

Qty. Description1 **NK 100-160/160-154 BA2F2AESBQQEPW1**

Note! Product picture may differ from actual product

Product No.: [98973728](#)

Non-self-priming, single-stage, centrifugal pump designed according to ISO 5199 with dimensions and rated performance according to EN 733. Flanges are PN 16 with dimensions according to EN 1092-2. 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 asynchronous motor. Pump and motor are mounted on a common base frame.

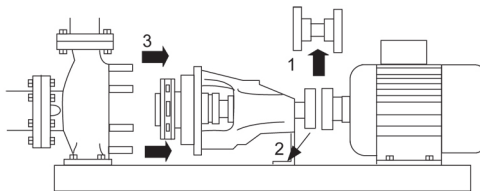
The product's minimum efficiency index (MEI) is greater or equal to 0.70. This is by the Commission Regulation (EU) considered as an indicative benchmark for best-performing water pump available on the market as from 1 January 2013.

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 service 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.

**Pump**

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.

{IMG Filename: GRALON_NB-NK-G_SHAFTSEAL_Bxxx.gif }

Seal faces:

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

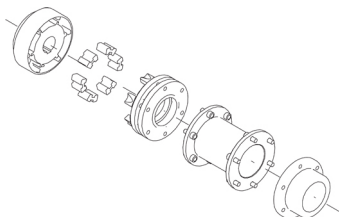
This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.

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 24 mm where the coupling is mounted.

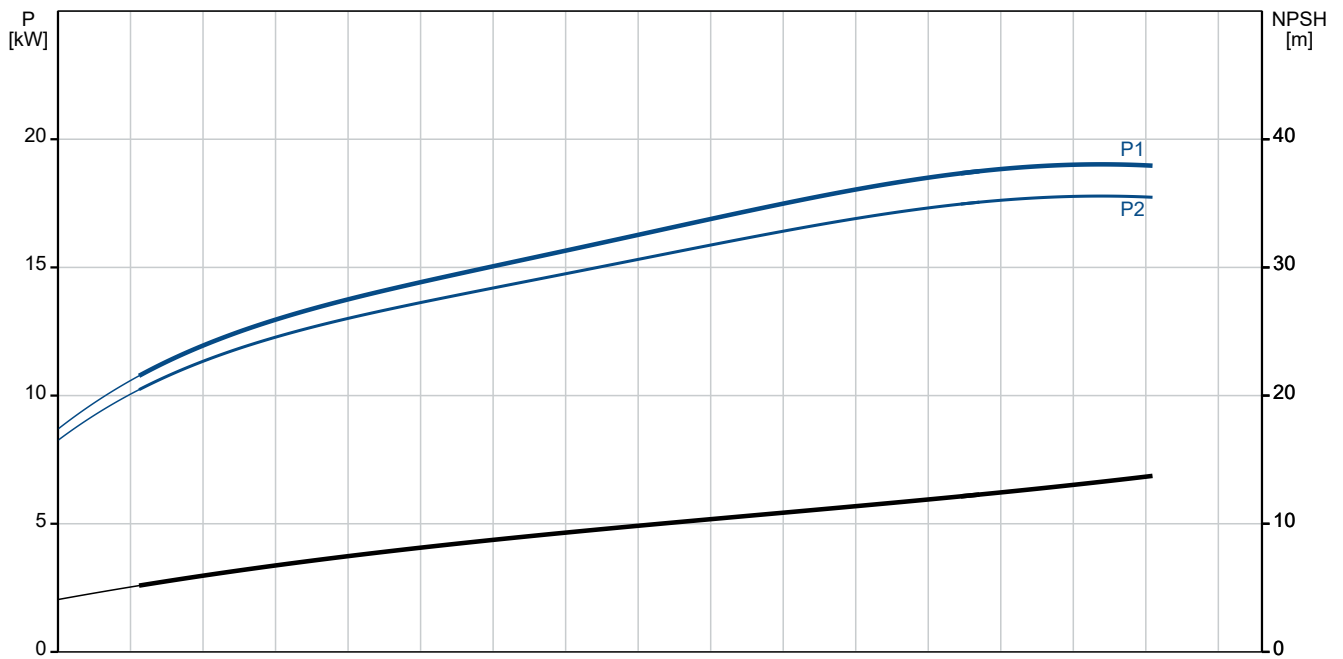
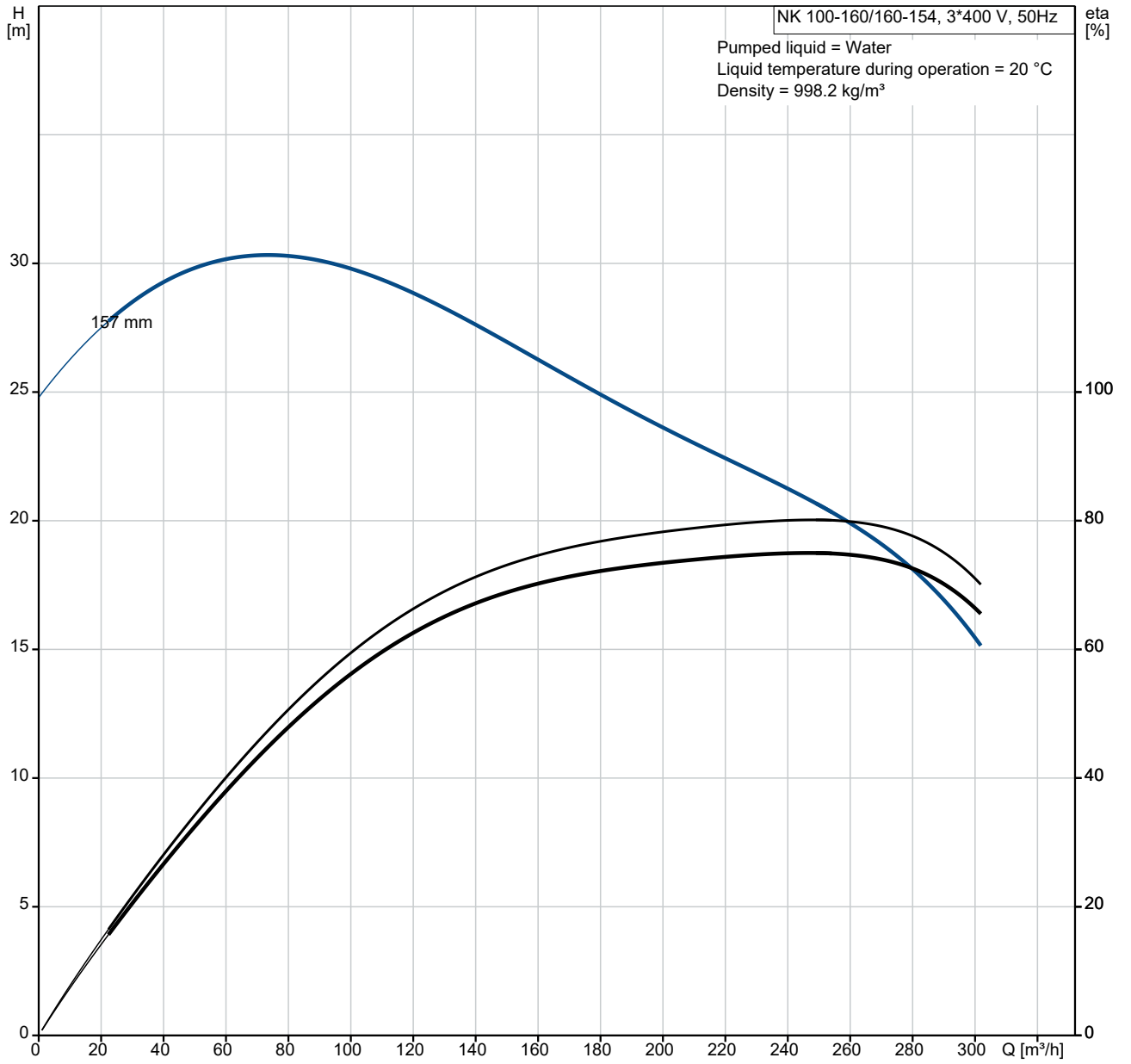
The pump uses a spacer coupling between the pump and motor shaft.

**Motor**

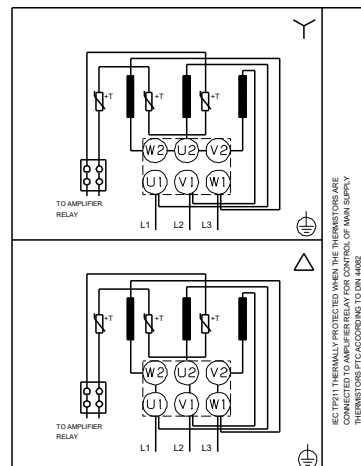
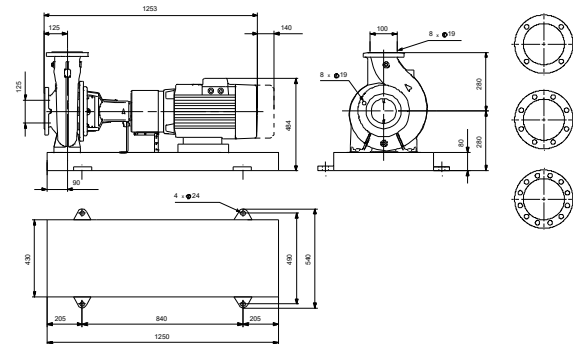
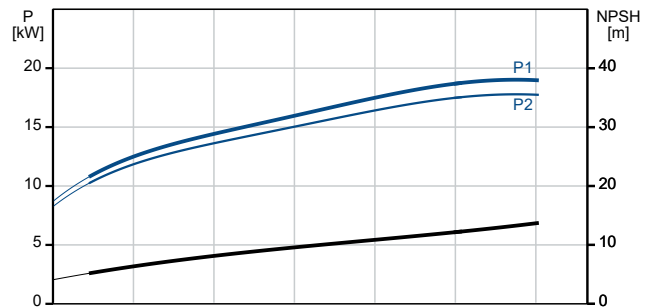
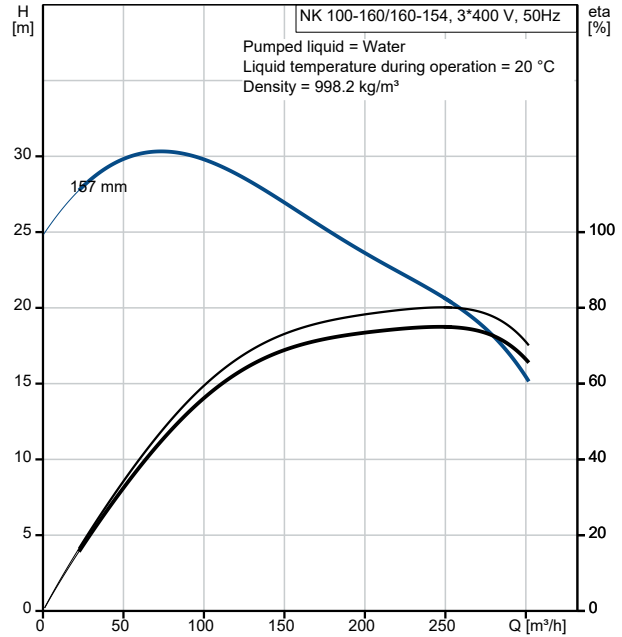
| Qty. | Description |
|------|--|
| 1 | <p>The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. Electrical tolerances comply with IEC 60034.</p> <p>The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.</p> <p>The motor has thermistors (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>Further product details</p> <p>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.</p> <p>Technical data</p> <p>Controls:</p> <p>Frequency converter: NONE</p> <p>Pressure sensor: N</p> <p>Liquid:</p> <p>Pumped liquid: Water</p> <p>Liquid temperature range: -25 .. 120 °C</p> <p>Selected liquid temperature: 20 °C</p> <p>Density: 998.2 kg/m³</p> <p>Technical:</p> <p>Pump speed on which pump data are based: 2945 rpm</p> <p>Rated flow: 243.6 m³/h</p> <p>Pump with motor (Yes/No): Y</p> <p>Rated head: 21.04 m</p> <p>Actual impeller diameter: 157 mm</p> <p>Nominal impeller diameter: 160</p> <p>Code for shaft seal: BQQE</p> <p>Mechanical seal type: Single</p> <p>Curve tolerance: ISO9906:2012 3B</p> <p>Bearing design: Standard</p> <p>Materials:</p> <p>Pump housing: Cast iron EN-GJL-250 ASTM class 35</p> <p>Wear ring: Brass</p> <p>Impeller: Cast iron EN-GJL-200 ASTM class 30</p> <p>Internal pump house coating: CED</p> <p>Shaft: Stainless steel EN 1.4301 AISI 304</p> <p>Installation:</p> <p>t max amb: 60 °C</p> <p>Maximum operating pressure: 16 bar</p> <p>Pipe connection standard: EN 1092-2</p> <p>Type of inlet connection: DIN</p> <p>Type of outlet connection: DIN</p> <p>Size of inlet connection: DN 125</p> <p>Size of outlet connection: DN 100</p> <p>Pressure rating for connection: PN 16</p> <p>Coupling type: Flexible w/spacer</p> |

| Qty. | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|--------------------|--------|----------------------|---|--------------------|---|------------------|--|-------------|-------|----------------------|-----|-------------------|---------|------------------|-------|----------------|-------------------------|----------------|-----------------------|-------------------|-----------|-------------------------|-----------|--------------|---------------|-------------|-----------|--------------------------------|--------|-------------------------------|--------|-------------------------------|--------|------------------|---|-----------------------------|-----------------|----------------------------|---|-----------|----------|--------------------------------|---------------|---------|--|----------------------------------|------|-------------|--------|---------------|--------|------------------|----------------------|--------------------|----|--------------------|----------|
| 1 | <table border="0"> <tr> <td>Base frame design:</td> <td>EN/ISO</td> </tr> <tr> <td>Code for base frame:</td> <td>6</td> </tr> <tr> <td>Grouting (Yes/No):</td> <td>N</td> </tr> <tr> <td colspan="2">Electrical data:</td> </tr> <tr> <td>Motor type:</td> <td>160LB</td> </tr> <tr> <td>IE Efficiency class:</td> <td>IE3</td> </tr> <tr> <td>Rated power - P2:</td> <td>18.5 kW</td> </tr> <tr> <td>Mains frequency:</td> <td>50 Hz</td> </tr> <tr> <td>Rated voltage:</td> <td>3 x 380-415D/660-690Y V</td> </tr> <tr> <td>Rated current:</td> <td>34,5-32,5/20,0-18,8 A</td> </tr> <tr> <td>Starting current:</td> <td>830-980 %</td> </tr> <tr> <td>Cos phi - power factor:</td> <td>0.89-0.85</td> </tr> <tr> <td>Rated speed:</td> <td>2940-2950 rpm</td> </tr> <tr> <td>Efficiency:</td> <td>IE3 92,4%</td> </tr> <tr> <td>Motor efficiency at full load:</td> <td>92.4 %</td> </tr> <tr> <td>Motor efficiency at 3/4 load:</td> <td>93.2 %</td> </tr> <tr> <td>Motor efficiency at 1/2 load:</td> <td>93.2 %</td> </tr> <tr> <td>Number of poles:</td> <td>2</td> </tr> <tr> <td>Enclosure class (IEC 34-5):</td> <td>55 Dust/Jetting</td> </tr> <tr> <td>Insulation class (IEC 85):</td> <td>F</td> </tr> <tr> <td>Motor No:</td> <td>87420026</td> </tr> <tr> <td>Bearing insulation type N-end:</td> <td>STEEL BEARING</td> </tr> <tr> <td colspan="2">Others:</td> </tr> <tr> <td>Minimum efficiency index, MEI ≥:</td> <td>0.70</td> </tr> <tr> <td>Net weight:</td> <td>280 kg</td> </tr> <tr> <td>Gross weight:</td> <td>295 kg</td> </tr> <tr> <td>Shipping volume:</td> <td>0.554 m³</td> </tr> <tr> <td>Country of origin:</td> <td>HU</td> </tr> <tr> <td>Custom tariff no.:</td> <td>84137059</td> </tr> </table> | Base frame design: | EN/ISO | Code for base frame: | 6 | Grouting (Yes/No): | N | Electrical data: | | Motor type: | 160LB | IE Efficiency class: | IE3 | Rated power - P2: | 18.5 kW | Mains frequency: | 50 Hz | Rated voltage: | 3 x 380-415D/660-690Y V | Rated current: | 34,5-32,5/20,0-18,8 A | Starting current: | 830-980 % | Cos phi - power factor: | 0.89-0.85 | Rated speed: | 2940-2950 rpm | Efficiency: | IE3 92,4% | Motor efficiency at full load: | 92.4 % | Motor efficiency at 3/4 load: | 93.2 % | Motor efficiency at 1/2 load: | 93.2 % | Number of poles: | 2 | Enclosure class (IEC 34-5): | 55 Dust/Jetting | Insulation class (IEC 85): | F | Motor No: | 87420026 | Bearing insulation type N-end: | STEEL BEARING | Others: | | Minimum efficiency index, MEI ≥: | 0.70 | Net weight: | 280 kg | Gross weight: | 295 kg | Shipping volume: | 0.554 m ³ | Country of origin: | HU | Custom tariff no.: | 84137059 |
| Base frame design: | EN/ISO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Code for base frame: | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Grouting (Yes/No): | N | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Electrical data: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motor type: | 160LB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IE Efficiency class: | IE3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated power - P2: | 18.5 kW | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mains frequency: | 50 Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated voltage: | 3 x 380-415D/660-690Y V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated current: | 34,5-32,5/20,0-18,8 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Starting current: | 830-980 % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cos phi - power factor: | 0.89-0.85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated speed: | 2940-2950 rpm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Efficiency: | IE3 92,4% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motor efficiency at full load: | 92.4 % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motor efficiency at 3/4 load: | 93.2 % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motor efficiency at 1/2 load: | 93.2 % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of poles: | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Enclosure class (IEC 34-5): | 55 Dust/Jetting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulation class (IEC 85): | F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motor No: | 87420026 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bearing insulation type N-end: | STEEL BEARING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Others: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minimum efficiency index, MEI ≥: | 0.70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Net weight: | 280 kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gross weight: | 295 kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shipping volume: | 0.554 m ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Country of origin: | HU | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Custom tariff no.: | 84137059 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

98973728 NK 100-160/160-154 BA2F2AESBQQEPW1 50 Hz

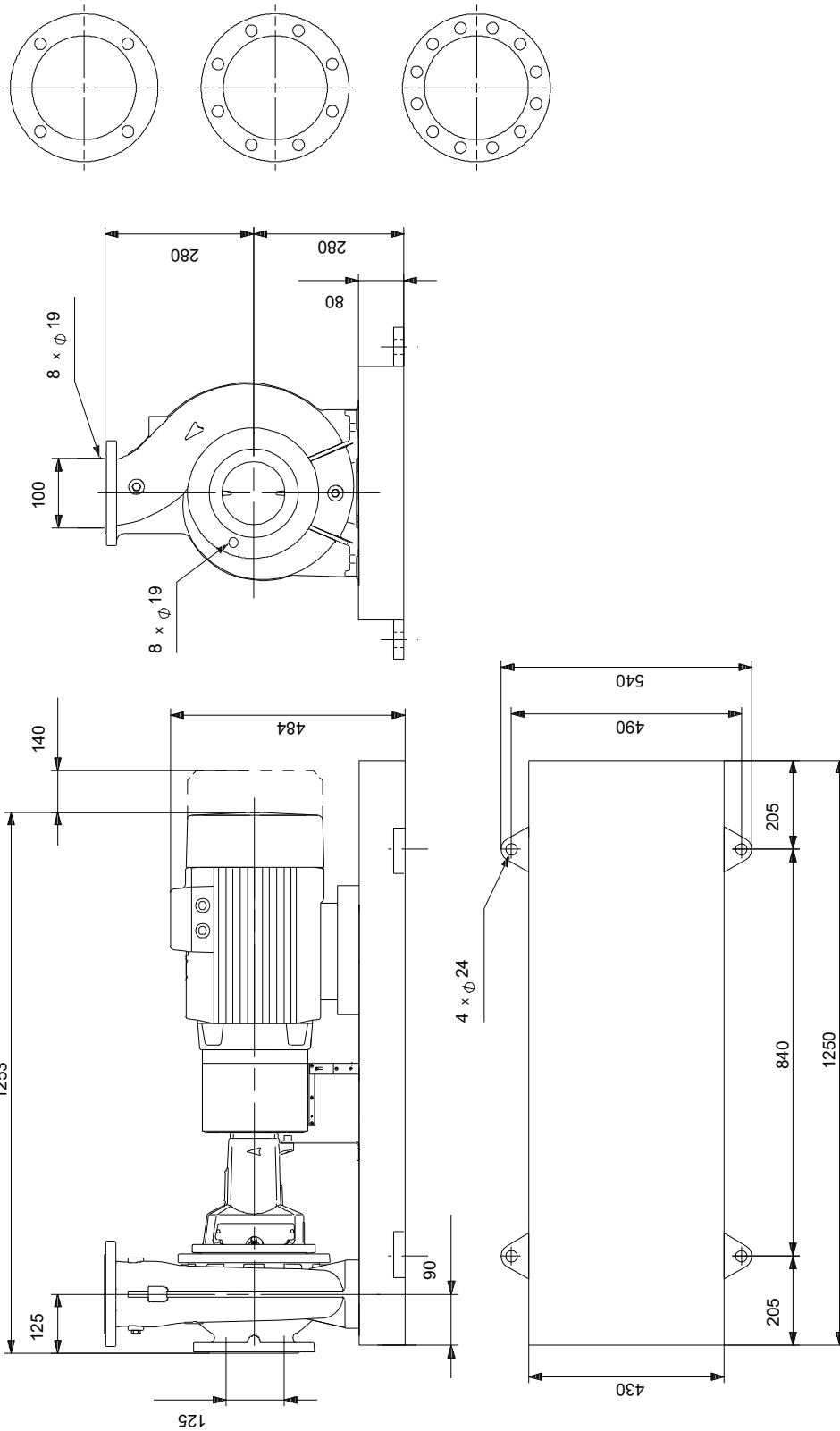


| Description | Value |
|--|---------------------------------------|
| General information: | |
| Product name: | NK 100-160/160-154 BA2F2AESBQQEPW1 |
| Product No: | 98973728 |
| EAN number: | 5712604511220 |
| Technical: | |
| Pump speed on which pump data are based: | 2945 rpm |
| Rated flow: | 243.6 m ³ /h |
| Pump with motor (Yes/No): | Y |
| Rated head: | 21.04 m |
| Actual impeller diameter: | 157 mm |
| Nominal impeller diameter: | 160 |
| Shaft diameter: | 24 mm |
| Code for shaft seal: | BQQE |
| Mechanical seal type: | Single |
| Curve tolerance: | ISO9906:2012 3B |
| Pump version: | A2 |
| Bearing design: | Standard |
| Materials: | |
| Pump housing: | Cast iron |
| Pump housing: | EN-GJL-250 |
| Pump housing: | ASTM class 35 |
| Wear ring: | Brass |
| Impeller: | Cast iron |
| Impeller: | EN-GJL-200 |
| Impeller: | ASTM class 30 |
| Internal pump house coating: | CED |
| Material code: | A |
| Code for rubber: | E |
| Shaft: | Stainless steel |
| Shaft: | EN 1.4301 |
| Shaft: | AISI 304 |
| Installation: | |
| t max amb: | 60 °C |
| Maximum operating pressure: | 16 bar |
| Pipe connection standard: | EN 1092-2 |
| Type of inlet connection: | DIN |
| Type of outlet connection: | DIN |
| Size of inlet connection: | DN 125 |
| Size of outlet connection: | DN 100 |
| Pressure rating for connection: | PN 16 |
| Coupling type: | Flexible w/spacer |
| Base frame design: | EN/ISO |
| Code for base frame: | 6 |
| Grouting (Yes/No): | N |
| Connect code: | F |
| Liquid: | |
| Pumped liquid: | Water |
| Liquid temperature range: | -25 .. 120 °C |
| Selected liquid temperature: | 20 °C |
| Density: | 998.2 kg/m ³ |
| Electrical data: | |
| Motor type: | 160LB |
| IE Efficiency class: | IE3 |
| Rated power - P2: | 18.5 kW |
| Mains frequency: | 50 Hz |
| Rated voltage: | 3 x 380-415D/660-690Y V |
| Rated current: | 34,5-32,5/20,0-18,8 A |
| Starting current: | 830-980 % |
| Cos phi - power factor: | 0.89-0.85 |
| Rated speed: | 2940-2950 rpm |
| Efficiency: | IE3 92,4% |
| Motor efficiency at full load: | 92.4 % |



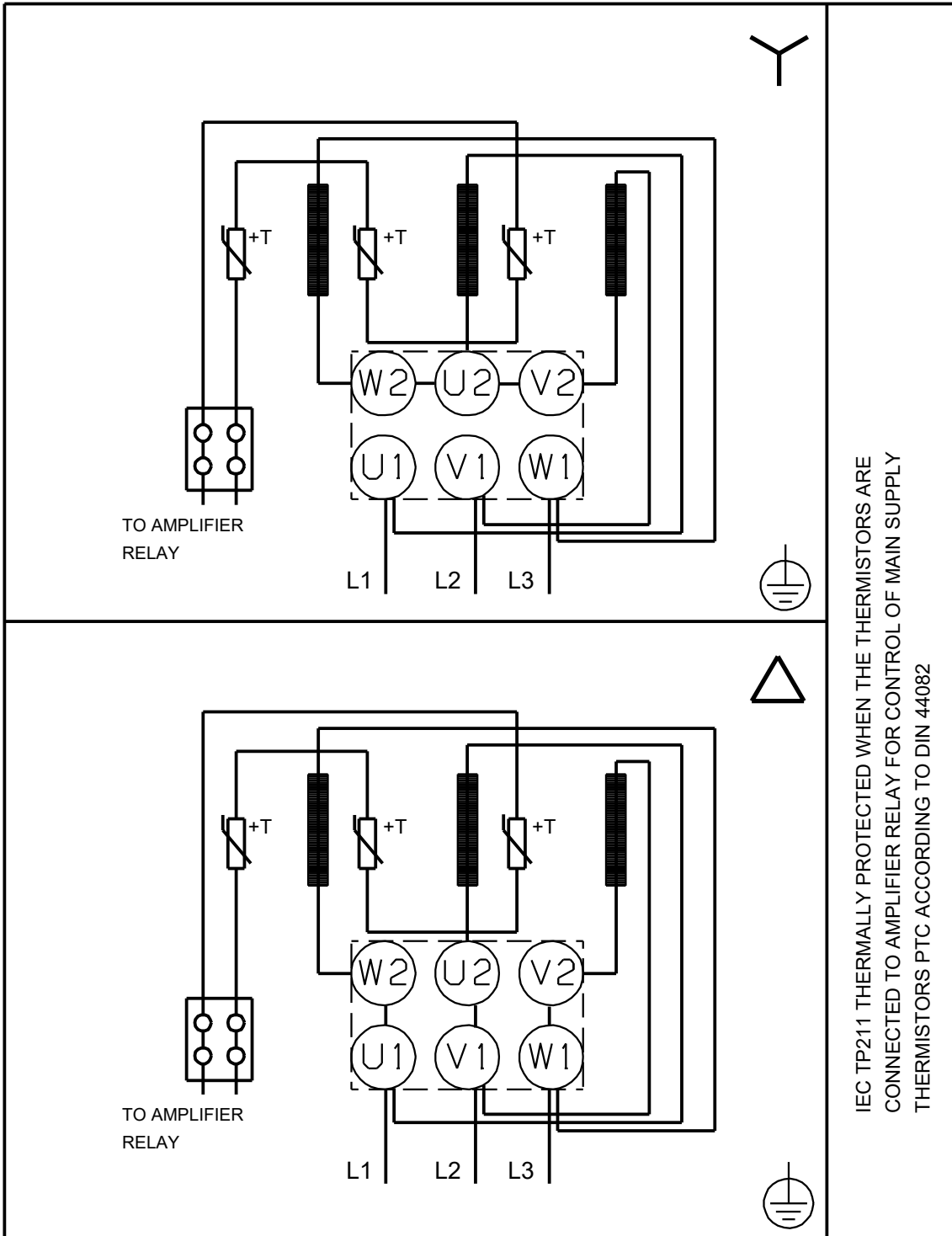
| Description | Value |
|----------------------------------|----------------------|
| Motor efficiency at 3/4 load: | 93.2 % |
| Motor efficiency at 1/2 load: | 93.2 % |
| Number of poles: | 2 |
| Enclosure class (IEC 34-5): | 55 Dust/Jetting |
| Insulation class (IEC 85): | F |
| Built-in motor protection: | PTC |
| Motor No: | 87420026 |
| Bearing insulation type N-end: | STEEL BEARING |
| Controls: | |
| Frequency converter: | NONE |
| Pressure sensor: | N |
| Others: | |
| Minimum efficiency index, MEI ≥: | 0.70 |
| Net weight: | 280 kg |
| Gross weight: | 295 kg |
| Shipping volume: | 0.554 m ³ |
| Country of origin: | HU |
| Custom tariff no.: | 84137059 |

98973728 NK 100-160/160-154 BA2F2AESBQQEPW1 50 Hz



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

98973728 NK 100-160/160-154 BA2F2AESBQQEPW1 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.

