

20/08/2019

#### Qty. | Description

1

#### TPE 100-200/2 A-F-A-BQQE



Note! Product picture may differ from actual product

Product No.: 99113964

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 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.

## 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".

## Pump

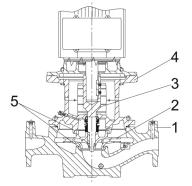
Pump housing and pump head are electrocoated to improve the corrosion resistance. Electrocoating includes:

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



Date:

20/08/2019



- 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 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.

TPE 100-200/2 A-F-A-BQQEThe 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



Company name:

	GRUNDFO	os⊠	Company na Created by: Phone:	ame:	
			Date:	20/08/2019	
Qty.	Description				
	<ul> <li>24 V voltage supply for s</li> <li>two signal-relay outputs (</li> </ul>		cts)		
	<ul> <li>GENIbus connection</li> <li>interface for Grundfos CI</li> </ul>	M fieldbus module.			
	TPE 100-200/2 A-F-A-BQQETh - one dedicated digital input		s terminals for the	se connections:	
	<ul> <li>two analog inputs, 0(4)-2</li> <li>5 V voltage supply to pot</li> </ul>	0 mA, 0-5 V, 0-10 V			
	- one configurable digital ir	nput or open-collecte			
	<ul> <li>Grundfos Digital Sensor</li> <li>24 V voltage supply for s</li> </ul>				
	- two signal relay outputs (	potential-free conta			
	<ul> <li>the two power heads con</li> <li>interface for Grundfos CI</li> </ul>		ess GENlair or wir	ed GENI connection	
	Technical data				
	Controls:				
	Frequency converter:	Built-in			
	Liquid: Pumped liquid:	Water			
	Liquid temperature range:	-25 120 °C			
	Selected liquid temperature: Density at selected liquid tempe		3		
	Technical:				
	Pump speed on which pump da Rated flow:	ta are based: 2920 85.2 m <sup>3</sup> /h	) rpm		
	Rated head:	16.7 m			
	Actual impeller diameter:	127 mm			
	Primary shaft seal:	BQQE			
	Curve tolerance:	ISO9906:2012 3B			
	Materials: Pump housing:	Cast iron			
		EN-JL1040			
	Impeller:	ASTM A48-40 B Cast iron			
		EN-JL1030			
		ASTM A48-30 B			
	Installation:	20 50.00			
	Range of ambient temperature: Maximum operating pressure:	-20 50 °C 16 bar			
	Flange standard:	DIN			
	Pipe connection:	DN 100			
	Pressure rating: Port-to-port length:	PN 16 500 mm			
	Flange size for motor:	FF265			
	Electrical data:	10005			
	Motor type: IE Efficiency class:	132SE IE5			
	Rated power - P2:	5.5 kW			
	Mains frequency:	50 Hz			

50 Hz

3 x 380-500 V

10.3-8.20 A

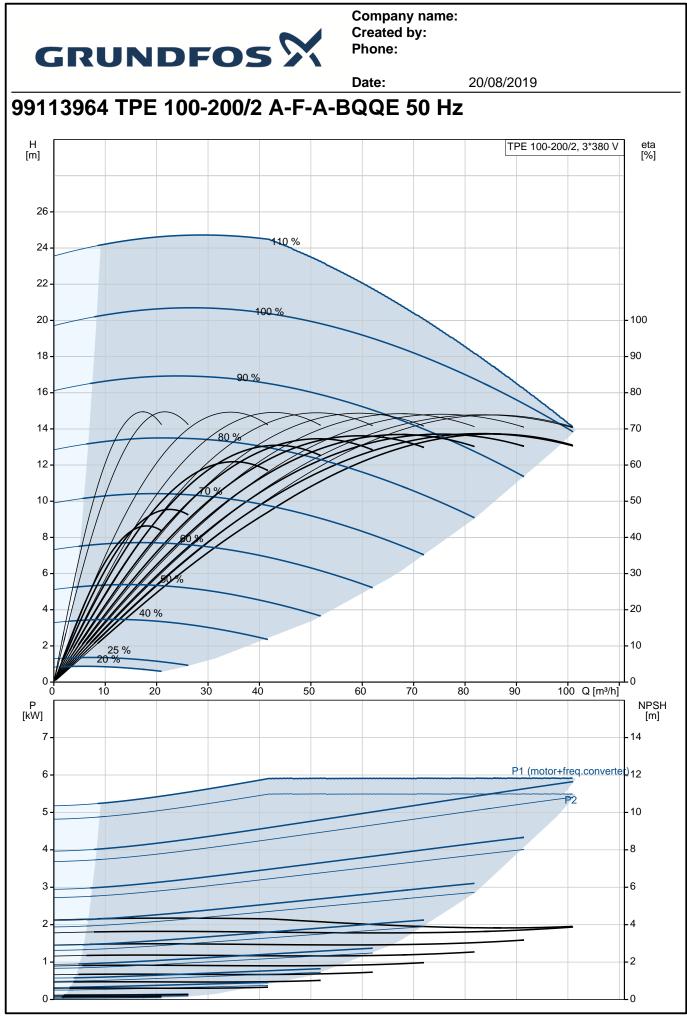
Mains frequency:

Rated voltage:

Rated current:



		Date:	20/08/2019	
Description				
Cos phi - power factor: Rated speed: Efficiency: Motor efficiency at full load: Enclosure class (IEC 34-5): Insulation class (IEC 85): Motor No:	0.92-0.88 360-4000 rpm 92.7% 92.7 % IP55 F 98971079			
Others: Minimum efficiency index, MEI ErP status: Net weight: Gross weight: Shipping volume: Danish VVS No.: Norwegian NRF no.:	l ≥: 0.58 EuP Standalone/Pro 101 kg 120 kg 0.383 m³ 382066200 9043671	od.		





		Date:	20/08/2019	
Description	Value	H [m]	TPE 100-200/2, 3*380 V	eta [%]
General information:				
Product name:	TPE 100-200/2 A-F-A-BQQE	26 - 24 -	110 %	
Product No:	99113964	— 「		
EAN number:	5712607020392	22 -	100 %	
	5712607020392	20 -	100 %	0
Technical:	0112001020002	18 -	- 90	
Pump speed on which pump data are		16	90 %	
based:	2920 rpm	14 -		
Rated flow:	85.2 m³/h			
Rated head:	16.7 m	12-	60	
Head max:	200 dm	10	50	
Actual impeller diameter:	127 mm	8-	40	
Primary shaft seal:	BQQE	6-	30	
Curve tolerance:	ISO9906:2012 3B			
Pump version:	A	4 -	40 % -20	
Model:	А	2-	% 10	
Materials:		0		
Pump housing:	Cast iron	0	20 40 60 80 Q [m³/h]	
	EN-JL1040	P [kW]		VPSH [m]
	ASTM A48-40 B	[····] -		
Impeller:	Cast iron	6 -	P1 (motor+freq.converge	ər)
	EN-JL1030	5-	P2 10	
	ASTM A48-30 B		8	
Material code:	ASTNI A40-50 B	4-		
Installation:		3-	-6	
Range of ambient temperature:	-20 50 °C	2-	-4	
Maximum operating pressure:	-2050 C	1	-2	
Flange standard:	DIN	0		
Pipe connection:	DN 100			
Pressure rating:	PN 16	201 201		
Port-to-port length:	500 mm	191.3	145.5 145.5 1	
Flange size for motor:	FF265			
Connect code:	F			
Liquid:				
Pumped liquid:	Water			
Liquid temperature range:	-25 120 °C			
Selected liquid temperature:	20 °C			
Density at selected liquid temperature:	998.2 kg/m <sup>3</sup>	100	500 0	
Electrical data:				
Motor type:	132SE		<u>M16</u>	
IE Efficiency class:	IE5			
Rated power - P2:	5.5 kW			
Mains frequency:	50 Hz		250	
Rated voltage:	3 x 380-500 V			
Rated current:	10.3-8.20 A	alim)	-	
Cos phi - power factor:	0.92-0.88			
Rated speed:	360-4000 rpm			
Efficiency:	92.7%			
Motor efficiency at full load:	92.7 %			
Enclosure class (IEC 34-5):	IP55			
Insulation class (IEC 85):	F			
Motor protec:	YES			
Motor No:	98971079			
Controls:	00011010			
	HMI200 Standard			
Control panel:	HMI200 - Standard			
	FM300 - Advanced			
	DUIIT-IN			
Function Module: Frequency converter: Others:	FM300 - Advanced Built-in			

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		Date:	20/08/2019
Description	Value		
Minimum efficiency index, MEI ≥:	0.58	_	
ErP status:	EuP Standalone/Prod.		
Net weight:	101 kg		
Gross weight:	120 kg		
Shipping volume:	0.383 m <sup>3</sup>		
Config. file no:	99100551		
Danish VVS No.:	382066200		
Norwegian NRF no.:	9043671		

