

NK50-125/113A1F2AE-SBAQE

Grundfos pump 96627005



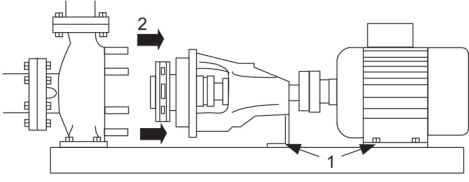
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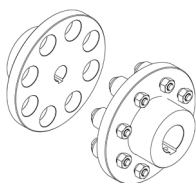
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Position	Qty.	Description
	1	NK 50-125/113 A1-F-A-E-BAQE  Product No.: On request Non-self-priming, single-stage, centrifugal volute pump designed according to ISO 5199 with dimensions and rated performance according to EN 733. Flanges are PN 16 with 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/I₂).

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:	28.8 m ³ /h
Rated head:	2.8 m
Actual impeller diameter:	113 mm
Impeller nom:	125 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:

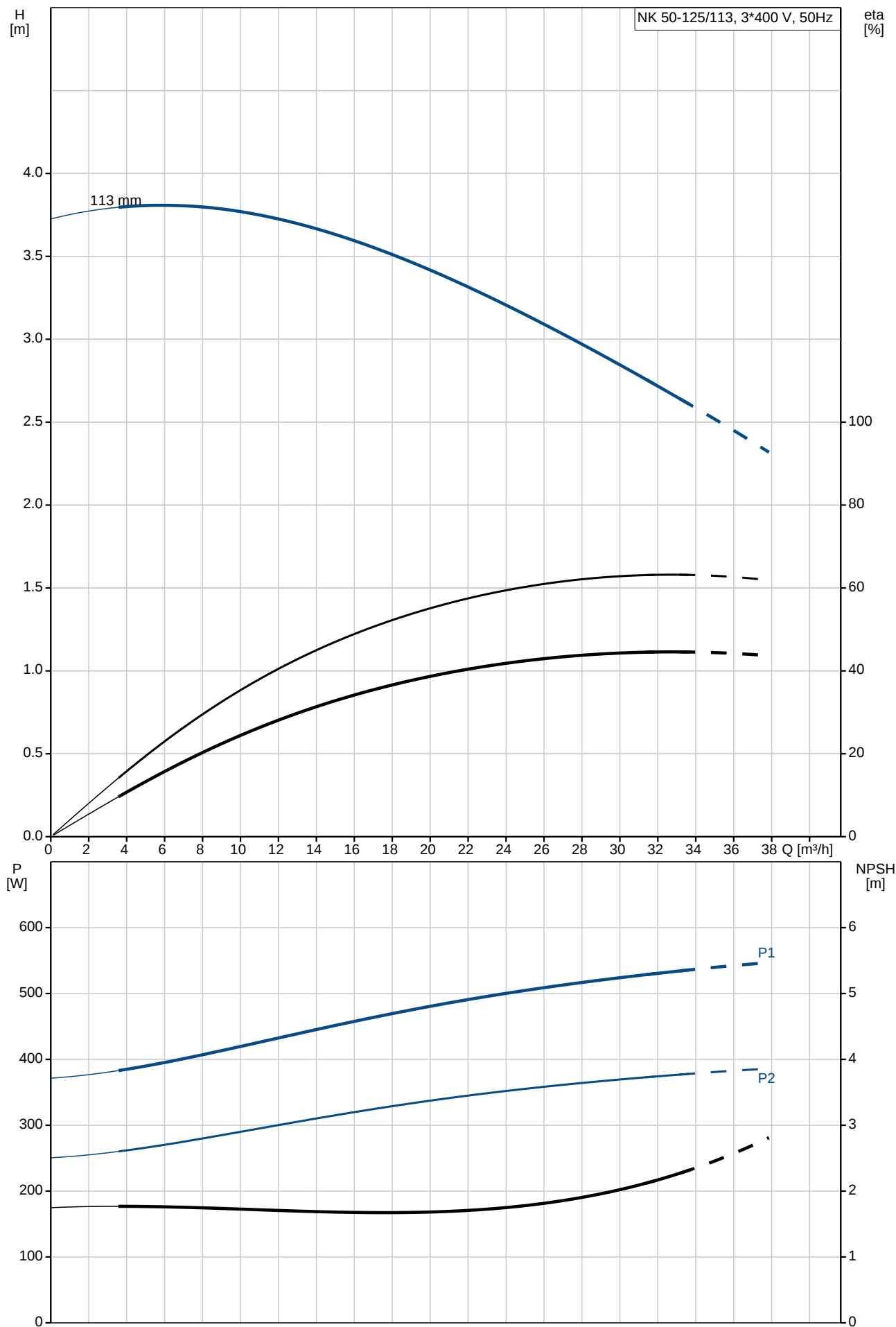
Maximum ambient temperature:	40 °C
Maximum operating pressure:	16 bar
Flange standard:	EN 1092-2
Pump inlet:	DN 65
Pump outlet:	DN 50
Pressure rating:	PN 16
Coupling type:	Standard
Base frame:	EN / ISO

Electrical data:

Motor type:	71B
Rated power - P ₂ :	0.37 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 220-240D/380-415Y V
Rated current:	1.90/1.10 A
Starting current:	400-440 %
Cos phi - power factor:	0.77-0.67
Rated speed:	1400-1420 rpm
Efficiency:	66.0%
Motor efficiency at full load:	66.0 %
Motor efficiency at 3/4 load:	72.2 %
Motor efficiency at 1/2 load:	67.6 %

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: 102 kg Gross weight: 115 kg Shipping volume: 0.279 m³

On request NK 50-125/113 A1-F-A-E-BAQE 50 Hz



Description	Value		
General information:			
Product name:	NK 50-125/113 A1-F-A-E-BAQE		
Product No:	On request		
EAN number:	On request		
Technical:			
Rated flow:	28.8 m³/h		
Rated head:	2.8 m		
Actual impeller diameter:	113 mm		
Impeller nom:	125 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 65		
Pump outlet:	DN 50		
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:	71B		
Rated power - P2:	0.37 kW		
Mains frequency:	50 Hz		
Rated voltage:	3 x 220-240D/380-415Y V		
Rated current:	1.90/1.10 A		
Starting current:	400-440 %		
Cos phi - power factor:	0.77-0.67		
Rated speed:	1400-1420 rpm		
Efficiency:	66.0%		
Motor efficiency at full load:	66.0 %		
Motor efficiency at 3/4 load:	72.2 %		
Motor efficiency at 1/2 load:	67.6 %		
Number of poles:	4		
Enclosure class (IEC 34-5):	55 Dust/Jetting		
Insulation class (IEC 85):	F		
Motor protec:	NONE		
Motor No:	87100381		
Lubricant type:	Grease		
Others:			
Minimum efficiency index, MEI ≥:	0.60		

Performance Graphs:

Head (H) vs. Flow (Q): The graph shows the pump's head performance. The y-axis represents Head (H) in meters [m], ranging from 0.0 to 4.0. The x-axis represents Flow (Q) in m³/h, ranging from 0 to 35. A blue curve represents the 113 mm impeller diameter. The head starts at approximately 3.8 m at zero flow and decreases to about 2.5 m at 35 m³/h.

Power (P) vs. Flow (Q): The graph shows the pump's power requirements. The y-axis represents Power (P) in Watts [W], ranging from 0 to 500. The x-axis represents Flow (Q) in m³/h, ranging from 0 to 35. Three curves are shown: P1 (blue), P2 (blue), and a black curve. P1 starts at approximately 380 W and increases to about 520 W. P2 starts at approximately 250 W and increases to about 380 W. The black curve starts at approximately 180 W and increases to about 250 W.

Efficiency (eta) vs. Flow (Q): The graph shows the pump's efficiency. The y-axis represents Efficiency (eta) in percent [%], ranging from 0 to 100. The x-axis represents Flow (Q) in m³/h, ranging from 0 to 35. A blue curve represents the 113 mm impeller diameter. The efficiency starts at approximately 66% at zero flow and decreases to about 40% at 35 m³/h.

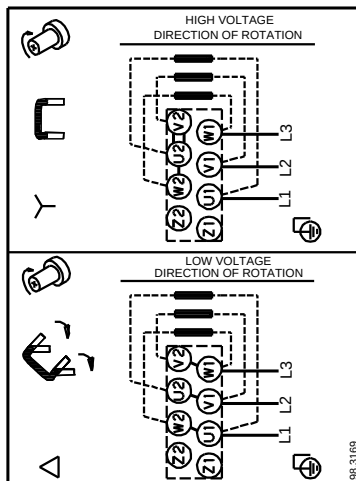
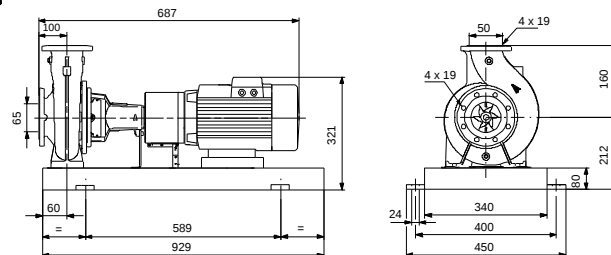
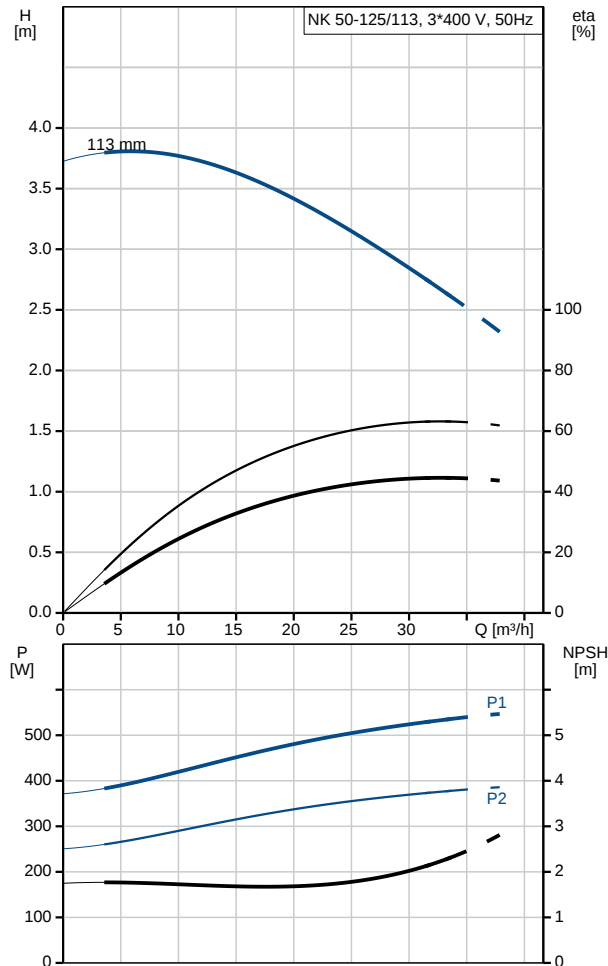
Dimensions:

Front View: The front view shows the pump's overall dimensions. The total width is 687 mm, and the total height is 321 mm. The inlet flange has a diameter of 65 mm, and the outlet flange has a diameter of 50 mm. The base frame has a width of 929 mm and a height of 80 mm. The motor has a width of 100 mm and a height of 60 mm.

Top View: The top view shows the pump's footprint. The total width is 450 mm, and the total depth is 160 mm. The inlet flange has a diameter of 65 mm, and the outlet flange has a diameter of 50 mm. The base frame has a width of 400 mm and a depth of 80 mm. The motor has a width of 100 mm and a height of 60 mm.

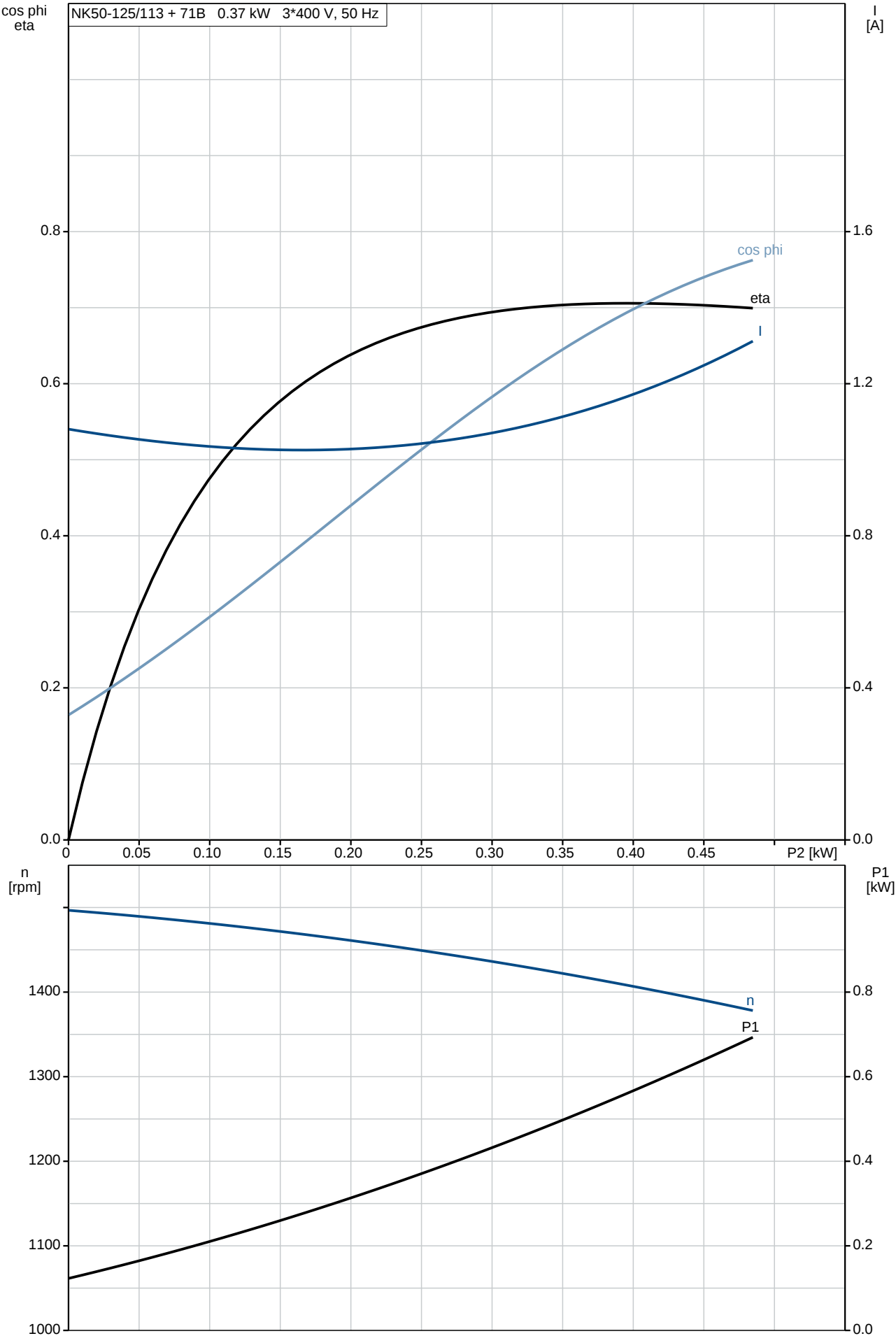
Wiring Diagram:

The wiring diagram shows the electrical connections for the pump. It includes a high voltage section (3 x 220-240D/380-415Y V) and a low voltage section (3 x 220-240D/380-415Y V). The diagram shows the connection of the motor windings (W1, W2, W3) to the power supply (L1, L2, L3) and the ground (GND). The diagram also shows the connection of the pump's control circuit (P1, P2) to the power supply.

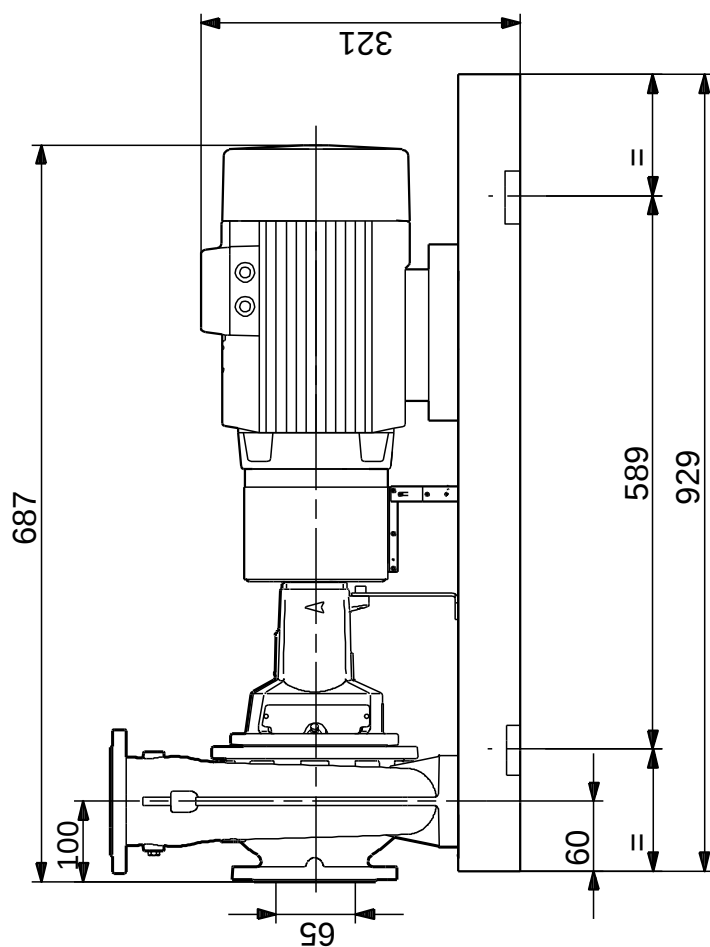
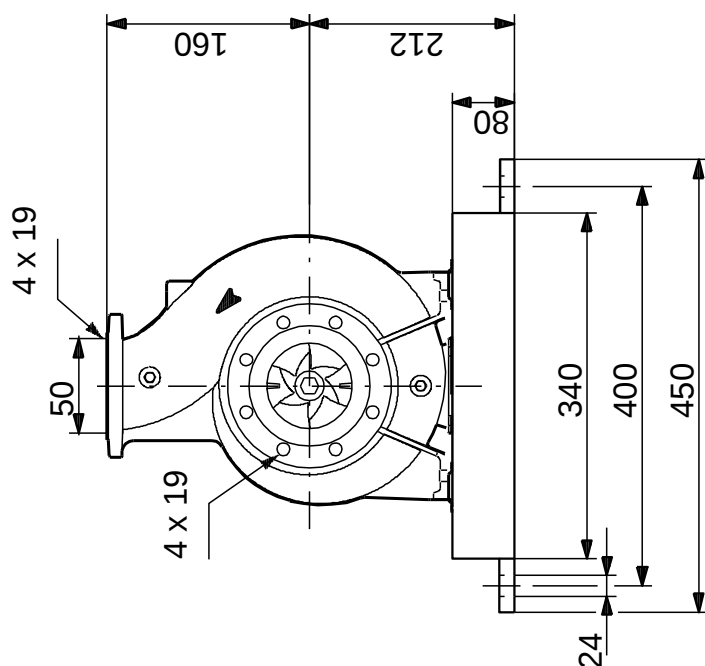


Description	Value
ErP status:	EuP Standalone/Prod.
Net weight:	102 kg
Gross weight:	115 kg
Shipping volume:	0.279 m³

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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 50-125/113, 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.a	Socket set screw		Length (mm): 8		1	
			Thread: M6			
89.b	Socket set screw		Length (mm): 8		1	
			Thread: M6			
89.o	Connector				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
- 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	
	Nut				8	
	Washer				4	
	Base plate				1	
	Support rail				2	
	Support block				2	
	Hex head bolt				4	
7h	Hex head screw		Length (mm): 16		2	

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
Thread: M8						
66	Washer				16	
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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