

NKE40-160/177A1F2AE-SGQQE

Grundfos pump 98111793



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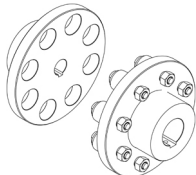
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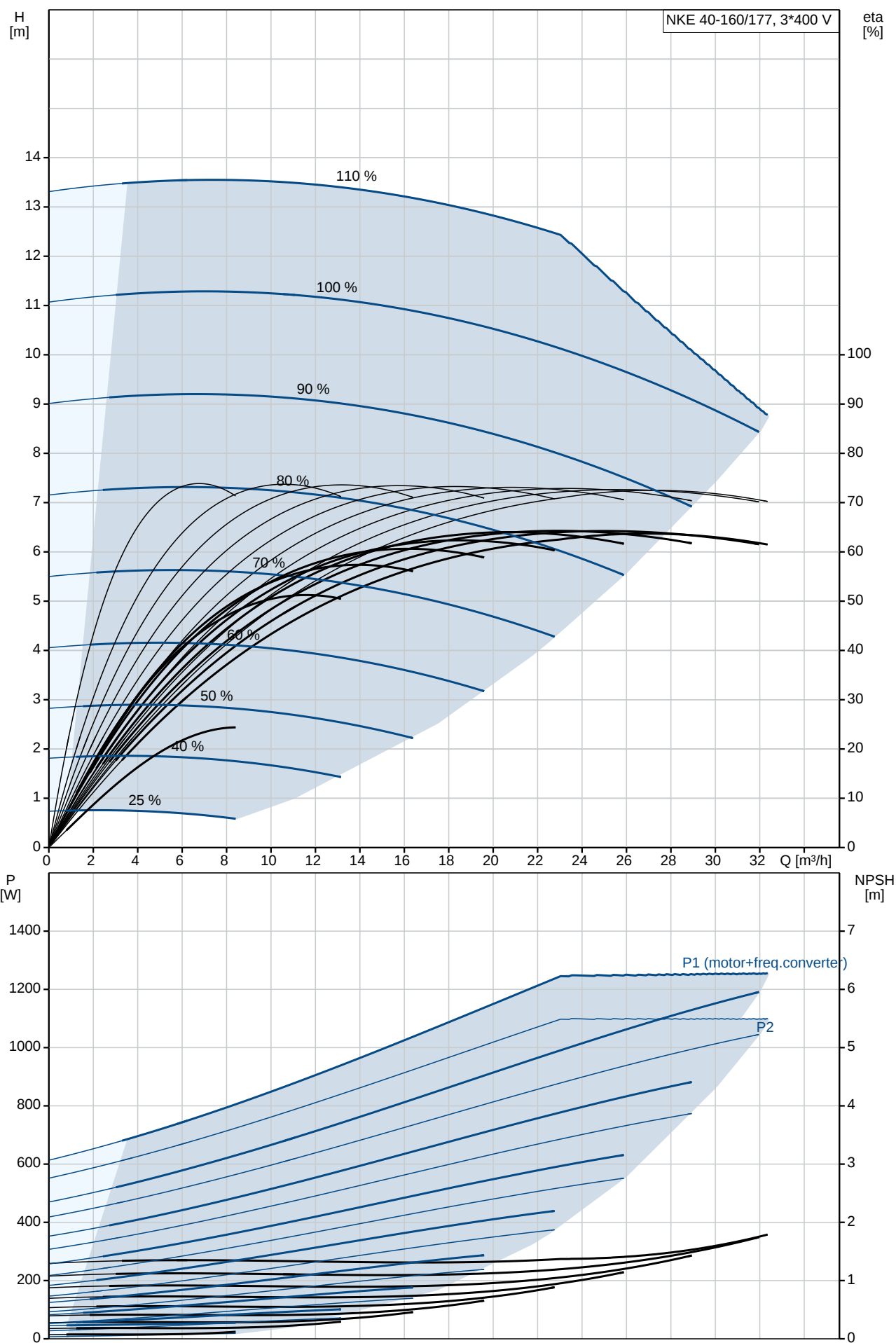
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Position	Qty.	Description
	1	NKE 40-160/177 A1-F-A-E-GQQE  Product No.: On request Non-self-priming, single-stage, centrifugal volute pump designed according to ISO 5199 with dimensions and rated performance according to EN 733. Flanges are PN 16 with 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 shaft seal with reduced seal face 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. 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 Grundfos Eye indicator on the operating 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 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 shaft seal is an unbalanced rubber bellows seal with reduced seal face. Due to the bellows, the seal does not wear the shaft, and the axial movement is not prevented by deposits on the shaft. The narrow seal face makes the seal perform well in high-viscosity and anti-freezing liquids. Primary seal: - Rotating seal ring material: silicon carbide (SiC) - Stationary seat material: silicon carbide (SiC) This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles. 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 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: -25 .. 60 °C Liquid temperature during operation: 20 °C Density: 998.2 kg/m³ Technical: Rated flow: 22.3 m³/h Rated head: 10.1 m Actual impeller diameter: 177 mm Impeller nom: 160 mm Primary shaft seal: GQQE Secondary shaft seal: NONE Curve tolerance: ISO9906:2012 3B

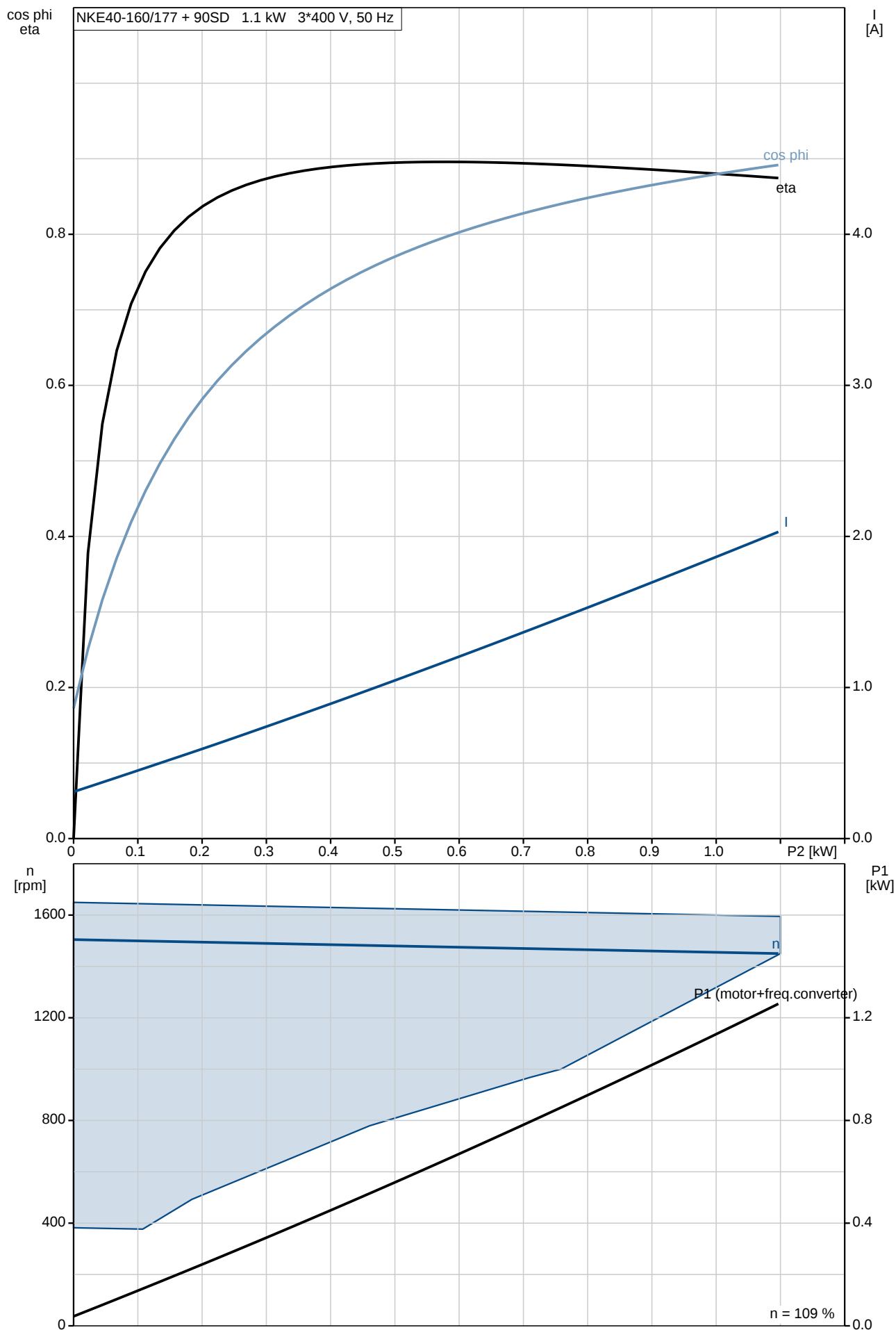
Position	Qty.	Description
		Materials: Pump housing: Cast iron EN-GJL-250 ASTM A48-40 B Impeller: Cast iron EN-GJL-200 ASTM A48-30 B Rubber: EPDM Wear ring mat.: Bronze (CuSn10) Installation: Maximum ambient temperature: 50 °C Maximum operating pressure: 16 bar Flange standard: EN 1092-2 Pump inlet: DN 65 Pump outlet: DN 40 Pressure rating: PN 16 Coupling type: Standard Base frame: EN / ISO Electrical data: Motor type: 90SD IE Efficiency class: IE5 Rated power - P2: 1.1 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-500 V Rated current: 2.30-2.10 A Cos phi - power factor: 0.90-0.74 Rated speed: 180-2000 rpm Efficiency: 87.2% Motor efficiency at full load: 87.2 % Number of poles: 4 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Lubricant type: Grease Others: Minimum efficiency index, MEI $\geq$: 0.70 ErP status: EuP Standalone/Prod. Net weight: 111 kg Gross weight: 133 kg Shipping volume: 0.382 m³

On request NKE 40-160/177 A1-F-A-E-GQQE 50 Hz

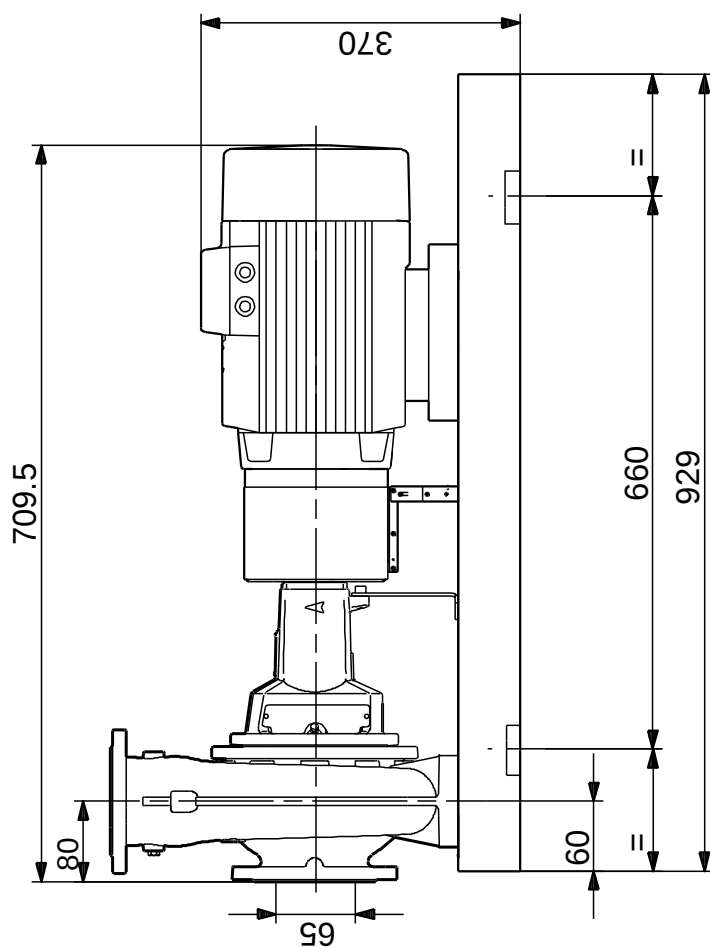
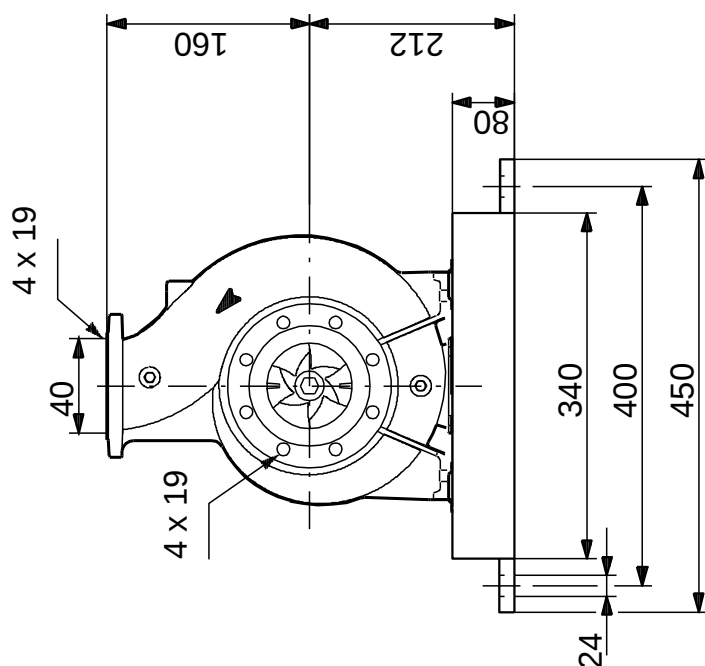


Description	Value
ErP status:	EuP Standalone/Prod.
Net weight:	111 kg
Gross weight:	133 kg
Shipping volume:	0.382 m³
Config. file no:	98478703

On request NKE 40-160/177 A1-F-A-E-GQQE 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 40-160/177, Product No. On request
Valid from 25.12.2012 (1252)

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
-	Motor				1	pcs
	Terminal				3	
	Pan head thread forming screw				4	
150	Stator housing				1	
150	Stator				1	
151	Fan cover				1	
152	Pan head thread forming screw				6	
152	Pan head thread forming screw				1	
152	Pan head thread forming screw				1	
152	Pan head thread forming screw				4	
153	Ball bearing				1	
154	Ball bearing		Designation: 6204.2Z.C3.SYN		1	
156	Fan				1	
156b	End shield DE				1	
156d	Gasket		Internal diameter: 114,80		1	
			Outer diameter: 121,20			
			Thickness: 0,25			
157	O-ring		Diameter: 47		1	
			Material type: NBR			
			Thickness: 3			
158	Waved washer				1	
159a	Seal ring				1	
159c	Seal ring				1	
166	Torx Screw				2	
172	Shaft w/rotor				1	
172a	Parallel key		Dimension: 8X7X40		1	
173a	Base				1	
185	Cross recess Pan head screw				4	
186	Drain plug				1	
187	Retaining ring				1	
188	Retaining ring				1	
191	Foot				1	
203	Terminal plug				1	
251a	Control box				1	
251b	Control box				1	
251d	Pan head thread forming screw				4	
266	Connector plug 3-pole				1	
266	Connector plug 3-pole				1	
266	Connector plug 8-pole				1	
266	Connector plug 8-pole				1	
266	Connector plug 10-pole				1	
268	Pan head screw				4	
268	Pan head screw				1	
273	Funct. Module cpl.				1	
275a	Pin				1	
277	Isolation cover				1	
277a	Cross recess Pan head screw				1	
277a	Cross recess Pan head screw				4	
277a	Cross recess Pan head screw				1	
286	Spacer				1	
286	Spacer				1	
287	Cover				1	
288	Wire clamp				3	
288b	Washer				6	
289	Wire clamp				1	
290	Control panel, cpl.				1	
300	Plug cpl.				4	
301	Jumper				1	
-	Coupling cpl.				1	pcs

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
-	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	
89.a	Socket set screw		Length (mm): 10		2	
			Thread: M8			
89.b	Socket set screw		Length (mm): 8		2	
			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	
- 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
53.b	Spacer ring				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
28a	Hex head screw		Length (mm): 25		1	
			Thread: M12			
53.b	Spacer ring				1	
54	Ball bearing				2	
54a	O-ring		Diameter: 71,5		2	
			Material type: EPDM			
			Thickness: 3			
77a	Pan head screw				4	
86	Bearing bracket				1	
156a	Bearing cover				2	
159a	V-ring				2	
187	Retaining ring				2	
- 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 block				2	
	Support block				2	

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
7h	Hex head screw		Length (mm): 16		2	
			Thread: M8			
66	Washer				2	
66	Washer				4	
66	Washer				2	
105	Shaft seal		Material type: GQQE		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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