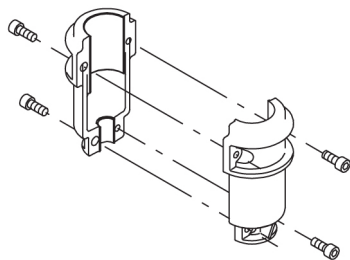
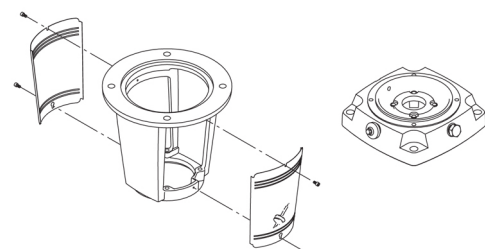
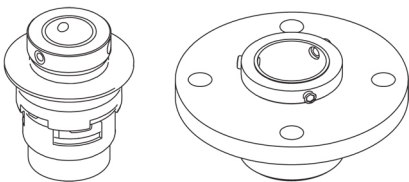
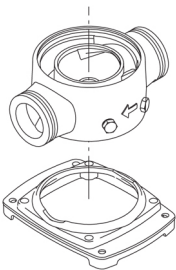


| Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <p data-bbox="199 336 518 369"><b>CRN 64-3-1 A-F-A-E-HQQE</b></p>  <p data-bbox="199 660 470 683">Product No.: <a href="#">96123780</a></p> <p data-bbox="199 716 1460 817">Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). Pump materials in contact with the liquid are in high-grade 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 DIN flanges.</p> <p data-bbox="199 862 933 884">The pump is fitted with a 3-phase, fan-cooled asynchronous motor.</p> <p data-bbox="199 918 518 952"><b>Further product details</b></p> <p data-bbox="199 952 1460 1052">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 data-bbox="199 1064 694 1187" 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 data-bbox="199 1187 909 1209">The colour code for the finished product is NCS 9000/RAL 9005.</p> <p data-bbox="199 1243 279 1276"><b>Pump</b></p> <p data-bbox="199 1276 1460 1355">A long split coupling connects the pump and motor shaft. It is enclosed in the motor stool by means of two coupling guards. The long coupling makes it possible to replace the shaft seal without removing the motor from the pump.</p>  <p data-bbox="199 1646 1460 1702">The motor stool connects the pump head and motor. The pump head has a combined 1/2" priming plug and vent screw.</p>  <p data-bbox="199 1971 1460 2072">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> |

| Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | <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> <div data-bbox="204 577 614 757">  </div> <p>The shaft seal is retained in the pump head by a cover and screws. It can be replaced without removing the motor.</p> <p>The chambers and impellers are made of stainless-steel sheet. The chambers are provided with a PTFE neck ring offering improved sealing and high efficiency. The impellers have smooth surfaces, and the shape of the blades ensure a high efficiency.</p> <p>The pump has a stainless-steel base mounted on a separate base plate. The base and base plate are kept in position by the tension of the staybolts which hold the pump together. Both the inlet and the outlet side of the base have two pressure gauge tapings. The pump is secured to the foundation by four bolts through the base plate. The flanges are fastened to the base by means of locking rings.</p> <div data-bbox="204 1137 379 1406">  </div> <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 free-hole flange (FF).</p> <p>Motor-mounting designation in accordance with IEC 60034-7: IM B 5 (Code I) / IM 3001 (Code II).</p> <p>Electrical tolerances comply with IEC 60034.</p> <p>The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.</p> <p>The motor has thermistors (PTC sensors) in the windings in accordance with DIN 44081/DIN 44082. The protection reacts to both slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.</p> <p>Thermal switches must be connected to an external control circuit in a way which ensures that the automatic reset cannot cause accidents. The motors must be connected to a motor-protective circuit breaker according to local regulations.</p> <p>The motor can be connected to a variable speed drive for adjustment of pump performance to any duty point. Grundfos CUE offers a range of variable speed drives. Please find more information in Grundfos Product Center.</p> <p><b>Technical data</b></p> <p><b>Controls:</b></p> <p>Frequency converter: NONE</p> <p><b>Liquid:</b></p> <p>Pumped liquid: Water</p> |

| Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | <p>Liquid temperature range: -40 .. 120 °C<br/> Liquid temperature during operation: 20 °C<br/> Density: 998.2 kg/m<sup>3</sup></p> <p><b>Technical:</b><br/> Pump speed on which pump data are based: 2923 rpm<br/> Rated flow: 64 m<sup>3</sup>/h<br/> Rated head: 59.8 m<br/> Pump orientation: Vertical<br/> Shaft seal arrangement: Single<br/> Code for shaft seal: HQQE<br/> Approvals on nameplate: CE, EAC, ACS<br/> Curve tolerance: ISO9906:2012 3B</p> <p><b>Materials:</b><br/> Base: Stainless steel<br/> EN 1.4408<br/> AISI 316<br/> Impeller: Stainless steel<br/> EN 1.4401<br/> AISI 316<br/> Bearing: SIC<br/> Support bearing: Graflon</p> <p><b>Installation:</b><br/> Maximum ambient temperature: 60 °C<br/> Maximum operating pressure: 16 bar<br/> Max pressure at stated temp: 16 bar / 120 °C<br/> 16 bar / -40 °C<br/> Type of connection: DIN<br/> Size of inlet connection: DN 100<br/> Size of outlet connection: DN 100<br/> Pressure rating for pipe connection: PN 16<br/> Flange size for motor: FF300</p> <p><b>Electrical data:</b><br/> Motor standard: IEC<br/> Motor type: 160MD<br/> IE Efficiency class: IE3<br/> Rated power - P2: 15 kW<br/> Power (P2) required by pump: 15 kW<br/> Mains frequency: 50 Hz<br/> Rated voltage: 3 x 380-415D/660-690Y V<br/> Rated current: 28,0-26,0/16,2-15,6 A<br/> Starting current: 660-780 %<br/> Cos phi - power factor: 0.89-0.87<br/> Rated speed: 2930-2950 rpm<br/> Efficiency: IE3 91,9%<br/> Motor efficiency at full load: 91.9-91.9 %<br/> Motor efficiency at 3/4 load: 92.4 %<br/> Motor efficiency at 1/2 load: 92.4 %<br/> Number of poles: 2<br/> Enclosure class (IEC 34-5): 55 Dust/Jetting<br/> Insulation class (IEC 85): F</p> <p><b>Others:</b><br/> Minimum efficiency index, MEI <math>\eta_{\text{MEI}}</math>: 0.70<br/> Net weight: 178 kg<br/> Gross weight: 211 kg</p> |



Company name:

Created by:

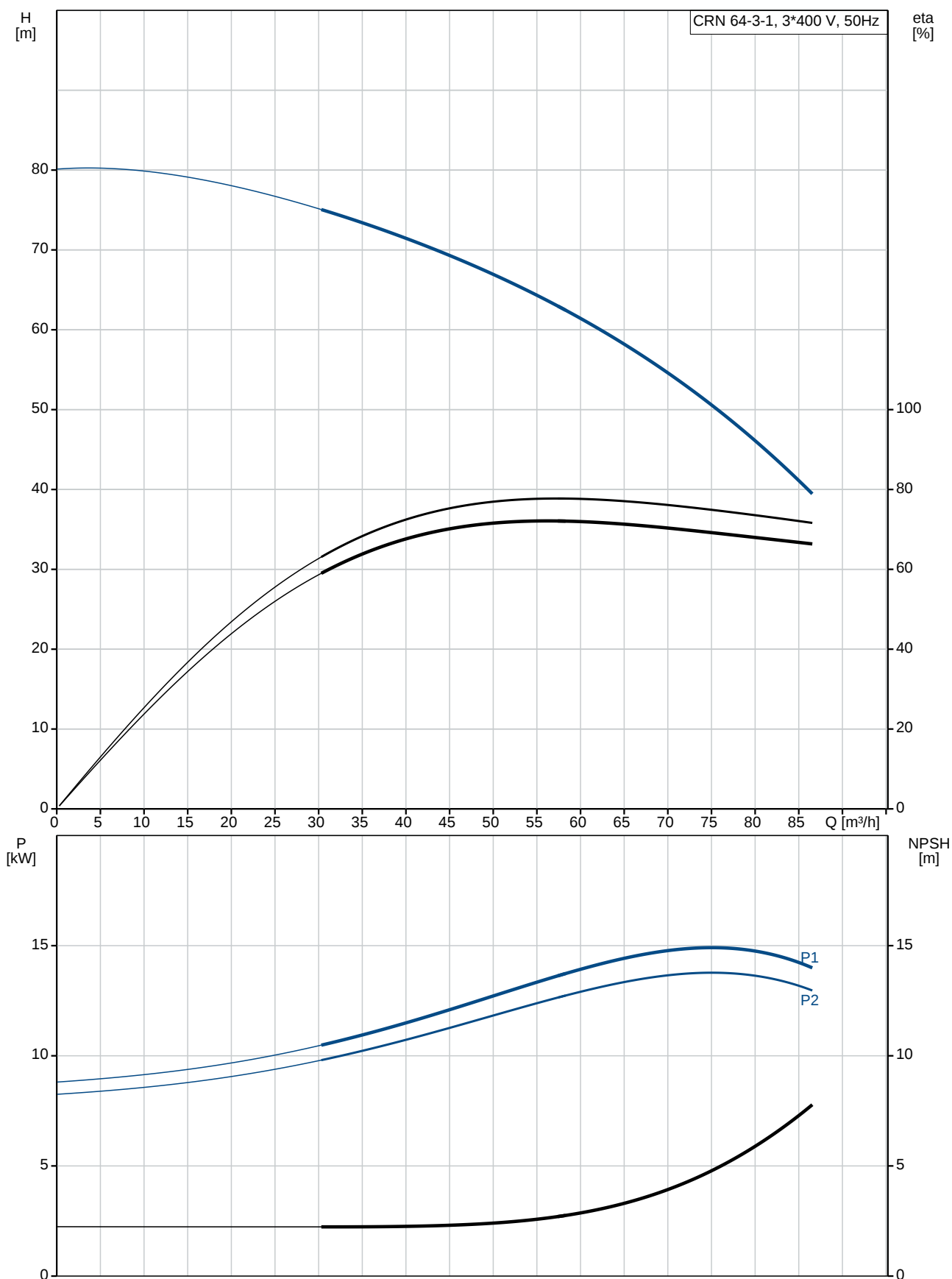
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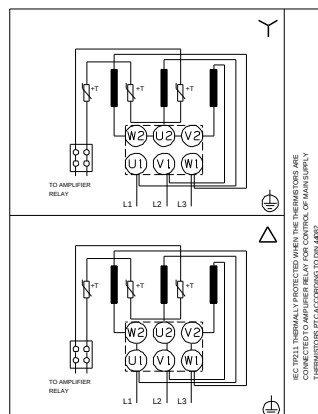
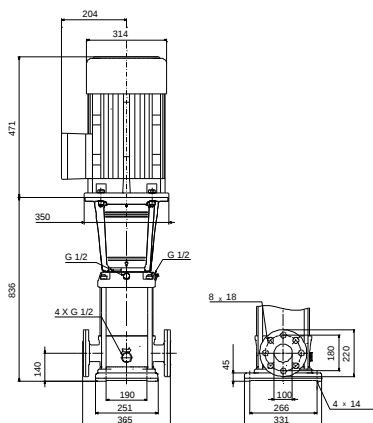
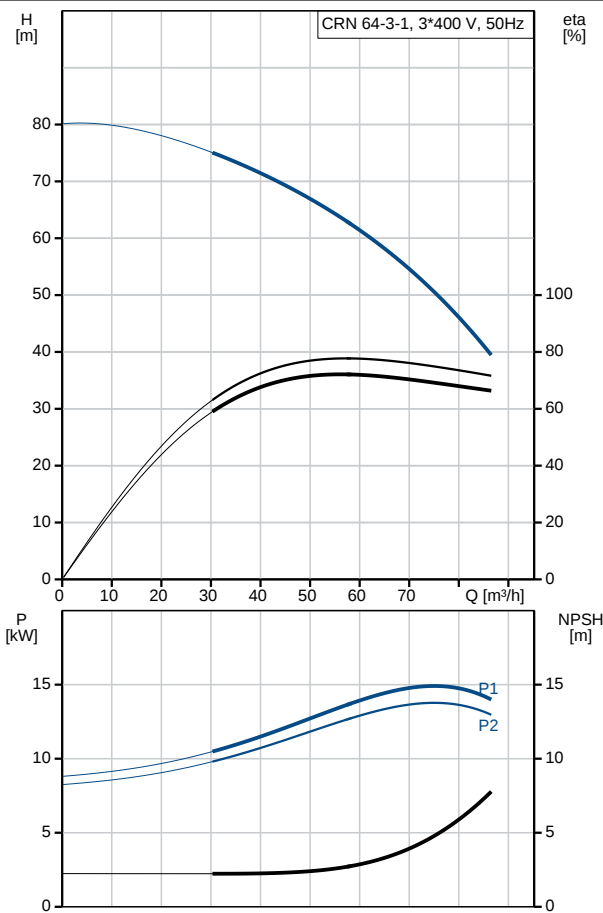
18/02/2019

| Qty. | Description                                                        |
|------|--------------------------------------------------------------------|
|      | Shipping volume: 0.495 m <sup>3</sup><br>Danish VVS No.: 385918031 |

## 96123780 CRN 64-3-1 A-F-A-E-HQQE 50 Hz



| Description                              | Value                                    |
|------------------------------------------|------------------------------------------|
| <b>General information:</b>              |                                          |
| Product name:                            | CRN 64-3-1<br>A-F-A-E-HQQE               |
| Product No:                              | 96123780                                 |
| EAN number:                              | 5700396700410                            |
| <b>Technical:</b>                        |                                          |
| Pump speed on which pump data are based: | 2923 rpm                                 |
| Rated flow:                              | 64 m <sup>3</sup> /h                     |
| Rated head:                              | 59.8 m                                   |
| Head max:                                | 79.8 m                                   |
| Stages:                                  | 3                                        |
| Impellers:                               | 3                                        |
| Number of reduced-diameter impellers:    | 1                                        |
| 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:                                   | B                                        |
| <b>Materials:</b>                        |                                          |
| Base:                                    | Stainless steel<br>EN 1.4408<br>AISI 316 |
| Impeller:                                | Stainless steel<br>EN 1.4401<br>AISI 316 |
| Material code:                           | A                                        |
| Code for rubber:                         | E                                        |
| Bearing:                                 | SIC                                      |
| Support bearing:                         | Graflon                                  |
| <b>Installation:</b>                     |                                          |
| Maximum ambient temperature:             | 60 °C                                    |
| Maximum operating pressure:              | 16 bar                                   |
| Max pressure at stated temp:             | 16 bar / 120 °C<br>16 bar / -40 °C       |
| Type of connection:                      | DIN                                      |
| Size of inlet connection:                | DN 100                                   |
| Size of outlet connection:               | DN 100                                   |
| Pressure rating for pipe connection:     | PN 16                                    |
| Flange size for motor:                   | FF300                                    |
| Connect code:                            | F                                        |
| <b>Liquid:</b>                           |                                          |
| Pumped liquid:                           | Water                                    |
| Liquid temperature range:                | -40 .. 120 °C                            |
| Liquid temperature during operation:     | 20 °C                                    |
| Density:                                 | 998.2 kg/m <sup>3</sup>                  |
| <b>Electrical data:</b>                  |                                          |
| Motor standard:                          | IEC                                      |
| Motor type:                              | 160MD                                    |
| IE Efficiency class:                     | IE3                                      |
| Rated power - P2:                        | 15 kW                                    |
| Power (P2) required by pump:             | 15 kW                                    |
| Mains frequency:                         | 50 Hz                                    |
| Rated voltage:                           | 3 x 380-415D/660-690Y<br>V               |
| Rated current:                           | 28,0-26,0/16,2-15,6 A                    |





Company name:

Created by:

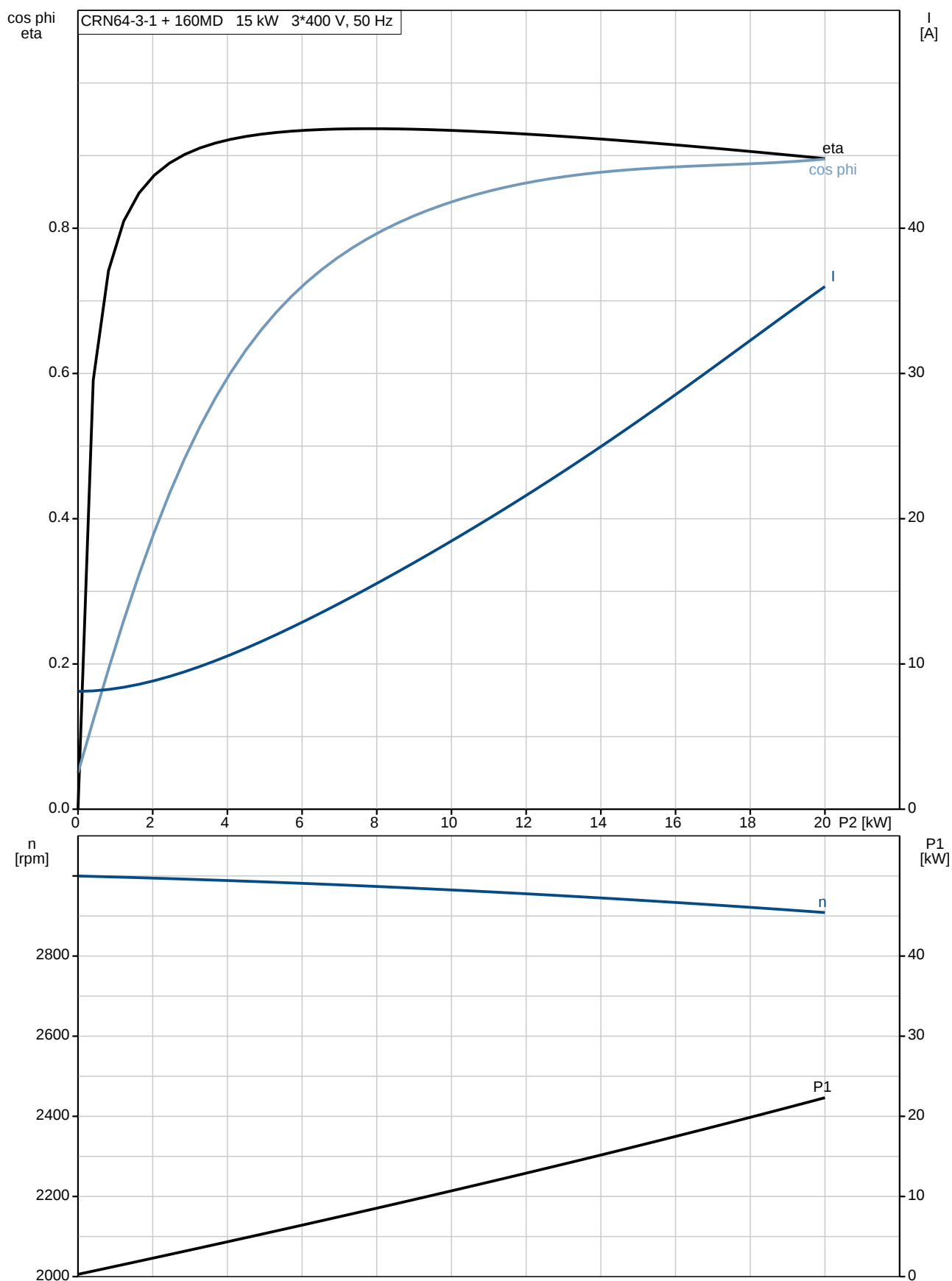
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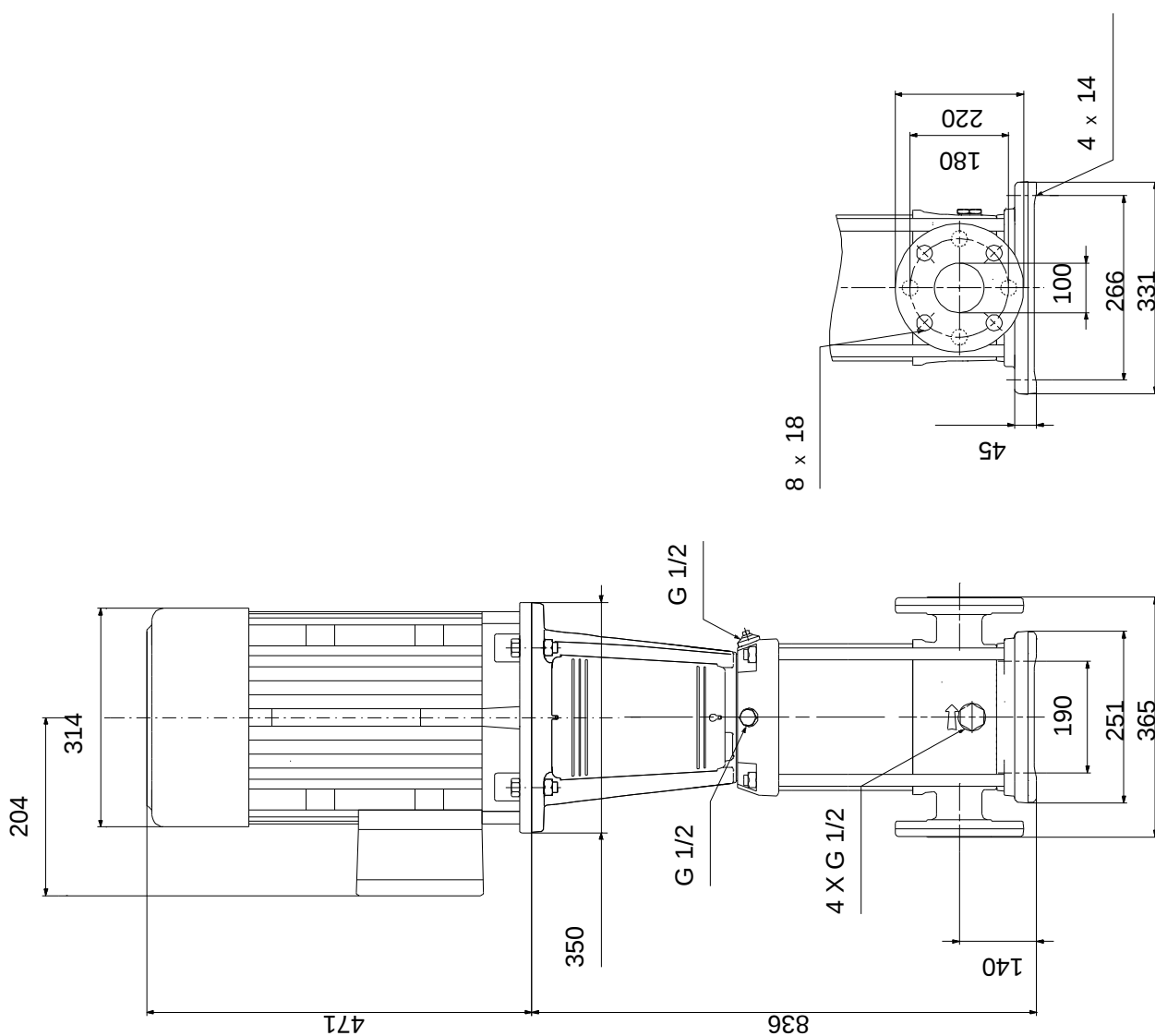
18/02/2019

| Description                                 | Value                |
|---------------------------------------------|----------------------|
| Starting current:                           | 660-780 %            |
| Cos phi - power factor:                     | 0.89-0.87            |
| Rated speed:                                | 2930-2950 rpm        |
| Efficiency:                                 | IE3 91,9%            |
| Motor efficiency at full load:              | 91.9-91.9 %          |
| Motor efficiency at 3/4 load:               | 92.4 %               |
| Motor efficiency at 1/2 load:               | 92.4 %               |
| Number of poles:                            | 2                    |
| Enclosure class (IEC 34-5):                 | 55 Dust/Jetting      |
| Insulation class (IEC 85):                  | F                    |
| Motor protec:                               | PTC                  |
| Motor No:                                   | 85U17526             |
| <b>Controls:</b>                            |                      |
| Frequency converter:                        | NONE                 |
| <b>Others:</b>                              |                      |
| Minimum efficiency index, MEI $\eta_{\%}$ : | 0.70                 |
| Net weight:                                 | 178 kg               |
| Gross weight:                               | 211 kg               |
| Shipping volume:                            | 0.495 m <sup>3</sup> |
| Danish VVS No.:                             | 385918031            |

## 96123780 CRN 64-3-1 A-F-A-E-HQQE 50 Hz

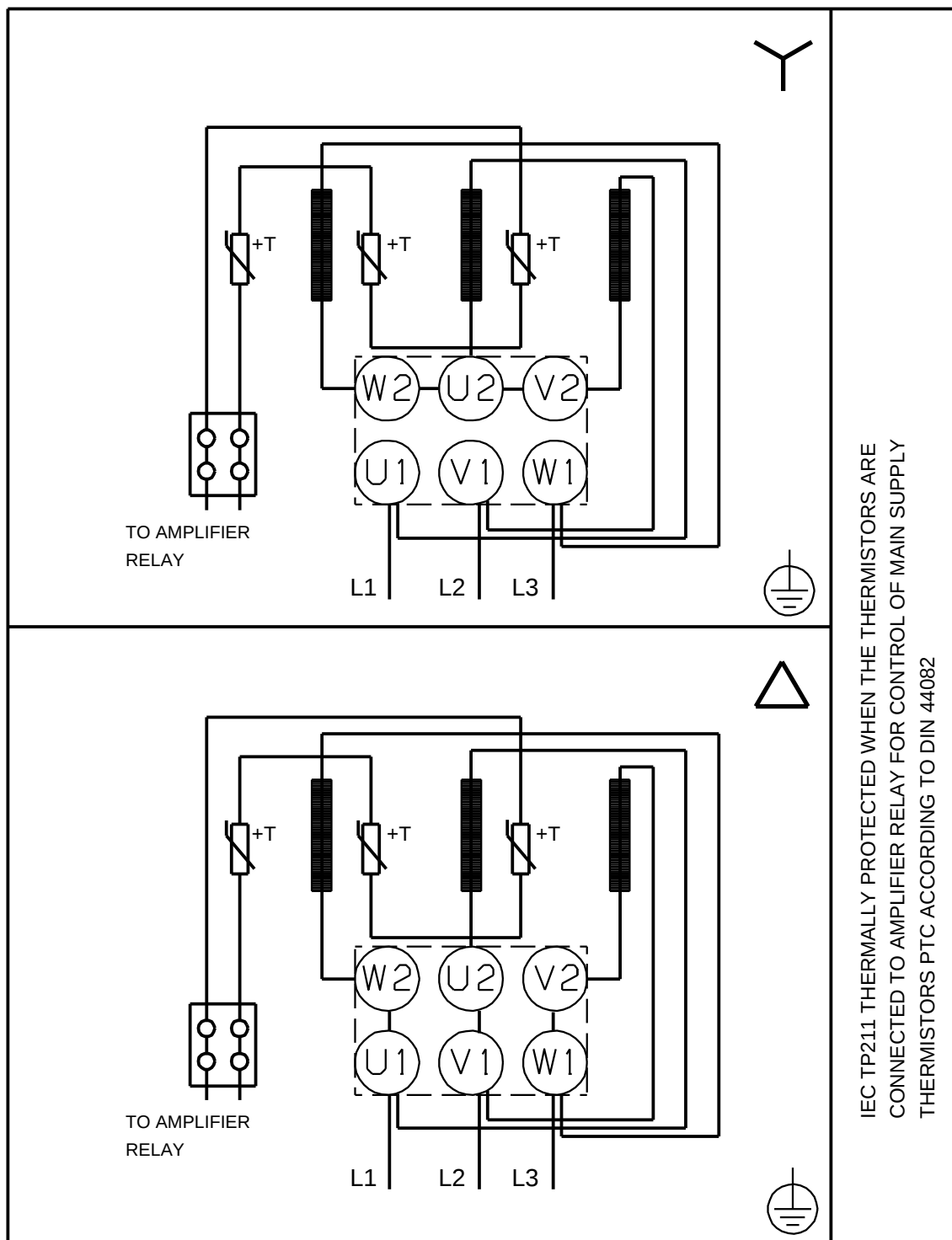


**96123780 CRN 64-3-1 A-F-A-E-HQQE 50 Hz**



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

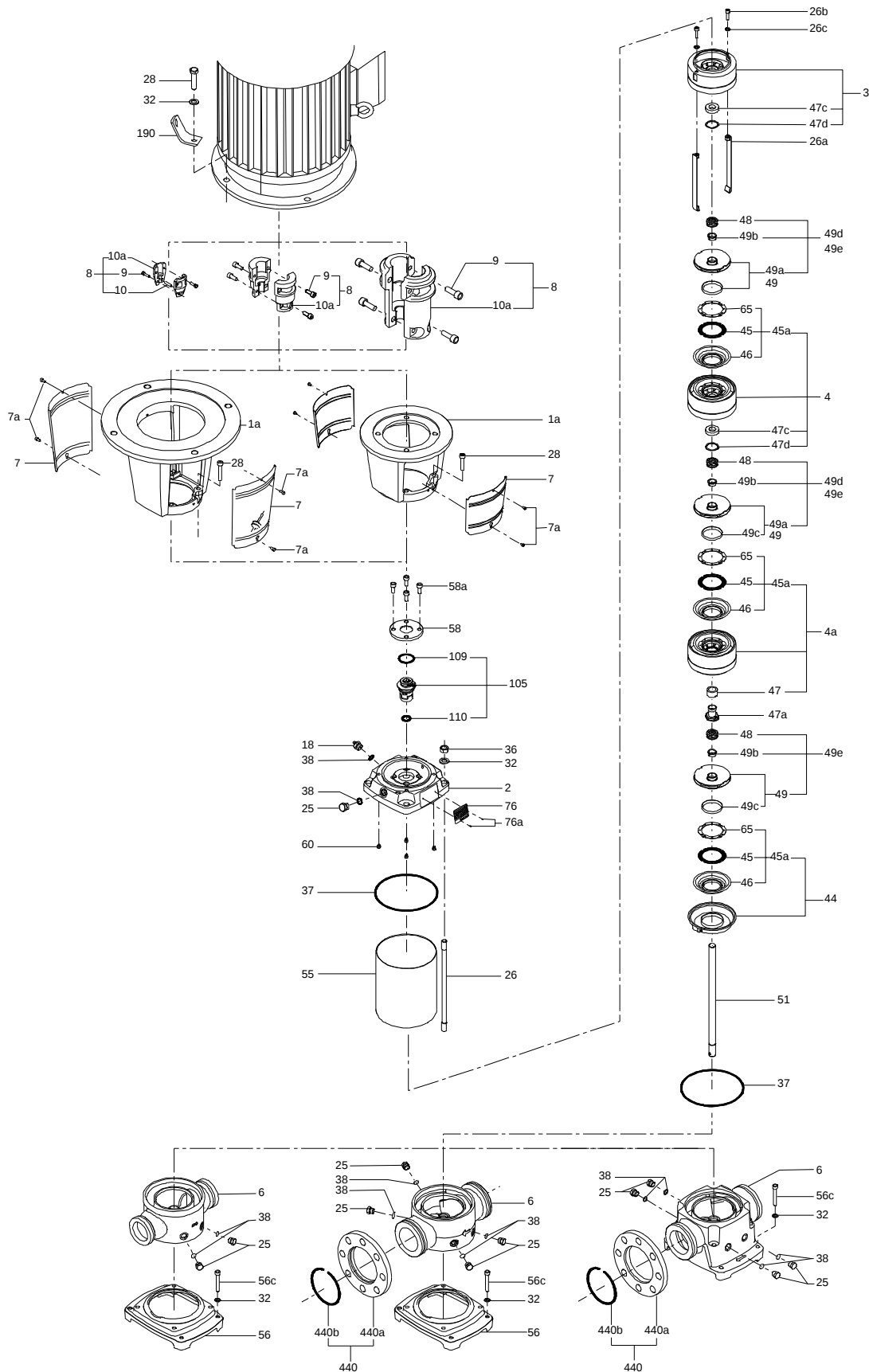
## 96123780 CRN 64-3-1 A-F-A-E-HQQE 50 Hz



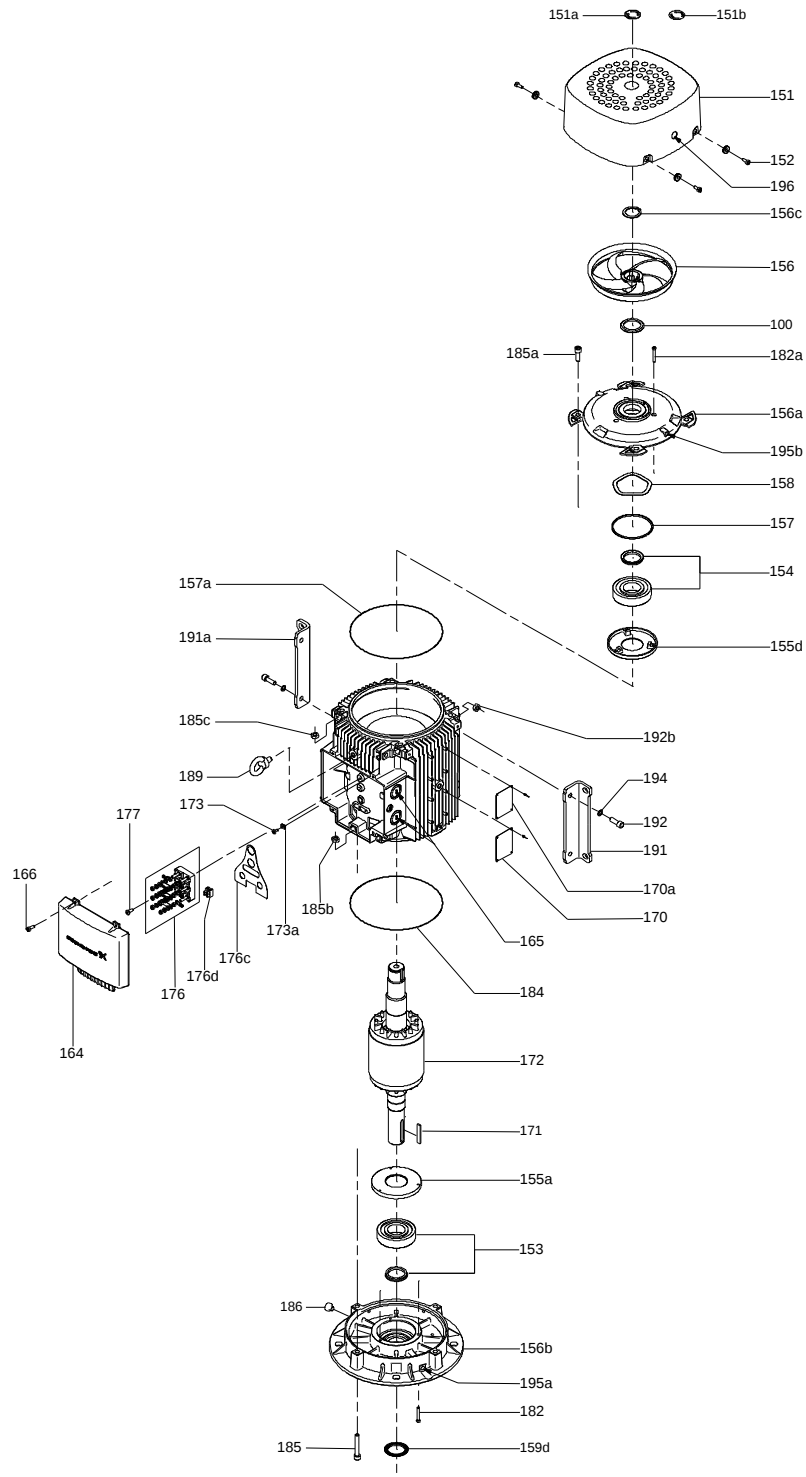
IEC TP211 THERMALLY PROTECTED WHEN THE THERMISTORS ARE  
CONNECTED TO AMPLIFIER RELAY FOR CONTROL OF MAIN SUPPLY  
THERMISTORS PTC ACCORDING TO DIN 44082

Note! All units are in [mm] unless others are stated.

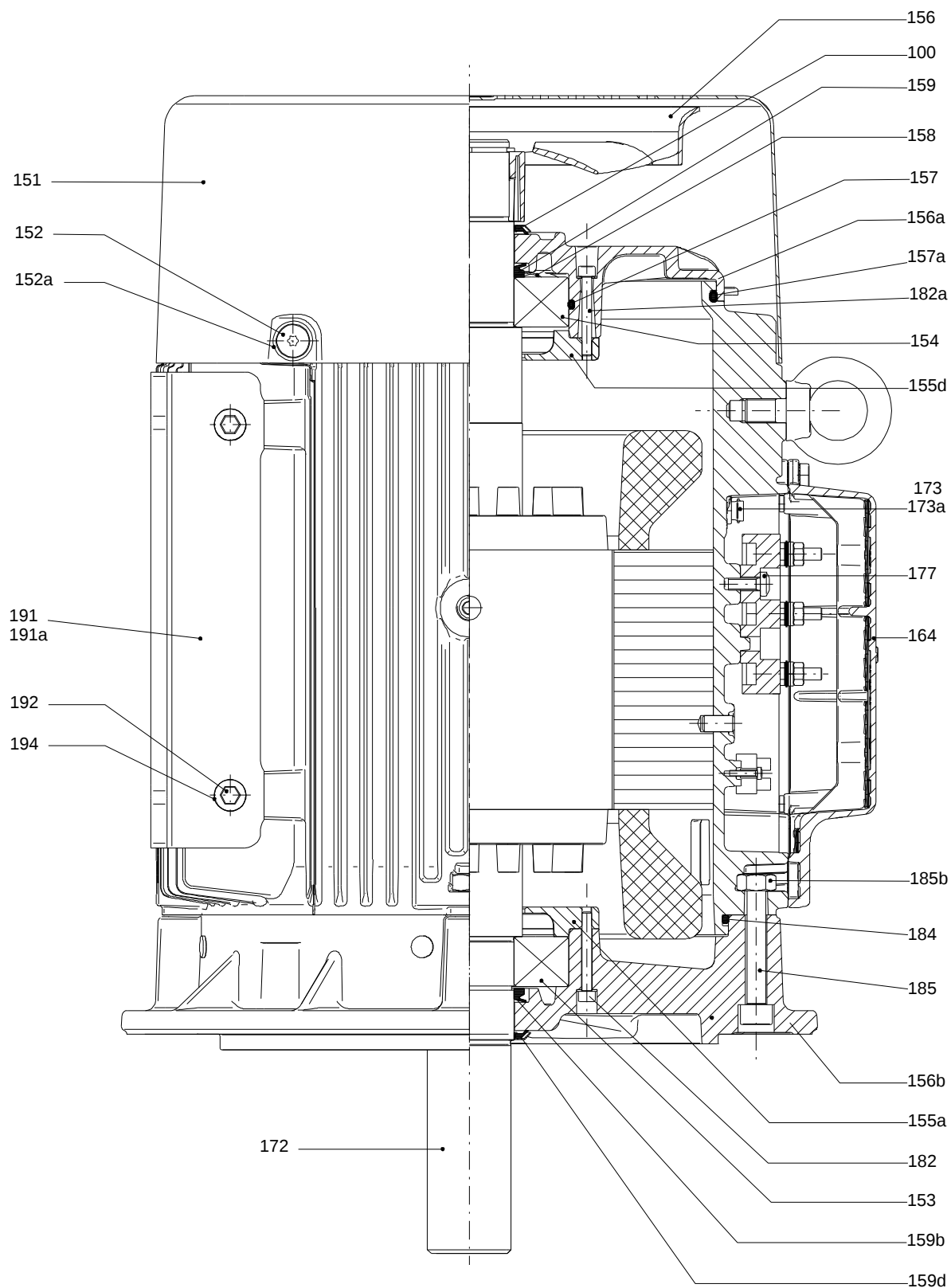
(tm069487 for LACR model B standard)



## Exploded view



## Sectional drawing



**Spare parts CRN 64-3-1, Product No. 96123780**

**Valid from 3.3.2014 (1410)**

| Pos   | Description                 | Annotation | Classification Data   | Part no. | Qty. | Unit |
|-------|-----------------------------|------------|-----------------------|----------|------|------|
| -     | Base                        |            |                       | 96587697 | 1    | pcs  |
| 6     | Base                        |            |                       |          | 1    |      |
| - 80  | Kit, chamber stack          |            |                       | 96416332 | 1    | pcs  |
| - 80  | Chamber stack               |            |                       |          | 1    |      |
| - 3   | Upper chamber cpl.          |            |                       |          |      |      |
|       | Guide cup                   |            |                       |          |      |      |
|       | Guide cup                   |            |                       |          |      |      |
|       | Cone                        |            |                       |          |      |      |
|       | Guide vane                  |            |                       |          |      |      |
|       | Chamber                     |            |                       |          |      |      |
|       | Chamber                     |            |                       |          |      |      |
| 47d   | Lock ring                   |            |                       |          |      |      |
| 47c   | Bush                        |            |                       |          |      |      |
| - 4a  | Intermediate chamber cpl.   |            |                       |          |      |      |
|       | Guide cup                   |            |                       |          |      |      |
|       | Guide cup                   |            |                       |          |      |      |
|       | Cone                        |            |                       |          |      |      |
|       | Guide vane                  |            |                       |          |      |      |
|       | Chamber                     |            |                       |          |      |      |
|       | Chamber                     |            |                       |          |      |      |
| 45a   | Neck ring cpl.              |            |                       |          |      |      |
| 47    | Bearing                     |            |                       |          |      |      |
| - 4   | Intermediate chamber cpl.   |            |                       |          |      |      |
|       | Guide cup                   |            |                       |          |      |      |
|       | Guide cup                   |            |                       |          |      |      |
|       | Cone                        |            |                       |          |      |      |
|       | Guide vane                  |            |                       |          |      |      |
|       | Chamber                     |            |                       |          |      |      |
|       | Chamber                     |            |                       |          |      |      |
| 45a   | Neck ring cpl.              |            |                       |          |      |      |
| 47d   | Lock ring                   |            |                       |          |      |      |
| 47c   | Bush                        |            |                       |          |      |      |
| 26c   | Washer                      |            | Designation: DIN 125A |          |      |      |
|       |                             |            | Thickness: 1,6        |          |      |      |
| 26b   | Hex socket head cap screw   |            |                       |          |      |      |
| 26a   | Strap cpl.                  |            | Length (mm): 257      |          |      |      |
|       |                             |            | Thread: M8            |          |      |      |
| - 44  | Suction interconnector cpl. |            |                       |          |      |      |
| 44a   | Inlet part                  |            |                       |          |      |      |
| 45    | Seal ring                   |            |                       |          |      |      |
| 46    | Neck ring                   |            |                       |          |      |      |
| 65    | Top f/neck ring             |            |                       |          |      |      |
| - 47a | Bearing cpl.                |            |                       |          |      |      |
|       | Driver                      |            |                       |          |      |      |
|       | Holder                      |            |                       |          |      |      |
|       | Disc spring                 |            |                       |          |      |      |
|       | Bearing ring                |            |                       |          |      |      |
| - 49e | Impeller cpl.               |            |                       |          |      |      |
| 48    | Nut                         |            |                       |          |      |      |
| 49b   | Split cone                  |            |                       |          |      |      |
| - 49  | Impeller                    |            |                       |          |      |      |
|       | Impeller hub                |            |                       |          |      |      |
| 49c   | Wear ring                   |            |                       |          |      |      |

| Pos   | Description                    | Annotation | Classification Data  | Part no. | Qty. | Unit |
|-------|--------------------------------|------------|----------------------|----------|------|------|
| - 49d | Impeller cpl. reduced diameter |            |                      |          |      |      |
| 48    | Nut                            |            |                      |          |      |      |
| 49b   | Split cone                     |            |                      |          |      |      |
| - 49a | Impeller                       |            |                      |          |      |      |
|       | Impeller hub                   |            |                      |          |      |      |
| 49c   | Wear ring                      |            |                      |          |      |      |
| 51    | Shaft                          |            |                      |          |      |      |
| -     | Kit, chambers                  |            |                      | 98634056 | 1    | pcs  |
| - 4a  | Intermediate chamber cpl.      |            |                      |          | 1    |      |
|       | Guide cup                      |            |                      |          |      |      |
|       | Guide cup                      |            |                      |          |      |      |
|       | Cone                           |            |                      |          |      |      |
|       | Guide vane                     |            |                      |          |      |      |
|       | Chamber                        |            |                      |          |      |      |
|       | Chamber                        |            |                      |          |      |      |
| 45a   | Neck ring cpl.                 |            |                      |          |      |      |
| 47    | Bearing                        |            |                      |          |      |      |
| - 47a | Bearing cpl.                   |            |                      |          | 1    |      |
|       | Driver                         |            |                      |          |      |      |
|       | Holder                         |            |                      |          |      |      |
|       | Disc spring                    |            |                      |          |      |      |
|       | Bearing ring                   |            |                      |          |      |      |
| -     | Kit, coupling                  |            |                      | 96416592 | 1    | pcs  |
|       | Adjusting fork                 |            |                      |          | 1    |      |
| - 8   | Coupling cpl.                  |            | Dimension: 22/42     |          | 1    |      |
| 9     | Hex socket head cap screw      |            | Designation: DIN 912 |          |      |      |
|       |                                |            | Length (mm): 25      |          |      |      |
|       |                                |            | Thread: M10          |          |      |      |
| 10a   | Coupling half                  |            |                      |          |      |      |
| -     | Kit, coupling guard            |            |                      | 96505135 | 1    | pcs  |
| 7a    | Socket button head screw       |            |                      |          | 4    |      |
| 7     | Coupling guard                 |            |                      |          | 2    |      |
| -     | Kit, cover                     |            |                      | 98832448 | 1    | pcs  |
| 58a   | Hex socket head cap screw      |            | Designation: DIN 912 |          | 4    |      |
|       |                                |            | Length (mm): 25      |          |      |      |
|       |                                |            | Thread: M10          |          |      |      |
| 58    | Cover                          |            |                      |          | 1    |      |
| -     | Kit, gaskets                   |            |                      | 96416599 | 1    | pcs  |
|       | Adjusting fork                 |            |                      |          | 1    |      |
| 37    | O-ring                         |            |                      |          | 2    |      |
| 38    | O-ring                         |            | Diameter: 16,3       |          | 2    |      |
|       |                                |            | Material type: EPDM  |          |      |      |
|       |                                |            | Thickness: 2,4       |          |      |      |
| 38    | O-ring                         |            | Diameter: 16,3       |          | 4    |      |
|       |                                |            | Material type: EPDM  |          |      |      |
|       |                                |            | Thickness: 2,4       |          |      |      |
| 60    | Spring                         |            |                      |          | 4    |      |
| 109   | O-ring                         |            |                      |          | 1    |      |
| 110   | O-ring                         |            | Diameter: 21,2       |          | 1    |      |
|       |                                |            | Material type: EPDM  |          |      |      |
|       |                                |            | Thickness: 3,55      |          |      |      |
| -     | Kit, impeller                  |            |                      | 98634079 | 1    | pcs  |
| 48    | Nut                            |            |                      |          | 1    |      |
| 48    | Nut                            |            |                      |          | 1    |      |
| 49b   | Split cone                     |            |                      |          | 1    |      |
| - 49  | Impeller                       |            |                      |          | 1    |      |
|       | Impeller hub                   |            |                      |          |      |      |
| 49c   | Wear ring                      |            |                      |          |      |      |

| Pos   | Description                    | Annotation | Classification Data | Part no. | Qty. | Unit |
|-------|--------------------------------|------------|---------------------|----------|------|------|
| -     | Kit, Impeller, reduced diamete |            |                     | 98634093 | 1    | pcs  |
| 48    | Nut                            |            |                     |          | 1    |      |
| 48    | Nut                            |            |                     |          | 1    |      |
| 49b   | Split cone                     |            |                     |          | 1    |      |
| - 49a | Impeller                       |            |                     |          | 1    |      |
|       | Impeller hub                   |            |                     |          |      |      |
| 49c   | Wear ring                      |            |                     |          |      |      |
| -     | Kit, plug                      |            |                     | 96505136 | 1    | pcs  |
| - 18  | Air vent screw                 |            |                     |          | 1    |      |
|       | Spindle                        |            |                     |          |      |      |
|       | Plug                           |            |                     |          |      |      |
| 25    | Plug                           |            |                     |          | 4    |      |
| 25    | Plug                           |            |                     |          | 1    |      |
| 38    | O-ring                         |            | Diameter: 16,3      |          | 2    |      |
|       |                                |            | Material type: FKM  |          |      |      |
|       |                                |            | Thickness: 2,4      |          |      |      |
| 38    | O-ring                         |            | Diameter: 16,3      |          | 4    |      |
|       |                                |            | Material type: FKM  |          |      |      |
|       |                                |            | Thickness: 2,4      |          |      |      |
| 38    | O-ring                         |            | Diameter: 16,3      |          | 6    |      |
|       |                                |            | Material type: FKM  |          |      |      |
|       |                                |            | Thickness: 2,4      |          |      |      |
| 38    | O-ring                         |            | Diameter: 16,3      |          | 2    |      |
|       |                                |            | Material type: EPDM |          |      |      |
|       |                                |            | Thickness: 2,4      |          |      |      |
| 38    | O-ring                         |            | Diameter: 16,3      |          | 4    |      |
|       |                                |            | Material type: EPDM |          |      |      |
|       |                                |            | Thickness: 2,4      |          |      |      |
| -     | Kit, shaft seal HQQE           |            |                     | 96525458 | 1    | pcs  |
|       | Grinding device                |            |                     |          | 1    |      |
| - 105 | Shaft seal                     |            | Material type: HQQE |          | 1    |      |
|       | Adjusting fork                 |            |                     |          |      |      |
| 109   | O-ring                         |            |                     |          |      |      |
| 110   | O-ring                         |            | Diameter: 21,5      |          |      |      |
|       |                                |            | Material type: EPDM |          |      |      |
|       |                                |            | Thickness: 4,25     |          |      |      |
| -     | Kit, wear parts                |            |                     | 98497495 | 1    | pcs  |
| 45    | Seal ring                      |            |                     |          | 8    |      |
| 47d   | Lock ring                      |            |                     |          | 8    |      |
| 47c   | Bush                           |            |                     |          | 6    |      |
| 49c   | Wear ring                      |            |                     |          | 8    |      |
| 65    | Top f/neck ring                |            |                     |          | 8    |      |
| -     | Motor                          |            |                     | 85904134 | 1    | pcs  |
| -     | Kit, bearing cpl.              |            |                     | 96796676 | 1    |      |
| 32b   | Waved washer                   |            |                     |          |      |      |
| 153   | Angular-contact bearing        |            |                     |          |      |      |
| 154   | Ball bearing                   |            |                     |          |      |      |
| 157   | O-ring                         |            |                     |          |      |      |
| 159   | V-ring                         |            |                     |          |      |      |
| -     | Kit, bearing plate             |            |                     | 96796664 | 1    |      |
| 155.a | Bearing cover                  |            |                     |          |      |      |
| 208a  | Gasket                         |            |                     |          |      |      |
| 208   | Hex socket head cap screw      |            | Designation: DIN912 |          |      |      |
|       |                                |            | Length (mm): 40     |          |      |      |
|       |                                |            | Thread: M5          |          |      |      |
| -     | Kit, eyebolt                   |            |                     | 96796712 | 1    |      |
| 189   | Eyebolt                        |            |                     |          |      |      |
| -     | Kit, fan                       |            |                     | 96796654 | 1    |      |

| Pos   | Description                              | Annotation | Classification Data   | Part no. | Qty. | Unit |
|-------|------------------------------------------|------------|-----------------------|----------|------|------|
| 156.c | Retaining ring                           |            |                       |          |      |      |
| 156   | Fan                                      |            |                       |          |      |      |
| -     | Kit, fan cover                           |            |                       | 96796647 | 1    |      |
| 151   | Fan cover                                |            |                       |          |      |      |
| 152.a | Rubber bush                              |            |                       |          |      |      |
| 152   | Hex head cap screw                       |            |                       |          |      |      |
| 196   | Diaphragm                                |            |                       |          |      |      |
| -     | Kit, flange                              |            |                       | 96796662 | 1    |      |
| 156.b | Flange                                   |            |                       |          |      |      |
| 159.b | Seal ring                                |            |                       |          |      |      |
| 185.b | Nut                                      |            |                       |          |      |      |
| 185   | Hex socket head cap screw                |            |                       |          |      |      |
| 186   | Drain plug                               |            |                       |          |      |      |
| 195.a | Grease nipple                            |            |                       |          |      |      |
| -     | Kit, gaskets                             |            |                       | 96798508 | 1    |      |
| 184   | O-ring                                   |            | Diameter: 235         |          |      |      |
| -     | Kit, lubrication nipple                  |            |                       | 96796671 | 1    |      |
| 195.b | Grease nipple                            |            |                       |          |      |      |
| 195.a | Grease nipple                            |            |                       |          |      |      |
| -     | Kit, ND-end shield cpl.                  |            |                       | 96796669 | 1    |      |
| 32b   | Waved washer                             |            |                       |          |      |      |
| 156.a | End shield NDE                           |            |                       |          |      |      |
| 157   | O-ring                                   |            |                       |          |      |      |
| 159   | V-ring                                   |            |                       |          |      |      |
| 185.c | Nut                                      |            |                       |          |      |      |
| 185.a | Hex socket head cap screw                |            |                       |          |      |      |
| 195.b | Grease nipple                            |            |                       |          |      |      |
| -     | Kit, shaft seal                          |            |                       | 96843459 | 1    |      |
| 159.b | V-ring                                   |            |                       |          |      |      |
| 159   | V-ring                                   |            |                       |          |      |      |
| -     | Kit, terminal board                      |            |                       | 96796657 | 1    |      |
|       | Terminal connection                      |            |                       |          |      |      |
|       | Washer                                   |            |                       |          |      |      |
| 36    | Hex nut                                  |            |                       |          |      |      |
| 173   | Torx Screw                               |            |                       |          |      |      |
| 176.d | Terminal board                           |            |                       |          |      |      |
| 176   | Terminal board                           |            |                       |          |      |      |
| 177   | Torx Screw                               |            |                       |          |      |      |
| -     | Kit, terminal box cover                  |            |                       | 96796659 | 1    |      |
| 164   | Terminal box cover                       |            |                       |          |      |      |
| 273a  | Pan head thread forming screw            |            |                       |          |      |      |
| 1a    | Motor stool                              |            |                       | 98993921 | 1    | pcs  |
| 2     | Pump head                                |            |                       | 96587726 | 1    | pcs  |
| -     | 3 Upper chamber cpl.                     |            |                       | 98634150 | 1    | pcs  |
| 47c   | Bulk, Bush (10 pcs)                      |            |                       | 99321194 | 1    |      |
| + 4   | Bulk, Intermediate chamber cpl. (3 pcs)  |            |                       | 99481485 | 1    | pcs  |
| + 4a  | Bulk, Intermediate chamber cpl. (5 pcs)  |            |                       | 99262947 | 1    | pcs  |
| - 4   | Bulk, Intermediate chamber cpl. (10 pcs) |            |                       | 99481486 | 1    | pcs  |
| 45a   | Bulk, Neck ring cpl. (10 pcs)            |            |                       | 96547434 | 1    |      |
| 45a   | Neck ring cpl.                           |            |                       | 98678220 | 1    |      |
| + 4   | Intermediate chamber cpl.                |            |                       | 98634095 | 1    | pcs  |
| 7a    | Bulk, Socket button head screw (10 pcs)  |            |                       | 96549696 | 4    | pcs  |
| 7     | Bulk, Coupling guard (10 pcs)            |            |                       | 96603279 | 2    | pcs  |
| + 8   | Coupling cpl.                            |            | Dimension: 22/42      | 96587704 | 1    | pcs  |
| + 18  | Bulk, Air vent screw (5 pcs)             |            |                       | 96547461 | 1    | pcs  |
| + 18  | Air vent screw                           |            |                       | 95061351 | 1    | pcs  |
| 25    | Bulk, Plug (10 pcs)                      |            |                       | 96536013 | 1    | pcs  |
| 26c   | Bulk, Washer (4 pcs)                     |            | Designation: DIN 125A | 99262704 | 2    | pcs  |

| Pos   | Description                              | Annotation | Classification Data    | Part no. | Qty. | Unit |
|-------|------------------------------------------|------------|------------------------|----------|------|------|
|       |                                          |            | Thickness: 1,6         |          |      |      |
| 26c   | Washer                                   |            | Designation: DIN 125A  | 96586880 | 2    | pcs  |
|       |                                          |            | Thickness: 1,6         |          |      |      |
| 26b   | Bulk, Hex socket head cap screw (10 pcs) |            |                        | 98931380 | 2    | pcs  |
| 26a   | Strap cpl.                               |            | Length (mm): 257       | 98983898 | 2    | pcs  |
|       |                                          |            | Thread: M8             |          |      |      |
| 26    | Staybolt                                 |            | Length (mm): 478       | 98976742 | 4    | pcs  |
|       |                                          |            | Thread: M16            |          |      |      |
| 28.a  | Bulk, Hex head screw (20 pcs)            |            |                        | 96620478 | 4    | pcs  |
| 28    | Bulk, Hex socket head cap screw (10 pcs) |            | Designation: DIN 912   | 96536147 | 4    | pcs  |
|       |                                          |            | Length (mm): 50        |          |      |      |
|       |                                          |            | Thread: M10            |          |      |      |
| 32    | Bulk, Washer (100 pcs)                   |            | Designation: DIN 125 A | 98923051 | 8    | pcs  |
|       |                                          |            | Internal diameter: 17  |          |      |      |
|       |                                          |            | Outer diameter: 30     |          |      |      |
|       |                                          |            | Thickness: 3           |          |      |      |
| 36    | Bulk, Hex nut (20 pcs)                   |            | Thread: M16            | 96620480 | 4    | pcs  |
| 37    | Bulk, O-ring (10 pcs)                    |            | Diameter: 216          | 96536144 | 1    | pcs  |
|       |                                          |            | Material type: FKM     |          |      |      |
|       |                                          |            | Thickness: 4           |          |      |      |
| 38    | Bulk, O-ring (10 pcs)                    |            | Diameter: 16,3         | 99198815 | 4    | pcs  |
|       |                                          |            | Material type: EPDM    |          |      |      |
|       |                                          |            | Thickness: 2,4         |          |      |      |
| 38    | Bulk, O-ring (10 pcs)                    |            | Diameter: 16,3         | 99198813 | 2    | pcs  |
|       |                                          |            | Material type: FKM     |          |      |      |
|       |                                          |            | Thickness: 2,4         |          |      |      |
| 38    | Bulk, O-ring (50 pcs)                    |            | Diameter: 16,3         | 99412727 | 4    | pcs  |
|       |                                          |            | Material type: EPDM    |          |      |      |
|       |                                          |            | Thickness: 2,4         |          |      |      |
| 38    | Bulk, O-ring (50 pcs)                    |            | Diameter: 16,3         | 99412883 | 2    | pcs  |
|       |                                          |            | Material type: FKM     |          |      |      |
|       |                                          |            | Thickness: 2,4         |          |      |      |
| - 44  | Suction interconnector cpl.              |            |                        | 98634153 | 1    | pcs  |
| 45    | Bulk, Seal ring (10 pcs)                 |            |                        | 96536030 | 1    |      |
| 65    | Bulk, Top f/neck ring (10 pcs)           |            |                        | 96536014 | 1    |      |
| + 47a | Bulk, Bearing cpl. (5 pcs)               |            |                        | 99270649 | 1    | pcs  |
| + 47a | Bulk, Bearing cpl. (10 pcs)              |            |                        | 96535951 | 1    | pcs  |
| 48    | Bulk, Nut (3 pcs)                        |            |                        | 99262680 | 1    | pcs  |
| 48    | Bulk, Nut (10 pcs)                       |            |                        | 99262683 | 1    | pcs  |
| 48    | Bulk, Nut (10 pcs)                       |            |                        | 96536016 | 1    | pcs  |
| - 49e | Impeller cpl.                            |            |                        | 98394372 | 2    | pcs  |
| 48    | Bulk, Nut (3 pcs)                        |            |                        | 99262680 | 1    |      |
| 48    | Bulk, Nut (10 pcs)                       |            |                        | 99262683 | 1    |      |
| 48    | Bulk, Nut (10 pcs)                       |            |                        | 96536016 | 1    |      |
| 49b   | Bulk, Split cone (10 pcs)                |            |                        | 96536010 | 1    |      |
| 49b   | Bulk, Split cone (10 pcs)                |            |                        | 96536010 | 1    | pcs  |
| - 49a | Bulk, Impeller (5 pcs)                   |            |                        | 99500070 | 1    | pcs  |
| 49c   | Bulk, Wear ring (10 pcs)                 |            |                        | 96535879 | 1    |      |
| + 49a | Impeller                                 |            |                        | 96587707 | 1    | pcs  |
| 55    | Outer sleeve                             |            |                        | 98820383 | 1    | pcs  |
| 56    | Base plate                               |            |                        | 96587696 | 1    | pcs  |
| 58    | Cover                                    |            |                        | 98893158 | 1    | pcs  |
| 60    | Bulk, Spring (20 pcs)                    |            |                        | 96536032 | 4    | pcs  |
| - 105 | Bulk, Shaft seal (12 pcs)                |            | Material type: HQQE    | 96984086 | 1    | pcs  |
|       | Adjusting fork                           |            |                        | 96587896 | 1    |      |
| 109   | Bulk, O-ring (10 pcs)                    |            |                        | 96547586 | 1    |      |
| + 105 | Bulk, Shaft seal (12 pcs)                |            | Material type: HQQE    | 96984070 | 1    | pcs  |
| 440b  | Bulk, Lock ring (4 pcs)                  |            |                        | 96547435 | 1    | pcs  |