NK150-200/210-158A1F1AE-SBAQE

Grundfos pump 97829416

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https://www.lenntech.com/grundfos/NKBASIS/97829416/NK-150-200-210-158-A1-F-A-E-BAQE.html

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Position	Qty.	Description
	1	**NK 150-200/210-158 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 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 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.

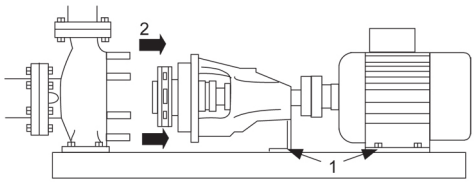
Further product details

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 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)

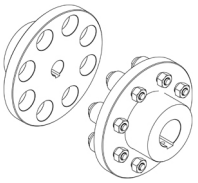
This material pairing has a very good corrosion resistance and is especially suitable for water up to 120 °C. However, seal life will be reduced at temperatures above 90 °C. The material pairing is not recommended for liquids containing particles as this will result in heavy wear on the SiC face.

Secondary seal material: EPDM (ethylene-propylene rubber)

Position	Qty.	Description

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 32 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 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.

The motor can be connected to a variable speed drive for adjustment of pump performance to any duty point. Grundfos CUE offers a range of variable speed drives. Please find more information in Grundfos Product Center.

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:	382 m³/h
Rated head:	5.5 m
Actual impeller diameter:	210-158 mm
Impeller nom:	200 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

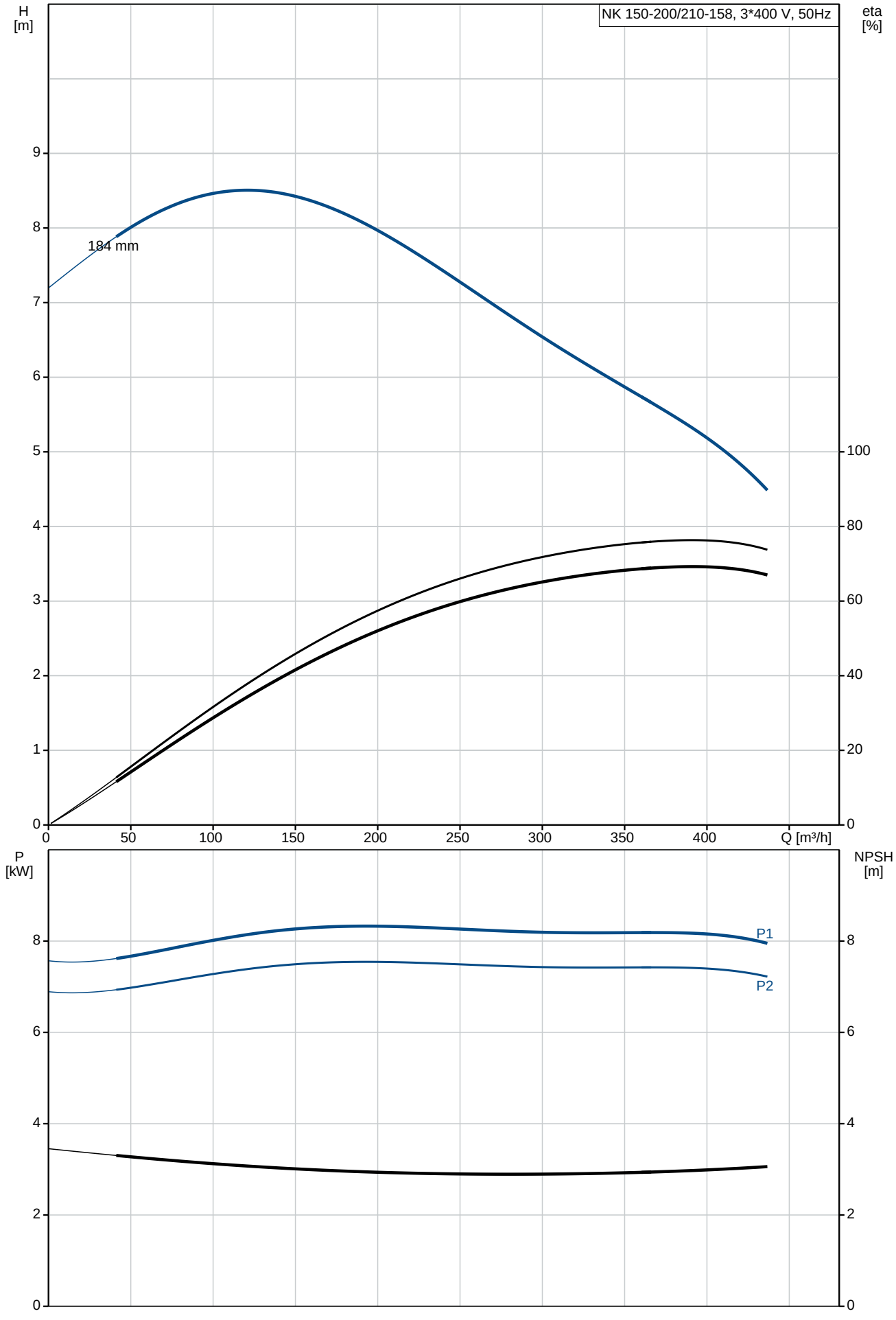
Installation:

Maximum ambient temperature:	60 °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:	Standard
Base frame:	EN / ISO

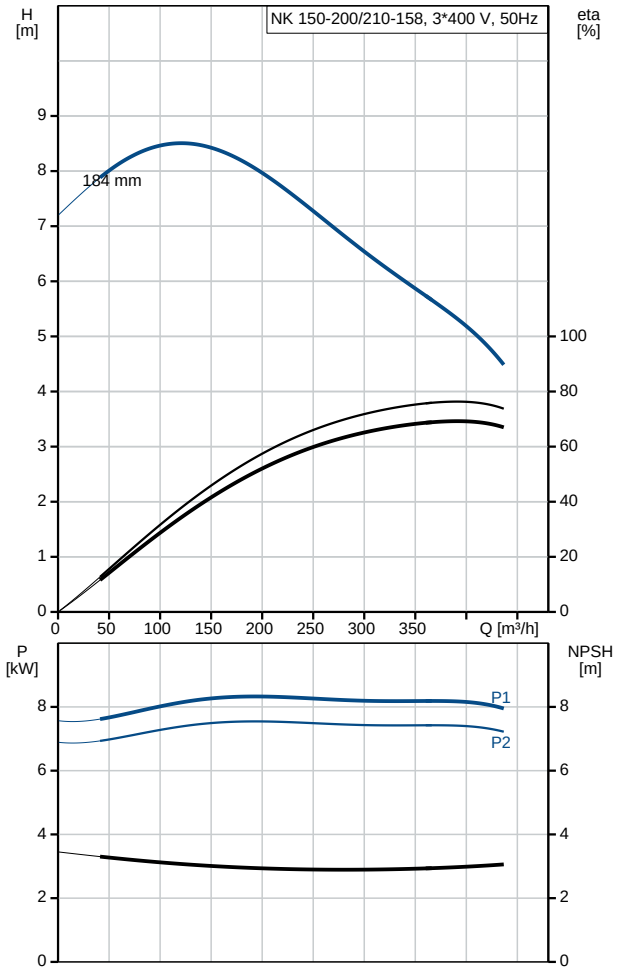
Electrical data:

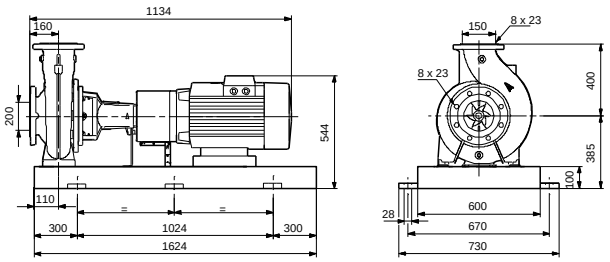
Position	Qty.	Description	
		Motor type:	132MB
		IE Efficiency class:	IE3
		Rated power - P2:	7.5 kW
		Mains frequency:	50 Hz
		Rated voltage:	3 x 380-415D/660-690Y V
		Rated current:	14,9-14,2/8,60-8,40 A
		Starting current:	680-780 %
		Cos phi - power factor:	0.86-0.82
		Rated speed:	1460 rpm
		Efficiency:	IE3 90,4%
		Motor efficiency at full load:	90.4 %
		Motor efficiency at 3/4 load:	91.6 %
		Motor efficiency at 1/2 load:	92.4 %
		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:	432 kg
		Gross weight:	499 kg
		Shipping volume:	1.57 m^3

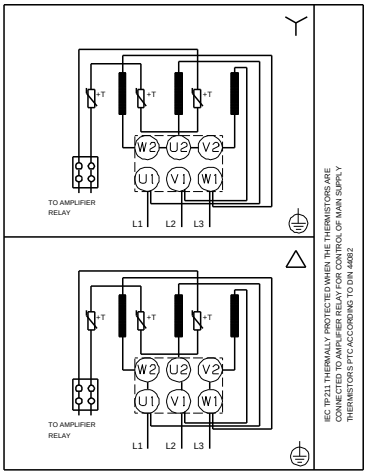
On request NK 150-200/210-158 A1-F-A-E-BAQE 50 Hz



Description	Value
General information:	
Product name:	NK 150-200/210-158 A1-F-A-E-BAQE
Product No:	On request
EAN number:	On request
Technical:	
Rated flow:	382 m³/h
Rated head:	5.5 m
Actual impeller diameter:	210-158 mm
Impeller nom:	200 mm
Primary shaft seal:	BAQE
Secondary shaft seal:	NONE
Shaft diameter:	32 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:	60 °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:	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:	132MB
IE Efficiency class:	IE3
Rated power - P2:	7.5 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415D/660-690Y V
Rated current:	14,9-14,2/8,60-8,40 A
Starting current:	680-780 %
Cos phi - power factor:	0.86-0.82
Rated speed:	1460 rpm
Efficiency:	IE3 90,4%
Motor efficiency at full load:	90.4 %
Motor efficiency at 3/4 load:	91.6 %
Motor efficiency at 1/2 load:	92.4 %
Number of poles:	4
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Motor protec:	PTC
Motor No:	87370407
Lubricant type:	Grease
Others:	

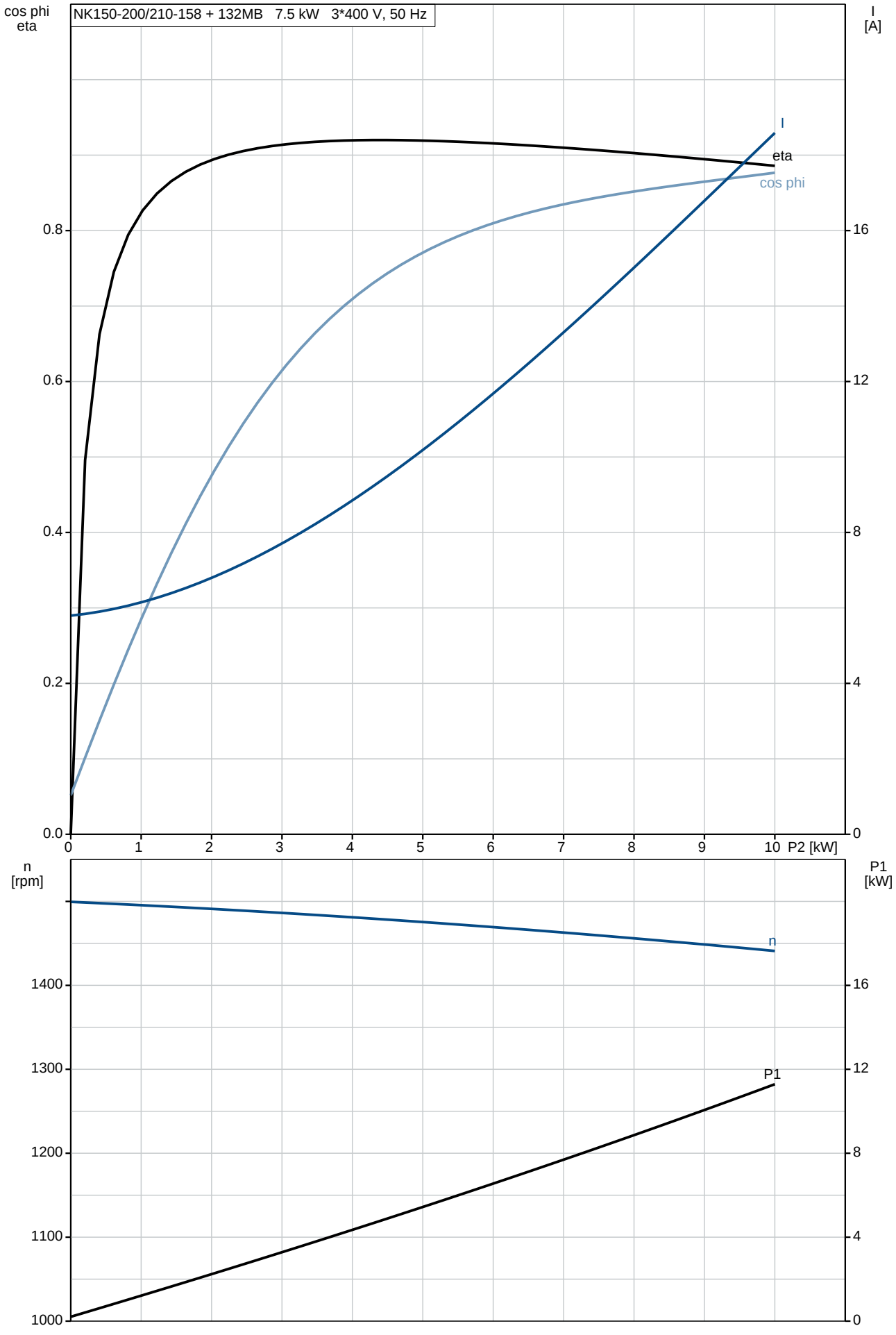




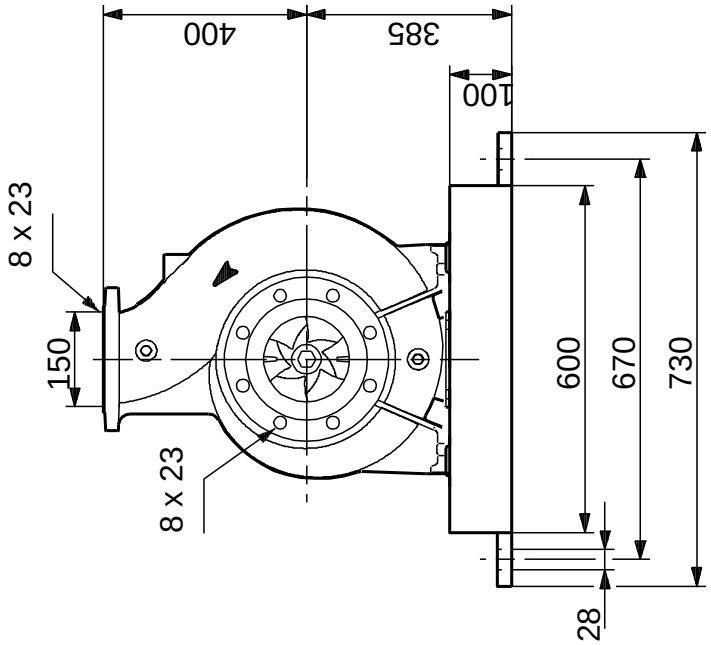


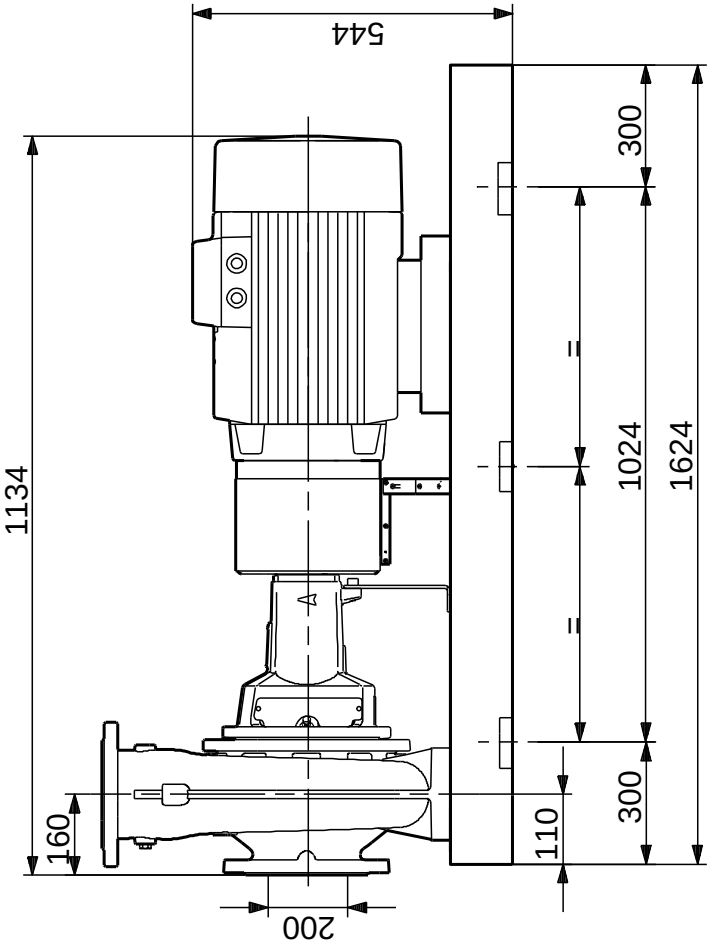
Description	Value
Minimum efficiency index, MEI ≥:	0.70
ErP status:	EuP Standalone/Prod.
Net weight:	432 kg
Gross weight:	499 kg
Shipping volume:	1.57 m³

On request NK 150-200/210-158 A1-F-A-E-BAQE 50 Hz



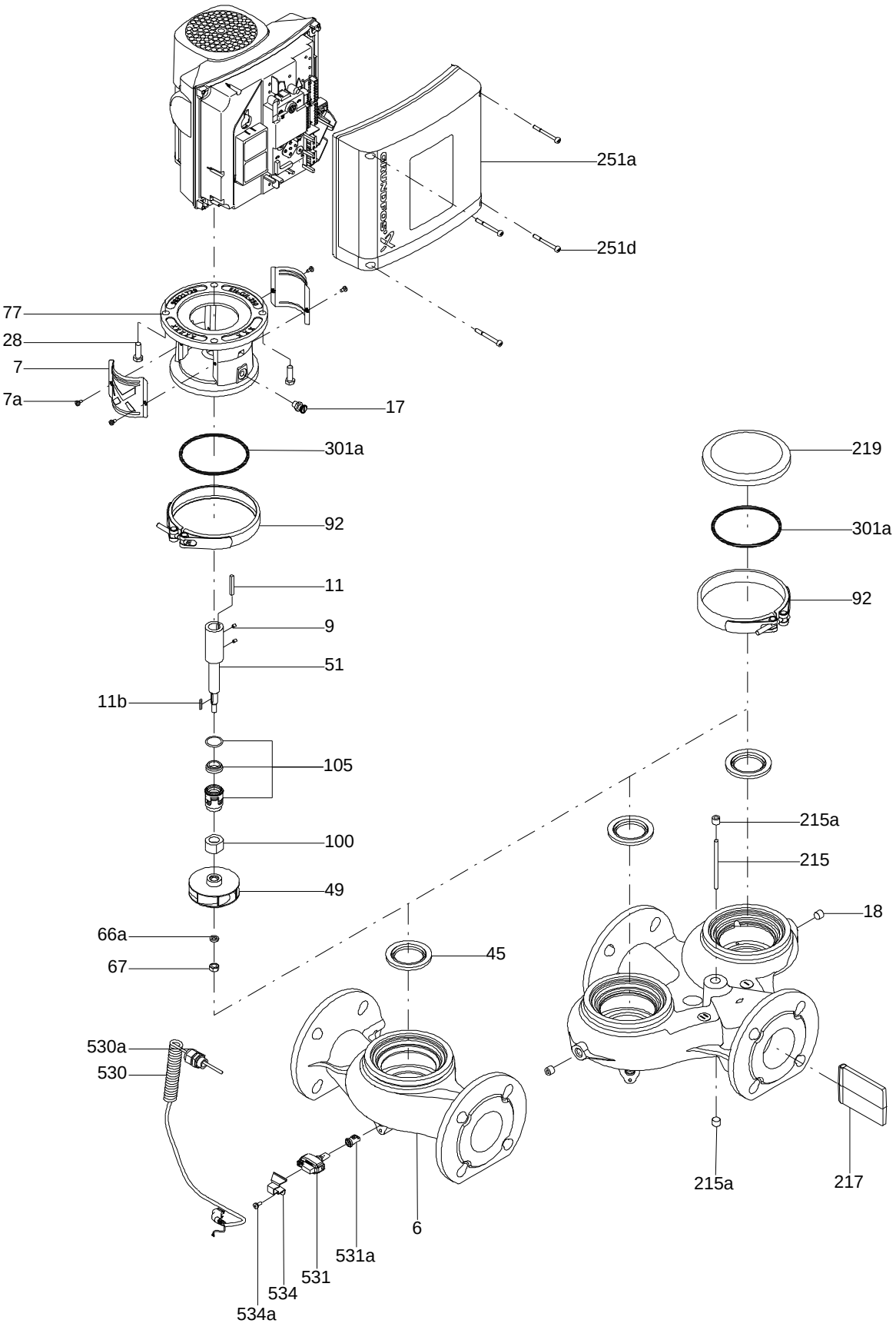
On request NK 150-200/210-158 A1-F-A-E-BAQE 50 Hz



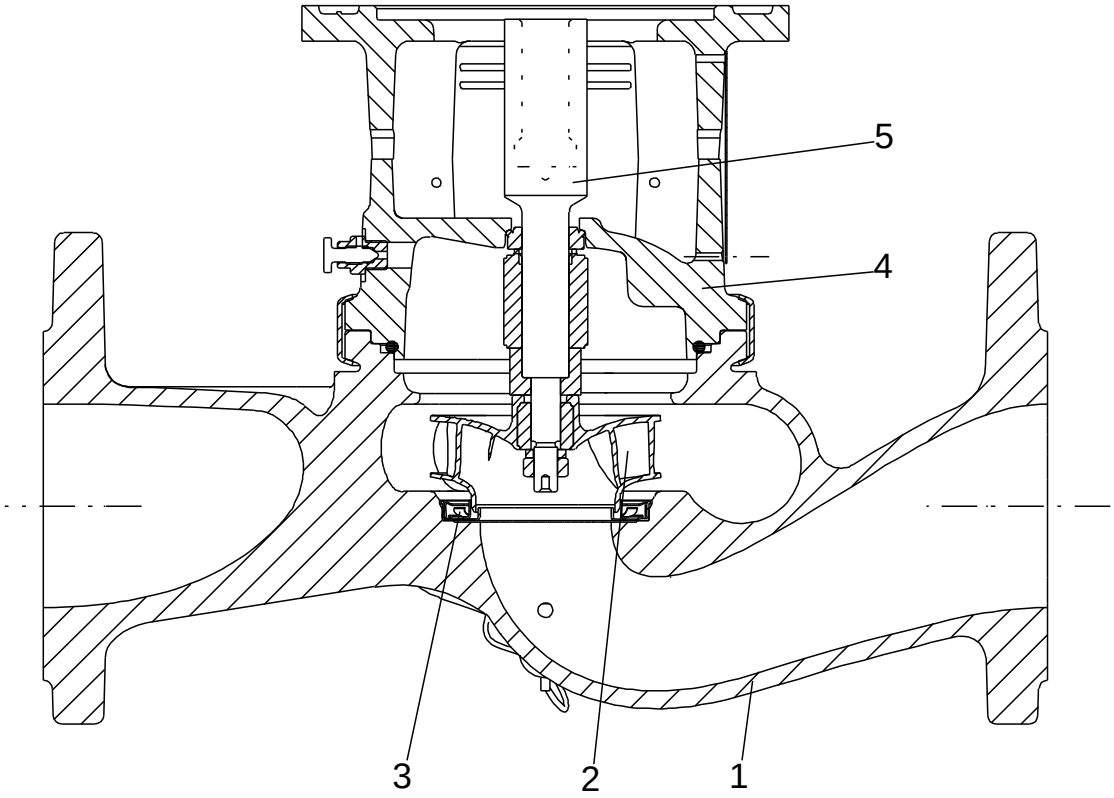


Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Exploded view

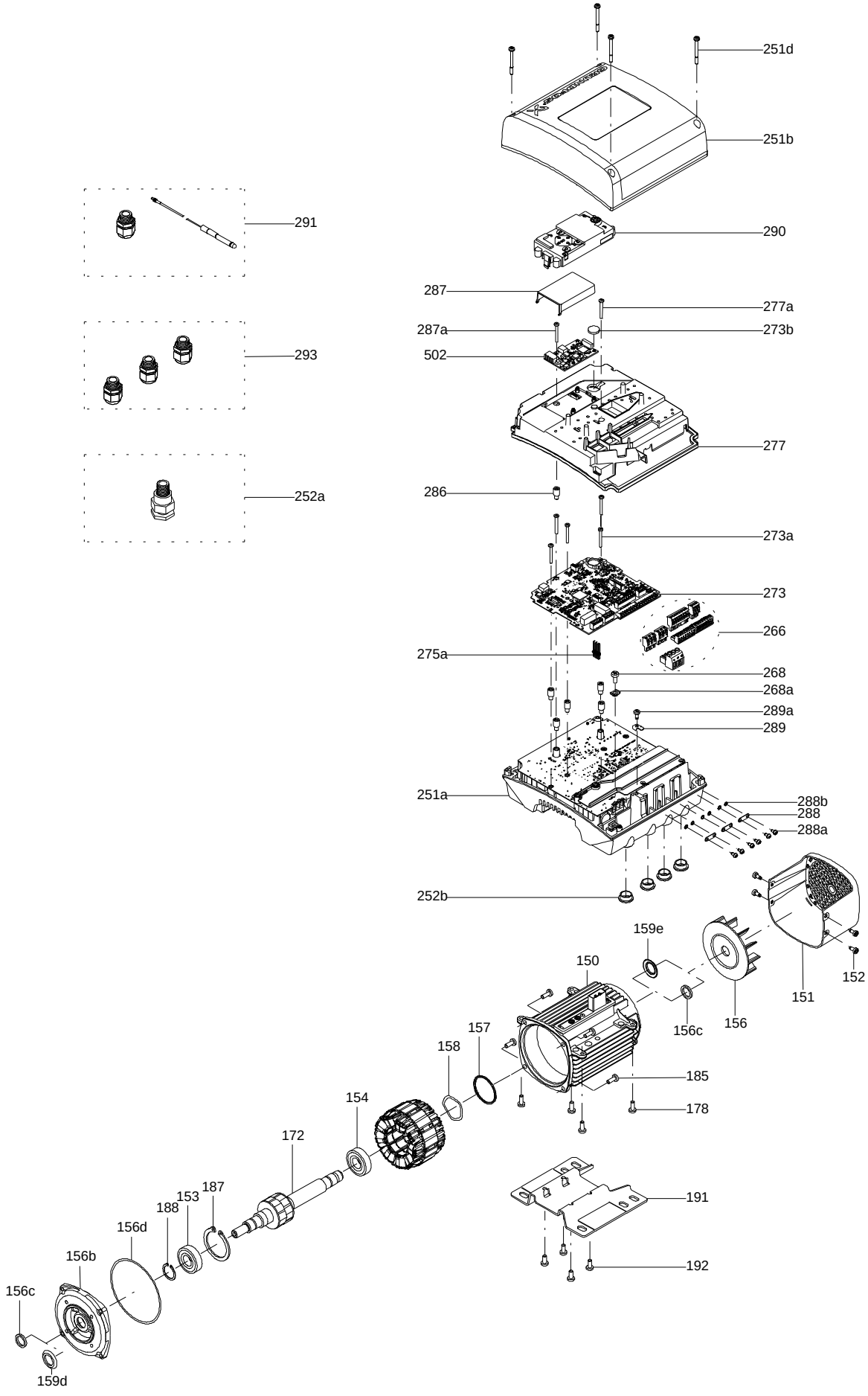


Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view (TM057026 for MGE model H/I)



Parts list NK 150-200/210-158, Product No. On request
Valid from 1.3.2011 (1109)

	Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
+		Motor				1	pcs
-		Coupling cpl.				1	pcs
-		Bolt				8	
-		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.o	Connector				1	
	89.p	Coupling female				1	
	89a	Socket set screw				2	
	89b	Socket set screw				2	
-		Nut				1	pcs
	66	Washer		Designation: DIN 125 A2		1	
				Internal diameter: 19			
				Outer diameter: 34			
				Thickness: 3			
	66a	Spring lock washer				1	
	67	Nut		Thread: M18		1	
-		Pump housing cpl.				1	pcs
	6	Pump housing				1	
	36	Nut		Thread: M10		8	
-	7	Coupling guard cpl.				1	pcs
-	7	Coupling guard cpl.				1	
	7	Coupling 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	
	7h	Hex socket head cap screw				2	
	7l	Support f/coupling guard foot				1	
	66	Washer				2	
	49	Impeller				1	pcs
	72.a	O-ring		Diameter: 221,84		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: 89,5		2	
				Material type: EPDM			
				Thickness: 3			
	77a	Pan head screw				4	
	86	Bearing bracket				1	
	153a	Retaining ring				2	
	156a	Bearing cover				2	
	159a	V-ring				2	

	Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
-	90	Base plate				1	pcs
		Hex head screw				4	
		Washer				16	
		Base plate				1	
		Support rail				2	
		Support block				1	
		Support block				2	
	7h	Hex head screw		Length (mm): 16		2	
				Thread: M8			
	28	Hex head screw		Length (mm): 30		2	
				Thread: M12			
	36	Nut		Thread: M10		8	
	66	Washer				2	
	66	Washer				4	
	66	Washer				2	
	211	Hex head screw				4	
	105	Shaft seal		Material type: BAQE		1	pcs
	105b	Spacer				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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