MD1.80.100.30.4.50D/450-2.SE

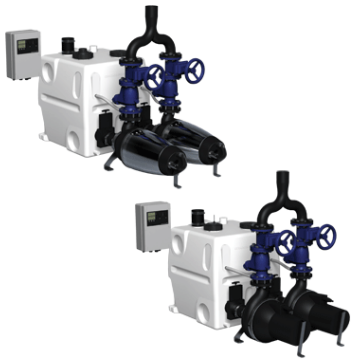
Grundfos pump 96102296

Thank you for your interest in our products. Please contact us for more information, or visit our website

https://www.lenntech.com/grundfos/MULDOUB/96102296/MD1-80-100-30-4-50D-450-2-SE.html

info@lenntech.com
tel. +31 152 610 900
fax. +31 152 616 289

Position	Qty.	Description
	1	**MD1.80.100.30.4.50D/450-2.SE**



Note! Product picture may differ from actual product

Product No.: On request

Compact wastewater lifting station consist a package of one or two 450 litre collecting tanks, two horizontal submersible sewage pumps of the SE range, controller incl. analogue level sensor and connection accessories.

The 450 liter tank is made of airtight, corrosion free polyethylene and absolute gas and odour free. It is provided with

- three horizontal inlet sockets DN150 with one socket seal,
- vertical inlet connecting piece DN100,
- vertical connecting piece DN75 for venting with flex. connection piece and clamps
- two horizontal connecting pieces DN40 with one connection piece and clamps for manually diaphragm pump (accessory).

The tank is designed with an inner patented chamfer and suction bends to avoid sedimentation and to reduce residual water. In case of additional collecting tank 4 connection sockets DN150 are placed at the sides.

Horizontal sewage pumps provides single channel impeller or vortex impeller for every request

- free passage up to 80mm for reliable and blockage free operation,

-a unique clamp system to dismantle hydraulic and motor within a minute,

-a watertight stainless steel cable plug for easy maintenance and service,

-double shaft seal cartridge for easy maintenance and service,- motor with thermal switches inside the winding

-patented cooling system for continuous duty at SE range

- motor with thermal switches inside the winding

Isolating valves, non-return valves, discharge pipes, a manually operated diaphragm pump, bolts and gaskets as well as a third 450-litre tank are available as accessories.

An LC221 controller with microprocessor is equipped with display for full monitoring possibilities. The pump and sensor are connected to the controller with 4m or 10m cable and tube length. The power supply cable is 1,5m with plug (incl. phase inverter for 3 phase motor)

Contactless, piezo resistive pressure sensor pluggable inside the cabinet, monitored by controller, accurate to the

millimetre shown on display. Blockage free pressure tube inside the tank without movable parts inside wastewater.

The controller offer thermal motor protection and monitoring of pump operation. The thermal motor protection consists of thermal switches in the winding.

Controller functions:

• start/delta operation for pumps >5kW

• on/off, regular and failure changeover of two wastewater pumps based on a continuous signal from a piezo-resistive sensor

• motor protection via motor-protective circuit breaker and/or current measurement as well as connection of thermal switches.

• dry running motor protection via run-time limitation with a following emergency operation

• 24h automatic test runs during long periods of

Position	Qty.	Description

inactivity
• setting of delay times:
- stopping delay (time from the stop level is reached till the pumped is stopped)
- starting delay (time from the start level is reached till the pumped is started)
- alarm delay (time from a fault appears till an alarm is

indicated) to prevents short-time high-level alarm in case of temporary high inflow to the tank.
• automatic current measurement for alarm indications
• operating indication of:
- operating mode (auto, manual)
- operating hours
- impulses (number of starts)
- highest measured motor current

• alarm indication of:
- pump status (running, fault)
- phase-sequence fault and missing phase
- thermal-switch failure
- high-water alarm
- time for service/maintenance (selectable).

• selection of automatic alarm resetting
• fault log of up to 20 alarms
• selection between different start levels
• selection of connected sensor type
• calibration of sensor (preset)
• selection of maintenance interval (0, 3, 6 or 12 months).
As standard, the LC 221 has
6 potential-free outputs for:
– pump running
– pump failure
– high water-level alarm
– common fault.
6 digital inputs for the following functions:
– connecting a pressure sensor board (pre-assembled)
– connecting an analogue sensor (4-20mA or 0-5V)
– connecting up to four level switches or pressure switches instead of analogue sensor
– connecting a separate level switch to be used for flood
detection outside the Multilift. Lifting stations are often
installed in a sump inside the basement - the lowest point in the building. In case of e.g. groundwater inflow or water pipe burst, an alarm will be indicated by the controller.
– connecting an external alarm reset
– connecting the thermal switch of the motor.

The Multilift range is designed due to the standard EN12050-1, approved and monitored by external institute LGA. Further approvals are VDE, GHOST, CB, EMV

Technical:

Type of impeller:	SINGLE CHANNEL
Maximum particle size:	80 mm
Primary shaft seal:	SIC/SIC
Secondary shaft seal:	CARBON/CERAMICS
Max. hydraulic efficiency:	65 %
Approvals on nameplate:	EN 12050-1

Materials:

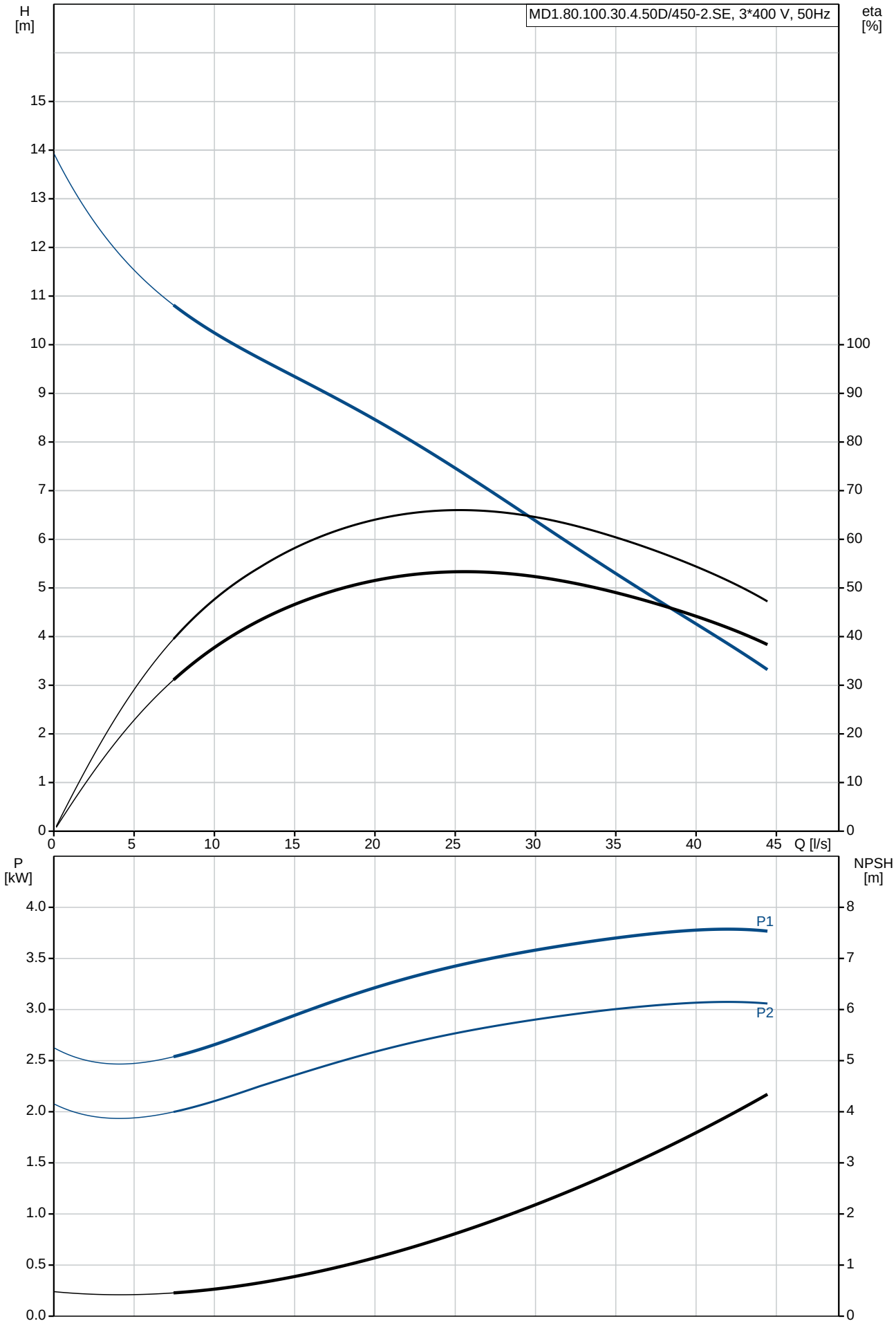
Pump housing:	Cast iron GG20 EN-JL1030
Impeller:	Cast iron GG20 EN-JL1030
Tank:	Polyethylene

Installation:

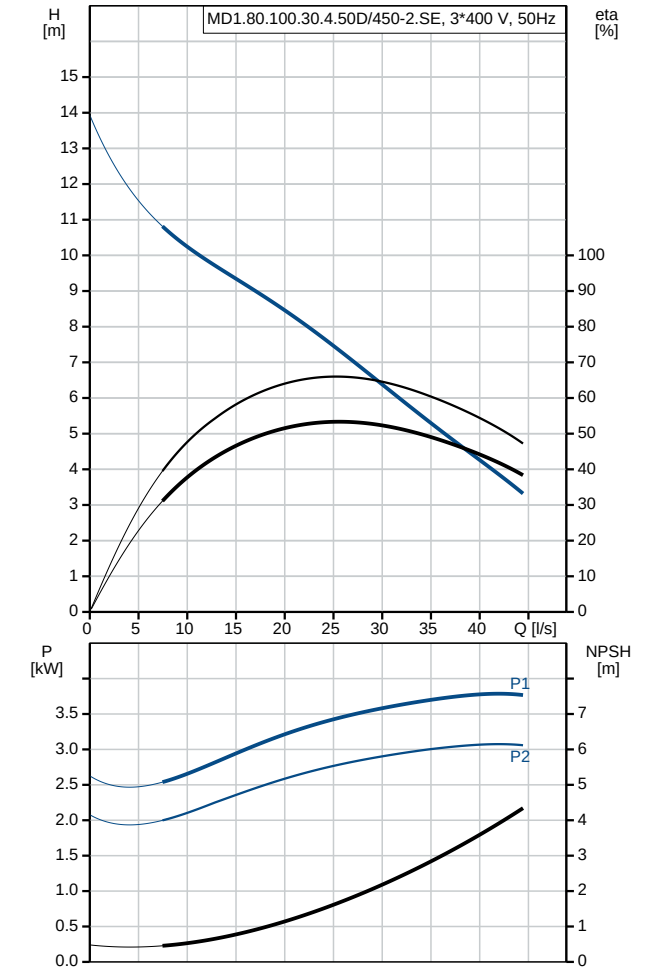
Maximum ambient temperature:	40 °C
Maximum operating pressure:	10 bar
Flange standard:	DIN
Pump outlet:	100

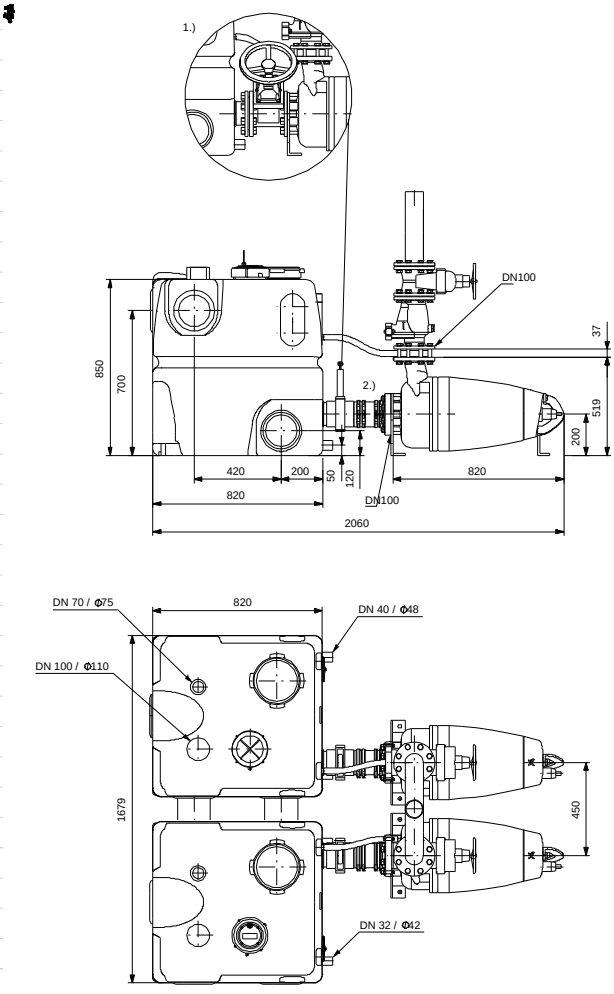
Position	Qty.	Description
		Pressure rating: PN 10 Maximum installation depth: 2 m **Liquid:** Maximum liquid temperature: 40 °C Density: 998.2 kg/m³ **Electrical data:** Power input - P1: 2 x 3.7 kW Rated power - P2: 2 x 3 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-415 V Voltage tolerance: +6/-10 % Max starts per. hour: 60 Rated current: 7.8-8.0 A Rated current at 3/4 load: 6.4 A Rated current at 1/2 load: 5.6 A Starting current: 43 A Rated current at no load: 5.1 A Cos phi - p.f. at no load: 0.12 Cos phi - p.f. at 3/4 load: 0.64 Cos phi - p.f. at 1/2 load: 0.5 Rated speed: 1455 rpm Locked-rotor torque: 53 Nm Breakdown torque: 71 Nm Moment of inertia: 0.0966 kg m² Motor efficiency at full load: 81.2 % Motor efficiency at 3/4 load: 79.9 % Motor efficiency at 1/2 load: 76.4 % Number of poles: 4 Start. method: direct-on-line Enclosure class (IEC 34-5): IP68 Insulation class (IEC 85): F Length of cable: 10 m Cable type: H07RN-F **Controls:** Moisture sensor: without moisture sensors Water-in-oil sensor: without water-in-oil sensor **Tank:** Total volume of tank(s): 900 l Total effective volume of collecting tank at 180 mm inlet: 120 l Total effective volume of collecting tank at 250 mm inlet: 240 l

On request MD1.80.100.30.4.50D/450-2.SE 50 Hz



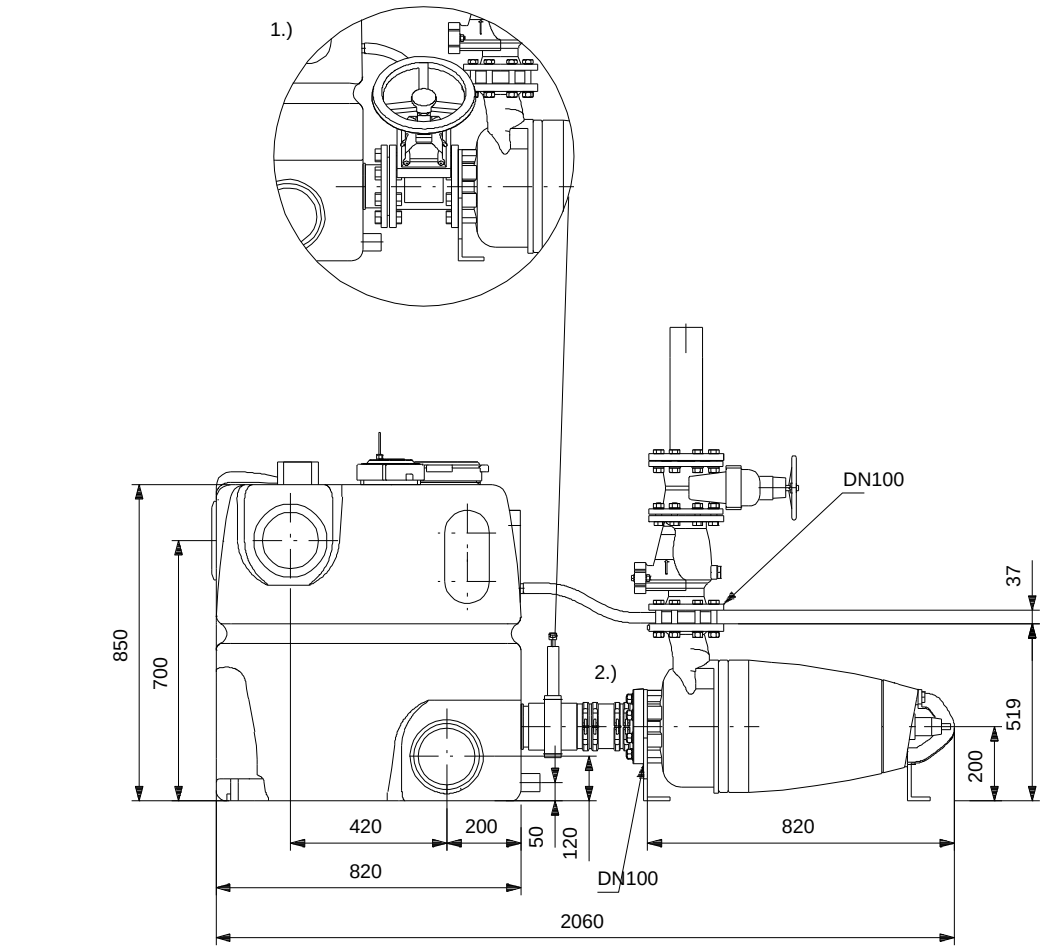
Description	Value
General information:	
Product name:	MD1.80.100.30.4.50D/450-2.SE
Product No:	On request
EAN number:	On request
Technical:	
Max flow:	44.4 l/s
Head max:	14.5 m
Type of impeller:	SINGLE CHANNEL
Maximum particle size:	80 mm
Primary shaft seal:	SIC/SIC
Secondary shaft seal:	CARBON/CERAMICS
Max. hydraulic efficiency:	65 %
Approvals on nameplate:	EN 12050-1
Materials:	
Pump housing:	Cast iron GG20
	EN-JL1030
Impeller:	Cast iron GG20
	EN-JL1030
Tank:	Polyethylene
Installation:	
Maximum ambient temperature:	40 °C
Maximum operating pressure:	10 bar
Flange standard:	DIN
Pump outlet:	100
Pressure rating:	PN 10
Maximum installation depth:	2 m
Liquid:	
Maximum liquid temperature:	40 °C
Density:	998.2 kg/m³
Electrical data:	
Power input - P1:	2 x 3.7 kW
Rated power - P2:	2 x 3 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415 V
Voltage tolerance:	+6/-10 %
Max starts per. hour:	60
Rated current:	7.8-8.0 A
Rated current at 3/4 load:	6.4 A
Rated current at 1/2 load:	5.6 A
Starting current:	43 A
Rated current at no load:	5.1 A
Cos phi - p.f. at no load:	0.12
Cos phi - p.f. at 3/4 load:	0.64
Cos phi - p.f. at 1/2 load:	0.5
Rated speed:	1455 rpm
Locked-rotor torque:	53 Nm
Breakdown torque:	71 Nm
Moment of inertia:	0.0966 kg m²
Motor efficiency at full load:	81.2 %
Motor efficiency at 3/4 load:	79.9 %
Motor efficiency at 1/2 load:	76.4 %
Number of poles:	4
Start. method:	direct-on-line
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Motor protec:	THERMAL SWITCH
Thermal protec:	internal
Length of cable:	10 m
Cable type:	H07RN-F
Controls:	
Moisture sensor:	without moisture sensors
Water-in-oil sensor:	without water-in-oil sensor
Operation mode:	S1/S3 50%,1MIN.
Tank:	

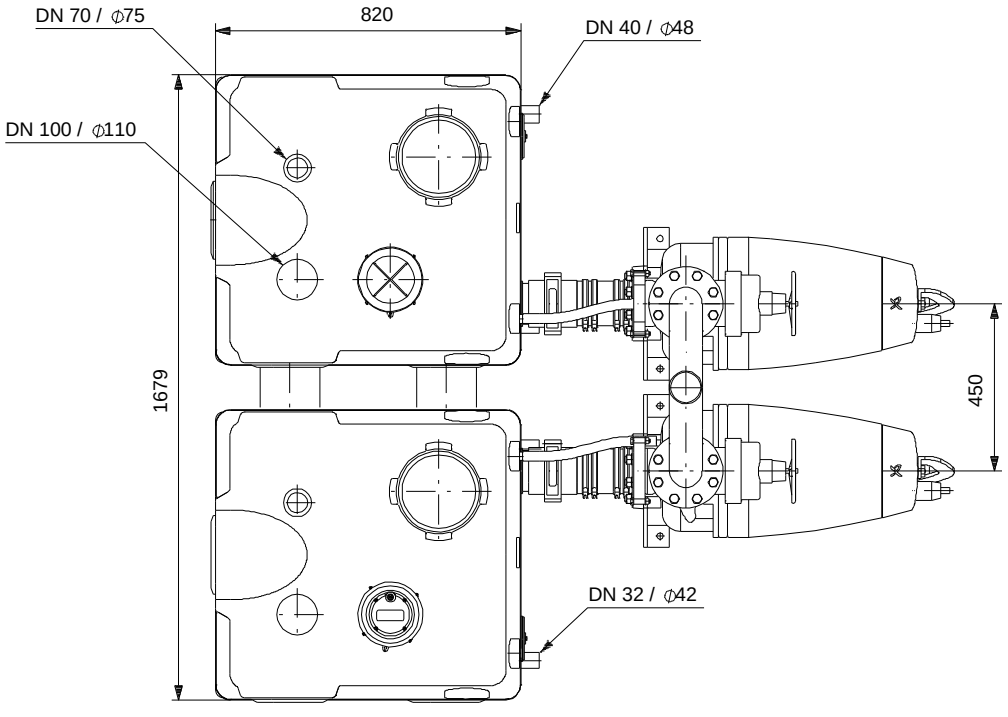




Description	Value
Total volume of tank(s):	900 l
Total effective volume of collecting tank at 180 mm inlet:	120 l
Total effective volume of collecting tank at 250 mm inlet:	240 l

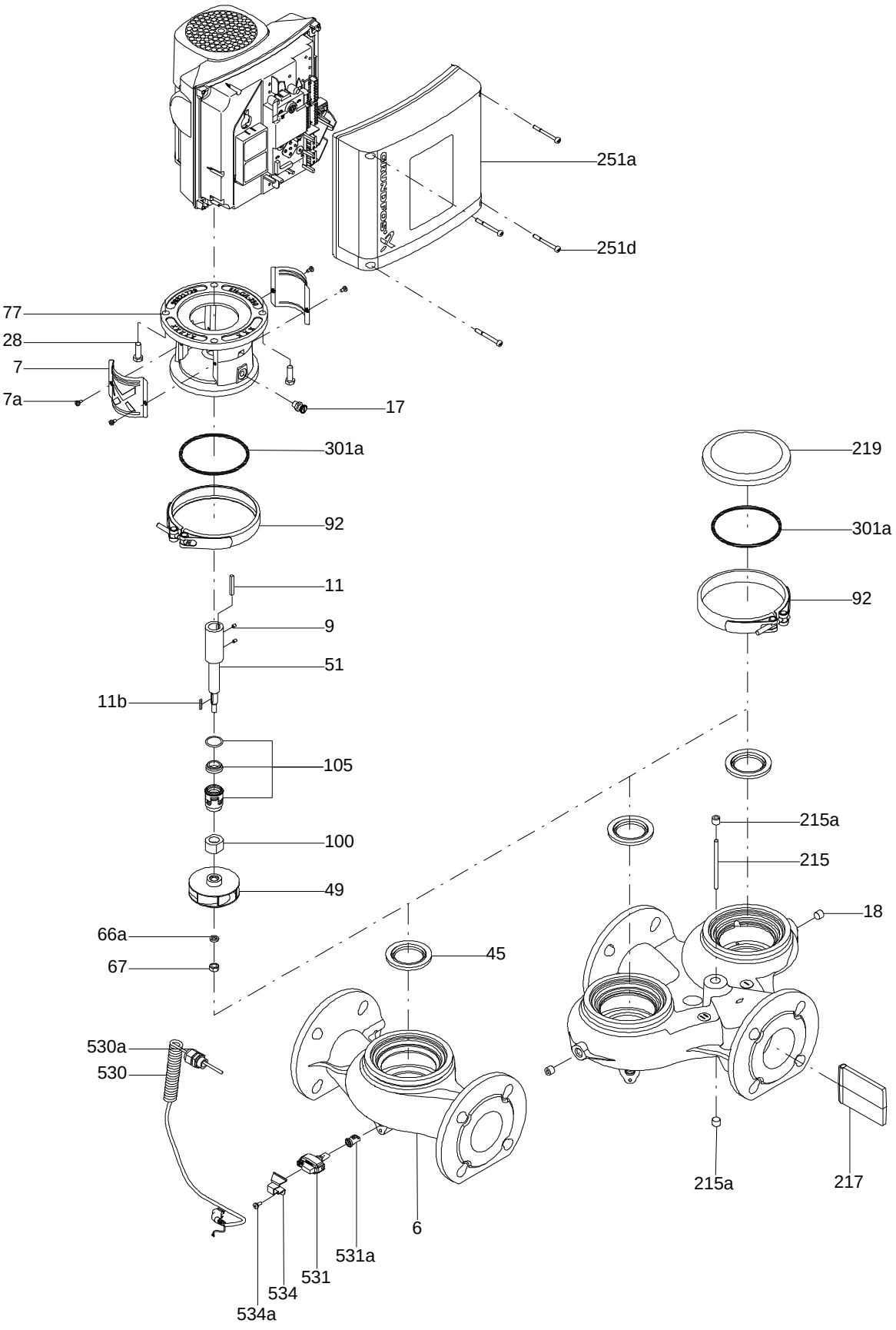
On request MD1.80.100.30.4.50D/450-2.SE 50 Hz



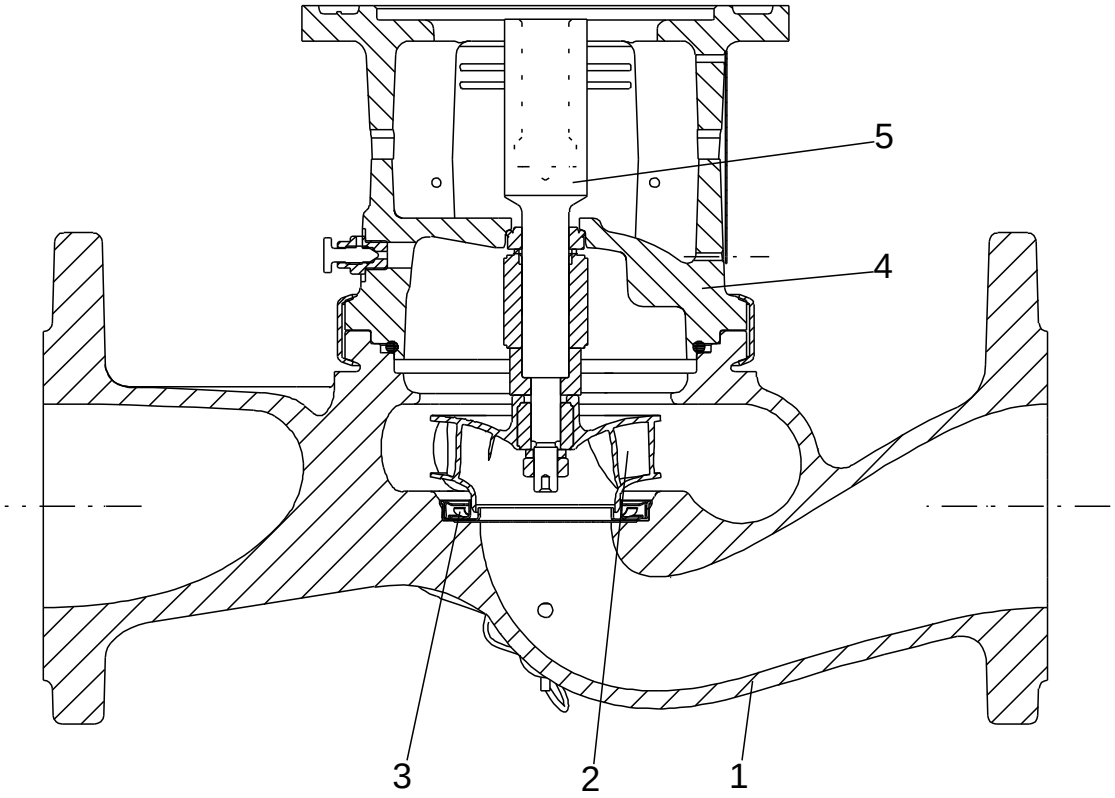


Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Exploded view

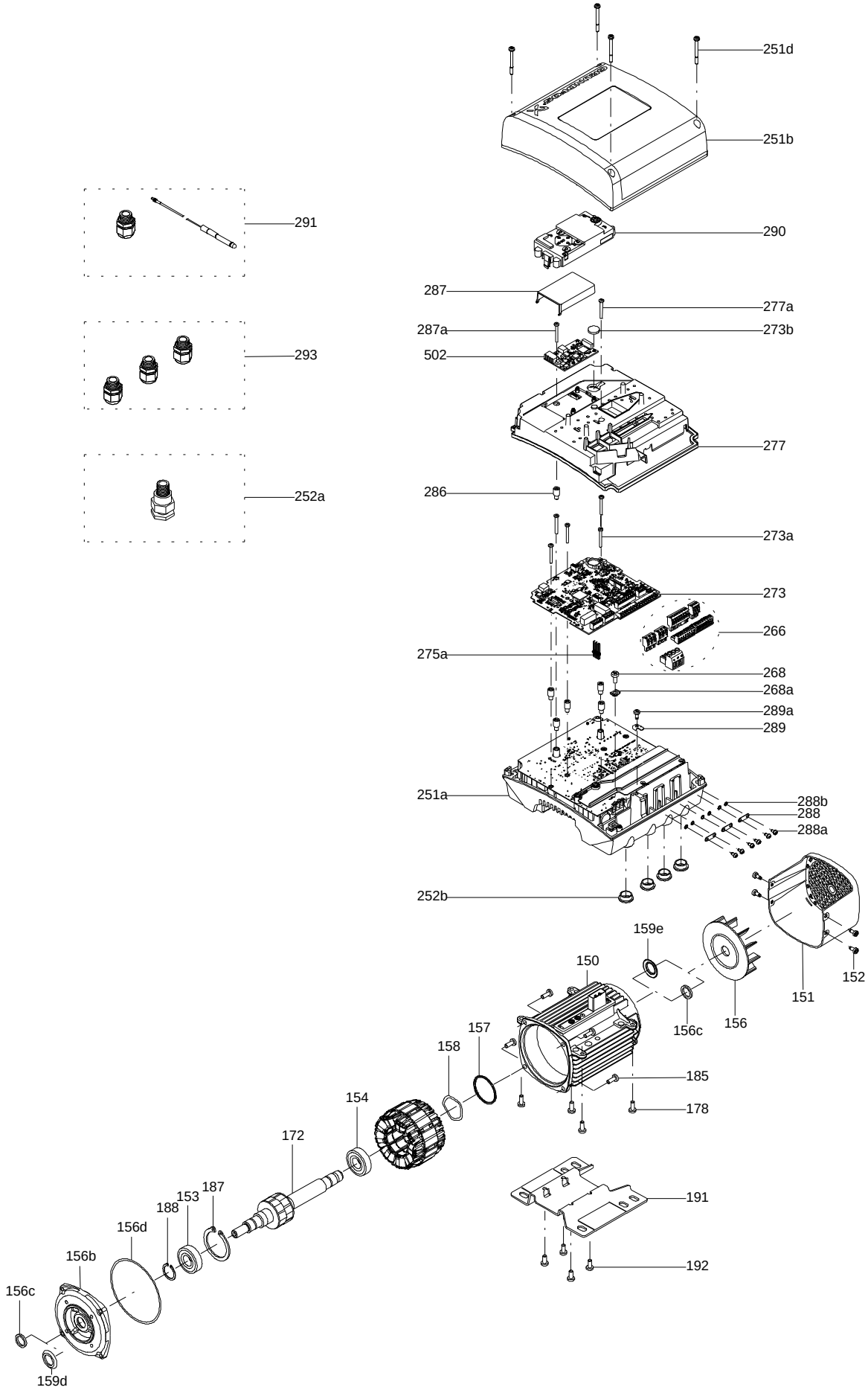


Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view (TM057026 for MGE model H/I)



Parts list MD1.80.100.30.4.50D/450-2.SE, Product No. On request
Valid from 21.1.2013 (1304)

	Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
-	301	Pump				1	pcs
		Clamp				2	
		Earth connector				1	
		Thermotransfer foil				0	
		Thermotransfer foil				0	
	6a	Pin				2	
	7a	Rivet				4	
	9a	Parallel key		Dimension: 8X7X28		1	
	37	O-ring		Diameter: 297		1	
				Material type: NBR70			
				Thickness: 4			
	37a	O-ring		Diameter: 330		2	
				Material type: NBR70			
				Thickness: 4			
	37b	O-ring		Diameter: 225		1	
				Material type: NBR			
				Thickness: 4			
+	46	Seal ring				1	
	48	Stator				1	
	49	Impeller				1	
	49c	Wear ring				1	
	50	Pump housing				1	
	55	Stator housing				1	
	58	Cover				1	
	59	Bearing cover				1	
	60	Bearing retainer				1	
	61	Bearing retainer				1	
	66	Washer		Internal diameter: 12.5		1	
				Outer diameter: 31			
				Thickness: 5			
	76	Nameplate				1	
+	92	Strap cpl.				1	
	102	Retaining ring				1	
-	105	Shaft seal				1	
		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	
				Material type: NBR			
				Thickness: 3			
	108	O-ring		Diameter: 100		1	
				Material type: NBR			
				Thickness: 3			
	109	O-ring		Diameter: 100		1	
				Material type: NBR			
				Thickness: 3			
	150	Motor sleeve				1	
	151	Motor cover				1	
	153	Ball bearing		Designation: 6305.2Z.C4.SYN		1	
	153b	O-ring		Diameter: 28		1	
				Material type: NBR			

	Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
				Thickness: 2			
	154	Angular-contact bearing				1	
	155	Flange				1	
	157	Waved washer				1	
	158	Waved washer				1	
	159	O-ring		Diameter: 41		1	
				Material type: NBR			
				Thickness: 4			
	172	Shaft w/rotor				1	
	174a	Lock washer				1	
	176	Plug				1	
	177	Plug protector				1	
	177	Hex socket head cap screw				1	
-	181	Cable cpl.				1	
	198	O-ring					1
	183	Hex socket head cap screw		Length (mm): 50		1	
				Thread: M30			
	183a	Washer		Internal diameter: 33		1	
				Outer diameter: 38			
				Thickness: 2			
	184	Hex socket head cap screw		Designation: DIN 912		6	
				Length (mm): 40			
				Thread: M10			
	184a	Washer		Internal diameter: 10.5		6	
				Outer diameter: 18			
				Thickness: 1.6			
	186	Hex socket head cap screw				2	
	187	Hex socket head cap screw				4	
	188	Hex socket head cap screw				4	
	188a	Hex socket head cap screw		Length (mm): 35		1	
				Thread: M12			
	190	Lifting bracket				1	
	190a	Rubber bush				2	
	192	Cooling paste				12	
	193	Hex socket head cap screw		Designation: A2-70		2	
				Length (mm): 20			
				Thread: M12			
	193a	Oil				0	
	194	Washer		Internal diameter: 19		2	
				Outer diameter: 12.2			
				Thickness: 4.4			
	1031	Connector pin				9	

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.

info@lenntech.com
https://www.lenntech.com
tel. +31 152 610 900
fax. +31 152 616 289