

NK150-400/412A2F1AE-SBAQE

Grundfos pump 98318638



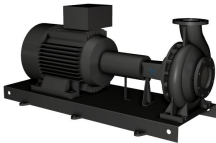
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<https://www.lenntech.com/grundfos/NKBASIS/98318638/NK-150-400-412-A2-F-A-E-BAQE.html>

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Position	Qty.	Description
	1	NK 150-400/412 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 10 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. 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. 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 42 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 has thermistors (PTC sensors) in the windings in accordance with DIN 44081/DIN 44082. The protection reacts to both slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.

Thermal switches must be connected to an external control circuit in a way which ensures that the automatic reset cannot cause accidents. The motors must be connected to a motor-protective circuit breaker according to local regulations.

A variable speed drive makes adjustment of pump performance to any duty point possible. If the motor is to be connected to a variable speed drive, the pump must be ordered with an electrically insulated motor bearing.

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:	521 m ³ /h
Rated head:	55.6 m
Actual impeller diameter:	412 mm
Impeller nom:	400 mm
Primary shaft seal:	BAQE
Secondary shaft seal:	NONE
Curve tolerance:	ISO9906:2012 3B

Materials:

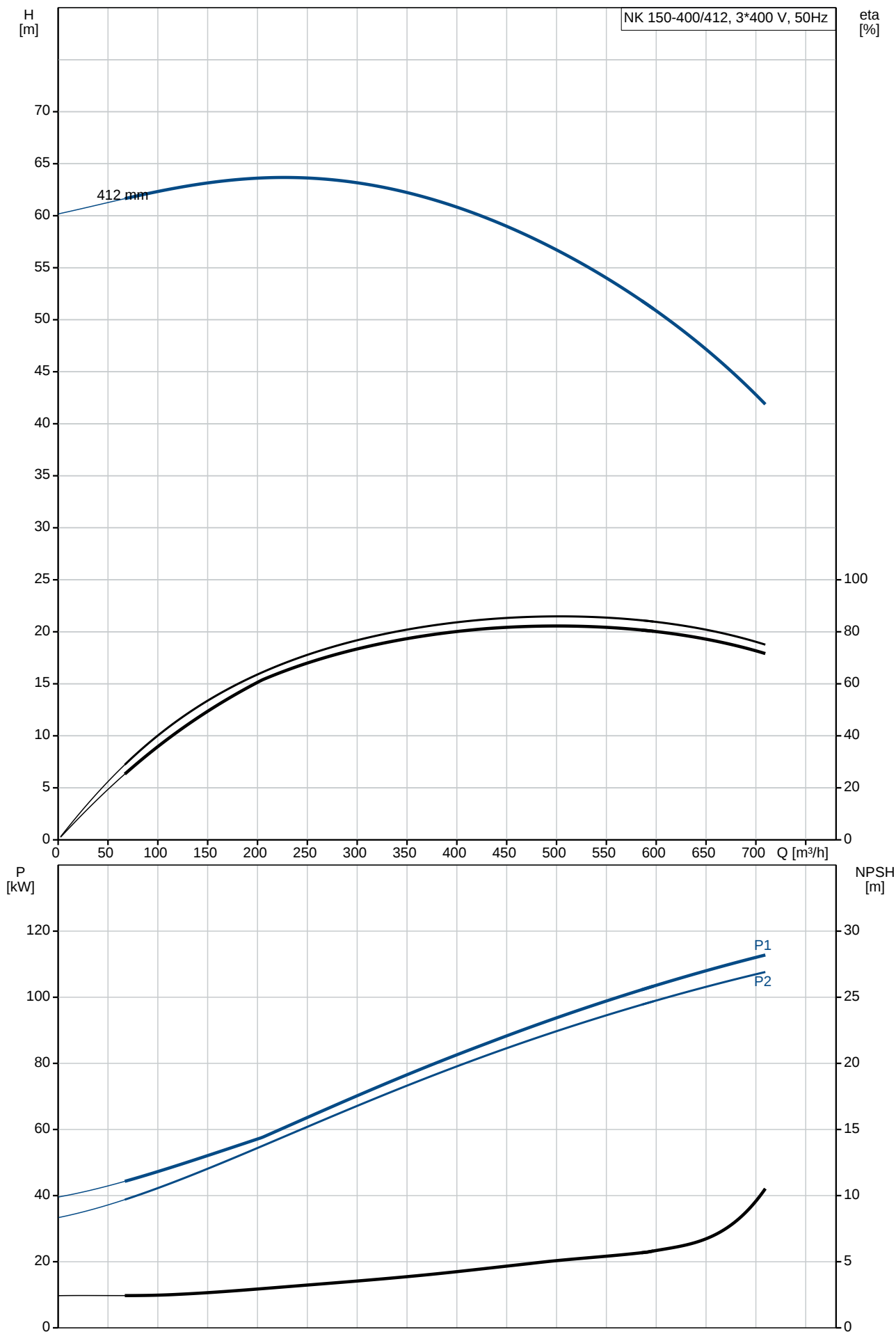
Pump housing:	Cast iron EN-GJL-250 ASTM A48-40 B
Impeller:	Cast iron EN-GJL-200 ASTM A48-30 B
Rubber:	EPDM
Wear ring mat.:	High alloy brass(CuZn34Mn3Al2

Installation:

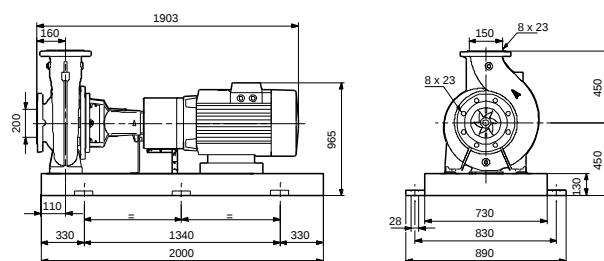
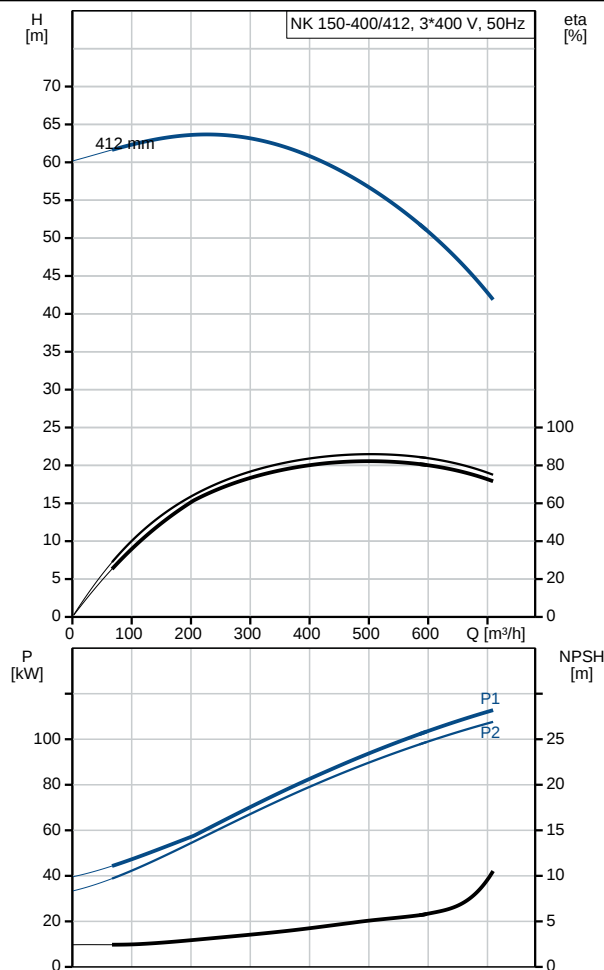
Maximum ambient temperature:	55 °C
Maximum operating pressure:	10 bar
Flange standard:	EN 1092-2
Pump inlet:	DN 200
Pump outlet:	DN 150

Position	Qty.	Description
		Pressure rating: PN 10 Coupling type: Spacer Base frame: EN / ISO Electrical data: Motor type: SIEMENS IE Efficiency class: IE3 Rated power - P2: 110 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-420D/660-725Y V Rated current: 200-186/116-108 A Starting current: 680-680 % Cos phi - power factor: 0.87 Rated speed: 1490 rpm Efficiency: IE3 95,4% Motor efficiency at full load: 95.4-95.4 % Motor efficiency at 3/4 load: 95.8-95.8 % Motor efficiency at 1/2 load: 95.5-95.5 % 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 ≥: 0.70 ErP status: EuP Standalone/Prod. Net weight: 1380 kg Gross weight: 1490 kg Shipping volume: 2.96 m ³

On request NK 150-400/412 A2-F-A-E-BAQE 50 Hz

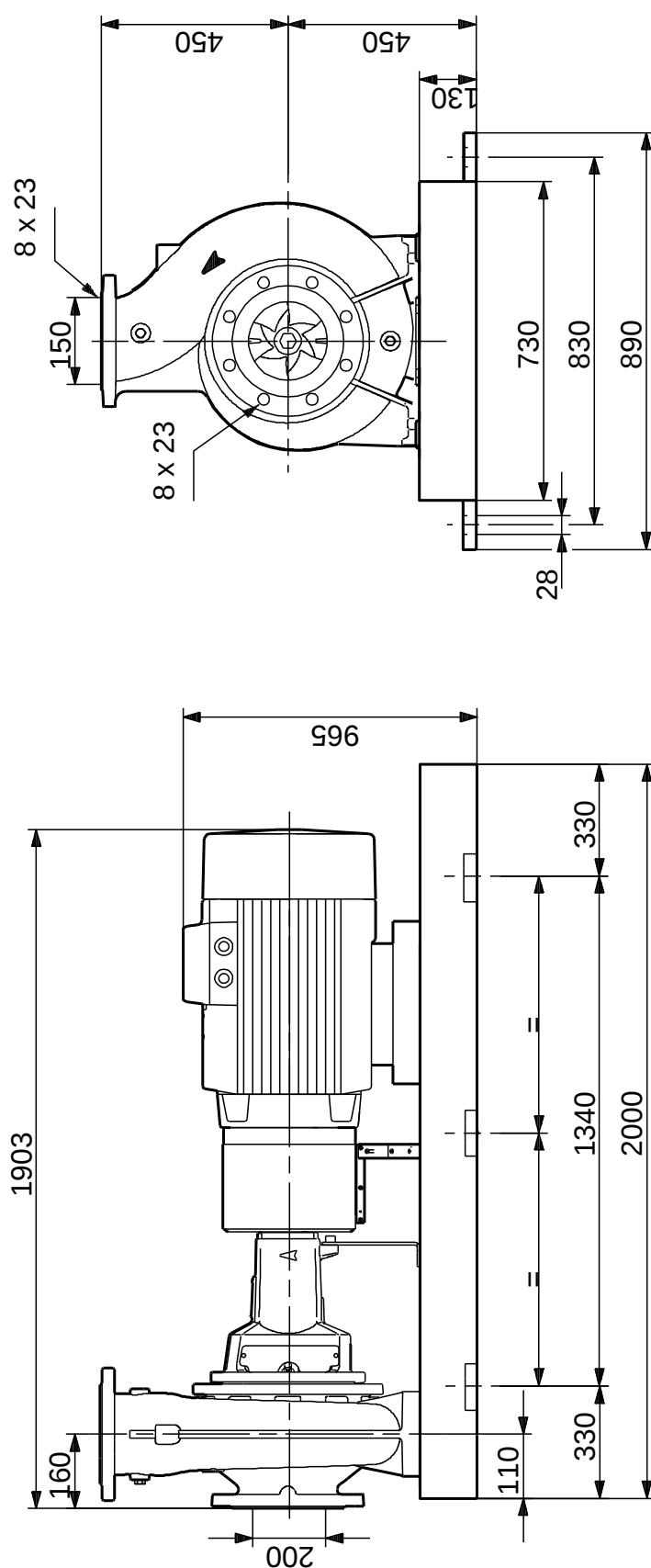


Description	Value
General information:	
Product name:	NK 150-400/412
Product No:	A2-F-A-E-BAQE
EAN number:	On request
Technical:	
Rated flow:	521 m³/h
Rated head:	55.6 m
Actual impeller diameter:	412 mm
Impeller nom:	400 mm
Primary shaft seal:	BAQE
Secondary shaft seal:	NONE
Shaft diameter:	42 mm
Curve 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:	55 °C
Maximum operating pressure:	10 bar
Flange standard:	EN 1092-2
Pump inlet:	DN 200
Pump outlet:	DN 150
Pressure rating:	PN 10
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:	SIEMENS
IE Efficiency class:	IE3
Rated power - P2:	110 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-420D/660-725Y V
Rated current:	200-186/116-108 A
Starting current:	680-680 %
Cos phi - power factor:	0.87
Rated speed:	1490 rpm
Efficiency:	IE3 95,4%
Motor efficiency at full load:	95.4-95.4 %
Motor efficiency at 3/4 load:	95.8-95.8 %
Motor efficiency at 1/2 load:	95.5-95.5 %
Number of poles:	4
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Motor protec:	PTC
Motor No:	98957827
Lubricant type:	Grease
Others:	



Description	Value
Minimum efficiency index, MEI ≥:	0.70
ErP status:	EuP Standalone/Prod.
Net weight:	1380 kg
Gross weight:	1490 kg
Shipping volume:	2.96 m ³

On request NK 150-400/412 A2-F-A-E-BAQE 50 Hz



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 150-400/412, Product No. On request
Valid from 1.3.2010 (1009)

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
+	Motor				1	pcs
-	Coupling cpl.				1	pcs
89	Rubber blocks for coupling				8	
89.c	Hex socket head cap screw				8	
89.c	Socket set screw				1	
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: M25		1	
-	Pump housing cpl.				1	pcs
6	Pump housing				1	
36	Hex nut		Thread: M16		16	
- 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 Thread: M6		4	
- 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	
66	Washer				2	
49	Impeller				1	pcs
72a	O-ring		Diameter: 66 Material type: RUBBER Thickness: 3,53		1	pcs
- 77	Cover				1	pcs
66a	Nut		Thread: M12		10	
77	Cover				1	
- 86	Bearing bracket				1	pcs
28a	Hex head screw		Length (mm): 25 Thread: M12		1	
53.b	Spacer ring				1	
54	Ball bearing				2	
54a	O-ring		Diameter: 3 Thickness: 109,5		2	
77a	Pan head screw				4	
86	Bearing bracket				1	
156a	Bearing cover				2	
159a	V-ring				2	
159f	Retaining ring				2	
- 90	Base plate				1	pcs
	Hex head screw				4	
	Washer				4	
	Base plate				1	
	Support block				1	
	Support block				2	
	Support block				2	
	Hex head bolt				4	
7h	Hex head screw		Length (mm): 16 Thread: M8		2	
28	Hex head screw		Length (mm): 30		2	

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
			Thread: M12			
66	Washer				2	
66	Washer				4	
66	Washer				2	
105	Shaft seal		Material type: BAQE 48 MM SHAFT		1	pcs

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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