

## TPD 80-120/2-AI-F-A-BUBE 400Y 50HZ

Grundfos pump 96402471



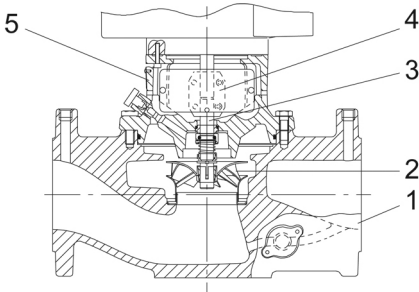
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<https://www.lenntech.com/grundfos/TPD00/96402471/TPD-80-120-2-AI-F-A-BUBE.html>

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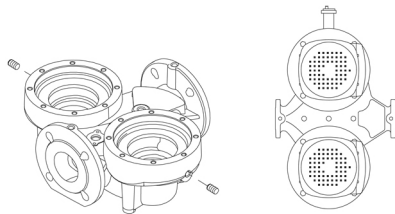
| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | 1    | <p><b>TPD 80-120/2 AI-F-A-BUBE</b></p>  <p>Product No.: On request</p> <p>Single-stage, close-coupled, volute twin-head pump with in-line suction and discharge ports of identical diameter. The twin-head pump is designed with two parallel power-heads. 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.</p> <p>Each power head is fitted with an unbalanced rubber bellows seal. The shaft seal is according to EN 12756. Pipework connection is via PN 6 DIN flanges (EN 1092-2 and ISO 7005-2).</p> <p>Each power head is fitted with a fan-cooled asynchronous motor of identical size.</p> <p><b>Further product details</b></p> <p>The product's minimum efficiency index (MEI) is greater or equal to 0.70. This is by the Commission Regulation (EU) considered as an indicative benchmark for best-performing water pump available on the market as from 1 January 2013.</p> <p><b>Pump</b></p> <p>Pump housing and pump head are electrocoated to improve the corrosion resistance.</p> <p>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>  <ol style="list-style-type: none"> <li>1: Pump housing</li> <li>2: Impeller</li> <li>3: Shaft</li> <li>4: Coupling</li> <li>5: Pump head</li> </ol> <p>The twin-head pump is designed with two parallel power-heads. A flap valve in the common discharge port is opened by the flow of the pumped liquid and prevents backflow of liquid into the idle pump head.</p> <p>The pump housing is provided with a replaceable stainless steel/PTFE neck ring to reduce the amount of liquid running from the discharge side of the impeller to the suction side. The impeller is secured with a split cone with nut.</p> <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: tungsten carbide (WC)</li> <li>• Stationary seat material: carbon graphite, resin-impregnated</li> </ul> |

This is a widely used material pairing. If the pumped liquid contains particles, wear on the seal faces must be expected. Due to the favourable lubricating properties of carbon graphite, the seal is suitable for use even under poor lubricating conditions, such as hot water. However, under such conditions, wear on the carbon graphite face reduces seal life.

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.

The pump housing has two Rp 1/8 tappings for mounting of automatic air vents. Fit an air vent to the upper pump housing if the twin-head pump is to be installed in a horizontal pipeline with horizontal pump shaft.



The flanges have tappings for mounting of pressure gauges.

The motor stool forms connection between the pump housing and the motor, and is equipped with a manual air vent screw for venting of the pump housing and the shaft seal chamber. The sealing between motor stool and pump housing is an O-ring.

The central part of the motor stool is provided with guards for protection against the shaft and coupling. Motor and pump shaft are connected via a shell coupling.

## 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 is flange-mounted with tapped-hole flange (FT).

Motor-mounting designation in accordance with IEC 60034-7: IM B 14, IM V 18 (Code I) / IM 3601, IM 3611 (Code II).

The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.

The motor does not incorporate motor protection and must be connected to a motor-protective circuit breaker which can be manually reset. The motor-protective circuit breaker must be set according to the rated current of the motor (I<sub>1</sub>/1).

The motor can be connected to a variable speed drive for adjustment of pump performance to any duty point. Grundfos CUE offers a range of variable speed drives. Please find more information in Grundfos Product Center.

## Technical data

### Liquid:

|                                      |                         |
|--------------------------------------|-------------------------|
| Pumped liquid:                       | Water                   |
| Liquid temperature range:            | 0 .. 140 °C             |
| Liquid temperature during operation: | 20 °C                   |
| Density:                             | 998.2 kg/m <sup>3</sup> |

### Technical:

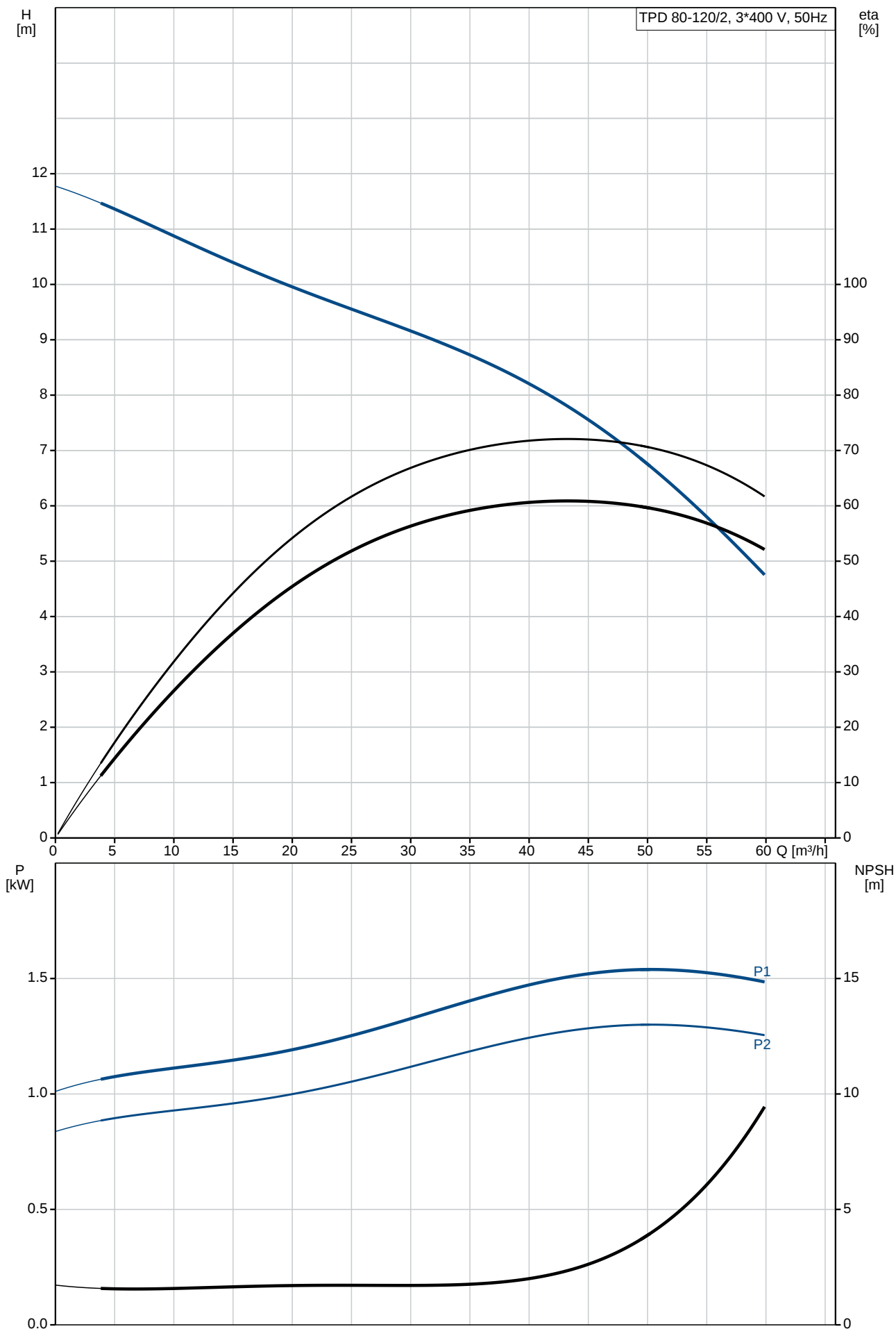
|                           |                        |
|---------------------------|------------------------|
| Rated flow:               | 42.5 m <sup>3</sup> /h |
| Rated head:               | 7.91 m                 |
| Actual impeller diameter: | 95 mm                  |
| Primary shaft seal:       | BUBE                   |
| Curve tolerance:          | ISO9906:2012 3B        |

### Materials:

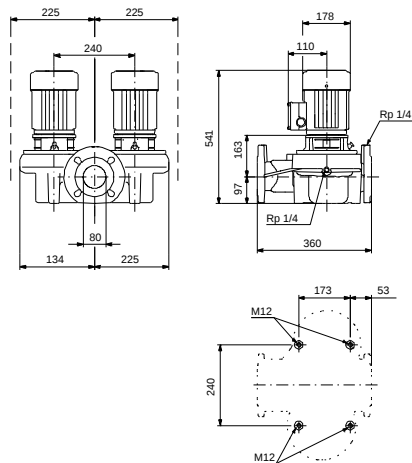
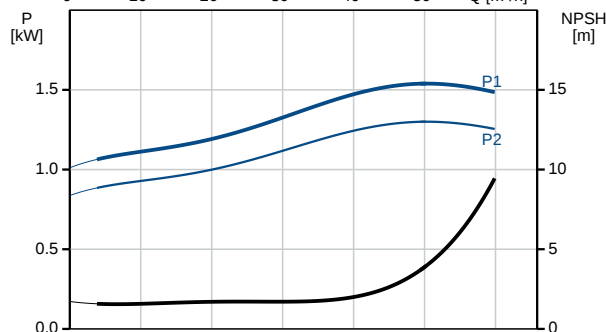
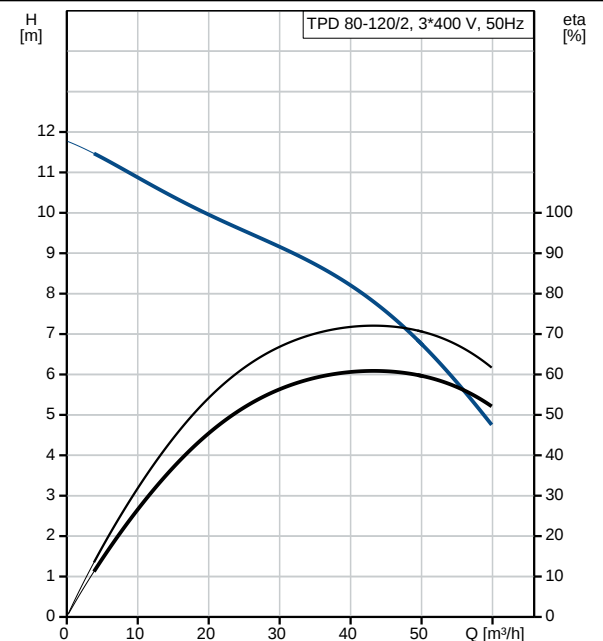
|               |                                         |
|---------------|-----------------------------------------|
| Pump housing: | Cast iron<br>EN-JL1040<br>ASTM A48-40 B |
| Impeller:     | Stainless steel<br>DIN W.-Nr. 1.4301    |

| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |      | <p>AISI 304</p> <p><b>Installation:</b></p> <p>Range of ambient temperature: -30 .. 60 °C</p> <p>Maximum operating pressure: 6 bar</p> <p>Flange standard: DIN</p> <p>Pipe connection: DN 80</p> <p>Pump inlet: DN 80</p> <p>Pump outlet: DN 80</p> <p>Pressure rating: PN 6</p> <p>(@): 360 mm</p> <p>Flange size for motor: FT115</p> <p><b>Electrical data:</b></p> <p>Motor type: 90SB</p> <p>IE Efficiency class: IE3</p> <p>Rated power - P2: 2 x 1.5 kW</p> <p>Mains frequency: 50 Hz</p> <p>Rated voltage: 3 x 220-240D/380-415Y V</p> <p>Rated current: 5.45/3.15 A</p> <p>Starting current: 850-930 %</p> <p>Cos phi - power factor: 0.87-0.82</p> <p>Rated speed: 2890-2910 rpm</p> <p>Efficiency: IE3 84,2%</p> <p>Motor efficiency at full load: 84.2 %</p> <p>Motor efficiency at 3/4 load: 84.5 %</p> <p>Motor efficiency at 1/2 load: 83.1 %</p> <p>Number of poles: 2</p> <p>Enclosure class (IEC 34-5): 55 Dust/Jetting</p> <p>Insulation class (IEC 85): F</p> <p><b>Others:</b></p> <p>Minimum efficiency index, MEI ≥: 0.70</p> <p>ErP status: EuP Standalone/Prod.</p> <p>Net weight: 95.2 kg</p> <p>Gross weight: 106 kg</p> <p>Shipping volume: 0.39 m³</p> |

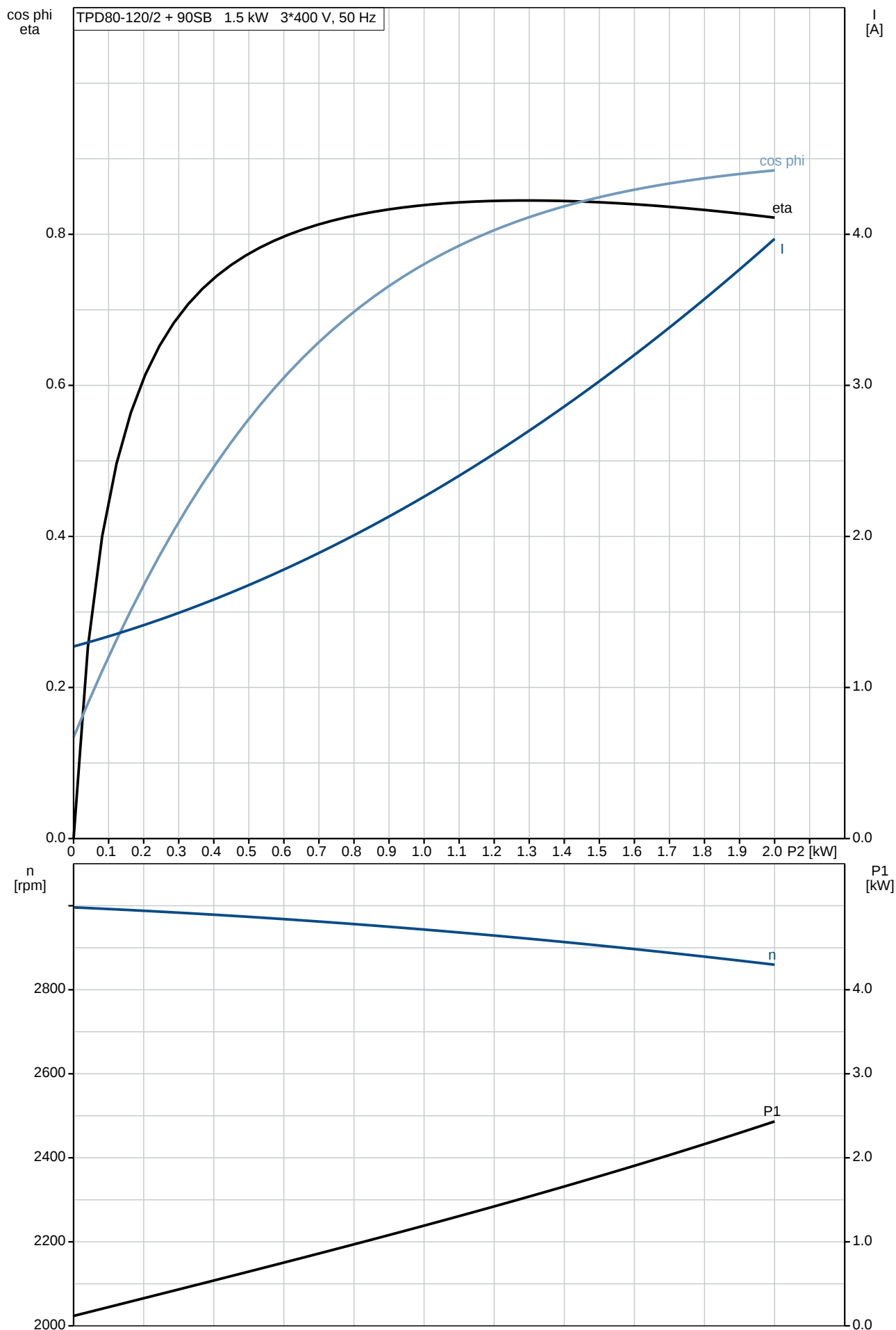
On request TPD 80-120/2 AI-F-A-BUBE 50 Hz



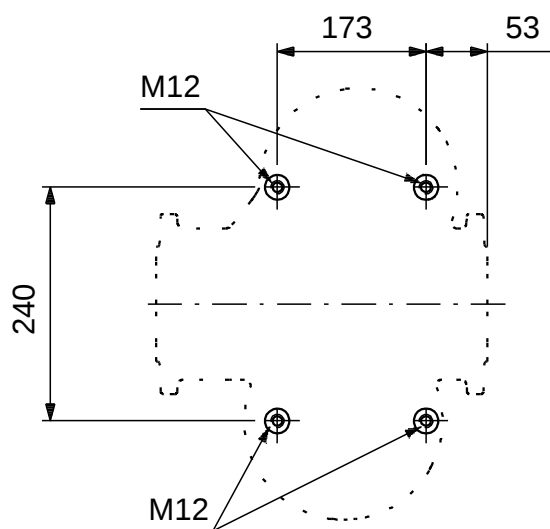
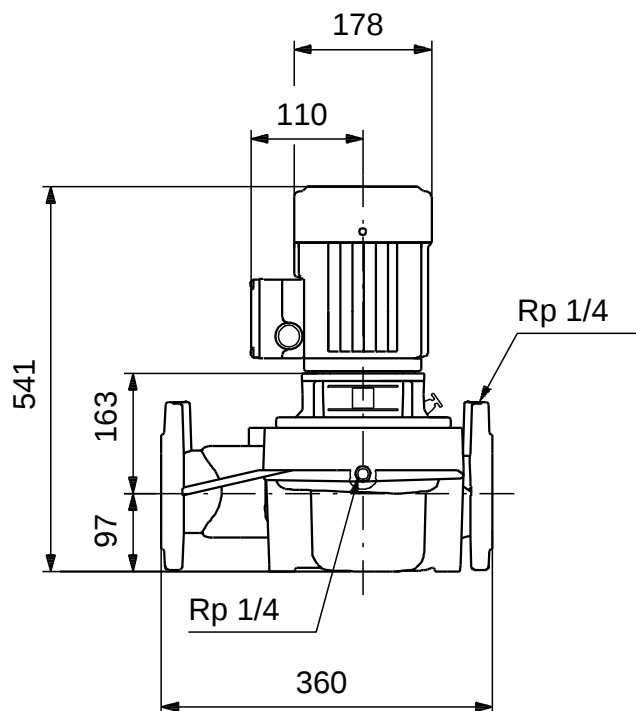
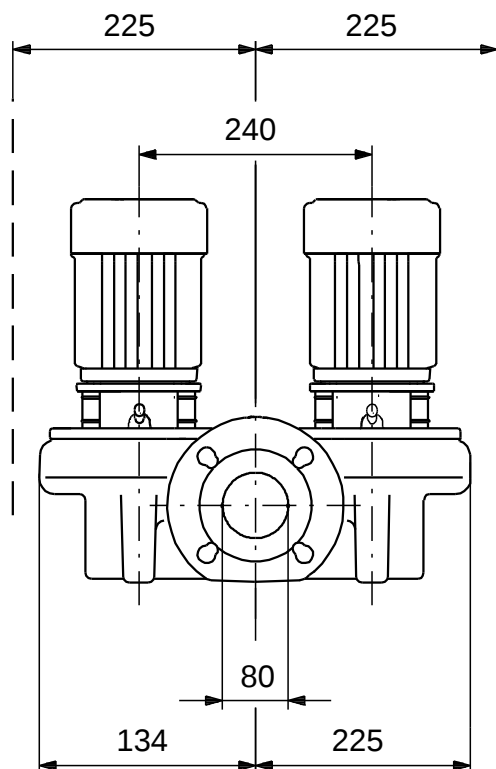
| Description                          | Value                    |
|--------------------------------------|--------------------------|
| <b>General information:</b>          |                          |
| Product name:                        | TPD 80-120/2 AI-F-A-BUBE |
| Product No:                          | On request               |
| EAN number:                          | On request               |
| <b>Technical:</b>                    |                          |
| Rated flow:                          | 42.5 m³/h                |
| Rated head:                          | 7.91 m                   |
| Head max:                            | 120 dm                   |
| Actual impeller diameter:            | 95 mm                    |
| Primary shaft seal:                  | BUBE                     |
| Curve tolerance:                     | ISO9906:2012 3B          |
| Pump version:                        | AI                       |
| Model:                               | A                        |
| <b>Materials:</b>                    |                          |
| Pump housing:                        | Cast iron                |
|                                      | EN-JL1040                |
|                                      | ASTM A48-40 B            |
| Impeller:                            | Stainless steel          |
|                                      | DIN W.-Nr. 1.4301        |
|                                      | AISI 304                 |
| Material code:                       | A                        |
| <b>Installation:</b>                 |                          |
| Range of ambient temperature:        | -30 .. 60 °C             |
| Maximum operating pressure:          | 6 bar                    |
| Flange standard:                     | DIN                      |
| Pipe connection:                     | DN 80                    |
| Pump inlet:                          | DN 80                    |
| Pump outlet:                         | DN 80                    |
| Pressure rating:                     | PN 6                     |
| (@)                                  | 360 mm                   |
| Flange size for motor:               | FT115                    |
| Connect code:                        | F                        |
| <b>Liquid:</b>                       |                          |
| Pumped liquid:                       | Water                    |
| Liquid temperature range:            | 0 .. 140 °C              |
| Liquid temperature during operation: | 20 °C                    |
| Density:                             | 998.2 kg/m³              |
| <b>Electrical data:</b>              |                          |
| Motor type:                          | 90SB                     |
| IE Efficiency class:                 | IE3                      |
| Rated power - P2:                    | 2 x 1.5 kW               |
| Mains frequency:                     | 50 Hz                    |
| Rated voltage:                       | 3 x 220-240D/380-415Y V  |
| Rated current:                       | 5.45/3.15 A              |
| Starting current:                    | 850-930 %                |
| Cos phi - power factor:              | 0.87-0.82                |
| Rated speed:                         | 2890-2910 rpm            |
| Efficiency:                          | IE3 84,2%                |
| Motor efficiency at full load:       | 84.2 %                   |
| Motor efficiency at 3/4 load:        | 84.5 %                   |
| Motor efficiency at 1/2 load:        | 83.1 %                   |
| Number of poles:                     | 2                        |
| Enclosure class (IEC 34-5):          | 55 Dust/Jetting          |
| Insulation class (IEC 85):           | F                        |
| Motor protec:                        | NONE                     |
| Motor No:                            | 85U05906                 |
| <b>Others:</b>                       |                          |
| Minimum efficiency index, MEI ≥:     | 0.70                     |
| ErP status:                          | EuP Standalone/Prod.     |
| Net weight:                          | 95.2 kg                  |
| Gross weight:                        | 106 kg                   |
| Shipping volume:                     | 0.39 m³                  |
| Sales region:                        | GB                       |



# On request TPD 80-120/2 AI-F-A-BUBE 50 Hz



# On request TPD 80-120/2 AI-F-A-BUBE 50 Hz



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

# Exploded view



Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

# Exploded view ( TM057026 for MGE model H/I )



**Parts list TPD 80-120/2, Product No. On request**  
**Valid from 1.1.2011 (1152)**

| Pos | Description               | Annotation | Données de classification | Référence | Quantité | Unité |
|-----|---------------------------|------------|---------------------------|-----------|----------|-------|
| +   | Motor                     |            |                           |           | 2        | pcs   |
| -   | Coupling cpl.             |            |                           |           | 2        | pcs   |
| 9   | Hex socket head cap screw |            | Designation: DIN 912      |           | 4        |       |
|     |                           |            | Length (mm): 25           |           |          |       |
|     |                           |            | Thread: M8                |           |          |       |
| 10  | Shaft pin                 |            | Diameter: 5               |           | 1        |       |
|     |                           |            | Length (mm): 26           |           |          |       |
| 10a | Coupling half             |            |                           |           | 2        |       |
| -   | Motor stool cpl.          |            |                           |           | 2        | pcs   |
| 2   | Motor stool               |            |                           |           | 1        |       |
| 26  | Hex head screw            |            | Length (mm): 25           |           | 8        |       |
|     |                           |            | Thread: M10               |           |          |       |
| 28  | Hex head screw            |            | Length (mm): 20           |           | 4        |       |
|     |                           |            | Thread: M8                |           |          |       |
| -   | Pump housing cpl.         |            |                           |           | 1        | pcs   |
| - 6 | Pump housing cpl.         |            |                           |           | 1        |       |
|     | Pump housing              |            |                           |           | 1        |       |
| 45  | Neck ring                 |            |                           |           | 2        |       |
| 215 | Guide pin                 |            |                           |           | 1        |       |
| 217 | Valve flap                |            |                           |           | 1        |       |
| -   | Coupling guard cpl.       |            |                           |           | 2        | pcs   |
| 7   | Coupling guard            |            |                           |           | 2        |       |
| 7a  | Pan head screw            |            |                           |           | 4        |       |
| -   | Shaft w/impeller cpl.     |            |                           |           | 2        | pcs   |
| 49  | Impeller                  |            |                           |           | 1        |       |
| 49b | Split cone                |            |                           |           | 1        |       |
| 49b | Split cone nut            |            |                           |           | 1        |       |
| 51  | Pump shaft                |            |                           |           | 1        |       |
| 18  | Air vent screw            |            | Thread: 1/4"              |           | 2        | pcs   |
| 19  | Plug                      |            |                           |           | 6        | pcs   |
| 72a | O-ring                    |            | Diameter: 154             |           | 2        | pcs   |
|     |                           |            | Material type: EPDM       |           |          |       |
|     |                           |            | Thickness: 4              |           |          |       |
| 105 | Shaft seal                |            | Material type: EPDM       |           | 2        | pcs   |

*Disclaimer: The information about the Grundfos pump in this document may be outdated.*

*Data may be subject to alterations without further notice.*

*Please contact us to verify the data above is still accurate/up-to-date.*

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