**Company name:**
**Created by:**
**Phone:**

**Date:** 29/10/2020

| Qty. | Description |
|---|---|
| 1 | **NBE 50-125/129 AF2ABQQE** |

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

Product No.: 99104679

Non-self-priming, single-stage, centrifugal volute pump designed according to ISO 5199 with dimensions and rated performance according to EN 733 (10 bar).

Flanges are PN 16 with dimensions according to EN 1092-2. The pump has an axial suction port, radial discharge port, horizontal shaft and a back pull-out design enabling removal of the motor, motor stool, cover and impeller without disturbing the pump housing or pipework.

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

The pump is close-coupled to a fan-cooled, permanent-magnet synchronous motor.

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.

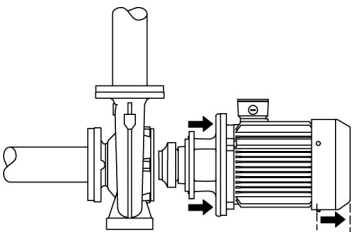
An external sensor can be connected if controlled pump operation is required for flow, differential pressure or temperature control.

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".

The back pull-out design means that the pump can be serviced by a single person without disturbing the pump housing or pipes.



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.

## 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.

Motor stool and pump cover are made of cast iron (EN-GJL-250). Coupling guards are fitted to the motor stool. The pump cover is provided with a manual air vent screw for venting of the pump housing and the shaft seal chamber.

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

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 pump housing has feet.

## 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 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.

## Further product details

## Technical data

Controls:

| | |
|---|---|
| Frequency converter: | Built-in |

Liquid:

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

Technical:

| | |
|---|---|
| Pump speed on which pump data are based: | 1450 rpm |
| Rated flow: | 35.2 m³/h |
| Rated head: | 4.4 m |
| Actual impeller diameter: | 129 mm |
| Nominal impeller diameter: | 125 |
| Shaft seal arrangement: | Single |
| Code for shaft seal: | BQQE |
| Curve tolerance: | ISO9906:2012 3B2 |
| Bearing design: | Standard |

Materials:

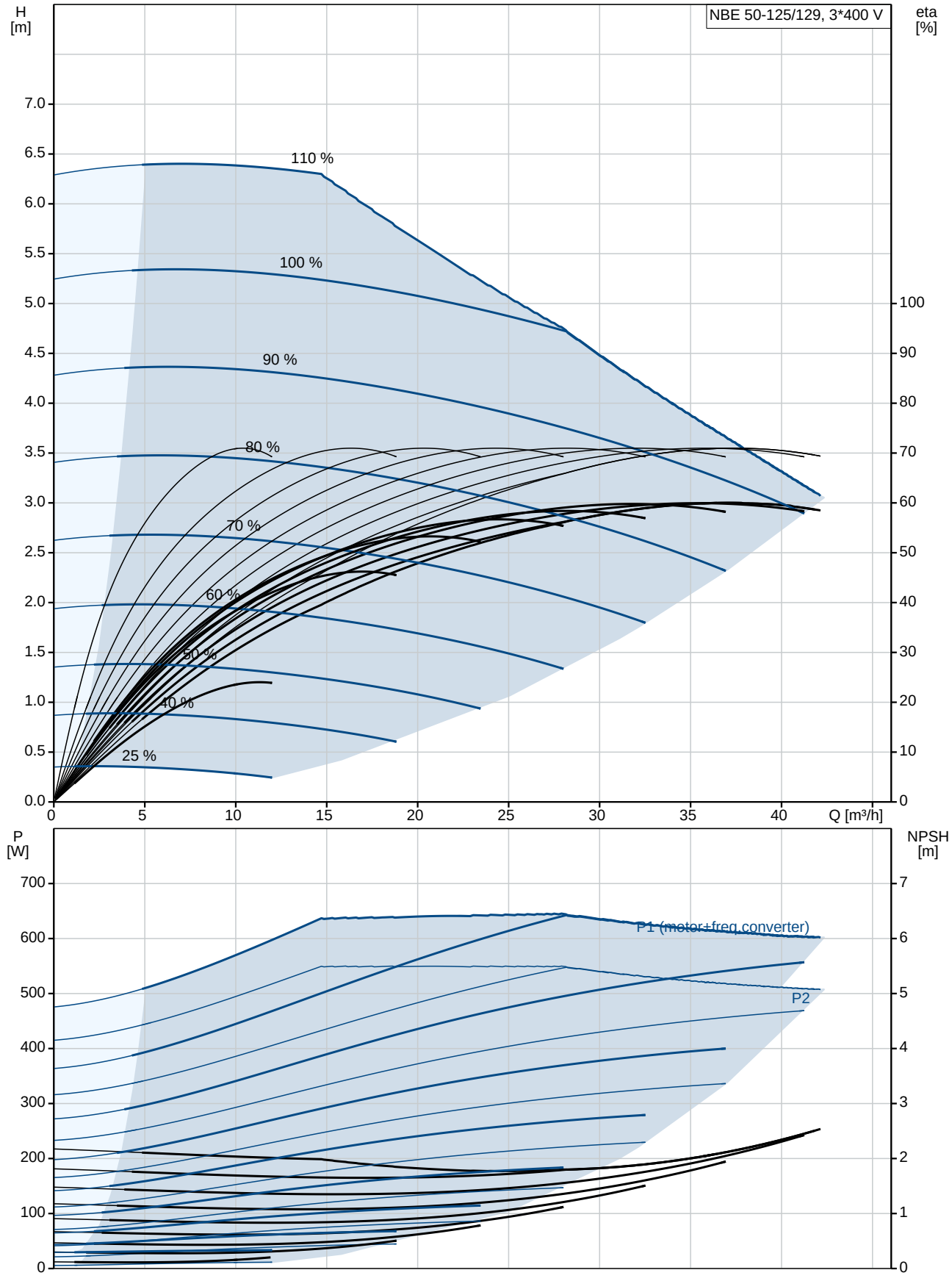
| | |
|---|---|
| Pump housing: | Cast iron<br>EN-GJL-250<br>ASTM class 35 |
| Wear ring: | Brass |
| Impeller: | Cast iron<br>EN-GJL-200 |

| Qty. | Description | |
|---|---|---|
| | | ASTM class 30 |
| | Shaft: | Stainless steel<br>EN 1.4301<br>AISI 304 |
| | Installation: | |
| | Maximum ambient temperature: | 50 °C |
| | Maximum operating pressure: | 16 bar |
| | Pipe connection standard: | EN 1092-2 |
| | Size of inlet connection: | DN 65 |
| | Size of outlet connection: | DN 50 |
| | Pipe connection standard: | EN 1092-2 |
| | Pressure rating for connection: | PN 16 |
| | Pump housing with feet: | Yes |
| | Support block: | N |
| | Electrical data: | |
| | IE Efficiency class: | IE5 |
| | Rated power - P2: | 0.55 kW |
| | Mains frequency: | 50 Hz |
| | Rated voltage: | 3 x 380-500 V |
| | Rated current: | 1.30-1.25 A |
| | Cos phi - power factor: | 0.80-0.64 |
| | Rated speed: | 180-2000 rpm |
| | Efficiency: | 84.6% |
| | Motor efficiency at full load: | 84.6 % |
| | Number of poles: | 4 |
| | Enclosure class (IEC 34-5): | IP55 |
| | Insulation class (IEC 85): | F |
| | Motor No: | 99305806 |
| | Others: | |
| | Minimum efficiency index, MEI â‰¥: | 0.64 |
| | Net weight: | 41 kg |
| | Gross weight: | 52 kg |
| | Shipping volume: | 0.134 m³ |
| | Country of origin: | HU |
| | Custom tariff no.: | 84137051 |

**Company name:**
**Created by:**
**Phone:**

**Date:** 29/10/2020

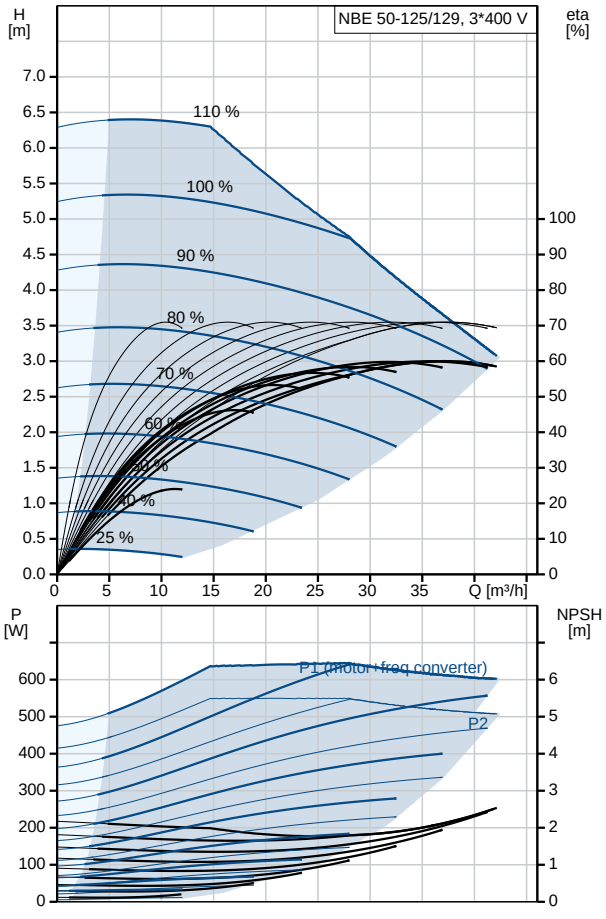
# 99104679 NBE 50-125/129 AF2ABQQE 50 Hz

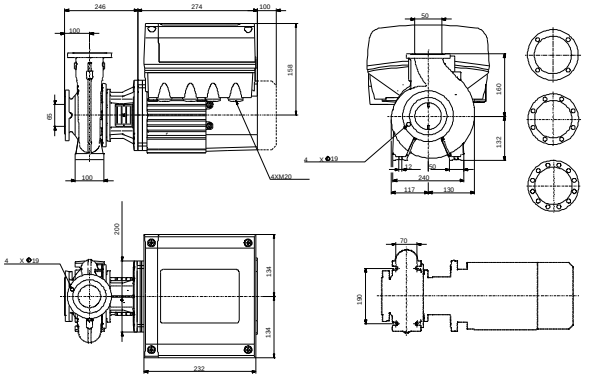


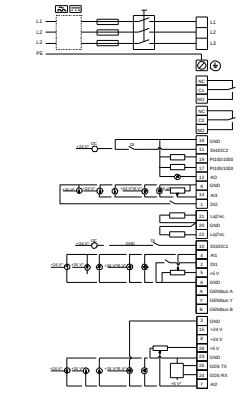
**Company name:**
**Created by:**
**Phone:**

**Date:** 29/10/2020

| Description | Value |
|---|---|
| **General information:** | |
| Product name: | NBE 50-125/129 AF2ABQQE |
| Product No: | 99104679 |
| EAN number: | 5712606839667 |
| Price: | GBP 2409 |
| **Technical:** | |
| Pump speed on which pump data are based: | 1450 rpm |
| Rated flow: | 35.2 m³/h |
| Rated head: | 4.4 m |
| Actual impeller diameter: | 129 mm |
| Nominal impeller diameter: | 125 |
| Shaft seal arrangement: | Single |
| Shaft diameter: | 24 mm |
| Code for shaft seal: | BQQE |
| Curve tolerance: | ISO9906:2012 3B2 |
| Pump version: | A |
| 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 |
| Shaft: | Stainless steel |
| Shaft: | EN 1.4301 |
| Shaft: | AISI 304 |
| Material code: | A |
| Code for rubber: | E |
| **Installation:** | |
| Maximum ambient temperature: | 50 °C |
| Maximum operating pressure: | 16 bar |
| Pipe connection standard: | EN 1092-2 |
| Size of inlet connection: | DN 65 |
| Size of outlet connection: | DN 50 |
| Pipe connection standard: | EN 1092-2 |
| Pressure rating for connection: | PN 16 |
| Pump housing with feet: | Yes |
| Support block: | N |
| Connect code: | F2 |
| **Liquid:** | |
| Pumped liquid: | Water |
| Liquid temperature range: | -25 .. 120 °C |
| Selected liquid temperature: | 20 °C |
| Density: | 998.2 kg/m³ |
| **Electrical data:** | |
| IE Efficiency class: | IE5 |
| Rated power - P2: | 0.55 kW |
| Mains frequency: | 50 Hz |
| Rated voltage: | 3 x 380-500 V |
| Rated current: | 1.30-1.25 A |
| Cos phi - power factor: | 0.80-0.64 |
| Rated speed: | 180-2000 rpm |
| Efficiency: | 84.6% |
| Motor efficiency at full load: | 84.6 % |
| Number of poles: | 4 |





GRUNDFOS

**Company name:**
**Created by:**
**Phone:**

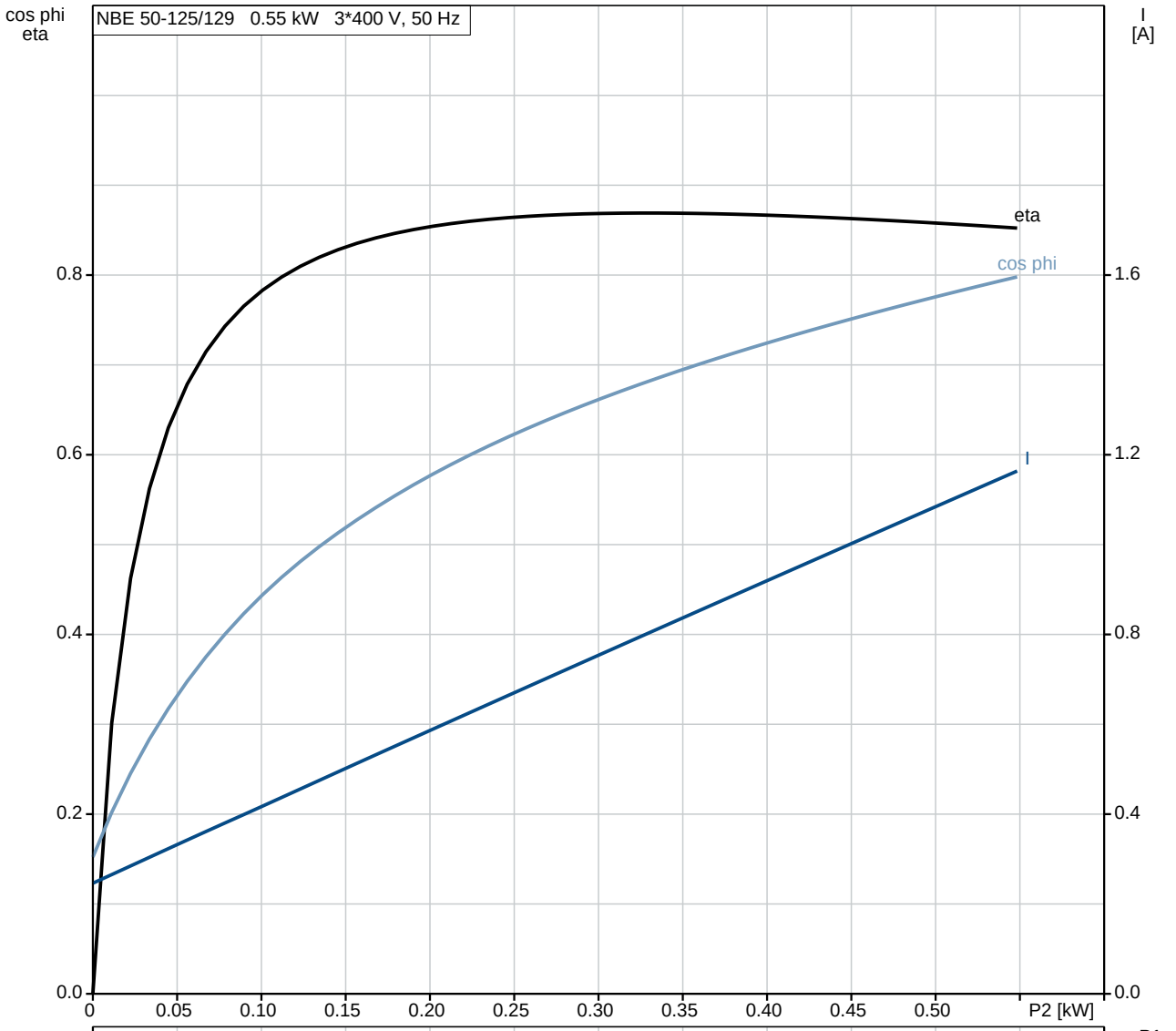
**Date:** 29/10/2020

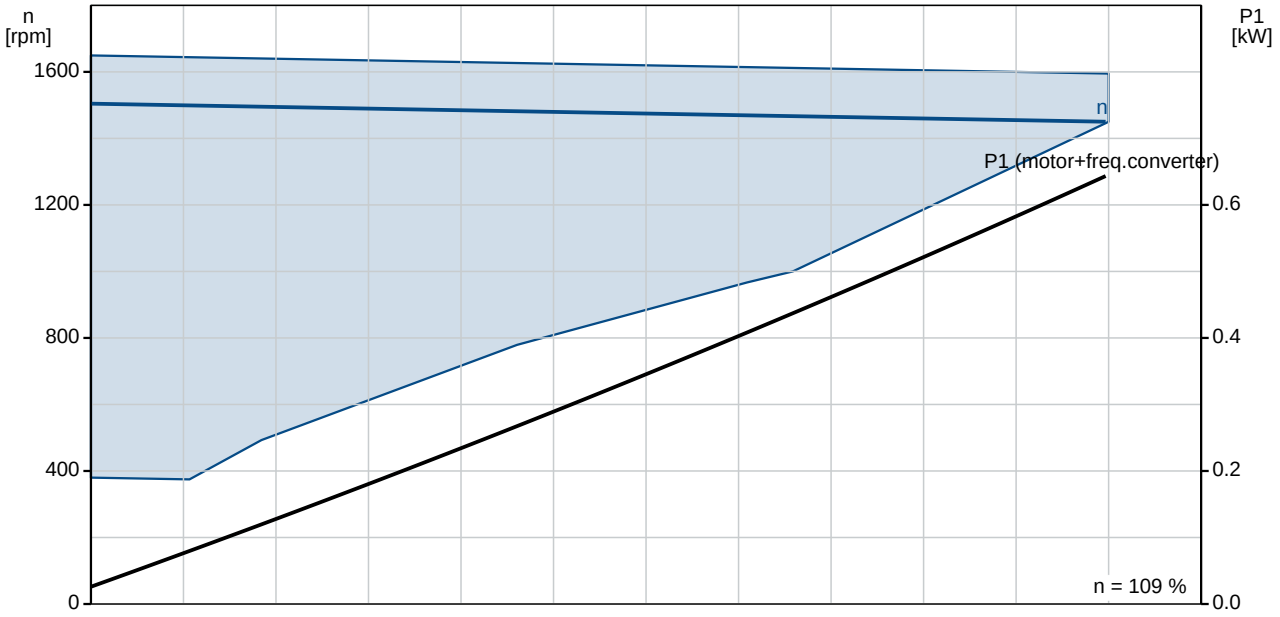
| Description | Value |
|---|---|
| Enclosure class (IEC 34-5): | IP55 |
| Insulation class (IEC 85): | F |
| Motor protec: | ELEC |
| Motor No: | 99305806 |
| Mount. design. acc. IEC 34-7: | IM V1/B5 |
| **Controls:** | |
| Control panel: | HMI300 - Graphical |
| Function Module: | FM300 - Advanced |
| Frequency converter: | Built-in |
| **Others:** | |
| Minimum efficiency index, MEI â‰¥: | 0.64 |
| Net weight: | 41 kg |
| Gross weight: | 52 kg |
| Shipping volume: | 0.134 m³ |
| Country of origin: | HU |
| Custom tariff no.: | 84137051 |

**Company name:**
**Created by:**
**Phone:**

**Date:** 29/10/2020

# 99104679 NBE 50-125/129 AF2ABQQE 50 Hz

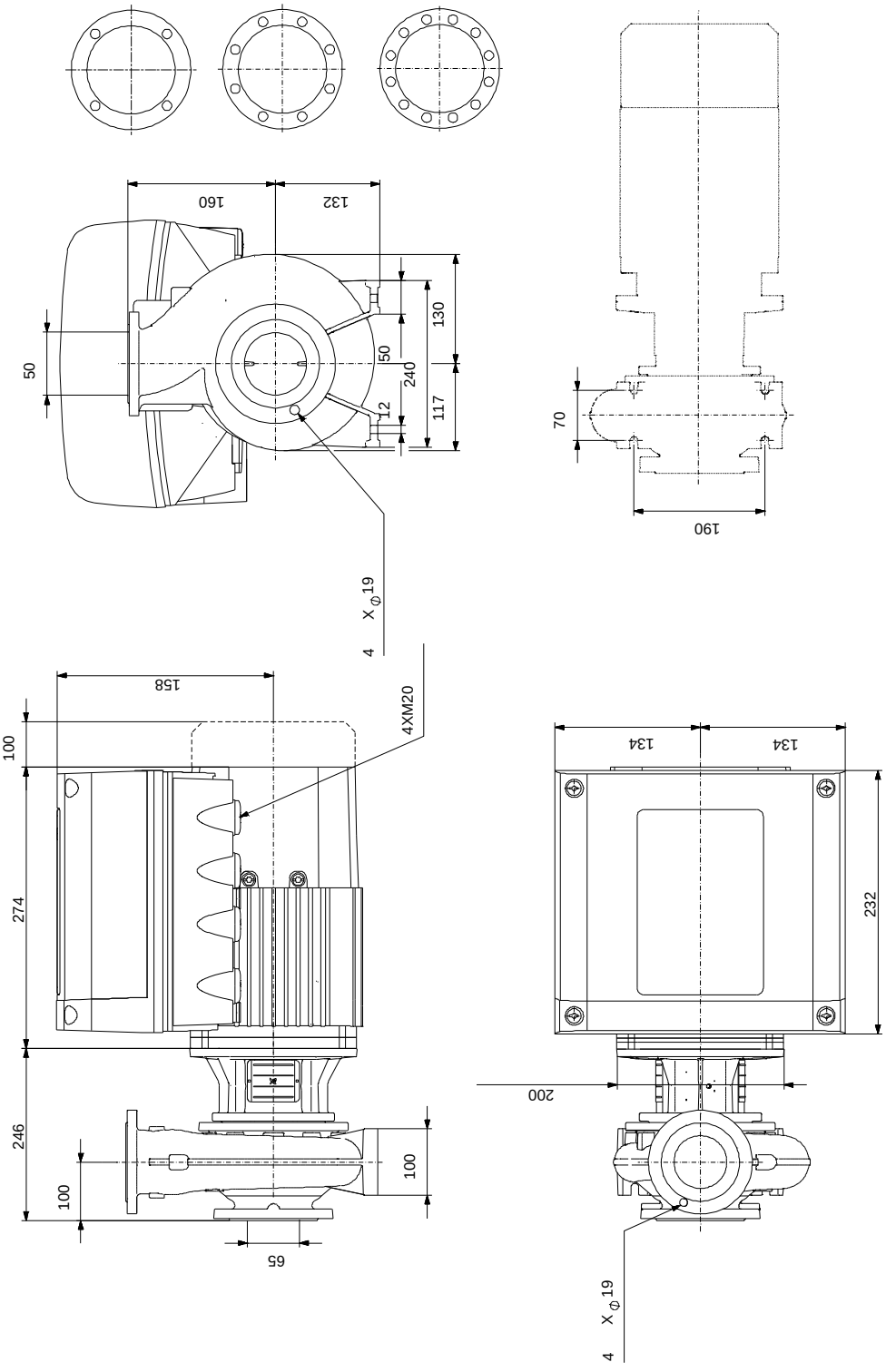


**Company name:**
**Created by:**
**Phone:**

**Date:** 29/10/2020

# 99104679 NBE 50-125/129 AF2ABQQE 50 Hz

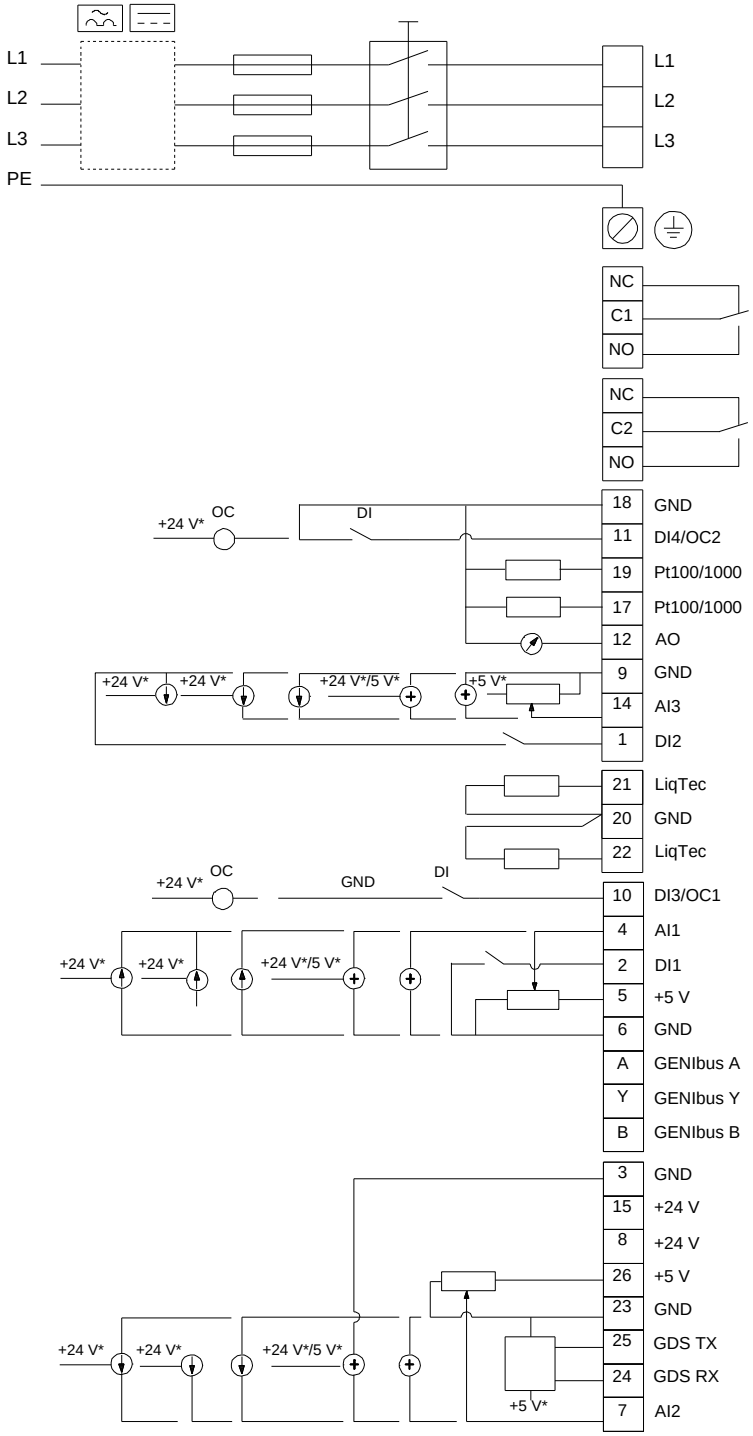



Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

**Company name:**
**Created by:**
**Phone:**

**Date:** 29/10/2020

# 99104679 NBE 50-125/129 AF2ABQQE 50 Hz




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