

Submittal Data

PROJECT:	TPE3 READY TO SHIP	UNIT TAG:		QUANTITY:	1
		TYPE OF SERVICE:			
REPRESENTATIVE:	Hurley Engineering	SUBMITTED BY:	Devin Carle	DATE:	2/10/2020
ENGINEER:		APPROVED BY:		DATE:	
CONTRACTOR:	To Be Determined	ORDER NO.:		DATE:	



Product photo could vary from the actual product

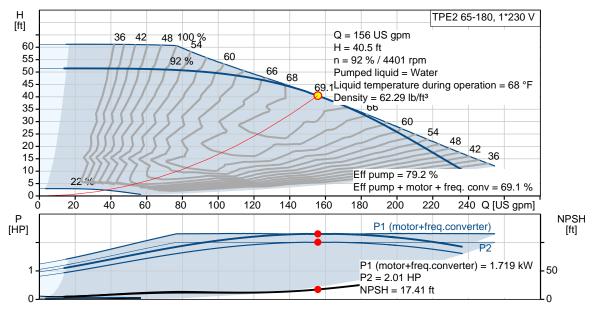
TPE2 65-180 N-A-G-A-BQQE-HAC

Single-stage in-line pumps with frequency converters

Conditions of Service			
Flow:	156 US gpm		
Head:	40.5 ft		
Efficiency:	69.1 %		
Liquid:	Water		
Temperature:	68 °F		
NPSH required:	17.41 ft		
Viscosity:			
Specific Gravity:	1.000		

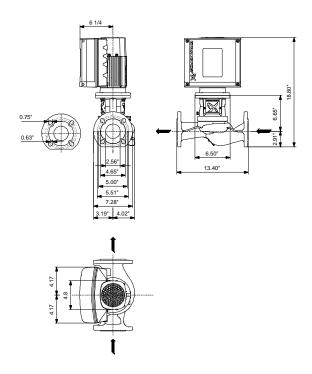
Pump Data				
Liquid temperature range:	-13 248 °F			
Maximum ambient temperature:	122 °F			
Shaft seal:	BQQE			
Pipe connection:	DN 65			
Product number:	98817752			

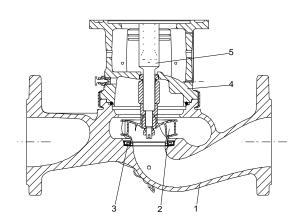
Motor Data				
2 HP				
200-240 V				
60 Hz				
0				
IP55				
F				
YES				
90B				
87.5 %				





Submittal Data





Materials:

Pump housing: Cast iron

ASTM A48-40 B

Composite PES/PP 30% GF Impeller:

Material code:



Created by: Phone:

Date: 2/28/2020

Count | Description

TPE2 65-180 N-A-G-A-BQQE-HAC



Product photo could vary from the actual product

Product No.: 98817752

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 shaft seal is according to EN 12756. Pipework connection is via PN 16 ANSI flanges.

Pipework connection is via PN 16 ANSI flanges.

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

The operating panel on the motor terminal box features a four-inch TFT display, push-buttons and the Grundfos Eye indicator.

The display gives an intuitive and user-friendly interface to all functions. The push-buttons are used to navigate through the menu structure to access pump and performance data on site and enable setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop".

Communication with the pump is also 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 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).

Pump

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

1) Alkaline-based cleaning.



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Date: 2/28/2020

Count | Description

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

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.

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 efficiency is classified as IE5 in accordance with IEC 60034-30-2.

Technical data

Controls:

Frequency converter: Built-in

Liquid:

Pumped liquid: Water
Liquid temperature range: -13 .. 248 °F
Selected liquid temperature: 68 °F
Density: 62.29 lb/ft³

Technical:

Pump speed on which pump data is based: 4470 rpm

Actual calculated flow: 156 US gpm
Resulting head of the pump: 40.5 ft
Actual impeller diameter: 3.07 in
Code for shaft seal: BQQE

Curve tolerance: ISO9906:2012 3B2

Materials:

Pump housing: Cast iron

ASTM A48-40 B

EN 1561 EN-GJL-250

Impeller: Composite PES/PP 30% GF

Installation:

Range of ambient temperature: -4 .. 122 °F Maximum operating pressure: PN 16 bar



Created by: Phone:

Date: 2/28/2020

Count Description

Type of connection: ANSI
Pipe connection: DN 65
Pressure rating for pipe connection: PN 16
Flange size for motor: 56C

Electrical data:

Motor type:90BIE Efficiency class:IE5Rated power - P2:2 HPMain frequency:60 Hz

Rated voltage: 1 x 200-240 V Rated current: 9.20-7.60 A

Cos phi - power factor: 0.99

Rated speed: 480-5900 rpm

IE efficiency: 87.5%

Motor efficiency at full load: 87.5 %

Number of poles: 0

Enclosure class (IEC 34-5): IP55

Insulation class (IEC 85): F

Motor Number: 99630347

Others:

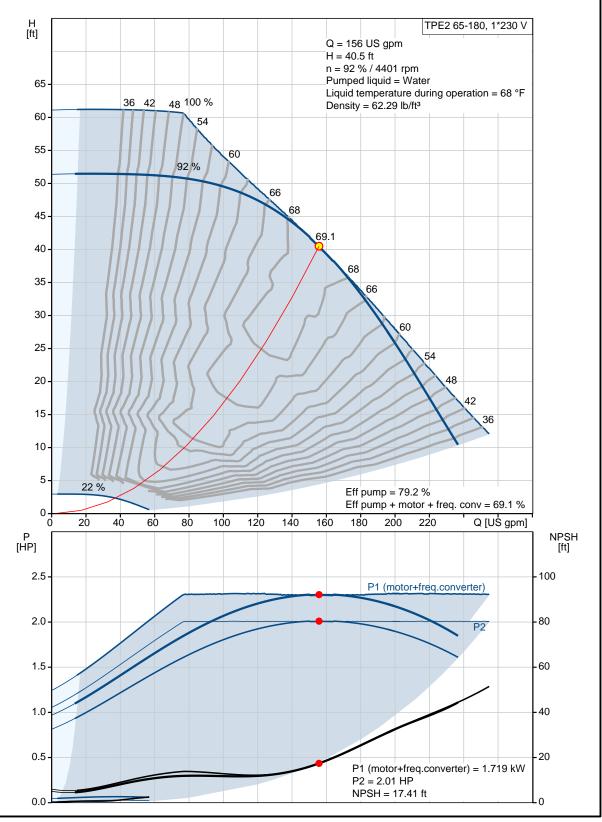
DOE Pump Energy Index VL: 0.39
Net weight: 65.7 lb
Gross weight: 65.7 lb



Created by: Phone:

Date: 2/28/2020

98817752 TPE2 65-180 N-A-G-A-BQQE-HAC 60 Hz

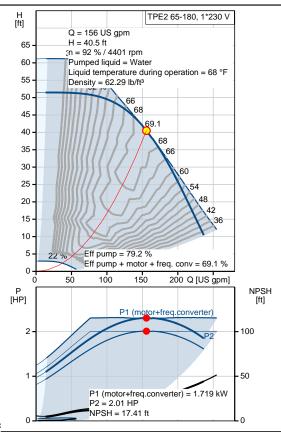


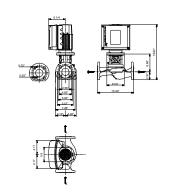


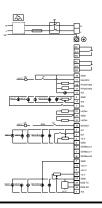
Created by: Phone:

Date: 2/28/2020

Description			
General information: Product name: TPE2 65-180 N.A.G.A-BQQE-HAC Product No.: 98817752 EAN: 5712601810654 Technical: 5712601810654 Pump speed on which pump data is based: 4470 rpm Actual calculated flow: 156 US gpm Resulting head of the pump: 40.5 ft Head max: 59.06 ft Actual impeller diameter: 3.07 in Code for shaft seal: BQQE Curve tolerance: ISO9906:2012 3B2 Pump version: A Materials: Waterials: Pump housing: Cast iron A STM A48-40 B EN 1561 EN-GJL-250 Impeller: GF Material code: A Material code: A Material code: A Impeller: 4 122 °F Maximum operating pressure: PN 16 bar Type of connection: DN 65 Pressure rating for pipe connection: DN 65 Pressure rating for pipe connection: GC Connect c	Description	Value	
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Rated power - P2: 2 HP Main frequency: 60 Hz Rated voltage: 1 x 200-240 V Rated current: 9.20-7.60 A Cos phi - power factor: 0.99 Rated speed: 480-5900 rpm IE efficiency: 87.5% Motor efficiency at full load: 87.5 % Number of poles: 0 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor protection: YES	Motor type:	90B	
Main frequency: Rated voltage: Rated current: 9.20-7.60 A Cos phi - power factor: 0.99 Rated speed: 480-5900 rpm IE efficiency: 87.5% Motor efficiency at full load: 87.5 % Number of poles: Enclosure class (IEC 34-5): Insulation class (IEC 85): Motor protection: YES	IE Efficiency class:	IE5	
Rated voltage: 1 x 200-240 V Rated current: 9.20-7.60 A Cos phi - power factor: 0.99 Rated speed: 480-5900 rpm IE efficiency: 87.5% Motor efficiency at full load: 87.5 % Number of poles: 0 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor protection: YES	Rated power - P2:	2 HP	
Rated current: 9.20-7.60 A Cos phi - power factor: 0.99 Rated speed: 480-5900 rpm IE efficiency: 87.5% Motor efficiency at full load: 87.5 % Number of poles: 0 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor protection: YES	Main frequency:	60 Hz	
Cos phi - power factor: Rated speed: 480-5900 rpm IE efficiency: 87.5% Motor efficiency at full load: Number of poles: Enclosure class (IEC 34-5): Insulation class (IEC 85): Motor protection: 9.99 480-5900 rpm 97.5% 17.5% 17.5% 18.5% 18.5% 19.55 19.55 19.55 19.55	Rated voltage:	1 x 200-240 V	
Rated speed: 480-5900 rpm IE efficiency: 87.5% Motor efficiency at full load: 87.5 % Number of poles: 0 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor protection: YES	Rated current:	9.20-7.60 A	
IE efficiency: 87.5% Motor efficiency at full load: 87.5 % Number of poles: 0 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor protection: YES	Cos phi - power factor:	0.99	
IE efficiency: 87.5% Motor efficiency at full load: 87.5 % Number of poles: 0 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor protection: YES	Rated speed:	480-5900 rpm	
Motor efficiency at full load: 87.5 % Number of poles: 0 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor protection: YES		87.5%	
Number of poles: Enclosure class (IEC 34-5): Insulation class (IEC 85): Motor protection: O IP55 F YES	•	87.5 %	
Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor protection: YES	-	0	
Insulation class (IEC 85): F Motor protection: YES		IP55	
Motor protection: YES		F	
Motor Number: 99630347		YES	
	Motor Number:	99630347	









Created by: Phone:

Date: 2/28/2020

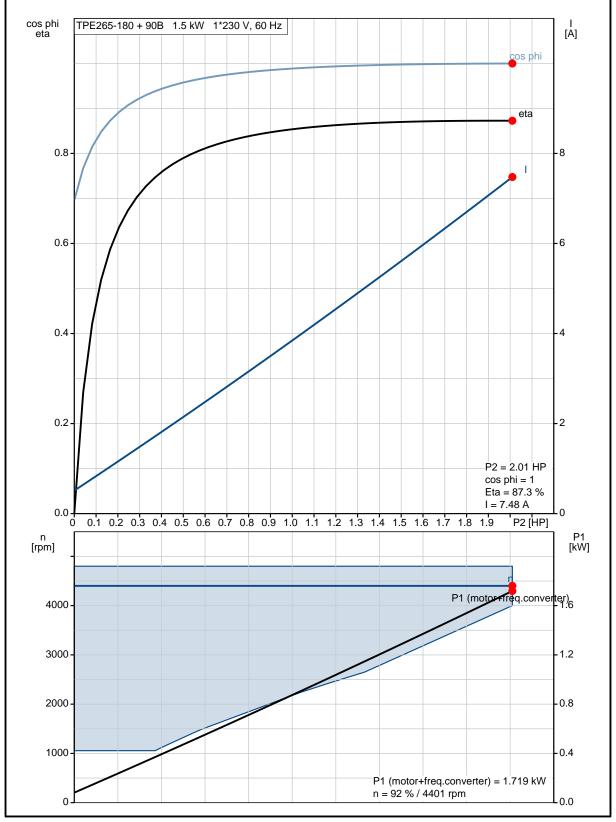
Description	Value	
Controls:		
Control panel:	HMI300 - Graphical	
Function Module:	FM300 - Advanced	
Frequency converter:	Built-in	
Others:		
DOE Pump Energy Index VL:	0.39	
Net weight:	65.7 lb	
Gross weight:	65.7 lb	
Config. file no:	98819183	



Created by: Phone:

Date: 2/28/2020

98817752 TPE2 65-180 N-A-G-A-BQQE-HAC 60 Hz

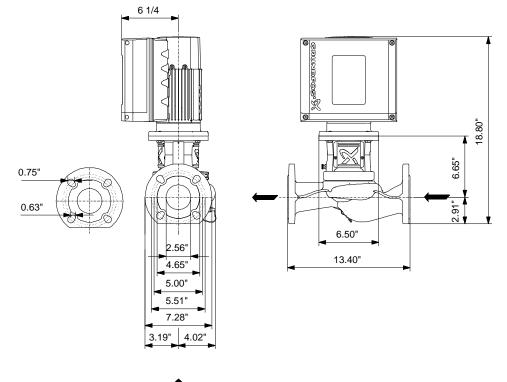


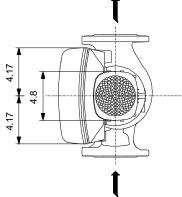


Created by: Phone:

Date: 2/28/2020

98817752 TPE2 65-180 N-A-G-A-BQQE-HAC 60 Hz





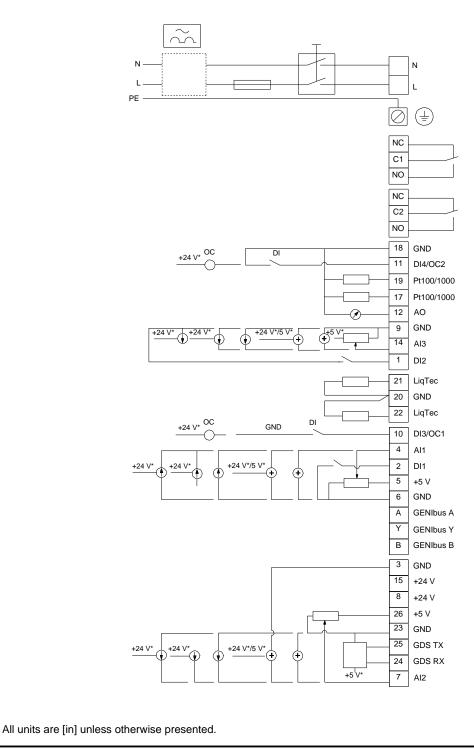
Note! All units are in [in] unless otherwise stated. Disclaimer: This simplified dimensional drawing does not show all details.



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Date: 2/28/2020

98817752 TPE2 65-180 N-A-G-A-BQQE-HAC 60 Hz





Created by: Phone:

Date: 2/28/2020

Order Data:

Product name: TPE2 65-180 N-A-G-A-BQQE-HAC

Amount: 1

Product No.: 98817752

Total: Price on request