TPE 50-540/2-S-A-F-A-BQQE 3X400 50HZ

Grundfos pump 99114668



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https://www.lenntech.com/grundfos/TPE0S2/99114668/TPE-50-540-2-S-A-F-A-BQQE.html

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Position	Qty.	Description
	1	**TPE 50-540/2-S A-F-A-BQQE**



Product No.: On request

Single-stage, close-coupled, volute pump with in-line suction and discharge ports of identical diameter. The pump is of the top-pull-out design, i.e. the power head (motor, pump head and impeller) can be removed for maintenance or service while the pump housing remains in the pipework.

The pump is fitted with an unbalanced rubber bellows seal. The shaft seal is according to EN 12756. Pipework connection is via PN 16 DIN flanges (EN 1092-2 and ISO 7005-2).

The pump is fitted with a fan-cooled, permanent-magnet synchronous motor. The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.

The motor includes a frequency converter and PI controller in the motor terminal box. This enables continuously variable control of the motor speed, which again enables adaptation of the performance to a given requirement.

The pump is fitted with a differential-pressure sensor.

Further product details

The pump is suitable for applications requiring pressure control. The pump is fitted with a differential-pressure transmitter registering the differential pressure across the pump and enabling constant pressure or proportional-pressure control of the pump.

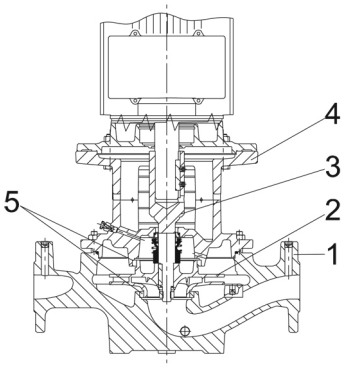
A control panel enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". The control panel has indicator lights for "Operation" and "Fault".

Communication with the pump is possible by means of the Grundfos GO Remote (accessory). The remote control enables further settings as well as reading out of a number of parameters such as "Actual value", "Speed", "Power input" and total "Power consumption".

The product's minimum efficiency index (MEI) is greater or equal to 0.70. This is by the Commission Regulation (EU) considered as an indicative benchmark for best-performing water pump available on the market as from 1 January 2013.

Pump

Pump housing and pump head are electrocoated to improve the corrosion resistance.
Electrocoating includes:
1) Alkaline-based cleaning.
2) Pretreatment with zinc phosphate coating.
3) Cathodic electrocoating (epoxy).
4) Curing of paint film at 200-250 °C.



1: Pump housing
2: Impeller
3: Stub shaft
4: Pump head/motor stool
5: Wear rings

Position	Qty.	Description

The pump housing is provided with a replaceable brass neck ring to reduce the amount of liquid running from the outlet side of the impeller to the inlet side. The impeller is secured to the shaft with a nut.

The pump is fitted with an unbalanced rubber bellows seal with torque transmission across the spring and around the bellows. Due to the bellows, the seal does not wear the shaft, and the axial movement is not prevented by deposits on the shaft.

Primary seal:

- Rotating seal ring material: silicon carbide (SiC)
- Stationary seat material: silicon carbide (SiC)

This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.

Secondary seal material: EPDM (ethylene-propylene rubber)

EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.

A circulation of liquid through the duct of the air vent screw ensures lubrication and cooling of the shaft seal.

The flanges have tappings for mounting of pressure gauges.

The motor stool forms connection between the pump housing and the motor, and is equipped with a manual air vent screw for venting of the pump housing and the shaft seal chamber. The sealing between motor stool and pump housing is an O-ring.

The central part of the motor stool is provided with guards for protection against the shaft and coupling. The pump shaft is fastened directly on the motor shaft with key and set screws.

Motor

The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. Electrical tolerances comply with IEC 60034.

The motor is flange-mounted with free-hole flange (FF).

Motor-mounting designation in accordance with IEC 60034-7: IM B 5, IM V 1 (Code I) / IM 3001, IM 3011 (Code II).

The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.

The motor requires no external motor protection. The motor control unit incorporates protection against slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.

The terminal box holds terminals for these connections:

- one dedicated digital input
- two analog inputs, 0(4)-20 mA, 0-5 V, 0-10 V, 0.5 - 3.5 V; the factory-fitted pressure sensor is connected to one of these inputs
- 5 V voltage supply to potentiometer and sensor
- one configurable digital input or open-collector output
- Grundfos Digital Sensor input and output
- 24 V voltage supply for sensors
- two signal relay outputs (potential-free contacts)
- GENIbus connection
- interface for Grundfos CIM fieldbus module.

Technical data

Controls:

Frequency converter:	Built-in

Liquid:

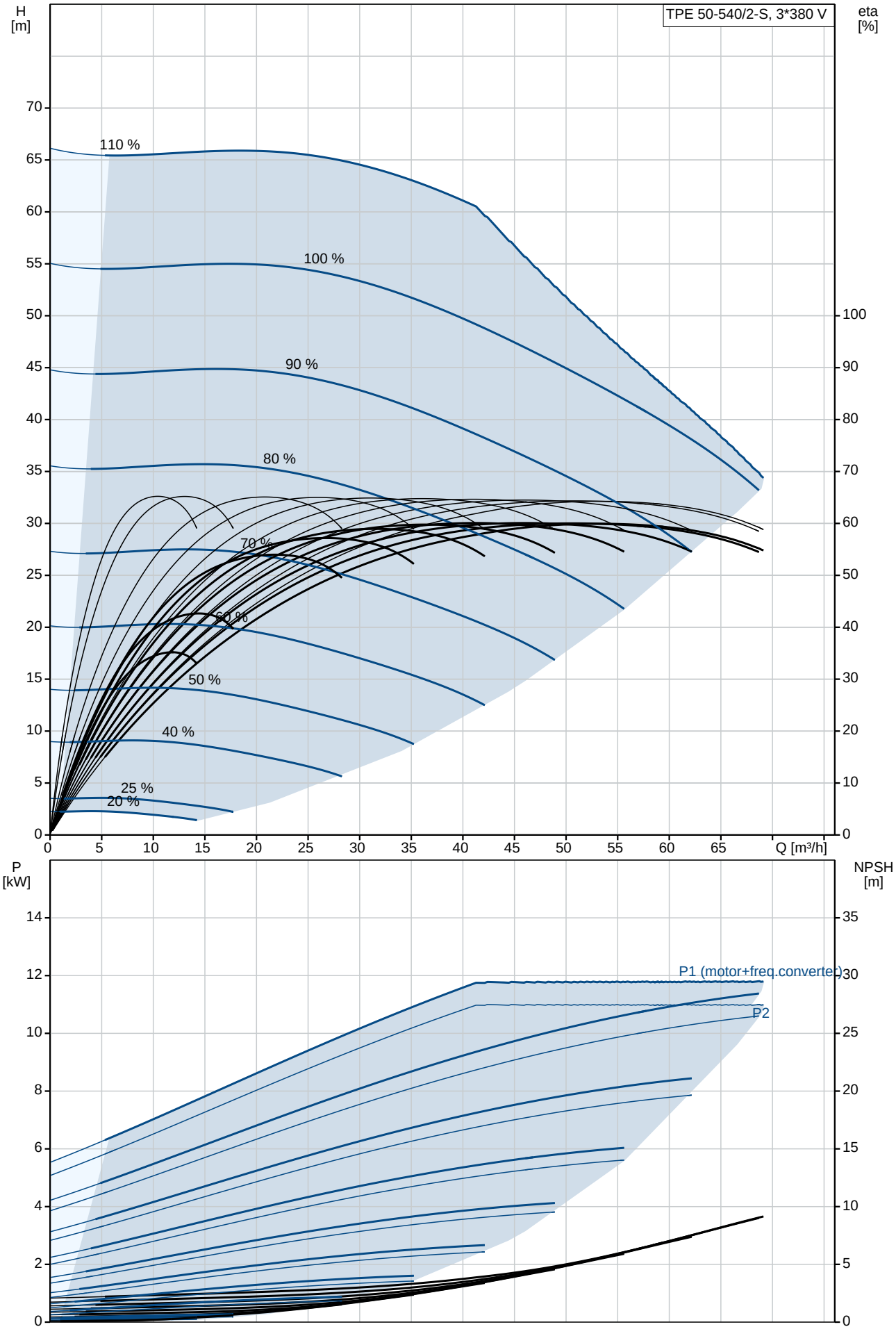
Pumped liquid:	Water
Liquid temperature range:	-25 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m³

Technical:

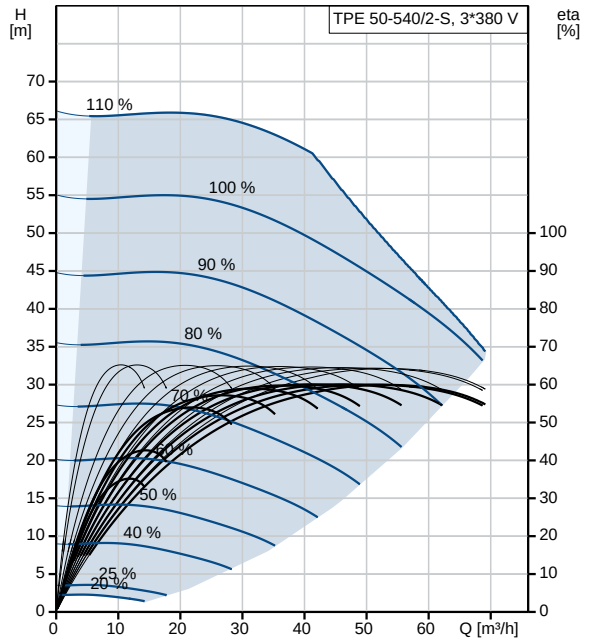
Rated flow:	53.5 m³/h
Rated head:	44.2 m
Actual impeller diameter:	207 mm
Primary shaft seal:	BQQE

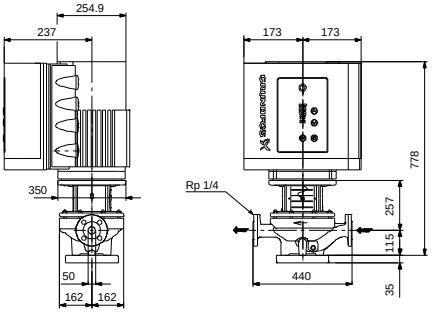
Position	Qty.	Description	
		Curve tolerance:	ISO9906:2012 3B
		Materials:	
		Pump housing:	Cast iron EN-JL1040 ASTM A48-40 B
		Impeller:	Cast iron EN-JL1030 ASTM A48-30 B
		Installation:	
		Range of ambient temperature:	-20 .. 50 °C
		Maximum operating pressure:	16 bar
		Flange standard:	DIN
		Pipe connection:	DN 50
		Pressure rating:	PN 16
		(@):	440 mm
		Flange size for motor:	FF300
		Electrical data:	
		Motor type:	160MH
		IE Efficiency class:	IE5
		Rated power - P2:	11 kW
		Mains frequency:	50 Hz
		Rated voltage:	3 x 380-500 V
		Rated current:	20.3-16.0 A
		Cos phi - power factor:	0.93-0.90
		Rated speed:	360-4000 rpm
		Efficiency:	93.1%
		Motor efficiency at full load:	93.1 %
		Enclosure class (IEC 34-5):	IP55
		Insulation class (IEC 85):	F
		Others:	
		Minimum efficiency index, MEI ≥:	0.7
		ErP status:	EuP Standalone/Prod.
		Net weight:	129 kg
		Gross weight:	148 kg
		Shipping volume:	1.12 m^3
		Danish VVS No.:	381943540

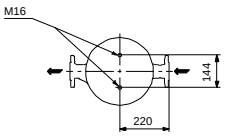
On request TPE 50-540/2-S A-F-A-BQQE 50 Hz

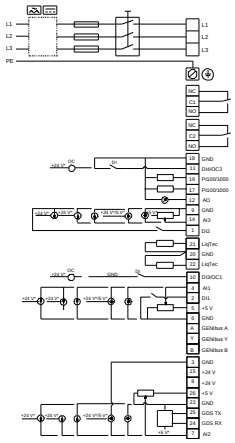


Description	Value
General information:	
Product name:	TPE 50-540/2-S A-F-A-BQQE
Product No:	On request
EAN number:	On request
Technical:	
Rated flow:	53.5 m³/h
Rated head:	44.2 m
Head max:	540 dm
Actual impeller diameter:	207 mm
Primary shaft seal:	BQQE
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
Model:	A
Materials:	
Pump housing:	Cast iron
	EN-JL1040
	ASTM A48-40 B
Impeller:	Cast iron
	EN-JL1030
	ASTM A48-30 B
Material code:	A
Installation:	
Range of ambient temperature:	-20 .. 50 °C
Maximum operating pressure:	16 bar
Flange standard:	DIN
Pipe connection:	DN 50
Pressure rating:	PN 16
(@)	440 mm
Flange size for motor:	FF300
Connect code:	F
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-25 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m³
Electrical data:	
Motor type:	160MH
IE Efficiency class:	IE5
Rated power - P2:	11 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-500 V
Rated current:	20.3-16.0 A
Cos phi - power factor:	0.93-0.90
Rated speed:	360-4000 rpm
Efficiency:	93.1%
Motor efficiency at full load:	93.1 %
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Motor protec:	YES
Motor No:	98971273
Controls:	
Control panel:	HMI300 - Advanced
Function Module:	300
Frequency converter:	Built-in
Others:	
Minimum efficiency index, MEI ≥:	0.7
ErP status:	EuP Standalone/Prod.
Net weight:	129 kg
Gross weight:	148 kg
Shipping volume:	1.12 m³
Config. file no:	99137333
Danish VVS No.:	381943540

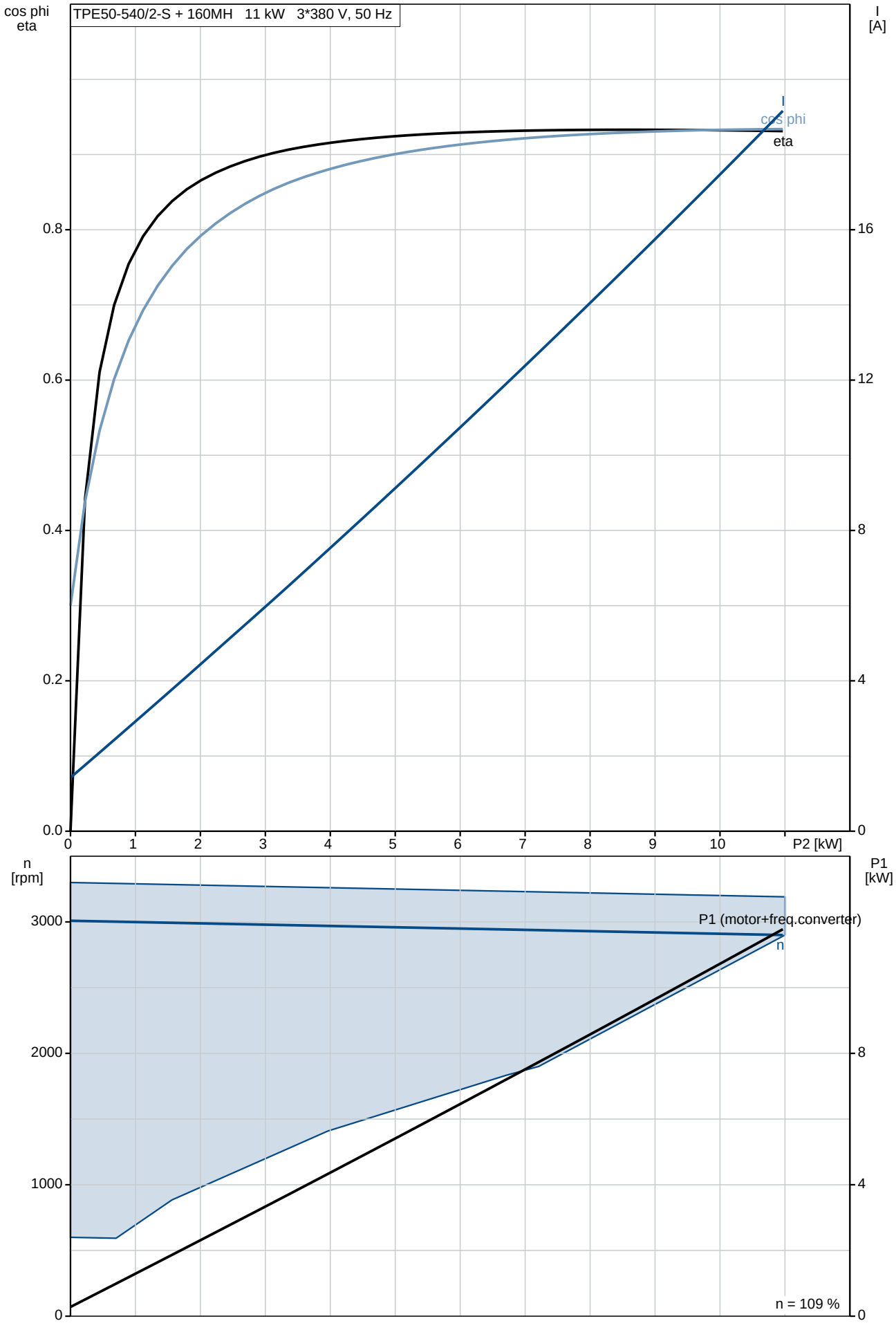




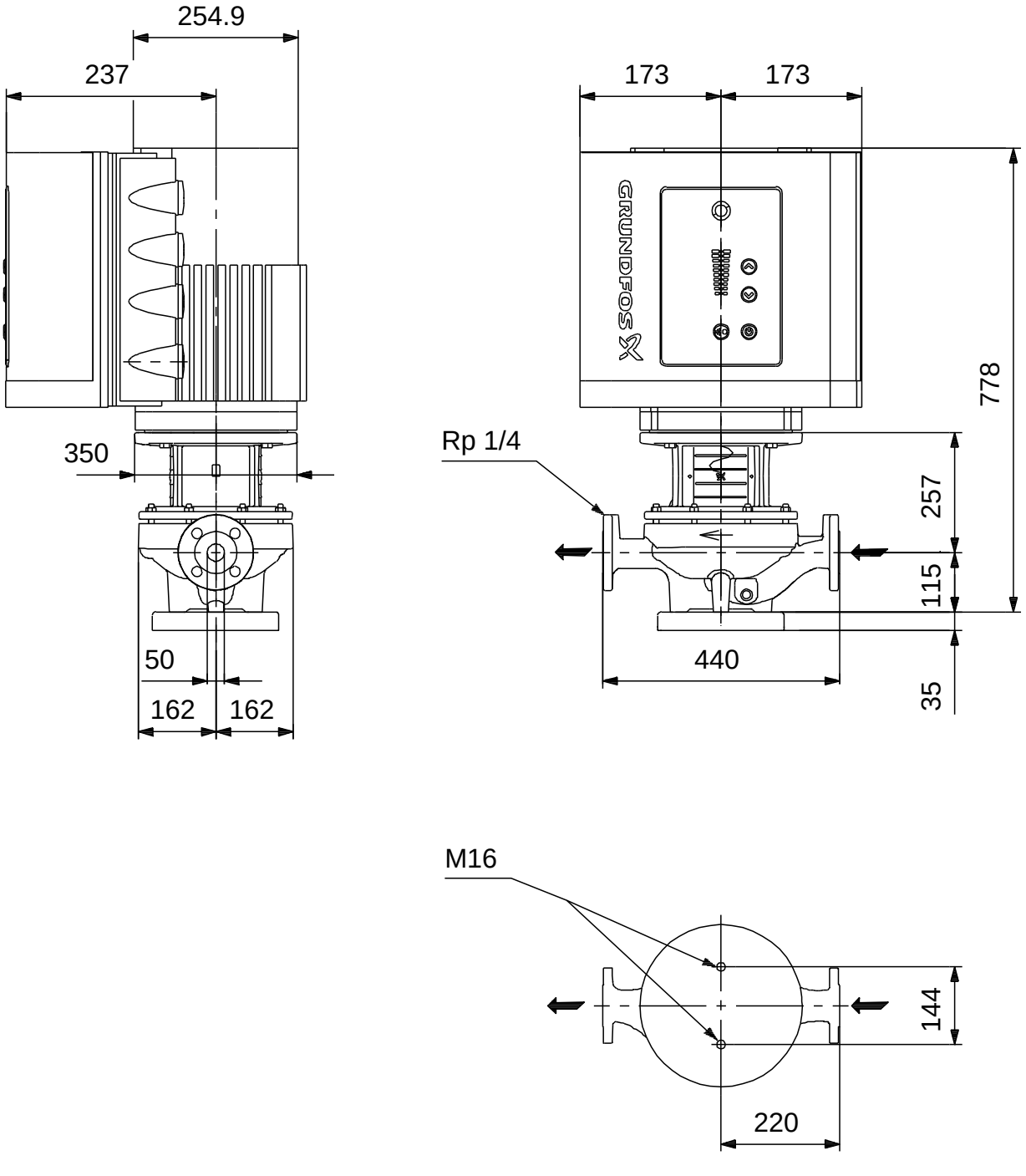




On request TPE 50-540/2-S A-F-A-BQQE 50 Hz

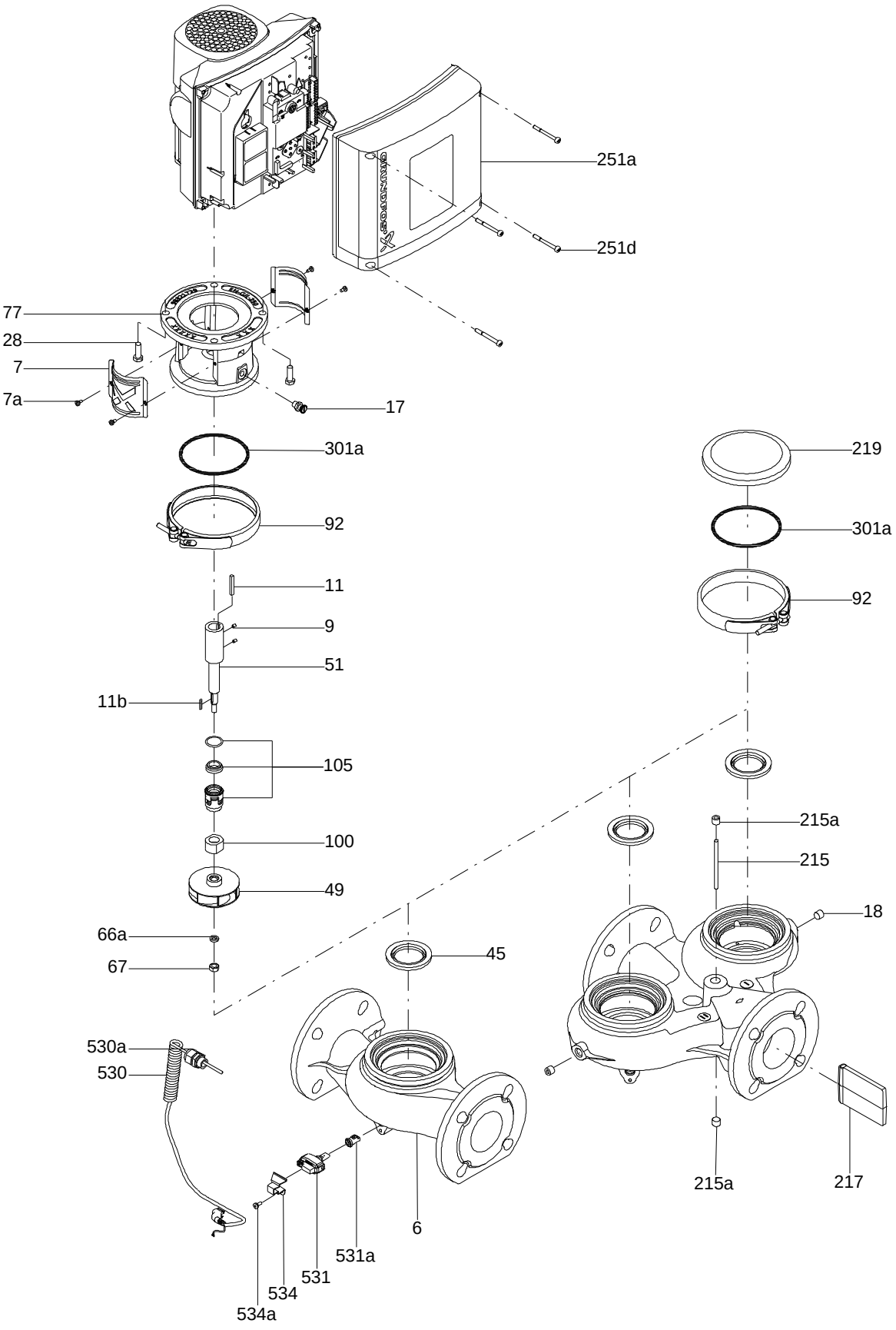


On request TPE 50-540/2-S A-F-A-BQQE 50 Hz

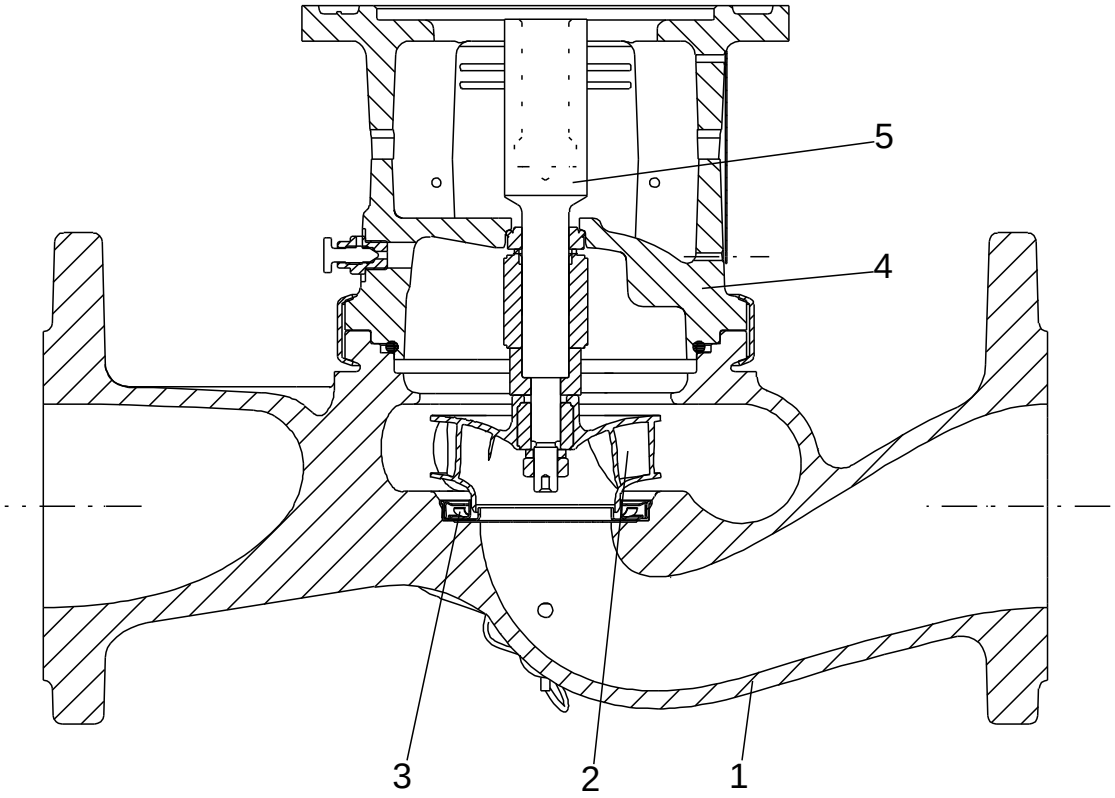


Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Exploded view

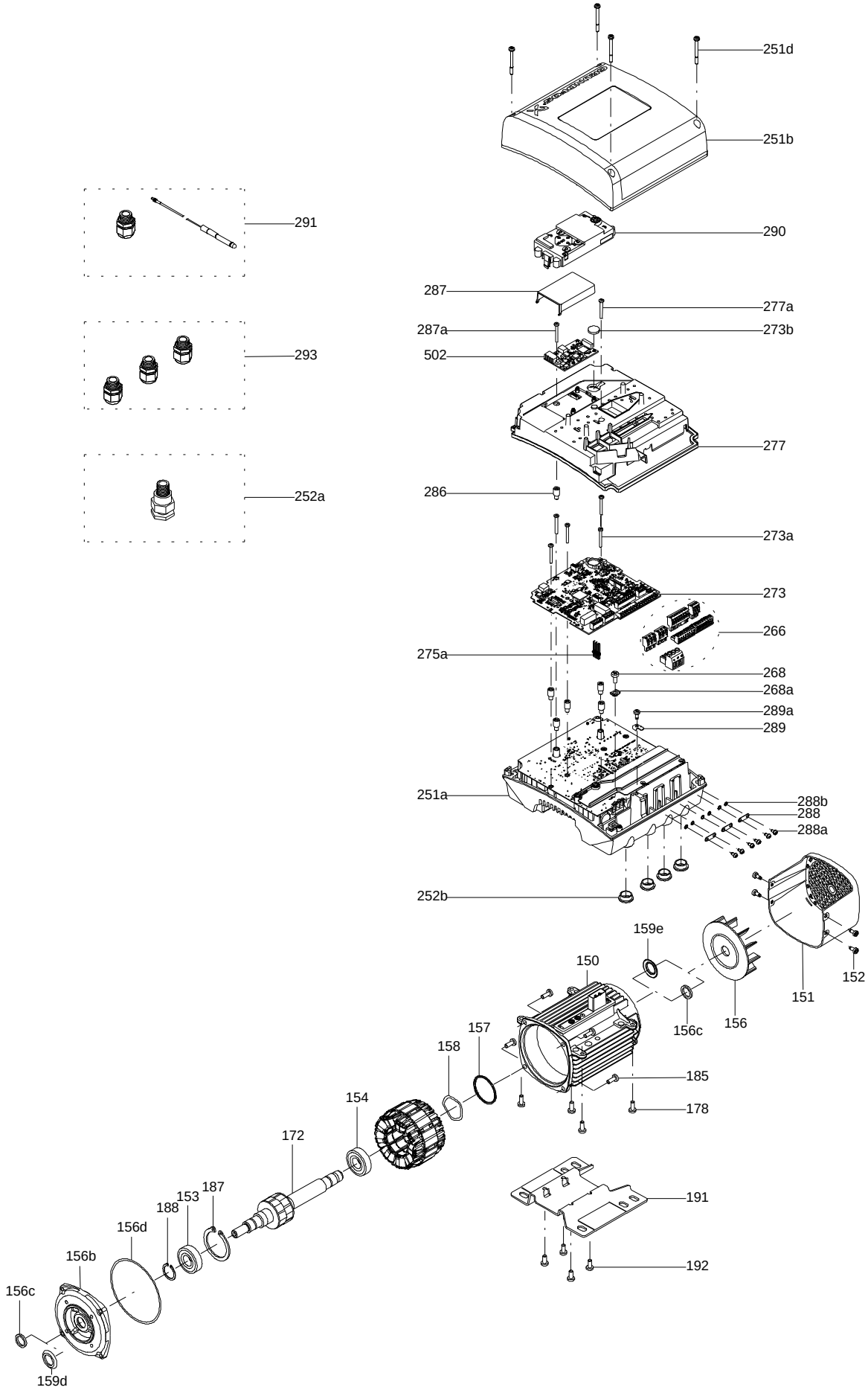


Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view (TM057026 for MGE model H/I)



Parts list TPE 50-540/2-S, Product No. On request
Valid from 23.9.2013 (1339)

	Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
+		Motor				1	pcs
-		Nut				1	pcs
	66	Washer				1	
	66a	Spring lock washer				1	
	67	Nut		Thread: M14		1	
-		Motor stool cpl.				1	pcs
	2	Motor stool				1	
	7	Coupling guard				2	
	7a	Pan head screw				4	
-		Plug				1	pcs
	19	Pipe plug		Thread: R 3/8		2	
	19	Plug				1	
-		Pump housing cpl.				1	pcs
	6	Pump housing				1	
	36	Nut		Thread: M10		10	
-		Diff. pressure transmitter.				1	pcs
		Fitting				2	
		Clip				1	
		Housing				1	
		Sensor				1	
	7a	Pan washer head screw				2	
	508	Tube				1	
	509	Capillary tube.				1	
	510	Mounting bush.				2	
	530	Cable				1	
-		Kit, Base plate				1	pcs
	28g	Hex head screw				2	
	56	Base plate				1	
-		Shaft seal cpl.				1	pcs
	72a	O-ring		Diameter: 253,6		1	
				Material type: EPDM			
				Thickness: 3,53			
	105	Shaft seal				1	
-		Stub shaft				1	pcs
	9	Socket set screw		Length (mm): 6		2	
				Thread: M8			
	11	Parallel key		Dimension: 6X6X35		1	
	51	Pump shaft				1	
-		Base plate cpl.				1	pcs
	28g	Hex head cap screw		Length (mm): 30 MM		2	
				Thread: M16			
	56	Base plate				1	
	17	Air vent screw				1	pcs
	49	Impeller				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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