

## TPD 80-90/4-A-F-A-BQQE 1X230 50HZ

Grundfos pump 96384310



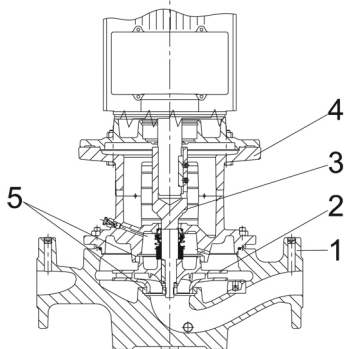
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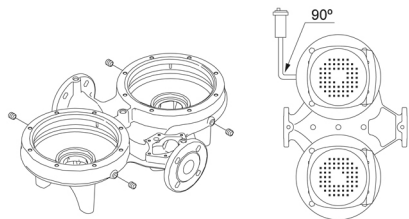
<https://www.lenntech.com/grundfos/TPD00/96384310/TPD-80-90-4-A-F-A-BQQE.html>

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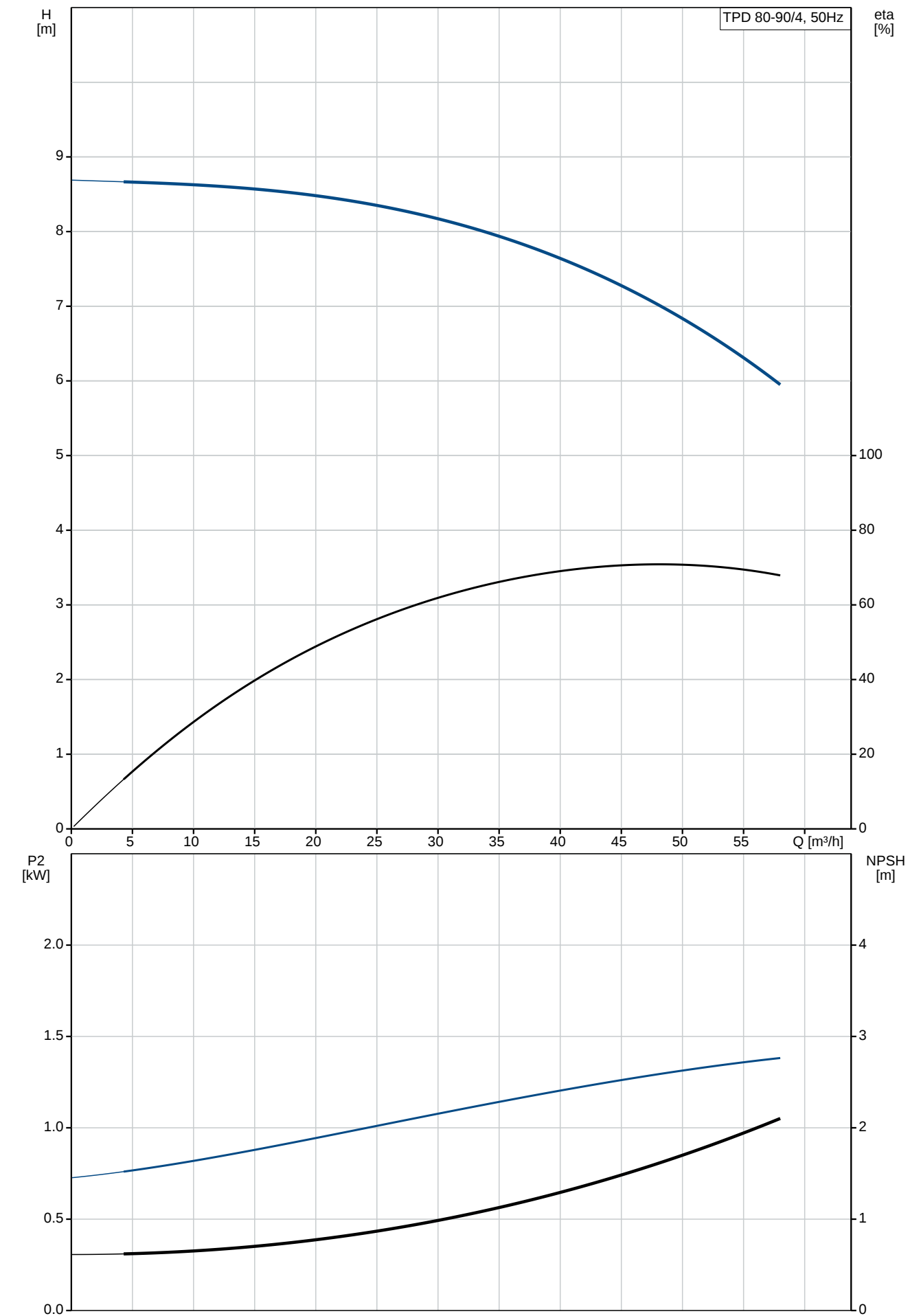
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| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|          | 1    | <p><b>TPD 80-90/4 A-F-A-BQQE</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 16 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><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>  <ol style="list-style-type: none"> <li>1: Pump housing</li> <li>2: Impeller</li> <li>3: Stub shaft</li> <li>4: Pump head/motor stool</li> <li>5: Wear rings</li> </ol> <p>The twin-head pump is designed with two parallel power-heads. A non-return 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 brass neck ring to reduce the amount of liquid running from the outlet side of the impeller to the inlet side. The impeller is secured to the shaft with a 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: 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> |

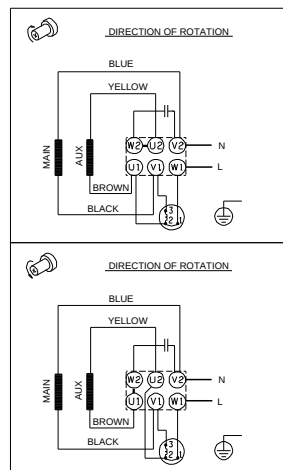
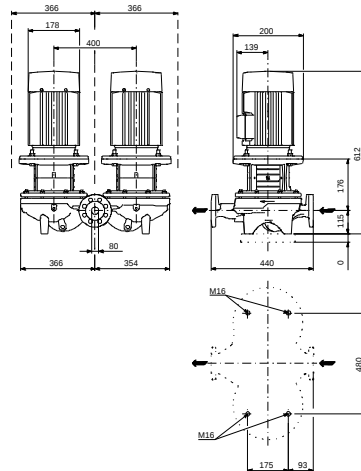
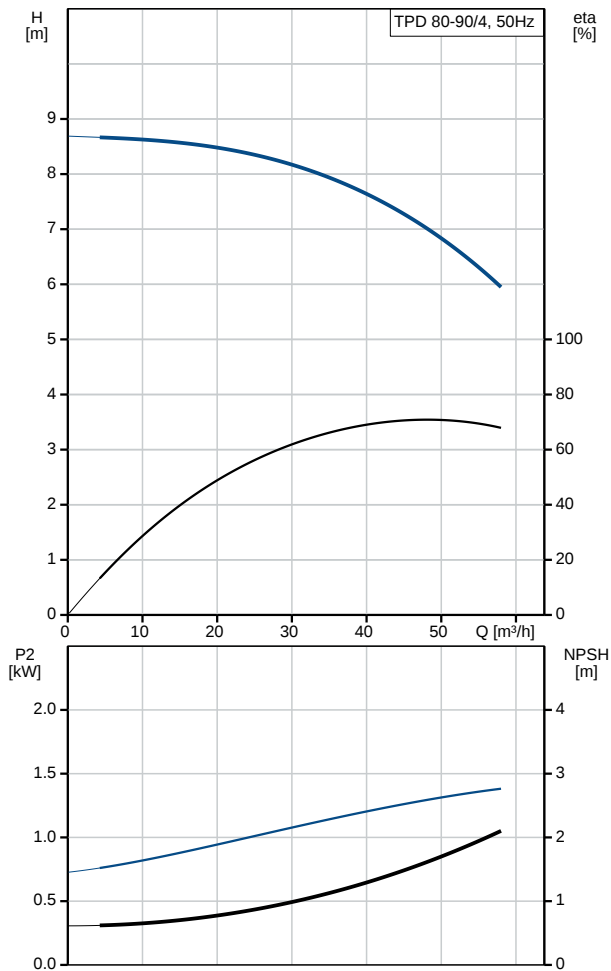
| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |      | <p>A circulation of liquid through the duct of the air vent screw ensures lubrication and cooling of the shaft seal.</p> <p>The pump housing has four 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.</p>  <p>The flanges have tappings for mounting of pressure gauges.</p> <p>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.</p> <p>The central part of the motor stool is provided with guards for protection against the shaft and coupling. The pump shaft is fastened directly on the motor shaft with key and set screws.</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 is flange-mounted with free-hole flange (FF).</p> <p>Motor-mounting designation in accordance with IEC 60034-7: IM B 5, IM V 1 (Code I) / IM 3001, IM 3011 (Code II).</p> <p>The motor has built-in thermal protection (PTO current and temperature sensors) in accordance with IEC 60034-11 and requires no further motor protection. The protection reacts to both slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.</p> <p>As the thermal protection incorporates automatic reset, the motor must be connected in a way which ensures that the automatic reset cannot cause accidents.</p> <p><b>Technical data</b></p> <p><b>Liquid:</b><br/> Pumped liquid: Water<br/> Liquid temperature range: -25 .. 120 °C<br/> Liquid temperature during operation: 20 °C<br/> Density: 998.2 kg/m<sup>3</sup></p> <p><b>Technical:</b><br/> Rated flow: 45.1 m<sup>3</sup>/h<br/> Rated head: 7.5 m<br/> Actual impeller diameter: 165 mm<br/> Primary shaft seal: BQQE<br/> Curve tolerance: ISO9906:2012 3B</p> <p><b>Materials:</b><br/> Pump housing: Cast iron<br/> EN-JL1040<br/> ASTM A48-40 B<br/> Impeller: Cast iron<br/> EN-JL1030<br/> ASTM A48-30 B</p> <p><b>Installation:</b><br/> Range of ambient temperature: -30 .. 40 °C<br/> Maximum operating pressure: 16 bar<br/> Flange standard: DIN<br/> Pipe connection: DN 80<br/> Pump inlet: DN 80<br/> Pump outlet: DN 80<br/> Pressure rating: PN 16</p> |

| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |      | (@): 440 mm<br>Flange size for motor: FF165<br><br><b>Electrical data:</b><br>Motor type: 90LC<br>Rated power - P2: 2 x 1.5 kW<br>Power (P2) required by pump: 1.5 kW<br>Mains frequency: 50 Hz<br>Rated voltage: 1 x 220-230 V<br>Rated current: 9.9 A<br>Starting current: 400 %<br>Cos phi - power factor: 0.97<br>Rated speed: 1390-1400 rpm<br>Motor efficiency at full load: 74-73 %<br>Number of poles: 4<br>Enclosure class (IEC 34-5): 55 Dust/Jetting<br>Insulation class (IEC 85): F<br><br><b>Others:</b><br>Minimum efficiency index, MEI $\geq$ 0.68<br>ErP status: EuP Standalone/Prod.<br>Net weight: 150 kg<br>Gross weight: 164 kg<br>Shipping volume: 0.46 m <sup>3</sup> |

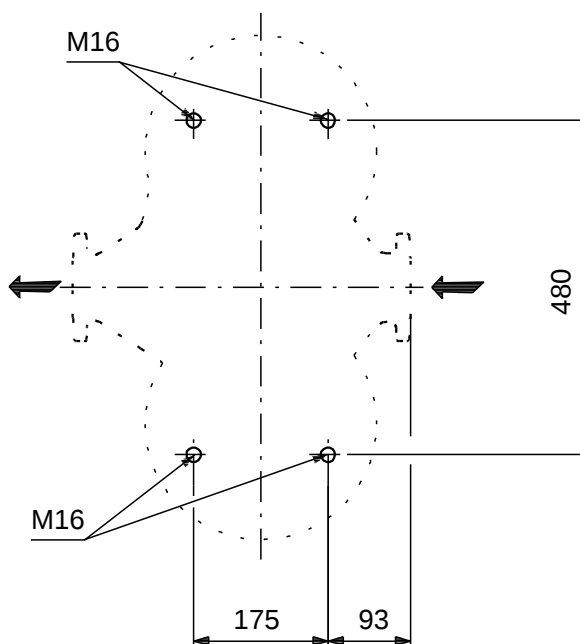
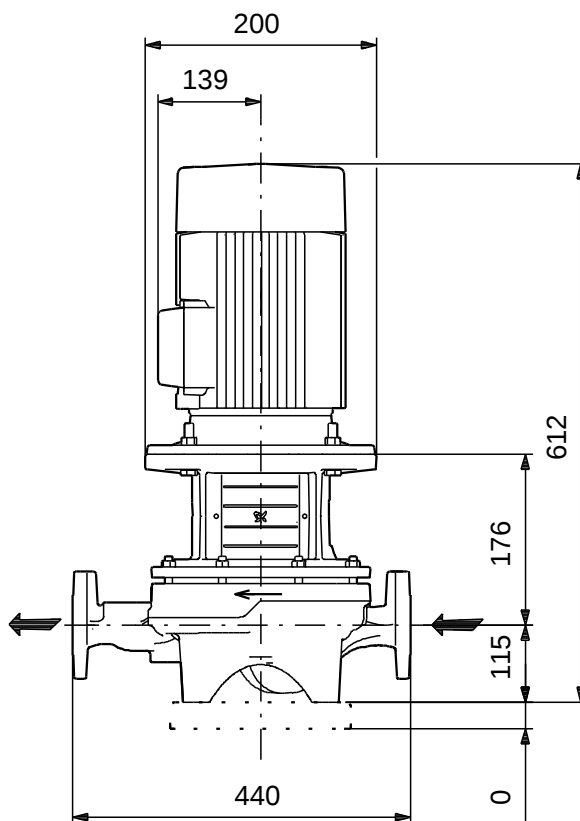
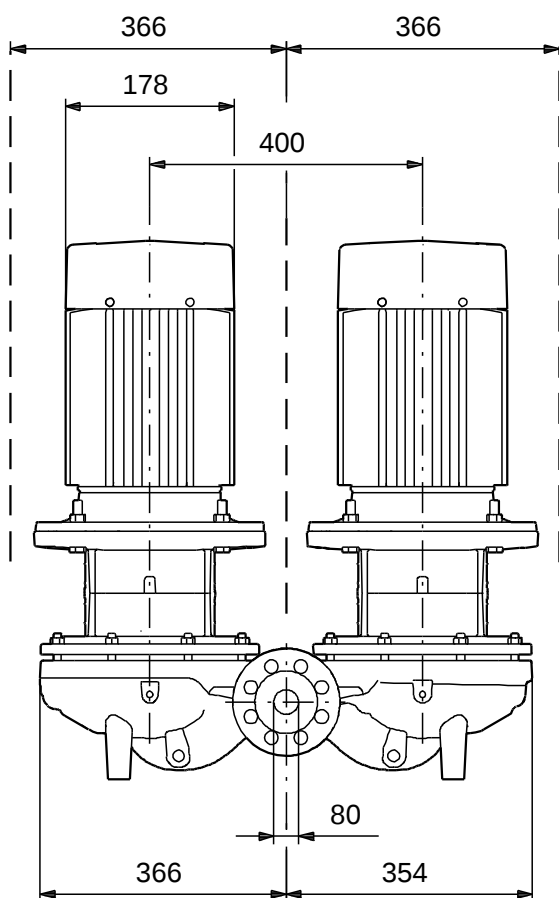
On request TPD 80-90/4 A-F-A-BQQE 50 Hz



| Description                          | Value                  |
|--------------------------------------|------------------------|
| <b>General information:</b>          |                        |
| Product name:                        | TPD 80-90/4 A-F-A-BQQE |
| Product No:                          | On request             |
| EAN number:                          | On request             |
| <b>Technical:</b>                    |                        |
| Rated flow:                          | 45.1 m³/h              |
| Rated head:                          | 7.5 m                  |
| Head max:                            | 90 dm                  |
| Actual impeller diameter:            | 165 mm                 |
| Primary shaft seal:                  | BQQE                   |
| Curve tolerance:                     | ISO9906:2012 3B        |
| Pump version:                        | A                      |
| Model:                               | A                      |
| <b>Materials:</b>                    |                        |
| Pump housing:                        | Cast iron              |
|                                      | EN-JL1040              |
|                                      | ASTM A48-40 B          |
| Impeller:                            | Cast iron              |
|                                      | EN-JL1030              |
|                                      | ASTM A48-30 B          |
| Material code:                       | A                      |
| <b>Installation:</b>                 |                        |
| Range of ambient temperature:        | -30 .. 40 °C           |
| Maximum operating pressure:          | 16 bar                 |
| Flange standard:                     | DIN                    |
| Pipe connection:                     | DN 80                  |
| Pump inlet:                          | DN 80                  |
| Pump outlet:                         | DN 80                  |
| Pressure rating:                     | PN 16                  |
| (@)                                  | 440 mm                 |
| Flange size for motor:               | FF165                  |
| Connect code:                        | F                      |
| <b>Liquid:</b>                       |                        |
| Pumped liquid:                       | Water                  |
| Liquid temperature range:            | -25 .. 120 °C          |
| Liquid temperature during operation: | 20 °C                  |
| Density:                             | 998.2 kg/m³            |
| <b>Electrical data:</b>              |                        |
| Motor type:                          | 90LC                   |
| Rated power - P2:                    | 2 x 1.5 kW             |
| Power (P2) required by pump:         | 1.5 kW                 |
| Mains frequency:                     | 50 Hz                  |
| Rated voltage:                       | 1 x 220-230 V          |
| Rated current:                       | 9.9 A                  |
| Starting current:                    | 400 %                  |
| Cos phi - power factor:              | 0.97                   |
| Rated speed:                         | 1390-1400 rpm          |
| Motor efficiency at full load:       | 74-73 %                |
| Number of poles:                     | 4                      |
| Enclosure class (IEC 34-5):          | 55 Dust/Jetting        |
| Insulation class (IEC 85):           | F                      |
| Motor protec:                        | PTO                    |
| Motor No:                            | 87200344               |
| <b>Others:</b>                       |                        |
| Minimum efficiency index, MEI ≥:     | 0.68                   |
| ErP status:                          | EuP Standalone/Prod.   |
| Net weight:                          | 150 kg                 |
| Gross weight:                        | 164 kg                 |
| Shipping volume:                     | 0.46 m³                |



# On request TPD 80-90/4 A-F-A-BQQE 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 80-90/4, Product No. On request**  
**Valid from 1.5.2004 (0418)**

| Pos | Description               | Annotation | Données de classification | Référence | Quantité | Unité |
|-----|---------------------------|------------|---------------------------|-----------|----------|-------|
| +   | Motor                     |            |                           |           | 2        | pcs   |
| -   | Motor stool cpl.          |            |                           |           | 2        | pcs   |
| 2a  | Motor stool               |            |                           |           | 1        |       |
| 7   | Coupling guard            |            |                           |           | 2        |       |
| 9   | Hex socket head cap screw |            | Designation: DIN 912      |           | 4        |       |
|     |                           |            | Length (mm): 25           |           |          |       |
|     |                           |            | Thread: M10               |           |          |       |
| 9   | Socket set screw          |            |                           |           | 2        |       |
| 11  | Parallel key              |            | Dimension: 6X6X35         |           | 1        |       |
| 17  | Air vent screw            |            |                           |           | 1        |       |
| 51  | Pump shaft                |            |                           |           | 1        |       |
| 76  | Plate                     |            |                           |           | 1        |       |
| 76a | Rivet                     |            |                           |           | 2        |       |
| 77a | Pan head screw            |            |                           |           | 4        |       |
| -   | Pump housing cpl.         |            |                           |           | 1        | pcs   |
| 6   | Pump housing              |            |                           |           | 1        |       |
| 19  | Pipe plug                 |            | Thread: R 3/8             |           | 2        |       |
| 19  | Plug                      |            |                           |           | 5        |       |
| 28  | Hex head screw            |            | Length (mm): 30           |           | 6        |       |
|     |                           |            | Thread: M8                |           |          |       |
| 66a | Nut                       |            | Thread: M10               |           | 12       |       |
| 210 | Cover                     |            |                           |           | 1        |       |
| 212 | Gasket                    |            |                           |           | 1        |       |
| 215 | Shaft pin                 |            |                           |           | 1        |       |
| 216 | Helical torsion spring    |            |                           |           | 1        |       |
| 217 | Valve flap                |            |                           |           | 2        |       |
| -   | Shaft seal cpl.           |            |                           |           | 2        | pcs   |
| 72a | O-ring                    |            | Diameter: 177,39          |           | 1        |       |
|     |                           |            | Material type: EPDM       |           |          |       |
|     |                           |            | Thickness: 3,53           |           |          |       |
| 105 | Shaft seal                |            | Material type: BAQE       |           | 1        |       |
| -   | 49a Impeller cpl.         |            |                           |           | 2        | pcs   |
| 49  | Impeller                  |            |                           |           | 1        |       |
| 66  | Washer                    |            |                           |           | 1        |       |
| 66a | Spring lock washer        |            |                           |           | 1        |       |
| 67  | Nut                       |            | Thread: M14               |           | 1        |       |

*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.*

*All information is copyright Grundfos.*



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