# NKE80-200/179A2F2AE-SBQQE

## Grundfos pump 99105872



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

https://www.lenntech.com/grundfos/NKEBASIS/99105872/NKE-80-200-179-A2-F-A-E-BQQE.html

info@lenntech.com
tel. +31 152 610 900
fax. +31 152 616 289

| Position | Qty. | Description |
|---|---|---|
| | 1 | **NKE 80-200/179 A2-F-A-E-BQQE** |



Product No.: On request

The pump has an axial suction port, a radial discharge port and horizontal shaft. It is of the back pull-out design enabling removal of the coupling, bearing bracket and impeller without disturbing the motor, pump housing or pipework.

The unbalanced rubber bellows seal is according to DIN EN 12756.

The pump is fitted with a foot-mounted, fan-cooled, permanent-magnet synchronous motor. Pump and motor are mounted on a common base frame.

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.

## Further product details

The product's minimum efficiency index (MEI) is greater or equal to 0.70. This is by the Commission Regulation (EU) considered as an indicative benchmark for best-performing water pump available on the market as from 1 January 2013.

An external sensor can be connected if controlled pump operation is required for flow, differential pressure or temperature control.

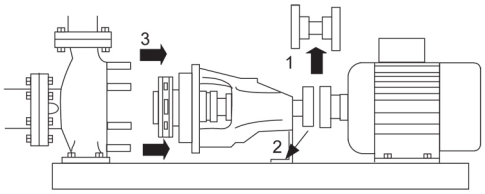
An operating panel on the motor terminal box enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". The Grundfos Eye indicator on the operating panel provides visual indication of pump status:

- "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".

Pump and motor are mounted on a common steel base frame in accordance with ISO 3661. The back pull-out design together with a spacer coupling makes it possible to make service on the pump without dismantling the pump housing and motor from the base frame. This saves realignment of pump and motor after service.

1) Remove coupling.
2) Remove the bolts in the bearing bracket support foot.
3) Remove the bearing bracket from the pump housing.




Cast-iron parts 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.

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

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

## Pump

The pump housing has both a priming and a drain hole closed by plugs.

The impeller is a closed impeller with double-curved blades with smooth surfaces. The impeller is statically balanced according to ISO 1940-1 class G6.3 and hydraulically balanced to compensate for axial thrust.

Wear rings used in pump housing and for impeller are made of bronze/brass or cast iron.

The pump is fitted with an unbalanced rubber bellows seal with torque transmission across the spring and around the bellows. Due to the bellows, the seal does not wear the shaft, and the axial movement is not prevented by deposits on the shaft.

Primary seal:

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

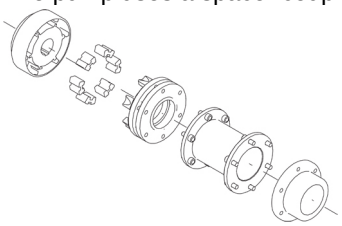
This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.

Secondary seal material: EPDM (ethylene-propylene rubber)

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

The shaft is made of stainless steel and has a diameter of 32 mm where the coupling is mounted.

The pump uses a spacer coupling between the pump and motor shaft.



## Motor

The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards and mounting designation B3 (IM 1001). 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.

The terminal box holds terminals for these connections:

- one dedicated digital input
- two analog inputs, 0(4)-20 mA, 0-5 V, 0-10 V, 0.5 - 3.5 V
- 5 V voltage supply to potentiometer and sensor
- one configurable digital input or open-collector output
- 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.

## Technical data

**Liquid:**

| | |
|---|---|
| Pumped liquid: | Water |
| Liquid temperature range: | -25 .. 120 °C |
| Liquid temperature during operation: | 20 °C |
| Density: | 998.2 kg/m³ |

**Technical:**

| | |
|---|---|
| Rated flow: | 82.8 m³/h |
| Rated head: | 8.7 m |
| Actual impeller diameter: | 179 mm |
| Impeller nom: | 200 mm |
| Primary shaft seal: | BQQE |
| Secondary shaft seal: | NONE |
| Curve tolerance: | ISO9906:2012 3B |

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

**Materials:**

| | |
|---|---|
| Pump housing: | Cast iron<br>EN-GJL-250<br>ASTM A48-40 B |
| Impeller: | Cast iron<br>EN-GJL-200<br>ASTM A48-30 B |
| Rubber: | EPDM |
| Wear ring mat.: | High alloy brass(CuZn34Mn3AI2 |

**Installation:**

| | |
|---|---|
| Maximum ambient temperature: | 50 °C |
| Maximum operating pressure: | 16 bar |
| Pump inlet: | DN 100 |
| Pump outlet: | DN 80 |
| Pressure rating: | PN 16 |
| Coupling type: | Spacer |
| Base frame: | EN / ISO |

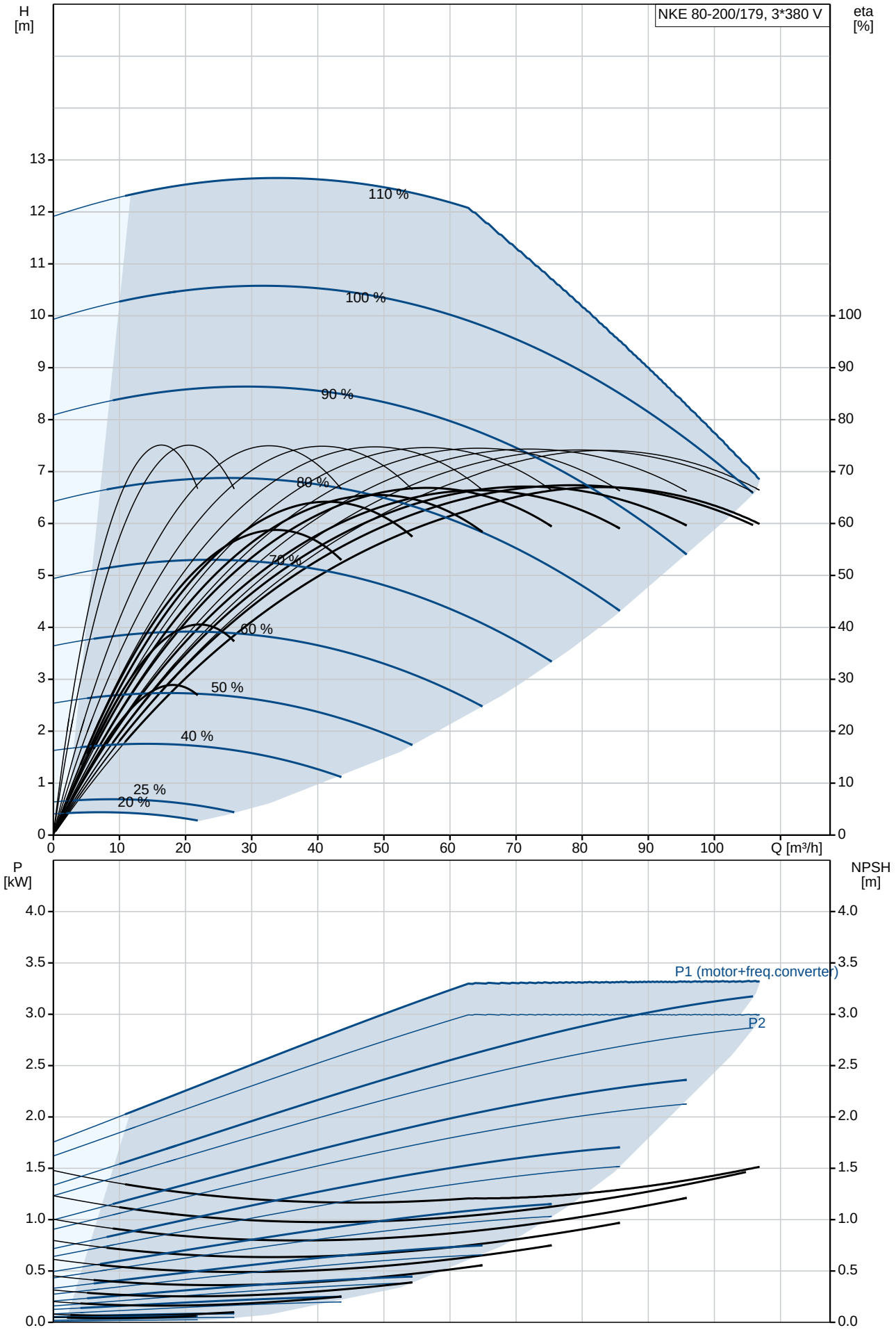
**Electrical data:**

| | |
|---|---|
| Motor type: | 100LD |
| IE Efficiency class: | IE5 |
| Rated power - P2: | 3 kW |
| Mains frequency: | 50 Hz |
| Rated voltage: | 3 x 380-500 V |
| Rated current: | 5.80-4.60 A |
| Cos phi - power factor: | 0.91-0.86 |
| Rated speed: | 180-2200 rpm |
| Efficiency: | 90.1% |
| Motor efficiency at full load: | 90.1 % |
| Number of poles: | 4 |
| Enclosure class (IEC 34-5): | IP55 |
| Insulation class (IEC 85): | F |
| Lubricant type: | Grease |

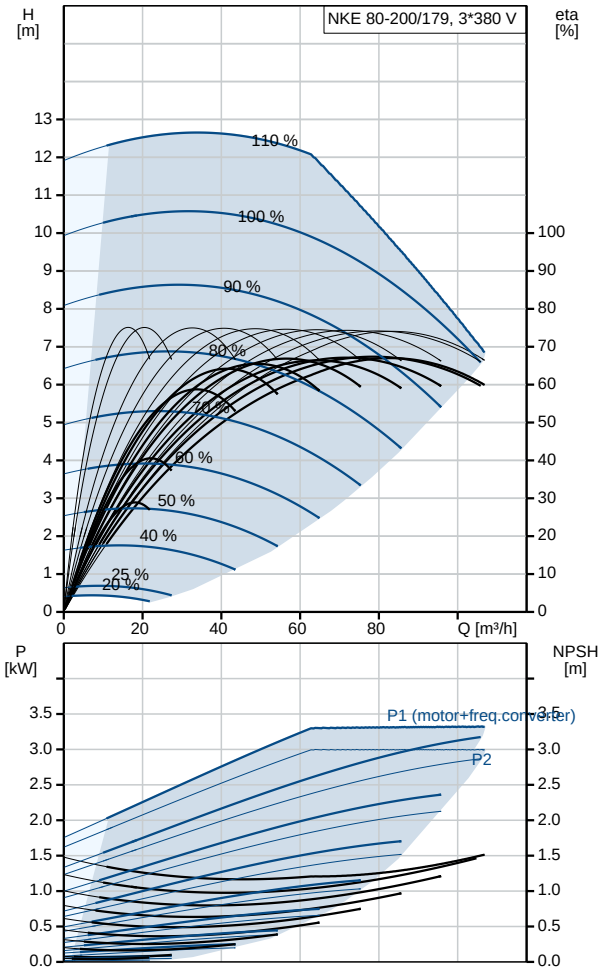
**Others:**

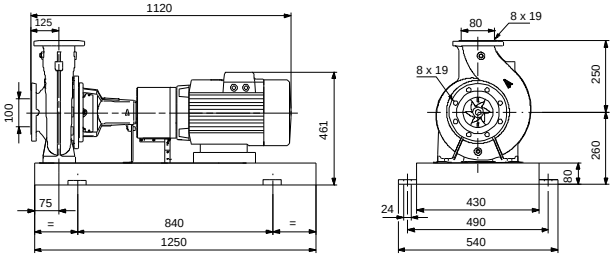
| | |
|---|---|
| Minimum efficiency index, MEI ≥: | 0.70 |
| ErP status: | EuP Standalone/Prod. |
| Net weight: | 192 kg |
| Gross weight: | 207 kg |
| Shipping volume: | 0.515 m³ |

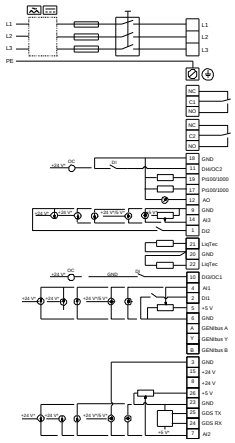
# On request NKE 80-200/179 A2-F-A-E-BQQE 50 Hz



| Description | Value |
|---|---|
| **General information:** | |
| Product name: | NKE 80-200/179 A2-F-A-E-BQQE |
| Product No: | On request |
| EAN number: | On request |
| **Technical:** | |
| Rated flow: | 82.8 m³/h |
| Rated head: | 8.7 m |
| Actual impeller diameter: | 179 mm |
| Impeller nom: | 200 mm |
| Primary shaft seal: | BQQE |
| Secondary shaft seal: | NONE |
| Shaft diameter: | 32 mm |
| Curve tolerance: | ISO9906:2012 3B |
| Pump version: | A2 |
| **Materials:** | |
| Pump housing: | Cast iron |
| | EN-GJL-250 |
| | ASTM A48-40 B |
| Impeller: | Cast iron |
| | EN-GJL-200 |
| | ASTM A48-30 B |
| Material code: | A |
| Rubber: | EPDM |
| Code for rubber: | E |
| Wear ring mat.: | High alloy brass(CuZn34Mn3Al2 |
| **Installation:** | |
| Maximum ambient temperature: | 50 °C |
| Maximum operating pressure: | 16 bar |
| Pump inlet: | DN 100 |
| Pump outlet: | DN 80 |
| Pressure rating: | PN 16 |
| Coupling type: | Spacer |
| Wear ring(s): | neckring(s) |
| Base frame: | EN / ISO |
| Connect code: | F |
| **Liquid:** | |
| Pumped liquid: | Water |
| Liquid temperature range: | -25 .. 120 °C |
| Liquid temperature during operation: | 20 °C |
| Density: | 998.2 kg/m³ |
| **Electrical data:** | |
| Motor type: | 100LD |
| IE Efficiency class: | IE5 |
| Rated power - P2: | 3 kW |
| Mains frequency: | 50 Hz |
| Rated voltage: | 3 x 380-500 V |
| Rated current: | 5.80-4.60 A |
| Cos phi - power factor: | 0.91-0.86 |
| Rated speed: | 180-2200 rpm |
| Efficiency: | 90.1% |
| Motor efficiency at full load: | 90.1 % |
| Number of poles: | 4 |
| Enclosure class (IEC 34-5): | IP55 |
| Insulation class (IEC 85): | F |
| Motor protec: | YES |
| Motor No: | 99305881 |
| Lubricant type: | Grease |
| **Controls:** | |
| Control panel: | HMI300 - Advanced |
| Function Module: | FM300 - Advanced |
| **Others:** | |
| Minimum efficiency index, MEI ≥: | 0.70 |

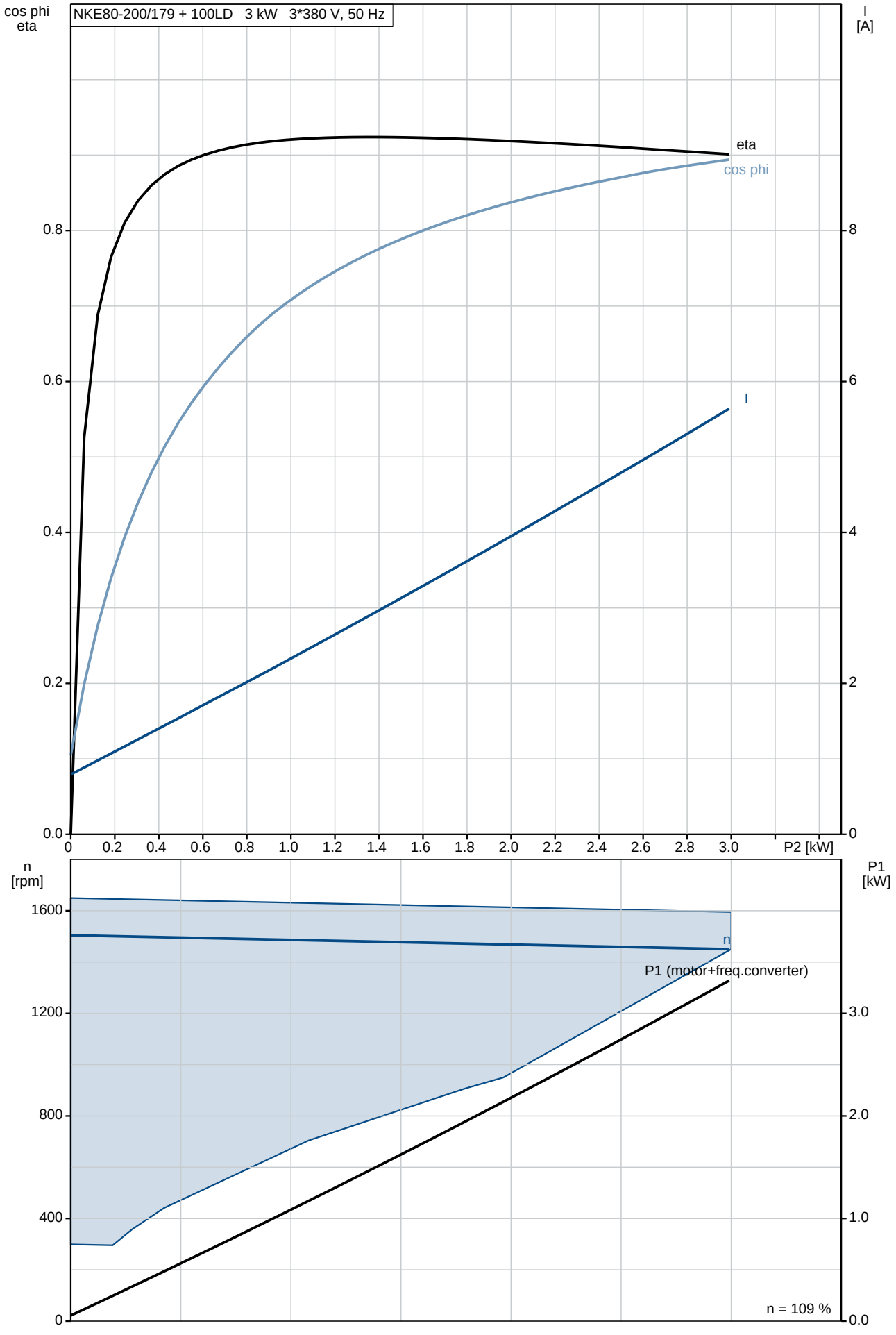


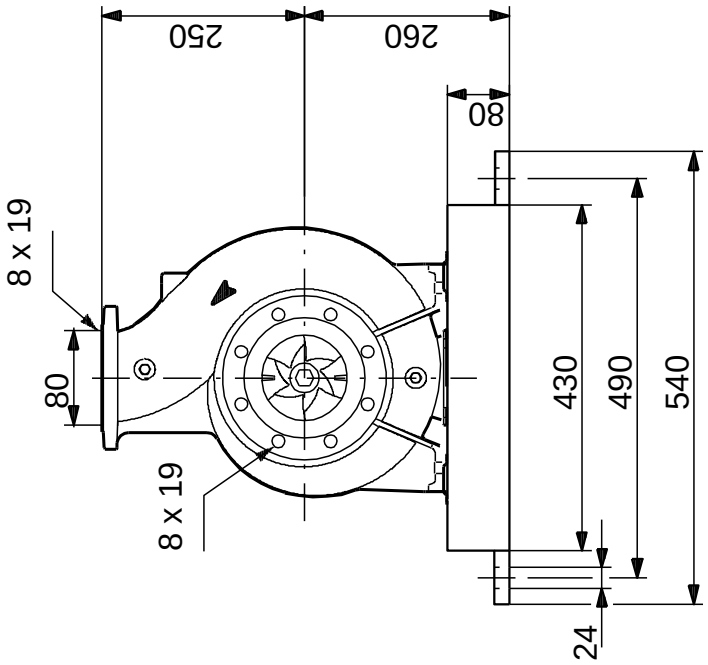



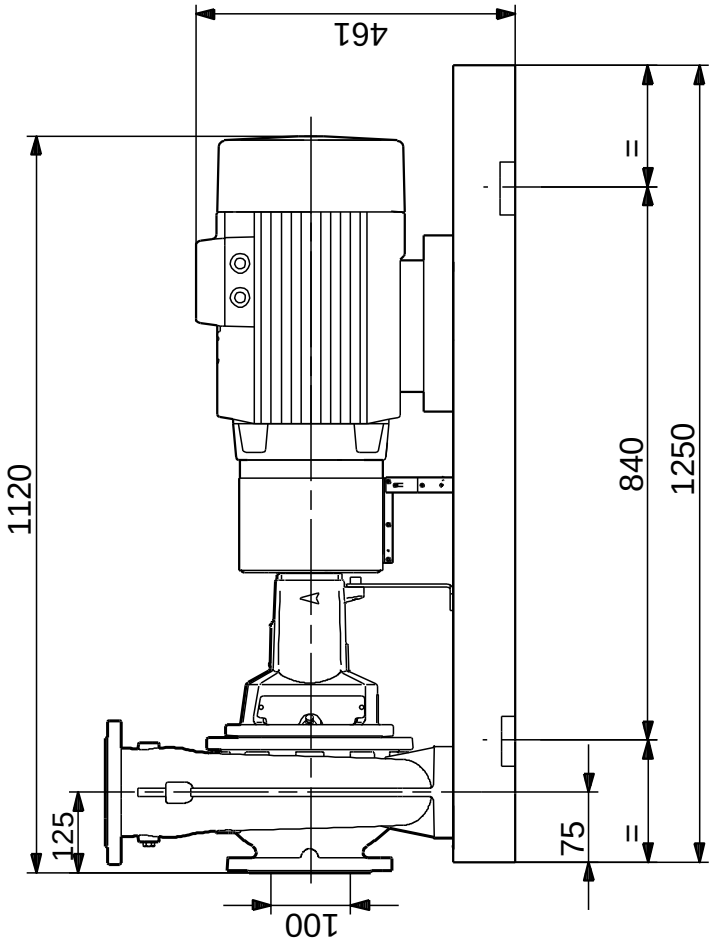
| Description | Value |
|---|---|
| ErP status: | EuP Standalone/Prod. |
| Net weight: | 192 kg |
| Gross weight: | 207 kg |
| Shipping volume: | 0.515 m³ |
| Config. file no: | 99100730 |

# On request NKE 80-200/179 A2-F-A-E-BQQE 50 Hz



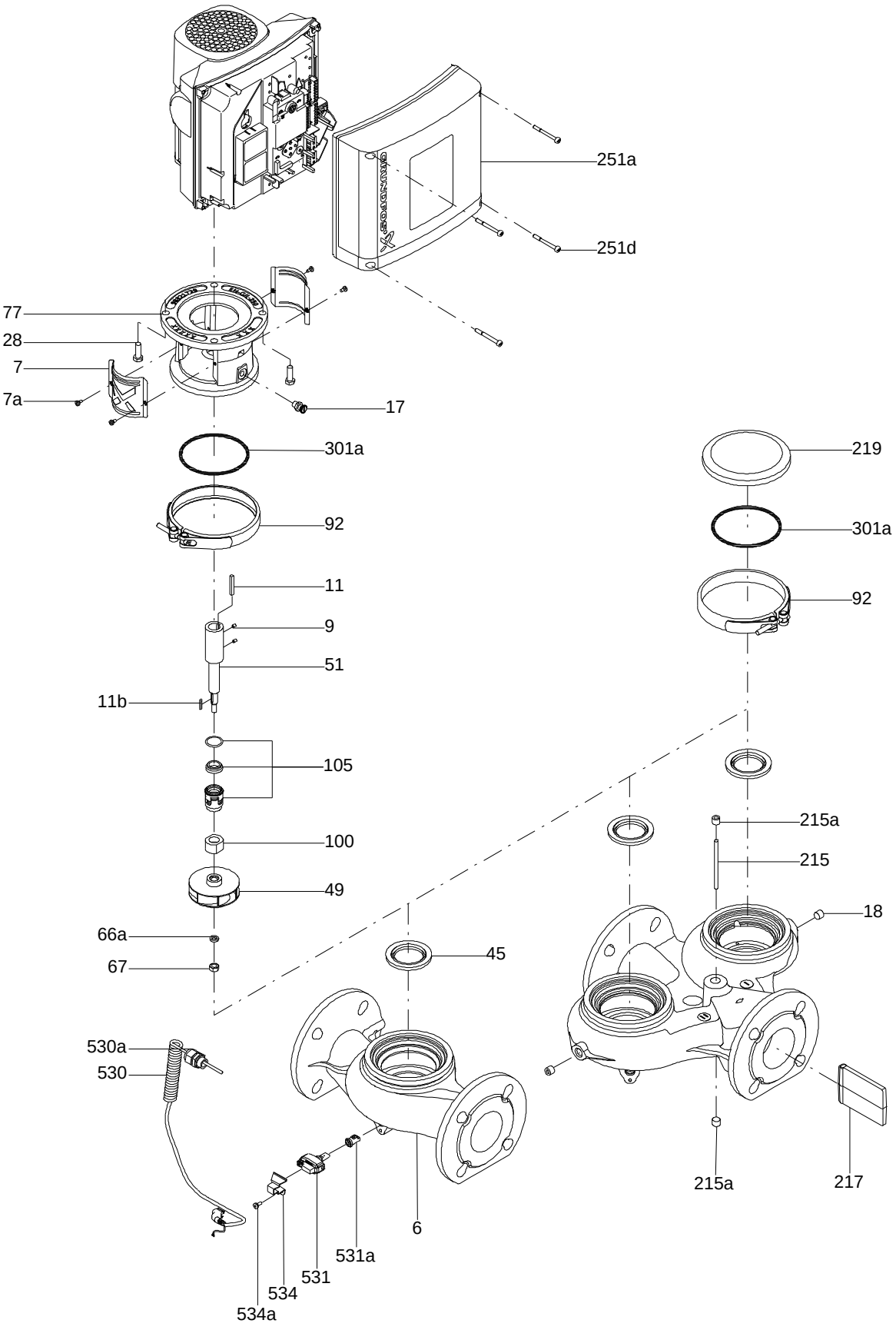
# On request NKE 80-200/179 A2-F-A-E-BQQE 50 Hz



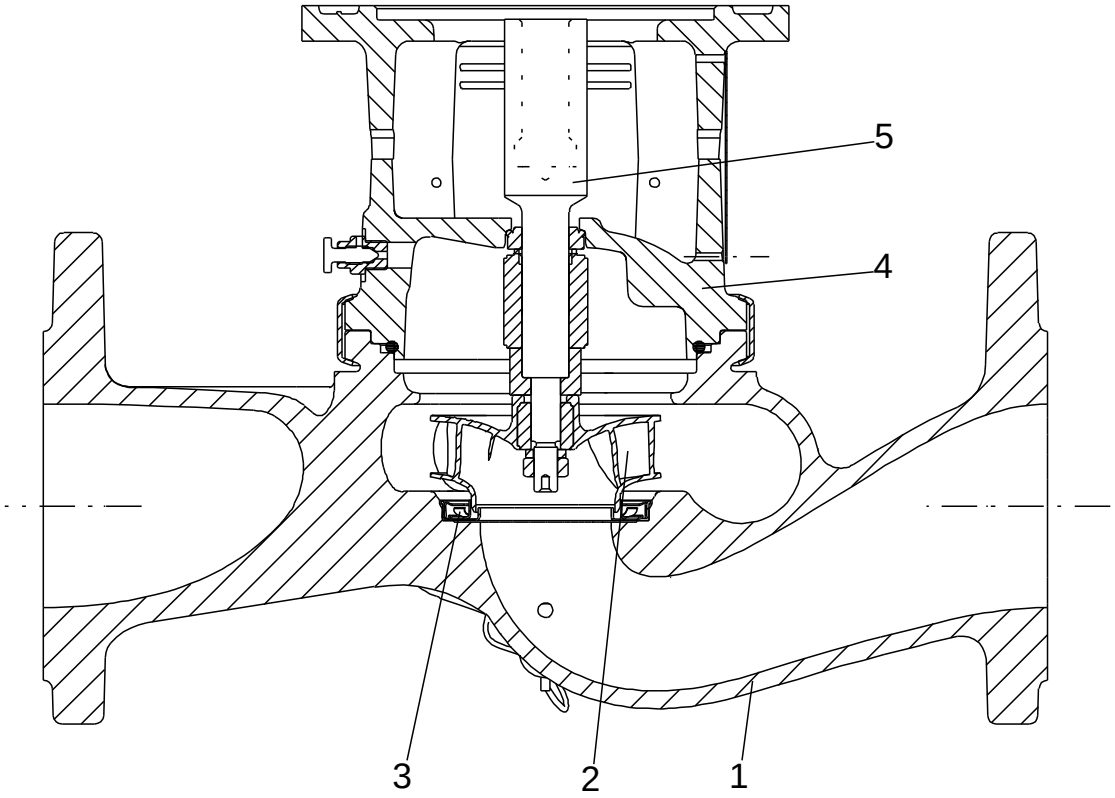




Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

## Exploded view

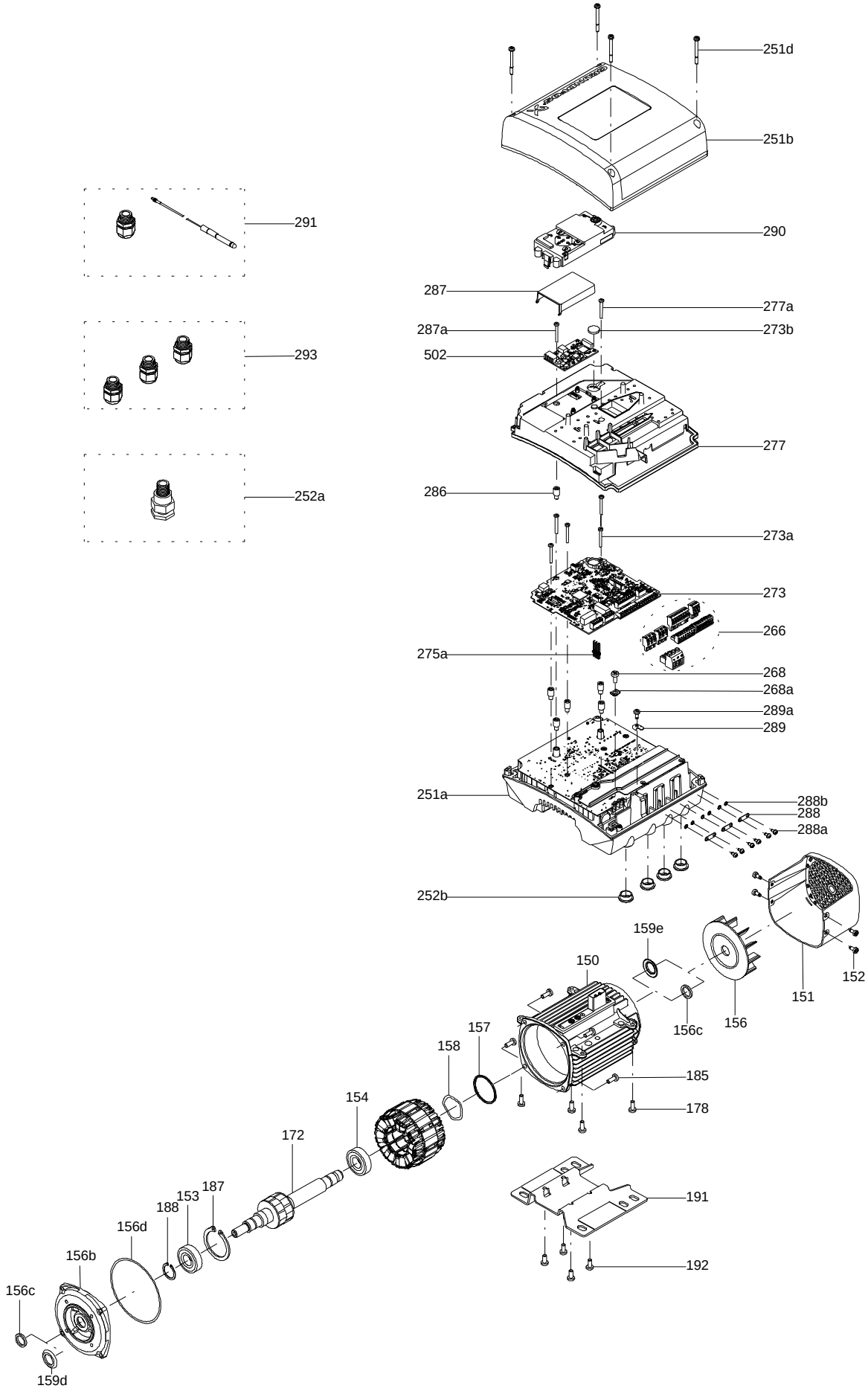


**Sectional drawing (TM058200 for TPE2,TPE3)**




TM058200

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



# Parts list NKE 80-200/179, Product No. On request
# Valid from 1.3.2010 (1009)

| | Pos | Description | Annotation | Données de classification | Référence | Quantité | Unité |
|---|---|---|---|---|---|---|---|
| + | | Motor | | | | 1 | pcs |
| - | | Coupling cpl. | | | | 1 | pcs |
| | 89.b | Socket set screw | | Length (mm): 8 | | 2 | |
| | | | | Thread: M6 | | | |
| | 89.d | Hex socket head cap screw | | Length (mm): 16 | | 12 | |
| | | | | Thread: M6 | | | |
| | 89.p | Coupling female | | | | 1 | |
| | 89o | Coupling part spacer side | | | | 6 | |
| | 89o | Coupling part spacer side | | | | 1 | |
| | 89r | Spacer sleeve | | | | 1 | |
| | 89s | Spacer ring | | | | 1 | |
| - | | Nut | | | | 1 | pcs |
| | 66 | Washer | | Designation: DIN 125 A2 | | 1 | |
| | | | | Internal diameter: 19 | | | |
| | | | | Outer diameter: 34 | | | |
| | | | | Thickness: 3 | | | |
| | 66a | Spring lock washer | | | | 1 | |
| | 67 | Nut | | Thread: M18 | | 1 | |
| - | | Cover cpl. | | | | 1 | pcs |
| | 77 | Cover | | | | 1 | |
| - | | Pump housing cpl. | | | | 1 | pcs |
| | 6 | Pump housing | | | | 1 | |
| | 36 | Nut | | Thread: M10 | | 8 | |
| - | 7 | Coupling guard cpl. | | | | 1 | pcs |
| - | 7 | Coupling guard cpl. | | | | 1 | |
| | 7c | Spacer f/coupling guard | | | | 1 | |
| | 7e | Hex socket head cap screw | | | | 3 | |
| | 94 | Lock nut | | Thread: M6 | | 2 | |
| | 7b | Retainer for coupling guard | | | | 1 | |
| | 7k | Hex socket head cap screw | | Length (mm): 10 | | 4 | |
| | | | | Thread: M6 | | | |
| - | 7.d | Foot for coupling guard | | | | 1 | pcs |
| | 7d | Foot for coupling guard | | | | 1 | |
| | 7h | Hex socket head cap screw | | | | 2 | |
| | 7l | Support f/coupling guard foot | | | | 1 | |
| | 49 | Impeller | | | | 1 | pcs |
| | 72.a | O-ring | | Diameter: 221,84 | | 1 | pcs |
| | | | | Material type: EPDM | | | |
| | | | | Thickness: 3,53 | | | |
| - | 86 | Bearing bracket | | | | 1 | pcs |
| | 28a | Hex head screw | | Length (mm): 25 | | 1 | |
| | | | | Thread: M12 | | | |
| | 53.b | Spacer ring | | | | 1 | |
| | 54 | Ball bearing | | | | 2 | |
| | 54a | O-ring | | Diameter: 89,5 | | 2 | |
| | | | | Material type: EPDM | | | |
| | | | | Thickness: 3 | | | |
| | 77a | Pan head screw | | | | 4 | |
| | 86 | Bearing bracket | | | | 1 | |
| | 153a | Retaining ring | | | | 2 | |
| | 156a | Bearing cover | | | | 2 | |
| | 159a | V-ring | | | | 2 | |
| - | 90 | Base plate | | | | 1 | pcs |
| | | Washer | | | | 4 | |
| | | Washer | | | | 4 | |
| | | Base plate | | | | 1 | |
| | | Support rail | | | | 2 | |
| | | Support block | | | | 2 | |
| | | Hex head bolt | | | | 4 | |

| Pos | Description | Annotation | Données de classification | Référence | Quantité | Unité |
|---|---|---|---|---|---|---|
| 7h | Hex head screw | | Length (mm): 16 | | 2 | |
| | | | Thread: M8 | | | |
| 28 | Hex head screw | | Length (mm): 40 | | 4 | |
| | | | Thread: M12 | | | |
| 28a | Hex head screw | | Length (mm): 25 | | 2 | |
| | | | Thread: M12 | | | |
| 66 | Washer | | | | 2 | |
| 66 | Washer | | | | 2 | |
| 105 | Shaft seal | | | | 1 | pcs |
| 105b | Spacer | | | | 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.*

*All information is copyright Grundfos.*

info@lenntech.com
https://www.lenntech.com
tel. +31 152 610 900
fax. +31 152 616 289