

SE1.100.100.40.A.Ex.4.51D.B

Grundfos pump 96177691



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<https://www.lenntech.com/grundfos/SE100/96177691/SE1-100-100-40-A-EX-4-51D-B.html>

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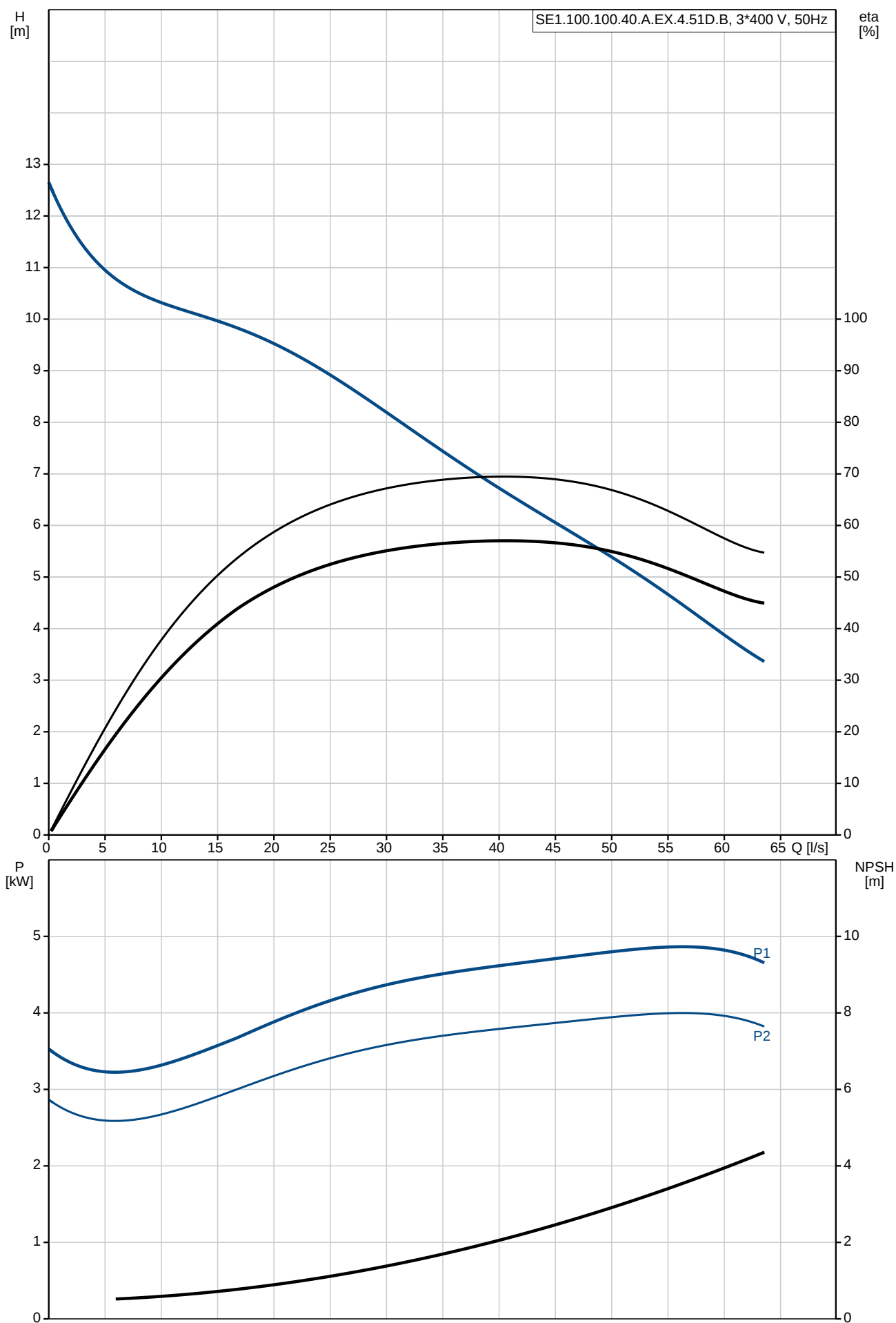
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Position	Qty.	Description
	1	SE1.100.100.40.A.EX.4.51D.B  Note! Product picture may differ from actual product Product No.: On request Non-self-priming, single-stage, centrifugal pump designed for handling wastewater, process water and unscreened raw sewage. The pump is designed for intermittent and continuous operation. The liquidless and maintenance free cooling system ensures that the pump can be used for submerged or dry installation. The revolutionary S-tube® impeller provides free spherical passage of solids up to 100 mm and is suitable for wastewater with a dry matter content of up to 3 %. A unique stainless-steel clamp assembling system enables quick and easy disassembly of the pump from the motor unit for service and inspection. No special tools are required. Pipework connection is via a DIN flange. The pump is explosion-proof. Further product details Typical application is transfer of liquid, such as: - large quantities of drainage and surface water - domestic wastewater with discharge from toilets - wastewater from commercial buildings without discharge from toilets - sludge-containing industrial wastewater. The pump is ideal for pumping of the above liquids from for instance: - municipal network pumping stations - public buildings - blocks of flats - factories/industry. The pump is suitable for both temporary and permanent installation either as free-standing on ring stand, on base stand, on brackets or on an auto-coupling system. Pump The pump is fitted with an easy-to-clean stainless-steel motor sleeve (EN 1.4301) that is extremely robust and impact-resistant. Pump housing and impeller is made of cast iron (EN-GJL-250). The S-tube® impeller is providing free spherical passage through the impeller and pump housing and creates a natural extension of the pipework connected to the pump. The S-tube® impeller is a wet-balanced and tube-shaped channel impeller placed in a pump housing that matches the smooth tube shape leaving no obstructions or dead zones. The key to the S-tube® design is simplicity, with no cutting or moving functions that can get worn over time, thereby ensuring constant, superior efficiency. The simple design means lower life cycle costs because abrasive wear is reduced and there are fewer clogging incidents. 

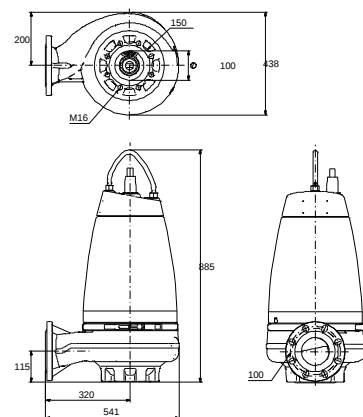
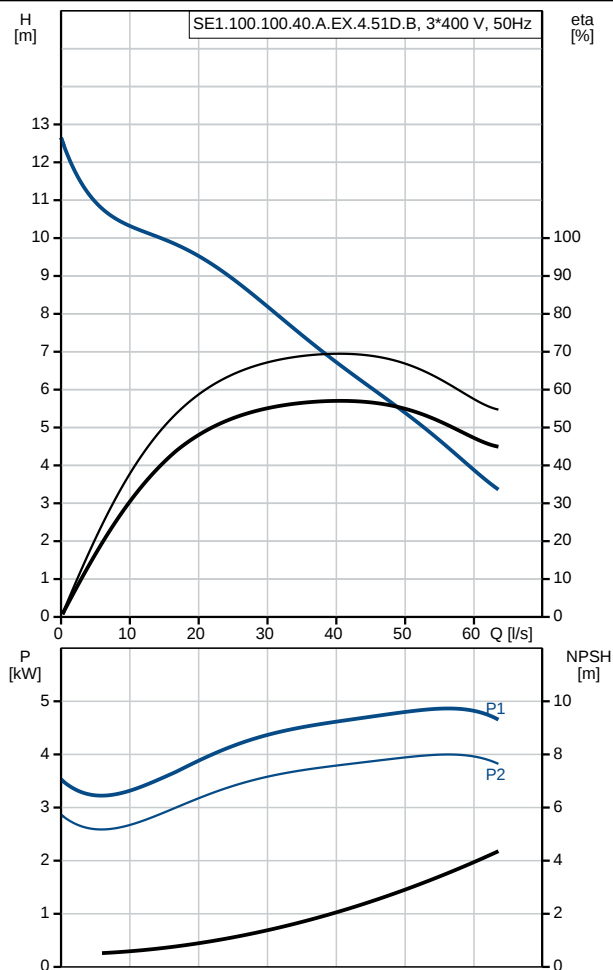
Position	Qty.	Description																										
		The shaft seal consists of two mechanical seals that ensure a reliable sealing between the pumped liquid and motor. The shaft seals are incorporated in a single-unit cartridge shaft seal system that is easy to replace in the field without use of special tools. The combination of the primary and secondary seals in a cartridge shaft seal system results in a shorter assembly length compared to conventional shaft seals. - Primary seal: Silicon carbide/silicon carbide (SiC/SiC) - Secondary seal: Carbon/Ceramics The shaft seal is bidirectional, meaning it operates correctly in case of backflow through the pump.  The pump is approved according to EN12050-1. Motor The motor is a watertight, totally encapsulated motor supplied with a 10 m power cable. The stainless steel plug is fastened with a union nut. This nut and the O-rings provide sealing against ingress of the liquid. The plug is polyurethane-embedded, ensuring a watertight and durable seal around the leads of the cable. This prevents the ingress of water into the motor through the cable in case of cable breakage or adverse handling in connection with installation or service. A compact motor construction with a short shaft reduces vibrations, resulting in an increased efficiency and lifetime of the shaft seal and ball bearings. The motor features built-in thermal protection to protect the motor against overheating and ensure the reliability. A solid-block stator housing with built-in cooling conduits, efficiently transfers excess heat to the pumped liquid via a solid cast intermediate cooling flange, that is in direct contact with the pumped liquid. This allows for continuous operation even in a dry installation. An extremely robust impact-resistant stainless-steel jacket with an easy-to-clean smooth surface is fitted on the top of the solid-block stator housing. The pump is equipped with the following sensor(s): - A digital moisture switch that is fitted in the motor chamber monitors whether water enters the motor chamber. If moisture is detected in the motor chamber, the switch will trip and send a warning to the sensor module. - A Pt1000 sensor in motor windings for stator temperature measurements. - An analog sensor that is fitted in the oil chamber monitors whether water enters the pump from the liquid side. It sends a signal if the water content is outside the normal range (warning), or if there is air in the oil chamber (alarm). All sensor signals are incorporated in the power cable and connected to the Grundfos IO 113 sensor module which is delivered together with the pump. The pump is designed for speed-controlled operation to keep the energy consumption at a minimum. To avoid the risk of sedimentation in the pipes, we recommend that you operate the speed-controlled pump within a speed range of 30 % to 100 % and at a flow rate above 1 m/s. Controls: <table><tr><td>Moisture sensor:</td><td>with moisture sensors</td></tr><tr><td>Water-in-oil sensor:</td><td>with water-in-oil sensor</td></tr><tr><td>Temp. sensor:</td><td>Y</td></tr></table> Liquid: <table><tr><td>Liquid temperature range:</td><td>0 .. 40 °C</td></tr><tr><td>Density:</td><td>998.2 kg/m³</td></tr></table> Technical: <table><tr><td>Type of impeller:</td><td>S-TUBE</td></tr><tr><td>Maximum particle size:</td><td>100 mm</td></tr><tr><td>Primary shaft seal:</td><td>SIC/SIC</td></tr><tr><td>Secondary shaft seal:</td><td>CARBON/CERAMICS</td></tr><tr><td>Max. hydraulic efficiency:</td><td>67 %</td></tr><tr><td>Approvals on nameplate:</td><td>EN12050-1</td></tr><tr><td>Curve tolerance:</td><td>ISO9906:2012 3B2</td></tr></table> Materials: <table><tr><td>Pump housing:</td><td>EN 1561 EN-GJL-250</td></tr></table>	Moisture sensor:	with moisture sensors	Water-in-oil sensor:	with water-in-oil sensor	Temp. sensor:	Y	Liquid temperature range:	0 .. 40 °C	Density:	998.2 kg/m³	Type of impeller:	S-TUBE	Maximum particle size:	100 mm	Primary shaft seal:	SIC/SIC	Secondary shaft seal:	CARBON/CERAMICS	Max. hydraulic efficiency:	67 %	Approvals on nameplate:	EN12050-1	Curve tolerance:	ISO9906:2012 3B2	Pump housing:	EN 1561 EN-GJL-250
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Position	Qty.	Description
		Impeller: Cast iron Installation: Maximum operating pressure: 6 bar Flange standard: DIN Pump outlet: DN 100 Pressure rating: PN 10 Maximum installation depth: 20 m Electrical data: Power input - P1: 4.9 kW Rated power - P2: 4 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-415 V Voltage tolerance: +6/-10 % Max starts per. hour: 20 Rated current: 10.0-10.2 A Rated current at 3/4 load: 8.2 A Rated current at 1/2 load: 7.1 A Starting current: 67 A Rated current at no load: 6.1 A Cos phi - power factor: 0.73 Cos phi - p.f. at no load: 0.11 Cos phi - p.f. at 3/4 load: 0.65 Cos phi - p.f. at 1/2 load: 0.52 Rated speed: 1460 rpm Locked-rotor torque: 72 Nm Breakdown torque: 100 Nm Moment of inertia: 0.128 kg m² Motor efficiency at full load: 82.2 % Motor efficiency at 3/4 load: 81.7 % Motor efficiency at 1/2 load: 78.2 % Number of poles: 4 Start. method: star/delta Enclosure class (IEC 34-5): IP68 Insulation class (IEC 85): F Explosion proof: yes Ex-protection standard: Ex cd mb IIB T4,T3 Length of cable: 10 m Cable type: LYNIFLEX Type of cable plug: NO PLUG Others: Net weight: 161 kg

On request SE1.100.100.40.A.EX.4.51D.B 50 Hz

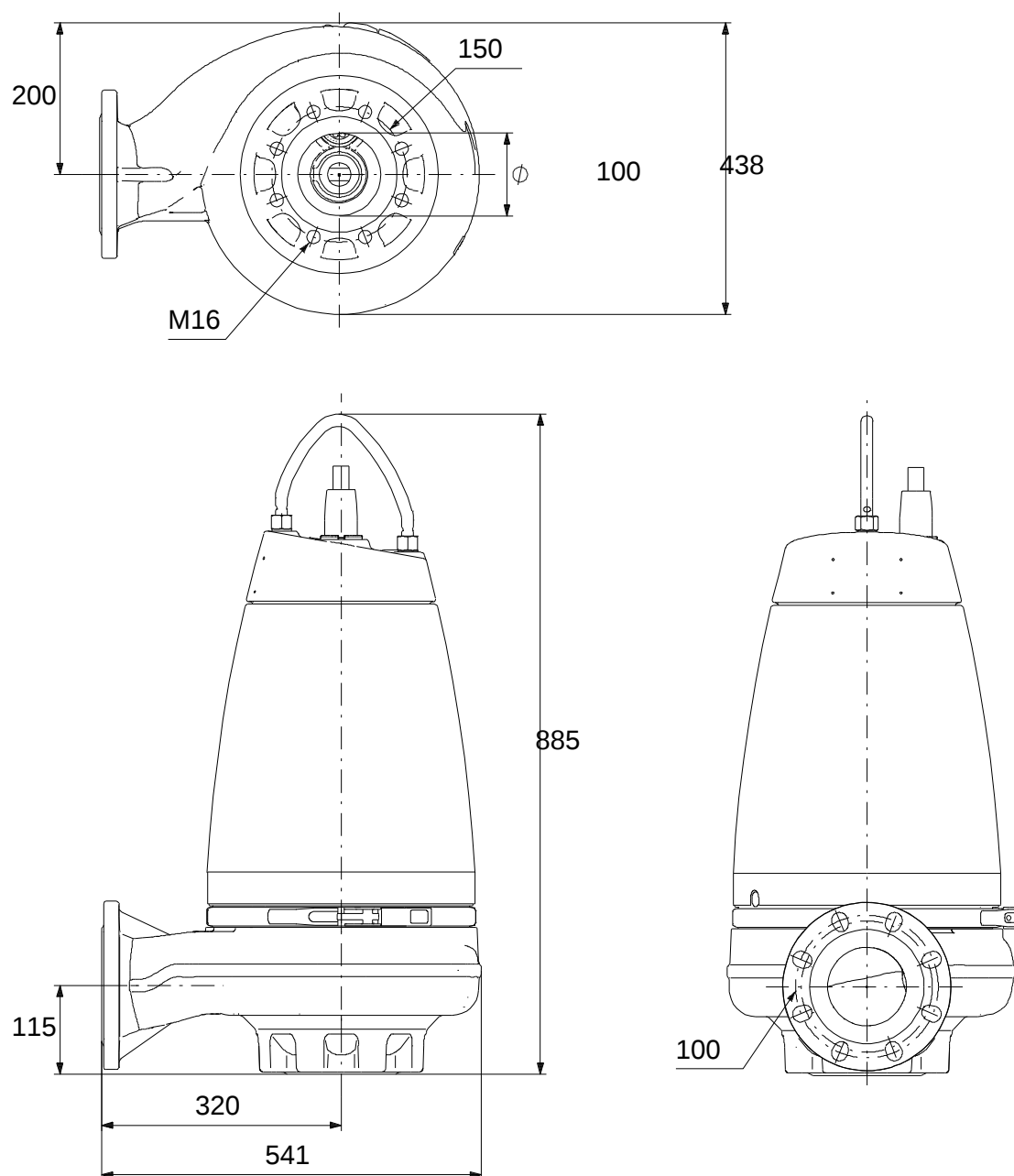


Description	Value
General information:	
Product name:	SE1.100.100.40.A.EX.4.51D.B
Product No:	On request
EAN number:	On request
Technical:	
Max flow:	63.6 l/s
Head max:	12 m
Type of impeller:	S-TUBE
Maximum particle size:	100 mm
Primary shaft seal:	SIC/SIC
Secondary shaft seal:	CARBON/CERAMICS
Max. hydraulic efficiency:	67 %
Approvals on nameplate:	EN12050-1
Curve tolerance:	ISO9906:2012 3B2
Cooling jacket:	with cooling jacket
Materials:	
Pump housing:	EN 1561 EN-GJL-250
Impeller:	Cast iron
Installation:	
Maximum operating pressure:	6 bar
Flange standard:	DIN
Pump outlet:	DN 100
Pressure rating:	PN 10
Maximum installation depth:	20 m
Inst dry/wet:	DRY/SUBMERGED
Installation:	horizontal or vertical
Liquid:	
Liquid temperature range:	0 .. 40 °C
Density:	998.2 kg/m ³
Electrical data:	
Power input - P1:	4.9 kW
Rated power - P2:	4 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415 V
Voltage tolerance:	+6/-10 %
Max starts per. hour:	20
Rated current:	10.0-10.2 A
Rated current at 3/4 load:	8.2 A
Rated current at 1/2 load:	7.1 A
Starting current:	67 A
Rated current at no load:	6.1 A
Cos phi - power factor:	0.73
Cos phi - p.f. at no load:	0.11
Cos phi - p.f. at 3/4 load:	0.65
Cos phi - p.f. at 1/2 load:	0.52
Rated speed:	1460 rpm
Locked-rotor torque:	72 Nm
Breakdown torque:	100 Nm
Moment of inertia:	0.128 kg m ²
Motor efficiency at full load:	82.2 %
Motor efficiency at 3/4 load:	81.7 %
Motor efficiency at 1/2 load:	78.2 %
Number of poles:	4
Start. method:	star/delta
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Explosion proof:	yes
Ex-protection standard:	Ex cd mb IIB T4,T3
Motor protec:	THERMAL SWITCH
Thermal protec:	internal
Length of cable:	10 m
Cable type:	LYNIFLEX
Type of cable plug:	NO PLUG
Controls:	



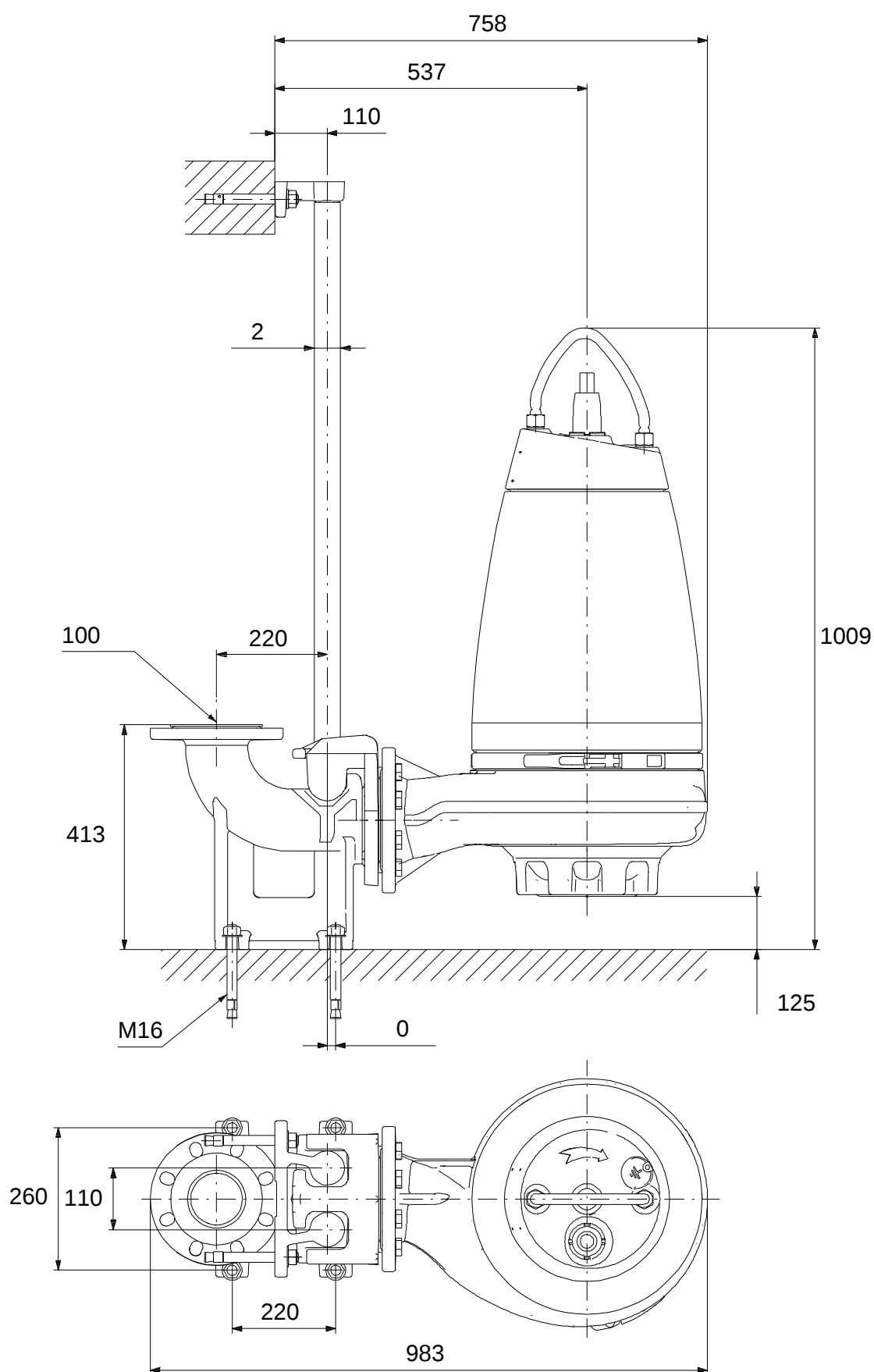
Description	Value
Control box:	not included
Moisture sensor:	with moisture sensors
Water-in-oil sensor:	with water-in-oil sensor
Temp. sensor:	Y
Others:	
Net weight:	161 kg

On request SE1.100.100.40.A.EX.4.51D.B 50 Hz



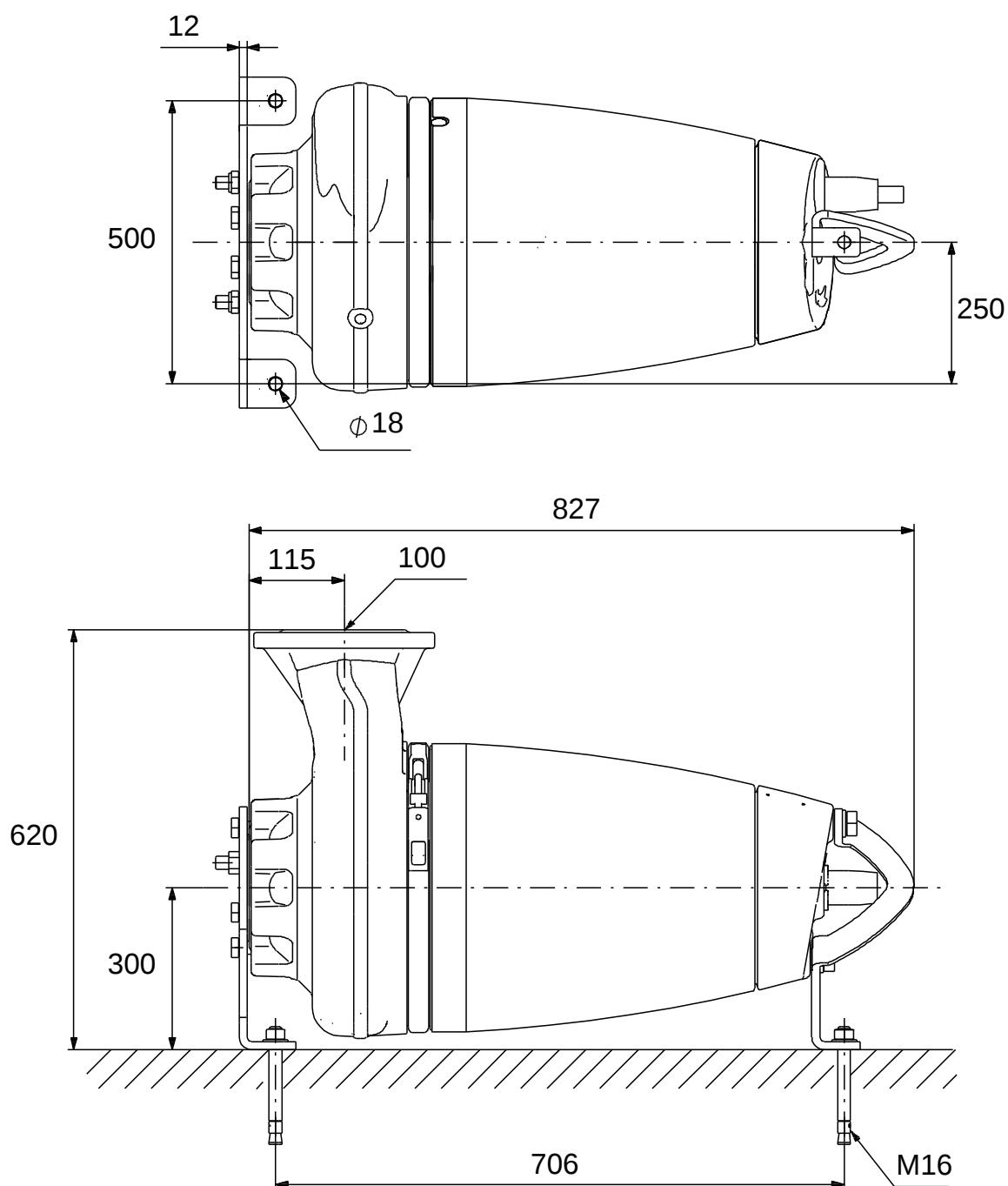
Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

On request SE1.100.100.40.A.EX.4.51D.B 50 Hz



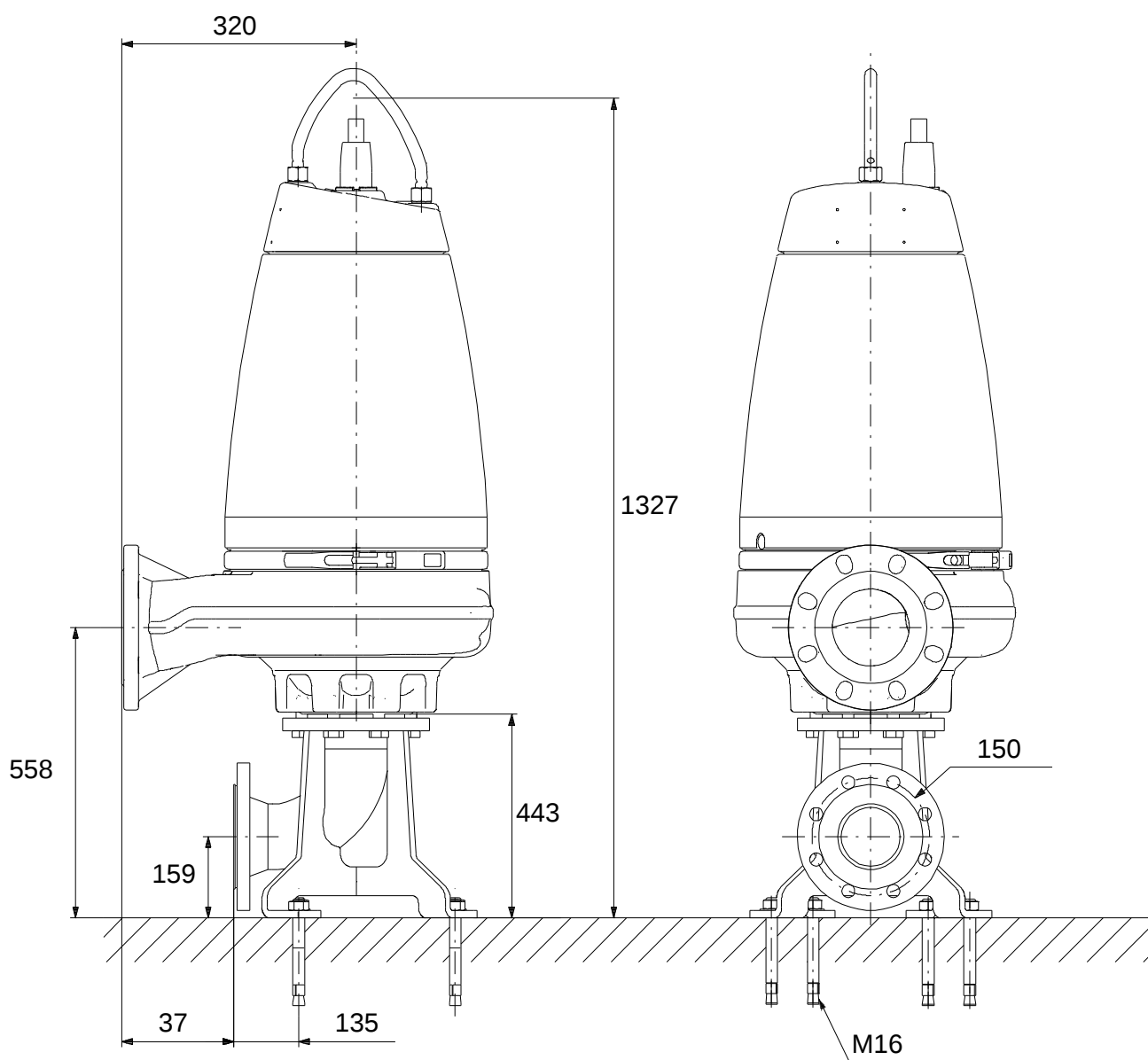
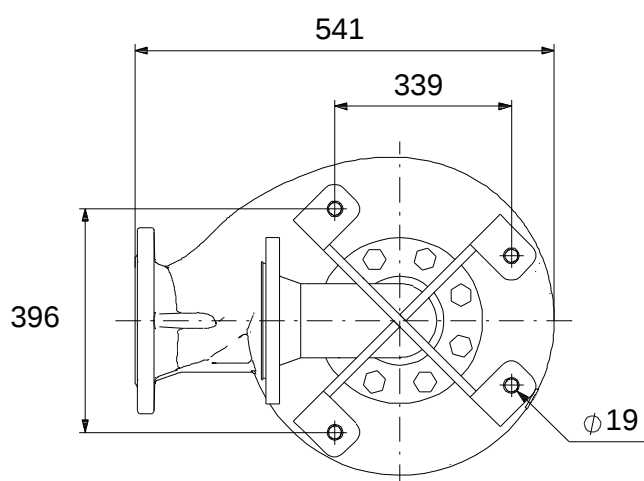
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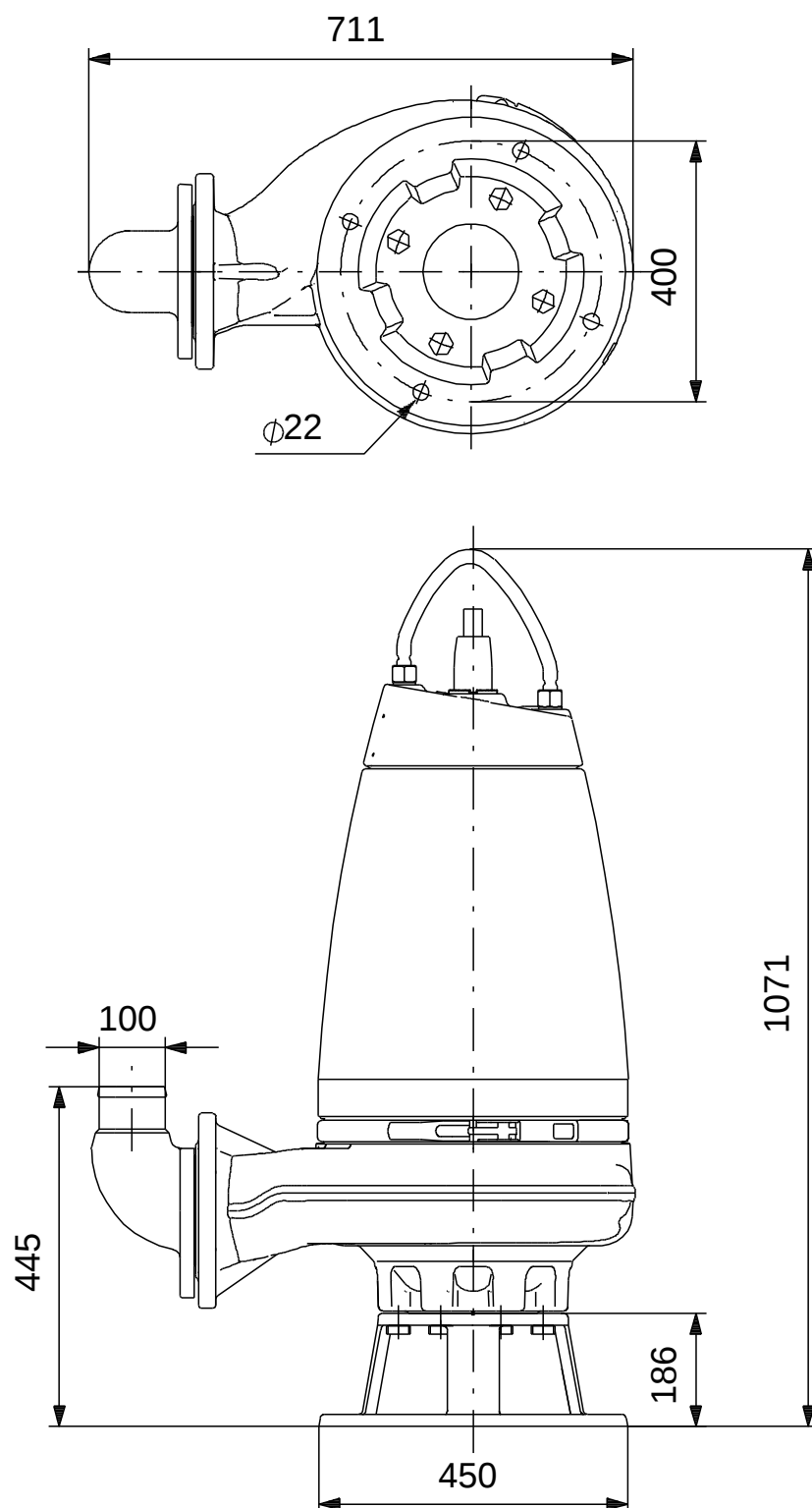
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Exploded view



Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view (TM057026 for MGE model H/I)



Parts list SE1.100.100.40.A.EX.4.51D.B, Product No. On request
Valid from 3.5.2004 (0419)

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
	Hex head screw				4	pcs
	Washer				4	pcs
	Washer		Internal diameter: 5,3		1	pcs
			Outer diameter: 15			
			Thickness: 2			
	Clamp				2	pcs
	Disc spring				4	pcs
	Rubber bush				1	pcs
	Earth connector				1	pcs
	Connector				2	pcs
	Mylar				1	pcs
	Spring lock washer				4	pcs
	Internal cable				1	pcs
6a	Pin				2	pcs
7a	Rivet				4	pcs
7a	Combi Slot Torx screw				1	pcs
9a	Parallel key		Dimension: 8X7X28		1	pcs
37	O-ring		Diameter: 297		1	pcs
			Material type: NBR70			
			Thickness: 4			
37a	O-ring		Diameter: 330		2	pcs
			Material type: NBR70			
			Thickness: 4			
37b	O-ring		Diameter: 225		1	pcs
			Material type: NBR			
			Thickness: 4			
+ 46	Seal ring				1	pcs
48	Stator				1	pcs
49	Impeller				1	pcs
49c	Wear ring				1	pcs
50	Pump housing				1	pcs
55	Stator housing				1	pcs
58	Cover				1	pcs
59	Bearing cover				1	pcs
60	Bearing retainer				1	pcs
61	Bearing retainer				1	pcs
66	Washer		Internal diameter: 12.5		1	pcs
			Outer diameter: 31			
			Thickness: 5			
76	Nameplate				1	pcs
+ 92	Strap cpl.				1	pcs
102	Retaining ring				1	pcs
- 105	Shaft seal				1	pcs
	Shaft seal				1	
	Shaft seal				1	
	Shaft seal				1	
	Retaining ring				1	
	Shaft seal, rotating part				1	
	Shaft seal, rotating part				1	
	Shaft seal, stationary part				1	
	Shaft seal, stationary part				1	
106	O-ring		Diameter: 62		2	
			Material type: NBR			
			Thickness: 3			
107	O-ring		Diameter: 134.5		1	pcs
			Material type: NBR			
			Thickness: 3			
108	O-ring		Diameter: 100		1	pcs
			Material type: NBR			

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
109	O-ring		Thickness: 3 Diameter: 100 Material type: NBR Thickness: 3		1	pcs
150	Motor sleeve				1	pcs
- 151	Motor cover				1	pcs
	Motor cover				1	
174	Hex socket head cap screw				1	
174.a	Washer		Internal diameter: 8,4 Outer diameter: 14,6 Thickness: 0,8		1	
153	Ball bearing		Designation: 6305.2Z.C4.SYN		1	pcs
153b	O-ring		Diameter: 28 Material type: NBR Thickness: 2		1	pcs
154	Angular-contact bearing				1	pcs
155	Flange				1	pcs
157	Waved washer				1	pcs
158	Waved washer				1	pcs
159	O-ring		Diameter: 41 Material type: NBR Thickness: 4		1	pcs
172	Shaft w/rotor				1	pcs
174a	Lock washer				1	pcs
176	Plug				1	pcs
177	Plug protector				1	pcs
177	Hex socket head cap screw				1	pcs
- 181	Cable Ex				1	pcs
198	O-ring				1	
183	Hex socket head cap screw		Length (mm): 50 Thread: M30		1	pcs
183a	Washer		Internal diameter: 33 Outer diameter: 38 Thickness: 2		1	pcs
184	Hex socket head cap screw		Designation: DIN 912 Length (mm): 40 Thread: M10		6	pcs
184a	Washer		Internal diameter: 10.5 Outer diameter: 18 Thickness: 1.6		6	pcs
186	Hex socket head cap screw				2	pcs
187	Hex socket head cap screw				4	pcs
188	Hex socket head cap screw				4	pcs
188a	Hex socket head cap screw		Length (mm): 35 Thread: M12		1	pcs
190	Lifting bracket				1	pcs
190a	Rubber bush				2	pcs
192	Cooling paste				12	G
193	Hex socket head cap screw		Designation: A2-70 Length (mm): 20 Thread: M12		2	pcs
193a	Oil				0	L
194	Washer		Internal diameter: 19 Outer diameter: 12.2 Thickness: 4.4		2	pcs
518	Transient barrier				1	pcs
520	Moisture sensor				1	pcs
521	Sensor unit cpl.				1	pcs
522	Holder				1	pcs
1031	Connector pin				9	pcs

Disclaimer: The information about the Grundfos pump in this document may be outdated.

Data may be subject to alterations without further notice.

Please contact us to verify the data above is still accurate/up-to-date.

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