

NBE50-200/181 AS-F2-A-BQQE

Grundfos Pump 99101748



Thank you for your interest in our products

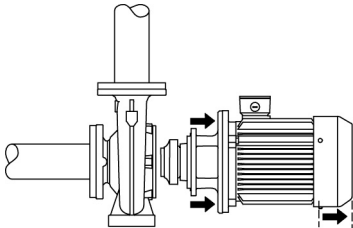
Please contact us for more information, or visit our website

<https://www.lenntech.com/grundfos/NBE00/99101748/NBE-50-200-181-AS-F2-A-E-BQQE.html>

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Position	Qty.	Description
	1	NBE 50-200/181 AS-F2-A-E-BQQE  Note! Product picture may differ from actual product Product No.: 99101748 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. 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. A control 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 control 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 the 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 pipe work.  The pump is to be secured to the foundation with bolts through the motor feet. The pump is delivered with steel support blocks to be fitted under the motor feet during installation, thus ensuring a minimum clearance of 5 mm between the motor stool/motor flange and the foundation.

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 μm .
- 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.

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.

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.

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.

Technical data

Liquid:

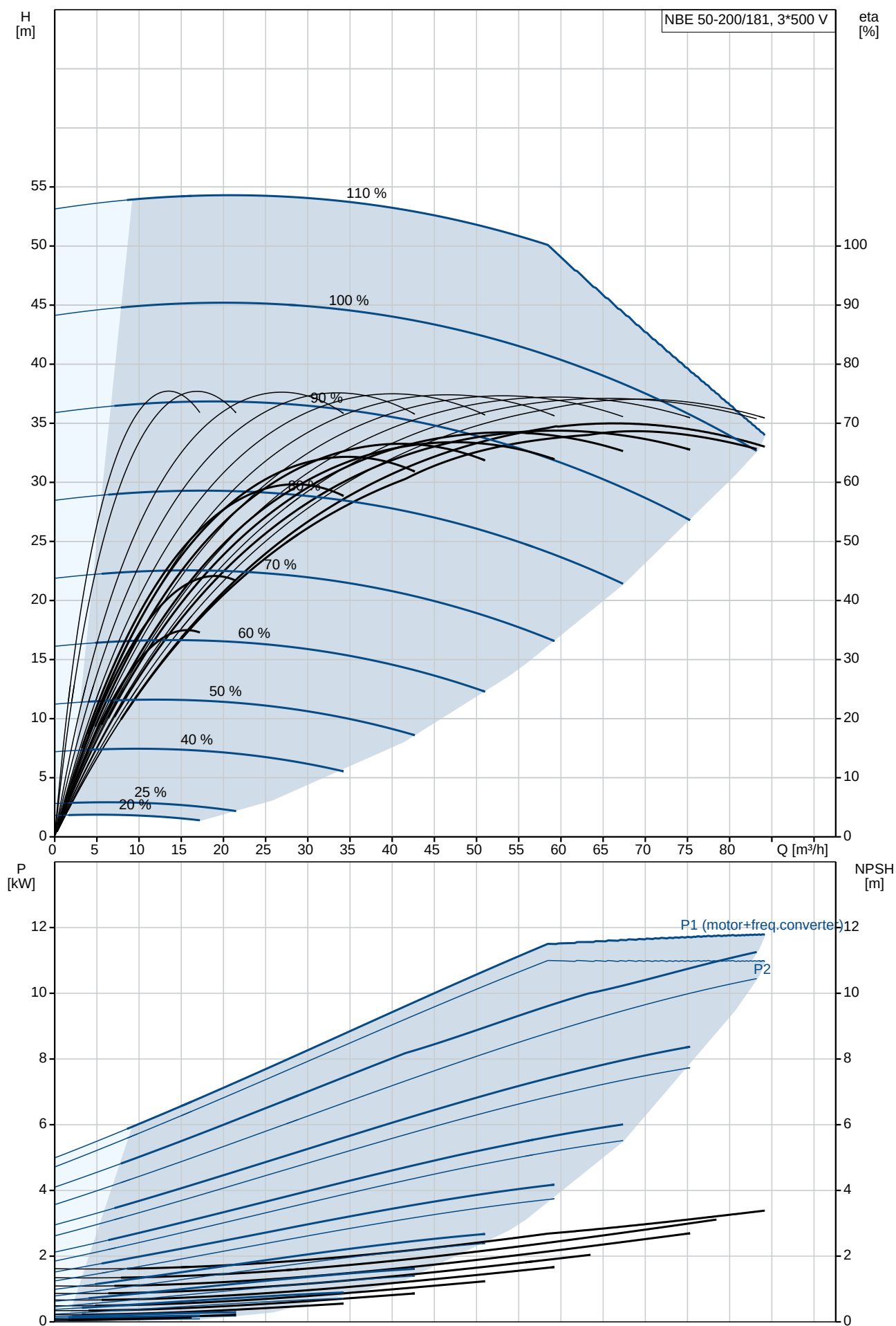
Pumped liquid:	Water
Liquid temperature range:	-25 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m ³

Technical:

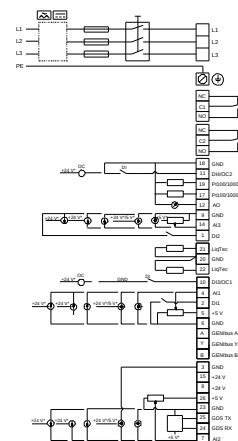
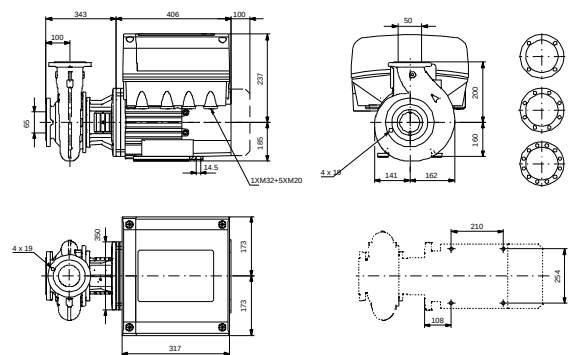
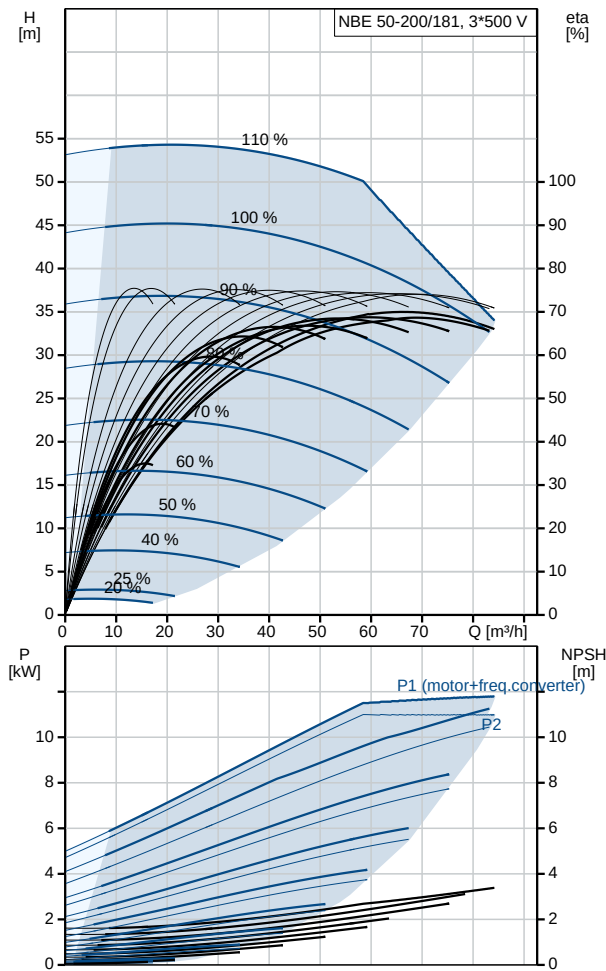
Speed for pump data:	3000 rpm
Rated flow:	72.1 m ³ /h
Rated head:	40.1 m
Actual impeller diameter:	181 mm
Impeller nom:	200 mm

Position	Qty.	Description
		Primary shaft seal: BQQE Secondary shaft seal: NONE Curve tolerance: ISO9906:2012 3B Materials: Pump housing: Cast iron EN-GJL-250 ASTM A48-40 B Impeller: Cast iron EN-GJL-200 ASTM A48-30 B Shaft: Stainless steel 1.4301 304 Rubber: EPDM Wear ring mat.: High alloy brass(CuZn34Mn3Al2) Installation: Maximum ambient temperature: 50 °C Maximum operating pressure: 16 bar Flange standard: EN 1092-2 Pump inlet: DN 65 Pump outlet: DN 50 Pressure rating: PN 16 Electrical data: Motor type: 160MH IE Efficiency class: IE5 Rated power - P2: 11 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-500 V Rated current: 20,3-16,0 A Cos phi - power factor: 0,93-0,90 Rated speed: 360-4000 rpm Efficiency: 93,1% Number of poles: 2 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: 117 kg Gross weight: 139 kg Shipping volume: 0.509 m³

99101748 NBE 50-200/181 50 Hz

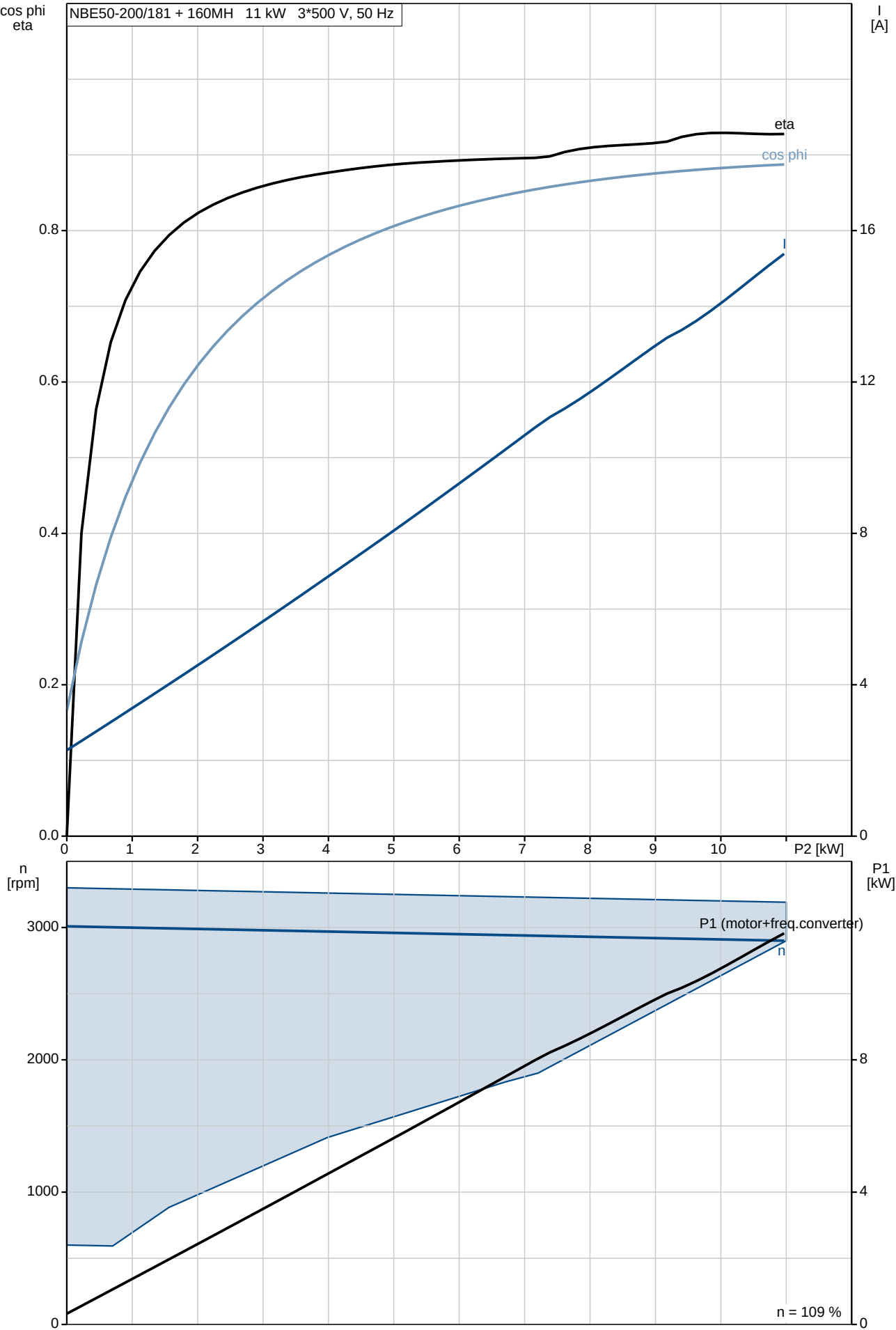


Description	Value
General information:	
Product name:	NBE 50-200/181 AS-F2-A-E-BQQE
Product No:	99101748
EAN number:	5712606787746
Technical:	
Speed for pump data:	3000 rpm
Rated flow:	72.1 m³/h
Rated head:	40.1 m
Actual impeller diameter:	181 mm
Impeller nom:	200 mm
Primary shaft seal:	BQQE
Secondary shaft seal:	NONE
Shaft diameter:	24 mm
Curve tolerance:	ISO9906:2012 3B
Pump version:	AS
Materials:	
Pump housing:	Cast iron EN-GJL-250 ASTM A48-40 B
Impeller:	Cast iron EN-GJL-200 ASTM A48-30 B
Shaft:	Stainless steel 1.4301 304
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
Flange standard:	EN 1092-2
Connect code:	F2
Pump inlet:	DN 65
Pump outlet:	DN 50
Pressure rating:	PN 16
Wear ring(s):	neckring(s)
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:	160MH
IE Efficiency class:	IE5
Rated power - P2:	11 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-500 V
Rated current:	20,3-16,0 A
Cos phi - power factor:	0,93-0,90
Rated speed:	360-4000 rpm
Efficiency:	93,1%
Number of poles:	2
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Motor protec:	YES
Motor No:	99306732
Mount. design. acc. IEC 34-7:	IM B35
Lubricant type:	Grease
Controls:	
Control panel:	HMI300 - Advanced

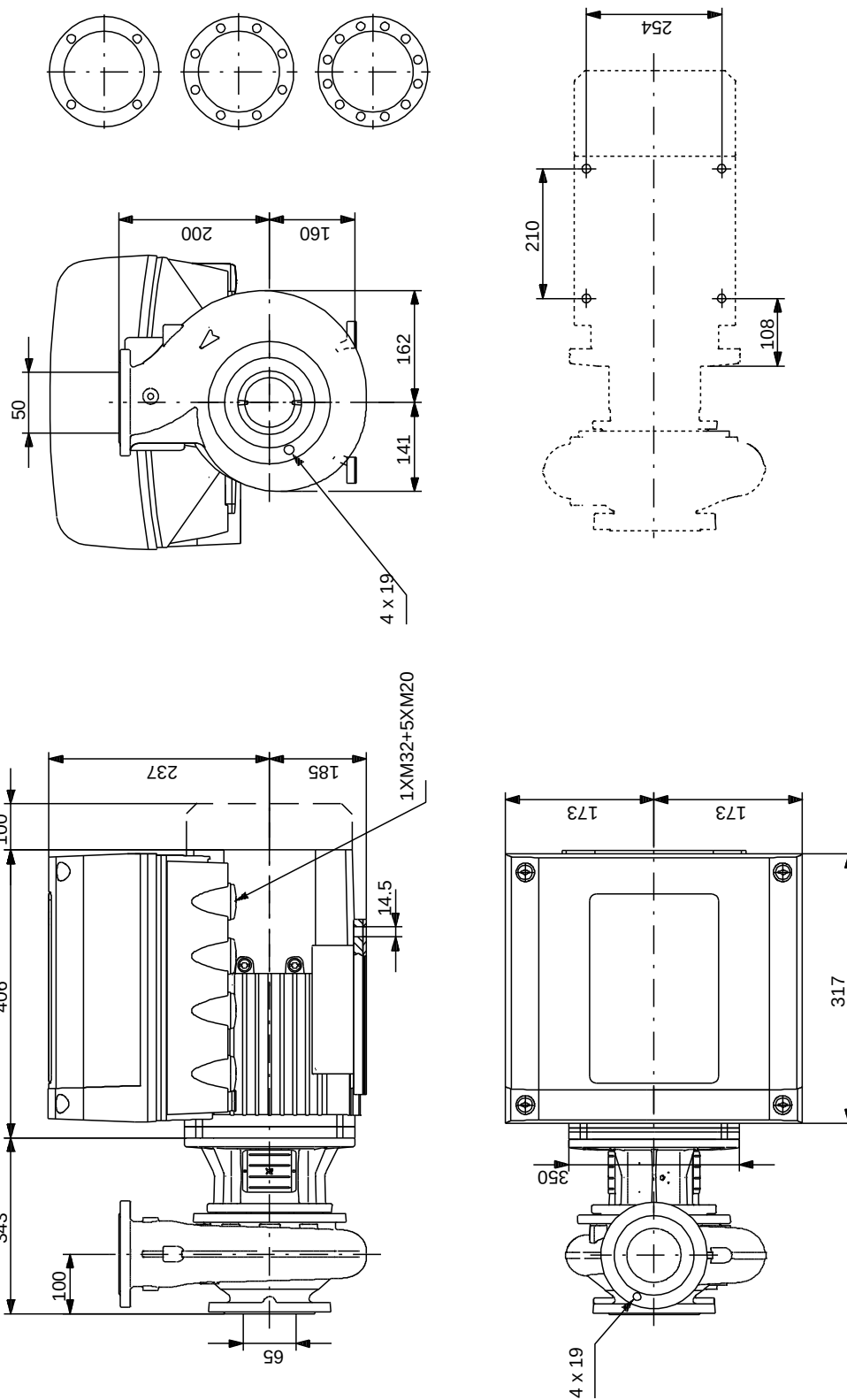


Description	Value
Function Module:	300
Others:	
Minimum efficiency index, MEI ≥:	0.70
ErP status:	EuP Standalone/Prod.
Net weight:	117 kg
Gross weight:	139 kg
Shipping volume:	0.509 m³
Config. file no:	99100723

99101748 NBE 50-200/181 50 Hz

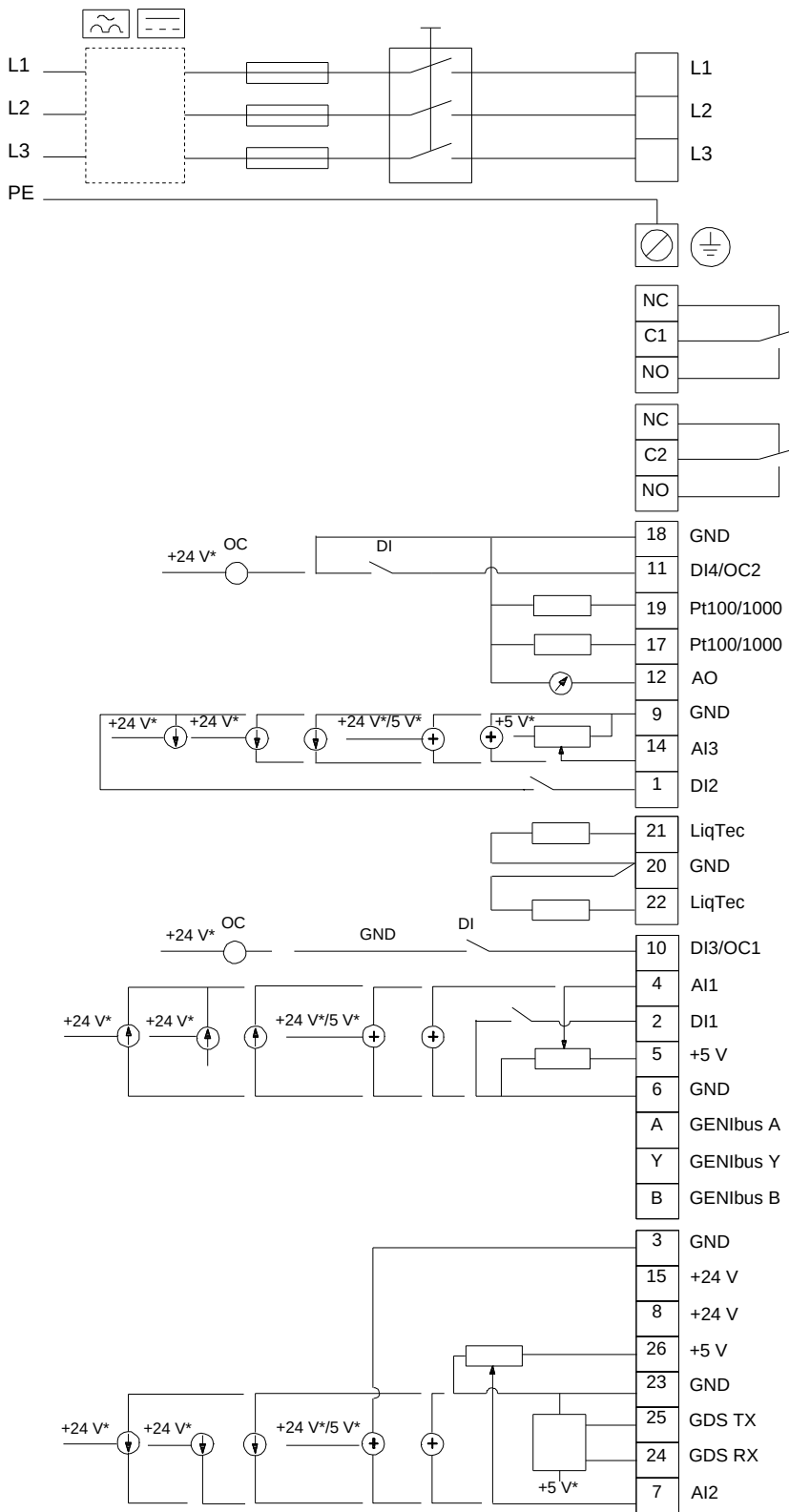


99101748 NBE 50-200/181 50 Hz



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

99101748 NBE 50-200/181 50 Hz



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

*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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