

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

|   |                                |
|---|--------------------------------|
| 1 | NKE 65-160/177 AA2F2AESBQQEPW1 |
|---|--------------------------------|



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

Product No.: On request

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 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.

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 operating panel has indicator lights for "Operation" and "Fault".

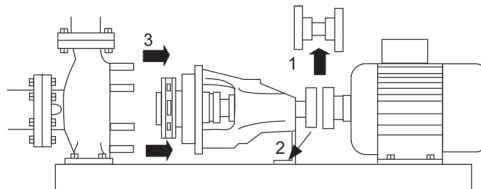
Communication with the pump is possible by means of Grundfos GO Remote (accessory). The remote control enables further settings as well as reading out of a number of parameters such as "Actual value", "Speed", "Power input" and total "Power consumption".

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 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 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.

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.

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Seal faces:

- Rotating seal ring material: silicon carbide (SiC)

**Qty. Description**

- Stationary seat material: silicon carbide (SiC)

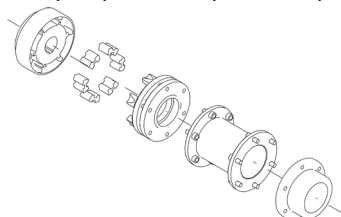
This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.

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**

The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. Electrical tolerances comply with IEC 60034.

The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.

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:

- pump start/stop input (potential-free contact)
- remote setpoint setting via analog signal, 0-10 V, 0(4)-20 mA
- 10 V voltage supply for setpoint potentiometer, I<sub>max</sub> = 5 mA
- one analog sensor input, 0-10 V, 0(4)-20 mA
- 24 V voltage supply for sensor, I<sub>max</sub> = 40 mA
- one digital input
- two potential-free fault signal relays with changeover contact, reporting "Fault", "Operation" or "Ready"
- RS-485 GENIbus connection
- interface for Grundfos CIM fieldbus module.

**Further product details**

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.

**Technical data**

Controls:

Frequency converter: Built-in

Pressure sensor: N

Liquid:

Pumped liquid: Water

Liquid temperature range: -25 .. 120 °C

Selected liquid temperature: 20 °C

Density: 998.2 kg/m<sup>3</sup>

Technical:

Pump speed on which pump data are based: 2940 rpm

Rated flow: 118.6 m<sup>3</sup>/h

Pump with motor (Yes/No): Y

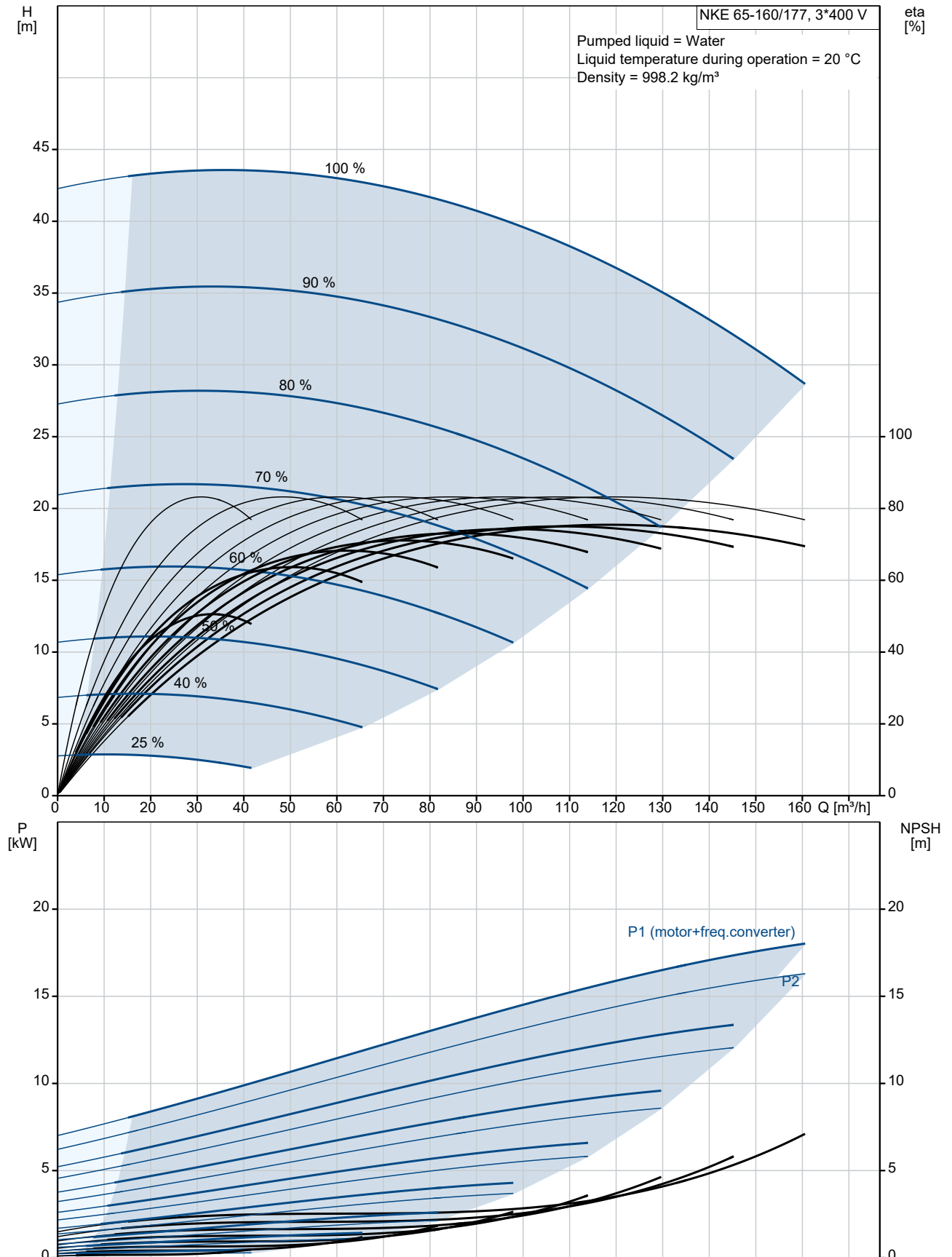
Rated head: 36.49 m

Actual impeller diameter: 177 mm

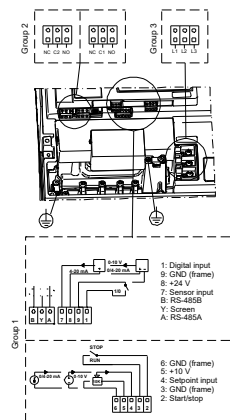
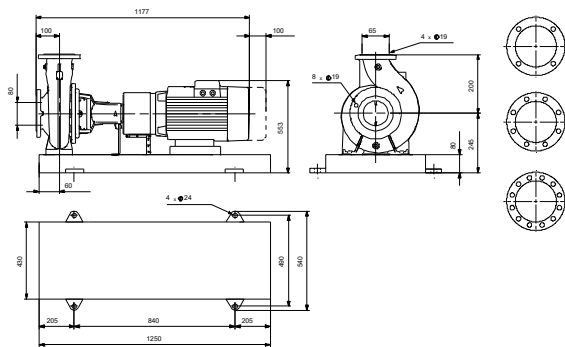
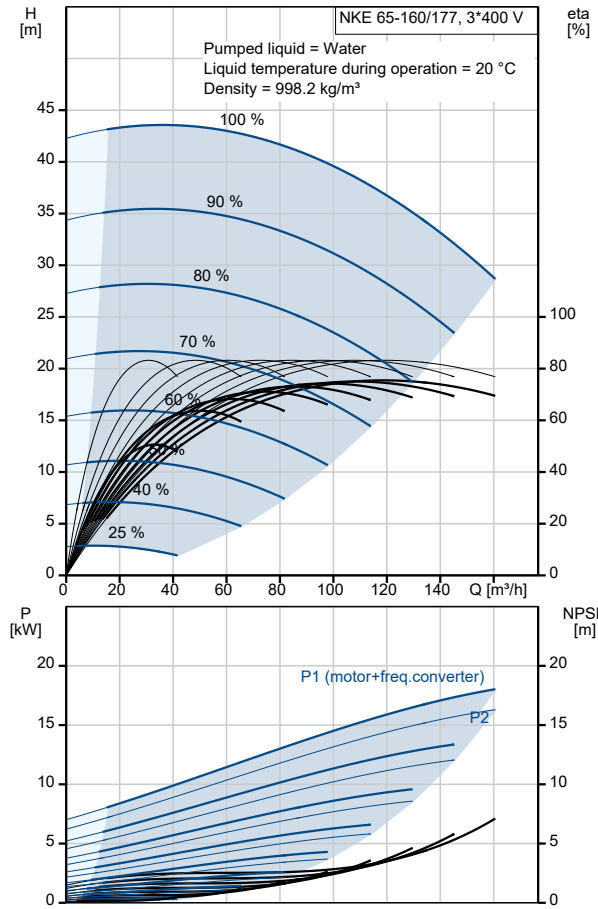
Nominal impeller diameter: 160

| Qty. | Description   |
|------|---|
|      | Code for shaft seal: BQQE<br>Mechanical seal type: Single<br>Curve tolerance: ISO9906:2012 3B<br>Bearing design: Standard<br><br>Materials:<br>Pump housing: Cast iron<br>EN-GJL-250<br>ASTM class 35<br>Wear ring: Brass<br>Impeller: Cast iron<br>EN-GJL-200<br>ASTM class 30<br>Internal pump house coating: CED<br>Shaft: Stainless steel<br>EN 1.4301<br>AISI 304<br><br>Installation:<br>Range of ambient temperature: -20 .. 40 °C<br>Maximum operating pressure: 16 bar<br>Pipe connection standard: EN 1092-2<br>Type of inlet connection: DIN<br>Type of outlet connection: DIN<br>Size of inlet connection: DN 80<br>Size of outlet connection: DN 65<br>Pressure rating for connection: PN 16<br>Coupling type: Flexible w/spacer<br>Base frame design: EN/ISO<br>Code for base frame: 6<br>Grouting (Yes/No): N<br><br>Electrical data:<br>Motor type: 160LB<br>IE Efficiency class: IE3<br>Rated power - P2: 18.5 kW<br>Mains frequency: 50 Hz<br>Rated voltage: 3 x 380-480 V<br>Rated current: 37.0-31.0 A<br>Cos phi - power factor: 0.91-0.88<br>Rated speed: 480-3540 rpm<br>Efficiency: IE3 92,4%<br>Motor efficiency at full load: 92.4 %<br>Number of poles: 2<br>Enclosure class (IEC 34-5): IP55<br>Insulation class (IEC 85): F<br>Motor No: 85901282<br><br>Others:<br>Minimum efficiency index, MEI ≥: 0.70<br>Net weight: 269 kg<br>Gross weight: 284 kg<br>Shipping volume: 0.549 m <sup>3</sup><br>Country of origin: HU<br>Custom tariff no.: 84137059 |

## On request NKE 65-160/177 AA2F2AESBQQEPW1 50 Hz



| Description                              | Value                             |
|--|-----------------------------------|
| <b>General information:</b>              |                                   |
| Product name:                            | NKE 65-160/177<br>AA2F2AESBQQEPW1 |
| Product No:                              | On request                        |
| EAN number:                              | On request                        |
| <b>Technical:</b>                        |                                   |
| Pump speed on which pump data are based: | 2940 rpm                          |
| Rated flow:                              | 118.6 m <sup>3</sup> /h           |
| Pump with motor (Yes/No):                | Y                                 |
| Rated head:                              | 36.49 m                           |
| Actual impeller diameter:                | 177 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                          |
| <b>Materials:</b>                        |                                   |
| 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                          |
| <b>Installation:</b>                     |                                   |
| Range of ambient temperature:            | -20 .. 40 °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 80                             |
| Size of outlet connection:               | DN 65                             |
| 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                                 |
| <b>Liquid:</b>                           |                                   |
| Pumped liquid:                           | Water                             |
| Liquid temperature range:                | -25 .. 120 °C                     |
| Selected liquid temperature:             | 20 °C                             |
| Density:                                 | 998.2 kg/m <sup>3</sup>           |
| <b>Electrical data:</b>                  |                                   |
| Motor type:                              | 160LB                             |
| IE Efficiency class:                     | IE3                               |
| Rated power - P2:                        | 18.5 kW                           |
| Mains frequency:                         | 50 Hz                             |
| Rated voltage:                           | 3 x 380-480 V                     |
| Rated current:                           | 37.0-31.0 A                       |





Company name:

Created by:

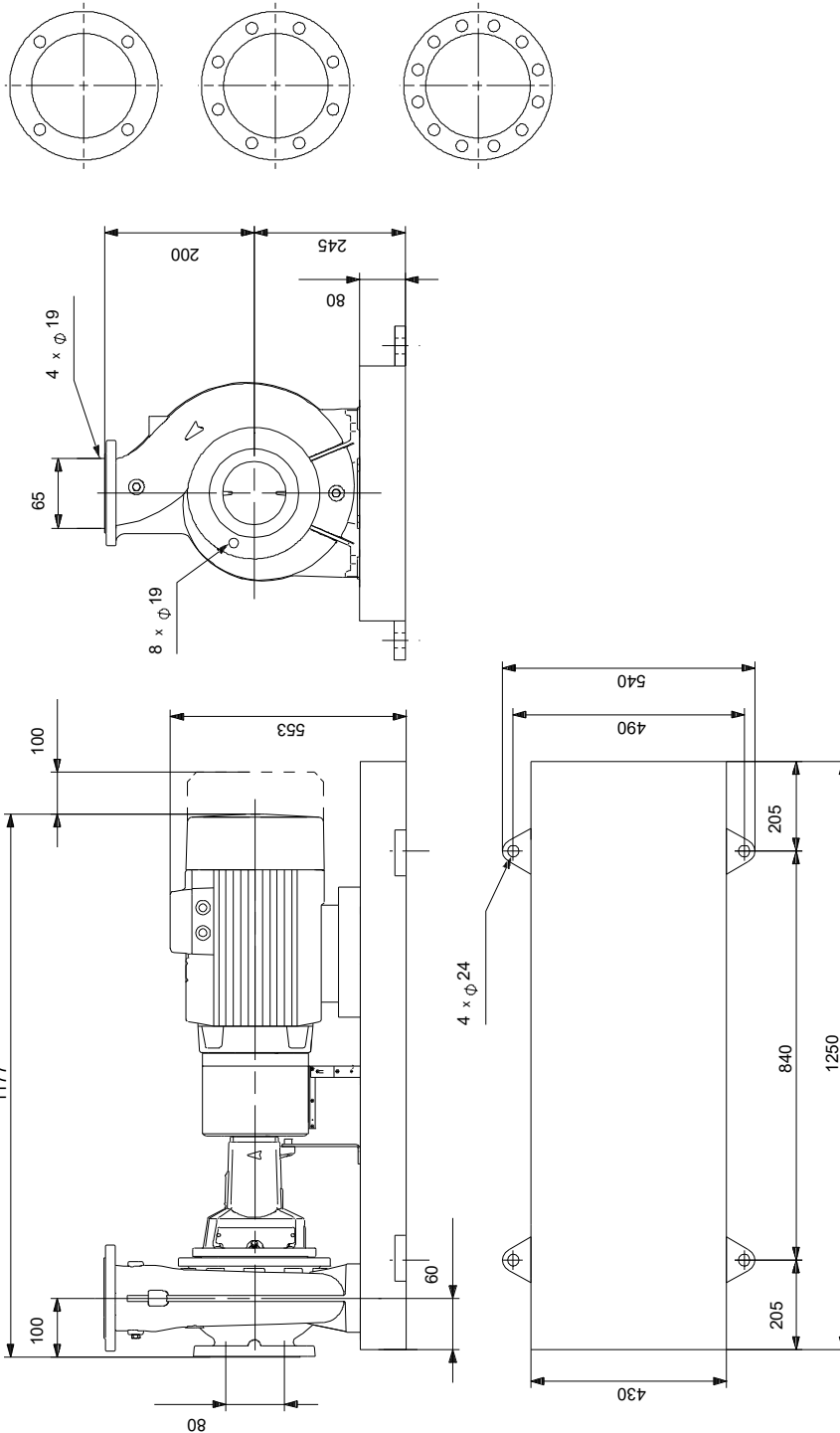
Phone:

Date:

16/06/2022

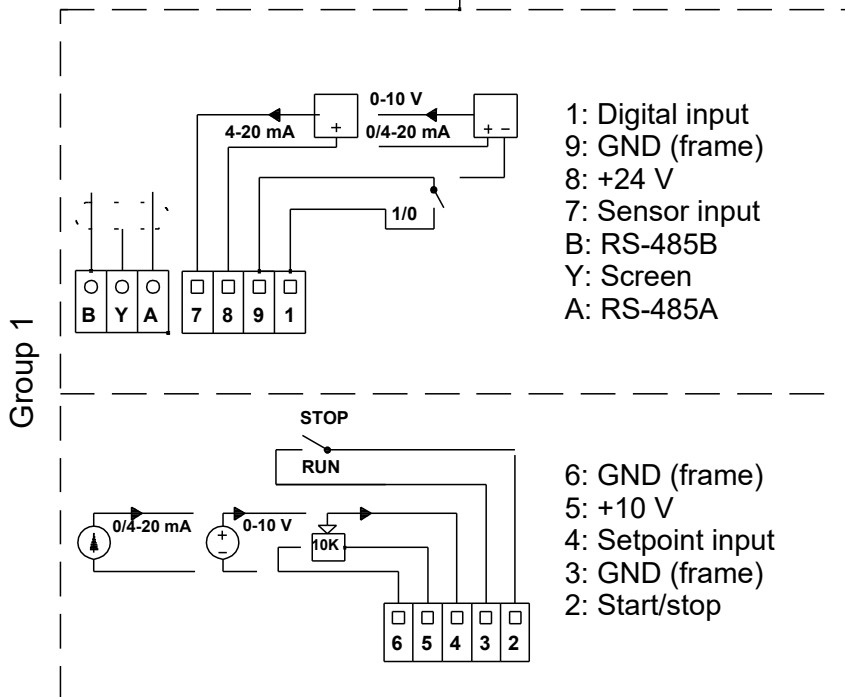
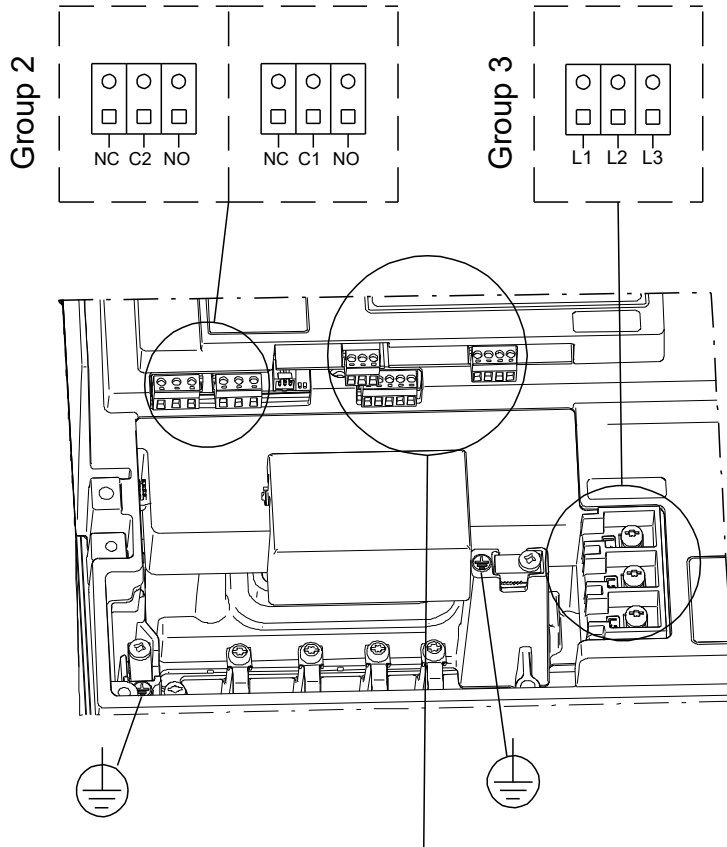
| Description                            | Value                |
|--|----------------------|
| Cos phi - power factor:                | 0.91-0.88            |
| Rated speed:                           | 480-3540 rpm         |
| Efficiency:                            | IE3 92,4%            |
| Motor efficiency at full load:         | 92.4 %               |
| Number of poles:                       | 2                    |
| Enclosure class (IEC 34-5):            | IP55                 |
| Insulation class (IEC 85):             | F                    |
| Built-in motor protection:             | YES                  |
| Motor No:                              | 85901282             |
| <b>Controls:</b>                       |                      |
| Control panel:                         | Standard             |
| Function Module:                       | PUMP I/O             |
| Frequency converter:                   | Built-in             |
| Pressure sensor:                       | N                    |
| <b>Others:</b>                         |                      |
| Minimum efficiency index, MEI $\geq$ : | 0.70                 |
| Net weight:                            | 269 kg               |
| Gross weight:                          | 284 kg               |
| Shipping volume:                       | 0.549 m <sup>3</sup> |
| Country of origin:                     | HU                   |
| Custom tariff no.:                     | 84137059             |

**On request NKE 65-160/177 AA2F2AESBQQEPW1 50 Hz**



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

## On request NKE 65-160/177 AA2F2AESBQQEPW1 50 Hz



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





Company name:

Created by:

Phone:

Date:

16/06/2022

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**Order Data:**

Product name: NKE 65-160/177

Amount: 1

Product No: On request

Total: Price on request

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