

TPE 40-90/2-A-F-A-BQQE 1X230 50HZ

Grundfos pump 98112574



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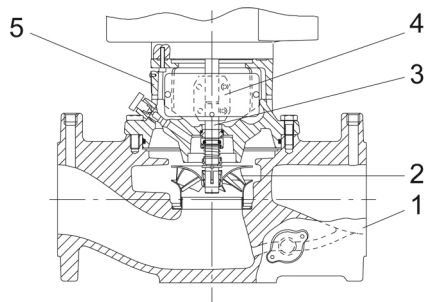
<https://www.lenntech.com/grundfos/TPE00/98112574/TPE-40-90-2-A-F-A-BQQE.html>

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Position	Qty.	Description
	1	TPE 40-90/2 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 6/10 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. Further product details 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". 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: • "Power on": Motor is running (rotating green indicator lights) or not running (permanently green indicator lights) • "Warning": Motor is still running (rotating yellow indicator lights) or has stopped (permanently yellow indicator lights) • "Alarm": Motor has stopped (flashing red indicator lights). 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". 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: Shaft
- 4: Coupling
- 5: Pump head

The pump housing is provided with a replaceable stainless steel/PTFE neck ring to reduce the amount of liquid running from the discharge side of the impeller to the suction side. The impeller is secured with a split cone pressed onto the shaft.

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 or a flat gasket.

The central part of the motor stool is provided with guards for protection against the shaft and coupling. Motor and pump shaft are connected via a shell coupling.

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 tapped-hole flange (FT).

Motor-mounting designation in accordance with IEC 60034-7: IM B 14, IM V 18 (Code I) / IM 3601, IM 3611 (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.

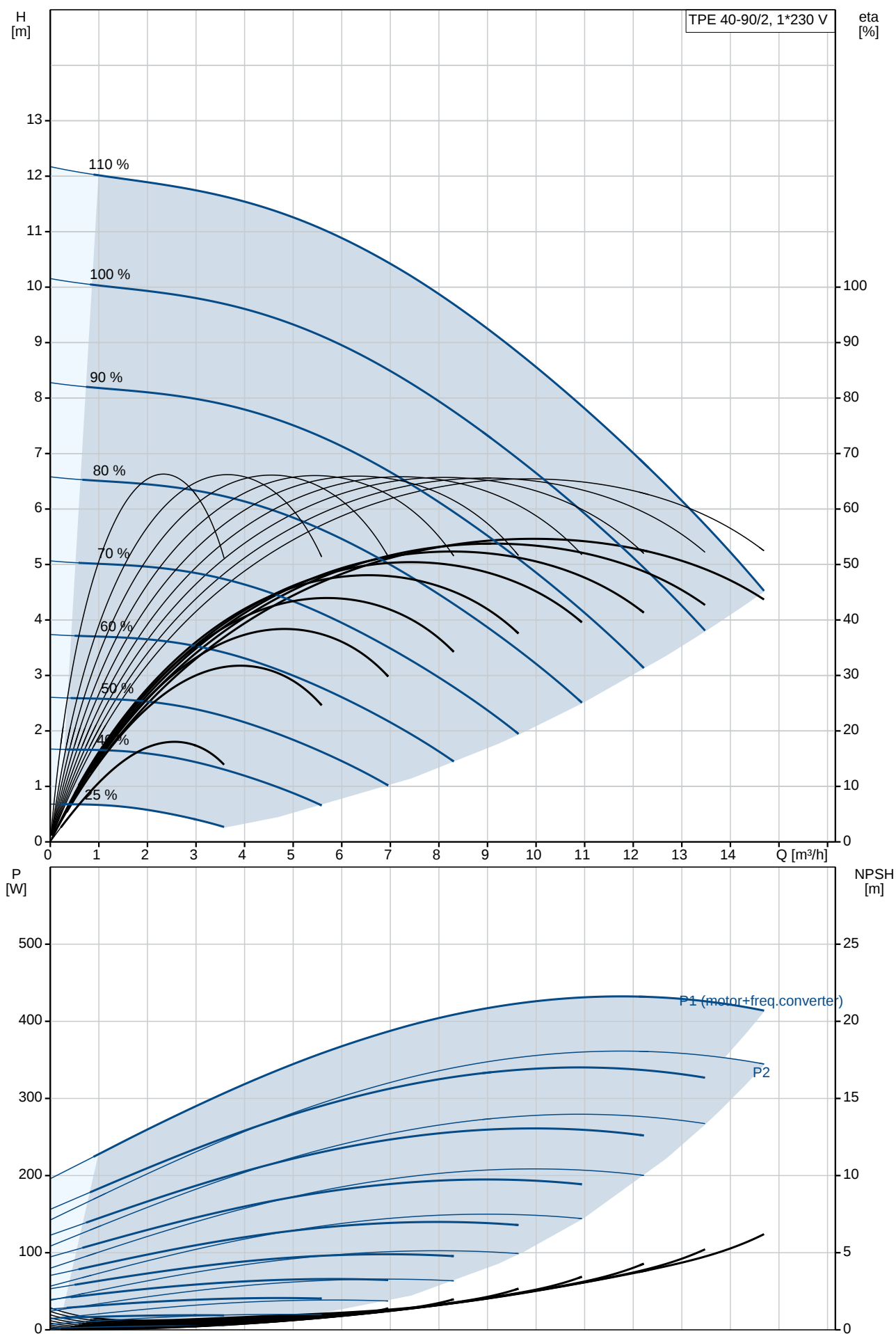
The terminal box holds terminals for these connections:

- 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
- interface for Grundfos CIM fieldbus module.

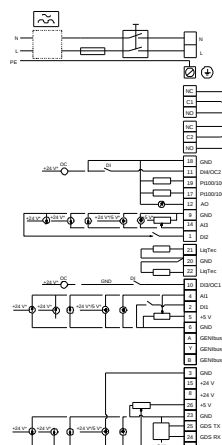
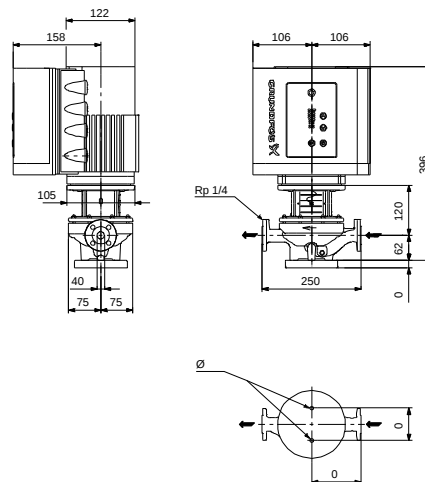
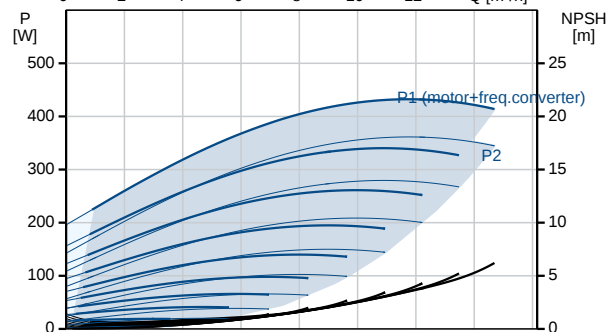
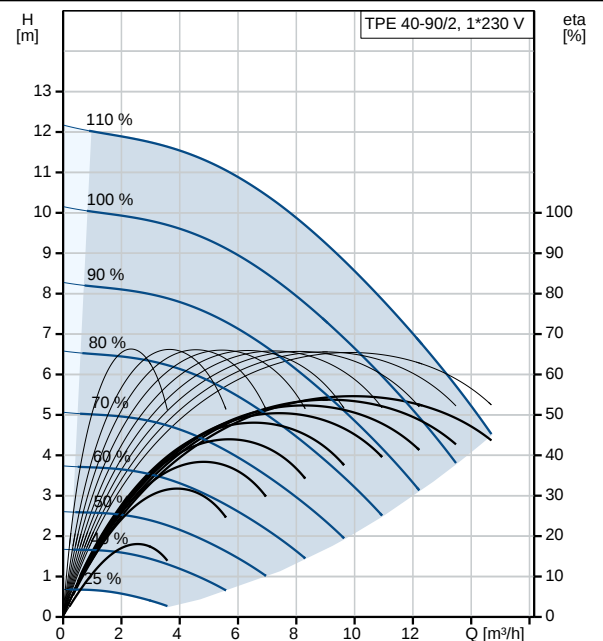
Technical data

Position	Qty.	Description
		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: 9.48 m³/h Rated head: 7.01 m Actual impeller diameter: 89 mm Primary shaft seal: BQQE Curve tolerance: ISO9906:2012 3B Materials: Pump housing: Cast iron EN-JL1030 ASTM A48-30 B Impeller: Composite PES/PP 30% GF Installation: Range of ambient temperature: -20 .. 50 °C Maximum operating pressure: 10 bar Flange standard: DIN Pipe connection: DN 40 Pressure rating: PN 6/10 (@): 250 mm Flange size for motor: FT85 Electrical data: Motor type: 71A IE Efficiency class: IE5 Rated power - P2: 0.37 kW Mains frequency: 50 Hz Rated voltage: 1 x 200-240 V Rated current: 2.40-2.10 A Cos phi - power factor: 0.96 Rated speed: 360-4000 rpm Efficiency: 84.0% Motor efficiency at full load: 84.0 % Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Others: Minimum efficiency index, MEI ≥: 0.70 ErP status: EuP Standalone/Prod. Net weight: 16.7 kg Gross weight: 18.7 kg Shipping volume: 0.04 m³

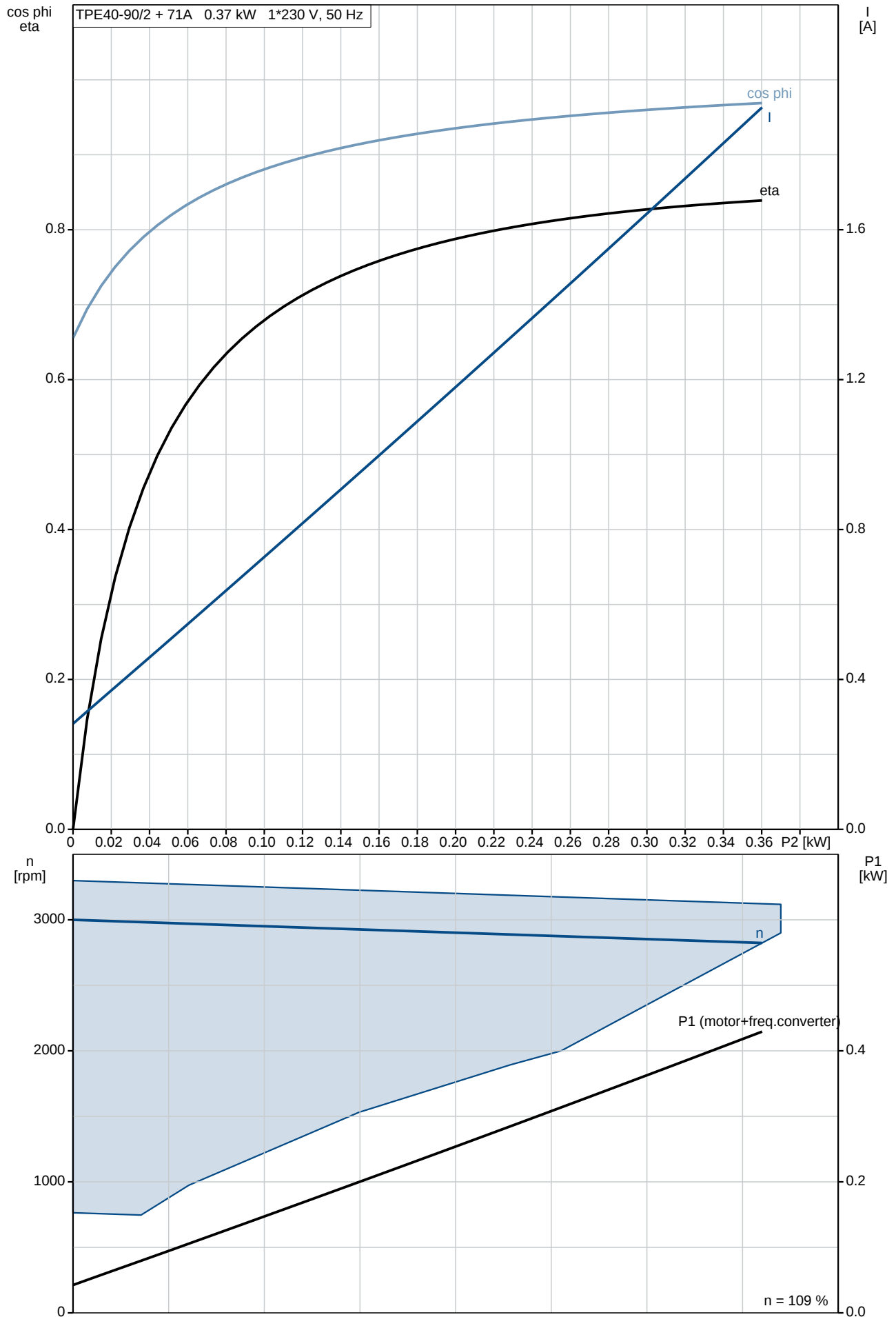
On request TPE 40-90/2 A-F-A-BQQE 50 Hz



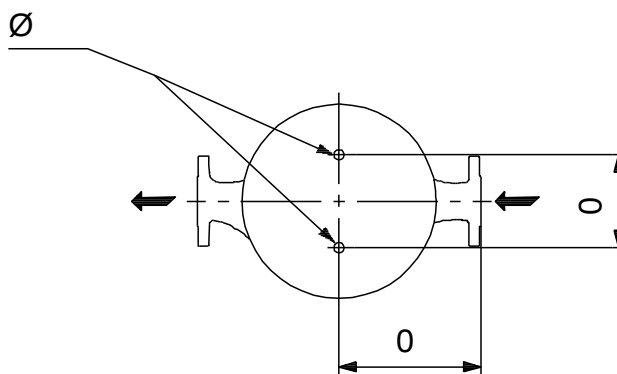
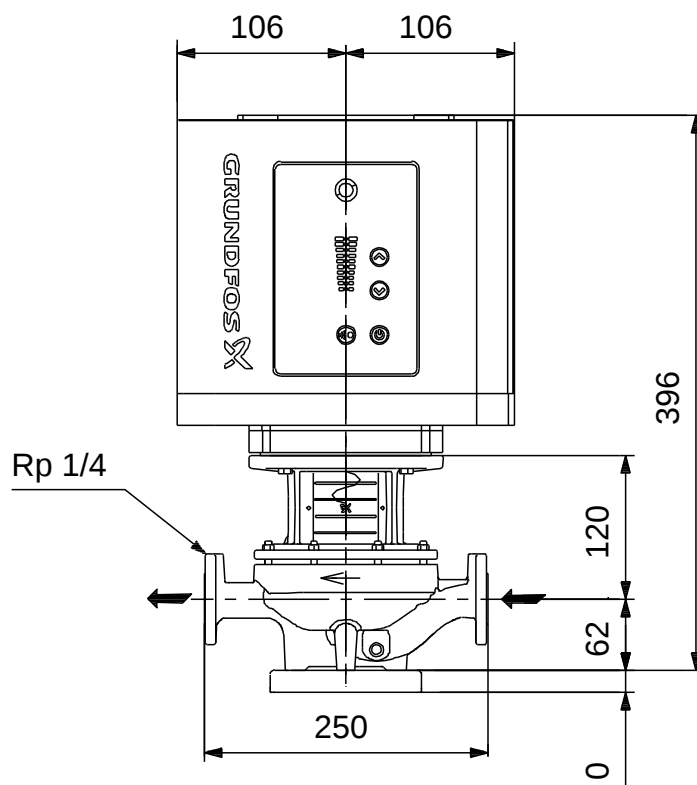
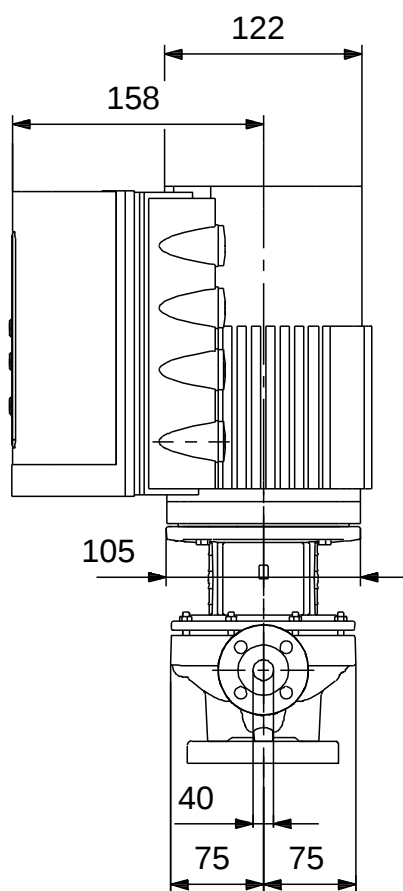
Description	Value
General information:	
Product name:	TPE 40-90/2 A-F-A-BQQE
Product No:	On request
EAN number:	On request
Technical:	
Rated flow:	9.48 m³/h
Rated head:	7.01 m
Head max:	90 dm
Actual impeller diameter:	89 mm
Primary shaft seal:	BQQE
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
Model:	B
Materials:	
Pump housing:	Cast iron EN-JL1030 ASTM A48-30 B
Impeller:	Composite PES/PP 30% GF
Material code:	A
Installation:	
Range of ambient temperature:	-20 .. 50 °C
Maximum operating pressure:	10 bar
Flange standard:	DIN
Pipe connection:	DN 40
Pressure rating:	PN 6/10
(@)	250 mm
Flange size for motor:	FT85
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:	71A
IE Efficiency class:	IE5
Rated power - P2:	0.37 kW
Mains frequency:	50 Hz
Rated voltage:	1 x 200-240 V
Rated current:	2.40-2.10 A
Cos phi - power factor:	0.96
Rated speed:	360-4000 rpm
Efficiency:	84.0%
Motor efficiency at full load:	84.0 %
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Motor protec:	YES
Motor No:	98190190
Controls:	
Control panel:	HMI200 - Standard
Function Module:	FM300 - Advanced
Frequency converter:	Built-in
Others:	
Minimum efficiency index, MEI ≥:	0.70
ErP status:	EuP Standalone/Prod.
Net weight:	16.7 kg
Gross weight:	18.7 kg
Shipping volume:	0.04 m³
Config. file no:	98478753



On request TPE 40-90/2 A-F-A-BQQE 50 Hz



On request TPE 40-90/2 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 40-90/2, Product No. On request
Valid from 23.9.2013 (1339)

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
-	Motor				1	pcs
	Terminal				3	
	Pan head thread forming screw				4	
150	Stator housing				1	
150	Stator				1	
151	Fan cover				1	
152	Pan head thread forming screw				6	
152	Pan head thread forming screw				1	
152	Pan head thread forming screw				4	
152	Pan head thread forming screw				1	
153	Ball bearing		Designation: 6204.2Z.C3.SYN		1	
154	Ball bearing		Designation: 6204.2Z.C3.SYN		1	
156	Fan				1	
156b	Flange				1	
156d	Gasket		Internal diameter: 114,80		1	
			Outer diameter: 121,20			
			Thickness: 0,25			
157	O-ring		Diameter: 47		1	
			Material type: NBR			
			Thickness: 3			
158	Waved washer				1	
159c	Seal ring				1	
159c	Seal ring				1	
172	Shaft w/rotor				1	
173a	Base				1	
185	Cross recess Pan head screw				4	
186	Drain plug				1	
203	Terminal plug				1	
251a	Control box				1	
251b	Control box				1	
251d	Pan head thread forming screw				4	
266	Connector plug 3-pole				1	
266	Connector plug 8-pole				1	
266	Connector plug 8-pole				1	
266	Connector plug 2-pole				1	
266	Connector plug 10-pole				1	
268	Pan head screw				1	
273	Funct. Module cpl.				1	
275a	Pin				1	
277	Isolation cover				1	
277a	Cross recess Pan head screw				4	
277a	Cross recess Pan head screw				1	
277a	Cross recess Pan head screw				1	
286	Spacer				1	
287	Cover				1	
288	Wire clamp				3	
288b	Washer				6	
289	Wire clamp				1	
290	Control panel, cpl.				1	
300	Plug cpl.				4	
301	Jumper				1	
-	Coupling cpl.				1	pcs
9	Hex socket head cap screw		Designation: DIN 912		4	
			Length (mm): 20			
			Thread: M6			
10	Shaft pin		Diameter: 5		1	
			Length (mm): 26			
10a	Coupling half				2	
-	Motor stool cpl.				1	pcs

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
2	Motor stool				1	
26	Hex socket head cap screw		Designation: DIN 912		4	
			Length (mm): 20			
			Thread: M6			
28	Hex head screw		Length (mm): 20		4	
			Thread: M6			
-	Pump housing cpl.				1	pcs
- 6	Pump housing cpl.				1	
-	Pump housing cpl.				1	
6	Pump housing					
45	Seal ring					
-	Coupling guard cpl.				1	pcs
7	Coupling guard				2	
7a	Pan head screw				4	
66	Lock washer				4	
-	Shaft seal cpl.				1	pcs
105	Shaft seal				1	
-	Shaft w/impeller cpl.				1	pcs
-	Shaft w/impeller cpl.				1	
49	Impeller cpl.				1	
49b	Split cone				1	
51	Pump shaft				1	
66a	Washer		Designation: DIN 125 A2		1	
			Internal diameter: 13			
			Outer diameter: 24			
			Thickness: 2,5			
17	Air vent screw				1	pcs
139	O-ring		Diameter: 102		1	pcs
			Material type: EPDM			
			Thickness: 4			

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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