

Date:

20/08/2019

#### Qty. | Description

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### TPE 40-90/2 A-F-A-BQQE



Note! Product picture may differ from actual product

Product No.: 98112574

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.

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.



	Date:	20/08/2019
	Description	
I	3) Cathodic electrocoating (epoxy).	
l	4) Curing of paint film at 200-250 °C.	
	5 4	
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	The first	
	1: Pump housing 2: Impeller	
	3: Shaft	
	4: Coupling	
	5: Pump head	
	The pump housing is provided with a replaceable stainles steel/	PTEE neck ring to reduce the amount of liquid
	running from the discharge side of the impeller to the suction sid	e. The impeller is secured with a split cone
	pressed onto the shaft.	
	The pump is fitted with an unbalanced rubber bellows seal with t	orque transmission across the spring and arour
	the bellows. Due to the bellows, the seal does not wear the shaft	t, and the axial movement is not prevented by
	deposits on the shaft.	
	Primary seal:	
	Rotating seal ring material: silicon carbide (SiC)	
	<ul> <li>Stationary seat material: silicon carbide (SiC)</li> <li>This material pairing is used where higher corrosion resistance is</li> </ul>	a required. The high hardness of this material
	pairing offers good resistance against abrasive particles.	s required. The high hardness of this material
	Secondary seal material: EPDM (ethylene-propylene rubber)	
	EPDM has excellent resistance to hot water. EPDM is not suitable	le for mineral oils.
	A circulation of liquid through the duct of the air vent screw ensu	res 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 ar	id the motor, and is equipped with a manual air
	vent screw for venting of the pump housing and the shaft seal ch pump housing is an O-ring or a flat gasket.	namber. The sealing between motor stool and
		station against the shaft and sounling. Mater of
	The central part of the motor stool is provided with guards for propump shaft are connected via a shell coupling.	Stection against the shart and coupling. Motor al
l		
	Motor	
	The motor is a totally enclosed, fan-cooled motor with principal of	limensions 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: IN	I B 14, IM V 18 (Code I) / IM 3601, IM 3611 (Co
	11).	
	The motor efficiency is closelfied as IEE is accordence. WHEE	60024.20.2
	The motor efficiency is classified as IE5 in accordance with IEC	
	The motor requires no external motor protection. The motor cont quick-rising temperatures, e.g. constant overload and stalled cor	nor unit incorporates protection against slow- an
	TPE 40-90/2 A-F-A-BQQEThe terminal box holds terminals for the	nese connections:
	<ul> <li>one dedicated digital input</li> </ul>	
	<ul> <li>two analog inputs, 0(4)-20 mA, 0-5 V, 0-10 V, 0.5 - 3.5 V</li> </ul>	
	<ul> <li>5 V voltage supply to potentiometer and sensor</li> </ul>	
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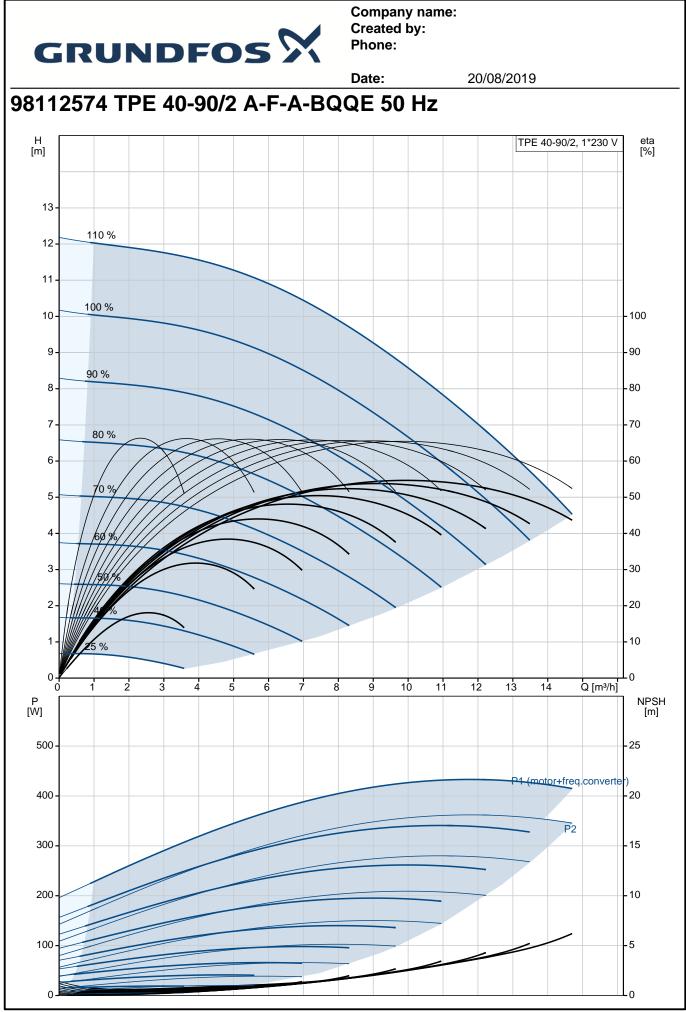
Company name:

GRUNDF		Created by: Phone:	
		Date:	20/08/2019
Description			
<ul> <li>one configurable digita</li> <li>Grundfos Digital Sens</li> <li>24 V voltage supply for</li> <li>two signal-relay output</li> <li>GENIbus connection</li> <li>interface for Grundfos</li> </ul>	or input and output r sensors ts (potential-free con	tacts)	
<ul> <li>TPE 40-90/2 A-F-A-BQQETh</li> <li>one dedicated digital i</li> <li>two analog inputs, 0(4</li> <li>5 V voltage supply to p</li> <li>one configurable digita</li> <li>Grundfos Digital Sens</li> <li>24 V voltage supply for</li> <li>two signal relay output</li> <li>the two power heads of</li> <li>interface for Grundfos</li> </ul>	nput )-20 mA, 0-5 V, 0-10 potentiometer and se al input or open-colle or input and output r sensors ts (potential-free con communicate via wire	V, 0.5 - 3.5 V ensor ctor output tacts) eless GENIair or wire	
Technical data			
Controls: Frequency converter:	Built-in		
Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid tem	Water -25 120 °C 20 °C pperature: 998.2 kg/	′m³	
<b>Technical:</b> Pump speed on which pump Rated flow: Rated head: Actual impeller diameter: Primary shaft seal: Curve tolerance:	data are based: 28 9.48 m³/h 7.01 m 89 mm BQQE ISO9906:2012 3		
Materials:			
Pump housing:	Cast iron EN-JL1030 ASTM A48-30 B		
Impeller:	Composite PES/	/PP 30% GF	
Installation: Range of ambient temperature Maximum operating pressure Flange standard: Pipe connection: Pressure rating: Port-to-port length: Flange size for motor:			
Electrical data: Motor type: IE Efficiency class: Rated power - P2: Mains frequency: Rated voltage:	71A IE5 0.37 kW 50 Hz 1 x 200-240 V		
Rated voltage: Rated current:	1 x 200-240 V 2.40-2.10 A		



Company name: Created by:

	GRUNDFOS Phone:						
			Date:	20/08/2019			
Qty.	Description						
	Cos phi - power factor: Rated speed: Efficiency: Motor efficiency at full load: Enclosure class (IEC 34-5): Insulation class (IEC 85): Motor No:	0.96 360-4000 rpm 84.0% 84.0 % IP55 F 98190190					
	Others: Minimum efficiency index, MEI ErP status: Net weight: Gross weight: Shipping volume:	≥: 0.70 EuP Standalone/F 16.7 kg 18.7 kg 0.045 m³	Prod.				



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		Date:	20/08/			
Description	Value	H [m]		TPE 40-90	0/2, 1*230 V	eta [%]
General information:		-				
Product name:	TPE 40-90/2 A-F-A-BQQE	13 <b>-</b> 12 <b>-</b> 110 %				
Product No:	98112574	11 -				
EAN number:	5710629214546	100 %				
	5710629214546	10 - 100 %				- 100
Technical:	0110020211010	9-				- 90
Pump speed on which pump data are based:	2865 rpm	8 - 90 %				- 80
Rated flow:	9.48 m³/h	7 - 80 %				- 70
Rated head:	7.01 m	6- 78		UL,		- 60
Head max:	90 dm	5- 70/1/		A A		- 50
			4 C			
Actual impeller diameter:	89 mm	4 - 60 %			Y	- 40
Primary shaft seal:	BQQE	3- 3-	> 1	$\langle \rangle \rangle$		- 30
Curve tolerance:	ISO9906:2012 3B					- 20
Pump version:	А	2-				
Model:	В	1 - 25 %				- 10
Materials:		0				۲o
Pump housing:	Cast iron	0 2	4 6 8	8 10 12	Q [m³/h]	<b>1</b>
	EN-JL1030	P [W]				NPSH [m]
	ASTM A48-30 B	500 -				- 25
Impeller:	Composite PES/PP 30% GF	400 -		P1 (m	otor+freq.com	verter) - 20
Material code:	A	200			- P2	15
Installation:		300 -			-	- 15
Range of ambient temperature:	-20 50 °C	200				- 10
Maximum operating pressure:	10 bar					
Flange standard:	DIN	100 -				- 5
Pipe connection:	DN 40	o				Lo
Pressure rating:	PN 6/10	122				
Port-to-port length:	250 mm	158	106 106			
Flange size for motor:	FT85	╶╶┝──╖┢┱┼─┤		TT T		
Connect code:	F					
Liquid:						
Pumped liquid:	Water			±1%		
Liquid temperature range:	-25 120 °C			50		
Selected liquid temperature:	20 °C		-199	<u>_</u>		
Density at selected liquid temperature:	998.2 kg/m³					
Electrical data:		75 75	- 250	* o		
Motor type:	71A					
IE Efficiency class:	IE5	<u>6</u>	2			
Rated power - P2:	0.37 kW					
Mains frequency:	50 Hz		-			
Rated voltage:	1 x 200-240 V		$\mathbf{Y}_{\mathbf{r}}$			
Rated current:	2.40-2.10 A		H=	+		
Cos phi - power factor:	0.96					
Rated speed:	360-4000 rpm	25	Ŧ			
Efficiency:	84.0%					
		96	ØĐ			
Motor efficiency at full load:	84.0 %		NC C1 NO			
Enclosure class (IEC 34-5):	IP55		NG			
Insulation class (IEC 85):	F		18 GND 11 Di40C2 19 PT005944			
Motor protec:	YES		17 Priminou			
Motor No:	98190190	an dan dan dan dan dan dan dan dan dan d				
Controls:						
Control panel:	HMI200 - Standard		10 Bialoc1 4 At1 2 Bit			
Function Module:	FM300 - Advanced					
Frequency converter:	Built-in		Y GENbus Y B GENbus B 3 GND			
Others:		-	55 +34 V 3 +34 V 26 +5 V			
Minimum efficiency index, MEI ≥:	0.70	-	22 GND 25 GDS TX 26 GDS TX 26 GDS TX			
Minimum efficiency index, MEI ≥:	0.70		45 V 7 A2			

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		Date:	20/08/2019
Description	Value		
ErP status:	EuP Standalone/Prod.	-	
Net weight:	16.7 kg		
Gross weight:	18.7 kg		
Shipping volume:	0.045 m <sup>3</sup>		
Config. file no:	98478753		

