# CRNE15-02 AN-FGJ-G-E-HQQE 3x380-500 60 H

**Grundfos pump 99071636**



Thank you for your interest in our products. Please contact us for more information, or visit our website

https://www.lenntech.com/grundfos/CRNE15/99071636/CRNE-15-2-AN-FGJ-G-E-HQQE.html

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| Position | Qty. | Description |
|---|---|---|
| | 1 | **CRNE 15-2 N-FGJ-A-E-HQQE** |



**Note! Product picture may differ from actual product**

Product No.: On request

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 combined DIN-ANSI-JIS flanges.

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.
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:

- "Power on": Motor is running (rotating green indicator lights) or not running (permanently green indicator lights)
- "Warning": Motor is still running (rotating yellow indicator lights) or has stopped (permanently yellow indicator lights)
- "Alarm": Motor has stopped (flashing red indicator lights).

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".

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:

- two dedicated digital inputs
- three analog inputs, 0(4)-20 mA, 0-5 V, 0-10 V, 0.5 - 3.5 V; the factory-fitted pressure sensor is connected to one of these inputs
- 5 V voltage supply to potentiometer and sensor
- one analog output, 0-10 V, 0(4)-20 mA
- two configurable digital inputs or open-collector outputs
- two Pt100/Pt1000 inputs
- LiqTec, dry-running protection sensor input
- Grundfos Digital Sensor input and output
- 24 V voltage supply for sensors
- two signal-relay outputs (potential-free contacts)
- GENIbus connection
- interface for Grundfos CIM fieldbus module.

## Further product details

The pump is equipped with a pressure sensor registering pump outlet pressure and enabling controlled pump operation based on constant pressure.

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:

| Position | Qty. | Description |
|---|---|---|

- "Power on": Motor is running (rotating green indicator lights) or not running (permanently green indicator lights)
- "Warning": Motor is still running (rotating yellow indicator lights) or has stopped (permanently yellow indicator lights)
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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".

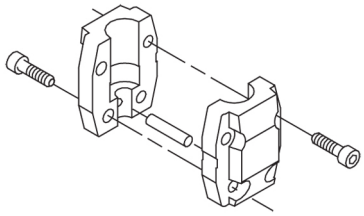
Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface. An integral part of the process is a pretreatment. The entire process consists of these elements:

1) Alkaline-based cleaning.
2) Zinc phosphating.
3) Cathodic electro-deposition.
4) Curing to a dry film thickness 18-22 my m.

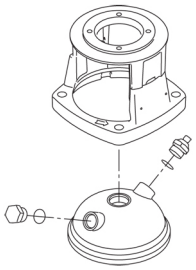
The colour code for the finished product is NCS 9000/RAL 9005.

## Pump

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.



The pump head and flange for motor mounting is made in one piece (cast iron). The pump head cover is a separate component (stainless steel). The pump head has a combined 1/2" priming plug and vent screw.



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.

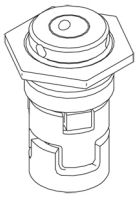
Primary seal:

- Rotating seal ring material: silicon carbide (SiC)
- Stationary seat material: silicon carbide (SiC)

This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.

Secondary seal material: EPDM (ethylene-propylene rubber)

EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.



The shaft seal is screwed into the pump head.

| Position | Qty. | Description |
|---|---|---|

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.

The pump has a stainless steel base mounted on a separate base plate. This base and base plate are kept in position by the tension of the staybolts which hold the pump together. The outlet side of the base has a combined drain plug and bypass valve. The pump is secured to the foundation by four bolts through the base plate. The flanges and base are cast in one piece and prepared for connection by means of DIN, ANSI or JIS.

## Motor

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).

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

Electrical tolerances comply with IEC 60034.

The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.

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.

## Technical data

**Controls:**

| | |
|---|---|
| Frequency converter: | Built-in |
| Pressure sensor: | Y |

**Liquid:**

| | |
|---|---|
| Pumped liquid: | Water |
| Liquid temperature range: | -20 .. 120 °C |
| Liquid temperature during operation: | 20 °C |
| Density: | 998.2 kg/m³ |

**Technical:**

| | |
|---|---|
| Rated flow: | 20.5 m³/h |
| Rated head: | 31.6 m |
| Pump orientation: | Vertical |
| Shaft seal arrangement: | Single |
| Code for shaft seal: | HQQE |
| Approvals on nameplate: | CE, EAC,ACS |
| Curve tolerance: | ISO9906:2012 3B |

**Materials:**

| | |
|---|---|
| Base: | Stainless steel<br>EN 1.4408<br>AISI 316 |
| Impeller: | Stainless steel<br>EN 1.4401<br>AISI 316 |
| Bearing: | SIC |

**Installation:**

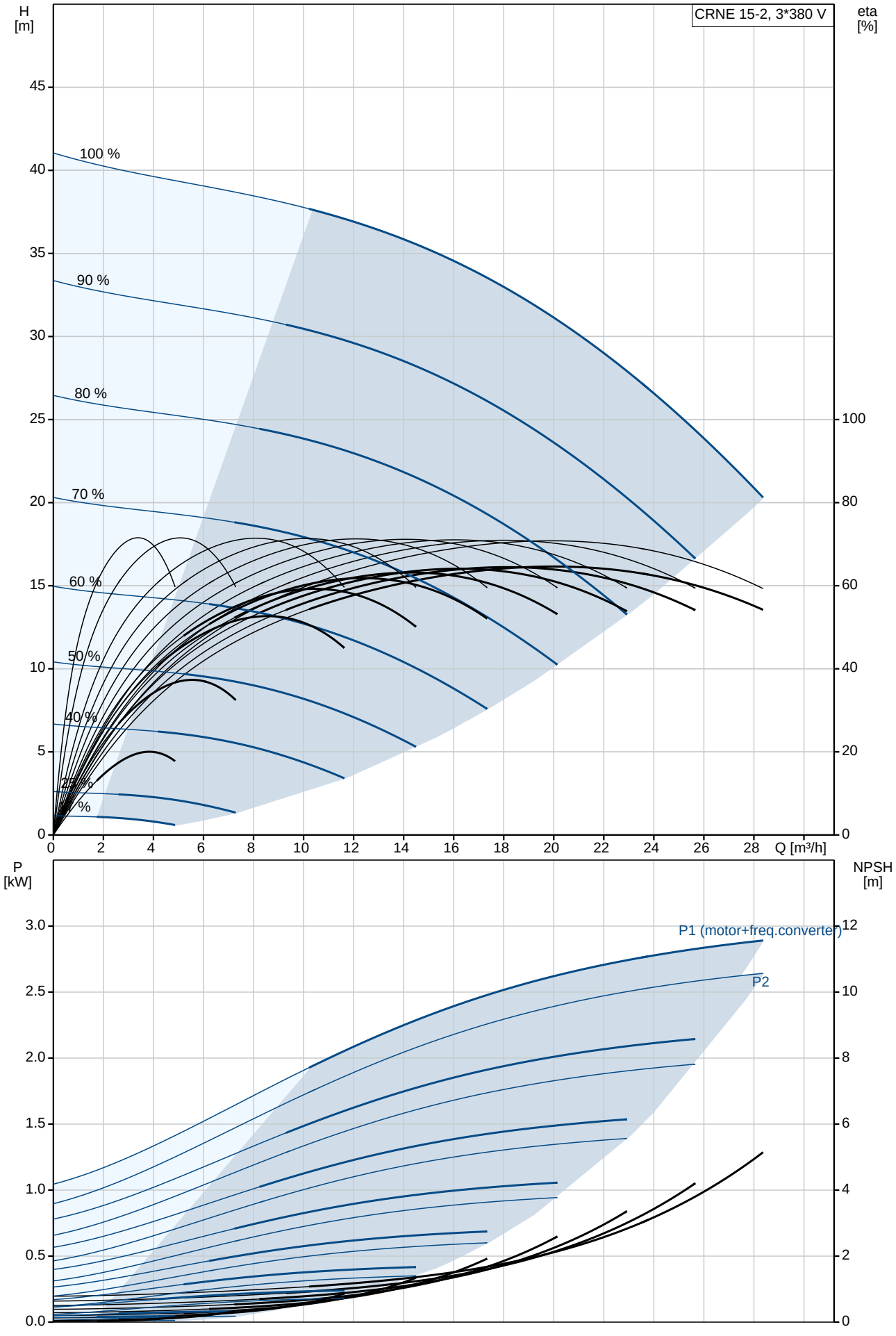
| | |
|---|---|
| Maximum ambient temperature: | 50 °C |
| Maximum operating pressure: | 25 bar |
| Max pressure at stated temp: | 25 bar / 120 °C<br>25 bar / -20 °C |
| Type of connection: | DIN / ANSI / JIS |
| Size of inlet connection: | DN 50<br>2 inch |
| Size of outlet connection: | DN 50<br>2 inch |
| Pressure rating for pipe connection: | PN 25 |
| Flange rating inlet: | 300 lb |
| Flange size for motor: | FT130 |

**Electrical data:**

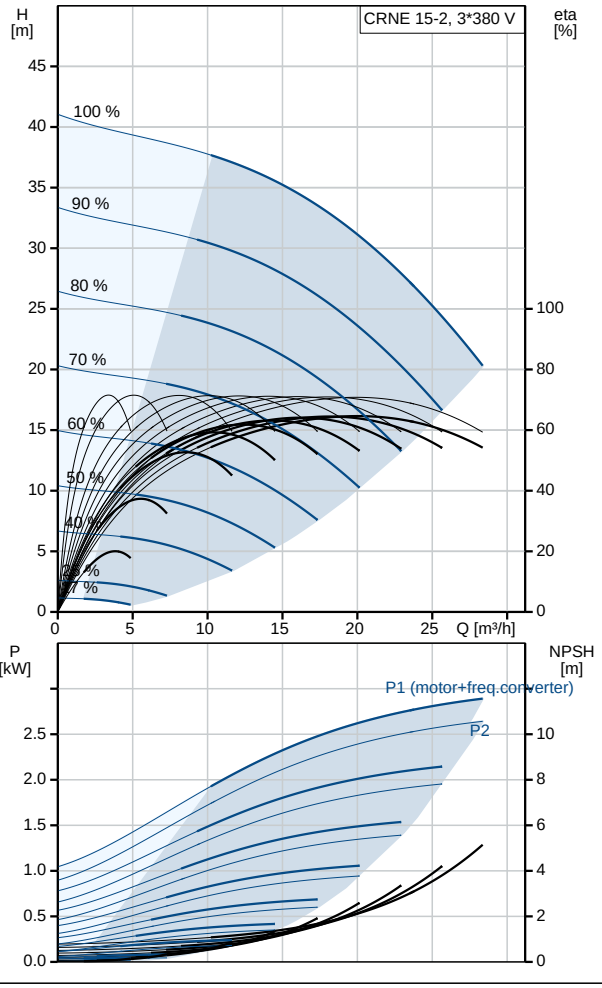
| | |
|---|---|
| Motor standard: | IEC |

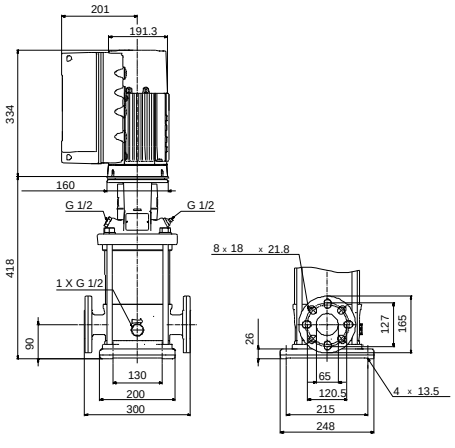
| Position | Qty. | Description | |
|---|---|---|---|
| | | Motor type: | 100LA |
| | | IE Efficiency class: | IE5 |
| | | Rated power - P2: | 3 kW |
| | | Power (P2) required by pump: | 3 kW |
| | | Mains frequency: | 50 Hz |
| | | Rated voltage: | 3 x 380-500 V |
| | | Rated current: | 5.80-4.80 A |
| | | Cos phi - power factor: | 0.91-0.86 |
| | | Rated speed: | 360-4000 rpm |
| | | Efficiency: | 90.7% |
| | | Motor efficiency at full load: | 90.7 % |
| | | Enclosure class (IEC 34-5): | IP55 |
| | | Insulation class (IEC 85): | F |
| | | **Others:** | |
| | | Minimum efficiency index, MEI ≥: | 0.70 |
| | | Net weight: | 55 kg |
| | | Gross weight: | 83 kg |
| | | Shipping volume: | 0.37 $m^3$ |

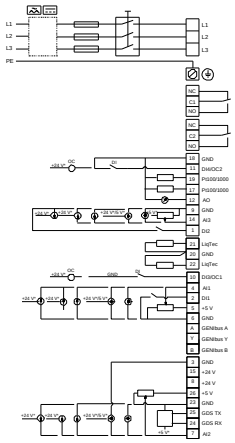
# On request CRNE 15-2 N-FGJ-A-E-HQQE 50 Hz



| Description | Value |
|---|---|
| **General information:** | |
| Product name: | CRNE 15-2 N-FGJ-A-E-HQQE |
| Product No: | On request |
| EAN number: | On request |
| **Technical:** | |
| Rated flow: | 20.5 m³/h |
| Rated head: | 31.6 m |
| Stages: | 2 |
| Impellers: | 2 |
| 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: | N |
| Model: | A |
| **Materials:** | |
| Base: | Stainless steel |
| | EN 1.4408 |
| | AISI 316 |
| Impeller: | Stainless steel |
| | EN 1.4401 |
| | AISI 316 |
| Material code: | A |
| Code for rubber: | E |
| Bearing: | SIC |
| **Installation:** | |
| Maximum ambient temperature: | 50 °C |
| Maximum operating pressure: | 25 bar |
| Max pressure at stated temp: | 25 bar / 120 °C |
| | 25 bar / -20 °C |
| Type of connection: | DIN / ANSI / JIS |
| Size of inlet connection: | DN 50 |
| | 2 inch |
| Size of outlet connection: | DN 50 |
| | 2 inch |
| Pressure rating for pipe connection: | PN 25 |
| Flange rating inlet: | 300 lb |
| Flange size for motor: | FT130 |
| Connect code: | FGJ |
| **Liquid:** | |
| Pumped liquid: | Water |
| Liquid temperature range: | -20 .. 120 °C |
| Liquid temperature during operation: | 20 °C |
| Density: | 998.2 kg/m³ |
| **Electrical data:** | |
| Motor standard: | IEC |
| Motor type: | 100LA |
| IE Efficiency class: | IE5 |
| Rated power - P2: | 3 kW |
| Power (P2) required by pump: | 3 kW |
| Mains frequency: | 50 Hz |
| Rated voltage: | 3 x 380-500 V |
| Rated current: | 5.80-4.80 A |
| Cos phi - power factor: | 0.91-0.86 |
| Rated speed: | 360-4000 rpm |
| Efficiency: | 90.7% |
| Motor efficiency at full load: | 90.7 % |
| Enclosure class (IEC 34-5): | IP55 |
| Insulation class (IEC 85): | F |

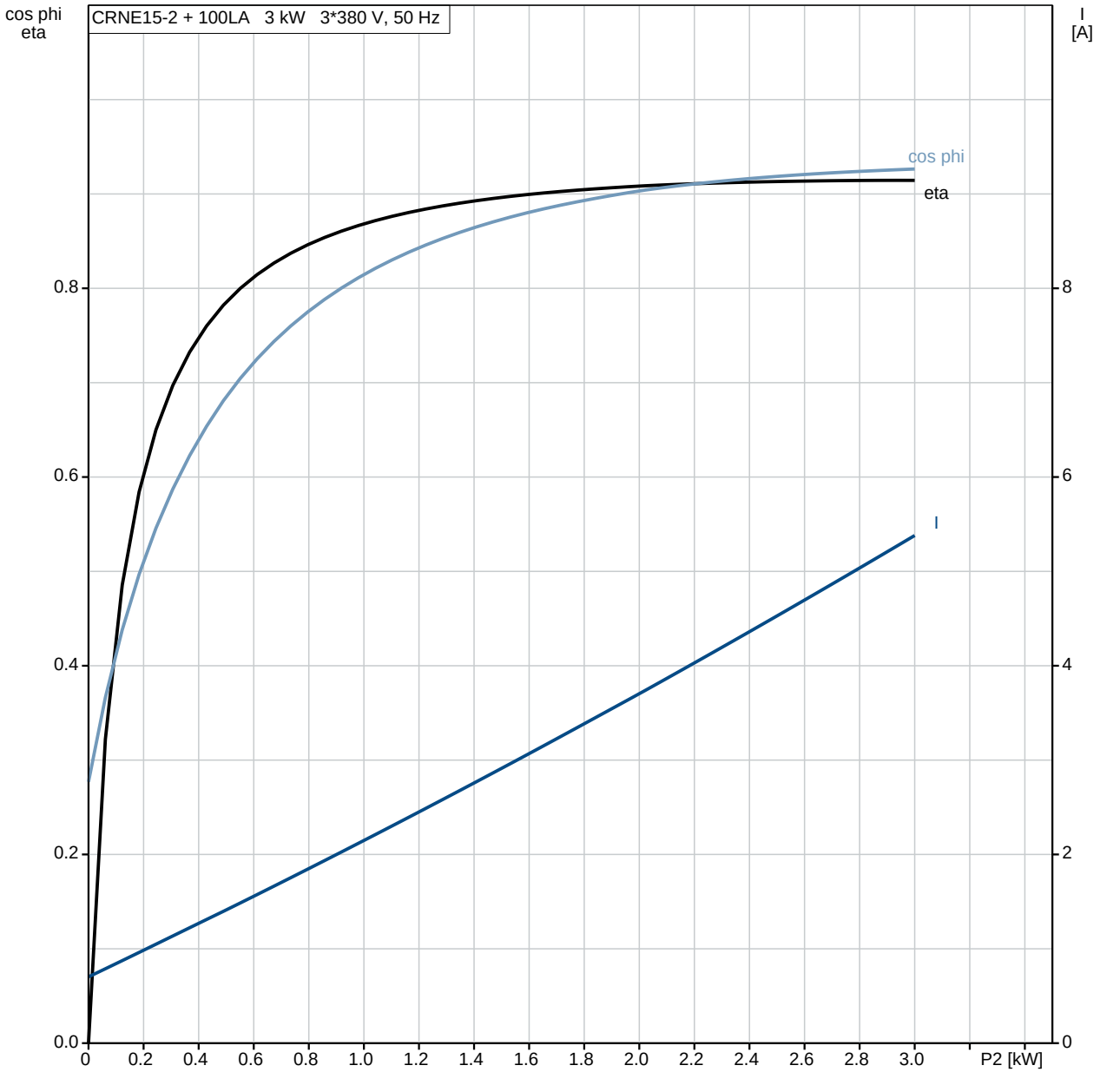


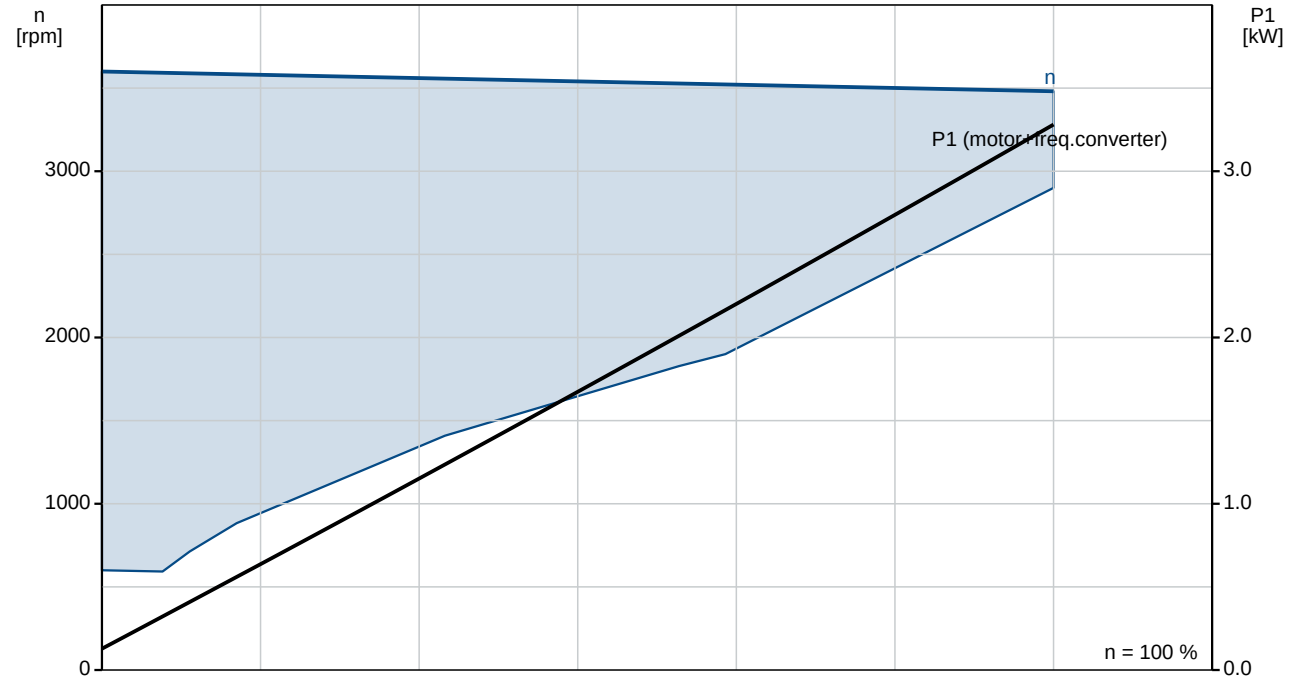



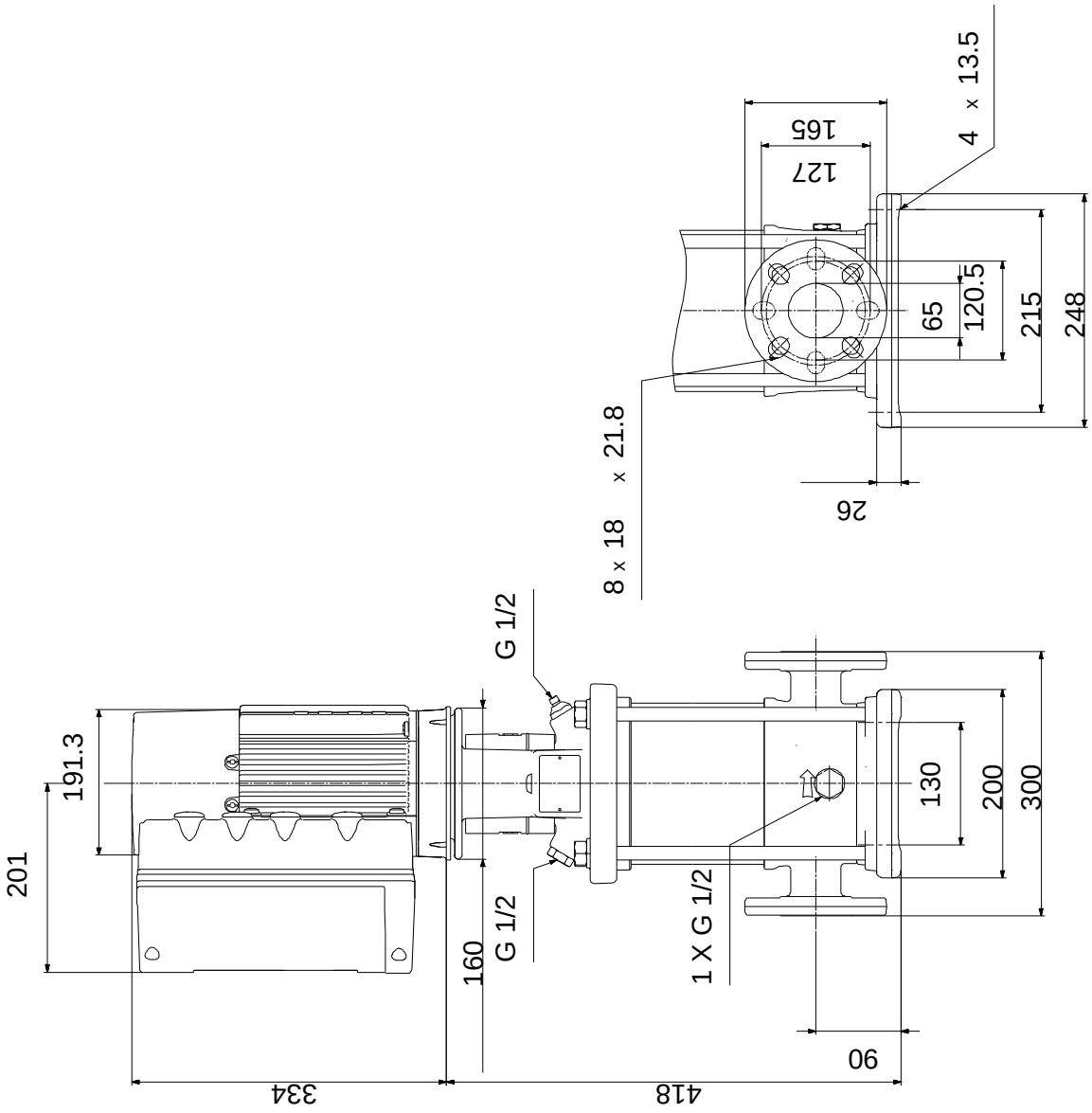
| Description | Value |
|---|---|
| Motor protec: | YES |
| Motor No: | 98971049 |
| **Controls:** | |
| Control panel: | Standard |
| Function Module: | FM300 - Advanced |
| Frequency converter: | Built-in |
| Pressure sensor: | Y |
| **Others:** | |
| Minimum efficiency index, MEI ≥: | 0.70 |
| Net weight: | 55 kg |
| Gross weight: | 83 kg |
| Shipping volume: | 0.37 $m^3$ |

# On request CRNE 15-2 N-FGJ-A-E-HQQE 50 Hz



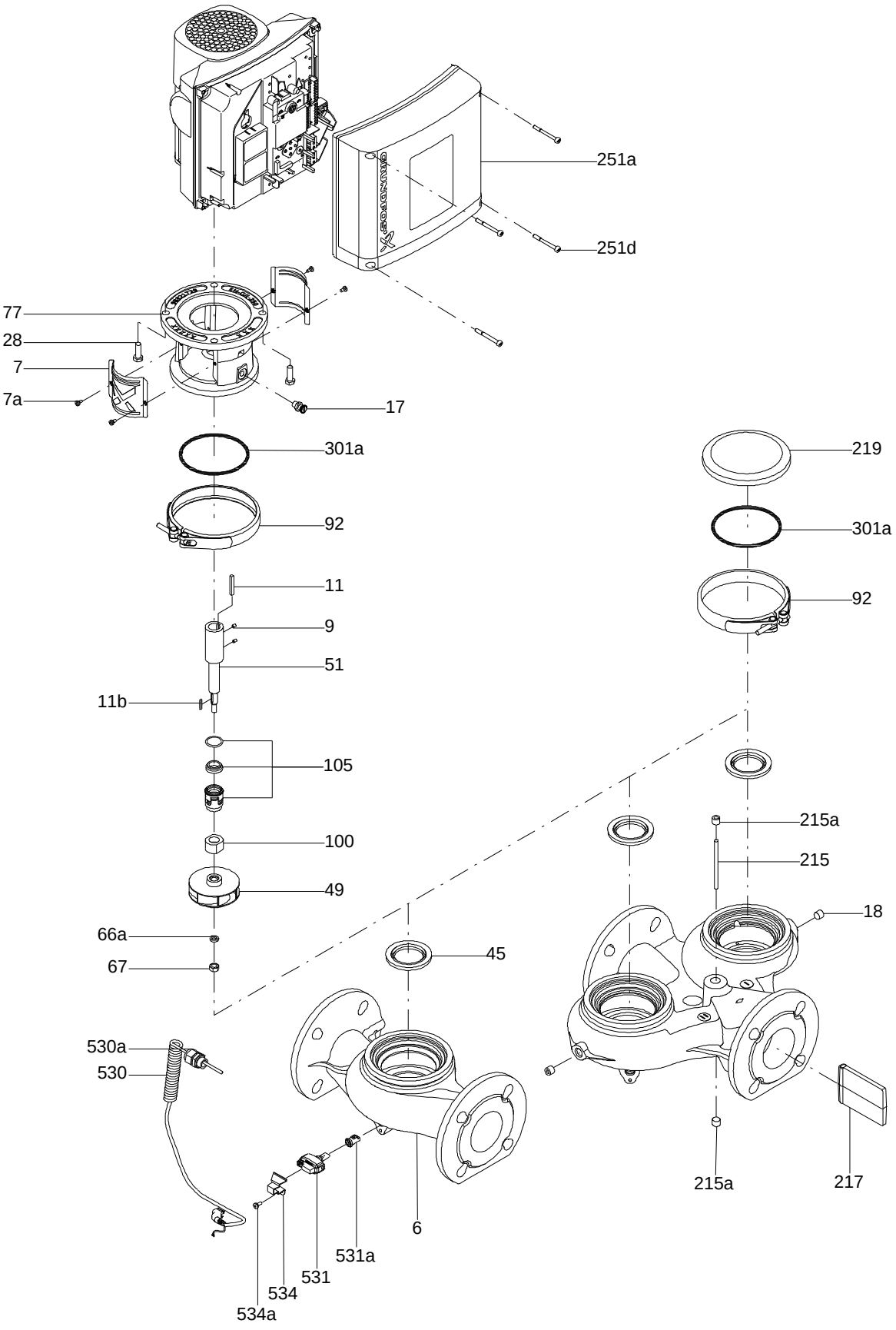



# On request CRNE 15-2 N-FGJ-A-E-HQQE 50 Hz

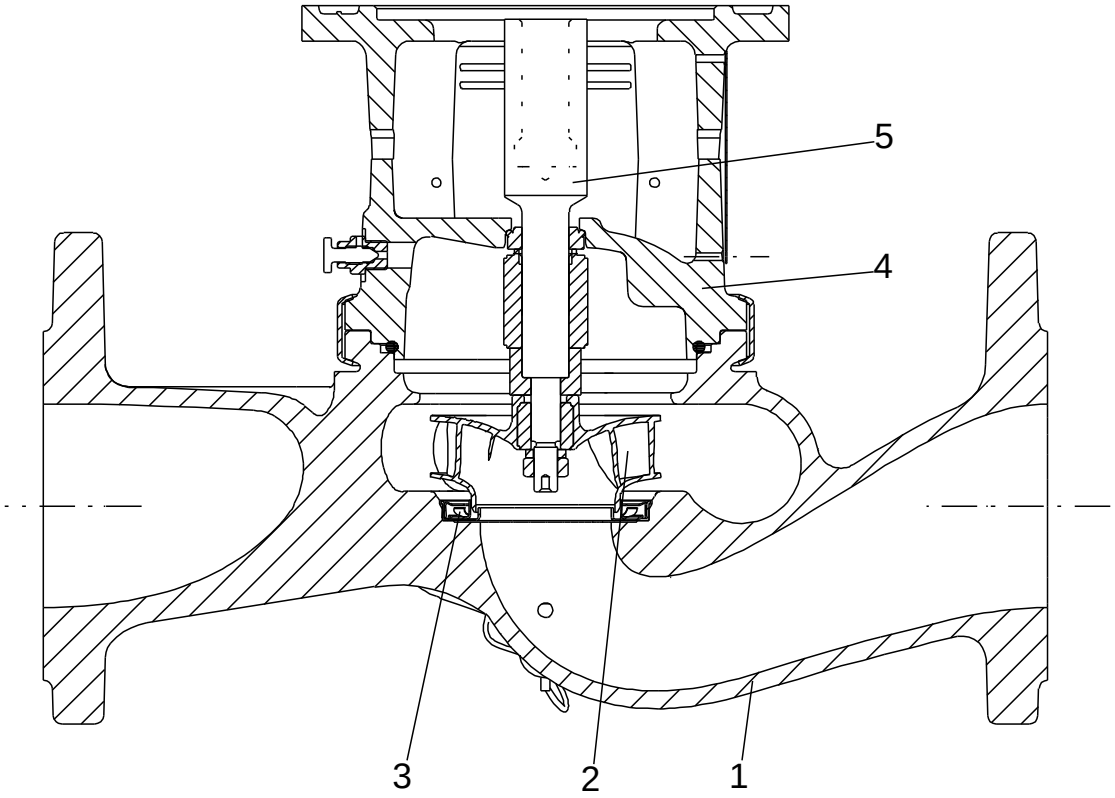



Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

## Exploded view

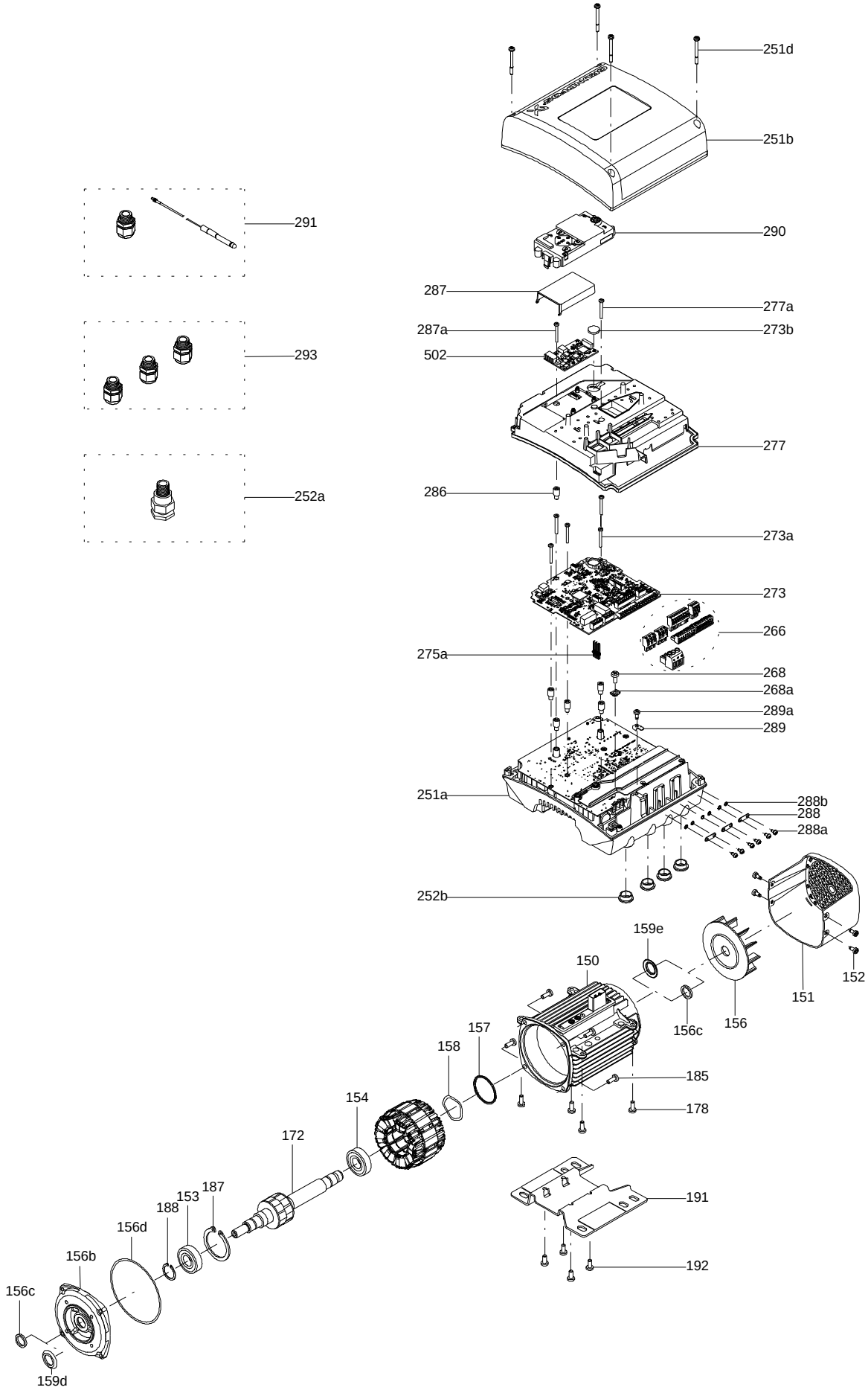


**Sectional drawing (TM058200 for TPE2,TPE3)**




TM058200

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



# Parts list CRNE 15-2, Product No. On request
# Valid from 1.1.2004 (0401)

| | Pos | Description | Annotation | Données de classification | Référence | Quantité | Unité |
|---|---|---|---|---|---|---|---|
| + | | Motor | | | | 1 | pcs |
| - | | Base cpl. | | | | 1 | pcs |
| | 6 | Base | | | | 1 | |
| | 25 | Drain plug | | | | 1 | |
| | 56 | Base plate | | | | 1 | |
| | 201 | Flange | | | | 2 | |
| | 203 | Lock ring | | | | 2 | |
| | | Pressure transmitter | | | | 1 | pcs |
| - | | Rubber module | | | | 1 | pcs |
| | 20 | Spring | | | | 4 | |
| | 37 | O-ring | | | | 2 | |
| | 38 | O-ring | | Diameter: 16,3 | | 1 | |
| | | | | Material type: EPDM | | | |
| | | | | Thickness: 2,4 | | | |
| | 38a | O-ring | | Diameter: 5,3 | | 1 | |
| | | | | Material type: EPDM | | | |
| | | | | Thickness: 2,4 | | | |
| | 100 | O-ring | | Diameter: 16,3 | | 2 | |
| | | | | Material type: EPDM | | | |
| | | | | Thickness: 2,4 | | | |
| - | 2 | Pump head | | | | 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 | |
| | 28 | Hex head screw | | Length (mm): 25 | | 4 | |
| | | | | Thread: M8 | | | |
| | 37.a | O-ring | | | | 1 | |
| | 76 | Nameplate | | | | 1 | |
| | 76a | Rivet | | | | 2 | |
| | 77 | Pump cover | | | | 1 | |
| - | 8 | Coupling cpl. | | | | 1 | pcs |
| | 9 | Hex socket head cap screw | | Designation: DIN 912 | | 4 | |
| | | | | Length (mm): 25 | | | |
| | | | | Thread: M8 | | | |
| | 10 | Shaft pin | | Diameter: 5 | | 1 | |
| | | | | Length (mm): 26 | | | |
| | 10a | Coupling half | | | | 2 | |
| | 26 | Staybolt | | | | 4 | pcs |
| | 36 | Nut | | Thread: M16 | | 4 | pcs |
| | 55 | Outer sleeve | | | | 1 | pcs |
| | 66a | Washer | | Designation: DIN 125 A2 | | 4 | pcs |
| | | | | Internal diameter: 17 | | | |
| | | | | Outer diameter: 30 | | | |
| | | | | Thickness: 3 | | | |
| - | 80 | Chamber stack | | | | 1 | pcs |
| - | 3 | Top intermediate chamber | | | | 1 | |
| | | Cover plate | | | | 1 | |
| | | Guide vane | | | | 10 | |
| | 3 | Intermediate chamber | | | | 1 | |
| - | 4a | Intermediate chamber cpl. | | | | 1 | |
| | | Guide vane | | | | 10 | |
| | | Bearing plate | | | | 1 | |
| | | Bearing bush | | | | 1 | |
| | | Intermediate chamber | | | | 1 | |
| | | Guide cup | | | | 1 | |
| | | Sand Lifter | | | | 1 | |

| | Pos | Description | Annotation | Données de classification | Référence | Quantité | Unité |
|---|---|---|---|---|---|---|---|
| | 45 | Neck ring cpl. | | | | 1 | |
| | 65 | Retainer | | | | 1 | |
| | 26.b | Hex head screw | | | | 2 | |
| | 26.c | Washer | | Designation: DIN 125A | | 2 | |
| | | | | Thickness: 1,6 | | | |
| | 26a | Strap cpl. | | | | 2 | |
| | 36 | Lock nut | | Thread: M8 | | 1 | |
| - | 44a | Inlet part cpl. | | | | 1 | |
| | 45 | Neck ring cpl. | | | | 1 | |
| | 65 | Retainer | | | | 1 | |
| | 44b | Inlet part | | | | 1 | |
| | 47a | Bearing ring | | | | 1 | |
| - | 49 | Impeller cpl. | | | | 2 | |
| | | Impeller | | | | 1 | |
| | 49c | Wear ring | | | | 1 | |
| - | 51 | Shaft, spline, cpl. | | | | 1 | |
| | 62 | Retaining ring | | | | 1 | |
| | 64b | Spacing bush | | Length (mm): 5.00 | | 1 | |
| | 64b | Spacing bush | | | | 1 | |
| | 64c | Spacing pipe | | Length (mm): 12.7 | | 1 | |
| | 66 | Wedge lock washer | | | | 1 | |
| | 69 | Spacing pipe | | Internal diameter: 17,5 | | 1 | |
| | | | | Length (mm): 17 | | | |
| | 69 | Spacing bush | | | | 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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