

Qty. Description

1 NBE 50-250/233 AAF2AESBQQEQW1



Note! Product picture may differ from actual product

Product No.: [98978489](#)

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 asynchronous motor.

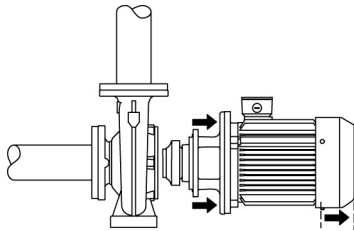
The motor includes a frequency converter and PI controller in the motor terminal box. This enables continuously variable control of the motor speed, which again enables adaptation of the performance to a given requirement.

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 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".

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

Motor stool and pump cover are made of cast iron (EN-GJL-250). Coupling guards are fitted to the motor stool.

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.

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 pump housing has no feet.

Qty. Description

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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_{max} = 5 mA
- one analog sensor input, 0-10 V, 0(4)-20 mA
- 24 V voltage supply for sensor, I_{max} = 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/m³

Technical:

Pump speed on which pump data are based: 2940 rpm

Rated flow: 78.77 m³/h

Rated head: 63 m

Actual impeller diameter: 233 mm

Nominal impeller diameter: 250

Shaft seal arrangement: Single

Code for shaft seal: BQQE

Curve tolerance: ISO9906:2012 3B

Bearing design: Standard

Materials:

Pump housing: Cast iron
EN-GJL-250
ASTM class 35

Wear ring: Brass

Impeller: Cast iron
EN-GJL-200
ASTM class 30

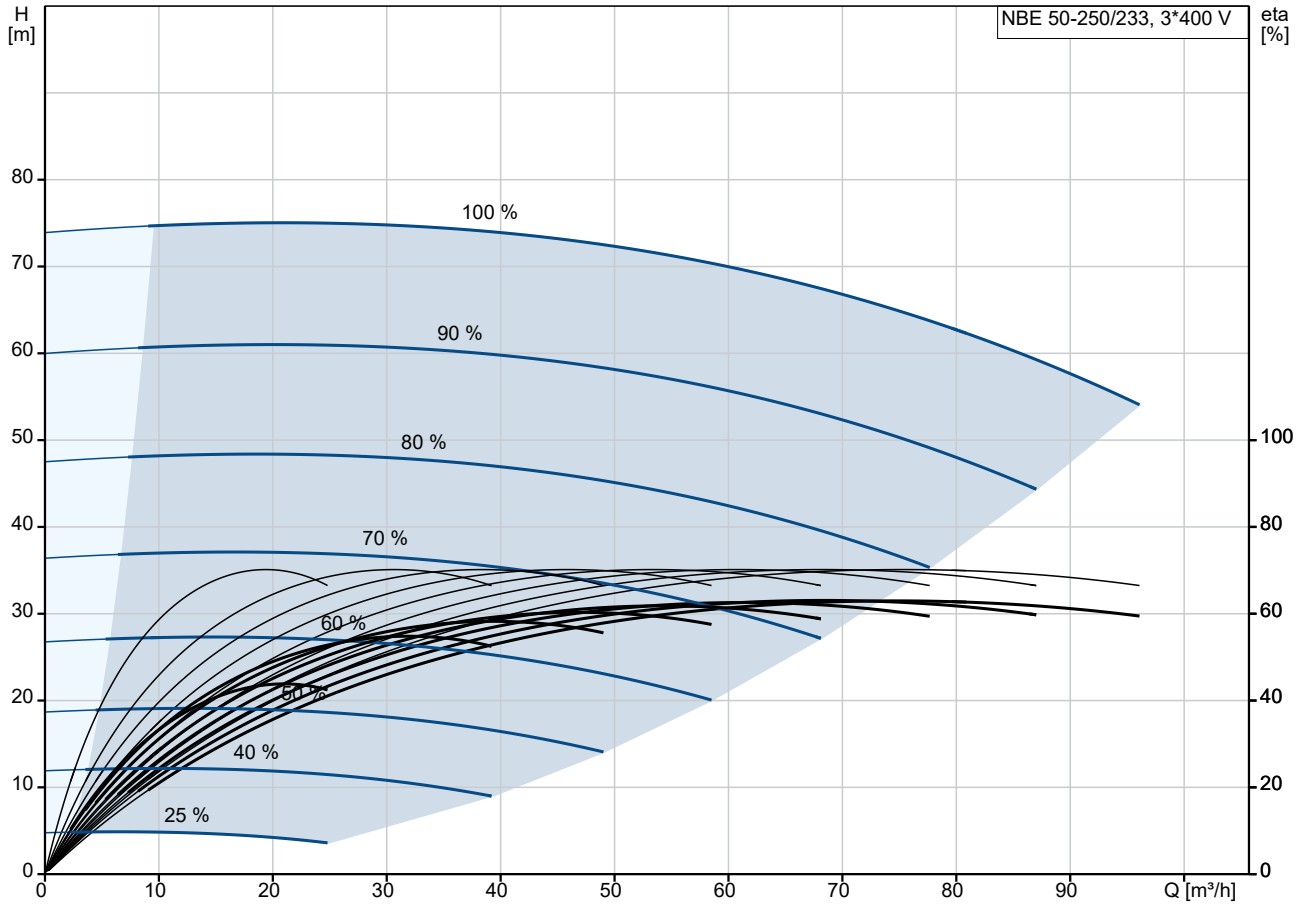
Internal pump house coating: CED

Shaft: Stainless steel
EN 1.4301
AISI 304

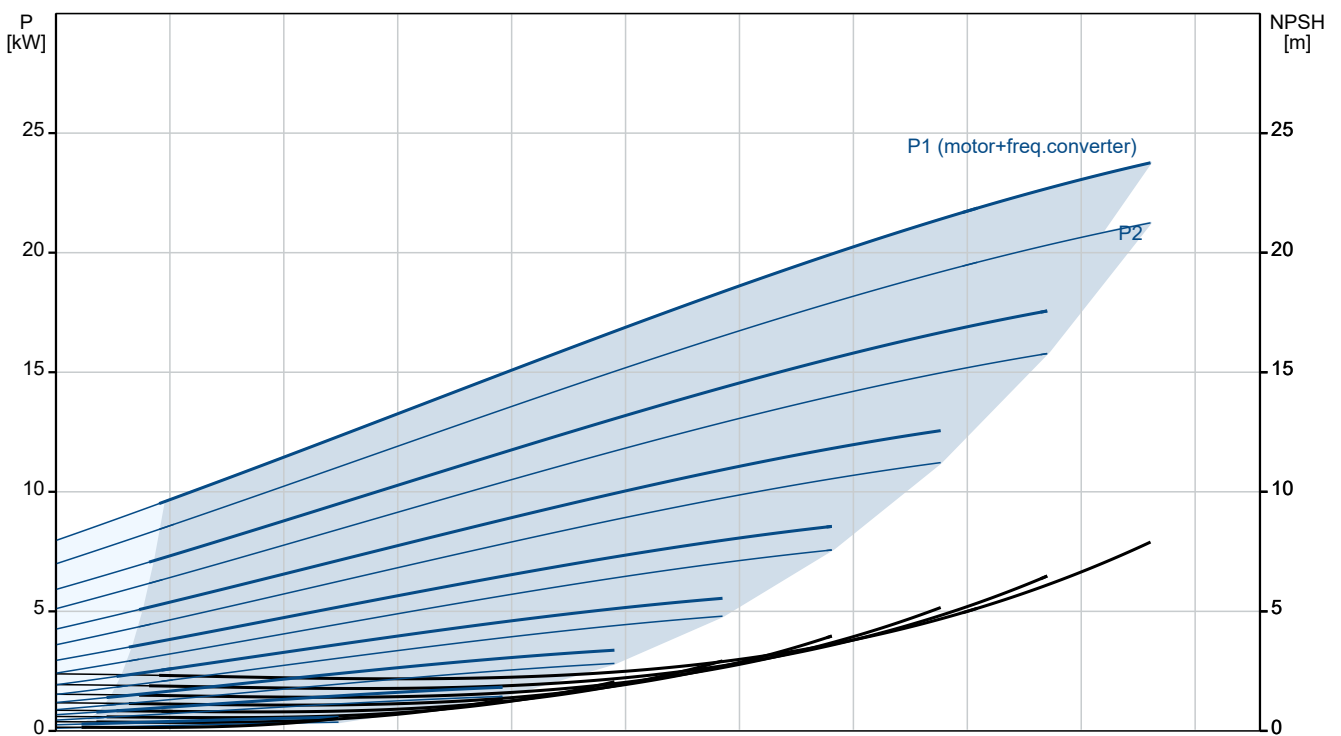
Qty.	Description
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1	<p>Installation:</p> <p>Range of ambient temperature: -20 .. 40 °C</p> <p>Maximum operating pressure: 16 bar</p> <p>Pipe connection standard: EN 1092-2</p> <p>Size of inlet connection: DN 65</p> <p>Size of outlet connection: DN 50</p> <p>Pressure rating for connection: PN 16</p> <p>Bearing lubrication: Grease</p> <p>Pump housing with feet: No</p> <p>Support block (Yes/No): N</p> <p>Electrical data:</p> <p>IE Efficiency class: IE3</p> <p>Rated power - P2: 22 kW</p> <p>Mains frequency: 50 Hz</p> <p>Rated voltage: 3 x 380-480 V</p> <p>Rated current: 43.5-35.0 A</p> <p>Cos phi - power factor: 0.91-0.90</p> <p>Rated speed: 480-3540 rpm</p> <p>Efficiency: IE3 92,7%</p> <p>Motor efficiency at full load: 92.7 %</p> <p>Number of poles: 2</p> <p>Enclosure class (IEC 34-5): IP55</p> <p>Insulation class (IEC 85): F</p> <p>Motor No: 85901267</p> <p>Others:</p> <p>Minimum efficiency index, MEI ≥: 0.67</p> <p>Net weight: 217 kg</p> <p>Gross weight: 242 kg</p> <p>Shipping volume: 0.707 m³</p> <p>Danish VVS No.: 386102254</p>
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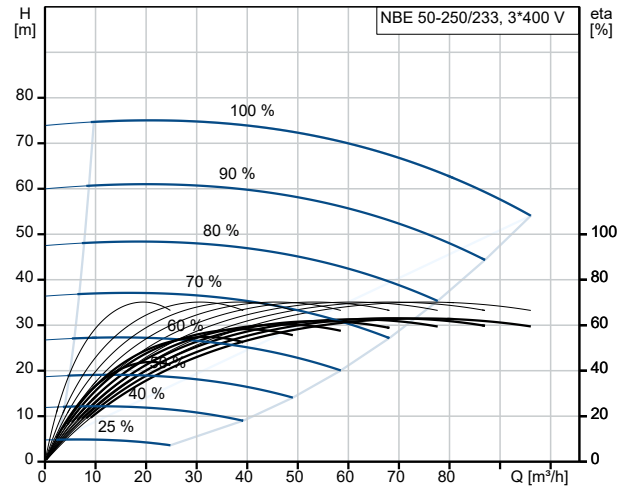
98978489 NBE 50-250/233 AAF2AESBQQEQW1 50 Hz



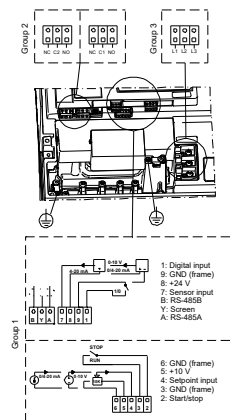
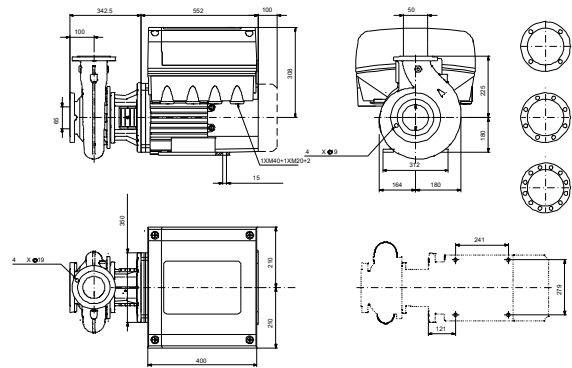
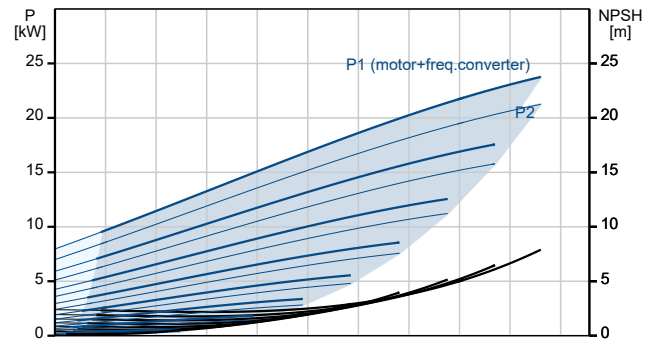
Pumped liquid = Water
Liquid temperature during operation = 20 °C
Density = 998.2 kg/m³



Description	Value
General information:	
Product name:	NBE 50-250/233 AAF2AESBQQEQW1
Product No:	98978489
EAN number:	5712604595107
Technical:	
Pump speed on which pump data are based:	2940 rpm
Rated flow:	78.77 m ³ /h
Rated head:	63 m
Actual impeller diameter:	233 mm
Nominal impeller diameter:	250
Shaft seal arrangement:	Single
Shaft diameter:	24 mm
Code for shaft seal:	BQQE
Curve tolerance:	ISO9906:2012 3B
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
Internal pump house coating:	CED
Material code:	A
Code for rubber:	E
Shaft:	Stainless steel
Shaft:	EN 1.4301
Shaft:	AISI 304
Installation:	
Range of ambient temperature:	-20 .. 40 °C
Maximum operating pressure:	16 bar
Pipe connection standard:	EN 1092-2
Size of inlet connection:	DN 65
Size of outlet connection:	DN 50
Pressure rating for connection:	PN 16
Bearing lubrication:	Grease
Pump housing with feet:	No
Support block (Yes/No):	N
Connect code:	F2
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-25 .. 120 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m ³
Electrical data:	
IE Efficiency class:	IE3
Rated power - P2:	22 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-480 V
Rated current:	43.5-35.0 A
Cos phi - power factor:	0.91-0.90
Rated speed:	480-3540 rpm
Efficiency:	IE3 92,7%
Motor efficiency at full load:	92.7 %
Number of poles:	2



Pumped liquid = Water
Liquid temperature during operation = 20 °C
Density = 998.2 kg/m³





Company name:

Created by:

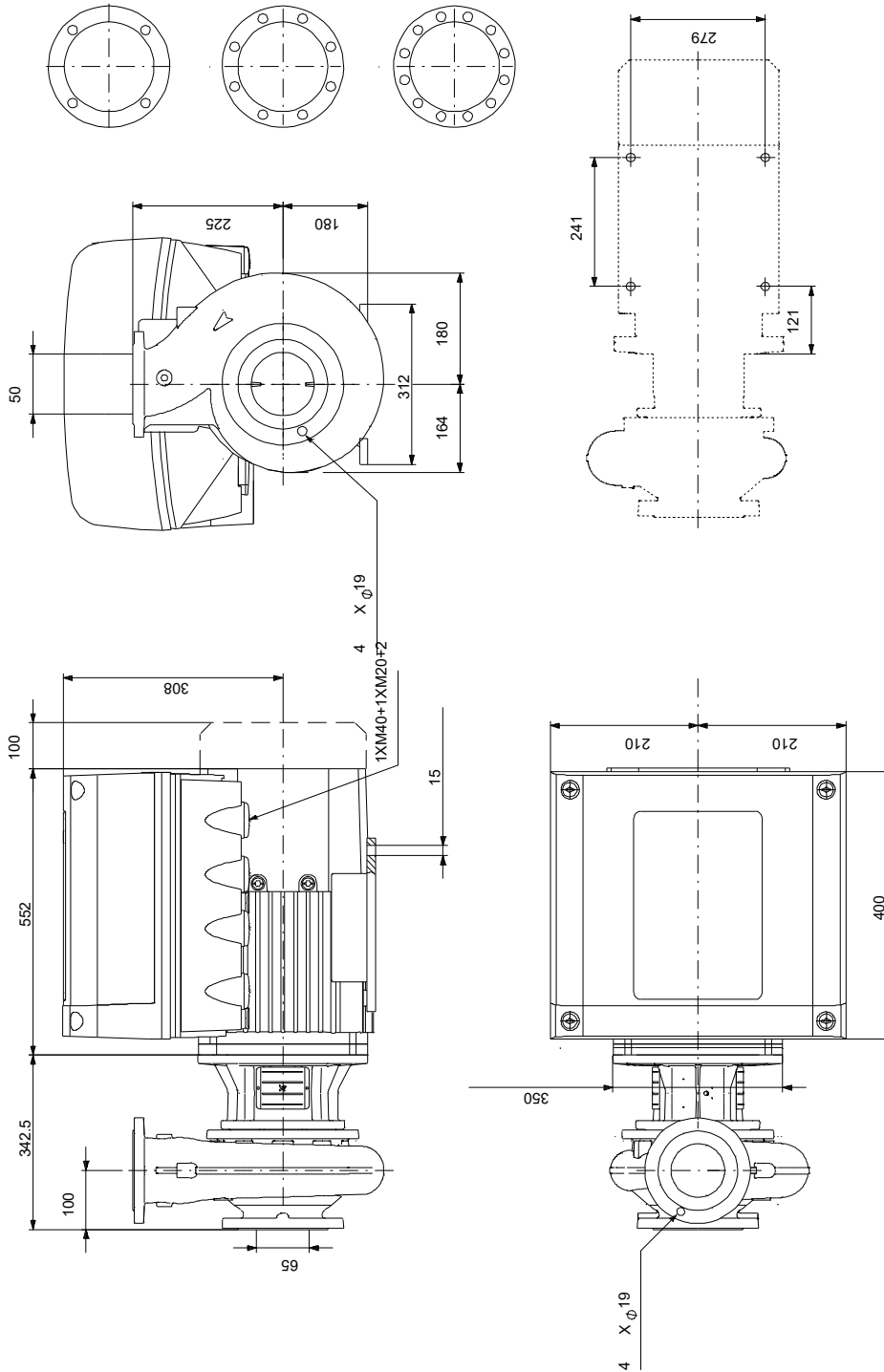
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28/12/2022

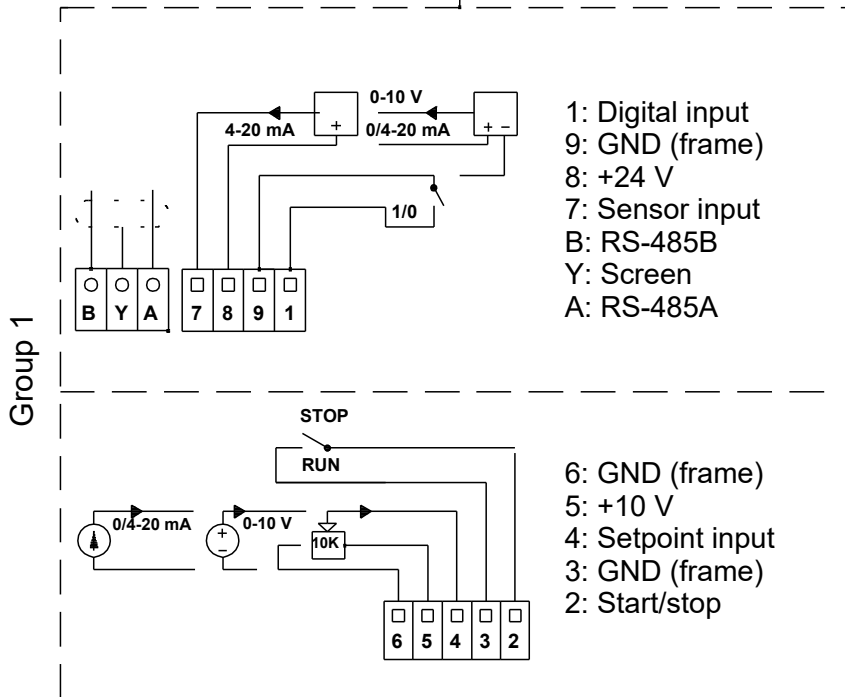
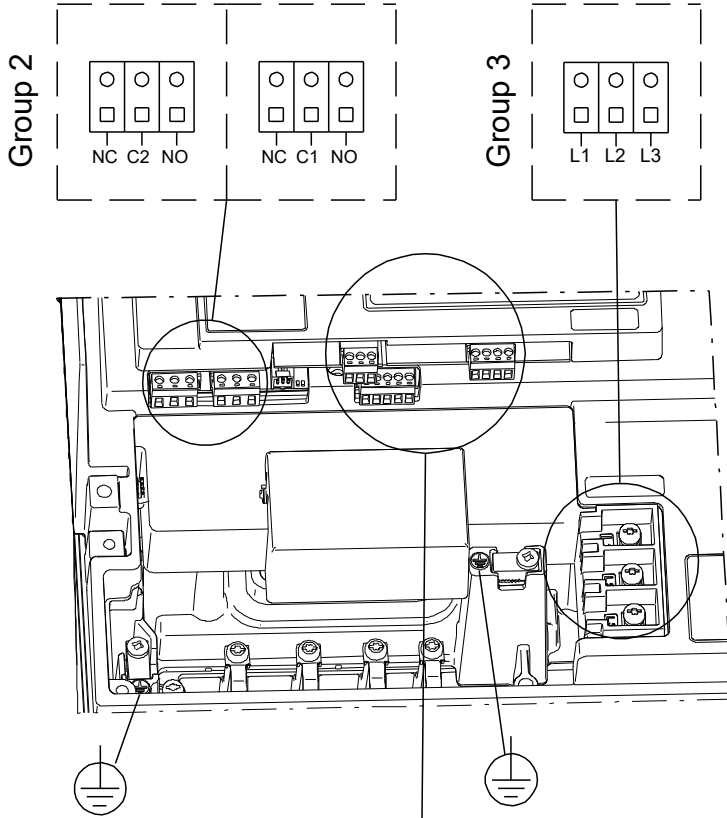
Description	Value
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Built-in motor protection:	YES
Motor No:	85901267
Mount. design. acc. IEC 34-7:	IM B35
Controls:	
Control panel:	Standard
Function Module:	PUMP I/O
Frequency converter:	Built-in
Pressure sensor:	N
Others:	
Minimum efficiency index, MEI \geq :	0.67
Net weight:	217 kg
Gross weight:	242 kg
Shipping volume:	0.707 m ³
Danish VVS No.:	386102254

98978489 NBE 50-250/233 AAF2AESBQQEQW1 50 Hz



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

98978489 NBE 50-250/233 AAF2AESBQQEQW1 50 Hz



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

