CRE20-03 A-F-A-E-HQQE 3x380-500 60 HZ

Grundfos pump 99071657

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https://www.lenntech.com/grundfos/CRE20/99071657/CRE-20-3-A-F-A-E-HQQE.html

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Position	Qty.	Description
	1	**CRE 20-3 A-F-A-E-HQQE**

Product No.: On request

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 DIN flanges.

The pump is fitted with a 3-phase, fan-cooled, permanent-magnet, synchronous motor.
The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.
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. 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".

The terminal box has a number of inputs and outputs enabling the motor to be used in advanced applications where many inputs and outputs are required:

- two dedicated digital inputs
- three 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 analog output, 0-10 V, 0(4)-20 mA
- two configurable digital inputs or open-collector outputs
- two Pt100/Pt1000 inputs
- LiqTec, dry-running protection sensor input
- 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.

Further product details

An external sensor can be connected if controlled pump operation based on for example flow, differential pressure or temperature is required.

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)
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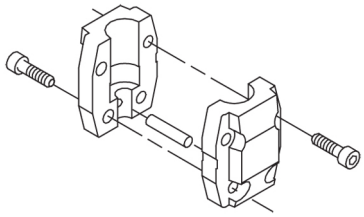
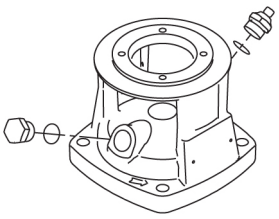
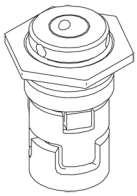
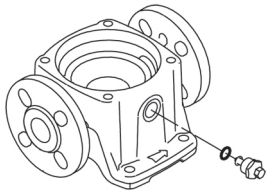
Position	Qty.	Description
		Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled 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, 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.  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 base is made of cast iron. The flanges and base are cast in one piece. The outlet side of the base has a drain plug. The pump is secured to the foundation by four bolts through the base plate. 

Position	Qty.	Description

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 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 has a number of inputs and outputs enabling the motor to be used in advanced applications where many inputs and outputs are required:

- two dedicated digital inputs
- three 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 analog output, 0-10 V, 0(4)-20 mA
- two configurable digital inputs or open-collector outputs
- two Pt100/Pt1000 inputs
- LiqTec, dry-running protection sensor input
- 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

Controls:

Frequency converter:	Built-in
Pressure sensor:	N

Liquid:

Pumped liquid:	Water
Liquid temperature range:	-20 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m³

Technical:

Rated flow:	25.3 m³/h
Rated head:	49.8 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
Impeller:	Stainless steel EN 1.4301 AISI 304
Bearing:	SIC

Installation:

Maximum ambient temperature:	50 °C
Maximum operating pressure:	16 bar
Max pressure at stated temp:	16 bar / 120 °C 16 bar / -20 °C
Type of connection:	DIN
Size of inlet connection:	DN 50
Size of outlet connection:	DN 50
Pressure rating for pipe connection:	PN 25
Flange rating inlet:	300 lb
Flange size for motor:	FF265

Position	Qty.	Description

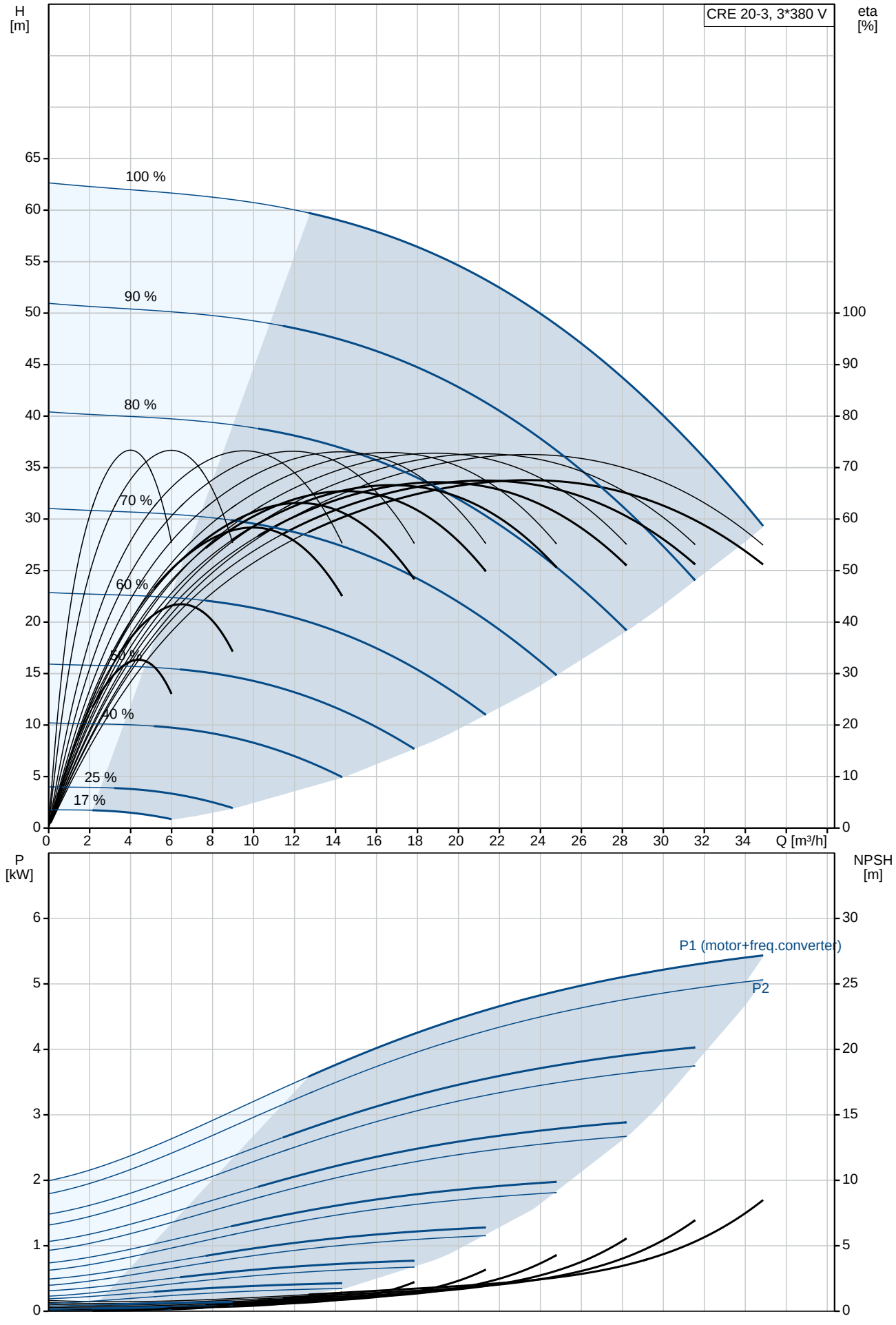
Electrical data:

Motor standard:	IEC
Motor type:	132SE
IE Efficiency class:	IE5
Rated power - P2:	5.5 kW
Power (P2) required by pump:	5.5 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-500 V
Rated current:	10.3-8.20 A
Cos phi - power factor:	0.92-0.88
Rated speed:	360-4000 rpm
Efficiency:	92.7%
Motor efficiency at full load:	92.7 %
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F

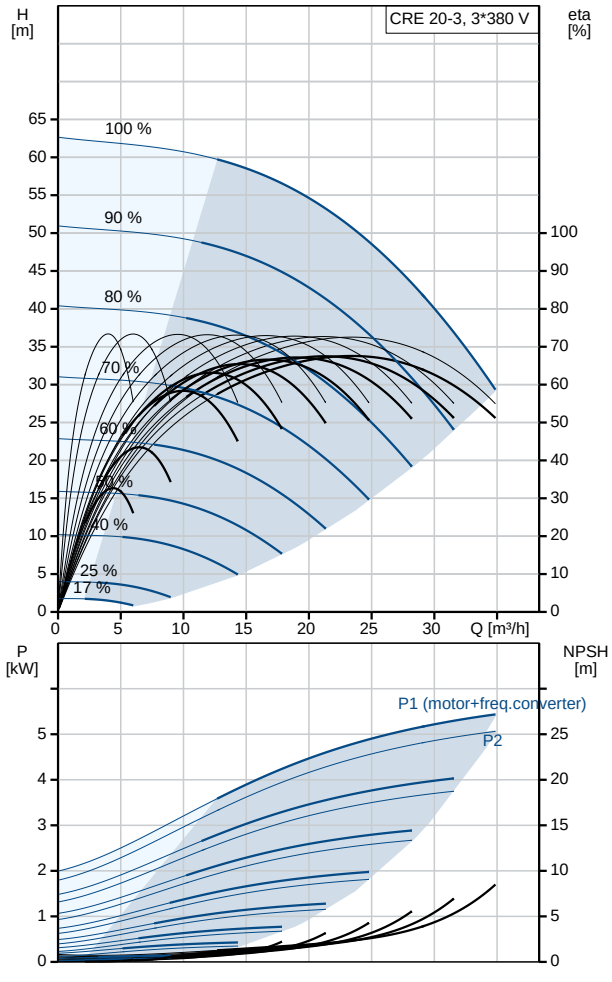
Others:

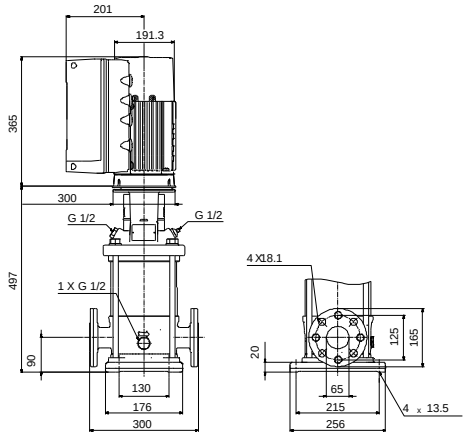
Minimum efficiency index, MEI ≥:	0.7
Net weight:	83 kg
Gross weight:	111 kg
Shipping volume:	0.37 m^3
Danish VVS No.:	386005003

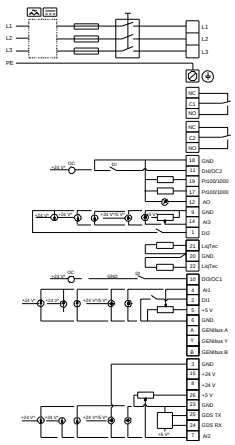
On request CRE 20-3 A-F-A-E-HQQE 50 Hz



Description	Value
General information:	
Product name:	CRE 20-3 A-F-A-E-HQQE
Product No:	On request
EAN number:	On request
Technical:	
Rated flow:	25.3 m³/h
Rated head:	49.8 m
Stages:	3
Impellers:	3
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:	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
Installation:	
Maximum ambient temperature:	50 °C
Maximum operating pressure:	16 bar
Max pressure at stated temp:	16 bar / 120 °C
	16 bar / -20 °C
Type of connection:	DIN
Size of inlet connection:	DN 50
Size of outlet connection:	DN 50
Pressure rating for pipe connection:	PN 25
Flange rating inlet:	300 lb
Flange size for motor:	FF265
Connect code:	F
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:	132SE
IE Efficiency class:	IE5
Rated power - P2:	5.5 kW
Power (P2) required by pump:	5.5 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-500 V
Rated current:	10.3-8.20 A
Cos phi - power factor:	0.92-0.88
Rated speed:	360-4000 rpm
Efficiency:	92.7%
Motor efficiency at full load:	92.7 %
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Motor protec:	YES
Motor No:	98971051
Controls:	

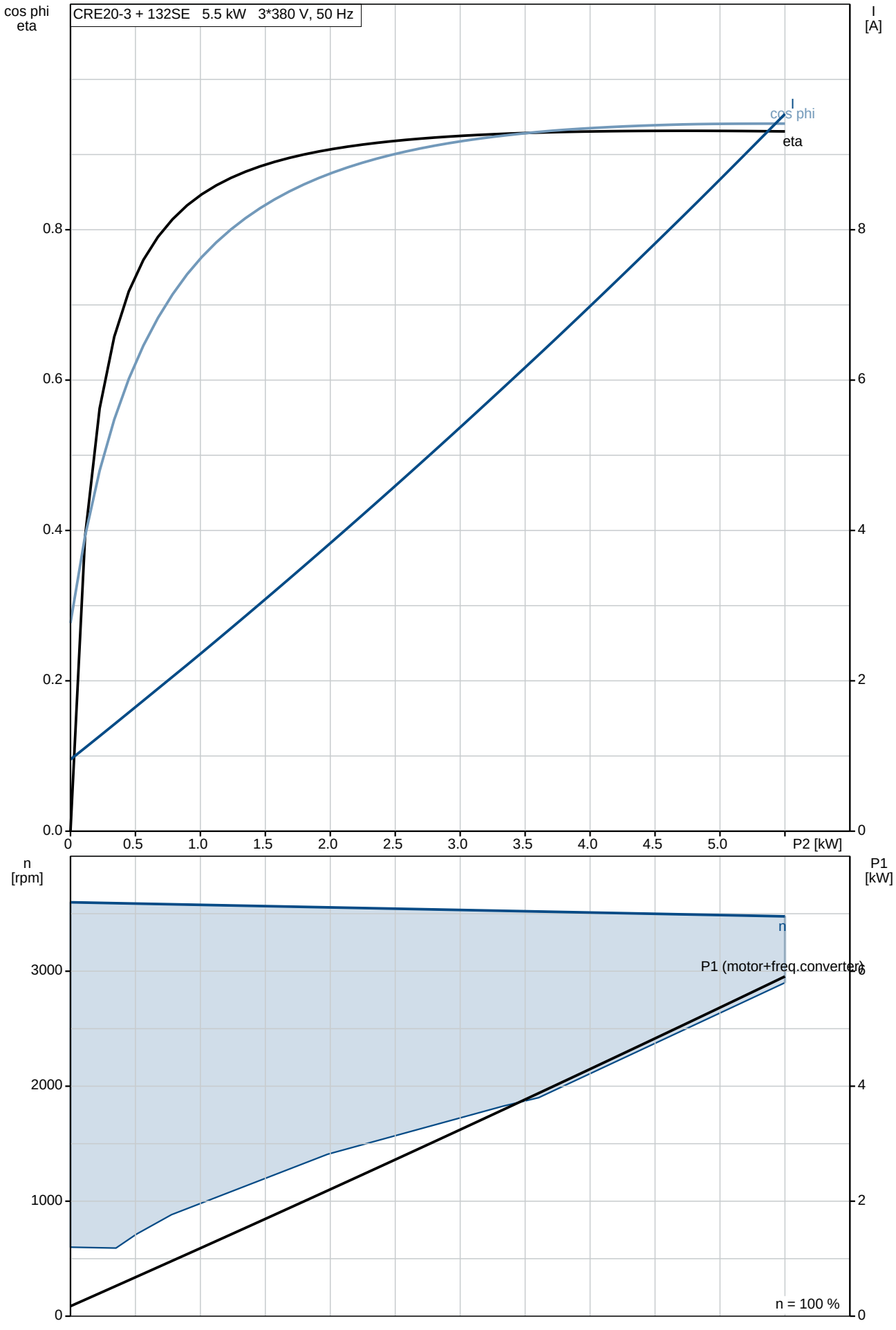




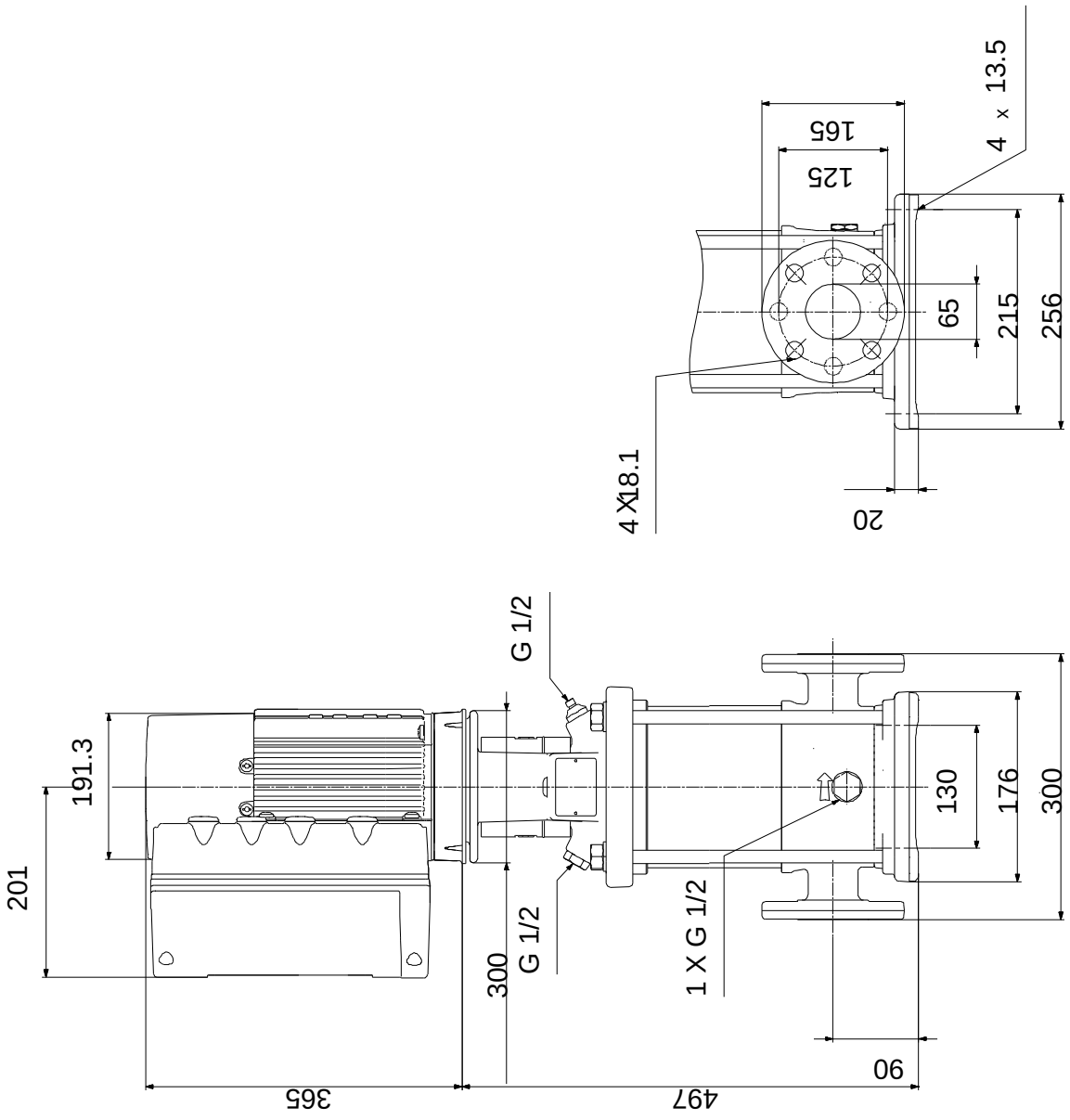


Description	Value
Control panel:	Standard
Function Module:	FM300 - Advanced
Frequency converter:	Built-in
Pressure sensor:	N
Others:	
Minimum efficiency index, MEI ≥:	0.7
Net weight:	83 kg
Gross weight:	111 kg
Shipping volume:	0.37 m^3
Danish VVS No.:	386005003

On request CRE 20-3 A-F-A-E-HQQE 50 Hz

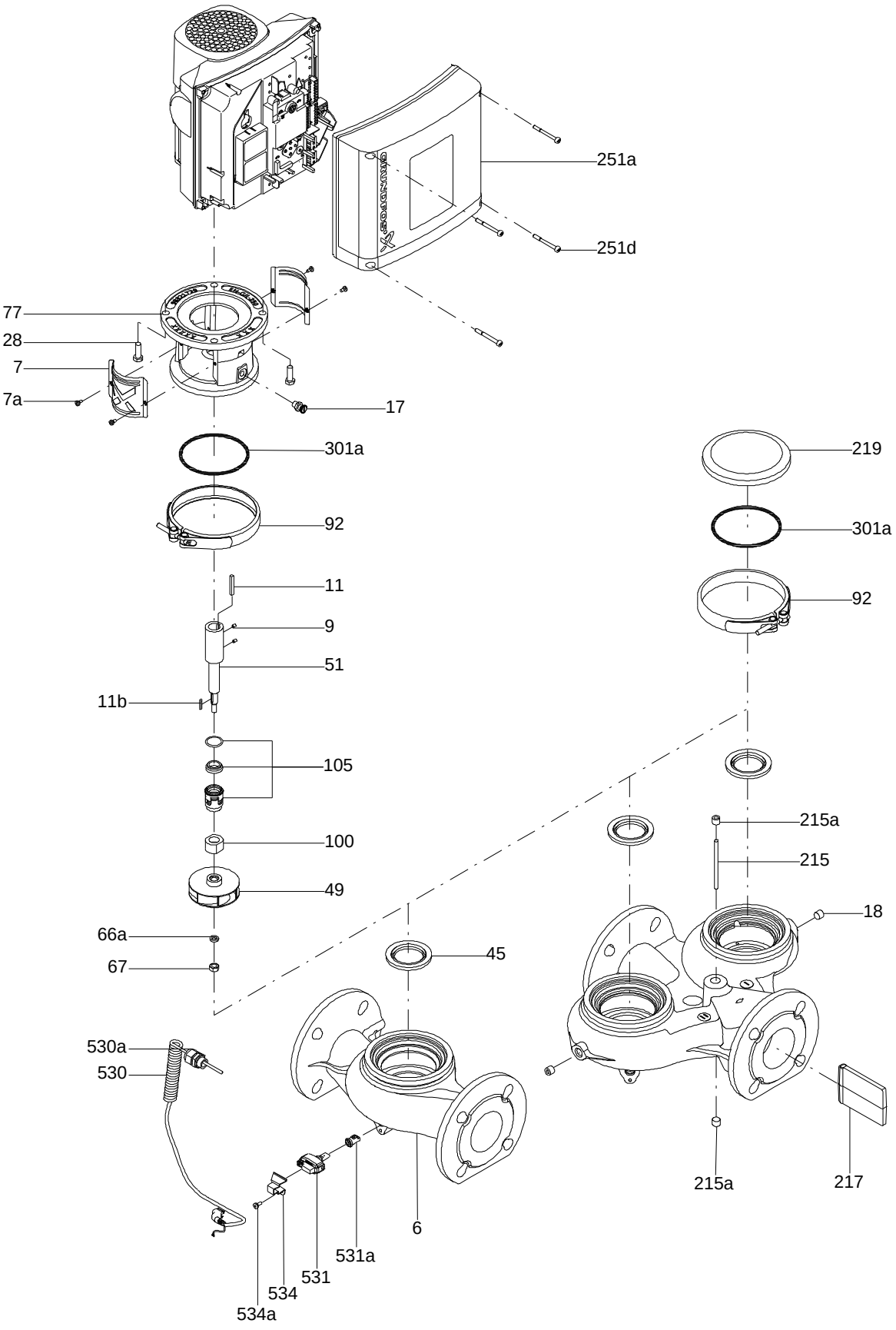


On request CRE 20-3 A-F-A-E-HQQE 50 Hz

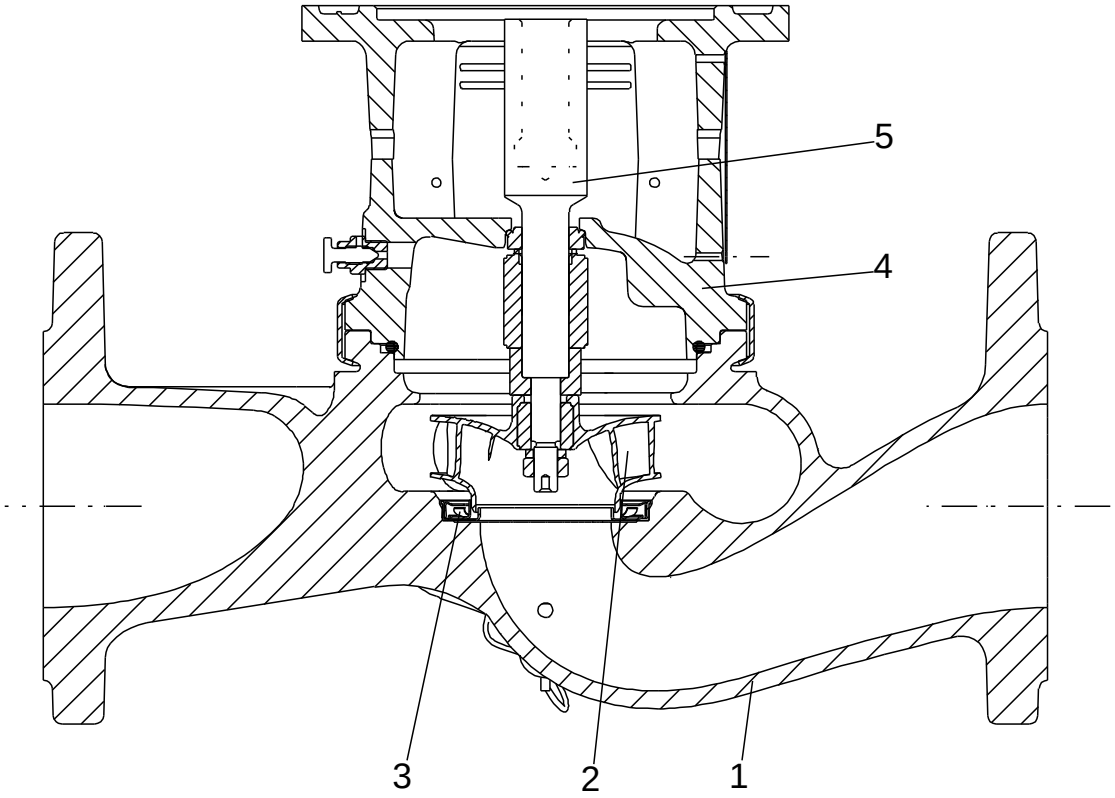


Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Exploded view

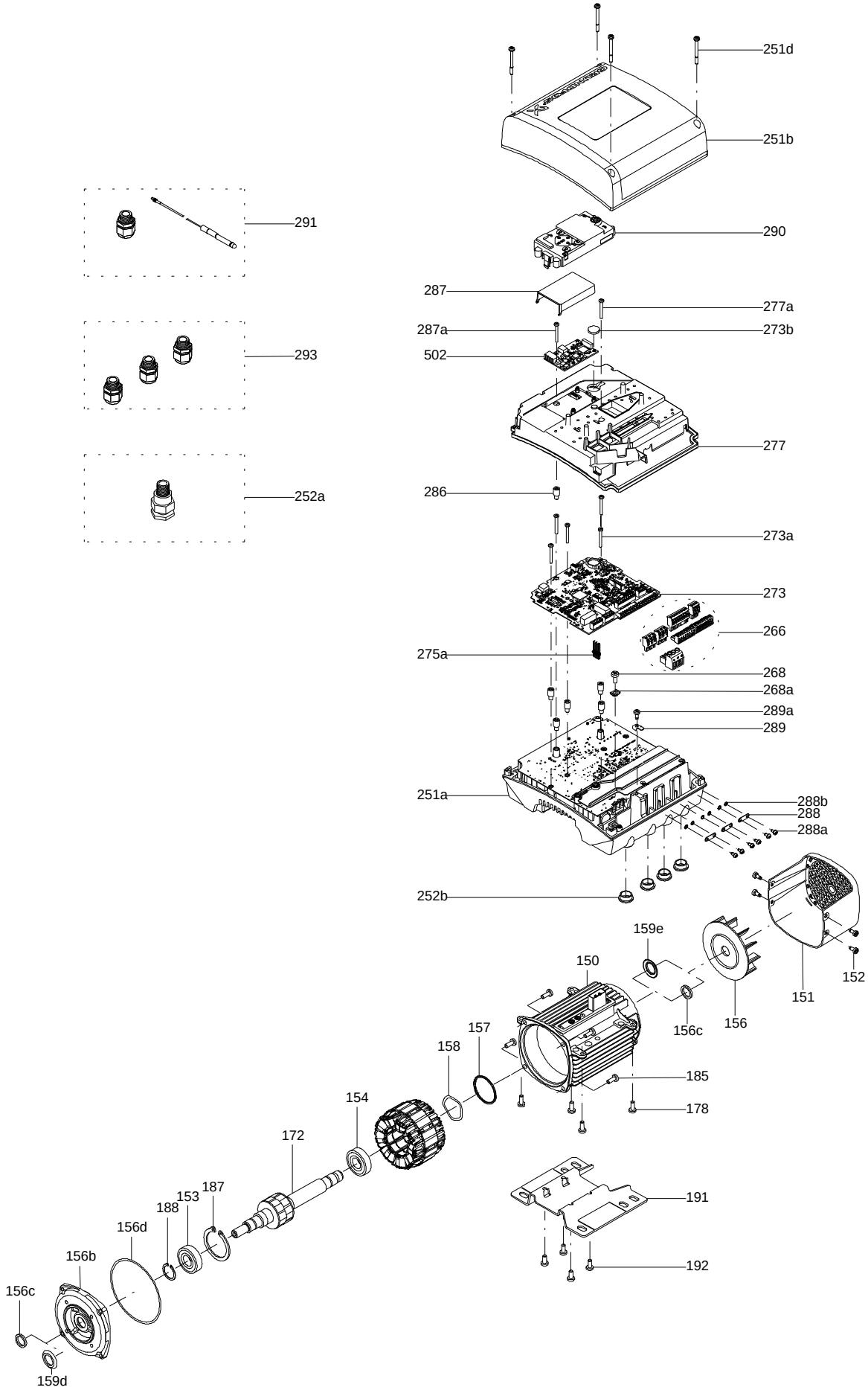


Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view (TM057026 for MGE model H/I)



Parts list CRE 20-3, Product No. On request
Valid from 1.1.2004 (0401)

	Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
+		Motor				1	pcs
-		Base cpl.				1	pcs
	6	Base				1	
	25	Drain plug				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	
	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): 30		4	
				Thread: M12			
	28.a	Hex head screw		Length (mm): 30		4	
				Thread: M12			
	76	Nameplate				1	
	76a	Rivet				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.				1	
	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.				1	
		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.				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				1	
-	49	Impeller cpl.				3	
		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				1	
	64c	Spacing pipe		Length (mm): 12.7		1	
	66	Wedge lock washer				1	
	69	Spacing pipe		Length (mm): 43.6		1	
	69	Spacing pipe		Internal diameter: 17,5		1	
				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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