

Qty. Description1 **NBE 80-160/147-127 AASF2AESBQQENWB**

Note! Product picture may differ from actual product

Product No.: [99106396](#)

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.

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.

The operating panel on the motor terminal box features a four-inch TFT display, push-buttons and the Grundfos Eye indicator.

The display gives an intuitive and user-friendly interface to all functions.

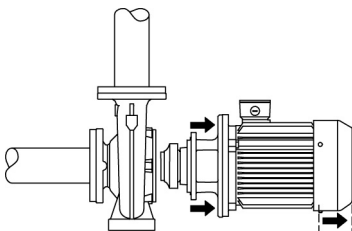
The push-buttons are used to navigate through the menu structure to access pump and performance data on site and enable setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop".

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 also 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.

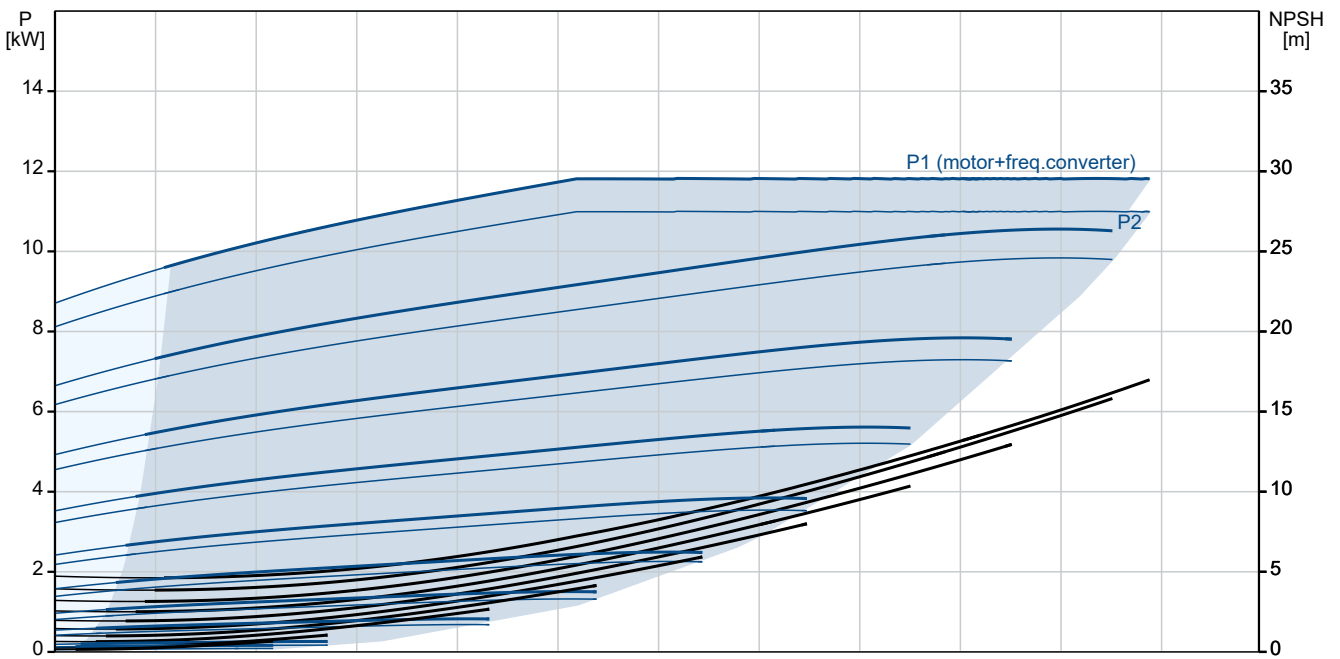
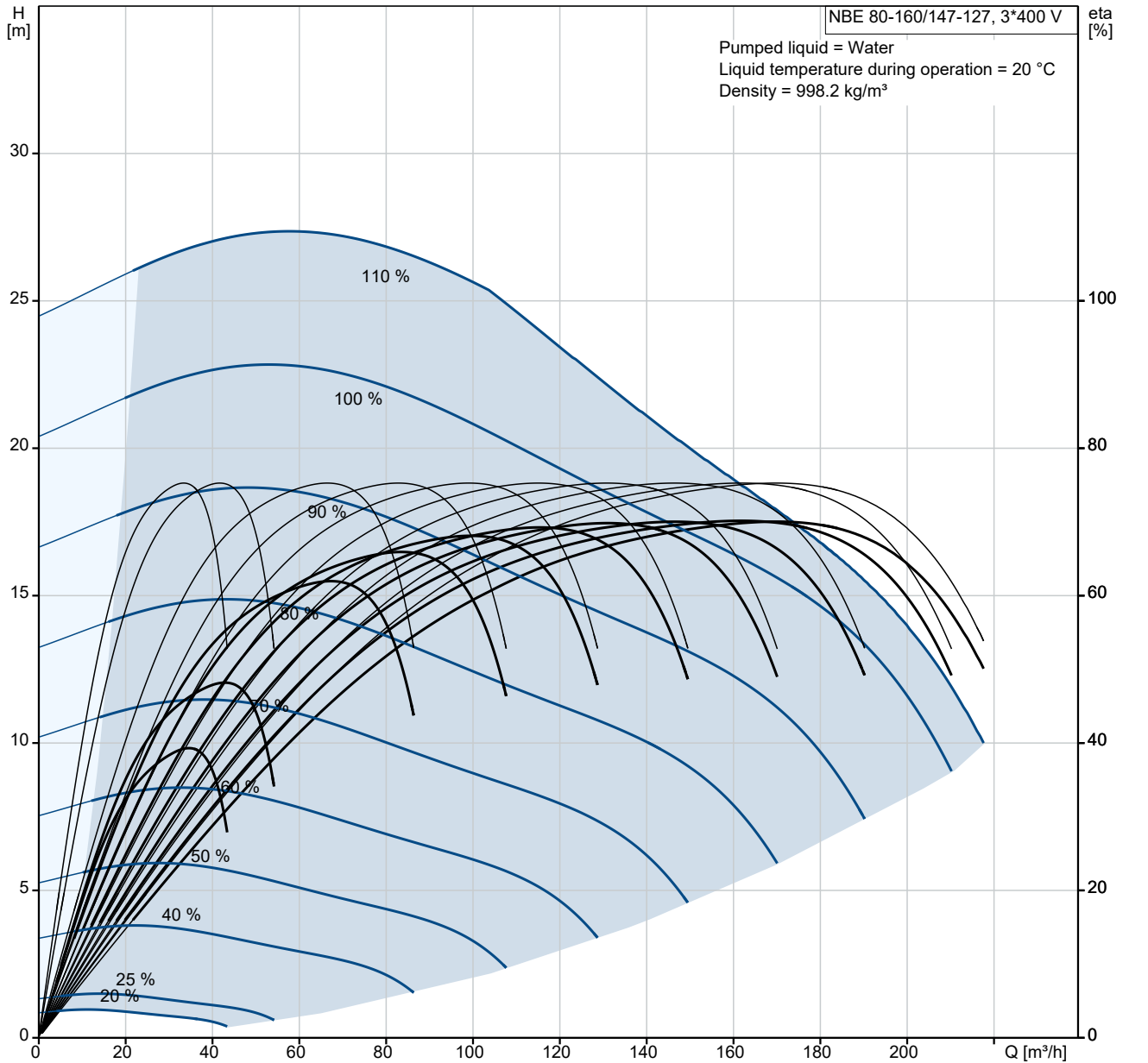
Seal faces:

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

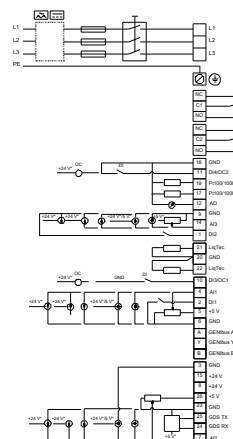
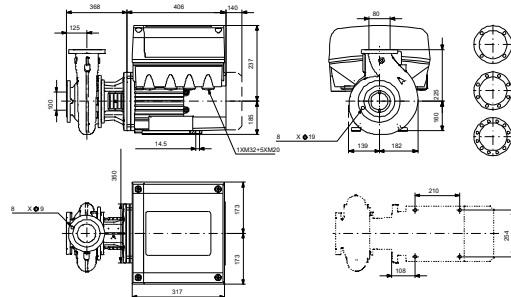
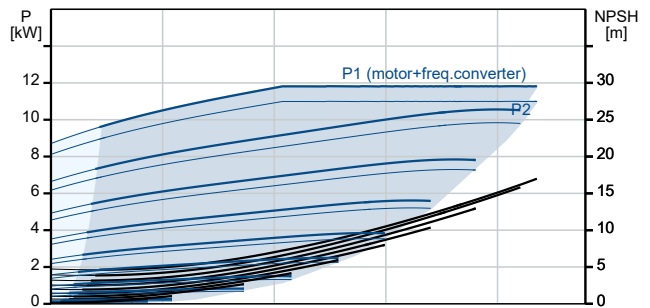
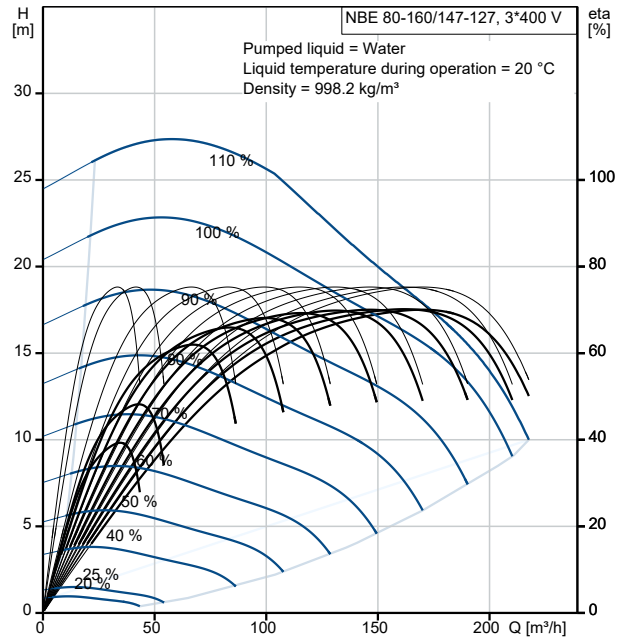
Qty.	Description																																						
1	<p data-bbox="201 163 1449 215">This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.</p> <p data-bbox="201 219 1075 309">Secondary 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.</p> <p data-bbox="201 311 1426 385">The pump is to be secured to the foundation with bolts through the pump housing feet and motor feet. The pump is delivered with steel support blocks. The support blocks provide horizontal alignment of the pump and ensure clearance between the motor stool/motor flange and the foundation.</p> <p data-bbox="201 427 284 456">Motor</p> <p data-bbox="201 459 1394 512">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 data-bbox="201 515 1016 544">The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.</p> <p data-bbox="201 546 1409 600">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.</p> <p data-bbox="201 602 798 631">The terminal box holds terminals for these connections:</p> <ul data-bbox="237 633 882 898" style="list-style-type: none"> - 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) - GENbus connection - interface for Grundfos CIM fieldbus module. <p data-bbox="201 963 512 992">Further product details</p> <p data-bbox="201 994 1449 1070">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 data-bbox="201 1142 400 1171">Technical data</p> <p data-bbox="201 1211 300 1240">Controls:</p> <table data-bbox="201 1243 639 1294"> <tr> <td>Frequency converter:</td> <td>Built-in</td> </tr> <tr> <td>Pressure sensor:</td> <td>N</td> </tr> </table> <p data-bbox="201 1328 276 1357">Liquid:</p> <table data-bbox="201 1359 703 1473"> <tr> <td>Pumped liquid:</td> <td>Water</td> </tr> <tr> <td>Liquid temperature range:</td> <td>-25 .. 120 °C</td> </tr> <tr> <td>Selected liquid temperature:</td> <td>20 °C</td> </tr> <tr> <td>Density:</td> <td>998.2 kg/m³</td> </tr> </table> <p data-bbox="201 1507 316 1536">Technical:</p> <table data-bbox="201 1538 818 1800"> <tr> <td>Pump speed on which pump data are based:</td> <td>2901 rpm</td> </tr> <tr> <td>Rated flow:</td> <td>161.1 m³/h</td> </tr> <tr> <td>Rated head:</td> <td>16.61 m</td> </tr> <tr> <td>Actual impeller diameter:</td> <td>137 mm</td> </tr> <tr> <td>Nominal impeller diameter:</td> <td>160</td> </tr> <tr> <td>Shaft seal arrangement:</td> <td>Single</td> </tr> <tr> <td>Code for shaft seal:</td> <td>BQQE</td> </tr> <tr> <td>Curve tolerance:</td> <td>ISO9906:2012 3B</td> </tr> <tr> <td>Bearing design:</td> <td>Standard</td> </tr> </table> <p data-bbox="201 1834 308 1863">Materials:</p> <table data-bbox="201 1865 730 2094"> <tr> <td>Pump housing:</td> <td>Cast iron EN-GJL-250 ASTM class 35</td> </tr> <tr> <td>Wear ring:</td> <td>Brass</td> </tr> <tr> <td>Impeller:</td> <td>Cast iron EN-GJL-200 ASTM class 30</td> </tr> <tr> <td>Internal pump house coating:</td> <td>CED</td> </tr> </table>	Frequency converter:	Built-in	Pressure sensor:	N	Pumped liquid:	Water	Liquid temperature range:	-25 .. 120 °C	Selected liquid temperature:	20 °C	Density:	998.2 kg/m ³	Pump speed on which pump data are based:	2901 rpm	Rated flow:	161.1 m ³ /h	Rated head:	16.61 m	Actual impeller diameter:	137 mm	Nominal impeller diameter:	160	Shaft seal arrangement:	Single	Code for shaft seal:	BQQE	Curve tolerance:	ISO9906:2012 3B	Bearing design:	Standard	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
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Qty.	Description
1	<p>Shaft: Stainless steel EN 1.4301 AISI 304</p> <p>Installation:</p> <p>Range of ambient temperature: -20 .. 50 °C Maximum operating pressure: 16 bar Pipe connection standard: EN 1092-2 Size of inlet connection: DN 100 Size of outlet connection: DN 80 Pressure rating for connection: PN 16 Bearing lubrication: Grease Pump housing with feet: No Support block (Yes/No): Y</p> <p>Electrical data:</p> <p>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% Motor efficiency at full load: 93.1 % Number of poles: 2 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor No: 99306732 Bearing insulation type N-end: STEEL BEARING</p> <p>Others:</p> <p>Minimum efficiency index, MEI \geq: 0.70 Net weight: 127 kg Gross weight: 148 kg Shipping volume: 0.509 m³ Danish VVS No.: 386104162 Country of origin: HU Custom tariff no.: 84137051</p>

99106396 NBE 80-160/147-127 AASF2AESBQQENWB 50 Hz

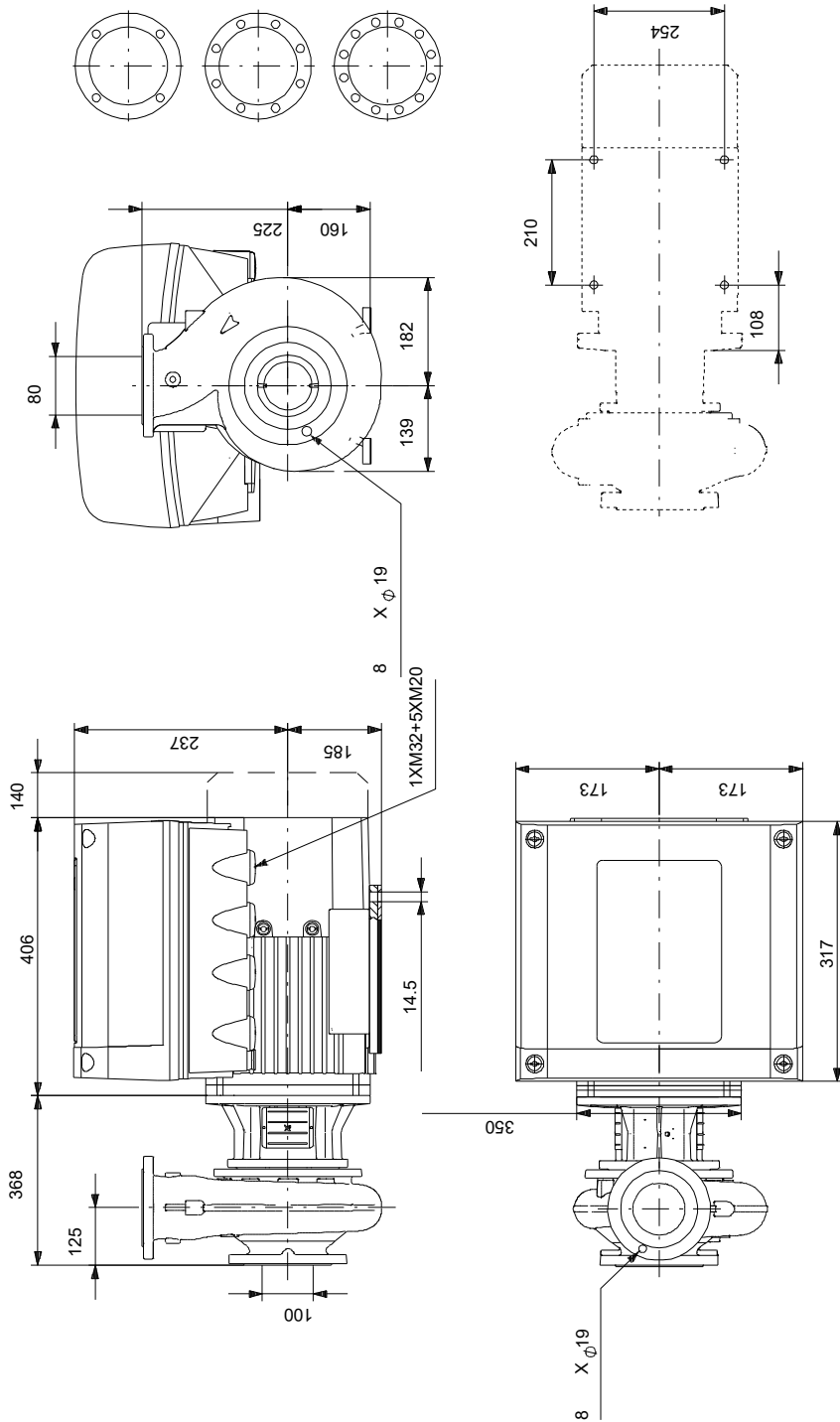


Description	Value
General information:	
Product name:	NBE 80-160/147-127 AASF2AESBQQENWB
Product No:	99106396
EAN number:	5712606871742
Technical:	
Pump speed on which pump data are based:	2901 rpm
Rated flow:	161.1 m ³ /h
Rated head:	16.61 m
Actual impeller diameter:	137 mm
Nominal impeller diameter:	160
Shaft seal arrangement:	Single
Shaft diameter:	24 mm
Code for shaft seal:	BQQE
Curve tolerance:	ISO9906:2012 3B
Pump version:	AS
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 .. 50 °C
Maximum operating pressure:	16 bar
Pipe connection standard:	EN 1092-2
Size of inlet connection:	DN 100
Size of outlet connection:	DN 80
Pressure rating for connection:	PN 16
Bearing lubrication:	Grease
Pump housing with feet:	No
Support block (Yes/No):	Y
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:	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%
Motor efficiency at full load:	93.1%
Number of poles:	2
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Built-in motor protection:	ELEC
Motor No:	99306732
Mount. design. acc. IEC 34-7:	IM B35



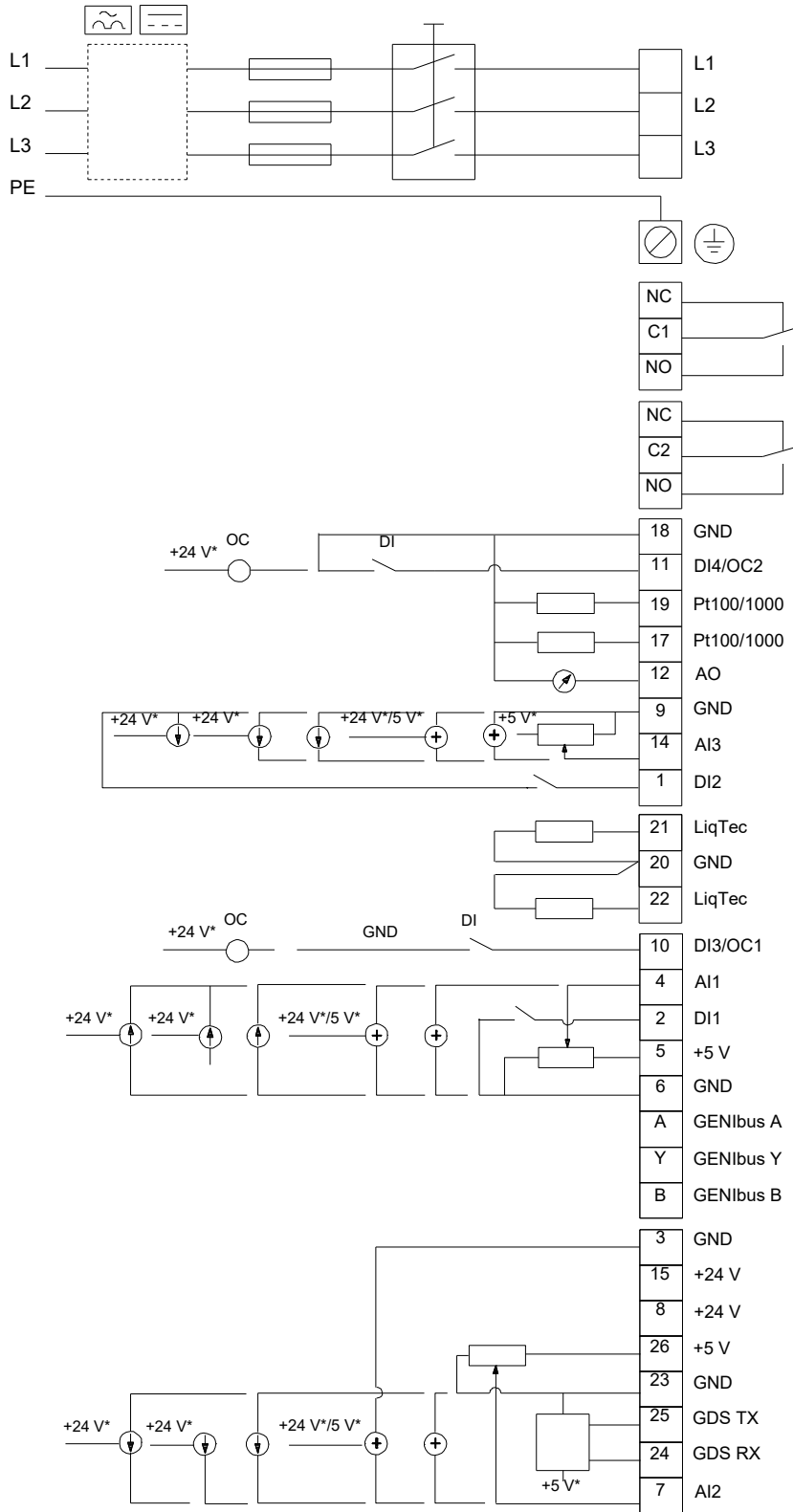
Description	Value
Bearing insulation type N-end:	STEEL BEARING
Controls:	
Control panel:	HMI300 - Advanced
Function Module:	FM300 - Advanced
Frequency converter:	Built-in
Pressure sensor:	N
Others:	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	127 kg
Gross weight:	148 kg
Shipping volume:	0.509 m ³
Danish VVS No.:	386104162
Country of origin:	HU
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99106396 NBE 80-160/147-127 AASF2AESBQQENWB 50 Hz



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

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