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: | |

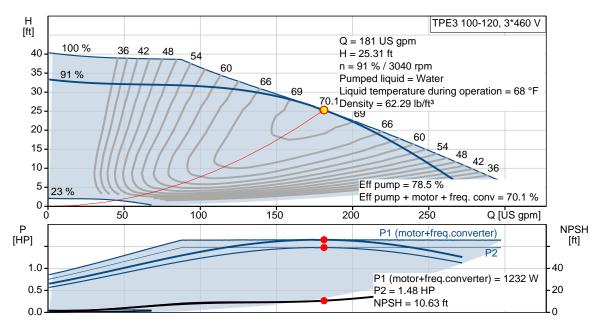


TPE3 100-120 S-A-G-A-BQQE-GCB

Single-stage in-line pumps with frequency converters

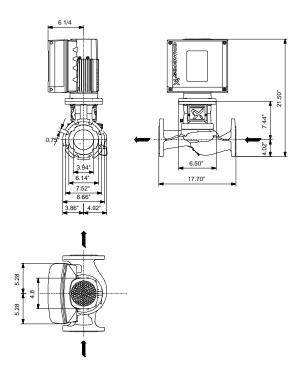
Product photo could vary from the actual product

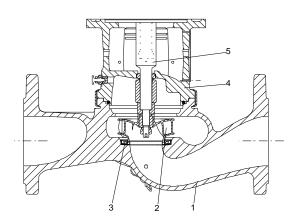
| Conditions of Service | | Pump Data | Motor Data | | |
|-----------------------|------------|------------------------------|------------|-------------------|-----------|
| Flow: | 181 US gpm | Liquid temperature range: | -13 248 °F | Rated power - P2: | 1.5 HP |
| Head: | 25.31 ft | Maximum ambient temperature: | 122 °F | Rated voltage: | 440-480 V |
| Efficiency: | 70.1 % | Shaft seal: | BQQE | Main frequency: | 60 Hz |
| Liquid: | Water | Pipe connection: | DN 100 | Number of poles: | 0 |
| Temperature: | 68 °F | Product number: | 98819775 | Enclosure class: | IP55 |
| NPSH required: | 10.63 ft | | | Insulation class: | F |
| Viscosity: | | | | Motor protection: | YES |
| Specific Gravity: | 1.000 | | | Motor type: | 80B |
| | | | | Motor_efficiency: | 89.6 % |





Submittal Data





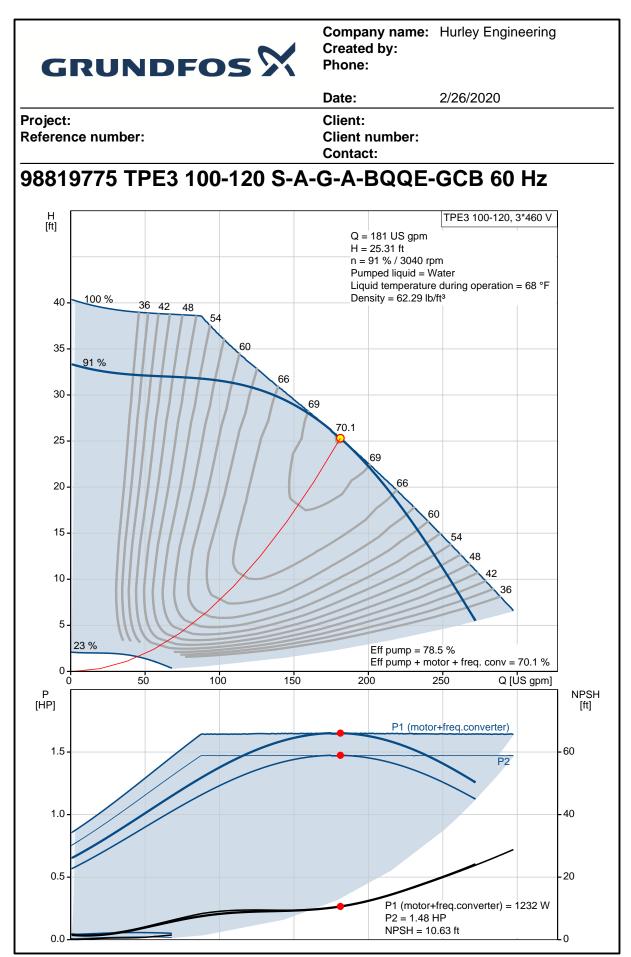
Materials:

| Pump housing: | Cast iron ASTM A48-40 B |
|----------------|----------------------------|
| Impeller: | Composite PES/PP 30% GF |
| Material code: | А |

| G | RUNDFOS | | npany name: ated by: one: | Hurley Engineering |
|------------------|---|---|---|--|
| | | Dat | e: | 2/26/2020 |
| Projec Refere | t: nce number: | | ent: ent number: ntact: | |
| Count | Description | | | |
| 1 | TPE3 100-120 S-A-G-A-BQQE | -GCB | | |
| | | design, i.e. the pov service while the p N 12756. Pipework 16 ANSI flanges. oled, permanent-m ce with IEC 60034- converter and PI the motor speed, v | oump housing re connection is v agnet synchrond 30-2. controller in the r | pump head and impeller) can mains in the pipework. ia PN 16 ANSI flanges. ous motor. The motor efficiency notor 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 ³ | | |
| | Technical: Pump speed on which pump da Actual calculated flow: Resulting head of the pump: Actual impeller diameter: Code for shaft seal: Curve tolerance: | ata is based: 3000 181 US gpm 25.31 ft 3.54 in BQQE ISO9906:2012 3I | | |
| | Materials: Pump housing: | Cast iron ASTM A48-40 B | | |



| | | Date: | 2/26/2020 |
|-------------------------------|--|---|-----------|
| Project: Reference number: | | Client: Client numb Contact: | er: |
| Count | Description | | |
| | Impeller: | EN 1561 EN-GJL-250 Composite PES/PP 30% G | F |
| | Installation: Range of ambient temperature: Maximum operating pressure: Type of connection: Pipe connection: Pressure rating for pipe connecti Flange size for motor: | PN 16 bar ANSI DN 100 | |
| | Electrical data: Motor type: IE Efficiency class: Rated power - P2: Main frequency: Rated voltage: Rated current: Cos phi - power factor: Rated speed: IE efficiency: Motor efficiency at full load: Number of poles: Enclosure class (IEC 34-5): Insulation class (IEC 85): Motor Number: | 80B IE5 1.5 HP 60 Hz 3 x 440-480 V 2.05 A 0.84 360-4000 rpm 89.6% 89.6 % 0 IP55 F 99630343 | |
| | Others: DOE Pump Energy Index VL: Net weight: Gross weight: Country of origin: Custom tariff no.: | 0.40 88 lb 88 lb HU 8413.70.2022 | |



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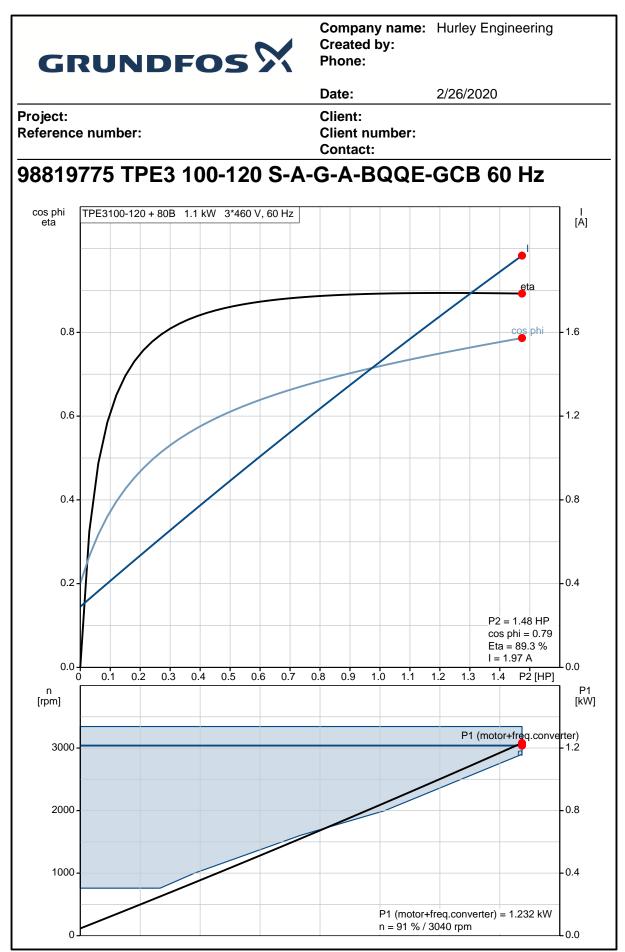


| | | Date: 2/26/2020 |
|---|----------------------------|---|
| Project: Reference number: | | Client: Client number: Contact: |
| Description | Value | H [ft] TPE3 100-120, 3*460 V |
| General information: | Value | Q = 181 US gpm |
| | TPE3 100-120 | H = 25.31 ft 100 % n = 91 % / 3040 rpm 40 - 200 |
| Product name: | S-A-G-A-BQQE-GCB | ⁴⁰ Pumped liquid = Water Liquid temperature during operation = 68 °F |
| Product No.: | 98819775 | 35 - 91% Density = 62.29 lb/ft ³ |
| EAN: | 5712601846738 | 66 |
| | 5712601846738 | 30-69 70.1 |
| Technical: | | 25- |
| Pump speed on which pump data is based: | 3000 rpm | 20-00966 |
| Actual calculated flow: | 181 US gpm | 15- |
| Resulting head of the pump: | 25.31 ft | 15- |
| Head max: | 39.37 ft | 10-42 |
| Actual impeller diameter: | 3.54 in | |
| Code for shaft seal: | BQQE | 5 - 23 % Eff pump = 78.5 % |
| Curve tolerance: | ISO9906:2012 3B2 | 0 Eff pump + motor + freq. conv = 70.1 % |
| Pump version: | A | 0 50 100 150 200 Q [US gpm] P |
| Model: | A | [HP] P1 (motor+freq.converter) [ft] |
| Materials: | Cast iron | 1.5 |
| Pump housing: | ASTM A48-40 B | |
| | EN 1561 EN-GJL-250 | 1.0 - 40 |
| Impeller: | Composite PES/PP 30% GF | 0.5 P1 (motor+freq.converter) = 1232 W = 20 |
| Material code: | A | P2 = 1.48 HP |
| Installation: | | 0.0 NPSH = 10.63 ft0 |
| Range of ambient temperature: | -4 122 °F | n <u>114 m</u> |
| Maximum operating pressure: | PN 16 bar | |
| Type of connection: | ANSI | |
| Pipe connection: | DN 100 | |
| Pressure rating for pipe connection: | PN 16 | |
| Flange size for motor: | 56C | 1 |
| Connect code: | G | |
| Liquid: | | |
| Pumped liquid: | Water | |
| Liquid temperature range: | -13 248 °F | |
| Selected liquid temperature: | 68 °F | |
| Density: | 62.29 lb/ft ³ | |
| Electrical data: | 200 | |
| Motor type: | 80B | |
| IE Efficiency class: | IE5 | |
| Rated power - P2: Main frequency: | 1.5 HP 60 Hz | |
| Rated voltage: | 3 x 440-480 V | |
| Rated current: | 2.05 A | |
| Cos phi - power factor: | 0.84 | |
| Rated speed: | 360-4000 rpm | |
| IE efficiency: | 89.6% | |
| Motor efficiency at full load: | 89.6 % | |
| | | |

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| | | Date: | 2/26/2020 |
|-------------------------------|--------------------|---------------------------------------|-----------|
| Project: Reference number: | | Client: Client number: Contact: | |
| Description | Value | | |
| Number of poles: | 0 | | |
| Enclosure class (IEC 34-5): | IP55 | | |
| Insulation class (IEC 85): | F | | |
| Motor protection: | YES | | |
| Motor Number: | 99630343 | | |
| Controls: | | | |
| Control panel: | HMI300 - Graphical | | |
| Function Module: | FM300 - Advanced | | |
| Frequency converter: | Built-in | | |
| Others: | | | |
| DOE Pump Energy Index VL: | 0.40 | | |
| Net weight: | 88 lb | | |
| Gross weight: | 88 lb | | |
| Config. file no: | 98484794 | | |
| Country of origin: | HU | | |
| Custom tariff no.: | 8413.70.2022 | | |



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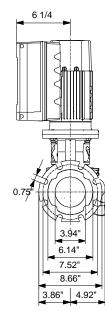


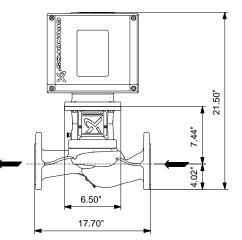
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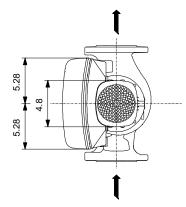
Project: Reference number: Date:

Client: Client number: Contact:

98819775 TPE3 100-120 S-A-G-A-BQQE-GCB 60 Hz







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

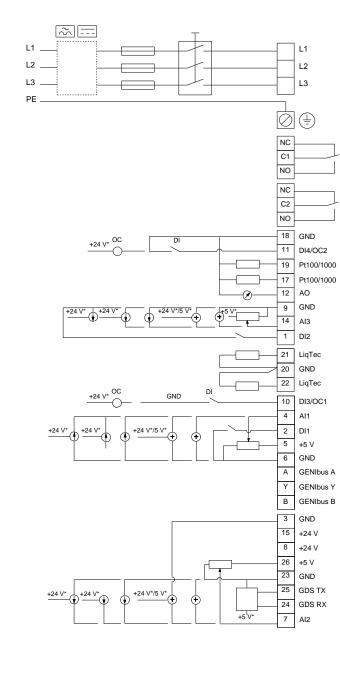


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Project: Reference number: Date:

Client: Client number: Contact:

98819775 TPE3 100-120 S-A-G-A-BQQE-GCB 60 Hz



All units are [in] unless otherwise presented.

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| | | Date: | 2/26/2020 |
|--|--------------------------------------|---------------------------------------|-----------|
| Project: Reference number: | | Client: Client number: Contact: | |
| Order Data: | | | |
| Product name: Amount: Product No.: | TPE3 100-120 S-A-G- 1 98819775 | -A-BQQE-GCB | |
| Total: Price on r | equest | | |
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