GRUNDFOS **DATA BOOKLET**

NKE80-250/225A1F2AE-SBAQE

Grundfos Pump 99097261



Thank you for your interest in our products
Please contact us for more information, or visit our website
https://www.lenntech.com/grundfos/NKEBASIS/99097261/NKE-80-250-225-A1-F-A-E-BAQE.html

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Position	Qty.	Description
	1	**NKE 80-250/225 A1-F-A-E-BAQE**



Product No.: 99097261

Non-self-priming, single-stage, centrifugal volute 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 motor, coupling, bearing bracket and impeller without disturbing the 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, permanent-magnet synchronous 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.

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.

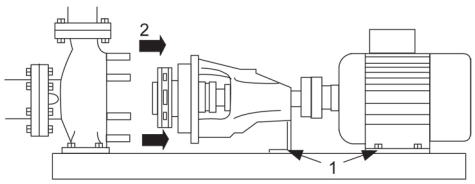
A control panel on the motor terminal box enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". The Grundfos Eye indicator on the control panel provides visual indication of pump status:

- "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".

Pump and motor are mounted on a common steel base frame in accordance with ISO 3661. The back pull-out design makes it possible to make service on the pump when the pump housing is still connected to the inlet and discharge pipes.

1) Remove the bolts in the bearing bracket support foot and motor foot.
2) Remove the bearing bracket and the motor from the pump housing.



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 my m.

Position	Qty.	Description

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.

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: Carbon graphite, metal-impregnated
- Stationary seat material: Silicon carbide (SiC)

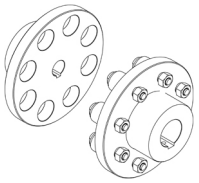
This material pairing has a very good corrosion resistance and is especially suitable for water up to +120 °C. However, seal life will be reduced at temperatures above +90 °C. The material pairing is not recommended for liquids containing particles as this will result in heavy wear on the SiC face.

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 32 mm where the coupling is mounted.

The pump uses a standard 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 and mounting designation B3 (IM 1001). 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:

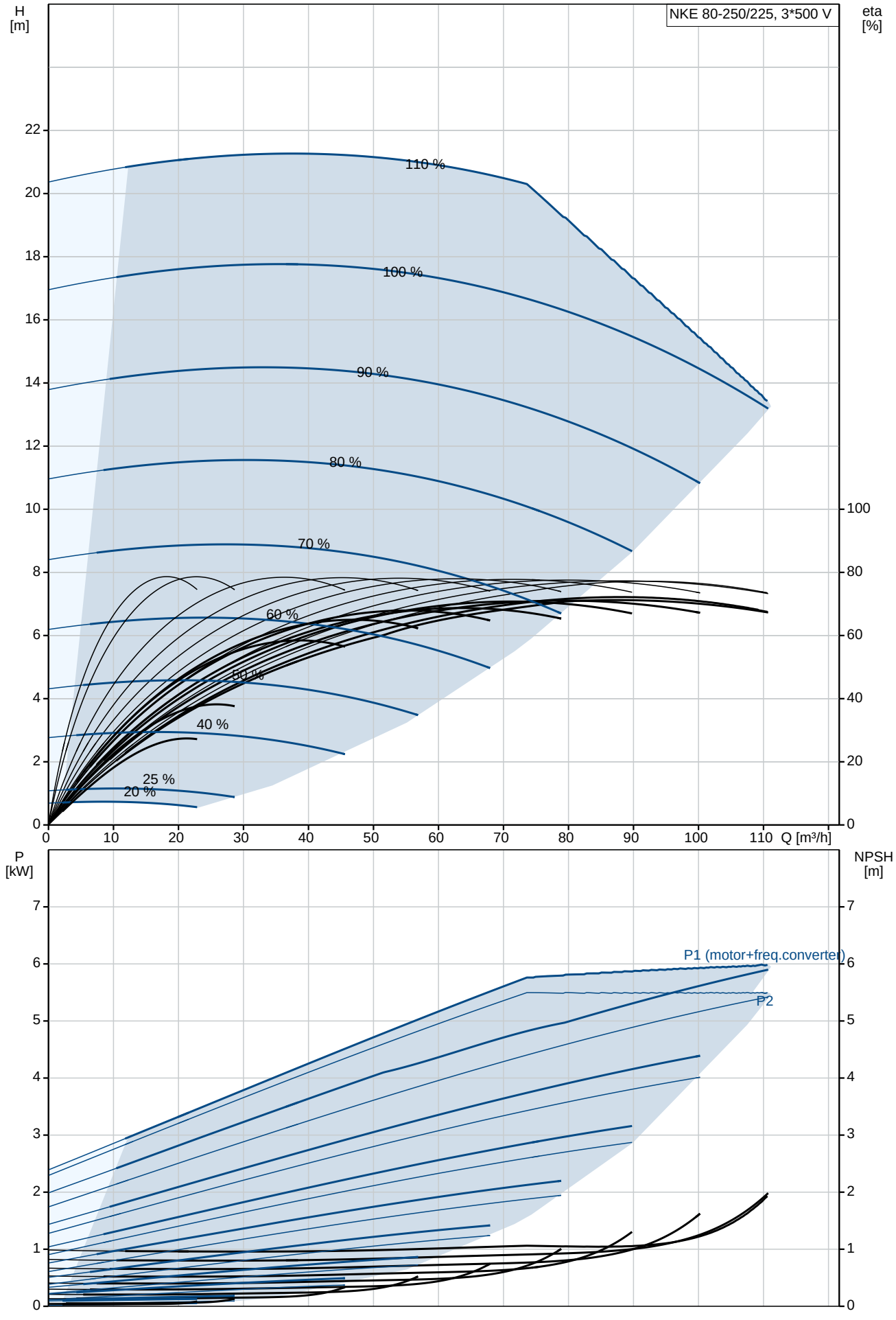
Pumped liquid:	Water
Liquid temperature range:	0 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m³

Technical:

Speed for pump data:	1450 rpm
Rated flow:	91.3 m³/h
Rated head:	15.3 m
Actual impeller diameter:	225 mm
Impeller nom:	250 mm
Primary shaft seal:	BAQE
Secondary shaft seal:	NONE

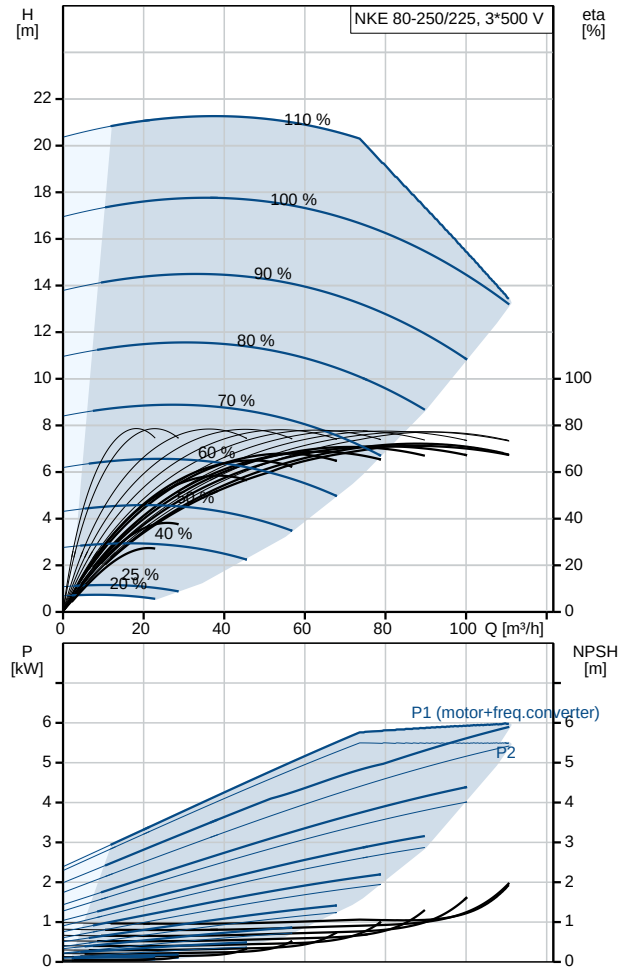
Position	Qty.	Description	
		Curve tolerance:	ISO9906:2012 3B
		Materials:	
		Pump housing:	Cast iron EN-GJL-250 ASTM A48-40 B
		Impeller:	Cast iron EN-GJL-200 ASTM A48-30 B
		Rubber:	EPDM
		Wear ring mat.:	High alloy brass(CuZn34Mn3AI2
		Installation:	
		Maximum ambient temperature:	50 °C
		Maximum operating pressure:	16 bar
		Flange standard:	EN 1092-2
		Pump inlet:	DN 100
		Pump outlet:	DN 80
		Pressure rating:	PN 16
		Coupling type:	Standard
		Base frame:	EN / ISO
		Electrical data:	
		Motor type:	132SG
		IE Efficiency class:	IE5
		Rated power - P2:	5.5 kW
		Mains frequency:	50 Hz
		Rated voltage:	3 x 380-500 V
		Rated current:	10,5-8,40 A
		Cos phi - power factor:	0,92-0,88
		Rated speed:	180-2200 rpm
		Efficiency:	91,9%
		Motor efficiency at full load:	91.9 %
		Number of poles:	4
		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:	268 kg
		Gross weight:	295 kg
		Shipping volume:	1.11 m^3

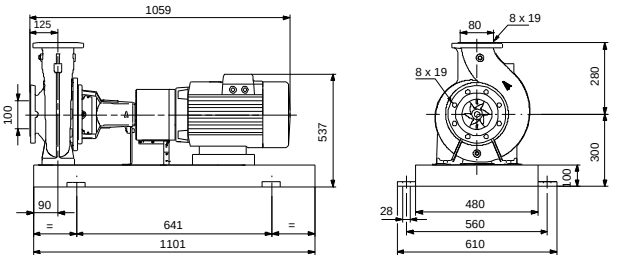
99097261 NKE 80-250/225 50 Hz

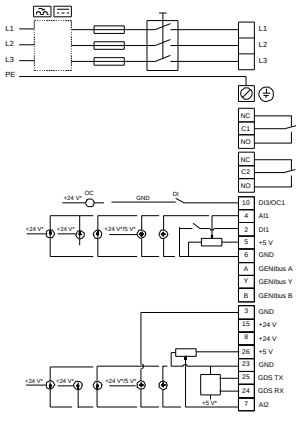


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Description	Value
General information:	
Product name:	NKE 80-250/225 A1-F-A-E-BAQE
Product No:	99097261
EAN number:	5712606695843
Technical:	
Speed for pump data:	1450 rpm
Rated flow:	91.3 m³/h
Rated head:	15.3 m
Actual impeller diameter:	225 mm
Impeller nom:	250 mm
Primary shaft seal:	BAQE
Secondary shaft seal:	NONE
Shaft diameter:	32 mm
Curve tolerance:	ISO9906:2012 3B
Pump version:	A1
Materials:	
Pump housing:	Cast iron
	EN-GJL-250
	ASTM A48-40 B
Impeller:	Cast iron
	EN-GJL-200
	ASTM A48-30 B
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:	F
Pump inlet:	DN 100
Pump outlet:	DN 80
Pressure rating:	PN 16
Coupling type:	Standard
Wear ring(s):	neckring(s)
Base frame:	EN / ISO
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	0 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m³
Electrical data:	
Motor type:	132SG
IE Efficiency class:	IE5
Rated power - P2:	5.5 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-500 V
Rated current:	10,5-8,40 A
Cos phi - power factor:	0,92-0,88
Rated speed:	180-2200 rpm
Efficiency:	91,9%
Motor efficiency at full load:	91.9 %
Number of poles:	4
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Motor protec:	YES
Motor No:	98971215
Lubricant type:	Grease
Controls:	
Control panel:	HMI200 - Standard
Function Module:	FM200 - Standard

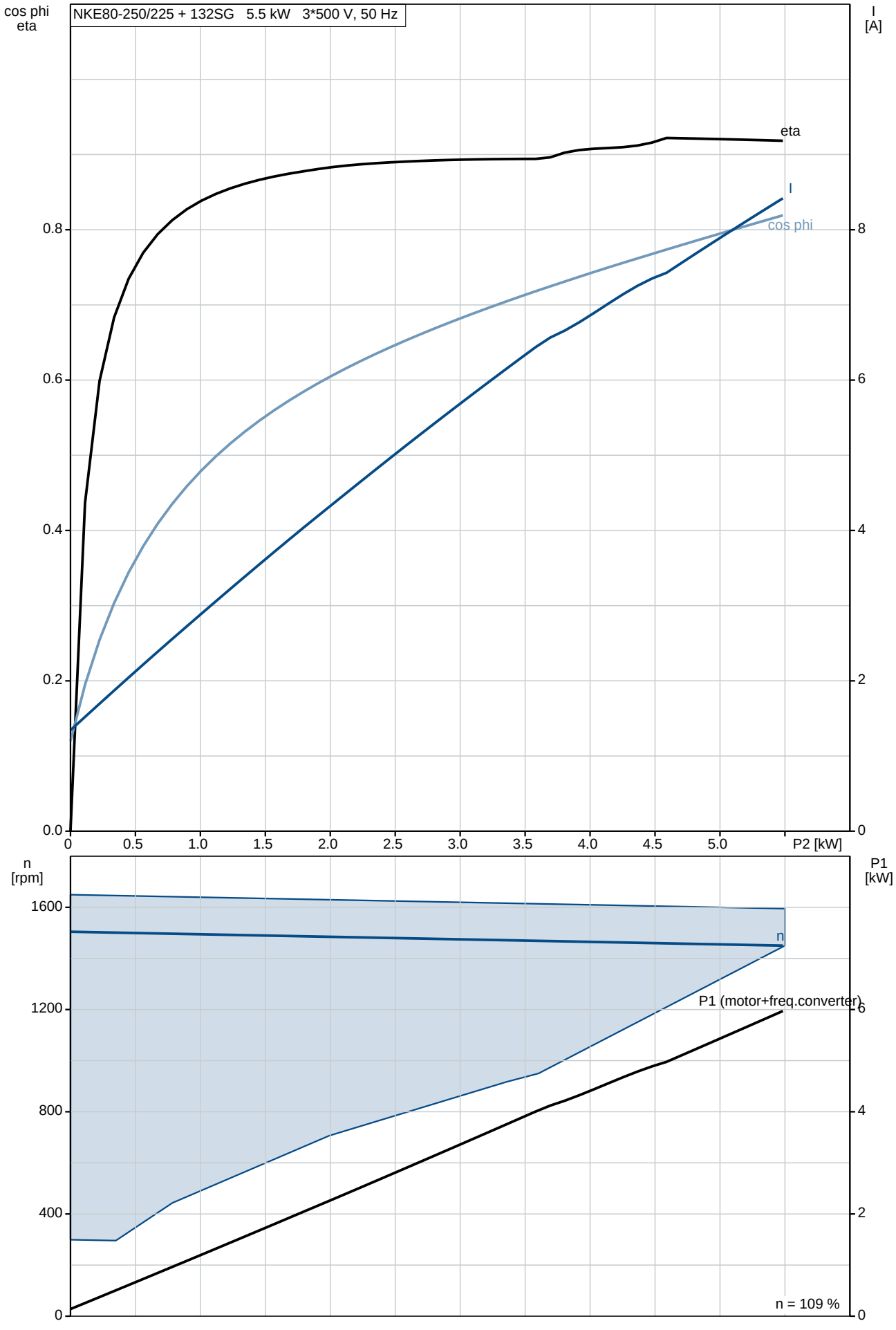






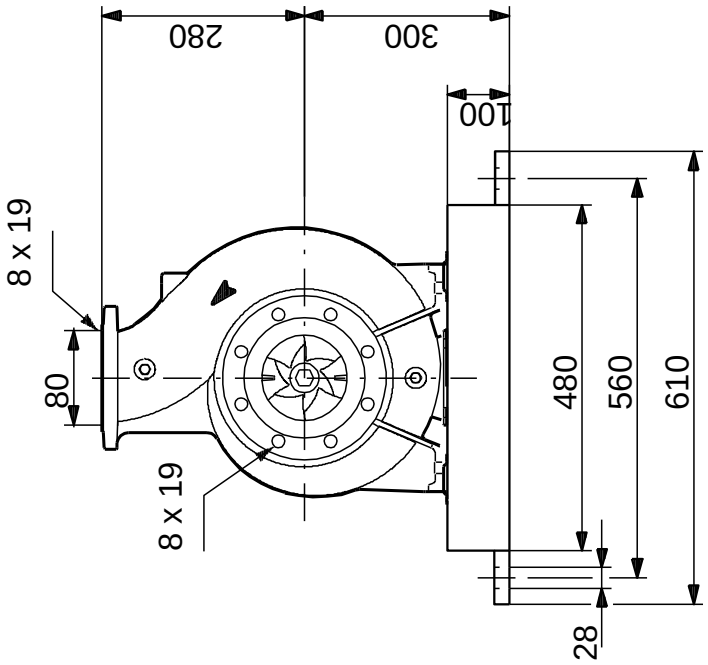
Description	Value
Others:	
Minimum efficiency index, MEI ≥:	0.70
ErP status:	EuP Standalone/Prod.
Net weight:	268 kg
Gross weight:	295 kg
Shipping volume:	1.11 m^3
Config. file no:	99100732

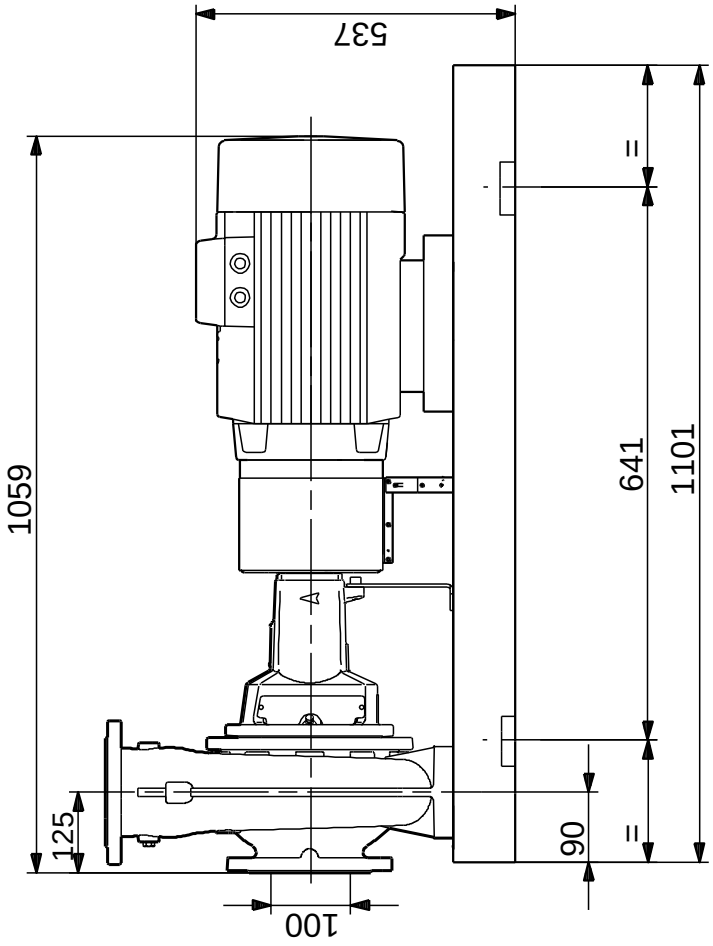
99097261 NKE 80-250/225 50 Hz



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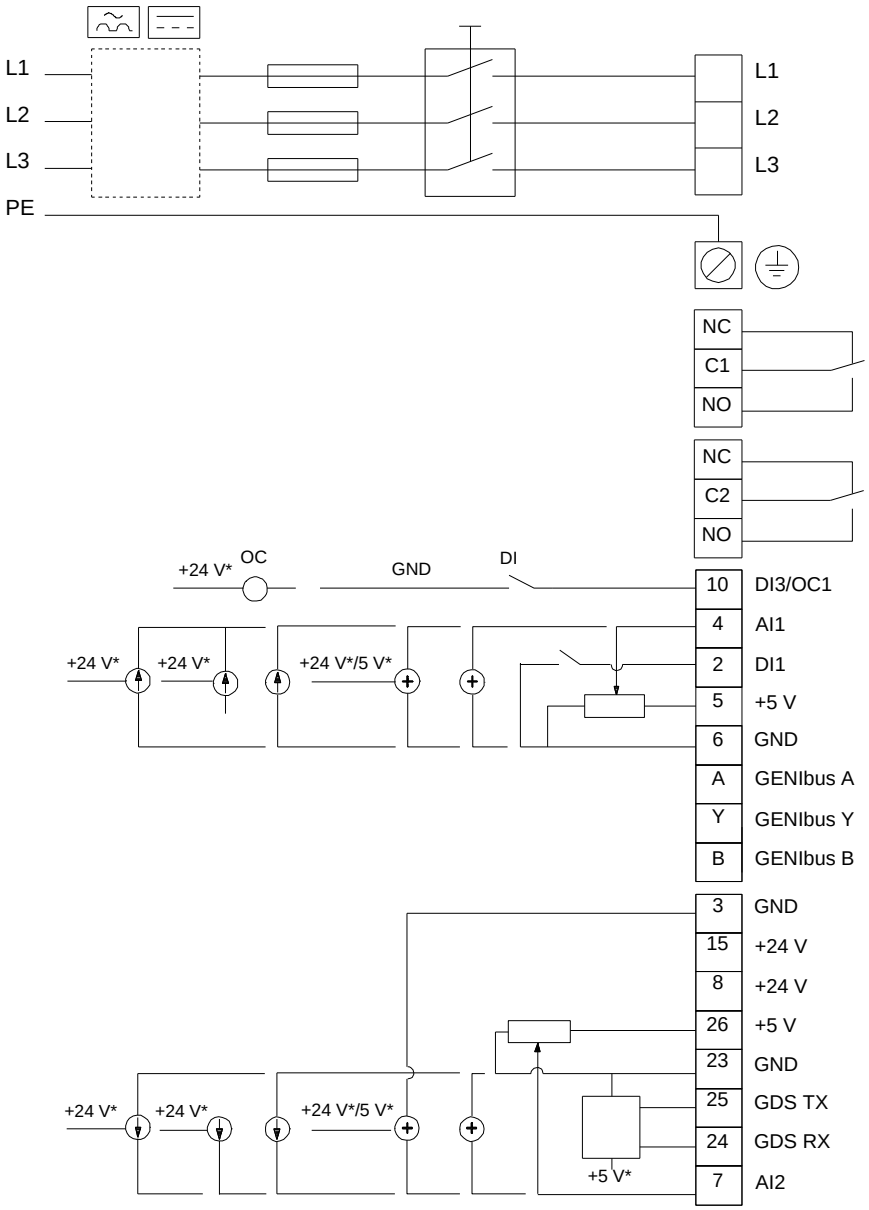
99097261 NKE 80-250/225 50 Hz





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

99097261 NKE 80-250/225 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.
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