

## TPE 80-170/4-A-F-A-BAQE 3X400 50HZ

Grundfos pump 99113683




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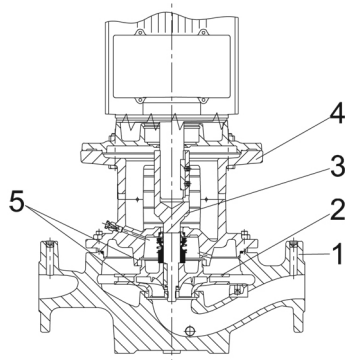
<https://www.lenntech.com/grundfos/TPE00/99113683/TPE-80-170-4-A-F-A-BAQE.html>

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Position	Qty.	Description
	1	<p data-bbox="320 163 630 194"><b>TPE 80-170/4 A-F-A-BAQE</b></p>  <p data-bbox="320 488 600 519">Product No.: On request</p> <p data-bbox="320 546 1445 622">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.</p> <p data-bbox="320 631 1422 685">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).</p> <p data-bbox="320 689 1417 743">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.</p> <p data-bbox="320 748 1453 824">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.</p> <p data-bbox="320 864 639 896"><b>Further product details</b></p> <p data-bbox="320 900 1377 954">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".</p> <p data-bbox="320 985 1401 1061">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".</p> <p data-bbox="320 1102 1436 1178">An operating panel on the motor terminal box enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". The Grundfos Eye indicator on the operating panel provides visual indication of pump status:</p> <ul data-bbox="357 1182 1436 1330" style="list-style-type: none"> <li>• "Power on": Motor is running (rotating green indicator lights) or not running (permanently green indicator lights)</li> <li>• "Warning": Motor is still running (rotating yellow indicator lights) or has stopped (permanently yellow indicator lights)</li> <li>• "Alarm": Motor has stopped (flashing red indicator lights).</li> </ul> <p data-bbox="320 1361 1445 1438">Communication with the pump is possible by means of 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".</p> <p data-bbox="320 1473 1426 1550">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.</p> <p data-bbox="320 1590 403 1621"><b>Pump</b></p> <p data-bbox="320 1626 1257 1657">Pump housing and pump head are electrocoated to improve the corrosion resistance.</p> <p data-bbox="320 1662 584 1693">Electrocoating includes:</p> <ol data-bbox="320 1697 810 1805" style="list-style-type: none"> <li>1) Alkaline-based cleaning.</li> <li>2) Pretreatment with zinc phosphate coating.</li> <li>3) Cathodic electrocoating (epoxy).</li> <li>4) Curing of paint film at 200-250 °C.</li> </ol>



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

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: carbon graphite, metal-impregnated
- Stationary seat material: silicon carbide (SiC)

This material pairing has a very good corrosion resistance and is especially suitable for water up to 120 °C. However, seal life will be reduced at temperatures above 90 °C. The material pairing is not recommended for liquids containing particles as this will result in heavy wear on the SiC face.

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.

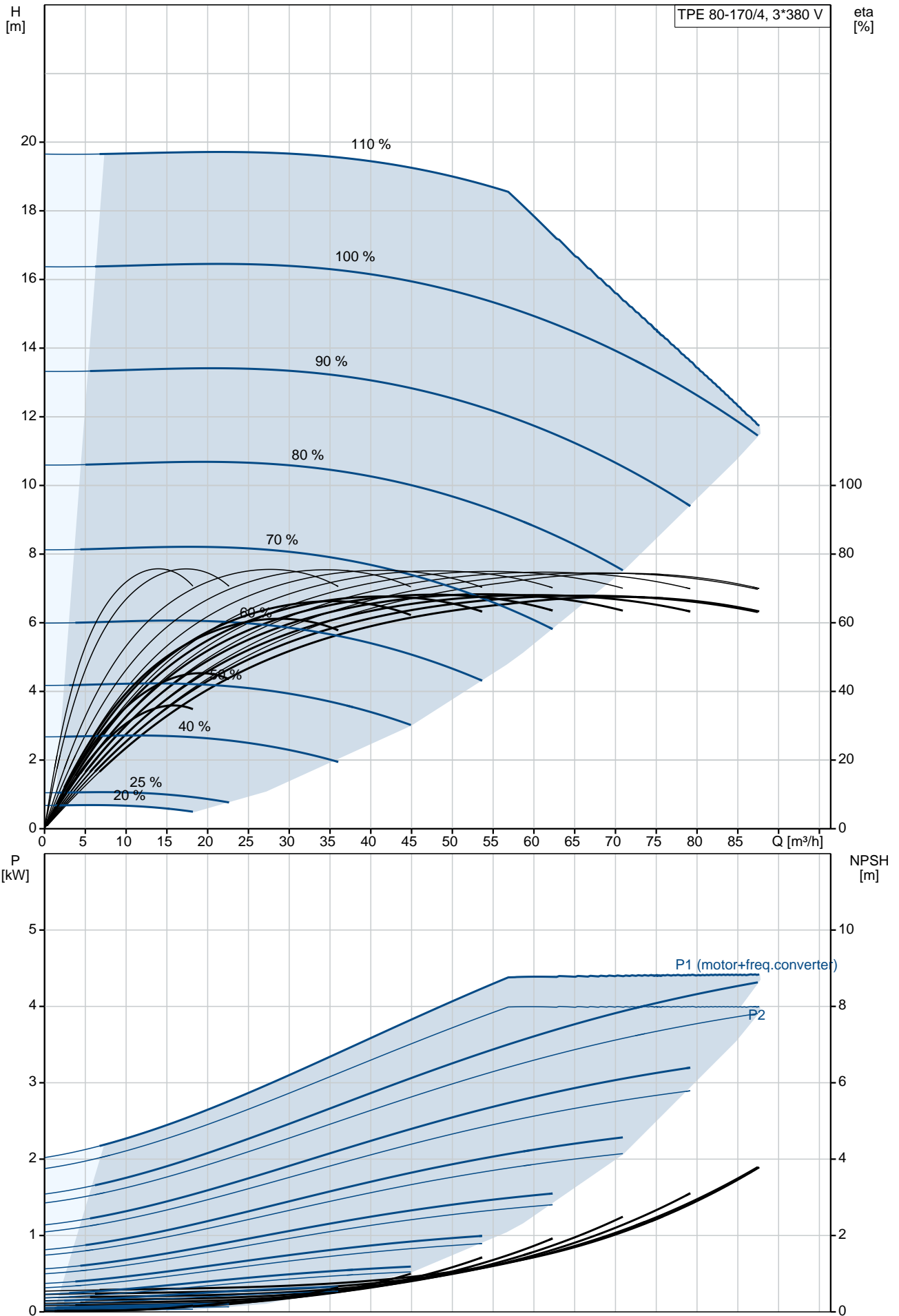
The motor requires no external motor protection. The motor control unit incorporates protection against slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.

The terminal box holds terminals for these connections:

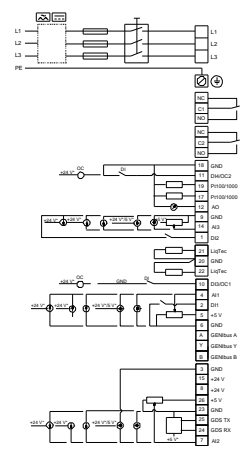
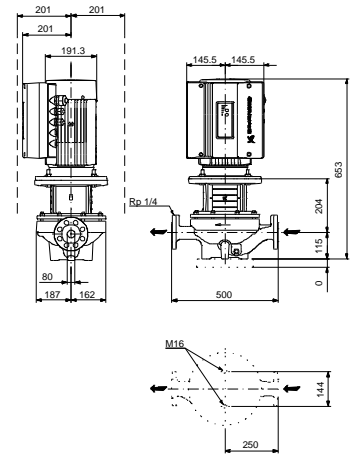
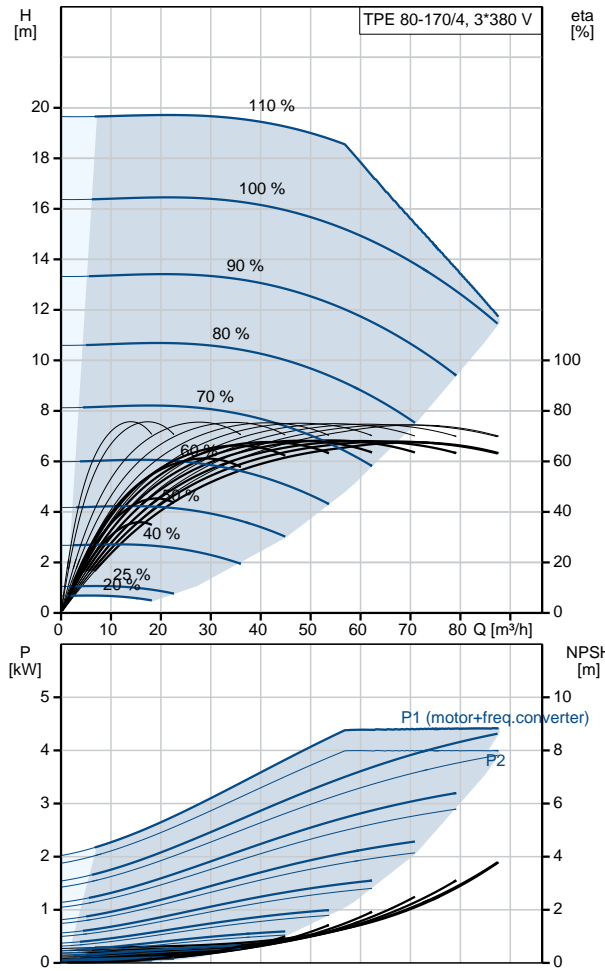
- one dedicated digital input
- two analog inputs, 0(4)-20 mA, 0-5 V, 0-10 V, 0.5 - 3.5 V
- 5 V voltage supply to potentiometer and sensor
- one configurable digital input or open-collector output
- Grundfos Digital Sensor input and output
- 24 V voltage supply for sensors
- two signal-relay outputs (potential-free contacts)
- GENIbus connection

Position	Qty.	Description
		<ul style="list-style-type: none"> <li>interface for Grundfos CIM fieldbus module.</li> </ul> <p><b>Technical data</b></p> <p><b>Controls:</b>  Frequency converter: Built-in</p> <p><b>Liquid:</b>  Pumped liquid: Water  Liquid temperature range: 0 .. 120 °C  Liquid temperature during operation: 20 °C  Density: 998.2 kg/m<sup>3</sup></p> <p><b>Technical:</b>  Rated flow: 67.9 m<sup>3</sup>/h  Rated head: 14.4 m  Actual impeller diameter: 219 mm  Primary shaft seal: BAQE  Curve tolerance: ISO9906:2012 3B</p> <p><b>Materials:</b>  Pump housing: Cast iron  EN-JL1040  ASTM A48-40 B  Impeller: Cast iron  EN-JL1030  ASTM A48-30 B</p> <p><b>Installation:</b>  Range of ambient temperature: -20 .. 50 °C  Maximum operating pressure: 16 bar  Flange standard: DIN  Pipe connection: DN 80  Pressure rating: PN 16  (@): 500 mm  Flange size for motor: FF215</p> <p><b>Electrical data:</b>  Motor type: 112ME  IE Efficiency class: IE5  Rated power - P2: 4 kW  Mains frequency: 50 Hz  Rated voltage: 3 x 380-500 V  Rated current: 7.70-6.00 A  Cos phi - power factor: 0.92-0.87  Rated speed: 180-2200 rpm  Efficiency: 90.3%  Motor efficiency at full load: 90.3 %  Enclosure class (IEC 34-5): IP55  Insulation class (IEC 85): F</p> <p><b>Others:</b>  Minimum efficiency index, MEI : 0.70  ErP status: EuP Standalone/Prod.  Net weight: 88 kg  Gross weight: 107 kg  Shipping volume: 0.39 m<sup>3</sup></p>

# On request TPE 80-170/4 A-F-A-BAQE 50 Hz

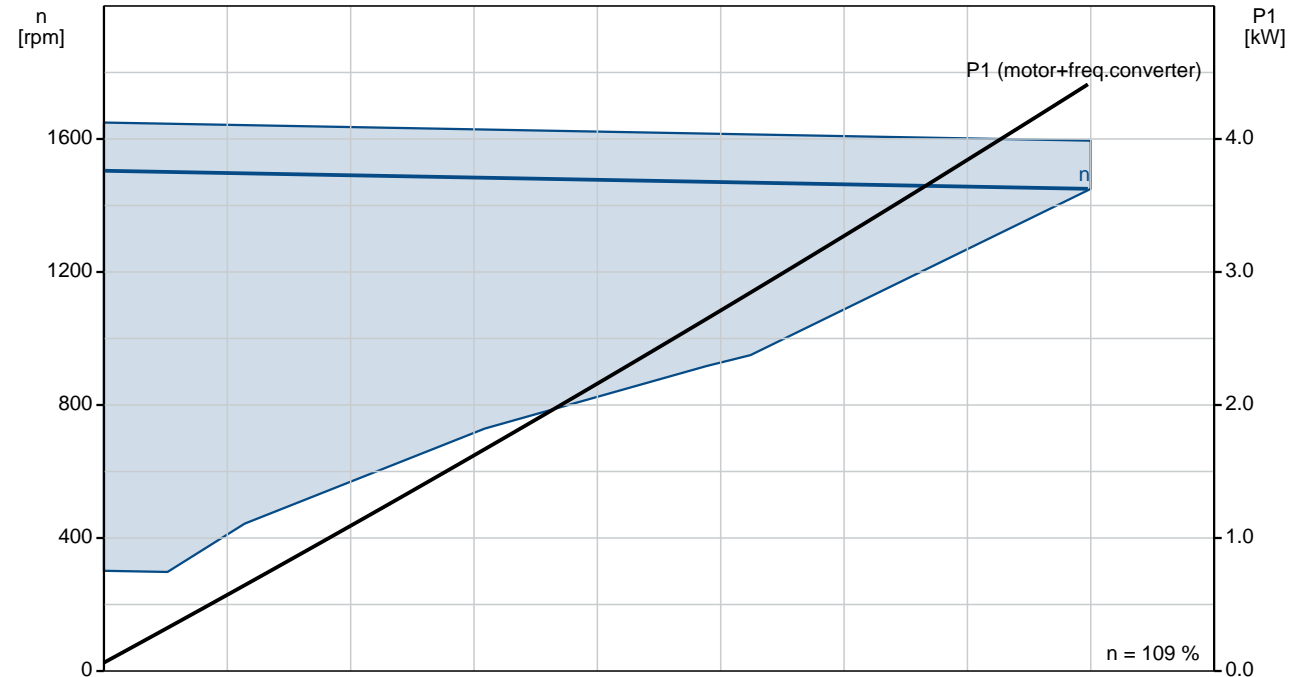
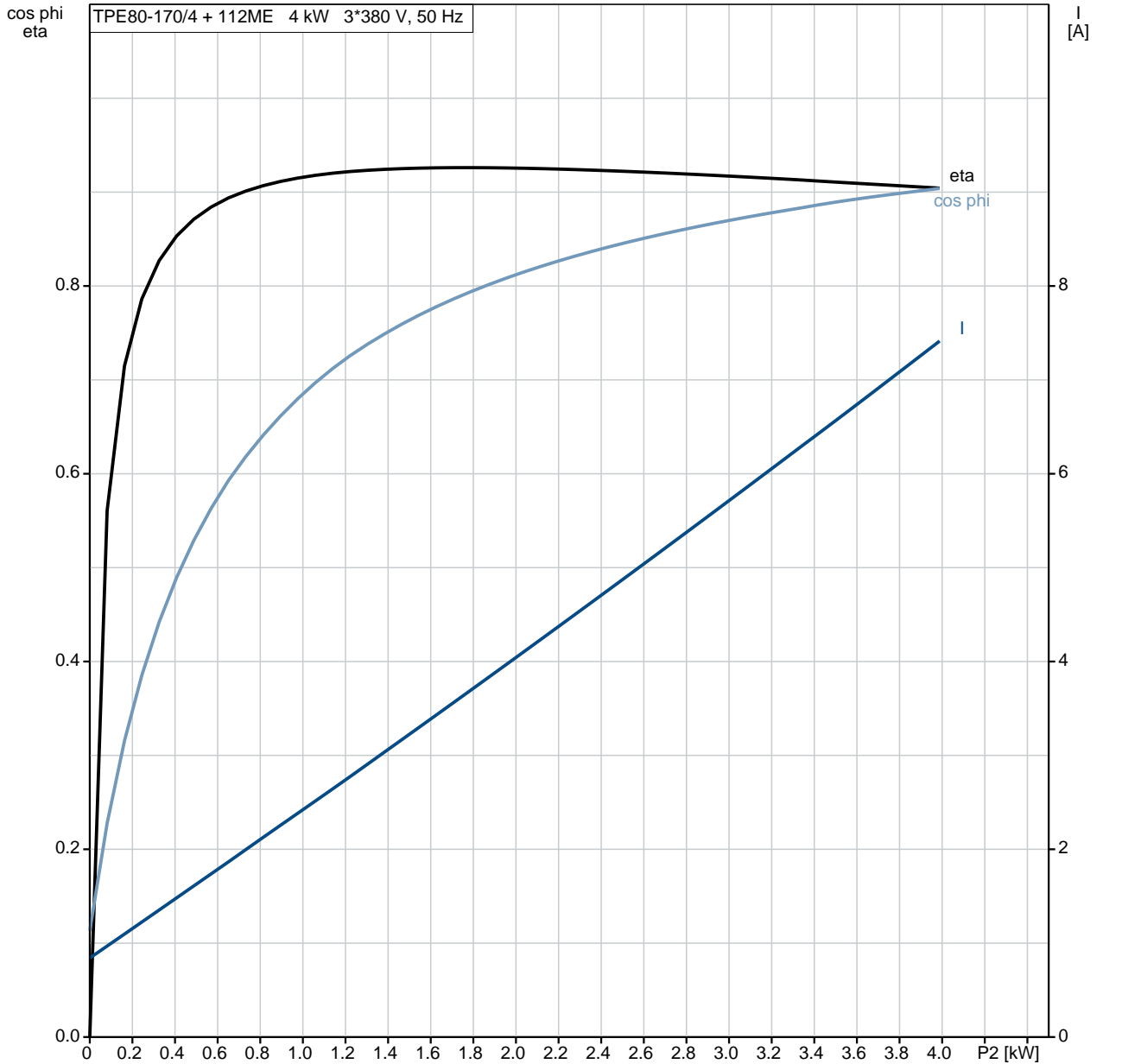


Description	Value
<b>General information:</b>	
Product name:	TPE 80-170/4 A-F-A-BAQE
Product No:	On request
EAN number:	On request
<b>Technical:</b>	
Rated flow:	67.9 m <sup>3</sup> /h
Rated head:	14.4 m
Head max:	170 dm
Actual impeller diameter:	219 mm
Primary shaft seal:	BAQE
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
Model:	A
<b>Materials:</b>	
Pump housing:	Cast iron EN-JL1040 ASTM A48-40 B
Impeller:	Cast iron EN-JL1030 ASTM A48-30 B
Material code:	A
<b>Installation:</b>	
Range of ambient temperature:	-20 .. 50 °C
Maximum operating pressure:	16 bar
Flange standard:	DIN
Pipe connection:	DN 80
Pressure rating:	PN 16
(@)	500 mm
Flange size for motor:	FF215
Connect code:	F
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	0 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m <sup>3</sup>
<b>Electrical data:</b>	
Motor type:	112ME
IE Efficiency class:	IE5
Rated power - P2:	4 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-500 V
Rated current:	7.70-6.00 A
Cos phi - power factor:	0.92-0.87
Rated speed:	180-2200 rpm
Efficiency:	90.3%
Motor efficiency at full load:	90.3 %
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Motor protec:	YES
Motor No:	98971183
<b>Controls:</b>	
Control panel:	HMI200 - Standard
Function Module:	FM300 - Advanced
Frequency converter:	Built-in
<b>Others:</b>	
Minimum efficiency index, MEI :	0.70
ErP status:	EuP Standalone/Prod.
Net weight:	88 kg
Gross weight:	107 kg
Shipping volume:	0.39 m <sup>3</sup>
Config. file no:	99100731

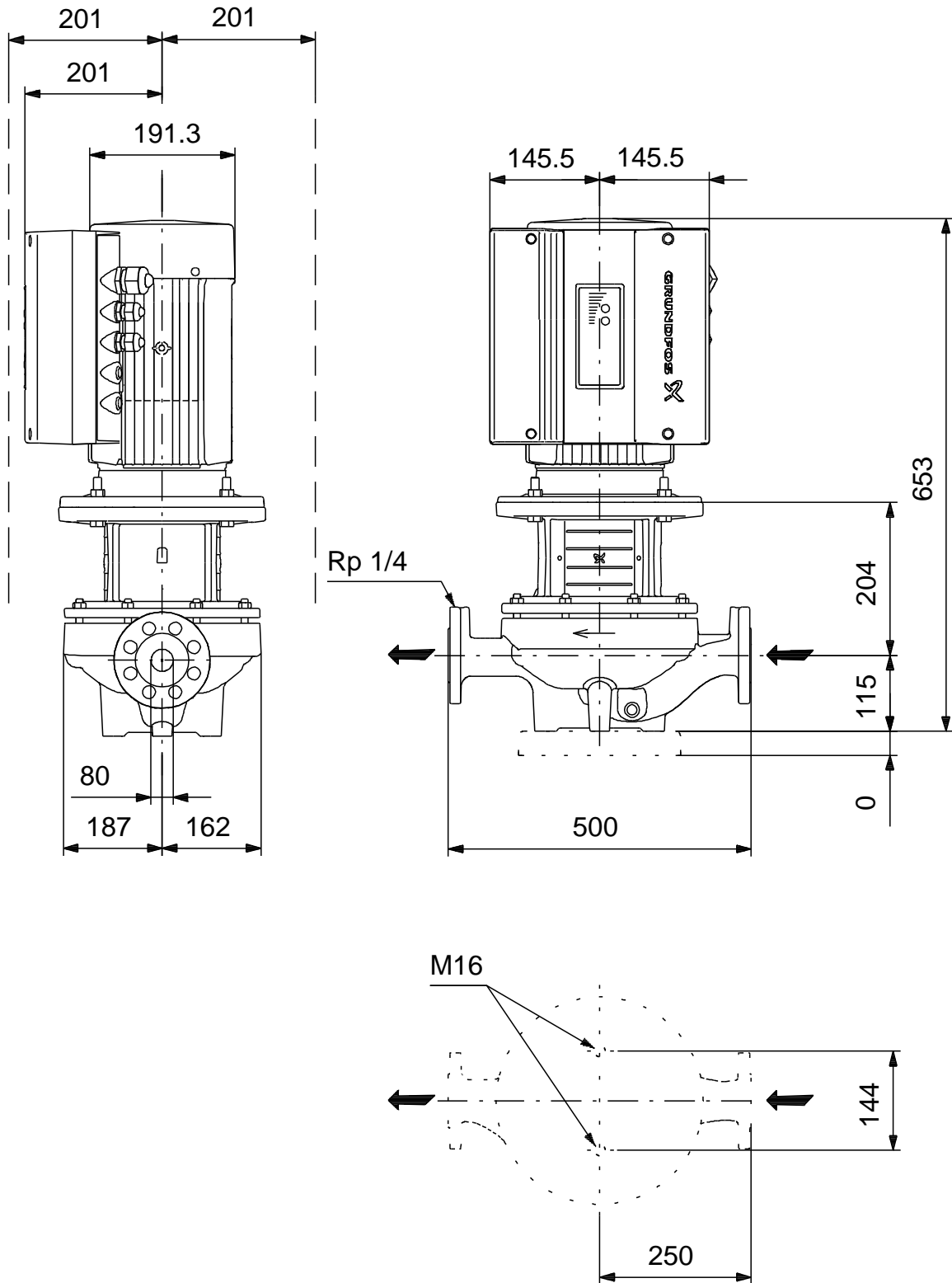


# On request TPE 80-170/4 A-F-A-BAQE 50 Hz

TPE80-170/4 + 112ME 4 kW 3\*380 V, 50 Hz



**On request TPE 80-170/4 A-F-A-BAQE 50 Hz**



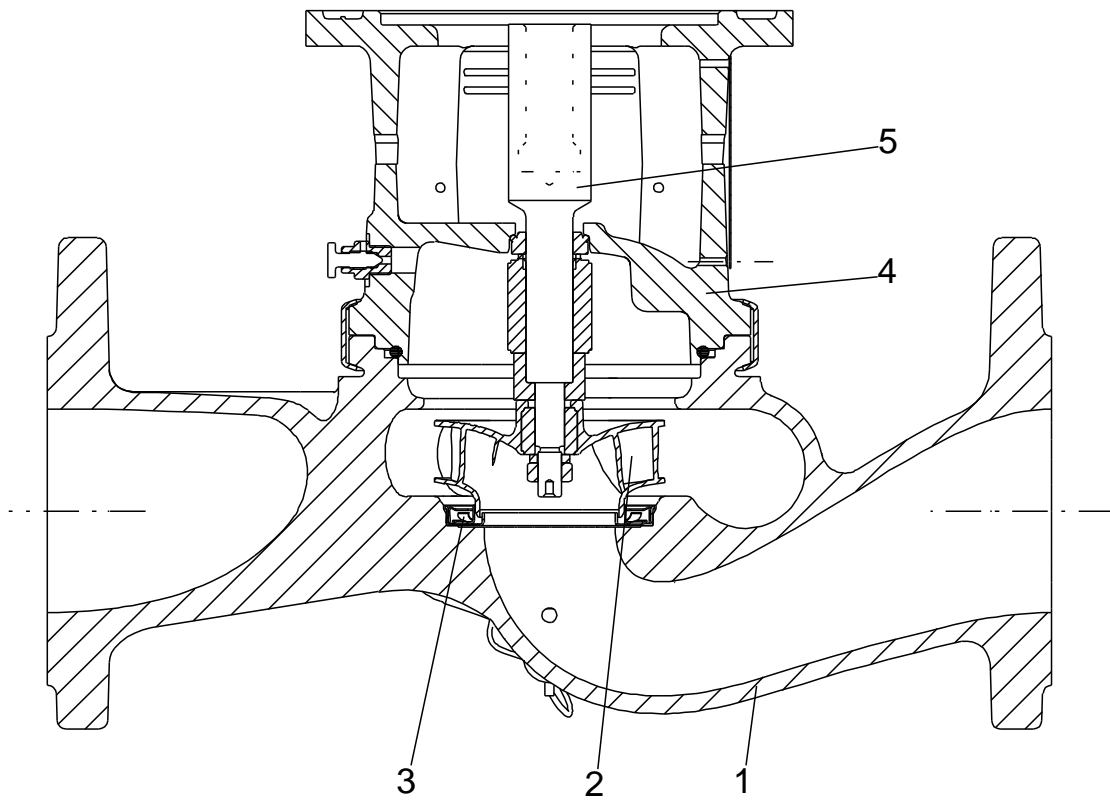
Note! All units are in [mm] unless others are stated.  
 Disclaimer: This simplified dimensional drawing does not show all details.



Exploded view



Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view ( TM057026 for MGE model H/I )



**Parts list TPE 80-170/4, 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
1a	Motor stool				1	
7	Coupling guard				2	
77a	Pan head screw				4	
-	Plug				1	pcs
19	Plug				1	
20	Plug				1	
-	Pump housing cpl.				1	pcs
6	Pump housing				1	
19	Plug				1	
20	Plug				1	
36	Nut		Thread: M10		8	
-	Shaft seal cpl.				1	pcs
72.a	O-ring		Diameter: 221,84 Material type: EPDM Thickness: 3,53		1	
105	Shaft seal		Material type: BAQE		1	
-	Stub shaft				1	pcs
9	Socket set screw		Length (mm): 6 Thread: M8		2	
11	Parallel key		Dimension: 6X6X35		1	
51	Pump shaft				1	
17	Air vent screw				1	pcs
19	Plug				2	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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