

Date:

29/08/2019

# **Tender Text**



Note! Product picture may differ from actual product

Product No.: 99114825 **TPE 65-240/4-S A-F-A-BQQE** TPE 65-240/4-S A-F-A-BQQE TPE 65-240/4-S A-F-A-BQQE TPE 65-240/4-S A-F-A-BQQE TPE 65-240/4-S A-F-A-BQQETPE 65-240/4-S A-F-A-BQQETPE 65-240/4-S A-F-A-BQQETPE 65-240/4-S A-F-A-BQQETPE 65-240/4-S A-F-A-BQQETPE 65-240/4-S A-F-A-BQQETPE 65-240/4-S A-F-A-BQQE



29/08/2019

Qty. | Description

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#### TPE 65-240/4-S A-F-A-BQQE



Product No.: 99114825

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.

TPE 65-240/4-S A-F-A-BQQEThe pump is fitted with an unbalanced rubber bellows seal. TPE 65-240/4-S A-F-A-BQQETPE 65-240/4-S A-F-A-BQQETPE 65-240/4-S 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, 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.

The pump is fitted with a differential-pressure sensor.

### Further product details

The pump is suitable for applications requiring pressure control. The pump is fitted with a differential-pressure transmitter registering the differential pressure across the pump and enabling constant pressure or proportional-pressure control of the pump.

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.

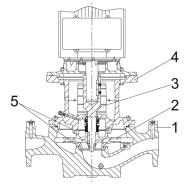
Electrocoating includes:

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



Date:

29/08/2019



- 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 65-240/4-S 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; the factory-fitted pressure sensor is connected to one of these inputs
- 5 V voltage supply to potentiometer and sensor
- one configurable digital input or open-collector output



Qty.

Description

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Controls:

Liquid: Pumped liquid:

**Technical:** 

Rated flow:

Rated head:

Primary shaft seal:

Curve tolerance:

**Technical data** 

**Company name:** Created by:

Phone: Date: 29/08/2019 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. TPE 65-240/4-S 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; the factory-fitted pressure sensor is connected to one of these inputs 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) the two power heads communicate via wireless GENIair or wired GENI connection interface for Grundfos CIM fieldbus module. Frequency converter: **Built-in** Water Liquid temperature range: -25 .. 120 °C 20 °C Selected liquid temperature: Density at selected liquid temperature: 998.2 kg/m<sup>3</sup> Pump speed on which pump data are based: 1455 rpm 47.5 m<sup>3</sup>/h 19.8 m Actual impeller diameter: 263 mm BQQE ISO9906:2012 3B Cast iron ЭB

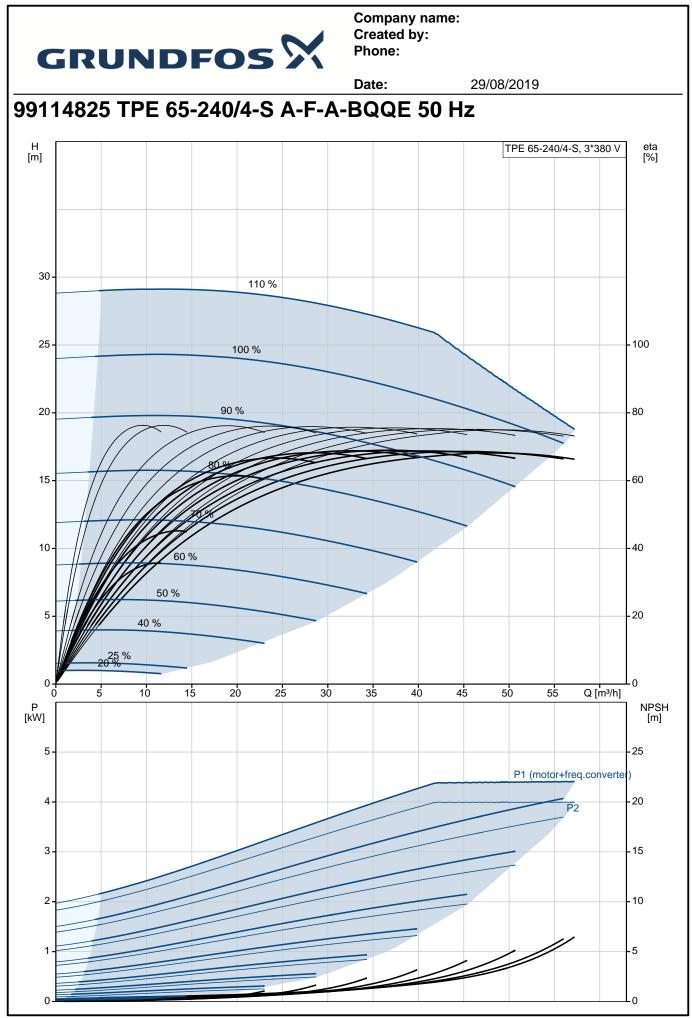
Materials: Pump housing:

i amp noaoing.	Caothon
_	EN-JL1040
	ASTM A48-40 B
Impeller:	Cast iron
	EN-JL1030
	ASTM A48-30 B

#### Installation: Range of ambient temperature: -20 .. 50 °C Maximum operating pressure: 16 bar Flange standard: DIN Pipe connection: DN 65 Pressure rating: PN 16 Port-to-port length: 475 mm Flange size for motor: FF215 **Electrical data:** Motor type: 112ME IE Efficiency class: IE5 Rated power - P2: 4 kW Mains frequency: 50 Hz



			Date:	29/08/2019	
у.	Description				
	Rated voltage: Rated current: Cos phi - power factor: Rated speed: Efficiency: Motor efficiency at full load: Enclosure class (IEC 34-5): Insulation class (IEC 85):	3 x 380-500 V 7.70-6.00 A 0.92-0.87 180-2200 rpm 90.3% 90.3 % IP55 F			
	Motor No:	98971266			
	Others: Minimum efficiency index, MEI ErP status: Net weight: Gross weight: Shipping volume: Danish VVS No.: Norwegian NRF no.:	: 0.70 EuP Standalone/Prod. 84 kg 103 kg 0.383 m <sup>3</sup> 381954240 9043636			



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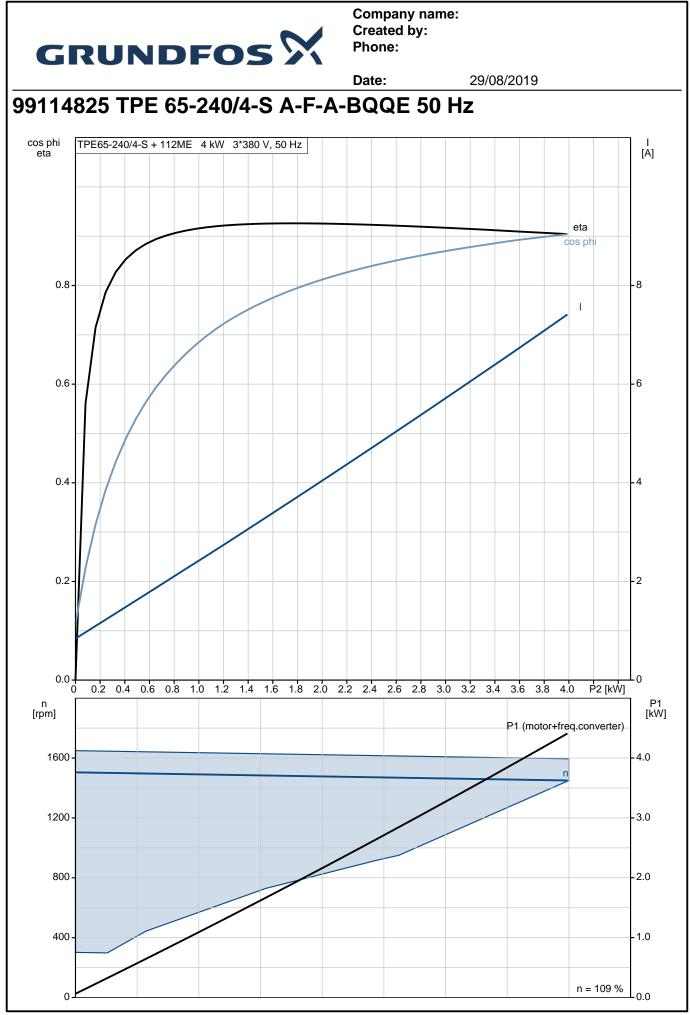


		Date:	29/08/2019
Description	Value	H [m]	TPE 65-240/4-S, 3*380 V eta [%]
General information:			
Product name:	TPE 65-240/4-S A-F-A-BQQE		
Product No:	99114825	30 -	110 %
EAN number:	5712607036645		
	5712607036645	25 -	100 %
Price:	5.352,00 GBP	25-	100 %
Technical:		_	
Pump speed on which pump data are based:	1455 rpm	20-	90 %
Rated flow:	47.5 m³/h	15 - // /	-60
Rated head:	19.8 m		
Head max:	240 dm		
Actual impeller diameter:	263 mm	10 -	60 %
Primary shaft seal:	BQQE		50 %
Curve tolerance:	ISO9906:2012 3B	5- 4	0% 20
Pump version:	A	265%	
Model:	A	20 /0	
Materials:		0 0 10	
Pump housing:	Cast iron	P [kW]	NPSH [m]
r amp nodoling.	EN-JL1040	5-	- 25
	ASTM A48-40 B		P1 (motor+freq.converter)
Impeller:	Cast iron	4 -	P2 -20
	EN-JL1030		
	ASTM A48-30 B	3-	-15
Material code:	ASTM A46-30 B	2	-10
Installation:	Λ		
Range of ambient temperature:	-20 50 °C	1-	5
Maximum operating pressure:	16 bar DIN	0	
Flange standard: Pipe connection:	DIN DN 65	201 201	
•	PN 16	201	+ 145.5 + 145.5 +
Pressure rating:	475 mm		
Port-to-port length: Flange size for motor:	-		
Connect code:	FF215 F		
Liquid:	F		
Pumped liquid:	Water		
Liquid temperature range:	-25 120 °C	— (UP)	
	-25 120 °C	65	475
Selected liquid temperature: Density at selected liquid temperature:		178 164	
Density at selected liquid temperature: Electrical data:	998.2 kg/m³		and the second sec
Motor type:	112ME		
			MIS
E Efficiency class:	IE5		
Rated power - P2:	4 kW		
Mains frequency:	50 Hz		
Rated voltage:	3 x 380-500 V		ŧŧı
Rated current:	7.70-6.00 A		
Cos phi - power factor:	0.92-0.87		ø⊕ ⊑
Rated speed:	180-2200 rpm		
Efficiency:	90.3%	oc 「	
Motor efficiency at full load:	90.3 %		
Enclosure class (IEC 34-5):	IP55		
Insulation class (IEC 85):	F		
Motor protec:	YES	<u>س</u> م	
Motor No:	98971266	- <u></u>	
Controls:			i dobas v i dobas v i dobas v
Control panel:	HMI300 - Advanced		
Function Module:	FM300 - Advanced		
Frequency converter:	Built-in		

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		Date:	29/08/2019
Description	Value		
Others:		_	
Minimum efficiency index, MEI :	0.70		
ErP status:	EuP Standalone/Prod.		
Net weight:	84 kg		
Gross weight:	103 kg		
Shipping volume:	0.383 m³		
Config. file no:	99138651		
Danish VVS No.:	381954240		
Norwegian NRF no.:	9043636		



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