

## CR10-10 A-A-A-E-HQQE 3x400D 50 HZ

Grundfos pump 96501232




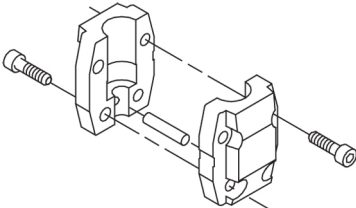
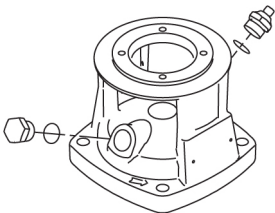
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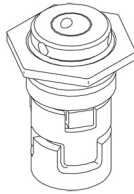
<https://www.lenntech.com/grundfos/CRFAM/96501232/CR-10-10-A-A-A-E-HQQE.html>

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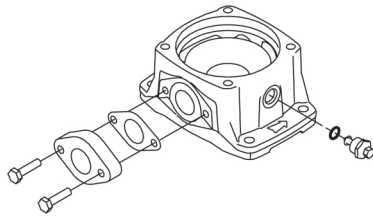
Position	Qty.	Description
	1	<p><b>CR 10-10 A-A-A-E-HQQE</b></p>  <p>Product No.: On request</p> <p>Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). The pump head and base are in cast iron – all other wetted parts are in stainless steel. A cartridge shaft seal ensures high reliability, safe handling, and easy access and service. Power transmission is via a rigid split coupling. Pipe connection is via oval flanges with internal Rp threads.</p> <p>The pump is fitted with a 3-phase, fan-cooled asynchronous motor.</p> <p><b>Further product details</b></p> <p>Steel, cast iron and aluminium components 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:</p> <ol style="list-style-type: none"> <li>1) Alkaline-based cleaning.</li> <li>2) Zinc phosphating.</li> <li>3) Cathodic electro-deposition.</li> <li>4) Curing to a dry film thickness 18-22 my m.</li> </ol> <p>The colour code for the finished product is NCS 9000/RAL 9005.</p> <p><b>Pump</b></p> <p>A standard split coupling connects the pump and motor shaft. It is enclosed in the pump head/motor stool by means of two coupling guards.</p>  <p>The pump head, pump head cover and flange for motor mounting is made in one piece. The pump head has a combined 1/2" priming plug and vent screw.</p>  <p>The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system. This seal type is assembled in a cartridge unit which makes replacement safe and easy. Due to the balancing, this seal type is suitable for high-pressure applications. The cartridge construction also protects the pump shaft from possible wear from a dynamic O-ring between pump shaft and shaft seal.</p> <p>Primary seal:</p> <ul style="list-style-type: none"> <li>• Rotating seal ring material: silicon carbide (SiC)</li> <li>• Stationary seat material: silicon carbide (SiC)</li> </ul> <p>This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.</p> <p>Secondary seal material: EPDM (ethylene-propylene rubber)</p> <p>EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.</p>



The shaft seal is screwed into the pump head.

The chambers and impellers are made of stainless-steel sheet. The chambers are provided with a PTFE neck ring offering improved sealing and high efficiency. The impellers have smooth surfaces, and the shape of the blades ensure a high efficiency.

The base is made of cast iron. The oval flanges are bolted to the base. The outlet side of the base has a drain plug. The pump is secured to the foundation by four bolts through the base plate.



## Motor

The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. The motor is flange-mounted with tapped-hole flange (FT).

Motor-mounting designation in accordance with IEC 60034-7: IM B 14 (Code I) / IM 3601 (Code II).

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

### Controls:

Frequency converter: NONE

### Liquid:

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

### Technical:

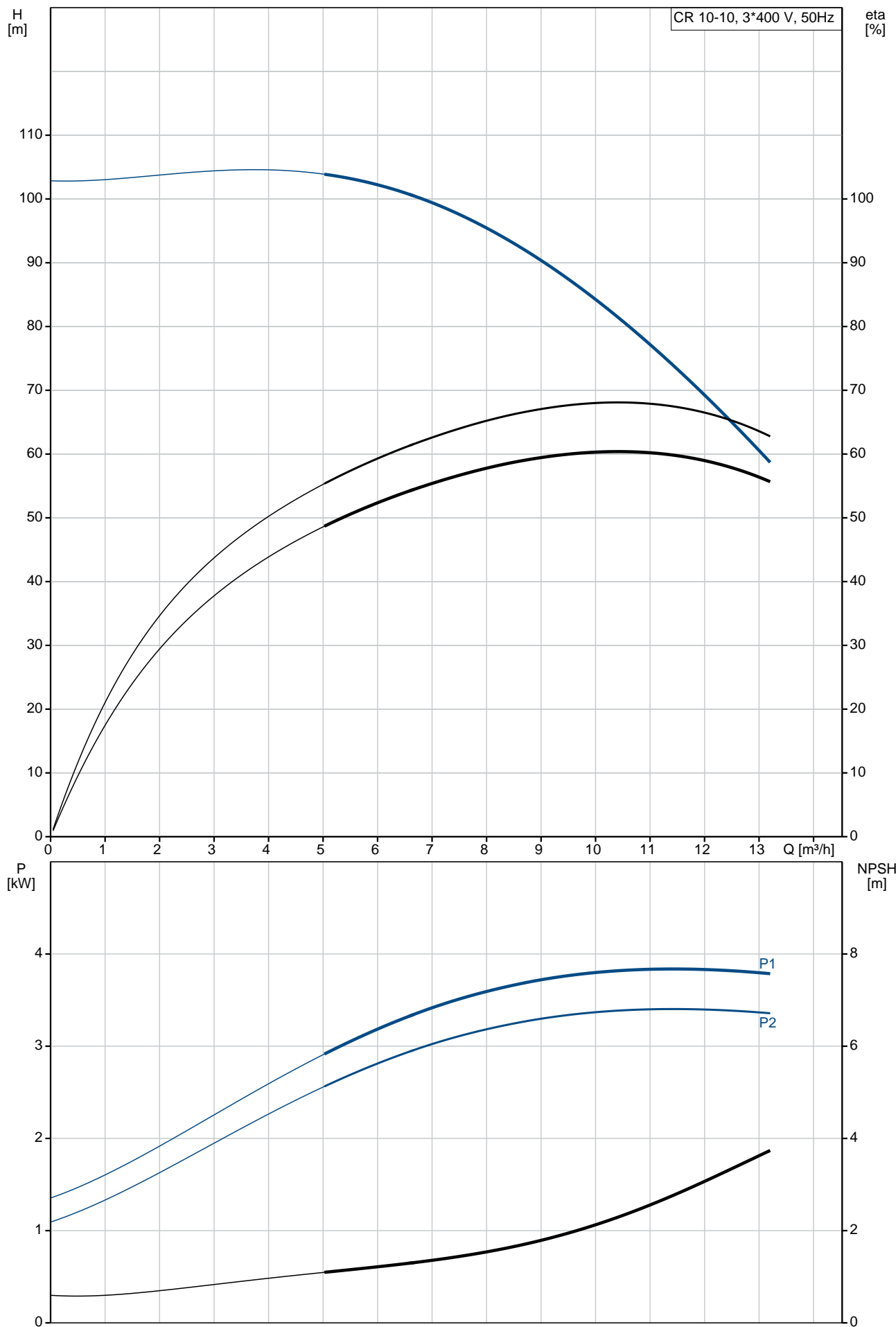
Rated flow: 10 m<sup>3</sup>/h  
Rated head: 81.6 m  
Pump orientation: Vertical  
Shaft seal arrangement: Single  
Code for shaft seal: HQQE  
Approvals on nameplate: CE, EAC, ACS  
Curve tolerance: ISO9906:2012 3B

### Materials:

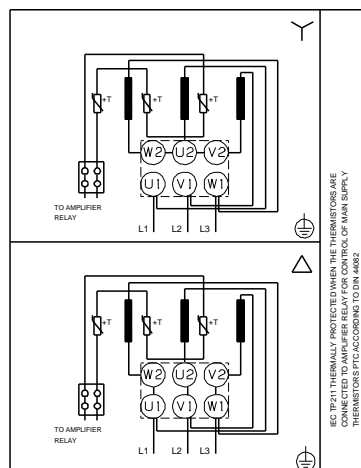
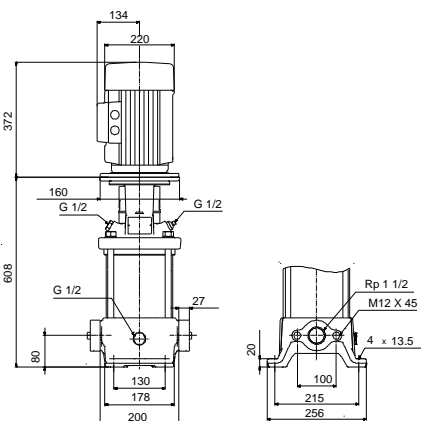
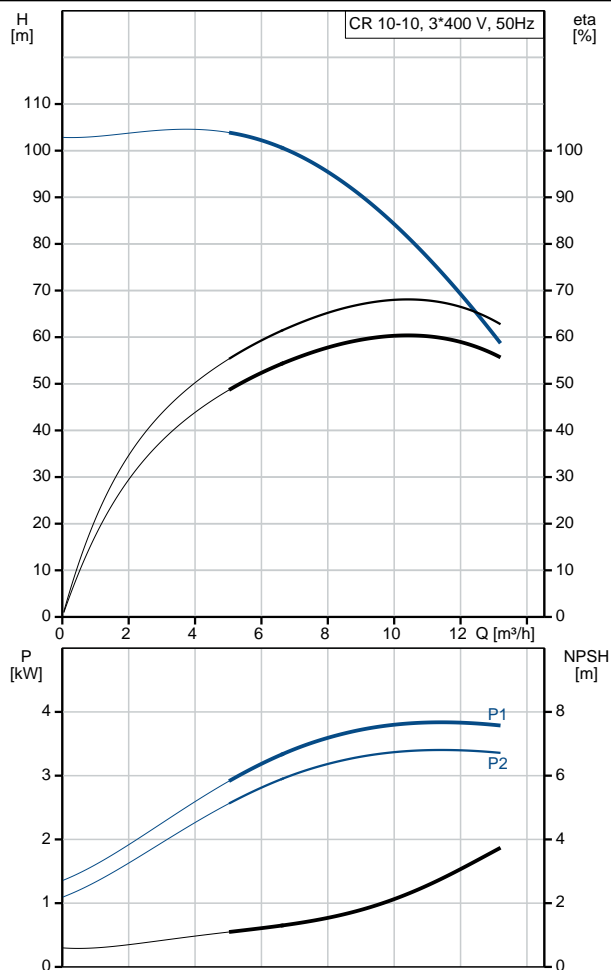
Base: Cast iron  
EN 1561 EN-GJL-200  
ASTM A48-25B

Position	Qty.	Description
		<p>Impeller: Stainless steel EN 1.4301 AISI 304</p> <p>Bearing: SIC</p> <p><b>Installation:</b>  Maximum ambient temperature: 60 °C  Maximum operating pressure: 16 bar  Max pressure at stated temp: 16 bar / 120 °C  16 bar / -20 °C  Type of connection: Oval / Rp  Size of inlet connection: 1 1/2 inch  Size of outlet connection: 1 1/2 inch  Pressure rating for pipe connection: PN 16  Flange size for motor: FT130</p> <p><b>Electrical data:</b>  Motor standard: IEC  Motor type: 112MC  IE Efficiency class: IE3  Rated power - P2: 4 kW  Power (P2) required by pump: 4 kW  Mains frequency: 50 Hz  Rated voltage: 3 x 380-415D V  Rated current: 7.9 A  Starting current: 1000-1110 %  Cos phi - power factor: 0.87-0.87  Rated speed: 2920-2940 rpm  Efficiency: IE3 88,1%  Motor efficiency at full load: 88.1 %  Motor efficiency at 3/4 load: 88.6 %  Motor efficiency at 1/2 load: 85.2 %  Number of poles: 2  Enclosure class (IEC 34-5): 55 Dust/Jetting  Insulation class (IEC 85): F</p> <p><b>Others:</b>  Minimum efficiency index, MEI : 0.70  Net weight: 71 kg  Gross weight: 75 kg  Shipping volume: 0.13 m³  Danish VVS No.: 385903100</p>

On request CR 10-10 A-A-A-E-HQQE 50 Hz

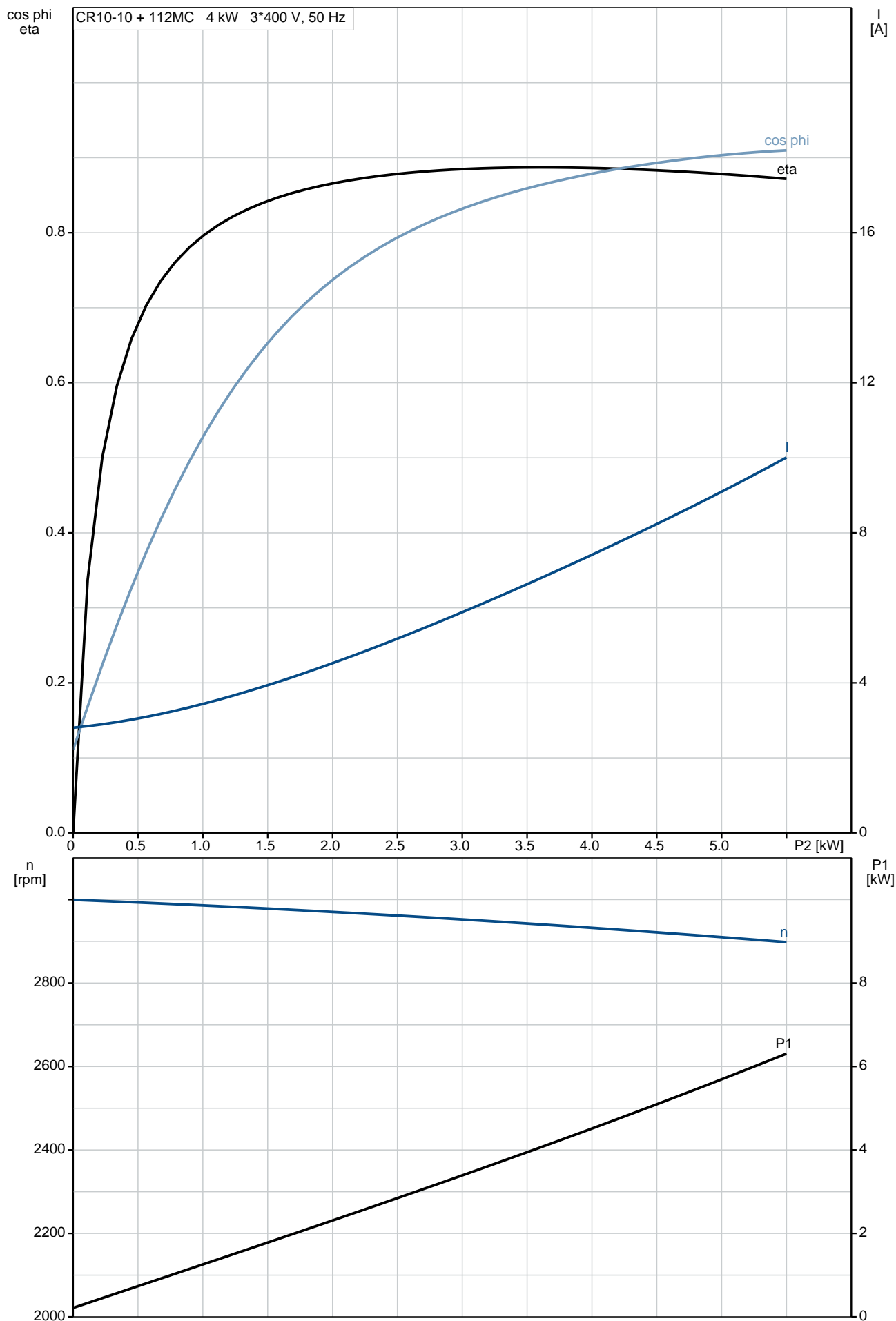


Description	Value
<b>General information:</b>	
Product name:	CR 10-10 A-A-A-E-HQQE
Product No:	On request
EAN number:	On request
<b>Technical:</b>	
Rated flow:	10 m³/h
Rated head:	81.6 m
Stages:	10
Impellers:	10
Number of reduced-diameter impellers:	0
Low NPSH:	N
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Code for shaft seal:	HQQE
Approvals on nameplate:	CE, EAC, ACS
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
Model:	A
<b>Materials:</b>	
Base:	Cast iron
	EN 1561 EN-GJL-200
	ASTM A48-25B
Impeller:	Stainless steel
	EN 1.4301
	AISI 304
Material code:	A
Code for rubber:	E
Bearing:	SIC
<b>Installation:</b>	
Maximum ambient temperature:	60 °C
Maximum operating pressure:	16 bar
Max pressure at stated temp:	16 bar / 120 °C
	16 bar / -20 °C
Type of connection:	Oval / Rp
Size of inlet connection:	1 1/2 inch
Size of outlet connection:	1 1/2 inch
Pressure rating for pipe connection:	PN 16
Flange size for motor:	FT130
Connect code:	A
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	-20 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m³
<b>Electrical data:</b>	
Motor standard:	IEC
Motor type:	112MC
IE Efficiency class:	IE3
Rated power - P2:	4 kW
Power (P2) required by pump:	4 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415D V
Rated current:	7.9 A
Starting current:	1000-1110 %
Cos phi - power factor:	0.87-0.87
Rated speed:	2920-2940 rpm
Efficiency:	IE3 88,1%
Motor efficiency at full load:	88.1 %
Motor efficiency at 3/4 load:	88.6 %
Motor efficiency at 1/2 load:	85.2 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F



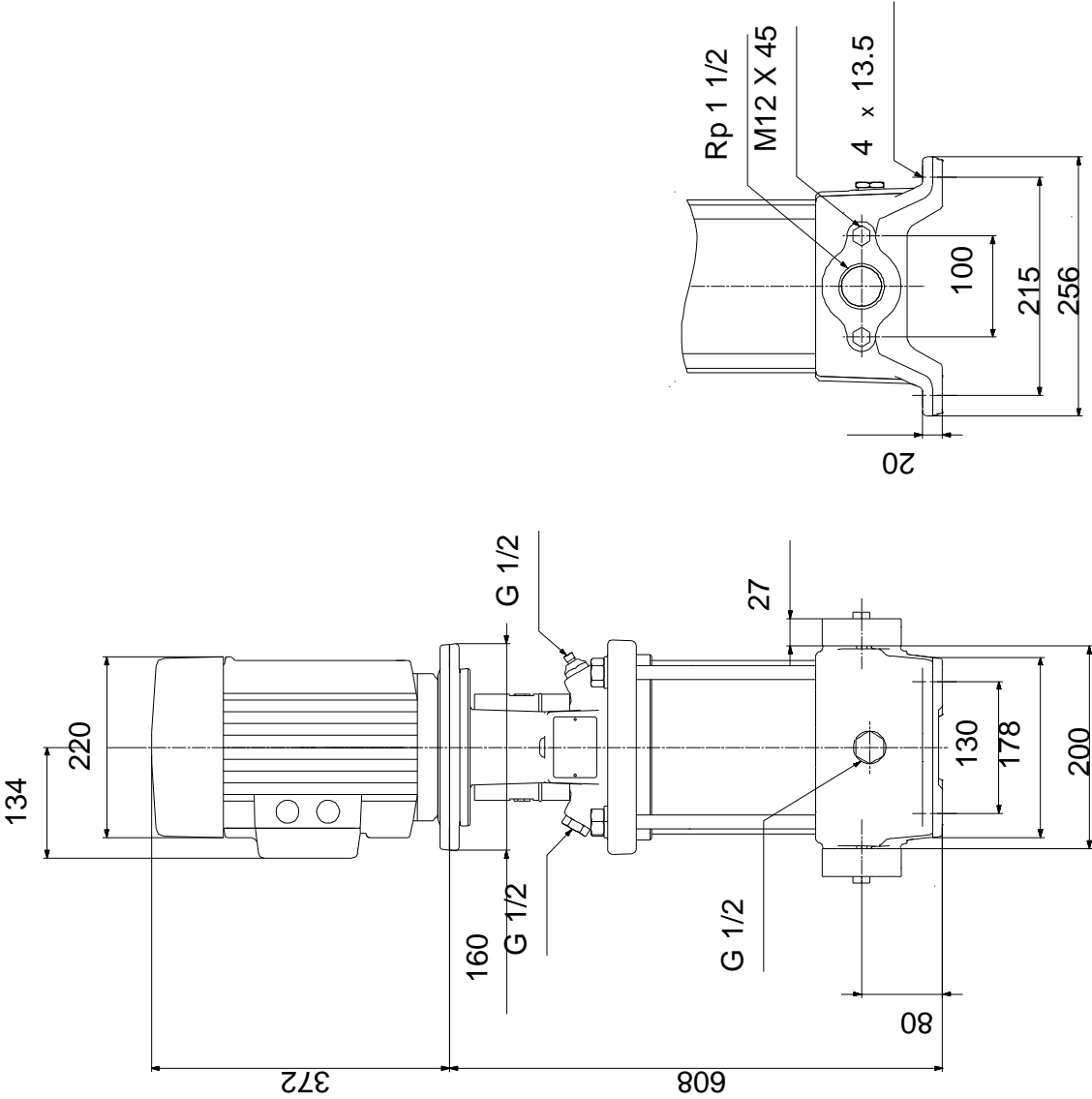
Description	Value
Motor protec:	PTC
Motor No:	85U15413
<b>Controls:</b>	
Frequency converter:	NONE
<b>Others:</b>	
Minimum efficiency index, MEI :	0.70
Net weight:	71 kg
Gross weight:	75 kg
Shipping volume:	0.13 m <sup>3</sup>
Danish VVS No.:	385903100

# On request CR 10-10 A-A-A-E-HQQE 50 Hz



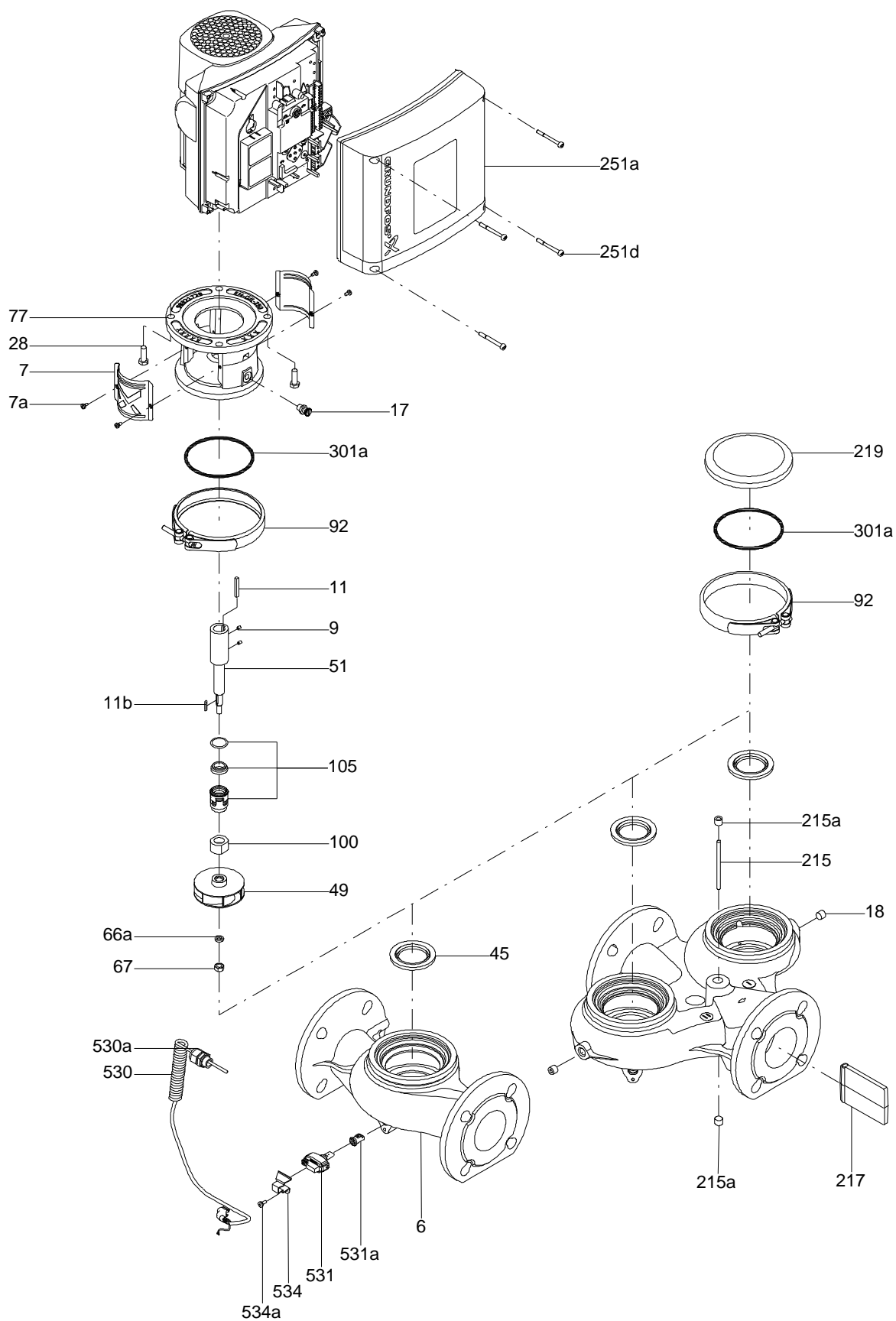


On request CR 10-10 A-A-A-E-HQQE 50 Hz

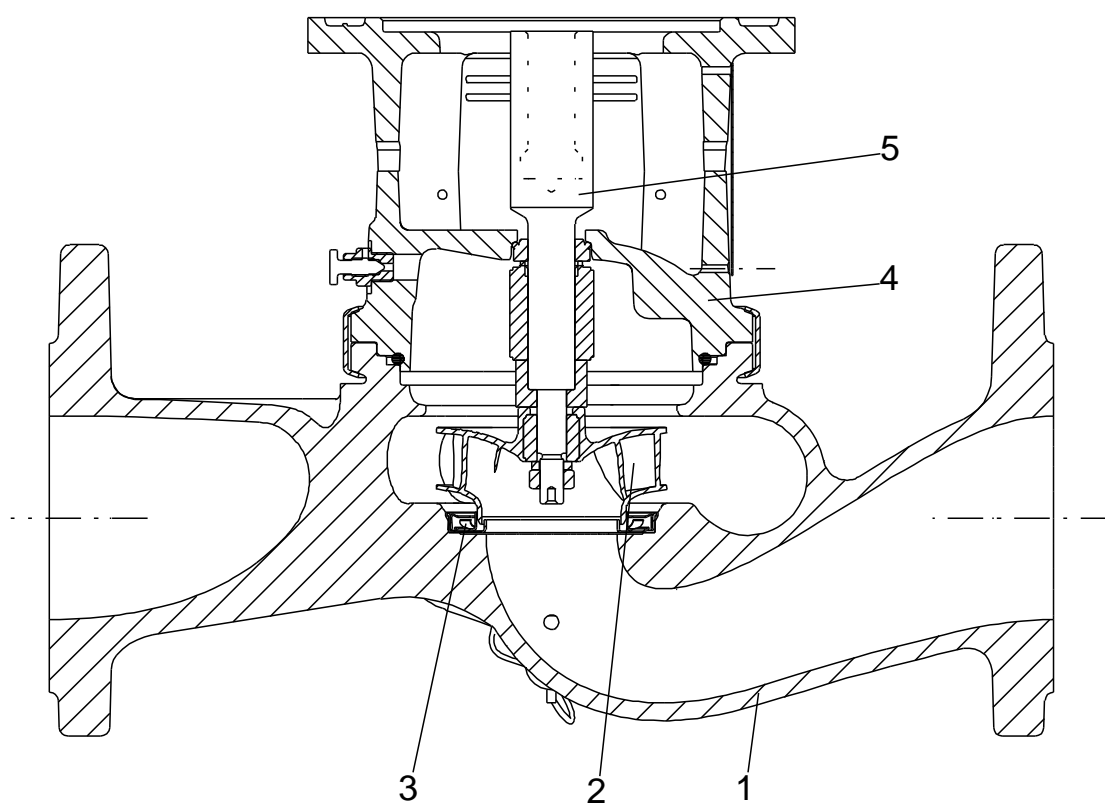


Note! All units are in [mm] unless others are stated.  
Disclaimer: This simplified dimensional drawing does not show all details.

# Exploded view

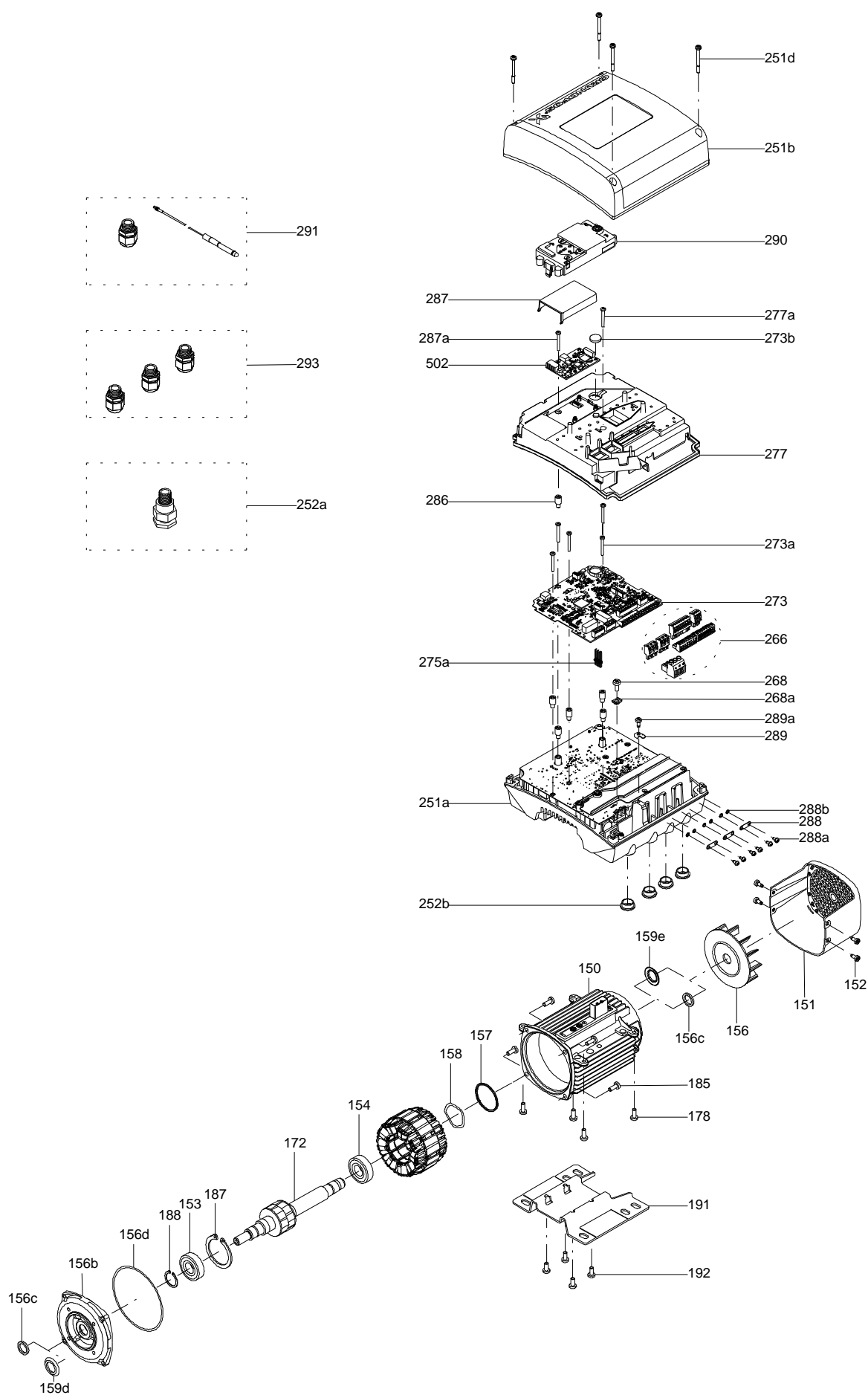


Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

**Exploded view ( TM057026 for MGE model H/I )**



**Parts list CR 10-10, Product No. On request**  
**Valid from 1.1.2011 (1152)**

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
+	Motor				1	pcs
-	Base cpl.				1	pcs
6	Base				1	
12	Flange		Thread: RP 1 1/2		2	
25	Drain plug				1	
35	Hex head screw		Length (mm): 45 MM		4	
			Thread: M12			
415	Gasket				2	
-	Rubber module				1	pcs
20	Spring				4	
37	O-ring				2	
38	O-ring		Diameter: 16,3		1	
			Material type: EPDM			
			Thickness: 2,4			
38a	O-ring		Diameter: 5,3		1	
			Material type: EPDM			
			Thickness: 2,4			
100	O-ring		Diameter: 16,3		2	
			Material type: EPDM			
			Thickness: 2,4			
- 2	Pump head cpl.				1	pcs
2	Pump head				1	
7	Coupling guard				2	
7.a	Combi Slot Torx screw				4	
- 18	Air vent screw				1	
	Plug				1	
	Spindle				1	
23	Plug				1	
28	Hex head screw		Length (mm): 25		4	
			Thread: M8			
76	Nameplate				1	
76a	Rivet				1	
- 8	Coupling cpl.				1	pcs
9	Hex socket head cap screw		Designation: DIN 912		4	
			Length (mm): 25			
			Thread: M8			
10	Shaft pin		Diameter: 5		1	
			Length (mm): 26			
10a	Coupling half				2	
26	Staybolt				4	pcs
36	Hex nut		Thread: M16		4	pcs
55	Outer sleeve				1	pcs
66a	Washer		Designation: DIN 125 A		4	pcs
			Internal diameter: 17			
			Outer diameter: 30			
			Thickness: 3			
- 80	Chamber stack		Bearing type: SIC		1	pcs
- 4	Intermediate chamber cpl.				1	
	Guide vane				10	
3	Top intermediate chamber				1	
- 4	Intermediate chamber cpl.				7	
	Guide vane				10	
	Guide cup				1	
3a	Intermediate chamber				1	
45	Neck ring cpl.				1	
65	Retainer				1	
- 4a	Intermediate chamber cpl.				2	
	Guide vane				10	
	Bearing plate				1	

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
	Bearing bush				1	
	Guide cup				1	
3a	Intermediate chamber				1	
45	Neck ring cpl.				1	
65	Retainer				1	
26.b	Hex head screw				2	
26.c	Washer		Designation: DIN 125A		2	
			Thickness: 1,6			
26a	Strap cpl.		Length (mm): 314MM		2	
36	Lock nut		Thread: M8		1	
- 44a	Inlet part cpl.				1	
	Inlet part				1	
	Guide cup				1	
45	Neck ring cpl.				1	
65	Retainer				1	
44b	Inlet part				1	
47a	Bearing ring				2	
49	Impeller cpl.				10	
- 51	Shaft, spline, cpl.				1	
	Bar				0	
62	Stop ring				1	
64	Spacing bush		Length (mm): 9.00		2	
64.d	Spacer				2	
64c	Spacing pipe		Length (mm): 12.7		1	
66	Wedge lock washer				1	
69	Spacing pipe		Length (mm): 29.05		7	
69	Spacing bush		Length (mm): 18.00		1	
105	Shaft seal		Material type: HQQE		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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