

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

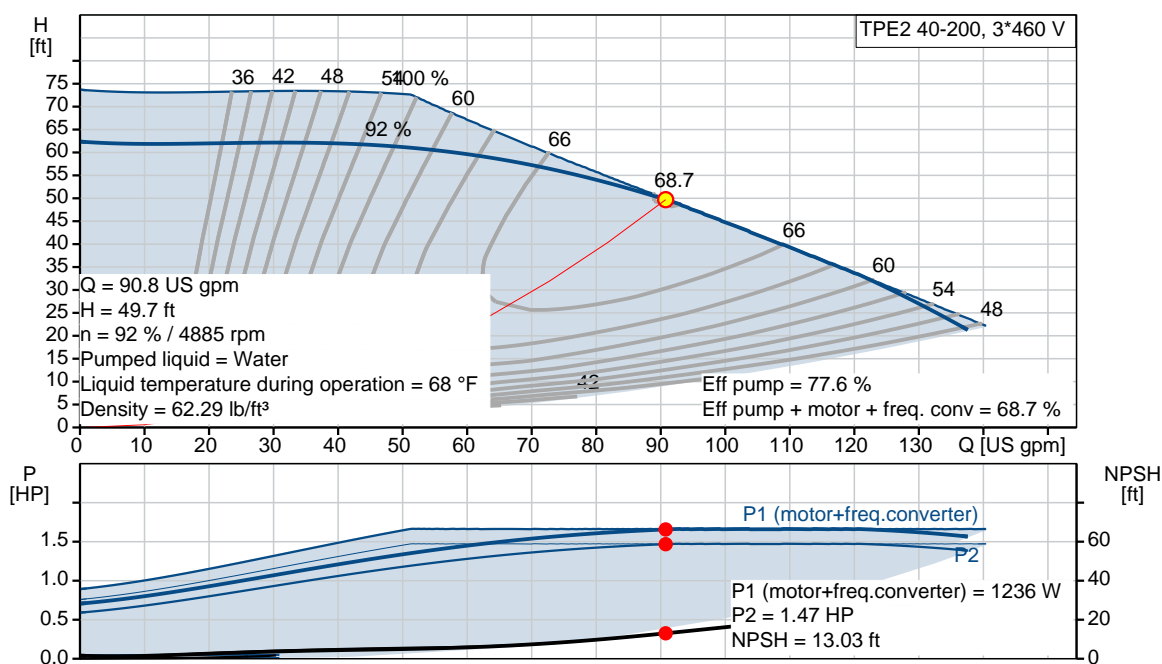


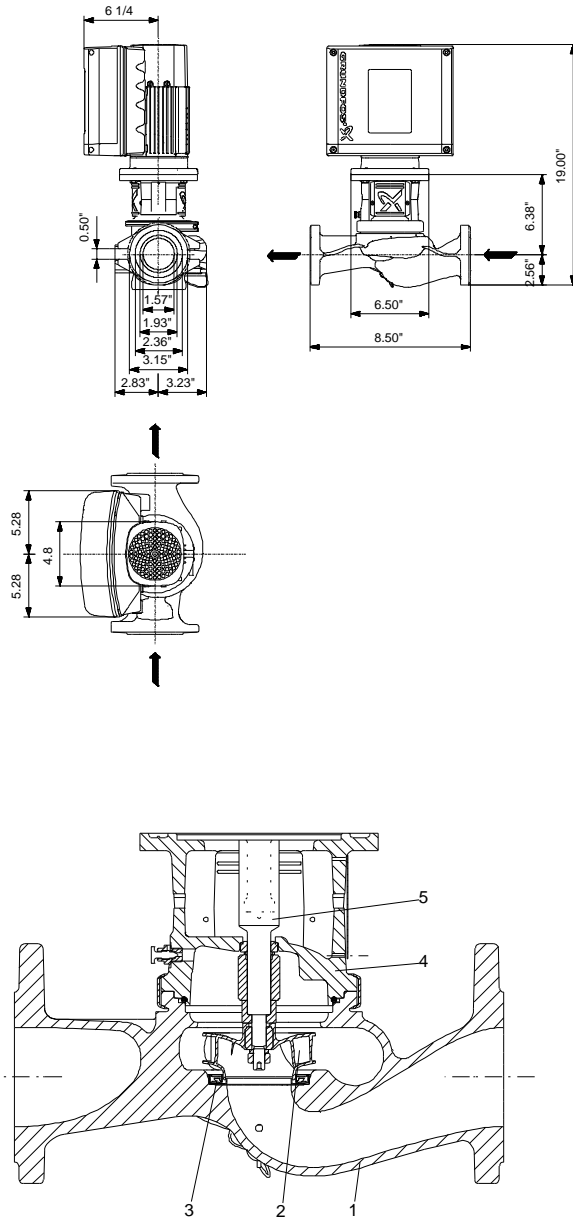
### TPE2 40-200 N-A-G-I-BQQE-GCC

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: 90.8 US gpm       | Liquid temperature range: -13 .. 248 °F | Rated power - P2: 1.5 HP |
| Head: 49.7 ft           | Maximum ambient temperature: 122 °F     | Rated voltage: 440-480 V |
| Efficiency: 68.7 %      | Shaft seal: BQQE                        | Main frequency: 60 Hz    |
| Liquid: Water           | Pipe connection: DN 40                  | Number of poles: 0       |
| Temperature: 68 °F      | Product number: 98817717                | Enclosure class: IP55    |
| NPSH required: 13.03 ft |   | Insulation class: F      |
| Viscosity: _____        |   | Motor protection: YES    |
| Specific Gravity: 1.000 |   | Motor type: 80A          |
|                         |   | Motor_efficiency: 87.8 % |






**Materials:**

Pump housing: Stainless steel  
ASTM CF8

Impeller: Composite PES/PP 30%  
GF

Material code: I

| Count | Description   |
|-------|---|
| 1     | <p><b>TPE2 40-200 N-A-G-I-BQQE-GCC</b></p>  <p>Product No.: <a href="#">98817717</a></p> <p>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.</p> <p><b>Further product details</b></p> <p>The stainless-steel pump housing makes the pump suitable for circulation of hot water.</p> <p>The operating panel on the motor terminal box features a four-inch TFT display, push-buttons and the Grundfos Eye indicator.</p> <p>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".</p> <p>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".</p> <p>The Grundfos Eye indicator on the operating panel provides visual indication of pump status:</p> <ul style="list-style-type: none"> <li>• "Power on": Motor is running (rotating green indicator lights) or not running (permanently green indicator lights)</li> <li>• "Warning": Motor is still running (rotating yellow indicator lights) or has stopped (permanently yellow indicator lights)</li> <li>• "Alarm": Motor has stopped (flashing red indicator lights).</li> </ul> <p><b>Pump</b></p> <p>Pump housing and pump head are electrocoated to improve the corrosion resistance. Electrocoating includes:</p> <ol style="list-style-type: none"> <li>1) Alkaline-based cleaning.</li> <li>2) Pretreatment with zinc phosphate coating.</li> <li>3) Cathodic electrocoating (epoxy).</li> <li>4) Curing of paint film at 200-250 °C.</li> </ol> |



Company name: Hurley Engineering  
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Phone:

Date: 2/28/2020

| Count | Description  |
|-------|--|
|       | <p>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.</p> <p>Primary seal:</p> <ul style="list-style-type: none"><li>• Rotating seal ring material: silicon carbide (SiC)</li><li>• Stationary seat material: silicon carbide (SiC)</li></ul> <p>This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.</p> <p>Secondary seal material: EPDM (ethylene-propylene rubber)</p> <p>EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.</p> <p>A circulation of liquid through the duct of the air vent screw ensures lubrication and cooling of the shaft seal.</p> <p><b>Motor</b></p> <p>The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. Electrical tolerances comply with IEC 60034.</p> <p>The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.</p> <p><b>Technical data</b></p> <p>Controls:</p> <p>Frequency converter: Built-in</p> <p><b>Liquid:</b></p> <p>Pumped liquid: Water</p> <p>Liquid temperature range: -13 .. 248 °F</p> <p>Selected liquid temperature: 68 °F</p> <p>Density: 62.29 lb/ft³</p> <p><b>Technical:</b></p> <p>Pump speed on which pump data is based: 5000 rpm</p> <p>Actual calculated flow: 90.8 US gpm</p> <p>Resulting head of the pump: 49.7 ft</p> <p>Actual impeller diameter: 2.91 in</p> <p>Code for shaft seal: BQQE</p> <p>Curve tolerance: ISO9906:2012 3B2</p> <p><b>Materials:</b></p> <p>Pump housing: Stainless steel<br/>ASTM CF8<br/>EN 1.4308</p> <p>Impeller: Composite PES/PP 30% GF</p> <p><b>Installation:</b></p> <p>Range of ambient temperature: -4 .. 122 °F</p> <p>Maximum operating pressure: PN 16 bar</p> <p>Type of connection: ANSI</p> <p>Pipe connection: DN 40</p> <p>Pressure rating for pipe connection: PN 16</p> <p>Flange size for motor: 56C</p> <p><b>Electrical data:</b></p> |

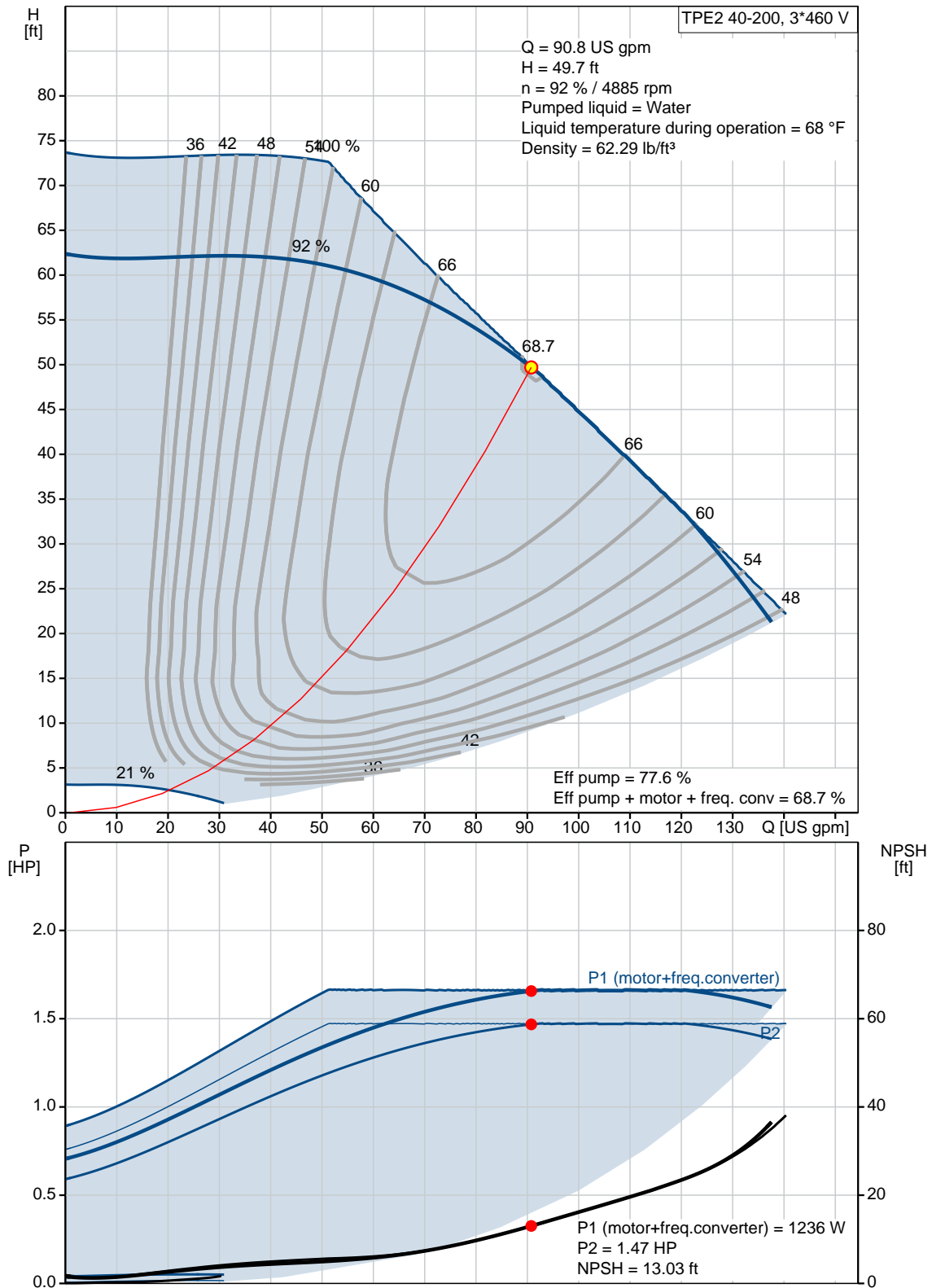


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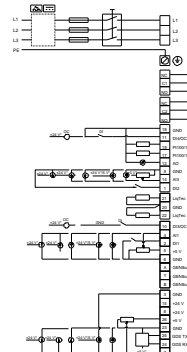
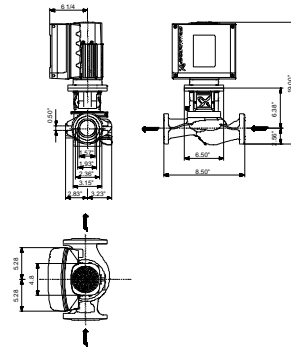
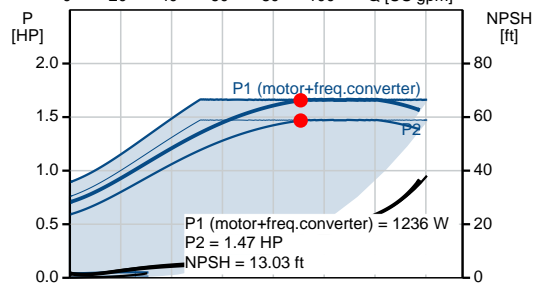
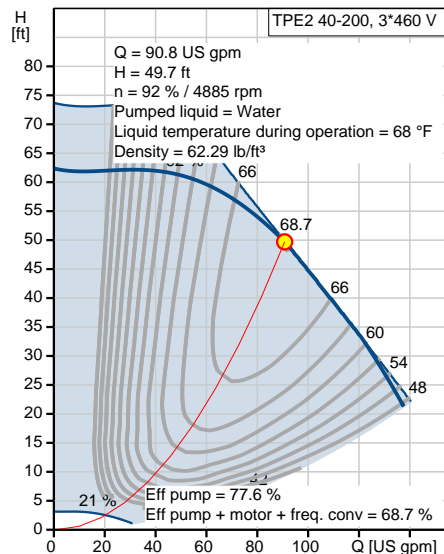
| Count | Description   |
|-------|---|
|       | Motor type: 80A<br>IE Efficiency class: IE5<br>Rated power - P2: 1.5 HP<br>Main frequency: 60 Hz<br>Rated voltage: 3 x 440-480 V<br>Rated current: 2.15 A<br>Cos phi - power factor: 0.82<br>Rated speed: 480-5900 rpm<br>IE efficiency: 87.8%<br>Motor efficiency at full load: 87.8 %<br>Number of poles: 0<br>Enclosure class (IEC 34-5): IP55<br>Insulation class (IEC 85): F<br>Motor Number: 99630345<br><br><b>Others:</b><br>DOE Pump Energy Index VL: 0.37<br>Net weight: 50.5 lb<br>Gross weight: 67 lb |

## 98817717 TPE2 40-200 N-A-G-I-BQQE-GCC 60 Hz



**Date:** 2/28/2020

| Description                             | Value                           |
|---|---------------------------------|
| <b>General information:</b>             |                                 |
| Product name:                           | TPE2 40-200<br>N-A-G-I-BQQE-GCC |
| Product No.:                            | <a href="#">98817717</a>        |
| EAN:                                    | 5712601809955                   |
|   | 5712601809955                   |
| <b>Technical:</b>                       |                                 |
| Pump speed on which pump data is based: | 5000 rpm                        |
| Actual calculated flow:                 | 90.8 US gpm                     |
| Resulting head of the pump:             | 49.7 ft                         |
| Head max:                               | 65.62 ft                        |
| Actual impeller diameter:               | 2.91 in                         |
| Code for shaft seal:                    | BQQE                            |
| Curve tolerance:                        | ISO9906:2012 3B2                |
| Pump version:                           | A                               |
| <b>Materials:</b>                       |                                 |
| Pump housing:                           | Stainless steel                 |
|   | ASTM CF8                        |
|   | EN 1.4308                       |
| Impeller:                               | Composite PES/PP 30% GF         |
| Material code:                          | I                               |
| <b>Installation:</b>                    |                                 |
| Range of ambient temperature:           | -4 .. 122 °F                    |
| Maximum operating pressure:             | PN 16 bar                       |
| Type of connection:                     | ANSI                            |
| Pipe connection:                        | DN 40                           |
| Pressure rating for pipe connection:    | PN 16                           |
| Flange size for motor:                  | 56C                             |
| Connect code:                           | G                               |
| <b>Liquid:</b>                          |                                 |
| Pumped liquid:                          | Water                           |
| Liquid temperature range:               | -13 .. 248 °F                   |
| Selected liquid temperature:            | 68 °F                           |
| Density:                                | 62.29 lb/ft³                    |
| <b>Electrical data:</b>                 |                                 |
| Motor type:                             | 80A                             |
| IE Efficiency class:                    | IE5                             |
| Rated power - P2:                       | 1.5 HP                          |
| Main frequency:                         | 60 Hz                           |
| Rated voltage:                          | 3 x 440-480 V                   |
| Rated current:                          | 2.15 A                          |
| Cos phi - power factor:                 | 0.82                            |
| Rated speed:                            | 480-5900 rpm                    |
| IE efficiency:                          | 87.8%                           |
| Motor efficiency at full load:          | 87.8 %                          |
| Number of poles:                        | 0                               |
| Enclosure class (IEC 34-5):             | IP55                            |
| Insulation class (IEC 85):              | F                               |
| Motor protection:                       | YES                             |
| Motor Number:                           | 99630345                        |





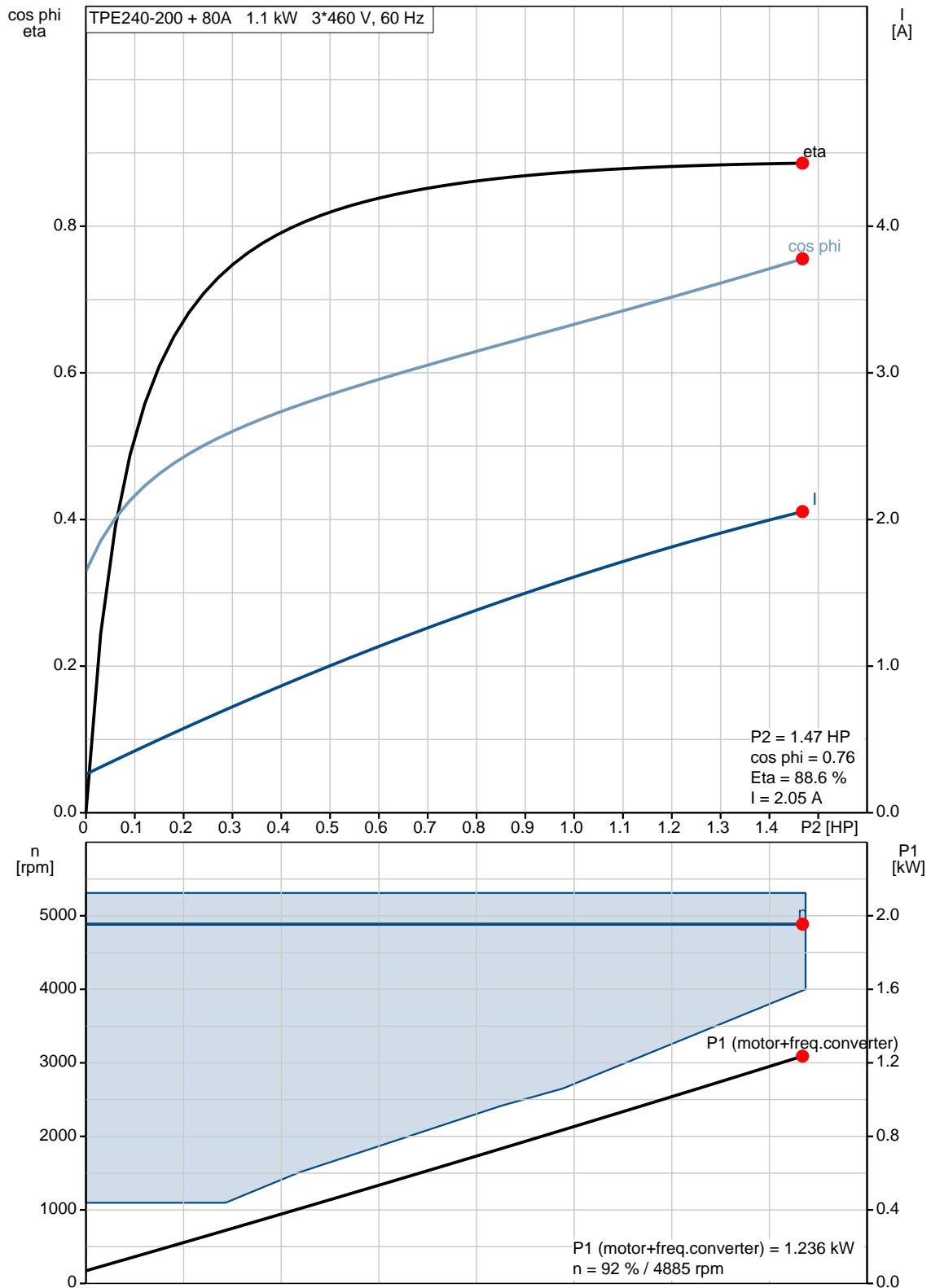
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**Created by:**  
**Phone:**

**Date:** 2/28/2020

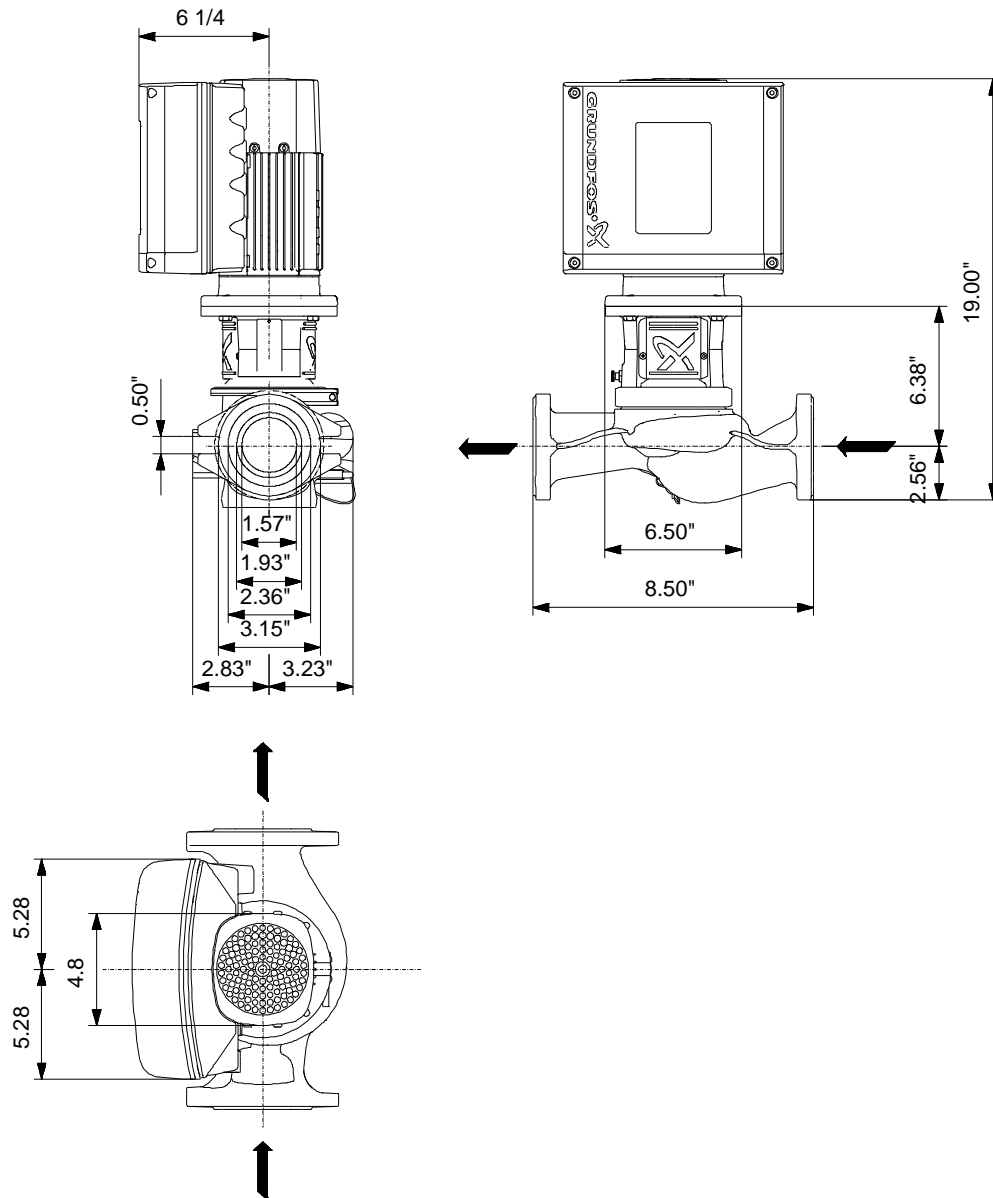
| Description               | Value              |
|---------------------------|--------------------|
| <b>Controls:</b>          |                    |
| Control panel:            | HMI300 - Graphical |
| Function Module:          | FM300 - Advanced   |
| Frequency converter:      | Built-in           |
| <b>Others:</b>            |                    |
| DOE Pump Energy Index VL: | 0.37               |
| Net weight:               | 50.5 lb            |
| Gross weight:             | 67 lb              |
| Config. file no:          | 98819255           |



## 98817717 TPE2 40-200 N-A-G-I-BQQE-GCC 60 Hz

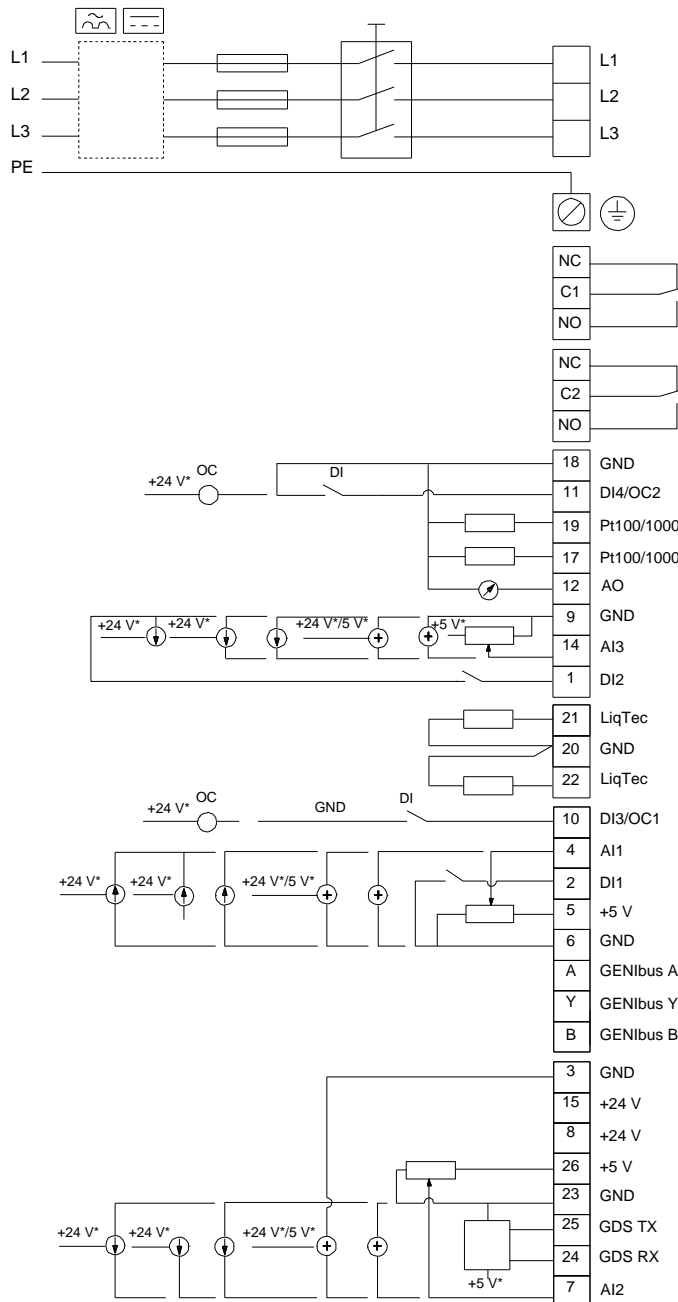


## 98817717 TPE2 40-200 N-A-G-I-BQQE-GCC 60 Hz



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

## 98817717 TPE2 40-200 N-A-G-I-BQQE-GCC 60 Hz



All units are [in] unless otherwise presented.



**Company name:** Hurley Engineering  
**Created by:**  
**Phone:**

**Date:** 2/28/2020

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**Order Data:**

Product name: TPE2 40-200 N-A-G-I-BQQE-GCC  
Amount: 1  
Product No.: 98817717

Total: Price on request

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