

## CRE10-03 A-FJ-A-E-HQQE 3x380-500 60 HZ

Grundfos pump 98390267



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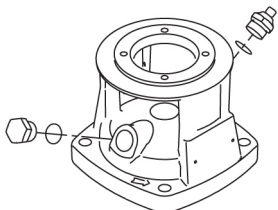
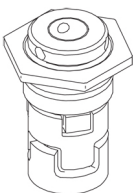
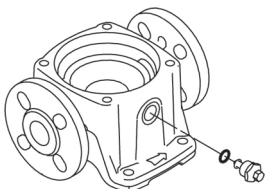
<https://www.lenntech.com/grundfos/CRE10/98390267/CRE-10-3-A-FJ-A-E-HQQE.html>

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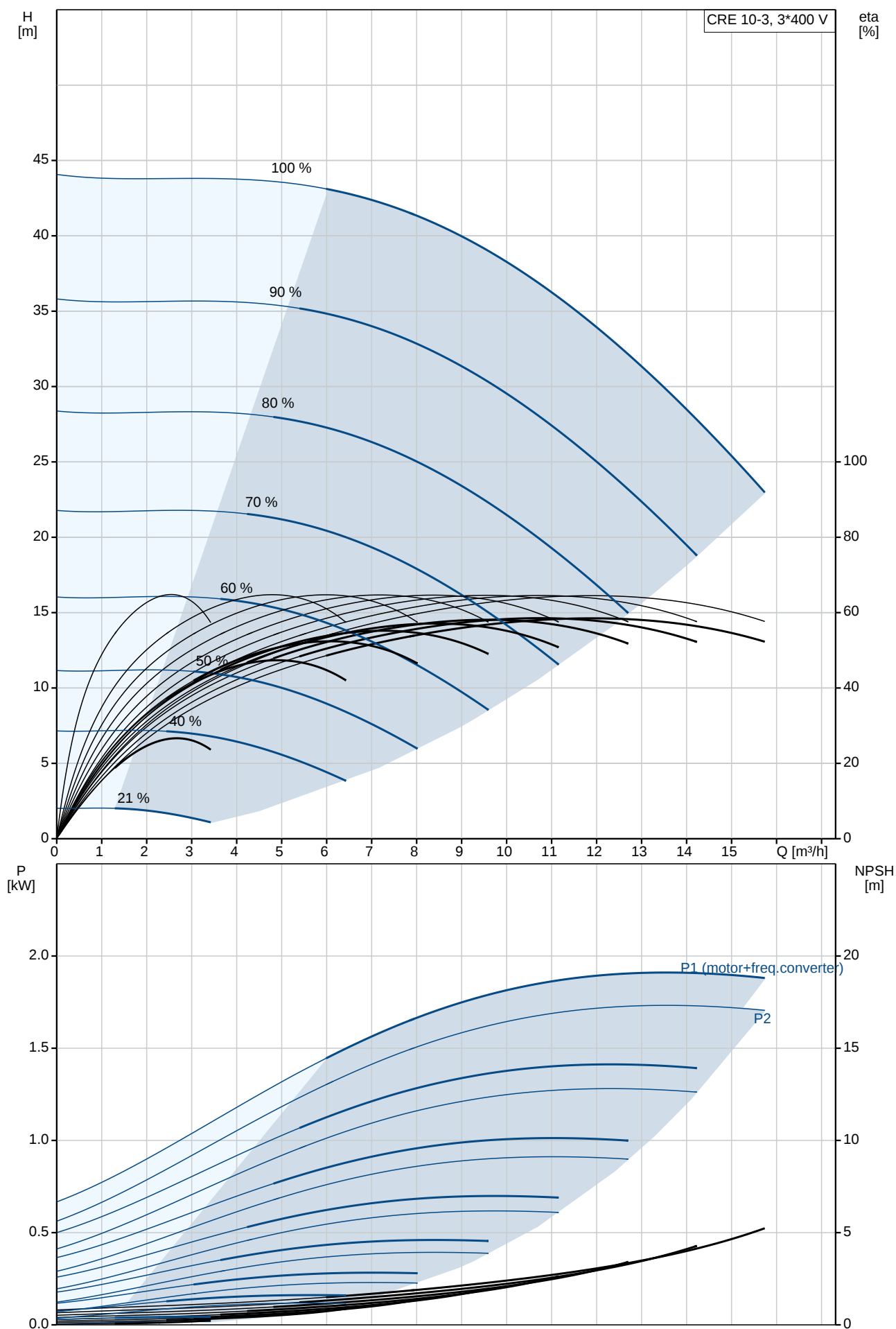
| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|          | 1    | <p><b>CRE 10-3 A-FJ-A-E-HQQE</b></p>  <p>Product No.: On request</p> <p>Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). The pump head and base are in cast iron – all other wetted parts are in stainless steel. A cartridge shaft seal ensures high reliability, safe handling, and easy access and service. Power transmission is via a rigid split coupling. Pipe connection is via combined DIN-JIS flanges.</p> <p>The pump is fitted with a 3-phase, fan-cooled, permanent-magnet, synchronous motor. The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.</p> <p>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. An operating panel on the motor terminal box enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". 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>Communication with the pump is 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 terminal box has a number of inputs and outputs enabling the motor to be used in advanced applications where many inputs and outputs are required:</p> <ul style="list-style-type: none"> <li>• two dedicated digital inputs</li> <li>• three analog inputs, 0(4)-20 mA, 0-5 V, 0-10 V, 0.5 - 3.5 V</li> <li>• 5 V voltage supply to potentiometer and sensor</li> <li>• one analog output, 0-10 V, 0(4)-20 mA</li> <li>• two configurable digital inputs or open-collector outputs</li> <li>• two Pt100/Pt1000 inputs</li> <li>• LiqTec, dry-running protection sensor input</li> <li>• Grundfos Digital Sensor input and output</li> <li>• 24 V voltage supply for sensors</li> <li>• two signal-relay outputs (potential-free contacts)</li> <li>• GENIbus connection</li> <li>• interface for Grundfos CIM fieldbus module.</li> </ul> <p><b>Further product details</b></p> <p>An external sensor can be connected if controlled pump operation based on for example flow, differential pressure or temperature is required.</p> <p>An operating panel on the motor terminal box enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". 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>Communication with the pump is 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> |

| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|          |      | <p>Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface. An integral part of the process is a pretreatment. The entire process consists of these elements:</p> <ol style="list-style-type: none"> <li>1) Alkaline-based cleaning.</li> <li>2) Zinc phosphating.</li> <li>3) Cathodic electro-deposition.</li> <li>4) Curing to a dry film thickness 18-22 my m.</li> </ol> <p>The colour code for the finished product is NCS 9000/RAL 9005.</p> <p><b>Pump</b></p> <p>A standard split coupling connects the pump and motor shaft. It is enclosed in the pump head/motor stool by means of two coupling guards.</p>  <p>The pump head, pump head cover and flange for motor mounting is made in one piece. The pump head has a combined 1/2" priming plug and vent screw.</p>  <p>The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system. This seal type is assembled in a cartridge unit which makes replacement safe and easy. Due to the balancing, this seal type is suitable for high-pressure applications. The cartridge construction also protects the pump shaft from possible wear from a dynamic O-ring between pump shaft and shaft seal.</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>The shaft seal is screwed into the pump head.</p> <p>The chambers and impellers are made of stainless-steel sheet. The chambers are provided with a PTFE neck offering improved sealing and high efficiency. The impellers have smooth surfaces, and the shape of the blades ensure a high efficiency.</p> <p>The base is made of cast iron. The flanges and base are cast in one piece. The outlet side of the base has a drain plug. The pump is secured to the foundation by four bolts through the base plate.</p>  |

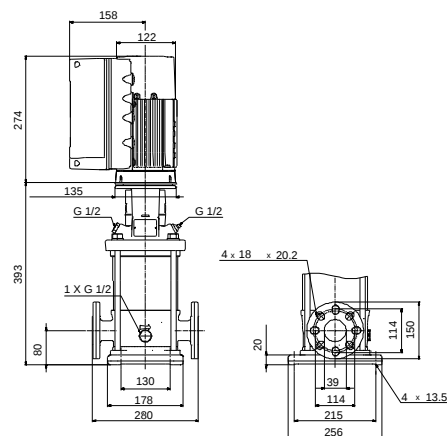
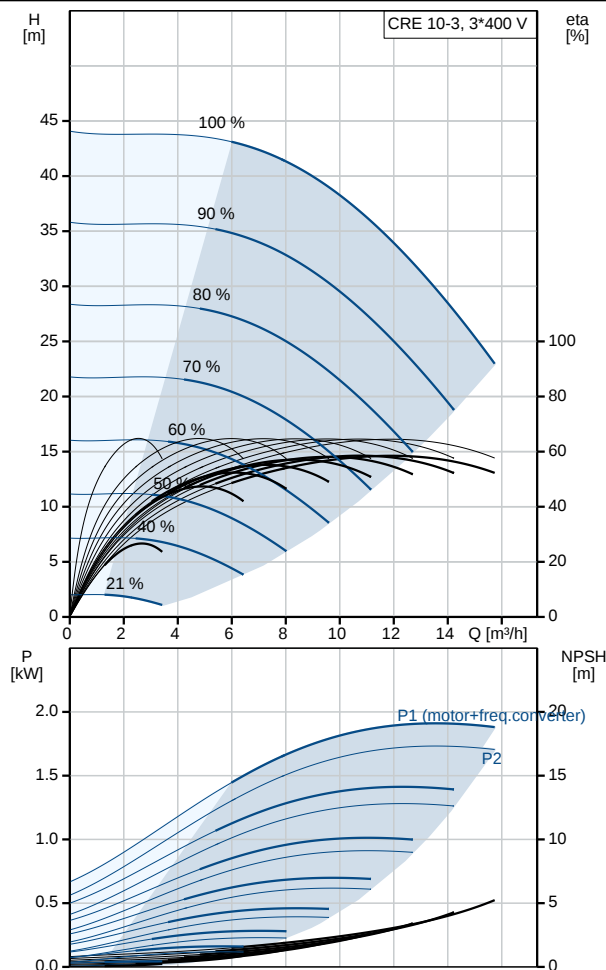
| Position                             | Qty.                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
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|                                      |                                                 | <p><b>Motor</b></p> <p>The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. The motor is flange-mounted with tapped-hole flange (FT).</p> <p>Motor-mounting designation in accordance with IEC 60034-7: IM B 14 (Code I) / IM 3601 (Code II).</p> <p>Electrical tolerances comply with IEC 60034.</p> <p>The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.</p> <p>The motor requires no external motor protection. The motor control unit incorporates protection against slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.</p> <p>The terminal box has a number of inputs and outputs enabling the motor to be used in advanced applications where many inputs and outputs are required:</p> <ul style="list-style-type: none"><li>• two dedicated digital inputs</li><li>• three analog inputs, 0(4)-20 mA, 0-5 V, 0-10 V, 0.5 - 3.5 V</li><li>• 5 V voltage supply to potentiometer and sensor</li><li>• one analog output, 0-10 V, 0(4)-20 mA</li><li>• two configurable digital inputs or open-collector outputs</li><li>• two Pt100/Pt1000 inputs</li><li>• LiqTec, dry-running protection sensor input</li><li>• Grundfos Digital Sensor input and output</li><li>• 24 V voltage supply for sensors</li><li>• two signal-relay outputs (potential-free contacts)</li><li>• GENIbus connection</li><li>• interface for Grundfos CIM fieldbus module.</li></ul> <p><b>Technical data</b></p> <p><b>Controls:</b></p> <table><tr><td>Frequency converter:</td><td>Built-in</td></tr><tr><td>Pressure sensor:</td><td>N</td></tr></table> <p><b>Liquid:</b></p> <table><tr><td>Pumped liquid:</td><td>Water</td></tr><tr><td>Liquid temperature range:</td><td>-20 .. 120 °C</td></tr><tr><td>Liquid temperature during operation:</td><td>20 °C</td></tr><tr><td>Density:</td><td>998.2 kg/m³</td></tr></table> <p><b>Technical:</b></p> <table><tr><td>Rated flow:</td><td>12.1 m³/h</td></tr><tr><td>Rated head:</td><td>34.9 m</td></tr><tr><td>Pump orientation:</td><td>Vertical</td></tr><tr><td>Shaft seal arrangement:</td><td>Single</td></tr><tr><td>Code for shaft seal:</td><td>HQQE</td></tr><tr><td>Approvals on nameplate:</td><td>CE, EAC,ACS</td></tr><tr><td>Curve tolerance:</td><td>ISO9906:2012 3B</td></tr></table> <p><b>Materials:</b></p> <table><tr><td>Base:</td><td>Cast iron<br/>EN 1561 EN-GJL-200<br/>ASTM A48-25B</td></tr><tr><td>Impeller:</td><td>Stainless steel<br/>EN 1.4301<br/>AISI 304</td></tr><tr><td>Bearing:</td><td>SIC</td></tr></table> <p><b>Installation:</b></p> <table><tr><td>Maximum ambient temperature:</td><td>50 °C</td></tr><tr><td>Maximum operating pressure:</td><td>16 bar</td></tr><tr><td>Max pressure at stated temp:</td><td>16 bar / 120 °C<br/>16 bar / -20 °C</td></tr><tr><td>Type of connection:</td><td>DIN / JIS</td></tr><tr><td>Size of inlet connection:</td><td>DN 40<br/>1 1/2 inch</td></tr><tr><td>Size of outlet connection:</td><td>DN 40</td></tr><tr><td>Pressure rating for pipe connection:</td><td>PN 25</td></tr><tr><td>Flange rating inlet:</td><td>300 lb</td></tr><tr><td>Flange size for motor:</td><td>FT115</td></tr></table> | Frequency converter: | Built-in | Pressure sensor: | N | Pumped liquid: | Water | Liquid temperature range: | -20 .. 120 °C | Liquid temperature during operation: | 20 °C | Density: | 998.2 kg/m³ | Rated flow: | 12.1 m³/h | Rated head: | 34.9 m | Pump orientation: | Vertical | Shaft seal arrangement: | Single | Code for shaft seal: | HQQE | Approvals on nameplate: | CE, EAC,ACS | Curve tolerance: | ISO9906:2012 3B | Base: | Cast iron<br>EN 1561 EN-GJL-200<br>ASTM A48-25B | Impeller: | Stainless steel<br>EN 1.4301<br>AISI 304 | Bearing: | SIC | Maximum ambient temperature: | 50 °C | Maximum operating pressure: | 16 bar | Max pressure at stated temp: | 16 bar / 120 °C<br>16 bar / -20 °C | Type of connection: | DIN / JIS | Size of inlet connection: | DN 40<br>1 1/2 inch | Size of outlet connection: | DN 40 | Pressure rating for pipe connection: | PN 25 | Flange rating inlet: | 300 lb | Flange size for motor: | FT115 |
| Frequency converter:                 | Built-in                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Pressure sensor:                     | N                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Pumped liquid:                       | Water                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Liquid temperature range:            | -20 .. 120 °C                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Liquid temperature during operation: | 20 °C                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Density:                             | 998.2 kg/m³                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Rated flow:                          | 12.1 m³/h                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Rated head:                          | 34.9 m                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Pump orientation:                    | Vertical                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Shaft seal arrangement:              | Single                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Code for shaft seal:                 | HQQE                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Approvals on nameplate:              | CE, EAC,ACS                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Curve tolerance:                     | ISO9906:2012 3B                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Base:                                | Cast iron<br>EN 1561 EN-GJL-200<br>ASTM A48-25B |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Impeller:                            | Stainless steel<br>EN 1.4301<br>AISI 304        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Bearing:                             | SIC                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Maximum ambient temperature:         | 50 °C                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Maximum operating pressure:          | 16 bar                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Max pressure at stated temp:         | 16 bar / 120 °C<br>16 bar / -20 °C              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Type of connection:                  | DIN / JIS                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Size of inlet connection:            | DN 40<br>1 1/2 inch                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Size of outlet connection:           | DN 40                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Pressure rating for pipe connection: | PN 25                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Flange rating inlet:                 | 300 lb                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |
| Flange size for motor:               | FT115                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |          |                  |   |                |       |                           |               |                                      |       |          |             |             |           |             |        |                   |          |                         |        |                      |      |                         |             |                  |                 |       |                                                 |           |                                          |          |     |                              |       |                             |        |                              |                                    |                     |           |                           |                     |                            |       |                                      |       |                      |        |                        |       |

| Position | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |      | <p><b>Electrical data:</b></p> <p>Motor standard: IEC</p> <p>Motor type: 90LD</p> <p>IE Efficiency class: IE5</p> <p>Rated power - P2: 2.2 kW</p> <p>Power (P2) required by pump: 2.2 kW</p> <p>Mains frequency: 50 Hz</p> <p>Rated voltage: 3 x 380-500 V</p> <p>Rated current: 4.15-3.40 A</p> <p>Cos phi - power factor: 0.93-0.87</p> <p>Rated speed: 360-4000 rpm</p> <p>Efficiency: 90.1%</p> <p>Motor efficiency at full load: 90.1 %</p> <p>Enclosure class (IEC 34-5): IP55</p> <p>Insulation class (IEC 85): F</p> <p><b>Others:</b></p> <p>Minimum efficiency index, MEI <math>\geq</math> 0.70</p> <p>Net weight: 45 kg</p> <p>Gross weight: 49 kg</p> <p>Shipping volume: 0.143 m<sup>3</sup></p> <p>Danish VVS No.: 385943703</p> |

# On request CRE 10-3 A-FJ-A-E-HQQE 50 Hz

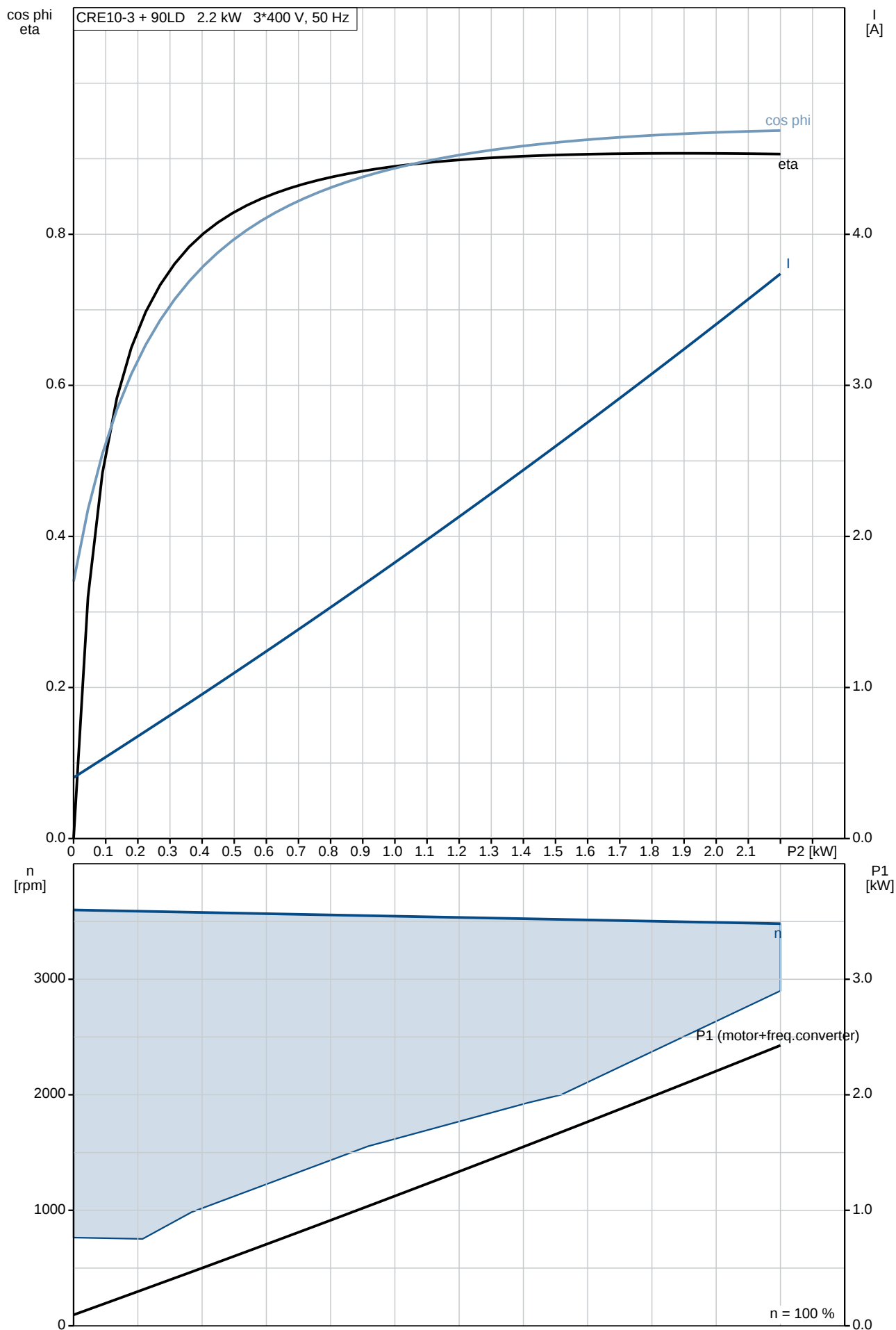


| Description                           | Value                  |
|---------------------------------------|------------------------|
| <b>General information:</b>           |                        |
| Product name:                         | CRE 10-3 A-FJ-A-E-HQQE |
| Product No:                           | On request             |
| EAN number:                           | On request             |
| <b>Technical:</b>                     |                        |
| Rated flow:                           | 12.1 m³/h              |
| Rated head:                           | 34.9 m                 |
| Stages:                               | 3                      |
| Impellers:                            | 3                      |
| Number of reduced-diameter impellers: | 0                      |
| Low NPSH:                             | N                      |
| Pump orientation:                     | Vertical               |
| Shaft seal arrangement:               | Single                 |
| Code for shaft seal:                  | HQQE                   |
| Approvals on nameplate:               | CE, EAC,ACS            |
| Curve tolerance:                      | ISO9906:2012 3B        |
| Pump version:                         | A                      |
| Model:                                | A                      |
| <b>Materials:</b>                     |                        |
| Base:                                 | Cast iron              |
|                                       | EN 1561 EN-GJL-200     |
|                                       | ASTM A48-25B           |
| Impeller:                             | Stainless steel        |
|                                       | EN 1.4301              |
|                                       | AISI 304               |
| Material code:                        | A                      |
| Code for rubber:                      | E                      |
| Bearing:                              | SIC                    |
| <b>Installation:</b>                  |                        |
| Maximum ambient temperature:          | 50 °C                  |
| Maximum operating pressure:           | 16 bar                 |
| Max pressure at stated temp:          | 16 bar / 120 °C        |
|                                       | 16 bar / -20 °C        |
| Type of connection:                   | DIN / JIS              |
| Size of inlet connection:             | DN 40                  |
|                                       | 1 1/2 inch             |
| Size of outlet connection:            | DN 40                  |
| Pressure rating for pipe connection:  | PN 25                  |
| Flange rating inlet:                  | 300 lb                 |
| Flange size for motor:                | FT115                  |
| Connect code:                         | FJ                     |
| <b>Liquid:</b>                        |                        |
| Pumped liquid:                        | Water                  |
| Liquid temperature range:             | -20 .. 120 °C          |
| Liquid temperature during operation:  | 20 °C                  |
| Density:                              | 998.2 kg/m³            |
| <b>Electrical data:</b>               |                        |
| Motor standard:                       | IEC                    |
| Motor type:                           | 90LD                   |
| IE Efficiency class:                  | IE5                    |
| Rated power - P2:                     | 2.2 kW                 |
| Power (P2) required by pump:          | 2.2 kW                 |
| Mains frequency:                      | 50 Hz                  |
| Rated voltage:                        | 3 x 380-500 V          |
| Rated current:                        | 4.15-3.40 A            |
| Cos phi - power factor:               | 0.93-0.87              |
| Rated speed:                          | 360-4000 rpm           |
| Efficiency:                           | 90.1%                  |
| Motor efficiency at full load:        | 90.1 %                 |
| Enclosure class (IEC 34-5):           | IP55                   |
| Insulation class (IEC 85):            | F                      |
| Motor protec:                         | YES                    |
| Motor No:                             | 98190193               |

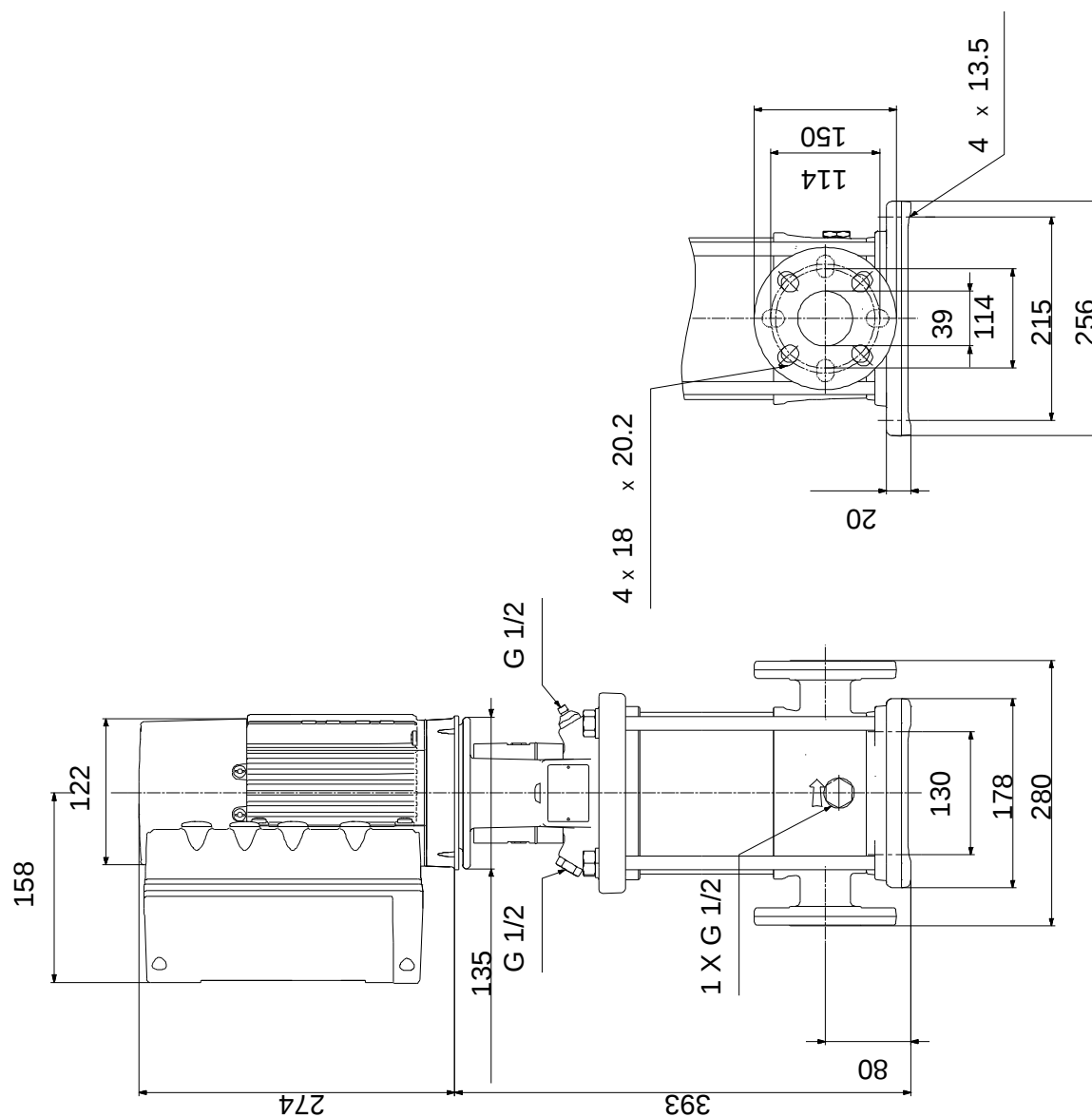


| Description                      | Value                |
|----------------------------------|----------------------|
| <b>Controls:</b>                 |                      |
| Control panel:                   | Standard             |
| Function Module:                 | FM300 - Advanced     |
| Frequency converter:             | Built-in             |
| Pressure sensor:                 | N                    |
| <b>Others:</b>                   |                      |
| Minimum efficiency index, MEI ≥: | 0.70                 |
| Net weight:                      | 45 kg                |
| Gross weight:                    | 49 kg                |
| Shipping volume:                 | 0.143 m <sup>3</sup> |
| Danish VVS No.:                  | 385943703            |

# On request CRE 10-3 A-FJ-A-E-HQQE 50 Hz



# On request CRE 10-3 A-FJ-A-E-HQQE 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 CRE 10-3, Product No. On request**  
**Valid from 25.12.2012 (1252)**

| Pos  | Description                   | Annotation | Données de classification   | Référence | Quantité | Unité |
|------|-------------------------------|------------|-----------------------------|-----------|----------|-------|
| -    | Motor                         |            |                             |           | 1        | pcs   |
|      | Terminal                      |            |                             |           | 3        |       |
|      | Pan head thread forming screw |            |                             |           | 4        |       |
| 150  | Stator housing                |            |                             |           | 1        |       |
| 150  | Stator                        |            |                             |           | 1        |       |
| 151  | Fan cover                     |            |                             |           | 1        |       |
| 152  | Pan head thread forming screw |            |                             |           | 6        |       |
| 152  | Pan head thread forming screw |            |                             |           | 1        |       |
| 152  | Pan head thread forming screw |            |                             |           | 4        |       |
| 152  | Pan head thread forming screw |            |                             |           | 1        |       |
| 153  | Ball bearing                  |            |                             |           | 1        |       |
| 154  | Ball bearing                  |            | Designation: 6204.2Z.C3.SYN |           | 1        |       |
| 156  | Fan                           |            |                             |           | 1        |       |
| 156b | Flange                        |            |                             |           | 1        |       |
| 156d | Gasket                        |            | Internal diameter: 114,80   |           | 1        |       |
|      |                               |            | Outer diameter: 121,20      |           |          |       |
|      |                               |            | Thickness: 0,25             |           |          |       |
| 157  | O-ring                        |            | Diameter: 47                |           | 1        |       |
|      |                               |            | Material type: NBR          |           |          |       |
|      |                               |            | Thickness: 3                |           |          |       |
| 158  | Waved washer                  |            |                             |           | 1        |       |
| 159a | Seal ring                     |            |                             |           | 1        |       |
| 159c | Seal ring                     |            |                             |           | 1        |       |
| 166  | Torx Screw                    |            |                             |           | 2        |       |
| 172  | Shaft w/rotor                 |            |                             |           | 1        |       |
| 173a | Base                          |            |                             |           | 1        |       |
| 185  | Cross recess Pan head screw   |            |                             |           | 4        |       |
| 186  | Drain plug                    |            |                             |           | 1        |       |
| 187  | Retaining ring                |            |                             |           | 1        |       |
| 188  | Retaining ring                |            |                             |           | 1        |       |
| 203  | Terminal plug                 |            |                             |           | 1        |       |
| 251a | Control box                   |            |                             |           | 1        |       |
| 251b | Control box                   |            |                             |           | 1        |       |
| 251d | Pan head thread forming screw |            |                             |           | 4        |       |
| 266  | Connector plug 3-pole         |            |                             |           | 1        |       |
| 266  | Connector plug 3-pole         |            |                             |           | 1        |       |
| 266  | Connector plug 3-pole         |            |                             |           | 1        |       |
| 266  | Connector plug 8-pole         |            |                             |           | 1        |       |
| 266  | Connector plug 8-pole         |            |                             |           | 1        |       |
| 266  | Connector plug 8-pole         |            |                             |           | 1        |       |
| 266  | Connector plug 10-pole        |            |                             |           | 1        |       |
| 268  | Pan head screw                |            |                             |           | 1        |       |
| 273  | Funct. Module cpl.            |            |                             |           | 1        |       |
| 273b | Battery                       |            |                             |           | 1        |       |
| 275a | Pin                           |            |                             |           | 1        |       |
| 277  | Isolation cover               |            |                             |           | 1        |       |
| 277a | Cross recess Pan head screw   |            |                             |           | 1        |       |
| 277a | Cross recess Pan head screw   |            |                             |           | 1        |       |
| 277a | Cross recess Pan head screw   |            |                             |           | 4        |       |
| 286  | Spacer                        |            |                             |           | 1        |       |
| 286  | Spacer                        |            |                             |           | 1        |       |
| 287  | Cover                         |            |                             |           | 1        |       |
| 288  | Wire clamp                    |            |                             |           | 3        |       |
| 288b | Washer                        |            |                             |           | 6        |       |
| 289  | Wire clamp                    |            |                             |           | 1        |       |
| 290  | Control panel, cpl.           |            |                             |           | 1        |       |
| 300  | Plug cpl.                     |            |                             |           | 4        |       |
| 301  | Jumper                        |            |                             |           | 1        |       |
| -    | Base cpl.                     |            |                             |           | 1        | pcs   |

| Pos  | Description               | Annotation | Données de classification                                                             | Référence | Quantité | Unité |
|------|---------------------------|------------|---------------------------------------------------------------------------------------|-----------|----------|-------|
| 6    | Base                      |            |                                                                                       |           | 1        |       |
| 25   | Drain plug                |            |                                                                                       |           | 1        |       |
| -    | Rubber module             |            |                                                                                       |           | 1        | pcs   |
| 20   | Spring                    |            |                                                                                       |           | 4        |       |
| 37   | O-ring                    |            |                                                                                       |           | 2        |       |
| 38   | O-ring                    |            | Diameter: 16,3<br>Material type: EPDM<br>Thickness: 2,4                               |           | 1        |       |
| 38a  | O-ring                    |            | Diameter: 5,3<br>Material type: EPDM<br>Thickness: 2,4                                |           | 1        |       |
| 100  | O-ring                    |            | Diameter: 16,3<br>Material type: EPDM<br>Thickness: 2,4                               |           | 2        |       |
| - 2  | Pump head cpl.            |            |                                                                                       |           | 1        | pcs   |
| 2    | Pump head                 |            |                                                                                       |           | 1        |       |
| 7    | Coupling guard            |            |                                                                                       |           | 2        |       |
| 7.a  | Combi Slot Torx screw     |            |                                                                                       |           | 4        |       |
| - 18 | Air vent screw            |            |                                                                                       |           | 1        |       |
|      | Plug                      |            |                                                                                       |           | 1        |       |
|      | Spindle                   |            |                                                                                       |           | 1        |       |
| 23   | Plug                      |            |                                                                                       |           | 1        |       |
| 28   | Hex head screw            |            | Length (mm): 20<br>Thread: M8                                                         |           | 4        |       |
| 76   | Nameplate                 |            |                                                                                       |           | 1        |       |
| 76a  | Rivet                     |            |                                                                                       |           | 1        |       |
| - 8  | Coupling cpl.             |            |                                                                                       |           | 1        | pcs   |
| 9    | Hex socket head cap screw |            | Designation: DIN 912<br>Length (mm): 25<br>Thread: M8                                 |           | 4        |       |
| 10   | Shaft pin                 |            | Diameter: 5<br>Length (mm): 26                                                        |           | 1        |       |
| 10a  | Coupling half             |            |                                                                                       |           | 2        |       |
| 26   | Staybolt                  |            | Length (mm): 163<br>Thread: M16                                                       |           | 4        | pcs   |
| 36   | Hex nut                   |            | Thread: M16                                                                           |           | 4        | pcs   |
| 55   | Outer sleeve              |            |                                                                                       |           | 1        | pcs   |
| 66a  | Washer                    |            | Designation: DIN 125 A<br>Internal diameter: 17<br>Outer diameter: 30<br>Thickness: 3 |           | 4        | pcs   |
| - 80 | Chamber stack             |            | Bearing type: SIC                                                                     |           | 1        | pcs   |
| - 4  | Intermediate chamber cpl. |            |                                                                                       |           | 1        |       |
|      | Guide vane                |            |                                                                                       |           | 10       |       |
| 3    | Top intermediate chamber  |            |                                                                                       |           | 1        |       |
| - 4  | Intermediate chamber cpl. |            |                                                                                       |           | 1        |       |
|      | Guide vane                |            |                                                                                       |           | 10       |       |
|      | Guide cup                 |            |                                                                                       |           | 1        |       |
| 3a   | Intermediate chamber      |            |                                                                                       |           | 1        |       |
| 45   | Neck ring cpl.            |            |                                                                                       |           | 1        |       |
| 65   | Retainer                  |            |                                                                                       |           | 1        |       |
| - 4a | Intermediate chamber cpl. |            |                                                                                       |           | 1        |       |
|      | Guide vane                |            |                                                                                       |           | 10       |       |
|      | Bearing plate             |            |                                                                                       |           | 1        |       |
|      | Bearing bush              |            |                                                                                       |           | 1        |       |
|      | Guide cup                 |            |                                                                                       |           | 1        |       |
| 3a   | Intermediate chamber      |            |                                                                                       |           | 1        |       |
| 45   | Neck ring cpl.            |            |                                                                                       |           | 1        |       |
| 65   | Retainer                  |            |                                                                                       |           | 1        |       |
| 26.b | Hex head screw            |            |                                                                                       |           | 2        |       |
| 26.c | Washer                    |            | Designation: DIN 125A<br>Thickness: 1,6                                               |           | 2        |       |
| 26a  | Strap cpl.                |            |                                                                                       |           | 2        |       |
| 36   | Lock nut                  |            | Thread: M8                                                                            |           | 1        |       |

| Pos   | Description         | Annotation | Données de classification | Référence | Quantité | Unité |
|-------|---------------------|------------|---------------------------|-----------|----------|-------|
| - 44a | Inlet part cpl.     |            |                           |           | 1        |       |
|       | Inlet part          |            |                           |           | 1        |       |
|       | Guide cup           |            |                           |           | 1        |       |
| 45    | Neck ring cpl.      |            |                           |           | 1        |       |
| 65    | Retainer            |            |                           |           | 1        |       |
| 44b   | Inlet part          |            |                           |           | 1        |       |
| 47a   | Bearing ring        |            |                           |           | 1        |       |
| 49    | Impeller cpl.       |            |                           |           | 3        |       |
| - 51  | Shaft, spline, cpl. |            |                           |           | 1        |       |
|       | Bar                 |            |                           |           | 0        |       |
| 62    | Stop ring           |            |                           |           | 1        |       |
| 64    | Spacing bush        |            | Length (mm): 9.00         |           | 1        |       |
| 64.d  | Spacer              |            |                           |           | 1        |       |
| 64c   | Spacing pipe        |            | Length (mm): 12.7         |           | 1        |       |
| 66    | Wedge lock washer   |            |                           |           | 1        |       |
| 69    | Spacing pipe        |            | Length (mm): 29.05        |           | 1        |       |
| 69    | Spacing bush        |            | Length (mm): 18.00        |           | 1        |       |
| 105   | Shaft seal          |            | Material type: HQQE       |           | 1        | 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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