

22/08/2019

Qty. | Description

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# TPED 100-390/2 A-F-A-BQQE



Note! Product picture may differ from actual product

Product No.: 96110348

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.

TPED 100-390/2 A-F-A-BQQEThe pump is fitted with an unbalanced rubber bellows seal. TPED 100-390/2 A-F-A-BQQETPED 100-390/2 A-F-A-BQQETPED 100-390/2 A-F-A-BQQEThe shaft seal is according to EN 12756. Pipework connection is via PN 16 DIN flanges (EN 1092-2 and ISO 7005-2).

Pipework connection is via PN 16 DIN flanges (EN 1092-2 and ISO 7005-2).

The pump is fitted with a fan-cooled asynchronous motor.

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

The pump is suitable for applications where the pressure, temperature, flow rate or another parameter is to be controlled on basis of signals from a sensor at some point in the system.

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.

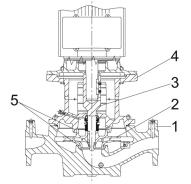
Electrocoating includes:

- 1) Alkaline-based cleaning.
- 2) Pretreatment with zinc phosphate coating.
- 3) Cathodic electrocoating (epoxy).
- 4) Curing of paint film at 200-250 °C.



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- 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: 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 I).

The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.

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.

TPED 100-390/2 A-F-A-BQQEThe terminal box holds terminals for these connections:

- pump start/stop input (potential-free contact)
- remote setpoint setting via analog signal, 0-10 V, 0(4)-20 mA
- 10 V voltage supply for setpoint potentiometer, Imax = 5 mA
- one analog sensor input, 0-10 V, 0(4)-20 mA
- 24 V voltage supply for sensor, Imax = 40 mA



	D	ate:	22/08/2019
Description			
<ul> <li>one digital input</li> <li>two potential-free fault sig</li> <li>RS-485 GENIbus connec</li> <li>interface for Grundfos CIN</li> </ul>	ion	er contact, reporting	g "Fault", "Operation" or "Ready"
<ul> <li>TPED 100-390/2 A-F-A-BQQETI</li> <li>pump start/stop input (pot</li> <li>remote setpoint setting via</li> <li>10 V voltage supply for set</li> <li>one analog sensor input,</li> <li>24 V voltage supply for set</li> <li>one digital input</li> <li>two potential-free fault sig</li> <li>cable for communication I</li> <li>selector switch for alterna</li> <li>RS-485 GENIbus connect</li> <li>interface for Grundfos CIU</li> </ul>	ential-free contact) a analog signal, 0-10 V, 0 tipoint potentiometer, Ima 0-10 V, 0(4)-20 mA ensor, Imax = 40 mA nal relays with changeov between the two power h ting operation and standli	9(4)-20 mA ax = 5 mA er contact, reporting eads	nnections: g "Fault", "Operation" or "Ready"
Technical data			
Controls: Frequency converter:	Built-in		
Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temper	Water -25 120 °C 20 °C ature: 998.2 kg/m³		

#### Technical:

Qty.

Pump speed on which pump	data are based:	2945 rpm
Rated flow:	153 m³/h	
Rated head:	33.2 m	
Actual impeller diameter:	175 mm	
Primary shaft seal:	BQQE	
Curve tolerance:	ISO9906:20 <sup>7</sup>	12 3B

#### Materials:

Pump housing:	Cast iron
	EN-JL1040
	421 M T24

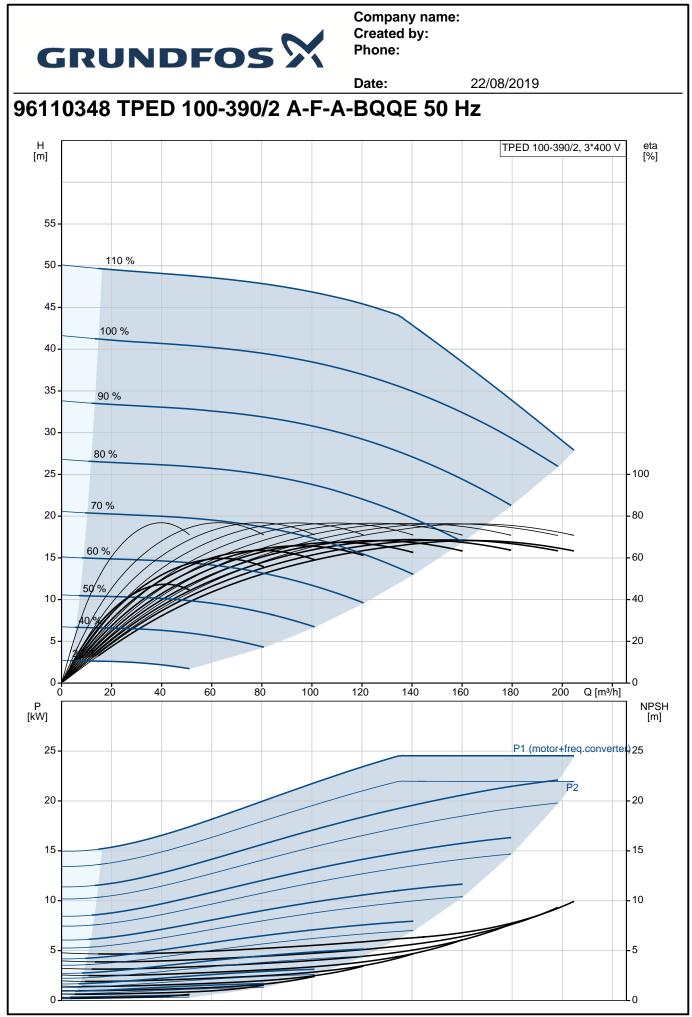
	ASTM A48-40 B
Impeller:	Cast iron
	EN-JL1030
	ASTM A48-30 B

#### Installation: Range of ambient temperature: -20 .. 40 °C

range of ambient temperature.	2010	0
Maximum operating pressure:	16 bar	
Flange standard:	DIN	
Pipe connection:	DN 100	
Pressure rating:	PN 16	
Port-to-port length:	550 mm	
Flange size for motor:	FF300	
-		
Electrical data:		
Motor type:	180MB	
IE Efficiency class:	IE3	
Rated power - P2:	22 kW	
Mains frequency:	50 Hz	



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	Rated voltage:	3 x 380-480 V	
	Rated current:	43.5-35.0 A	
	Cos phi - power factor:	0.91-0.90	
	Rated speed:	480-3540 rpm	
	Efficiency:	IE3 92,7%	
	Motor efficiency at full load:	92.7 %	
	Number of poles:	2	
	Enclosure class (IEC 34-5):	IP55	
	Insulation class (IEC 85):	F	
	Motor No:	85901231	
	Others:		
	Minimum efficiency index, MEI	â%.¥: 0.70	
	ErP status:	EuP Standalone/Prod.	
	Net weight:	501 kg	
	Gross weight:	533 kg	
	Shipping volume:	1.14 m <sup>3</sup>	
	Shipping volume.	1.14 111-	



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		Date:		22/08/2019	)	
Description	Value	H [m]		Т	PED 100-390/2, 3*400	) ∨ eta [%]
General information:	Tuluo					
Product name:	TPED 100-390/2	55 -				
	A-F-A-BQQE		110 %			
Product No:	96110348	50 -				
EAN number:	5700397024706	45 -				
	5700397024706	40 -	100 %			
Technical:		40 -				
Pump speed on which pump data are based:	2945 rpm	35 -	90 %			
Rated flow:	153 m³/h		80 %			
Rated head:	33.2 m	25 -				- 100
Head max:	390 dm	20 -	70 %			- 80
Actual impeller diameter:	175 mm	15 -	60 %			- 60
Primary shaft seal:	BQQE	15-	50 9			- 60
Curve tolerance:	ISO9906:2012 3B	10 -				- 40
Pump version: Model:	A	5 -	AD MALE			- 20
Model: Materials:	ň		10			
	Costiron	0	50	100	150 Q [m <sup>3</sup>	L_0
Pump housing:	Cast iron EN-JL1040	[kW]				NPSH
	ASTM A48-40 B	[kW] 25 -			P1 (motor+freq	[m] .conventer)
Impeller:	Cast iron					2011
וחושפוו.	EN-JL1030	20 -			P2	- 20
	ASTM A48-30 B					
Material code:	ASTIM A40-30 B	15 -				- 15
Installation:	/ X	10 -				- 10
Range of ambient temperature:	-20 40 °C					
Maximum operating pressure:	16 bar	5-				- 5
Flange standard:	DIN					0
Pipe connection:	DN 100					
Pressure rating:	PN 16	460	- <b>4</b> 60 <b>-H</b>			
Port-to-port length:	550 mm		500	16		
Flange size for motor:	FF300					
Connect code:	F					
Liquid:						
Pumped liquid:	Water					
Liquid temperature range:	-25 120 °C	- PR				
Selected liquid temperature:	20 °C	414	100 395	550 8		
Density at selected liquid temperature:	998.2 kg/m <sup>3</sup>	~~~~	× 210 210			
Electrical data:	<u> </u>	210 210				
Motor type:	180MB		₩	·		
IE Efficiency class:	IE3					
Rated power - P2:	22 kW		M16			
Mains frequency:	50 Hz			230 110		
Rated voltage:	3 x 380-480 V					
Rated current:	43.5-35.0 A					
Cos phi - power factor:	0.91-0.90					
Rated speed:	480-3540 rpm					
Efficiency:	IE3 92,7%					
Motor efficiency at full load:	92.7 %	Ēæ				
Number of poles:	2	¢	÷.			
Enclosure class (IEC 34-5):	IP55		20: P100 5 12: P100 5 18: P100 A 17: P100 A			
Insulation class (IEC 85):	F		16: GND (tarms) 15: 24V 14: Samar input2 12: GND			
Motor protec:	YES	di.	12: Analog output 11: Digital Input 4 10: Digital Input 3 1: Digital Input 3 1: Digital Input			
Motor No:	85901231		Single State     Second State     S			
Controls:		4				
Control panel:	Standard		C. CND (frame)			
Function Module:	TPED	et e	S + 10V 4: Sepoint input 3: GND (frame) 2: Startistop			
Frequency converter:	Built-in					

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		Date:	22/08/2019
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hers:			
linimum efficiency index, MEI ≥:	0.70		
rP status:	EuP Standalone/Prod.		
et weight:	501 kg		
ross weight:	533 kg		
hipping volume:	1.14 m³		
nfig. file no:	95139406		

