SE1.110.200.110.4.52M.H.N.51D

Grundfos pump 98174815

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https://www.lenntech.com/grundfos/SESLFAM/98174815/SE1-110-200-110-4-52M-H-N-51D.html

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Position	Qty.	Description
	1	**SE1.110.200.110.4.52M.H.N.51D**

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 continous operation. The cooling jacket ensures that the pump can operate submerged or dry installed without motor cooling. The revolutionary S-tube® impeller provides free spherical passage of solids up to 110 mm and suitable for wastewater with a dry matter content of up to 3 %.

For installation on auto coupling, the Grundfos SmartSeal gasket system provides a leak-proof connection.

The pump comes with a high efficient Grundfos blueflux® motor made with IE3 components.

Further product details

Typical applications are 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 the pumping of the above liquids from for instance:

- municipal network pumping stations
- raw water intake systems
- wasterwater treatment plants
- public buildings
- blocks of flats
- factories/industry.

The pump is suitable for both temporary and permanent installation. The lifting brackets fitted on the pumps enables easy transportation to and installation on the installation site.

Pump

The pump is fitted with an easy-to-clean stainless steel motor sleeve (EN 1.4301) that is extremely robust and impact-resistant. The pump housing and motor top are made in cast iron (EN-GJL-250) and the impeller is made of ductile cast-iron (EN-GJS-500).

All surfaces of the cast iron parts are protected with cataphoresis coating. The surface of the cast iron pump parts is afterwards painted with environmental friendly powder coating (type NCS 9000N (black), gloss code 30, thickness 100 µm) which ensures high impact and corrosion protection. The final pump is assembled from already painted parts which ensures that no rust or scale can be formed in grooves between parts, etc.

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.

This pump is equipped with the unique SmartTrim impeller clearance adjustment system that enables easy restoring of factory-set impeller clearance. By tightening the adjustment screws on the exterior of the pump housing, peak pumping efficiency can be maintained. This can be done on site, quickly and easily, without dismantling the pump and without using special tools.

The shaft seals of the pump consist of two mechanical seals that ensure a reliable sealing between the pumped liquid and motor. The shaft seal is a cartridge seal that enables easy service.

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. Furthermore, this design minimises the risk of incorrect fitting and can be installed on site without the need for special tools.

- Primary seal: Silicon carbide/silicon carbide (SiC/SiC)
- Secondary seal: Carbon/ceramic

The shaft seal is bidirectional, meaning it operates correctly in case of backflow through the pump.

The pump discharge flange is mounted with the Grundfos SmartSeal auto-coupling gasket, that provides a completely leak-proof connection between the pump and the base unit of the auto-coupling system. This optimises the efficiency of the entire pumping system and keeps operating costs at a minimum.

Motor

The product carries the Grundfos blueflux® label. It represents the best from Grundfos within energy-efficient motors and frequency converters. Grundfos blueflux® solutions ensures that the motor is built out of high efficiency components.

The motor is a watertight, totally encapsulated motor supplied with a 10 m power cable. A watertight stainless-steel cable entry with soft shape and sealing rings to prevent damage of the cable or leaks.

The motor construction is compact with short shaft which reduces vibrations resulting in increased efficiency and lifetime of the shaft seal and ball bearings.

Thermal switches are incorporated in the motor windings to protect the motor against overheating.

The pump has a closed motor cooling system and can be installed either dry or submerged. The motor is factory-filled with Grundfos motor liquid SML-3 which is a propylene glycol mixture. The motor liquid ensures both cooling of the motor and lubrication of the shaft seal. The shaft seal has a built-in impeller ensuring circulation of the cooling liquid.

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:

Moisture sensor:	with moisture sensors
Water-in-air sensor:	N

Liquid:

Liquid temperature range:	0 .. 40 °C
Density:	998.2 kg/m³

Technical:

Type of impeller:	S-TUBE
Maximum particle size:	110 mm
Primary shaft seal:	SIC-SIC
Secondary shaft seal:	SIC-CARBON
Curve tolerance:	ISO9906:2012 3B

Materials:

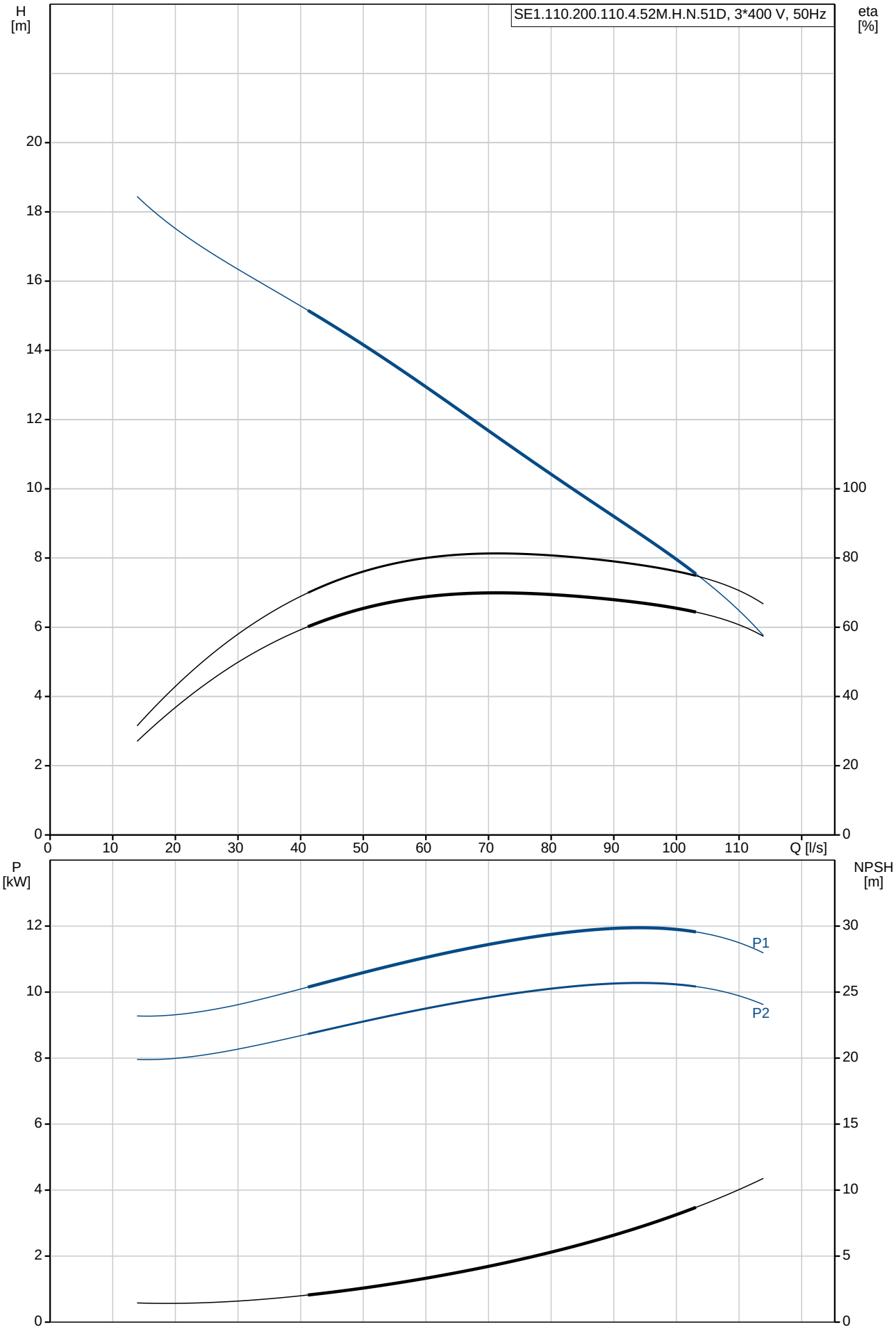
Pump housing:	Cast iron EN 1561 EN-GJL-250
Impeller:	Cast iron EN 1561 EN-GJL-250
Motor:	Cast iron EN 1561 EN-GJL-250

Installation:

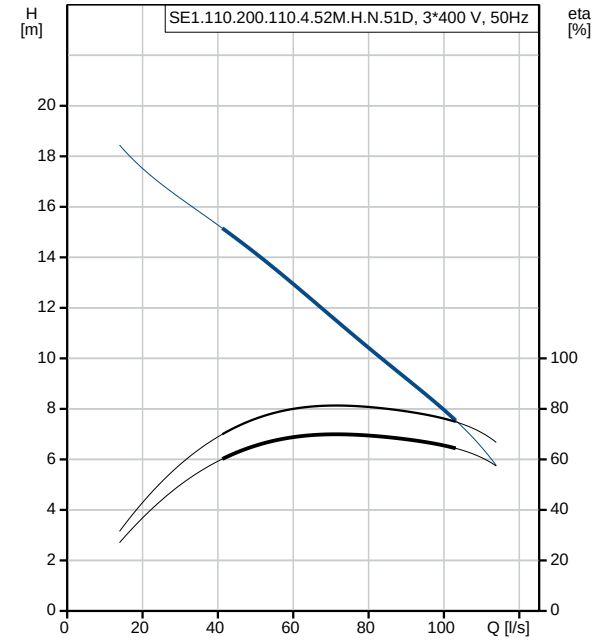
Maximum ambient temperature:	40 °C
Flange standard:	DIN

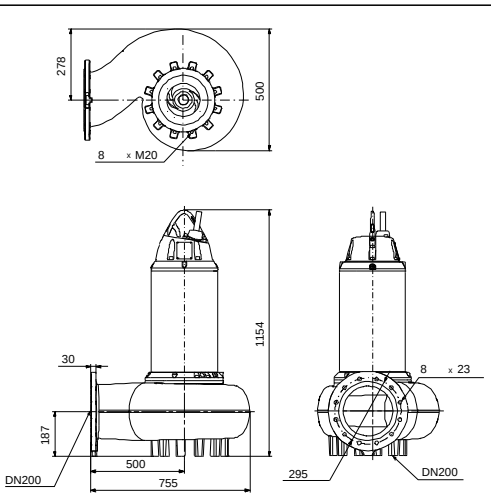
Position	Qty.	Description	
		Pump inlet:	DN 200
		Pump outlet:	DN 200
		Pressure rating:	PN 10
		Maximum installation depth:	20 m
		Inst horizontal:	98113366
		Frame range:	52
		Electrical data:	
		Power input - P1:	13 kW
		Rated power - P2:	11 kW
		Mains frequency:	50 Hz
		Rated voltage:	3 x 380-415/660-690 V
		Voltage tolerance:	+10/-10 %
		Max starts per. hour:	20
		Rated current:	24-22/14-13 A
		Maximum current consumption:	23 A
		Starting current:	210/116 A
		Rated current at no load:	10.4 A
		Rated speed:	1481 rpm
		Motor efficiency at full load:	86 %
		Motor efficiency at 3/4 load:	86 %
		Motor efficiency at 1/2 load:	84 %
		Number of poles:	4
		Start. method:	star/delta
		Enclosure class (IEC 34-5):	IP68
		Insulation class (IEC 85):	H
		Explosion proof:	no
		Ex-protection standard:	N
		Length of cable:	10 m
		Cable type:	S1BN8-F
		Winding resistance:	0.690 Ohm
		Cos phi 1/1:	0.82
		Cos phi 1/2:	0.70
		Cos phi 3/4:	0.76
		Others:	
		Net weight:	427 kg

On request SE1.110.200.110.4.52M.H.N.51D 50 Hz

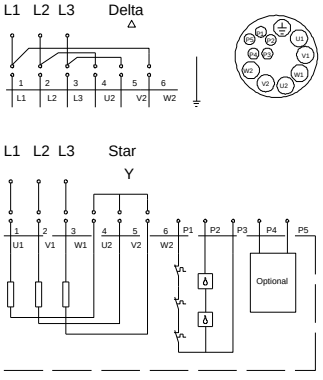


Description	Value
General information:	
Product name:	SE1.110.200.110.4.52M.H.N.51 D
Product No:	On request
EAN number:	On request
Technical:	
Max flow:	103 l/s
Head max:	15 m
Type of impeller:	S-TUBE
Maximum particle size:	110 mm
Primary shaft seal:	SIC-SIC
Secondary shaft seal:	SIC-CARBON
Curve tolerance:	ISO9906:2012 3B
Cooling jacket:	with cooling jacket
Materials:	
Pump housing:	Cast iron
	EN 1561 EN-GJL-250
Impeller:	Cast iron
	EN 1561 EN-GJL-250
Motor:	Cast iron
	EN 1561 EN-GJL-250
Installation:	
Maximum ambient temperature:	40 °C
Flange standard:	DIN
Pump inlet:	DN 200
Pump outlet:	DN 200
Pressure rating:	PN 10
Maximum installation depth:	20 m
Installation:	H
Inst dry/wet:	D
Installation:	horizontal
Inst horizontal:	98113366
Frame range:	52
Liquid:	
Liquid temperature range:	0 .. 40 °C
Density:	998.2 kg/m³
Electrical data:	
Power input - P1:	13 kW
Rated power - P2:	11 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415/660-690 V
Voltage tolerance:	+10/-10 %
Max starts per. hour:	20
Rated current:	24-22/14-13 A
Maximum current consumption:	23 A
Starting current:	210/116 A
Rated current at no load:	10.4 A
Rated speed:	1481 rpm
Motor efficiency at full load:	86 %
Motor efficiency at 3/4 load:	86 %
Motor efficiency at 1/2 load:	84 %
Number of poles:	4
Start. method:	star/delta
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	H
Explosion proof:	no
Ex-protection standard:	N
Motor protec:	KLIXON
Length of cable:	10 m
Cable type:	S1BN8-F
Cable size:	7X4+ 5X1,5
Cable resistance:	4.95 mOhm/m
Winding resistance:	0.690 Ohm
Cos phi 1/1:	0.82



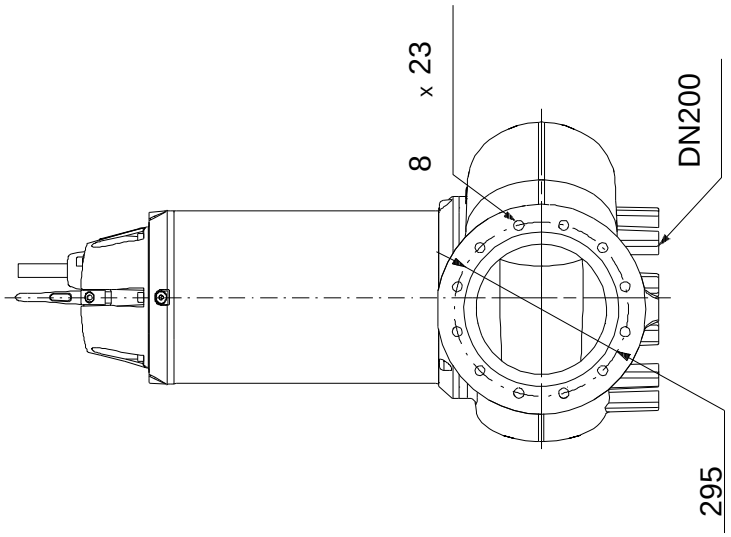


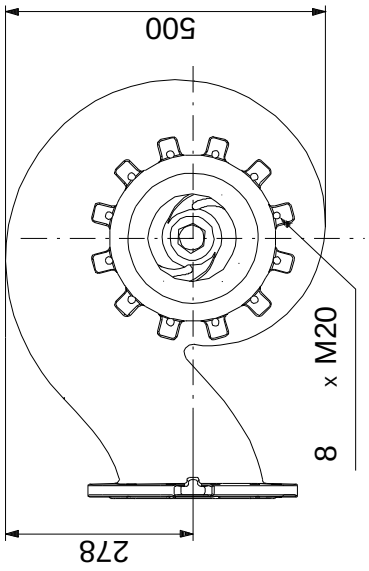
Wiring diagram. 12-wire cable

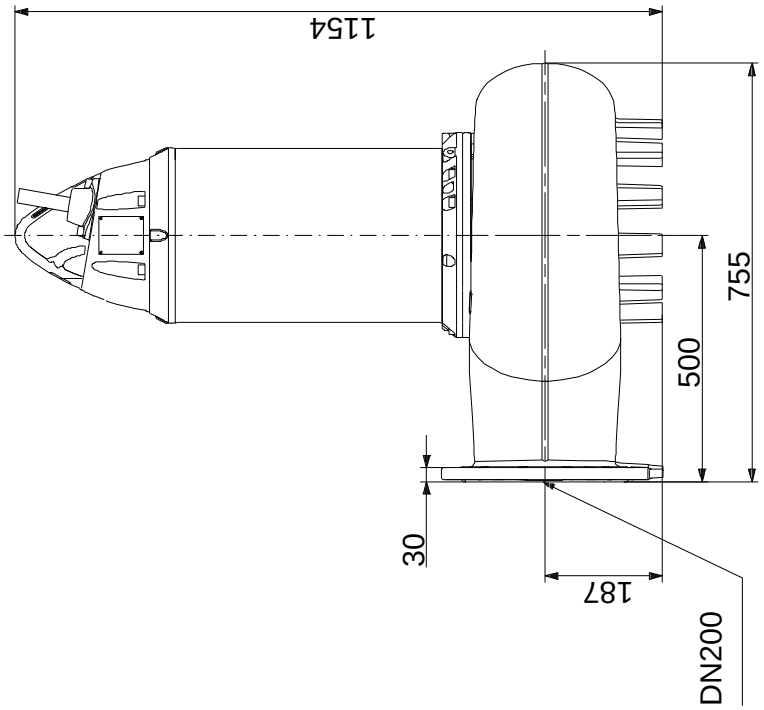


Description	Value
Cos phi 1/2:	0.70
Cos phi 3/4:	0.76
Controls:	
Moisture sensor:	with moisture sensors
Water-in-air sensor:	N
Others:	
Net weight:	427 kg

On request SE1.110.200.110.4.52M.H.N.51D 50 Hz

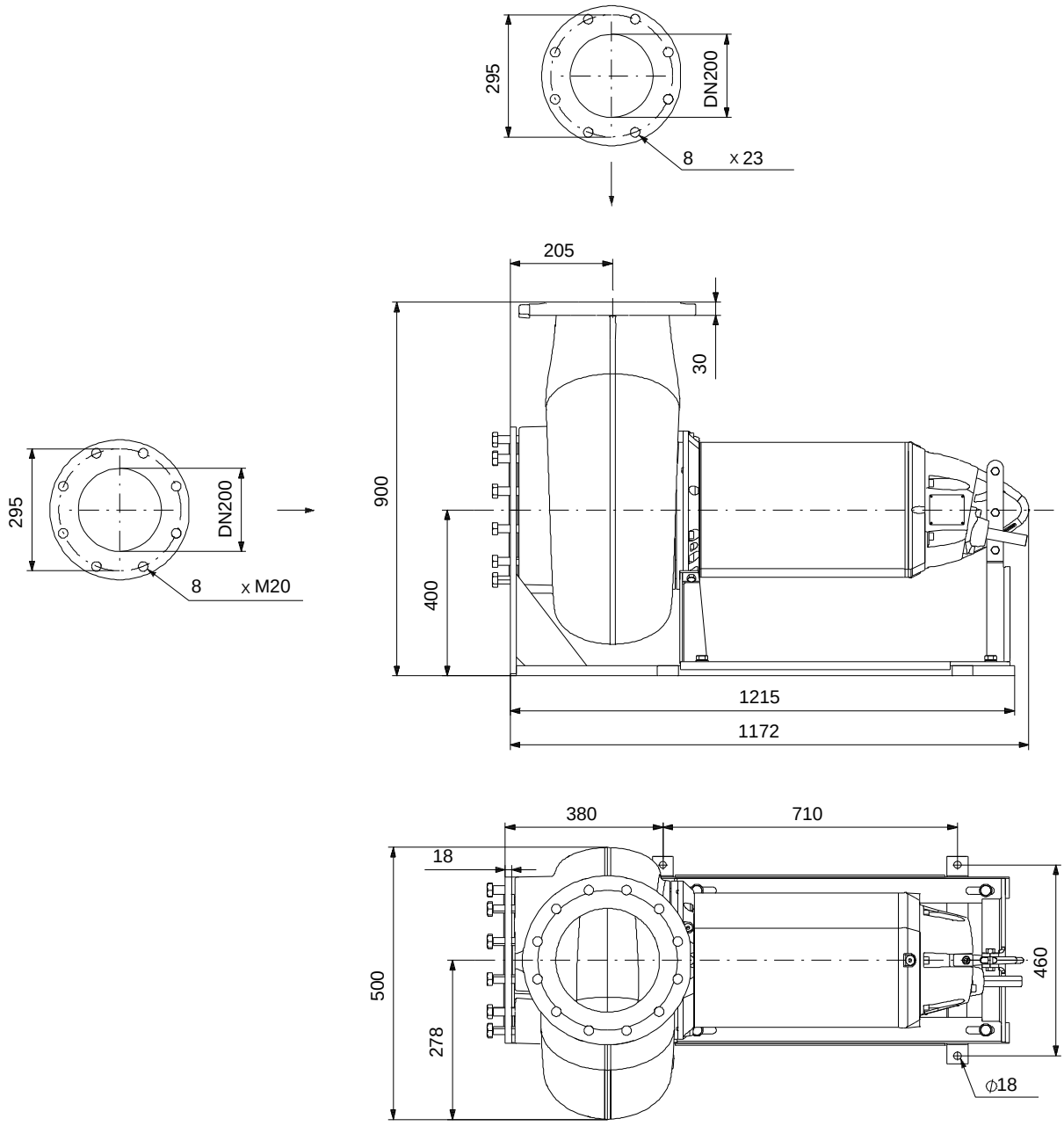






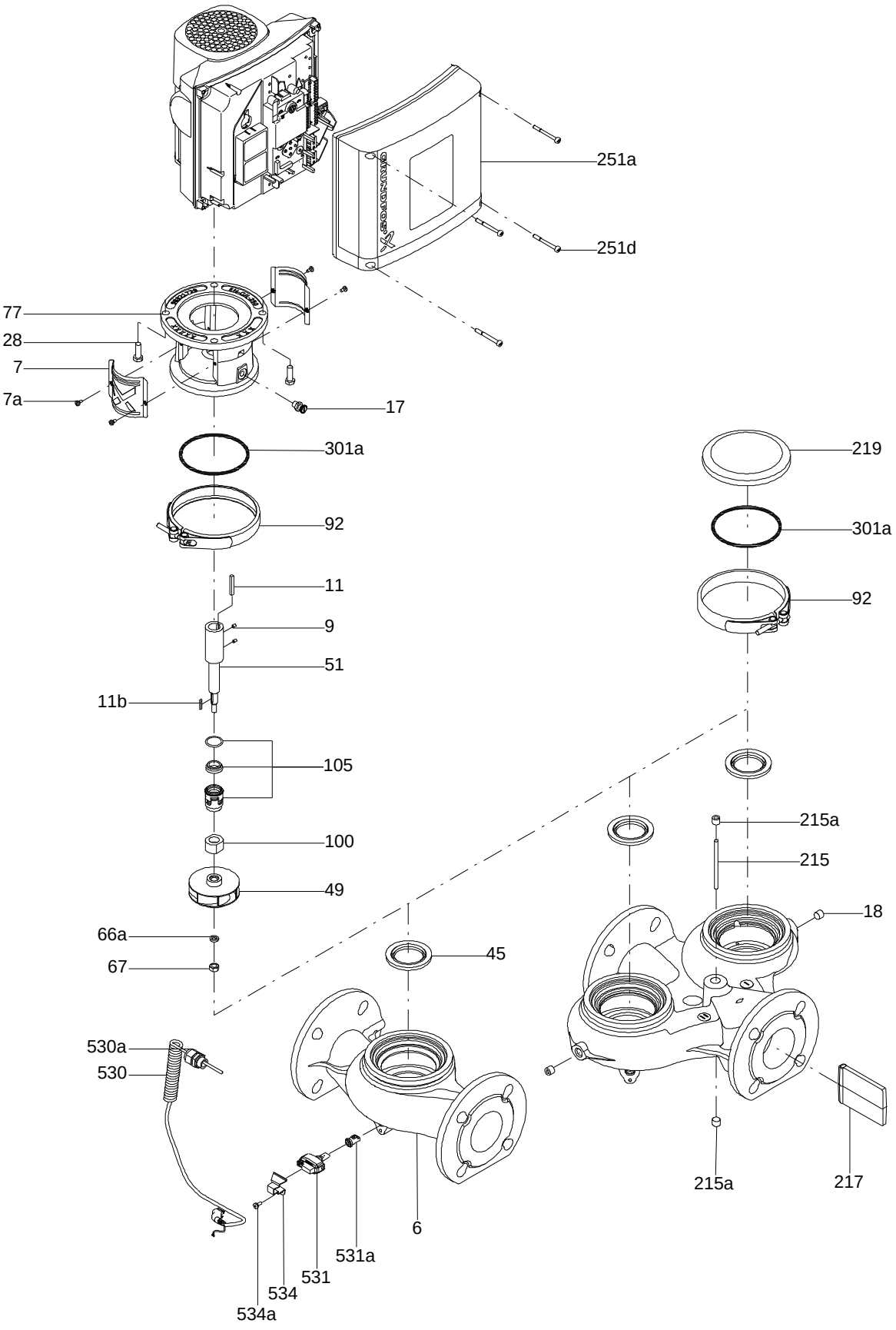
Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

On request SE1.110.200.110.4.52M.H.N.51D 50 Hz

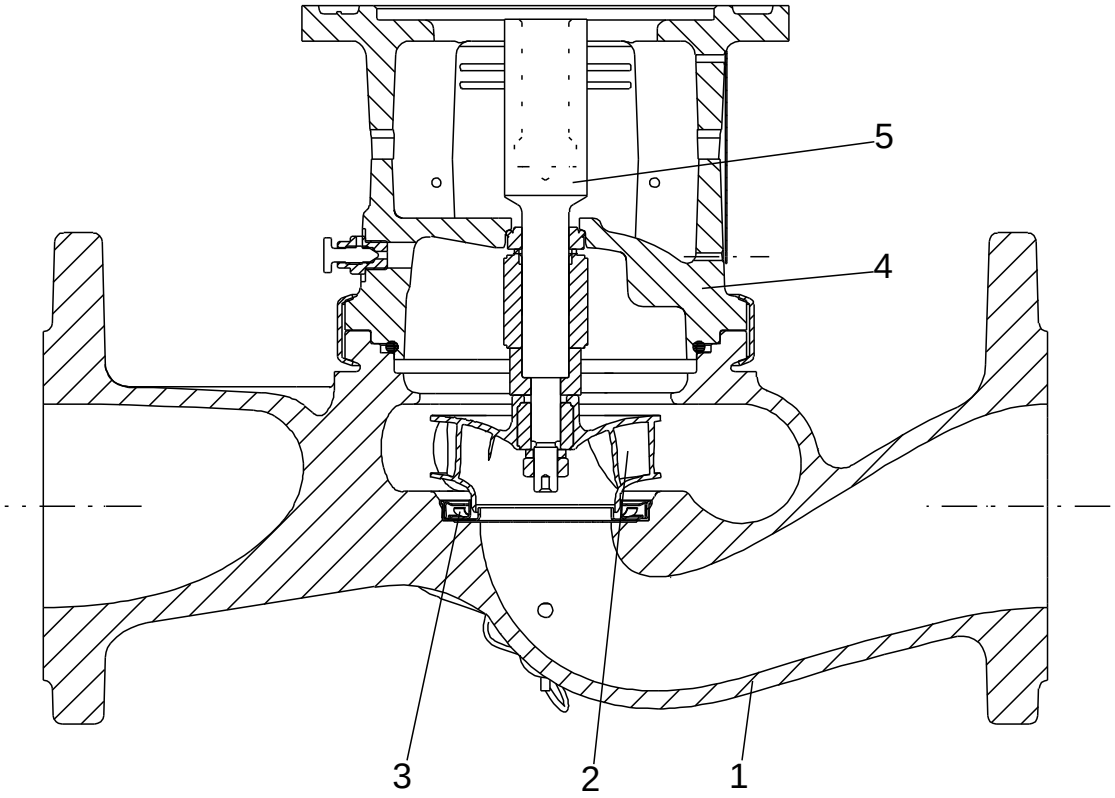


Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Exploded view

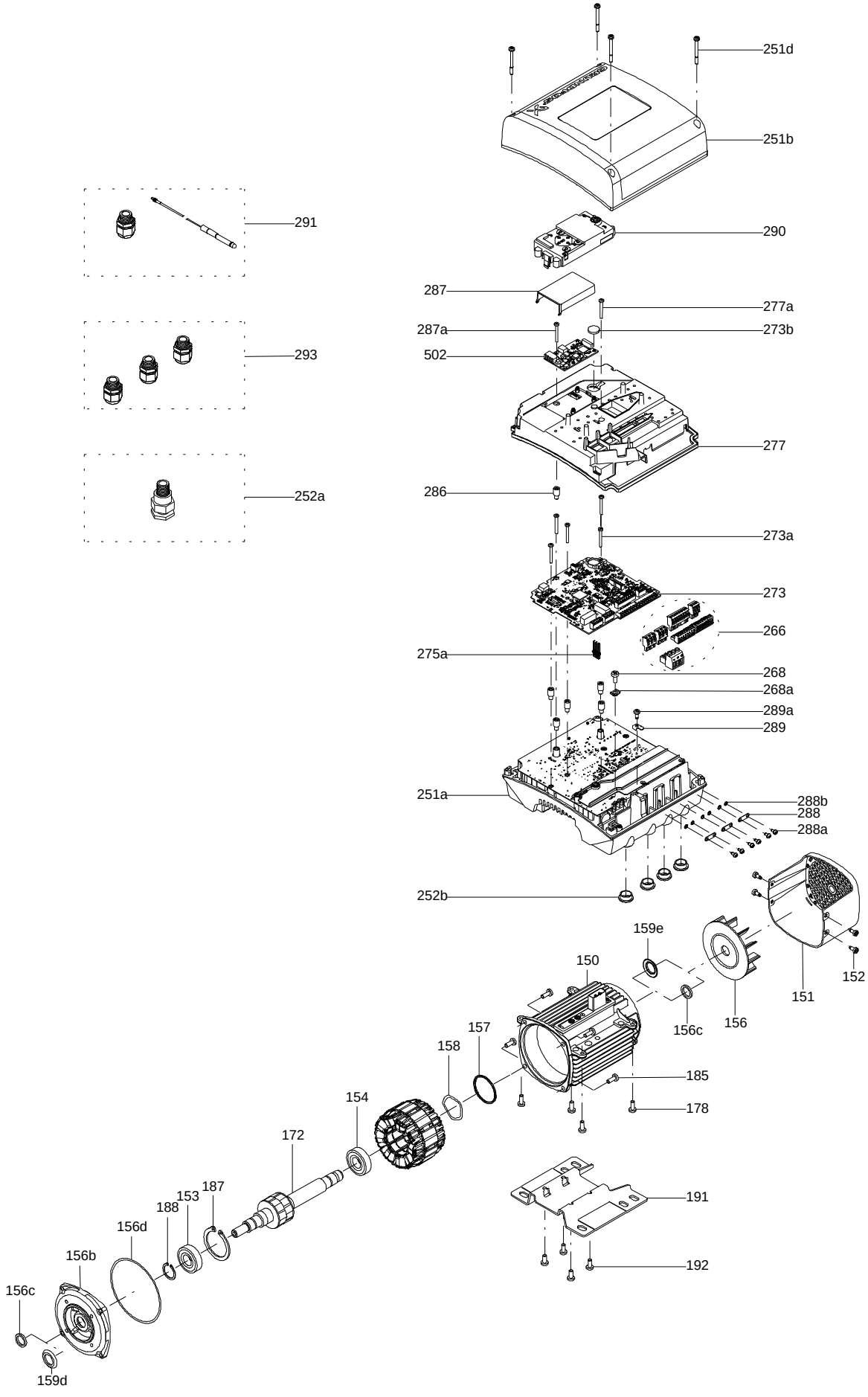


Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view (TM057026 for MGE model H/I)



Parts list SE1.110.200.110.4.52M.H.N.51D, Product No. On request
Valid from 12.6.2012 (1224)

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
-	Motor				1	pcs
	Washer				6	
	Hose				1	
	Cable shoe w/piggy back				1	
	Absorbent				1	
	Cable tie				1	
	Hex socket head cap screw				3	
	Formed wire spring				1	
6	Washer				3	
25	Plug				1	
55a	Retaining ring				1	
58	Seal housing				1	
58a	Seal housing				1	
59	Cover				1	
61	Bearing bracket, upper				1	
150b	Cooling jacket				1	
150c	Cooling jacket				1	
155	Bearing bracket, lower				1	
164a	Motor cover				1	
173e	Hex head screw				1	
173f	Disc spring				1	
173f	Disc spring				1	
178	Hex socket head cap screw				6	
182	Hex socket head cap screw		Designation: M 10		3	
			Length (mm): 30			
182b	Hex head bolt				3	
182c	Washer				3	
183	Hex socket head cap screw		Designation: M 10		3	
			Length (mm): 30			
185	Hex socket head cap screw				3	
190	Handle				1	
190b	Hex socket head cap screw				2	
193	Plug				2	
193	Plug				2	
520	Moisture sensor				1	
520a	Slot cheese head screw		Length (mm): 10		1	
			Thread: M3			
520c	Hex socket head cap screw				1	
521	Switch				1	
521b	Hex socket head cap screw				1	
522	Holder				1	
522c	Lock washer				1	
754	Cooling jacket				1	
-	O-ring				1	pcs
	O-ring				1	
37a	O-ring				2	
72a	O-ring				1	
106	O-ring				1	
107	O-ring				1	
157	O-ring		Diameter: 209 MM		1	
			Material type: NBR			
			Thickness: 5,7 MM			
157b	O-ring				1	
157c	O-ring				2	
157d	O-ring				1	
182d	O-ring				3	
-	Base plate				1	pcs
487	Base plate				1	
762a	Hex head screw				8	

	Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
	762b	Flange seal				2	
-		Cable arrangement				1	pcs
		Cable cpl.				1	
		Cable socket				5	
		Connector				7	
	168	Cable entry				1	
	168a	Cable entry				1	
	168b	Cable connector				1	
	176a	Terminal block				1	
	176c	Plug housing				1	
	181a	Hex socket head cap screw				2	
	198	Rubber seal				1	
	198a	Washer				1	
	198b	Washer				1	
	198c	Disc spring				4	
	1031	Connector pin				5	
-		Fastener				1	pcs
	66	Washer				1	
	67	Hex head screw				1	
-		Fastener				1	pcs
		Washer				6	
	12c	Socket set screw				3	
	26	Hex socket head cap screw				6	
	184b	Hex socket head cap screw				3	
	193	Plug				1	
-		Rotor assembly				1	pcs
	153	Ball bearing				1	
	154	Ball bearing				1	
	172	Shaft w/rotor				1	
	188	Lock washer				1	
	197	Washer		Internal diameter: 60		1	
				Outer diameter: 75			
				Thickness: 3			
	37b	O-ring				1	pcs
	49	Impeller				1	pcs
-	50	Volute casing				1	pcs
-		Volute casing				1	
		Volute casing				1	
	19	Plug				1	
	77	Seal housing				1	pcs
-	105	Shaft seal				1	pcs
		O-ring				1	
		O-ring				1	
		O-ring				1	
		Impeller				1	
		Shaft seal				1	
		Shaft seal				1	
		Shaft seal				1	
		Shaft seal				1	
-	150	Stator cpl.				1	pcs
	48	Stator				1	
	55	Stator housing				1	
	181	Cable				1	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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