

NKE80-160/161A2F2AE-SBAQE

Grundfos pump 96600748



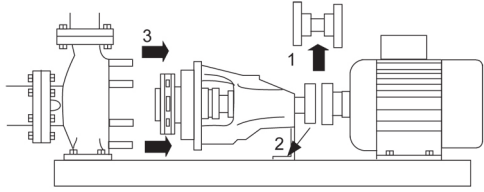
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<https://www.lenntech.com/grundfos/NKEBASIS/96600748/NKE-80-160-161-A2-F-A-E-BAQE.html>

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Position	Qty.	Description
	1	NKE 80-160/161 A2-F-A-E-BAQE  Product No.: On request 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 coupling, bearing bracket and impeller without disturbing the motor, 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 asynchronous 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. 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". Pump and motor are mounted on a common steel base frame in accordance with ISO 3661. The back pull-out design together with a spacer coupling makes it possible to make service on the pump without dismantling the pump housing and motor from the base frame. This saves realignment of pump and motor after service. 1) Remove coupling. 2) Remove the bolts in the bearing bracket support foot. 3) Remove the bearing bracket 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. 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)

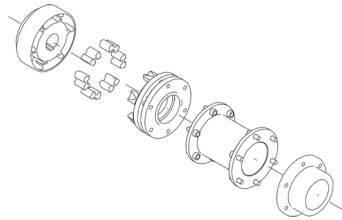
This material pairing has a very good corrosion resistance and is especially suitable for water up to 120 °C. However, seal life will be reduced at temperatures above 90 °C. The material pairing is not recommended for liquids containing particles as this will result in heavy wear on the SiC face.

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 24 mm where the coupling is mounted.

The pump uses a spacer 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 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.

Technical data

Liquid:

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

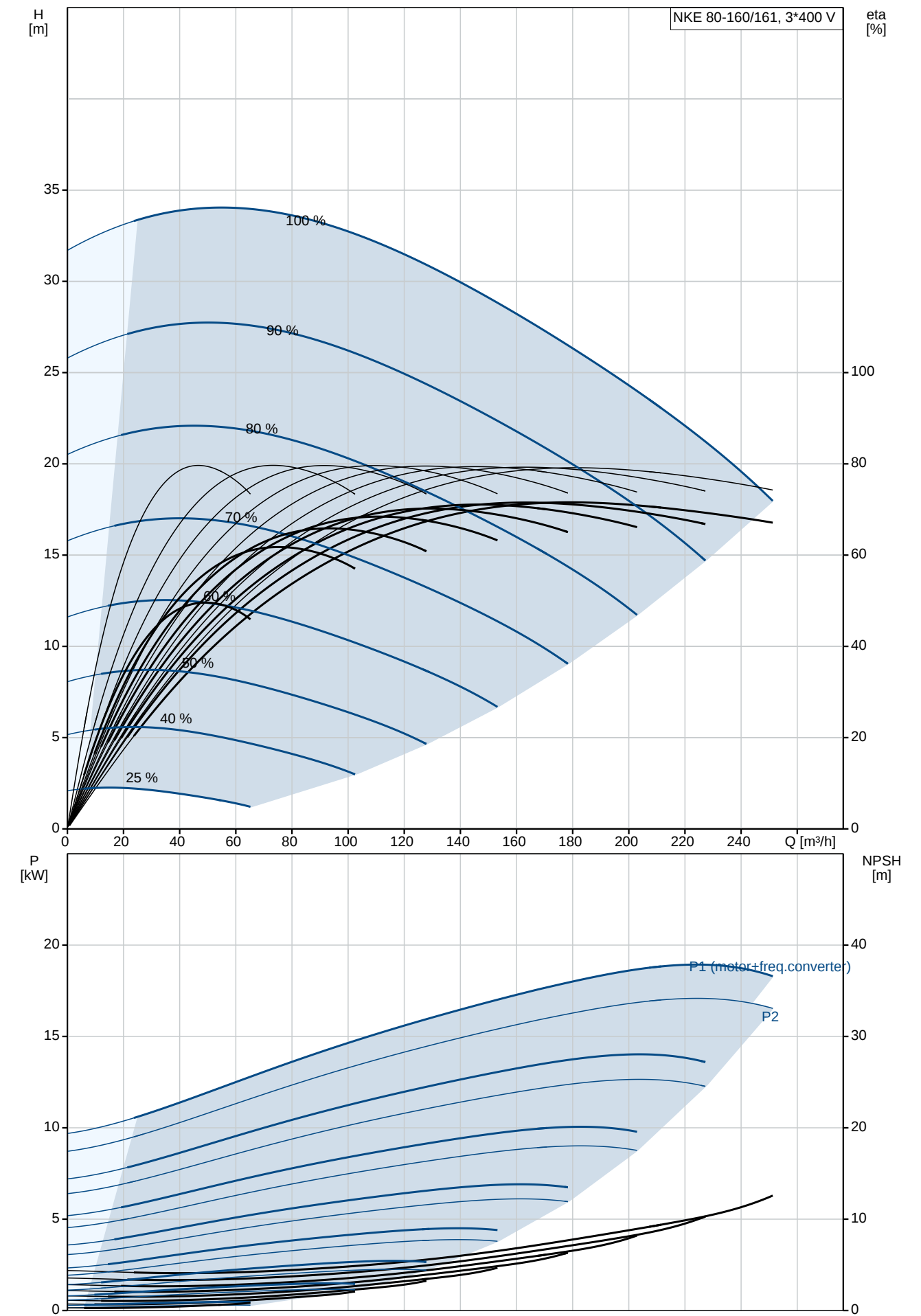
Technical:

Rated flow: 191 m³/h
Rated head: 25.6 m
Actual impeller diameter: 161 mm
Impeller nom: 160 mm
Primary shaft seal: BAQE
Secondary shaft seal: NONE
Curve tolerance: ISO9906:2012 3B

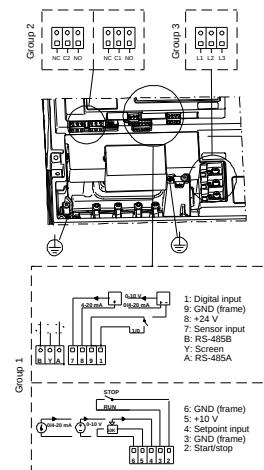
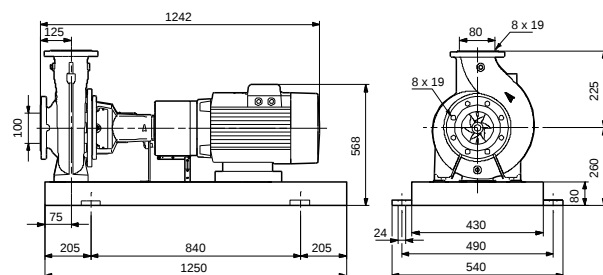
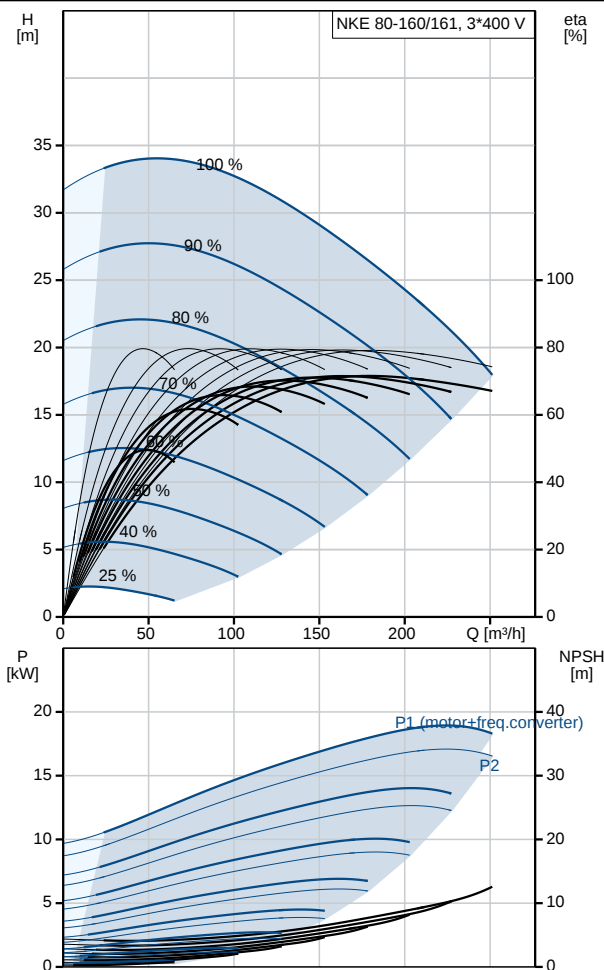
Materials:

Position	Qty.	Description
		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(CuZn34Mn3Al2 Installation: Maximum ambient temperature: 40 °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: Spacer Base frame: EN / ISO Electrical data: Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V Rated current: 37.0-31.0 A Cos phi - power factor: 0.91-0.88 Rated speed: 480-3540 rpm Efficiency: IE3 92,4% Motor efficiency at full load: 92.4 % 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: 282 kg Gross weight: 297 kg Shipping volume: 0.561 m³

On request NKE 80-160/161 A2-F-A-E-BAQE 50 Hz

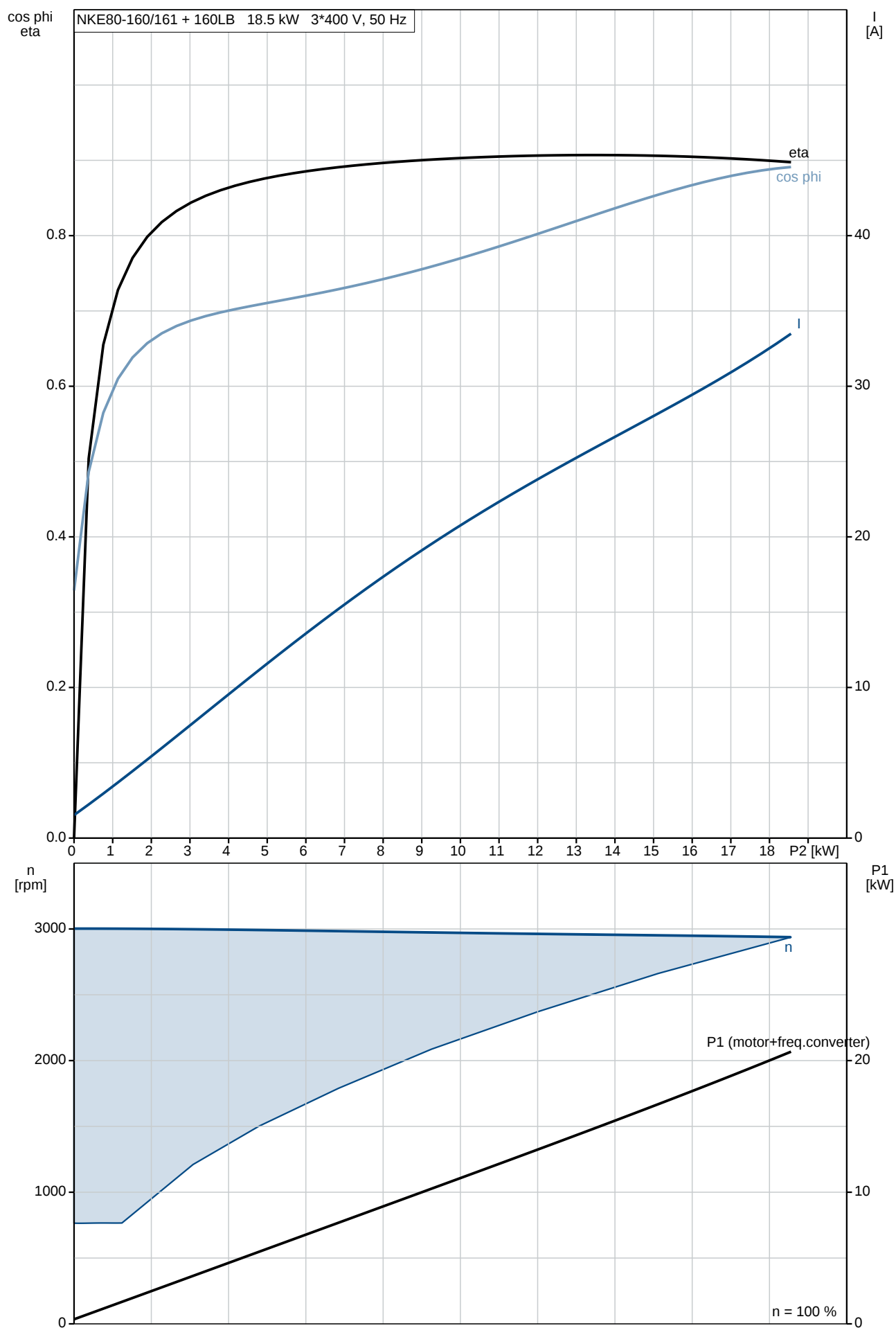


Description	Value
General information:	
Product name:	NKE 80-160/161
Product No:	A2-F-A-E-BAQE
EAN number:	On request
Technical:	
Rated flow:	191 m³/h
Rated head:	25.6 m
Actual impeller diameter:	161 mm
Impeller nom:	160 mm
Primary shaft seal:	BAQE
Secondary shaft seal:	NONE
Shaft diameter:	24 mm
Curve tolerance:	ISO9906:2012 3B
Pump version:	A2
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:	40 °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:	Spacer
Wear ring(s):	neckring(s)
Base frame:	EN / ISO
Connect code:	F
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:	160LB
IE Efficiency class:	IE3
Rated power - P2:	18.5 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-480 V
Rated current:	37.0-31.0 A
Cos phi - power factor:	0.91-0.88
Rated speed:	480-3540 rpm
Efficiency:	IE3 92,4%
Motor efficiency at full load:	92.4 %
Number of poles:	2
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Motor protec:	YES
Motor No:	85901282
Lubricant type:	Grease
Controls:	
Control panel:	Standard
Function Module:	PUMP I/O
Others:	

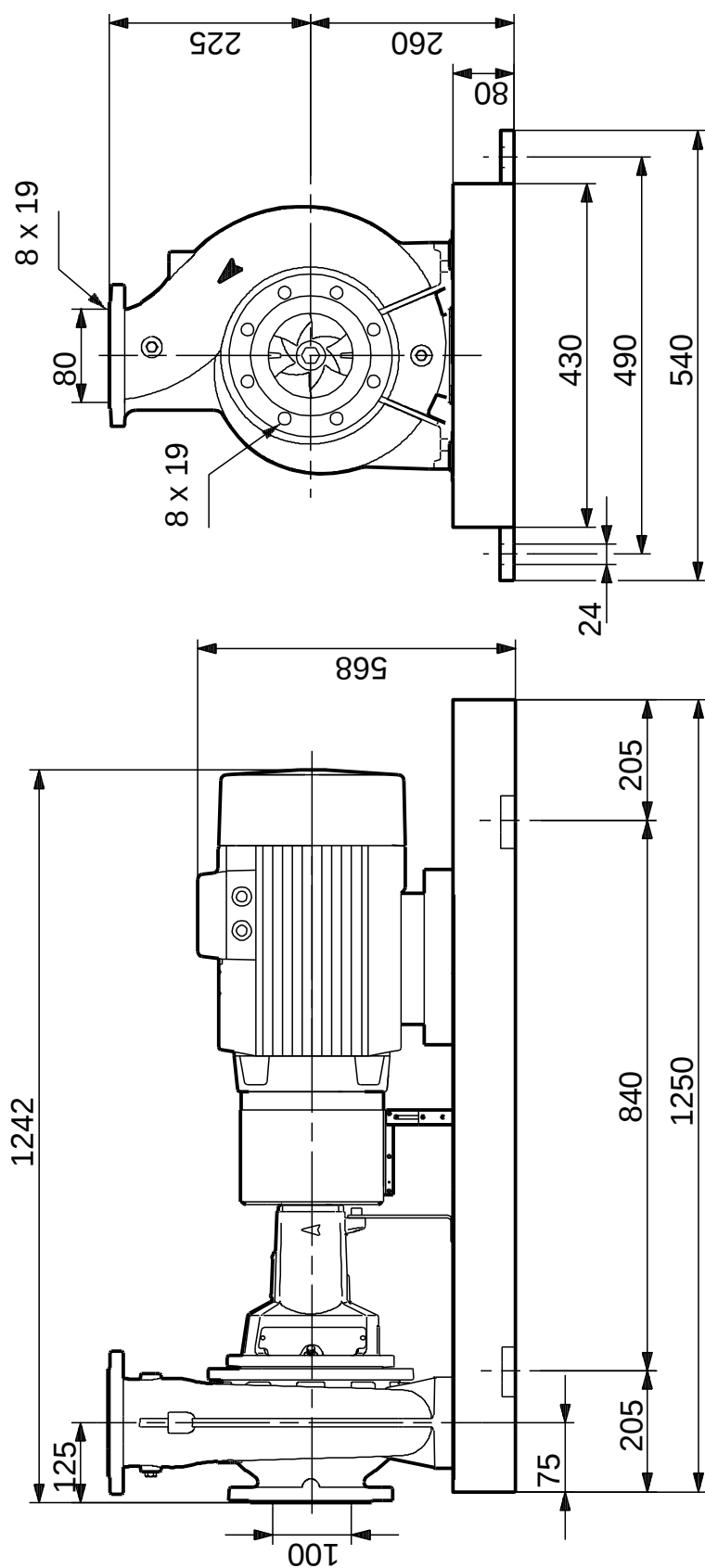


Description	Value
Minimum efficiency index, MEI ≥:	0.70
ErP status:	EuP Standalone/Prod.
Net weight:	282 kg
Gross weight:	297 kg
Shipping volume:	0.561 m ³
Config. file no:	95139415

On request NKE 80-160/161 A2-F-A-E-BAQE 50 Hz



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

Exploded view



Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view (TM057026 for MGE model H/I)



Parts list NKE 80-160/161, Product No. On request
Valid from 20.6.2008 (0825)

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
+	Motor				1	pcs
-	Coupling cpl.				1	pcs
89	Rubber blocks for coupling				6	
89.b	Socket set screw		Length (mm): 8		1	
			Thread: M6			
89.d	Hex socket head cap screw		Length (mm): 16		6	
			Thread: M6			
89.p	Coupling female				1	
89o	Coupling part spacer side				1	
89r	Spacer sleeve				1	
89s	Spacer ring				1	
-	Nut				1	pcs
66	Washer				1	
66a	Spring lock washer				1	
67	Nut		Thread: M14		1	
-	Pump housing cpl.				1	pcs
6	Pump housing				1	
36	Nut		Thread: M10		6	
-	Shaft seal cpl.				1	pcs
72a	O-ring		Diameter: 177,39		1	
			Material type: EPDM			
			Thickness: 3,53			
105	Shaft seal		Material type: BAQE		1	
-	7 Coupling guard cpl.				1	pcs
-	7 Coupling guard cpl.				1	
7c	Spacer f/coupling guard				1	
7e	Hex socket head cap screw				3	
94	Lock nut		Thread: M6		2	
7b	Retainer for coupling guard				1	
7k	Hex socket head cap screw		Length (mm): 10		4	
			Thread: M6			
-	7.d Foot for coupling guard				1	pcs
7d	Foot for coupling guard				1	
7h	Hex socket head cap screw				2	
7l	Support f/coupling guard foot				1	
49	Impeller				1	pcs
72a	O-ring		Diameter: 177,39		1	pcs
			Material type: EPDM			
			Thickness: 3,53			
-	77 Cover				1	pcs
77	Cover				1	
86	Bearing bracket				1	pcs
-	90 Base plate				1	pcs
	Washer				4	
	Washer				4	
	Base plate				1	
	Support block				2	
7h	Hex head screw		Length (mm): 16		2	
			Thread: M8			
9	Hex head screw		Length (mm): 60		4	
			Thread: M12			
28	Hex head screw		Length (mm): 40		4	
			Thread: M12			
28a	Hex head screw		Length (mm): 25		2	
			Thread: M12			
66	Washer				2	
66	Washer				2	

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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