CRI20-07 A-P-I-E-HQQE 3x400/690 50 HZ

Grundfos pump 96500541

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https://www.lenntech.com/grundfos/CRI20/96500541/CRI-20-7-A-P-I-E-HQQE.html

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Position	Qty.	Description
	1	**CRI 20-7 A-P-X-E-HQQE**

Product No.: On request

Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). Pump materials in contact with the liquid 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 PJE (Victaulic®) couplings.

The pump is fitted with a 3-phase, fan-cooled asynchronous motor.

Further product details

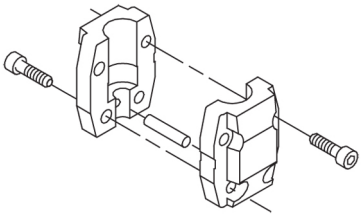
Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface. An integral part of the process is a pretreatment. The entire process consists of these elements:

1) Alkaline-based cleaning.
2) Zinc phosphating.
3) Cathodic electro-deposition.
4) Curing to a dry film thickness 18-22 my m.

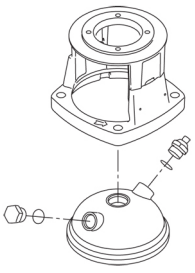
The colour code for the finished product is NCS 9000/RAL 9005.

Pump

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.



The pump head and flange for motor mounting is made in one piece (cast iron). The pump head cover is a separate component (stainless steel). The pump head has a combined 1/2" priming plug and vent screw.



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.

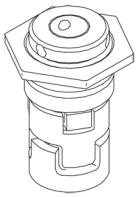
Primary seal:

- 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)

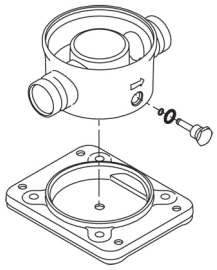
EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.



The shaft 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 pump has a stainless-steel base mounted on a separate base plate. The base and base plate are kept in position by the tension of the staybolts which hold the pump together. The outlet side of the base has a drain plug. The pump is secured to the foundation by four bolts through the base plate. The base is prepared for connection by means of PJE (Victualic®) couplings.



Motor

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

Motor-mounting designation in accordance with IEC 60034-7: IM B 5 (Code I) / IM 3001 (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/m³

Technical:

Rated flow:	21 m³/h
Rated head:	81.7 m
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Code for shaft seal:	HQQE
Approvals on nameplate:	CE, EAC,ACS
Curve tolerance:	ISO9906:2012 3B

Position	Qty.	Description

Materials:

Base:	Stainless steel
	EN 1.4408
	AISI 316
Impeller:	Stainless steel
	EN 1.4301
	AISI 304
Bearing:	SIC

Installation:

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:	PJE
Size of inlet connection:	DN 50
	2 inch
Size of outlet connection:	DN 50
	2 inch
Pressure rating for pipe connection:	PN 50
Flange size for motor:	FF265

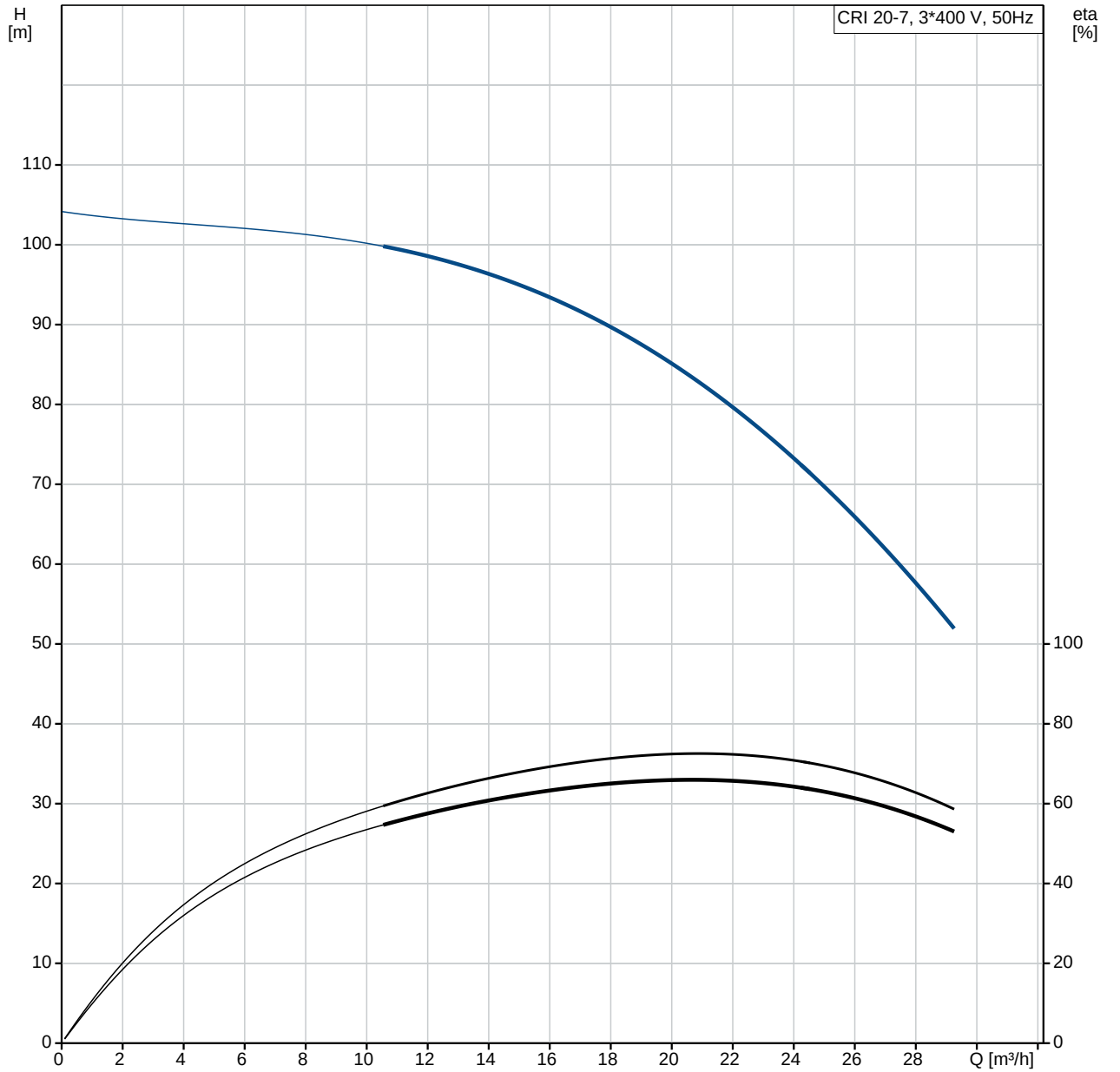
Electrical data:

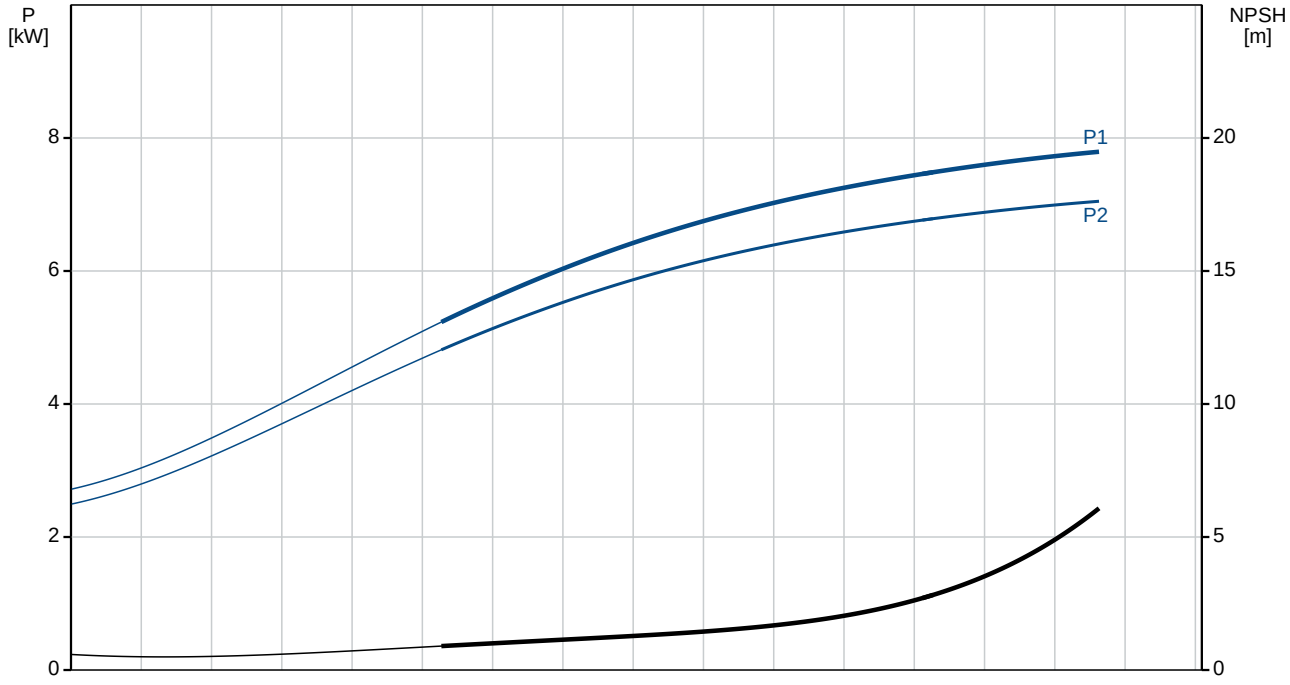
Motor standard:	IEC
Motor type:	132SB
IE Efficiency class:	IE3
Rated power - P2:	7.5 kW
Power (P2) required by pump:	7.5 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415D/660-690Y V
Rated current:	14,4-14,0/8,30-8,10 A
Starting current:	780-910 %
Cos phi - power factor:	0.88-0.82
Rated speed:	2910-2920 rpm
Efficiency:	IE3 90,1%
Motor efficiency at full load:	90.1-90.4 %
Motor efficiency at 3/4 load:	90.8 %
Motor efficiency at 1/2 load:	90.8 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F

Others:

Minimum efficiency index, MEI ≥:	0.7
Net weight:	96 kg
Gross weight:	118 kg
Shipping volume:	0.285 m^3

On request CRI 20-7 A-P-X-E-HQQE 50 Hz





Description	Value
General information:	
Product name:	CRI 20-7 A-P-X-E-HQQE
Product No:	On request
EAN number:	On request
Technical:	
Rated flow:	21 m³/h
Rated head:	81.7 m
Stages:	7
Impellers:	7
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
Materials:	
Base:	Stainless steel
	EN 1.4408
	AISI 316
Impeller:	Stainless steel
	EN 1.4301
	AISI 304
Material code:	X
Code for rubber:	E
Bearing:	SIC
Installation:	
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:	PJE
Size of inlet connection:	DN 50
	2 inch
Size of outlet connection:	DN 50
	2 inch
Pressure rating for pipe connection:	PN 50
Flange size for motor:	FF265
Connect code:	P
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-20 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m³
Electrical data:	
Motor standard:	IEC
Motor type:	132SB
IE Efficiency class:	IE3
Rated power - P2:	7.5 kW
Power (P2) required by pump:	7.5 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415D/660-690Y V
Rated current:	14,4-14,0/8,30-8,10 A
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Rated speed:	2910-2920 rpm
Efficiency:	IE3 90,1%
Motor efficiency at full load:	90.1-90.4 %
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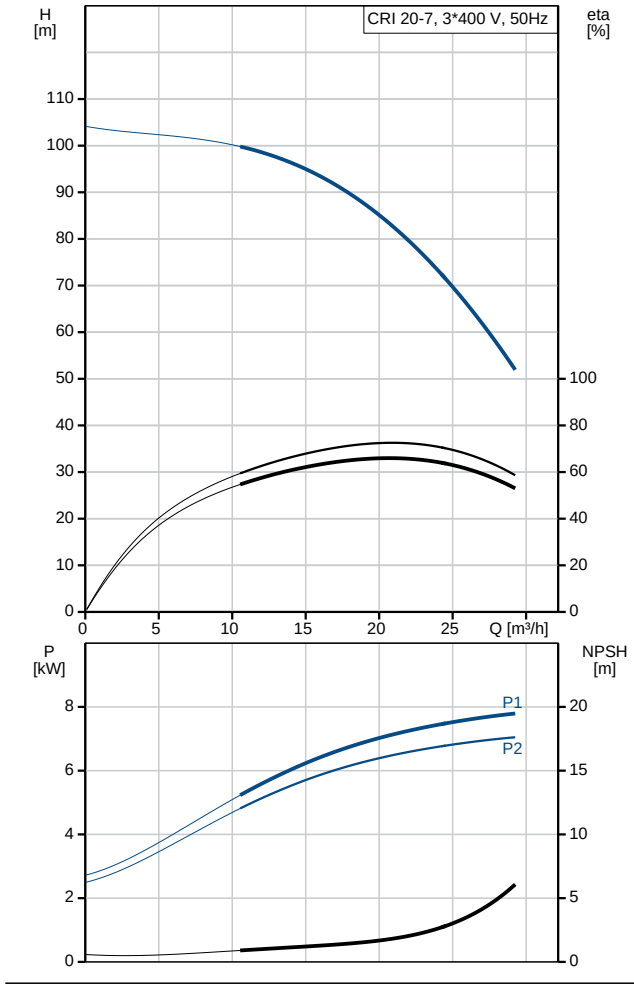
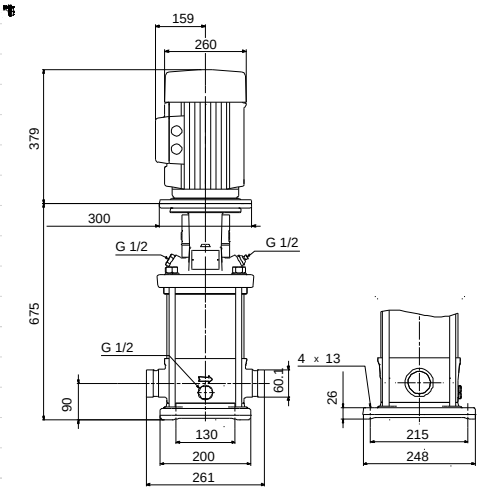
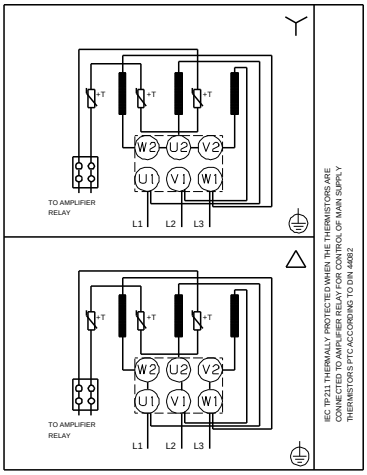
Number of poles:	2

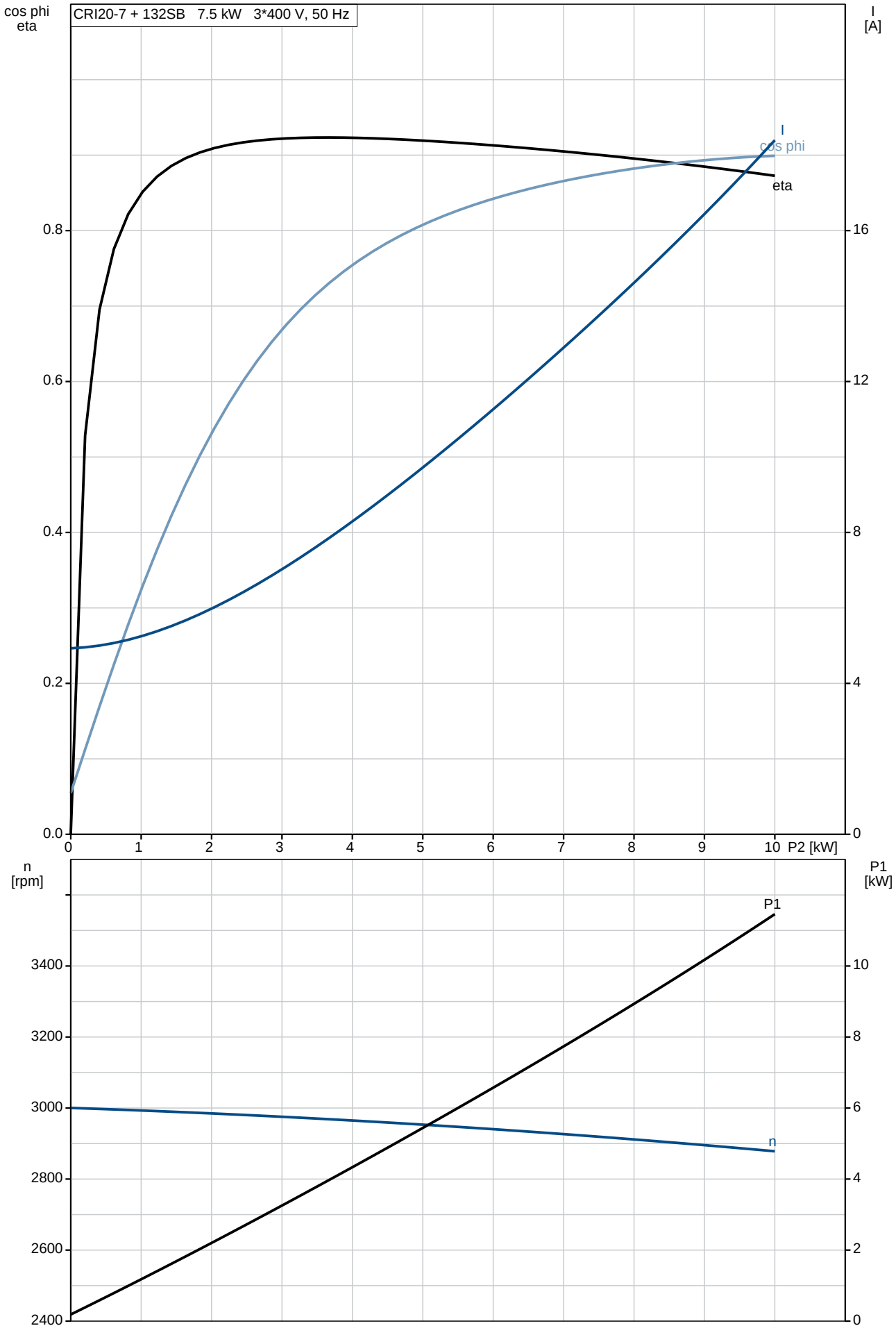




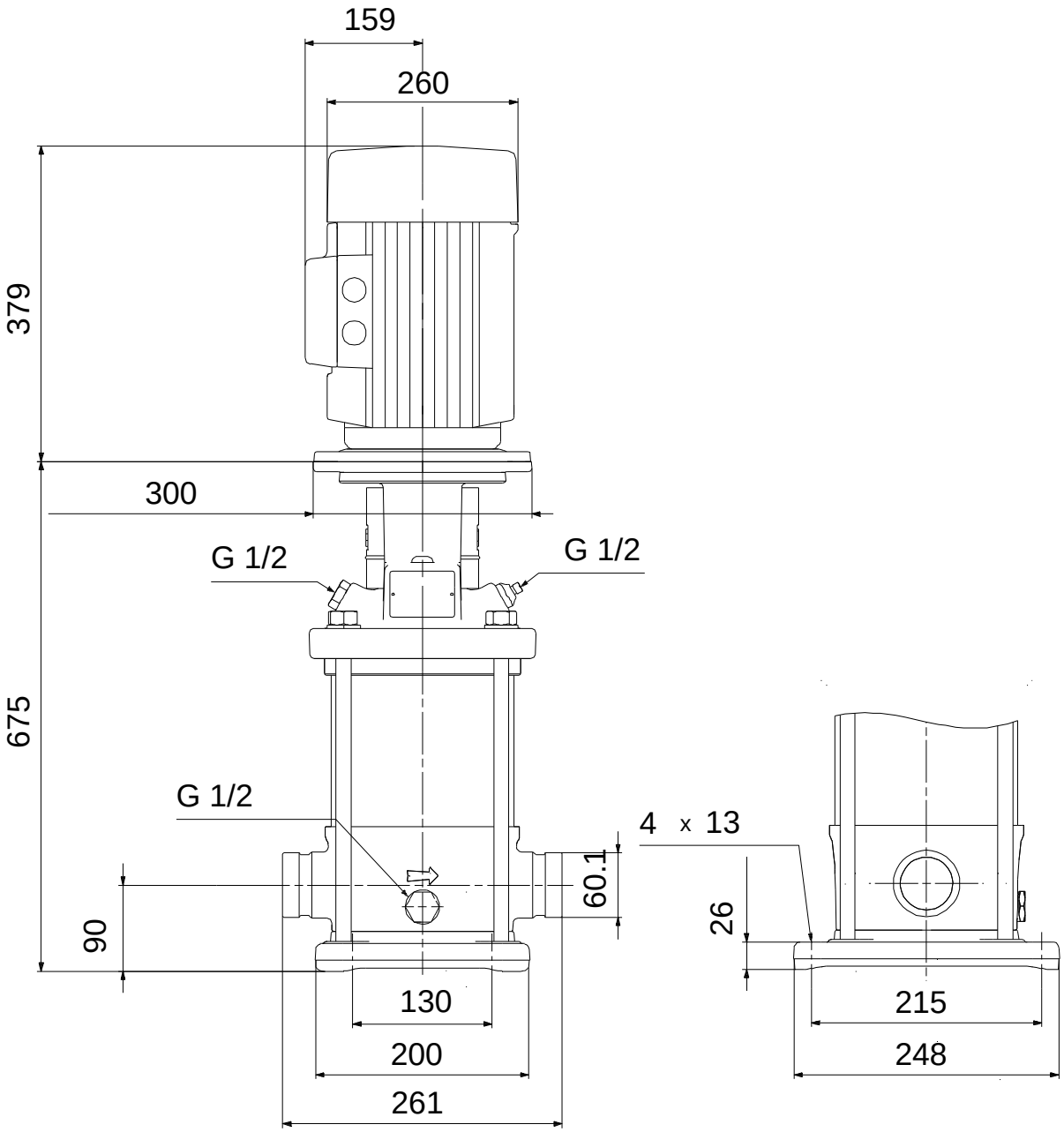


Description	Value
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Motor protec:	PTC
Motor No:	85U17522
Controls:	
Frequency converter:	NONE
Others:	
Minimum efficiency index, MEI ≥:	0.7
Net weight:	96 kg
Gross weight:	118 kg
Shipping volume:	0.285 m^3

On request CRI 20-7 A-P-X-E-HQQE 50 Hz

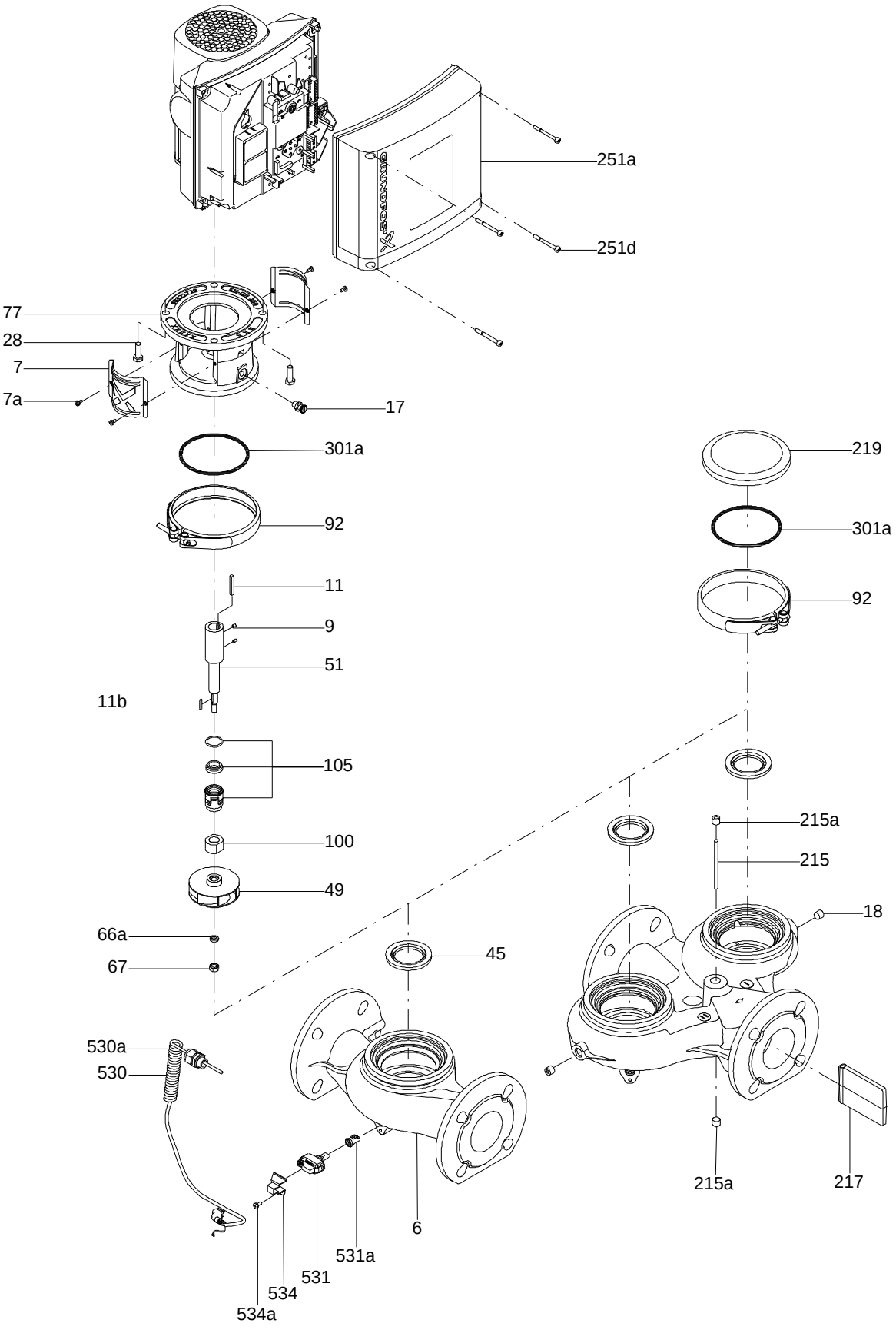


On request CRI 20-7 A-P-X-E-HQQE 50 Hz

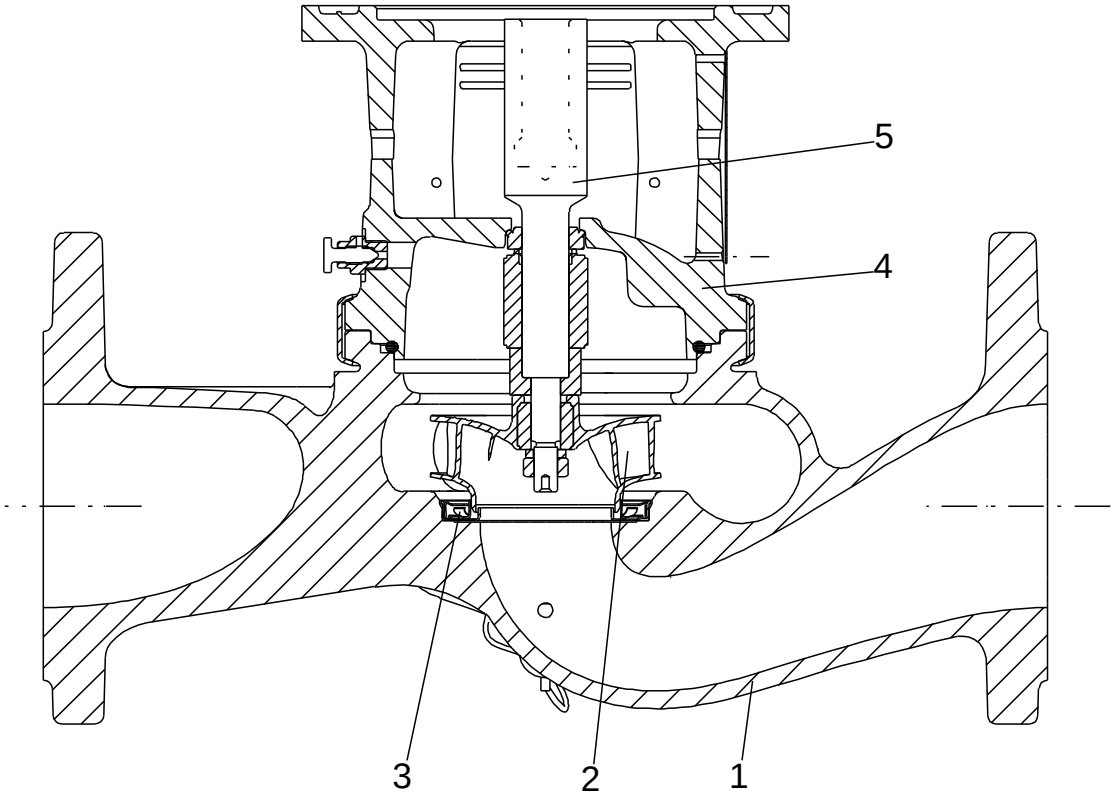


Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Exploded view

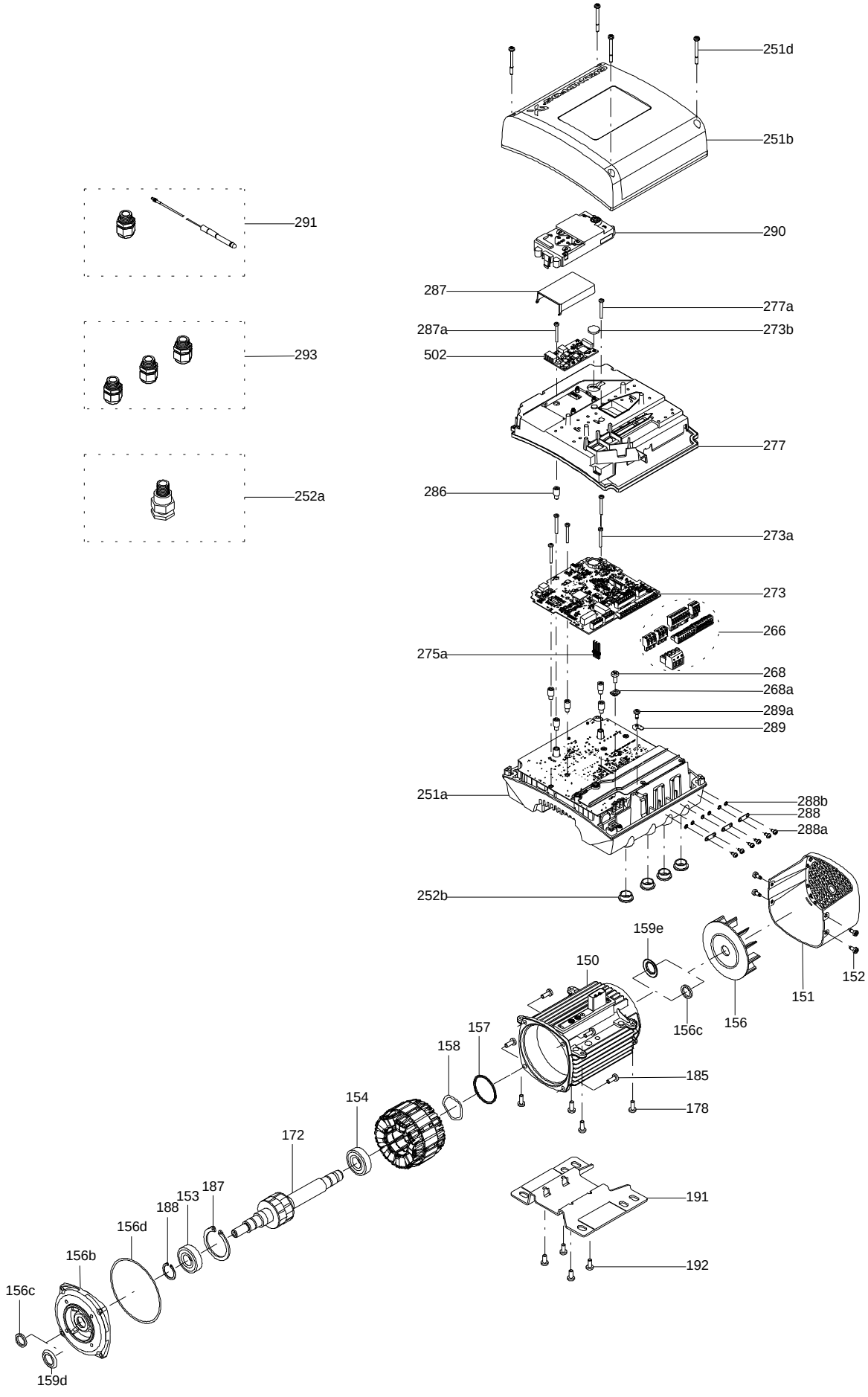


Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view (TM057026 for MGE model H/I)



Parts list CRI 20-7, 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	
	25	Drain plug				1	
	56	Base plate				1	
-		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
	1	Flange				1	
	2	Pump head				1	
	7	Coupling guard				2	
-	18	Air vent screw				1	
		Plug					1
		Spindle					1
	23a	Plug				1	
	28	Hex head screw		Length (mm): 30		4	
				Thread: M12			
	37a	O-ring				1	
	76	Nameplate				1	
	76a	Rivet				1	
	77	Pump cover				1	
-	8	Coupling				1	pcs
	9	Hex socket head cap screw		Designation: DIN 912		4	
				Length (mm): 25			
				Thread: M10			
	10	Shaft pin		Diameter: 5		1	
				Length (mm): 26			
	10a	Coupling half				1	
	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				1	pcs
-	4	Intermediate chamber cpl.				4	
	45	Neck ring cpl.					1
	65	Retainer for upper seal ring					1
-	4	Intermediate chamber cpl.				1	
		Guide vane					10
		Front plate					1
	3	Top intermediate chamber					1
-	4a	Intermediate chamber cpl.				2	
		Bearing plate					1
		Bearing bush					1
	3a	Intermediate chamber					1
	45	Neck ring cpl.					1
	65	Retainer for upper seal ring					1

	Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
	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	
	45	Neck ring cpl.				1	
	65	Retainer for upper seal ring				1	
	44b	Inlet part				1	
	47a	Bearing ring				2	
-	49	Impeller cpl.				7	
		Impeller plate				1	
		Impeller plate				1	
		Impeller blade				6	
	49c	Wear ring				1	
-	51	Shaft, spline, cpl.				1	
		Bar				0	
	62	Stop ring				1	
	64b	Spacing bush				2	
	64c	Spacing pipe		Length (mm): 12.7		1	
	66	Wedge lock washer				1	
	69	Spacing pipe		Length (mm): 43.6		4	
	69	Spacing pipe		Internal diameter: 17,5		2	
				Length (mm): 17			
	69	Spacing bush				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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