

NK32-160/172A1F2AE-SBAQE

Grundfos pump 96594471



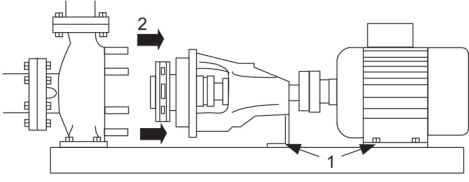
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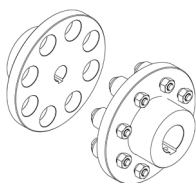
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Position	Qty.	Description
	1	NK 32-160/172 A1-F-A-E-BAQE  Product No.: On request Non-self-priming, single-stage, centrifugal volute pump designed according to ISO 5199 with dimensions and rated performance according to EN 733. Flanges are PN 16 with 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 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 asynchronous motor. Pump and motor are mounted on a common base frame. Further product details 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. 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 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 does not incorporate motor protection and must be connected to a motor-protective circuit breaker which can be manually reset. The motor-protective circuit breaker must be set according to the rated current of the motor (I₁/1).

Technical data

Liquid:

Pumped liquid:	Water
Liquid temperature range:	0 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m ³

Technical:

Rated flow:	14.6 m ³ /h
Rated head:	7.5 m
Actual impeller diameter:	172 mm
Impeller nom:	160 mm
Primary shaft seal:	BAQE
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
Rubber:	EPDM
Wear ring mat.:	High alloy brass(CuZn34Mn3Al2)

Installation:

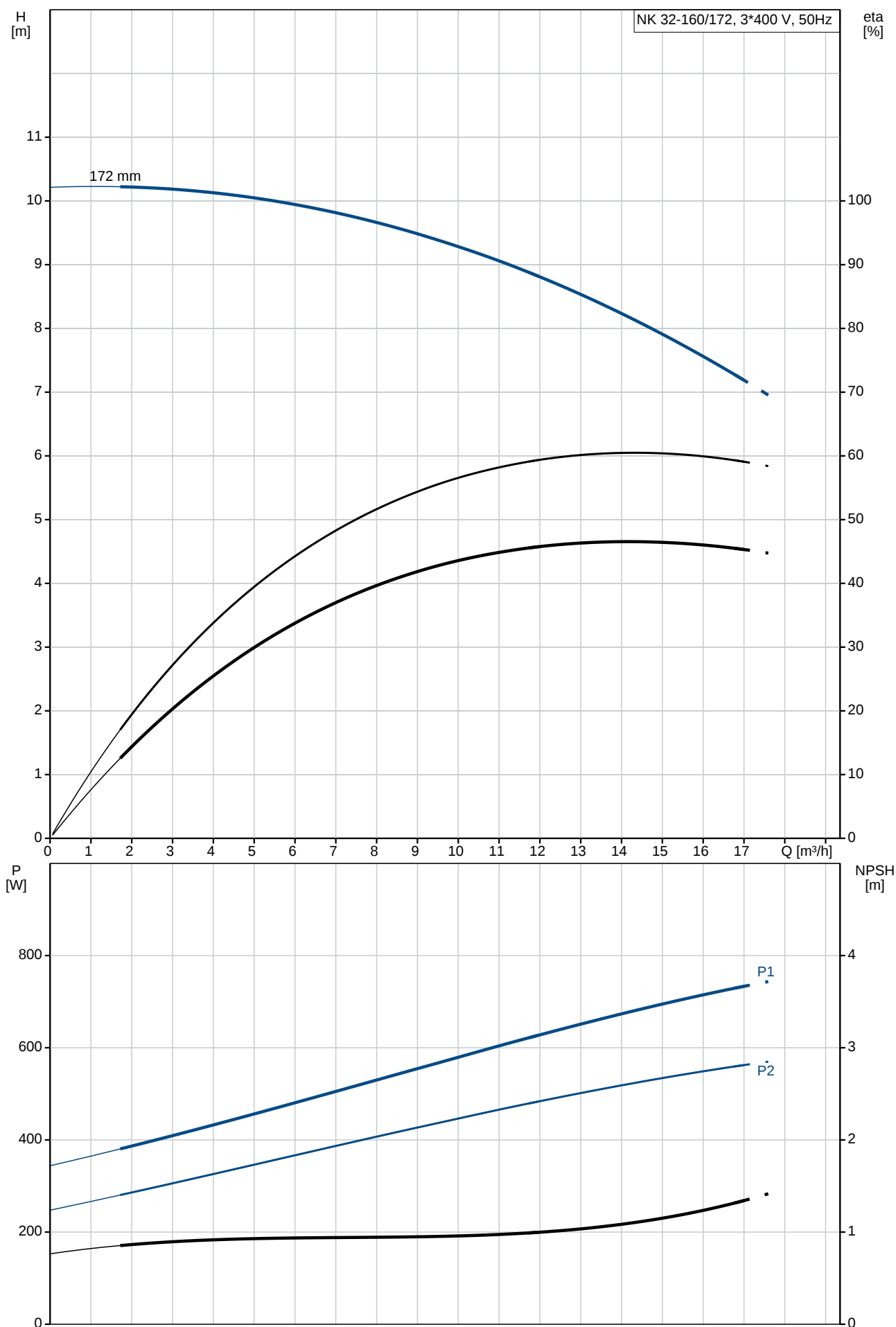
Maximum ambient temperature:	40 °C
Maximum operating pressure:	16 bar
Flange standard:	EN 1092-2
Pump inlet:	DN 50
Pump outlet:	DN 32
Pressure rating:	PN 16
Coupling type:	Standard
Base frame:	EN / ISO

Electrical data:

Motor type:	80A
Rated power - P ₂ :	0.55 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 220-240D/380-415Y V
Rated current:	2.60/1.50 A
Starting current:	430-470 %
Cos phi - power factor:	0.79-0.70
Rated speed:	1390-1410 rpm
Efficiency:	70.0%
Motor efficiency at full load:	70.0 %
Motor efficiency at 3/4 load:	79 %
Motor efficiency at 1/2 load:	78.1 %

Position	Qty.	Description
		Number of poles: 4 Enclosure class (IEC 34-5): 55 Dust/Jetting Insulation class (IEC 85): F Lubricant type: Grease Others: Minimum efficiency index, MEI $\geq$ 0.60 ErP status: EuP Standalone/Prod. Net weight: 101 kg Gross weight: 115 kg Shipping volume: 0.279 m³

On request NK 32-160/172 A1-F-A-E-BAQE 50 Hz



Description	Value
General information:	
Product name:	NK 32-160/172 A1-F-A-E-BAQE
Product No:	On request
EAN number:	On request
Technical:	
Rated flow:	14.6 m³/h
Rated head:	7.5 m
Actual impeller diameter:	172 mm
Impeller nom:	160 mm
Primary shaft seal:	BAQE
Secondary shaft seal:	NONE
Shaft diameter:	24 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:	40 °C
Maximum operating pressure:	16 bar
Flange standard:	EN 1092-2
Pump inlet:	DN 50
Pump outlet:	DN 32
Pressure rating:	PN 16
Coupling type:	Standard
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:	80A
Rated power - P2:	0.55 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 220-240D/380-415Y V
Rated current:	2.60/1.50 A
Starting current:	430-470 %
Cos phi - power factor:	0.79-0.70
Rated speed:	1390-1410 rpm
Efficiency:	70.0%
Motor efficiency at full load:	70.0 %
Motor efficiency at 3/4 load:	79 %
Motor efficiency at 1/2 load:	78.1 %
Number of poles:	4
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Motor protec:	NONE
Motor No:	87100384
Lubricant type:	Grease
Others:	
Minimum efficiency index, MEI ≥:	0.60

Performance Curves:

Head (H) vs. Flow (Q): The graph shows the head (H) in meters on the left y-axis (0 to 11) and efficiency (eta) in percent on the right y-axis (0 to 100) against flow (Q) in m³/h on the x-axis (0 to 16). The main performance curve (blue) starts at 10.2 m head at 0 m³/h and drops to 7.0 m head at 16 m³/h. A secondary curve (black) starts at 1.5 m head at 2 m³/h and peaks at 6.0 m head at 14 m³/h. A third curve (black) starts at 1.5 m head at 2 m³/h and peaks at 4.5 m head at 14 m³/h. The impeller diameter is 172 mm.

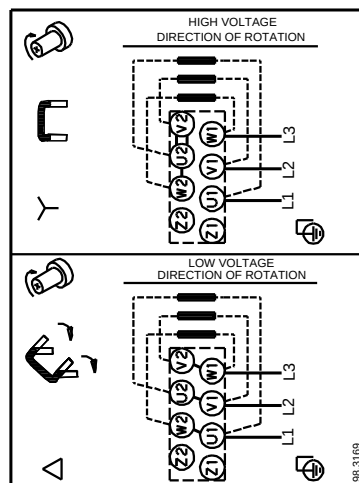
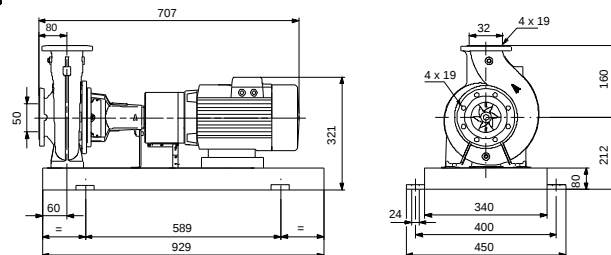
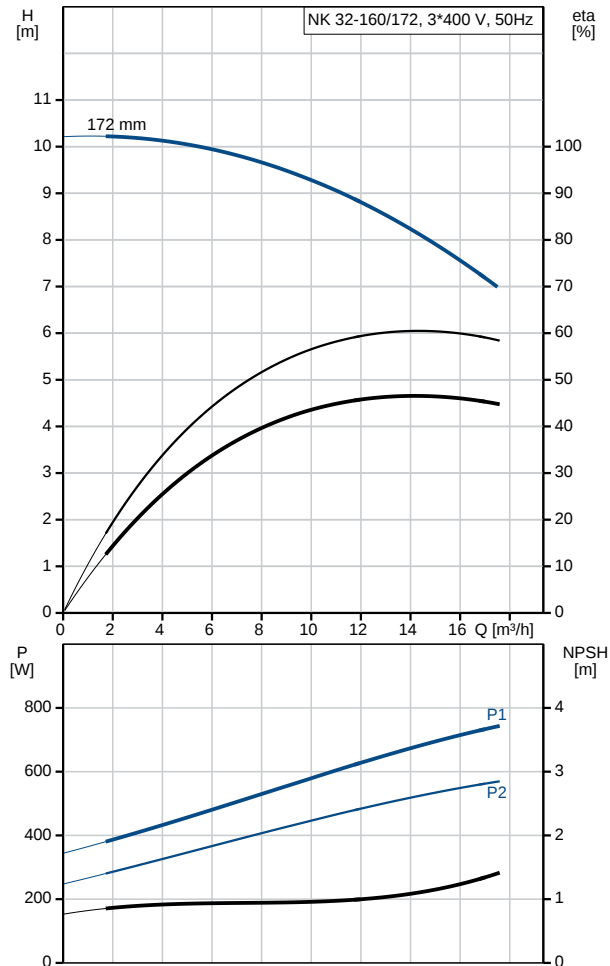
Power (P) vs. Flow (Q): The graph shows power (P) in Watts on the left y-axis (0 to 800) and NPSH in meters on the right y-axis (0 to 4) against flow (Q) in m³/h on the x-axis (0 to 16). The main power curve (blue) starts at 350 W at 2 m³/h and rises to 750 W at 16 m³/h. A secondary curve (black) starts at 150 W at 2 m³/h and rises to 250 W at 16 m³/h. A third curve (black) starts at 150 W at 2 m³/h and rises to 250 W at 16 m³/h. The NPSH curves (blue) start at 1.5 m at 2 m³/h and rise to 3.5 m at 16 m³/h.

Dimensions:

The pump housing dimensions are: 707 mm (total width), 321 mm (total height), 589 mm (base width), 929 mm (base length), 60 mm (base height), 50 mm (flange height), 32 mm (outlet diameter), 4 x 19 mm (flange holes), 160 mm (flange diameter), 212 mm (flange thickness), 80 mm (flange height), 340 mm (flange width), 400 mm (flange length), 450 mm (flange thickness).

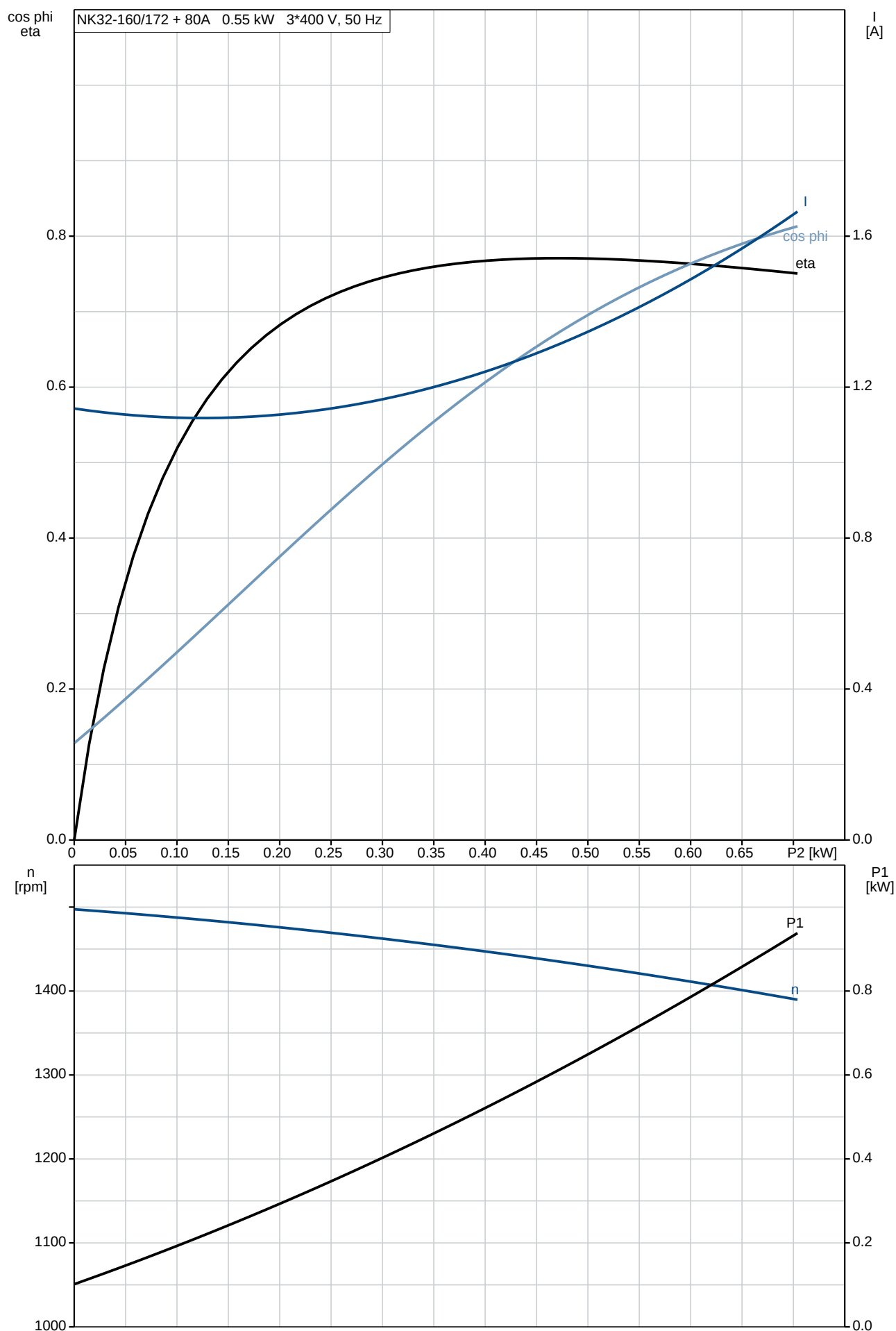
Wiring Diagrams:

The wiring diagrams show the connection of the pump motor to the power supply. The top diagram is for high voltage (3 x 220-240D/380-415Y V) and the bottom diagram is for low voltage (3 x 220-240D/380-415Y V). Both diagrams show the connection of the motor windings (W1, W2, W3) to the power supply (L1, L2, L3) and the ground (GND). The diagrams also show the connection of the motor windings to the power supply through a switch (S) and a fuse (F).

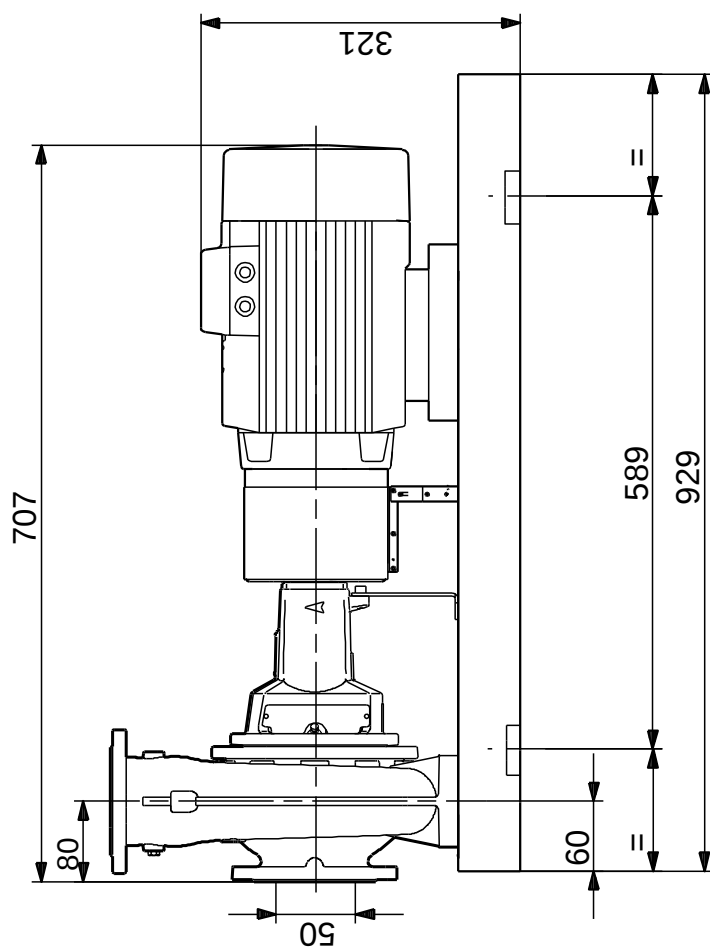
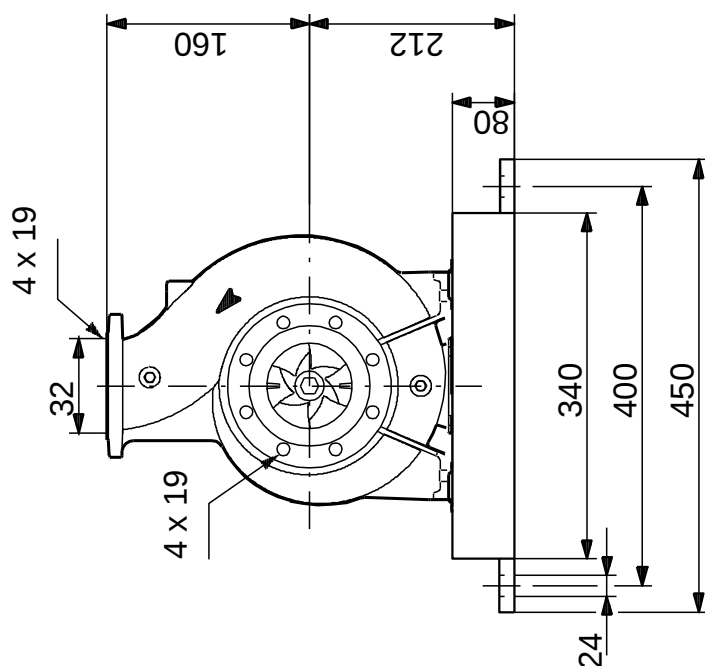


Description	Value
ErP status:	EuP Standalone/Prod.
Net weight:	101 kg
Gross weight:	115 kg
Shipping volume:	0.279 m ³

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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 NK 32-160/172, Product No. On request
Valid from 1.1.2008 (0801)

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
+	Motor				1	pcs
-	Coupling cpl.				1	pcs
-	Bolt				4	
-	Bolt				1	
89d	Bolt					
89e	Nut					
89f	Washer		Internal diameter: 14,5			
			Outer diameter: 25			
89g	Spring lock washer					
89q	Washer		Internal diameter: 16,5			
			Outer diameter: 25,0			
89	Rubber blocks for coupling				1	
9	Socket set screw				2	
89.b	Socket set screw		Length (mm): 8		2	
			Thread: M6			
89.o	Coupling part, male				1	
89.p	Coupling female				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	
	Bearing bracket				1	pcs
-	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	
7	Guard				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	
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	
- 90	Base plate				1	pcs
	Hex head screw		Length (mm): 35MM		4	
			Thread: M12			
	Hex head screw		Length (mm): 35MM		2	
			Thread: M12			
	Hex head screw				4	
	Washer				4	
	Base plate				1	
	Support rail				2	
	Support block				2	
7h	Hex head screw		Length (mm): 16		2	
			Thread: M8			

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
66	Washer				2	
66	Washer				4	
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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