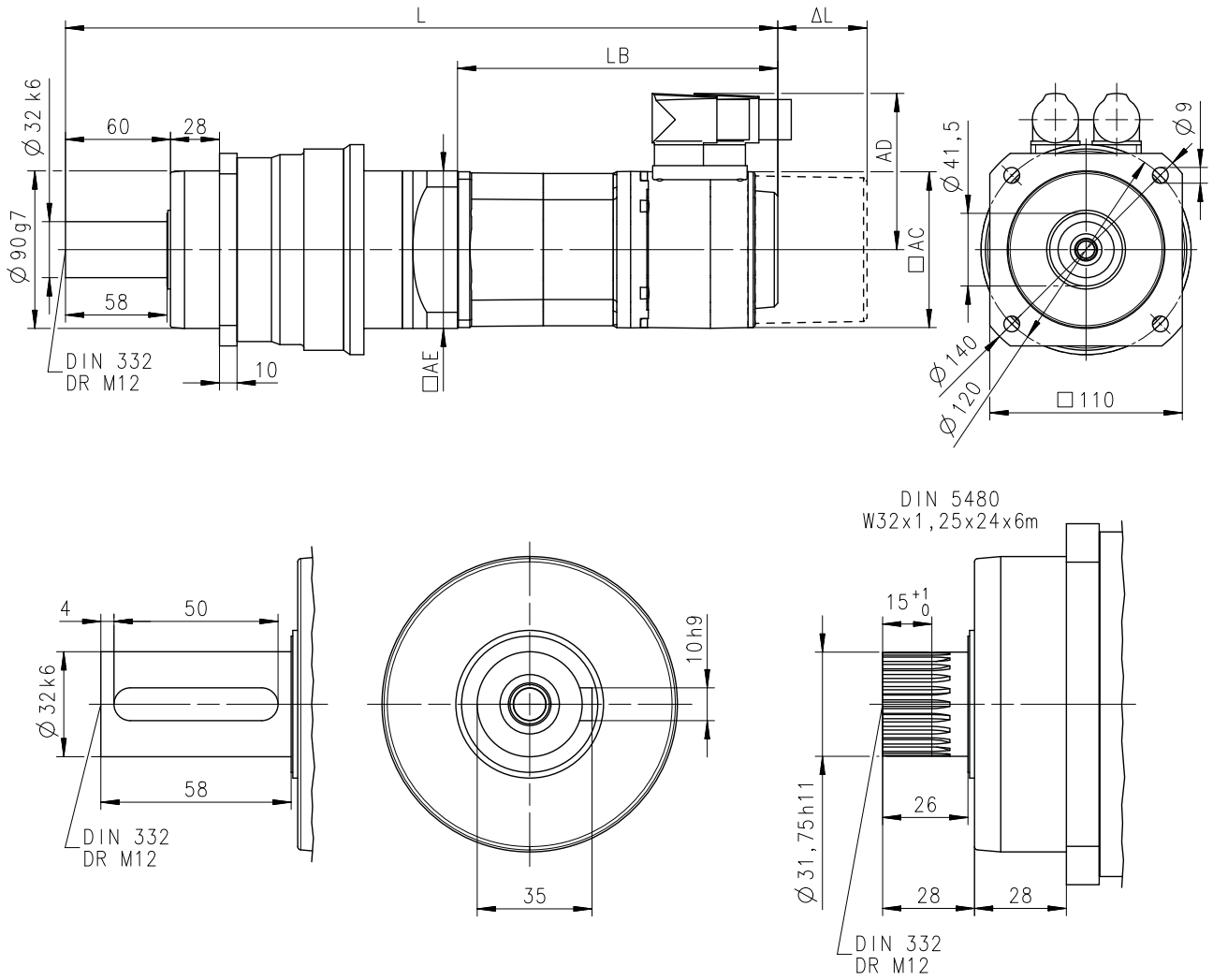


8800837-00

Motor			MCS 14		
			D15-	D30-	D36-
Total length	L	mm	445	533	445
Motor length	LB	mm	201	289	201
Motor diameter	AC	mm	143	167	143
Motor/connection distance	AD	mm	117	117	117
Gearbox diameter	AE	mm	142	142	142

g850-P180 with MCS19

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



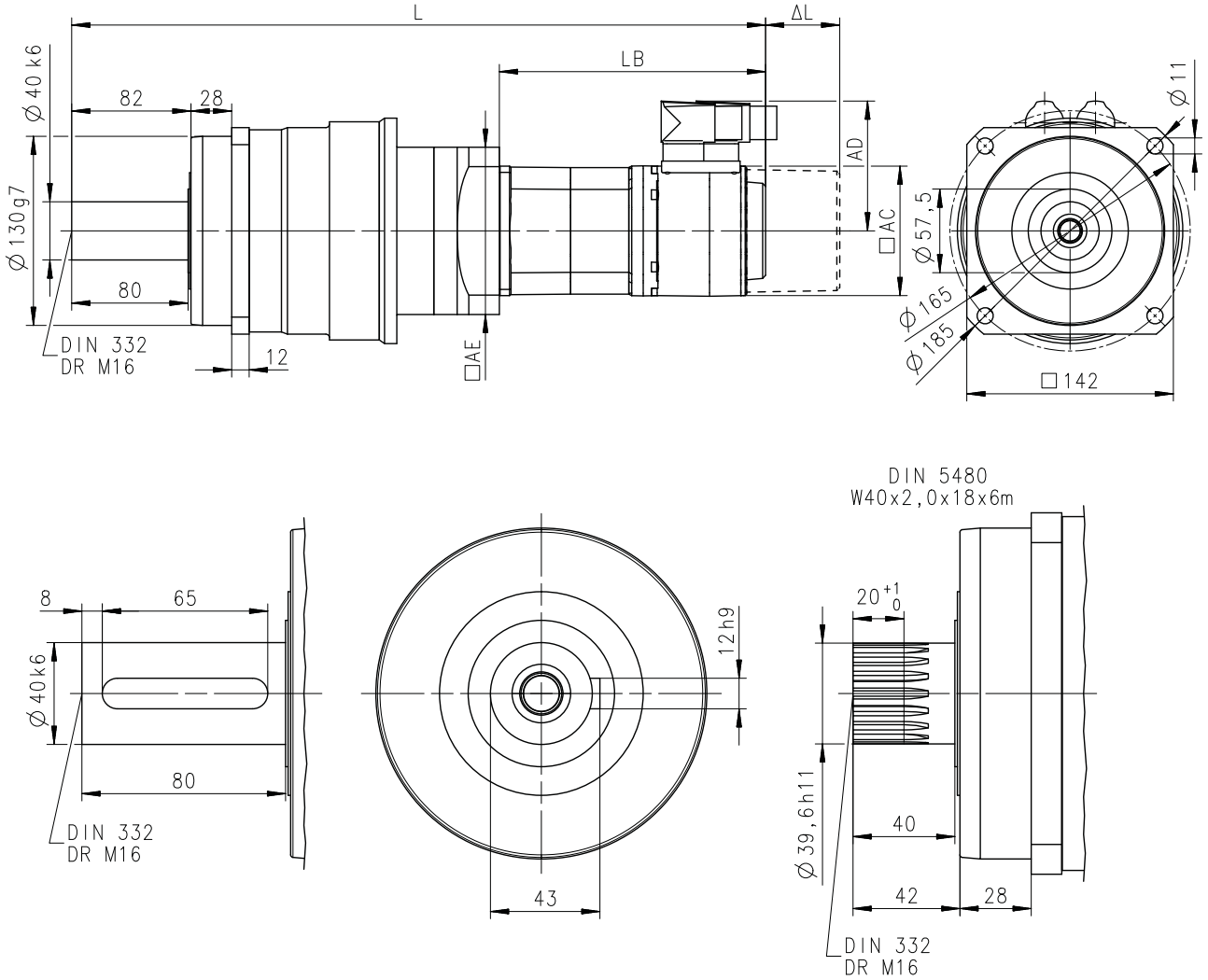
8800837-00

Motor			MCS 19				
			F12-	F14-	F30-	J14-	J30-
Total length	L	mm	550.5	443.5	443.5	483.5	483.5
Motor length	LB	mm	327	220	220	260	260
Motor diameter	AC	mm	212	192	192	192	192
Motor/connection distance	AD	mm	142	142	171	142	171
Gearbox diameter	AE	mm	190	190	190	190	190



g850-P470 with MCS06

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

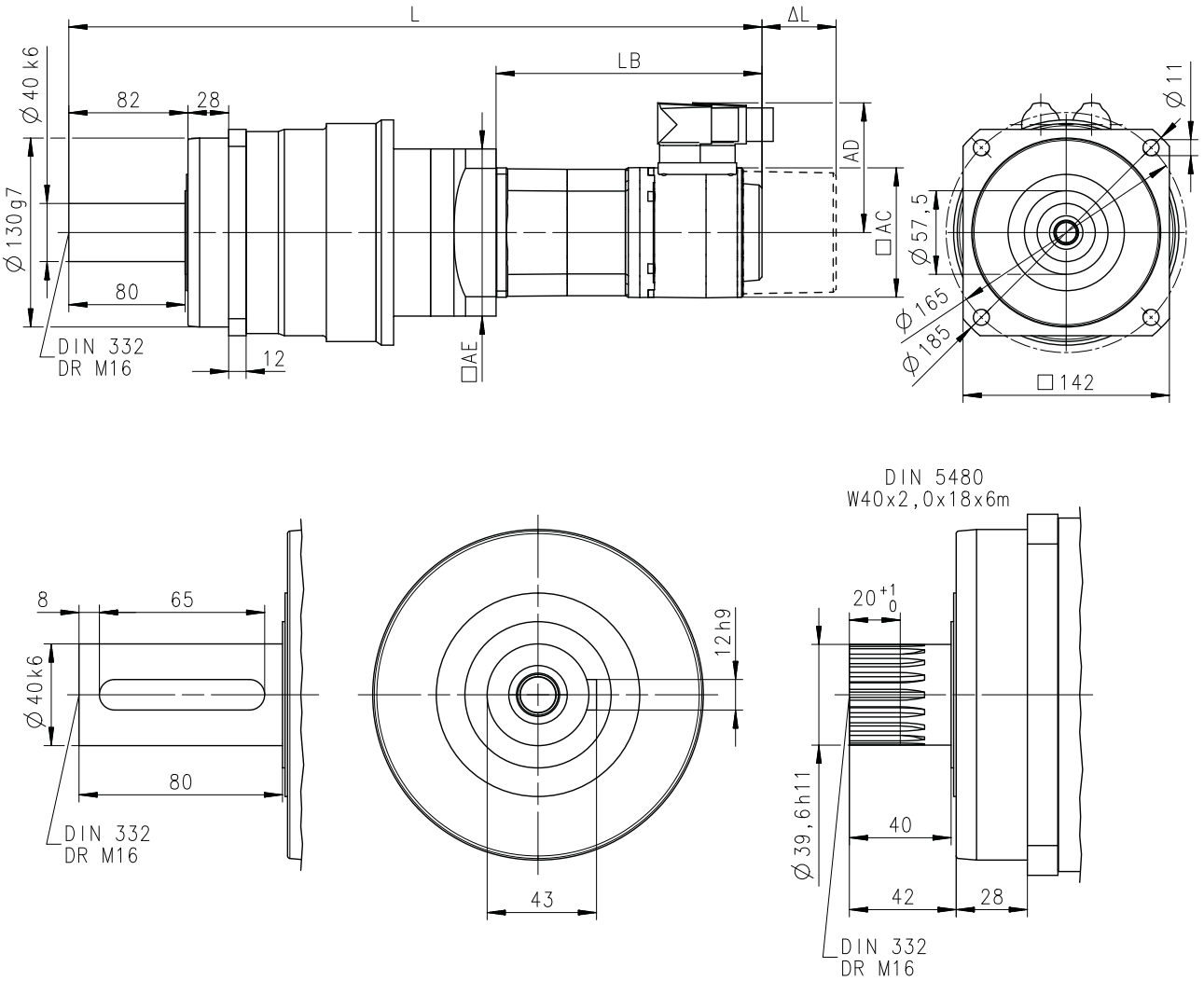


8800838-00

Motor			MCS 06				
			C41- C41L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	424.5	454.5	454.5	484.5	484.5
Motor length	LB	mm	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115

g850-P470 with MCS09

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



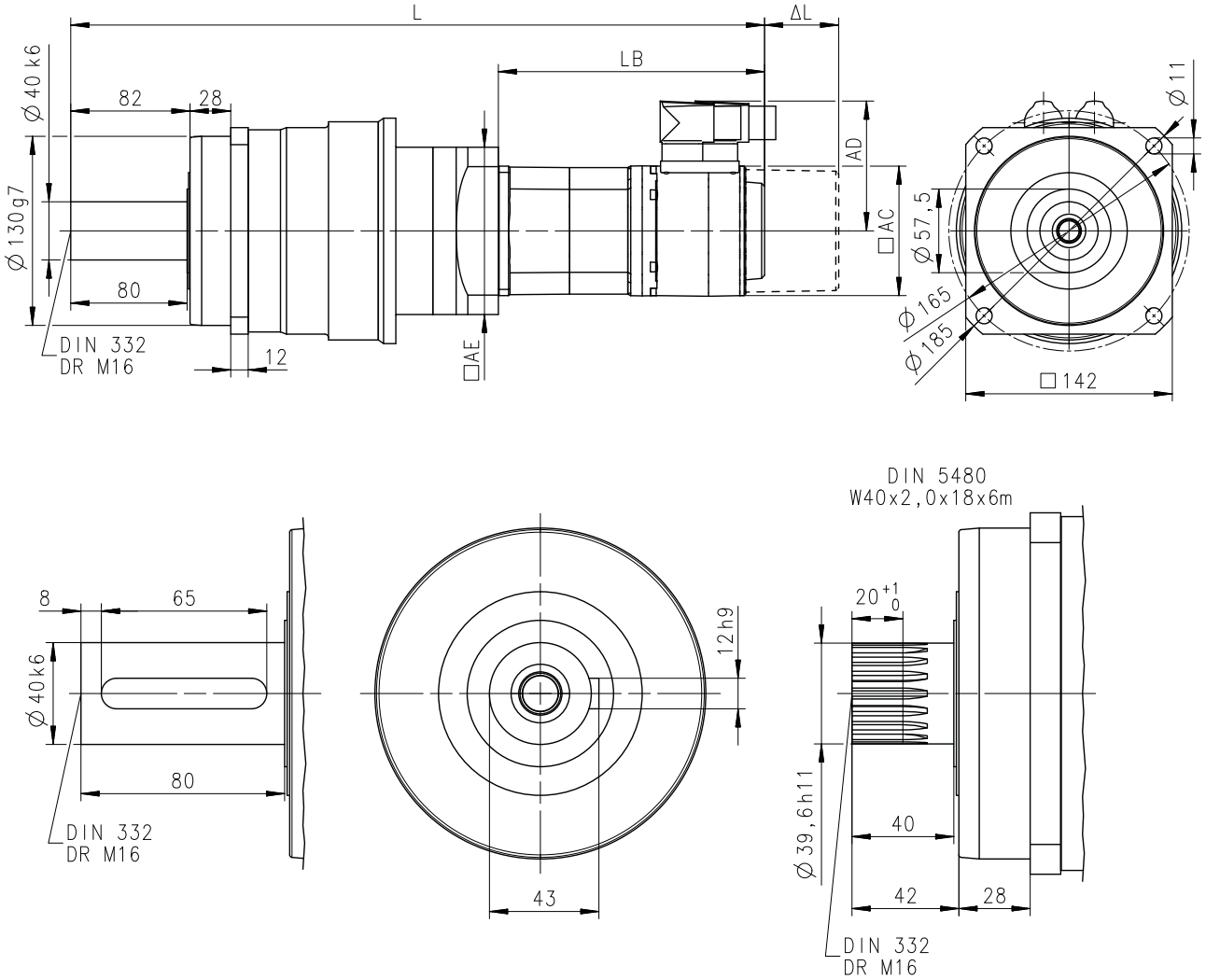
8800838-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	474.5	474.5	494.5	494.5	514.5	514.5	554.5	554.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115



g850-P470 with MCS12

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

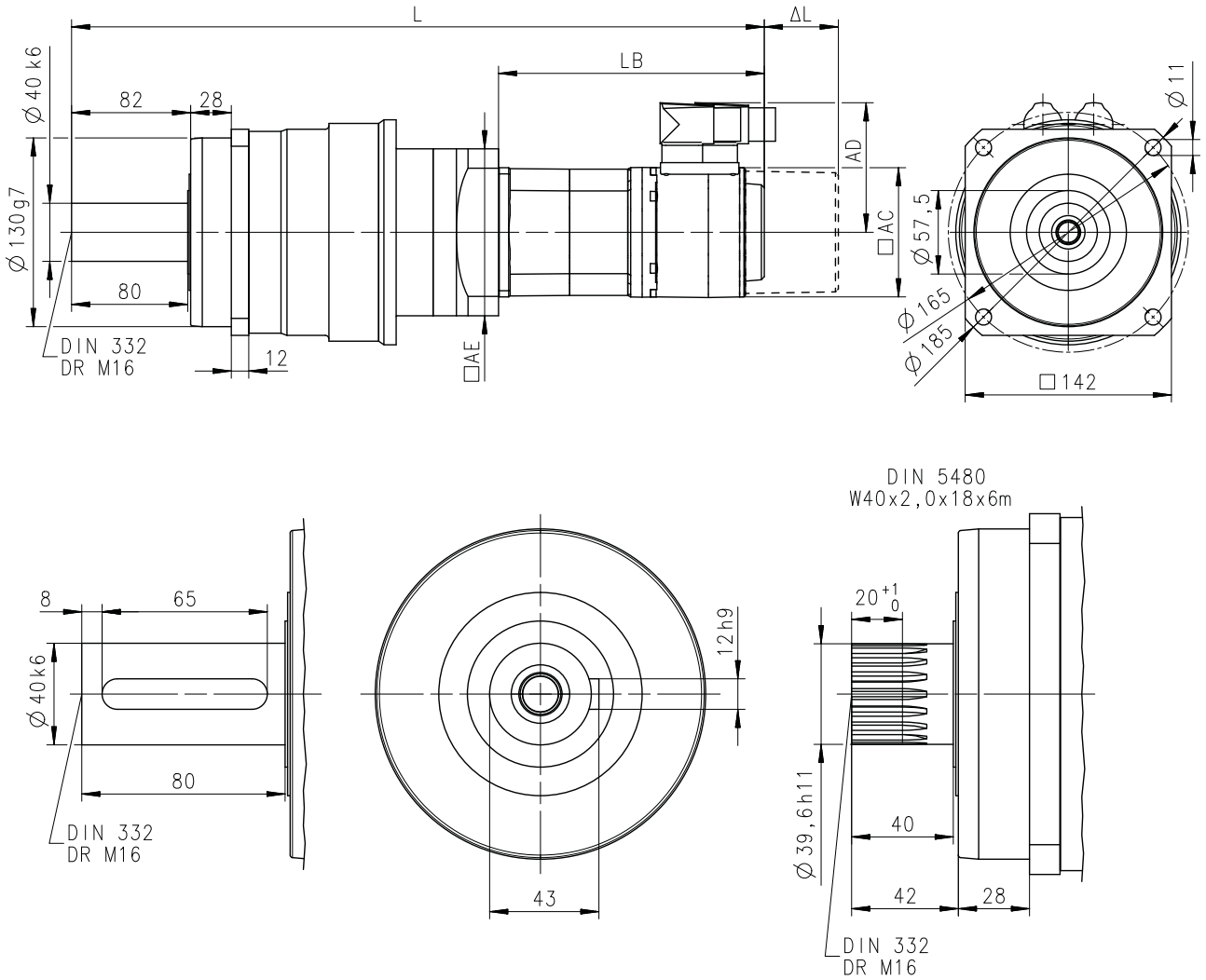


8800838-00

Motor			MCS 12											
			D17-	D20- D20L	D35-	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	522.5	449.5	522.5	562.5	489.5	489.5	562.5	489.5	612.5	529.5	602.5	529.5
Motor length	LB	mm	261	188	261	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	150	150	150	150	150	150	150	150	150	150	150	150

g850-P470 with MCS14

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



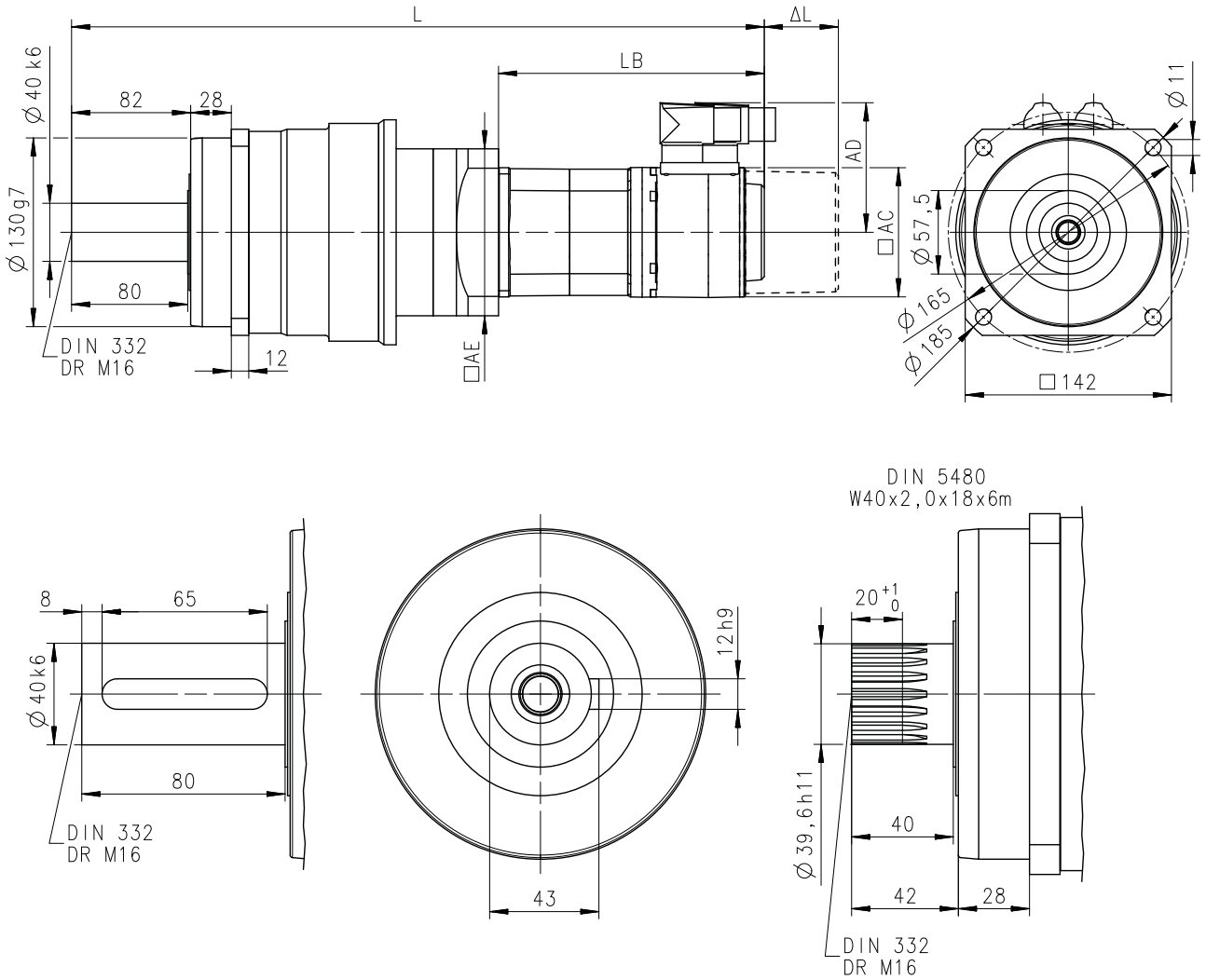
8800838-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	550.5	462.5	550.5	462.5	590.5	502.5	590.5	502.5	630.5	542.5	630.5	542.5	670.5	582.5	670.5	582.5
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150



g850-P470 with MCS14

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

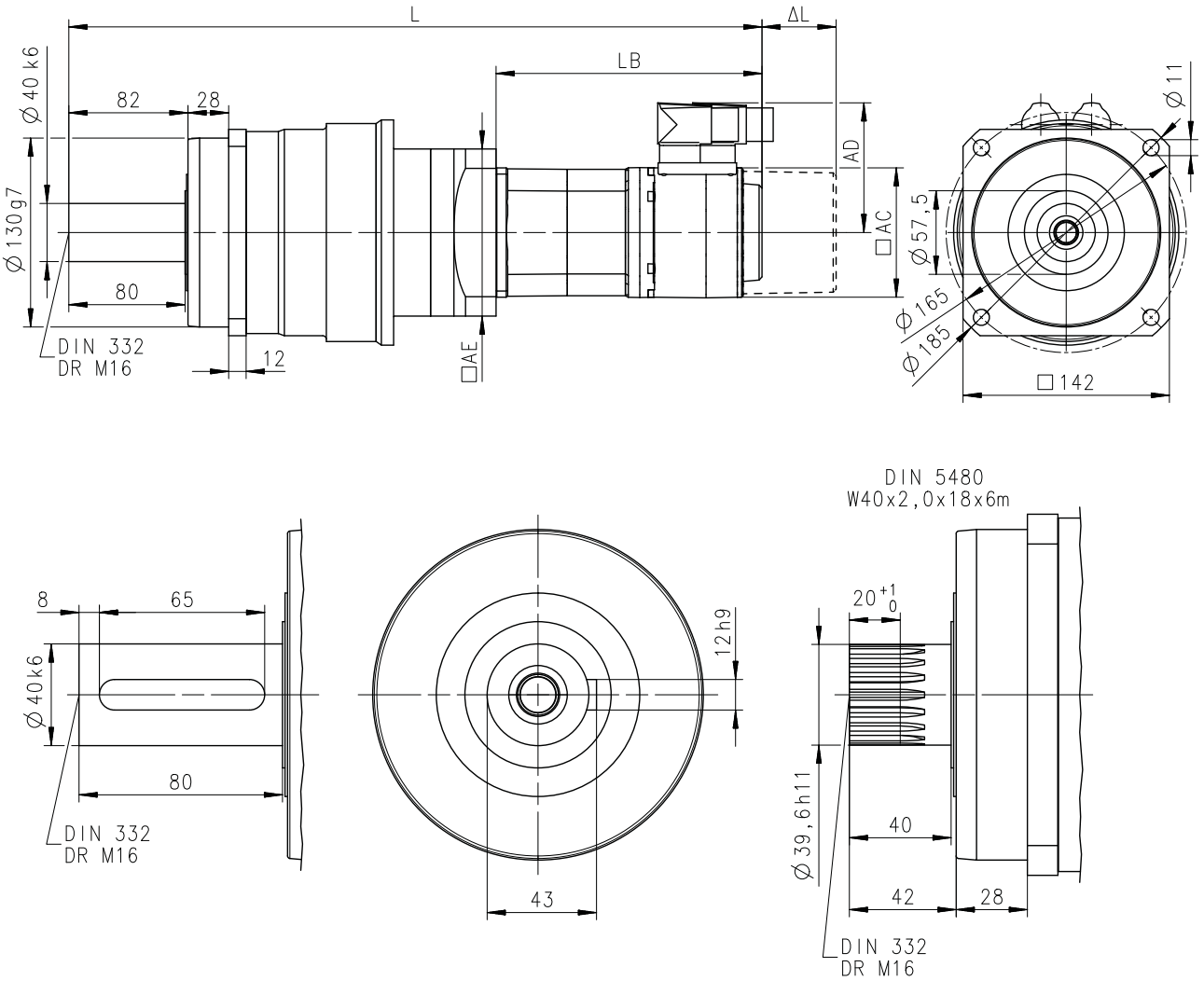


8800838-00

Motor			MCS 14													
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P14-	P32-
Total length	L	mm	591.5	503.5	591.5	503.5	631.5	543.5	631.5	543.5	671.5	583.5	671.5	583.5	623.5	623.5
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	321	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142

g850-P470 with MCS19

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



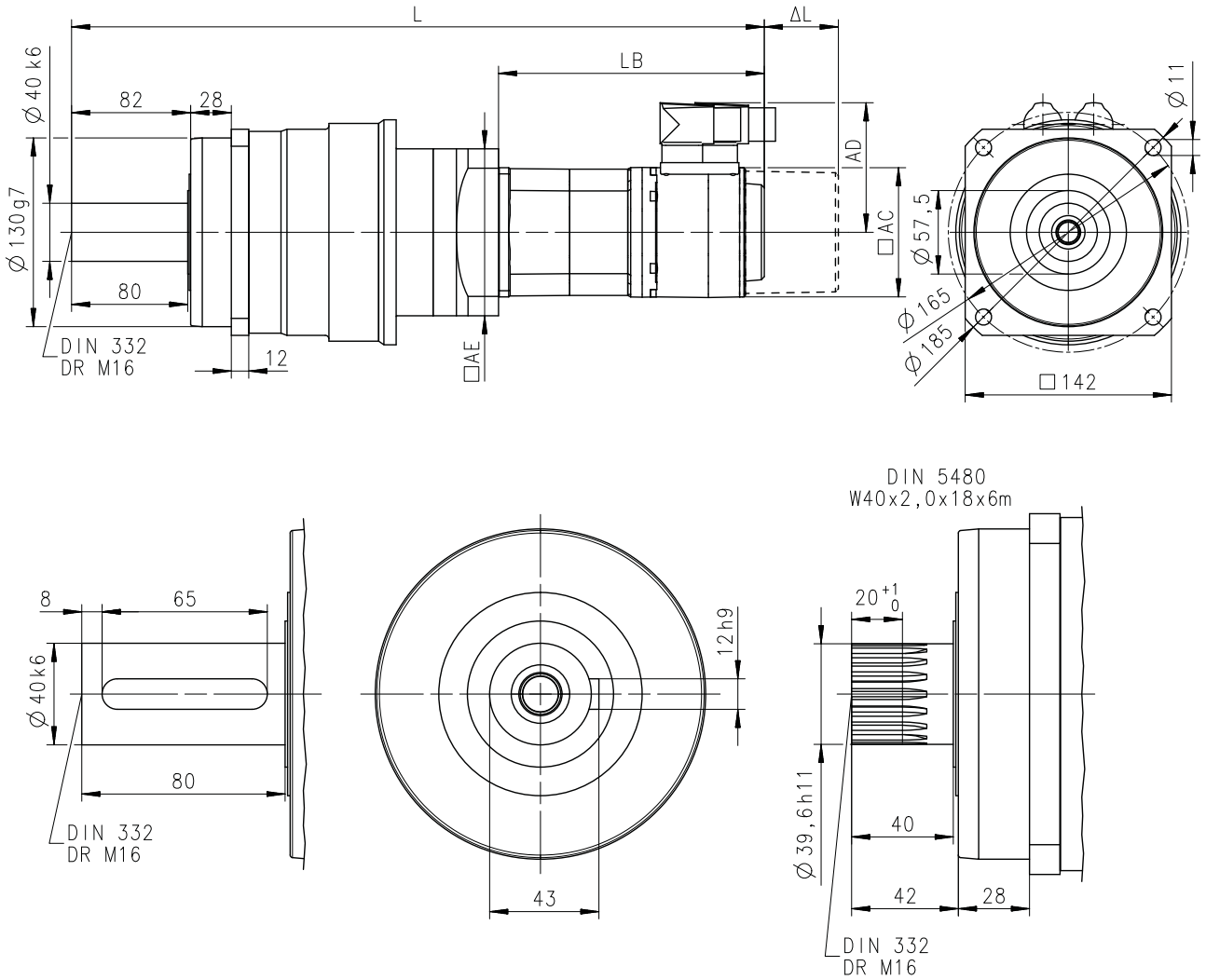
8800838-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	598.5	491.5	598.5	491.5	638.5	531.5	638.5	531.5	698.5	591.5	698.5	591.5
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190



g850-P470 with MCS19

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

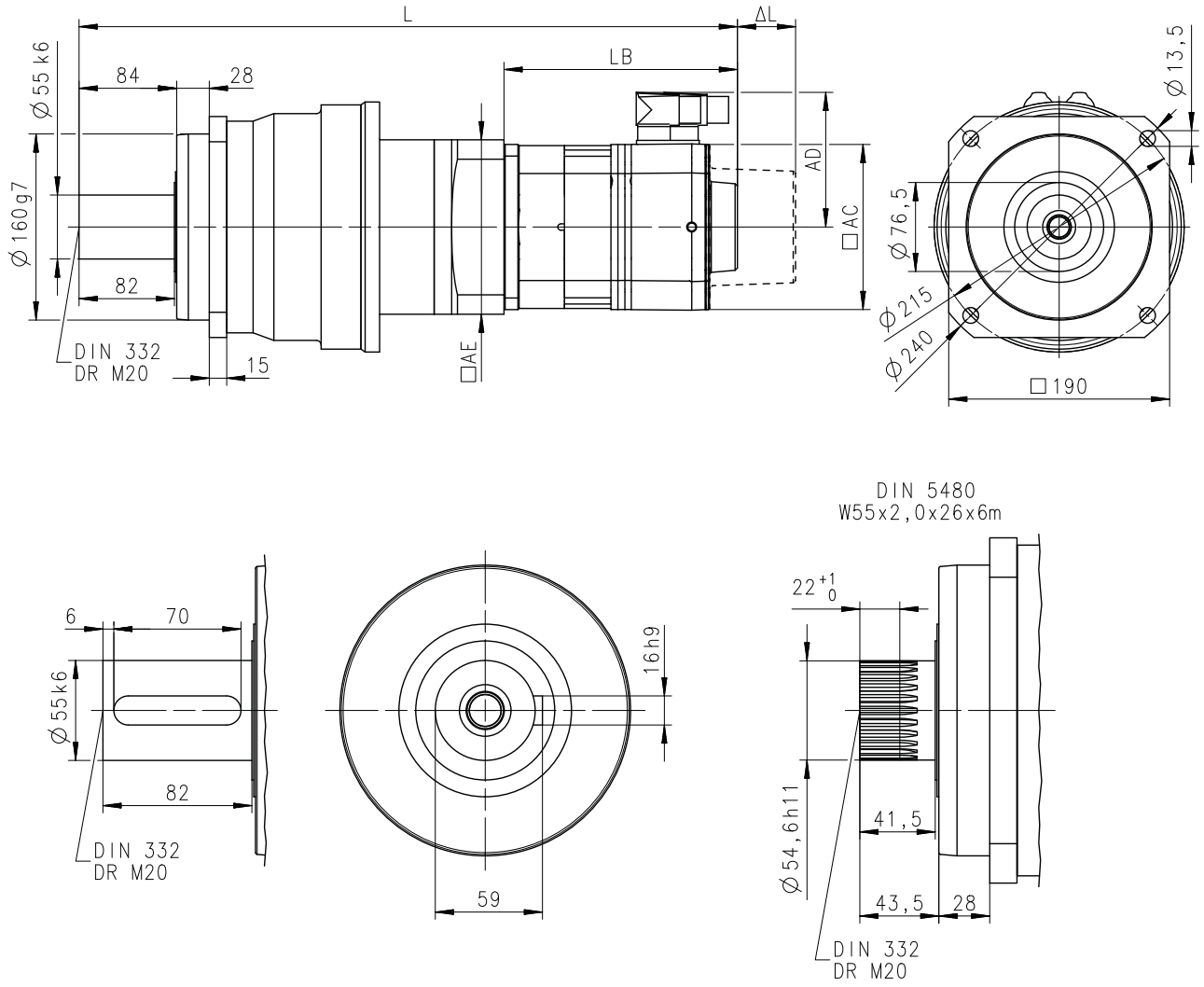


8800838-00

Motor			MCS 19		
			F14-	F30-	J30-
Total length	L	mm	533.5	533.5	573.5
Motor length	LB	mm	220	220	260
Motor diameter	AC	mm	192	192	192
Motor/connection distance	AD	mm	142	171	171
Gearbox diameter	AE	mm	190	190	190

g850-P950 with MCS12

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



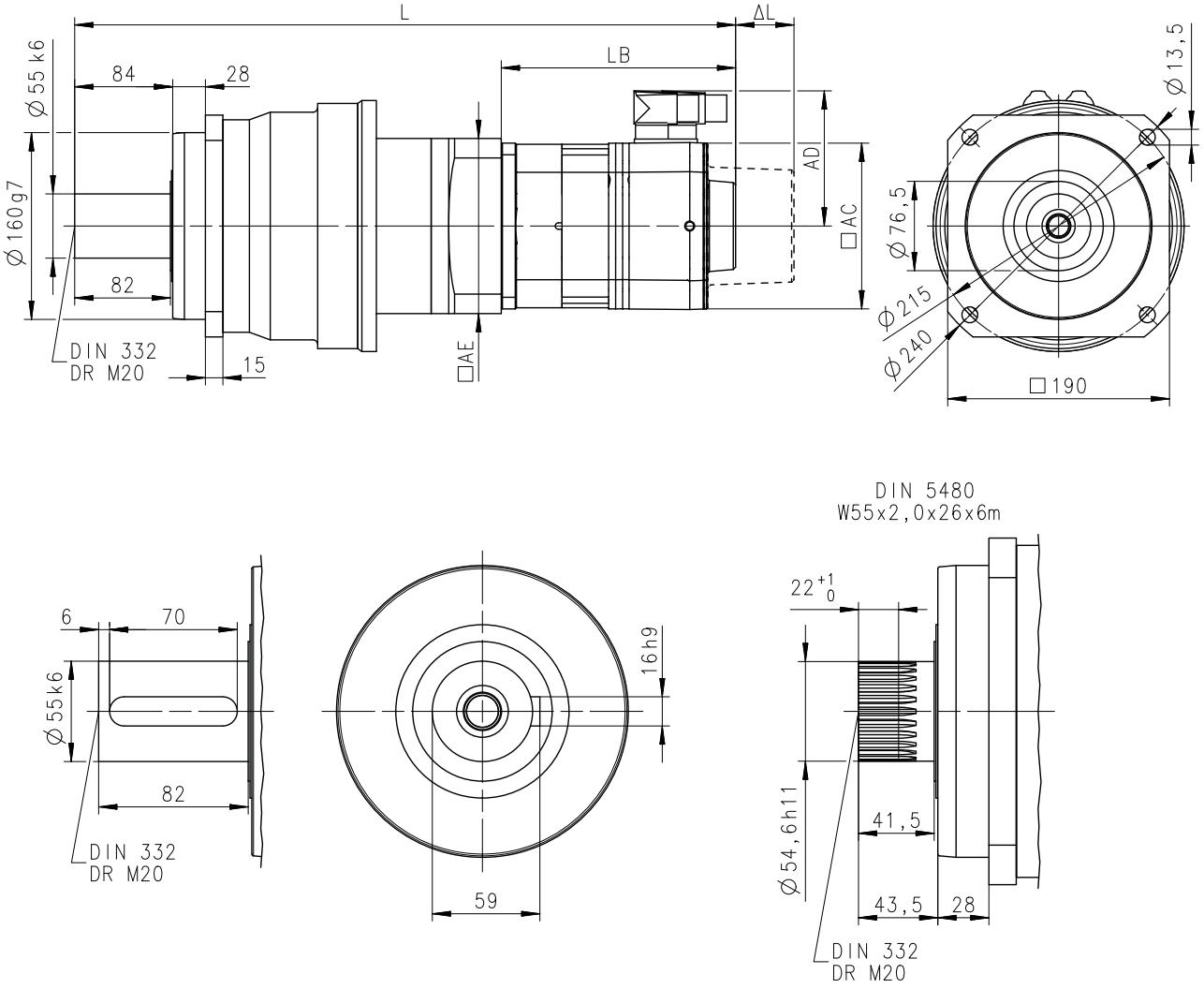
8800839-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	616.5	543.5	616.5	543.5	656.5	583.5	583.5	656.5	583.5	706.5	623.5	696.5	623.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	150	150	150	150	150	150	150	150	150	150	150	150	150



g850-P950 with MCS14

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

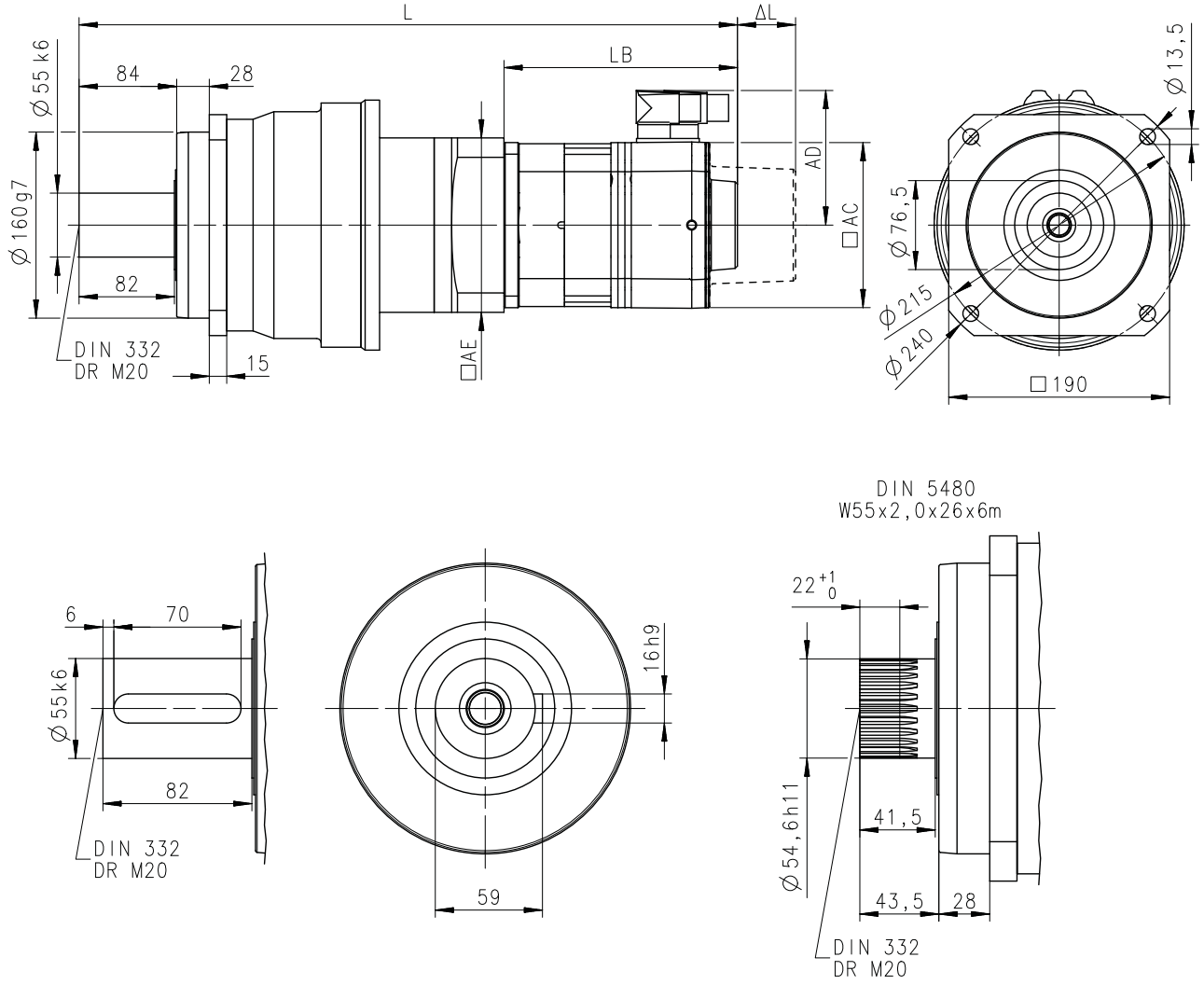


8800839-00

Motor			MCS 14											
			H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	639.5	551.5	639.5	551.5	679.5	591.5	679.5	591.5	719.5	631.5	719.5	631.5
Motor length	LB	mm	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	210	210	210	210	210	210	210	210	210	210	210	210

g850-P950 with MCS14

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



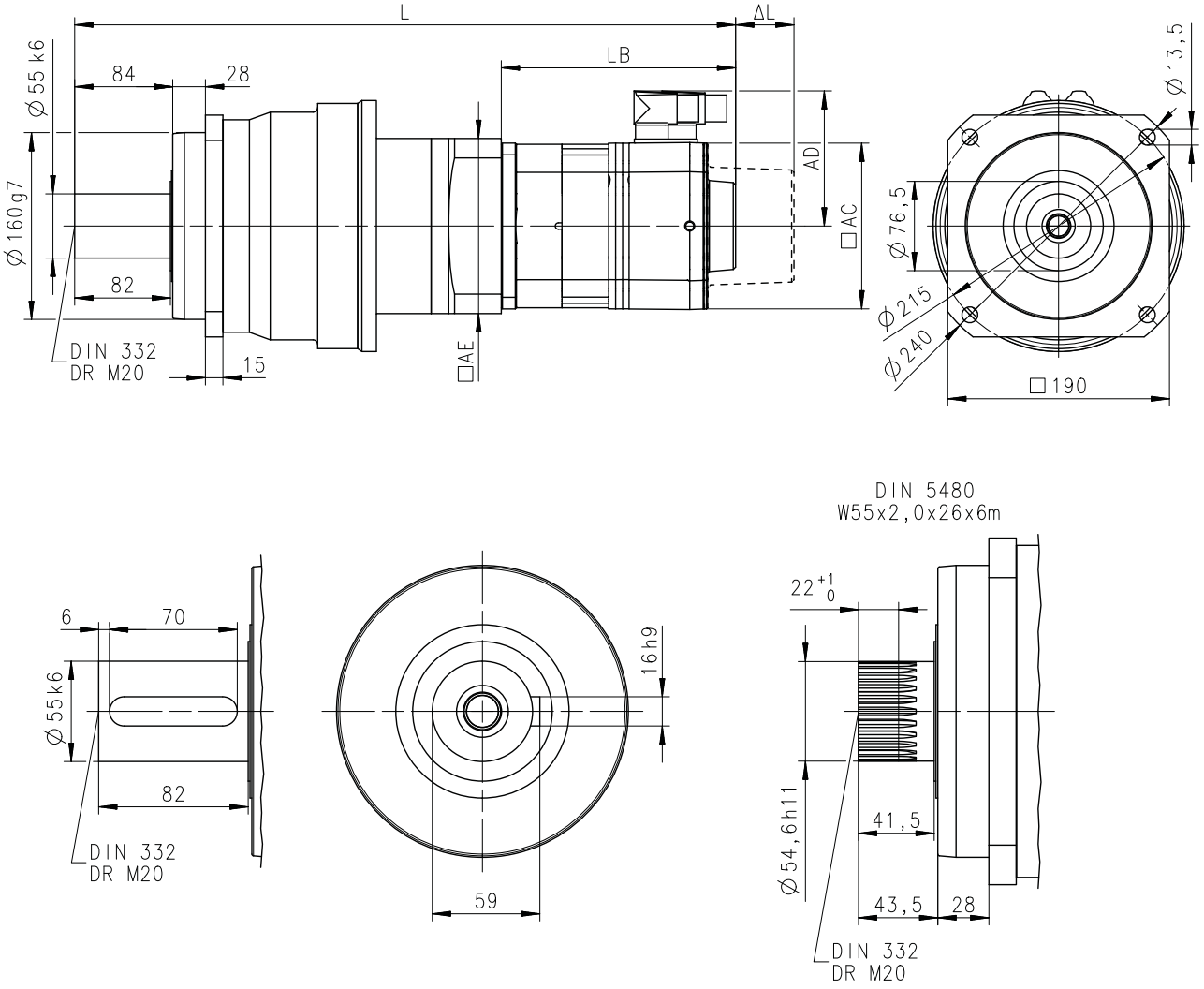
8800839-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	644.5	556.5	644.5	556.5	684.5	596.5	684.5	596.5	724.5	636.5	724.5	636.5	764.5	676.5	764.5	676.5
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150



g850-P950 with MCS19

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

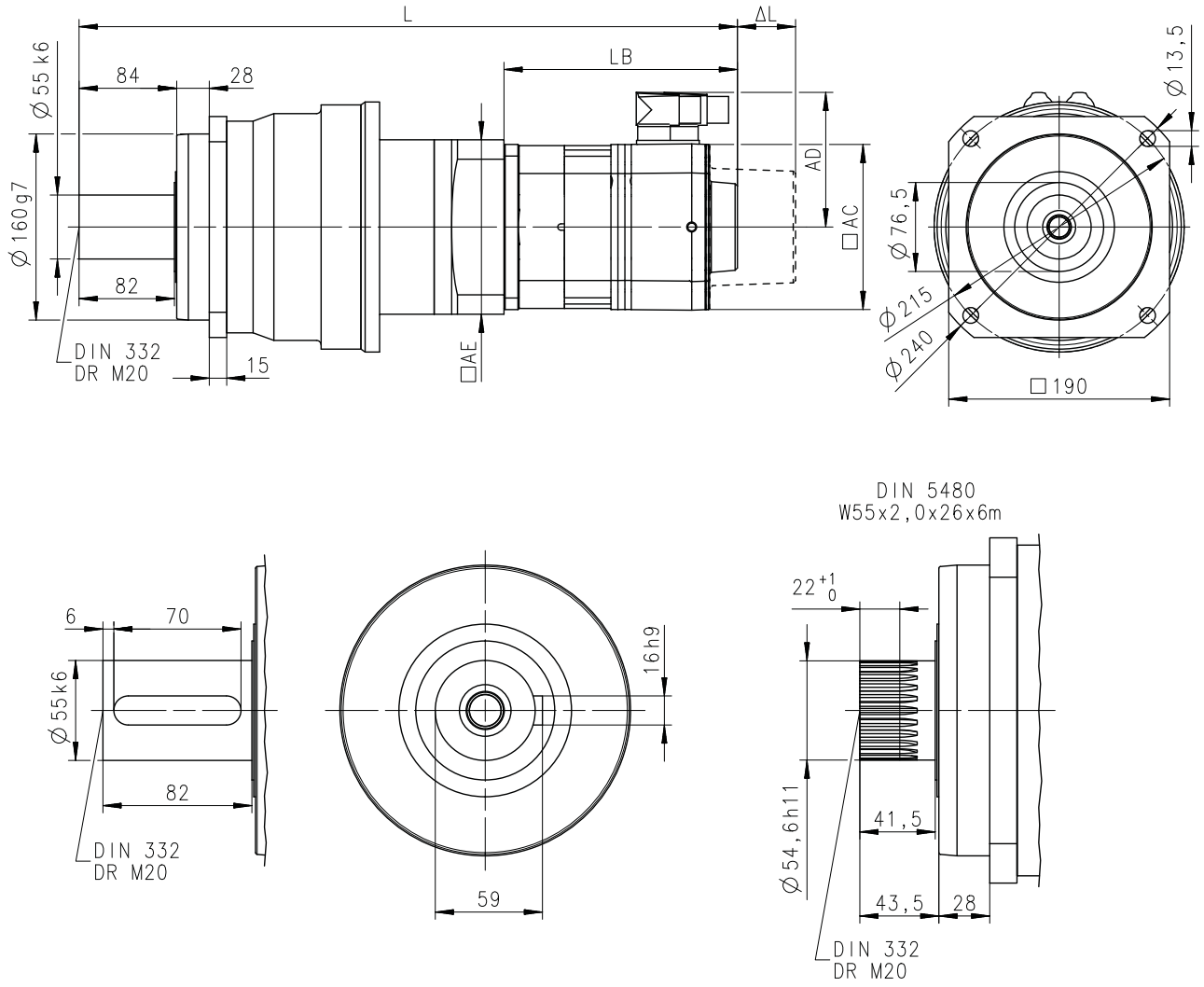


8800839-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	637.5	530.5	637.5	530.5	677.5	570.5	677.5	570.5	737.5	630.5	737.5	630.5
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	210	210	210	210	210	210	210	210	210	210	210	210

g850-P950 with MCS19

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



8800839-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	692.5	585.5	692.5	585.5	732.5	625.5	732.5	625.5	792.5	685.5	792.5	685.5
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190



Planetary gearbox g870-P

The modular system

g870-P planetary gearbox with MCS synchronous servo motor

Gearbox		**g870-P77**	**g870-P150**	**g870-P300**	**g870-P1000**	**g870-P1800**
Min. motor assignment		**MCS06**	**MCS06**	**MCS06**	**MCS06**	**MCS12**
Max. motor assignment		**MCS12**	**MCS14**	**MCS19**	**MCS19**	**MCS19**
Technical data						
Max. output torque	Nm	77	150	300	1000	1800
Min. input torque	Nm	0.6	0.6	0.6	0.6	17
Max. input torque	Nm	17	42	72	72	72
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		**Connector** Terminal box				
Holding brake		**Without** With				
Feedback						
Without functional safety		**Digital absolute value encoder for One Cable Technology (OCT)** Resolver Absolute value encoder				
With functional safety		Digital absolute value encoder for One Cable Technology (OCT) Resolver Absolute value encoder				
Temperature monitoring		MCS06: PT1000 temperature sensor MCS09 ... MCS19: PT1000 temperature sensor and 2x PTC thermistor				



Gearbox data

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
40	65.0	5	15
50	65.0	5	14
64	40.0	5	10

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	41
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
64	80.0	5	27
100	60.0	5	19



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
8	150	3	60
10	125	3	59
7	180	3	60

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
100	125	5	58

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
7	530	3	190
8	450	3	173
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

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}	N	2150	3950	4900	12000	33000
Axial force	F_{ax}	N	4300	8200	9500	8500	15000
Bearing service life 30000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	N	1900	3500	4350	11000	29500
Axial force	F_{ax}	N	3800	7200	8400	7500	13500
Max. radial force	$F_{rad, max}$	N	2150	3950	4900	12000	33000
Max. axial force	$F_{ax, max}$	N	4300	8200	9500	8500	15000



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.25 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.1	405	4.9	27.0	203	0.357	10	P77	06C41-	1	3.8
5.1	405	4.9	27.0	203	0.357	10	P77	06C41L	1	3.8
6.4	253	5.9	77.0	127	0.383	16	P77	06C41-	2	4.5
6.4	253	5.9	77.0	127	0.383	16	P77	06C41L	2	4.5
8.7	203	5.1	77.0	101	0.368	20	P77	06C41-	2	4.5
8.7	203	5.1	77.0	101	0.368	20	P77	06C41L	2	4.5
12.0	162	4.3	65.0	81.0	0.366	25	P77	06C41L	2	4.5
12.0	162	4.3	65.0	81.0	0.366	25	P77	06C41-	2	4.5
16.0	127	3.7	77.0	63.0	0.353	32	P77	06C41-	2	4.5
16.0	127	3.7	77.0	63.0	0.353	32	P77	06C41L	2	4.5
21.0	101	3.0	65.0	51.0	0.350	40	P77	06C41-	2	4.5
21.0	101	3.0	65.0	51.0	0.350	40	P77	06C41L	2	4.5
23.0	81.0	4.7	130	41.0	0.352	50	P150	06C41-	2	6.3
23.0	81.0	4.7	130	41.0	0.352	50	P150	06C41L	2	6.3
26.0	81.0	2.5	65.0	41.0	0.350	50	P77	06C41-	2	4.5
26.0	81.0	2.5	65.0	41.0	0.350	50	P77	06C41L	2	4.5
30.0	63.3	4.3	150	32.0	0.702	64	P300	06C41-	2	10
30.0	63.3	4.3	150	32.0	0.702	64	P300	06C41L	2	10
31.0	63.3	1.3	40.0	32.0	0.352	64	P77	06C41-	2	4.5
31.0	63.3	1.3	40.0	32.0	0.352	64	P77	06C41L	2	4.5
34.0	63.3	2.4	80.0	32.0	0.355	64	P150	06C41-	2	6.3
34.0	63.3	2.4	80.0	32.0	0.355	64	P150	06C41L	2	6.3
41.0	40.5	5.7	305	20.0	2.091	100	P1000	06C41-	2	18
41.0	40.5	5.7	305	20.0	2.091	100	P1000	06C41L	2	18
48.0	40.5	1.3	60.0	20.0	0.351	100	P150	06C41-	2	6.3
48.0	40.5	1.3	60.0	20.0	0.351	100	P150	06C41L	2	6.3
52.0	40.5	2.4	125	20.0	0.686	100	P300	06C41-	2	10
52.0	40.5	2.4	125	20.0	0.686	100	P300	06C41L	2	10



0.31 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.0	600	5.9	27.0	300	0.357	10	P77	06C60L	1	3.8
4.0	600	5.9	27.0	300	0.357	10	P77	06C60-	1	3.8
7.0	300	5.4	77.0	150	0.368	20	P77	06C60-	2	4.5
7.0	300	5.4	77.0	150	0.368	20	P77	06C60L	2	4.5
9.5	240	4.6	65.0	120	0.366	25	P77	06C60-	2	4.5
9.5	240	4.6	65.0	120	0.366	25	P77	06C60L	2	4.5
13.0	188	4.0	77.0	94.0	0.353	32	P77	06C60-	2	4.5
13.0	188	4.0	77.0	94.0	0.353	32	P77	06C60L	2	4.5
17.0	150	3.4	65.0	75.0	0.350	40	P77	06C60-	2	4.5
17.0	150	3.4	65.0	75.0	0.350	40	P77	06C60L	2	4.5
17.0	120	5.7	130	60.0	0.352	50	P150	06C60-	2	6.3
17.0	120	5.7	130	60.0	0.352	50	P150	06C60L	2	6.3
22.0	120	3.0	65.0	60.0	0.350	50	P77	06C60-	2	4.5
22.0	120	3.0	65.0	60.0	0.350	50	P77	06C60L	2	4.5
23.0	93.8	5.2	150	47.0	0.702	64	P300	06C60-	2	10
23.0	93.8	5.2	150	47.0	0.702	64	P300	06C60L	2	10
26.0	93.8	1.5	40.0	47.0	0.352	64	P77	06C60-	2	4.5
26.0	93.8	1.5	40.0	47.0	0.352	64	P77	06C60L	2	4.5
28.0	93.8	2.8	80.0	47.0	0.355	64	P150	06C60-	2	6.3
28.0	93.8	2.8	80.0	47.0	0.355	64	P150	06C60L	2	6.3
40.0	60.0	1.5	60.0	30.0	0.351	100	P150	06C60-	2	6.3
40.0	60.0	1.5	60.0	30.0	0.351	100	P150	06C60L	2	6.3
44.0	60.0	2.9	125	30.0	0.686	100	P300	06C60L	2	10
44.0	60.0	2.9	125	30.0	0.686	100	P300	06C60-	2	10



0.51 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.1	579	4.9	45.0	289	0.451	7	P77	06F41-	1	4.2
7.1	579	4.9	45.0	289	0.451	7	P77	06F41L	1	4.2
8.3	506	4.4	40.0	253	0.445	8	P77	06F41-	1	4.2
8.3	506	4.4	40.0	253	0.445	8	P77	06F41L	1	4.2
10.0	405	5.3	60.0	203	0.800	10	P150	06F41-	1	5.7
10.0	405	5.3	60.0	203	0.800	10	P150	06F41L	1	5.7
11.0	405	2.5	27.0	203	0.437	10	P77	06F41-	1	4.2
11.0	405	2.5	27.0	203	0.437	10	P77	06F41L	1	4.2
16.0	203	5.8	150	101	0.462	20	P150	06F41-	2	6.7
16.0	203	5.8	150	101	0.462	20	P150	06F41L	2	6.7
17.0	253	3.0	77.0	127	0.463	16	P77	06F41L	2	4.9
17.0	253	3.0	77.0	127	0.463	16	P77	06F41-	2	4.9
22.0	203	2.5	77.0	101	0.448	20	P77	06F41-	2	4.9
22.0	203	2.5	77.0	101	0.448	20	P77	06F41L	2	4.9
22.0	162	4.9	140	81.0	0.457	25	P150	06F41-	2	6.7
22.0	162	4.9	140	81.0	0.457	25	P150	06F41L	2	6.7
28.0	162	2.2	65.0	81.0	0.446	25	P77	06F41-	2	4.9
28.0	162	2.2	65.0	81.0	0.446	25	P77	06F41L	2	4.9
30.0	127	4.2	150	63.0	0.439	32	P150	06F41L	2	6.7
30.0	127	4.2	150	63.0	0.439	32	P150	06F41-	2	6.7
32.0	101	5.8	260	51.0	0.775	40	P300	06F41L	2	11
32.0	101	5.8	260	51.0	0.775	40	P300	06F41-	2	11
35.0	127	1.9	77.0	63.0	0.433	32	P77	06F41-	2	4.9
35.0	127	1.9	77.0	63.0	0.433	32	P77	06F41L	2	4.9
41.0	101	3.1	140	51.0	0.434	40	P150	06F41-	2	6.7
41.0	101	3.1	140	51.0	0.434	40	P150	06F41L	2	6.7
43.0	101	1.5	65.0	51.0	0.430	40	P77	06F41-	2	4.9
43.0	101	1.5	65.0	51.0	0.430	40	P77	06F41L	2	4.9
45.0	81.0	4.6	260	41.0	0.771	50	P300	06F41-	2	11
45.0	81.0	4.6	260	41.0	0.771	50	P300	06F41L	2	11
53.0	81.0	1.2	65.0	41.0	0.430	50	P77	06F41L	2	4.9
53.0	81.0	1.2	65.0	41.0	0.430	50	P77	06F41-	2	4.9
55.0	81.0	2.4	130	41.0	0.432	50	P150	06F41L	2	6.7
55.0	81.0	2.4	130	41.0	0.432	50	P150	06F41-	2	6.7
68.0	63.3	1.2	80.0	32.0	0.435	64	P150	06F41-	2	6.7
68.0	63.3	1.2	80.0	32.0	0.435	64	P150	06F41L	2	6.7
70.0	63.3	2.2	150	32.0	0.782	64	P300	06F41-	2	11
70.0	63.3	2.2	150	32.0	0.782	64	P300	06F41L	2	11
104	40.5	1.2	125	20.0	0.766	100	P300	06F41-	2	11
104	40.5	1.2	125	20.0	0.766	100	P300	06F41L	2	11
106	40.5	2.9	305	20.0	2.171	100	P1000	06F41-	2	19
106	40.5	2.9	305	20.0	2.171	100	P1000	06F41L	2	19



0.57 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.1	857	5.8	45.0	429	0.451	7	P77	06F60-	1	4.2
5.1	857	5.8	45.0	429	0.451	7	P77	06F60L	1	4.2
6.0	750	5.3	40.0	375	0.445	8	P77	06F60-	1	4.2
6.0	750	5.3	40.0	375	0.445	8	P77	06F60L	1	4.2
8.2	600	3.3	27.0	300	0.437	10	P77	06F60-	1	4.2
8.2	600	3.3	27.0	300	0.437	10	P77	06F60L	1	4.2
12.0	375	3.5	77.0	188	0.463	16	P77	06F60-	2	4.9
12.0	375	3.5	77.0	188	0.463	16	P77	06F60L	2	4.9
15.0	240	5.8	140	120	0.457	25	P150	06F60-	2	6.7
15.0	240	5.8	140	120	0.457	25	P150	06F60L	2	6.7
16.0	300	3.0	77.0	150	0.448	20	P77	06F60-	2	4.9
16.0	300	3.0	77.0	150	0.448	20	P77	06F60L	2	4.9
20.0	240	2.6	65.0	120	0.446	25	P77	06F60L	2	4.9
20.0	240	2.6	65.0	120	0.446	25	P77	06F60-	2	4.9
21.0	188	5.0	150	94.0	0.439	32	P150	06F60-	2	6.7
21.0	188	5.0	150	94.0	0.439	32	P150	06F60L	2	6.7
26.0	188	2.2	77.0	94.0	0.433	32	P77	06F60-	2	4.9
26.0	188	2.2	77.0	94.0	0.433	32	P77	06F60L	2	4.9
28.0	150	4.2	140	75.0	0.434	40	P150	06F60-	2	6.7
28.0	150	4.2	140	75.0	0.434	40	P150	06F60L	2	6.7
32.0	150	1.9	65.0	75.0	0.430	40	P77	06F60-	2	4.9
32.0	150	1.9	65.0	75.0	0.430	40	P77	06F60L	2	4.9
39.0	120	3.1	130	60.0	0.432	50	P150	06F60-	2	6.7
39.0	120	3.1	130	60.0	0.432	50	P150	06F60L	2	6.7
40.0	120	1.6	65.0	60.0	0.430	50	P77	06F60-	2	4.9
40.0	120	1.6	65.0	60.0	0.430	50	P77	06F60L	2	4.9
51.0	93.8	1.6	80.0	47.0	0.435	64	P150	06F60-	2	6.7
51.0	93.8	1.6	80.0	47.0	0.435	64	P150	06F60L	2	6.7
51.0	93.8	2.9	150	47.0	0.782	64	P300	06F60-	2	11
51.0	93.8	2.9	150	47.0	0.782	64	P300	06F60L	2	11
73.0	60.0	3.8	305	30.0	2.171	100	P1000	06F60L	2	19
73.0	60.0	3.8	305	30.0	2.171	100	P1000	06F60-	2	19
78.0	60.0	1.6	125	30.0	0.766	100	P300	06F60L	2	11
78.0	60.0	1.6	125	30.0	0.766	100	P300	06F60-	2	11



0.64 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.3	810	5.1	65.0	405	0.556	5	P77	06I41-	1	4.9
6.3	810	5.1	65.0	405	0.556	5	P77	06I41L	1	4.9
9.3	579	3.9	45.0	289	0.531	7	P77	06I41-	1	4.9
9.3	579	3.9	45.0	289	0.531	7	P77	06I41L	1	4.9
11.0	506	3.5	40.0	253	0.525	8	P77	06I41-	1	4.9
11.0	506	3.5	40.0	253	0.525	8	P77	06I41L	1	4.9
13.0	405	4.2	60.0	203	0.880	10	P150	06I41-	1	6.4
13.0	405	4.2	60.0	203	0.880	10	P150	06I41L	1	6.4
14.0	405	2.0	27.0	203	0.517	10	P77	06I41-	1	4.9
14.0	405	2.0	27.0	203	0.517	10	P77	06I41L	1	4.9
17.0	253	5.4	150	127	0.569	16	P150	06I41-	2	7.4
17.0	253	5.4	150	127	0.569	16	P150	06I41L	2	7.4
22.0	253	2.4	77.0	127	0.543	16	P77	06I41-	2	5.6
22.0	253	2.4	77.0	127	0.543	16	P77	06I41L	2	5.6
23.0	203	4.6	150	101	0.542	20	P150	06I41-	2	7.4
23.0	203	4.6	150	101	0.542	20	P150	06I41L	2	7.4
28.0	203	2.0	77.0	101	0.528	20	P77	06I41L	2	5.6
28.0	203	2.0	77.0	101	0.528	20	P77	06I41-	2	5.6
30.0	162	3.9	140	81.0	0.537	25	P150	06I41L	2	7.4
30.0	162	3.9	140	81.0	0.537	25	P150	06I41-	2	7.4
35.0	162	1.7	65.0	81.0	0.526	25	P77	06I41-	2	5.6
35.0	162	1.7	65.0	81.0	0.526	25	P77	06I41L	2	5.6
41.0	127	3.3	150	63.0	0.519	32	P150	06I41L	2	7.4
41.0	127	3.3	150	63.0	0.519	32	P150	06I41-	2	7.4
44.0	127	1.5	77.0	63.0	0.513	32	P77	06I41L	2	5.6
44.0	127	1.5	77.0	63.0	0.513	32	P77	06I41-	2	5.6
45.0	101	4.6	260	51.0	0.855	40	P300	06I41-	2	11
45.0	101	4.6	260	51.0	0.855	40	P300	06I41L	2	11
54.0	101	1.2	65.0	51.0	0.510	40	P77	06I41-	2	5.6
54.0	101	1.2	65.0	51.0	0.510	40	P77	06I41L	2	5.6
54.0	101	2.5	140	51.0	0.514	40	P150	06I41-	2	7.4
54.0	101	2.5	140	51.0	0.514	40	P150	06I41L	2	7.4
62.0	81.0	3.7	260	41.0	0.851	50	P300	06I41-	2	11
62.0	81.0	3.7	260	41.0	0.851	50	P300	06I41L	2	11
69.0	81.0	1.9	130	41.0	0.512	50	P150	06I41-	2	7.4
69.0	81.0	1.9	130	41.0	0.512	50	P150	06I41L	2	7.4
70.0	63.3	5.0	450	32.0	2.296	64	P1000	06I41-	2	19
70.0	63.3	5.0	450	32.0	2.296	64	P1000	06I41L	2	19
87.0	63.3	1.7	150	32.0	0.862	64	P300	06I41-	2	11
87.0	63.3	1.7	150	32.0	0.862	64	P300	06I41L	2	11
134	40.5	2.3	305	20.0	2.251	100	P1000	06I41-	2	19
134	40.5	2.3	305	20.0	2.251	100	P1000	06I41L	2	19



0.75 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.9	1200	5.6	65.0	572	0.556	5	P77	06I60-	1	4.9
4.9	1200	5.6	65.0	572	0.556	5	P77	06I60L	1	4.9
7.3	857	4.4	45.0	429	0.531	7	P77	06I60-	1	4.9
7.3	857	4.4	45.0	429	0.531	7	P77	06I60L	1	4.9
8.5	750	4.0	40.0	375	0.525	8	P77	06I60-	1	4.9
8.5	750	4.0	40.0	375	0.525	8	P77	06I60L	1	4.9
10.0	600	5.3	60.0	300	0.880	10	P150	06I60-	1	6.4
10.0	600	5.3	60.0	300	0.880	10	P150	06I60L	1	6.4
11.0	600	2.5	27.0	300	0.517	10	P77	06I60-	1	4.9
11.0	600	2.5	27.0	300	0.517	10	P77	06I60L	1	4.9
17.0	375	2.6	77.0	188	0.543	16	P77	06I60L	2	5.6
17.0	375	2.6	77.0	188	0.543	16	P77	06I60-	2	5.6
17.0	300	5.1	150	150	0.542	20	P150	06I60-	2	7.4
17.0	300	5.1	150	150	0.542	20	P150	06I60L	2	7.4
22.0	300	2.3	77.0	150	0.528	20	P77	06I60-	2	5.6
22.0	300	2.3	77.0	150	0.528	20	P77	06I60L	2	5.6
23.0	240	4.3	140	120	0.537	25	P150	06I60-	2	7.4
23.0	240	4.3	140	120	0.537	25	P150	06I60L	2	7.4
28.0	240	1.9	65.0	120	0.526	25	P77	06I60-	2	5.6
28.0	240	1.9	65.0	120	0.526	25	P77	06I60L	2	5.6
31.0	188	3.7	150	94.0	0.519	32	P150	06I60L	2	7.4
31.0	188	3.7	150	94.0	0.519	32	P150	06I60-	2	7.4
32.0	150	5.8	260	75.0	0.855	40	P300	06I60-	2	11
32.0	150	5.8	260	75.0	0.855	40	P300	06I60L	2	11
35.0	188	1.7	77.0	94.0	0.513	32	P77	06I60-	2	5.6
35.0	188	1.7	77.0	94.0	0.513	32	P77	06I60L	2	5.6
41.0	150	3.1	140	75.0	0.514	40	P150	06I60L	2	7.4
41.0	150	3.1	140	75.0	0.514	40	P150	06I60-	2	7.4
43.0	150	1.4	65.0	75.0	0.510	40	P77	06I60L	2	5.6
43.0	150	1.4	65.0	75.0	0.510	40	P77	06I60-	2	5.6
45.0	120	4.6	260	60.0	0.851	50	P300	06I60-	2	11
45.0	120	4.6	260	60.0	0.851	50	P300	06I60L	2	11
53.0	120	1.2	65.0	60.0	0.510	50	P77	06I60-	2	5.6
53.0	120	1.2	65.0	60.0	0.510	50	P77	06I60L	2	5.6
55.0	120	2.4	130	60.0	0.512	50	P150	06I60-	2	7.4
55.0	120	2.4	130	60.0	0.512	50	P150	06I60L	2	7.4
68.0	93.8	1.2	80.0	47.0	0.515	64	P150	06I60-	2	7.4
68.0	93.8	1.2	80.0	47.0	0.515	64	P150	06I60L	2	7.4
70.0	93.8	2.2	150	47.0	0.862	64	P300	06I60-	2	11
70.0	93.8	2.2	150	47.0	0.862	64	P300	06I60L	2	11
104	60.0	1.2	125	30.0	0.846	100	P300	06I60-	2	11
104	60.0	1.2	125	30.0	0.846	100	P300	06I60L	2	11
106	60.0	2.9	305	30.0	2.251	100	P1000	06I60-	2	19
106	60.0	2.9	305	30.0	2.251	100	P1000	06I60L	2	19



1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.1	1013	4.0	60.0	506	1.388	4	P77	09D41-	1	6.3
8.1	1013	4.0	60.0	506	1.388	4	P77	09D41L	1	6.4
10.0	810	3.3	65.0	405	1.356	5	P77	09D41-	1	6.3
10.0	810	3.3	65.0	405	1.356	5	P77	09D41L	1	6.4
13.0	579	5.8	90.0	289	1.739	7	P150	09D41-	1	7.8
13.0	579	5.8	90.0	289	1.739	7	P150	09D41L	1	7.9
15.0	579	2.6	45.0	289	1.331	7	P77	09D41-	1	6.3
15.0	579	2.6	45.0	289	1.331	7	P77	09D41L	1	6.4
16.0	506	4.5	80.0	253	1.713	8	P150	09D41L	1	7.9
16.0	506	4.5	80.0	253	1.713	8	P150	09D41-	1	7.8
17.0	506	2.3	40.0	253	1.325	8	P77	09D41-	1	6.3
17.0	506	2.3	40.0	253	1.325	8	P77	09D41L	1	6.4
19.0	405	5.7	125	203	3.136	10	P300	09D41-	1	11
19.0	405	5.7	125	203	3.136	10	P300	09D41L	1	11
21.0	405	1.3	27.0	203	1.317	10	P77	09D41-	1	6.3
21.0	405	1.3	27.0	203	1.317	10	P77	09D41L	1	6.4
21.0	405	2.8	60.0	203	1.680	10	P150	09D41-	1	7.8
21.0	405	2.8	60.0	203	1.680	10	P150	09D41L	1	7.9
31.0	253	3.5	150	127	1.369	16	P150	09D41-	2	8.8
31.0	253	3.5	150	127	1.369	16	P150	09D41L	2	8.9
31.0	203	5.7	300	101	1.754	20	P300	09D41L	2	13
31.0	203	5.7	300	101	1.754	20	P300	09D41-	2	13
35.0	253	1.6	77.0	127	1.343	16	P77	09D41-	2	7.0
35.0	253	1.6	77.0	127	1.343	16	P77	09D41L	2	7.1
40.0	203	3.0	150	101	1.342	20	P150	09D41L	2	8.9
40.0	203	3.0	150	101	1.342	20	P150	09D41-	2	8.8
43.0	203	1.3	77.0	101	1.328	20	P77	09D41-	2	7.0
43.0	203	1.3	77.0	101	1.328	20	P77	09D41L	2	7.1
43.0	162	4.8	260	81.0	1.739	25	P300	09D41-	2	13
43.0	162	4.8	260	81.0	1.739	25	P300	09D41L	2	13
52.0	162	2.5	140	81.0	1.337	25	P150	09D41-	2	8.8
52.0	162	2.5	140	81.0	1.337	25	P150	09D41L	2	8.9
53.0	162	1.1	65.0	81.0	1.326	25	P77	09D41-	2	7.0
53.0	162	1.1	65.0	81.0	1.326	25	P77	09D41L	2	7.1
58.0	127	4.1	300	63.0	1.674	32	P300	09D41-	2	13
58.0	127	4.1	300	63.0	1.674	32	P300	09D41L	2	13
68.0	127	2.2	150	63.0	1.319	32	P150	09D41-	2	8.8
68.0	127	2.2	150	63.0	1.319	32	P150	09D41L	2	8.9
78.0	81.0	5.7	620	41.0	3.077	50	P1000	09D41-	2	21
78.0	81.0	5.7	620	41.0	3.077	50	P1000	09D41L	2	21
80.0	101	3.0	260	51.0	1.655	40	P300	09D41-	2	13
80.0	101	3.0	260	51.0	1.655	40	P300	09D41L	2	13
86.0	101	1.6	140	51.0	1.314	40	P150	09D41-	2	8.8
86.0	101	1.6	140	51.0	1.314	40	P150	09D41L	2	8.9
105	81.0	2.4	260	41.0	1.651	50	P300	09D41L	2	13
105	81.0	2.4	260	41.0	1.651	50	P300	09D41-	2	13
106	81.0	1.2	130	41.0	1.312	50	P150	09D41-	2	8.8
106	81.0	1.2	130	41.0	1.312	50	P150	09D41L	2	8.9
125	63.3	3.3	450	32.0	3.096	64	P1000	09D41-	2	21
125	63.3	3.3	450	32.0	3.096	64	P1000	09D41L	2	21
134	63.3	1.1	150	32.0	1.662	64	P300	09D41-	2	13



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
134	63.3	1.1	150	32.0	1.662	64	P300	09D41L	2	13
205	40.5	1.5	305	20.0	3.051	100	P1000	09D41-	2	21
205	40.5	1.5	305	20.0	3.051	100	P1000	09D41L	2	21



1.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.2	1500	4.5	60.0	589	1.388	4	P77	09D60-	1	6.3
6.2	1500	4.5	60.0	589	1.388	4	P77	09D60L	1	6.4
8.0	1200	3.8	65.0	531	1.356	5	P77	09D60-	1	6.3
8.0	1200	3.8	65.0	531	1.356	5	P77	09D60L	1	6.4
12.0	857	2.9	45.0	429	1.331	7	P77	09D60-	1	6.3
12.0	857	2.9	45.0	429	1.331	7	P77	09D60L	1	6.4
12.0	750	5.8	80.0	375	1.713	8	P150	09D60-	1	7.8
12.0	750	5.8	80.0	375	1.713	8	P150	09D60L	1	7.9
13.0	750	2.6	40.0	375	1.325	8	P77	09D60-	1	6.3
13.0	750	2.6	40.0	375	1.325	8	P77	09D60L	1	6.4
16.0	600	3.5	60.0	300	1.680	10	P150	09D60-	1	7.8
16.0	600	3.5	60.0	300	1.680	10	P150	09D60L	1	7.9
17.0	600	1.6	27.0	300	1.317	10	P77	09D60-	1	6.3
17.0	600	1.6	27.0	300	1.317	10	P77	09D60L	1	6.4
19.0	488	4.7	140	244	4.920	4	P150	12D20-	1	10
19.0	488	4.7	140	244	4.920	4	P150	12D20L	1	10
21.0	488	2.1	60.0	244	4.451	4	P77	12D20-	1	8.5
21.0	488	2.1	60.0	244	4.451	4	P77	12D20L	1	8.6
23.0	375	4.0	150	188	1.369	16	P150	09D60-	2	8.8
23.0	375	4.0	150	188	1.369	16	P150	09D60L	2	8.9
24.0	390	4.0	140	195	4.753	5	P150	12D20-	1	10
24.0	390	4.0	140	195	4.753	5	P150	12D20L	1	10
26.0	390	1.7	65.0	195	4.419	5	P77	12D20L	1	8.6
26.0	390	1.7	65.0	195	4.419	5	P77	12D20-	1	8.5
27.0	375	1.8	77.0	188	1.343	16	P77	09D60-	2	7.0
27.0	375	1.8	77.0	188	1.343	16	P77	09D60L	2	7.1
30.0	300	3.4	150	150	1.342	20	P150	09D60L	2	8.9
30.0	300	3.4	150	150	1.342	20	P150	09D60-	2	8.8
31.0	240	5.5	260	120	1.739	25	P300	09D60L	2	13
31.0	240	5.5	260	120	1.739	25	P300	09D60-	2	13
33.0	279	4.9	180	139	6.199	7	P300	12D20L	1	14
33.0	279	4.9	180	139	6.199	7	P300	12D20-	1	14
34.0	300	1.5	77.0	150	1.328	20	P77	09D60-	2	7.0
34.0	300	1.5	77.0	150	1.328	20	P77	09D60L	2	7.1
36.0	279	2.4	90.0	139	4.639	7	P150	12D20-	1	10
36.0	279	2.4	90.0	139	4.639	7	P150	12D20L	1	10
37.0	279	1.2	45.0	139	4.393	7	P77	12D20-	1	8.5
37.0	279	1.2	45.0	139	4.393	7	P77	12D20L	1	8.6
40.0	244	3.6	150	122	6.120	8	P300	12D20L	1	14
40.0	244	3.6	150	122	6.120	8	P300	12D20-	1	14
40.0	240	2.9	140	120	1.337	25	P150	09D60L	2	8.9
40.0	240	2.9	140	120	1.337	25	P150	09D60-	2	8.8
41.0	240	1.3	65.0	120	1.326	25	P77	09D60-	2	7.0
41.0	240	1.3	65.0	120	1.326	25	P77	09D60L	2	7.1
42.0	244	1.9	80.0	122	4.613	8	P150	12D20-	1	10
42.0	244	1.9	80.0	122	4.613	8	P150	12D20L	1	10
43.0	188	4.7	300	94.0	1.674	32	P300	09D60-	2	13
43.0	188	4.7	300	94.0	1.674	32	P300	09D60L	2	13
44.0	195	5.8	305	98.0	11.313	10	P1000	12D20-	1	21
44.0	195	5.8	305	98.0	11.313	10	P1000	12D20L	1	21
52.0	195	1.2	60.0	98.0	4.580	10	P150	12D20L	1	10



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
52.0	195	1.2	60.0	98.0	4.580	10	P150	12D20-	1	10
52.0	195	2.4	125	98.0	6.036	10	P300	12D20L	1	14
52.0	195	2.4	125	98.0	6.036	10	P300	12D20-	1	14
52.0	188	2.5	150	94.0	1.319	32	P150	09D60-	2	8.8
52.0	188	2.5	150	94.0	1.319	32	P150	09D60L	2	8.9
53.0	188	1.1	77.0	94.0	1.313	32	P77	09D60L	2	7.1
53.0	188	1.1	77.0	94.0	1.313	32	P77	09D60-	2	7.0
58.0	150	3.8	260	75.0	1.655	40	P300	09D60-	2	13
58.0	150	3.8	260	75.0	1.655	40	P300	09D60L	2	13
67.0	150	2.1	140	75.0	1.314	40	P150	09D60-	2	8.8
67.0	150	2.1	140	75.0	1.314	40	P150	09D60L	2	8.9
74.0	122	3.5	300	61.0	4.737	16	P300	12D20L	2	15
74.0	122	3.5	300	61.0	4.737	16	P300	12D20-	2	15
78.0	120	3.1	260	60.0	1.651	50	P300	09D60L	2	13
78.0	120	3.1	260	60.0	1.651	50	P300	09D60-	2	13
83.0	122	1.8	150	61.0	4.622	16	P150	12D20-	2	11
83.0	122	1.8	150	61.0	4.622	16	P150	12D20L	2	11
83.0	120	1.6	130	60.0	1.312	50	P150	09D60-	2	8.8
83.0	120	1.6	130	60.0	1.312	50	P150	09D60L	2	8.9
91.0	93.8	4.2	450	47.0	3.096	64	P1000	09D60-	2	21
91.0	93.8	4.2	450	47.0	3.096	64	P1000	09D60L	2	21
97.0	97.5	2.8	300	49.0	4.654	20	P300	12D20-	2	15
97.0	97.5	2.8	300	49.0	4.654	20	P300	12D20L	2	15
103	97.5	1.4	150	49.0	4.578	20	P150	12D20-	2	11
103	97.5	1.4	150	49.0	4.578	20	P150	12D20L	2	11
105	93.8	1.4	150	47.0	1.662	64	P300	09D60-	2	13
105	93.8	1.4	150	47.0	1.662	64	P300	09D60L	2	13
129	78.0	1.1	140	39.0	4.572	25	P150	12D20-	2	11
129	78.0	1.1	140	39.0	4.572	25	P150	12D20L	2	11
129	78.0	2.0	260	39.0	4.639	25	P300	12D20-	2	15
129	78.0	2.0	260	39.0	4.639	25	P300	12D20L	2	15
146	60.9	3.6	600	30.0	6.066	32	P1000	12D20-	2	23
146	60.9	3.6	600	30.0	6.066	32	P1000	12D20L	2	23
160	60.0	1.9	305	30.0	3.051	100	P1000	09D60L	2	21
160	60.0	1.9	305	30.0	3.051	100	P1000	09D60-	2	21
165	60.9	1.8	300	30.0	4.574	32	P300	12D20-	2	15
165	60.9	1.8	300	30.0	4.574	32	P300	12D20L	2	15
182	48.8	3.6	750	24.0	5.992	40	P1000	12D20-	2	23
182	48.8	3.6	750	24.0	5.992	40	P1000	12D20L	2	23
185	39.0	5.8	1525	20.0	11.102	50	P1800	12D20-	2	50
185	39.0	5.8	1525	20.0	11.102	50	P1800	12D20L	2	50
207	48.8	1.3	260	24.0	4.555	40	P300	12D20-	2	15
207	48.8	1.3	260	24.0	4.555	40	P300	12D20L	2	15
251	39.0	2.4	620	20.0	5.977	50	P1000	12D20L	2	23
251	39.0	2.4	620	20.0	5.977	50	P1000	12D20-	2	23
259	39.0	1.0	260	20.0	4.551	50	P300	12D20-	2	15
259	39.0	1.0	260	20.0	4.551	50	P300	12D20L	2	15
304	30.5	3.1	1000	15.0	11.241	64	P1800	12D20-	2	50
304	30.5	3.1	1000	15.0	11.241	64	P1800	12D20L	2	50
327	30.5	1.4	450	15.0	5.996	64	P1000	12D20-	2	23
327	30.5	1.4	450	15.0	5.996	64	P1000	12D20L	2	23
484	19.5	1.3	630	10.0	10.911	100	P1800	12D20-	2	50



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
484	19.5	1.3	630	10.0	10.911	100	P1800	12D20L	2	50



1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
11.0	938	3.0	60.0	469	1.788	4	P77	09F38L	1	7.3
11.0	938	3.0	60.0	469	1.788	4	P77	09F38-	1	7.2
13.0	750	5.8	140	375	2.253	5	P150	09F38-	1	8.7
13.0	750	5.8	140	375	2.253	5	P150	09F38L	1	8.8
15.0	750	2.5	65.0	375	1.756	5	P77	09F38-	1	7.2
15.0	750	2.5	65.0	375	1.756	5	P77	09F38L	1	7.3
19.0	536	4.3	90.0	268	2.139	7	P150	09F38-	1	8.7
19.0	536	4.3	90.0	268	2.139	7	P150	09F38L	1	8.8
21.0	536	2.0	45.0	268	1.731	7	P77	09F38-	1	7.2
21.0	536	2.0	45.0	268	1.731	7	P77	09F38L	1	7.3
22.0	469	3.4	80.0	234	2.113	8	P150	09F38-	1	8.7
22.0	469	3.4	80.0	234	2.113	8	P150	09F38L	1	8.8
24.0	469	1.7	40.0	234	1.725	8	P77	09F38-	1	7.2
24.0	469	1.7	40.0	234	1.725	8	P77	09F38L	1	7.3
27.0	375	4.2	125	188	3.536	10	P300	09F38L	1	12
27.0	375	4.2	125	188	3.536	10	P300	09F38-	1	12
29.0	375	2.0	60.0	188	2.080	10	P150	09F38-	1	8.7
29.0	375	2.0	60.0	188	2.080	10	P150	09F38L	1	8.8
36.0	234	5.1	300	117	2.237	16	P300	09F38-	2	14
36.0	234	5.1	300	117	2.237	16	P300	09F38L	2	14
44.0	234	2.7	150	117	1.769	16	P150	09F38L	2	9.8
44.0	234	2.7	150	117	1.769	16	P150	09F38-	2	9.7
47.0	234	1.2	77.0	117	1.743	16	P77	09F38-	2	7.9
47.0	234	1.2	77.0	117	1.743	16	P77	09F38L	2	8.0
48.0	188	4.3	300	94.0	2.154	20	P300	09F38L	2	14
48.0	188	4.3	300	94.0	2.154	20	P300	09F38-	2	14
57.0	188	2.3	150	94.0	1.742	20	P150	09F38L	2	9.8
57.0	188	2.3	150	94.0	1.742	20	P150	09F38-	2	9.7
58.0	188	1.0	77.0	94.0	1.728	20	P77	09F38-	2	7.9
58.0	188	1.0	77.0	94.0	1.728	20	P77	09F38L	2	8.0
65.0	150	3.5	260	75.0	2.139	25	P300	09F38-	2	14
65.0	150	3.5	260	75.0	2.139	25	P300	09F38L	2	14
73.0	150	1.9	140	75.0	1.737	25	P150	09F38-	2	9.7
73.0	150	1.9	140	75.0	1.737	25	P150	09F38L	2	9.8
85.0	117	3.2	300	59.0	2.074	32	P300	09F38-	2	14
85.0	117	3.2	300	59.0	2.074	32	P300	09F38L	2	14
93.0	117	1.6	150	59.0	1.719	32	P150	09F38-	2	9.7
93.0	117	1.6	150	59.0	1.719	32	P150	09F38L	2	9.8
115	93.8	1.2	140	47.0	1.714	40	P150	09F38L	2	9.8
115	93.8	1.2	140	47.0	1.714	40	P150	09F38-	2	9.7
115	93.8	2.2	260	47.0	2.055	40	P300	09F38-	2	14
115	93.8	2.2	260	47.0	2.055	40	P300	09F38L	2	14
121	75.0	4.3	620	38.0	3.477	50	P1000	09F38-	2	22
121	75.0	4.3	620	38.0	3.477	50	P1000	09F38L	2	22
146	75.0	1.8	260	38.0	2.051	50	P300	09F38-	2	14
146	75.0	1.8	260	38.0	2.051	50	P300	09F38L	2	14
180	58.6	2.4	450	29.0	3.496	64	P1000	09F38-	2	22
180	58.6	2.4	450	29.0	3.496	64	P1000	09F38L	2	22
276	37.5	1.1	305	19.0	3.451	100	P1000	09F38L	2	22
276	37.5	1.1	305	19.0	3.451	100	P1000	09F38-	2	22



1.45 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
30.0	375	5.9	300	188	11.042	4	P300	14D15-	1	36
34.0	375	3.1	140	188	9.471	4	P150	14D15-	1	32
39.0	300	4.9	260	150	10.635	5	P300	14D15-	1	36
43.0	300	2.6	140	150	9.304	5	P150	14D15-	1	32
59.0	214	2.9	180	107	10.299	7	P300	14D15-	1	36
62.0	214	1.5	90.0	107	9.190	7	P150	14D15-	1	32
70.0	188	2.1	150	94.0	10.220	8	P300	14D15-	1	36
71.0	188	1.1	80.0	94.0	9.163	8	P150	14D15-	1	32
83.0	150	3.5	305	75.0	15.413	10	P1000	14D15-	1	43
87.0	150	1.4	125	75.0	10.136	10	P300	14D15-	1	36
126	75.0	5.7	1000	38.0	10.523	20	P1000	14D15-	2	45
137	93.8	2.1	300	47.0	10.269	16	P300	14D15-	2	37
173	75.0	1.7	300	38.0	10.138	20	P300	14D15-	2	37
183	60.0	4.1	900	30.0	10.405	25	P1000	14D15-	2	45
216	60.0	1.2	260	30.0	10.122	25	P300	14D15-	2	37
265	37.5	5.2	1800	19.0	15.340	40	P1800	14D15-	2	72
274	46.9	2.2	600	23.0	10.166	32	P1000	14D15-	2	45
277	46.9	1.1	300	23.0	10.025	32	P300	14D15-	2	37
342	37.5	2.2	750	19.0	10.092	40	P1000	14D15-	2	45
384	30.0	3.5	1525	15.0	15.202	50	P1800	14D15-	2	72
432	30.0	1.4	620	15.0	10.077	50	P1000	14D15-	2	45
542	23.4	1.9	1000	12.0	15.341	64	P1800	14D15-	2	72



1.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.7	1500	3.4	60.0	560	1.788	4	P77	09F60-	1	7.2
8.7	1500	3.4	60.0	560	1.788	4	P77	09F60L	1	7.3
11.0	1200	2.8	65.0	503	1.756	5	P77	09F60-	1	7.2
11.0	1200	2.8	65.0	503	1.756	5	P77	09F60L	1	7.3
14.0	857	5.0	90.0	429	2.139	7	P150	09F60-	1	8.7
14.0	857	5.0	90.0	429	2.139	7	P150	09F60L	1	8.8
16.0	857	2.2	45.0	429	1.731	7	P77	09F60-	1	7.2
16.0	857	2.2	45.0	429	1.731	7	P77	09F60L	1	7.3
17.0	750	4.3	80.0	375	2.113	8	P150	09F60-	1	8.7
17.0	750	4.3	80.0	375	2.113	8	P150	09F60L	1	8.8
18.0	750	2.0	40.0	375	1.725	8	P77	09F60-	1	7.2
18.0	750	2.0	40.0	375	1.725	8	P77	09F60L	1	7.3
20.0	600	5.5	125	300	3.536	10	P300	09F60-	1	12
20.0	600	5.5	125	300	3.536	10	P300	09F60L	1	12
22.0	600	1.2	27.0	300	1.717	10	P77	09F60-	1	7.2
22.0	600	1.2	27.0	300	1.717	10	P77	09F60L	1	7.3
22.0	600	2.6	60.0	300	2.080	10	P150	09F60-	1	8.7
22.0	600	2.6	60.0	300	2.080	10	P150	09F60L	1	8.8
26.0	375	5.7	300	188	2.237	16	P300	09F60-	2	14
26.0	375	5.7	300	188	2.237	16	P300	09F60L	2	14
33.0	375	3.0	150	188	1.769	16	P150	09F60L	2	9.8
33.0	375	3.0	150	188	1.769	16	P150	09F60-	2	9.7
36.0	375	1.3	77.0	188	1.743	16	P77	09F60L	2	8.0
36.0	375	1.3	77.0	188	1.743	16	P77	09F60-	2	7.9
36.0	300	4.9	300	150	2.154	20	P300	09F60-	2	14
36.0	300	4.9	300	150	2.154	20	P300	09F60L	2	14
43.0	300	2.6	150	150	1.742	20	P150	09F60-	2	9.7
43.0	300	2.6	150	150	1.742	20	P150	09F60L	2	9.8
45.0	300	1.1	77.0	150	1.728	20	P77	09F60-	2	7.9
45.0	300	1.1	77.0	150	1.728	20	P77	09F60L	2	8.0
48.0	240	4.1	260	120	2.139	25	P300	09F60-	2	14
48.0	240	4.1	260	120	2.139	25	P300	09F60L	2	14
56.0	240	2.2	140	120	1.737	25	P150	09F60L	2	9.8
56.0	240	2.2	140	120	1.737	25	P150	09F60-	2	9.7
64.0	188	3.5	300	94.0	2.074	32	P300	09F60-	2	14
64.0	188	3.5	300	94.0	2.074	32	P300	09F60L	2	14
72.0	188	1.9	150	94.0	1.719	32	P150	09F60-	2	9.7
72.0	188	1.9	150	94.0	1.719	32	P150	09F60L	2	9.8
83.0	120	5.5	620	60.0	3.477	50	P1000	09F60-	2	22
83.0	120	5.5	620	60.0	3.477	50	P1000	09F60L	2	22
84.0	150	2.9	260	75.0	2.055	40	P300	09F60-	2	14
84.0	150	2.9	260	75.0	2.055	40	P300	09F60L	2	14
89.0	150	1.6	140	75.0	1.714	40	P150	09F60L	2	9.8
89.0	150	1.6	140	75.0	1.714	40	P150	09F60-	2	9.7
110	120	1.2	130	60.0	1.712	50	P150	09F60-	2	9.7
110	120	1.2	130	60.0	1.712	50	P150	09F60L	2	9.8
110	120	2.3	260	60.0	2.051	50	P300	09F60-	2	14
110	120	2.3	260	60.0	2.051	50	P300	09F60L	2	14
132	93.8	3.2	450	47.0	3.496	64	P1000	09F60L	2	22
132	93.8	3.2	450	47.0	3.496	64	P1000	09F60-	2	22
140	93.8	1.1	150	47.0	2.062	64	P300	09F60-	2	14



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
140	93.8	1.1	150	47.0	2.062	64	P300	09F60L	2	14
214	60.0	1.4	305	30.0	3.451	100	P1000	09F60-	2	22
214	60.0	1.4	305	30.0	3.451	100	P1000	09F60L	2	22



1.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
12.0	1013	5.5	140	506	2.820	4	P150	09H41L	1	9.7
12.0	1013	5.5	140	506	2.820	4	P150	09H41-	1	9.6
14.0	1013	2.4	60.0	506	2.188	4	P77	09H41-	1	8.1
14.0	1013	2.4	60.0	506	2.188	4	P77	09H41L	1	8.2
16.0	810	4.6	140	405	2.653	5	P150	09H41-	1	9.6
16.0	810	4.6	140	405	2.653	5	P150	09H41L	1	9.7
18.0	810	2.0	65.0	405	2.156	5	P77	09H41-	1	8.1
18.0	810	2.0	65.0	405	2.156	5	P77	09H41L	1	8.2
24.0	579	3.5	90.0	289	2.539	7	P150	09H41L	1	9.7
24.0	579	3.5	90.0	289	2.539	7	P150	09H41-	1	9.6
25.0	579	1.6	45.0	289	2.131	7	P77	09H41L	1	8.2
25.0	579	1.6	45.0	289	2.131	7	P77	09H41-	1	8.1
25.0	506	5.1	150	253	4.020	8	P300	09H41-	1	13
25.0	506	5.1	150	253	4.020	8	P300	09H41L	1	13
28.0	506	2.7	80.0	253	2.513	8	P150	09H41-	1	9.6
28.0	506	2.7	80.0	253	2.513	8	P150	09H41L	1	9.7
29.0	506	1.4	40.0	253	2.125	8	P77	09H41-	1	8.1
29.0	506	1.4	40.0	253	2.125	8	P77	09H41L	1	8.2
33.0	375	5.4	300	188	10.242	4	P300	12H15-	1	17
33.0	375	5.4	300	188	10.242	4	P300	12H15L	1	17
34.0	405	3.5	125	203	3.936	10	P300	09H41-	1	13
34.0	405	3.5	125	203	3.936	10	P300	09H41L	1	13
36.0	405	1.7	60.0	203	2.480	10	P150	09H41-	1	9.6
36.0	405	1.7	60.0	203	2.480	10	P150	09H41L	1	9.7
37.0	375	2.8	140	188	8.220	4	P150	12H15-	1	13
37.0	375	2.8	140	188	8.220	4	P150	12H15L	1	13
38.0	375	1.2	60.0	188	7.751	4	P77	12H15L	1	12
38.0	375	1.2	60.0	188	7.751	4	P77	12H15-	1	12
43.0	300	4.5	260	150	9.835	5	P300	12H15-	1	17
43.0	300	4.5	260	150	9.835	5	P300	12H15L	1	17
47.0	300	2.4	140	150	8.053	5	P150	12H15-	1	13
47.0	300	2.4	140	150	8.053	5	P150	12H15L	1	13
48.0	300	1.0	65.0	150	7.719	5	P77	12H15-	1	12
48.0	300	1.0	65.0	150	7.719	5	P77	12H15L	1	12
49.0	253	4.0	300	127	2.637	16	P300	09H41-	2	15
49.0	253	4.0	300	127	2.637	16	P300	09H41L	2	15
57.0	253	2.1	150	127	2.169	16	P150	09H41-	2	11
57.0	253	2.1	150	127	2.169	16	P150	09H41L	2	11
64.0	203	3.5	300	101	2.554	20	P300	09H41-	2	15
64.0	203	3.5	300	101	2.554	20	P300	09H41L	2	15
64.0	188	5.9	450	94.0	15.110	8	P1000	12H15-	1	24
64.0	188	5.9	450	94.0	15.110	8	P1000	12H15L	1	24
65.0	214	2.7	180	107	9.499	7	P300	12H15-	1	17
65.0	214	2.7	180	107	9.499	7	P300	12H15L	1	17
67.0	214	1.3	90.0	107	7.939	7	P150	12H15L	1	13
67.0	214	1.3	90.0	107	7.939	7	P150	12H15-	1	13
71.0	203	1.8	150	101	2.142	20	P150	09H41L	2	11
71.0	203	1.8	150	101	2.142	20	P150	09H41-	2	11
77.0	188	1.0	80.0	94.0	7.913	8	P150	12H15-	1	13
77.0	188	1.0	80.0	94.0	7.913	8	P150	12H15L	1	13
77.0	188	2.0	150	94.0	9.420	8	P300	12H15-	1	17

Technical data

Planetary gearbox g870-P
Selection tables
Inverter power supply 400 V, self-ventilated motors



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
77.0	188	2.0	150	94.0	9.420	8	P300	12H15L	1	17
83.0	162	2.9	260	81.0	2.539	25	P300	09H41-	2	15
83.0	162	2.9	260	81.0	2.539	25	P300	09H41L	2	15
87.0	127	5.2	600	63.0	3.966	32	P1000	09H41-	2	23
87.0	127	5.2	600	63.0	3.966	32	P1000	09H41L	2	23
89.0	162	1.5	140	81.0	2.137	25	P150	09H41-	2	11
89.0	162	1.5	140	81.0	2.137	25	P150	09H41L	2	11
91.0	150	3.2	305	75.0	14.613	10	P1000	12H15-	1	24
91.0	150	3.2	305	75.0	14.613	10	P1000	12H15L	1	24
95.0	150	1.3	125	75.0	9.336	10	P300	12H15-	1	17
95.0	150	1.3	125	75.0	9.336	10	P300	12H15L	1	17
109	101	5.2	750	51.0	3.892	40	P1000	09H41-	2	23
109	101	5.2	750	51.0	3.892	40	P1000	09H41L	2	23
110	127	2.5	300	63.0	2.474	32	P300	09H41-	2	15
110	127	2.5	300	63.0	2.474	32	P300	09H41L	2	15
114	127	1.3	150	63.0	2.119	32	P150	09H41-	2	11
114	127	1.3	150	63.0	2.119	32	P150	09H41L	2	11
143	101	1.8	260	51.0	2.455	40	P300	09H41L	2	15
143	101	1.8	260	51.0	2.455	40	P300	09H41-	2	15
143	75.0	5.2	1000	38.0	9.723	20	P1000	12H15-	2	26
143	75.0	5.2	1000	38.0	9.723	20	P1000	12H15L	2	26
150	93.8	2.0	300	47.0	8.037	16	P300	12H15-	2	18
150	93.8	2.0	300	47.0	8.037	16	P300	12H15L	2	18
159	81.0	3.5	620	41.0	3.877	50	P1000	09H41-	2	23
159	81.0	3.5	620	41.0	3.877	50	P1000	09H41L	2	23
179	81.0	1.5	260	41.0	2.451	50	P300	09H41L	2	15
179	81.0	1.5	260	41.0	2.451	50	P300	09H41-	2	15
188	75.0	1.6	300	38.0	7.954	20	P300	12H15-	2	18
188	75.0	1.6	300	38.0	7.954	20	P300	12H15L	2	18
204	60.0	3.8	900	30.0	9.605	25	P1000	12H15-	2	26
204	60.0	3.8	900	30.0	9.605	25	P1000	12H15L	2	26
213	46.9	5.9	1800	23.0	15.027	32	P1800	12H15-	2	53
213	46.9	5.9	1800	23.0	15.027	32	P1800	12H15L	2	53
226	63.3	2.0	450	32.0	3.896	64	P1000	09H41-	2	23
226	63.3	2.0	450	32.0	3.896	64	P1000	09H41L	2	23
235	60.0	1.1	260	30.0	7.939	25	P300	12H15-	2	18
235	60.0	1.1	260	30.0	7.939	25	P300	12H15L	2	18
299	37.5	4.7	1800	19.0	14.540	40	P1800	12H15-	2	53
299	37.5	4.7	1800	19.0	14.540	40	P1800	12H15L	2	53
301	46.9	2.0	600	23.0	9.366	32	P1000	12H15-	2	26
301	46.9	2.0	600	23.0	9.366	32	P1000	12H15L	2	26
376	37.5	2.0	750	19.0	9.292	40	P1000	12H15-	2	26
376	37.5	2.0	750	19.0	9.292	40	P1000	12H15L	2	26
428	30.0	3.2	1525	15.0	14.402	50	P1800	12H15-	2	53
428	30.0	3.2	1525	15.0	14.402	50	P1800	12H15L	2	53
470	30.0	1.3	620	15.0	9.277	50	P1000	12H15-	2	26
470	30.0	1.3	620	15.0	9.277	50	P1000	12H15L	2	26
589	23.4	1.7	1000	12.0	14.541	64	P1800	12H15-	2	53
589	23.4	1.7	1000	12.0	14.541	64	P1800	12H15L	2	53



1.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
15.0	1013	4.9	140	506	4.920	4	P150	12D41L	1	10
15.0	1013	4.9	140	506	4.920	4	P150	12D41-	1	10
16.0	1013	2.1	60.0	506	4.451	4	P77	12D41-	1	8.5
16.0	1013	2.1	60.0	506	4.451	4	P77	12D41L	1	8.6
19.0	810	4.1	140	405	4.753	5	P150	12D41-	1	10
19.0	810	4.1	140	405	4.753	5	P150	12D41L	1	10
21.0	810	1.8	65.0	405	4.419	5	P77	12D41-	1	8.5
21.0	810	1.8	65.0	405	4.419	5	P77	12D41L	1	8.6
24.0	579	6.0	180	289	6.199	7	P300	12D41L	1	14
24.0	579	6.0	180	289	6.199	7	P300	12D41-	1	14
28.0	579	3.1	90.0	289	4.639	7	P150	12D41-	1	10
28.0	579	3.1	90.0	289	4.639	7	P150	12D41L	1	10
29.0	579	1.4	45.0	289	4.393	7	P77	12D41-	1	8.5
29.0	579	1.4	45.0	289	4.393	7	P77	12D41L	1	8.6
30.0	506	4.5	150	253	6.120	8	P300	12D41-	1	14
30.0	506	4.5	150	253	6.120	8	P300	12D41L	1	14
32.0	506	2.4	80.0	253	4.613	8	P150	12D41-	1	10
32.0	506	2.4	80.0	253	4.613	8	P150	12D41L	1	10
33.0	506	1.2	40.0	253	4.387	8	P77	12D41-	1	8.5
33.0	506	1.2	40.0	253	4.387	8	P77	12D41L	1	8.6
39.0	405	3.1	125	203	6.036	10	P300	12D41-	1	14
39.0	405	3.1	125	203	6.036	10	P300	12D41L	1	14
41.0	405	1.5	60.0	203	4.580	10	P150	12D41-	1	10
41.0	405	1.5	60.0	203	4.580	10	P150	12D41L	1	10
57.0	253	3.6	300	127	4.737	16	P300	12D41-	2	15
57.0	253	3.6	300	127	4.737	16	P300	12D41L	2	15
65.0	253	1.9	150	127	4.622	16	P150	12D41-	2	11
65.0	253	1.9	150	127	4.622	16	P150	12D41L	2	11
75.0	203	3.1	300	101	4.654	20	P300	12D41-	2	15
75.0	203	3.1	300	101	4.654	20	P300	12D41L	2	15
81.0	203	1.6	150	101	4.578	20	P150	12D41-	2	11
81.0	203	1.6	150	101	4.578	20	P150	12D41L	2	11
97.0	162	2.6	260	81.0	4.639	25	P300	12D41-	2	15
97.0	162	2.6	260	81.0	4.639	25	P300	12D41L	2	15
101	162	1.4	140	81.0	4.572	25	P150	12D41-	2	11
101	162	1.4	140	81.0	4.572	25	P150	12D41L	2	11
104	127	4.6	600	63.0	6.066	32	P1000	12D41L	2	23
104	127	4.6	600	63.0	6.066	32	P1000	12D41-	2	23
127	127	2.2	300	63.0	4.574	32	P300	12D41-	2	15
127	127	2.2	300	63.0	4.574	32	P300	12D41L	2	15
129	127	1.2	150	63.0	4.544	32	P150	12D41-	2	11
129	127	1.2	150	63.0	4.544	32	P150	12D41L	2	11
130	101	4.6	750	51.0	5.992	40	P1000	12D41-	2	23
130	101	4.6	750	51.0	5.992	40	P1000	12D41L	2	23
162	101	1.6	260	51.0	4.555	40	P300	12D41-	2	15
162	101	1.6	260	51.0	4.555	40	P300	12D41L	2	15
186	81.0	3.1	620	41.0	5.977	50	P1000	12D41-	2	23
186	81.0	3.1	620	41.0	5.977	50	P1000	12D41L	2	23
202	81.0	1.3	260	41.0	4.551	50	P300	12D41-	2	15
202	81.0	1.3	260	41.0	4.551	50	P300	12D41L	2	15
221	63.3	4.0	1000	32.0	11.241	64	P1800	12D41-	2	50



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
221	63.3	4.0	1000	32.0	11.241	64	P1800	12D41L	2	50
256	63.3	1.8	450	32.0	5.996	64	P1000	12D41-	2	23
256	63.3	1.8	450	32.0	5.996	64	P1000	12D41L	2	23
378	40.5	1.7	630	20.0	10.911	100	P1800	12D41-	2	50
378	40.5	1.7	630	20.0	10.911	100	P1800	12D41L	2	50



1.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
11.0	1500	2.7	60.0	538	2.188	4	P77	09H60L	1	8.2
11.0	1500	2.7	60.0	538	2.188	4	P77	09H60-	1	8.1
12.0	1275	5.4	140	521	3.720	4	P150	09L51-	1	11
12.0	1200	5.2	140	504	2.653	5	P150	09H60L	1	9.7
12.0	1200	5.2	140	504	2.653	5	P150	09H60-	1	9.6
14.0	1275	2.4	60.0	524	3.088	4	P77	09L51-	1	9.9
14.0	1200	2.3	65.0	481	2.156	5	P77	09H60-	1	8.1
14.0	1200	2.3	65.0	481	2.156	5	P77	09H60L	1	8.2
15.0	1020	4.5	140	490	3.553	5	P150	09L51-	1	11
15.0	1013	4.7	140	505	3.720	4	P150	09L41-	1	11
15.0	1013	4.7	140	505	3.720	4	P150	09L41L	1	12
17.0	1020	2.0	65.0	467	3.056	5	P77	09L51-	1	9.9
17.0	1013	2.0	60.0	506	3.088	4	P77	09L41-	1	9.9
17.0	1013	2.0	60.0	506	3.088	4	P77	09L41L	1	10
18.0	857	4.0	90.0	429	2.539	7	P150	09H60L	1	9.7
18.0	857	4.0	90.0	429	2.539	7	P150	09H60-	1	9.6
20.0	857	1.8	45.0	429	2.131	7	P77	09H60-	1	8.1
20.0	857	1.8	45.0	429	2.131	7	P77	09H60L	1	8.2
20.0	810	3.9	140	405	3.553	5	P150	09L41-	1	11
20.0	810	3.9	140	405	3.553	5	P150	09L41L	1	12
22.0	810	1.7	65.0	405	3.056	5	P77	09L41L	1	10
22.0	810	1.7	65.0	405	3.056	5	P77	09L41-	1	9.9
22.0	750	3.5	80.0	375	2.513	8	P150	09H60L	1	9.7
22.0	750	3.5	80.0	375	2.513	8	P150	09H60-	1	9.6
23.0	750	1.6	40.0	375	2.125	8	P77	09H60-	1	8.1
23.0	750	1.6	40.0	375	2.125	8	P77	09H60L	1	8.2
23.0	729	3.5	90.0	364	3.439	7	P150	09L51-	1	11
24.0	729	1.5	45.0	364	3.031	7	P77	09L51-	1	9.9
24.0	638	5.4	150	319	4.920	8	P300	09L51-	1	15
26.0	600	4.4	125	300	3.936	10	P300	09H60-	1	13
26.0	600	4.4	125	300	3.936	10	P300	09H60L	1	13
26.0	579	5.7	180	289	4.999	7	P300	09L41L	1	15
26.0	579	5.7	180	289	4.999	7	P300	09L41-	1	15
27.0	638	1.4	40.0	319	3.025	8	P77	09L51-	1	9.9
27.0	638	2.9	80.0	319	3.413	8	P150	09L51-	1	11
29.0	600	2.1	60.0	300	2.480	10	P150	09H60-	1	9.6
29.0	600	2.1	60.0	300	2.480	10	P150	09H60L	1	9.7
29.0	579	3.0	90.0	289	3.439	7	P150	09L41-	1	11
29.0	579	3.0	90.0	289	3.439	7	P150	09L41L	1	12
30.0	579	1.3	45.0	289	3.031	7	P77	09L41-	1	9.9
30.0	579	1.3	45.0	289	3.031	7	P77	09L41L	1	10
31.0	506	4.3	150	253	4.920	8	P300	09L41-	1	15
31.0	506	4.3	150	253	4.920	8	P300	09L41L	1	15
32.0	510	3.7	125	255	4.836	10	P300	09L51-	1	15
34.0	510	1.8	60.0	255	3.380	10	P150	09L51-	1	11
34.0	506	1.2	40.0	253	3.025	8	P77	09L41L	1	10
34.0	506	1.2	40.0	253	3.025	8	P77	09L41-	1	9.9
34.0	506	2.3	80.0	253	3.413	8	P150	09L41-	1	11
34.0	506	2.3	80.0	253	3.413	8	P150	09L41L	1	12
37.0	375	4.5	300	188	2.637	16	P300	09H60-	2	15
37.0	375	4.5	300	188	2.637	16	P300	09H60L	2	15



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
42.0	405	2.9	125	203	4.836	10	P300	09L41-	1	15
42.0	405	2.9	125	203	4.836	10	P300	09L41L	1	15
43.0	405	1.4	60.0	203	3.380	10	P150	09L41-	1	11
43.0	405	1.4	60.0	203	3.380	10	P150	09L41L	1	12
44.0	375	2.4	150	188	2.169	16	P150	09H60-	2	11
44.0	375	2.4	150	188	2.169	16	P150	09H60L	2	11
45.0	375	1.1	77.0	188	2.143	16	P77	09H60-	2	8.8
45.0	375	1.1	77.0	188	2.143	16	P77	09H60L	2	8.9
46.0	319	4.0	300	159	3.537	16	P300	09L51-	2	16
48.0	300	3.9	300	150	2.554	20	P300	09H60-	2	15
48.0	300	3.9	300	150	2.554	20	P300	09H60L	2	15
54.0	319	2.1	150	159	3.069	16	P150	09L51-	2	12
56.0	300	2.1	150	150	2.142	20	P150	09H60-	2	11
56.0	300	2.1	150	150	2.142	20	P150	09H60L	2	11
61.0	255	3.4	300	128	3.454	20	P300	09L51-	2	16
61.0	253	3.4	300	127	3.537	16	P300	09L41-	2	16
61.0	253	3.4	300	127	3.537	16	P300	09L41L	2	17
64.0	240	3.3	260	120	2.539	25	P300	09H60-	2	15
64.0	240	3.3	260	120	2.539	25	P300	09H60L	2	15
68.0	255	1.8	150	128	3.042	20	P150	09L51-	2	12
68.0	253	1.8	150	127	3.069	16	P150	09L41-	2	12
68.0	253	1.8	150	127	3.069	16	P150	09L41L	2	13
71.0	240	1.7	140	120	2.137	25	P150	09H60-	2	11
71.0	240	1.7	140	120	2.137	25	P150	09H60L	2	11
79.0	204	2.9	260	102	3.439	25	P300	09L51-	2	16
79.0	203	2.9	300	101	3.454	20	P300	09L41-	2	16
79.0	203	2.9	300	101	3.454	20	P300	09L41L	2	17
80.0	159	5.5	600	80.0	4.866	32	P1000	09L51-	2	24
85.0	204	1.5	140	102	3.037	25	P150	09L51-	2	12
85.0	203	1.5	150	101	3.042	20	P150	09L41-	2	12
85.0	203	1.5	150	101	3.042	20	P150	09L41L	2	13
85.0	188	2.8	300	94.0	2.474	32	P300	09H60-	2	15
85.0	188	2.8	300	94.0	2.474	32	P300	09H60L	2	15
90.0	188	1.5	150	94.0	2.119	32	P150	09H60-	2	11
90.0	188	1.5	150	94.0	2.119	32	P150	09H60L	2	11
100	128	5.5	750	64.0	4.792	40	P1000	09L51-	2	24
102	162	2.4	260	81.0	3.439	25	P300	09L41L	2	17
102	162	2.4	260	81.0	3.439	25	P300	09L41-	2	16
104	159	2.5	300	80.0	3.374	32	P300	09L51-	2	16
106	162	1.3	140	81.0	3.037	25	P150	09L41-	2	12
106	162	1.3	140	81.0	3.037	25	P150	09L41L	2	13
108	159	1.3	150	80.0	3.019	32	P150	09L51-	2	12
110	150	2.3	260	75.0	2.455	40	P300	09H60-	2	15
110	150	2.3	260	75.0	2.455	40	P300	09H60L	2	15
111	127	4.4	600	63.0	4.866	32	P1000	09L41L	2	25
111	127	4.4	600	63.0	4.866	32	P1000	09L41-	2	24
112	150	1.3	140	75.0	2.114	40	P150	09H60-	2	11
112	150	1.3	140	75.0	2.114	40	P150	09H60L	2	11
116	120	4.4	620	60.0	3.877	50	P1000	09H60L	2	23
116	120	4.4	620	60.0	3.877	50	P1000	09H60-	2	23
134	128	1.1	140	64.0	3.014	40	P150	09L51-	2	12
134	127	2.1	300	63.0	3.374	32	P300	09L41-	2	16



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
134	127	2.1	300	63.0	3.374	32	P300	09L41L	2	17
135	128	1.9	260	64.0	3.355	40	P300	09L51-	2	16
135	127	1.1	150	63.0	3.019	32	P150	09L41-	2	12
135	127	1.1	150	63.0	3.019	32	P150	09L41L	2	13
139	101	4.4	750	51.0	4.792	40	P1000	09L41-	2	24
139	101	4.4	750	51.0	4.792	40	P1000	09L41L	2	25
141	120	1.8	260	60.0	2.451	50	P300	09H60L	2	15
141	120	1.8	260	60.0	2.451	50	P300	09H60-	2	15
148	102	3.7	620	51.0	4.777	50	P1000	09L51-	2	24
169	102	1.5	260	51.0	3.351	50	P300	09L51-	2	16
169	101	1.5	260	51.0	3.355	40	P300	09L41-	2	16
169	101	1.5	260	51.0	3.355	40	P300	09L41L	2	17
173	93.8	2.5	450	47.0	3.896	64	P1000	09H60-	2	23
173	93.8	2.5	450	47.0	3.896	64	P1000	09H60L	2	23
197	81.0	2.9	620	41.0	4.777	50	P1000	09L41-	2	24
197	81.0	2.9	620	41.0	4.777	50	P1000	09L41L	2	25
212	81.0	1.2	260	41.0	3.351	50	P300	09L41-	2	16
212	81.0	1.2	260	41.0	3.351	50	P300	09L41L	2	17
214	79.7	2.1	450	40.0	4.796	64	P1000	09L51-	2	24
267	60.0	1.1	305	30.0	3.851	100	P1000	09H60L	2	23
267	60.0	1.1	305	30.0	3.851	100	P1000	09H60-	2	23
268	63.3	1.7	450	32.0	4.796	64	P1000	09L41-	2	24
268	63.3	1.7	450	32.0	4.796	64	P1000	09L41L	2	25



2.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
26.0	750	5.5	300	375	10.242	4	P300	12H30L	1	17
30.0	750	2.9	140	375	8.220	4	P150	12H30L	1	13
31.0	750	1.2	60.0	375	7.751	4	P77	12H30L	1	12
34.0	600	4.6	260	300	9.835	5	P300	12H30L	1	17
38.0	600	1.0	65.0	300	7.719	5	P77	12H30L	1	12
38.0	600	2.4	140	300	8.053	5	P150	12H30L	1	13
51.0	429	3.4	180	214	9.499	7	P300	12H30L	1	17
54.0	429	1.7	90.0	214	7.939	7	P150	12H30L	1	13
58.0	375	3.4	300	188	17.142	4	P300	14H15-	1	41
60.0	375	2.4	150	188	9.420	8	P300	12H30L	1	17
61.0	375	1.3	80.0	188	7.913	8	P150	12H30L	1	13
61.0	375	1.8	140	188	15.571	4	P150	14H15-	1	37
70.0	300	4.0	305	150	14.613	10	P1000	12H30L	1	24
74.0	300	2.8	260	150	16.735	5	P300	14H15-	1	41
76.0	300	1.6	125	150	9.336	10	P300	12H30L	1	17
77.0	300	1.5	140	150	15.404	5	P150	14H15-	1	37
95.0	214	4.9	530	107	22.442	7	P1000	14H15-	1	48
108	214	1.7	180	107	16.399	7	P300	14H15-	1	41
112	150	5.5	1000	75.0	9.723	20	P1000	12H30L	2	26
114	188	3.7	450	94.0	22.010	8	P1000	14H15-	1	48
119	188	2.1	300	94.0	8.037	16	P300	12H30L	2	18
120	188	1.1	150	94.0	7.922	16	P150	12H30L	2	14
123	188	1.2	150	94.0	16.320	8	P300	14H15-	1	41
140	150	4.1	630	75.0	41.080	10	P1800	14H15-	1	70
150	150	1.8	300	75.0	7.954	20	P300	12H30L	2	18
152	150	2.0	305	75.0	21.513	10	P1000	14H15-	1	48
152	120	4.6	900	60.0	9.605	25	P1000	12H30L	2	26
188	120	1.4	260	60.0	7.939	25	P300	12H30L	2	18
206	93.8	3.9	1000	47.0	16.984	16	P1000	14H15-	2	50
213	75.0	5.9	1800	38.0	14.540	40	P1800	12H30L	2	53
214	75.0	5.9	1800	38.0	23.712	20	P1800	14H15-	2	77
232	93.8	2.5	600	47.0	9.366	32	P1000	12H30L	2	26
241	93.8	1.2	300	47.0	16.369	16	P300	14H15-	2	42
241	93.8	1.2	300	47.0	7.874	32	P300	12H30L	2	18
273	75.0	3.3	1000	38.0	16.623	20	P1000	14H15-	2	50
290	75.0	2.5	750	38.0	9.292	40	P1000	12H30L	2	26
299	60.0	4.7	1800	30.0	23.132	25	P1800	14H15-	2	77
320	60.0	4.0	1525	30.0	14.402	50	P1800	12H30L	2	53
366	60.0	2.3	900	30.0	16.505	25	P1000	14H15-	2	50
376	60.0	1.7	620	30.0	9.277	50	P1000	12H30L	2	26
420	46.9	3.7	1800	23.0	21.927	32	P1800	14H15-	2	77
471	46.9	2.1	1000	23.0	14.541	64	P1800	12H30L	2	53
481	46.9	1.2	600	23.0	16.266	32	P1000	14H15-	2	50
559	37.5	3.0	1800	19.0	21.440	40	P1800	14H15-	2	77
602	37.5	1.2	750	19.0	16.192	40	P1000	14H15-	2	50
752	30.0	2.0	1525	15.0	21.302	50	P1800	14H15-	2	77
942	23.4	1.1	1000	12.0	21.441	64	P1800	14H15-	2	77



2.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2,\,max}$	$n_{2,\,th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
25.0	900	5.5	300	396	11.042	4	P300	14D36-	1	36
25.0	881	5.6	300	397	10.242	4	P300	12H35-	1	17
28.0	900	2.9	140	450	9.471	4	P150	14D36-	1	32
28.0	881	2.9	140	441	8.220	4	P150	12H35-	1	13
29.0	881	1.3	60.0	441	7.751	4	P77	12H35-	1	12
32.0	720	4.6	260	360	10.635	5	P300	14D36-	1	36
32.0	705	4.6	260	353	9.835	5	P300	12H35-	1	17
35.0	720	2.4	140	360	9.304	5	P150	14D36-	1	32
35.0	705	2.4	140	353	8.053	5	P150	12H35-	1	13
36.0	705	1.1	65.0	353	7.719	5	P77	12H35-	1	12
47.0	514	3.6	180	257	10.299	7	P300	14D36-	1	36
47.0	504	3.6	180	252	9.499	7	P300	12H35-	1	17
48.0	488	3.7	300	244	13.542	4	P300	12L20L	1	20
48.0	488	3.7	300	244	13.542	4	P300	12L20-	1	20
50.0	514	1.8	90.0	257	9.190	7	P150	14D36-	1	32
50.0	504	1.8	90.0	252	7.939	7	P150	12H35-	1	13
52.0	488	1.9	140	244	11.520	4	P150	12L20-	1	16
52.0	488	1.9	140	244	11.520	4	P150	12L20L	1	16
56.0	450	2.6	150	225	10.220	8	P300	14D36-	1	36
56.0	441	2.6	150	220	9.420	8	P300	12H35-	1	17
58.0	450	1.4	80.0	225	9.163	8	P150	14D36-	1	32
58.0	441	1.4	80.0	220	7.913	8	P150	12H35-	1	13
62.0	390	3.1	260	195	13.135	5	P300	12L20-	1	20
62.0	390	3.1	260	195	13.135	5	P300	12L20L	1	20
65.0	390	1.6	140	195	11.353	5	P150	12L20-	1	16
65.0	390	1.6	140	195	11.353	5	P150	12L20L	1	16
65.0	360	4.3	305	180	15.413	10	P1000	14D36-	1	43
65.0	353	4.3	305	176	14.613	10	P1000	12H35-	1	24
71.0	360	1.8	125	180	10.136	10	P300	14D36-	1	36
71.0	353	1.8	125	176	9.336	10	P300	12H35-	1	17
76.0	279	5.8	530	139	18.842	7	P1000	12L20L	1	27
76.0	279	5.8	530	139	18.842	7	P1000	12L20-	1	27
91.0	279	2.0	180	139	12.799	7	P300	12L20-	1	20
91.0	279	2.0	180	139	12.799	7	P300	12L20L	1	20
94.0	244	4.3	450	122	18.410	8	P1000	12L20-	1	27
94.0	244	4.3	450	122	18.410	8	P1000	12L20L	1	27
104	244	1.5	150	122	12.720	8	P300	12L20-	1	20
104	244	1.5	150	122	12.720	8	P300	12L20L	1	20
104	180	5.5	1000	90.0	10.523	20	P1000	14D36-	2	45
104	176	5.6	1000	88.0	9.723	20	P1000	12H35-	2	26
112	225	2.1	300	113	10.269	16	P300	14D36-	2	37
112	220	2.1	300	110	8.037	16	P300	12H35-	2	18
113	220	1.1	150	110	7.922	16	P150	12H35-	2	14
128	195	2.4	305	98.0	17.913	10	P1000	12L20-	1	27
128	195	2.4	305	98.0	17.913	10	P1000	12L20L	1	27
141	180	1.8	300	90.0	10.138	20	P300	14D36-	2	37
141	176	1.8	300	88.0	7.954	20	P300	12H35-	2	18
142	144	4.6	900	72.0	10.405	25	P1000	14D36-	2	45
142	141	4.6	900	71.0	9.605	25	P1000	12H35-	2	26
168	122	4.3	1000	61.0	13.384	16	P1000	12L20-	2	29
168	122	4.3	1000	61.0	13.384	16	P1000	12L20L	2	29

Technical data

Planetary gearbox g870-P
Selection tables
Inverter power supply 400 V, self-ventilated motors



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
176	144	1.5	260	72.0	10.122	25	P300	14D36-	2	37
176	141	1.5	260	71.0	7.939	25	P300	12H35-	2	18
203	122	1.4	300	61.0	11.337	16	P300	12L20L	2	21
203	122	1.4	300	61.0	11.337	16	P300	12L20-	2	21
215	113	2.6	600	56.0	10.166	32	P1000	14D36-	2	45
215	110	2.6	600	55.0	9.366	32	P1000	12H35-	2	26
222	97.5	3.7	1000	49.0	13.023	20	P1000	12L20-	2	29
222	97.5	3.7	1000	49.0	13.023	20	P1000	12L20L	2	29
226	113	1.3	300	56.0	10.025	32	P300	14D36-	2	37
226	110	1.3	300	55.0	7.874	32	P300	12H35-	2	18
232	78.0	5.6	1800	39.0	19.532	25	P1800	12L20-	2	56
232	78.0	5.6	1800	39.0	19.532	25	P1800	12L20L	2	56
254	97.5	1.2	300	49.0	11.254	20	P300	12L20-	2	21
254	97.5	1.2	300	49.0	11.254	20	P300	12L20L	2	21
269	90.0	2.6	750	45.0	10.092	40	P1000	14D36-	2	45
269	88.1	2.6	750	44.0	9.292	40	P1000	12H35-	2	26
293	72.0	4.3	1525	36.0	15.202	50	P1800	14D36-	2	72
293	70.5	4.3	1525	35.0	14.402	50	P1800	12H35-	2	53
299	78.0	2.8	900	39.0	12.905	25	P1000	12L20-	2	29
299	78.0	2.8	900	39.0	12.905	25	P1000	12L20L	2	29
334	60.9	4.4	1800	30.0	18.327	32	P1800	12L20-	2	56
334	60.9	4.4	1800	30.0	18.327	32	P1800	12L20L	2	56
353	72.0	1.8	620	36.0	10.077	50	P1000	14D36-	2	45
353	70.5	1.8	620	35.0	9.277	50	P1000	12H35-	2	26
406	60.9	1.5	600	30.0	12.666	32	P1000	12L20-	2	29
406	60.9	1.5	600	30.0	12.666	32	P1000	12L20L	2	29
442	56.3	2.3	1000	28.0	15.341	64	P1800	14D36-	2	72
442	55.1	2.3	1000	28.0	14.541	64	P1800	12H35-	2	53
446	56.3	1.0	450	28.0	10.096	64	P1000	14D36-	2	45
446	55.1	1.0	450	28.0	9.296	64	P1000	12H35-	2	26
451	48.8	3.5	1800	24.0	17.840	40	P1800	12L20L	2	56
451	48.8	3.5	1800	24.0	17.840	40	P1800	12L20-	2	56
508	48.8	1.5	750	24.0	12.592	40	P1000	12L20L	2	29
508	48.8	1.5	750	24.0	12.592	40	P1000	12L20-	2	29
617	39.0	2.4	1525	20.0	17.702	50	P1800	12L20L	2	56
617	39.0	2.4	1525	20.0	17.702	50	P1800	12L20-	2	56
795	30.5	1.3	1000	15.0	17.841	64	P1800	12L20-	2	56
795	30.5	1.3	1000	15.0	17.841	64	P1800	12L20L	2	56



3.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
87.0	375	2.3	300	188	26.342	4	P300	14L15-	1	45
92.0	300	6.0	750	150	33.128	5	P1000	14L15-	1	53
110	300	2.0	260	150	25.935	5	P300	14L15-	1	45
146	214	3.4	530	107	31.642	7	P1000	14L15-	1	53
150	188	5.7	1000	94.0	54.631	8	P1800	14L15-	1	74
155	214	1.2	180	107	25.599	7	P300	14L15-	1	45
173	188	2.6	450	94.0	31.210	8	P1000	14L15-	1	53
213	150	2.9	630	75.0	50.280	10	P1800	14L15-	1	74
219	150	1.4	305	75.0	30.713	10	P1000	14L15-	1	53
266	93.8	5.1	1800	47.0	35.213	16	P1800	14L15-	2	81
327	93.8	2.7	1000	47.0	26.184	16	P1000	14L15-	2	55
366	75.0	4.1	1800	38.0	32.912	20	P1800	14L15-	2	81
424	75.0	2.3	1000	38.0	25.823	20	P1000	14L15-	2	55
488	60.0	3.3	1800	30.0	32.332	25	P1800	14L15-	2	81
541	60.0	1.6	900	30.0	25.705	25	P1000	14L15-	2	55
662	46.9	2.6	1800	23.0	31.127	32	P1800	14L15-	2	81
861	37.5	2.1	1800	19.0	30.640	40	P1800	14L15-	2	81
1081	30.0	1.4	1525	15.0	30.502	50	P1800	14L15-	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	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
88.0	356	5.7	600	178	77.365	4	P1000	19F14-	1	63
104	356	2.0	300	178	69.671	4	P300	19F14-	1	56
113	285	5.2	750	143	74.728	5	P1000	19F14-	1	63
130	285	1.7	260	143	69.265	5	P300	19F14-	1	56
175	204	2.9	530	102	73.242	7	P1000	19F14-	1	63
183	178	4.8	1000	89.0	96.231	8	P1800	19F14-	1	85
206	178	2.2	450	89.0	72.810	8	P1000	19F14-	1	63
254	143	2.5	630	71.0	91.880	10	P1800	19F14-	1	85
257	143	1.2	305	71.0	72.313	10	P1000	19F14-	1	63
335	89.1	4.3	1800	45.0	76.813	16	P1800	19F14-	2	92
395	89.1	2.4	1000	45.0	73.253	16	P1000	19F14-	2	65
452	71.3	3.5	1800	36.0	74.512	20	P1800	19F14-	2	92
508	71.3	1.9	1000	36.0	72.046	20	P1000	19F14-	2	65
596	57.0	2.8	1800	29.0	73.932	25	P1800	19F14-	2	92
635	57.0	1.4	900	29.0	71.878	25	P1000	19F14-	2	65
800	44.5	2.2	1800	22.0	72.727	32	P1800	19F14-	2	92
1015	35.6	1.8	1800	18.0	72.240	40	P1800	19F14-	2	92
1269	28.5	1.2	1525	14.0	72.102	50	P1800	19F14-	2	92



4.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
100	338	5.2	600	169	47.065	4	P1000	14P14-	1	57
115	338	1.9	300	169	37.642	4	P300	14P14-	1	50
128	270	4.7	750	135	44.428	5	P1000	14P14-	1	57
144	270	1.6	260	135	37.235	5	P300	14P14-	1	50
197	193	2.6	530	96.0	42.942	7	P1000	14P14-	1	57
208	169	4.3	1000	84.0	65.931	8	P1800	14P14-	1	79
230	169	2.0	450	84.0	42.510	8	P1000	14P14-	1	57
285	135	1.1	305	68.0	42.013	10	P1000	14P14-	1	57
285	135	2.2	630	68.0	61.580	10	P1800	14P14-	1	79
387	84.4	3.9	1800	42.0	46.513	16	P1800	14P14-	2	86
446	84.4	2.2	1000	42.0	37.484	16	P1000	14P14-	2	60
517	67.5	3.1	1800	34.0	44.212	20	P1800	14P14-	2	86
564	67.5	1.7	1000	34.0	37.123	20	P1000	14P14-	2	60
677	54.0	2.5	1800	27.0	43.632	25	P1800	14P14-	2	86
705	54.0	1.3	900	27.0	37.005	25	P1000	14P14-	2	60
902	42.2	2.0	1800	21.0	42.427	32	P1800	14P14-	2	86
1128	33.8	1.6	1800	17.0	41.940	40	P1800	14P14-	2	86
1410	27.0	1.1	1525	14.0	41.802	50	P1800	14P14-	2	86



4.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
39.0	1013	3.6	300	360	13.542	4	P300	12L41-	1	20
42.0	1013	1.9	140	407	11.520	4	P150	12L41-	1	16
51.0	810	3.0	260	350	13.135	5	P300	12L41-	1	20
51.0	806	3.1	300	346	17.142	4	P300	14H32-	1	41
53.0	810	1.6	140	379	11.353	5	P150	12L41-	1	16
54.0	806	1.6	140	389	15.571	4	P150	14H32-	1	37
66.0	645	2.6	260	323	16.735	5	P300	14H32-	1	41
67.0	645	1.3	140	323	15.404	5	P150	14H32-	1	37
73.0	579	2.3	180	289	12.799	7	P300	12L41-	1	20
73.0	506	5.3	450	240	18.410	8	P1000	12L41-	1	27
74.0	579	1.2	90.0	289	11.239	7	P150	12L41-	1	16
80.0	461	5.6	530	230	22.442	7	P1000	14H32-	1	48
84.0	506	1.8	150	253	12.720	8	P300	12L41-	1	20
94.0	461	1.9	180	230	16.399	7	P300	14H32-	1	41
98.0	403	4.2	450	202	22.010	8	P1000	14H32-	1	48
102	405	2.9	305	203	17.913	10	P1000	12L41-	1	27
105	405	1.2	125	203	12.636	10	P300	12L41-	1	20
108	403	1.4	150	202	16.320	8	P300	14H32-	1	41
119	323	4.7	630	144	41.080	10	P1800	14H32-	1	70
133	323	2.3	305	161	21.513	10	P1000	14H32-	1	48
138	253	4.2	1000	127	13.384	16	P1000	12L41-	2	29
165	253	1.4	300	127	11.337	16	P300	12L41-	2	21
182	203	3.6	1000	101	13.023	20	P1000	12L41-	2	29
185	161	6.0	1800	81.0	23.712	20	P1800	14H32-	2	77
186	202	3.6	1000	101	16.984	16	P1000	14H32-	2	50
207	203	1.2	300	101	11.254	20	P300	12L41-	2	21
211	202	1.2	300	101	16.369	16	P300	14H32-	2	42
239	162	3.0	900	81.0	12.905	25	P1000	12L41-	2	29
243	161	3.1	1000	81.0	16.623	20	P1000	14H32-	2	50
253	127	5.2	1800	63.0	18.327	32	P1800	12L41-	2	56
254	129	5.1	1800	65.0	23.132	25	P1800	14H32-	2	77
263	161	1.0	300	81.0	16.238	20	P300	14H32-	2	42
315	129	2.6	900	65.0	16.505	25	P1000	14H32-	2	50
331	127	1.8	600	63.0	12.666	32	P1000	12L41-	2	29
343	101	4.3	1800	51.0	17.840	40	P1800	12L41-	2	56
351	101	4.2	1800	50.0	21.927	32	P1800	14H32-	2	77
414	101	1.8	750	51.0	12.592	40	P1000	12L41-	2	29
421	101	1.4	600	50.0	16.266	32	P1000	14H32-	2	50
472	80.6	3.4	1800	40.0	21.440	40	P1800	14H32-	2	77
482	81.0	2.9	1525	41.0	17.702	50	P1800	12L41-	2	56
517	81.0	1.2	620	41.0	12.577	50	P1000	12L41-	2	29
526	80.6	1.4	750	40.0	16.192	40	P1000	14H32-	2	50
644	64.5	2.3	1525	32.0	21.302	50	P1800	14H32-	2	77
648	63.3	1.5	1000	32.0	17.841	64	P1800	12L41-	2	56
824	50.4	1.2	1000	25.0	21.441	64	P1800	14H32-	2	77



5.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
65.0	806	2.5	300	328	26.342	4	P300	14L32-	1	45
82.0	645	2.1	260	319	25.935	5	P300	14L32-	1	45
103	461	4.5	530	230	31.642	7	P1000	14L32-	1	53
116	461	1.6	180	230	25.599	7	P300	14L32-	1	45
124	403	3.4	450	202	31.210	8	P1000	14L32-	1	53
132	403	1.1	150	202	25.520	8	P300	14L32-	1	45
152	323	3.9	630	140	50.280	10	P1800	14L32-	1	74
163	323	1.9	305	161	30.713	10	P1000	14L32-	1	53
188	202	5.7	1800	94.0	35.213	16	P1800	14L32-	2	81
241	202	2.9	1000	101	26.184	16	P1000	14L32-	2	55
254	161	4.9	1800	81.0	32.912	20	P1800	14L32-	2	81
312	161	2.5	1000	81.0	25.823	20	P1000	14L32-	2	55
341	129	4.1	1800	65.0	32.332	25	P1800	14L32-	2	81
402	129	2.1	900	65.0	25.705	25	P1000	14L32-	2	55
462	101	3.4	1800	50.0	31.127	32	P1800	14L32-	2	81
517	101	1.2	600	50.0	25.466	32	P1000	14L32-	2	55
610	80.6	2.8	1800	40.0	30.640	40	P1800	14L32-	2	81
647	80.6	1.2	750	40.0	25.392	40	P1000	14L32-	2	55
808	64.5	1.9	1525	32.0	30.502	50	P1800	14L32-	2	81

6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
142	356	3.9	600	178	117.365	4	P1000	19J14-	1	70
154	356	1.4	300	178	109.671	4	P300	19J14-	1	63
180	285	3.5	750	143	114.728	5	P1000	19J14-	1	70
192	285	1.1	260	143	109.265	5	P300	19J14-	1	63
238	204	4.8	1300	102	139.183	7	P1800	19J14-	1	92
269	204	2.0	530	102	113.242	7	P1000	19J14-	1	70
291	178	3.3	1000	89.0	136.231	8	P1800	19J14-	1	92
307	178	1.5	450	89.0	112.810	8	P1000	19J14-	1	70
380	143	1.7	630	71.0	131.880	10	P1800	19J14-	1	92
560	89.1	2.9	1800	45.0	116.813	16	P1800	19J14-	2	99
602	89.1	1.6	1000	45.0	113.253	16	P1000	19J14-	2	72
733	71.3	2.3	1800	36.0	114.512	20	P1800	19J14-	2	99
752	71.3	1.3	1000	36.0	112.046	20	P1000	19J14-	2	72
940	57.0	1.9	1800	29.0	113.932	25	P1800	19J14-	2	99
1203	44.5	1.5	1800	22.0	112.727	32	P1800	19J14-	2	99
1504	35.6	1.2	1800	18.0	112.240	40	P1800	19J14-	2	99



6.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
80.0	750	2.1	300	313	69.671	4	P300	19F30-	1	56
87.0	600	5.3	750	244	74.728	5	P1000	19F30-	1	63
101	600	1.7	260	300	69.265	5	P300	19F30-	1	56
131	429	3.7	530	214	73.242	7	P1000	19F30-	1	63
141	429	1.3	180	214	68.928	7	P300	19F30-	1	56
156	375	2.8	450	188	72.810	8	P1000	19F30-	1	63
192	300	3.2	630	136	91.880	10	P1800	19F30-	1	85
200	300	1.5	305	150	72.313	10	P1000	19F30-	1	63
251	188	4.8	1800	89.0	76.813	16	P1800	19F30-	2	92
306	188	2.4	1000	94.0	73.253	16	P1000	19F30-	2	65
334	150	4.1	1800	75.0	74.512	20	P1800	19F30-	2	92
392	150	2.1	1000	75.0	72.046	20	P1000	19F30-	2	65
441	120	3.4	1800	60.0	73.932	25	P1800	19F30-	2	92
494	120	1.7	900	60.0	71.878	25	P1000	19F30-	2	65
593	93.8	2.8	1800	47.0	72.727	32	P1800	19F30-	2	92
775	75.0	2.3	1800	38.0	72.240	40	P1800	19F30-	2	92
987	60.0	1.5	1525	30.0	72.102	50	P1800	19F30-	2	92

7.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
81.0	806	2.0	300	311	37.642	4	P300	14P32-	1	50
87.0	645	5.2	750	242	44.428	5	P1000	14P32-	1	57
101	645	1.7	260	303	37.235	5	P300	14P32-	1	50
131	461	3.7	530	221	42.942	7	P1000	14P32-	1	57
141	461	1.3	180	230	36.899	7	P300	14P32-	1	50
156	403	2.8	450	202	42.510	8	P1000	14P32-	1	57
192	323	3.2	630	136	61.580	10	P1800	14P32-	1	79
200	323	1.5	305	161	42.013	10	P1000	14P32-	1	57
253	202	4.7	1800	89.0	46.513	16	P1800	14P32-	2	86
307	202	2.4	1000	101	37.484	16	P1000	14P32-	2	60
336	161	4.0	1800	81.0	44.212	20	P1800	14P32-	2	86
394	161	2.0	1000	81.0	37.123	20	P1000	14P32-	2	60
443	129	3.4	1800	65.0	43.632	25	P1800	14P32-	2	86
494	129	1.7	900	65.0	37.005	25	P1000	14P32-	2	60
593	101	2.8	1800	50.0	42.427	32	P1800	14P32-	2	86
775	80.6	2.3	1800	40.0	41.940	40	P1800	14P32-	2	86
987	64.5	1.5	1525	32.0	41.802	50	P1800	14P32-	2	86



7.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
187	338	3.0	600	169	172.365	4	P1000	19P14-	1	80
210	270	5.4	1600	135	205.220	5	P1800	19P14-	1	102
237	270	2.8	750	135	169.728	5	P1000	19P14-	1	80
318	193	3.8	1300	96.0	194.183	7	P1800	19P14-	1	102
343	193	1.5	530	96.0	168.242	7	P1000	19P14-	1	80
383	169	2.6	1000	84.0	191.231	8	P1800	19P14-	1	102
392	169	1.2	450	84.0	167.810	8	P1000	19P14-	1	80
485	135	1.3	630	68.0	186.880	10	P1800	19P14-	1	102
750	84.4	2.3	1800	42.0	171.813	16	P1800	19P14-	2	109
959	67.5	1.8	1800	34.0	169.512	20	P1800	19P14-	2	109
1199	54.0	1.5	1800	27.0	168.932	25	P1800	19P14-	2	109
1534	42.2	1.2	1800	21.0	167.727	32	P1800	19P14-	2	109

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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
99.0	750	4.6	600	245	117.365	4	P1000	19J30-	1	70
111	750	1.5	300	285	109.671	4	P300	19J30-	1	63
128	600	3.9	750	224	114.728	5	P1000	19J30-	1	70
139	600	1.3	260	279	109.265	5	P300	19J30-	1	63
165	429	5.7	1300	155	139.183	7	P1800	19J30-	1	92
189	429	2.7	530	205	113.242	7	P1000	19J30-	1	70
200	375	4.5	1000	141	136.231	8	P1800	19J30-	1	92
223	375	2.0	450	188	112.810	8	P1000	19J30-	1	70
275	300	2.3	630	130	131.880	10	P1800	19J30-	1	92
276	300	1.1	305	150	112.313	10	P1000	19J30-	1	70
389	188	3.5	1800	81.0	116.813	16	P1800	19J30-	2	99
436	188	1.8	1000	94.0	113.253	16	P1000	19J30-	2	72
507	150	3.0	1800	74.0	114.512	20	P1800	19J30-	2	99
545	150	1.5	1000	75.0	112.046	20	P1000	19J30-	2	72
657	120	2.5	1800	60.0	113.932	25	P1800	19J30-	2	99
682	120	1.3	900	60.0	111.878	25	P1000	19J30-	2	72
870	93.8	2.0	1800	47.0	112.727	32	P1800	19J30-	2	99
1090	75.0	1.6	1800	38.0	112.240	40	P1800	19J30-	2	99
1363	60.0	1.1	1525	30.0	112.102	50	P1800	19J30-	2	99



10 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
112	750	4.2	600	240	172.365	4	P1000	19P30-	1	80
144	600	3.5	750	218	169.728	5	P1000	19P30-	1	80
186	429	5.2	1300	151	194.183	7	P1800	19P30-	1	102
211	429	2.4	530	201	168.242	7	P1000	19P30-	1	80
225	375	4.1	1000	138	191.231	8	P1800	19P30-	1	102
246	375	1.8	450	188	167.810	8	P1000	19P30-	1	80
304	300	1.0	305	150	167.313	10	P1000	19P30-	1	80
304	300	2.1	630	129	186.880	10	P1800	19P30-	1	102
441	188	3.1	1800	79.0	171.813	16	P1800	19P30-	2	109
571	150	2.7	1800	72.0	169.512	20	P1800	19P30-	2	109
738	120	2.3	1800	60.0	168.932	25	P1800	19P30-	2	109
963	93.8	1.9	1800	47.0	167.727	32	P1800	19P30-	2	109
1203	75.0	1.5	1800	38.0	167.240	40	P1800	19P30-	2	109
1504	60.0	1.0	1525	30.0	167.102	50	P1800	19P30-	2	109



Inverter power supply 400 V, forced ventilated motors

1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
25.0	413	3.9	140	206	4.920	4	P150	12D17-	1	12
27.0	413	1.7	60.0	206	4.451	4	P77	12D17-	1	11
32.0	330	3.3	140	165	4.753	5	P150	12D17-	1	12
34.0	330	1.4	65.0	165	4.419	5	P77	12D17-	1	11
43.0	236	3.8	180	118	6.199	7	P300	12D17-	1	16
47.0	236	1.9	90.0	118	4.639	7	P150	12D17-	1	12
52.0	206	2.8	150	103	6.120	8	P300	12D17-	1	16
54.0	206	1.5	80.0	103	4.613	8	P150	12D17-	1	12
60.0	165	4.6	305	83.0	11.313	10	P1000	12D17-	1	23
67.0	165	1.9	125	83.0	6.036	10	P300	12D17-	1	16
99.0	103	2.8	300	52.0	4.737	16	P300	12D17-	2	17
105	103	1.4	150	52.0	4.622	16	P150	12D17-	2	13
123	66.0	5.4	900	33.0	6.305	25	P1000	12D17-	2	25
129	82.5	2.2	300	41.0	4.654	20	P300	12D17-	2	17
132	82.5	1.1	150	41.0	4.578	20	P150	12D17-	2	13
165	66.0	1.6	260	33.0	4.639	25	P300	12D17-	2	17
198	51.6	2.8	600	26.0	6.066	32	P1000	12D17-	2	25
211	51.6	1.4	300	26.0	4.574	32	P300	12D17-	2	17
247	41.3	2.8	750	21.0	5.992	40	P1000	12D17-	2	25
266	33.0	4.6	1525	17.0	11.102	50	P1800	12D17-	2	52
329	33.0	1.9	620	17.0	5.977	50	P1000	12D17-	2	25
408	25.8	2.4	1000	13.0	11.241	64	P1800	12D17-	2	52
417	25.8	1.1	450	13.0	5.996	64	P1000	12D17-	2	25
616	16.5	1.0	630	8.0	10.911	100	P1800	12D17-	2	52



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
41.0	338	4.6	300	169	10.242	4	P300	12H14-	1	19
41.0	338	4.6	300	169	11.042	4	P300	14D14-	1	40
45.0	338	2.4	140	169	8.220	4	P150	12H14-	1	15
45.0	338	2.4	140	169	9.471	4	P150	14D14-	1	36
53.0	270	3.9	260	135	9.835	5	P300	12H14-	1	19
53.0	270	3.9	260	135	10.635	5	P300	14D14-	1	40
58.0	270	2.0	140	135	8.053	5	P150	12H14-	1	15
58.0	270	2.0	140	135	9.304	5	P150	14D14-	1	36
80.0	193	2.2	180	96.0	10.299	7	P300	14D14-	1	40
80.0	193	2.2	180	96.0	9.499	7	P300	12H14-	1	19
81.0	193	1.1	90.0	96.0	7.939	7	P150	12H14-	1	15
81.0	193	1.1	90.0	96.0	9.190	7	P150	14D14-	1	36
81.0	169	4.9	450	84.0	15.110	8	P1000	12H14-	1	26
81.0	169	4.9	450	84.0	15.910	8	P1000	14D14-	1	47
92.0	169	1.6	150	84.0	9.420	8	P300	12H14-	1	19
92.0	169	1.6	150	84.0	10.220	8	P300	14D14-	1	40
98.0	135	5.5	630	68.0	34.980	10	P1800	14D14-	1	69
112	135	2.7	305	68.0	14.613	10	P1000	12H14-	1	26
112	135	2.7	305	68.0	15.413	10	P1000	14D14-	1	47
114	135	1.1	125	68.0	10.136	10	P300	14D14-	1	40
114	135	1.1	125	68.0	9.336	10	P300	12H14-	1	19
135	84.4	5.4	1000	42.0	10.884	16	P1000	14D14-	2	49
135	84.4	5.4	1000	42.0	10.084	16	P1000	12H14-	2	28
180	84.4	1.6	300	42.0	8.037	16	P300	12H14-	2	20
180	84.4	1.6	300	42.0	10.269	16	P300	14D14-	2	41
186	67.5	4.3	1000	34.0	10.523	20	P1000	14D14-	2	49
186	67.5	4.3	1000	34.0	9.723	20	P1000	12H14-	2	28
226	67.5	1.3	300	34.0	7.954	20	P300	12H14-	2	20
226	67.5	1.3	300	34.0	10.138	20	P300	14D14-	2	41
258	54.0	3.1	900	27.0	9.605	25	P1000	12H14-	2	28
258	54.0	3.1	900	27.0	10.405	25	P1000	14D14-	2	49
282	42.2	4.9	1800	21.0	15.027	32	P1800	12H14-	2	55
282	42.2	4.9	1800	21.0	15.827	32	P1800	14D14-	2	76
361	42.2	1.6	600	21.0	9.366	32	P1000	12H14-	2	28
361	42.2	1.6	600	21.0	10.166	32	P1000	14D14-	2	49
386	33.8	4.0	1800	17.0	14.540	40	P1800	12H14-	2	55
386	33.8	4.0	1800	17.0	15.340	40	P1800	14D14-	2	76
451	33.8	1.6	750	17.0	9.292	40	P1000	12H14-	2	28
451	33.8	1.6	750	17.0	10.092	40	P1000	14D14-	2	49
536	27.0	2.7	1525	14.0	14.402	50	P1800	12H14-	2	55
536	27.0	2.7	1525	14.0	15.202	50	P1800	14D14-	2	76
564	27.0	1.1	620	14.0	9.277	50	P1000	12H14-	2	28
564	27.0	1.1	620	14.0	10.077	50	P1000	14D14-	2	49
707	21.1	1.4	1000	11.0	14.541	64	P1800	12H14-	2	55
707	21.1	1.4	1000	11.0	15.341	64	P1800	14D14-	2	76



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
21.0	881	3.6	140	441	4.920	4	P150	12D35-	1	12
23.0	881	1.6	60.0	441	4.451	4	P77	12D35-	1	11
24.0	705	5.8	260	353	6.535	5	P300	12D35-	1	16
28.0	705	3.0	140	353	4.753	5	P150	12D35-	1	12
29.0	705	1.3	65.0	353	4.419	5	P77	12D35-	1	11
36.0	504	4.5	180	252	6.199	7	P300	12D35-	1	16
40.0	504	1.0	45.0	252	4.393	7	P77	12D35-	1	11
40.0	504	2.2	90.0	252	4.639	7	P150	12D35-	1	12
44.0	441	3.3	150	220	6.120	8	P300	12D35-	1	16
46.0	441	1.7	80.0	220	4.613	8	P150	12D35-	1	12
50.0	353	5.4	305	176	11.313	10	P1000	12D35-	1	23
57.0	353	1.1	60.0	176	4.580	10	P150	12D35-	1	12
57.0	353	2.2	125	176	6.036	10	P300	12D35-	1	16
86.0	220	2.7	300	110	4.737	16	P300	12D35-	2	17
90.0	220	1.4	150	110	4.622	16	P150	12D35-	2	13
101	141	5.8	900	71.0	6.305	25	P1000	12D35-	2	25
110	176	2.3	300	88.0	4.654	20	P300	12D35-	2	17
113	176	1.2	150	88.0	4.578	20	P150	12D35-	2	13
141	141	1.8	260	71.0	4.639	25	P300	12D35-	2	17
163	110	3.3	600	55.0	6.066	32	P1000	12D35-	2	25
180	110	1.6	300	55.0	4.574	32	P300	12D35-	2	17
204	88.1	3.3	750	44.0	5.992	40	P1000	12D35-	2	25
212	70.5	5.4	1525	35.0	11.102	50	P1800	12D35-	2	52
226	88.1	1.2	260	44.0	4.555	40	P300	12D35-	2	17
278	70.5	2.2	620	35.0	5.977	50	P1000	12D35-	2	25
339	55.1	2.8	1000	28.0	11.241	64	P1800	12D35-	2	52
357	55.1	1.3	450	28.0	5.996	64	P1000	12D35-	2	25
528	35.3	1.2	630	18.0	10.911	100	P1800	12D35-	2	52



2.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
62.0	413	3.1	300	206	13.542	4	P300	12L17-	1	22
65.0	413	1.6	140	206	11.520	4	P150	12L17-	1	18
80.0	330	2.6	260	165	13.135	5	P300	12L17-	1	22
82.0	330	1.4	140	165	11.353	5	P150	12L17-	1	18
102	236	4.6	530	118	18.842	7	P1000	12L17-	1	29
114	236	1.6	180	118	12.799	7	P300	12L17-	1	22
123	206	3.5	450	103	18.410	8	P1000	12L17-	1	29
131	206	1.2	150	103	12.720	8	P300	12L17-	1	22
162	165	1.9	305	83.0	17.913	10	P1000	12L17-	1	29
225	103	3.6	1000	52.0	13.384	16	P1000	12L17-	2	31
236	82.5	5.5	1800	41.0	20.112	20	P1800	12L17-	2	58
256	103	1.2	300	52.0	11.337	16	P300	12L17-	2	23
294	82.5	3.1	1000	41.0	13.023	20	P1000	12L17-	2	31
326	66.0	4.5	1800	33.0	19.532	25	P1800	12L17-	2	58
393	66.0	2.2	900	33.0	12.905	25	P1000	12L17-	2	31
455	51.6	3.5	1800	26.0	18.327	32	P1800	12L17-	2	58
511	51.6	1.2	600	26.0	12.666	32	P1000	12L17-	2	31
602	41.3	2.8	1800	21.0	17.840	40	P1800	12L17-	2	58
639	41.3	1.2	750	21.0	12.592	40	P1000	12L17-	2	31
799	33.0	1.9	1525	17.0	17.702	50	P1800	12L17-	2	58

3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
89.0	300	2.5	300	150	17.142	4	P300	14H12-	1	45
113	240	2.1	260	120	16.735	5	P300	14H12-	1	45
149	171	3.3	530	86.0	22.442	7	P1000	14H12-	1	52
154	150	5.5	1000	75.0	45.431	8	P1800	14H12-	1	74
158	171	1.1	180	86.0	16.399	7	P300	14H12-	1	45
177	150	2.5	450	75.0	22.010	8	P1000	14H12-	1	52
218	120	2.8	630	60.0	41.080	10	P1800	14H12-	1	74
223	120	1.4	305	60.0	21.513	10	P1000	14H12-	1	52
275	75.0	5.0	1800	38.0	26.013	16	P1800	14H12-	2	81
333	75.0	2.8	1000	38.0	16.984	16	P1000	14H12-	2	54
376	60.0	4.0	1800	30.0	23.712	20	P1800	14H12-	2	81
435	60.0	2.2	1000	30.0	16.623	20	P1000	14H12-	2	54
502	48.0	3.2	1800	24.0	23.132	25	P1800	14H12-	2	81
552	48.0	1.6	900	24.0	16.505	25	P1000	14H12-	2	54
680	37.5	2.5	1800	19.0	21.927	32	P1800	14H12-	2	81
883	30.0	2.0	1800	15.0	21.440	40	P1800	14H12-	2	81
1105	24.0	1.4	1525	12.0	21.302	50	P1800	14H12-	2	81



3.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
37.0	750	4.2	300	372	11.042	4	P300	14D30-	1	40
40.0	750	2.2	140	375	9.471	4	P150	14D30-	1	36
47.0	600	3.5	260	300	10.635	5	P300	14D30-	1	40
50.0	600	1.8	140	300	9.304	5	P150	14D30-	1	36
69.0	429	2.6	180	214	10.299	7	P300	14D30-	1	40
69.0	375	5.6	450	188	15.910	8	P1000	14D30-	1	47
71.0	429	1.3	90.0	214	9.190	7	P150	14D30-	1	36
81.0	375	1.9	150	188	10.220	8	P300	14D30-	1	40
96.0	300	3.1	305	150	15.413	10	P1000	14D30-	1	47
100	300	1.3	125	150	10.136	10	P300	14D30-	1	40
124	188	4.9	1000	94.0	10.884	16	P1000	14D30-	2	49
158	188	1.6	300	94.0	10.269	16	P300	14D30-	2	41
166	150	4.2	1000	75.0	10.523	20	P1000	14D30-	2	49
197	150	1.4	300	75.0	10.138	20	P300	14D30-	2	41
220	120	3.5	900	60.0	10.405	25	P1000	14D30-	2	49
230	93.8	5.6	1800	47.0	15.827	32	P1800	14D30-	2	76
247	120	1.0	260	60.0	10.122	25	P300	14D30-	2	41
316	93.8	1.9	600	47.0	10.166	32	P1000	14D30-	2	49
321	75.0	4.5	1800	38.0	15.340	40	P1800	14D30-	2	76
395	75.0	1.9	750	38.0	10.092	40	P1000	14D30-	2	49
455	60.0	3.1	1525	30.0	15.202	50	P1800	14D30-	2	76
494	60.0	1.3	620	30.0	10.077	50	P1000	14D30-	2	49
618	46.9	1.6	1000	23.0	15.341	64	P1800	14D30-	2	76



3.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
37.0	844	4.0	300	369	10.242	4	P300	12H34-	1	19
40.0	844	2.1	140	418	8.220	4	P150	12H34-	1	15
48.0	675	3.4	260	338	9.835	5	P300	12H34-	1	19
50.0	675	1.8	140	338	8.053	5	P150	12H34-	1	15
69.0	482	2.6	180	241	9.499	7	P300	12H34-	1	19
69.0	422	5.6	450	211	15.110	8	P1000	12H34-	1	26
71.0	482	1.3	90.0	241	7.939	7	P150	12H34-	1	15
81.0	422	1.9	150	211	9.420	8	P300	12H34-	1	19
96.0	338	3.1	305	169	14.613	10	P1000	12H34-	1	26
100	338	1.3	125	169	9.336	10	P300	12H34-	1	19
126	211	4.7	1000	105	10.084	16	P1000	12H34-	2	28
158	211	1.5	300	105	8.037	16	P300	12H34-	2	20
168	169	4.0	1000	84.0	9.723	20	P1000	12H34-	2	28
197	169	1.3	300	84.0	7.954	20	P300	12H34-	2	20
222	135	3.4	900	68.0	9.605	25	P1000	12H34-	2	28
230	106	5.6	1800	53.0	15.027	32	P1800	12H34-	2	55
247	135	1.0	260	68.0	7.939	25	P300	12H34-	2	20
316	106	1.9	600	53.0	9.366	32	P1000	12H34-	2	28
321	84.4	4.5	1800	42.0	14.540	40	P1800	12H34-	2	55
395	84.4	1.9	750	42.0	9.292	40	P1000	12H34-	2	28
455	67.5	3.1	1525	34.0	14.402	50	P1800	12H34-	2	55
494	67.5	1.3	620	34.0	9.277	50	P1000	12H34-	2	28
618	52.7	1.6	1000	26.0	14.541	64	P1800	12H34-	2	55

4.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
102	338	5.1	600	169	35.765	4	P1000	14L14-	1	57
117	338	1.8	300	169	26.342	4	P300	14L14-	1	49
130	270	4.7	750	135	33.128	5	P1000	14L14-	1	57
146	270	1.5	260	135	25.935	5	P300	14L14-	1	49
200	193	2.6	530	96.0	31.642	7	P1000	14L14-	1	57
212	169	4.3	1000	84.0	54.631	8	P1800	14L14-	1	78
234	169	1.9	450	84.0	31.210	8	P1000	14L14-	1	57
290	135	1.1	305	68.0	30.713	10	P1000	14L14-	1	57
290	135	2.2	630	68.0	50.280	10	P1800	14L14-	1	78
396	84.4	3.8	1800	42.0	35.213	16	P1800	14L14-	2	85
454	84.4	2.1	1000	42.0	26.184	16	P1000	14L14-	2	59
528	67.5	3.1	1800	34.0	32.912	20	P1800	14L14-	2	85
573	67.5	1.7	1000	34.0	25.823	20	P1000	14L14-	2	59
691	54.0	2.5	1800	27.0	32.332	25	P1800	14L14-	2	85
717	54.0	1.2	900	27.0	25.705	25	P1000	14L14-	2	59
917	42.2	1.9	1800	21.0	31.127	32	P1800	14L14-	2	85
1147	33.8	1.6	1800	17.0	30.640	40	P1800	14L14-	2	85
1434	27.0	1.1	1525	14.0	30.502	50	P1800	14L14-	2	85



4.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
150	263	3.7	600	131	47.065	4	P1000	14P11-	1	62
161	263	1.4	300	131	37.642	4	P300	14P11-	1	54
188	210	3.6	750	105	44.428	5	P1000	14P11-	1	62
202	210	1.2	260	105	37.235	5	P300	14P11-	1	54
252	150	4.6	1300	75.0	68.883	7	P1800	14P11-	1	83
282	150	1.9	530	75.0	42.942	7	P1000	14P11-	1	62
308	131	3.1	1000	66.0	65.931	8	P1800	14P11-	1	83
323	131	1.4	450	66.0	42.510	8	P1000	14P11-	1	62
399	105	1.6	630	53.0	61.580	10	P1800	14P11-	1	83
595	65.6	2.8	1800	33.0	46.513	16	P1800	14P11-	2	90
632	65.6	1.6	1000	33.0	37.484	16	P1000	14P11-	2	64
776	52.5	2.2	1800	26.0	44.212	20	P1800	14P11-	2	90
790	52.5	1.2	1000	26.0	37.123	20	P1000	14P11-	2	64
987	42.0	1.8	1800	21.0	43.632	25	P1800	14P11-	2	90
1263	32.8	1.4	1800	16.0	42.427	32	P1800	14P11-	2	90
1579	26.3	1.1	1800	13.0	41.940	40	P1800	14P11-	2	90

4.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
133	300	4.1	600	150	77.365	4	P1000	19F12-	1	69
146	300	1.5	300	150	69.671	4	P300	19F12-	1	62
168	240	3.9	750	120	74.728	5	P1000	19F12-	1	69
182	240	1.3	260	120	69.265	5	P300	19F12-	1	62
223	171	5.0	1300	86.0	99.183	7	P1800	19F12-	1	91
255	171	2.1	530	86.0	73.242	7	P1000	19F12-	1	69
274	150	3.4	1000	75.0	96.231	8	P1800	19F12-	1	91
292	150	1.5	450	75.0	72.810	8	P1000	19F12-	1	69
361	120	1.8	630	60.0	91.880	10	P1800	19F12-	1	91
525	75.0	3.1	1800	38.0	76.813	16	P1800	19F12-	2	98
572	75.0	1.7	1000	38.0	73.253	16	P1000	19F12-	2	71
690	60.0	2.5	1800	30.0	74.512	20	P1800	19F12-	2	98
714	60.0	1.4	1000	30.0	72.046	20	P1000	19F12-	2	71
893	48.0	2.0	1800	24.0	73.932	25	P1800	19F12-	2	98
1143	37.5	1.6	1800	19.0	72.727	32	P1800	19F12-	2	98
1429	30.0	1.3	1800	15.0	72.240	40	P1800	19F12-	2	98



5.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
52.0	975	2.9	300	341	13.542	4	P300	12L39-	1	22
54.0	975	1.5	140	383	11.520	4	P150	12L39-	1	18
66.0	780	2.4	260	331	13.135	5	P300	12L39-	1	22
67.0	780	1.3	140	355	11.353	5	P150	12L39-	1	18
80.0	557	5.6	530	241	18.842	7	P1000	12L39-	1	29
94.0	557	1.9	180	279	12.799	7	P300	12L39-	1	22
98.0	488	4.2	450	230	18.410	8	P1000	12L39-	1	29
108	488	1.4	150	244	12.720	8	P300	12L39-	1	22
133	390	2.3	305	195	17.913	10	P1000	12L39-	1	29
189	244	3.4	1000	122	13.384	16	P1000	12L39-	2	31
192	195	5.7	1800	91.0	20.112	20	P1800	12L39-	2	58
211	244	1.1	300	122	11.337	16	P300	12L39-	2	23
246	195	2.9	1000	98.0	13.023	20	P1000	12L39-	2	31
261	156	4.8	1800	77.0	19.532	25	P1800	12L39-	2	58
319	156	2.4	900	78.0	12.905	25	P1000	12L39-	2	31
355	122	4.1	1800	61.0	18.327	32	P1800	12L39-	2	58
421	122	1.4	600	61.0	12.666	32	P1000	12L39-	2	31
472	97.5	3.4	1800	49.0	17.840	40	P1800	12L39-	2	58
526	97.5	1.4	750	49.0	12.592	40	P1000	12L39-	2	31
644	78.0	2.3	1525	39.0	17.702	50	P1800	12L39-	2	58
824	60.9	1.2	1000	30.0	17.841	64	P1800	12L39-	2	58

6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
78.0	694	2.2	300	317	17.142	4	P300	14H28-	1	45
84.0	555	5.6	750	247	23.928	5	P1000	14H28-	1	52
98.0	555	1.8	260	278	16.735	5	P300	14H28-	1	45
127	396	3.8	530	198	22.442	7	P1000	14H28-	1	52
138	396	1.3	180	198	16.399	7	P300	14H28-	1	45
152	347	2.9	450	173	22.010	8	P1000	14H28-	1	52
187	278	3.2	630	137	41.080	10	P1800	14H28-	1	74
195	278	1.6	305	139	21.513	10	P1000	14H28-	1	52
239	173	5.0	1800	87.0	26.013	16	P1800	14H28-	2	81
296	173	2.6	1000	87.0	16.984	16	P1000	14H28-	2	54
320	139	4.3	1800	69.0	23.712	20	P1800	14H28-	2	81
380	139	2.2	1000	69.0	16.623	20	P1000	14H28-	2	54
424	111	3.6	1800	56.0	23.132	25	P1800	14H28-	2	81
482	111	1.8	900	56.0	16.505	25	P1000	14H28-	2	54
576	86.7	2.9	1800	43.0	21.927	32	P1800	14H28-	2	81
753	69.4	2.3	1800	35.0	21.440	40	P1800	14H28-	2	81
964	55.5	1.6	1525	28.0	21.302	50	P1800	14H28-	2	81



7.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
206	300	5.4	1300	150	166.170	4	P1800	19J12-	1	98
235	300	2.5	600	150	117.365	4	P1000	19J12-	1	76
267	240	4.6	1600	120	150.220	5	P1800	19J12-	1	98
296	240	2.4	750	120	114.728	5	P1000	19J12-	1	76
401	171	3.1	1300	86.0	139.183	7	P1800	19J12-	1	98
420	171	1.3	530	86.0	113.242	7	P1000	19J12-	1	76
478	150	2.1	1000	75.0	136.231	8	P1800	19J12-	1	98
594	120	1.1	630	60.0	131.880	10	P1800	19J12-	1	98
940	75.0	1.0	1000	38.0	113.253	16	P1000	19J12-	2	78
940	75.0	1.9	1800	38.0	116.813	16	P1800	19J12-	2	105
1175	60.0	1.5	1800	30.0	114.512	20	P1800	19J12-	2	105
1469	48.0	1.2	1800	24.0	113.932	25	P1800	19J12-	2	105

8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
85.0	750	5.2	600	252	35.765	4	P1000	14L30-	1	57
98.0	750	1.7	300	296	26.342	4	P300	14L30-	1	49
110	600	4.4	750	232	33.128	5	P1000	14L30-	1	57
122	600	1.4	260	289	25.935	5	P300	14L30-	1	49
164	429	3.1	530	212	31.642	7	P1000	14L30-	1	57
170	375	5.1	1000	144	54.631	8	P1800	14L30-	1	78
171	429	1.1	180	214	25.599	7	P300	14L30-	1	49
193	375	2.3	450	188	31.210	8	P1000	14L30-	1	57
239	300	2.6	630	133	50.280	10	P1800	14L30-	1	78
242	300	1.3	305	150	30.713	10	P1000	14L30-	1	57
329	188	3.9	1800	84.0	35.213	16	P1800	14L30-	2	85
383	188	2.0	1000	94.0	26.184	16	P1000	14L30-	2	59
431	150	3.4	1800	75.0	32.912	20	P1800	14L30-	2	85
479	150	1.7	1000	75.0	25.823	20	P1000	14L30-	2	59
562	120	2.8	1800	60.0	32.332	25	P1800	14L30-	2	85
599	120	1.4	900	60.0	25.705	25	P1000	14L30-	2	59
749	93.8	2.3	1800	47.0	31.127	32	P1800	14L30-	2	85
959	75.0	1.9	1800	38.0	30.640	40	P1800	14L30-	2	85
1199	60.0	1.3	1525	30.0	30.502	50	P1800	14L30-	2	85



9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
246	300	4.7	1300	148	221.170	4	P1800	19P12-	1	108
275	300	2.2	600	150	172.365	4	P1000	19P12-	1	86
317	240	4.0	1600	120	205.220	5	P1800	19P12-	1	108
345	240	2.0	750	120	169.728	5	P1000	19P12-	1	86
471	171	2.7	1300	86.0	194.183	7	P1800	19P12-	1	108
484	171	1.1	530	86.0	168.242	7	P1000	19P12-	1	86
553	150	1.8	1000	75.0	191.231	8	P1800	19P12-	1	108
1083	75.0	1.6	1800	38.0	171.813	16	P1800	19P12-	2	115
1354	60.0	1.3	1800	30.0	169.512	20	P1800	19P12-	2	115
1692	48.0	1.1	1800	24.0	168.932	25	P1800	19P12-	2	115

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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
115	656	4.2	600	241	47.065	4	P1000	14P26-	1	62
127	656	1.4	300	278	37.642	4	P300	14P26-	1	54
148	525	3.5	750	218	44.428	5	P1000	14P26-	1	62
158	525	1.2	260	263	37.235	5	P300	14P26-	1	54
192	375	5.3	1300	152	68.883	7	P1800	14P26-	1	83
218	375	2.4	530	188	42.942	7	P1000	14P26-	1	62
233	328	4.0	1000	137	65.931	8	P1800	14P26-	1	83
253	328	1.8	450	164	42.510	8	P1000	14P26-	1	62
314	263	2.0	630	128	61.580	10	P1800	14P26-	1	83
454	164	3.2	1800	79.0	46.513	16	P1800	14P26-	2	90
496	164	1.6	1000	82.0	37.484	16	P1000	14P26-	2	64
588	131	2.7	1800	66.0	44.212	20	P1800	14P26-	2	90
620	131	1.4	1000	66.0	37.123	20	P1000	14P26-	2	64
759	105	2.3	1800	53.0	43.632	25	P1800	14P26-	2	90
776	105	1.1	900	53.0	37.005	25	P1000	14P26-	2	64
993	82.0	1.8	1800	41.0	42.427	32	P1800	14P26-	2	90
1241	65.6	1.4	1800	33.0	41.940	40	P1800	14P26-	2	90

9.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
114	713	4.2	600	240	77.365	4	P1000	19F29-	1	69
146	570	3.5	750	218	74.728	5	P1000	19F29-	1	69
189	407	5.2	1300	151	99.183	7	P1800	19F29-	1	91
215	407	2.4	530	200	73.242	7	P1000	19F29-	1	69
229	356	4.0	1000	138	96.231	8	P1800	19F29-	1	91
250	356	1.8	450	178	72.810	8	P1000	19F29-	1	69
309	285	2.0	630	128	91.880	10	P1800	19F29-	1	91
448	178	3.1	1800	79.0	76.813	16	P1800	19F29-	2	98
580	143	2.7	1800	71.0	74.512	20	P1800	19F29-	2	98
749	114	2.3	1800	57.0	73.932	25	P1800	19F29-	2	98
978	89.1	1.8	1800	45.0	72.727	32	P1800	19F29-	2	98
1222	71.3	1.5	1800	36.0	72.240	40	P1800	19F29-	2	98



15.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
168	713	5.3	1300	152	166.170	4	P1800	19J29-	1	98
188	713	2.7	600	216	117.365	4	P1000	19J29-	1	76
218	570	4.4	1600	145	150.220	5	P1800	19J29-	1	98
240	570	2.2	750	190	114.728	5	P1000	19J29-	1	76
320	407	3.3	1300	136	139.183	7	P1800	19J29-	1	98
339	407	1.6	530	178	113.242	7	P1000	19J29-	1	76
378	356	2.6	1000	126	136.231	8	P1800	19J29-	1	98
388	356	1.2	450	175	112.810	8	P1000	19J29-	1	76
480	285	1.3	630	120	131.880	10	P1800	19J29-	1	98
759	178	2.0	1800	68.0	116.813	16	P1800	19J29-	2	105
949	143	1.7	1800	61.0	114.512	20	P1800	19J29-	2	105
1187	114	1.5	1800	52.0	113.932	25	P1800	19J29-	2	105
1519	89.1	1.2	1800	45.0	112.727	32	P1800	19J29-	2	105

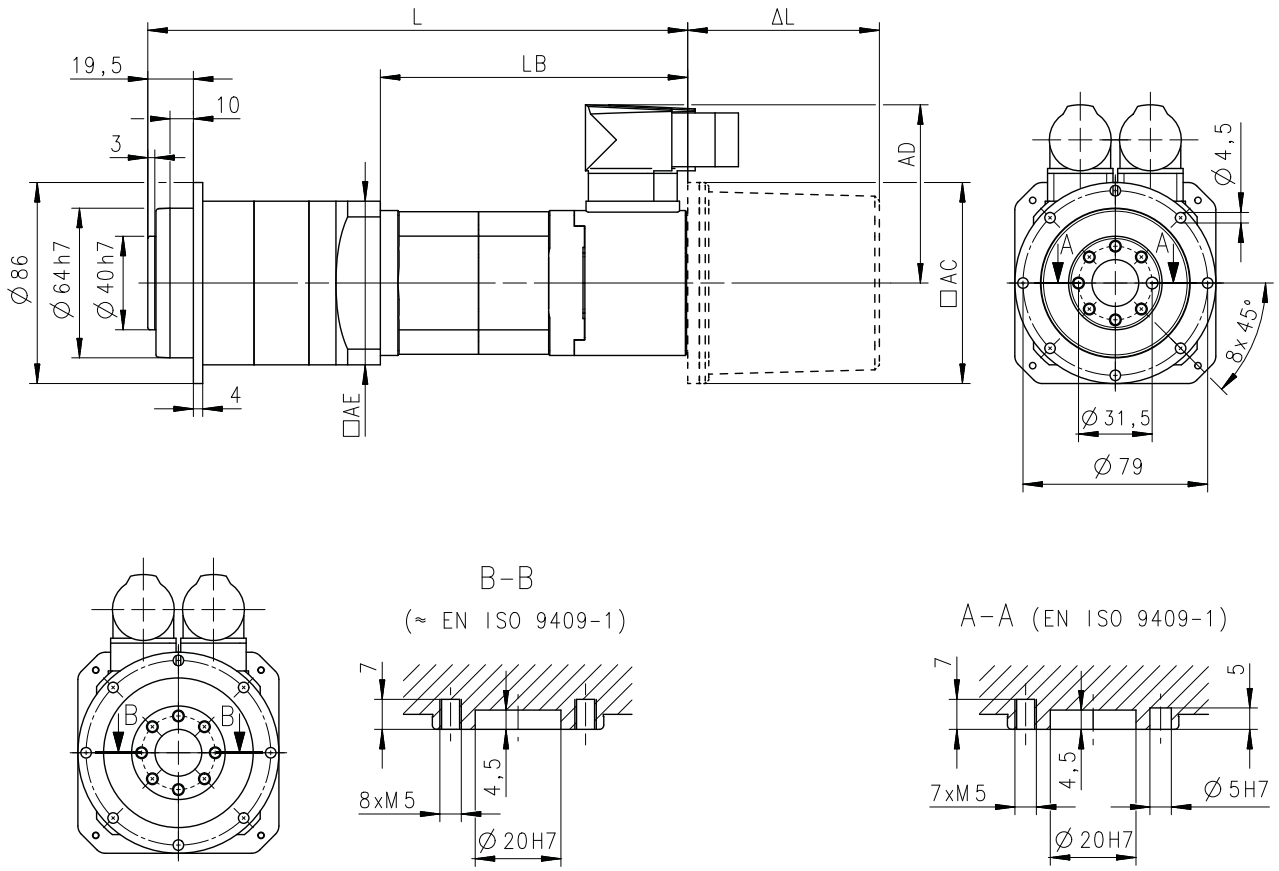
15.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g870-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
178	713	5.0	1300	150	221.170	4	P1800	19P29-	1	108
199	713	2.6	600	213	172.365	4	P1000	19P29-	1	86
231	570	4.2	1600	143	205.220	5	P1800	19P29-	1	108
253	570	2.1	750	187	169.728	5	P1000	19P29-	1	86
339	407	3.2	1300	134	194.183	7	P1800	19P29-	1	108
356	407	1.5	530	176	168.242	7	P1000	19P29-	1	86
399	356	2.5	1000	124	191.231	8	P1800	19P29-	1	108
407	356	1.1	450	173	167.810	8	P1000	19P29-	1	86
504	285	1.3	630	119	186.880	10	P1800	19P29-	1	108
797	178	1.9	1800	66.0	171.813	16	P1800	19P29-	2	115
996	143	1.6	1800	60.0	169.512	20	P1800	19P29-	2	115
1246	114	1.4	1800	51.0	168.932	25	P1800	19P29-	2	115
1594	89.1	1.1	1800	45.0	167.727	32	P1800	19P29-	2	115

Basic dimensions

g870-P77 with MCS06

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



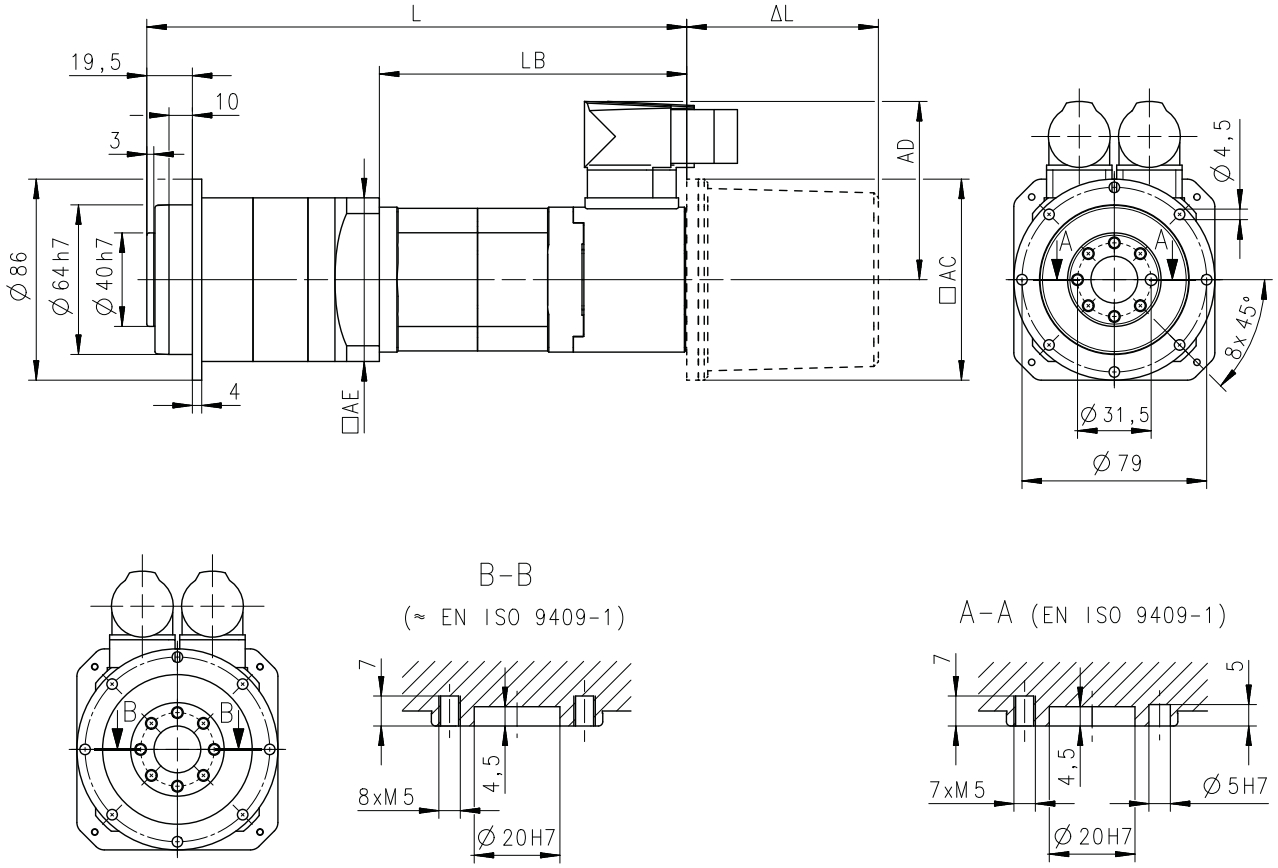
8800842-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	203	203	233	233	263	263
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70



g870-P77 with MCS06

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

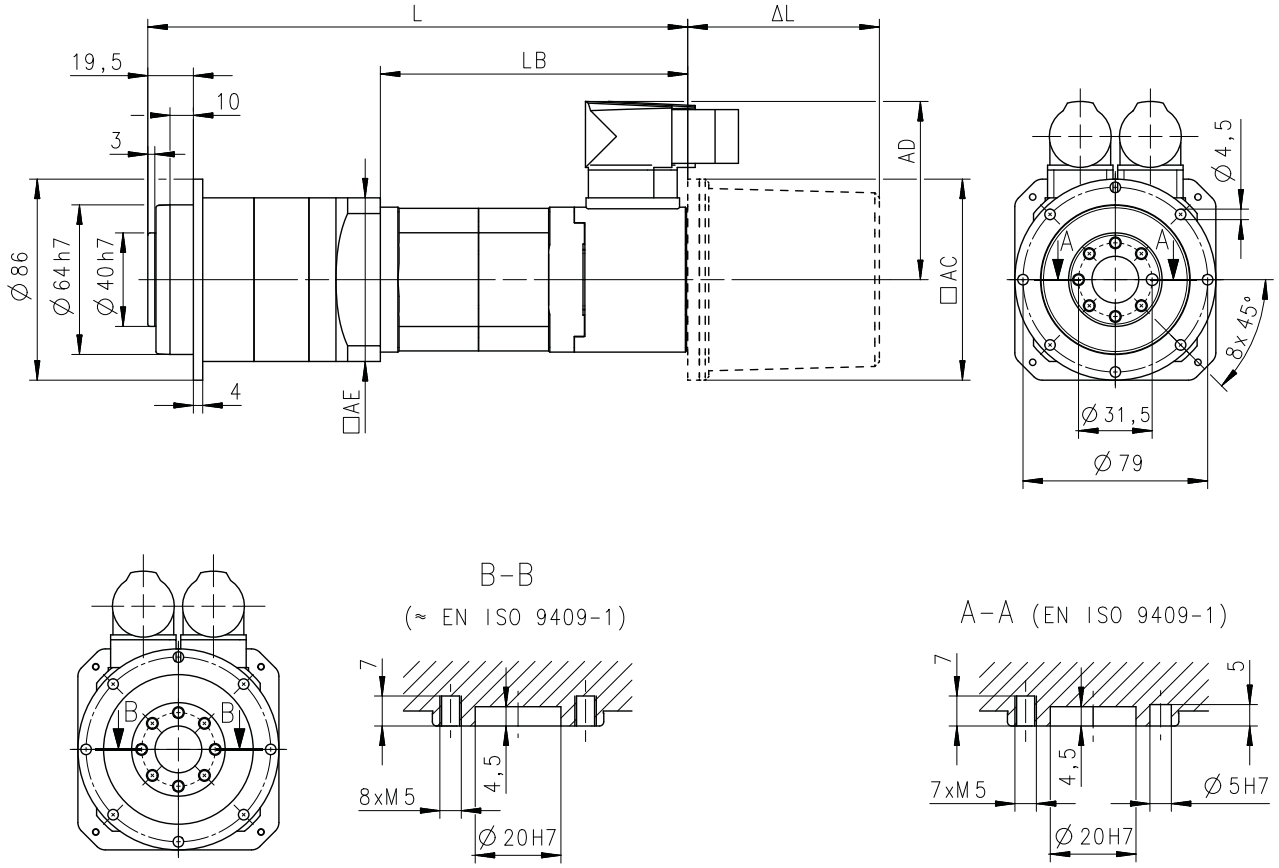


8800842-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	231.5	231.5	261.5	261.5	291.5	291.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g870-P77 with MCS09

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



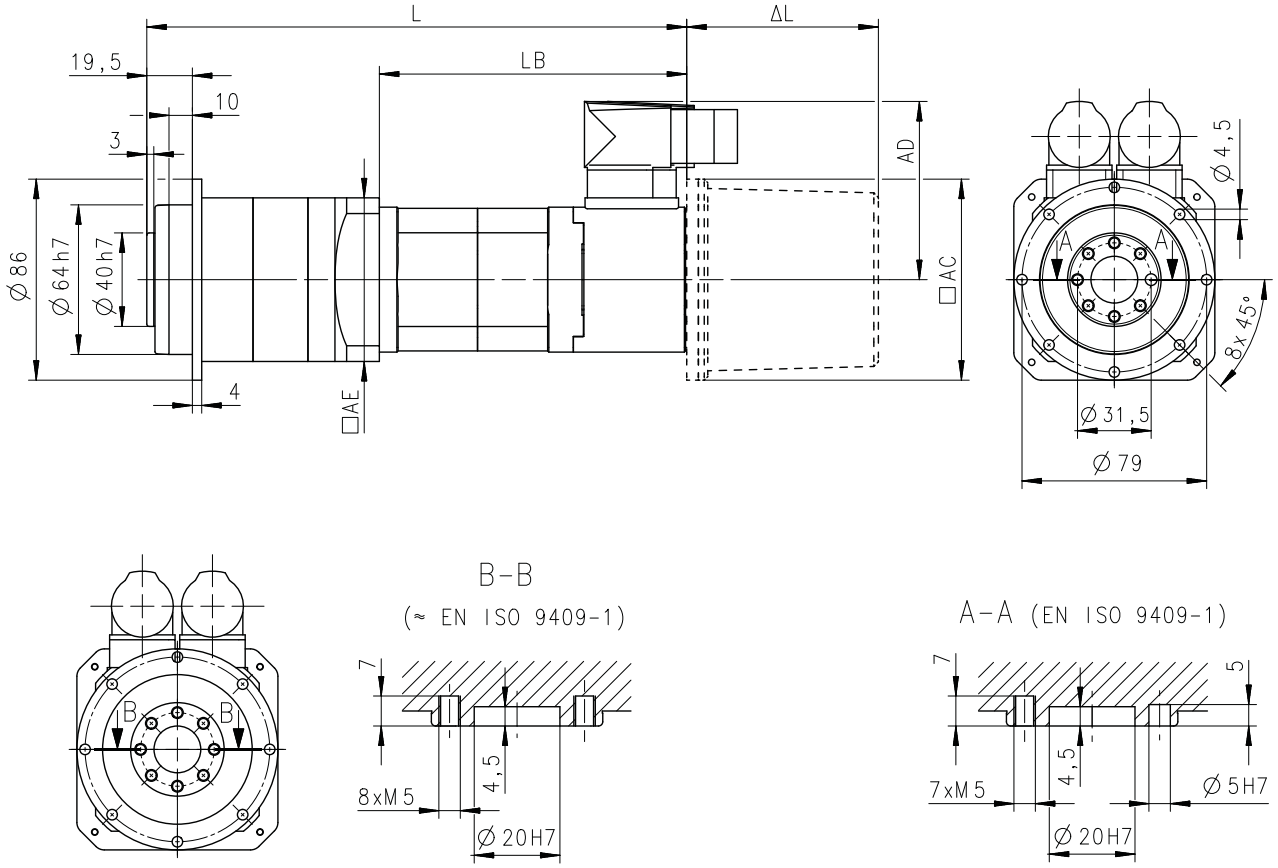
8800842-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	260	260	280	280	300	300	340	340
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g870-P77 with MCS09

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

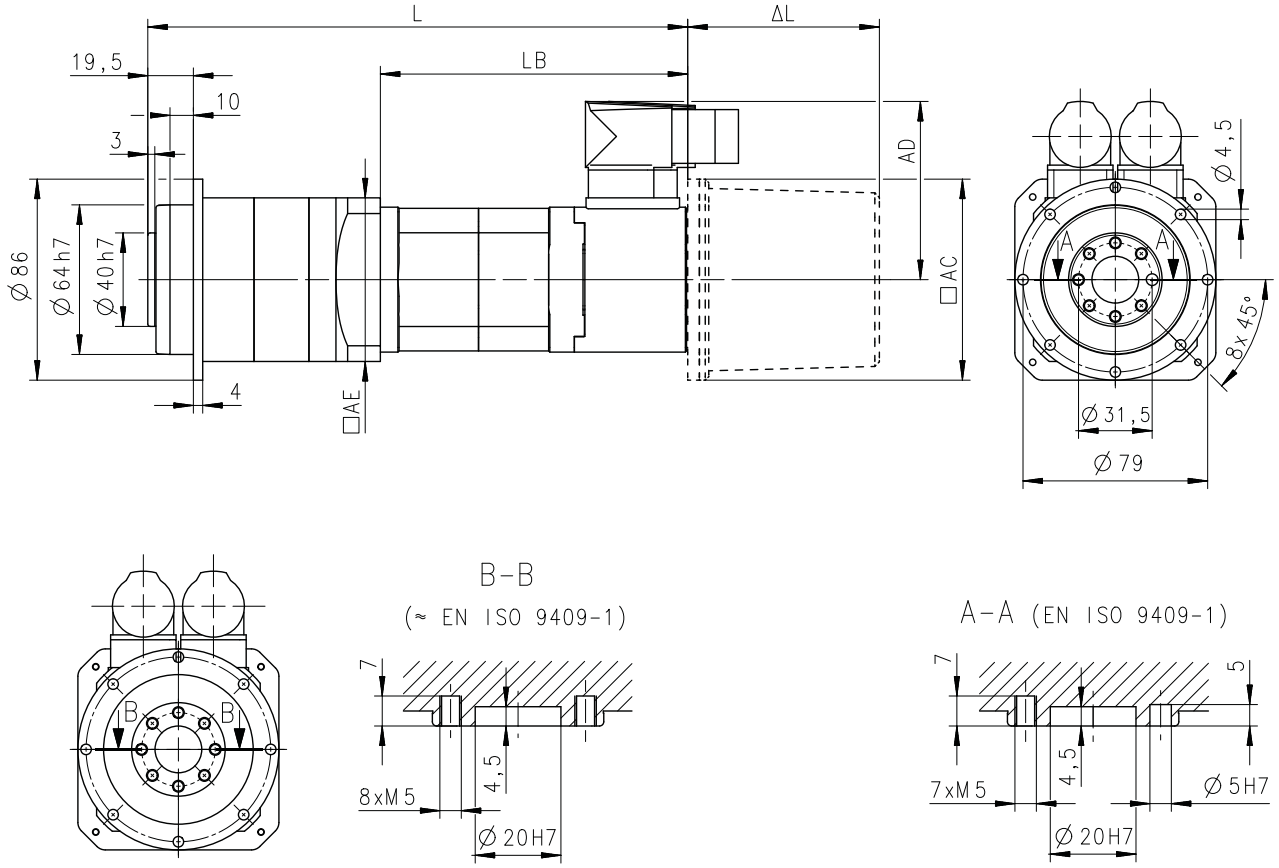


8800842-00

Motor			MCS 09				
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H60- H60L
Total length	L	mm	288.5	288.5	308.5	308.5	328.5
Motor length	LB	mm	182	182	202	202	222
Motor diameter	AC	mm	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90

g870-P77 with MCS12

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



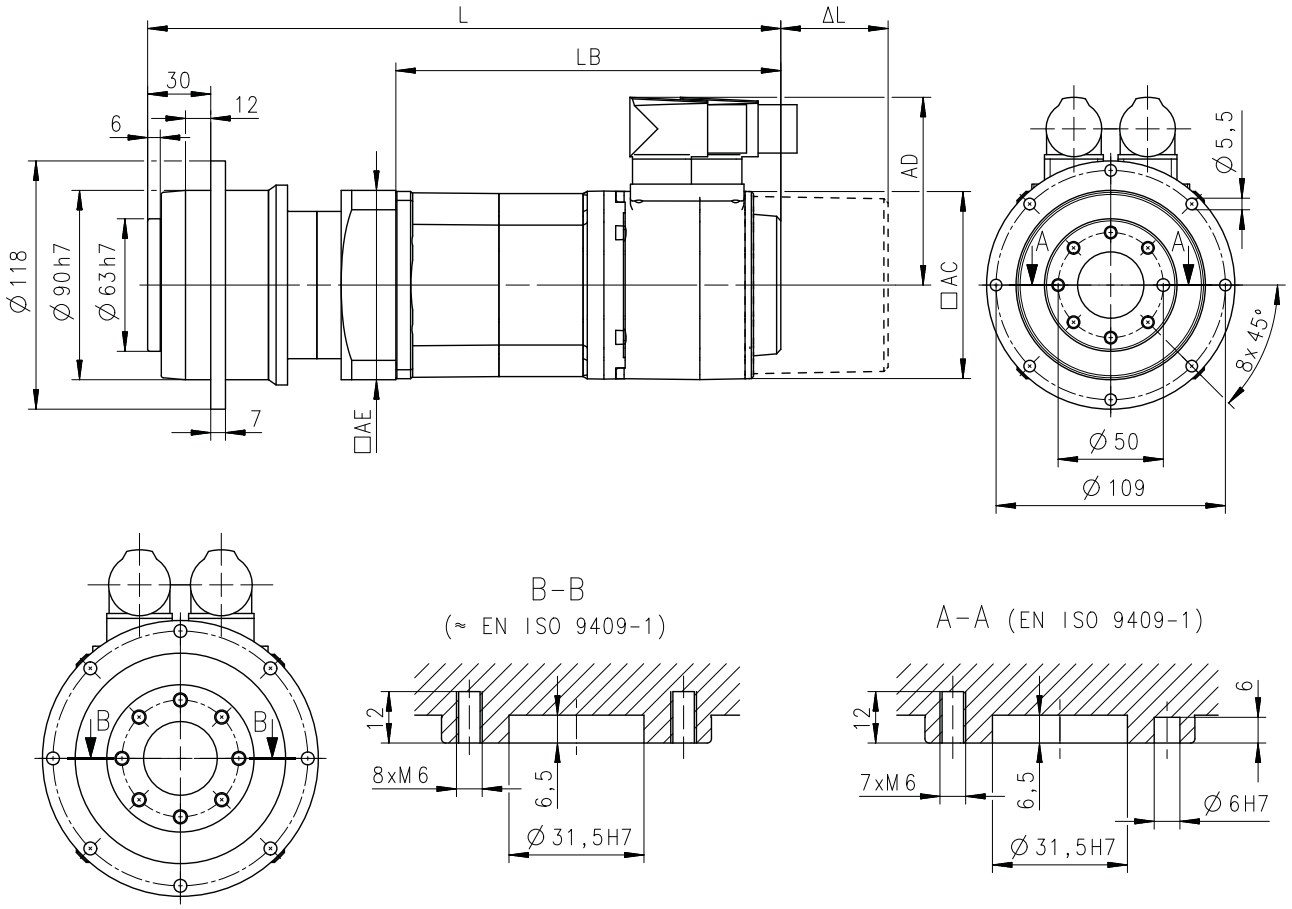
8800842-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	349.5	276.5	349.5	276.5	316.5	316.5	316.5
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115



g870-P150 with MCS06

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

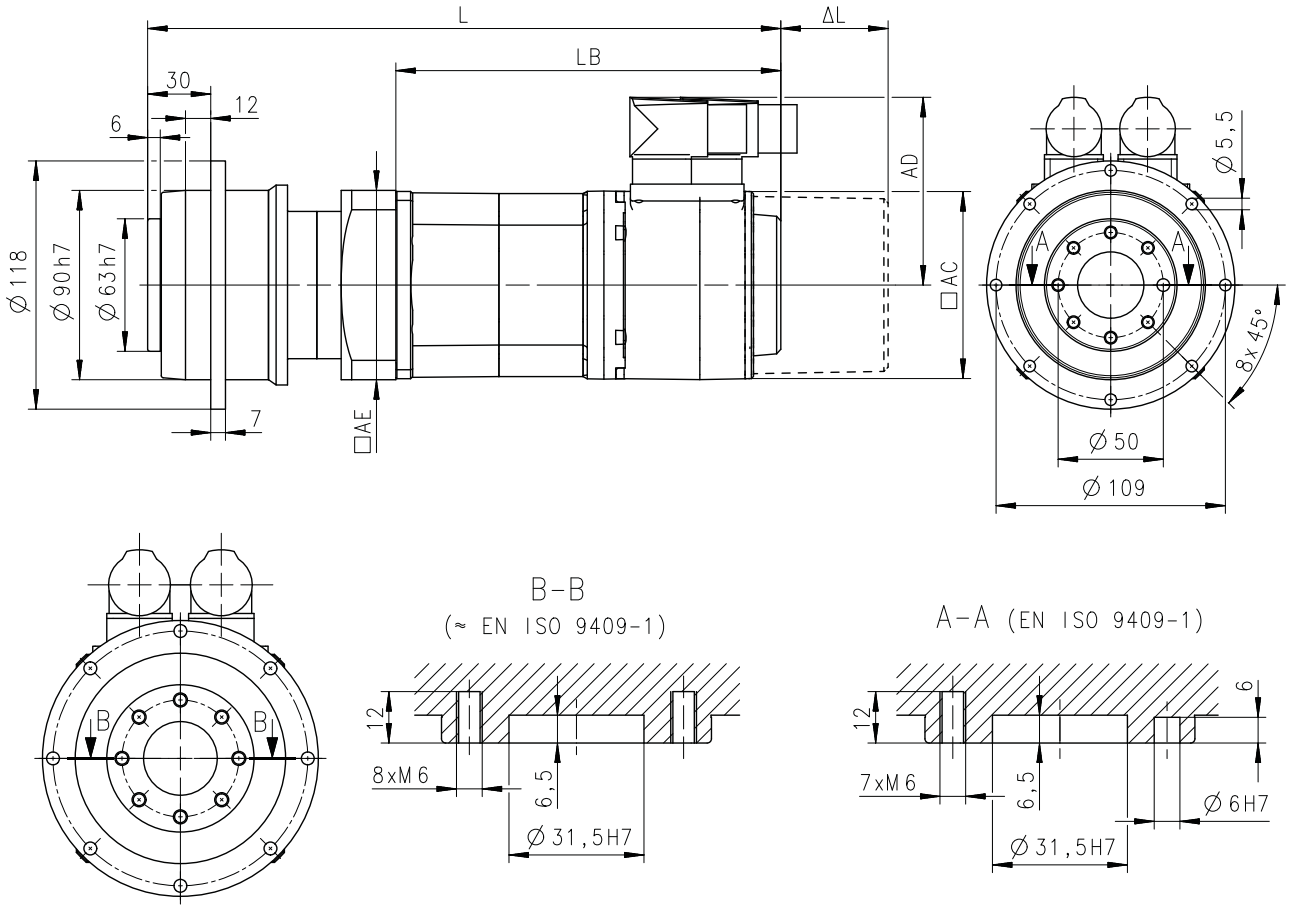


8800843-00

Motor			MCS 06		
			F41- F41L	I41- I41L	I60- I60L
Total length	L	mm	251	281	281
Motor length	LB	mm	162	192	192
Motor diameter	AC	mm	86	86	86
Motor/connection distance	AD	mm	77	77	77
Gearbox diameter	AE	mm	90	90	90

g870-P150 with MCS06

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



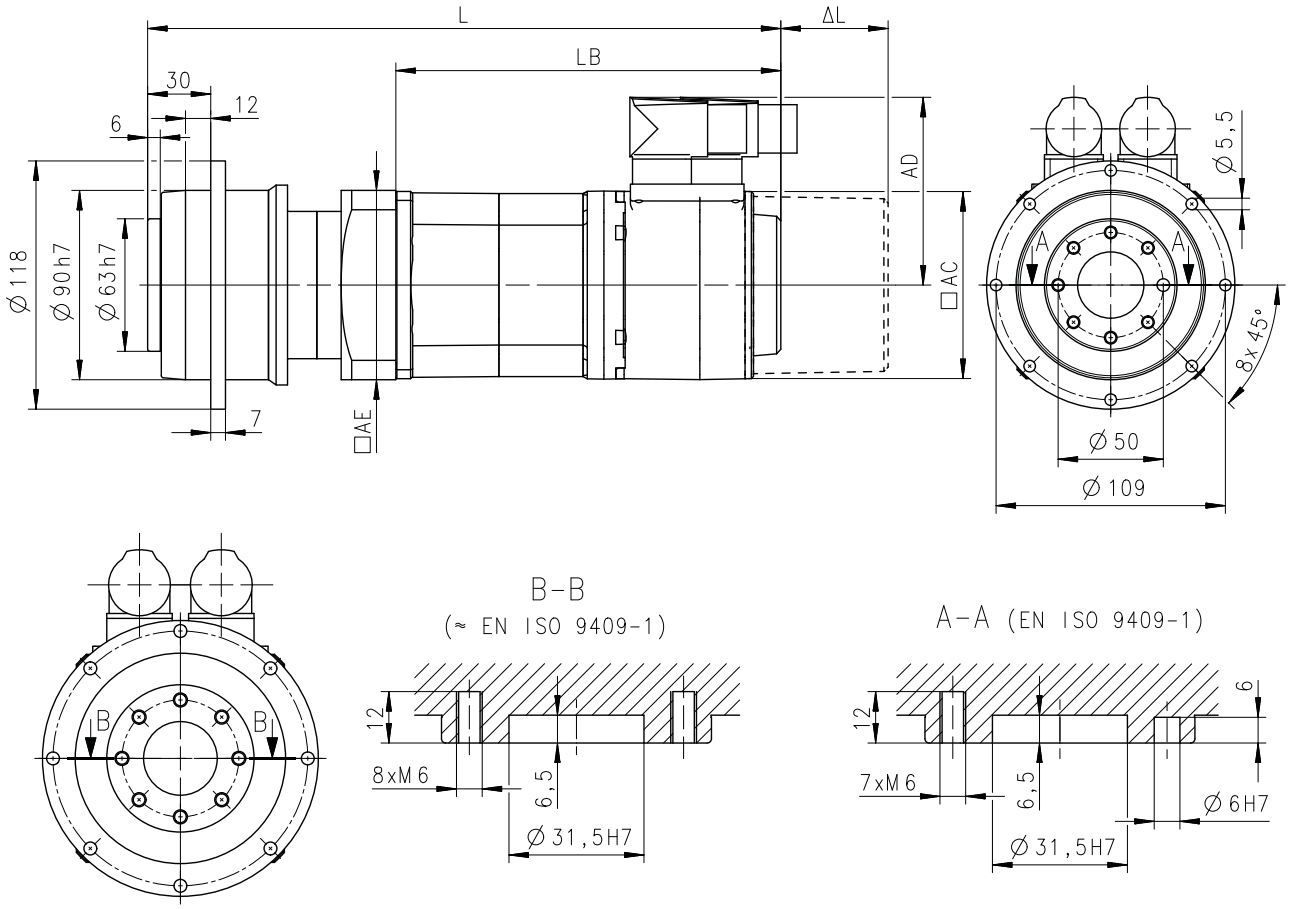
8800843-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	243	243	273	273	303	303
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70



g870-P150 with MCS09

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

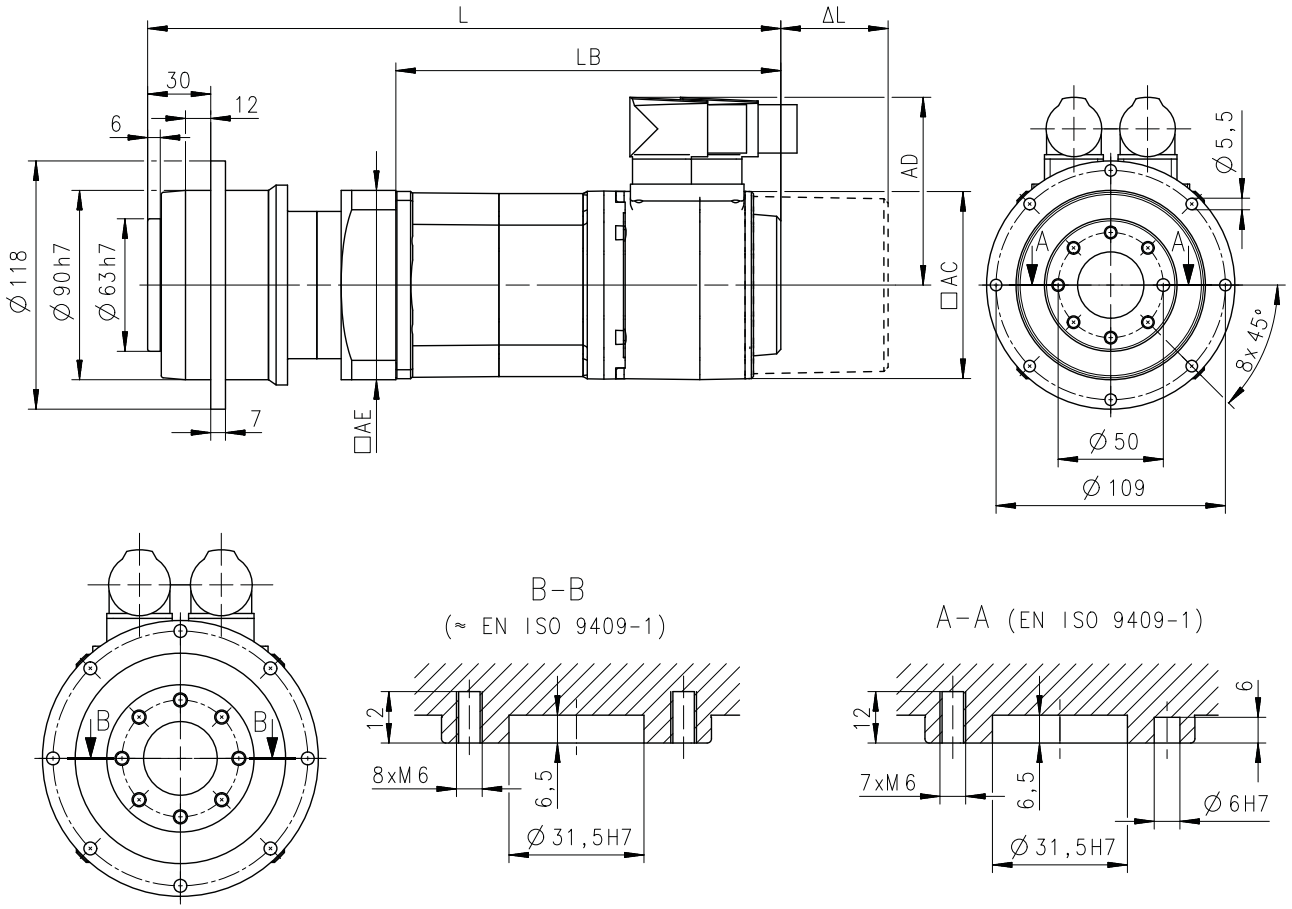


8800843-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	271	271	291	291	311	311	351	351
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g870-P150 with MCS09

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

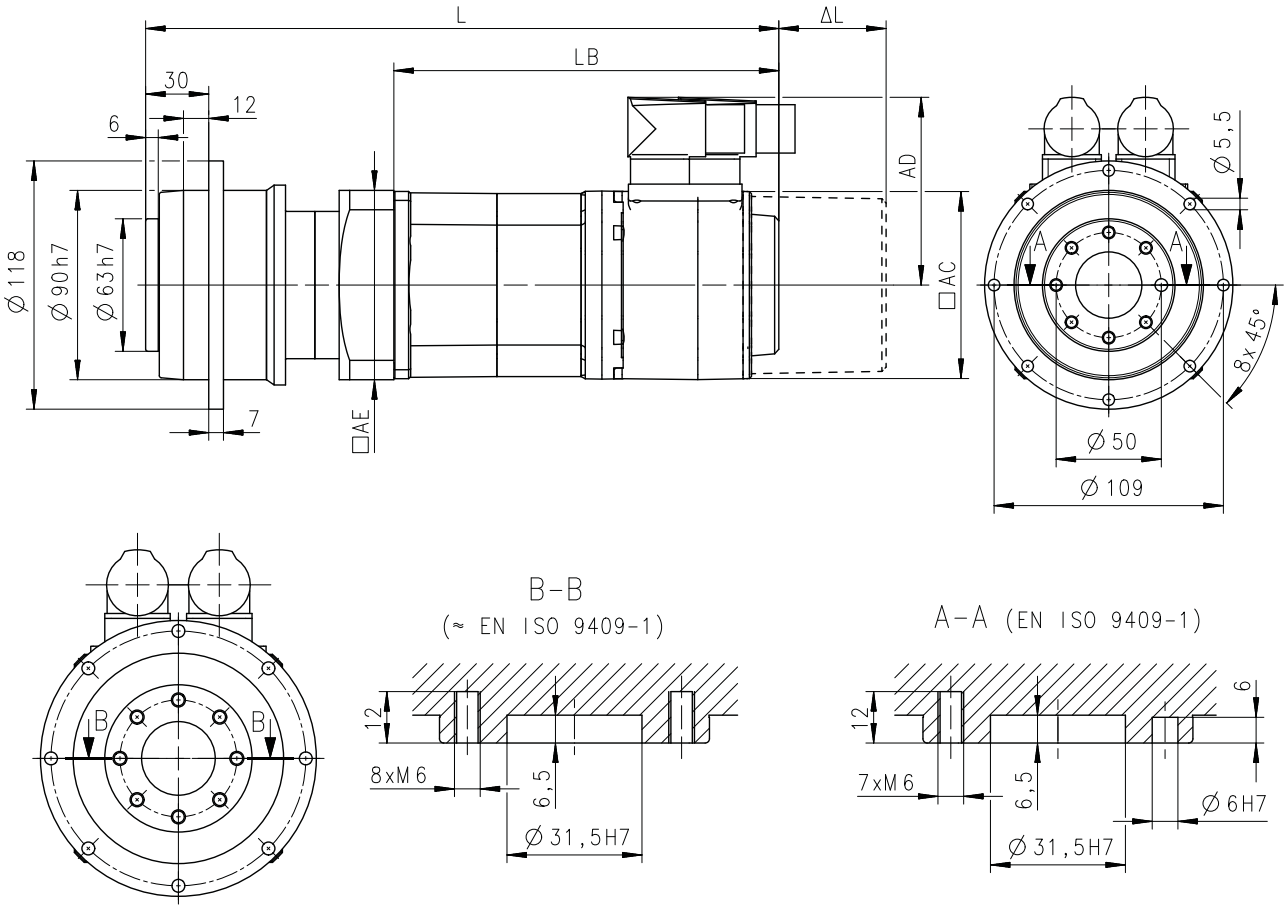


8800843-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	300	300	320	320	340	340	380	380
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g870-P150 with MCS12

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

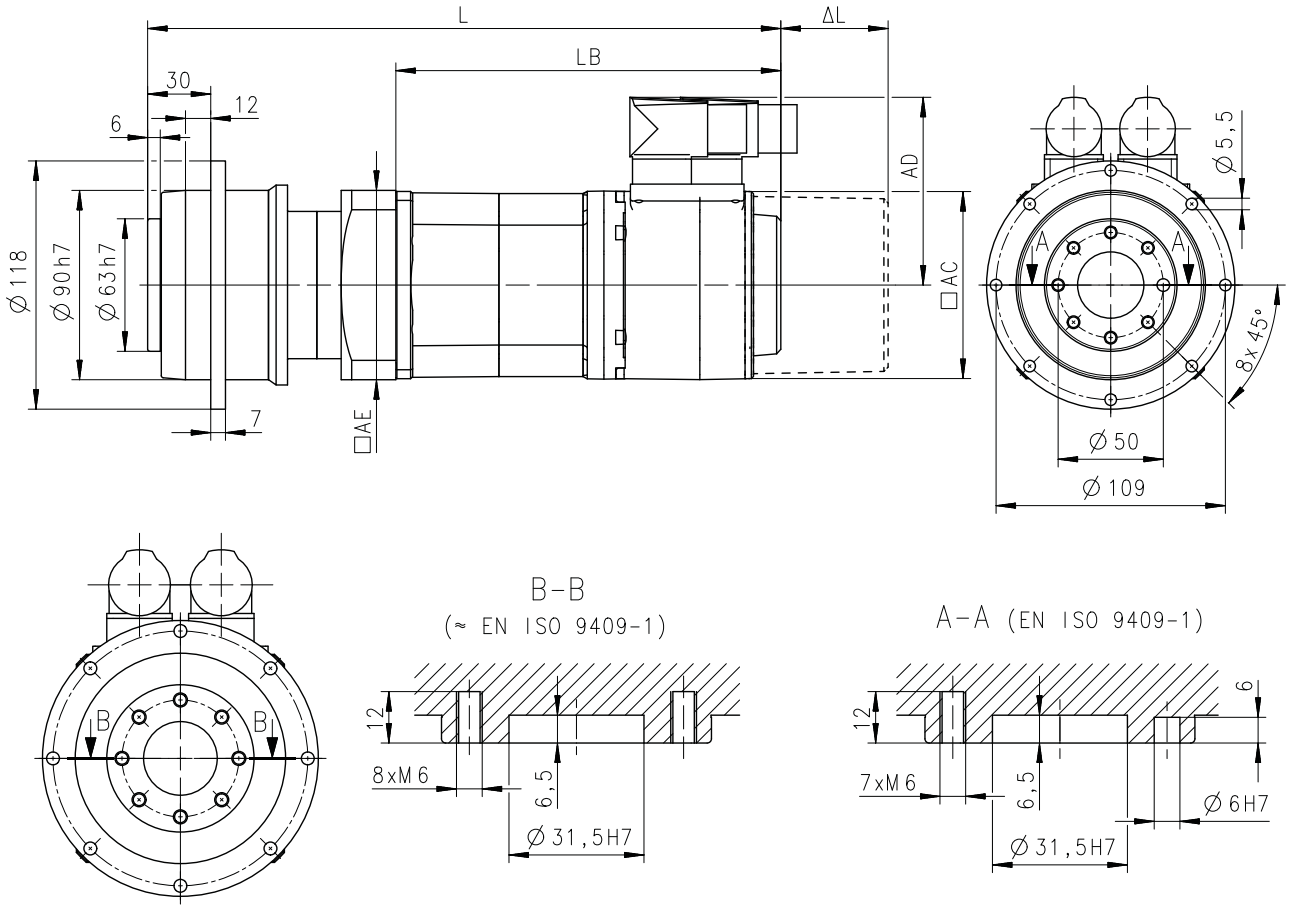


8800843-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	360	287	360	287	400	327	327	400	327	450	367	440	367
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115

g870-P150 with MCS12

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



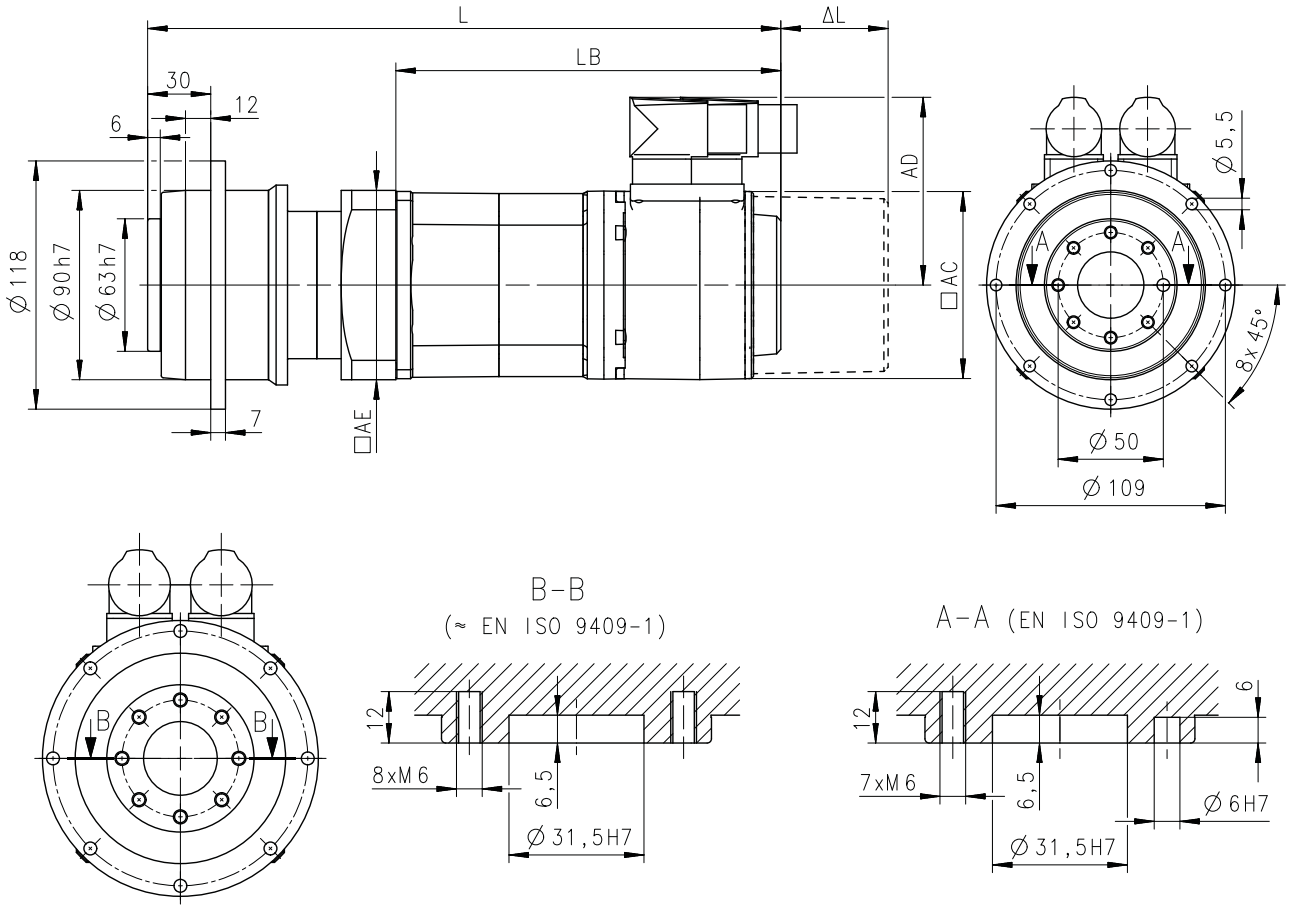
8800843-00

Motor			MCS 12					
			D17-	D20- D20L	D35-	D41- D41L	H30L	H35-
Total length	L	mm	389.5	316.5	389.5	316.5	356.5	356.5
Motor length	LB	mm	261	188	261	188	228	228
Motor diameter	AC	mm	140	116	140	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115



g870-P150 with MCS14

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

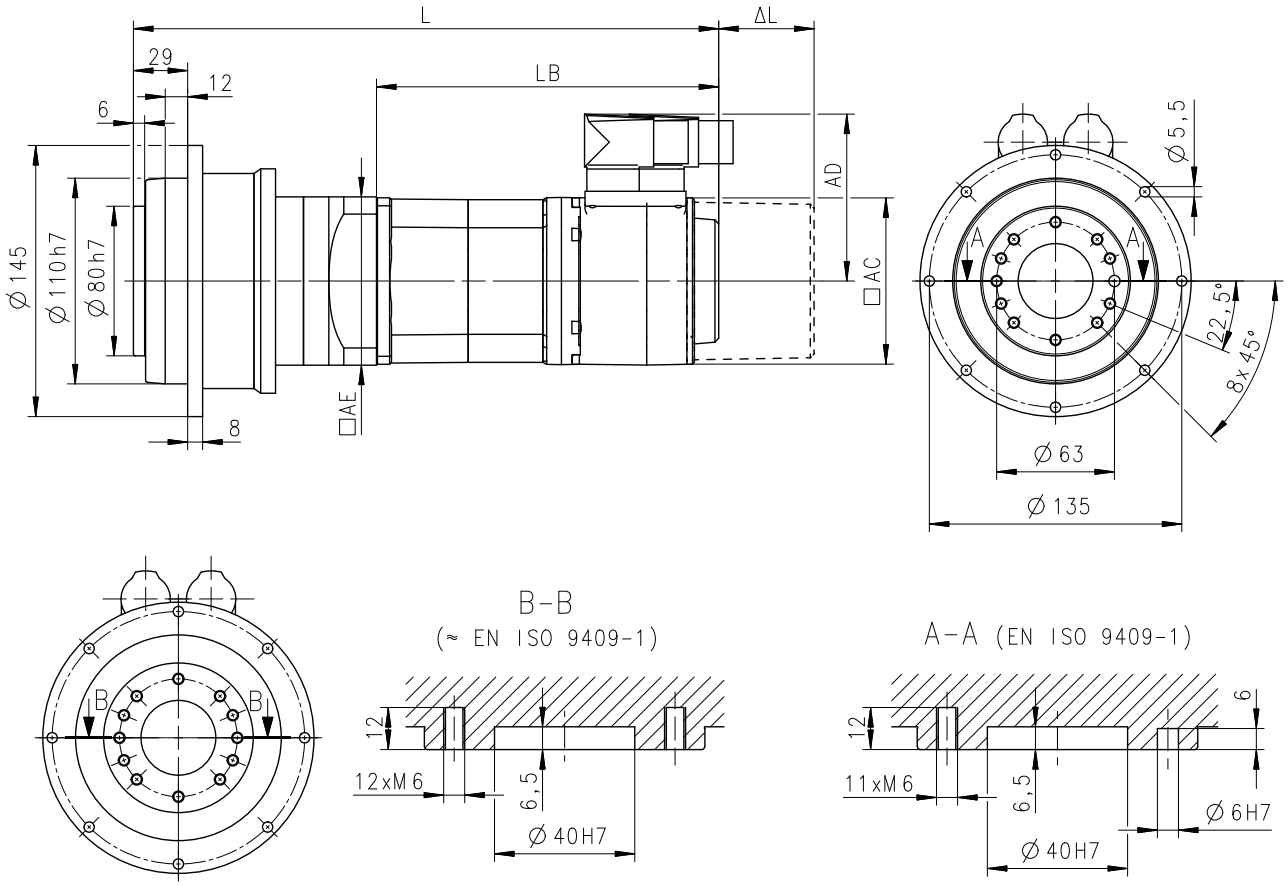


8800843-00

Motor			MCS 14					
			D14-	D15-	D30-	D36-	H15-	H32-
Total length	L	mm	398	310	398	310	350	350
Motor length	LB	mm	289	201	289	201	241	241
Motor diameter	AC	mm	167	143	167	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117
Gearbox diameter	AE	mm	142	142	142	142	142	142

g870-P300 with MCS06

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



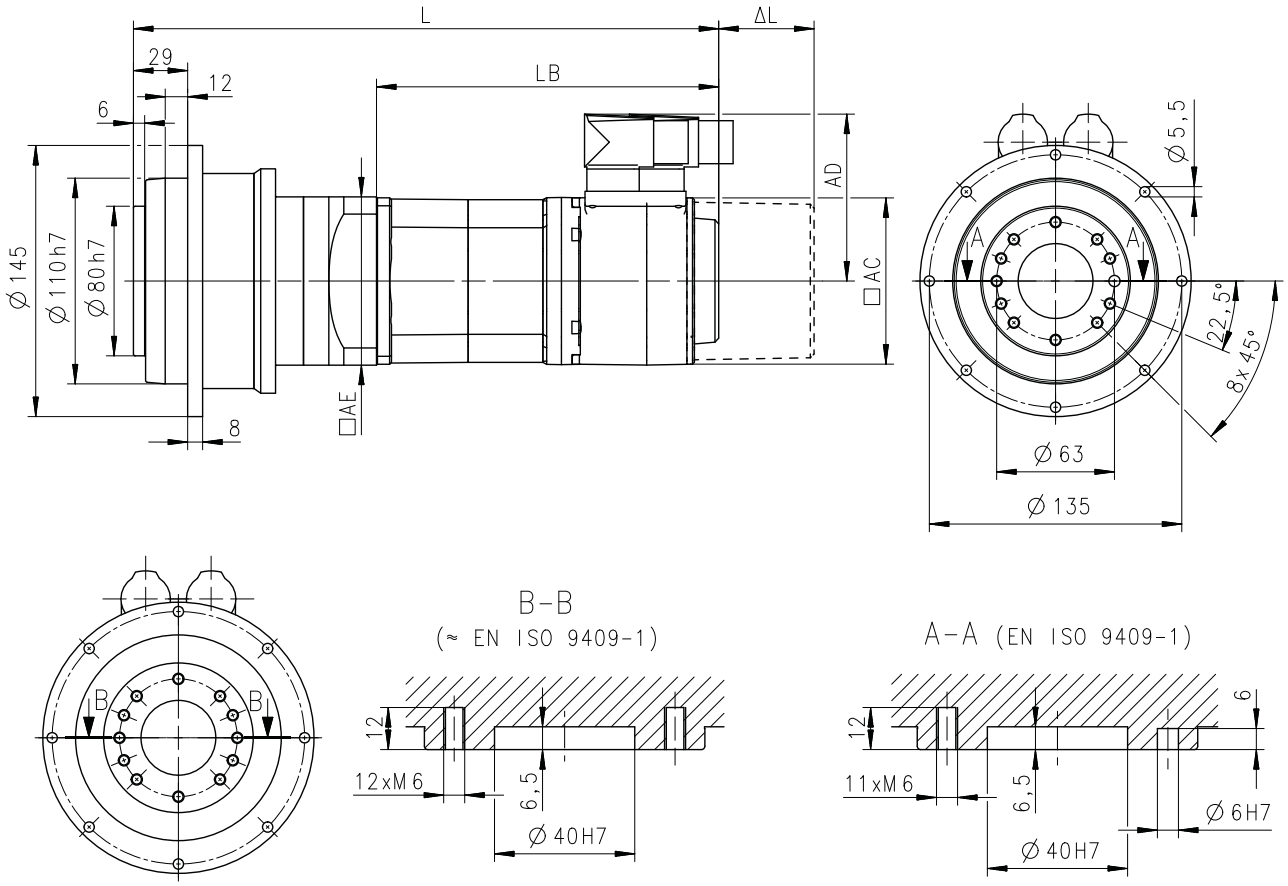
8800840-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	262	262	292	292	322	322
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	90	90	90	90	90	90



g870-P300 with MCS09

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

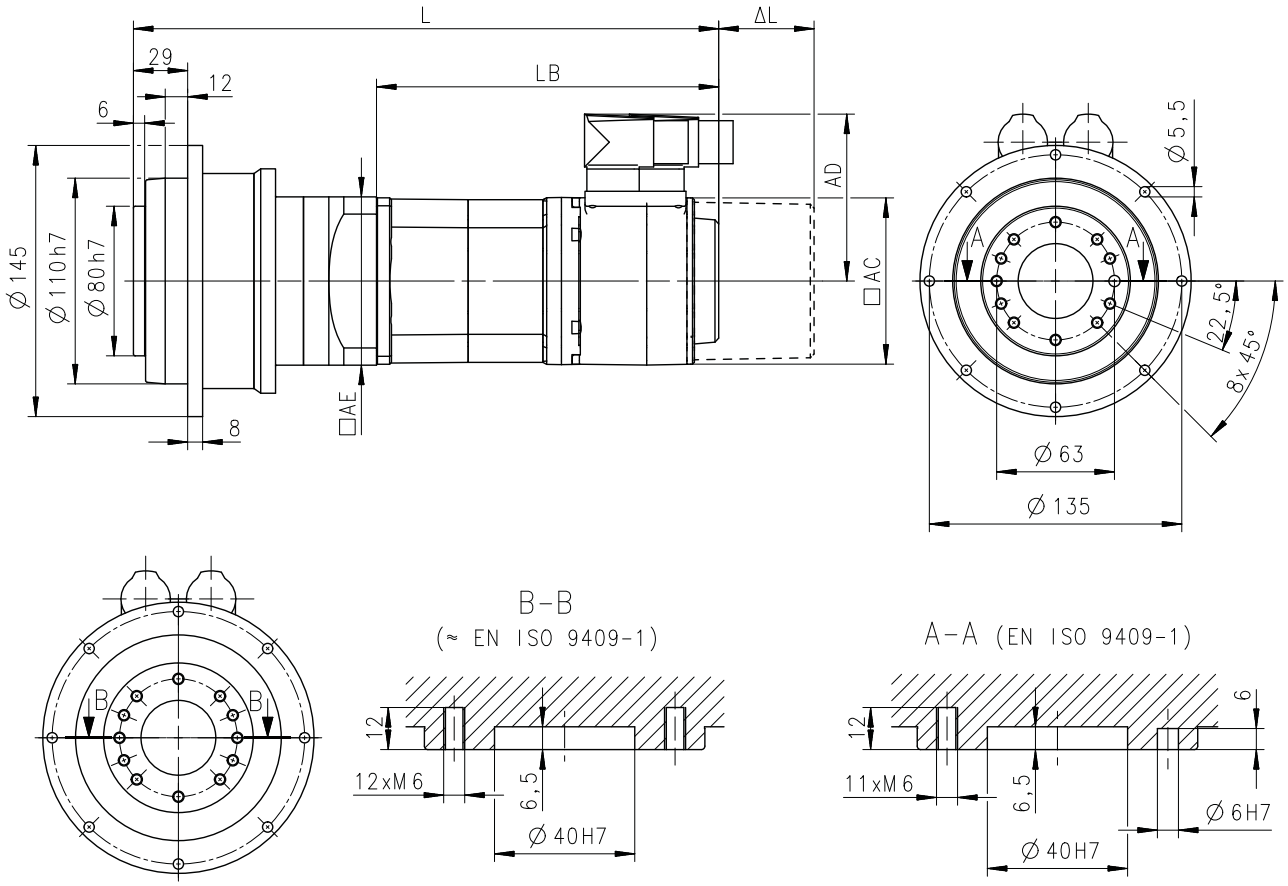


8800840-00

Motor			MCS 09						
			D41- D41L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	290	310	310	330	330	370	370
Motor length	LB	mm	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115

g870-P300 with MCS09

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



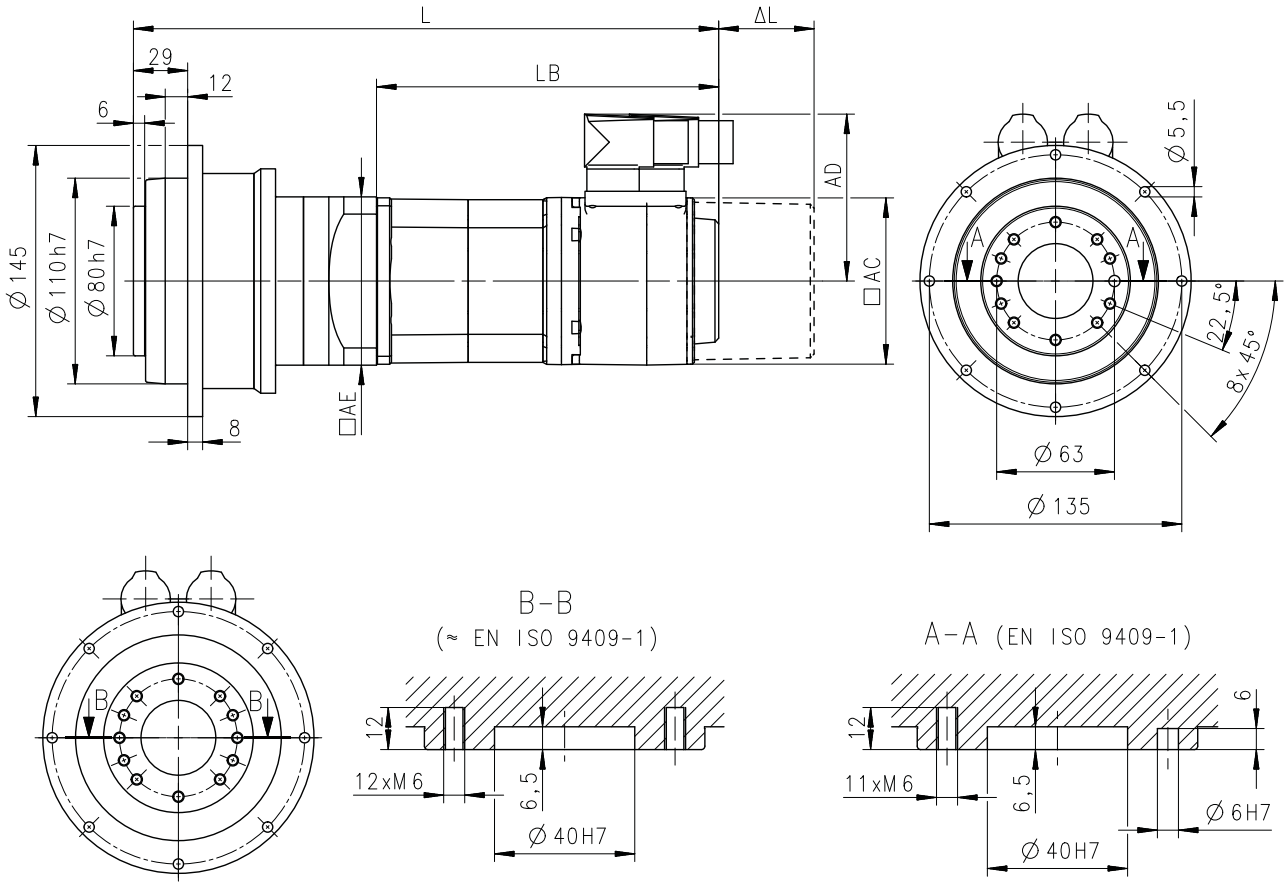
8800840-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	312	312	332	332	352	352	392	392
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g870-P300 with MCS12

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

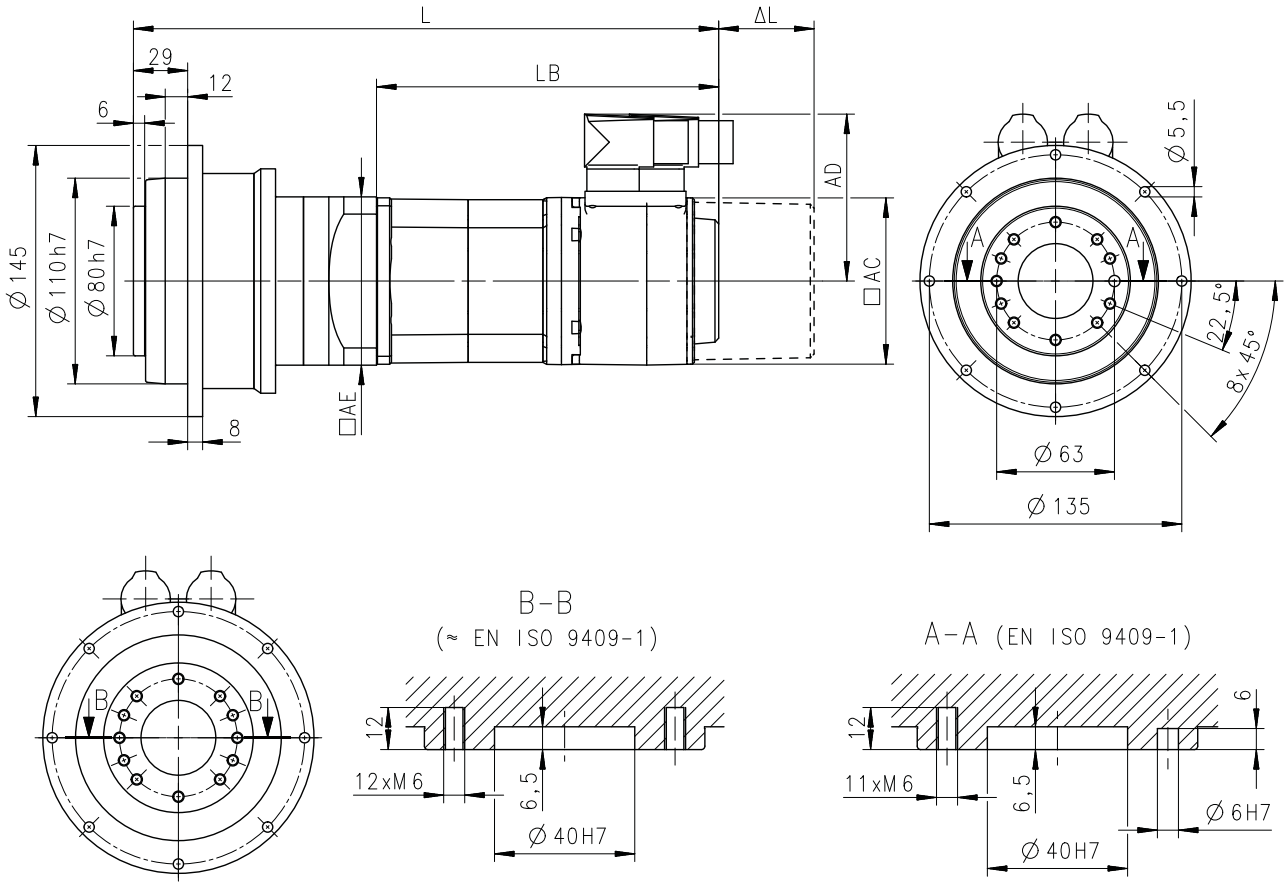


8800840-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	369	296	369	296	409	336	336	409	336	459	376	449	376
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	120	120	120	120	120	120	120	120	120	120	120	120	120

g870-P300 with MCS12

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



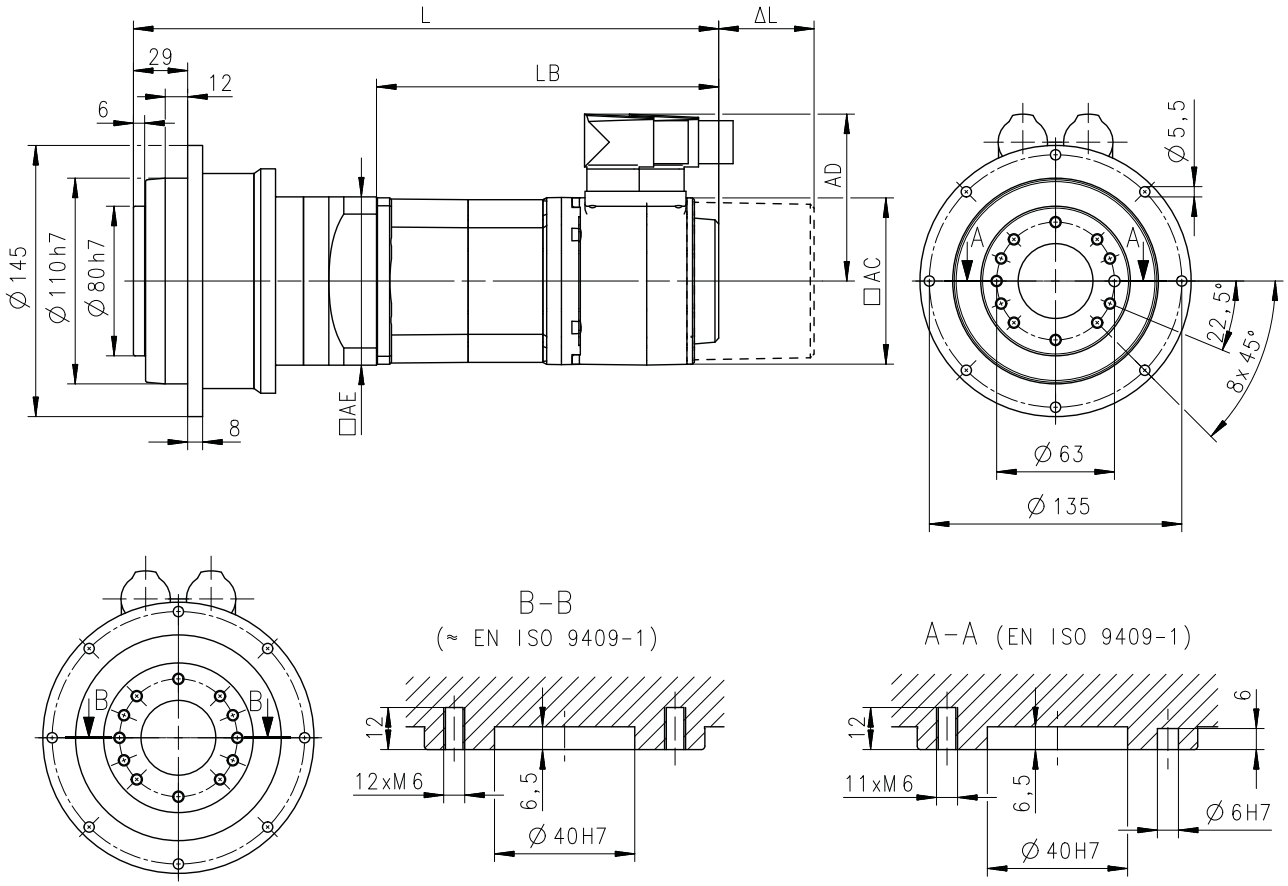
8800840-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	401	328	401	328	441	368	368	441	368	491	408	481	408
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115



g870-P300 with MCS14

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

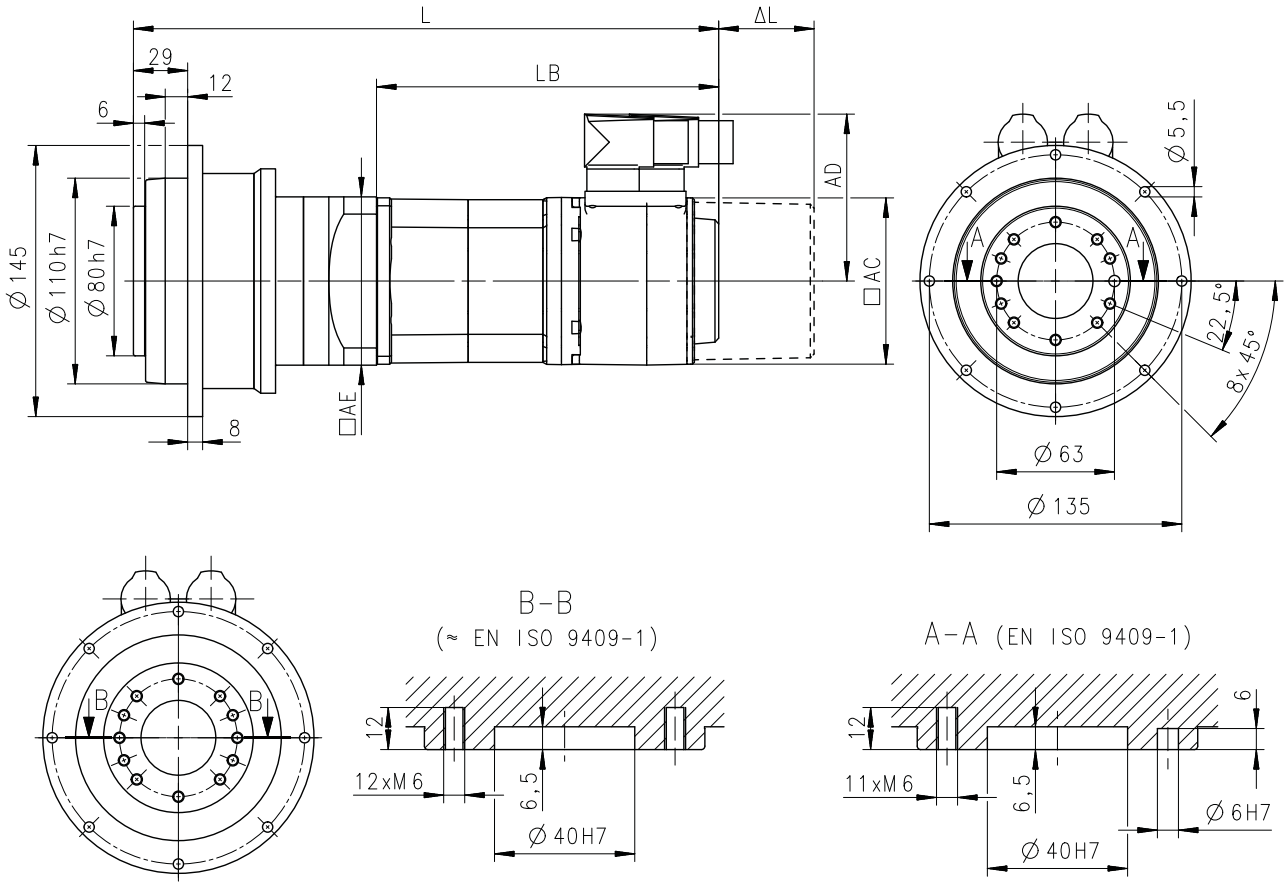


8800840-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	407	319	407	319	447	359	447	359	487	399	487	399	527	439	527	439
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142

g870-P300 with MCS14

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



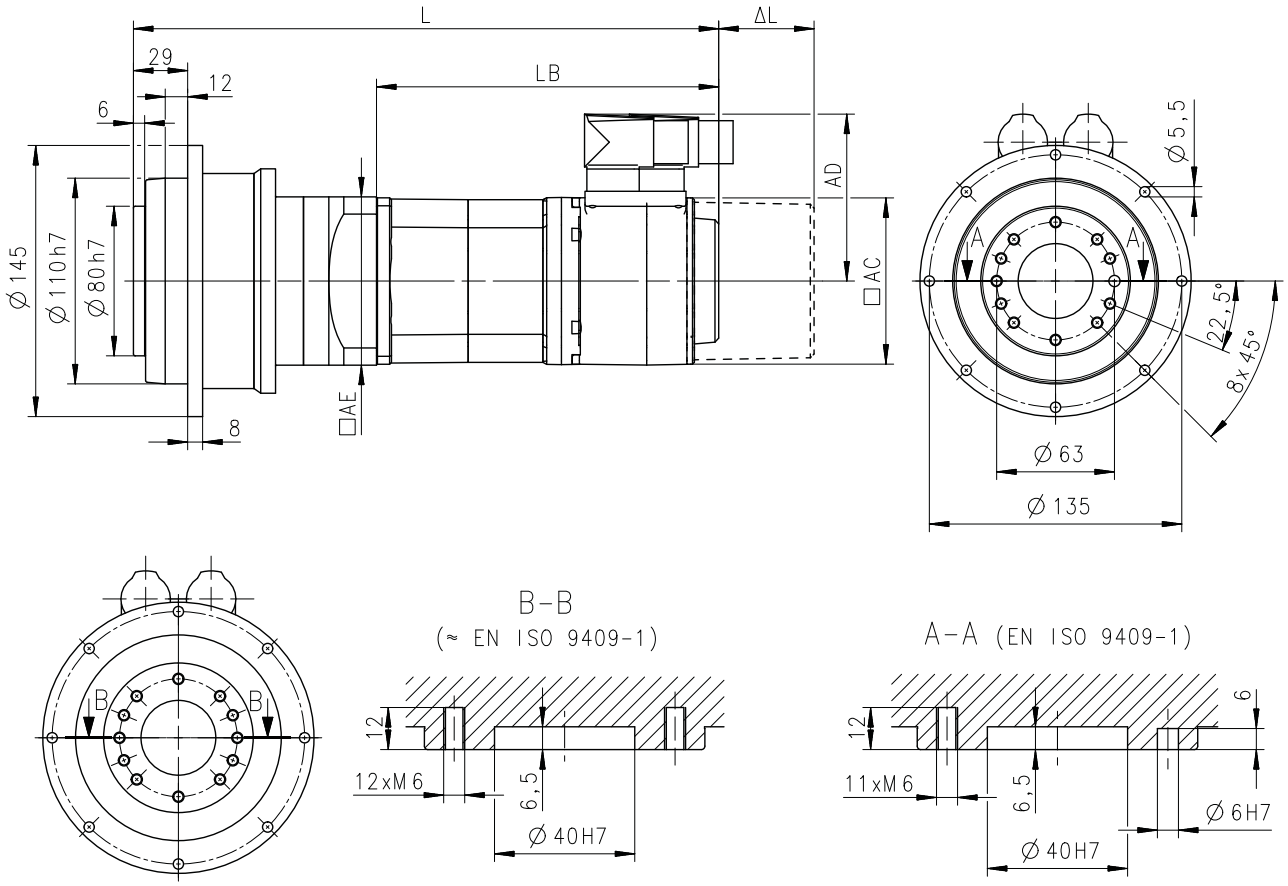
8800840-00

Motor			MCS 14					
			D14-	D15-	D30-	D36-	H15-	H32-
Total length	L	mm	439	351	439	351	391	391
Motor length	LB	mm	289	201	289	201	241	241
Motor diameter	AC	mm	167	143	167	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117
Gearbox diameter	AE	mm	142	142	142	142	142	142



g870-P300 with MCS19

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

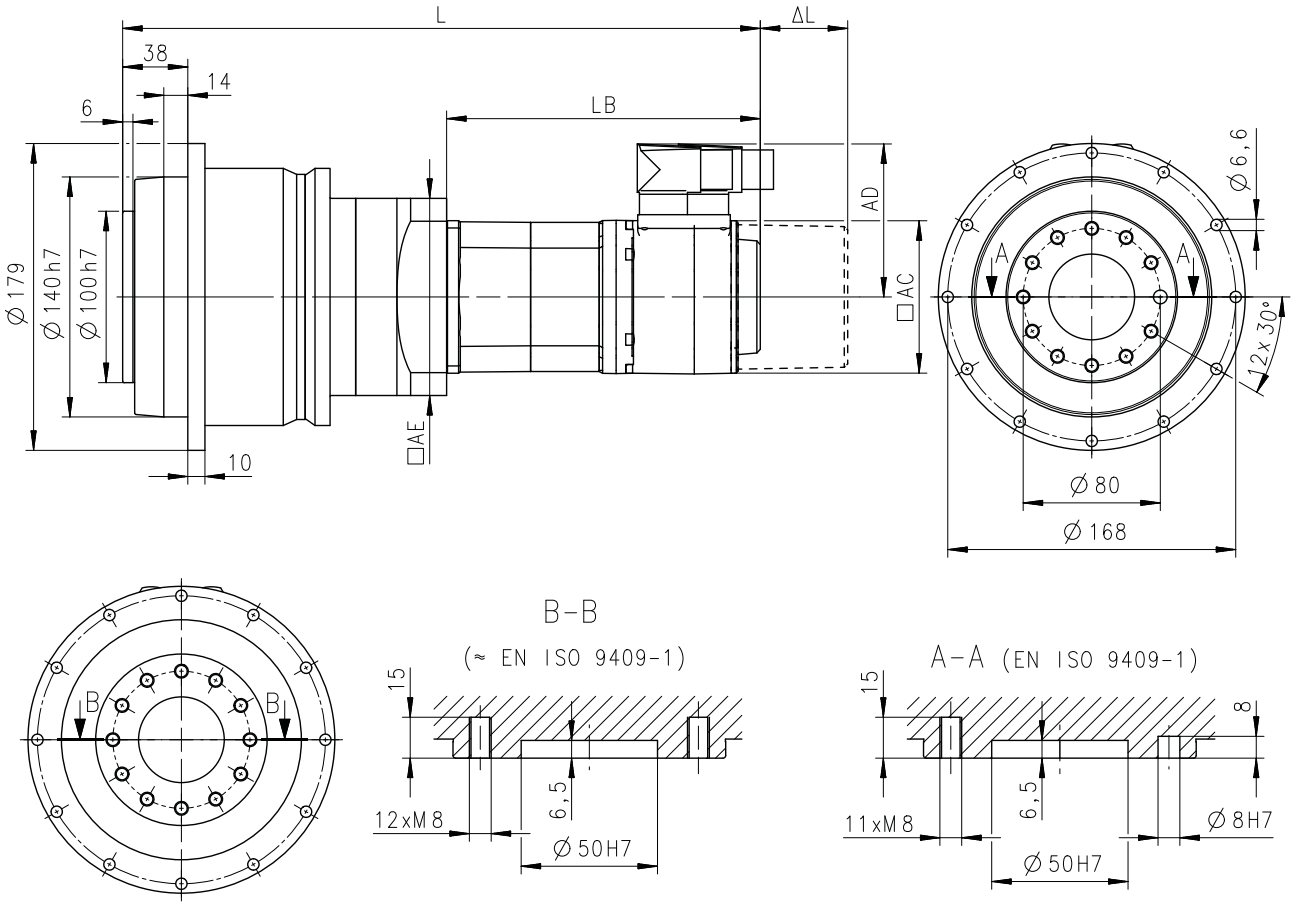


8800840-00

Motor			MCS 19				
			F12-	F14-	F30-	J14-	J30-
Total length	L	mm	456	349	349	389	389
Motor length	LB	mm	327	220	220	260	260
Motor diameter	AC	mm	212	192	192	192	192
Motor/connection distance	AD	mm	142	142	171	142	171
Gearbox diameter	AE	mm	190	190	190	190	190

g870-P1000 with MCS06

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



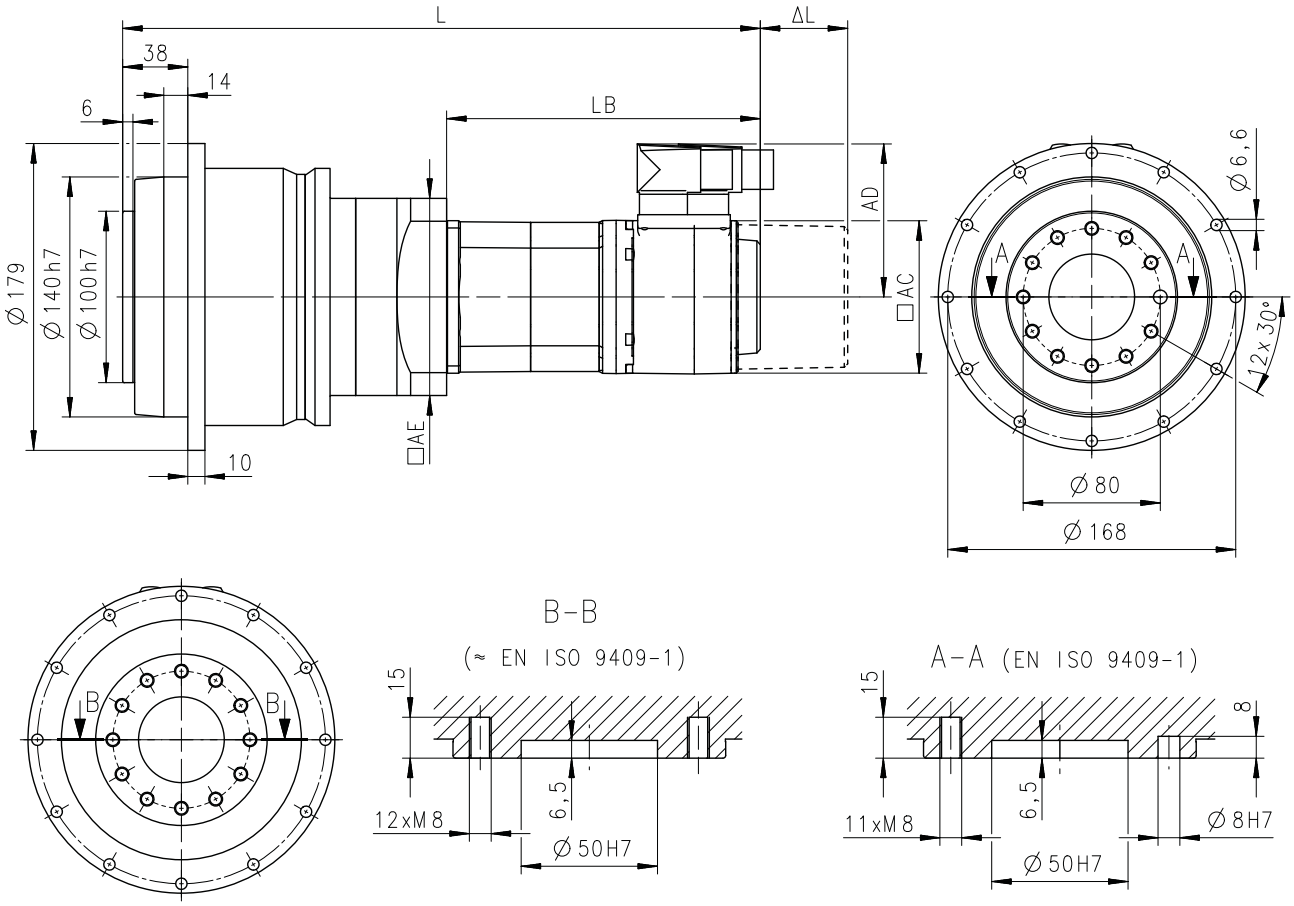
8800841-00

Motor			MCS 06				
			C41- C41L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	319.5	349.5	349.5	379.5	379.5
Motor length	LB	mm	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115



g870-P1000 with MCS09

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

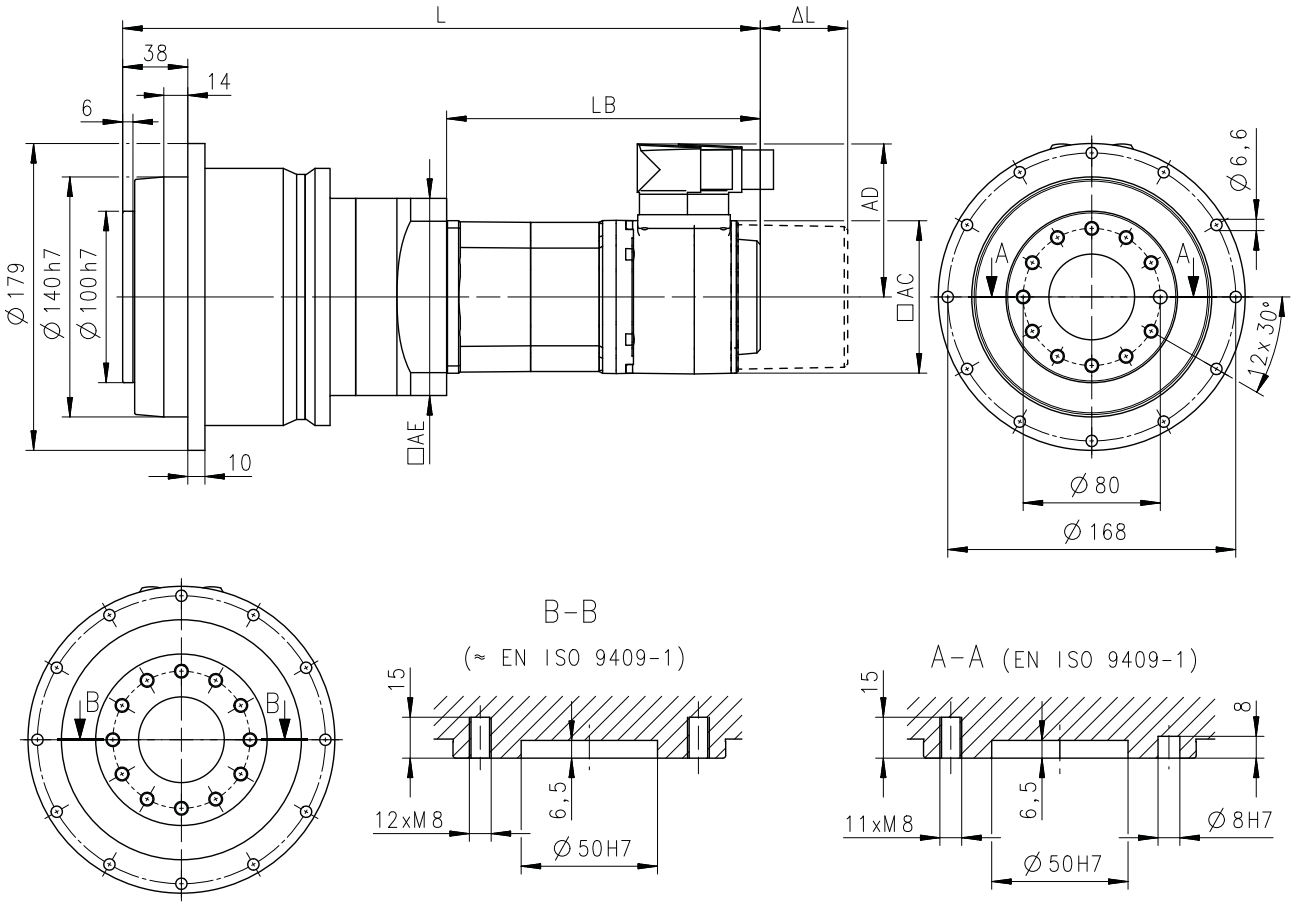


8800841-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	369.5	369.5	389.5	389.5	409.5	409.5	449.5	449.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115

g870-P1000 with MCS12

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



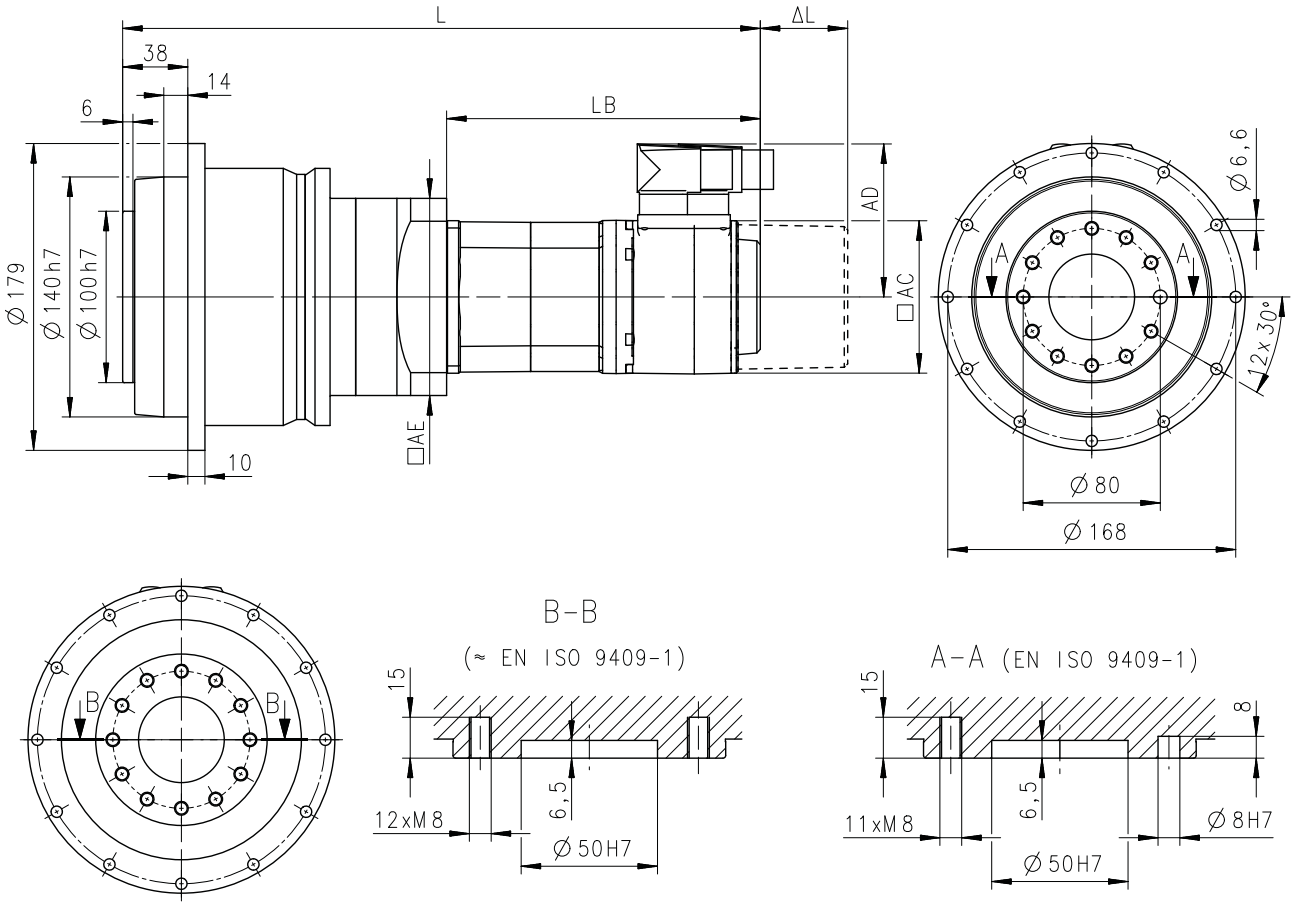
8800841-00

Motor			MCS 12											
			D17-	D20- D20L	D35-	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	418	345	418	458	385	385	458	385	508	425	498	425
Motor length	LB	mm	261	188	261	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142



g870-P1000 with MCS12

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

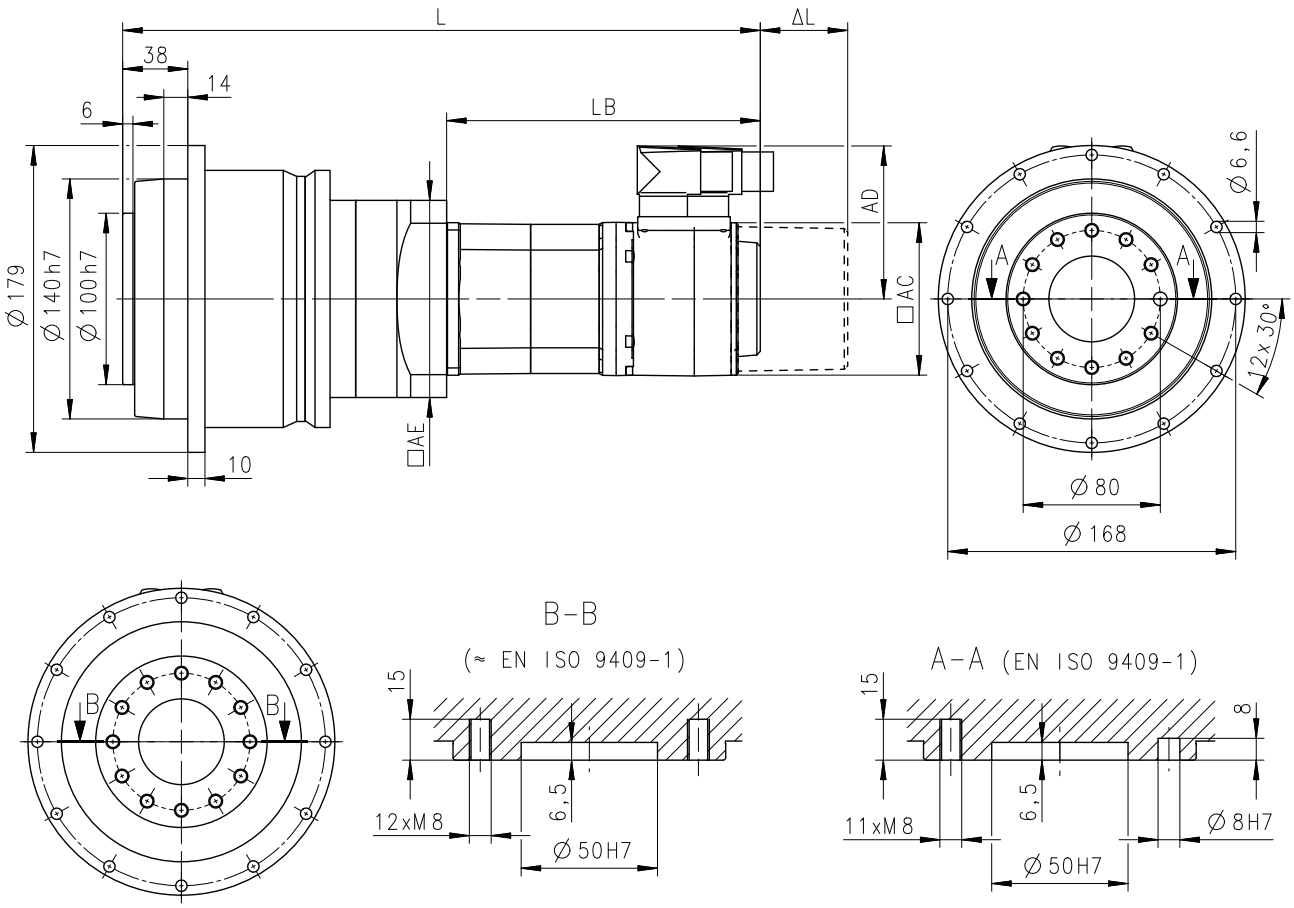


8800841-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	448.5	375.5	448.5	375.5	488.5	415.5	415.5	488.5	415.5	538.5	455.5	528.5	455.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	120	120	120	120	120	120	120	120	120	120	120	120	120

g870-P1000 with MCS14

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



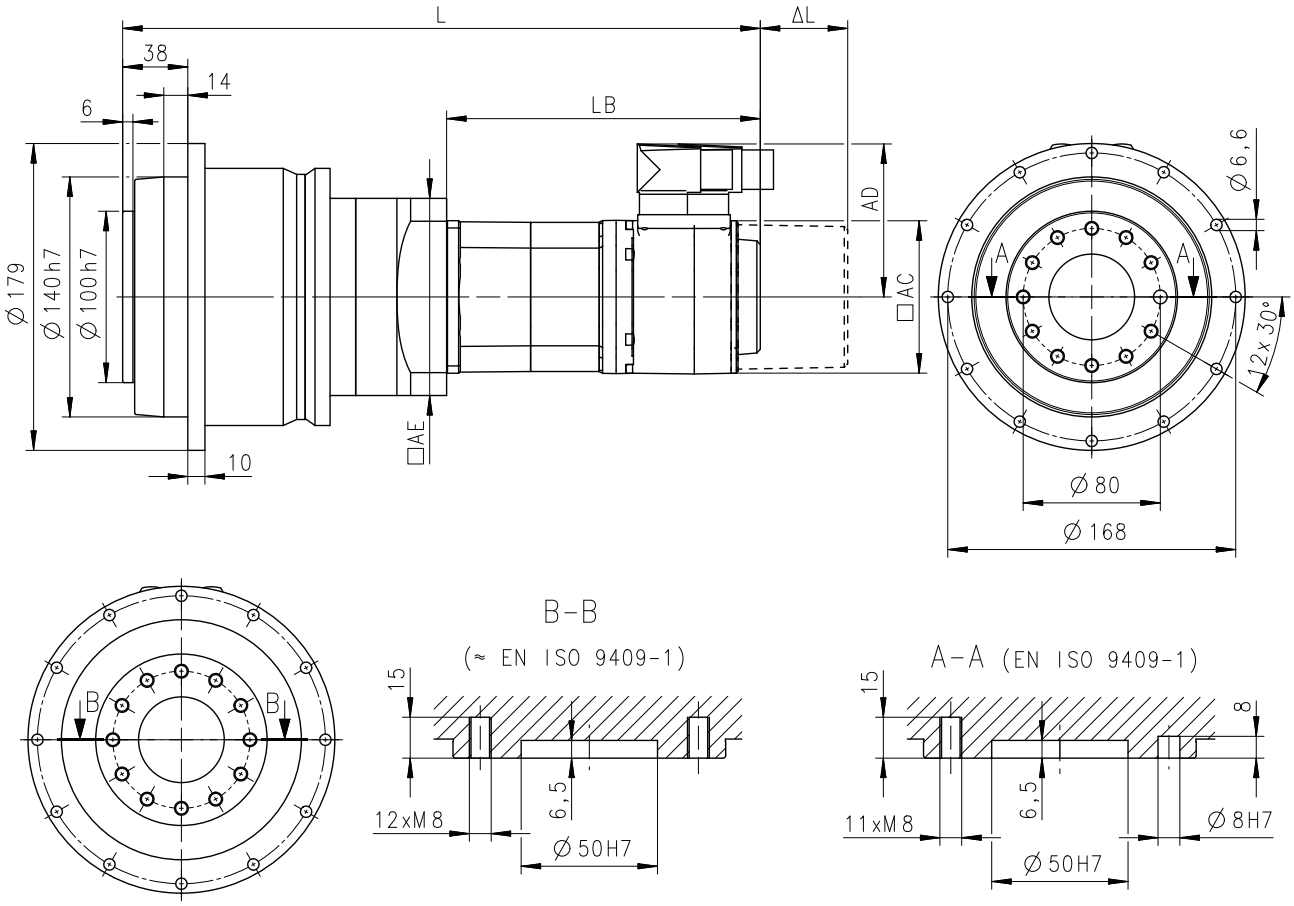
8800841-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	446	358	446	358	486	398	486	398	526	438	526	438	566	478	566	478
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142



g870-P1000 with MCS14

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

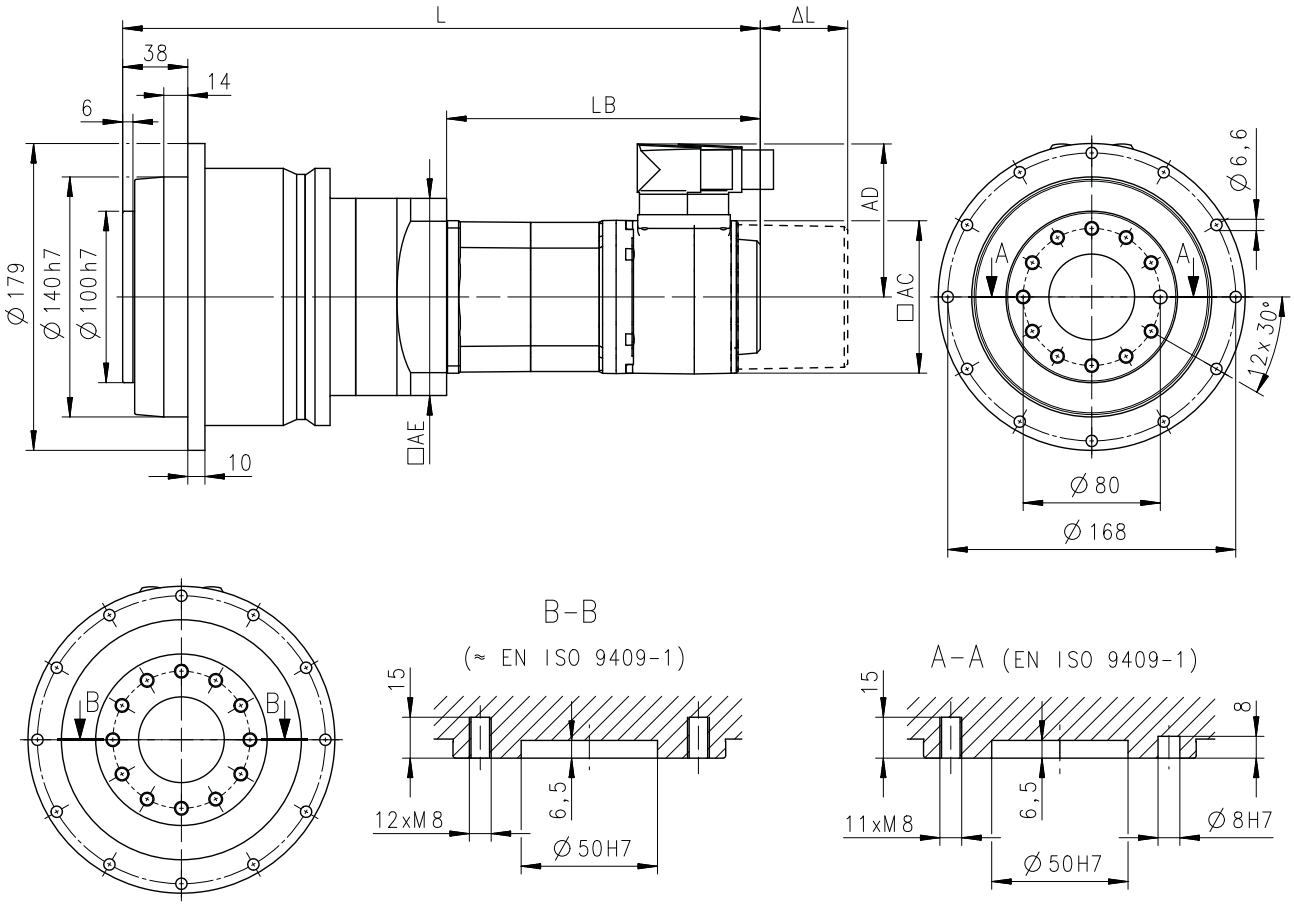


8800841-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	486.5	398.5	486.5	398.5	526.5	438.5	526.5	438.5	566.5	478.5	566.5	478.5	606.5	518.5	606.5	518.5
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142

g870-P1000 with MCS19

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



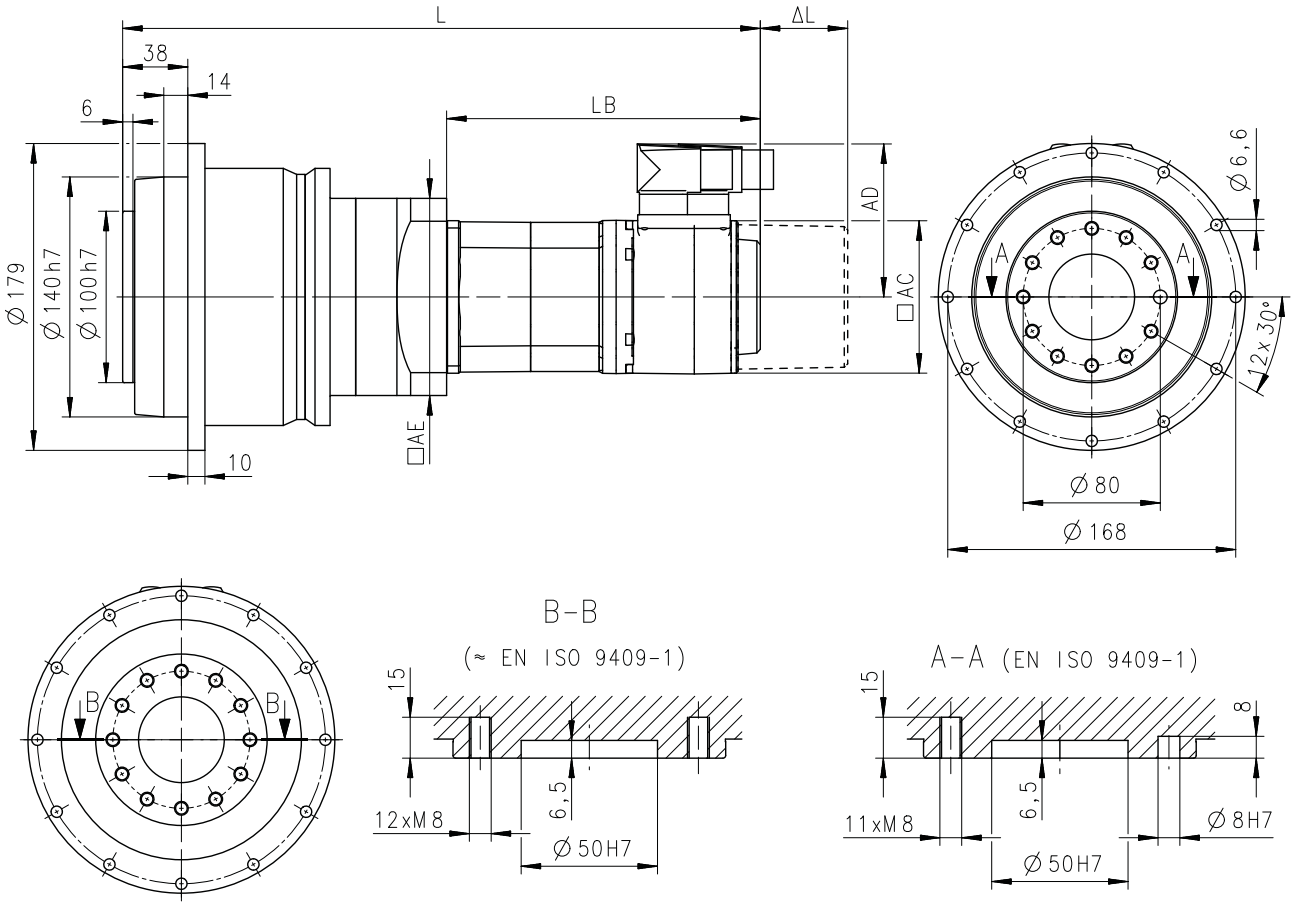
8800841-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	494	387	494	387	534	427	534	427	594	487	594	487
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190



g870-P1000 with MCS19

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

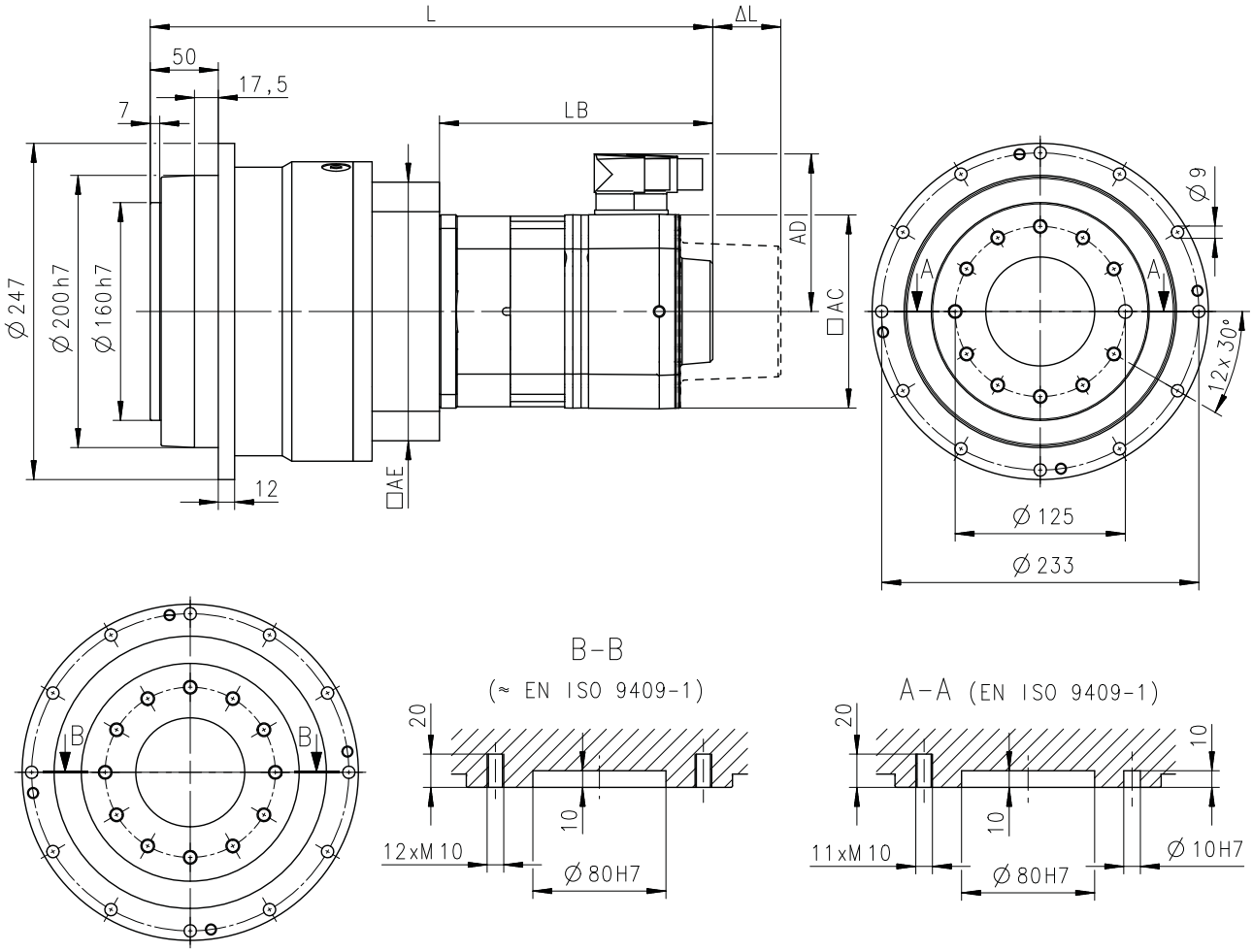


8800841-00

Motor			MCS 19					
			F12-	F14-	F30-	J12-	J14-	J30-
Total length	L	mm	534.5	427.5	427.5	574.5	467.5	467.5
Motor length	LB	mm	327	220	220	367	260	260
Motor diameter	AC	mm	212	192	192	212	192	192
Motor/connection distance	AD	mm	142	142	171	171	142	171
Gearbox diameter	AE	mm	190	190	190	190	190	190

g870-P1800 with MCS12

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



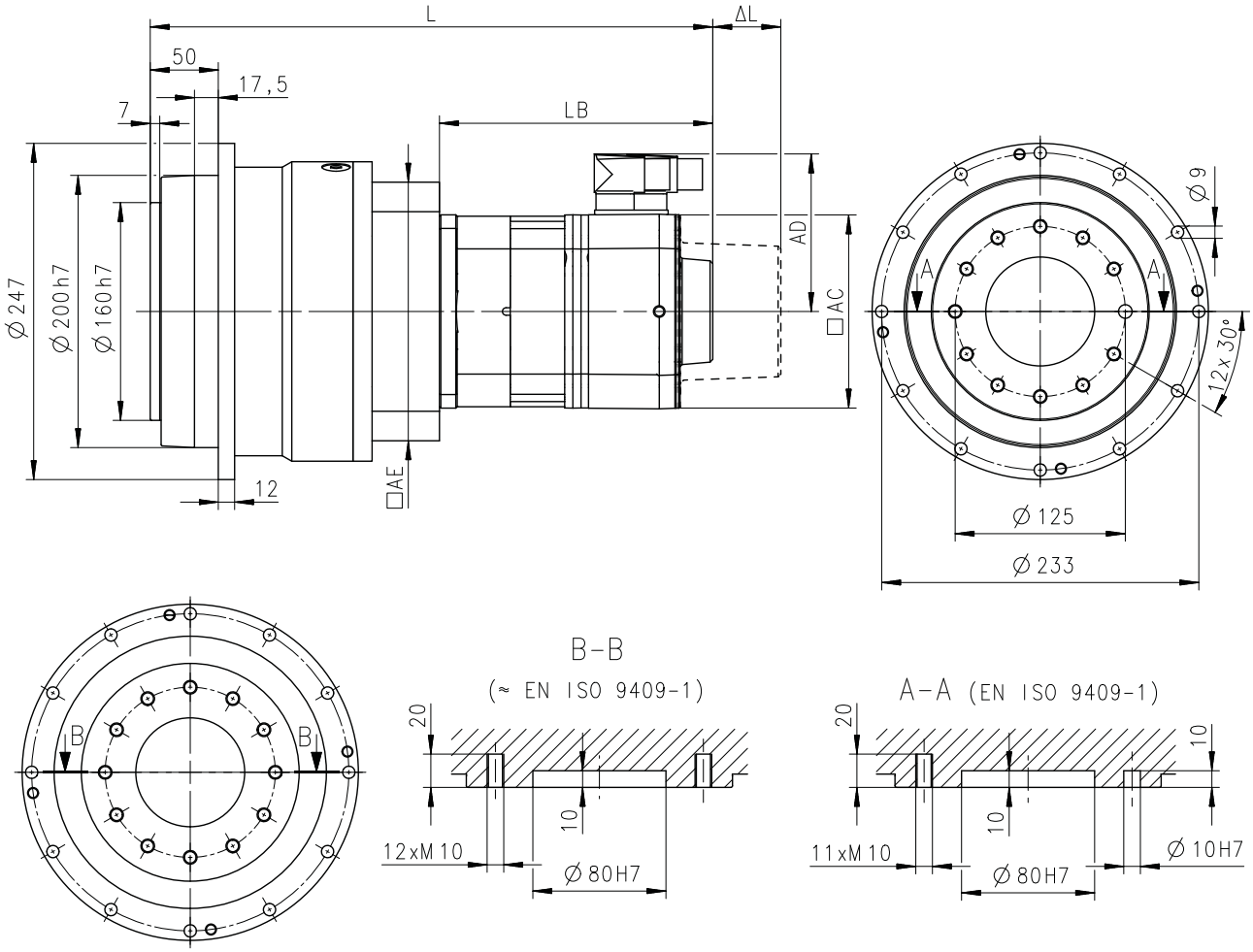
8800844-00

Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	525	452	525	452	565	492	492	565	492	615	532	605	532
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142



g870-P1800 with MCS14

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

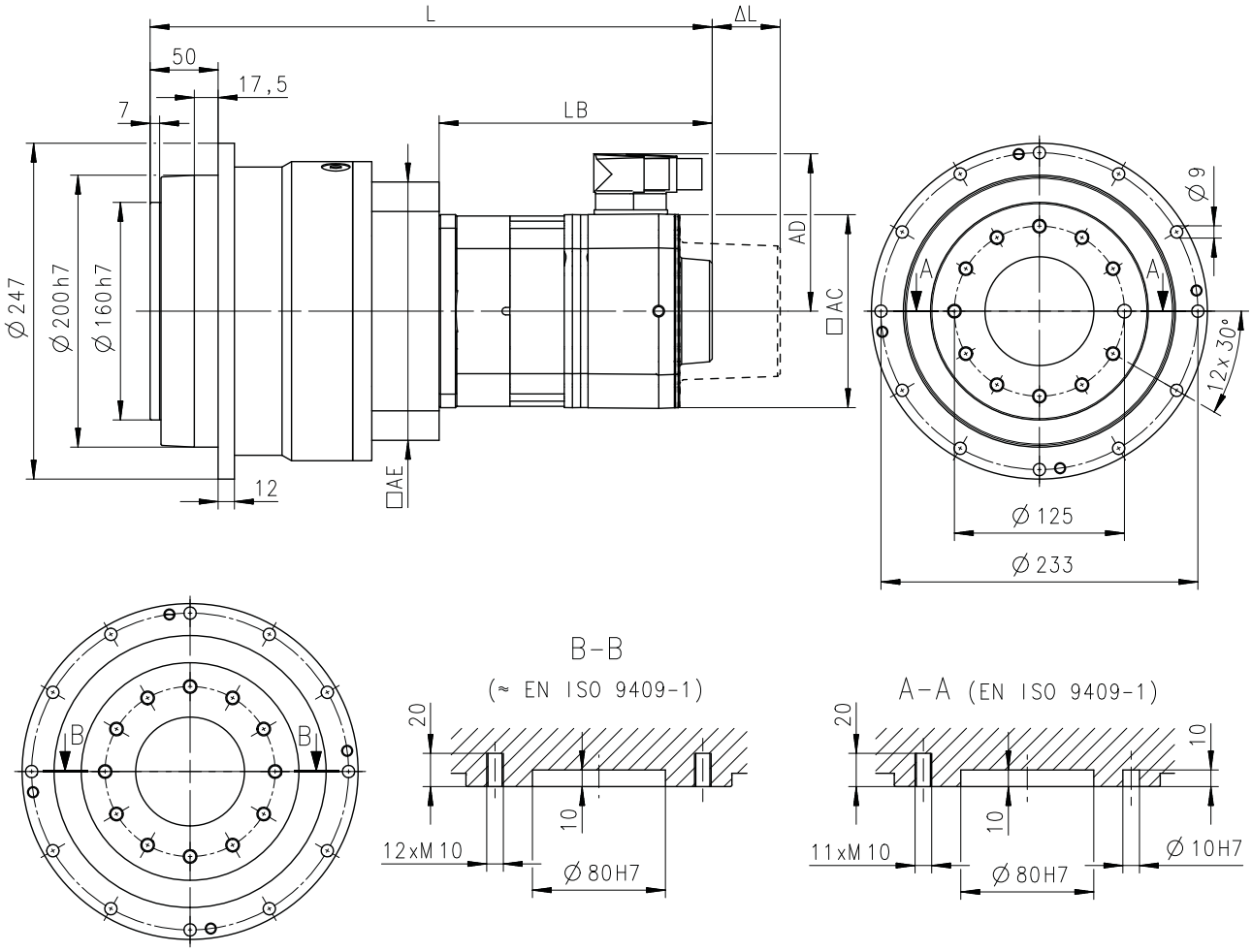


8800844-00

Motor			MCS 14												
			D14-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	501.5	541.5	453.5	541.5	453.5	581.5	493.5	581.5	493.5	621.5	533.5	621.5	533.5
Motor length	LB	mm	289	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190	190

g870-P1800 with MCS14

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



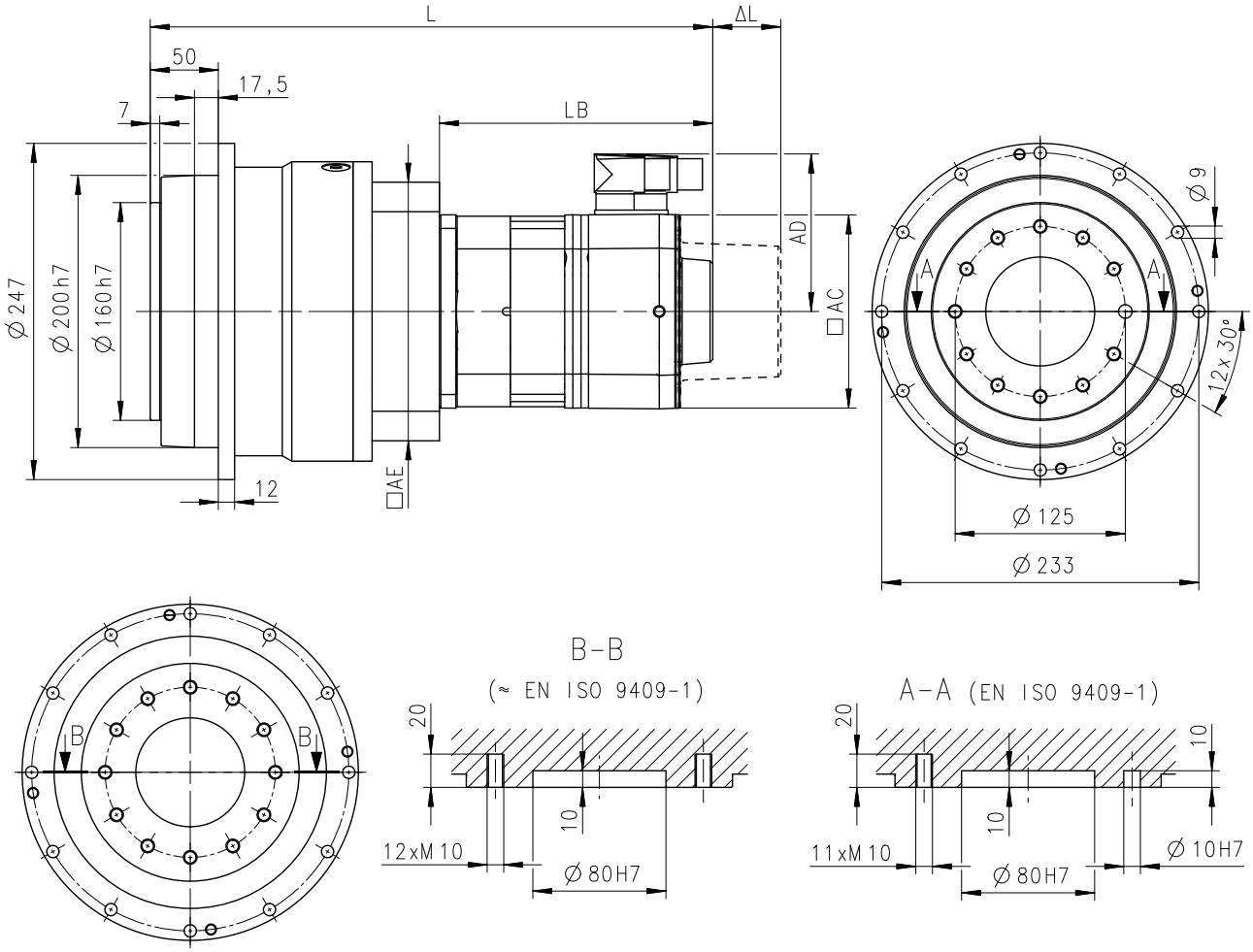
8800844-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	553	465	553	465	593	505	593	505	633	545	633	545	673	585	673	585
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142



g870-P1800 with MCS19

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

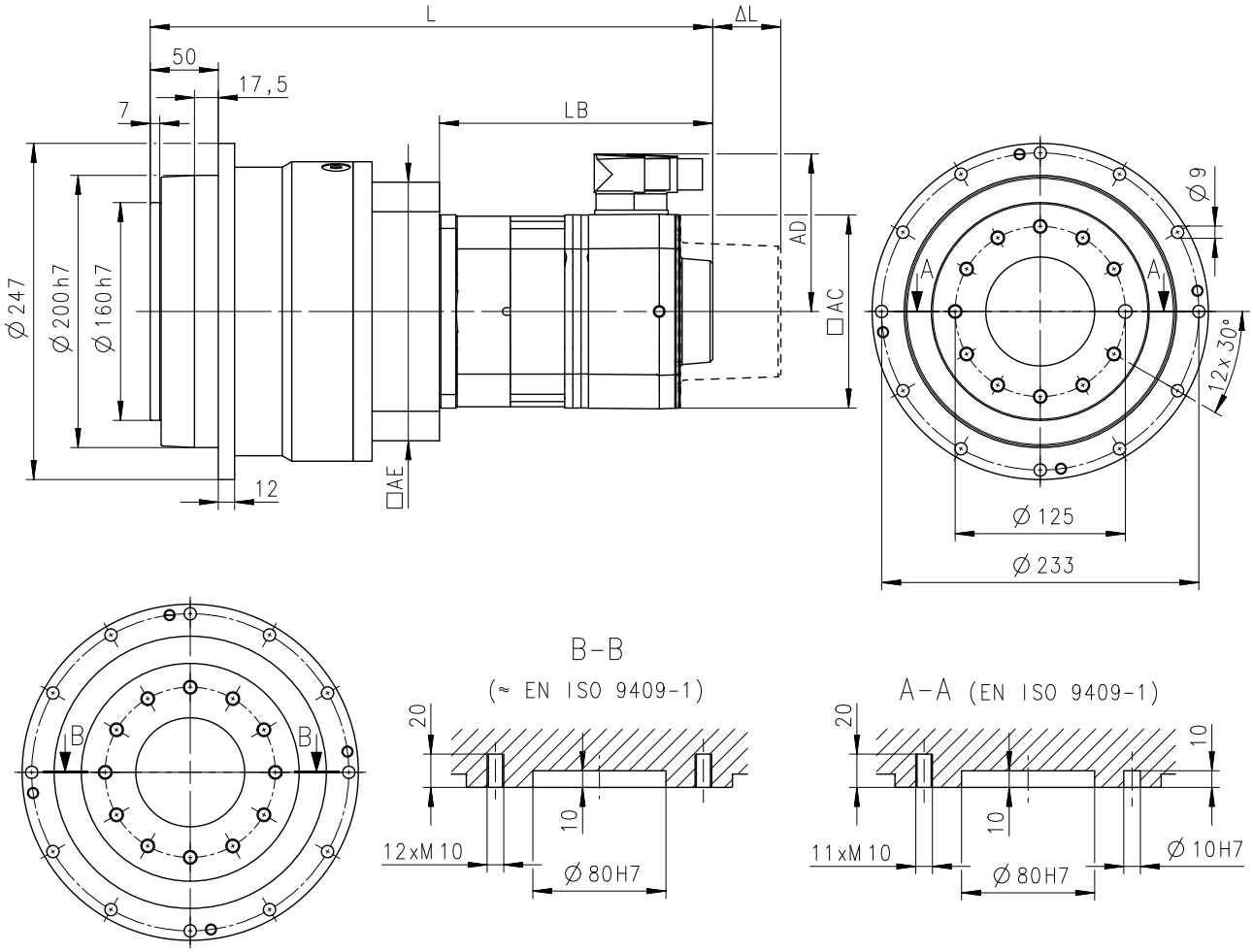


8800844-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	539.5	432.5	539.5	432.5	579.5	472.5	579.5	472.5	639.5	532.5	639.5	532.5
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190

g870-P1800 with MCS19

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



8800844-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	601	494	601	494	641	534	641	534	701	594	701	594
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190



Planetary gearbox g880-P

The modular system

g880-P planetary gearbox with MCS synchronous servo motor

Gearbox		**g880-P40**	**g880-P80**	**g880-P180**	**g880-P470**	**g880-P950**
Min. motor assignment		**MCS06**	**MCS06**	**MCS06**	**MCS06**	**MCS12**
Max. motor assignment		**MCS12**	**MCS14**	**MCS19**	**MCS19**	**MCS19**
Technical data						
Max. output torque	Nm	40	80	180	470	950
Min. input torque	Nm	0.6	0.6	0.6	0.6	17
Max. input torque	Nm	17	42	72	72	72
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		**Connector** Terminal box				
Holding brake		**Without** With				
Feedback						
Without functional safety		**Digital absolute value encoder for One Cable Technology (OCT)** Resolver Absolute value encoder				
With functional safety		Digital absolute value encoder for One Cable Technology (OCT) Resolver Absolute value encoder				
Temperature monitoring		MCS06: PT1000 temperature sensor MCS09 ... MCS19: PT1000 temperature sensor and 2x PTC thermistor				



Gearbox data

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	12
7	37.0	3	9
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
25	40.0	5	13
35	40.0	5	13
40	39.0	5	13
50	40.0	5	13
70	37.0	5	9

g880-P80, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
4	80.0	3	25
5	80.0	3	28
7	78.0	3	25
10	59.0	3	21

g880-P80, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
16	80.0	5	30
20	80.0	5	31
25	80.0	5	31
35	80.0	5	31
40	80.0	5	29
50	80.0	5	30
70	78.0	5	24
100	59.0	5	21



g880-P180, 1-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
4	180	3	55
5	175	3	62
7	175	3	61
10	140	3	60

g880-P180, 2-stage gearboxes

Ratio	Max. output torque	Max. backlash	Torsional stiffness
		Standard	
i	$M_{2, max}$		
	Nm	'	Nm/'
16	180	5	80
20	180	5	81
25	175	5	81
35	175	5	80
40	180	5	77
50	175	5	79
70	175	5	69
100	140	5	64

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/'
20	450	5	190
16	450	5	185
25	405	5	201
35	405	5	200
40	470	5	192
50	405	5	201
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

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}	N	2150	3950	4900	12000	23000
Axial force	F_{ax}	N	4300	8200	9500	8500	16000
Bearing service life 30000 h							
Speed		rpm	100	100	100	100	100
Radial force	F_{rad}	N	1900	3500	4350	11000	21000
Axial force	F_{ax}	N	3800	7200	8400	7500	14000
Max. radial force	$F_{rad, max}$	N	2150	3950	4900	12000	23000
Max. axial force	$F_{ax, max}$	N	4300	8200	9500	8500	16000



Selection tables

Inverter power supply 400 V, self-ventilated motors

0.25 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.1	405	4.9	28.0	203	0.268	10	P40	06C41L	1	3.8
5.1	405	4.9	28.0	203	0.268	10	P40	06C41-	1	3.8
7.5	253	4.3	39.0	127	0.320	16	P40	06C41-	2	4.5
7.5	253	4.3	39.0	127	0.320	16	P40	06C41L	2	4.5
10.0	203	3.5	39.0	101	0.294	20	P40	06C41-	2	4.5
10.0	203	3.5	39.0	101	0.294	20	P40	06C41L	2	4.5
11.0	162	5.0	80.0	81.0	0.301	25	P80	06C41-	2	6.3
11.0	162	5.0	80.0	81.0	0.301	25	P80	06C41L	2	6.3
13.0	162	2.9	40.0	81.0	0.293	25	P40	06C41-	2	4.5
13.0	162	2.9	40.0	81.0	0.293	25	P40	06C41L	2	4.5
17.0	116	4.0	80.0	58.0	0.278	35	P80	06C41-	2	6.3
17.0	116	4.0	80.0	58.0	0.278	35	P80	06C41L	2	6.3
19.0	116	2.1	40.0	58.0	0.274	35	P40	06C41-	2	4.5
19.0	116	2.1	40.0	58.0	0.274	35	P40	06C41L	2	4.5
20.0	101	3.6	80.0	51.0	0.268	40	P80	06C41-	2	6.3
20.0	101	3.6	80.0	51.0	0.268	40	P80	06C41L	2	6.3
22.0	101	1.8	39.0	51.0	0.265	40	P40	06C41-	2	4.5
22.0	101	1.8	39.0	51.0	0.265	40	P40	06C41L	2	4.5
26.0	81.0	2.9	80.0	41.0	0.267	50	P80	06C41-	2	6.3
26.0	81.0	2.9	80.0	41.0	0.267	50	P80	06C41L	2	6.3
27.0	81.0	1.5	40.0	41.0	0.265	50	P40	06C41-	2	4.5
27.0	81.0	1.5	40.0	41.0	0.265	50	P40	06C41L	2	4.5
32.0	57.9	4.5	175	29.0	0.467	70	P180	06C41-	2	10
32.0	57.9	4.5	175	29.0	0.467	70	P180	06C41L	2	10
37.0	57.9	1.0	37.0	29.0	0.264	70	P40	06C41-	2	4.5
37.0	57.9	1.0	37.0	29.0	0.264	70	P40	06C41L	2	4.5
39.0	57.9	2.0	78.0	29.0	0.266	70	P80	06C41-	2	6.3
39.0	57.9	2.0	78.0	29.0	0.266	70	P80	06C41L	2	6.3
41.0	40.5	5.6	305	20.0	1.284	100	P470	06C41-	2	16
41.0	40.5	5.6	305	20.0	1.284	100	P470	06C41L	2	16
52.0	40.5	1.1	59.0	20.0	0.265	100	P80	06C41L	2	6.3
52.0	40.5	1.1	59.0	20.0	0.265	100	P80	06C41-	2	6.3
53.0	40.5	2.6	140	20.0	0.465	100	P180	06C41-	2	10
53.0	40.5	2.6	140	20.0	0.465	100	P180	06C41L	2	10



0.31 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.0	600	5.9	28.0	300	0.268	10	P40	06C60-	1	3.8
4.0	600	5.9	28.0	300	0.268	10	P40	06C60L	1	3.8
5.7	375	5.2	39.0	188	0.320	16	P40	06C60-	2	4.5
5.7	375	5.2	39.0	188	0.320	16	P40	06C60L	2	4.5
7.9	300	4.2	39.0	150	0.294	20	P40	06C60-	2	4.5
7.9	300	4.2	39.0	150	0.294	20	P40	06C60L	2	4.5
8.9	240	5.3	80.0	120	0.301	25	P80	06C60-	2	6.3
8.9	240	5.3	80.0	120	0.301	25	P80	06C60L	2	6.3
10.0	240	3.4	40.0	120	0.293	25	P40	06C60-	2	4.5
10.0	240	3.4	40.0	120	0.293	25	P40	06C60L	2	4.5
14.0	171	4.2	80.0	86.0	0.278	35	P80	06C60-	2	6.3
14.0	171	4.2	80.0	86.0	0.278	35	P80	06C60L	2	6.3
16.0	171	2.5	40.0	86.0	0.274	35	P40	06C60-	2	4.5
16.0	171	2.5	40.0	86.0	0.274	35	P40	06C60L	2	4.5
16.0	150	4.3	80.0	75.0	0.268	40	P80	06C60-	2	6.3
16.0	150	4.3	80.0	75.0	0.268	40	P80	06C60L	2	6.3
18.0	150	2.1	39.0	75.0	0.265	40	P40	06C60-	2	4.5
18.0	150	2.1	39.0	75.0	0.265	40	P40	06C60L	2	4.5
21.0	120	3.4	80.0	60.0	0.267	50	P80	06C60-	2	6.3
21.0	120	3.4	80.0	60.0	0.267	50	P80	06C60L	2	6.3
23.0	120	1.8	40.0	60.0	0.265	50	P40	06C60-	2	4.5
23.0	120	1.8	40.0	60.0	0.265	50	P40	06C60L	2	4.5
25.0	85.7	5.4	175	43.0	0.467	70	P180	06C60-	2	10
25.0	85.7	5.4	175	43.0	0.467	70	P180	06C60L	2	10
30.0	85.7	1.2	37.0	43.0	0.264	70	P40	06C60-	2	4.5
30.0	85.7	1.2	37.0	43.0	0.264	70	P40	06C60L	2	4.5
32.0	85.7	2.4	78.0	43.0	0.266	70	P80	06C60-	2	6.3
32.0	85.7	2.4	78.0	43.0	0.266	70	P80	06C60L	2	6.3
43.0	60.0	3.2	140	30.0	0.465	100	P180	06C60-	2	10
43.0	60.0	3.2	140	30.0	0.465	100	P180	06C60L	2	10
44.0	60.0	1.4	59.0	30.0	0.265	100	P80	06C60-	2	6.3
44.0	60.0	1.4	59.0	30.0	0.265	100	P80	06C60L	2	6.3



0.51 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
7.2	579	4.6	37.0	289	0.359	7	P40	06F41-	1	4.2
7.2	579	4.6	37.0	289	0.359	7	P40	06F41L	1	4.2
10.0	405	5.2	59.0	203	0.562	10	P80	06F41-	1	5.7
10.0	405	5.2	59.0	203	0.562	10	P80	06F41L	1	5.7
11.0	405	2.5	28.0	203	0.348	10	P40	06F41-	1	4.2
11.0	405	2.5	28.0	203	0.348	10	P40	06F41L	1	4.2
15.0	253	4.0	80.0	127	0.417	16	P80	06F41-	2	6.7
15.0	253	4.0	80.0	127	0.417	16	P80	06F41L	2	6.7
18.0	253	2.2	39.0	127	0.400	16	P40	06F41-	2	4.9
18.0	253	2.2	39.0	127	0.400	16	P40	06F41L	2	4.9
20.0	203	3.5	80.0	101	0.386	20	P80	06F41-	2	6.7
20.0	203	3.5	80.0	101	0.386	20	P80	06F41L	2	6.7
23.0	203	1.7	39.0	101	0.374	20	P40	06F41-	2	4.9
23.0	203	1.7	39.0	101	0.374	20	P40	06F41L	2	4.9
27.0	162	2.5	80.0	81.0	0.381	25	P80	06F41-	2	6.7
27.0	162	2.5	80.0	81.0	0.381	25	P80	06F41L	2	6.7
28.0	162	1.4	40.0	81.0	0.373	25	P40	06F41-	2	4.9
28.0	162	1.4	40.0	81.0	0.373	25	P40	06F41L	2	4.9
32.0	116	4.4	175	58.0	0.593	35	P180	06F41-	2	11
32.0	116	4.4	175	58.0	0.593	35	P180	06F41L	2	11
39.0	116	1.0	40.0	58.0	0.354	35	P40	06F41-	2	4.9
39.0	116	1.0	40.0	58.0	0.354	35	P40	06F41L	2	4.9
39.0	116	2.0	80.0	58.0	0.358	35	P80	06F41L	2	6.7
39.0	116	2.0	80.0	58.0	0.358	35	P80	06F41-	2	6.7
39.0	101	4.0	180	51.0	0.555	40	P180	06F41L	2	11
39.0	101	4.0	180	51.0	0.555	40	P180	06F41-	2	11
45.0	101	1.8	80.0	51.0	0.348	40	P80	06F41-	2	6.7
45.0	101	1.8	80.0	51.0	0.348	40	P80	06F41L	2	6.7
52.0	81.0	3.1	175	41.0	0.551	50	P180	06F41-	2	11
52.0	81.0	3.1	175	41.0	0.551	50	P180	06F41L	2	11
56.0	81.0	1.4	80.0	41.0	0.347	50	P80	06F41-	2	6.7
56.0	81.0	1.4	80.0	41.0	0.347	50	P80	06F41L	2	6.7
64.0	57.9	4.5	355	29.0	1.383	70	P470	06F41-	2	16
64.0	57.9	4.5	355	29.0	1.383	70	P470	06F41L	2	16
77.0	57.9	1.0	78.0	29.0	0.346	70	P80	06F41-	2	6.7
77.0	57.9	1.0	78.0	29.0	0.346	70	P80	06F41L	2	6.7
78.0	57.9	2.2	175	29.0	0.547	70	P180	06F41-	2	11
78.0	57.9	2.2	175	29.0	0.547	70	P180	06F41L	2	11
106	40.5	2.8	305	20.0	1.364	100	P470	06F41-	2	16
106	40.5	2.8	305	20.0	1.364	100	P470	06F41L	2	16
107	40.5	1.3	140	20.0	0.545	100	P180	06F41-	2	11
107	40.5	1.3	140	20.0	0.545	100	P180	06F41L	2	11



0.57 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
5.1	857	5.9	37.0	429	0.359	7	P40	06F60-	1	4.2
5.1	857	5.9	37.0	429	0.359	7	P40	06F60L	1	4.2
8.2	600	3.3	28.0	300	0.348	10	P40	06F60-	1	4.2
8.2	600	3.3	28.0	300	0.348	10	P40	06F60L	1	4.2
11.0	375	4.6	80.0	188	0.417	16	P80	06F60-	2	6.7
11.0	375	4.6	80.0	188	0.417	16	P80	06F60L	2	6.7
13.0	375	2.9	39.0	188	0.400	16	P40	06F60L	2	4.9
13.0	375	2.9	39.0	188	0.400	16	P40	06F60-	2	4.9
14.0	300	4.0	80.0	150	0.386	20	P80	06F60-	2	6.7
14.0	300	4.0	80.0	150	0.386	20	P80	06F60L	2	6.7
17.0	300	2.3	39.0	150	0.374	20	P40	06F60L	2	4.9
17.0	300	2.3	39.0	150	0.374	20	P40	06F60-	2	4.9
20.0	240	2.9	80.0	120	0.381	25	P80	06F60L	2	6.7
20.0	240	2.9	80.0	120	0.381	25	P80	06F60-	2	6.7
21.0	240	1.9	40.0	120	0.373	25	P40	06F60-	2	4.9
21.0	240	1.9	40.0	120	0.373	25	P40	06F60L	2	4.9
21.0	171	5.7	175	86.0	0.593	35	P180	06F60-	2	11
21.0	171	5.7	175	86.0	0.593	35	P180	06F60L	2	11
26.0	150	5.3	180	75.0	0.555	40	P180	06F60-	2	11
26.0	150	5.3	180	75.0	0.555	40	P180	06F60L	2	11
29.0	171	1.4	40.0	86.0	0.354	35	P40	06F60L	2	4.9
29.0	171	1.4	40.0	86.0	0.354	35	P40	06F60-	2	4.9
29.0	171	2.4	80.0	86.0	0.358	35	P80	06F60-	2	6.7
29.0	171	2.4	80.0	86.0	0.358	35	P80	06F60L	2	6.7
33.0	150	1.2	39.0	75.0	0.345	40	P40	06F60-	2	4.9
33.0	150	1.2	39.0	75.0	0.345	40	P40	06F60L	2	4.9
33.0	150	2.4	80.0	75.0	0.348	40	P80	06F60-	2	6.7
33.0	150	2.4	80.0	75.0	0.348	40	P80	06F60L	2	6.7
36.0	120	4.1	175	60.0	0.551	50	P180	06F60-	2	11
36.0	120	4.1	175	60.0	0.551	50	P180	06F60L	2	11
42.0	120	1.9	80.0	60.0	0.347	50	P80	06F60L	2	6.7
42.0	120	1.9	80.0	60.0	0.347	50	P80	06F60-	2	6.7
55.0	85.7	3.0	175	43.0	0.547	70	P180	06F60-	2	11
55.0	85.7	3.0	175	43.0	0.547	70	P180	06F60L	2	11
58.0	85.7	1.3	78.0	43.0	0.346	70	P80	06F60-	2	6.7
58.0	85.7	1.3	78.0	43.0	0.346	70	P80	06F60L	2	6.7
74.0	60.0	3.7	305	30.0	1.364	100	P470	06F60-	2	16
74.0	60.0	3.7	305	30.0	1.364	100	P470	06F60L	2	16
80.0	60.0	1.8	140	30.0	0.545	100	P180	06F60-	2	11
80.0	60.0	1.8	140	30.0	0.545	100	P180	06F60L	2	11



0.64 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.2	810	5.3	40.0	405	0.461	5	P40	06I41-	1	4.9
6.2	810	5.3	40.0	405	0.461	5	P40	06I41L	1	4.9
9.4	579	3.7	37.0	289	0.439	7	P40	06I41-	1	4.9
9.4	579	3.7	37.0	289	0.439	7	P40	06I41L	1	4.9
13.0	405	4.1	59.0	203	0.642	10	P80	06I41-	1	6.4
13.0	405	4.1	59.0	203	0.642	10	P80	06I41L	1	6.4
14.0	405	2.0	28.0	203	0.428	10	P40	06I41-	1	4.9
14.0	405	2.0	28.0	203	0.428	10	P40	06I41L	1	4.9
21.0	253	3.2	80.0	127	0.497	16	P80	06I41-	2	7.4
21.0	253	3.2	80.0	127	0.497	16	P80	06I41L	2	7.4
23.0	253	1.7	39.0	127	0.480	16	P40	06I41L	2	5.6
23.0	253	1.7	39.0	127	0.480	16	P40	06I41-	2	5.6
27.0	203	2.8	80.0	101	0.466	20	P80	06I41L	2	7.4
27.0	203	2.8	80.0	101	0.466	20	P80	06I41-	2	7.4
28.0	203	1.4	39.0	101	0.454	20	P40	06I41L	2	5.6
28.0	203	1.4	39.0	101	0.454	20	P40	06I41-	2	5.6
28.0	162	4.9	175	81.0	0.754	25	P180	06I41-	2	11
28.0	162	4.9	175	81.0	0.754	25	P180	06I41L	2	11
35.0	162	1.2	40.0	81.0	0.453	25	P40	06I41-	2	5.6
35.0	162	1.2	40.0	81.0	0.453	25	P40	06I41L	2	5.6
35.0	162	2.0	80.0	81.0	0.461	25	P80	06I41L	2	7.4
35.0	162	2.0	80.0	81.0	0.461	25	P80	06I41-	2	7.4
44.0	116	3.5	175	58.0	0.673	35	P180	06I41-	2	11
44.0	116	3.5	175	58.0	0.673	35	P180	06I41L	2	11
49.0	116	1.6	80.0	58.0	0.438	35	P80	06I41L	2	7.4
49.0	116	1.6	80.0	58.0	0.438	35	P80	06I41-	2	7.4
51.0	81.0	5.7	405	41.0	1.476	50	P470	06I41-	2	17
51.0	81.0	5.7	405	41.0	1.476	50	P470	06I41L	2	17
52.0	101	3.2	180	51.0	0.635	40	P180	06I41-	2	11
52.0	101	3.2	180	51.0	0.635	40	P180	06I41L	2	11
56.0	101	1.4	80.0	51.0	0.428	40	P80	06I41-	2	7.4
56.0	101	1.4	80.0	51.0	0.428	40	P80	06I41L	2	7.4
68.0	81.0	2.5	175	41.0	0.631	50	P180	06I41-	2	11
68.0	81.0	2.5	175	41.0	0.631	50	P180	06I41L	2	11
70.0	81.0	1.2	80.0	41.0	0.427	50	P80	06I41L	2	7.4
70.0	81.0	1.2	80.0	41.0	0.427	50	P80	06I41-	2	7.4
87.0	57.9	3.6	355	29.0	1.463	70	P470	06I41-	2	17
87.0	57.9	3.6	355	29.0	1.463	70	P470	06I41L	2	17
98.0	57.9	1.8	175	29.0	0.627	70	P180	06I41-	2	11
98.0	57.9	1.8	175	29.0	0.627	70	P180	06I41L	2	11
134	40.5	1.1	140	20.0	0.625	100	P180	06I41-	2	11
134	40.5	1.1	140	20.0	0.625	100	P180	06I41L	2	11
137	40.5	2.2	305	20.0	1.444	100	P470	06I41-	2	17
137	40.5	2.2	305	20.0	1.444	100	P470	06I41L	2	17



0.75 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
4.8	1200	5.9	40.0	600	0.461	5	P40	06I60-	1	4.9
4.8	1200	5.9	40.0	600	0.461	5	P40	06I60L	1	4.9
7.3	857	4.4	37.0	429	0.439	7	P40	06I60-	1	4.9
7.3	857	4.4	37.0	429	0.439	7	P40	06I60L	1	4.9
10.0	600	5.2	59.0	300	0.642	10	P80	06I60-	1	6.4
10.0	600	5.2	59.0	300	0.642	10	P80	06I60L	1	6.4
11.0	600	2.5	28.0	300	0.428	10	P40	06I60L	1	4.9
11.0	600	2.5	28.0	300	0.428	10	P40	06I60-	1	4.9
16.0	375	3.5	80.0	188	0.497	16	P80	06I60L	2	7.4
16.0	375	3.5	80.0	188	0.497	16	P80	06I60-	2	7.4
18.0	375	2.2	39.0	188	0.480	16	P40	06I60L	2	5.6
18.0	375	2.2	39.0	188	0.480	16	P40	06I60-	2	5.6
21.0	300	3.0	80.0	150	0.466	20	P80	06I60-	2	7.4
21.0	300	3.0	80.0	150	0.466	20	P80	06I60L	2	7.4
21.0	240	5.3	175	120	0.754	25	P180	06I60L	2	11
21.0	240	5.3	175	120	0.754	25	P180	06I60-	2	11
23.0	300	1.7	39.0	150	0.454	20	P40	06I60-	2	5.6
23.0	300	1.7	39.0	150	0.454	20	P40	06I60L	2	5.6
28.0	240	1.4	40.0	120	0.453	25	P40	06I60-	2	5.6
28.0	240	1.4	40.0	120	0.453	25	P40	06I60L	2	5.6
28.0	240	2.2	80.0	120	0.461	25	P80	06I60-	2	7.4
28.0	240	2.2	80.0	120	0.461	25	P80	06I60L	2	7.4
33.0	171	4.3	175	86.0	0.673	35	P180	06I60-	2	11
33.0	171	4.3	175	86.0	0.673	35	P180	06I60L	2	11
39.0	171	1.0	40.0	86.0	0.434	35	P40	06I60L	2	5.6
39.0	171	1.0	40.0	86.0	0.434	35	P40	06I60-	2	5.6
39.0	171	1.8	80.0	86.0	0.438	35	P80	06I60-	2	7.4
39.0	171	1.8	80.0	86.0	0.438	35	P80	06I60L	2	7.4
39.0	150	4.0	180	75.0	0.635	40	P180	06I60L	2	11
39.0	150	4.0	180	75.0	0.635	40	P180	06I60-	2	11
45.0	150	1.8	80.0	75.0	0.428	40	P80	06I60L	2	7.4
45.0	150	1.8	80.0	75.0	0.428	40	P80	06I60-	2	7.4
52.0	120	3.1	175	60.0	0.631	50	P180	06I60-	2	11
52.0	120	3.1	175	60.0	0.631	50	P180	06I60L	2	11
56.0	120	1.4	80.0	60.0	0.427	50	P80	06I60-	2	7.4
56.0	120	1.4	80.0	60.0	0.427	50	P80	06I60L	2	7.4
64.0	85.7	4.5	355	43.0	1.463	70	P470	06I60-	2	17
64.0	85.7	4.5	355	43.0	1.463	70	P470	06I60L	2	17
78.0	85.7	2.2	175	43.0	0.627	70	P180	06I60-	2	11
78.0	85.7	2.2	175	43.0	0.627	70	P180	06I60L	2	11
106	60.0	2.8	305	30.0	1.444	100	P470	06I60L	2	17
106	60.0	2.8	305	30.0	1.444	100	P470	06I60-	2	17
107	60.0	1.3	140	30.0	0.625	100	P180	06I60-	2	11
107	60.0	1.3	140	30.0	0.625	100	P180	06I60L	2	11



1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.0	1013	4.2	39.0	506	1.310	4	P40	09D41-	1	6.3
8.0	1013	4.2	39.0	506	1.310	4	P40	09D41L	1	6.4
10.0	810	3.5	40.0	405	1.283	5	P40	09D41-	1	6.3
10.0	810	3.5	40.0	405	1.283	5	P40	09D41L	1	6.4
14.0	579	4.8	78.0	289	1.492	7	P80	09D41-	1	7.8
14.0	579	4.8	78.0	289	1.492	7	P80	09D41L	1	7.9
15.0	579	2.4	37.0	289	1.261	7	P40	09D41-	1	6.3
15.0	579	2.4	37.0	289	1.261	7	P40	09D41L	1	6.4
21.0	405	2.7	59.0	203	1.442	10	P80	09D41-	1	7.8
21.0	405	2.7	59.0	203	1.442	10	P80	09D41L	1	7.9
22.0	405	1.3	28.0	203	1.249	10	P40	09D41-	1	6.3
22.0	405	1.3	28.0	203	1.249	10	P40	09D41L	1	6.4
27.0	253	5.1	180	127	1.687	16	P180	09D41-	2	13
27.0	253	5.1	180	127	1.687	16	P180	09D41L	2	13
34.0	253	2.1	80.0	127	1.319	16	P80	09D41-	2	8.8
34.0	253	2.1	80.0	127	1.319	16	P80	09D41L	2	8.9
35.0	253	1.1	39.0	127	1.303	16	P40	09D41-	2	7.0
35.0	253	1.1	39.0	127	1.303	16	P40	09D41L	2	7.1
37.0	203	4.1	180	101	1.573	20	P180	09D41-	2	13
37.0	203	4.1	180	101	1.573	20	P180	09D41L	2	13
43.0	203	1.8	80.0	101	1.289	20	P80	09D41-	2	8.8
43.0	203	1.8	80.0	101	1.289	20	P80	09D41L	2	8.9
49.0	162	3.2	175	81.0	1.554	25	P180	09D41-	2	13
49.0	162	3.2	175	81.0	1.554	25	P180	09D41L	2	13
54.0	162	1.3	80.0	81.0	1.283	25	P80	09D41-	2	8.8
54.0	162	1.3	80.0	81.0	1.283	25	P80	09D41L	2	8.9
57.0	116	5.3	405	58.0	2.142	35	P470	09D41L	2	18
57.0	116	5.3	405	58.0	2.142	35	P470	09D41-	2	18
65.0	101	5.3	470	51.0	2.001	40	P470	09D41L	2	18
65.0	101	5.3	470	51.0	2.001	40	P470	09D41-	2	18
74.0	116	2.3	175	58.0	1.473	35	P180	09D41-	2	13
74.0	116	2.3	175	58.0	1.473	35	P180	09D41L	2	13
76.0	116	1.1	80.0	58.0	1.260	35	P80	09D41-	2	8.8
76.0	116	1.1	80.0	58.0	1.260	35	P80	09D41L	2	8.9
86.0	101	2.1	180	51.0	1.435	40	P180	09D41-	2	13
86.0	101	2.1	180	51.0	1.435	40	P180	09D41L	2	13
94.0	81.0	3.7	405	41.0	1.985	50	P470	09D41L	2	18
94.0	81.0	3.7	405	41.0	1.985	50	P470	09D41-	2	18
108	81.0	1.6	175	41.0	1.431	50	P180	09D41-	2	13
108	81.0	1.6	175	41.0	1.431	50	P180	09D41L	2	13
147	57.9	2.4	355	29.0	1.972	70	P470	09D41-	2	18
147	57.9	2.4	355	29.0	1.972	70	P470	09D41L	2	18
150	57.9	1.2	175	29.0	1.427	70	P180	09D41-	2	13
150	57.9	1.2	175	29.0	1.427	70	P180	09D41L	2	13
209	40.5	1.5	305	20.0	1.953	100	P470	09D41L	2	18
209	40.5	1.5	305	20.0	1.953	100	P470	09D41-	2	18



1.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
6.1	1500	4.8	39.0	750	1.310	4	P40	09D60-	1	6.3
6.1	1500	4.8	39.0	750	1.310	4	P40	09D60L	1	6.4
8.0	1200	3.9	40.0	600	1.283	5	P40	09D60L	1	6.4
8.0	1200	3.9	40.0	600	1.283	5	P40	09D60-	1	6.3
10.0	857	5.4	78.0	429	1.492	7	P80	09D60L	1	7.9
10.0	857	5.4	78.0	429	1.492	7	P80	09D60-	1	7.8
12.0	857	2.9	37.0	429	1.261	7	P40	09D60-	1	6.3
12.0	857	2.9	37.0	429	1.261	7	P40	09D60L	1	6.4
16.0	600	3.5	59.0	300	1.442	10	P80	09D60-	1	7.8
16.0	600	3.5	59.0	300	1.442	10	P80	09D60L	1	7.9
17.0	600	1.6	28.0	300	1.249	10	P40	09D60-	1	6.3
17.0	600	1.6	28.0	300	1.249	10	P40	09D60L	1	6.4
20.0	488	3.8	80.0	244	4.719	4	P80	12D20-	1	10
20.0	488	3.8	80.0	244	4.719	4	P80	12D20L	1	10
20.0	375	5.7	180	188	1.687	16	P180	09D60-	2	13
20.0	375	5.7	180	188	1.687	16	P180	09D60L	2	13
21.0	488	1.8	39.0	244	4.444	4	P40	12D20-	1	8.5
21.0	488	1.8	39.0	244	4.444	4	P40	12D20L	1	8.6
25.0	390	3.0	80.0	195	4.597	5	P80	12D20-	1	10
25.0	390	3.0	80.0	195	4.597	5	P80	12D20L	1	10
26.0	390	1.5	40.0	195	4.417	5	P40	12D20-	1	8.5
26.0	390	1.5	40.0	195	4.417	5	P40	12D20L	1	8.6
26.0	375	2.3	80.0	188	1.319	16	P80	09D60-	2	8.8
26.0	375	2.3	80.0	188	1.319	16	P80	09D60L	2	8.9
26.0	300	4.9	180	150	1.573	20	P180	09D60-	2	13
26.0	300	4.9	180	150	1.573	20	P180	09D60L	2	13
27.0	375	1.4	39.0	188	1.303	16	P40	09D60-	2	7.0
27.0	375	1.4	39.0	188	1.303	16	P40	09D60L	2	7.1
33.0	279	4.7	175	139	5.048	7	P180	12D20-	1	14
33.0	279	4.7	175	139	5.048	7	P180	12D20L	1	14
34.0	300	1.2	39.0	150	1.276	20	P40	09D60-	2	7.0
34.0	300	1.2	39.0	150	1.276	20	P40	09D60L	2	7.1
34.0	300	2.0	80.0	150	1.289	20	P80	09D60-	2	8.8
34.0	300	2.0	80.0	150	1.289	20	P80	09D60L	2	8.9
37.0	279	1.0	37.0	139	4.395	7	P40	12D20-	1	8.5
37.0	279	1.0	37.0	139	4.395	7	P40	12D20L	1	8.6
37.0	279	2.1	78.0	139	4.500	7	P80	12D20-	1	10
37.0	279	2.1	78.0	139	4.500	7	P80	12D20L	1	10
37.0	240	3.6	175	120	1.554	25	P180	09D60L	2	13
37.0	240	3.6	175	120	1.554	25	P180	09D60-	2	13
42.0	240	1.5	80.0	120	1.283	25	P80	09D60-	2	8.8
42.0	240	1.5	80.0	120	1.283	25	P80	09D60L	2	8.9
44.0	195	5.8	305	98.0	10.526	10	P470	12D20-	1	19
44.0	195	5.8	305	98.0	10.526	10	P470	12D20L	1	19
51.0	195	2.7	140	98.0	4.892	10	P180	12D20-	1	14
51.0	195	2.7	140	98.0	4.892	10	P180	12D20L	1	14
52.0	195	1.1	59.0	98.0	4.450	10	P80	12D20-	1	10
52.0	195	1.1	59.0	98.0	4.450	10	P80	12D20L	1	10
56.0	171	2.8	175	86.0	1.473	35	P180	09D60-	2	13
56.0	171	2.8	175	86.0	1.473	35	P180	09D60L	2	13
59.0	171	1.2	80.0	86.0	1.260	35	P80	09D60L	2	8.9



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
59.0	171	1.2	80.0	86.0	1.260	35	P80	09D60-	2	8.8
62.0	122	5.3	450	61.0	5.836	16	P470	12D20-	2	21
62.0	122	5.3	450	61.0	5.836	16	P470	12D20L	2	21
64.0	150	2.6	180	75.0	1.435	40	P180	09D60-	2	13
64.0	150	2.6	180	75.0	1.435	40	P180	09D60L	2	13
67.0	120	4.7	405	60.0	1.985	50	P470	09D60-	2	18
67.0	120	4.7	405	60.0	1.985	50	P470	09D60L	2	18
68.0	150	1.2	80.0	75.0	1.250	40	P80	09D60-	2	8.8
68.0	150	1.2	80.0	75.0	1.250	40	P80	09D60L	2	8.9
82.0	122	2.1	180	61.0	4.697	16	P180	12D20-	2	15
82.0	122	2.1	180	61.0	4.697	16	P180	12D20L	2	15
84.0	120	2.1	175	60.0	1.431	50	P180	09D60-	2	13
84.0	120	2.1	175	60.0	1.431	50	P180	09D60L	2	13
86.0	97.5	4.3	450	49.0	5.375	20	P470	12D20-	2	21
86.0	97.5	4.3	450	49.0	5.375	20	P470	12D20L	2	21
103	97.5	1.7	180	49.0	4.582	20	P180	12D20-	2	15
103	97.5	1.7	180	49.0	4.582	20	P180	12D20L	2	15
109	85.7	3.0	355	43.0	1.972	70	P470	09D60-	2	18
109	85.7	3.0	355	43.0	1.972	70	P470	09D60L	2	18
117	85.7	1.5	175	43.0	1.427	70	P180	09D60-	2	13
117	85.7	1.5	175	43.0	1.427	70	P180	09D60L	2	13
119	78.0	3.1	405	39.0	5.311	25	P470	12D20-	2	21
119	78.0	3.1	405	39.0	5.311	25	P470	12D20L	2	21
129	78.0	1.3	175	39.0	4.564	25	P180	12D20-	2	15
129	78.0	1.3	175	39.0	4.564	25	P180	12D20L	2	15
138	55.7	5.2	950	28.0	11.165	35	P950	12D20-	2	39
138	55.7	5.2	950	28.0	11.165	35	P950	12D20L	2	39
164	60.0	1.9	305	30.0	1.953	100	P470	09D60-	2	18
164	60.0	1.9	305	30.0	1.953	100	P470	09D60L	2	18
168	48.8	4.6	950	24.0	10.638	40	P950	12D20-	2	39
168	48.8	4.6	950	24.0	10.638	40	P950	12D20L	2	39
178	55.7	2.2	405	28.0	5.042	35	P470	12D20-	2	21
178	55.7	2.2	405	28.0	5.042	35	P470	12D20L	2	21
203	48.8	2.2	470	24.0	4.901	40	P470	12D20-	2	21
203	48.8	2.2	470	24.0	4.901	40	P470	12D20L	2	21
227	39.0	3.6	950	20.0	10.548	50	P950	12D20-	2	39
227	39.0	3.6	950	20.0	10.548	50	P950	12D20L	2	39
259	39.0	1.6	405	20.0	4.885	50	P470	12D20L	2	21
259	39.0	1.6	405	20.0	4.885	50	P470	12D20-	2	21
348	27.9	2.5	900	14.0	10.471	70	P950	12D20-	2	39
348	27.9	2.5	900	14.0	10.471	70	P950	12D20L	2	39
501	19.5	1.5	750	10.0	10.434	100	P950	12D20-	2	39
501	19.5	1.5	750	10.0	10.434	100	P950	12D20L	2	39



1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
11.0	938	3.2	39.0	469	1.710	4	P40	09F38-	1	7.2
11.0	938	3.2	39.0	469	1.710	4	P40	09F38L	1	7.3
13.0	750	4.8	80.0	375	1.989	5	P80	09F38-	1	8.7
13.0	750	4.8	80.0	375	1.989	5	P80	09F38L	1	8.8
14.0	750	2.6	40.0	375	1.683	5	P40	09F38-	1	7.2
14.0	750	2.6	40.0	375	1.683	5	P40	09F38L	1	7.3
19.0	536	3.6	78.0	268	1.892	7	P80	09F38-	1	8.7
19.0	536	3.6	78.0	268	1.892	7	P80	09F38L	1	8.8
21.0	536	1.8	37.0	268	1.661	7	P40	09F38-	1	7.2
21.0	536	1.8	37.0	268	1.661	7	P40	09F38L	1	7.3
26.0	375	4.7	140	188	2.392	10	P180	09F38-	1	12
26.0	375	4.7	140	188	2.392	10	P180	09F38L	1	12
29.0	375	2.0	59.0	188	1.842	10	P80	09F38-	1	8.7
29.0	375	2.0	59.0	188	1.842	10	P80	09F38L	1	8.8
40.0	234	3.8	180	117	2.087	16	P180	09F38-	2	14
40.0	234	3.8	180	117	2.087	16	P180	09F38L	2	14
47.0	234	1.6	80.0	117	1.719	16	P80	09F38-	2	9.7
47.0	234	1.6	80.0	117	1.719	16	P80	09F38L	2	9.8
54.0	188	3.0	180	94.0	1.973	20	P180	09F38-	2	14
54.0	188	3.0	180	94.0	1.973	20	P180	09F38L	2	14
54.0	150	5.4	405	75.0	2.811	25	P470	09F38-	2	19
54.0	150	5.4	405	75.0	2.811	25	P470	09F38L	2	19
58.0	188	1.4	80.0	94.0	1.689	20	P80	09F38-	2	9.7
58.0	188	1.4	80.0	94.0	1.689	20	P80	09F38L	2	9.8
71.0	150	2.4	175	75.0	1.954	25	P180	09F38-	2	14
71.0	150	2.4	175	75.0	1.954	25	P180	09F38L	2	14
87.0	107	3.9	405	54.0	2.542	35	P470	09F38-	2	19
87.0	107	3.9	405	54.0	2.542	35	P470	09F38L	2	19
100	93.8	4.0	470	47.0	2.401	40	P470	09F38-	2	19
100	93.8	4.0	470	47.0	2.401	40	P470	09F38L	2	19
102	107	1.7	175	54.0	1.873	35	P180	09F38L	2	14
102	107	1.7	175	54.0	1.873	35	P180	09F38-	2	14
117	93.8	1.5	180	47.0	1.835	40	P180	09F38-	2	14
117	93.8	1.5	180	47.0	1.835	40	P180	09F38L	2	14
138	75.0	2.8	405	38.0	2.385	50	P470	09F38-	2	19
138	75.0	2.8	405	38.0	2.385	50	P470	09F38L	2	19
146	75.0	1.2	175	38.0	1.831	50	P180	09F38-	2	14
146	75.0	1.2	175	38.0	1.831	50	P180	09F38L	2	14
202	53.6	1.8	355	27.0	2.372	70	P470	09F38-	2	19
202	53.6	1.8	355	27.0	2.372	70	P470	09F38L	2	19
282	37.5	1.1	305	19.0	2.353	100	P470	09F38-	2	19
282	37.5	1.1	305	19.0	2.353	100	P470	09F38L	2	19



1.45 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
31.0	375	5.0	180	188	10.129	4	P180	14D15-	1	36
35.0	375	2.2	80.0	188	9.368	4	P80	14D15-	1	32
41.0	300	3.9	175	150	9.705	5	P180	14D15-	1	36
44.0	300	1.8	80.0	150	9.246	5	P80	14D15-	1	32
52.0	214	5.7	355	107	15.214	7	P470	14D15-	1	41
60.0	214	2.8	175	107	9.436	7	P180	14D15-	1	36
62.0	214	1.3	78.0	107	8.874	7	P80	14D15-	1	32
83.0	150	3.5	305	75.0	14.626	10	P470	14D15-	1	41
88.0	150	1.6	140	75.0	9.280	10	P180	14D15-	1	36
126	93.8	3.2	450	47.0	10.227	16	P470	14D15-	2	43
129	75.0	5.4	950	38.0	16.830	20	P950	14D15-	2	61
138	93.8	1.3	180	47.0	9.346	16	P180	14D15-	2	37
166	75.0	2.6	450	38.0	9.765	20	P470	14D15-	2	43
173	75.0	1.0	180	38.0	9.232	20	P180	14D15-	2	37
179	60.0	4.3	950	30.0	16.470	25	P950	14D15-	2	61
216	60.0	1.8	405	30.0	9.701	25	P470	14D15-	2	43
278	42.9	3.1	950	21.0	15.265	35	P950	14D15-	2	61
303	42.9	1.3	405	21.0	9.432	35	P470	14D15-	2	43
327	37.5	2.7	950	19.0	14.738	40	P950	14D15-	2	61
346	37.5	1.3	470	19.0	9.292	40	P470	14D15-	2	43
427	30.0	2.2	950	15.0	14.648	50	P950	14D15-	2	61
599	21.4	1.5	900	11.0	14.571	70	P950	14D15-	2	61



1.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
8.6	1500	3.6	39.0	750	1.710	4	P40	09F60-	1	7.2
8.6	1500	3.6	39.0	750	1.710	4	P40	09F60L	1	7.3
9.9	1200	5.4	80.0	600	1.989	5	P80	09F60-	1	8.7
9.9	1200	5.4	80.0	600	1.989	5	P80	09F60L	1	8.8
11.0	1200	2.9	40.0	600	1.683	5	P40	09F60-	1	7.2
11.0	1200	2.9	40.0	600	1.683	5	P40	09F60L	1	7.3
15.0	857	4.1	78.0	429	1.892	7	P80	09F60-	1	8.7
15.0	857	4.1	78.0	429	1.892	7	P80	09F60L	1	8.8
16.0	857	2.2	37.0	429	1.661	7	P40	09F60-	1	7.2
16.0	857	2.2	37.0	429	1.661	7	P40	09F60L	1	7.3
19.0	600	5.8	140	300	2.392	10	P180	09F60-	1	12
19.0	600	5.8	140	300	2.392	10	P180	09F60L	1	12
22.0	600	2.6	59.0	300	1.842	10	P80	09F60-	1	8.7
22.0	600	2.6	59.0	300	1.842	10	P80	09F60L	1	8.8
23.0	600	1.2	28.0	300	1.649	10	P40	09F60-	1	7.2
23.0	600	1.2	28.0	300	1.649	10	P40	09F60L	1	7.3
30.0	375	4.3	180	188	2.087	16	P180	09F60L	2	14
30.0	375	4.3	180	188	2.087	16	P180	09F60-	2	14
36.0	375	1.1	39.0	188	1.703	16	P40	09F60-	2	7.9
36.0	375	1.1	39.0	188	1.703	16	P40	09F60L	2	8.0
36.0	375	1.7	80.0	188	1.719	16	P80	09F60-	2	9.7
36.0	375	1.7	80.0	188	1.719	16	P80	09F60L	2	9.8
39.0	300	3.7	180	150	1.973	20	P180	09F60-	2	14
39.0	300	3.7	180	150	1.973	20	P180	09F60L	2	14
45.0	300	1.5	80.0	150	1.689	20	P80	09F60-	2	9.7
45.0	300	1.5	80.0	150	1.689	20	P80	09F60L	2	9.8
54.0	240	2.7	175	120	1.954	25	P180	09F60-	2	14
54.0	240	2.7	175	120	1.954	25	P180	09F60L	2	14
56.0	240	1.1	80.0	120	1.683	25	P80	09F60-	2	9.7
56.0	240	1.1	80.0	120	1.683	25	P80	09F60L	2	9.8
62.0	171	4.9	405	86.0	2.542	35	P470	09F60-	2	19
62.0	171	4.9	405	86.0	2.542	35	P470	09F60L	2	19
69.0	150	5.1	470	75.0	2.401	40	P470	09F60-	2	19
69.0	150	5.1	470	75.0	2.401	40	P470	09F60L	2	19
78.0	171	2.1	175	86.0	1.873	35	P180	09F60-	2	14
78.0	171	2.1	175	86.0	1.873	35	P180	09F60L	2	14
90.0	150	2.0	180	75.0	1.835	40	P180	09F60-	2	14
90.0	150	2.0	180	75.0	1.835	40	P180	09F60L	2	14
100	120	3.6	405	60.0	2.385	50	P470	09F60-	2	19
100	120	3.6	405	60.0	2.385	50	P470	09F60L	2	19
113	120	1.6	175	60.0	1.831	50	P180	09F60L	2	14
113	120	1.6	175	60.0	1.831	50	P180	09F60-	2	14
155	85.7	2.3	355	43.0	2.372	70	P470	09F60-	2	19
155	85.7	2.3	355	43.0	2.372	70	P470	09F60L	2	19
156	85.7	1.1	175	43.0	1.827	70	P180	09F60-	2	14
156	85.7	1.1	175	43.0	1.827	70	P180	09F60L	2	14
218	60.0	1.4	305	30.0	2.353	100	P470	09F60-	2	19
218	60.0	1.4	305	30.0	2.353	100	P470	09F60L	2	19



1.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
13.0	1013	5.0	80.0	506	2.511	4	P80	09H41-	1	9.6
13.0	1013	5.0	80.0	506	2.511	4	P80	09H41L	1	9.7
14.0	1013	2.6	39.0	506	2.110	4	P40	09H41-	1	8.1
14.0	1013	2.6	39.0	506	2.110	4	P40	09H41L	1	8.2
17.0	810	3.8	80.0	405	2.389	5	P80	09H41L	1	9.7
17.0	810	3.8	80.0	405	2.389	5	P80	09H41-	1	9.6
18.0	810	2.1	40.0	405	2.083	5	P40	09H41-	1	8.1
18.0	810	2.1	40.0	405	2.083	5	P40	09H41L	1	8.2
22.0	579	5.8	175	289	2.948	7	P180	09H41L	1	13
22.0	579	5.8	175	289	2.948	7	P180	09H41-	1	13
25.0	579	2.9	78.0	289	2.292	7	P80	09H41-	1	9.6
25.0	579	2.9	78.0	289	2.292	7	P80	09H41L	1	9.7
26.0	579	1.5	37.0	289	2.061	7	P40	09H41-	1	8.1
26.0	579	1.5	37.0	289	2.061	7	P40	09H41L	1	8.2
34.0	405	3.8	140	203	2.792	10	P180	09H41-	1	13
34.0	405	3.8	140	203	2.792	10	P180	09H41L	1	13
34.0	375	4.6	180	188	9.041	4	P180	12H15-	1	17
34.0	375	4.6	180	188	9.041	4	P180	12H15L	1	17
36.0	405	1.6	59.0	203	2.242	10	P80	09H41-	1	9.6
36.0	405	1.6	59.0	203	2.242	10	P80	09H41L	1	9.7
38.0	375	1.0	39.0	188	7.744	4	P40	12H15-	1	12
38.0	375	1.0	39.0	188	7.744	4	P40	12H15L	1	12
38.0	375	2.1	80.0	188	8.019	4	P80	12H15-	1	13
38.0	375	2.1	80.0	188	8.019	4	P80	12H15L	1	13
45.0	300	3.6	175	150	8.617	5	P180	12H15-	1	17
45.0	300	3.6	175	150	8.617	5	P180	12H15L	1	17
48.0	300	1.7	80.0	150	7.897	5	P80	12H15-	1	13
48.0	300	1.7	80.0	150	7.897	5	P80	12H15L	1	13
50.0	203	5.9	450	101	3.275	20	P470	09H41-	2	20
50.0	203	5.9	450	101	3.275	20	P470	09H41L	2	20
53.0	253	3.1	180	127	2.487	16	P180	09H41-	2	15
53.0	253	3.1	180	127	2.487	16	P180	09H41L	2	15
57.0	253	1.3	80.0	127	2.119	16	P80	09H41-	2	11
57.0	253	1.3	80.0	127	2.119	16	P80	09H41L	2	11
58.0	214	5.2	355	107	14.414	7	P470	12H15-	1	22
58.0	214	5.2	355	107	14.414	7	P470	12H15L	1	22
66.0	214	2.6	175	107	8.348	7	P180	12H15-	1	17
66.0	214	2.6	175	107	8.348	7	P180	12H15L	1	17
67.0	214	1.2	78.0	107	7.800	7	P80	12H15-	1	13
67.0	214	1.2	78.0	107	7.800	7	P80	12H15L	1	13
69.0	203	2.5	180	101	2.373	20	P180	09H41-	2	15
69.0	203	2.5	180	101	2.373	20	P180	09H41L	2	15
71.0	203	1.1	80.0	101	2.089	20	P80	09H41-	2	11
71.0	203	1.1	80.0	101	2.089	20	P80	09H41L	2	11
73.0	162	4.4	405	81.0	3.211	25	P470	09H41-	2	20
73.0	162	4.4	405	81.0	3.211	25	P470	09H41L	2	20
89.0	162	1.9	175	81.0	2.354	25	P180	09H41-	2	15
89.0	162	1.9	175	81.0	2.354	25	P180	09H41L	2	15
91.0	150	3.2	305	75.0	13.826	10	P470	12H15-	1	22
91.0	150	3.2	305	75.0	13.826	10	P470	12H15L	1	22
96.0	150	1.5	140	75.0	8.192	10	P180	12H15-	1	17



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
96.0	150	1.5	140	75.0	8.192	10	P180	12H15L	1	17
114	116	3.2	405	58.0	2.942	35	P470	09H41-	2	20
114	116	3.2	405	58.0	2.942	35	P470	09H41L	2	20
125	116	1.4	175	58.0	2.273	35	P180	09H41-	2	15
125	116	1.4	175	58.0	2.273	35	P180	09H41L	2	15
130	101	3.2	470	51.0	2.801	40	P470	09H41-	2	20
130	101	3.2	470	51.0	2.801	40	P470	09H41L	2	20
140	93.8	2.9	450	47.0	9.136	16	P470	12H15-	2	24
140	93.8	2.9	450	47.0	9.136	16	P470	12H15L	2	24
143	101	1.3	180	51.0	2.235	40	P180	09H41L	2	15
143	101	1.3	180	51.0	2.235	40	P180	09H41-	2	15
147	75.0	5.0	950	38.0	16.030	20	P950	12H15-	2	42
147	75.0	5.0	950	38.0	16.030	20	P950	12H15L	2	42
150	93.8	1.2	180	47.0	7.997	16	P180	12H15L	2	18
150	93.8	1.2	180	47.0	7.997	16	P180	12H15-	2	18
175	81.0	2.2	405	41.0	2.785	50	P470	09H41-	2	20
175	81.0	2.2	405	41.0	2.785	50	P470	09H41L	2	20
183	75.0	2.3	450	38.0	8.675	20	P470	12H15-	2	24
183	75.0	2.3	450	38.0	8.675	20	P470	12H15L	2	24
201	60.0	4.0	950	30.0	15.670	25	P950	12H15-	2	42
201	60.0	4.0	950	30.0	15.670	25	P950	12H15L	2	42
235	60.0	1.7	405	30.0	8.611	25	P470	12H15L	2	24
235	60.0	1.7	405	30.0	8.611	25	P470	12H15-	2	24
247	57.9	1.4	355	29.0	2.772	70	P470	09H41L	2	20
247	57.9	1.4	355	29.0	2.772	70	P470	09H41-	2	20
308	42.9	2.9	950	21.0	14.465	35	P950	12H15-	2	42
308	42.9	2.9	950	21.0	14.465	35	P950	12H15L	2	42
329	42.9	1.2	405	21.0	8.342	35	P470	12H15-	2	24
329	42.9	1.2	405	21.0	8.342	35	P470	12H15L	2	24
362	37.5	2.5	950	19.0	13.938	40	P950	12H15-	2	42
362	37.5	2.5	950	19.0	13.938	40	P950	12H15L	2	42
376	37.5	1.2	470	19.0	8.201	40	P470	12H15-	2	24
376	37.5	1.2	470	19.0	8.201	40	P470	12H15L	2	24
470	30.0	2.0	950	15.0	13.848	50	P950	12H15-	2	42
470	30.0	2.0	950	15.0	13.848	50	P950	12H15L	2	42
651	21.4	1.4	900	11.0	13.771	70	P950	12H15-	2	42
651	21.4	1.4	900	11.0	13.771	70	P950	12H15L	2	42



1.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
15.0	1013	4.4	80.0	506	4.719	4	P80	12D41-	1	10
15.0	1013	4.4	80.0	506	4.719	4	P80	12D41L	1	10
16.0	1013	2.3	39.0	506	4.444	4	P40	12D41-	1	8.5
16.0	1013	2.3	39.0	506	4.444	4	P40	12D41L	1	8.6
19.0	810	3.4	80.0	405	4.597	5	P80	12D41-	1	10
19.0	810	3.4	80.0	405	4.597	5	P80	12D41L	1	10
21.0	810	1.8	40.0	405	4.417	5	P40	12D41-	1	8.5
21.0	810	1.8	40.0	405	4.417	5	P40	12D41L	1	8.6
25.0	579	5.1	175	289	5.048	7	P180	12D41-	1	14
25.0	579	5.1	175	289	5.048	7	P180	12D41L	1	14
28.0	579	2.5	78.0	289	4.500	7	P80	12D41-	1	10
28.0	579	2.5	78.0	289	4.500	7	P80	12D41L	1	10
29.0	579	1.3	37.0	289	4.395	7	P40	12D41-	1	8.5
29.0	579	1.3	37.0	289	4.395	7	P40	12D41L	1	8.6
39.0	405	3.4	140	203	4.892	10	P180	12D41-	1	14
39.0	405	3.4	140	203	4.892	10	P180	12D41L	1	14
41.0	405	1.4	59.0	203	4.450	10	P80	12D41-	1	10
41.0	405	1.4	59.0	203	4.450	10	P80	12D41L	1	10
61.0	253	2.7	180	127	4.697	16	P180	12D41-	2	15
61.0	253	2.7	180	127	4.697	16	P180	12D41L	2	15
61.0	203	5.3	450	101	5.375	20	P470	12D41-	2	21
61.0	203	5.3	450	101	5.375	20	P470	12D41L	2	21
65.0	253	1.1	80.0	127	4.454	16	P80	12D41-	2	11
65.0	253	1.1	80.0	127	4.454	16	P80	12D41L	2	11
80.0	203	2.2	180	101	4.582	20	P180	12D41-	2	15
80.0	203	2.2	180	101	4.582	20	P180	12D41L	2	15
87.0	162	3.9	405	81.0	5.311	25	P470	12D41L	2	21
87.0	162	3.9	405	81.0	5.311	25	P470	12D41-	2	21
101	162	1.7	175	81.0	4.564	25	P180	12D41L	2	15
101	162	1.7	175	81.0	4.564	25	P180	12D41-	2	15
116	101	5.8	950	51.0	10.638	40	P950	12D41-	2	39
116	101	5.8	950	51.0	10.638	40	P950	12D41L	2	39
133	116	2.8	405	58.0	5.042	35	P470	12D41-	2	21
133	116	2.8	405	58.0	5.042	35	P470	12D41L	2	21
141	116	1.2	175	58.0	4.482	35	P180	12D41-	2	15
141	116	1.2	175	58.0	4.482	35	P180	12D41L	2	15
151	101	2.9	470	51.0	4.901	40	P470	12D41L	2	21
151	101	2.9	470	51.0	4.901	40	P470	12D41-	2	21
162	101	1.1	180	51.0	4.445	40	P180	12D41L	2	15
162	101	1.1	180	51.0	4.445	40	P180	12D41-	2	15
162	81.0	4.7	950	41.0	10.548	50	P950	12D41-	2	39
162	81.0	4.7	950	41.0	10.548	50	P950	12D41L	2	39
202	81.0	2.0	405	41.0	4.885	50	P470	12D41-	2	21
202	81.0	2.0	405	41.0	4.885	50	P470	12D41L	2	21
257	57.9	3.2	900	29.0	10.471	70	P950	12D41-	2	39
257	57.9	3.2	900	29.0	10.471	70	P950	12D41L	2	39
280	57.9	1.3	355	29.0	4.872	70	P470	12D41-	2	21
280	57.9	1.3	355	29.0	4.872	70	P470	12D41L	2	21
391	40.5	1.9	750	20.0	10.434	100	P950	12D41-	2	39
391	40.5	1.9	750	20.0	10.434	100	P950	12D41L	2	39



1.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
9.8	1500	5.6	80.0	629	2.511	4	P80	09H60-	1	9.6
9.8	1500	5.6	80.0	629	2.511	4	P80	09H60L	1	9.7
11.0	1500	2.9	39.0	750	2.110	4	P40	09H60-	1	8.1
11.0	1500	2.9	39.0	750	2.110	4	P40	09H60L	1	8.2
12.0	1275	4.9	80.0	624	3.411	4	P80	09L51-	1	11
13.0	1200	4.3	80.0	600	2.389	5	P80	09H60-	1	9.6
13.0	1200	4.3	80.0	600	2.389	5	P80	09H60L	1	9.7
14.0	1275	2.5	39.0	638	3.010	4	P40	09L51-	1	9.9
14.0	1200	2.4	40.0	600	2.083	5	P40	09H60L	1	8.2
14.0	1200	2.4	40.0	600	2.083	5	P40	09H60-	1	8.1
16.0	1020	3.8	80.0	510	3.289	5	P80	09L51-	1	11
16.0	1013	4.2	80.0	506	3.411	4	P80	09L41L	1	12
16.0	1013	4.2	80.0	506	3.411	4	P80	09L41-	1	11
17.0	1020	2.1	40.0	510	2.983	5	P40	09L51-	1	9.9
17.0	1013	2.2	39.0	506	3.010	4	P40	09L41-	1	9.9
17.0	1013	2.2	39.0	506	3.010	4	P40	09L41L	1	10
19.0	857	3.2	78.0	429	2.292	7	P80	09H60-	1	9.6
19.0	857	3.2	78.0	429	2.292	7	P80	09H60L	1	9.7
20.0	857	1.8	37.0	429	2.061	7	P40	09H60-	1	8.1
20.0	857	1.8	37.0	429	2.061	7	P40	09H60L	1	8.2
20.0	810	3.2	80.0	405	3.289	5	P80	09L41-	1	11
20.0	810	3.2	80.0	405	3.289	5	P80	09L41L	1	12
20.0	729	5.7	175	364	3.848	7	P180	09L51-	1	15
22.0	810	1.8	40.0	405	2.983	5	P40	09L41-	1	9.9
22.0	810	1.8	40.0	405	2.983	5	P40	09L41L	1	10
23.0	729	2.8	78.0	364	3.192	7	P80	09L51-	1	11
24.0	729	1.5	37.0	364	2.961	7	P40	09L51-	1	9.9
26.0	600	4.7	140	300	2.792	10	P180	09H60-	1	13
26.0	600	4.7	140	300	2.792	10	P180	09H60L	1	13
27.0	579	4.9	175	289	3.848	7	P180	09L41-	1	15
27.0	579	4.9	175	289	3.848	7	P180	09L41L	1	15
29.0	600	2.1	59.0	300	2.242	10	P80	09H60-	1	9.6
29.0	600	2.1	59.0	300	2.242	10	P80	09H60L	1	9.7
30.0	579	1.2	37.0	289	2.961	7	P40	09L41-	1	9.9
30.0	579	1.2	37.0	289	2.961	7	P40	09L41L	1	10
30.0	579	2.4	78.0	289	3.192	7	P80	09L41-	1	11
30.0	579	2.4	78.0	289	3.192	7	P80	09L41L	1	12
32.0	510	4.1	140	255	3.692	10	P180	09L51-	1	15
34.0	510	1.7	59.0	255	3.142	10	P80	09L51-	1	11
40.0	375	3.4	180	188	2.487	16	P180	09H60-	2	15
40.0	375	3.4	180	188	2.487	16	P180	09H60L	2	15
41.0	405	3.2	140	203	3.692	10	P180	09L41-	1	15
41.0	405	3.2	140	203	3.692	10	P180	09L41L	1	15
43.0	405	1.4	59.0	203	3.142	10	P80	09L41-	1	11
43.0	405	1.4	59.0	203	3.142	10	P80	09L41L	1	12
45.0	375	1.4	80.0	188	2.119	16	P80	09H60-	2	11
45.0	375	1.4	80.0	188	2.119	16	P80	09H60L	2	11
48.0	253	5.8	450	127	4.636	16	P470	09L41L	2	22
48.0	253	5.8	450	127	4.636	16	P470	09L41-	2	22
49.0	255	5.8	450	128	4.175	20	P470	09L51-	2	22
50.0	319	3.0	180	159	3.387	16	P180	09L51-	2	16



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
52.0	300	3.0	180	150	2.373	20	P180	09H60-	2	15
52.0	300	3.0	180	150	2.373	20	P180	09H60L	2	15
54.0	319	1.2	80.0	159	3.019	16	P80	09L51-	2	12
55.0	240	4.9	405	120	3.211	25	P470	09H60-	2	20
55.0	240	4.9	405	120	3.211	25	P470	09H60L	2	20
56.0	300	1.2	80.0	150	2.089	20	P80	09H60-	2	11
56.0	300	1.2	80.0	150	2.089	20	P80	09H60L	2	11
65.0	255	2.6	180	128	3.273	20	P180	09L51-	2	16
65.0	253	2.6	180	127	3.387	16	P180	09L41-	2	16
65.0	253	2.6	180	127	3.387	16	P180	09L41L	2	17
66.0	203	5.0	450	101	4.175	20	P470	09L41-	2	22
66.0	203	5.0	450	101	4.175	20	P470	09L41L	2	22
68.0	255	1.1	80.0	128	2.989	20	P80	09L51-	2	12
68.0	253	1.1	80.0	127	3.019	16	P80	09L41-	2	12
68.0	253	1.1	80.0	127	3.019	16	P80	09L41L	2	13
70.0	240	2.1	175	120	2.354	25	P180	09H60-	2	15
70.0	240	2.1	175	120	2.354	25	P180	09H60L	2	15
70.0	204	4.3	405	102	4.111	25	P470	09L51-	2	22
84.0	203	2.1	180	101	3.273	20	P180	09L41-	2	16
84.0	203	2.1	180	101	3.273	20	P180	09L41L	2	17
84.0	171	4.0	405	86.0	2.942	35	P470	09H60L	2	20
84.0	171	4.0	405	86.0	2.942	35	P470	09H60-	2	20
85.0	204	1.9	175	102	3.254	25	P180	09L51-	2	16
92.0	162	3.7	405	81.0	4.111	25	P470	09L41-	2	22
92.0	162	3.7	405	81.0	4.111	25	P470	09L41L	2	22
95.0	150	4.1	470	75.0	2.801	40	P470	09H60-	2	20
95.0	150	4.1	470	75.0	2.801	40	P470	09H60L	2	20
99.0	171	1.7	175	86.0	2.273	35	P180	09H60-	2	15
99.0	171	1.7	175	86.0	2.273	35	P180	09H60L	2	15
106	162	1.6	175	81.0	3.254	25	P180	09L41-	2	16
106	162	1.6	175	81.0	3.254	25	P180	09L41L	2	17
106	146	3.4	405	73.0	3.842	35	P470	09L51-	2	22
113	150	1.6	180	75.0	2.235	40	P180	09H60-	2	15
113	150	1.6	180	75.0	2.235	40	P180	09H60L	2	15
118	146	1.5	175	73.0	3.173	35	P180	09L51-	2	16
121	128	3.4	470	64.0	3.701	40	P470	09L51-	2	22
132	120	2.8	405	60.0	2.785	50	P470	09H60-	2	20
132	120	2.8	405	60.0	2.785	50	P470	09H60L	2	20
135	128	1.3	180	64.0	3.135	40	P180	09L51-	2	16
140	116	2.7	405	58.0	3.842	35	P470	09L41L	2	22
140	116	2.7	405	58.0	3.842	35	P470	09L41-	2	22
141	120	1.2	175	60.0	2.231	50	P180	09H60-	2	15
141	120	1.2	175	60.0	2.231	50	P180	09H60L	2	15
148	116	1.2	175	58.0	3.173	35	P180	09L41-	2	16
148	116	1.2	175	58.0	3.173	35	P180	09L41L	2	17
160	101	2.7	470	51.0	3.701	40	P470	09L41-	2	22
160	101	2.7	470	51.0	3.701	40	P470	09L41L	2	22
165	102	2.4	405	51.0	3.685	50	P470	09L51-	2	22
169	102	1.0	175	51.0	3.131	50	P180	09L51-	2	16
169	101	1.1	180	51.0	3.135	40	P180	09L41L	2	17
169	101	1.1	180	51.0	3.135	40	P180	09L41-	2	16
195	85.7	1.8	355	43.0	2.772	70	P470	09H60-	2	20



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
195	85.7	1.8	355	43.0	2.772	70	P470	09H60L	2	20
212	81.0	1.9	405	41.0	3.685	50	P470	09L41-	2	22
212	81.0	1.9	405	41.0	3.685	50	P470	09L41L	2	22
234	72.9	1.5	355	36.0	3.672	70	P470	09L51-	2	22
273	60.0	1.1	305	30.0	2.753	100	P470	09H60-	2	20
273	60.0	1.1	305	30.0	2.753	100	P470	09H60L	2	20
293	57.9	1.2	355	29.0	3.672	70	P470	09L41-	2	22
293	57.9	1.2	355	29.0	3.672	70	P470	09L41L	2	22



2.5 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
26.0	750	5.3	180	375	9.041	4	P180	12H30L	1	17
30.0	750	2.6	80.0	375	8.019	4	P80	12H30L	1	13
31.0	750	1.3	39.0	375	7.744	4	P40	12H30L	1	12
35.0	600	4.0	175	300	8.617	5	P180	12H30L	1	17
38.0	600	1.0	40.0	300	7.717	5	P40	12H30L	1	12
38.0	600	2.0	80.0	300	7.897	5	P80	12H30L	1	13
52.0	429	3.0	175	214	8.348	7	P180	12H30L	1	17
54.0	429	1.4	78.0	214	7.800	7	P80	12H30L	1	13
59.0	375	2.9	180	188	16.229	4	P180	14H15-	1	41
61.0	375	1.3	80.0	188	15.468	4	P80	14H15-	1	37
66.0	300	5.2	405	150	22.461	5	P470	14H15-	1	46
70.0	300	4.0	305	150	13.826	10	P470	12H30L	1	22
76.0	300	2.3	175	150	15.805	5	P180	14H15-	1	41
77.0	300	1.0	80.0	150	15.346	5	P80	14H15-	1	37
77.0	300	1.8	140	150	8.192	10	P180	12H30L	1	17
102	214	3.3	355	107	21.314	7	P470	14H15-	1	46
106	188	3.6	450	94.0	9.136	16	P470	12H30L	2	24
108	214	1.6	175	107	15.536	7	P180	14H15-	1	41
120	188	1.5	180	94.0	7.997	16	P180	12H30L	2	18
135	150	4.9	750	75.0	36.720	10	P950	14H15-	1	63
140	150	2.9	450	75.0	8.675	20	P470	12H30L	2	24
147	120	5.0	950	60.0	15.670	25	P950	12H30L	2	42
150	150	1.2	180	75.0	7.882	20	P180	12H30L	2	18
154	150	2.0	305	75.0	20.726	10	P470	14H15-	1	46
186	120	2.1	405	60.0	8.611	25	P470	12H30L	2	24
207	93.8	3.9	950	47.0	24.610	16	P950	14H15-	2	66
232	85.7	3.6	950	43.0	14.465	35	P950	12H30L	2	42
241	93.8	1.8	450	47.0	16.327	16	P470	14H15-	2	48
263	85.7	1.5	405	43.0	8.342	35	P470	12H30L	2	24
276	75.0	3.1	950	38.0	22.930	20	P950	14H15-	2	66
276	75.0	3.1	950	38.0	13.938	40	P950	12H30L	2	42
301	75.0	1.5	450	38.0	15.865	20	P470	14H15-	2	48
301	75.0	1.5	470	38.0	8.201	40	P470	12H30L	2	24
362	60.0	2.5	950	30.0	13.848	50	P950	12H30L	2	42
363	60.0	2.5	950	30.0	22.570	25	P950	14H15-	2	66
376	60.0	1.1	405	30.0	15.801	25	P470	14H15-	2	48
376	60.0	1.1	405	30.0	8.185	50	P470	12H30L	2	24
521	42.9	1.7	900	21.0	13.771	70	P950	12H30L	2	42
526	42.9	1.8	950	21.0	21.365	35	P950	14H15-	2	66
602	37.5	1.6	950	19.0	20.838	40	P950	14H15-	2	66
728	30.0	1.0	750	15.0	13.734	100	P950	12H30L	2	42
752	30.0	1.3	950	15.0	20.748	50	P950	14H15-	2	66



2.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
25.0	900	5.4	180	450	10.129	4	P180	14D36-	1	36
25.0	881	5.4	180	441	9.041	4	P180	12H35-	1	17
28.0	900	2.6	80.0	450	9.368	4	P80	14D36-	1	32
28.0	881	2.6	80.0	441	8.019	4	P80	12H35-	1	13
29.0	881	1.3	39.0	441	7.744	4	P40	12H35-	1	12
33.0	720	4.1	175	360	9.705	5	P180	14D36-	1	36
33.0	705	4.1	175	353	8.617	5	P180	12H35-	1	17
36.0	720	2.0	80.0	360	9.246	5	P80	14D36-	1	32
36.0	705	1.1	40.0	353	7.717	5	P40	12H35-	1	12
36.0	705	2.0	80.0	353	7.897	5	P80	12H35-	1	13
48.0	514	3.0	175	257	9.436	7	P180	14D36-	1	36
48.0	504	3.1	175	252	8.348	7	P180	12H35-	1	17
49.0	488	3.4	180	244	12.341	4	P180	12L20-	1	20
49.0	488	3.4	180	244	12.341	4	P180	12L20L	1	20
50.0	514	1.5	78.0	257	8.874	7	P80	14D36-	1	32
50.0	504	1.5	78.0	252	7.800	7	P80	12H35-	1	13
52.0	488	1.5	80.0	244	11.319	4	P80	12L20-	1	16
52.0	488	1.5	80.0	244	11.319	4	P80	12L20L	1	16
63.0	390	2.7	175	195	11.917	5	P180	12L20-	1	20
63.0	390	2.7	175	195	11.917	5	P180	12L20L	1	20
65.0	390	1.2	80.0	195	11.197	5	P80	12L20-	1	16
65.0	390	1.2	80.0	195	11.197	5	P80	12L20L	1	16
65.0	360	4.2	305	180	14.626	10	P470	14D36-	1	41
65.0	353	4.2	305	176	13.826	10	P470	12H35-	1	22
72.0	360	1.9	140	180	9.280	10	P180	14D36-	1	36
72.0	353	1.9	140	176	8.192	10	P180	12H35-	1	17
84.0	279	3.9	355	139	17.714	7	P470	12L20-	1	25
84.0	279	3.9	355	139	17.714	7	P470	12L20L	1	25
91.0	279	1.9	175	139	11.648	7	P180	12L20-	1	20
91.0	279	1.9	175	139	11.648	7	P180	12L20L	1	20
99.0	225	3.6	450	113	10.227	16	P470	14D36-	2	43
99.0	220	3.7	450	110	9.136	16	P470	12H35-	2	24
113	225	1.6	180	113	9.346	16	P180	14D36-	2	37
113	220	1.6	180	110	7.997	16	P180	12H35-	2	18
128	195	2.4	305	98.0	17.126	10	P470	12L20-	1	25
128	195	2.4	305	98.0	17.126	10	P470	12L20L	1	25
129	180	3.1	450	90.0	9.765	20	P470	14D36-	2	43
129	176	3.1	450	88.0	8.675	20	P470	12H35-	2	24
130	195	1.1	140	98.0	11.492	10	P180	12L20-	1	20
130	195	1.1	140	98.0	11.492	10	P180	12L20L	1	20
133	144	5.3	950	72.0	16.470	25	P950	14D36-	2	61
133	141	5.3	950	71.0	15.670	25	P950	12H35-	2	42
141	180	1.3	180	90.0	9.232	20	P180	14D36-	2	37
141	176	1.3	180	88.0	7.882	20	P180	12H35-	2	18
164	122	4.6	950	61.0	21.010	16	P950	12L20-	2	45
164	122	4.6	950	61.0	21.010	16	P950	12L20L	2	45
173	144	2.3	405	72.0	9.701	25	P470	14D36-	2	43
173	141	2.3	405	71.0	8.611	25	P470	12H35-	2	24
200	122	2.2	450	61.0	12.436	16	P470	12L20-	2	27
200	122	2.2	450	61.0	12.436	16	P470	12L20L	2	27
214	103	3.8	950	51.0	15.265	35	P950	14D36-	2	61

Technical data

Planetary gearbox g880-P
Selection tables
Inverter power supply 400 V, self-ventilated motors



Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
214	101	3.8	950	50.0	14.465	35	P950	12H35-	2	42
222	97.5	3.7	950	49.0	19.330	20	P950	12L20-	2	45
222	97.5	3.7	950	49.0	19.330	20	P950	12L20L	2	45
247	103	1.6	405	51.0	9.432	35	P470	14D36-	2	43
247	101	1.6	405	50.0	8.342	35	P470	12H35-	2	24
254	97.5	1.7	450	49.0	11.975	20	P470	12L20-	2	27
254	97.5	1.7	450	49.0	11.975	20	P470	12L20L	2	27
254	90.0	3.3	950	45.0	14.738	40	P950	14D36-	2	61
254	88.1	3.3	950	44.0	13.938	40	P950	12H35-	2	42
282	90.0	1.6	470	45.0	9.292	40	P470	14D36-	2	43
282	88.1	1.6	470	44.0	8.201	40	P470	12H35-	2	24
295	78.0	2.9	950	39.0	18.970	25	P950	12L20-	2	45
295	78.0	2.9	950	39.0	18.970	25	P950	12L20L	2	45
317	78.0	1.3	405	39.0	11.911	25	P470	12L20-	2	27
317	78.0	1.3	405	39.0	11.911	25	P470	12L20L	2	27
335	72.0	2.7	950	36.0	14.648	50	P950	14D36-	2	61
335	70.5	2.7	950	35.0	13.848	50	P950	12H35-	2	42
353	72.0	1.1	405	36.0	9.276	50	P470	14D36-	2	43
353	70.5	1.1	405	35.0	8.185	50	P470	12H35-	2	24
440	55.7	2.1	950	28.0	17.765	35	P950	12L20L	2	45
440	55.7	2.1	950	28.0	17.765	35	P950	12L20-	2	45
488	51.4	1.8	900	26.0	14.571	70	P950	14D36-	2	61
488	50.4	1.8	900	25.0	13.771	70	P950	12H35-	2	42
508	48.8	1.9	950	24.0	17.238	40	P950	12L20L	2	45
508	48.8	1.9	950	24.0	17.238	40	P950	12L20-	2	45
635	39.0	1.5	950	20.0	17.148	50	P950	12L20-	2	45
635	39.0	1.5	950	20.0	17.148	50	P950	12L20L	2	45
683	36.0	1.1	750	18.0	14.534	100	P950	14D36-	2	61
683	35.3	1.1	750	18.0	13.734	100	P950	12H35-	2	42
879	27.9	1.0	900	14.0	17.071	70	P950	12L20-	2	45
879	27.9	1.0	900	14.0	17.071	70	P950	12L20L	2	45



3.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
76.0	375	5.3	470	188	33.070	4	P470	14L15-	1	51
88.0	375	2.0	180	188	25.429	4	P180	14L15-	1	45
103	300	3.6	405	150	31.661	5	P470	14L15-	1	51
110	300	1.6	175	150	25.005	5	P180	14L15-	1	45
130	214	5.8	900	107	49.599	7	P950	14L15-	1	67
153	214	2.3	355	107	30.514	7	P470	14L15-	1	51
155	214	1.1	175	107	24.736	7	P180	14L15-	1	45
208	150	3.4	750	75.0	45.920	10	P950	14L15-	1	67
221	150	1.4	305	75.0	29.926	10	P470	14L15-	1	51
328	93.8	2.7	950	47.0	33.810	16	P950	14L15-	2	71
346	93.8	1.3	450	47.0	25.527	16	P470	14L15-	2	52
428	75.0	2.2	950	38.0	32.130	20	P950	14L15-	2	71
432	75.0	1.0	450	38.0	25.065	20	P470	14L15-	2	52
541	60.0	1.7	950	30.0	31.770	25	P950	14L15-	2	71
757	42.9	1.2	950	21.0	30.565	35	P950	14L15-	2	71
865	37.5	1.1	950	19.0	30.038	40	P950	14L15-	2	71

4 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
93.0	356	4.5	470	178	74.670	4	P470	19F14-	1	61
104	356	1.7	180	178	69.591	4	P180	19F14-	1	56
124	285	3.1	405	143	73.261	5	P470	19F14-	1	61
130	285	1.3	175	143	69.167	5	P180	19F14-	1	56
159	204	4.9	900	102	91.199	7	P950	19F14-	1	77
181	204	1.9	355	102	72.114	7	P470	19F14-	1	61
250	143	2.9	750	71.0	87.520	10	P950	19F14-	1	77
259	143	1.2	305	71.0	71.526	10	P470	19F14-	1	61
397	89.1	2.3	950	45.0	75.410	16	P950	19F14-	2	81
406	89.1	1.1	450	45.0	69.318	16	P470	19F14-	2	63
508	71.3	1.8	950	36.0	73.730	20	P950	19F14-	2	81
635	57.0	1.5	950	29.0	73.370	25	P950	19F14-	2	81
888	40.7	1.1	950	20.0	72.165	35	P950	19F14-	2	81



4.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
105	338	4.0	470	169	44.370	4	P470	14P14-	1	56
115	338	1.6	180	169	36.729	4	P180	14P14-	1	50
139	270	2.8	405	135	42.961	5	P470	14P14-	1	56
144	270	1.2	175	135	36.305	5	P180	14P14-	1	50
181	193	4.4	900	96.0	60.899	7	P950	14P14-	1	72
202	193	1.7	355	96.0	41.814	7	P470	14P14-	1	56
281	135	2.6	750	68.0	57.220	10	P950	14P14-	1	72
288	135	1.1	305	68.0	41.226	10	P470	14P14-	1	56
449	84.4	2.1	950	42.0	45.110	16	P950	14P14-	2	76
564	67.5	1.7	950	34.0	43.430	20	P950	14P14-	2	76
705	54.0	1.3	950	27.0	43.070	25	P950	14P14-	2	76



4.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
40.0	1013	3.5	180	464	12.341	4	P180	12L41-	1	20
42.0	1013	1.7	80.0	506	11.319	4	P80	12L41-	1	16
51.0	810	2.7	175	405	11.917	5	P180	12L41-	1	20
52.0	806	3.0	180	403	16.229	4	P180	14H32-	1	41
53.0	810	1.3	80.0	405	11.197	5	P80	12L41-	1	16
54.0	806	1.4	80.0	403	15.468	4	P80	14H32-	1	37
56.0	645	6.0	405	294	22.461	5	P470	14H32-	1	46
65.0	579	4.8	355	270	17.714	7	P470	12L41-	1	25
67.0	645	1.1	80.0	323	15.346	5	P80	14H32-	1	37
67.0	645	2.2	175	323	15.805	5	P180	14H32-	1	41
74.0	579	2.0	175	289	11.648	7	P180	12L41-	1	20
87.0	461	3.7	355	230	21.314	7	P470	14H32-	1	46
94.0	461	1.7	175	230	15.536	7	P180	14H32-	1	41
102	405	2.9	305	203	17.126	10	P470	12L41-	1	25
106	405	1.3	140	203	11.492	10	P180	12L41-	1	20
116	323	5.4	750	161	36.720	10	P950	14H32-	1	63
121	253	5.6	950	104	21.010	16	P950	12L41-	2	45
133	323	2.3	305	161	20.726	10	P470	14H32-	1	46
134	323	1.0	140	161	15.380	10	P180	14H32-	1	41
161	253	2.4	450	127	12.436	16	P470	12L41-	2	27
165	253	1.1	180	127	11.297	16	P180	12L41-	2	21
168	203	4.5	950	99.0	19.330	20	P950	12L41-	2	45
173	202	4.4	950	101	24.610	16	P950	14H32-	2	66
206	203	2.1	450	101	11.975	20	P470	12L41-	2	27
210	202	2.0	450	101	16.327	16	P470	14H32-	2	48
228	162	3.6	950	81.0	18.970	25	P950	12L41-	2	45
233	161	3.5	950	81.0	22.930	20	P950	14H32-	2	66
259	162	1.5	405	81.0	11.911	25	P470	12L41-	2	27
263	161	1.7	450	81.0	15.865	20	P470	14H32-	2	48
309	129	2.8	950	65.0	22.570	25	P950	14H32-	2	66
329	129	1.2	405	65.0	15.801	25	P470	14H32-	2	48
346	116	2.6	950	58.0	17.765	35	P950	12L41-	2	45
362	116	1.1	405	58.0	11.642	35	P470	12L41-	2	27
405	101	2.3	950	51.0	17.238	40	P950	12L41-	2	45
414	101	1.1	470	51.0	11.501	40	P470	12L41-	2	27
459	92.1	2.0	950	46.0	21.365	35	P950	14H32-	2	66
517	81.0	1.8	950	41.0	17.148	50	P950	12L41-	2	45
526	80.6	1.8	950	40.0	20.838	40	P950	14H32-	2	66
658	64.5	1.4	950	32.0	20.748	50	P950	14H32-	2	66
716	57.9	1.3	900	29.0	17.071	70	P950	12L41-	2	45



5.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
65.0	806	2.4	180	403	25.429	4	P180	14L32-	1	45
73.0	645	4.9	405	289	31.661	5	P470	14L32-	1	51
83.0	645	1.8	175	323	25.005	5	P180	14L32-	1	45
111	461	3.0	355	230	30.514	7	P470	14L32-	1	51
116	461	1.4	175	230	24.736	7	P180	14L32-	1	45
149	323	4.4	750	161	45.920	10	P950	14L32-	1	67
165	323	1.9	305	161	29.926	10	P470	14L32-	1	51
228	202	3.6	950	100	33.810	16	P950	14L32-	2	71
259	202	1.6	450	101	25.527	16	P470	14L32-	2	52
302	161	2.9	950	81.0	32.130	20	P950	14L32-	2	71
323	161	1.4	450	81.0	25.065	20	P470	14L32-	2	52
395	129	2.3	950	65.0	31.770	25	P950	14L32-	2	71
566	92.1	1.7	950	46.0	30.565	35	P950	14L32-	2	71
647	80.6	1.5	950	40.0	30.038	40	P950	14L32-	2	71
808	64.5	1.2	950	32.0	29.948	50	P950	14L32-	2	71

6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
147	356	3.0	470	178	114.670	4	P470	19J14-	1	68
154	356	1.2	180	178	109.591	4	P180	19J14-	1	63
169	285	4.9	950	143	137.573	5	P950	19J14-	1	84
191	285	2.1	405	143	113.261	5	P470	19J14-	1	68
254	204	3.3	900	102	131.199	7	P950	19J14-	1	84
269	204	1.3	355	102	112.114	7	P470	19J14-	1	68
384	143	2.0	750	71.0	127.520	10	P950	19J14-	1	84
602	89.1	1.6	950	45.0	115.410	16	P950	19J14-	2	88
752	71.3	1.2	950	36.0	113.730	20	P950	19J14-	2	88



6.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
69.0	750	5.5	470	290	74.670	4	P470	19F30-	1	61
81.0	750	2.0	180	375	69.591	4	P180	19F30-	1	56
92.0	600	4.0	405	284	73.261	5	P470	19F30-	1	61
101	600	1.5	175	300	69.167	5	P180	19F30-	1	56
121	429	5.4	900	194	91.199	7	P950	19F30-	1	77
138	429	2.5	355	214	72.114	7	P470	19F30-	1	61
141	429	1.1	175	214	68.898	7	P180	19F30-	1	56
188	300	3.7	750	150	87.520	10	P950	19F30-	1	77
202	300	1.5	305	150	71.526	10	P470	19F30-	1	61
294	188	3.0	950	94.0	75.410	16	P950	19F30-	2	81
316	188	1.4	450	94.0	69.318	16	P470	19F30-	2	63
384	150	2.4	950	75.0	73.730	20	P950	19F30-	2	81
395	150	1.1	450	75.0	68.857	20	P470	19F30-	2	63
494	120	1.9	950	60.0	73.370	25	P950	19F30-	2	81
691	85.7	1.4	950	43.0	72.165	35	P950	19F30-	2	81
790	75.0	1.2	950	38.0	71.638	40	P950	19F30-	2	81

7.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
69.0	806	5.4	470	289	44.370	4	P470	14P32-	1	56
81.0	806	2.0	180	403	36.729	4	P180	14P32-	1	50
92.0	645	4.0	405	284	42.961	5	P470	14P32-	1	56
101	645	1.5	175	323	36.305	5	P180	14P32-	1	50
122	461	5.3	900	194	60.899	7	P950	14P32-	1	72
138	461	2.5	355	230	41.814	7	P470	14P32-	1	56
141	461	1.1	175	230	36.036	7	P180	14P32-	1	50
188	323	3.6	750	161	57.220	10	P950	14P32-	1	72
202	323	1.5	305	161	41.226	10	P470	14P32-	1	56
294	202	3.0	950	98.0	45.110	16	P950	14P32-	2	76
316	202	1.4	450	101	36.827	16	P470	14P32-	2	57
384	161	2.4	950	81.0	43.430	20	P950	14P32-	2	76
395	161	1.1	450	81.0	36.365	20	P470	14P32-	2	57
494	129	1.9	950	65.0	43.070	25	P950	14P32-	2	76
691	92.1	1.4	950	46.0	41.865	35	P950	14P32-	2	76
790	80.6	1.2	950	40.0	41.338	40	P950	14P32-	2	76



7.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
173	338	4.8	950	169	200.642	4	P950	19P14-	1	94
193	338	2.4	470	169	169.670	4	P470	19P14-	1	78
226	270	3.8	950	135	192.573	5	P950	19P14-	1	94
245	270	1.6	405	135	168.261	5	P470	19P14-	1	78
334	193	2.6	900	96.0	186.199	7	P950	19P14-	1	94
343	193	1.0	355	96.0	167.114	7	P470	19P14-	1	78
490	135	1.5	750	68.0	182.520	10	P950	19P14-	1	94
767	84.4	1.2	950	42.0	170.410	16	P950	19P14-	2	98

9.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
102	750	4.0	470	282	114.670	4	P470	19J30-	1	68
111	750	1.5	180	375	109.591	4	P180	19J30-	1	63
119	600	5.5	950	202	137.573	5	P950	19J30-	1	84
134	600	2.9	405	276	113.261	5	P470	19J30-	1	68
139	600	1.1	175	300	109.167	5	P180	19J30-	1	63
179	429	3.9	900	188	131.199	7	P950	19J30-	1	84
195	429	1.8	355	214	112.114	7	P470	19J30-	1	68
271	300	2.7	750	150	127.520	10	P950	19J30-	1	84
278	300	1.1	305	150	111.526	10	P470	19J30-	1	68
432	188	2.1	950	94.0	115.410	16	P950	19J30-	2	88
545	150	1.7	950	75.0	113.730	20	P950	19J30-	2	88
682	120	1.4	950	60.0	113.370	25	P950	19J30-	2	88

10 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
115	750	3.6	470	280	169.670	4	P470	19P30-	1	78
134	600	5.0	950	200	192.573	5	P950	19P30-	1	94
150	600	2.6	405	274	168.261	5	P470	19P30-	1	78
201	429	3.5	900	187	186.199	7	P950	19P30-	1	94
215	429	1.6	355	214	167.114	7	P470	19P30-	1	78
302	300	2.4	750	150	182.520	10	P950	19P30-	1	94
481	188	1.9	950	94.0	170.410	16	P950	19P30-	2	98
602	150	1.6	950	75.0	168.730	20	P950	19P30-	2	98
752	120	1.2	950	60.0	168.370	25	P950	19P30-	2	98



Inverter power supply 400 V, forced ventilated motors

1.2 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
26.0	413	3.0	80.0	206	4.719	4	P80	12D17-	1	12
27.0	413	1.4	39.0	206	4.444	4	P40	12D17-	1	11
29.0	330	5.2	175	165	5.317	5	P180	12D17-	1	16
33.0	330	2.4	80.0	165	4.597	5	P80	12D17-	1	12
34.0	330	1.2	40.0	165	4.417	5	P40	12D17-	1	11
44.0	236	3.7	175	118	5.048	7	P180	12D17-	1	16
47.0	236	1.6	78.0	118	4.500	7	P80	12D17-	1	12
60.0	165	4.5	305	83.0	10.526	10	P470	12D17-	1	21
67.0	165	2.1	140	83.0	4.892	10	P180	12D17-	1	16
88.0	103	4.2	450	52.0	5.836	16	P470	12D17-	2	23
105	103	1.7	180	52.0	4.697	16	P180	12D17-	2	17
118	82.5	3.4	450	41.0	5.375	20	P470	12D17-	2	23
120	66.0	5.7	950	33.0	12.370	25	P950	12D17-	2	41
132	82.5	1.3	180	41.0	4.582	20	P180	12D17-	2	17
159	66.0	2.4	405	33.0	5.311	25	P470	12D17-	2	23
165	66.0	1.1	175	33.0	4.564	25	P180	12D17-	2	17
195	47.1	4.1	950	24.0	11.165	35	P950	12D17-	2	41
230	47.1	1.7	405	24.0	5.042	35	P470	12D17-	2	23
232	41.3	3.6	950	21.0	10.638	40	P950	12D17-	2	41
263	41.3	1.8	470	21.0	4.901	40	P470	12D17-	2	23
308	33.0	2.9	950	17.0	10.548	50	P950	12D17-	2	41
329	33.0	1.2	405	17.0	4.885	50	P470	12D17-	2	23
456	23.6	2.0	900	12.0	10.471	70	P950	12D17-	2	41
637	16.5	1.2	750	8.0	10.434	100	P950	12D17-	2	41



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
42.0	338	3.9	180	169	9.041	4	P180	12H14-	1	19
42.0	338	3.9	180	169	10.129	4	P180	14D14-	1	40
46.0	338	1.7	80.0	169	9.368	4	P80	14D14-	1	36
46.0	338	1.7	80.0	169	8.019	4	P80	12H14-	1	15
55.0	270	3.0	175	135	8.617	5	P180	12H14-	1	19
55.0	270	3.0	175	135	9.705	5	P180	14D14-	1	40
58.0	270	1.4	80.0	135	9.246	5	P80	14D14-	1	36
58.0	270	1.4	80.0	135	7.897	5	P80	12H14-	1	15
73.0	193	4.4	355	96.0	14.414	7	P470	12H14-	1	24
73.0	193	4.4	355	96.0	15.214	7	P470	14D14-	1	45
80.0	193	2.2	175	96.0	8.348	7	P180	12H14-	1	19
80.0	193	2.2	175	96.0	9.436	7	P180	14D14-	1	40
112	135	2.7	305	68.0	13.826	10	P470	12H14-	1	24
112	135	2.7	305	68.0	14.626	10	P470	14D14-	1	45
115	135	1.2	140	68.0	8.192	10	P180	12H14-	1	19
115	135	1.2	140	68.0	9.280	10	P180	14D14-	1	40
138	84.4	5.2	950	42.0	17.710	16	P950	12H14-	2	44
138	84.4	5.2	950	42.0	18.510	16	P950	14D14-	2	65
175	84.4	2.4	450	42.0	9.136	16	P470	12H14-	2	26
175	84.4	2.4	450	42.0	10.227	16	P470	14D14-	2	47
190	67.5	4.1	950	34.0	16.030	20	P950	12H14-	2	44
190	67.5	4.1	950	34.0	16.830	20	P950	14D14-	2	65
226	67.5	2.0	450	34.0	8.675	20	P470	12H14-	2	26
226	67.5	2.0	450	34.0	9.765	20	P470	14D14-	2	47
255	54.0	3.3	950	27.0	15.670	25	P950	12H14-	2	44
255	54.0	3.3	950	27.0	16.470	25	P950	14D14-	2	65
282	54.0	1.4	405	27.0	8.611	25	P470	12H14-	2	26
282	54.0	1.4	405	27.0	9.701	25	P470	14D14-	2	47
384	38.6	2.4	950	19.0	14.465	35	P950	12H14-	2	44
384	38.6	2.4	950	19.0	15.265	35	P950	14D14-	2	65
395	38.6	1.0	405	19.0	8.342	35	P470	12H14-	2	26
395	38.6	1.0	405	19.0	9.432	35	P470	14D14-	2	47
448	33.8	2.1	950	17.0	14.738	40	P950	14D14-	2	65
448	33.8	2.1	950	17.0	13.938	40	P950	12H14-	2	44
451	33.8	1.0	470	17.0	8.201	40	P470	12H14-	2	26
451	33.8	1.0	470	17.0	9.292	40	P470	14D14-	2	47
564	27.0	1.7	950	14.0	13.848	50	P950	12H14-	2	44
564	27.0	1.7	950	14.0	14.648	50	P950	14D14-	2	65
781	19.3	1.2	900	10.0	13.771	70	P950	12H14-	2	44
781	19.3	1.2	900	10.0	14.571	70	P950	14D14-	2	65



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-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
22.0	881	3.3	80.0	441	4.719	4	P80	12D35-	1	12
23.0	881	1.7	39.0	441	4.444	4	P40	12D35-	1	11
25.0	705	5.1	175	353	5.317	5	P180	12D35-	1	16
28.0	705	2.5	80.0	353	4.597	5	P80	12D35-	1	12
29.0	705	1.4	40.0	353	4.417	5	P40	12D35-	1	11
37.0	504	3.8	175	252	5.048	7	P180	12D35-	1	16
40.0	504	1.9	78.0	252	4.500	7	P80	12D35-	1	12
50.0	353	5.3	305	176	10.526	10	P470	12D35-	1	21
57.0	353	1.0	59.0	176	4.450	10	P80	12D35-	1	12
57.0	353	2.4	140	176	4.892	10	P180	12D35-	1	16
73.0	220	4.6	450	110	5.836	16	P470	12D35-	2	23
90.0	220	2.0	180	110	4.697	16	P180	12D35-	2	17
97.0	176	3.9	450	88.0	5.375	20	P470	12D35-	2	23
113	176	1.6	180	88.0	4.582	20	P180	12D35-	2	17
132	141	2.8	405	71.0	5.311	25	P470	12D35-	2	23
141	141	1.2	175	71.0	4.564	25	P180	12D35-	2	17
157	101	4.8	950	50.0	11.165	35	P950	12D35-	2	41
189	88.1	4.2	950	44.0	10.638	40	P950	12D35-	2	41
197	101	2.0	405	50.0	5.042	35	P470	12D35-	2	23
225	88.1	2.0	470	44.0	4.901	40	P470	12D35-	2	23
254	70.5	3.3	950	35.0	10.548	50	P950	12D35-	2	41
282	70.5	1.4	405	35.0	4.885	50	P470	12D35-	2	23
386	50.4	2.3	900	25.0	10.471	70	P950	12D35-	2	41
546	35.3	1.4	750	18.0	10.434	100	P950	12D35-	2	41

2.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
63.0	413	2.7	180	206	12.341	4	P180	12L17-	1	22
65.0	413	1.2	80.0	206	11.319	4	P80	12L17-	1	18
72.0	330	4.9	405	165	18.861	5	P470	12L17-	1	27
81.0	330	2.1	175	165	11.917	5	P180	12L17-	1	22
109	236	3.1	355	118	17.714	7	P470	12L17-	1	27
114	236	1.5	175	118	11.648	7	P180	12L17-	1	22
163	165	1.9	305	83.0	17.126	10	P470	12L17-	1	27
224	103	3.6	950	52.0	21.010	16	P950	12L17-	2	47
256	103	1.7	450	52.0	12.436	16	P470	12L17-	2	29
298	82.5	2.9	950	41.0	19.330	20	P950	12L17-	2	47
320	82.5	1.4	450	41.0	11.975	20	P470	12L17-	2	29
390	66.0	2.3	950	33.0	18.970	25	P950	12L17-	2	47
559	47.1	1.7	950	24.0	17.765	35	P950	12L17-	2	47
639	41.3	1.5	950	21.0	17.238	40	P950	12L17-	2	47
799	33.0	1.2	950	17.0	17.148	50	P950	12L17-	2	47



3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
78.0	300	5.2	470	150	23.870	4	P470	14H12-	1	50
90.0	300	2.0	180	150	16.229	4	P180	14H12-	1	45
105	240	3.6	405	120	22.461	5	P470	14H12-	1	50
113	240	1.5	175	120	15.805	5	P180	14H12-	1	45
134	171	5.6	900	86.0	40.399	7	P950	14H12-	1	67
156	171	2.2	355	86.0	21.314	7	P470	14H12-	1	50
158	171	1.1	175	86.0	15.536	7	P180	14H12-	1	45
213	120	3.3	750	60.0	36.720	10	P950	14H12-	1	67
226	120	1.4	305	60.0	20.726	10	P470	14H12-	1	50
337	75.0	2.6	950	38.0	24.610	16	P950	14H12-	2	70
353	75.0	1.3	450	38.0	16.327	16	P470	14H12-	2	52
438	60.0	2.1	950	30.0	22.930	20	P950	14H12-	2	70
552	48.0	1.7	950	24.0	22.570	25	P950	14H12-	2	70
773	34.3	1.2	950	17.0	21.365	35	P950	14H12-	2	70
884	30.0	1.1	950	15.0	20.838	40	P950	14H12-	2	70

3.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
37.0	750	4.0	180	375	10.129	4	P180	14D30-	1	40
40.0	750	2.0	80.0	375	9.368	4	P80	14D30-	1	36
48.0	600	3.1	175	300	9.705	5	P180	14D30-	1	40
50.0	600	1.5	80.0	300	9.246	5	P80	14D30-	1	36
62.0	429	5.0	355	214	15.214	7	P470	14D30-	1	45
70.0	429	2.3	175	214	9.436	7	P180	14D30-	1	40
71.0	429	1.1	78.0	214	8.874	7	P80	14D30-	1	36
96.0	300	3.0	305	150	14.626	10	P470	14D30-	1	45
101	300	1.4	140	150	9.280	10	P180	14D30-	1	40
112	188	5.9	950	94.0	18.510	16	P950	14D30-	2	65
149	188	2.8	450	94.0	10.227	16	P470	14D30-	2	47
158	188	1.1	180	94.0	9.346	16	P180	14D30-	2	41
158	150	4.7	950	75.0	16.830	20	P950	14D30-	2	65
194	150	2.2	450	75.0	9.765	20	P470	14D30-	2	47
214	120	3.8	950	60.0	16.470	25	P950	14D30-	2	65
247	120	1.6	405	60.0	9.701	25	P470	14D30-	2	47
327	85.7	2.7	950	43.0	15.265	35	P950	14D30-	2	65
345	85.7	1.2	405	43.0	9.432	35	P470	14D30-	2	47
384	75.0	2.4	950	38.0	14.738	40	P950	14D30-	2	65
395	75.0	1.2	470	38.0	9.292	40	P470	14D30-	2	47
494	60.0	1.9	950	30.0	14.648	50	P950	14D30-	2	65
684	42.9	1.3	900	21.0	14.571	70	P950	14D30-	2	65



3.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
37.0	844	3.9	180	422	9.041	4	P180	12H34-	1	19
40.0	844	1.9	80.0	422	8.019	4	P80	12H34-	1	15
48.0	675	3.0	175	338	8.617	5	P180	12H34-	1	19
50.0	675	1.5	80.0	338	7.897	5	P80	12H34-	1	15
62.0	482	5.0	355	241	14.414	7	P470	12H34-	1	24
70.0	482	2.2	175	241	8.348	7	P180	12H34-	1	19
71.0	482	1.1	78.0	241	7.800	7	P80	12H34-	1	15
96.0	338	3.0	305	169	13.826	10	P470	12H34-	1	24
101	338	1.4	140	169	8.192	10	P180	12H34-	1	19
112	211	5.9	950	105	17.710	16	P950	12H34-	2	44
150	211	2.7	450	105	9.136	16	P470	12H34-	2	26
158	211	1.1	180	105	7.997	16	P180	12H34-	2	20
158	169	4.7	950	84.0	16.030	20	P950	12H34-	2	44
194	169	2.2	450	84.0	8.675	20	P470	12H34-	2	26
214	135	3.8	950	68.0	15.670	25	P950	12H34-	2	44
247	135	1.6	405	68.0	8.611	25	P470	12H34-	2	26
327	96.4	2.7	950	48.0	14.465	35	P950	12H34-	2	44
345	96.4	1.2	405	48.0	8.342	35	P470	12H34-	2	26
384	84.4	2.4	950	42.0	13.938	40	P950	12H34-	2	44
395	84.4	1.2	470	42.0	8.201	40	P470	12H34-	2	26
494	67.5	1.9	950	34.0	13.848	50	P950	12H34-	2	44
684	48.2	1.3	900	24.0	13.771	70	P950	12H34-	2	44

4.3 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
107	338	4.0	470	169	33.070	4	P470	14L14-	1	55
117	338	1.5	180	169	25.429	4	P180	14L14-	1	49
142	270	2.7	405	135	31.661	5	P470	14L14-	1	55
146	270	1.2	175	135	25.005	5	P180	14L14-	1	49
185	193	4.4	900	96.0	49.599	7	P950	14L14-	1	71
205	193	1.7	355	96.0	30.514	7	P470	14L14-	1	55
286	135	2.6	750	68.0	45.920	10	P950	14L14-	1	71
293	135	1.0	305	68.0	29.926	10	P470	14L14-	1	55
458	84.4	2.0	950	42.0	33.810	16	P950	14L14-	2	75
573	67.5	1.6	950	34.0	32.130	20	P950	14L14-	2	75
717	54.0	1.3	950	27.0	31.770	25	P950	14L14-	2	75



4.6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
136	263	5.8	950	131	75.342	4	P950	14P11-	1	76
155	263	2.9	470	131	44.370	4	P470	14P11-	1	60
161	263	1.1	180	131	36.729	4	P180	14P11-	1	54
179	210	4.7	950	105	67.273	5	P950	14P11-	1	76
202	210	2.0	405	105	42.961	5	P470	14P11-	1	60
269	150	3.2	900	75.0	60.899	7	P950	14P11-	1	76
282	150	1.2	355	75.0	41.814	7	P470	14P11-	1	60
403	105	1.9	750	53.0	57.220	10	P950	14P11-	1	76
632	65.6	1.5	950	33.0	45.110	16	P950	14P11-	2	80
790	52.5	1.2	950	26.0	43.430	20	P950	14P11-	2	80

4.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
139	300	3.2	470	150	74.670	4	P470	19F12-	1	67
146	300	1.2	180	150	69.591	4	P180	19F12-	1	62
158	240	5.2	950	120	97.573	5	P950	19F12-	1	83
181	240	2.2	405	120	73.261	5	P470	19F12-	1	67
240	171	3.5	900	86.0	91.199	7	P950	19F12-	1	83
255	171	1.4	355	86.0	72.114	7	P470	19F12-	1	67
364	120	2.1	750	60.0	87.520	10	P950	19F12-	1	83
572	75.0	1.6	950	38.0	75.410	16	P950	19F12-	2	87
714	60.0	1.3	950	30.0	73.730	20	P950	19F12-	2	87
893	48.0	1.0	950	24.0	73.370	25	P950	19F12-	2	87

5.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
52.0	975	2.8	180	457	12.341	4	P180	12L39-	1	22
54.0	975	1.4	80.0	488	11.319	4	P80	12L39-	1	18
56.0	780	6.0	405	294	18.861	5	P470	12L39-	1	27
67.0	780	1.1	80.0	390	11.197	5	P80	12L39-	1	18
67.0	780	2.1	175	390	11.917	5	P180	12L39-	1	22
87.0	557	3.7	355	265	17.714	7	P470	12L39-	1	27
94.0	557	1.6	175	279	11.648	7	P180	12L39-	1	22
133	390	2.3	305	195	17.126	10	P470	12L39-	1	27
134	390	1.0	140	195	11.492	10	P180	12L39-	1	22
173	244	4.4	950	102	21.010	16	P950	12L39-	2	47
211	244	1.9	450	122	12.436	16	P470	12L39-	2	29
233	195	3.5	950	97.0	19.330	20	P950	12L39-	2	47
263	195	1.6	450	98.0	11.975	20	P470	12L39-	2	29
309	156	2.8	950	78.0	18.970	25	P950	12L39-	2	47
329	156	1.2	405	78.0	11.911	25	P470	12L39-	2	29
459	111	2.0	950	56.0	17.765	35	P950	12L39-	2	47
526	97.5	1.8	950	49.0	17.238	40	P950	12L39-	2	47
658	78.0	1.4	950	39.0	17.148	50	P950	12L39-	2	47



6 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
66.0	694	5.7	470	291	23.870	4	P470	14H28-	1	50
78.0	694	2.1	180	347	16.229	4	P180	14H28-	1	45
90.0	555	4.1	405	278	22.461	5	P470	14H28-	1	50
98.0	555	1.6	175	278	15.805	5	P180	14H28-	1	45
117	396	5.7	900	195	40.399	7	P950	14H28-	1	67
135	396	2.6	355	198	21.314	7	P470	14H28-	1	50
138	396	1.2	175	198	15.536	7	P180	14H28-	1	45
182	278	3.8	750	139	36.720	10	P950	14H28-	1	67
197	278	1.6	305	139	20.726	10	P470	14H28-	1	50
285	173	3.0	950	87.0	24.610	16	P950	14H28-	2	70
308	173	1.4	450	87.0	16.327	16	P470	14H28-	2	52
374	139	2.4	950	69.0	22.930	20	P950	14H28-	2	70
385	139	1.1	450	69.0	15.865	20	P470	14H28-	2	52
482	111	1.9	950	56.0	22.570	25	P950	14H28-	2	70
674	79.3	1.4	950	40.0	21.365	35	P950	14H28-	2	70
771	69.4	1.2	950	35.0	20.838	40	P950	14H28-	2	70

7.9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
221	300	3.9	950	150	145.642	4	P950	19J12-	1	90
240	300	1.9	470	150	114.670	4	P470	19J12-	1	74
286	240	3.1	950	120	137.573	5	P950	19J12-	1	90
300	240	1.3	405	120	113.261	5	P470	19J12-	1	74
418	171	2.1	900	86.0	131.199	7	P950	19J12-	1	90
600	120	1.3	750	60.0	127.520	10	P950	19J12-	1	90

8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
88.0	750	4.5	470	285	33.070	4	P470	14L30-	1	55
98.0	750	1.7	180	375	25.429	4	P180	14L30-	1	49
116	600	3.3	405	279	31.661	5	P470	14L30-	1	55
122	600	1.3	175	300	25.005	5	P180	14L30-	1	49
154	429	4.4	900	191	49.599	7	P950	14L30-	1	71
171	429	2.1	355	214	30.514	7	P470	14L30-	1	55
234	300	3.0	750	150	45.920	10	P950	14L30-	1	71
245	300	1.3	305	150	29.926	10	P470	14L30-	1	55
371	188	2.4	950	94.0	33.810	16	P950	14L30-	2	75
384	188	1.1	450	94.0	25.527	16	P470	14L30-	2	56
479	150	1.9	950	75.0	32.130	20	P950	14L30-	2	75
599	120	1.6	950	60.0	31.770	25	P950	14L30-	2	75
839	85.7	1.1	950	43.0	30.565	35	P950	14L30-	2	75



9 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
260	300	3.4	950	150	200.642	4	P950	19P12-	1	100
276	300	1.7	470	150	169.670	4	P470	19P12-	1	84
335	240	2.7	950	120	192.573	5	P950	19P12-	1	100
346	240	1.2	405	120	168.261	5	P470	19P12-	1	84
484	171	1.8	900	86.0	186.199	7	P950	19P12-	1	100
691	120	1.1	750	60.0	182.520	10	P950	19P12-	1	100

9.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
118	656	3.6	470	280	44.370	4	P470	14P26-	1	60
127	656	1.3	180	328	36.729	4	P180	14P26-	1	54
138	525	5.0	950	200	67.273	5	P950	14P26-	1	76
155	525	2.5	405	263	42.961	5	P470	14P26-	1	60
158	525	1.0	175	263	36.305	5	P180	14P26-	1	54
207	375	3.6	900	187	60.899	7	P950	14P26-	1	76
222	375	1.6	355	188	41.814	7	P470	14P26-	1	60
312	263	2.4	750	131	57.220	10	P950	14P26-	1	76
496	164	1.9	950	82.0	45.110	16	P950	14P26-	2	80
620	131	1.5	950	66.0	43.430	20	P950	14P26-	2	80
776	105	1.2	950	53.0	43.070	25	P950	14P26-	2	80

9.7 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
117	713	3.6	470	280	74.670	4	P470	19F29-	1	67
137	570	5.0	950	200	97.573	5	P950	19F29-	1	83
152	570	2.6	405	273	73.261	5	P470	19F29-	1	67
204	407	3.5	900	187	91.199	7	P950	19F29-	1	83
218	407	1.6	355	204	72.114	7	P470	19F29-	1	67
307	285	2.4	750	143	87.520	10	P950	19F29-	1	83
489	178	1.9	950	89.0	75.410	16	P950	19F29-	2	87
611	143	1.5	950	71.0	73.730	20	P950	19F29-	2	87
764	114	1.2	950	57.0	73.370	25	P950	19F29-	2	87



15.1 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
177	713	4.1	950	197	145.642	4	P950	19J29-	1	90
191	713	2.3	470	270	114.670	4	P470	19J29-	1	74
230	570	3.2	950	192	137.573	5	P950	19J29-	1	90
242	570	1.7	405	262	113.261	5	P470	19J29-	1	74
335	407	2.3	900	179	131.199	7	P950	19J29-	1	90
339	407	1.0	355	204	112.114	7	P470	19J29-	1	74
485	285	1.6	750	143	127.520	10	P950	19J29-	1	90
760	178	1.2	950	89.0	115.410	16	P950	19J29-	2	94

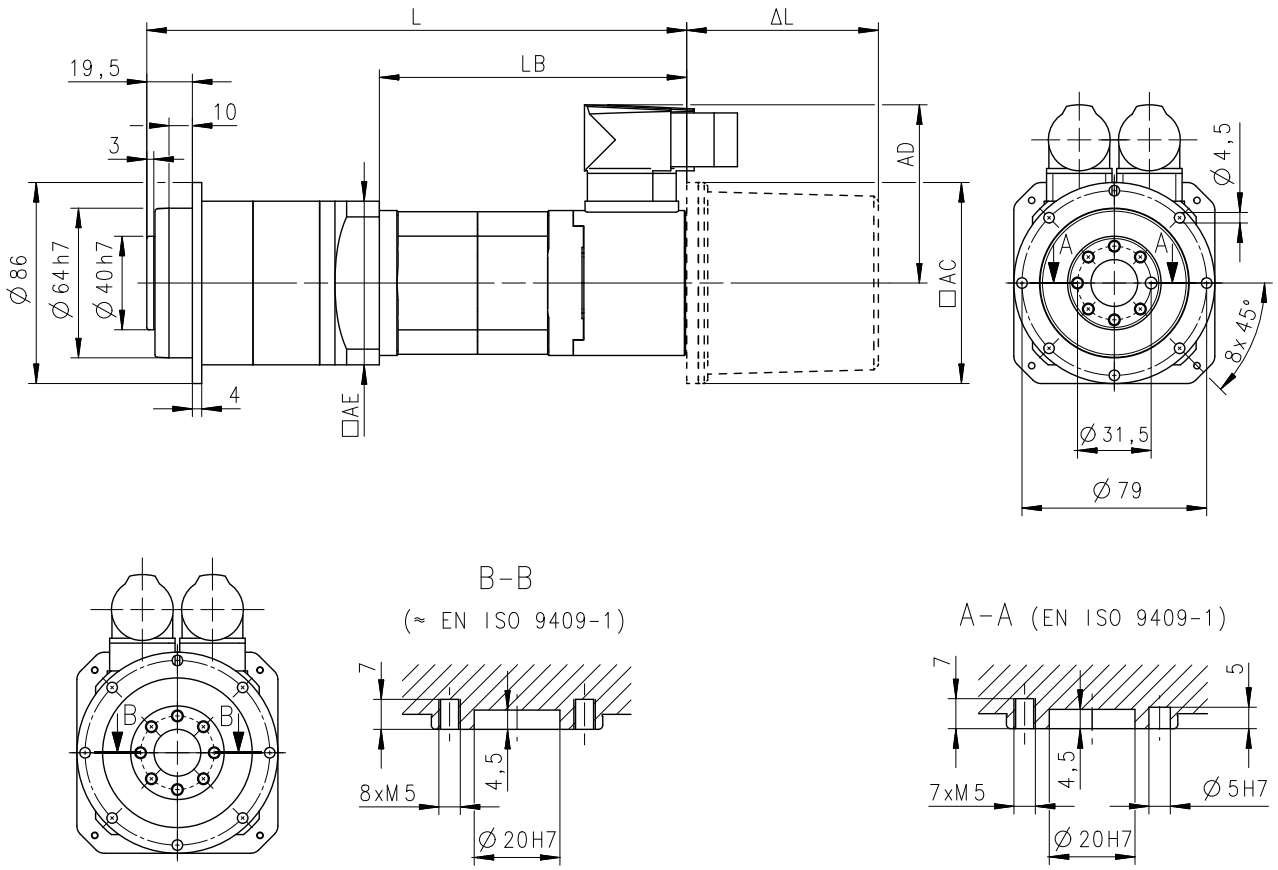
15.8 kW

Inverter operation							Geared motor		Number of stages	Mass
M_2	n_2	c	$M_{2, max}$	$n_{2, th}$	J	i	g880-	MCS	z	m
Nm	rpm		Nm	rpm	kgcm²					kg
187	713	3.9	950	196	200.642	4	P950	19P29-	1	100
202	713	2.2	470	268	169.670	4	P470	19P29-	1	84
243	570	3.1	950	191	192.573	5	P950	19P29-	1	100
254	570	1.6	405	261	168.261	5	P470	19P29-	1	84
354	407	2.2	900	178	186.199	7	P950	19P29-	1	100
509	285	1.5	750	143	182.520	10	P950	19P29-	1	100
797	178	1.2	950	89.0	170.410	16	P950	19P29-	2	104

Basic dimensions

g880-P40 with MCS06

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

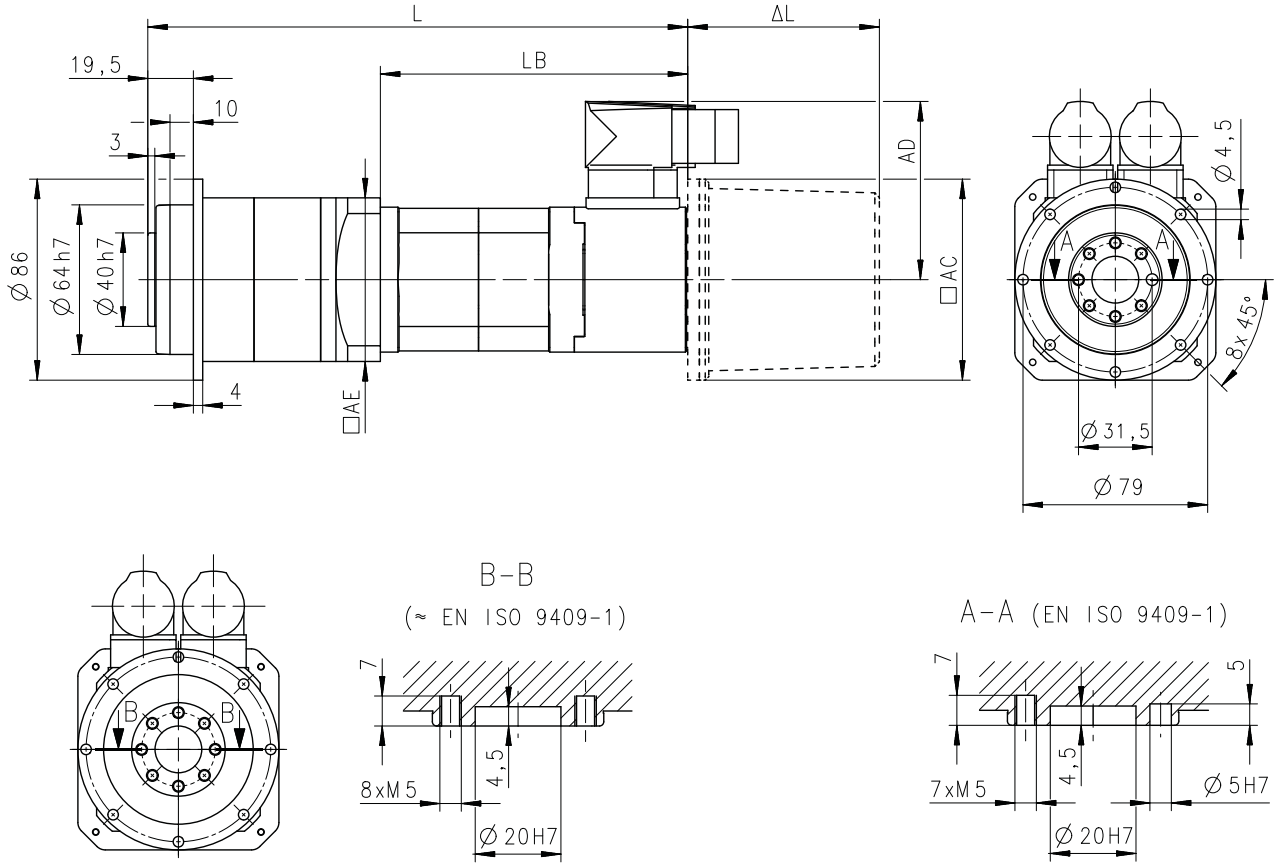


8800849-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	203	203	233	233	263	263
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70

g880-P40 with MCS09

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



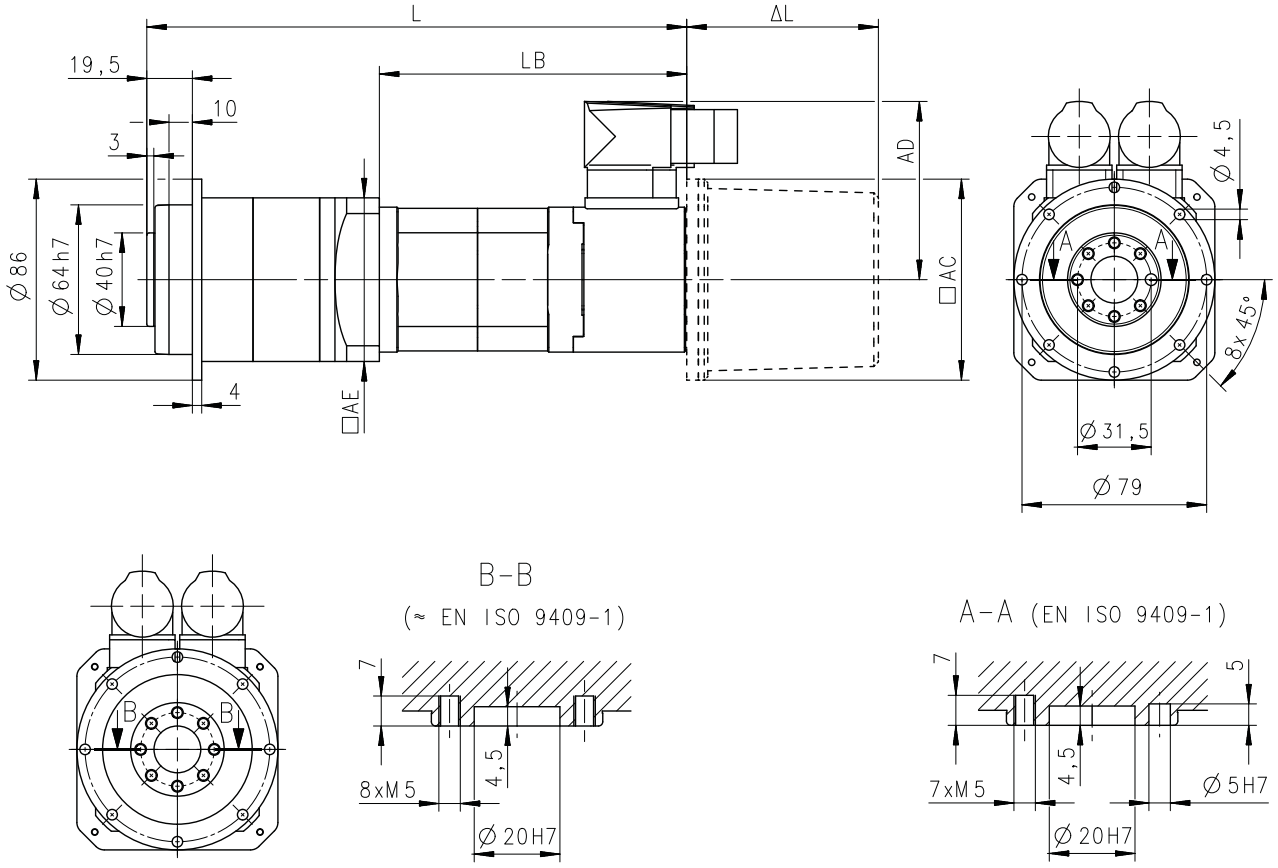
8800849-00

Motor			MCS 09							
			D41-D41L	D60-D60L	F38-F38L	F60-F60L	H41-H41L	H60-H60L	L41-L41L	L51-
Total length	L	mm	260	260	280	280	300	300	340	340
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g880-P40 with MCS09

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

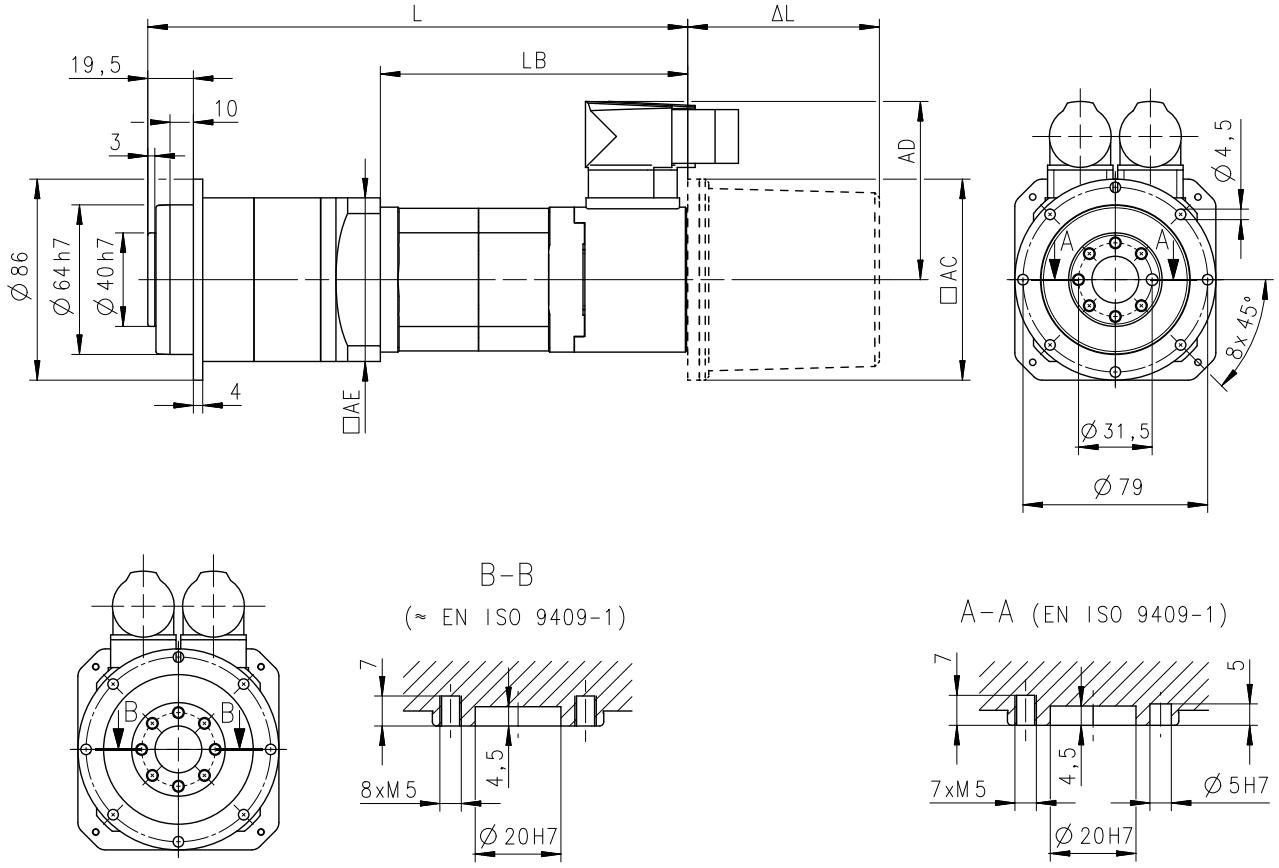


8800849-00

Motor			MCS 09		
			D41- D41L	D60- D60L	F60- F60L
Total length	L	mm	288.5	288.5	308.5
Motor length	LB	mm	182	182	202
Motor diameter	AC	mm	89	89	89
Motor/connection distance	AD	mm	90	90	90
Gearbox diameter	AE	mm	90	90	90

g880-P40 with MCS12

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



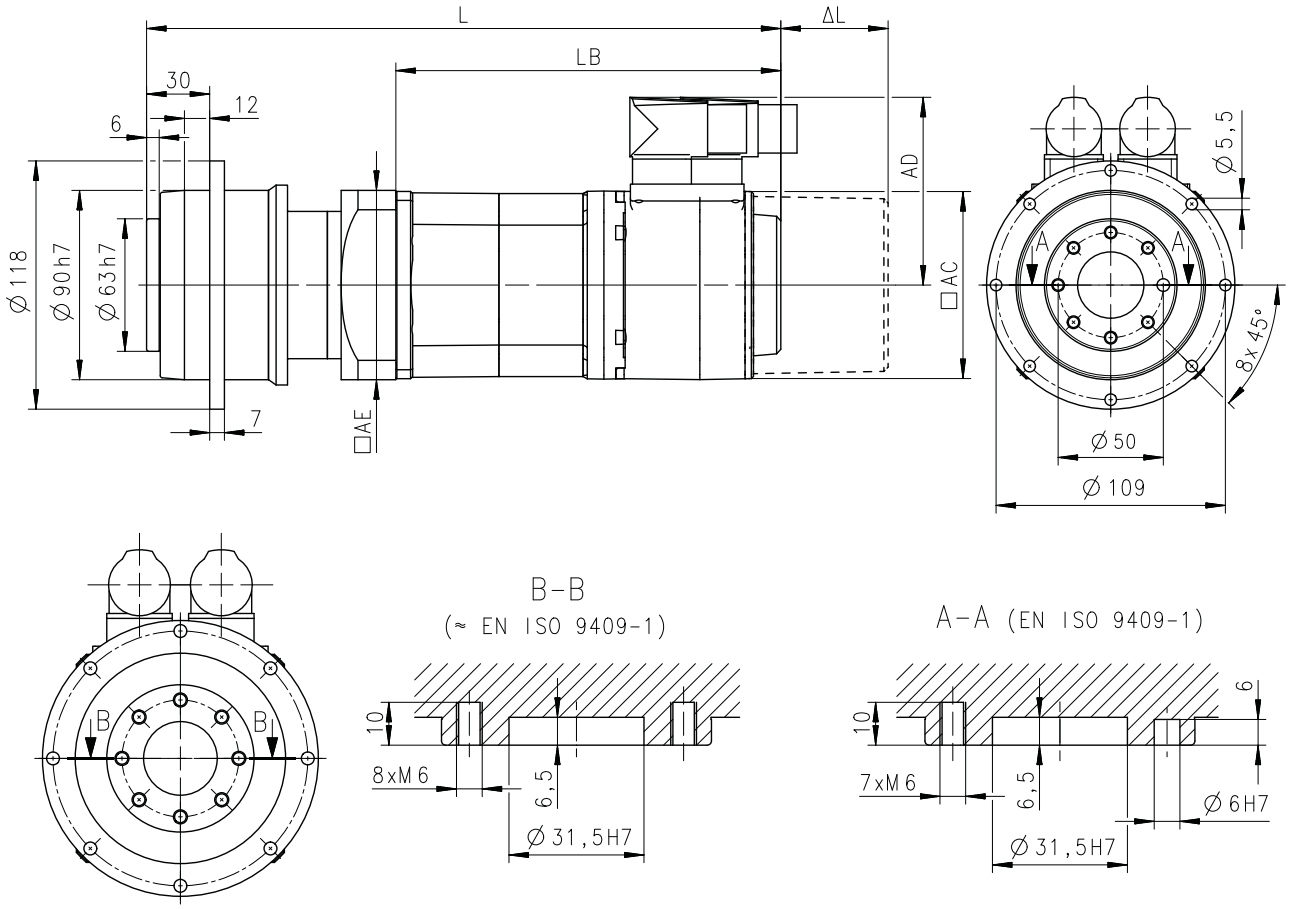
8800849-00

Motor			MCS 12						
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H35-
Total length	L	mm	349.5	276.5	349.5	276.5	316.5	316.5	316.5
Motor length	LB	mm	261	188	261	188	228	228	228
Motor diameter	AC	mm	140	116	140	116	116	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115



g880-P80 with MCS06

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

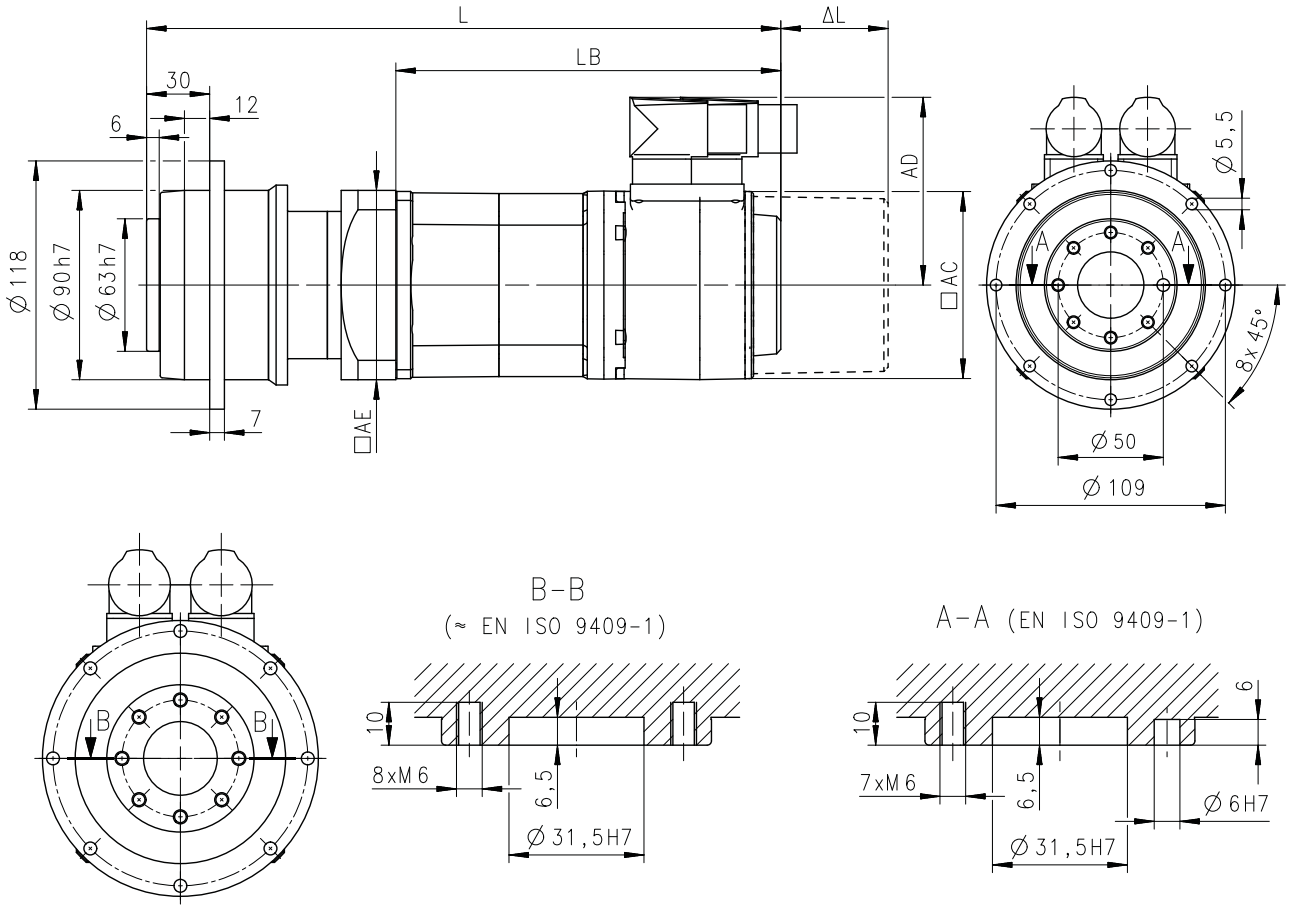


8800850-00

Motor			MCS 06		
			F41- F41L	I41- I41L	I60- I60L
Total length	L	mm	251.5	281.5	281.5
Motor length	LB	mm	162	192	192
Motor diameter	AC	mm	86	86	86
Motor/connection distance	AD	mm	77	77	77
Gearbox diameter	AE	mm	90	90	90

g880-P80 with MCS06

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



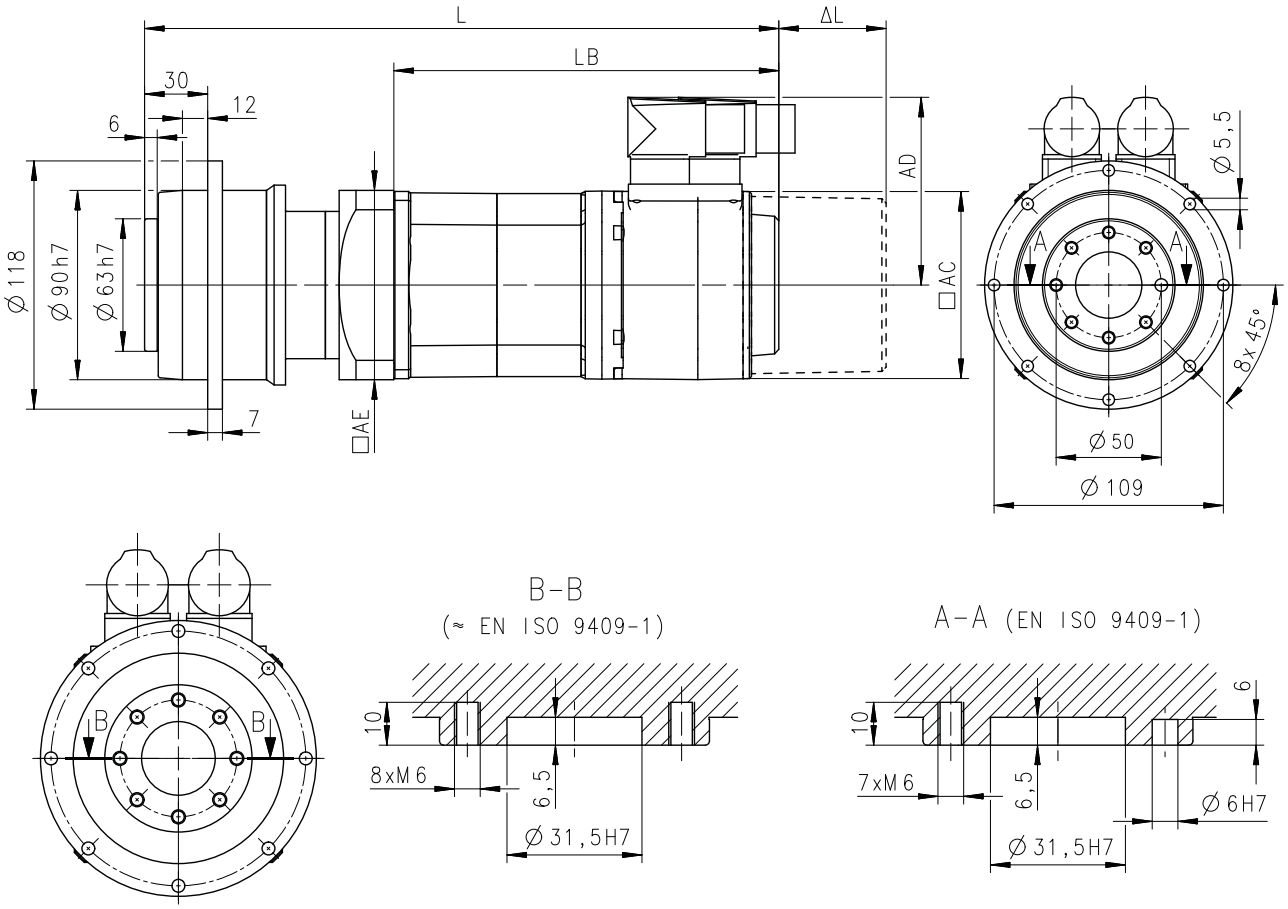
8800850-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	243.5	243.5	273.5	273.5	303.5	303.5
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	70	70	70	70	70	70



g880-P80 with MCS09

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

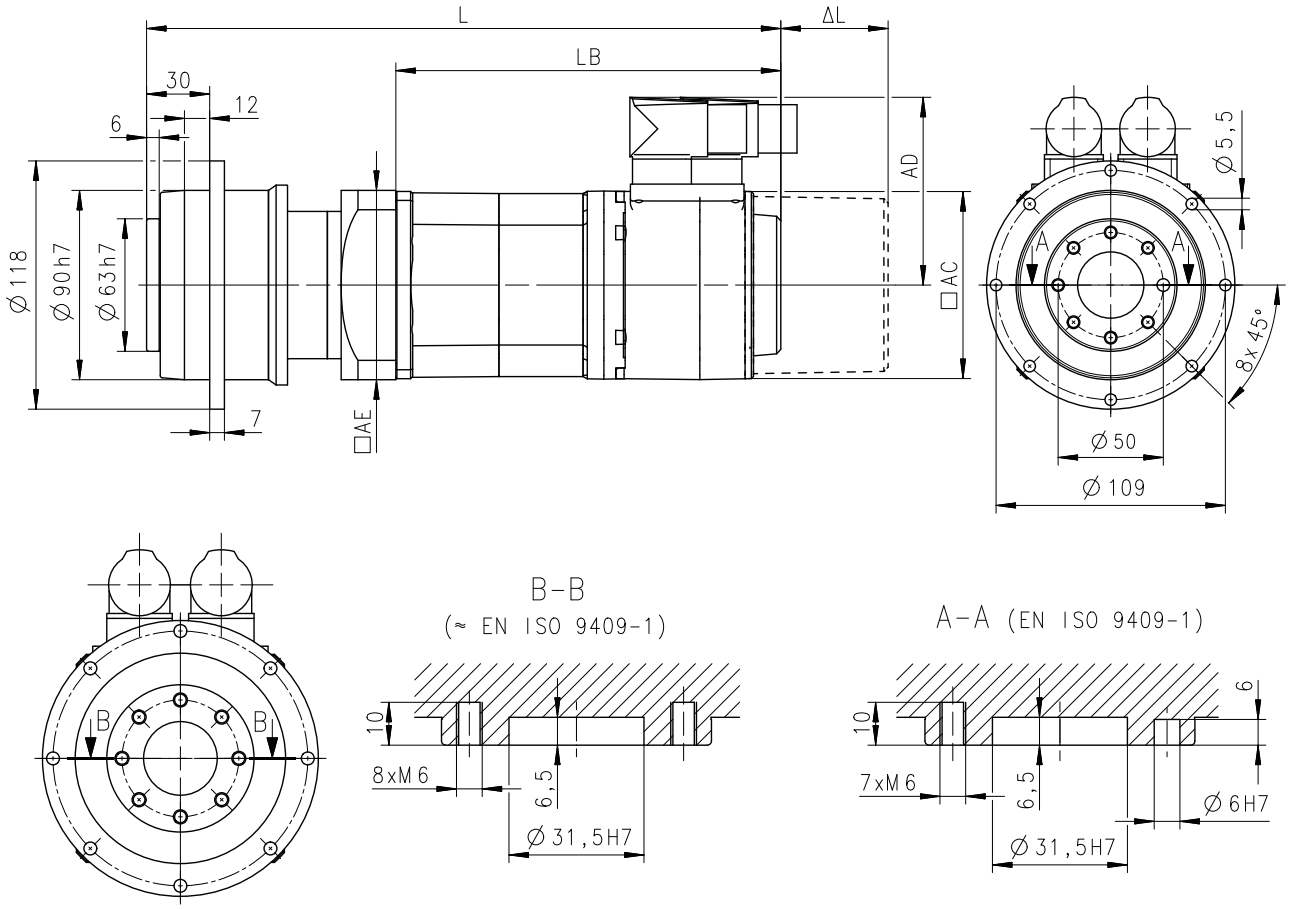


8800850-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	271.5	271.5	291.5	291.5	311.5	311.5	351.5	351.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90

g880-P80 with MCS09

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



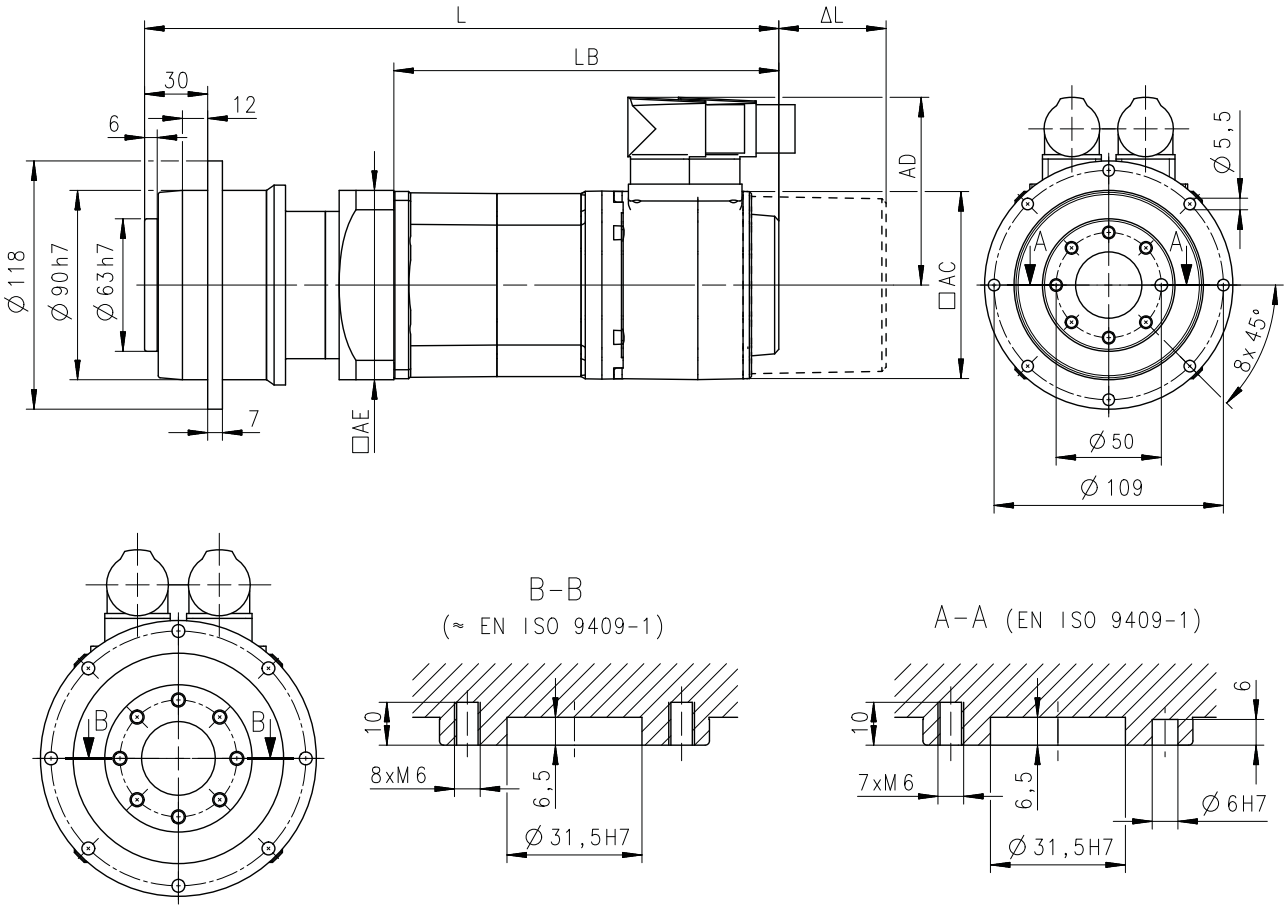
8800850-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	300.5	300.5	320.5	320.5	340.5	340.5	380.5	380.5
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g880-P80 with MCS12

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

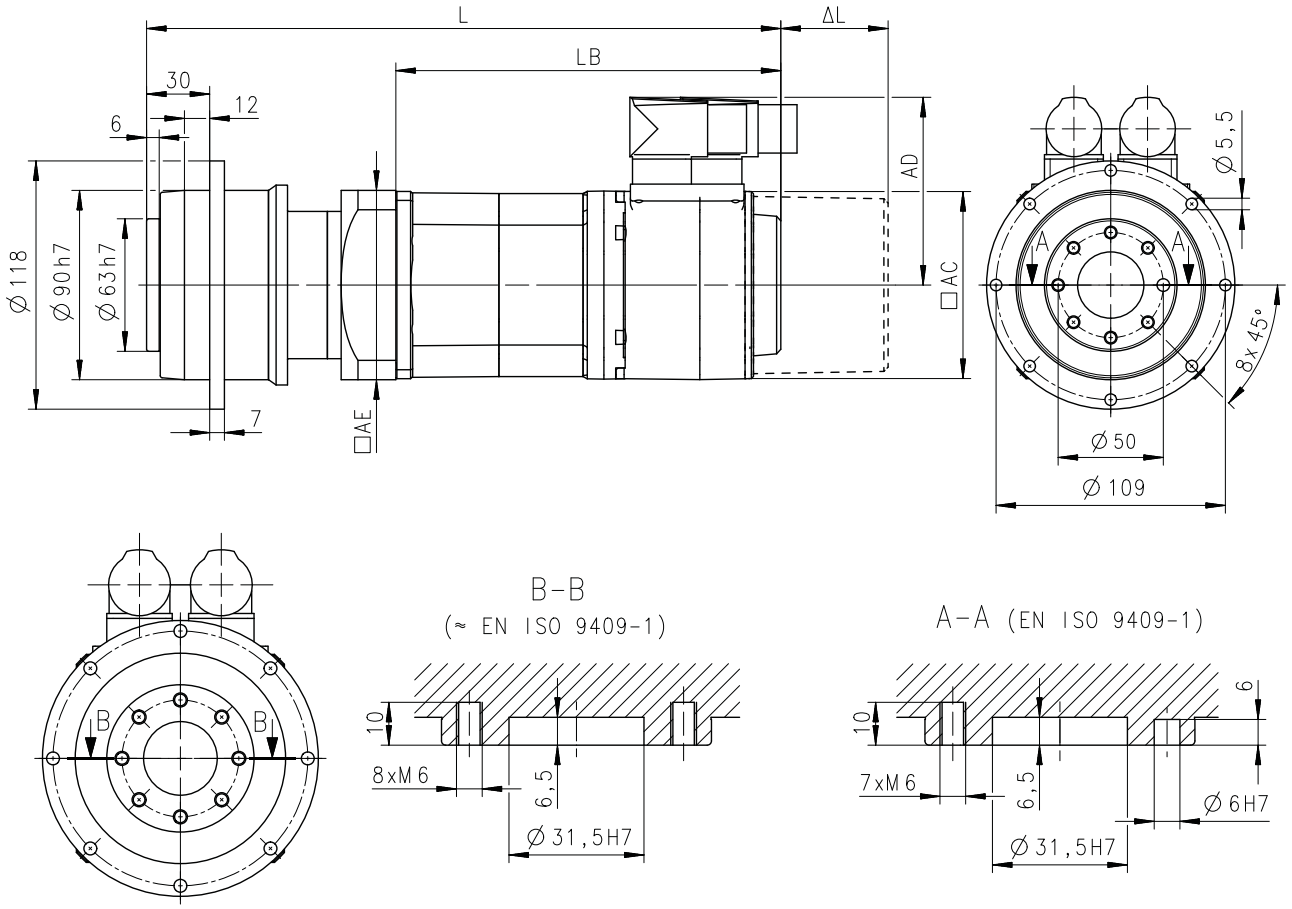


8800850-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	360.5	287.5	360.5	287.5	400.5	327.5	327.5	400.5	327.5	450.5	367.5	440.5	367.5
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115	115	115	115	115

g880-P80 with MCS12

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



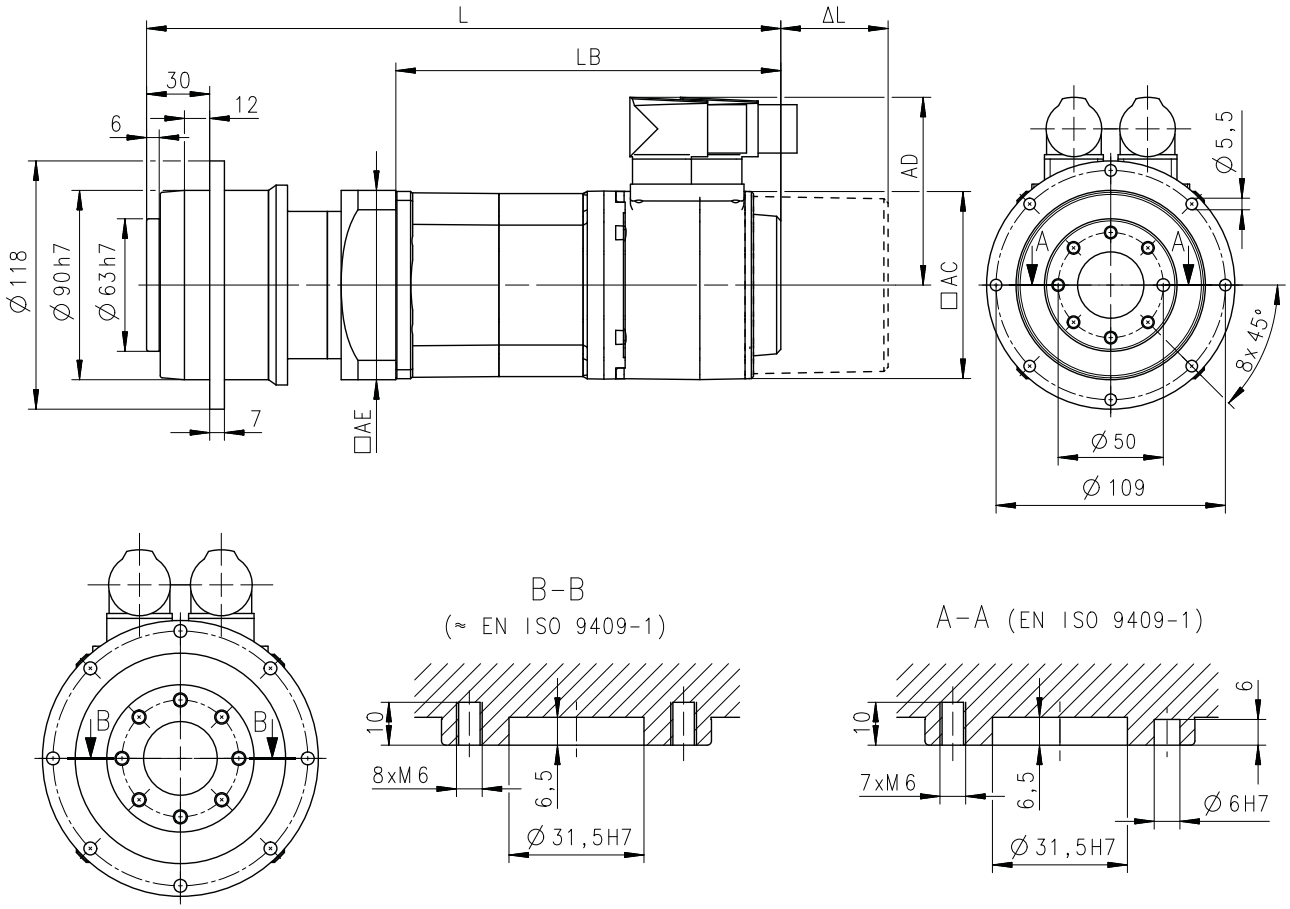
8800850-00

Motor			MCS 12
			D41- D41L
Total length	L	mm	317
Motor length	LB	mm	188
Motor diameter	AC	mm	116
Motor/connection distance	AD	mm	105
Gearbox diameter	AE	mm	115



g880-P80 with MCS14

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

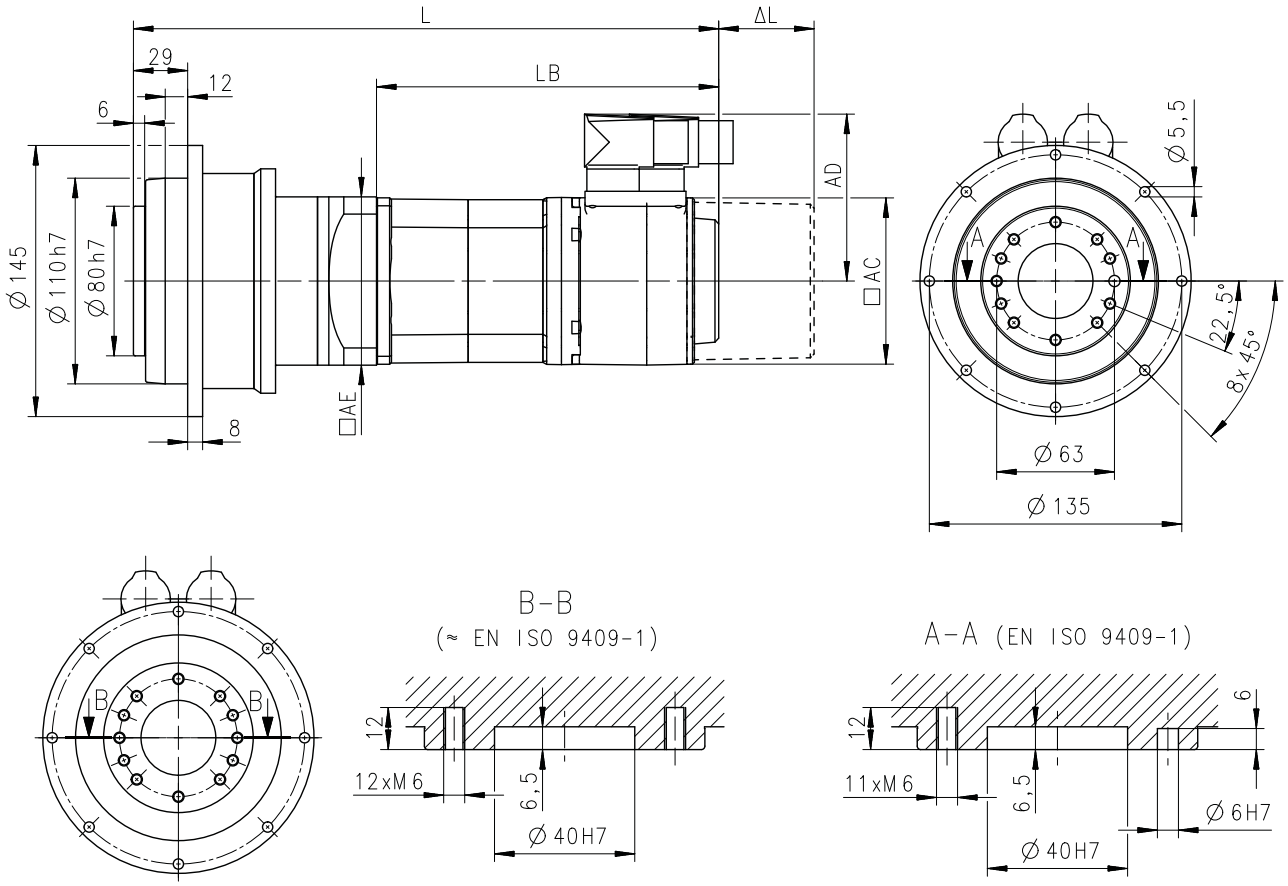


8800850-00

Motor			MCS 14					
			D14-	D15-	D30-	D36-	H15-	H32-
Total length	L	mm	398.5	310.5	398.5	310.5	350.5	350.5
Motor length	LB	mm	289	201	289	201	241	241
Motor diameter	AC	mm	167	143	167	143	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117
Gearbox diameter	AE	mm	142	142	142	142	142	142

g880-P180 with MCS06

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



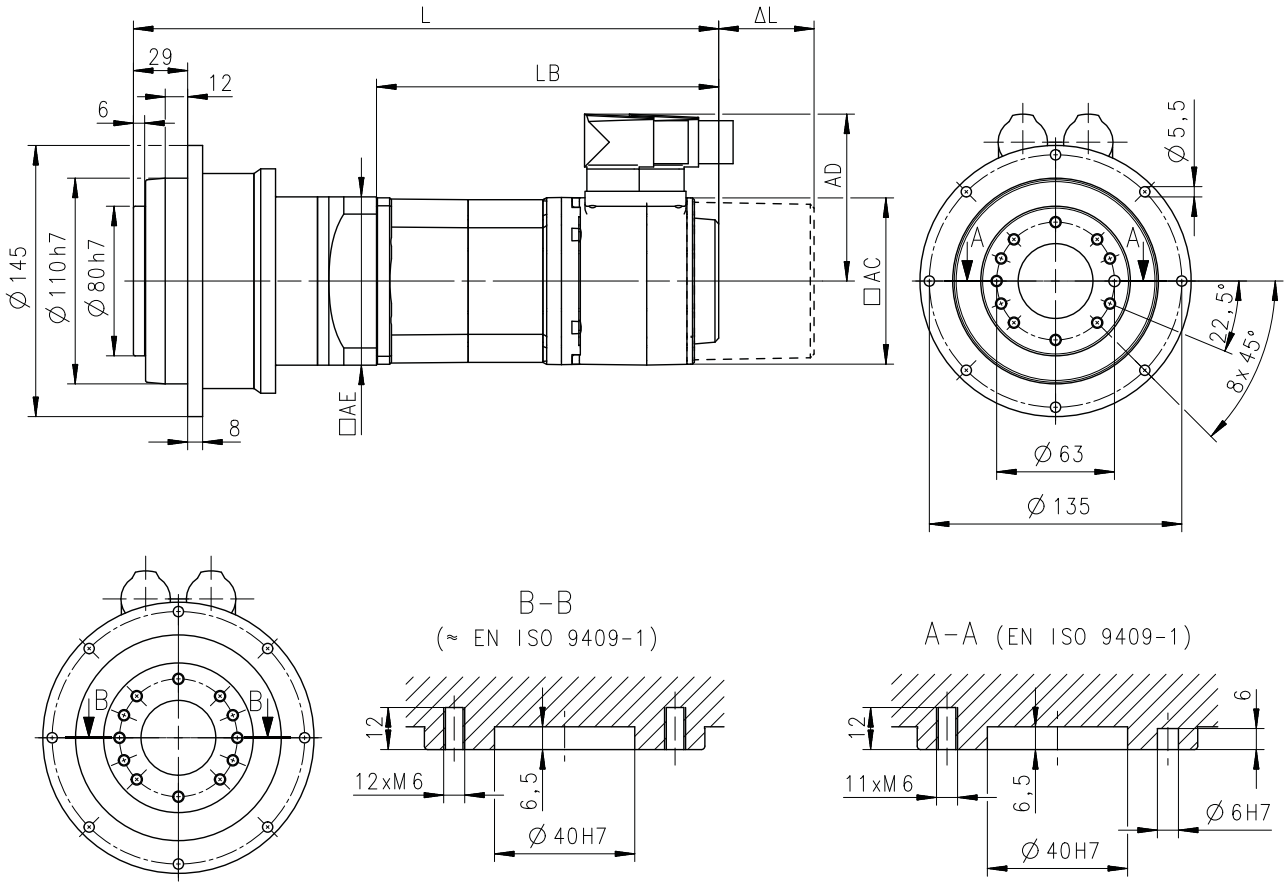
8800851-00

Motor			MCS 06					
			C41- C41L	C60- C60L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	262	262	292	292	322	322
Motor length	LB	mm	132	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77	77
Gearbox diameter	AE	mm	90	90	90	90	90	90



g880-P180 with MCS09

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

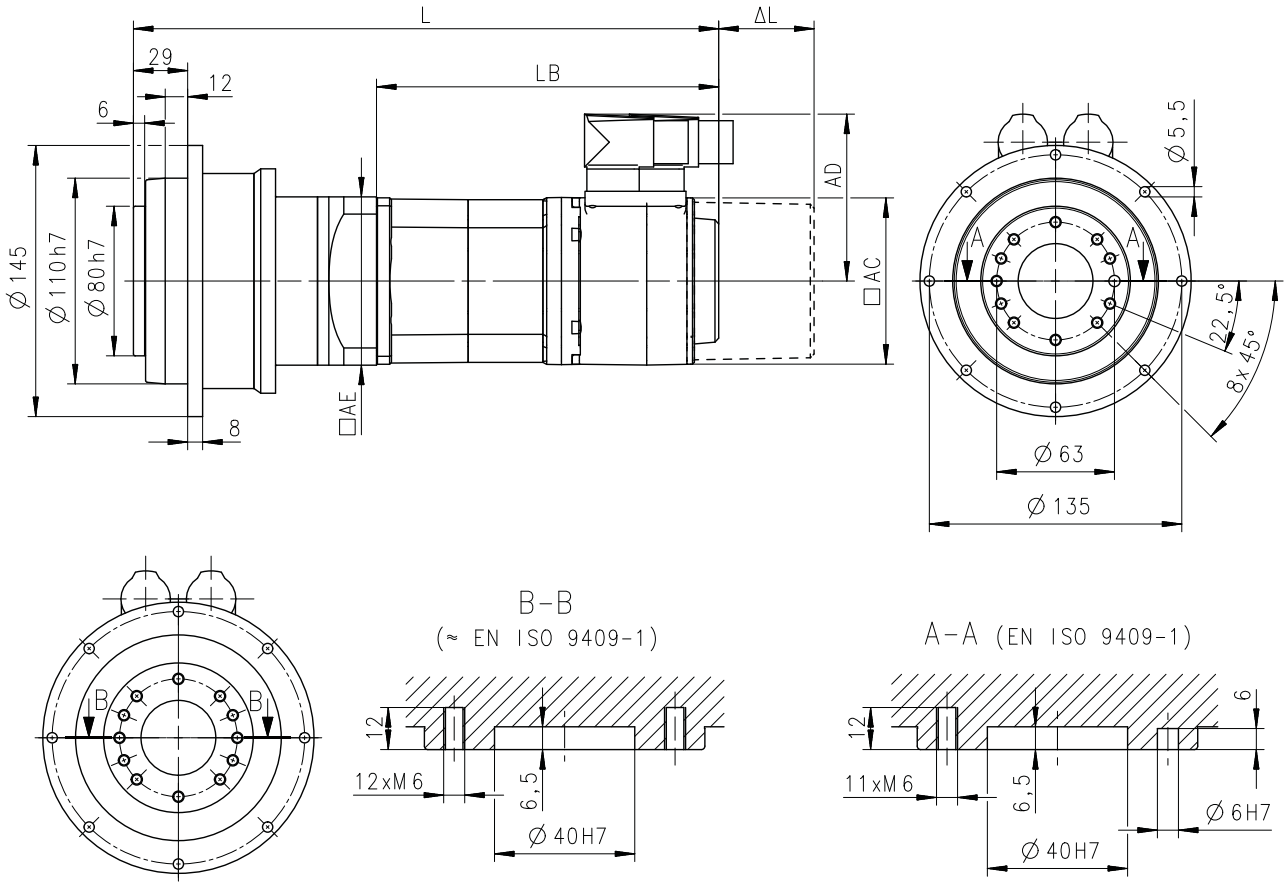


8800851-00

Motor			MCS 09					
			F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	310	310	330	330	370	370
Motor length	LB	mm	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115

g880-P180 with MCS09

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



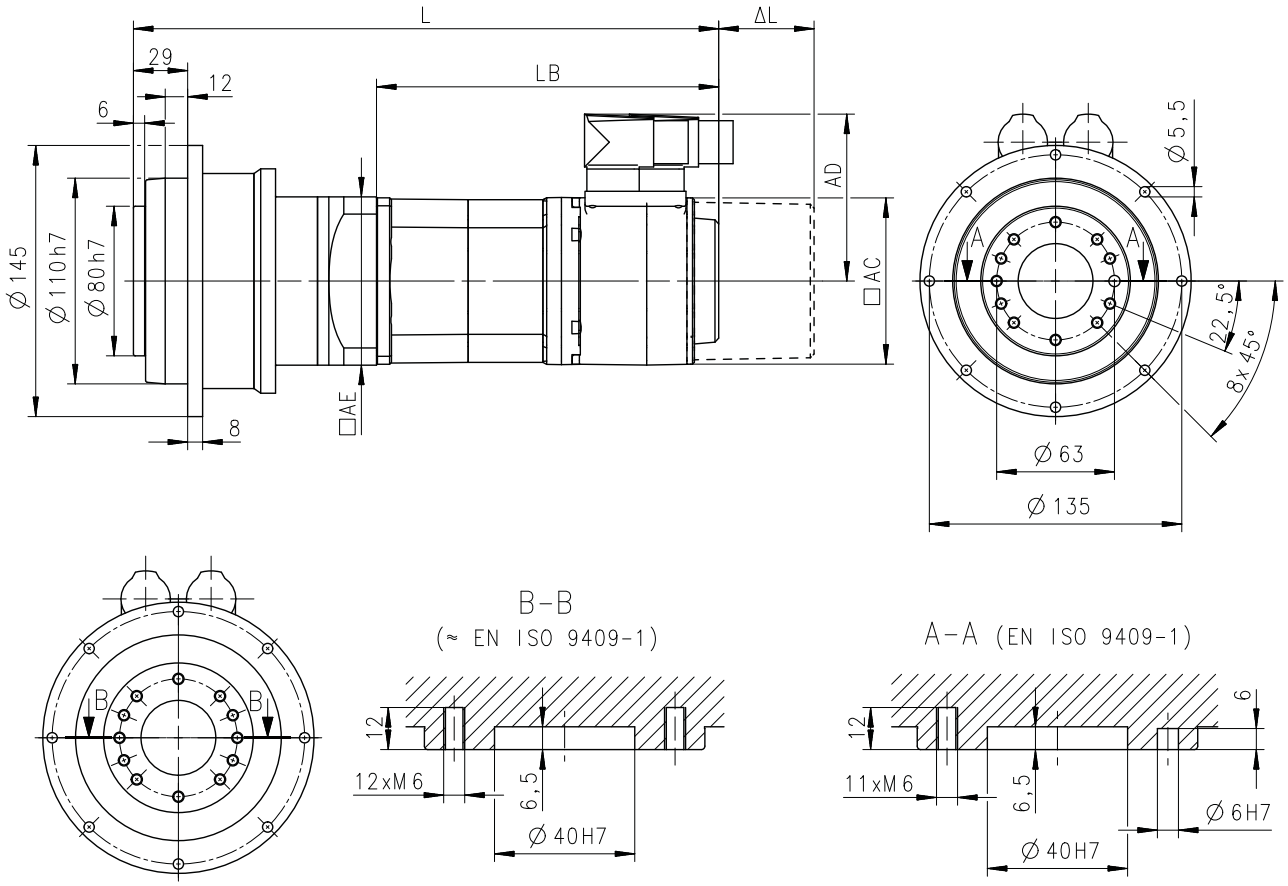
8800851-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	312	312	332	332	352	352	392	392
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	90	90	90	90	90	90	90	90



g880-P180 with MCS12

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

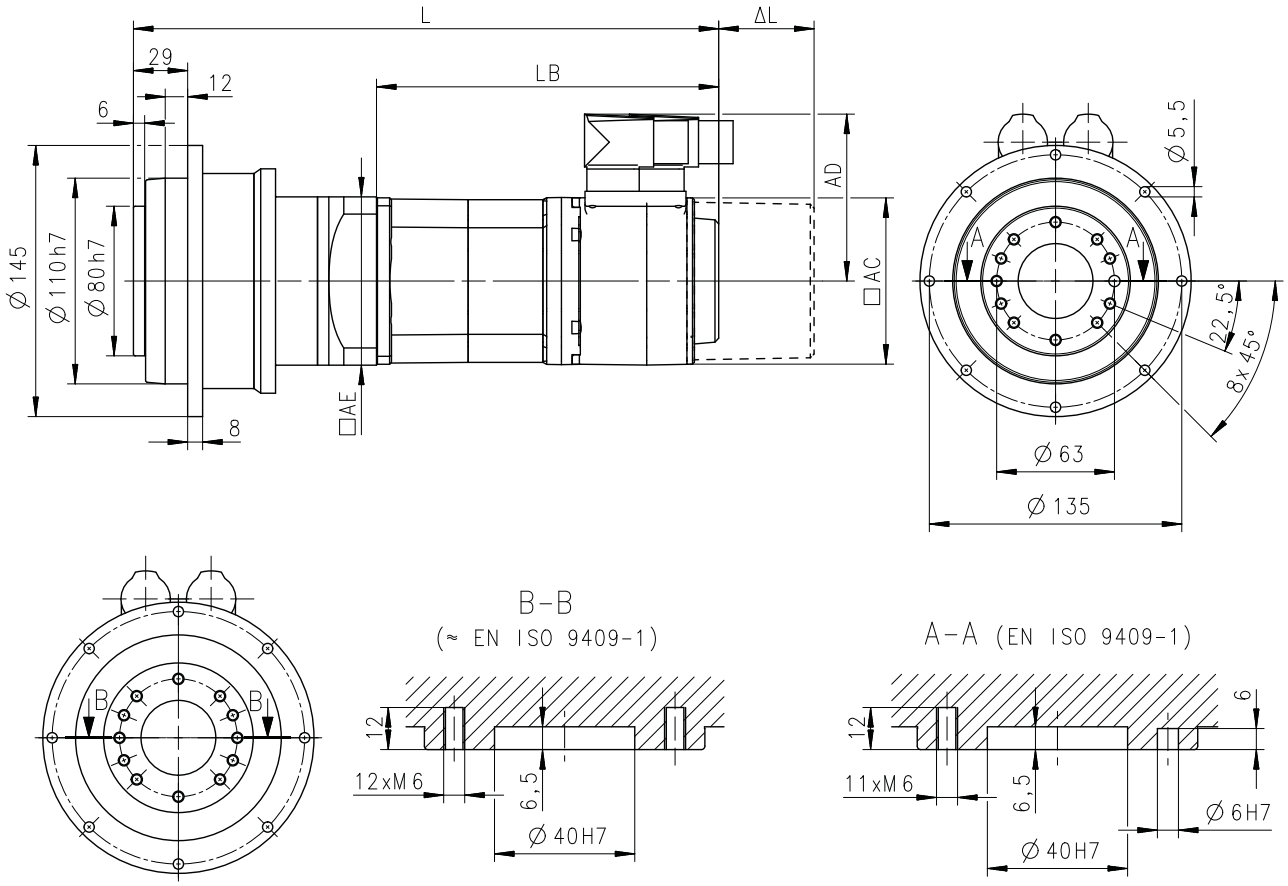


8800851-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	369	296	369	296	409	336	336	409	336	459	376	449	376
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	120	120	120	120	120	120	120	120	120	120	120	120	120

g880-P180 with MCS12

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



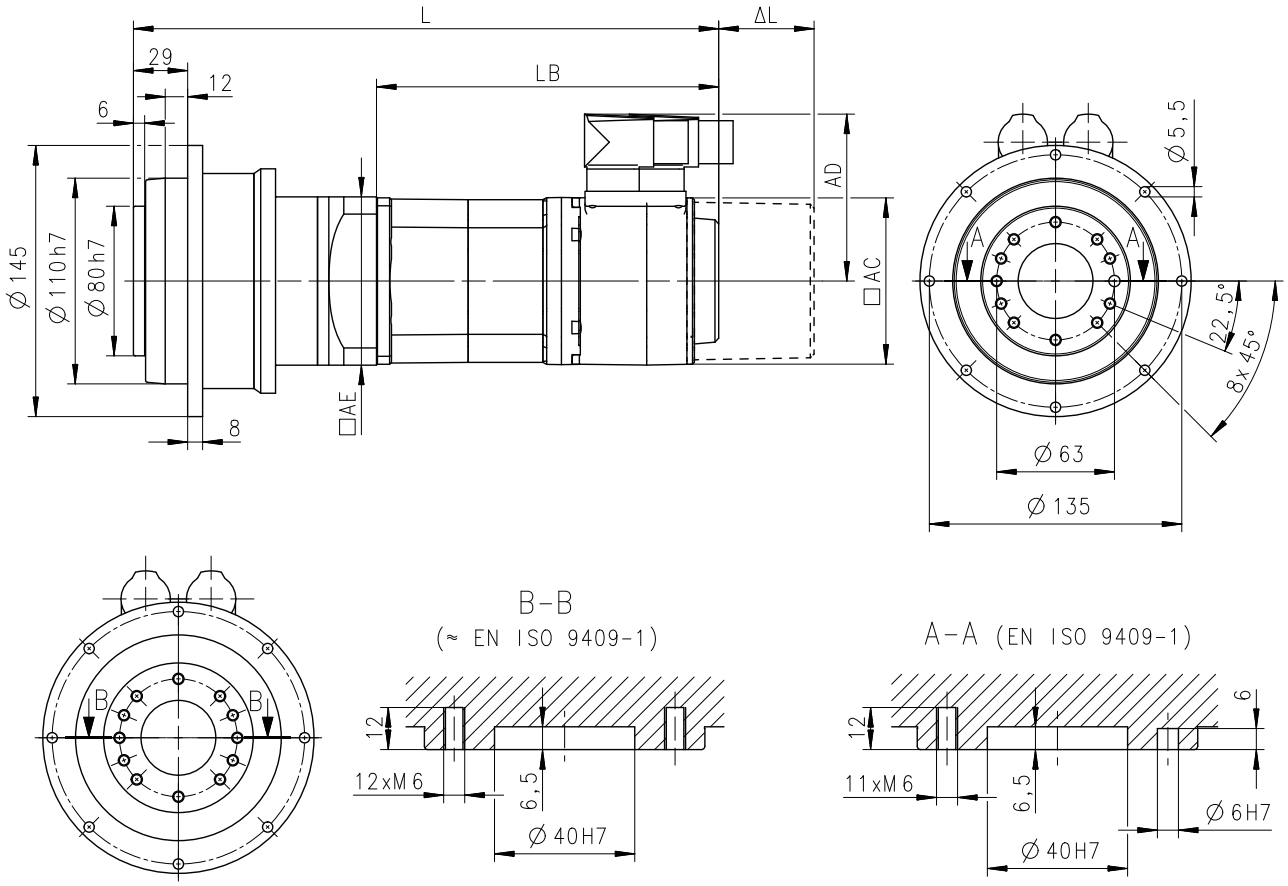
8800851-00

Motor			MCS 12								
			D17-	D20- D20L	D35-	D41- D41L	H15- H15L	H30L	H34-	H35-	L41-
Total length	L	mm	401	328	401	328	368	368	441	368	408
Motor length	LB	mm	261	188	261	188	228	228	301	228	268
Motor diameter	AC	mm	140	116	140	116	116	116	140	116	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115	115



g880-P180 with MCS14

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

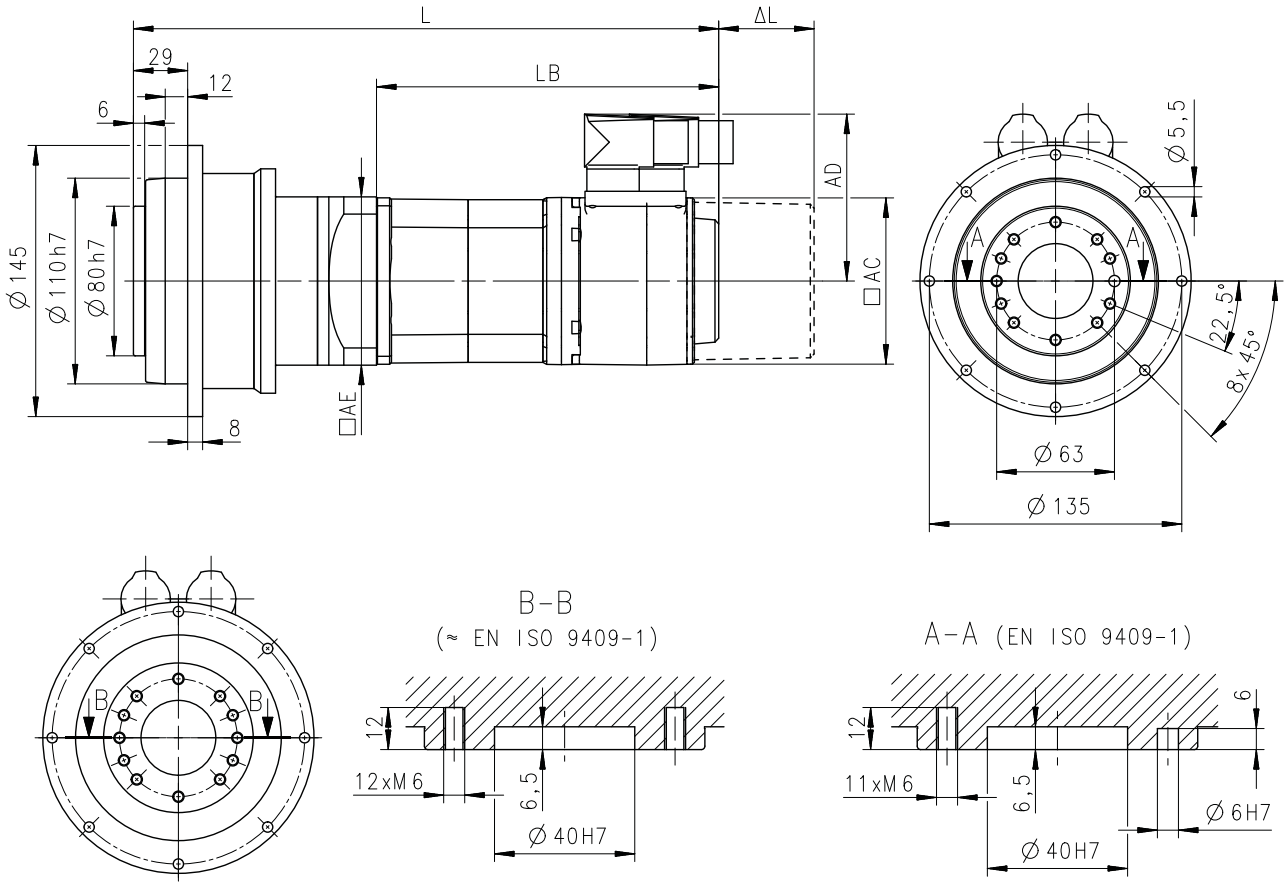


8800851-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	407	319	407	319	447	359	447	359	487	399	487	399	527	439	527	439
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142

g880-P180 with MCS14

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



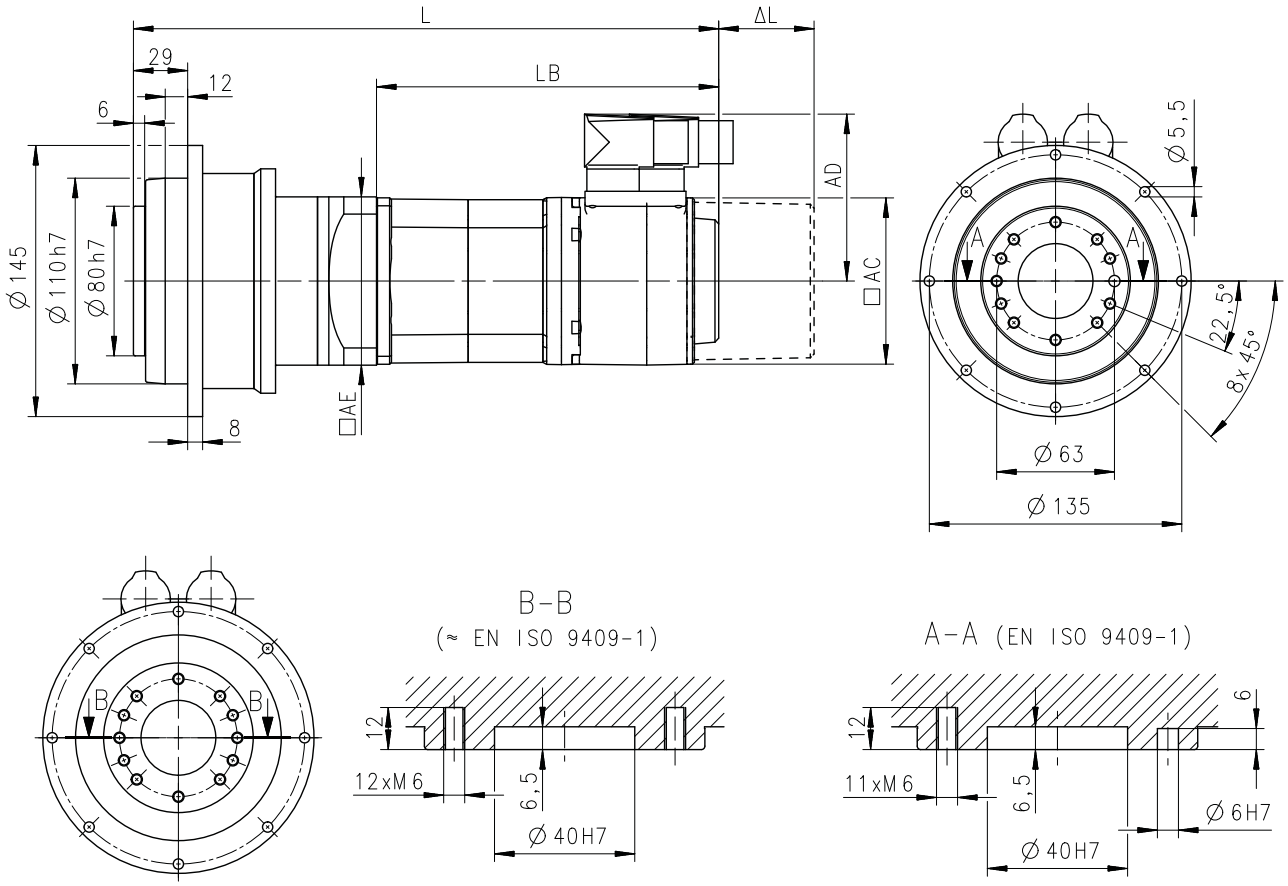
8800851-00

Motor			MCS 14		
			D15-	D30-	D36-
Total length	L	mm	351	439	351
Motor length	LB	mm	201	289	201
Motor diameter	AC	mm	143	167	143
Motor/connection distance	AD	mm	117	117	117
Gearbox diameter	AE	mm	142	142	142



g880-P180 with MCS19

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

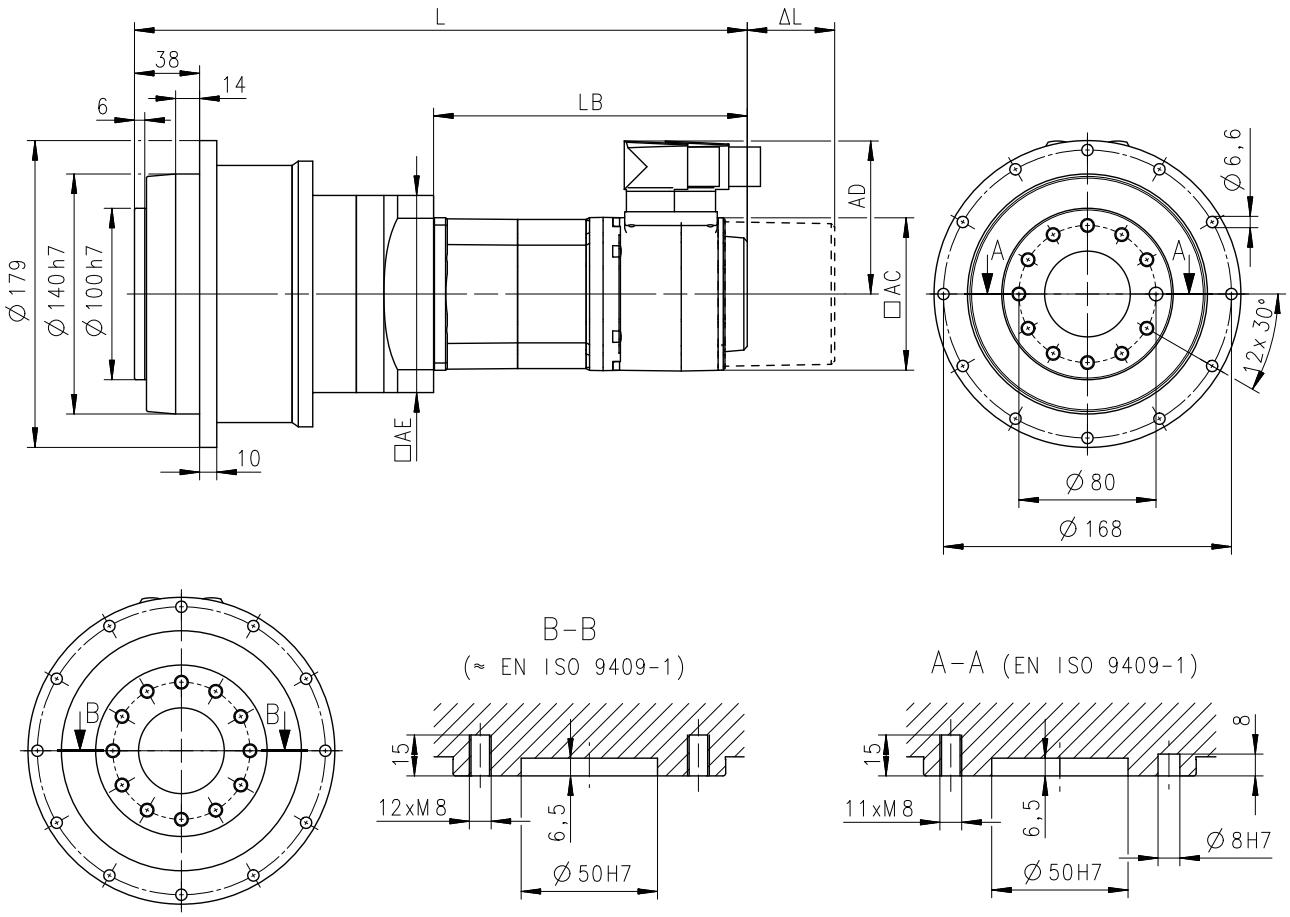


8800851-00

Motor			MCS 19				
			F12-	F14-	F30-	J14-	J30-
Total length	L	mm	456	349	349	389	389
Motor length	LB	mm	327	220	220	260	260
Motor diameter	AC	mm	212	192	192	192	192
Motor/connection distance	AD	mm	142	142	171	142	171
Gearbox diameter	AE	mm	190	190	190	190	190

g880-P470 with MCS06

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



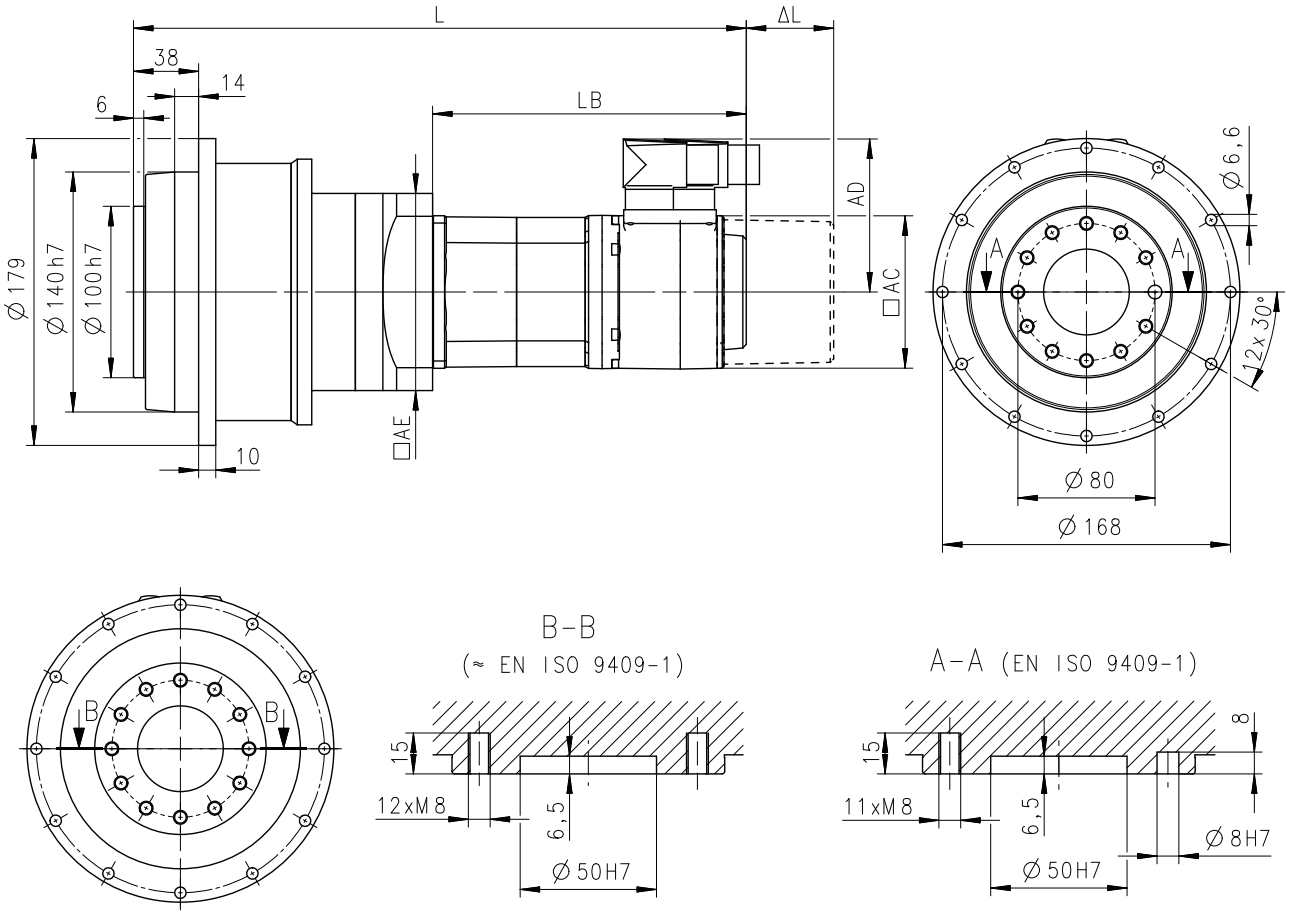
8800852-00

Motor			MCS 06				
			C41- C41L	F41- F41L	F60- F60L	I41- I41L	I60- I60L
Total length	L	mm	305	335	335	365	365
Motor length	LB	mm	132	162	162	192	192
Motor diameter	AC	mm	86	86	86	86	86
Motor/connection distance	AD	mm	77	77	77	77	77
Gearbox diameter	AE	mm	115	115	115	115	115



g880-P470 with MCS09

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

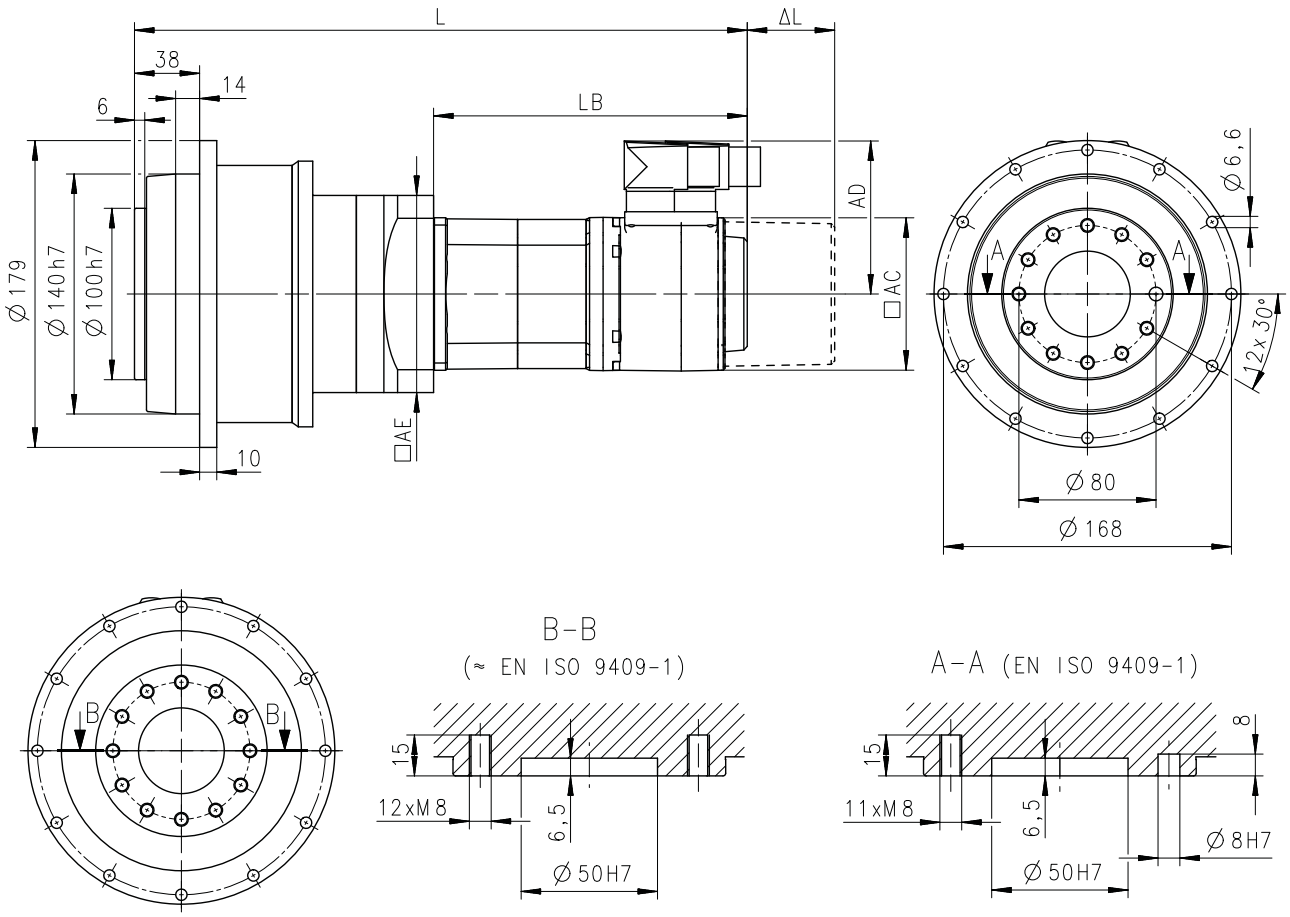


8800852-00

Motor			MCS 09							
			D41- D41L	D60- D60L	F38- F38L	F60- F60L	H41- H41L	H60- H60L	L41- L41L	L51-
Total length	L	mm	355	355	375	375	395	395	435	435
Motor length	LB	mm	182	182	202	202	222	222	262	262
Motor diameter	AC	mm	89	89	89	89	89	89	89	89
Motor/connection distance	AD	mm	90	90	90	90	90	90	90	90
Gearbox diameter	AE	mm	115	115	115	115	115	115	115	115

g880-P470 with MCS12

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



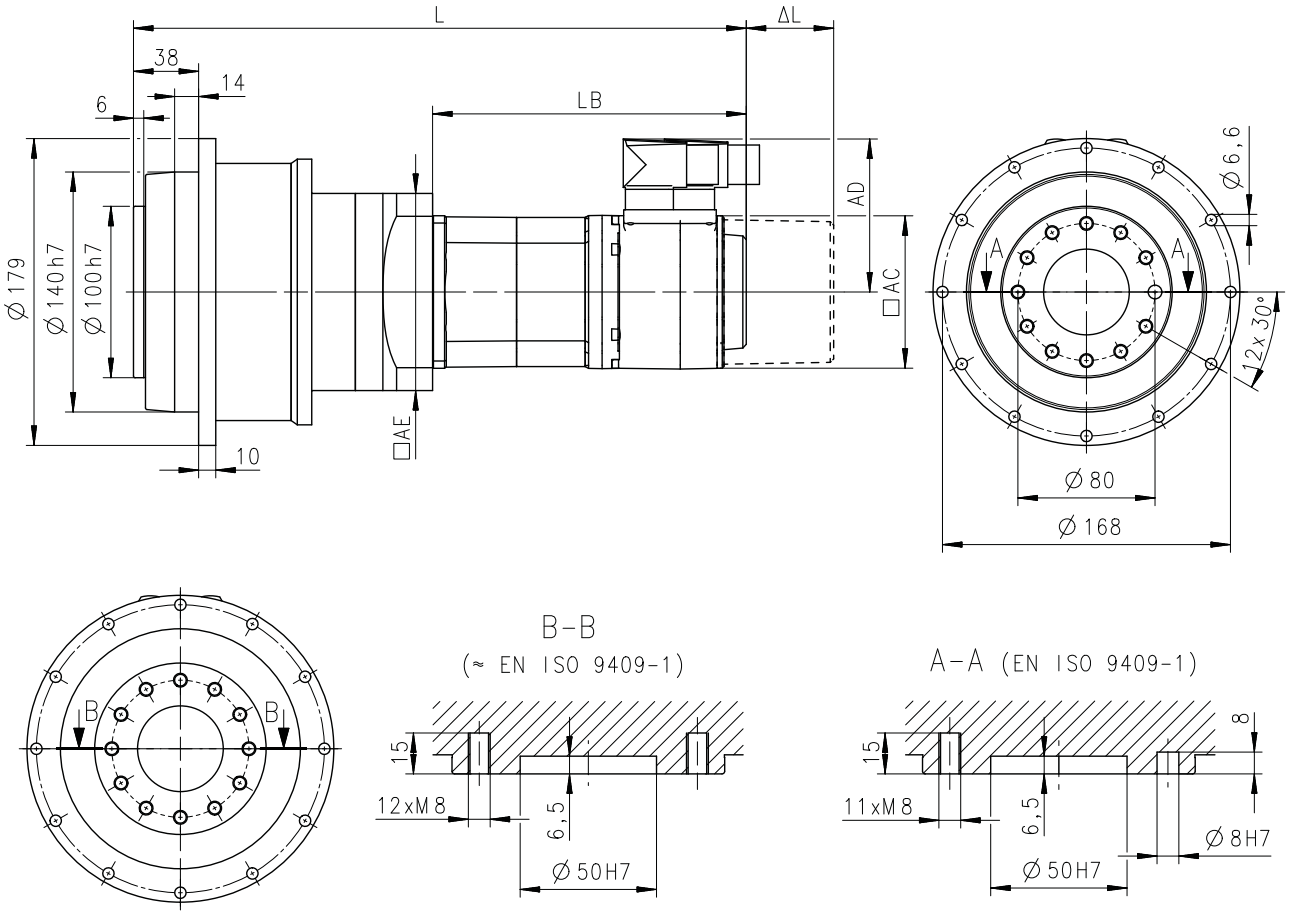
8800852-00

Motor			MCS 12											
			D17-	D20- D20L	D35-	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	403	330	403	443	370	370	443	370	493	410	483	410
Motor length	LB	mm	261	188	261	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	150	150	150	150	150	150	150	150	150	150	150	150



g880-P470 with MCS12

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

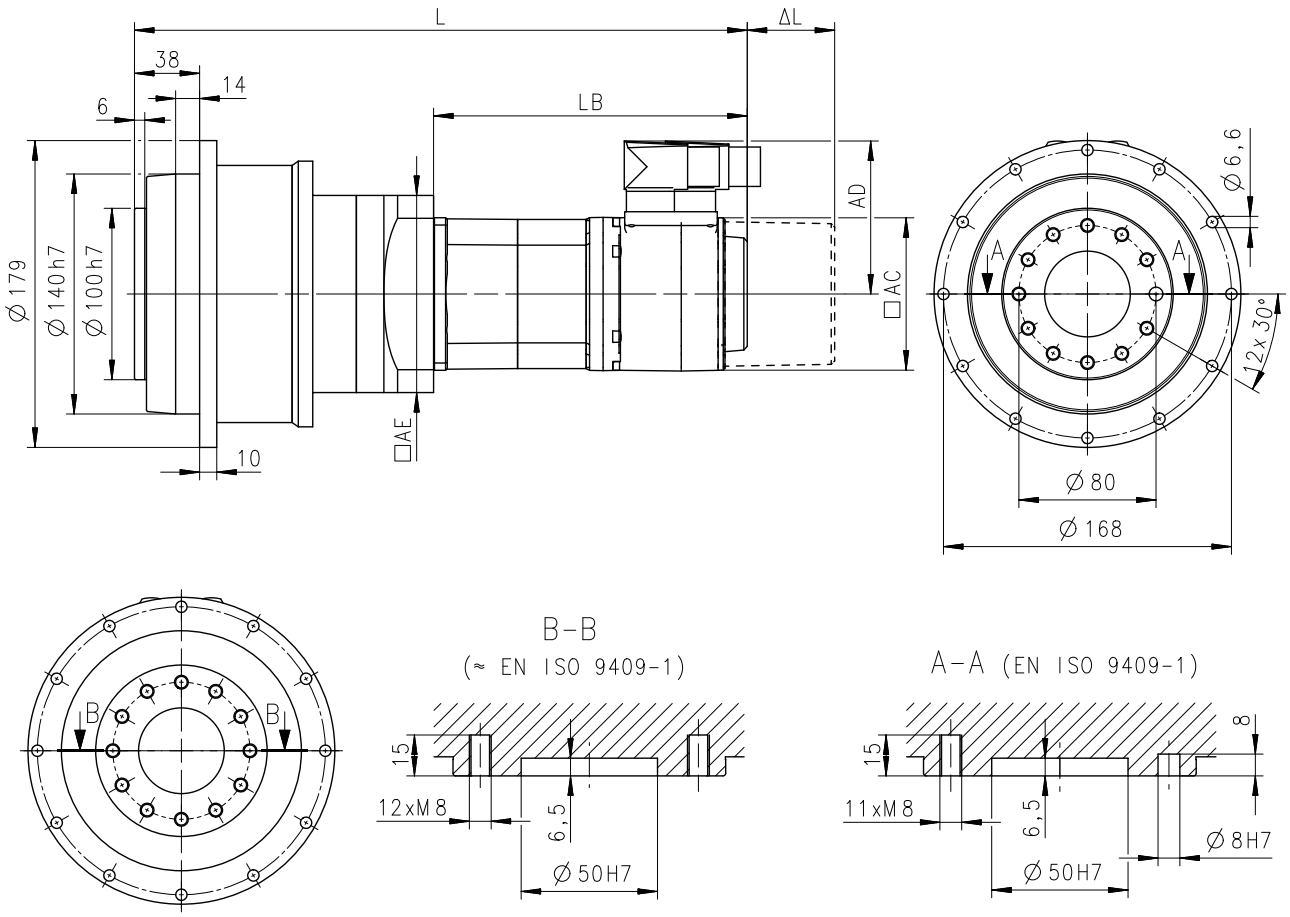


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Motor			MCS 12												
			D17-	D20-D20L	D35-	D41-D41L	H14-	H15-H15L	H30L	H34-	H35-	L17-	L20-L20L	L39-	L41-
Total length	L	mm	434	361	434	361	474	401	401	474	401	524	441	514	441
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	120	120	120	120	120	120	120	120	120	120	120	120	120

g880-P470 with MCS14

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



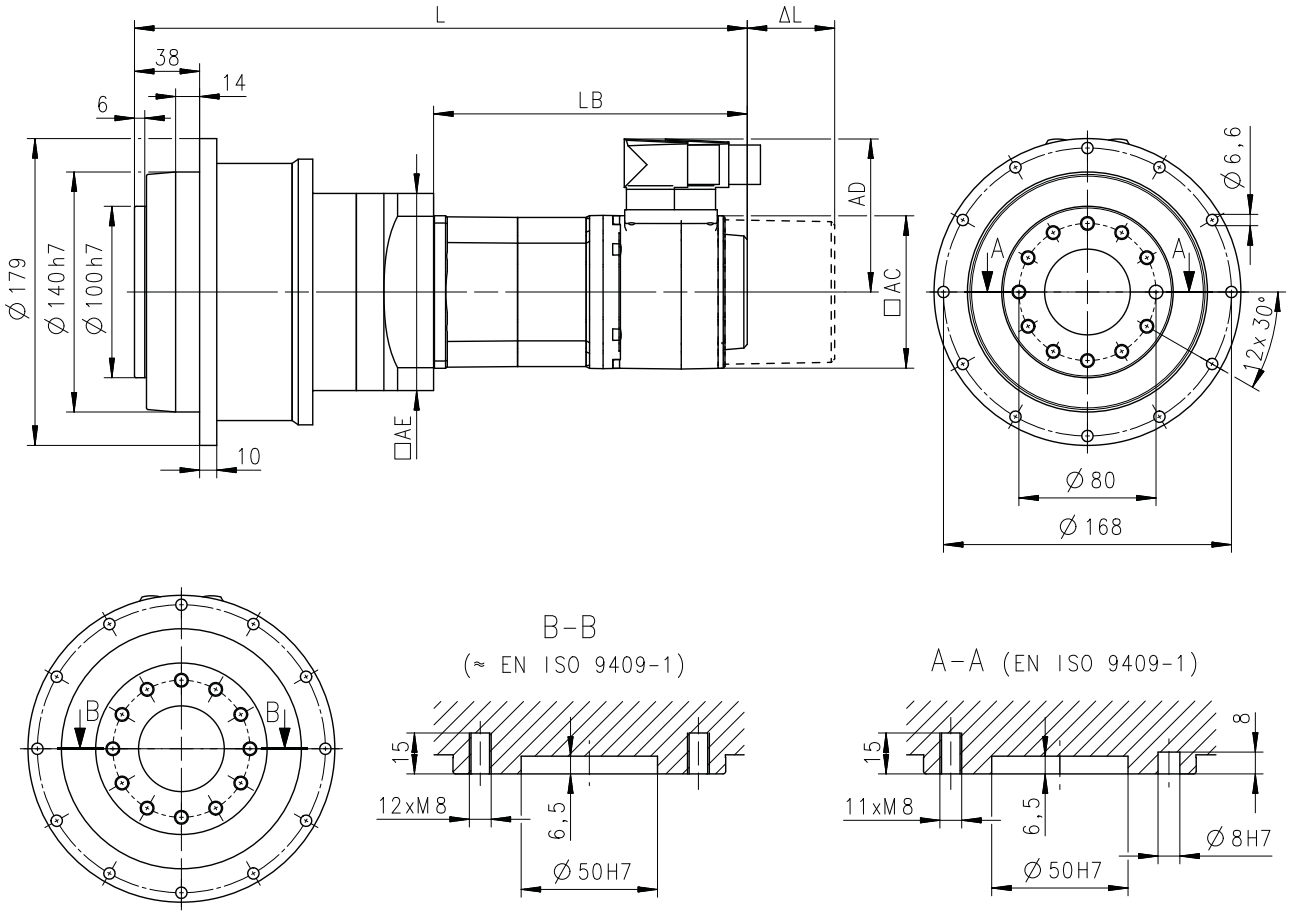
8800852-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	431	343	431	343	471	383	471	383	511	423	511	423	551	463	551	463
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150



g880-P470 with MCS14

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

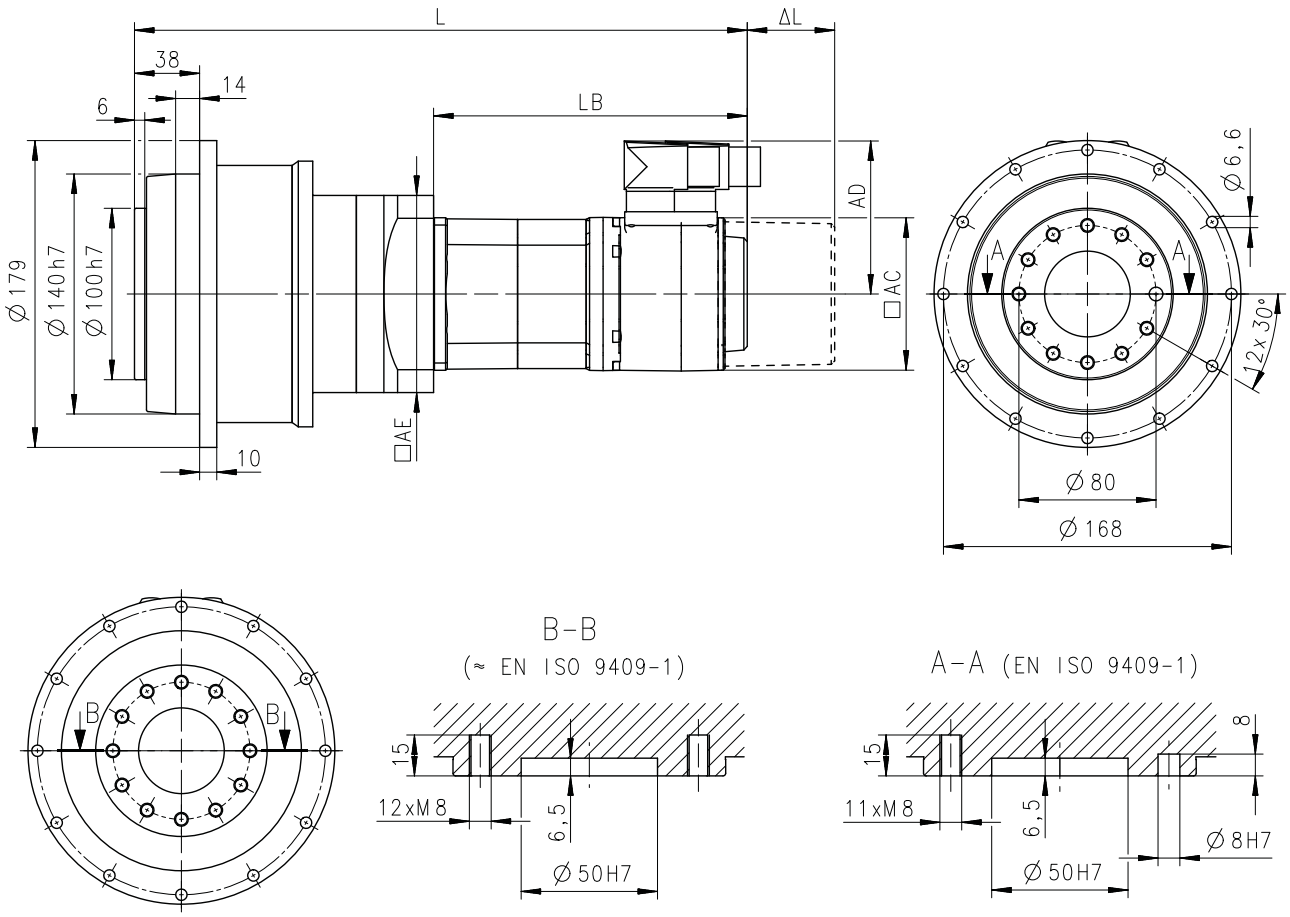


8800852-00

Motor			MCS 14											
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L15-	L30-	L32-	P32-
Total length	L	mm	472	384	472	384	512	424	512	424	464	552	464	504
Motor length	LB	mm	289	201	289	201	329	241	329	241	281	369	281	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	143	167	143	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	146	146	146
Gearbox diameter	AE	mm	142	142	142	142	142	142	142	142	142	142	142	142

g880-P470 with MCS19

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



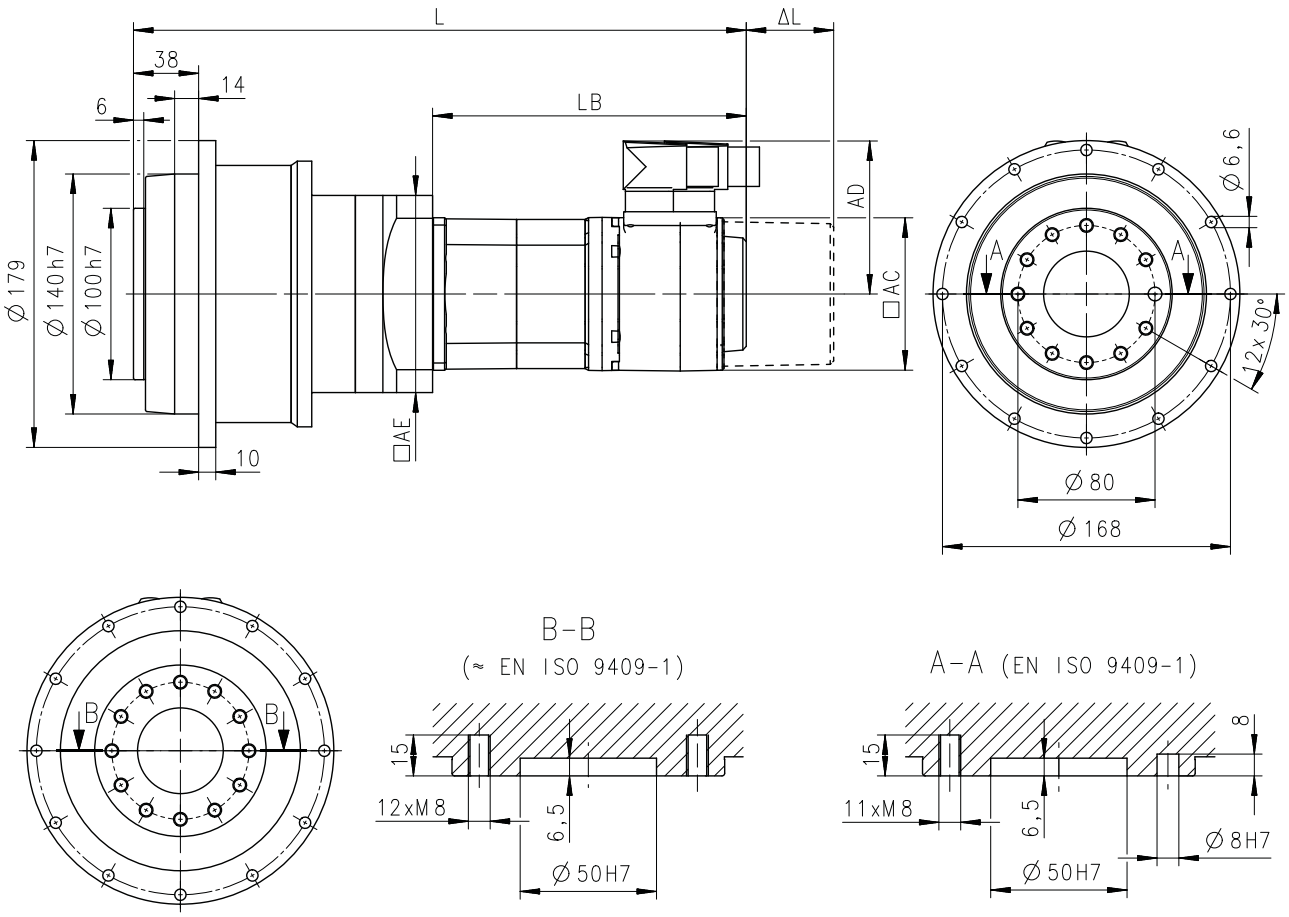
8800852-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	479	372	479	372	519	412	519	412	579	472	579	472
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190	190	190



g880-P470 with MCS19

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

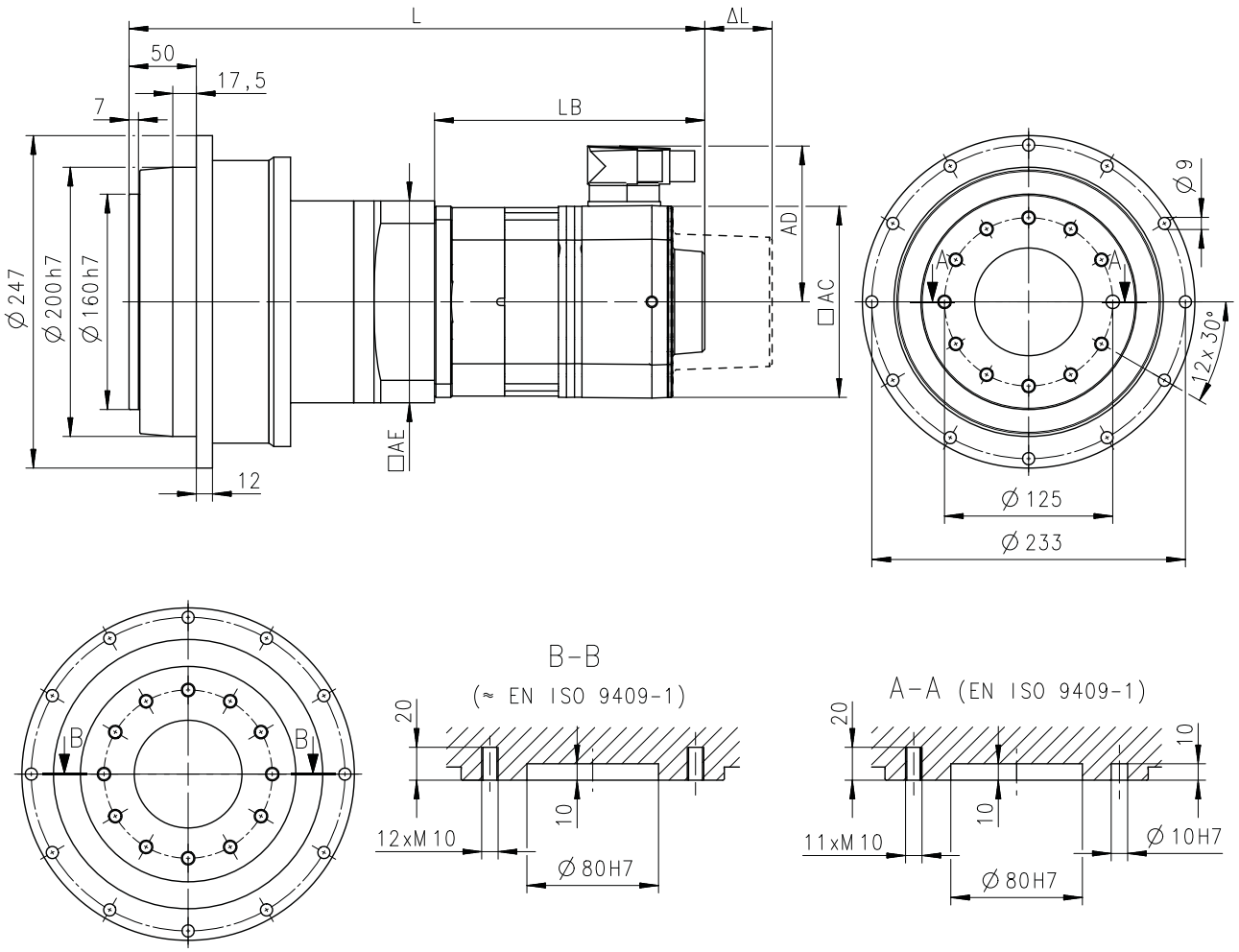


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Motor			MCS 19		
			F14-	F30-	J30-
Total length	L	mm	414	414	454
Motor length	LB	mm	220	220	260
Motor diameter	AC	mm	192	192	192
Motor/connection distance	AD	mm	142	171	171
Gearbox diameter	AE	mm	190	190	190

g880-P950 with MCS12

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



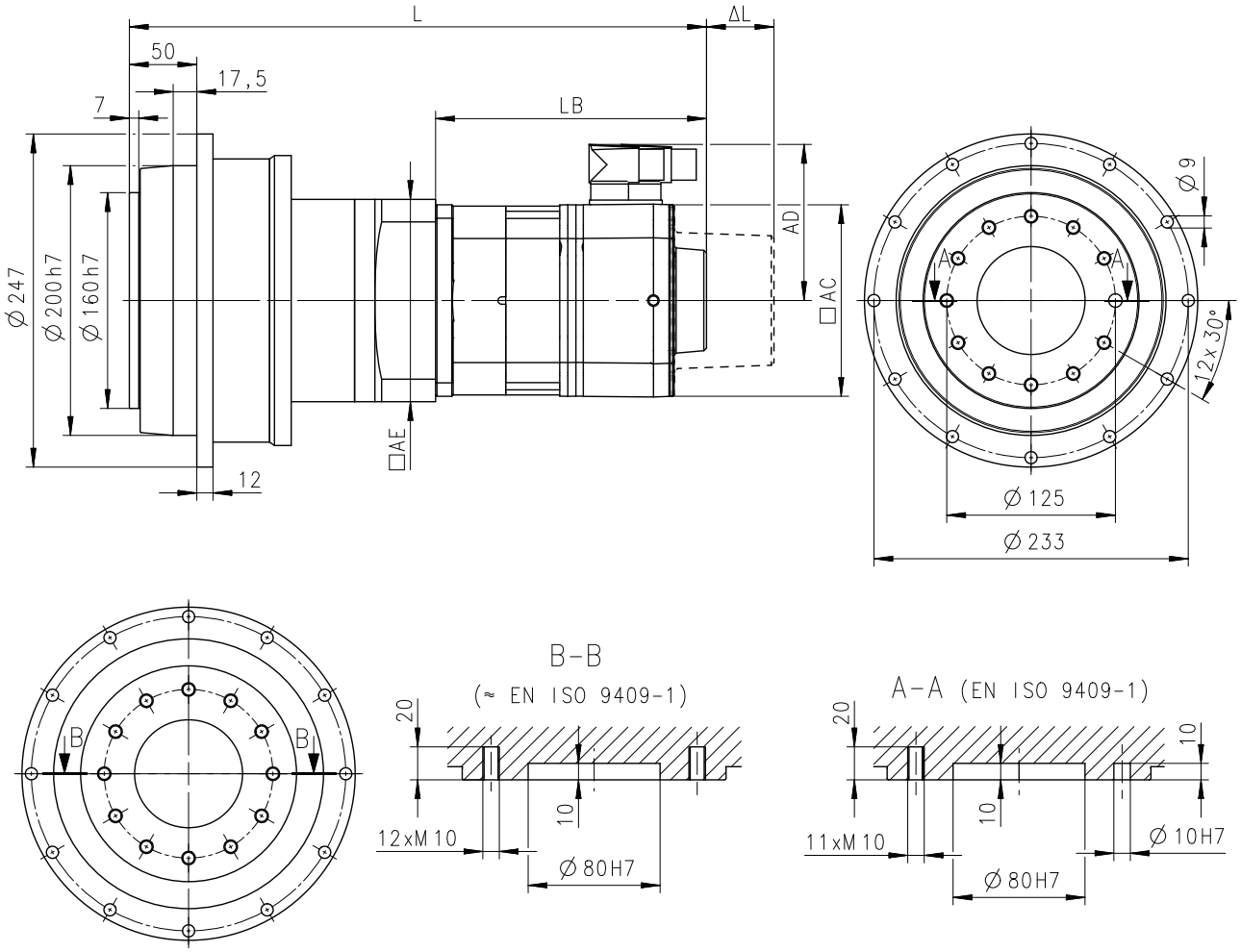
8800853-00

Motor			MCS 12												
			D17-	D20- D20L	D35-	D41- D41L	H14-	H15- H15L	H30L	H34-	H35-	L17-	L20- L20L	L39-	L41-
Total length	L	mm	478	405	478	405	518	445	445	518	445	568	485	558	485
Motor length	LB	mm	261	188	261	188	301	228	228	301	228	351	268	341	268
Motor diameter	AC	mm	140	116	140	116	140	116	116	140	116	140	116	140	116
Motor/connection distance	AD	mm	105	105	105	105	105	105	105	105	105	105	105	105	105
Gearbox diameter	AE	mm	150	150	150	150	150	150	150	150	150	150	150	150	150



g880-P950 with MCS14

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

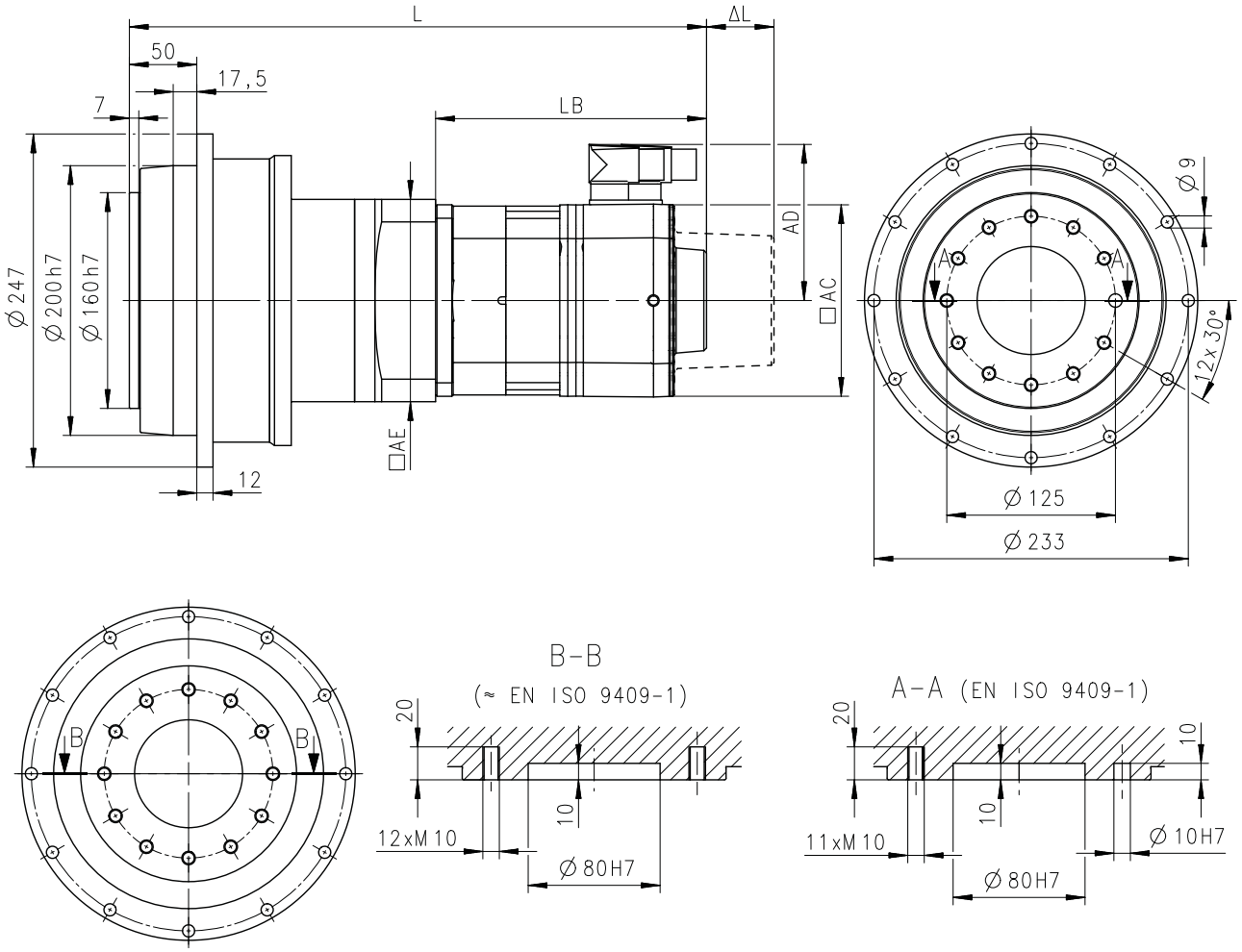


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Motor			MCS 14											
			H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	501	413	501	413	541	453	541	453	581	493	581	493
Motor length	LB	mm	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	210	210	210	210	210	210	210	210	210	210	210	210

g880-P950 with MCS14

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



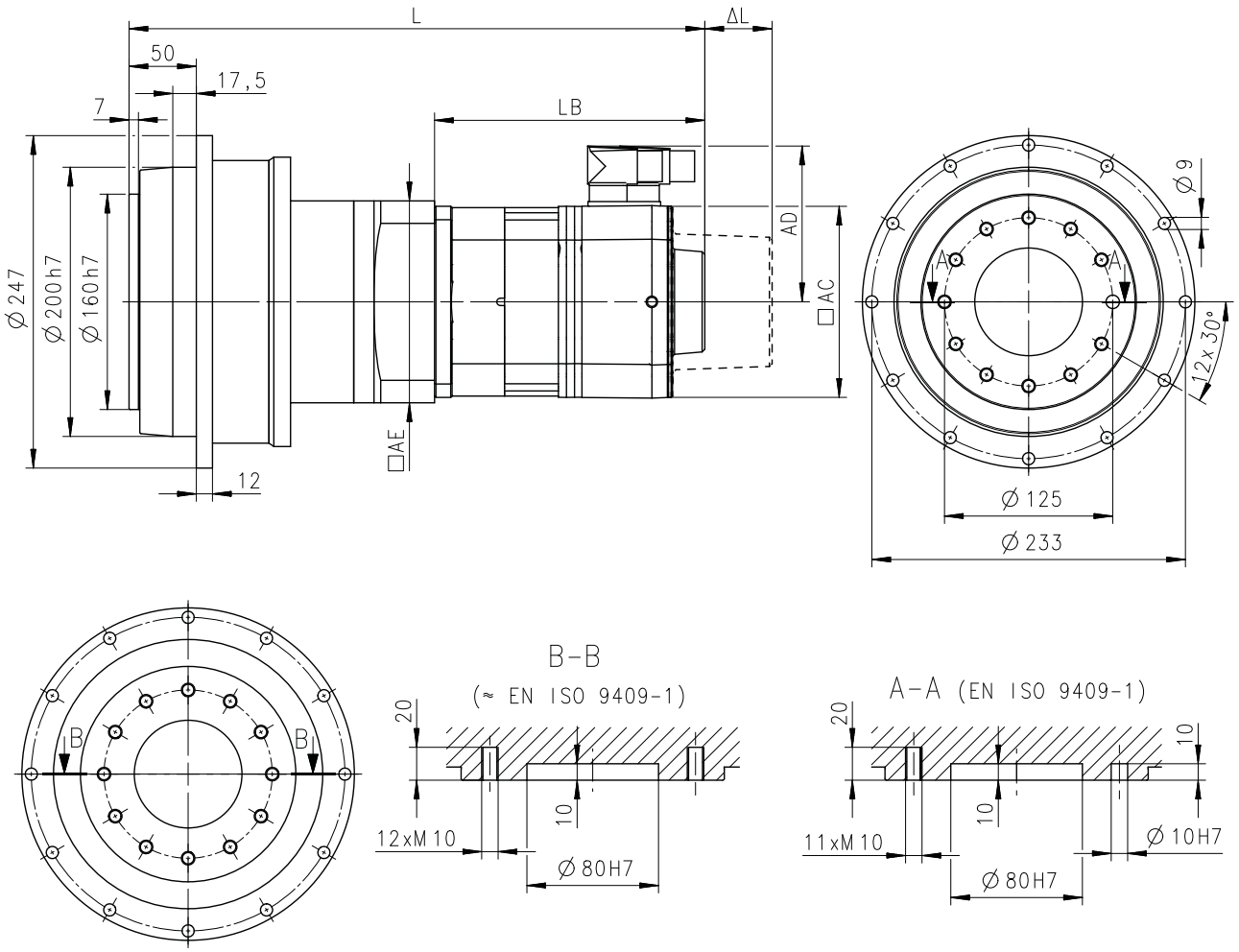
8800853-00

Motor			MCS 14															
			D14-	D15-	D30-	D36-	H12-	H15-	H28-	H32-	L14-	L15-	L30-	L32-	P11-	P14-	P26-	P32-
Total length	L	mm	506	418	506	418	546	458	546	458	586	498	586	498	626	538	626	538
Motor length	LB	mm	289	201	289	201	329	241	329	241	369	281	369	281	409	321	409	321
Motor diameter	AC	mm	167	143	167	143	167	143	167	143	167	143	167	143	167	143	167	143
Motor/connection distance	AD	mm	117	117	117	117	117	117	146	117	117	117	146	146	117	117	146	146
Gearbox diameter	AE	mm	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150



g880-P950 with MCS19

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

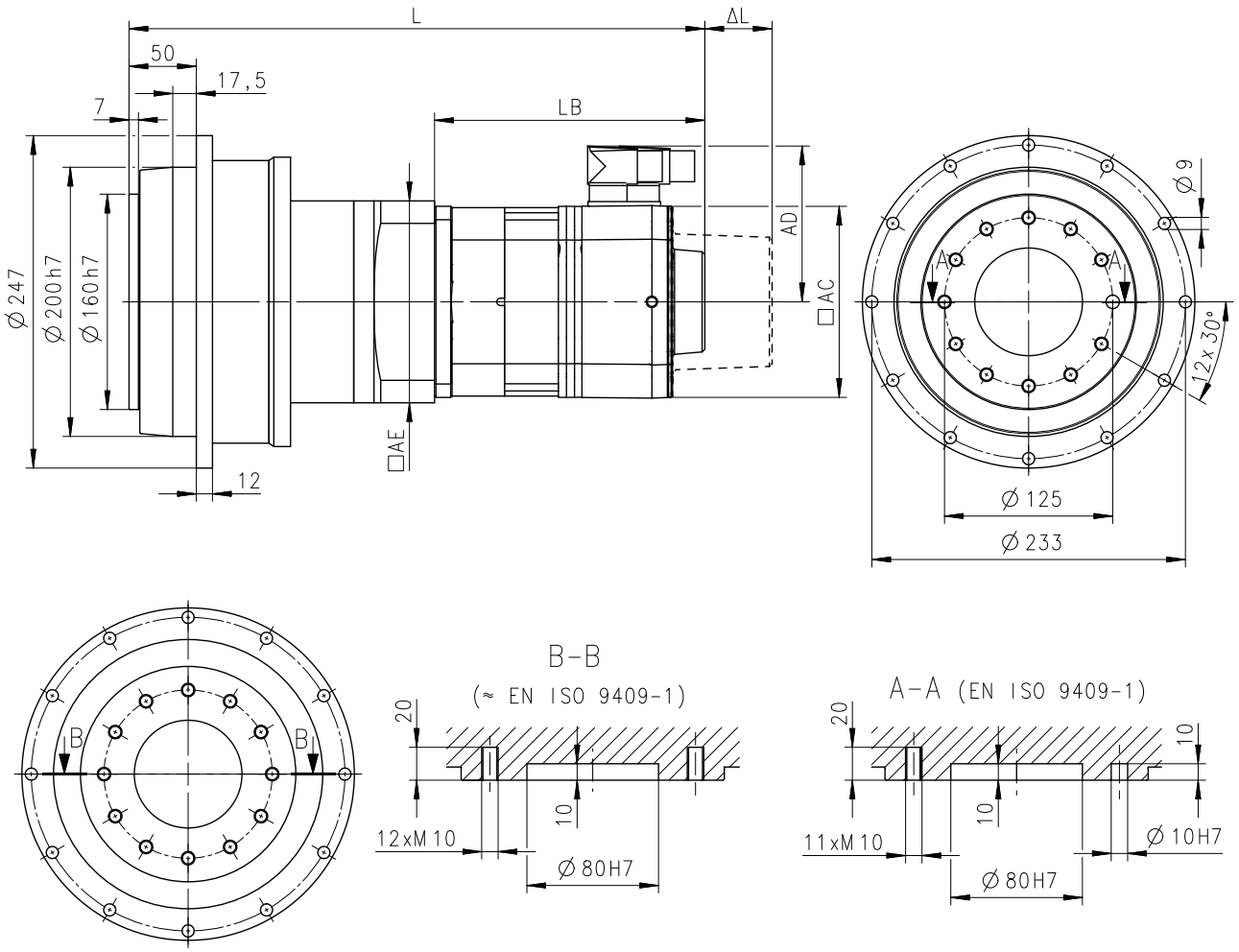


8800853-00

Motor			MCS 19											
			F12-	F14-	F29-	F30-	J12-	J14-	J29-	J30-	P12-	P14-	P29-	P30-
Total length	L	mm	499	392	499	392	539	432	539	432	599	492	599	492
Motor length	LB	mm	327	220	327	220	367	260	367	260	427	320	427	320
Motor diameter	AC	mm	212	192	212	192	212	192	212	192	212	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	171	142	171	171	171	171	171	171
Gearbox diameter	AE	mm	210	210	210	210	210	210	210	210	210	210	210	210

g880-P950 with MCS19

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



8800853-00

Motor			MCS 19									
			F12-	F14-	F29-	F30-	J14-	J29-	J30-	P14-	P29-	P30-
Total length	L	mm	554	447	554	447	487	594	487	547	654	547
Motor length	LB	mm	327	220	327	220	260	367	260	320	427	320
Motor diameter	AC	mm	212	192	212	192	192	212	192	192	212	192
Motor/connection distance	AD	mm	142	142	171	171	142	171	171	171	171	171
Gearbox diameter	AE	mm	190	190	190	190	190	190	190	190	190	190



Additional lengths

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

- Product codes 📖 754
- Brakes 📖 741
- Feedback 📖 746

MCS06

Motor			MCS		
			06C41- 06C41L 06C60- 06C60L	06F41- 06F41L 06F60- 06F60L	06I41- 06I41L 06I60- 06I60L
Cooling type			**natural**	**natural**	**natural**
Feedback (without brake B0)					
R☐0	Δ L	mm	0		
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	82		
S☐M (AM128...) / EKM / EVM	Δ L	mm	35		
Brake (P1/P2) and feedback					
R☐0	Δ L	mm	19		
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	101		
S☐M (AM128...) / EKM / EVM	Δ L	mm	54		

MCS09

Motor			MCS			
			09D41- 09D41L 09D60- 09D60L	09F38- 09F38L 09F60- 09F60L	09H41- 09H41L 09H60- 09H60L	09L41- 09L41L 09L60-
Cooling type			**natural**	**natural**	**natural**	**natural**
Feedback (without brake B0)						
R☐0	Δ L	mm	0			
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	51			
S☐M (AM128...) / EKM / EVM	Δ L	mm	20			
Brake (P1/P2) and feedback						
R☐0	Δ L	mm	20			
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	71			
S☐M (AM128...) / EKM / EVM	Δ L	mm	40			



MCS12

Motor			MCS									
			12D17-	12D20- 12D20L	12D35-	12D41- 12D41L	12H14-	12H15- 12H15L 12H30L	12H34-	12H35-	12L17- 12L39-	12L20- 12L20L 12L41- 12L41L
Cooling type			**Blower**	**natural**	**Blower**	**natural**	**Blower**	**natural**	**Blower**	**natural**	**Blower**	**natural**
Feedback (without brake B0)												
R☐0	Δ L	mm	0	0	0	0	0	0	0	0	0	0
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	43	49	43	49	43	49	43	49	43	49
S☐M (AM128...) / EKM / EVM	Δ L	mm		20		20		20		20		20
Brake (P1/P2) and feedback												
R☐0	Δ L	mm	20	20	20	20	20	20	20	20	20	20
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	63	69	63	69	63	69	63	69	63	69
S☐M (AM128...) / EKM / EVM	Δ L	mm		40		40		40		40		40

MCS14

Motor			MCS							
			14D14-	14D15-	14D30-	14D36-	14H12-	14H15-	14H28-	14H32-
Cooling type			**Blower**	**natural**	**Blower**	**natural**	**Blower**	**natural**	**Blower**	**natural**
Feedback (without brake B0)										
R☐0	Δ L	mm	0	0	0	0	0	0	0	0
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	53	50	53	50	53	50	53	50
S☐M (AM128...) / EKM / EVM	Δ L	mm		18		18		18		18
Brake (P1/P2) and feedback										
R☐0	Δ L	mm	29	28	29	28	29	28	29	28
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	82	78	82	78	82	78	82	78
S☐M (AM128...) / EKM / EVM	Δ L	mm		46		46		46		46

Motor			MCS							
			14L14-	14L15-	14L30-	14L32-	14P11-	14P14-	14P26-	14P32-
Cooling type			**Blower**	**natural**	**Blower**	**natural**	**Blower**	**natural**	**Blower**	**natural**
Feedback (without brake B0)										
R☐0	Δ L	mm	0	0	0	0	0	0	0	0
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	53	50	53	50	53	50	53	50
S☐M (AM128...) / EKM / EVM	Δ L	mm		18		18		18		18
Brake (P1/P2) and feedback										
R☐0	Δ L	mm	29	28	29	28	29	28	29	28
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	82	78	82	78	82	78	82	78
S☐M (AM128...) / EKM / EVM	Δ L	mm		46		46		46		46



MCS19

Motor			MCS									
			19F12-	19F14-	19F29-	19F30-	19J14-	19J29-	19J30-	19P14-	19P29-	19P30-
Cooling type			Forced	Natural	Forced	Natural	Natural	Forced	Natural	Natural	Forced	Natural
Feedback (without brake B0)												
R☐0	Δ L	mm	0	0	0	0	0	0	0	0	0	0
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	72	49	72	49	49	72	49	49	72	49
S☐M (AM128...) / EKM / EVM	Δ L	mm		19		19	19		19	19		19
Brake (P1/P2) and feedback												
R☐0	Δ L	mm	34	34	34	34	34	34	34	34	34	34
S☐M (AM1024...) / SRS / SVS / ECN / EQI / EQN	Δ L	mm	72	83	72	83	83	72	83	83	72	83
S☐M (AM128...) / EKM / EVM	Δ L	mm		53		53	53		53	53		53



Additional weights

Motors

Motor			MCS06C MCS06F MCS06I	MCS09D MCS09F MCS09H MCS09L	MCS12D MCS12H MCS12L	MCS14D MCS14H MCS14L MCS14P	MCS19F	MCS19J MCS19P
Permanent magnet holding brake								
Standard braking torque	m	kg	0.3	0.8	0.9	1.9	3.1	
Increased braking torque	m	kg		0.8	1.2	3.1		4.3

Product extensions

Motor connection

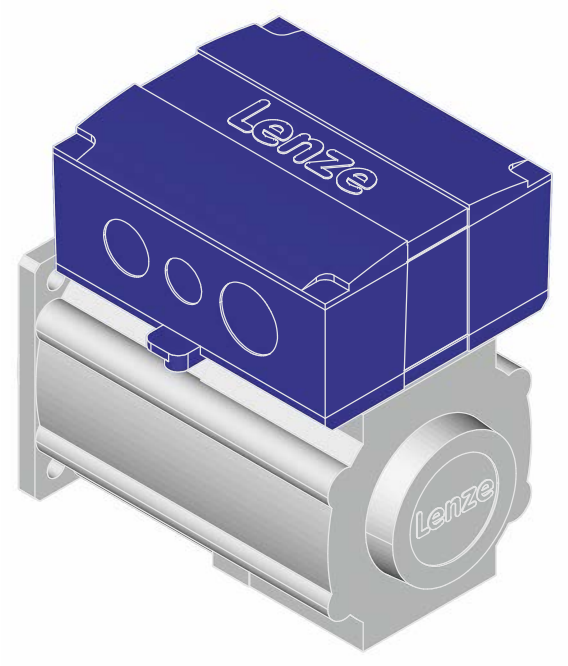
Connection via terminal box

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.

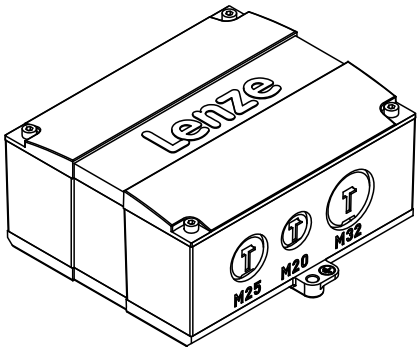
The terminal boxes have generously dimensioned space for the customer's own wiring and large surface shield connection areas to ensure a secure EMC-compliant connection. The cable outlet may be to the left or to the right, depending on requirements.

It is not possible to attach a terminal box to the MCS06 or to models with the blower.



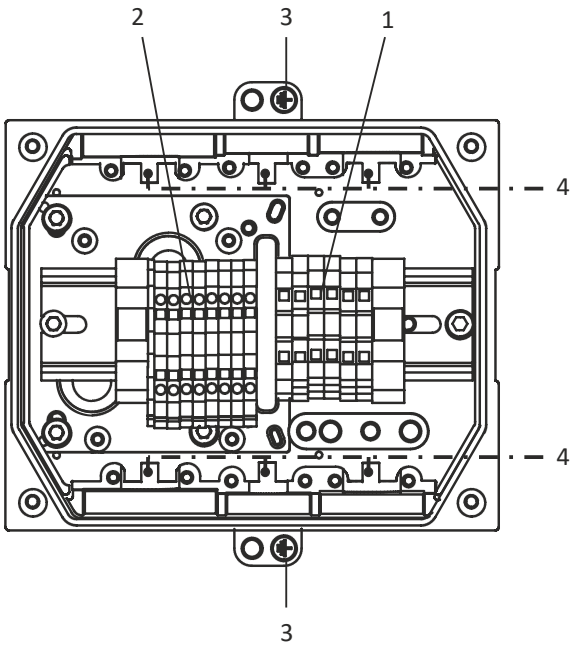
Cable glands

The bore holes for the cable glands M25, M20 and M32 are located on both sides and closed. They can be opened according to need.



Motor		MCS09 MCS12 MCS14H	MCS14L15 MCS14P14 MCS19F15 MCS19J15	MCS14L32 MCS14P32 MCS19F13 MCS19J30 MCS19P
Screwed connections		2x M20 2x M25 2x M32		
cable cross-section	mm^2	0.08 ... 2.5 4 (without wire end ferrule)		0.2 ... 10
Stripping length	mm	10 ... 11		
Terminal design		Spring-loaded terminal		

Position of the connections



Position	Meaning
1	Power connection Brake connection
2	Feedback connection Connection of temperature monitoring
3	PE connection
4	Large area shield contact.



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 -

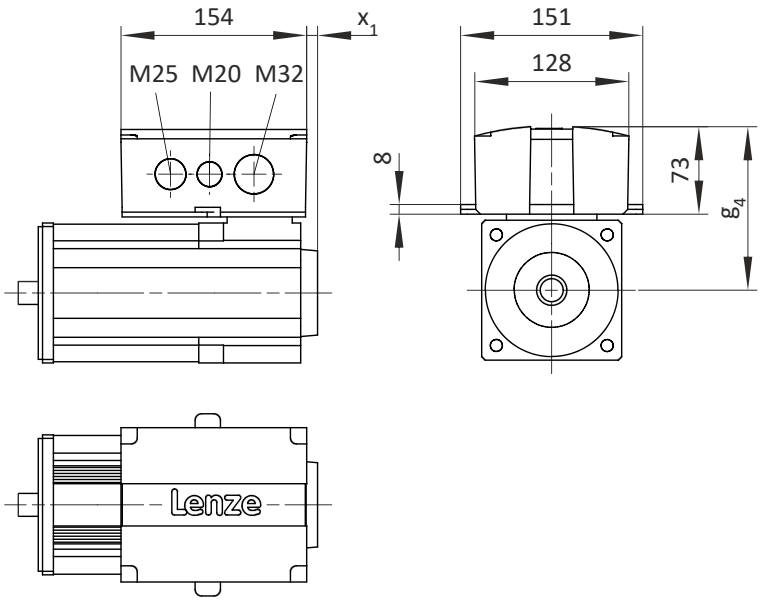
Terminal box, resolver		
Contact	**Name**	**Meaning**
B1	+Ref	Transformer windings (reference windings)
B2	-Ref	
B3	+VCC ETS	Supply: Electronic nameplate (only for variant with electronic nameplate ETS)
B4	+COS	Cosine stator windings
B5	-COS	
B6	+SIN	Sine stator windings
B7	-SIN	
B8		Not assigned

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 -

Teminal box dimensions



Motor			MCS09D MCS09F MCS09H MCS09L	MCS12D MCS12H MCS12L	MCS14D MCS14H MCS14L MCS14P	MCS19F MCS19J MCS19P
Motor/connection distance	g_4	mm	121	136	147	172
Feedback						
Resolver/TTL incremental encoder	x_1	mm	5	9	21	12
SinCos absolute value encoder	x_1	mm	56	58	71	61



Connection via connector

The electrical connection to the servo motors is made via M23 or M40 plug connectors as standard.

The connection is made via two connectors:

- For power and brake
- For feedback and temperature monitoring

Alternatively, Lenze offers a One Cable Technology (OCT).

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.

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

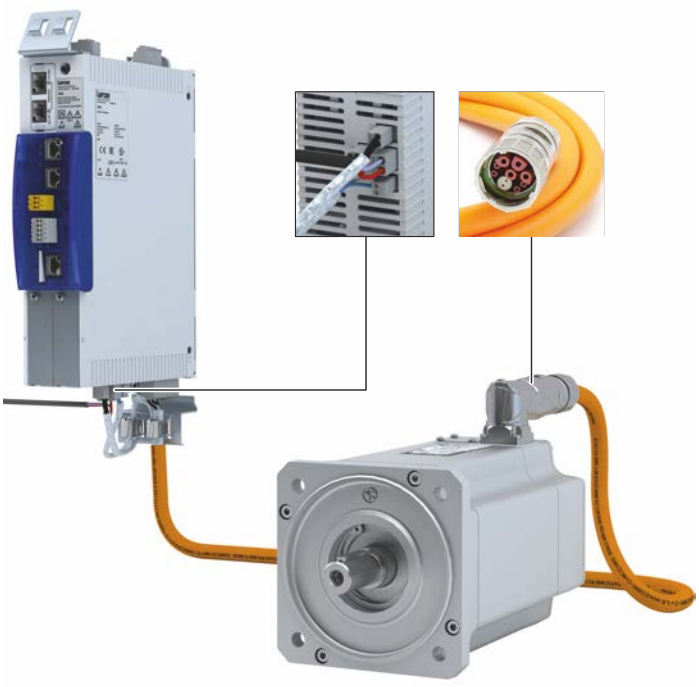
Details and data can be found in the "Accessories" brochure on the Internet.

One Cable Technology (OCT)

With the help of digital absolute value encoders and the HIPERFACE DSL® open motor feedback protocol, the motor supports the use of future-oriented One Cable Technology (OCT).

Advantages

- All the wiring required is carried out in just one connector.
- The use of system cables merges the servo and feedback cables.
- Connection cables, cable variance, and connection costs are thus reasonably minimized.
- The motor temperature is transmitted digitally together with the encoder signal. An additional connection for a motor temperature sensor is not required.
- Speed-dependent safety functions can be realized by using the safety-rated digital absolute value encoder.



The M23 connector for One Cable Technology (OCT) has been changed; the change can be recognized by the color of the connector:

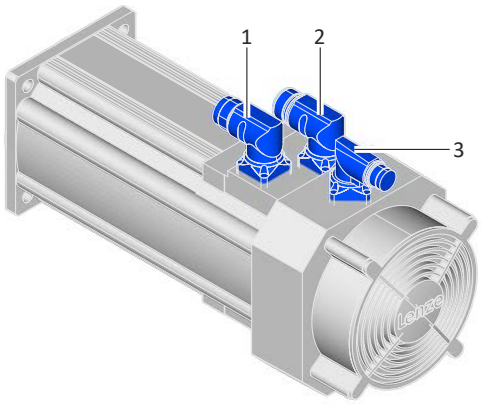
- Old connector: Blue
- New connector: Red

Only motor/system cable connectors of the same color can be plugged in.

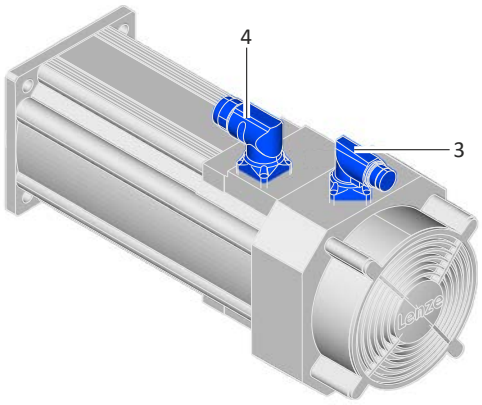


Position of the connections

Standard connection



One Cable Technology (OCT)



Position	Meaning	Position	Meaning
1	M23 connector, 6-pole M40 connector, 8-pole • Power connection • Brake connection • PE connection	4	For One Cable Technology (OCT) M23 connector, hybrid M40 connector, hybrid • Power connection • Brake connection • PE connection • Digital absolute value encoder connection • Temperature monitoring connection
2	M23 connector • Feedback connection • Temperature monitoring connection		
3	M17 connector • Blower connection		

Motor/connector assignment

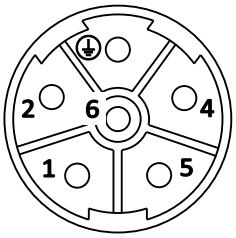
Standard connection: Power and brake One Cable Technology (OCT): Power, brake, feedback and temperature monitoring connection							
Motor	**Connector**	**Motor**	**Connector**	**Motor**	**Connector**	**Motor**	**Connector**
MCS06...	M23	MCS14H15-	M23	MCS14P14-	M23	MCS19J14-	M23
MCS09...	M23	MCS14H28-	M40	MCS14P26-	M40	MCS19J29-	M40
MCS12...	M23	MCS14H32-	M23	MCS14P32-	M40	MCS19J30-	M40
MCS14D14-	M23	MCS14L14-	M23	MCS19F12-	M23	MCS19P12-	M40
MCS14D15-	M23	MCS14L15-	M23	MCS19F14-	M23	MCS19P14-	M40
MCS14D30-	M23	MCS14L30-	M40	MCS19F29-	M40	MCS19P29-	M40
MCS14D36-	M23	MCS14L32-	M40	MCS19F30-	M40	MCS19P30-	M40
MCS14H12-	M23	MCS14P11-	M23	MCS19J12-	M40		

Standard connection

Connection of power and brake

ICN-M23 connector assignment

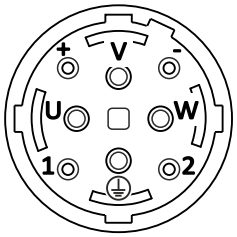
6-pole



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

M40 connector assignment for motor cables

8-pole



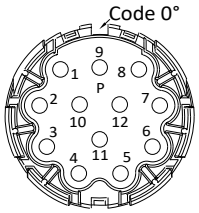
M40 8-pole		
Contact	**Name**	**Meaning**
V	V	Power phase V
PE	PE	PE conductor
W	W	Power phase W
-	BD2	Holding brake -
U	U	Power phase U
+	BD1	Holding brake +
1		Not assigned
2		Not assigned



Feedback and temperature monitoring connection

ICN-M23 connector assignment

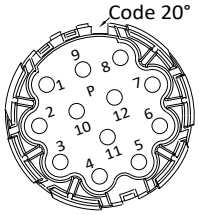
Resolver



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

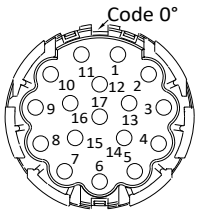
ICN-M23 connector assignment

Incremental and SinCos absolute value encoder Hiperface©



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

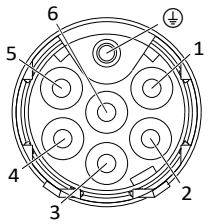
M23 connector assignment for EnDat cables



M23 for EnDat encoders		
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



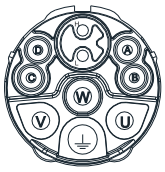
M17 for blowers 1-ph		
Contact	**Name**	**Meaning**
PE	PE	PE conductor
1	U1	Fan
2	U2	Fan
3		Not assigned
4		Not assigned
5		Not assigned
6		Not assigned



One Cable Technology (OCT)

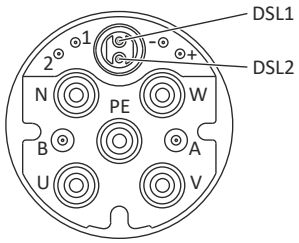
Power, brake, feedback and temperature monitoring connection

M23 connector assignment for OCT motor cables



M23_OCT		
Contact	**Name**	**Meaning**
A	BD1	Holding brake +
B	BD2	Holding brake -
C		Not assigned
D		Not assigned
H	VCC/Daten +	VCC/data +
L	GND/Daten -	GND/data -
PE	PE	PE
U	U	Power phase U
V	V	Power phase V
W	W	Power phase W

M40 connector assignment for OCT motor cables



M40_OCT		
Contact	**Name**	**Meaning**
-		Not assigned
+		Not assigned
1		Not assigned
2		Not assigned
A	BD1	Holding brake +
B	BD2	Holding brake -
DSL1	+	VCC/data +
DSL2	-	GND/data -
N		Not assigned
PE	PE	PE
U	U	Power phase U
V	V	Power phase V
W	W	Power phase W

Brakes

⚠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.

Permanent magnet brakes

Rated data

NOTICE

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

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

Requirements with regard to the DC 24 V brake: smoothed DC voltage, ripple ≤ 1 %.

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



Motor			MCS06C	MCS06F	MCS06I	MCS09D		MCS09F		MCS09H
Motor code			**P1**	**P1**	**P1**	**P1**	**P2**	**P1**	**P2**	**P1**
Supply voltage range	V_{in}	V	21.84 ... 25.2							
Supply voltage	V_{rated}	V	24							
Bemessungsdrehmoment										
At 20 °C	M_{rated}	Nm	2.2			8	12	8	12	8
At 120 °C	M_{rated}	Nm	2			6	10	6	10	6
Rated current	I_{rated}	A	0.34			0.67				
Engagement time t1	t_1	ms	15			20	13	20	13	20
Disengagement time t2	t_2	ms	30			40	43	40	43	40
Friction energy	Q_E	kJ	0.030			0.400				
Weight	m	kg	0.30			0.80	0.9	0.80	0.9	0.80
Massenträgheitsmoment										
Brake	J	kgcm²	0.12			1.07				
Brake motor	J_{MB}	kgcm²	0.26	0.34	0.42	2.17		2.57		2.97
Load/brake motor ratio	J_L/J_{MB}		22.1	16.6	13.3	36.4		30.5		26.3

Motor			MCS09H	MCS09L		MCS12D		MCS12H		MCS12L
Motor code			**P2**	**P1**	**P2**	**P1**	**P2**	**P1**	**P2**	**P1**
Supply voltage range	V_{in}	V	21.84 ... 25.2							
Supply voltage	V_{rated}	V	24							
Bemessungsdrehmoment										
At 20 °C	M_{rated}	Nm	12	8	12		24	12	24	12
At 120 °C	M_{rated}	Nm	10	6	10		19	10	19	10
Rated current	I_{rated}	A	0.67				0.75	0.67	0.75	0.67
Engagement time t1	t_1	ms	13	20	13		16	13	16	13
Disengagement time t2	t_2	ms	43	40	43		90	43	90	43
Friction energy	Q_E	kJ	0.400				0.890	0.400	0.890	0.400
Weight	m	kg	0.9	0.80	0.9		1.20	0.9	1.20	0.9
Massenträgheitsmoment										
Brake	J	kgcm²	1.07				3.13	1.07	3.13	1.07
Brake motor	J_{MB}	kgcm²	2.97	3.87		5.07	7.1	8.4	10.4	11.7
Load/brake motor ratio	J_L/J_{MB}		26.3	19.9		15	24.3	8.7	16.3	5.9



Motor			MCS12L	MCS14D		MCS14H		MCS14L		MCS14P
Motor code			**P2**	**P1**	**P2**	**P1**	**P2**	**P1**	**P2**	**P1**
Supply voltage range	V_{in}	V	21.84 ... 25.2							
Supply voltage	V_{rated}	V	24							
Bemessungsdrehmoment										
At 20 °C	M_{rated}	Nm	24	22	37	22	37	22	37	22
At 120 °C	M_{rated}	Nm	19	18	32	18	32	18	32	18
Rated current	I_{rated}	A	0.75		0.81	0.75	0.81	0.75	0.81	0.75
Engagement time t1	t_1	ms	16	15	96	15	96	15	96	15
Disengagement time t2	t_2	ms	90	150	113	150	113	150	113	150
Friction energy	Q_E	kJ	0.890	0.640	2.350	0.640	2.350	0.640	2.350	0.640
Weight	m	kg	1.20	1.9	3.1	1.9	3.1	1.9	3.1	1.9
Massenträgheitsmoment										
Brake	J	kgcm²	3.13	3.2	12.4	3.2	12.4	3.2	12.4	3.2
Brake motor	J_{MB}	kgcm²	13.7	11.3	20.5	17.4	26.6		35.8	37.9
Load/brake motor ratio	J_L/J_{MB}		12.1	10.5	22.2	6.5	16.9	3.9	12.3	2.4

Motor			MCS14P	MCS19F	MCS19J	MCS19P
Motor code			**P2**	**P1**	**P2**	**P2**
Supply voltage range	V_{in}	V	21.84 ... 25.2			
Supply voltage	V_{rated}	V	24			
Bemessungsdrehmoment						
At 20 °C	M_{rated}	Nm	37		95	
At 120 °C	M_{rated}	Nm	32		80	
Rated current	I_{rated}	A	0.81		1.46	
Engagement time t1	t_1	ms	96		23	
Disengagement time t2	t_2	ms	113		140	
Friction energy	Q_E	kJ	2.350		2.80	
Weight	m	kg	3.1		3.9	
Massenträgheitsmoment						
Brake	J	kgcm²	12.4		31.8	
Brake motor	J_{MB}	kgcm²	47.1	77	135	190
Load/brake motor ratio	J_L/J_{MB}		9.1	5.2	2.2	1.2



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	Digital absolute value encoder for OCT
i950 servo inverter	RS0	AM128-8V-H AM1024-8V-H AS1024-8V-H	AM20-8V-D
i750 servo inverter	RS0	AM128-8V-H AM1024-8V-H AS1024-8V-H	-
8400 TopLine inverter drives	RS0	AM128-8V-H AM1024-8V-H AS1024-8V-H	-
9400 HighLine servo drives	RS0	AM32-5V-E AM128-8V-H AM1024-8V-H AM2048-5V-E AS1024-8V-H AS2048-5V-E	-

Inverter	Feedback with functional safety		
	Resolver	Absolute value encoder	Digital absolute value encoder for OCT
i950 servo inverter	RV03	AM128-8V-K2 AM1024-8V-K2 AS1024-8V-K2	AM20-8V-D2
9400 HighLine servo drives	RV03	AM128-8V-K2 AM1024-8V-K2 AS1024-8V-K2	-

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)

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			Nein	Ja
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	$V_{in,max}$	V	10	10
Max. input frequency	$f_{in,max}$	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}	MΩ	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			
MCS06	α	rad/s^2	56000
MCS09 ... MCS19	α	rad/s^2	19000
Functional safety			
IEC 61508			SIL3
EN 13849-1			Up to Performance Level e



Absolute value encoder

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

In conjunction with the AMxx-8V-**D** digital absolute value encoder, the motor supports the HIPERFACE DSL® open motor feedback protocol for One Cable Technology (OCT).



Feedback type			Digital absolute value encoder		SinCos absolute value encoder			
Feedback			**AM20-8V-D**	**AM20-8V-D2**	**AM32-5V-E**	**AM128-8V-H**	**AM128-8V-K2**	**AM1024-8V-H**
Speed-dependent safety functions			Nein	Ja	Nein	Nein	Ja	Nein
Design			Mounting	Mounting	Mounting	Mounting	Mounting	Mounting
Encoder type			Multi-turn	Multi-turn	Multi-turn	Multi-turn	Multi-turn	Multi-turn
Resolution		bit	20	20	-	-	-	-
Pulses			-	-	32	128	128	1024
Output signals			Digital	Digital	SinCos 1 Vss	SinCos 1 Vss	SinCos 1 Vss	SinCos 1 Vss
Interfaces			Hiperface	Hiperface	EnDat	Hiperface	Hiperface	Hiperface
Absolute revolution			4096	4096	4096	4096	4096	4096
Resolution - angle			0.02	0.02	0.4	0.4	0.4	0.4
Min. accuracy		'	-	-	-5	-1.3	-1.3	-0.8
Max. accuracy		'	-	-	5	1.3	1.3	0.8
Fehlergrenze Positionswert								
System accuracy			1.7	1.7	-	-	-	-
Integral nonlinearity			1	1	-	-	-	-
Min. DC input voltage	$V_{in,min}$	V	-	-	4.75	7	7	7
Max. DC input voltage	$V_{in,max}$	V	-	-	5.25	12	12	12
Max. current consumption	I_{max}	A	0.15	0.15	0.17	0.06	0.06	0.08
Limit frequency	f_{max}	kHz	-	-	600	200	200	200

Feedback type			SinCos absolute value encoder				
Feedback			**AM1024-8V-K2**	**AM2048-5V-E**	**AS1024-8V-H**	**AS1024-8V-K2**	**AS2048-5V-E**
Speed-dependent safety functions			Ja	Nein	Nein	Ja	Nein
Design			Mounting	Mounting	Mounting	Mounting	Mounting
Encoder type			Multi-turn	Multi-turn	Single-turn	Single-turn	Single-turn
Resolution		bit	-	-	-	-	-
Pulses			1024	2048	1024	1024	2048
Output signals			SinCos 1 Vss	SinCos 1 Vss	SinCos 1 Vss	SinCos 1 Vss	SinCos 1 Vss
Interfaces			Hiperface	EnDat	Hiperface	Hiperface	EnDat
Absolute revolution			4096	4096	1	1	1
Resolution - angle			0.4	0.4	0.4	0.4	0.4
Min. accuracy		'	-0.8	-0.6	-0.8	-0.8	-0.6
Max. accuracy		'	0.8	0.6	0.8	0.8	0.6
Fehlergrenze Positionswert							
System accuracy			-	-	-	-	-
Integral nonlinearity			-	-	-	-	-
Min. DC input voltage	$V_{in,min}$	V	7	4.75	7	7	4.75
Max. DC input voltage	$V_{in,max}$	V	12	5.25	12	12	5.25
Max. current consumption	I_{max}	A	0.08	0.25	0.08	0.08	0.15
Limit frequency	f_{max}	kHz	200	200	200	200	200



Speed-dependent safety functions

Feedback			AM20-8V-D2	AM128-8V-K2	AM1024-8V-K2	AS1024-8V-K2
Motor code			**EVM**	**SVM**	**SVM**	**SVS**
Max. permissible angular acceleration						
MCS06	α	rad/s^2	240000	970000		
MCS09 ... MCS19	α	rad/s^2	240000	240000		
Functional safety						
IEC 61508			SIL2			
EN 13849-1			Up to Performance Level d			



Blower

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

Rated data 50 Hz

Motor series			**MCS**					
Size			**12**		**14**		**19**	
Degree of protection			IP54					
Number of phases			1	1	1	1	1	1
Rated voltage	V_{rated}	V	115	230	115	230	115	230
Rated power	P_{rated}	kW	0.018	0.019	0.042	0.05	0.055	0.055
Rated current	I_{rated}	A	0.22	0.12	0.56	0.3	0.5	0.25

Rated data 60 Hz

Motor series			**MCS**					
Size			**12**		**14**		**19**	
Degree of protection			IP54					
Number of phases			1	1	1	1	1	1
Rated voltage	V_{rated}	V	115	230	115	230	115	230
Rated power	P_{rated}	kW	0.018	0.019	0.044	0.044	0.07	0.065
Rated current	I_{rated}	A	0.22	0.12	0.56	0.25	0.61	0.29



Temperature monitoring

Thermal detectors PT1000

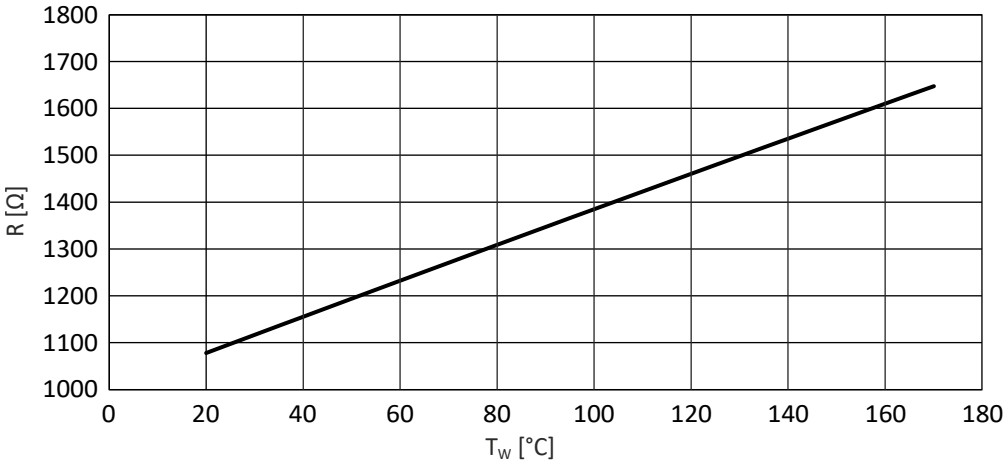
The thermal detector used continuously monitors the motor temperature. The temperature information is transferred to the inverter using the system cable of the feedback system. **This is not a full motor protection!**

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

MCS06

In case of this motor, the winding temperature of a winding phase is monitored with a thermal sensor PT1000.

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



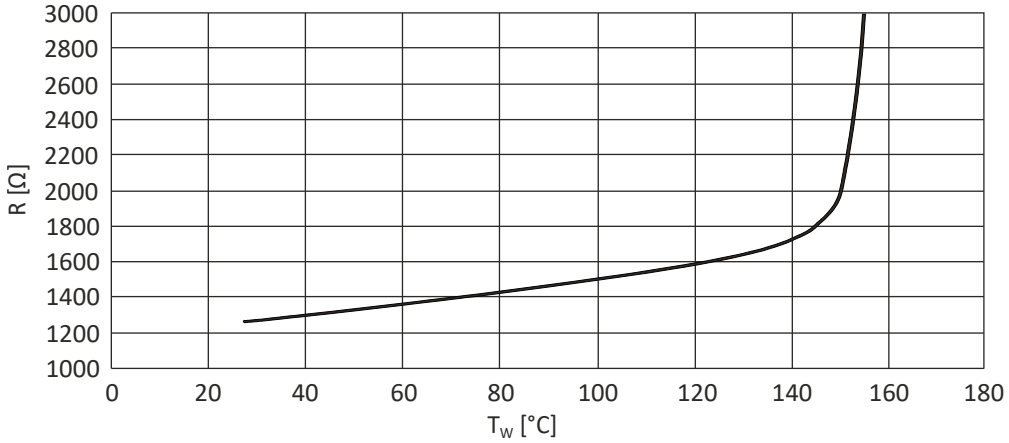
R	Resistance
T_W	Winding temperature

MCS09 ... 19

These motors are monitored via three thermal sensors connected in series (1x PT1000 + 2x PTC 150 °C). This makes it possible to determine the motor temperature in the permissible operating range and at the same time execute the overtemperature response configured in the controller in one of the winding strands.

The three thermal sensors connected in series are identified on the nameplate by the short designation "PT1k+2PTC".

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



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 code of MCS synchronous servo motor

Example	M	C	S	06	C	41	-	RS0	B0

Meaning	Variant	Product code								
Product family	Motor	M								
Type	Compact servo motors		C							
Version	Synchronous			S						
Motor frame size	Square dimension 62 mm				06					
	Square dimension 89 mm				09					
	Square dimension 116 mm				12					
	Square dimension 142 mm				14					
	Square dimension 192 mm				19					
Overall length						C ... P				
Rated speed	rpm x 100						11 ... 60			
Inverter mains connection	3 x 230 V							L		
	3 x 400 V							-		
Feedback	SinCos absolute value encoder, single-turn, EnDat AS2048-5V-E								ECN	
	Digital absolute value encoder, multi-turn, Hiperface DSL® AM20-8V-D								EKM	
	SinCos absolute value encoder, multi-turn, EnDat AM32-5V-E								EQI	
	SinCos absolute value encoder, multi-turn, EnDat AM2048-5V-E								EQN	
	Digital safety absolute value encoder, multi-turn, Hiperface DSL® AM20-8V-D2								EVM	
	Resolver p=1								RS0	
	Safety resolver, p=1 RV03								RV0	
	SinCos absolute value encoder, multi-turn, Hiperface® AM128-8V-H								SKM	
	SinCos absolute value encoder, multi-turn, Hiperface® AM1024-8V-H								SRM	
	SinCos absolute value encoder, single-turn, Hiperface® AS1024-8V-H								SRS	
	SinCos safety absolute value encoder, multi-turn, Hiperface® AM128-8V-K2								SVM	
	SinCos safety absolute value encoder, multi-turn, Hiperface® AM1024-8V-K2								SVM	
	SinCos safety absolute value encoder, single-turn, Hiperface® AS1024-8V-K2								SVS	
Brake	Without brake									B0
	Permanent magnet brake DC 24V									P1
	Permanent magnet brake DC 24V, reinforced									P2

Motor data

Rated data

Inverter mains connection 400 V, Self-ventilated motors

Motor			MCS 06C60-	MCS 06C41-	MCS 06F60-	MCS 06F41-	MCS 06I60-	MCS 06I41-
Standstill torque	M_0	Nm	0.800	0.800	1.50	1.50	2.00	2.00
Rated torque	M_{rated}	Nm	0.500	0.600	0.900	1.20	1.20	1.50
Max. torque	M_{max}	Nm	2.40	2.40	4.40	4.40	6.20	6.20
Rated speed	n_{rated}	rpm	6000	4050	6000	4050	6000	4050
Max. speed	n_{max}	rpm	8000	8000	8000	8000	8000	8000
Rated power	P_{rated}	kW	0.31	0.25	0.57	0.51	0.75	0.64
Standstill current	I_0	A	2.50	1.30	2.90	1.50	3.40	1.70
Rated current	I_{rated}	A	2.40	1.30	2.50	1.50	2.90	1.60
Max. current	I_{max}	A	10.8	5.40	10.5	5.30	11.8	5.90
Rated voltage	V_{rated}	V	135	225	180	320	190	325
Rated frequency	f_{rated}	Hz	400	270	400	270	400	270
Moment of inertia	J	kgcm²	0.140	0.140	0.220	0.220	0.300	0.300
Efficiency	η		0.7	0.65	0.81	0.77	0.84	0.81
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	0.320	0.615	0.517	1.00	0.588	1.18
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	17.89	35.79	29.33	58.76	35.88	71.77
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	6.8	27	5.4	21.8	4.6	18.8
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	10.248	40.689	8.138	32.853	6.932	28.332
Stator inductance	L	mH	12.8	51.0	15.9	63.5	15.1	60.2
Weight	m	kg	2.30	2.30	2.70	2.70	3.40	3.40

Motor data

Rated data

Inverter mains connection 400 V, Self-ventilated motors



Motor			MCS 09D60-	MCS 09D41-	MCS 09F60-	MCS 09H60-	MCS 09F38-	MCS 09L51-
Standstill torque	M_0	Nm	3.30	3.30	4.20	5.50	4.20	7.50
Rated torque	M_{rated}	Nm	1.80	2.30	2.40	3.00	3.10	3.60
Max. torque	M_{max}	Nm	9.50	9.50	15.0	20.0	15.0	32.0
Rated speed	n_{rated}	rpm	6000	4050	6000	6000	3750	5100
Max. speed	n_{max}	rpm	7000	7000	7000	7000	7000	7000
Rated power	P_{rated}	kW	1.1	1	1.5	1.9	1.2	1.9
Standstill current	I_0	A	5.30	2.60	6.00	8.50	3.00	12.4
Rated current	I_{rated}	A	3.80	2.30	4.50	6.00	2.50	6.90
Max. current	I_{max}	A	20.0	10.0	30.0	40.0	15.0	64.0
Rated voltage	V_{rated}	V	210	320	230	190	330	180
Rated frequency	f_{rated}	Hz	400	270	400	400	250	340
Moment of inertia	J	kgcm²	1.10	1.10	1.50	1.90	1.50	2.80
Efficiency	η		0.87	0.82	0.9	0.91	0.9	0.91
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	0.623	1.27	0.700	0.647	1.40	0.605
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	34.81	69.62	39.01	36.96	78.02	35.1
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	1.8	7	1.2	0.8	5.2	0.44
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	2.713	10.549	1.808	1.206	7.836	0.663
Stator inductance	L	mH	6.30	25.1	6.15	4.02	24.6	2.50
Weight	m	kg	4.80	4.80	5.70	6.60	5.70	8.40



Motor			MCS 09H41-	MCS 09L41-	MCS 12D41-	MCS 12D20-	MCS 12H35-	MCS 12H15-
Standstill torque	M_0	Nm	5.50	7.50	6.40	6.40	11.4	11.4
Rated torque	M_{rated}	Nm	3.80	4.50	4.30	5.50	7.50	10.0
Max. torque	M_{max}	Nm	20.0	32.0	18.0	18.0	29.0	29.0
Rated speed	n_{rated}	rpm	4050	4050	4050	1950	3525	1500
Max. speed	n_{max}	rpm	7000	7000	6000	6000	6000	6000
Rated power	P_{rated}	kW	1.6	1.9	1.8	1.1	2.8	1.6
Standstill current	I_0	A	4.30	6.20	5.50	2.70	8.20	4.10
Rated current	I_{rated}	A	3.40	4.20	4.50	2.60	5.70	3.80
Max. current	I_{max}	A	20.0	32.0	20.0	10.0	24.0	12.0
Rated voltage	V_{rated}	V	300	295	310	345	325	300
Rated frequency	f_{rated}	Hz	270	270	270	130	235	100
Moment of inertia	J	kgcm²	1.90	2.80	4.00	4.00	7.30	7.30
Efficiency	η		0.91	0.91	0.84	0.85	0.91	0.88
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	1.28	1.21	1.16	2.37	1.39	2.78
Voltage constant	$KE_{LL\ 150\ °C}$	V/ (1000/ min)	74.02	70.1	67.07	133.95	84.58	169.15
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	3.2	1.8	2.2	8.7	1.4	5.8
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	4.822	2.713	3.315	13.111	2.11	8.741
Stator inductance	L	mH	16.1	9.90	13.0	52.2	10.5	42.1
Weight	m	kg	6.60	8.40	7	7	10.1	10.1



Motor			MCS 12L41-	MCS 12L20-	MCS 14D36-	MCS 14D15-	MCS 14H32-	MCS 14H15-
Standstill torque	M_0	Nm	15.0	15.0	11.0	11.0	21.0	21.0
Rated torque	M_{rated}	Nm	11.0	13.5	7.50	9.20	14.0	16.0
Max. torque	M_{max}	Nm	56.0	56.0	29.0	29.0	55.0	55.0
Rated speed	n_{rated}	rpm	4050	1950	3600	1500	3225	1500
Max. speed	n_{max}	rpm	6000	6000	6000	6000	6000	6000
Rated power	P_{rated}	kW	4.7	2.8	2.8	1.45	4.7	2.5
Standstill current	I_0	A	12.4	6.20	10.0	5.00	16.9	8.50
Rated current	I_{rated}	A	10.2	5.90	7.50	4.50	11.9	6.60
Max. current	I_{max}	A	56.0	28.0	33.0	16.5	51.5	25.8
Rated voltage	V_{rated}	V	300	330	295	305	295	325
Rated frequency	f_{rated}	Hz	270	130	240	100	215	100
Moment of inertia	J	kgcm²	10.6	10.6	8.10	8.10	14.2	14.2
Efficiency	η		0.91	0.9	0.92	0.88	0.93	0.92
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	1.21	2.42	1.10	2.20	1.24	2.47
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	72.94	145.69	62.77	126.13	74.6	149.6
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	0.6	2.2	1	4	0.52	2.08
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	0.904	3.315	1.507	6.028	0.784	3.135
Stator inductance	L	mH	5.45	21.8	12.5	49.8	8.53	34.1
Weight	m	kg	13.2	13.2	11.4	11.4	16.2	16.2



Motor			MCS 14L32-	MCS 14P32-	MCS 14L15-	MCS 14P14-	MCS 19F30-	MCS 19F14-
Standstill torque	M_0	Nm	28.0	37.0	28.0	37.0	32.0	32.0
Rated torque	M_{rated}	Nm	17.2	21.0	23.0	30.0	21.0	27.0
Max. torque	M_{max}	Nm	77.0	105	77.0	105	86.0	86.0
Rated speed	n_{rated}	rpm	3225	3225	1500	1350	3000	1425
Max. speed	n_{max}	rpm	6000	6000	6000	6000	4000	4000
Rated power	P_{rated}	kW	5.8	7.1	3.6	4.2	6.6	4
Standstill current	I_0	A	24.0	24.3	12.0	12.2	19.8	9.90
Rated current	I_{rated}	A	15.0	15.6	9.70	10.8	14.0	8.60
Max. current	I_{max}	A	74.5	92.0	37.3	46.0	62.5	31.3
Rated voltage	V_{rated}	V	275	315	315	340	300	335
Rated frequency	f_{rated}	Hz	215	215	100	90	200	95
Moment of inertia	J	kgcm²	23.4	34.7	23.4	34.7	65.0	65.0
Efficiency	η		0.93	0.93	0.9	0.9	0.93	0.92
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	1.17	1.52	2.33	3.03	1.62	3.23
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	74.5	87.41	148.62	175.02	95.04	190.66
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	0.4	0.28	1.2	1.2	0.32	1.3
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	0.603	0.422	1.808	1.808	0.482	1.959
Stator inductance	L	mH	5.51	5.99	22.0	23.9	5.20	20.8
Weight	m	kg	20.8	25.6	20.8	25.6	24	24



Motor			MCS 19J30-	MCS 19P30-	MCS 19J14-	MCS 19P14-
Standstill torque	M_0	Nm	51.0	64.0	51.0	64.0
Rated torque	M_{rated}	Nm	29.0	32.0	40.0	51.0
Max. torque	M_{max}	Nm	129	190	129	190
Rated speed	n_{rated}	rpm	3000	3000	1425	1350
Max. speed	n_{max}	rpm	4000	4000	4000	4000
Rated power	P_{rated}	kW	9.1	10	6	7.2
Standstill current	I_0	A	30.5	34.9	15.2	17.5
Rated current	I_{rated}	A	18.5	19.0	12.3	14.3
Max. current	I_{max}	A	89.6	120	44.8	60.0
Rated voltage	V_{rated}	V	300	320	330	330
Rated frequency	f_{rated}	Hz	200	200	95	90
Moment of inertia	J	kgcm²	105	160	105	160
Efficiency	η		0.93	0.93	0.92	0.92
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	1.67	1.83	3.36	3.66
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	97.29	105.6	194.57	211.19
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	0.16	0.14	0.66	0.54
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	0.241	0.211	0.995	0.814
Stator inductance	L	mH	3.20	2.40	12.8	9.60
Weight	m	kg	31	41	31	41



Inverter mains connection 400 V, Forced ventilated motors

Motor			MCS 12H34-	MCS 12H14-	MCS 12L39-	MCS 12L17-	MCS 12D35-	MCS 12D17-
Standstill torque	M_0	Nm	12.8	12.8	19.0	19.0	7.50	7.50
Rated torque	M_{rated}	Nm	10.5	12.0	14.0	17.0	6.00	7.00
Max. torque	M_{max}	Nm	29.0	29.0	56.4	56.4	17.7	17.7
Rated speed	n_{rated}	rpm	3375	1350	3900	1650	3525	1650
Max. speed	n_{max}	rpm	6000	6000	6000	6000	6000	6000
Rated power	P_{rated}	kW	3.7	1.7	5.7	2.9	2.2	1.2
Standstill current	I_0	A	8.50	4.60	14.4	7.20	6.40	3.20
Rated current	I_{rated}	A	7.50	4.10	11.7	6.70	5.60	3.00
Max. current	I_{max}	A	24.0	12.0	57.0	28.0	20.0	10.0
Rated voltage	V_{rated}	V	320	310	295	300	300	330
Rated frequency	f_{rated}	Hz	225	90	260	110	235	110
Moment of inertia	J	kgcm²	7.30	7.30	10.6	10.6	4.00	4.00
Efficiency	η		0.86	0.8	0.94	0.9	0.85	0.75
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	1.51	2.78	1.32	2.64	1.17	2.34
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	84.58	169.15	72.94	145.69	67.07	133.95
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	1.4	5.8	0.6	2.2	4.4	17.4
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	2.11	8.741	0.904	3.315	6.631	26.222
Stator inductance	L	mH	10.5	42.1	5.45	21.8	13.0	52.2
Weight	m	kg	12.2	12.2	15.3	15.3	9.1	9.1

Motor data

Rated data

Inverter mains connection 400 V, Forced ventilated motors



Motor			MCS 14D30-	MCS 14D14-	MCS 14H28-	MCS 14H12-	MCS 14L30-	MCS 14L14-
Standstill torque	M_0	Nm	12.5	12.5	25.5	25.5	34.5	34.5
Rated torque	M_{rated}	Nm	10.5	12.0	20.5	23.5	25.5	30.5
Max. torque	M_{max}	Nm	29.0	29.0	54.8	54.8	77.1	77.1
Rated speed	n_{rated}	rpm	3000	1350	2775	1200	3000	1350
Max. speed	n_{max}	rpm	6000	6000	6000	6000	6000	6000
Rated power	P_{rated}	kW	3.3	1.7	6	3	8	4.3
Standstill current	I_0	A	11.4	5.70	18.4	9.30	26.7	13.4
Rated current	I_{rated}	A	9.70	5.40	15.0	8.30	20.8	11.8
Max. current	I_{max}	A	33.0	16.5	51.5	25.8	74.5	37.3
Rated voltage	V_{rated}	V	325	345	325	335	310	335
Rated frequency	f_{rated}	Hz	200	90	185	80	200	90
Moment of inertia	J	kgcm²	8.10	8.10	14.2	14.2	23.4	23.4
Efficiency	η		0.92	0.84	0.93	0.87	0.92	0.88
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	1.10	2.19	1.39	2.74	1.29	2.57
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	62.77	126.13	74.6	149.6	74.5	148.62
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	1	4	0.52	2.08	0.4	1.2
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	1.507	6.028	0.784	3.135	0.603	1.808
Stator inductance	L	mH	12.5	49.8	8.53	34.1	5.51	22.0
Weight	m	kg	15.2	15.2	20.2	20.2	24.7	24.7



Motor			MCS 14P26-	MCS 14P11-	MCS 19F29-	MCS 19F12-	MCS 19J29-	MCS 19P29-
Standstill torque	M_0	Nm	43.5	43.5	41.5	41.5	70.5	86.0
Rated torque	M_{rated}	Nm	33.0	42.0	32.5	38.0	50.5	53.0
Max. torque	M_{max}	Nm	105	105	86.0	86.0	129	190
Rated speed	n_{rated}	rpm	2625	1050	2850	1200	2850	2850
Max. speed	n_{max}	rpm	6000	6000	4000	4000	4000	4000
Rated power	P_{rated}	kW	9.1	4.6	9.7	4.8	15.1	15.8
Standstill current	I_0	A	28.3	14.1	24.5	12.2	40.6	44.7
Rated current	I_{rated}	A	21.9	13.4	20.1	11.3	31.0	29.5
Max. current	I_{max}	A	92.0	46.0	62.5	31.3	89.6	120
Rated voltage	V_{rated}	V	325	330	320	320	315	315
Rated frequency	f_{rated}	Hz	175	70	190	80	190	190
Moment of inertia	J	kgcm²	34.7	34.7	65.0	65.0	105	160
Efficiency	η		0.92	0.86	0.95	0.9	0.93	0.93
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	1.54	3.09	1.69	3.40	1.74	1.92
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	87.41	175.02	95.04	190.66	97.29	105.6
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	0.28	1.2	0.32	1.3	0.16	0.14
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	0.422	1.808	0.482	1.959	0.241	0.211
Stator inductance	L	mH	5.99	23.9	5.20	20.8	3.20	2.40
Weight	m	kg	29.7	29.7	30	30	37	47



Motor			MCS 19J12-	MCS 19P12-
Standstill torque	M_0	Nm	70.5	86.0
Rated torque	M_{rated}	Nm	62.5	72.0
Max. torque	M_{max}	Nm	129	190
Rated speed	n_{rated}	rpm	1200	1200
Max. speed	n_{max}	rpm	4000	4000
Rated power	P_{rated}	kW	7.9	9
Standstill current	I_0	A	20.3	22.4
Rated current	I_{rated}	A	18.3	21.3
Max. current	I_{max}	A	44.8	60.0
Rated voltage	V_{rated}	V	320	310
Rated frequency	f_{rated}	Hz	80	80
Moment of inertia	J	kgcm²	105	160
Efficiency	η		0.89	0.9
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	3.47	3.84
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	194.57	211.19
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	0.66	0.54
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	0.995	0.814
Stator inductance	L	mH	12.8	9.60
Weight	m	kg	37	47

Inverter mains connection 230 V, Self-ventilated motors

Motor			MCS 06C60L	MCS 06C41L	MCS 06F60L	MCS 06F41L	MCS 06I60L	MCS 06I41L
Standstill torque	M_0	Nm	0.800	0.800	1.50	1.50	2.00	2.00
Rated torque	M_{rated}	Nm	0.500	0.600	0.900	1.20	1.20	1.50
Max. torque	M_{max}	Nm	2.40	2.40	4.40	4.40	6.20	6.20
Rated speed	n_{rated}	rpm	6000	4050	6000	4050	6000	4050
Max. speed	n_{max}	rpm	8000	8000	8000	8000	8000	8000
Rated power	P_{rated}	kW	0.31	0.25	0.57	0.51	0.75	0.64
Standstill current	I_0	A	4.30	2.50	3.80	2.90	4.20	3.10
Rated current	I_{rated}	A	4.00	2.50	3.40	2.90	3.60	2.90
Max. current	I_{max}	A	18.5	10.8	16.5	10.5	16.0	11.8
Rated voltage	V_{rated}	V	85	125	125	165	150	175
Rated frequency	f_{rated}	Hz	400	270	400	270	400	270
Moment of inertia	J	kgcm²	0.140	0.140	0.220	0.220	0.300	0.300
Efficiency	η		0.7	0.65	0.82	0.81	0.84	0.81
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	0.186	0.320	0.395	0.517	0.476	0.645
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	12.22	21.02	21.71	33.73	27.87	37.15
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	2.148	5.926	2.222	5.481	2.519	4.593
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	3.237	8.93	3.349	8.26	3.796	6.922
Stator inductance	L	mH	4.30	12.8	6.90	15.9	9.30	15.1
Weight	m	kg	2.30	2.30	2.70	2.70	3.40	3.40

Motor data

Rated data

Inverter mains connection 230 V, Self-ventilated motors



Motor			MCS 09D60L	MCS 09D41L	MCS 09F60L	MCS 09H60L	MCS 09F38L	MCS 09H41L
Standstill torque	M_0	Nm	3.30	3.30	4.20	5.50	4.20	5.50
Rated torque	M_{rated}	Nm	1.80	2.30	2.40	3.00	3.10	3.80
Max. torque	M_{max}	Nm	9.50	9.50	15.0	20.0	15.0	20.0
Rated speed	n_{rated}	rpm	6000	4050	6000	6000	3750	4050
Max. speed	n_{max}	rpm	7000	7000	7000	7000	7000	7000
Rated power	P_{rated}	kW	1.1	1	1.5	1.9	1.2	1.6
Standstill current	I_0	A	10.3	5.30	10.5	12.0	6.00	8.50
Rated current	I_{rated}	A	7.00	4.60	7.90	8.00	5.00	6.80
Max. current	I_{max}	A	39.0	20.0	52.5	57.0	30.0	40.0
Rated voltage	V_{rated}	V	110	165	125	145	160	160
Rated frequency	f_{rated}	Hz	400	270	400	400	250	270
Moment of inertia	J	kgcm²	1.10	1.10	1.50	1.90	1.50	1.90
Efficiency	η		0.87	0.87	0.9	0.91	0.9	0.91
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	0.320	0.623	0.400	0.458	0.700	0.647
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	17.89	34.81	22.29	26.01	39.01	36.96
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	0.45	1.75	0.415	0.356	1.333	0.889
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	0.678	2.637	0.625	0.536	2.009	1.34
Stator inductance	L	mH	1.70	6.30	2.00	2.00	6.20	4.00
Weight	m	kg	4.90	4.90	5.80	6.70	5.80	6.70



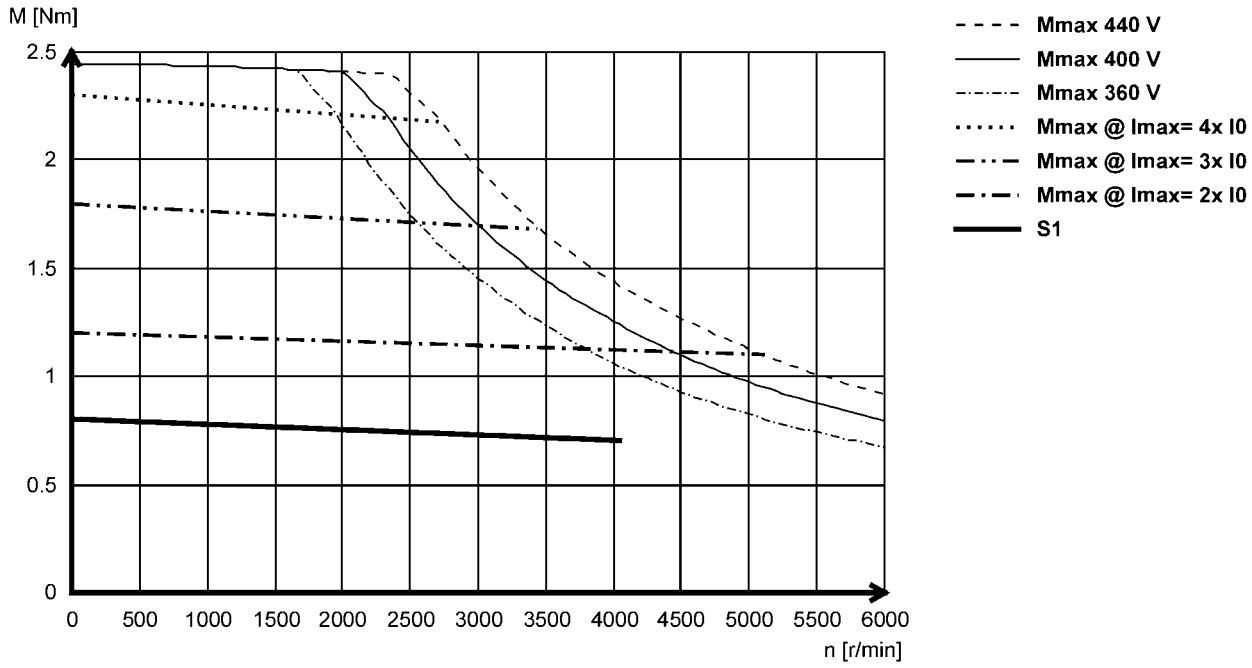
Motor			MCS 09L41L	MCS 12H15L	MCS 12L20L	MCS 12D41L	MCS 12D20L	MCS 12H30L
Standstill torque	M_0	Nm	7.50	11.4	15.0	6.40	6.40	11.4
Rated torque	M_{rated}	Nm	4.50	10.0	13.5	4.30	5.50	8.00
Max. torque	M_{max}	Nm	32.0	29.0	56.0	18.0	18.0	29.0
Rated speed	n_{rated}	rpm	4050	1500	1950	4050	1950	3000
Max. speed	n_{max}	rpm	7000	6000	6000	6000	6000	6000
Rated power	P_{rated}	kW	1.9	1.6	2.8	1.8	1.1	2.5
Standstill current	I_0	A	12.4	8.20	12.4	10.7	5.50	13.5
Rated current	I_{rated}	A	8.40	7.60	11.8	8.80	5.20	10.5
Max. current	I_{max}	A	64.0	24.0	57.0	40.0	20.0	39.0
Rated voltage	V_{rated}	V	145	158	165	155	175	165
Rated frequency	f_{rated}	Hz	270	100	130	270	130	200
Moment of inertia	J	kgcm²	2.80	7.30	10.6	4.00	4.00	7.30
Efficiency	η		0.91	0.86	0.9	0.84	0.85	0.87
Torque constant	$Kt_{0\ 150\ °C}$	Nm/A	0.605	1.39	1.21	0.598	1.16	0.844
Voltage constant	$KE_{LL\ 150\ °C}$	V/(1000/min)	35.1	84.58	75.19	34.22	67.07	51.82
Stator terminal resistance	$R_{UV\ 20\ °C}$	Ω	0.44	1.41	0.548	0.55	2.2	0.489
Stator terminal resistance	$R_{UV\ 150\ °C}$	Ω	0.663	2.125	0.826	0.829	3.315	0.737
Stator inductance	L	mH	2.50	10.5	5.50	3.40	13.0	4.00
Weight	m	kg	8.50	10.2	13.3	7.10	7.10	10.2

Torque characteristics

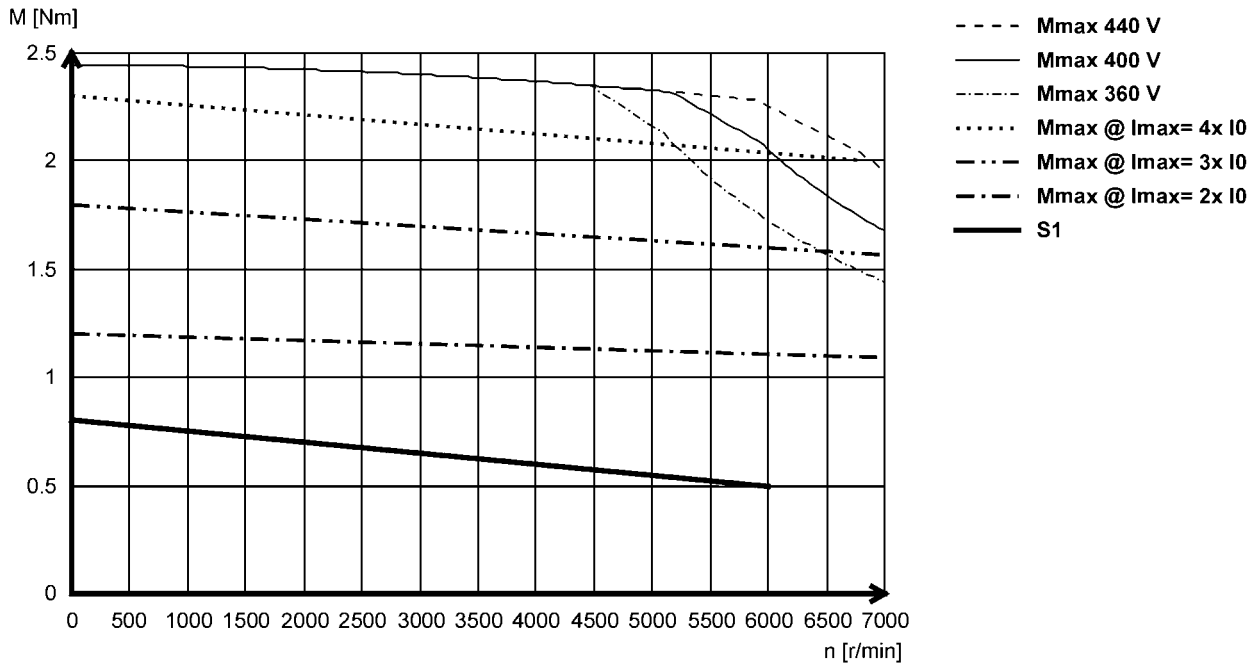
The torque/speed characteristic for your motor/inverter combination can be found on the Internet:
http://www.lenze.com → Product Finder → M-n characteristics

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

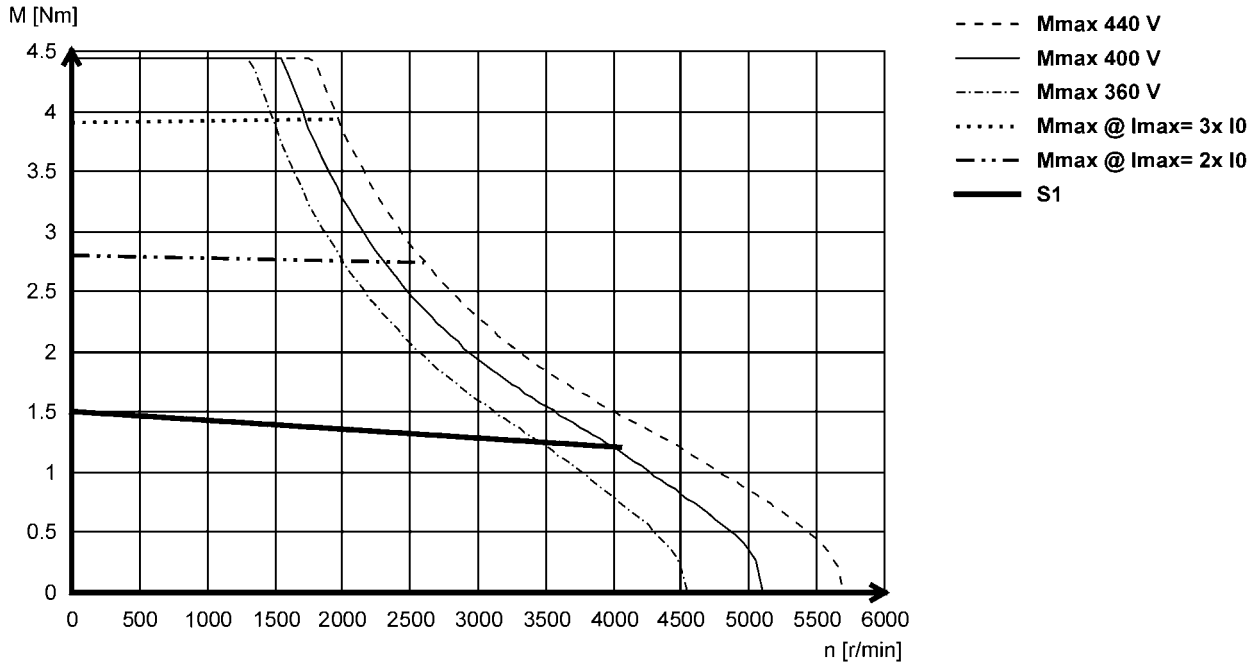
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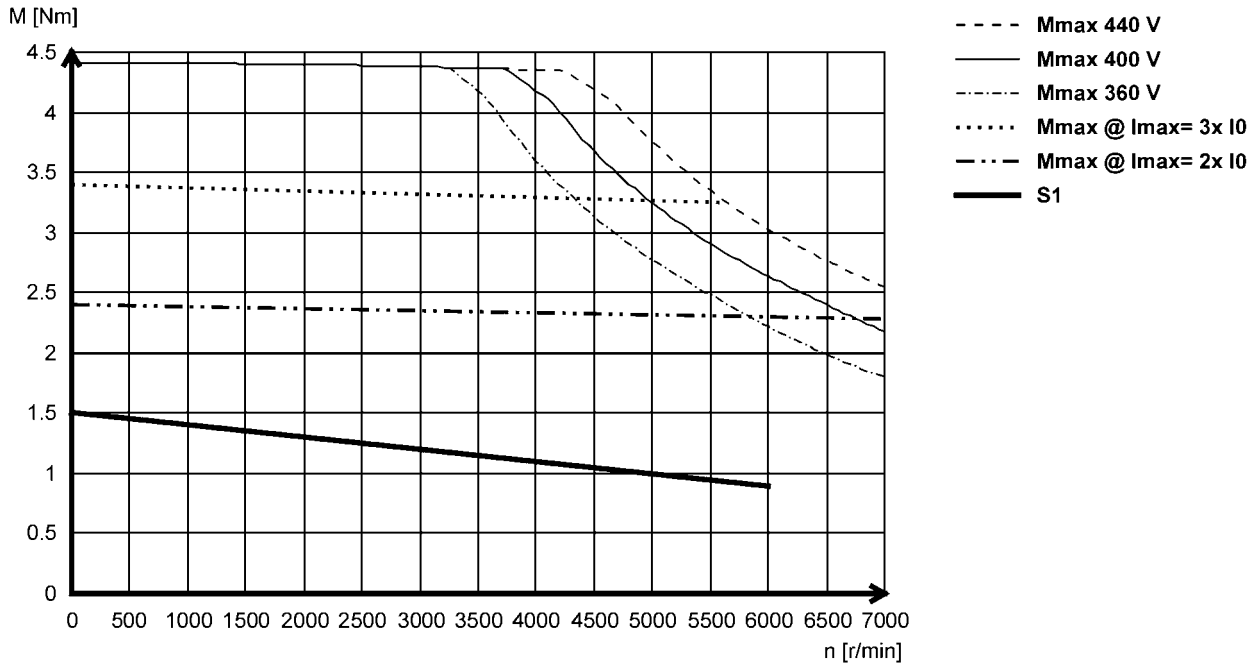
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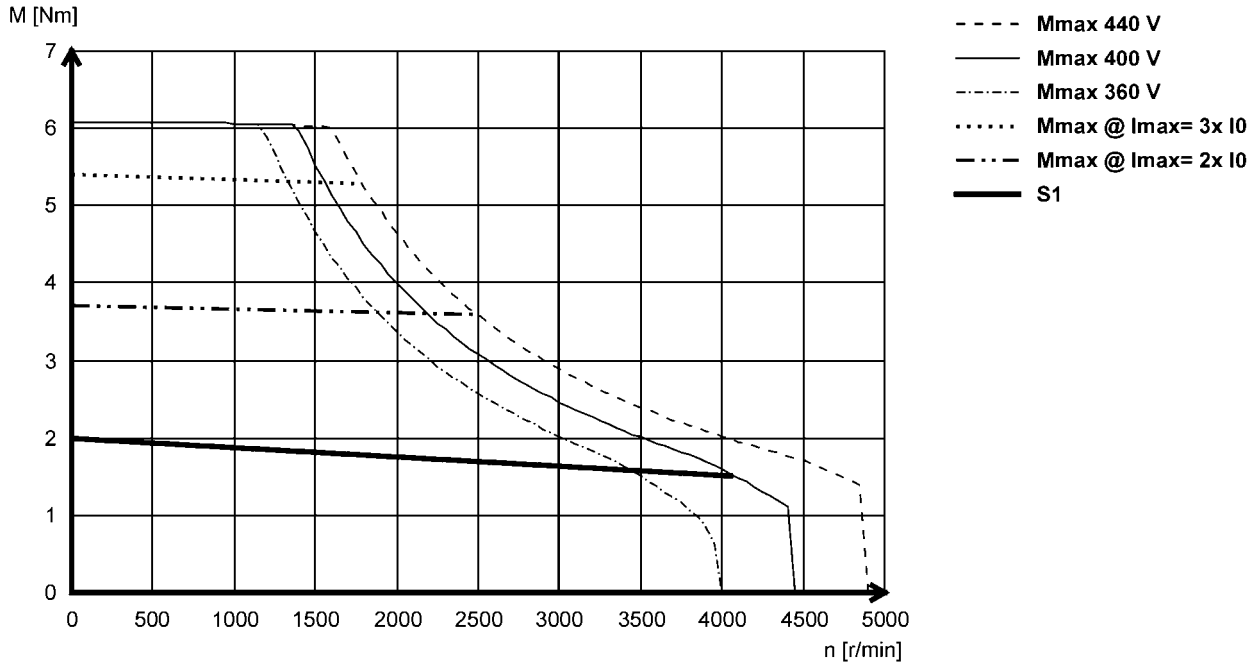
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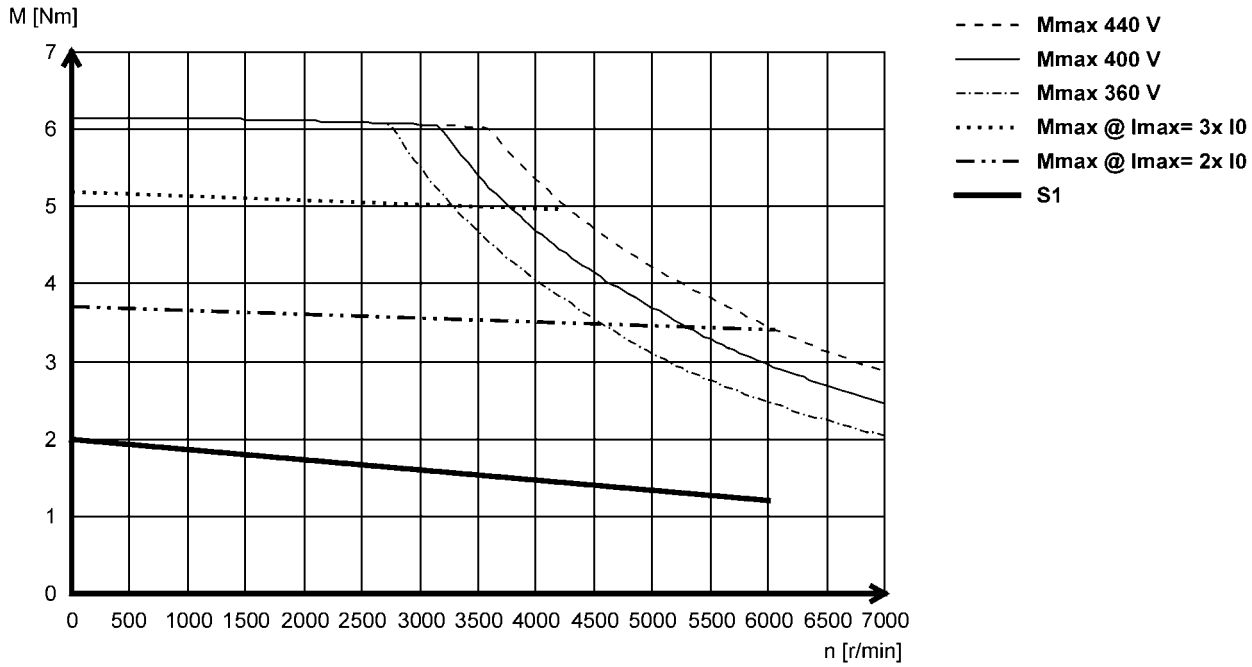
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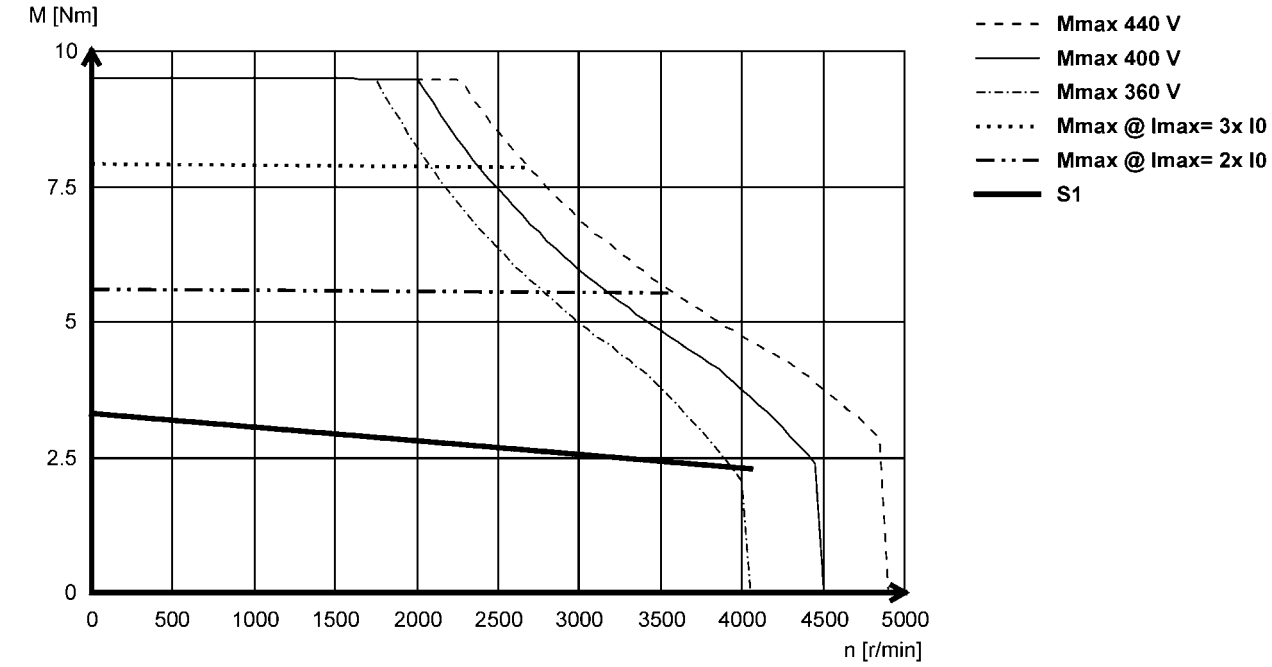
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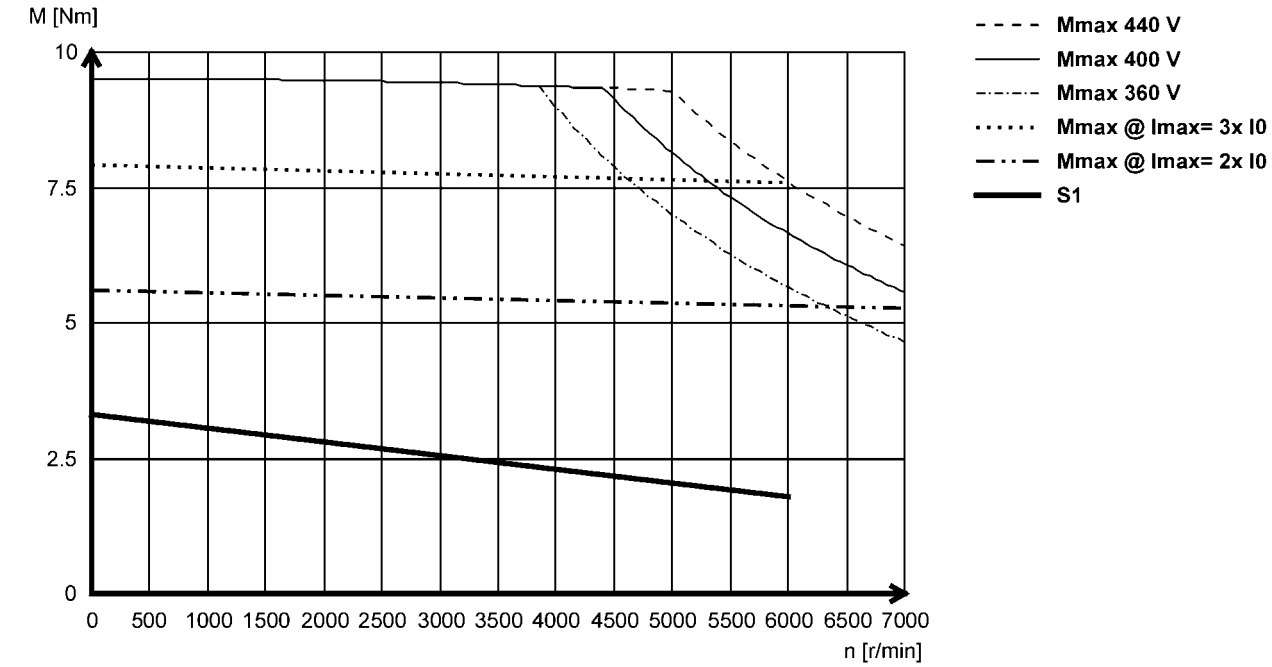
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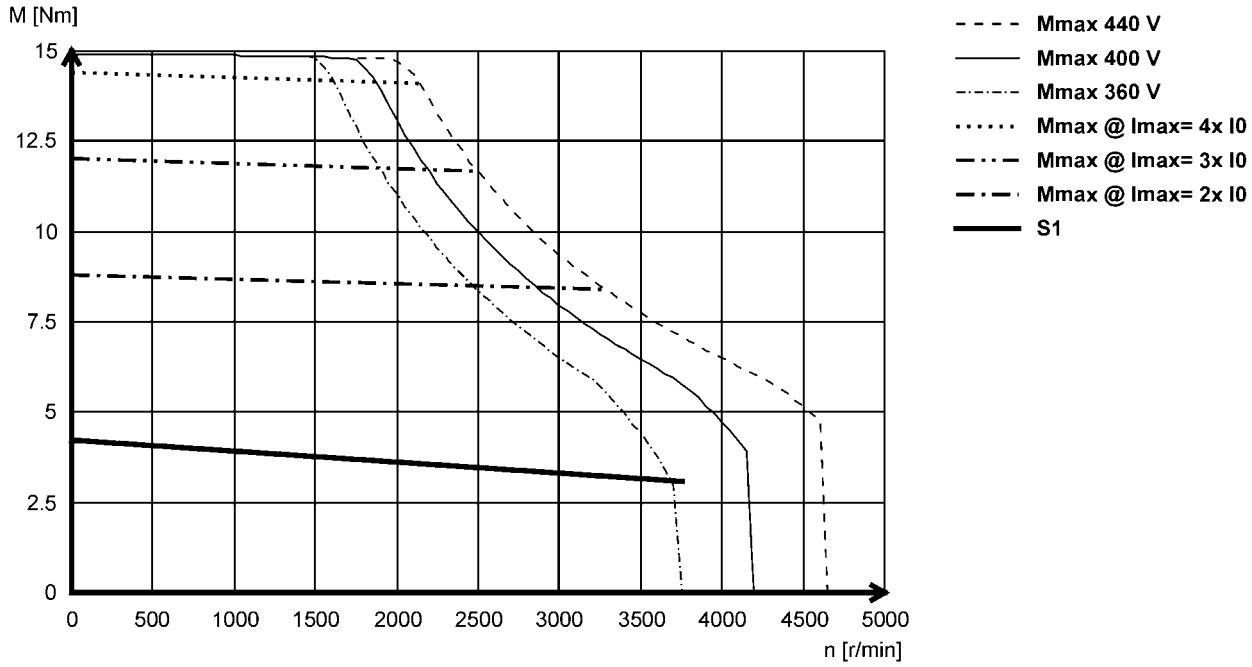
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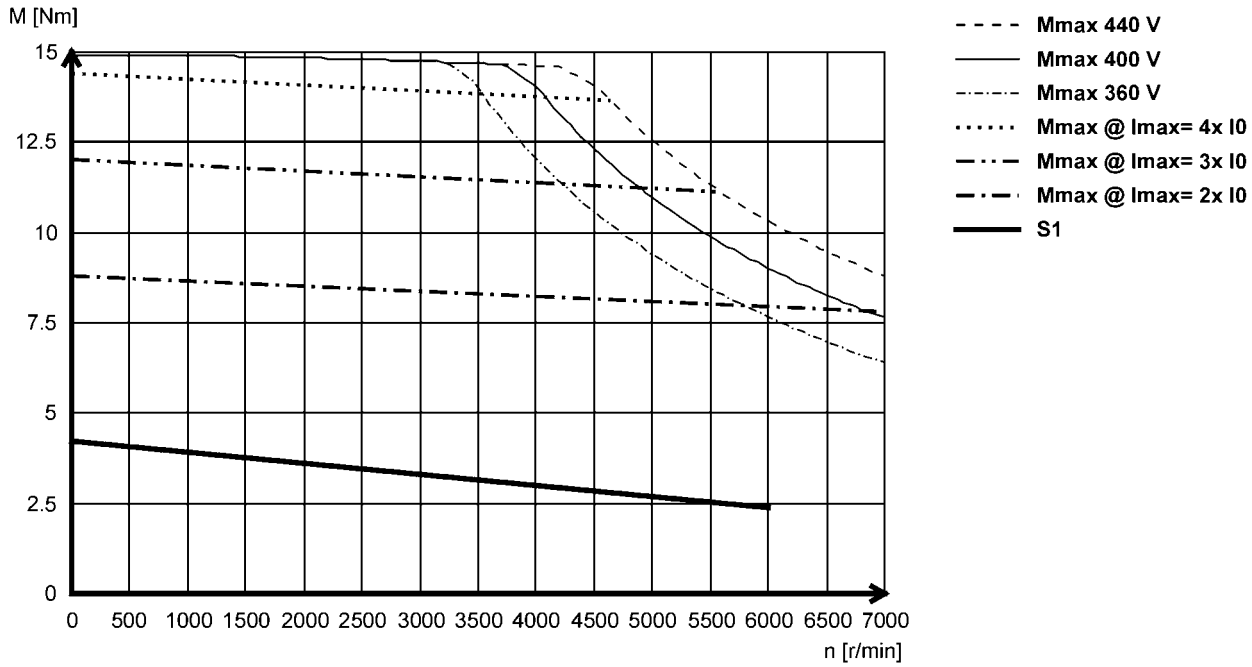
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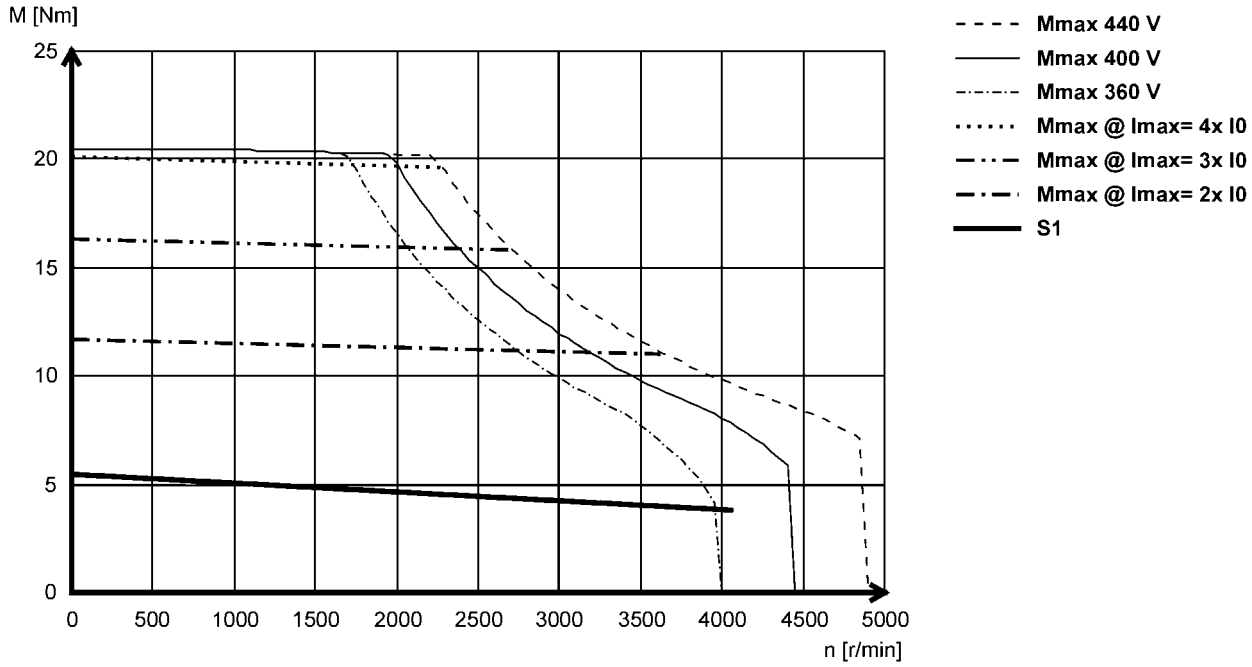
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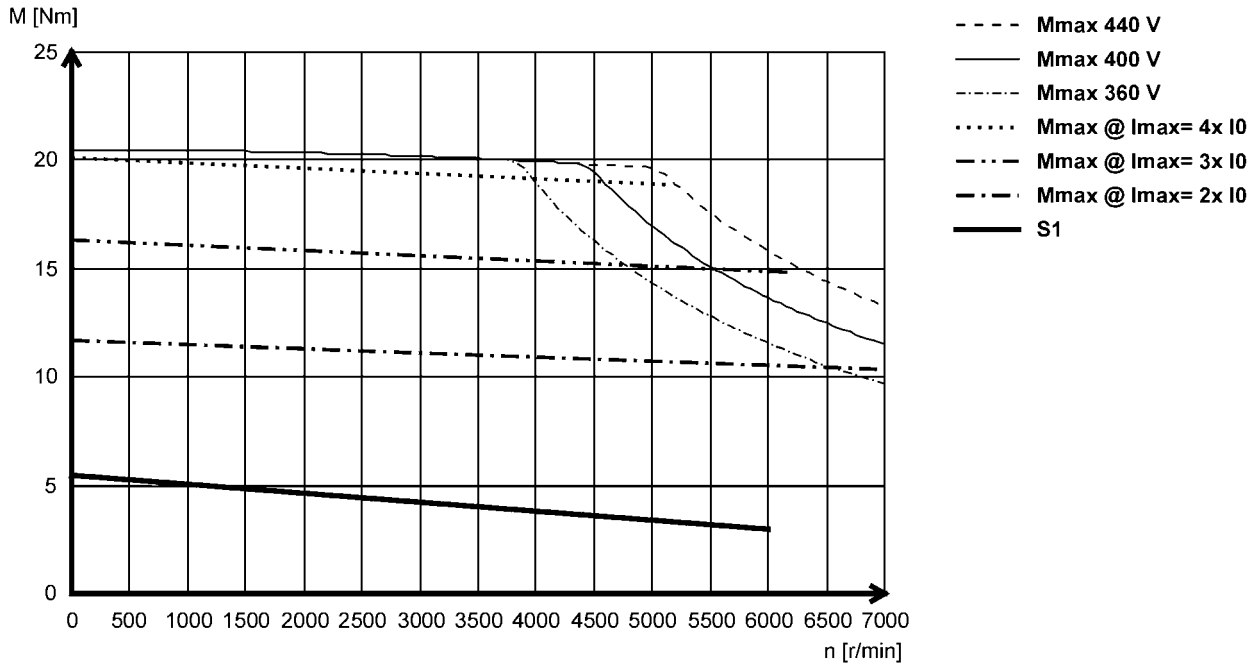
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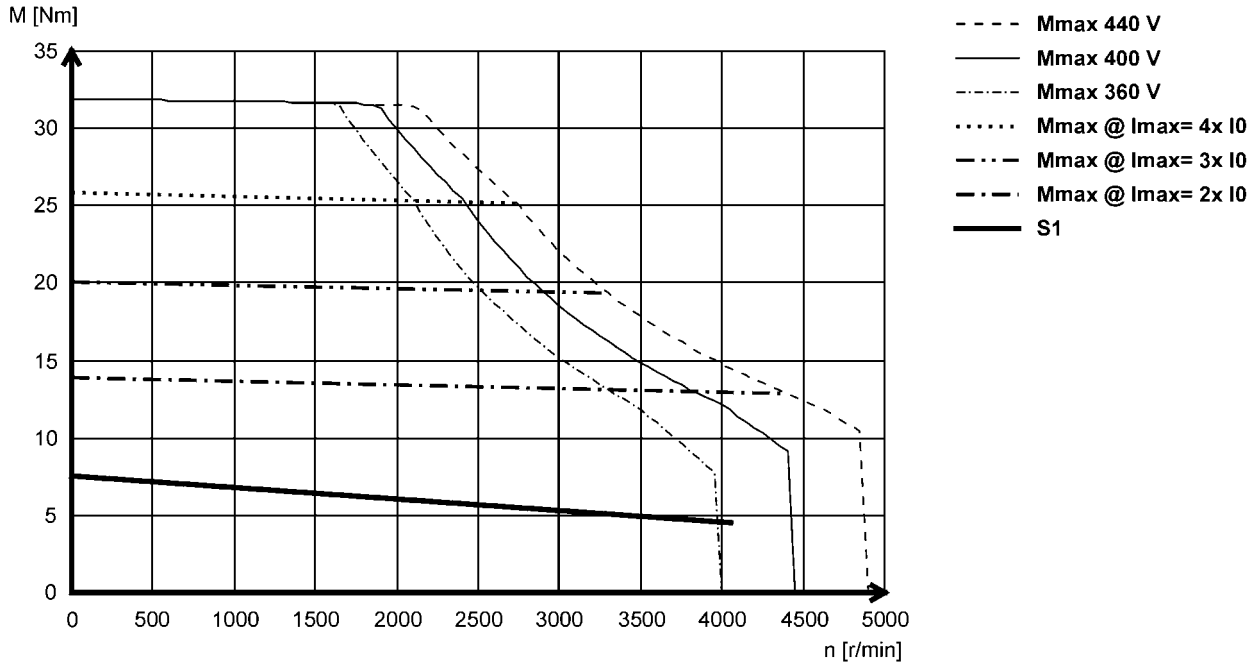
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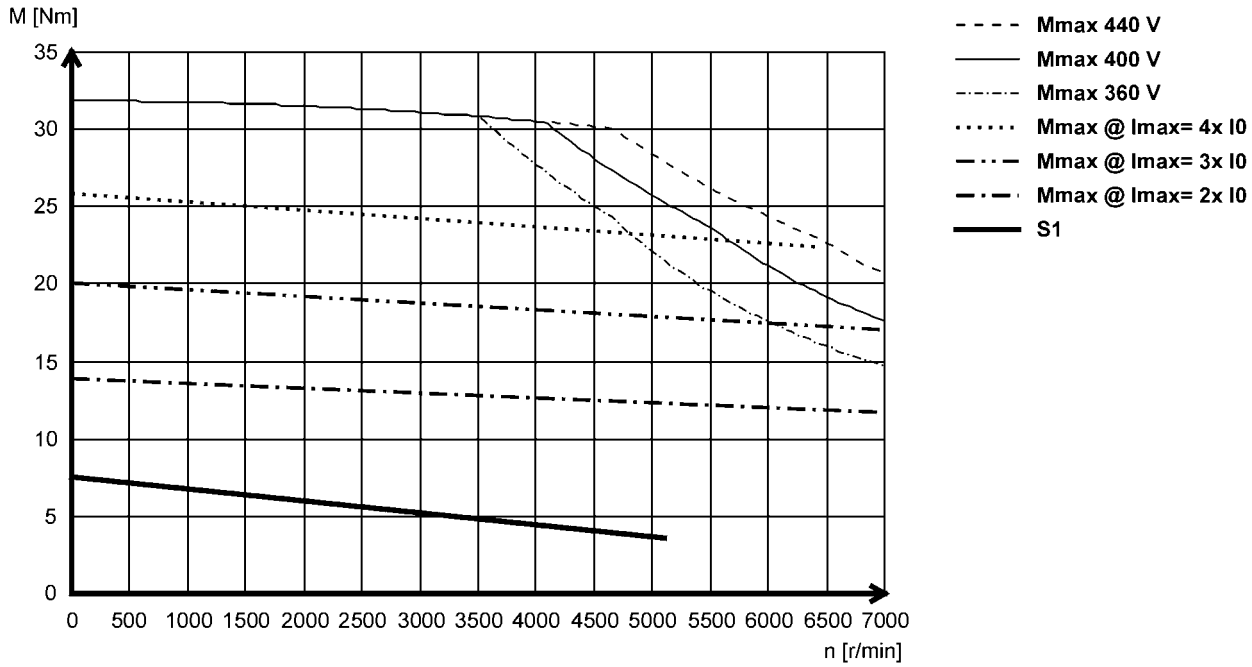
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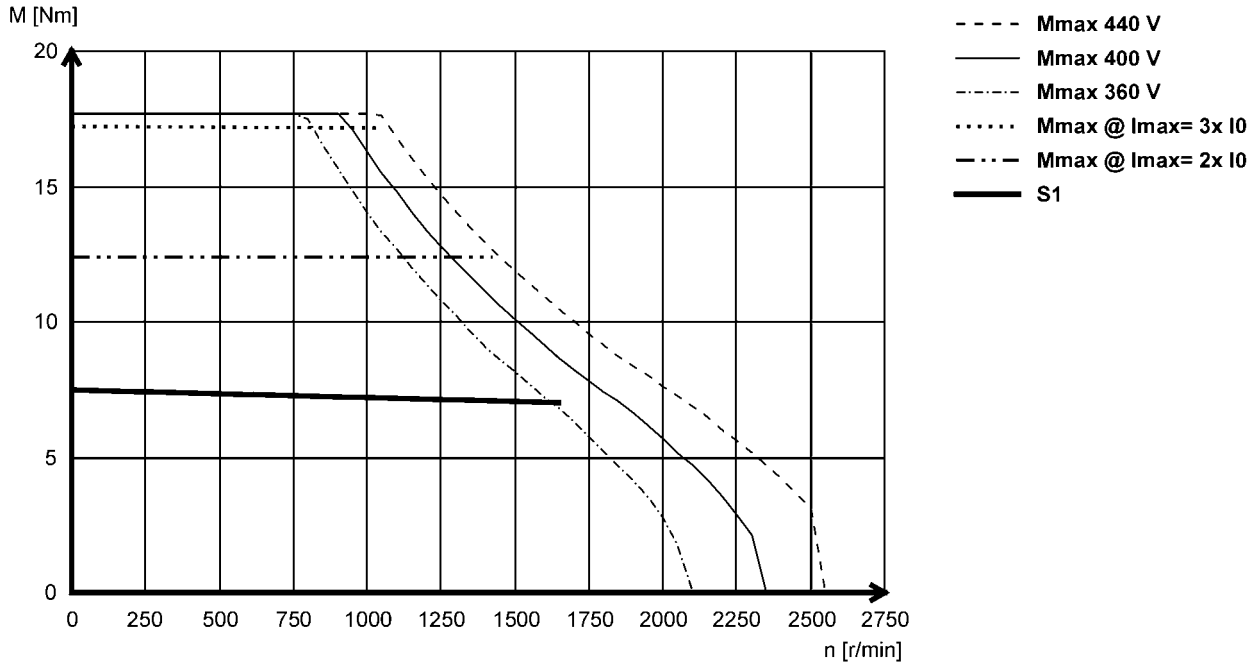
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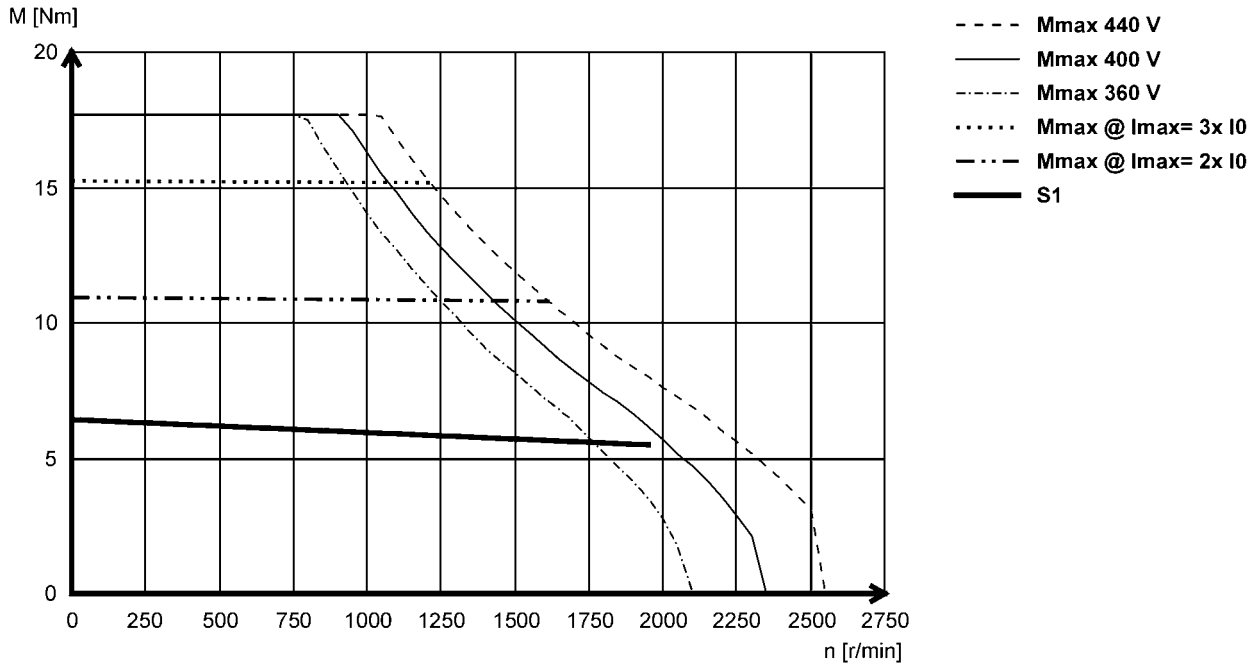
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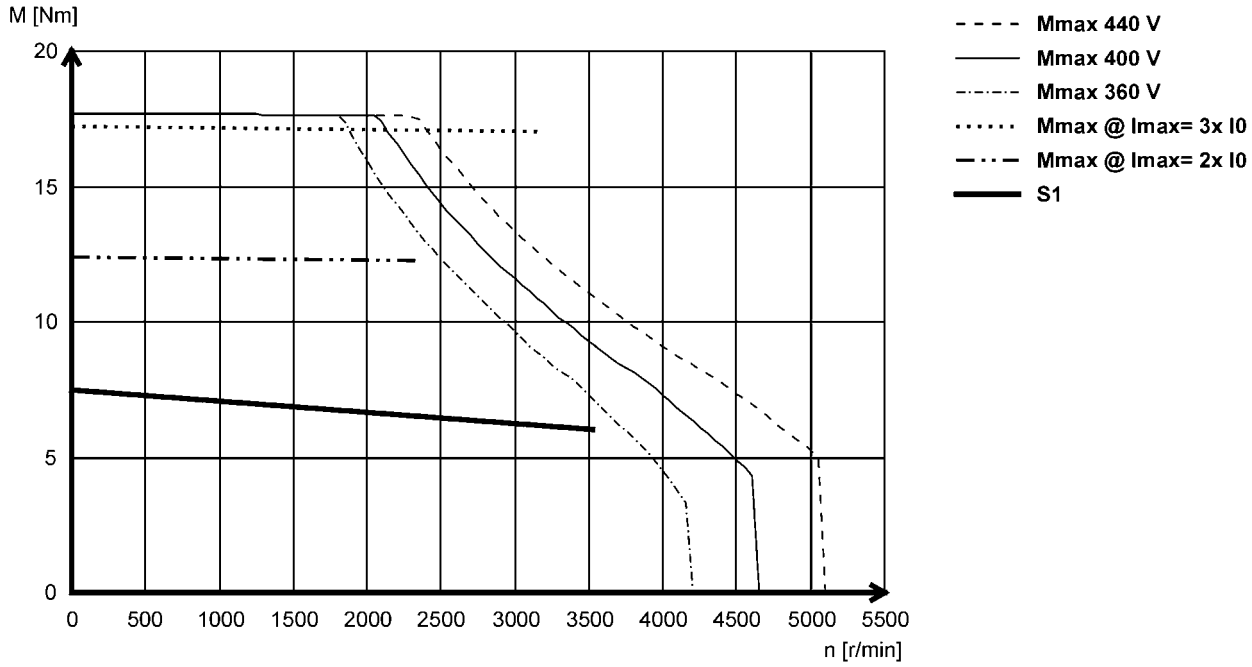
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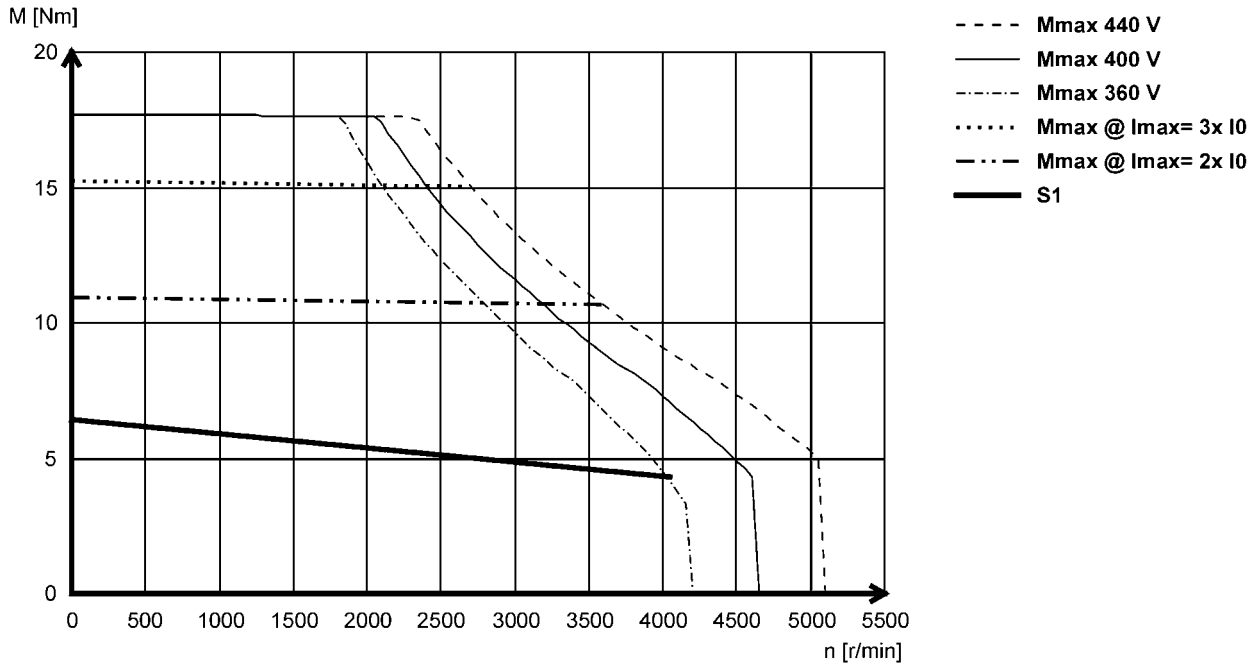
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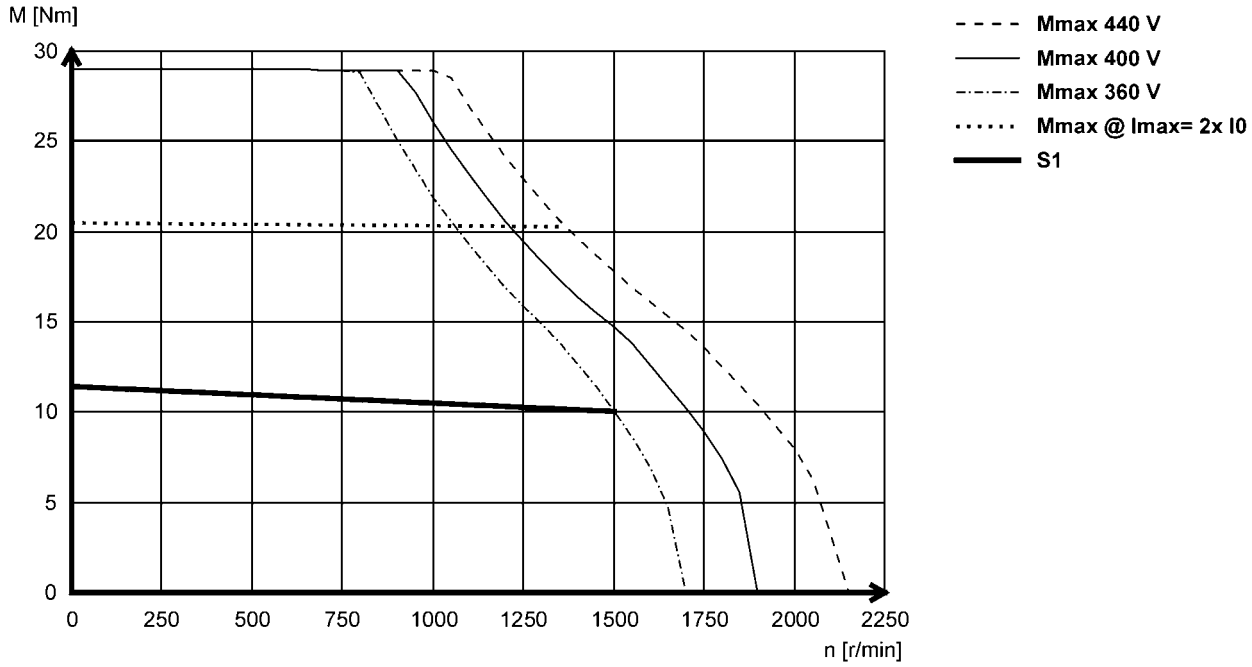
MCS12D35- (forced ventilated)



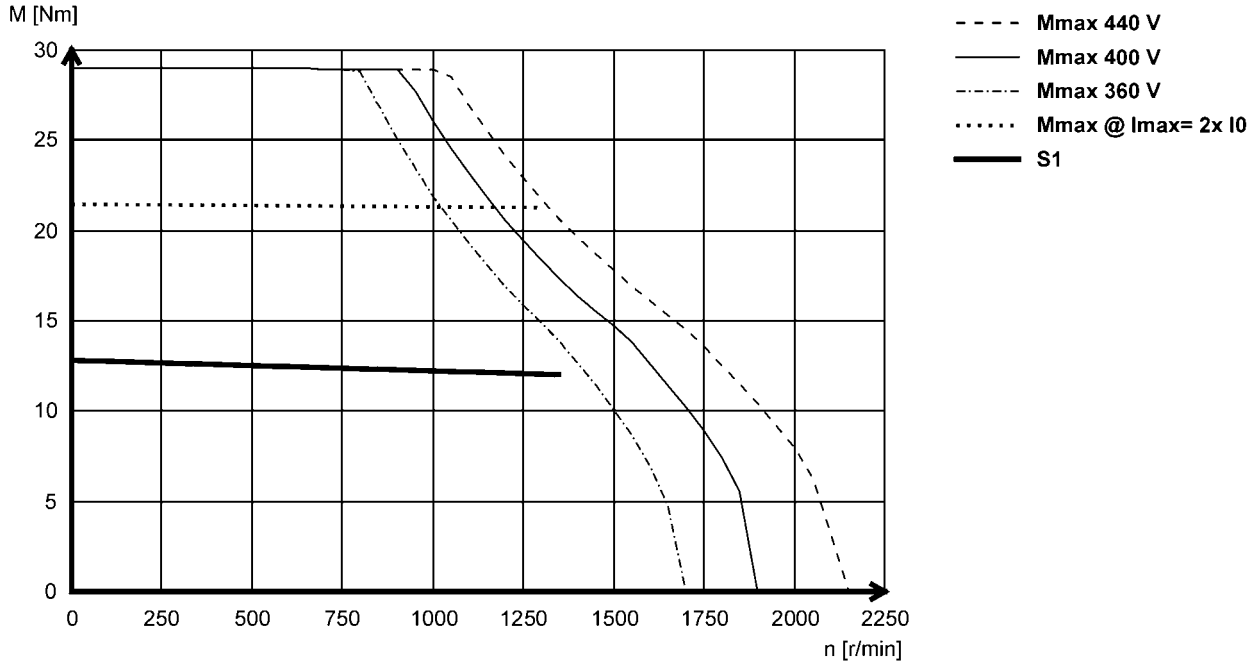
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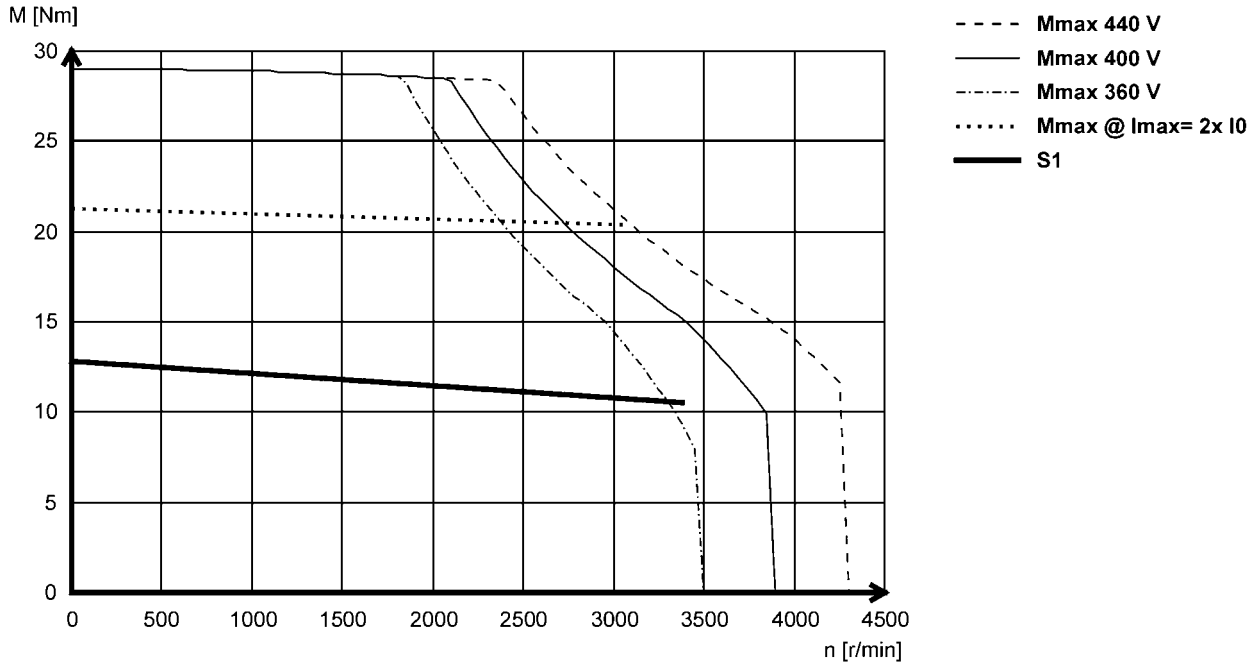
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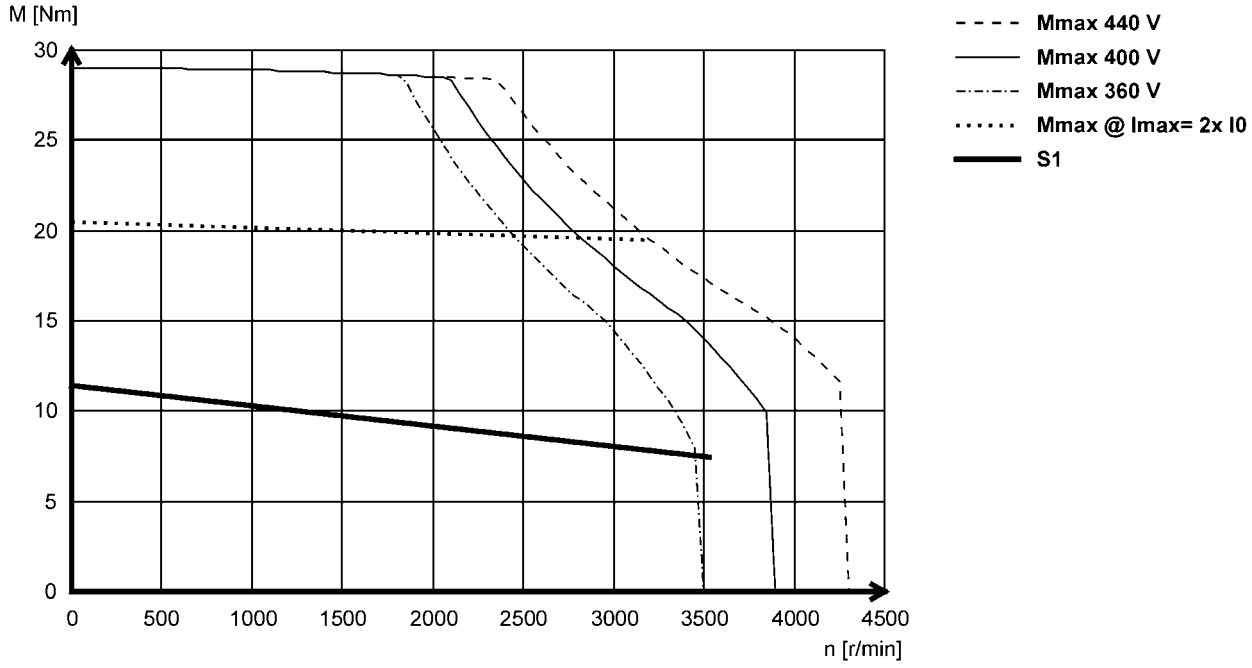
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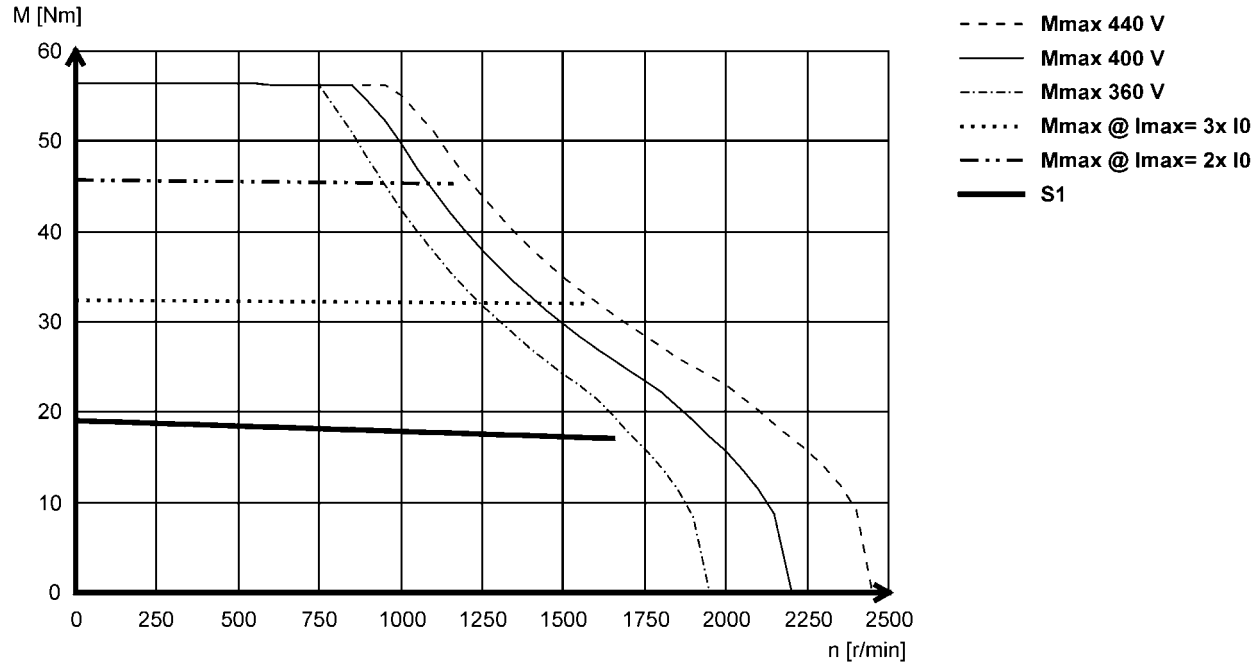
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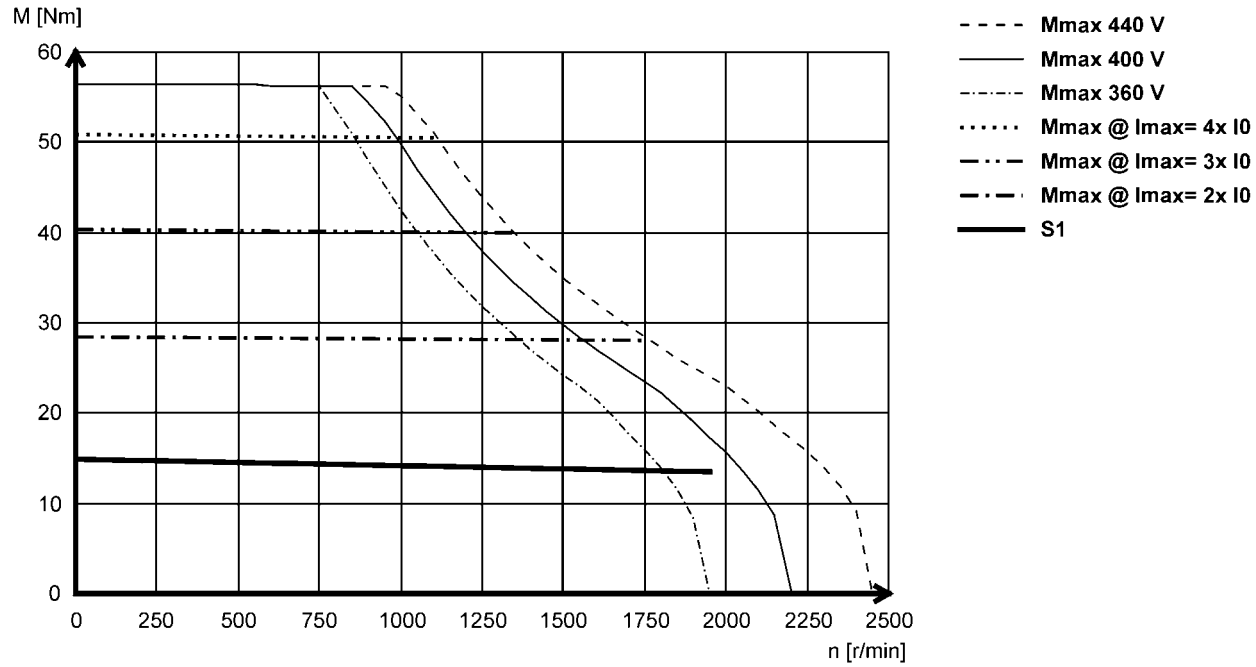
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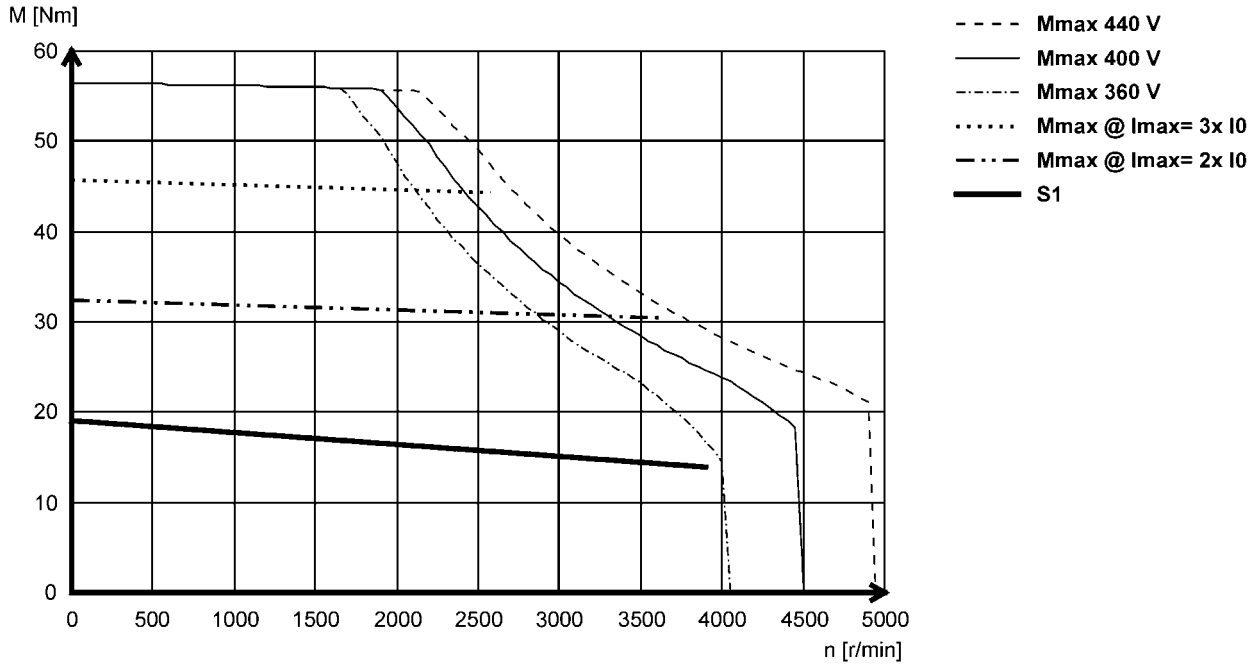
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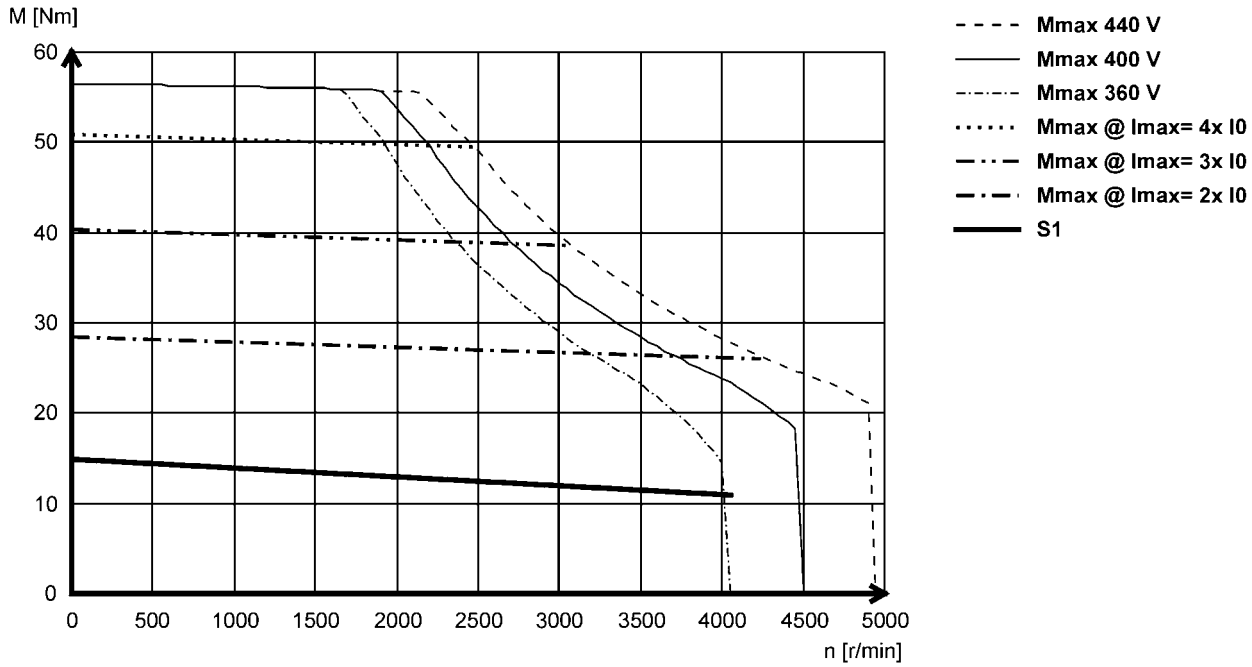
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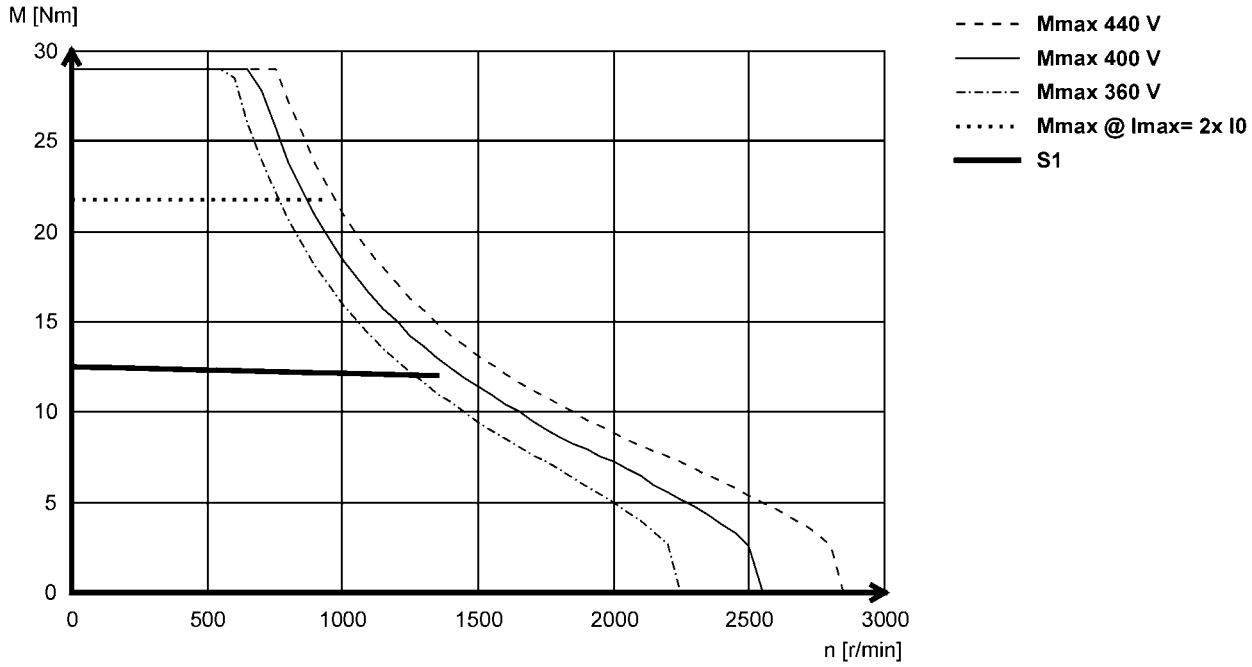
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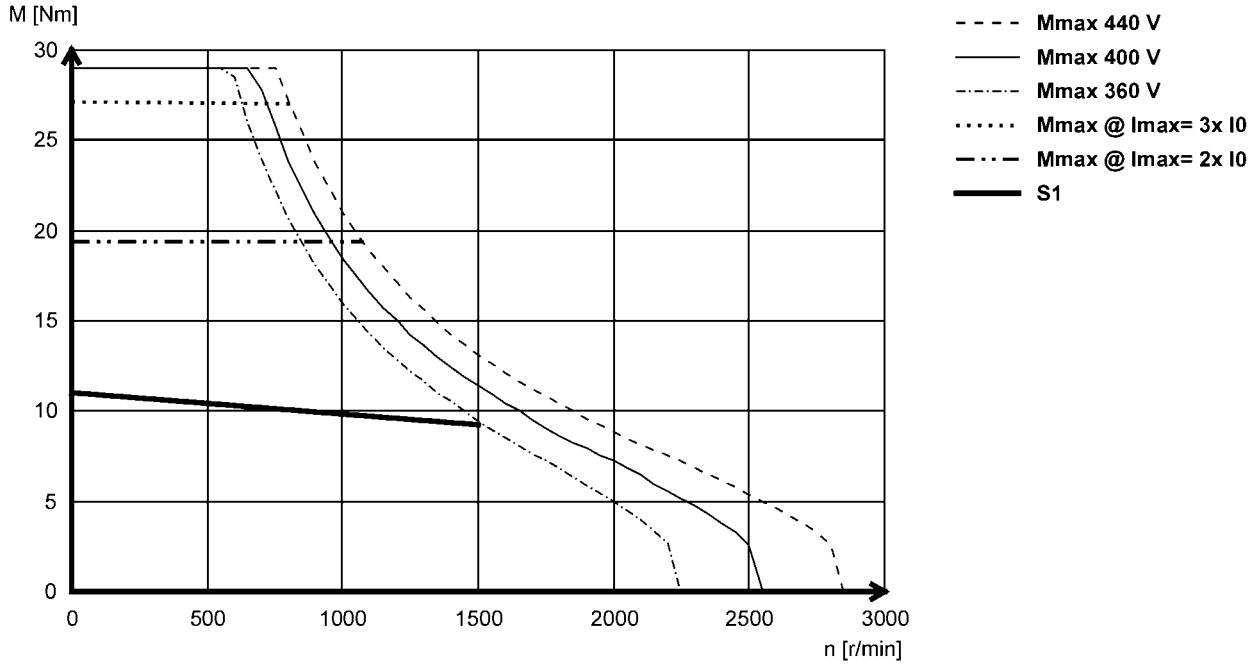
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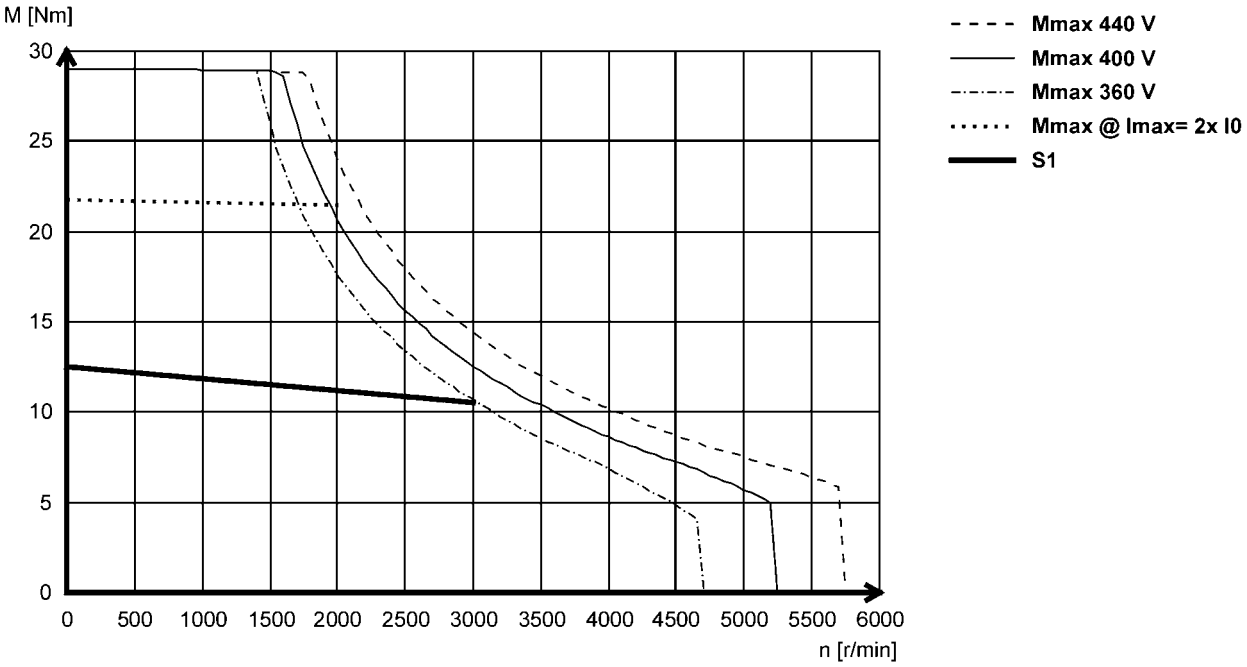
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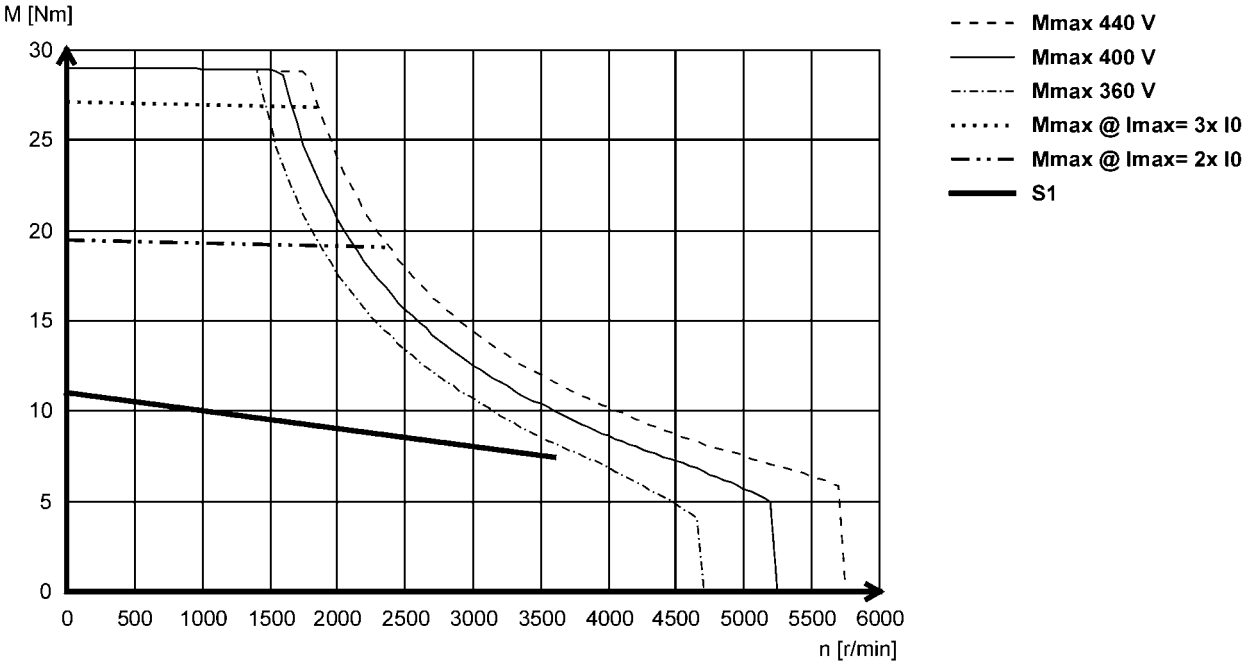
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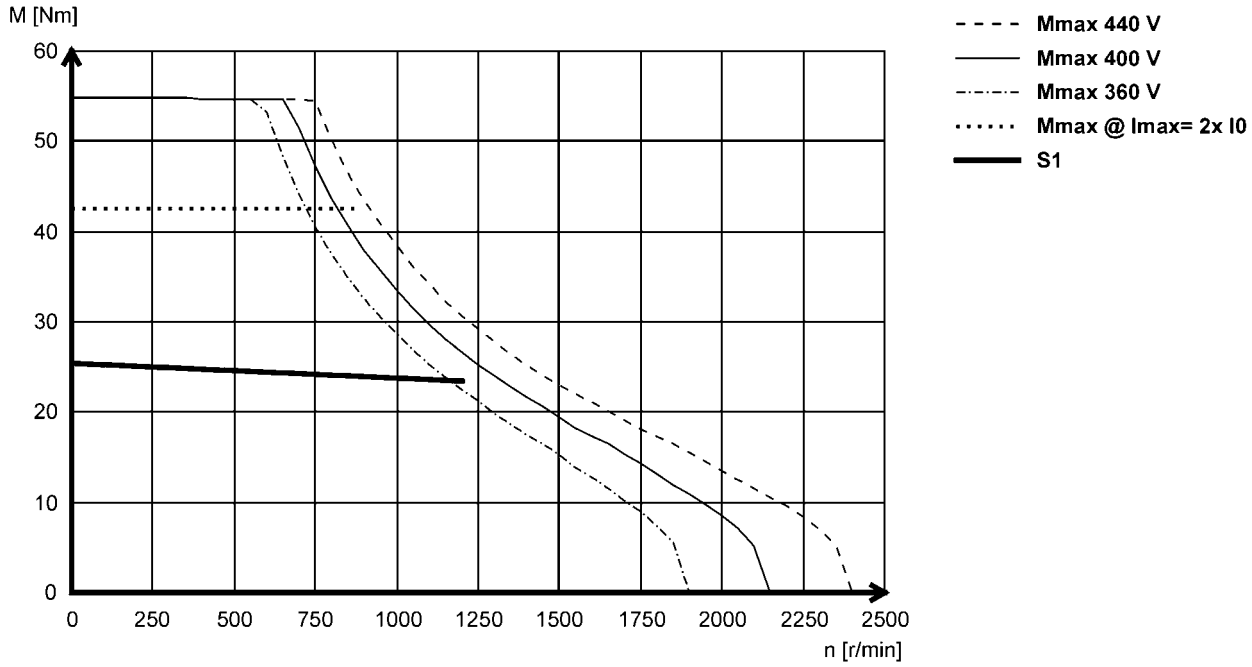
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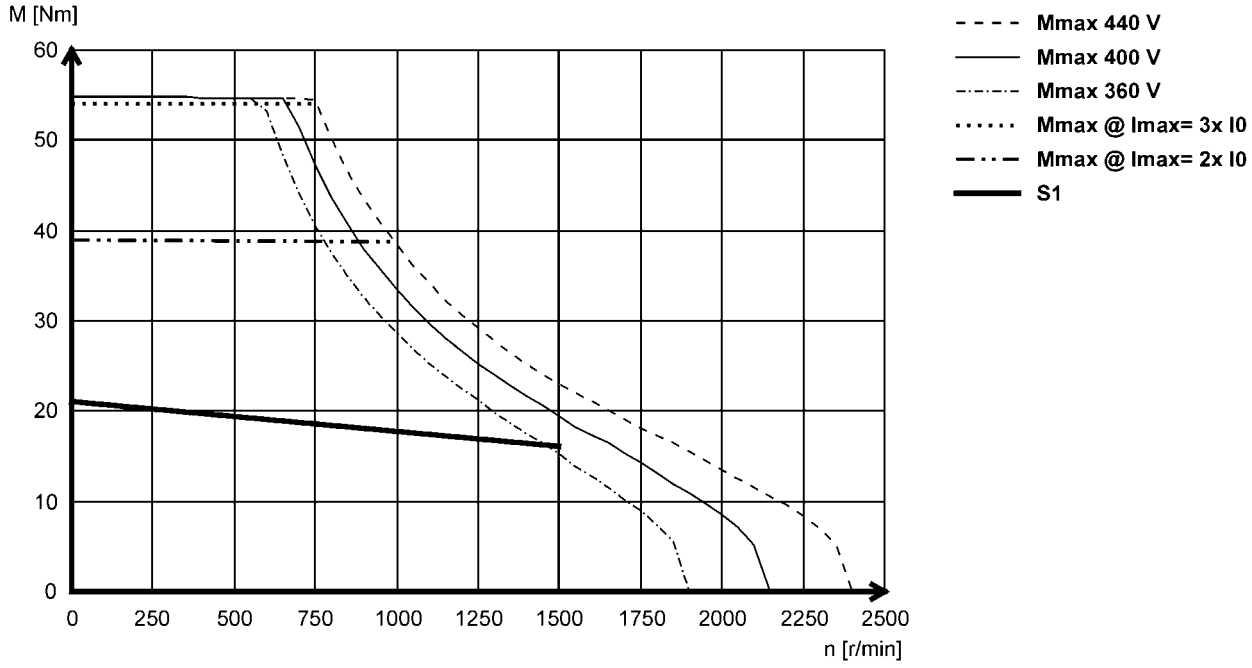
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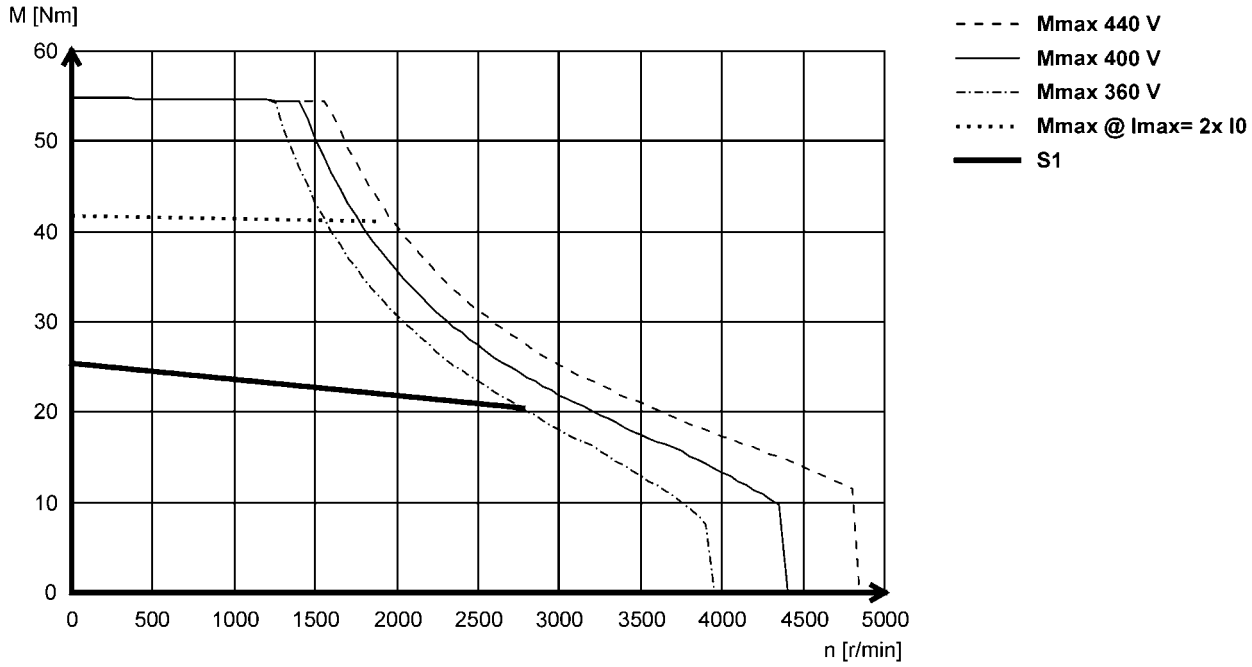
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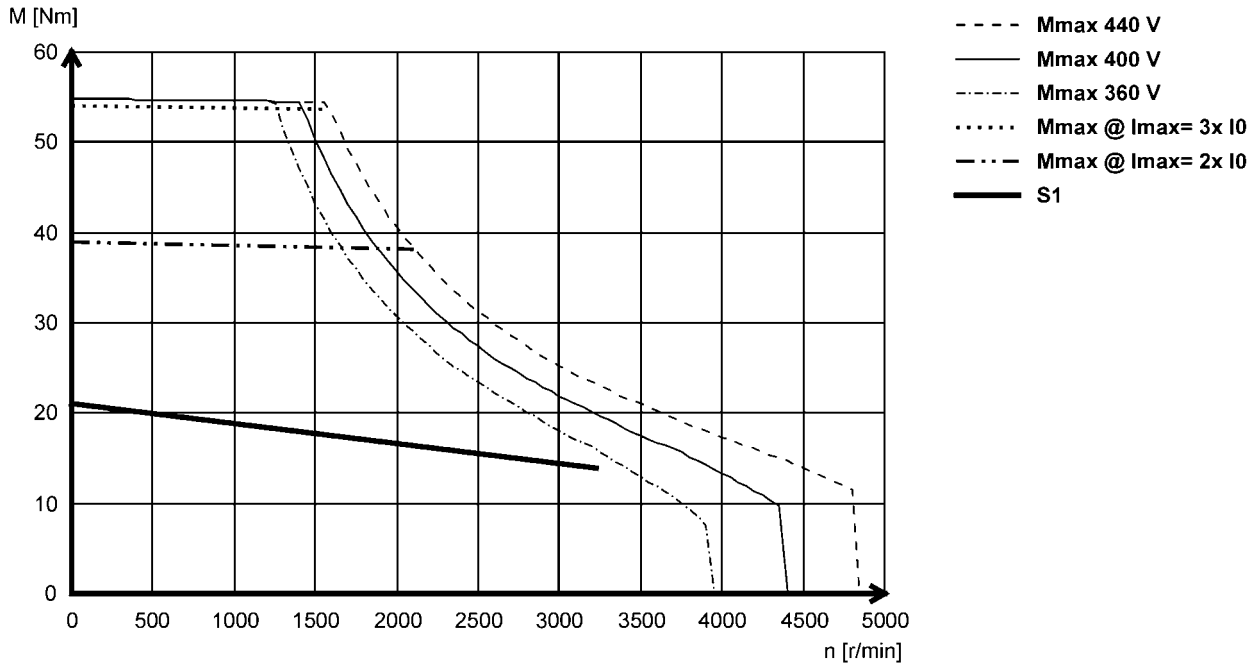
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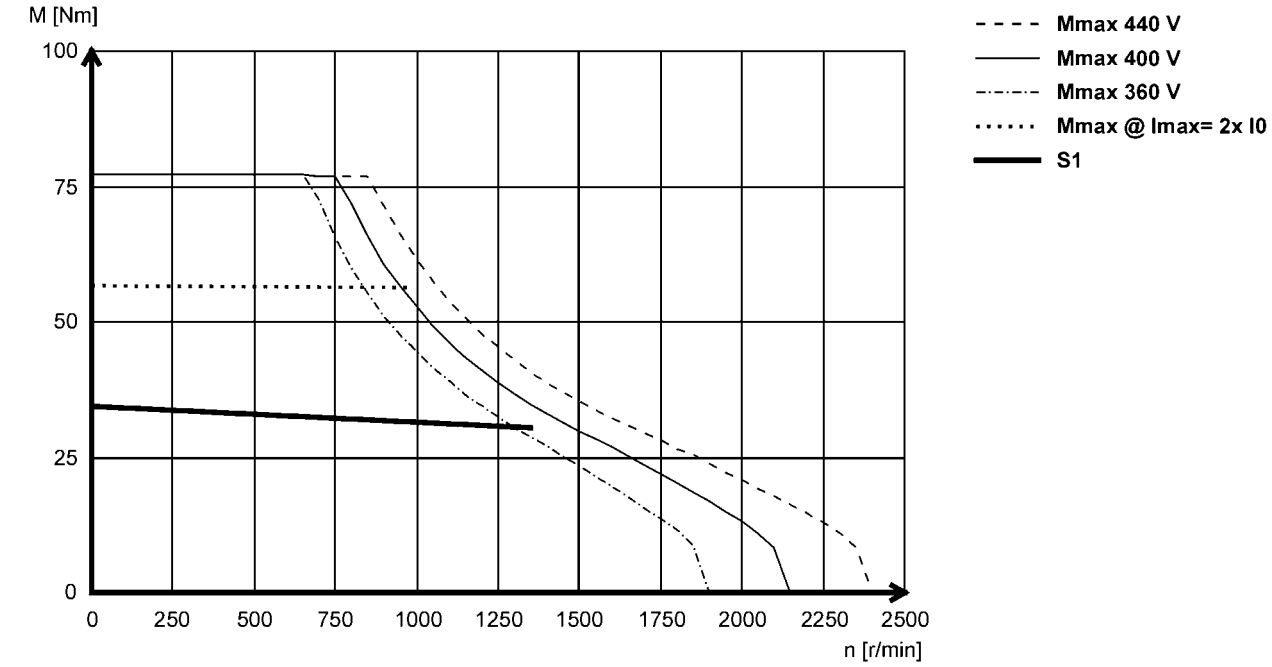
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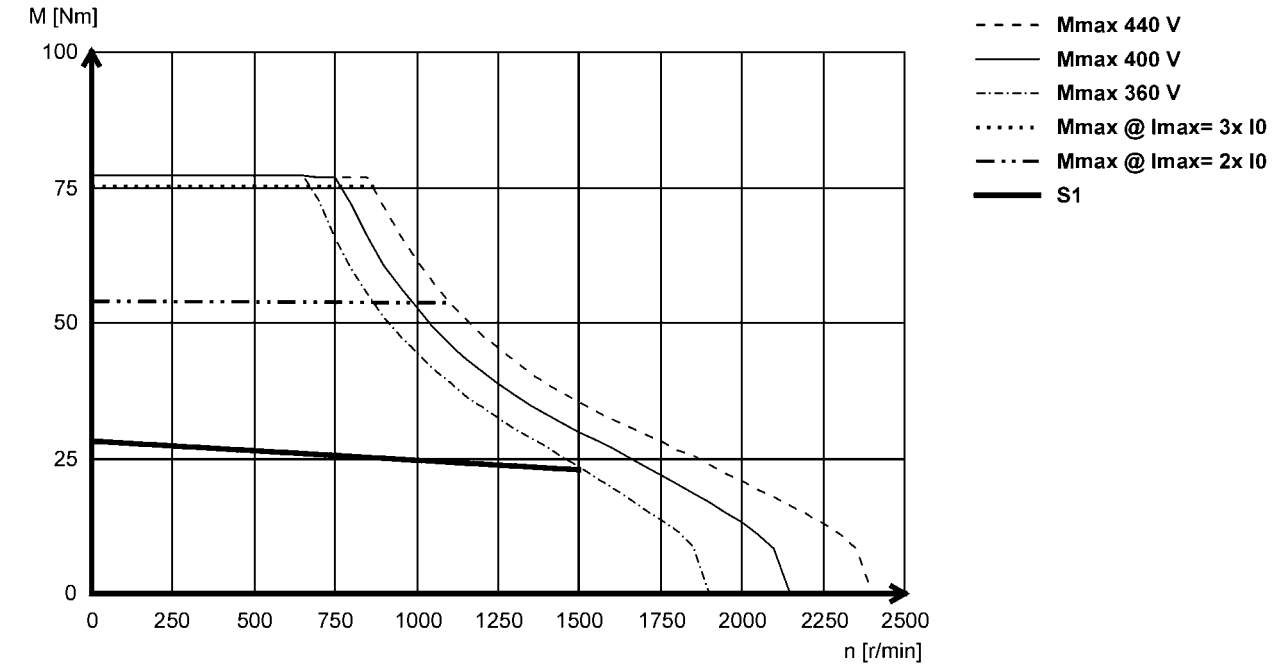
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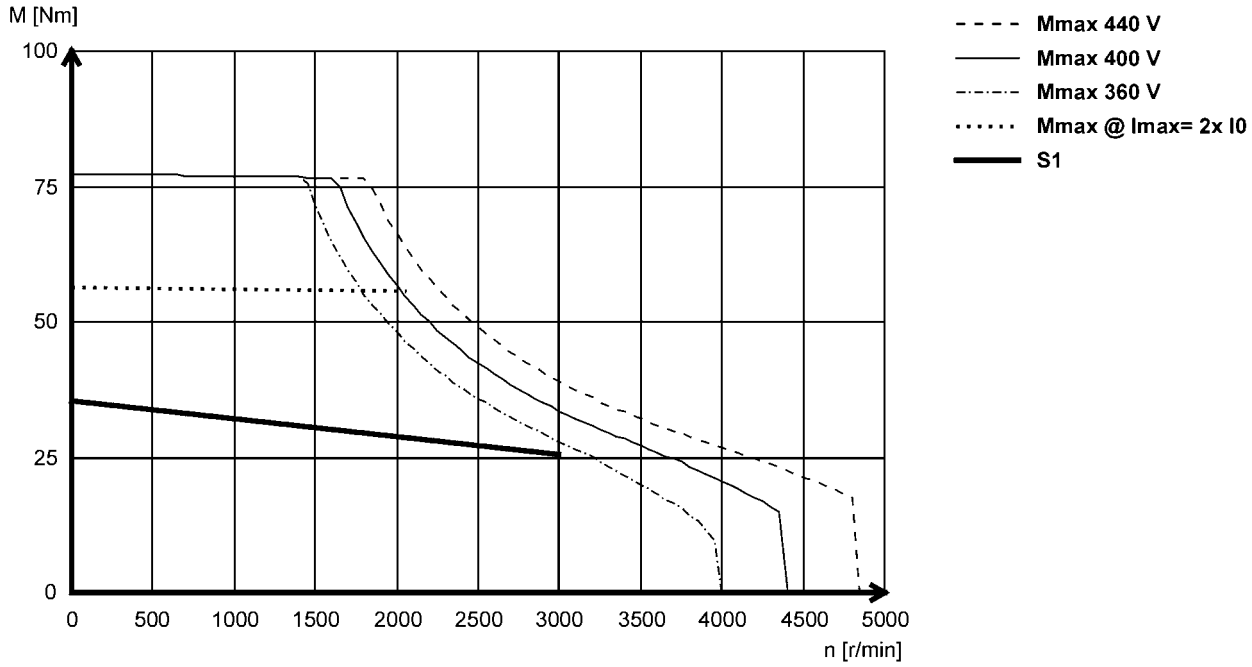
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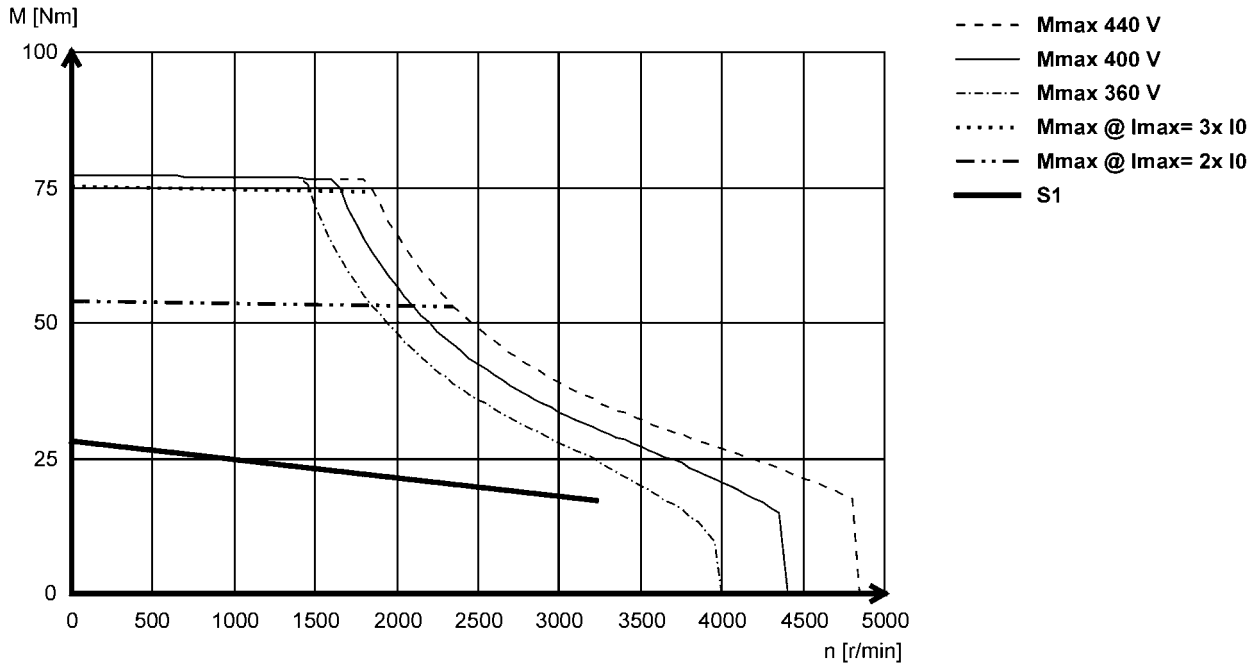
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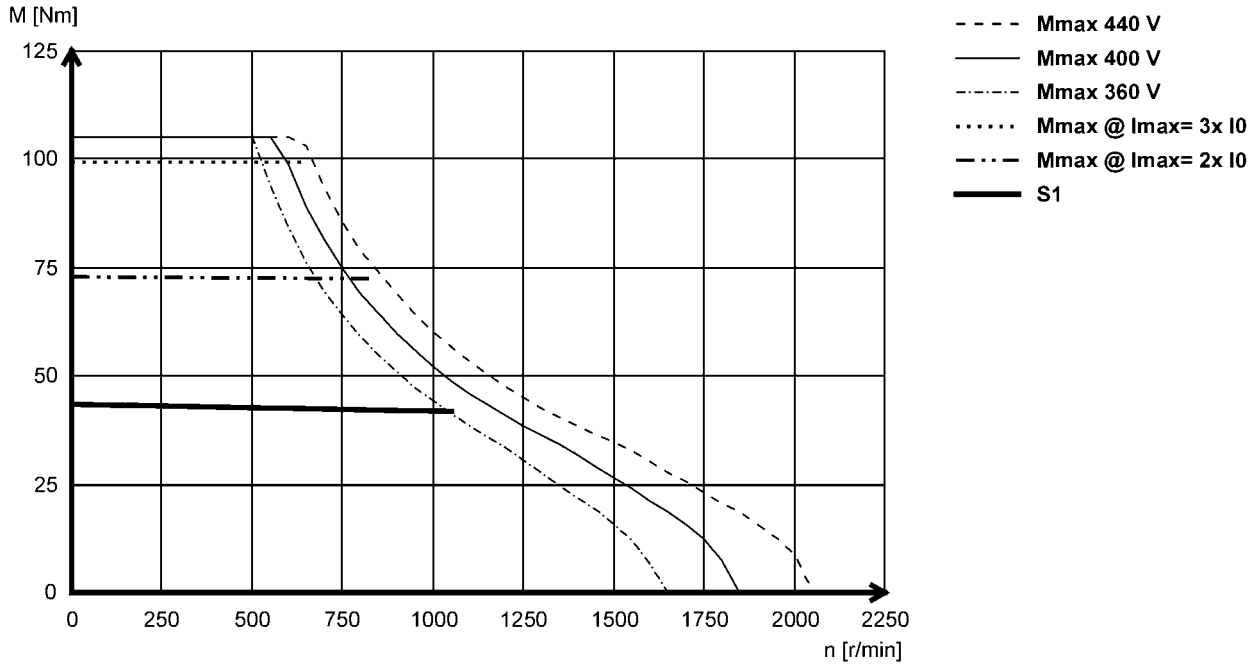
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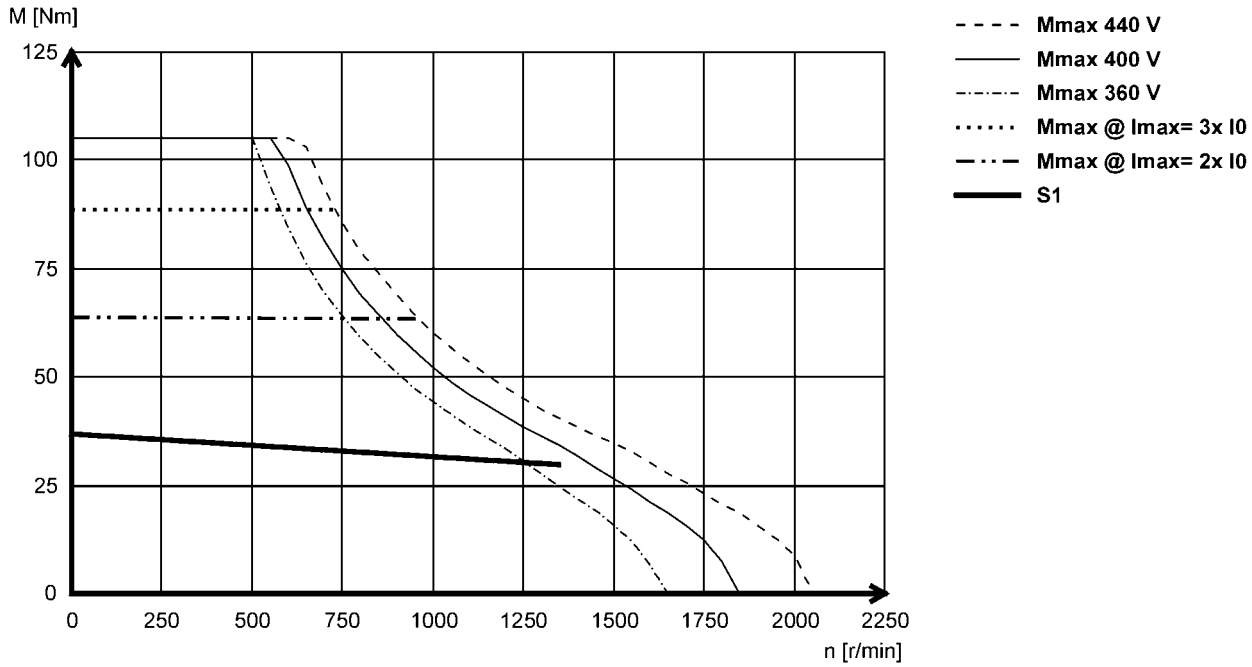
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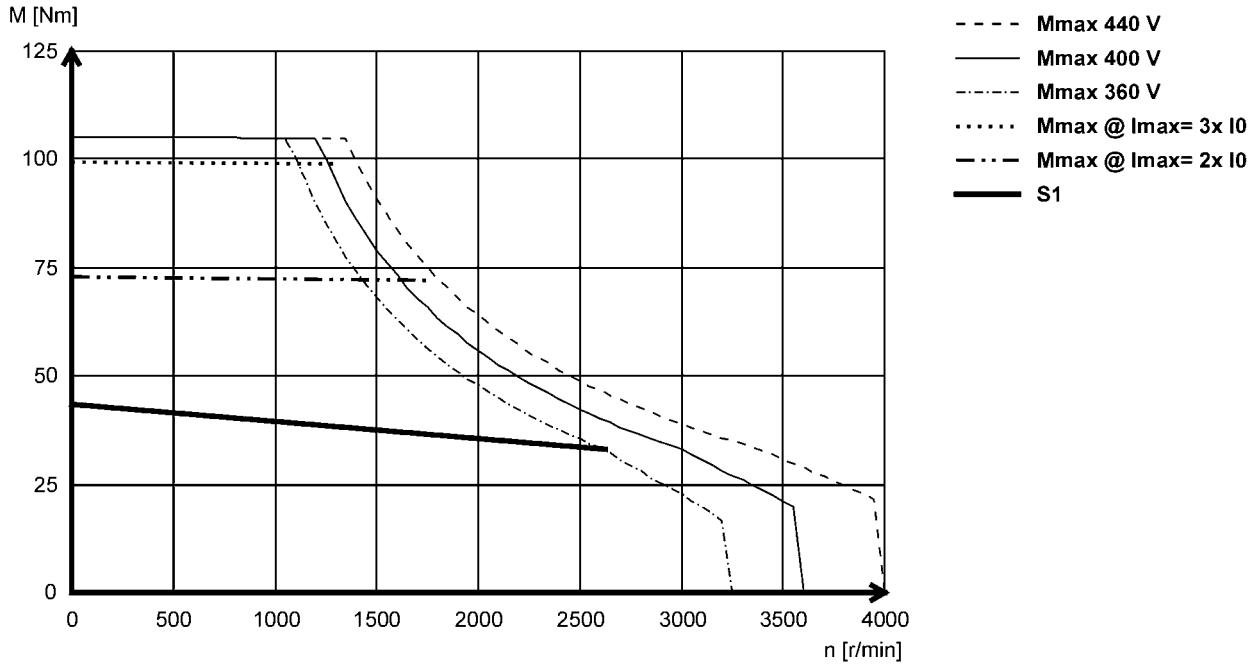
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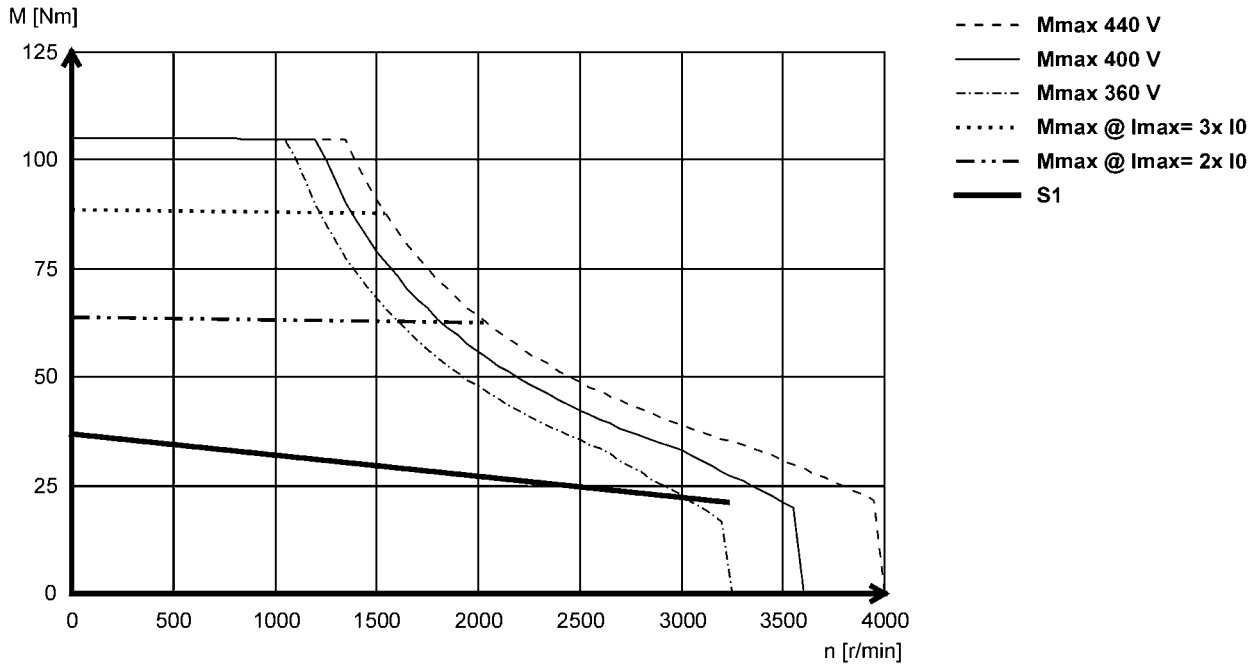
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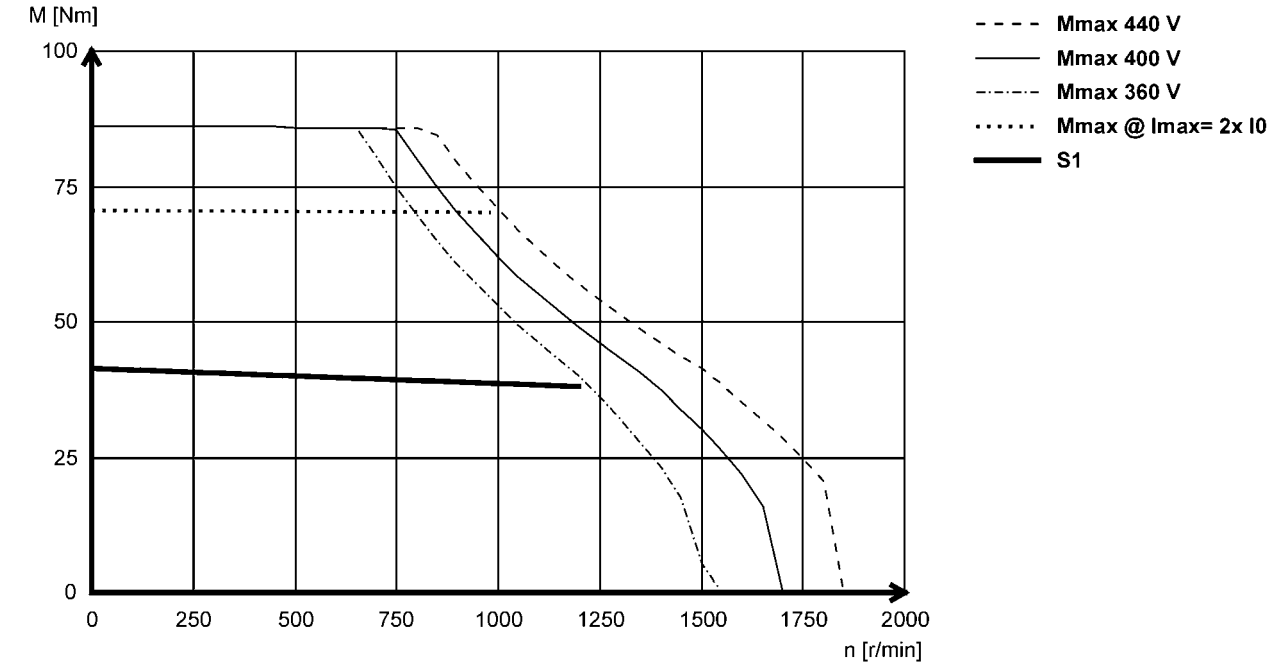
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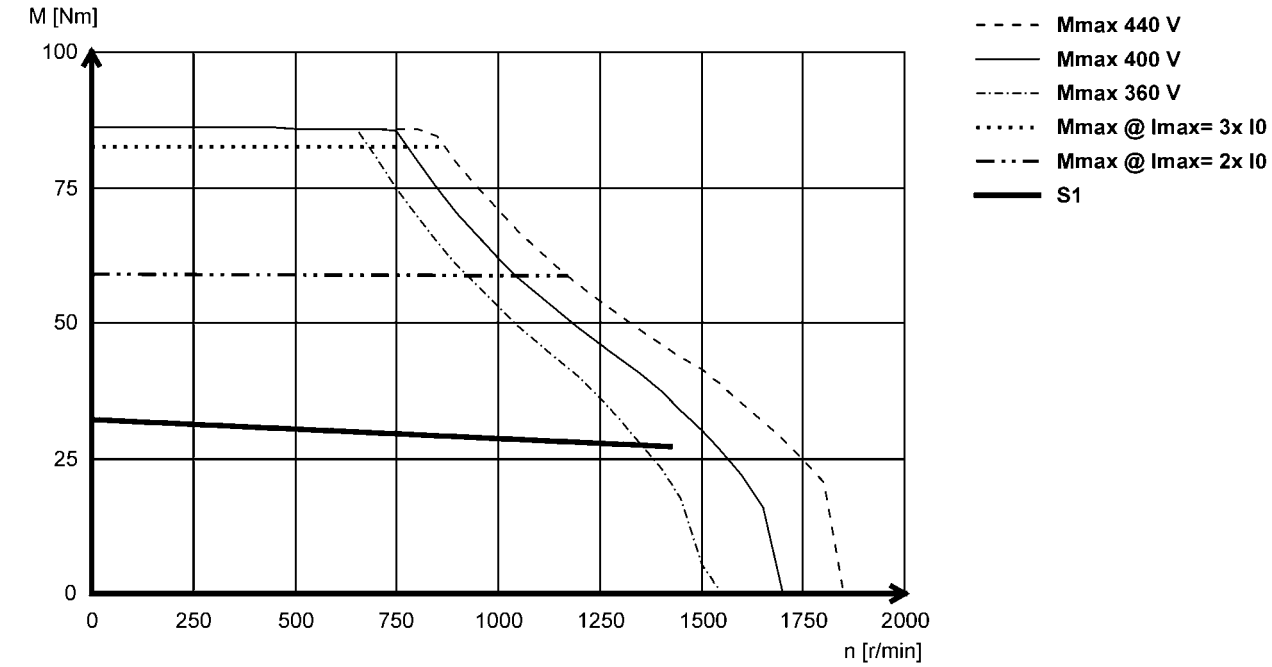
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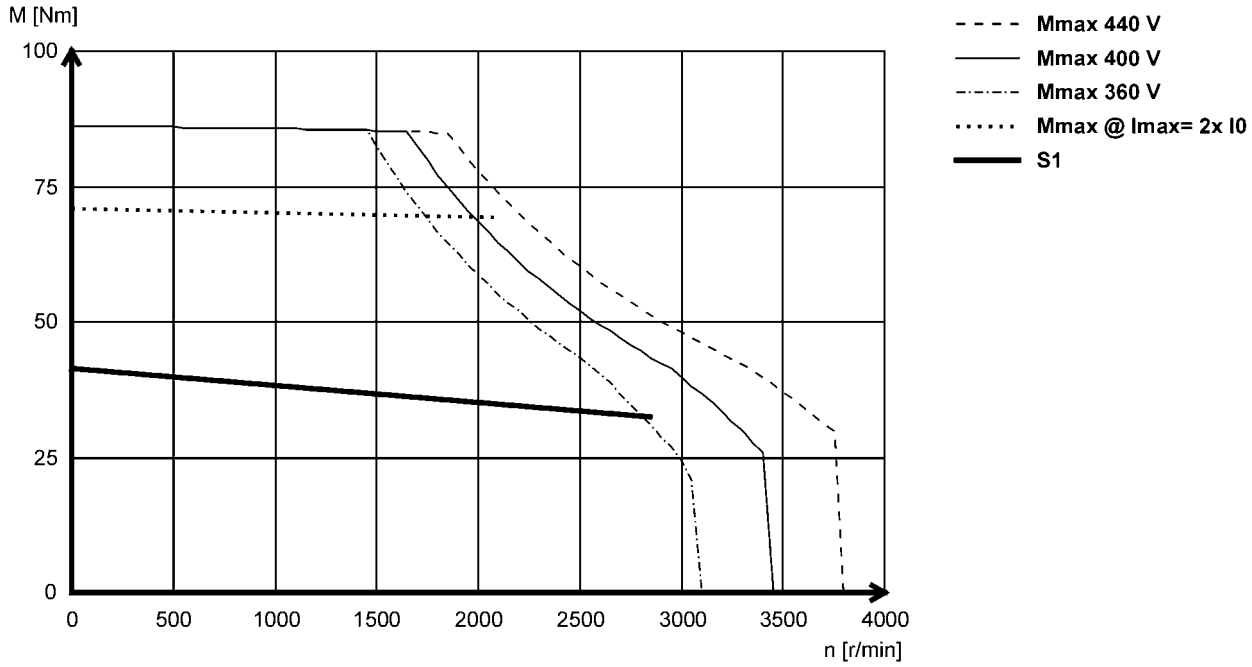
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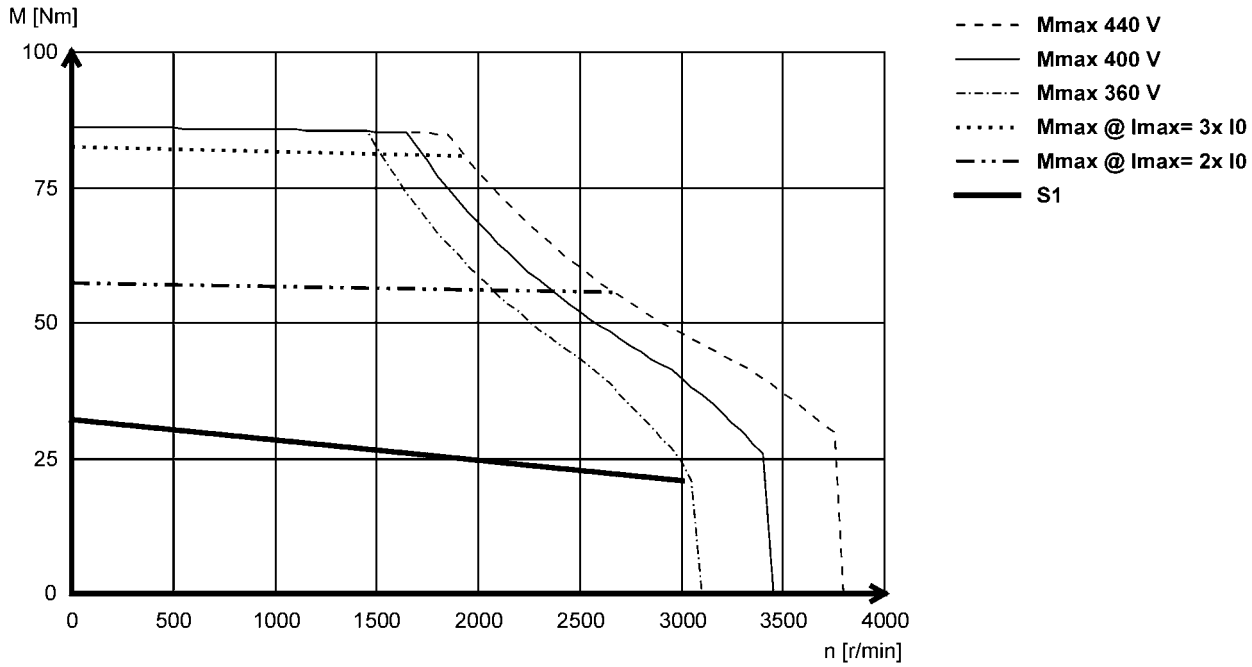
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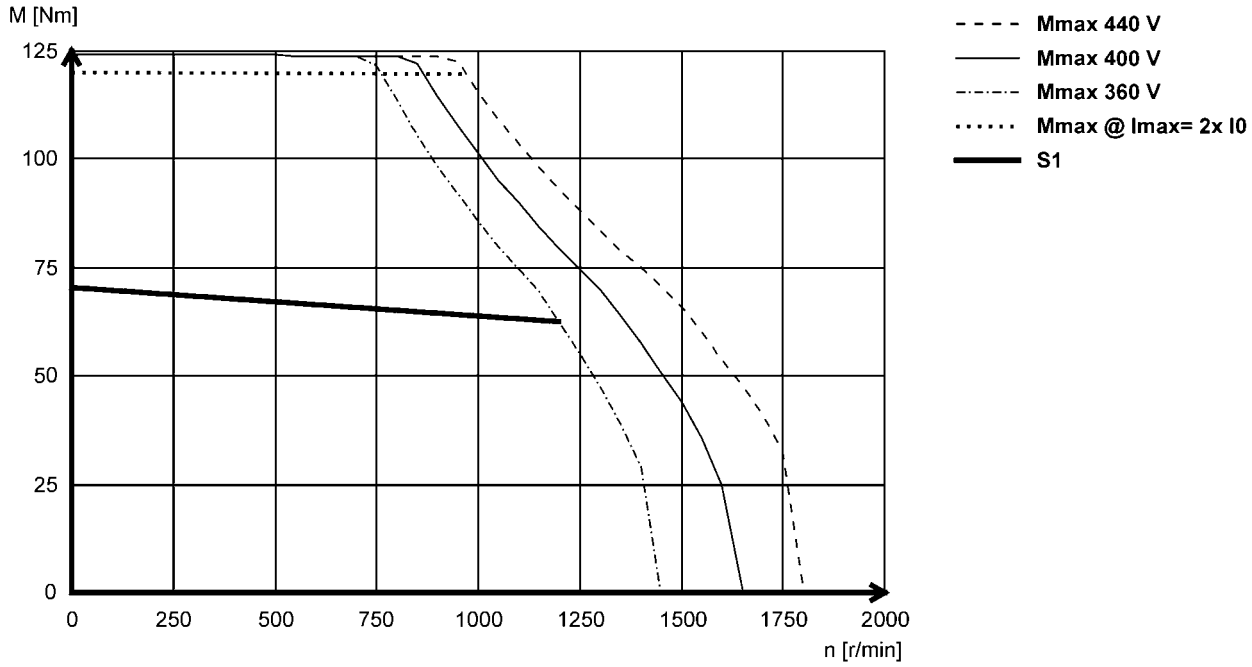
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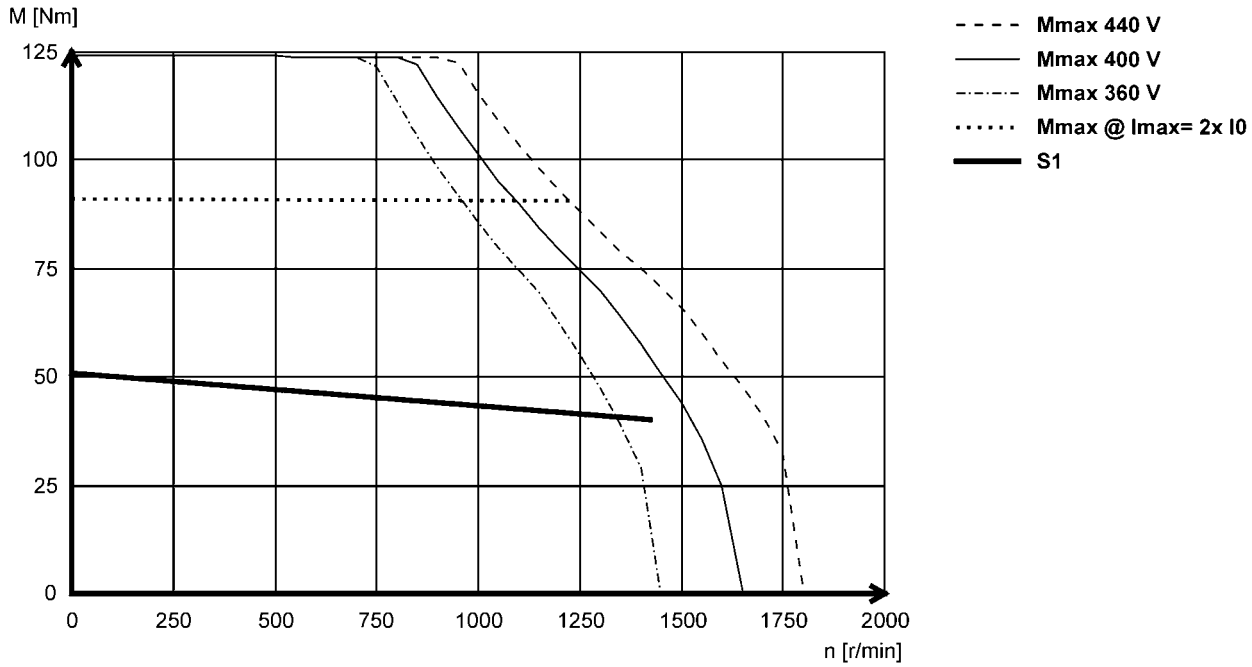
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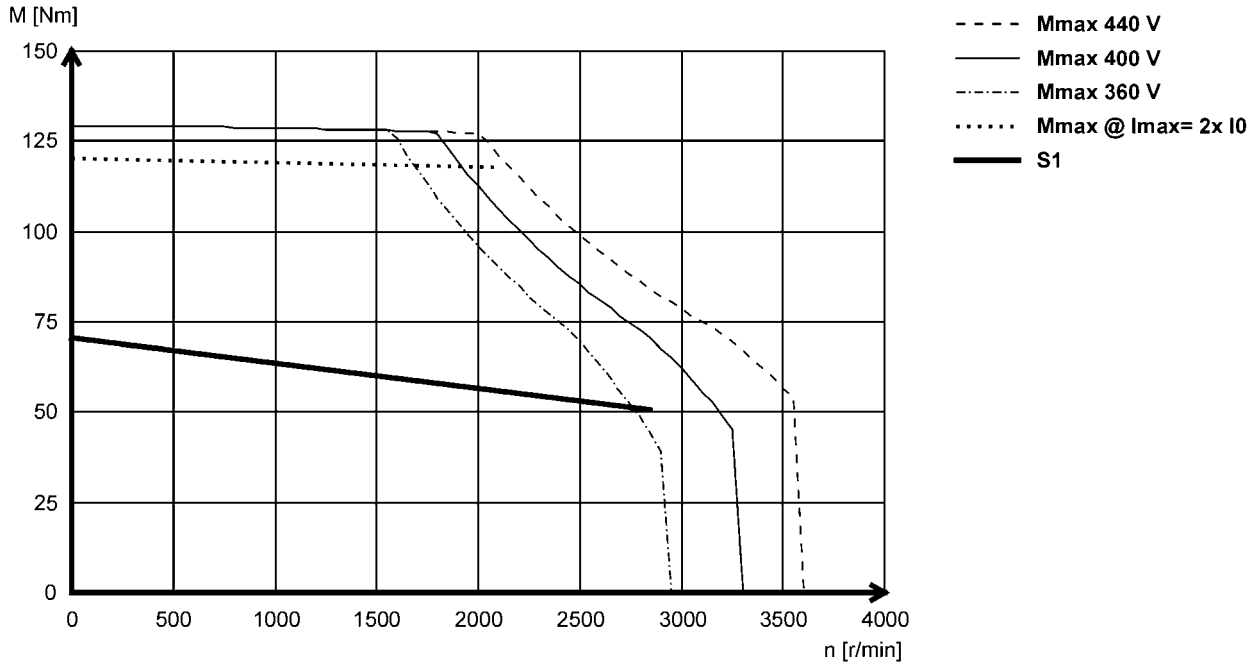
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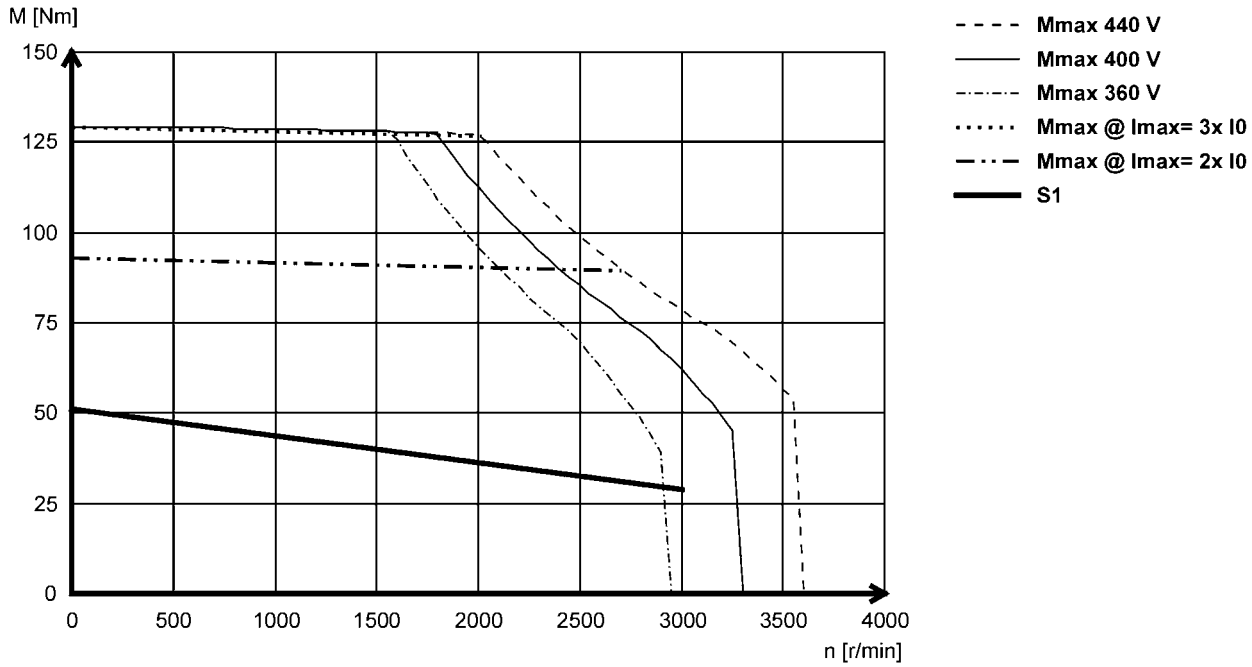
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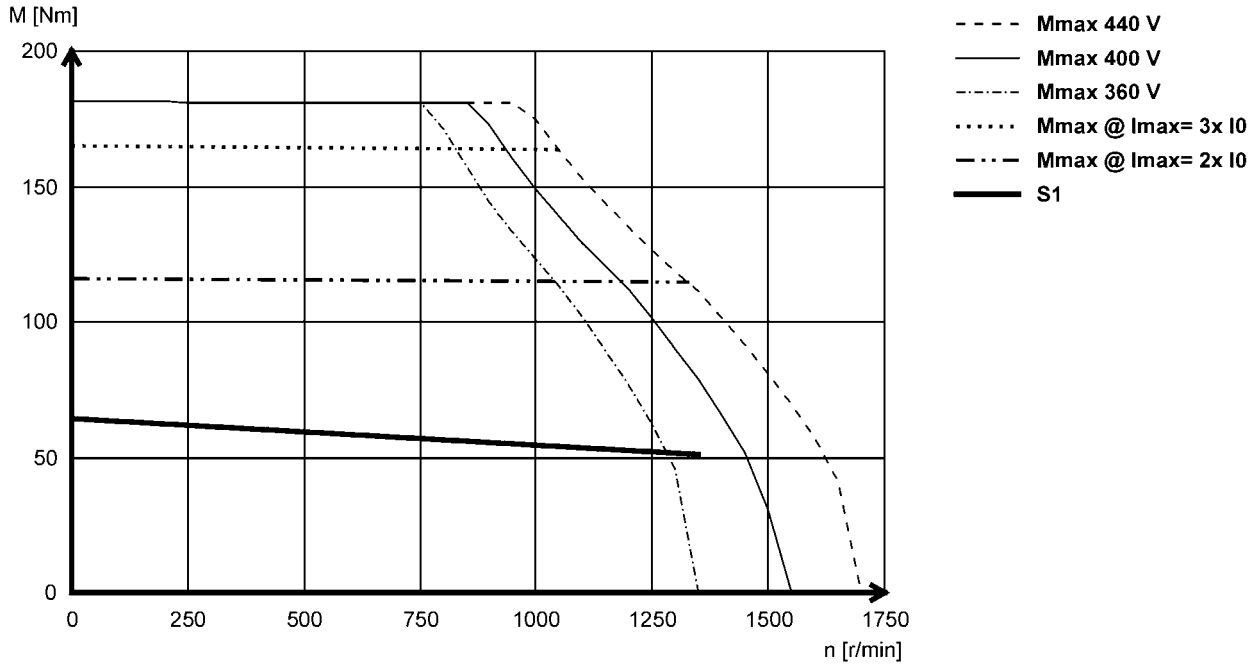
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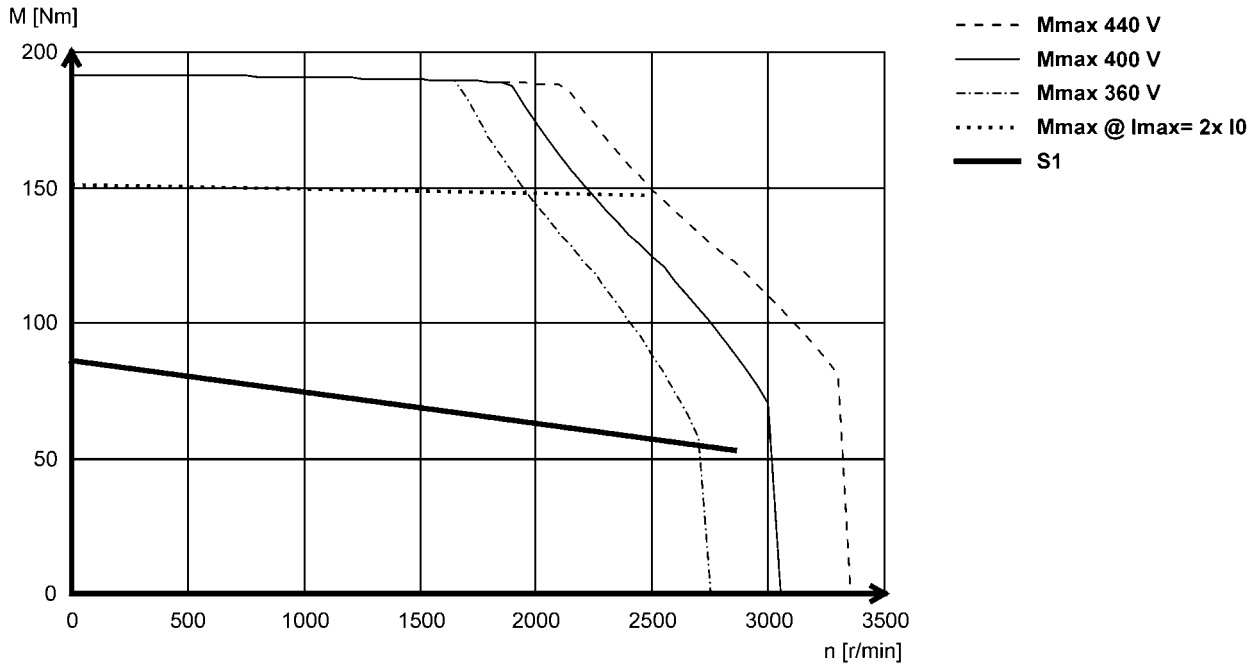
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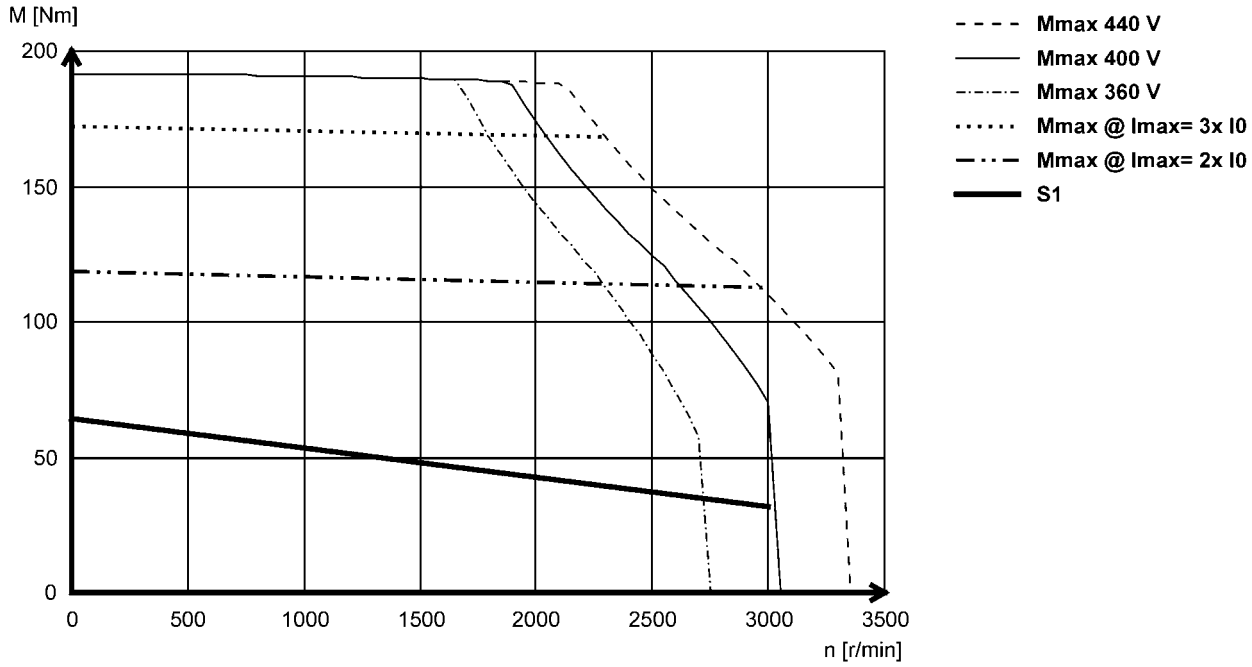
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MCS19P29- (forced ventilated)

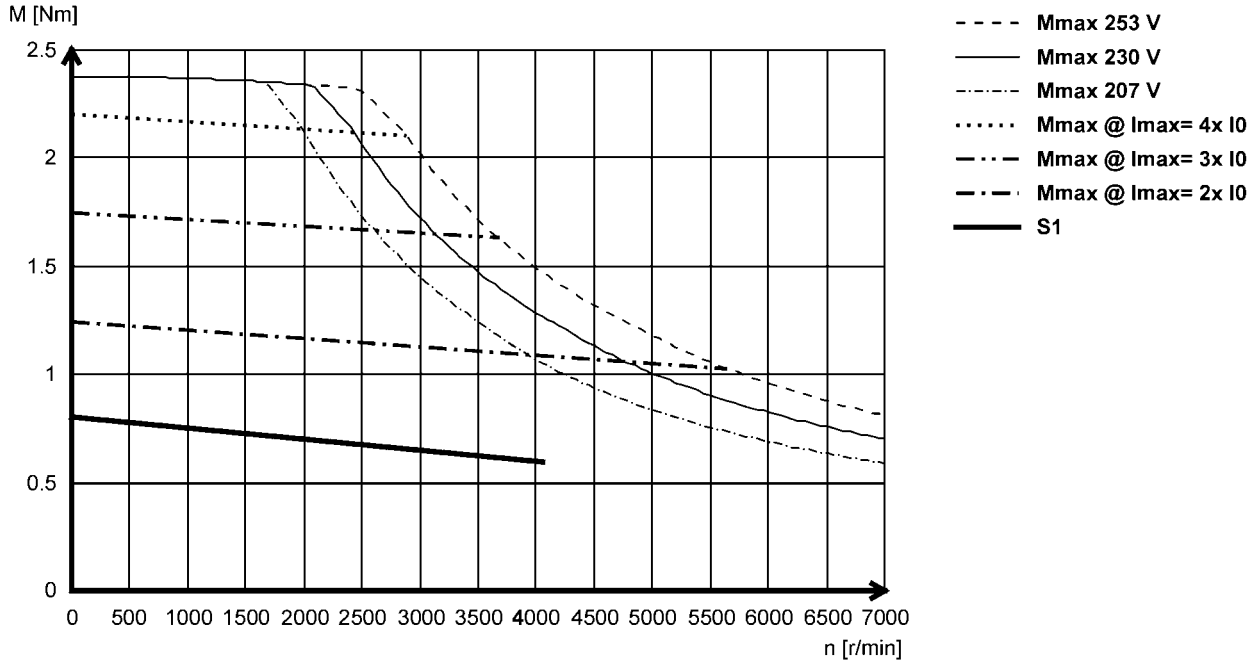


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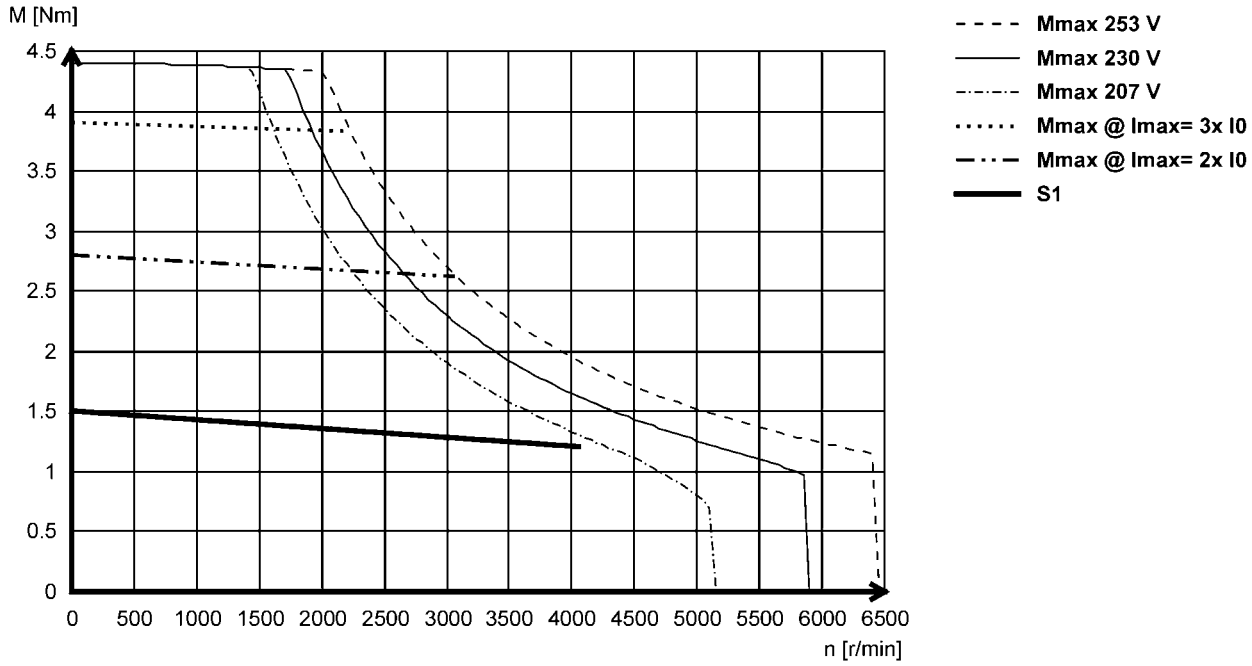


The following data apply to an inverter mains voltage 3 x 230 V.

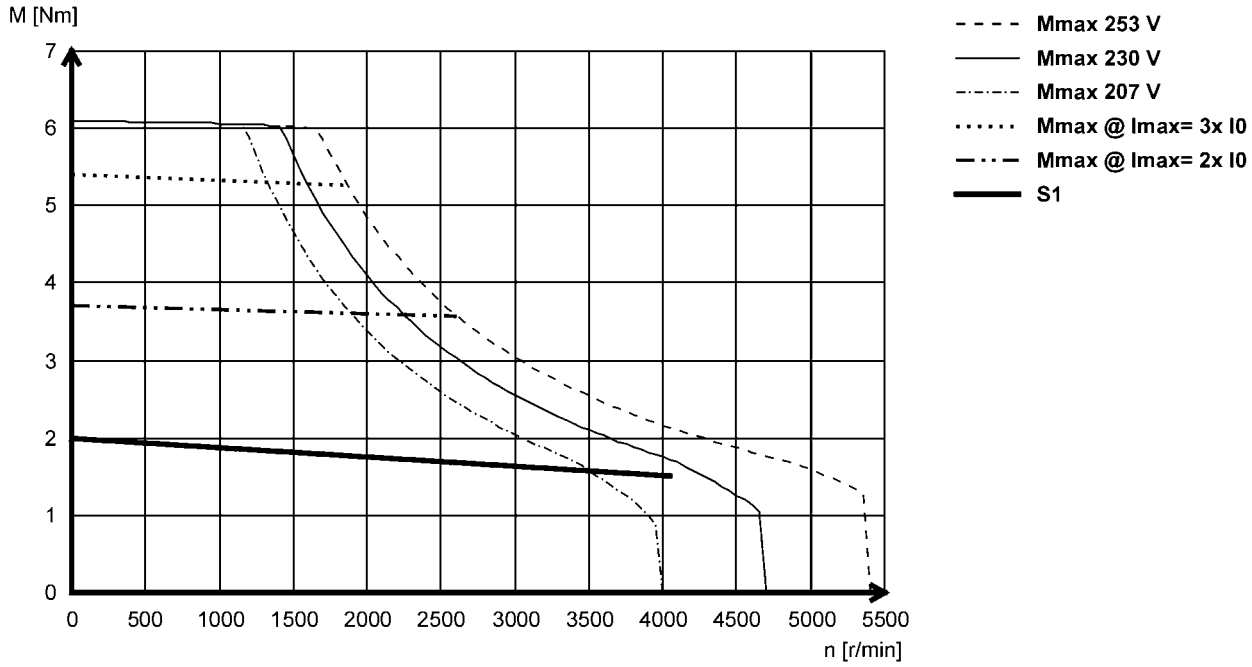
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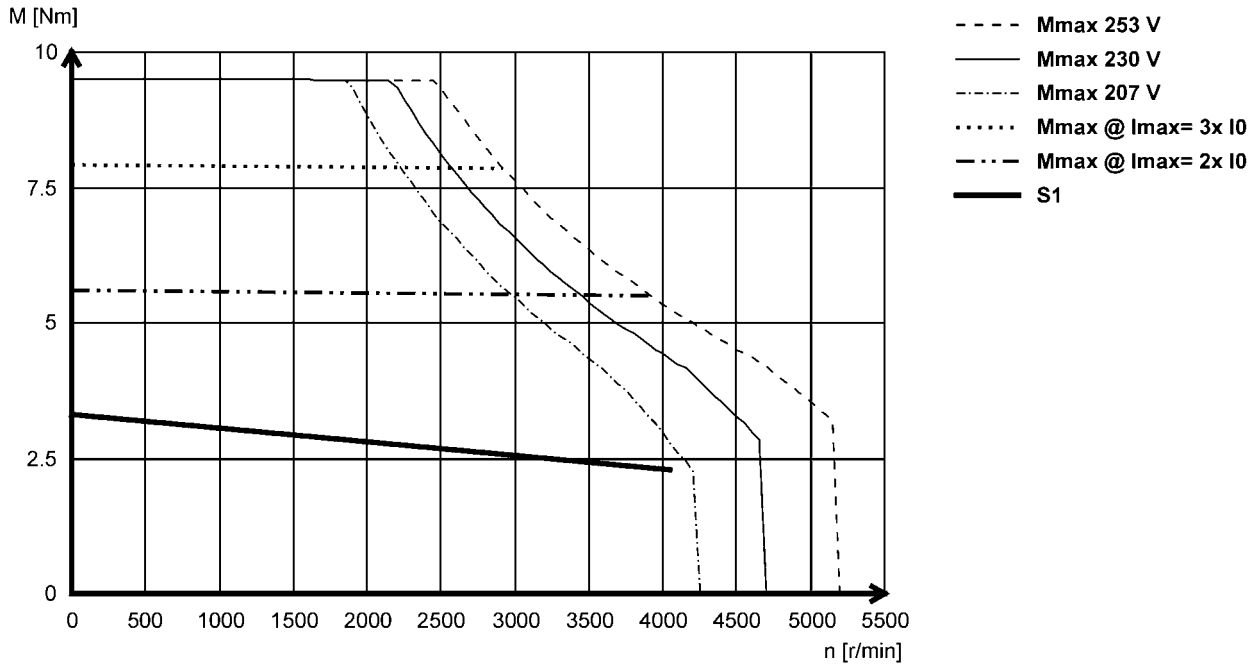
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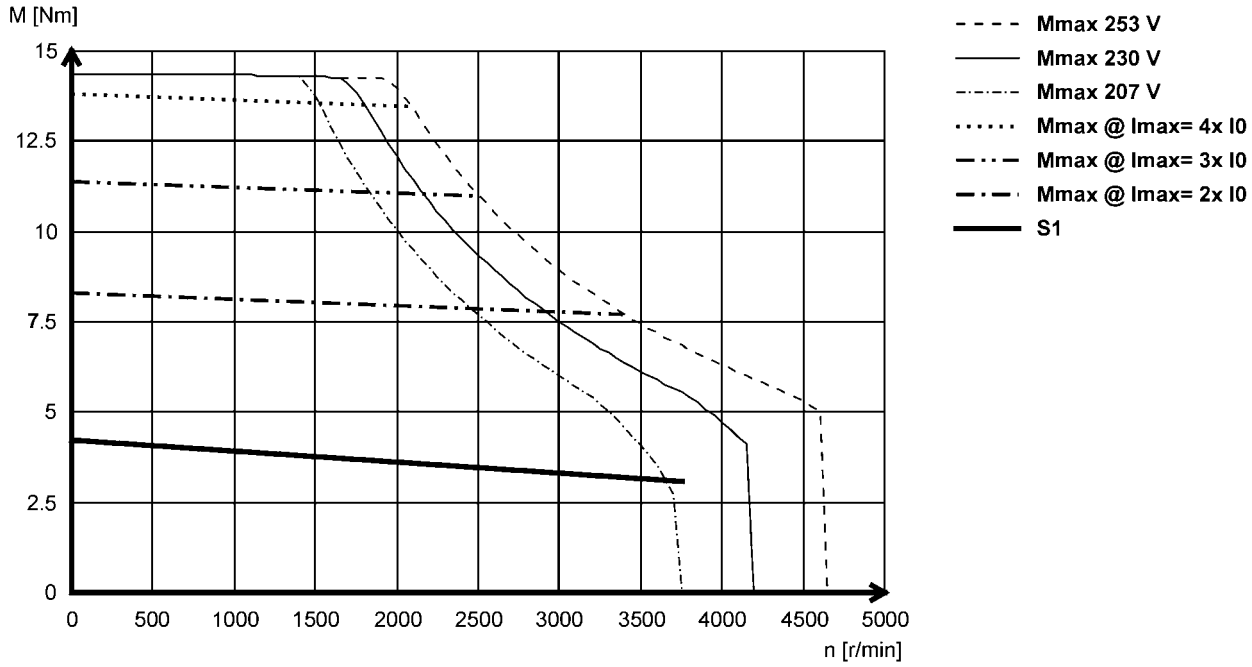
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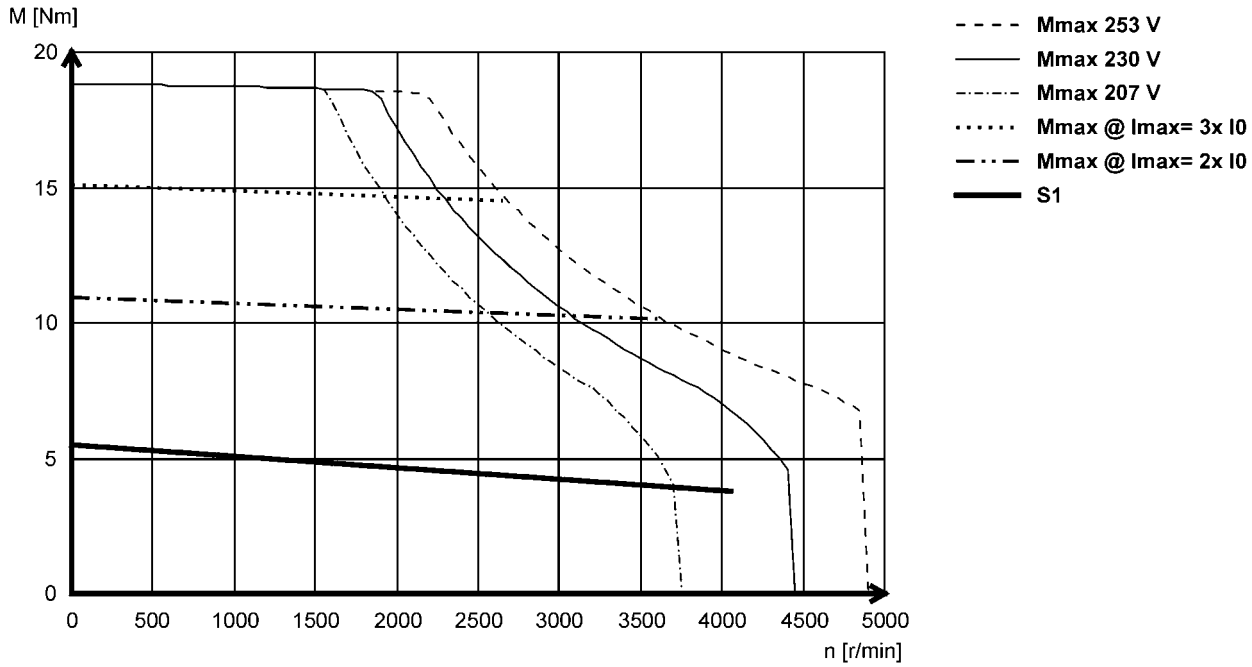
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MCS09F38L (self-ventilated)

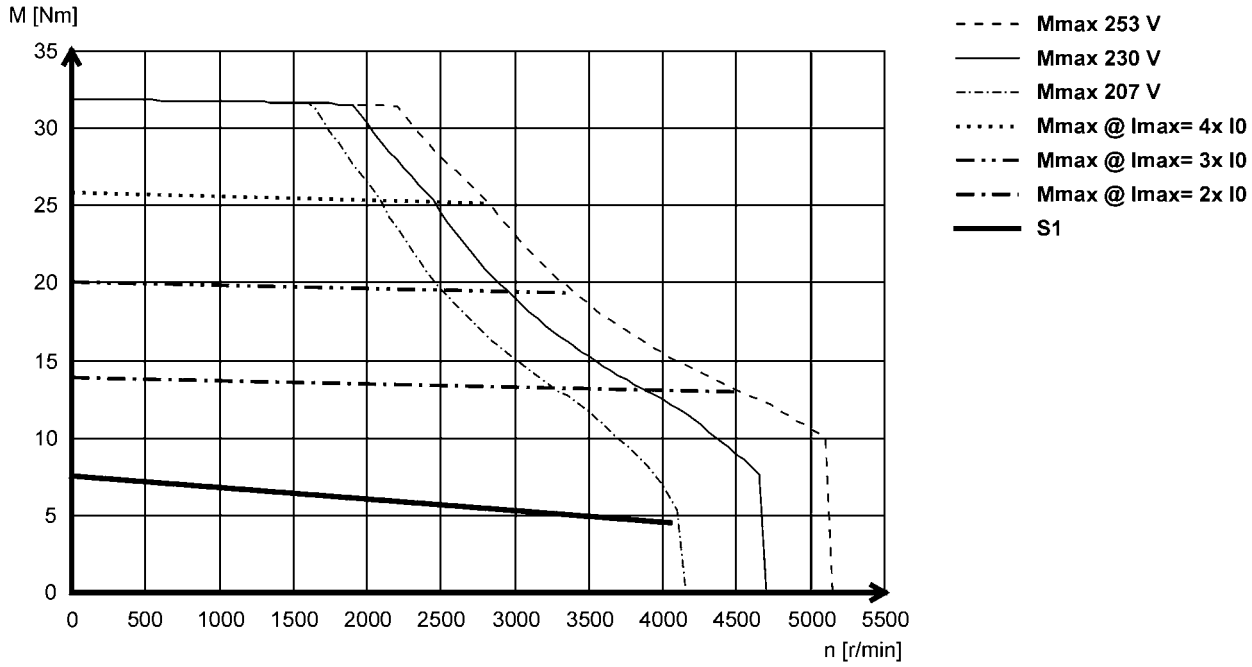


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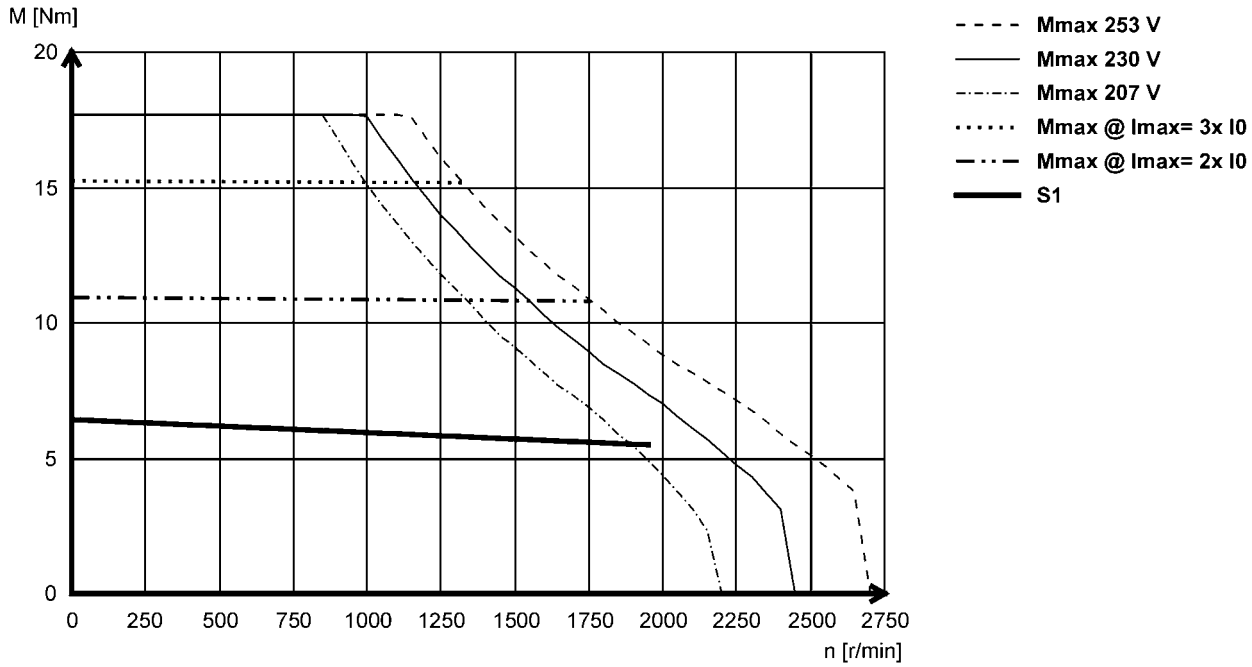




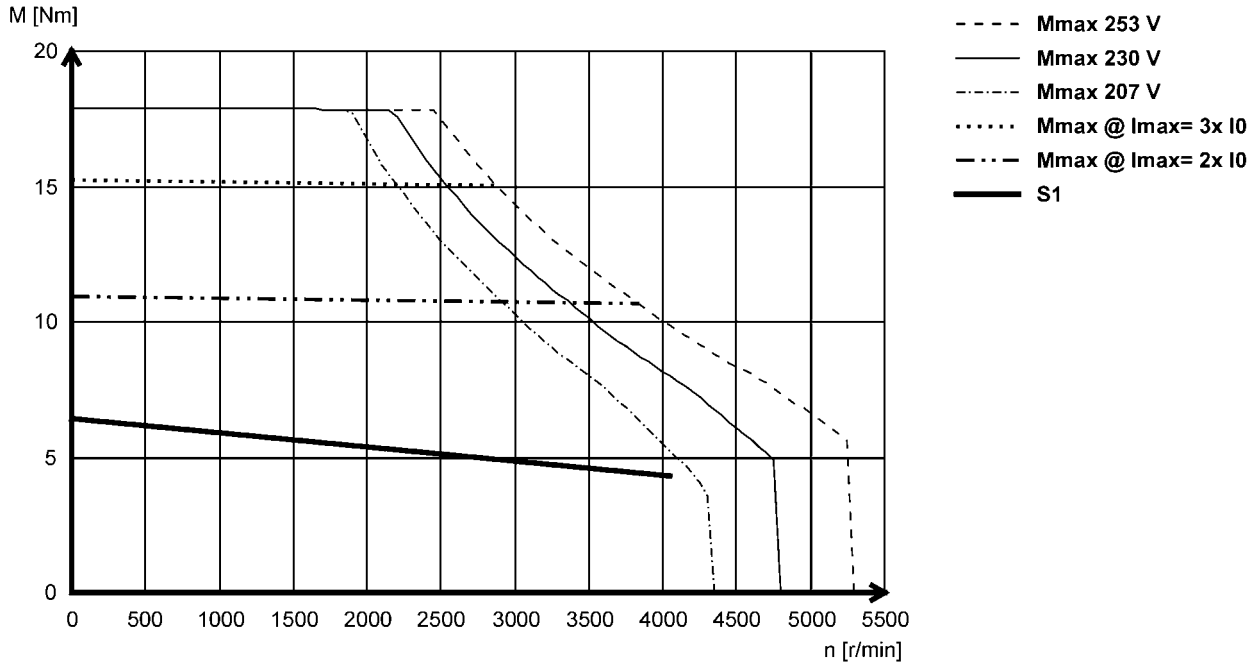
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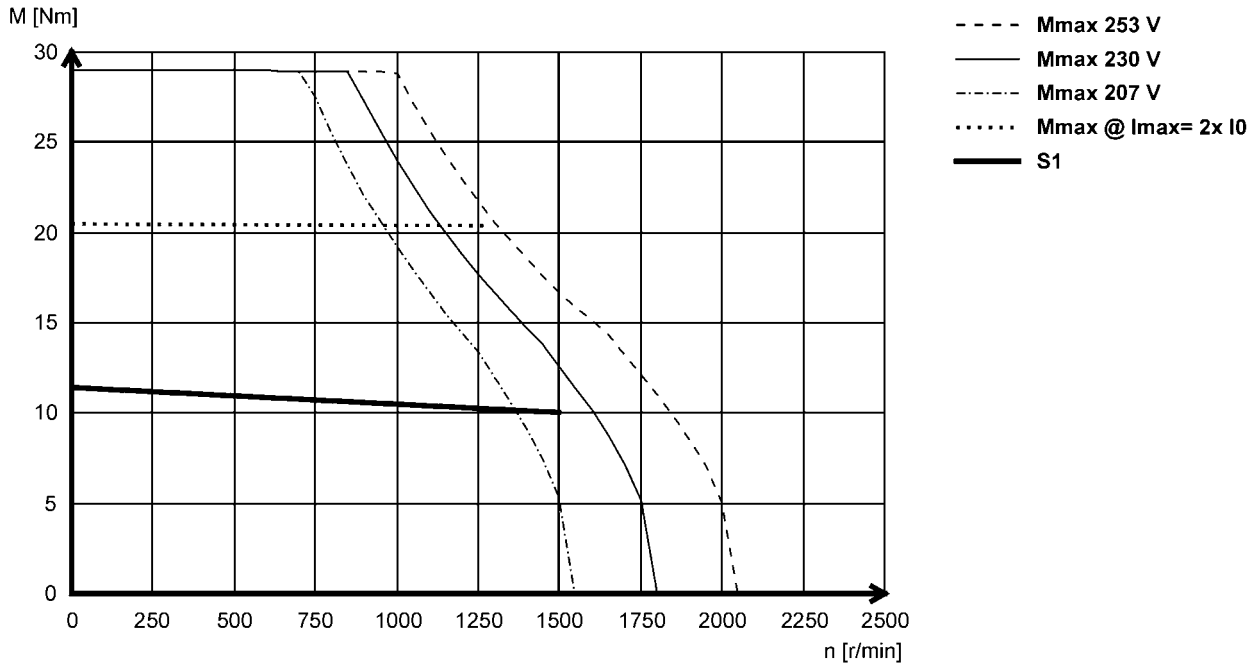
MCS12D20L (self-ventilated)



MCS12D41L (self-ventilated)

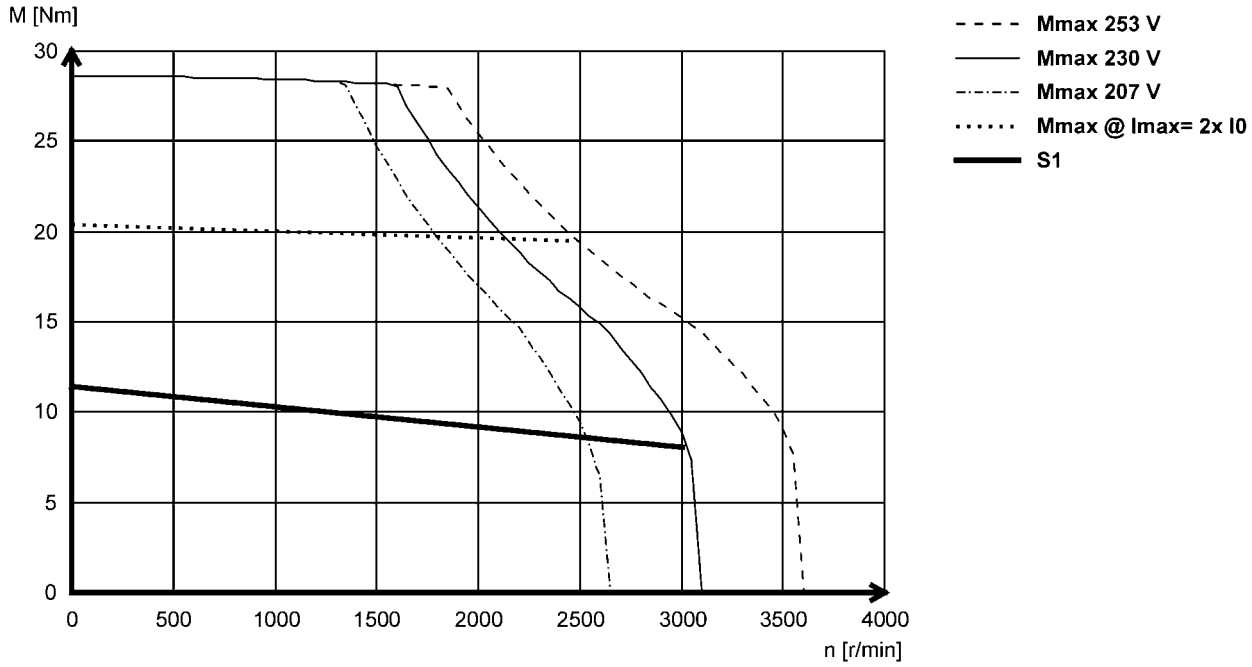


MCS12H15L (self-ventilated)

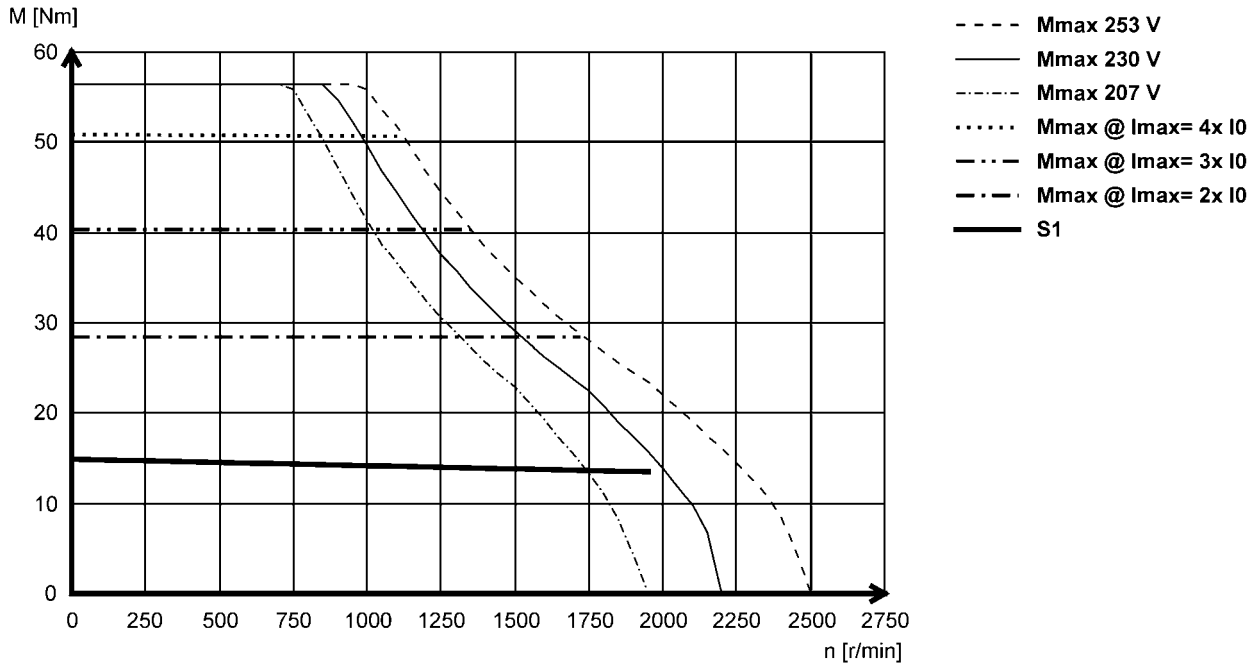




MCS12H30L- (self-ventilated)



MCS12L20L (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:

CE

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

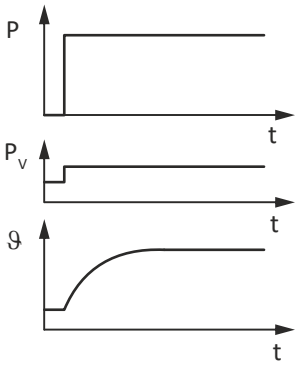
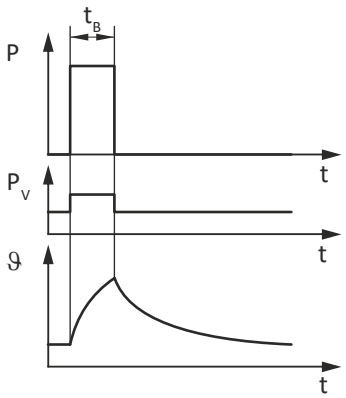
Operating modes of the motor

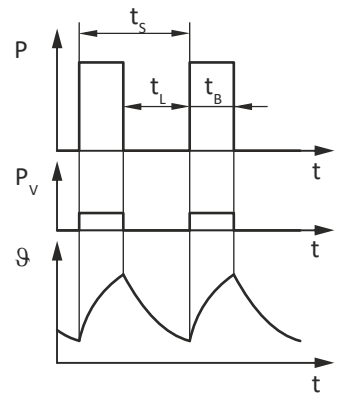
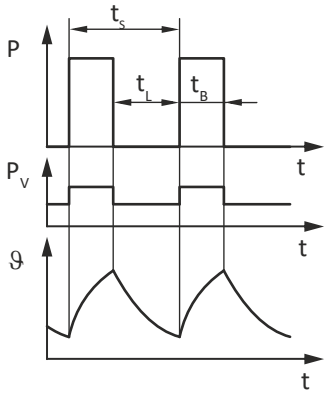
In continuous operation a motor reaches its permissible temperature limit if it outputs the rated power dimensioned for continuous operation. However, if the motor is only subjected to load for a short time, the power output by the motor may be greater without the motor reaching its permissible temperature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

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

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

Enclosures

The 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).