## **GRUNDFOS**

## Submittal Data

PROJECT:	Hurley Engineering-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:	

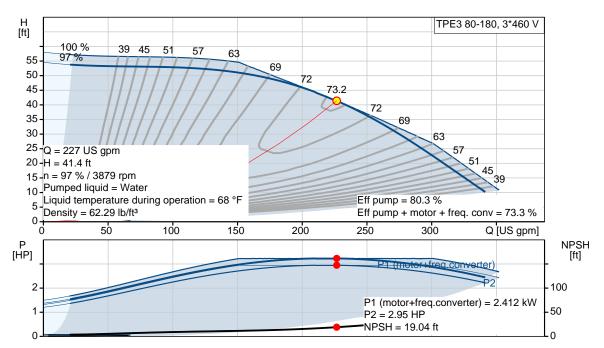


### TPE3 80-180 S-A-G-I-BQQE-ICB

Single-stage stainless steel in-line pumps with frequency converters

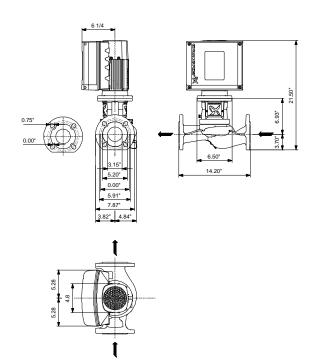
Product photo could vary from the actual product

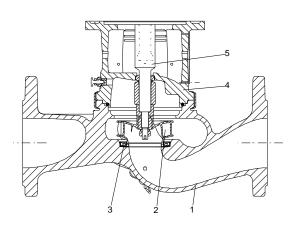
Conditions of Service		Pump Data		Motor Data	
Flow:	227 US gpm	Liquid temperature range:	-13 248 °F	Rated power - P2:	3 HP
Head:	41.4 ft	Maximum ambient temperature:	122 °F	Rated voltage:	440-480 V
Efficiency:	73.3 %	Shaft seal:	BQQE	Main frequency:	60 Hz
Liquid:	Water	Pipe connection:	DN 80	Number of poles:	0
Temperature:	68 °F	Product number:	98819911	Enclosure class:	IP55
NPSH required:	19.04 ft			Insulation class:	F
Viscosity:				Motor protection:	YES
Specific Gravity:	1.000			Motor type:	90D
				Motor_efficiency:	90.7 %





## Submittal Data





#### Materials:

Pump housing:	Stainless steel ASTM CF8
Impeller:	Composite PES/PP 30% GF
Material code:	I

G	RUNDFOS		: Hurley Engineering
		Date:	2/26/2020
Projec Refere	t: ence number:	Client: Client number: Contact:	
Count	Description		
1	TPE3 80-180 S-A-G-I-BQQE-IC	В	
	Product No.: 98819911		
	be removed for maintenance or The shaft seal is according to El Pipework connection is via PN 1 The pump is fitted with a fan-coo is classified as IE5 in accordance The motor includes a frequency	oled, permanent-magnet synchror e with IEC 60034-30-2. converter and PI controller in the he motor speed, which again ena	emains in the pipework. via PN 16 ANSI flanges. nous motor. The motor efficiency motor terminal box. This enables
	Controls: Frequency converter:	Built-in	
	Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density:	Water -13 248 °F 68 °F 62.29 lb/ft <sup>3</sup>	
	Technical:		
	Pump speed on which pump da		
	Actual calculated flow: Resulting head of the pump:	227 US gpm 41.4 ft	
	Actual impeller diameter:	3.54 in	
	Code for shaft seal:	BQQE	
	Curve tolerance:	ISO9906:2012 3B2	
1	Materials:		
		0.1.1.1	
	Pump housing:	Stainless steel ASTM CF8 EN 1.4308	
	Pump housing:	ASTM CF8 EN 1.4308	
	Pump housing: Impeller:	ASTM CF8 EN 1.4308 Composite PES/PP 30% GF	

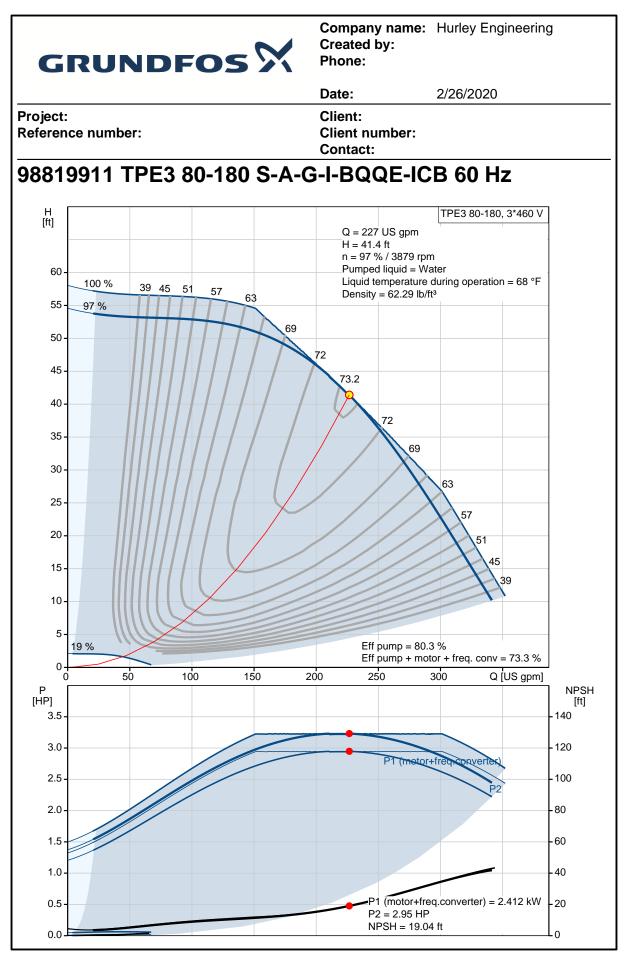
<b>GRUNDFOS</b>			Created by: Phone:	Hulley Eng	
			Date:	2/26/2020	
Projec Refere	t: nce number:		Client: Client number: Contact:		
Count	Description				
	Pipe connection: Pressure rating for pipe con				
	Flange size for motor: Electrical data:	56C			
	Motor type:	90D			
	IE Efficiency class:	IE5			
	Rated power - P2:	3 HP			

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## Company name: Hurley Engineering

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eference number:		Client number: Contact:	
ount	Description		
ount		Contact: DN 80	
	Net weight: Gross weight: Country of origin: Custom tariff no.:	74.5 lb 93.7 lb HU 8413.70.2022	



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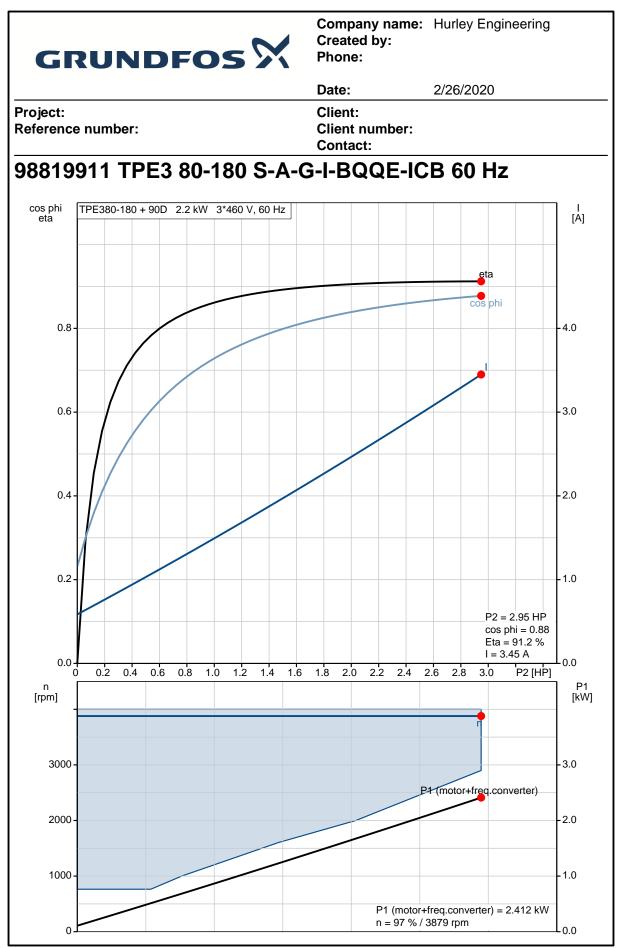


		Date: 2/26/2020
Project: Reference number:		Client: Client number: Contact:
Description	Value	H [ft] TPE3 80-180, 3*460 V
General information:		Q = 227  US gpm
Product name:	TPE3 80-180	100 % n = 97 % / 3879 rpm
Floduct name.	S-A-G-I-BQQE-ICB	55 - 97 % Pumped liquid = Water Liquid temperature during operation = 68 °F
Product No.:	98819911	50 Density = $62.29 \text{ lb/ft}^3$
EAN:	5712601849029	45 - 73.2
	5712601849029	40
Technical:		35 - 69
Pump speed on which pump data is based:	3900 rpm	30 - 63
Actual calculated flow:	227 US gpm	25-
Resulting head of the pump:	41.4 ft	2051
Head max:	59.06 ft	15 - 45
Actual impeller diameter:	3.54 in	10-
Code for shaft seal:	BQQE	5-19 % Eff pump = 80.3 %
Curve tolerance:	ISO9906:2012 3B2	Eff pump + motor + freq. conv = $73.3 \%$
Pump version:	A	0 50 100 150 200 250 Q [US gpm]
Materials:		P NPSH [ft]
Pump housing:	Stainless steel	3-150
	ASTM CF8	Bt (motor+treq.convertex)
	EN 1.4308	2-100
Impeller:	Composite PES/PP 30% GF	
Material code:	Ι	1 – P1 (motor+freq.converter) = $2.412 \text{ kW}$ – 50
Installation:		P2 = 2.95 HP NPSH = 19.04 ft
Range of ambient temperature:	-4 122 °F	
Maximum operating pressure:	PN 16 bar	
Type of connection:	ANSI	
Pipe connection:	DN 80	
Pressure rating for pipe connection:	PN 16	
Flange size for motor:	56C	
Connect code:	G	2 407
Liquid:		
Pumped liquid:	Water	
Liquid temperature range:	-13 248 °F	
Selected liquid temperature:	68 °F	
Density:	62.29 lb/ft <sup>3</sup>	
Electrical data:	00 <b>D</b>	
Motor type:	90D	
IE Efficiency class:	IE5	
Rated power - P2:	3 HP	
Main frequency: Rated voltage:	60 Hz 3 x 440-480 V	
Rated current:	3 X 440-480 V 3.8 A	
Cos phi - power factor:	0.89	
Rated speed:	360-4000 rpm	
IE efficiency:	90.7%	
Motor efficiency at full load:	90.7 %	
Number of poles:	0	
	-	

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		Date:	2/26/2020
Project: Reference number:		Client: Client number: Contact:	
Description	Value		
Enclosure class (IEC 34-5):	IP55		
Insulation class (IEC 85):	F		
Motor protection:	YES		
Motor Number:	99630349		
Controls:			
Control panel:	HMI300 - Graphical		
Function Module:	FM300 - Advanced		
Frequency converter:	Built-in		
Others:			
DOE Pump Energy Index VL:	0.38		
Net weight:	74.5 lb		
Gross weight:	93.7 lb		
Config. file no:	98484797		
Country of origin:	HU		
Custom tariff no.:	8413.70.2022		



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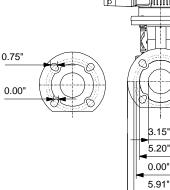


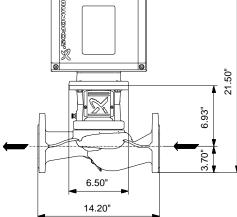
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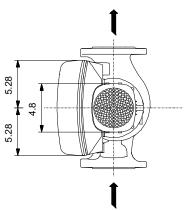
Project: Reference number: Date:

Client: Client number: Contact:

# Contact: 98819911 TPE3 80-180 S-A-G-I-BQQE-ICB 60 Hz







7.87"

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



#### Date: 2/26/2020 **Project: Client: Reference number: Client number:** Contact: 98819911 TPE3 80-180 S-A-G-I-BQQE-ICB 60 Hz L1 L1 L2 L2 L3 L3 PE $\bigcirc$ (<u>+</u> NC C1 NO NC C2 NO 18 GND +24 V\* OC 11 DI4/OC2 19 Pt100/1000 17 Pt100/1000 12 AO a GND €<sup>5</sup> 9 +24 V\* +24 V\*/5 V\* $(\mathbf{h})$ (Ŧ) 14 AI3 DI2 1 LiqTec 21 20 GND 22 LiqTec DI OC GND +24 V 10 DI3/OC1 4 AI1 +24 V\* +24 V\* +24 V\*/5 V\* 2 DI1 (Ť Ŧ 5 +5 V 6 GND А GENIbus A Υ GENIbus Y В GENIbus B 3 GND 15 +24 V 8 +24 V 26 +5 V 23 GND +24 V\* 25 GDS TX +24 V\*/5 V\* +24 V ſÐ, Ē 24 GDS RX +5 V\* 7 AI2 All units are [in] unless otherwise presented. Printed from Grundfos Product Center [2020.02.002]

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		Date:	2/26/2020
Project: Reference number:		Client: Client number: Contact:	
Order Data:			
Product name: Amount: Product No.:	TPE3 80-180 S-A-G-I-BC 1 98819911	QQE-ICB	
Total: Price on r	equest		