# **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:	

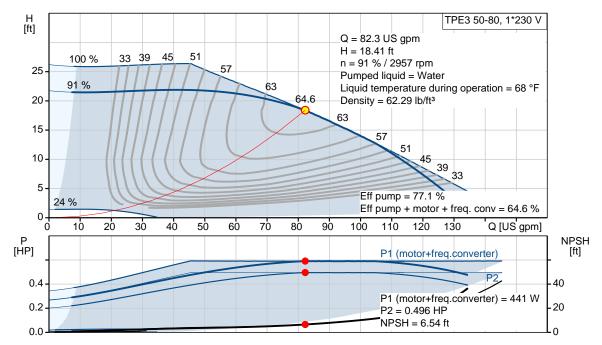


#### TPE3 50-80 S-A-G-I-BQQE-DAB

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

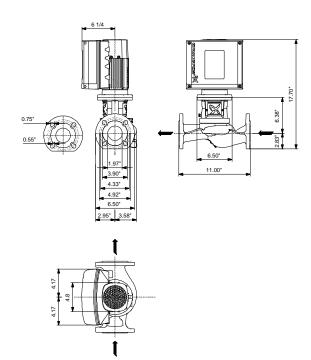
Product photo could vary from the actual product

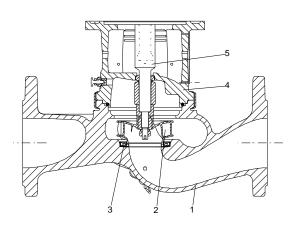
Conditions	of Service	Pump Data		Motor Da	ata
Flow:	82.3 US gpm	Liquid temperature range:	-13 248 °F	Rated power - P2:	0.5 HP
Head:	18.41 ft	Maximum ambient temperature:	122 °F	Rated voltage:	200-240 V
Efficiency:	64.6 %	Shaft seal:	BQQE	Main frequency:	60 Hz
Liquid:	Water	Pipe connection:	DN 50	Number of poles:	0
Temperature:	68 °F	Product number:	98819610	Enclosure class:	IP55
NPSH required:	6.54 ft			Insulation class:	F
Viscosity:				Motor protection:	YES
Specific Gravity:	1.000			Motor type:	71A
				Motor_efficiency:	84.0 %





### Submittal Data





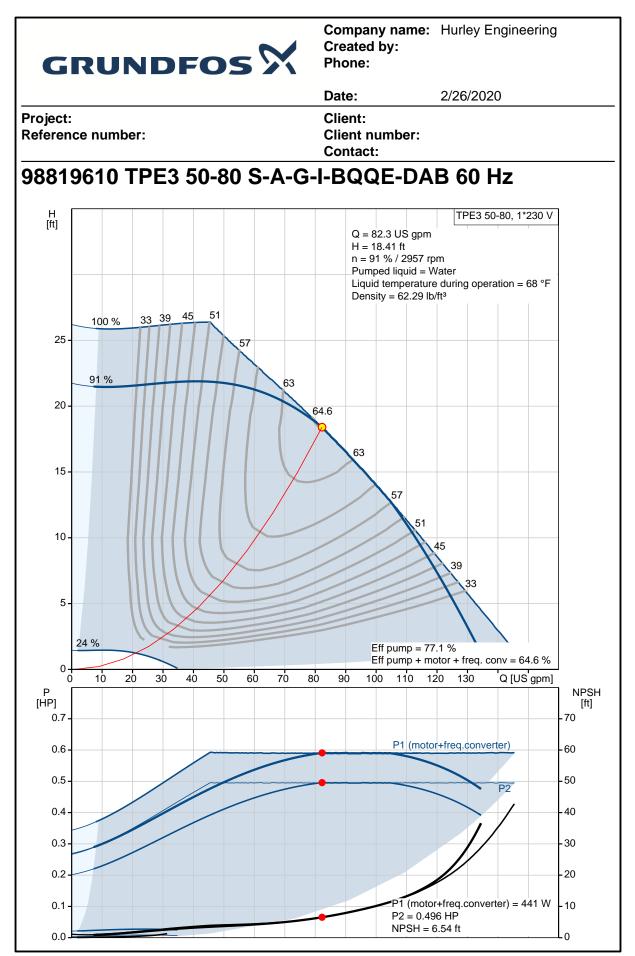
#### Materials:

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

G	RUNDFOS		ne: Hurley Engineering
		Date:	2/26/2020
Projec Refere	t: nce number:	Client: Client number Contact:	:
Count	Description		
1	TPE3 50-80 S-A-G-I-BQQE-DA	В	
	Product No.: 98819610		
	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	service while the pump housing N 12756. Pipework connection 6 ANSI flanges. bled, permanent-magnet synchic e with IEC 60034-30-2. converter and PI controller in the the motor speed, which again e	is via PN 16 ANSI flanges. ronous motor. The motor efficiency he 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/ft³	
	<b>Technical:</b> Pump speed on which pump dat	a is based: 3000 rpm	
	Actual calculated flow: Resulting head of the pump: Actual impeller diameter: Code for shaft seal: Curve tolerance:	82.3 US gpm 18.41 ft 2.91 in BQQE ISO9906:2012 3B2	
	<b>Materials:</b> Pump housing:	Stainless steel ASTM CF8 EN 1.4308	
	Impeller:	Composite PES/PP 30% GF	
	Installation: Range of ambient temperature: Maximum operating pressure: Type of connection:	-4 122 °F PN 16 bar ANSI	

GRUNDFOS
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Project Referei	: nce number:		nt number:	
Count	Description	Cont	act:	
Jount	Description			
	Pipe connection: Pressure rating for pipe conne Flange size for motor:	DN 50 ction: PN 16 56C		
	Electrical data:			
	Motor type:	71A		
	IE Efficiency class:	IE5		
	Rated power - P2:	0.5 HP		
	Main frequency:	60 Hz		
	Rated voltage:	1 x 200-240 V		
	Rated current:	2.40-2.10 A		
	Cos phi - power factor:	0.96		
	Rated speed:	360-4000 rpm		
	IE efficiency:	84.0%		
	Motor efficiency at full load:	84.0 %		
	Number of poles:	0		
	Enclosure class (IEC 34-5):	IP55		
	Insulation class (IEC 85):	F		
	Motor Number:	99630319		
	Others:			
	Net weight:	57.1 lb		
	Gross weight:	57.1 lb		
	Country of origin:	HU		
	Custom tariff no .:	8413.70.2022		



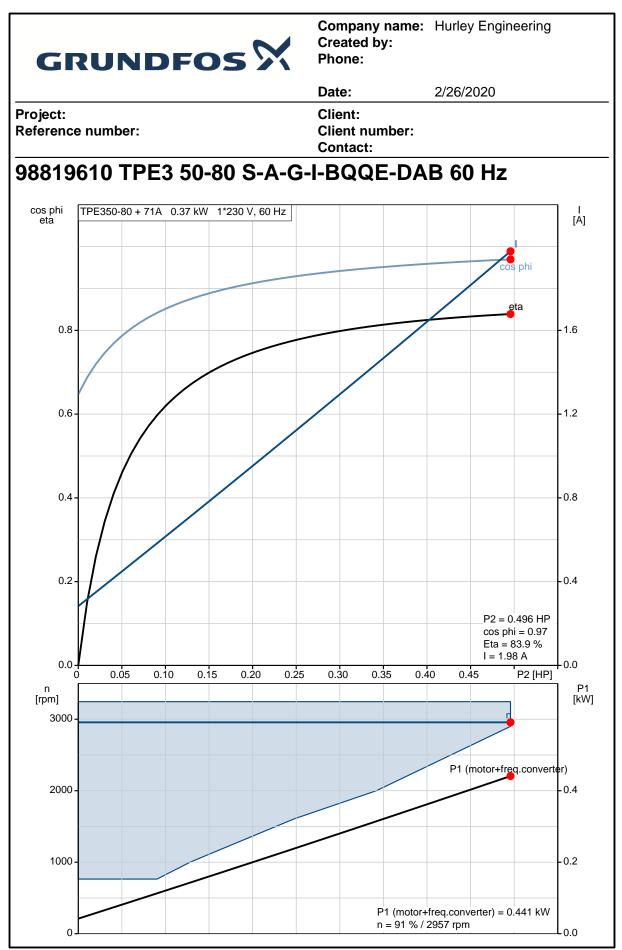


Materials:   Pump housing:   Stainless steel     ASTM CF8   ASTM CF8     EN 1.4308   EN 1.4308     Impeller:   Composite PES/PP 30%     Material code:   I     Installation:   Composite PES/PP 30%     Range of ambient temperature:   -4 122 °F     Maximum operating pressure:   PN 16 bar     Type of connection:   DN 50     Pressure rating for pipe connection:   DN 50     Pressure rating for pipe connection:   S6C     Connect code:   G     Liquid:   Liquid:		<b>Date:</b> 2/26/2020		
DescriptionValueGeneral information:Product name:TPE3 50-80Product No.:98819610EAN:5712601843553Frice:\$7,898.00Technical:Pumpe layed on which pumpdata is based:3000 rpmdatu calculated flow:82.3 US gpmActual calculated flow:82.3 US gpmActual calculated flow:82.3 US gpmActual calculated flow:82.3 US gpmActual calculated flow:82.3 US gpmMaterials:Pump housing:Stainless steelMaterials:Pump housing:Stainless steelMaterial code:Installation:Range of ambient temperature:Pressure raing for pipe connection:Pressure raing for pipe connection:Part of the pipe connection:		Client number:		-
Product No.:98819610EAN:5712601843553price:\$7,898.00Technical: $$7,898.00$ Pump speed on which pump data is based:3000 rpmActual calculated flow:82.3 US gpmResulting head of the pump:18.41 ftHead max:26.25 ftActual calculated flow:82.3 US gpmResulting head of the pump:18.41 ftHead max:26.25 ftActual impeller diameter:2.91 inCode for shaft seal:BQQECurve tolerance:ISO9906:2012 3B2Pump version:AMaterials:Pump housing:Stainless steel $STM CF8$ EN 1.4308Composite PES/PP 30%Impeller:Composite PES/PP 30%Material code:IInstallation:ANSIType of connection:ANSIPipe connection:DN 50Pressure rating for pipe connection:PN 16Flange size for motor:56CConnect code:GLiquid:Liquid:		[ft] Q = 82.3 US gpm H = 18.41 ft n = 91 % / 2957 rpm	TPE3 50-80	General information:
Price:\$ 7,898.00Technical:Pump speed on which pump data is based:3000 rpmActual calculated flow:82.3 US gpmResulting head of the pump:18.41 ftHead max:26.25 ftActual impeller diameter:2.91 inCode for shaft seal:BQQECurve tolerance:ISO9906:2012 3B2Pump version:AMaterials:Pump version:Pump housing:Stainless steelASTM CF8EN 1.4308Impeller:Composite PES/PP 30% GFMaterial code:IInstallation:Range of ambient temperature:Anse of ambient temperature:-4 122 °FMaximum operating pressure:PN 16Pipe connection:DN 50Pressure rating for pipe connection:PN 16Flange size for motor:56CConnect code:GLiquid:I		25 Density = $62.29$ b/ft <sup>3</sup> 91 % $63$	5712601843553	
data is based: Subort print Actual calculated flow: 82.3 US gpm Resulting head of the pump: 18.41 ft Head max: 26.25 ft Actual impeller diameter: 2.91 in Code for shaft seal: BQQE Curve tolerance: ISO9906:2012 3B2 Pump version: A Materials: Pump housing: Stainless steel ASTM CF8 EN 1.4308 Impeller: Composite PES/PP 30% GF Material code: I Installation: Range of ambient temperature: -4 122 °F Maximum operating pressure: PN 16 bar Type of connection: DN 50 Pressure rating for pipe connection: DN 50 Pressure rating for pipe connection: S6C Connect code: G Liquid:		15-		Technical:
Resulting head of the pump:18.41 ftHead max:26.25 ftActual impeller diameter:2.91 inCode for shaft seal:BQQECurve tolerance:ISO9906:2012 3B2Pump version:AMaterials:P1 (motor+freq.converter)Pump housing:Stainless steelASTM CF8EN 1.4308Impeller:Composite PES/PP 30%Material code:IInstallation:Range of ambient temperature:-4 122 °FMaximum operating pressure:PN 16 barType of connection:DN 50Pressure rating for pipe connection:PN 16Flange size for motor:56CConnect code:GLiquid:Liquid:		51	-	data is based:
Code for shaft seal:   BQQE     Curve tolerance:   ISO9906:2012 3B2     Pump version:   A     Materials:   Pump housing:     Stainless steel   ASTM CF8     EN 1.4308   Composite PES/PP 30%     Impeller:   Composite PES/PP 30%     Material code:   I     Installation:   Range of ambient temperature:   -4 122 °F     Maximum operating pressure:   PN 16 bar     Pipe connection:   DN 50     Pressure rating for pipe connection:   PN 16     Flange size for motor:   56C     Connect code:   G     Liquid:   Liquid:		39 33	18.41 ft	Resulting head of the pump:
Pump version:   A     Materials:   Pump housing:   Stainless steel     Pump housing:   Stainless steel     ASTM CF8   Pipeller:   Composite PES/PP 30% GF     Material code:   I     Installation:   Pipe connection:   PN 16 bar     Type of connection:   DN 50     Pressure rating for pipe connection:   PN 16     Flange size for motor:   56C     Connect code:   G     Liquid:   PN 16		Eff pump + motor + freq. conv = 64.6 %	BQQE	Code for shaft seal:
Pump housing:   Stainless steel     ASTM CF8     EN 1.4308     Composite PES/PP 30%     GF     Material code:     I     Installation:     Range of ambient temperature:     -4122 °F     Maximum operating pressure:     PN 16 bar     Type of connection:     Pipe connection:     DN 50     Pressure rating for pipe connection:     PN 16     Flange size for motor:     56C     Connect code:     G     Liquid:	IPSH [ft]	P NF		Pump version:
Imperier:   GF     Material code:   I     Installation:   Imperiation:     Range of ambient temperature:   -4 122 °F     Maximum operating pressure:   PN 16 bar     Type of connection:   ANSI     Pipe connection:   DN 50     Pressure rating for pipe connection:   PN 16     Flange size for motor:   56C     Connect code:   G     Liquid:   Imperiation:			ASTM CF8 EN 1.4308	
Installation:   0.0   NPSH = 6.54 ft   0     Installation:   0.0   NPSH = 6.54 ft   0     Range of ambient temperature:   -4 122 °F   0   0     Maximum operating pressure:   PN 16 bar   0   0     Type of connection:   ANSI   0   0     Pipe connection:   DN 50   0   0     Pressure rating for pipe connection:   PN 16   0   0     Flange size for motor:   56C   0   0     Connect code:   G   0   0     Liquid:   0   0   0   0		F = (110101 + 11eq.converter) = 441  W		•
Range of ambient temperature:   -4 122 °F     Maximum operating pressure:   PN 16 bar     Type of connection:   ANSI     Pipe connection:   DN 50     Pressure rating for pipe connection:   PN 16     Flange size for motor:   56C     Connect code:   G     Liquid:   Image: State		NPSH = 6.54  ft		
Maximum operating pressure:   PN 16 bar     Type of connection:   ANSI     Pipe connection:   DN 50     Pressure rating for pipe connection:   PN 16     Flange size for motor:   56C     Connect code:   G     Liquid:   Image: State S			4 400 °E	
Type of connection:   ANSI     Pipe connection:   DN 50     Pressure rating for pipe connection:   PN 16     Flange size for motor:   56C     Connect code:   G     Liquid:   Image: Connect code:				
Pipe connection:   DN 50     Pressure rating for pipe connection:   PN 16     Flange size for motor:   56C     Connect code:   G     Liquid:   Image: Connect code:				
Pressure rating for pipe connection: PN 16   Flange size for motor: 56C   Connect code: G   Liquid: Image: Connect code:			-	
Connect code: G				Pressure rating for pipe
				•
		f		Liquid:
			Water	Pumped liquid:
Liquid temperature range: -13 248 °F				
Selected liquid temperature: 68 °F				
Density: 62.29 lb/ft <sup>3</sup>			62.29 lb/ft <sup>3</sup>	
Electrical data:				
Motor type: 71A				
IE Efficiency class: IE5				
Rated power - P2: 0.5 HP				
Main frequency: 60 Hz				
Rated voltage: 1 x 200-240 V				-
Rated current: 2.40-2.10 A				
Cos phi - power factor: 0.96				
Rated speed: 360-4000 rpm				
IE efficiency: 84.0%				-
Motor efficiency at full load: 84.0 %				
Number of poles: 0			U	number of poles:

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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:	99630319		
Controls:			
Control panel:	HMI300 - Graphical		
Function Module:	FM300 - Advanced		
Frequency converter:	Built-in		
Others:			
Net weight:	57.1 lb		
Gross weight:	57.1 lb		
Config. file no:	98481397		
Country of origin:	HU		
Custom tariff no .:	8413.70.2022		



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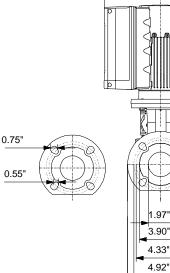
2/26/2020

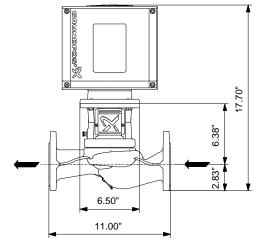
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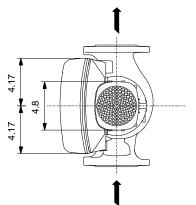
Client: Client number: Contact:

## 98819610 TPE3 50-80 S-A-G-I-BQQE-DAB 60 Hz

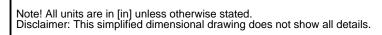
6 1/4







6.50" 2.95" 3.58"



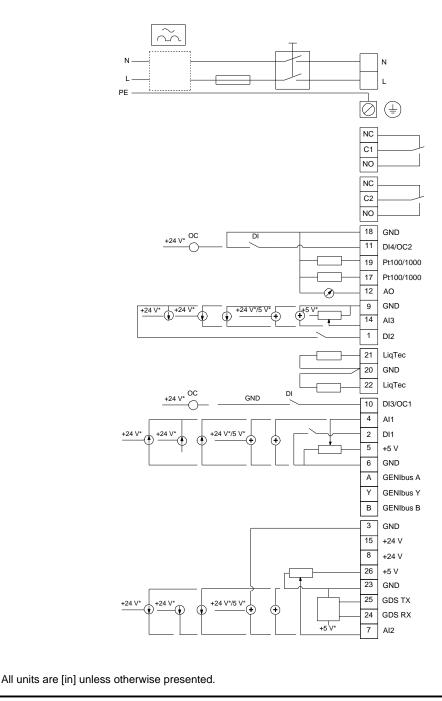


2/26/2020

Project: Reference number: Date:

Client: Client number: Contact:

#### 98819610 TPE3 50-80 S-A-G-I-BQQE-DAB 60 Hz



GRUN	DFOSX	Company name: Created by: Phone:	Hurley Engineering
		Date:	2/26/2020
oject: ference number:		Client: Client number: Contact:	
Order Data:			
Product name: Amount: Product No.: Price: Total: \$ 7,898.0	TPE3 50-80 S-A-G-I-B 1 98819610 \$ 7,898.00 0	QQE-DAB	