

Inventflow: Grundfos A-partner

Grundfos CRE 45-3 A-F-A-E-HQQE

Find the pump here:

<https://inventflow.nl/en/pompenfilter/cre/grundfos-cre-45-3-a-f-a-e-hqqe>

Contact

info@inventflow.nl

+31 (0) 546 45 80 72

Datasheet

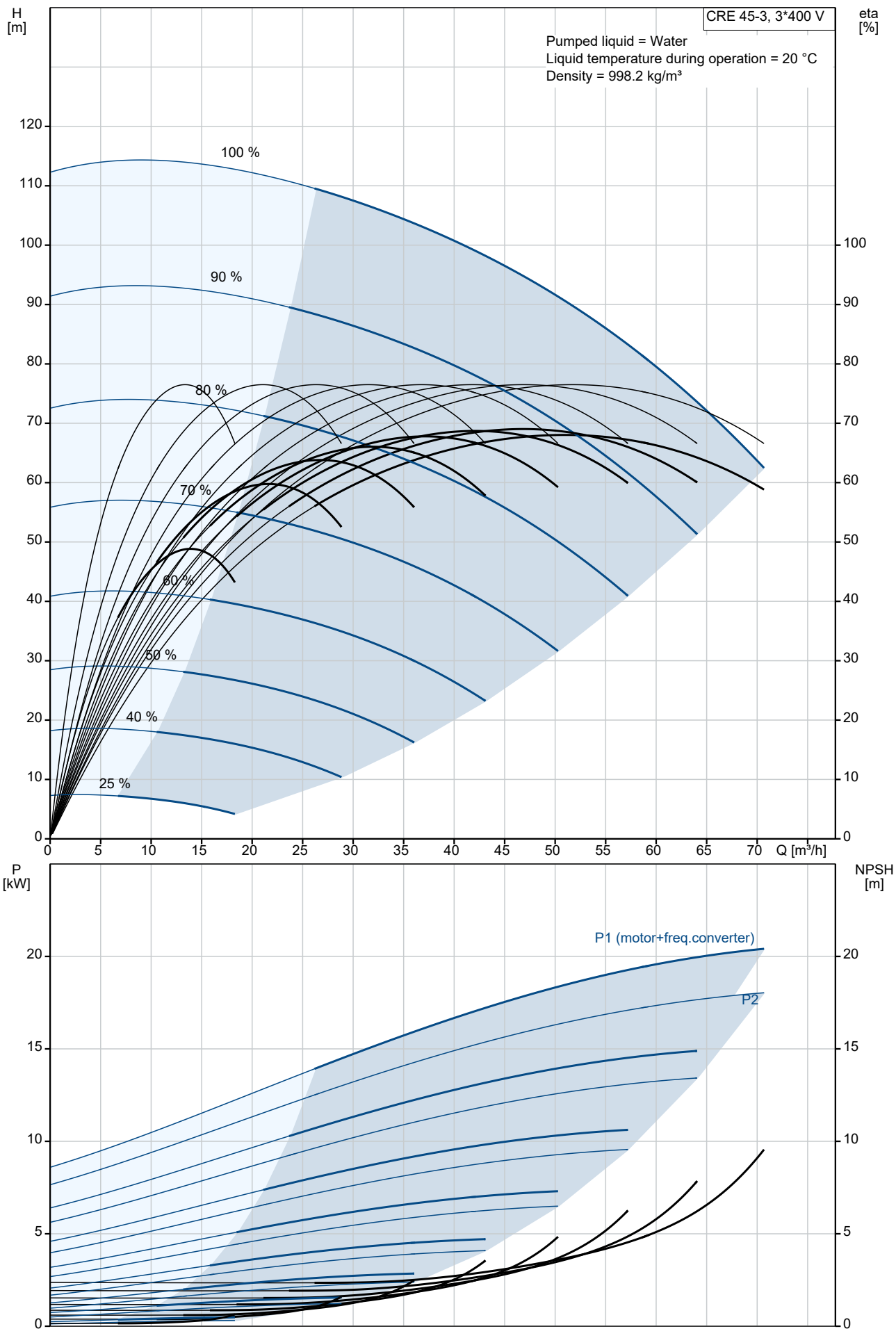


Qty.	Description
1	CRE 45-3 A-F-A-E-HQQE  Product No.: 96123406 Vertical, non-self-priming, multistage, in-line, centrifugal pump for installation in pipe systems and mounting on a foundation. The pump has the following characteristics: - Impellers and intermediate chambers are made of - Impeller: Stainless steel DIN W.-Nr. EN 1.4301. - Pump housing: - Pump head and base are made of Cast iron. - The shaft seal has assembly length according to EN 12756. - Power transmission is via cast iron split coupling. Flange standard: - Pipework connection is via DIN flanges. The pump is fitted with an IEC-flanged three-phase MGE motor with frequency converter and PI-controller integrated in the motor terminal box. No additional motor protection is required as both motor and electronics are protected by integrated overload and temperature protection. External sensor can be connected if controlled pump operation based on for example flow, differential pressure or temperature is required. A control panel enables setting of required setpoint as well as setting of pump to MIN or MAX operation or to STOP. The control panel has indicator lights for "Operation" and "Fault". Communication with the pump is possible by means of Grundfos R100 Remote Control enabling 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 holds terminals for the connection of: - Pump start/stop (potential-free contact), - external remote setpoint setting via analog signal, 0 - 5 V, 0 - 10 V, 0(4) - 20 mA, - 5 V voltage supply for setpoint potentiometer, I_{max} = 5 mA, - sensor, 0 - 5 V, 0 - 10 V, 0(4) - 20 mA, - 24 V voltage supply for sensor, I_{max} = 40 mA, - input for forced control to MIN, MAX, External fault or Flowswitch (potential-free contact), - potential-free fault signal relay with changeover contact, reporting Fault, Operation or Ready, - RS485 GENibus. Controls: Frequency converter: Built-in

Qty.	Description
	Pressure sensor: N Liquid: Pumped liquid: Water Liquid temperature range: -30 .. 120 °C Selected liquid temperature: 20 °C Density: 998.2 kg/m³ Technical: Pump speed on which pump data are based: 3540 rpm Rated flow: 54 m³/h Rated head: 86.1 m Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HQQE Approvals on nameplate: CE,EAC,UKCA,WRAS,ACS Curve tolerance: ISO9906:2012 3B Materials: Base: Cast iron EN 1563 EN-GJS-500-7 ASTM A536 80-55-06 Impeller: Stainless steel EN 1.4301 AISI 304 Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C 16 bar / -30 °C Type of connection: DIN Size of inlet connection: DN 80 Size of outlet connection: DN 80 Pressure rating for connection: PN 40 Flange size for motor: FF300 Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V Rated current: 37.0-31.0 A Cos phi - power factor: 0.91-0.88 Rated speed: 480-3540 rpm Efficiency: IE3 92,4% Motor efficiency at full load: 92.4 % Number of poles: 2 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor No: 85901026 Others: Minimum efficiency index, MEI ≥: 0.70 DOE Pump Energy Index CL: 0.00 DOE Pump Energy Index VL: 0.00 Net weight: 220 kg Gross weight: 271 kg Shipping volume: 0.82 m³ Danish VVS No.: 385947730

Qty.	Description
	Finnish LVI No.: 4925718 Country of origin: DK Custom tariff no.: 84137075

96123406 CRE 45-3 A-F-A-E-HQQE 50 Hz

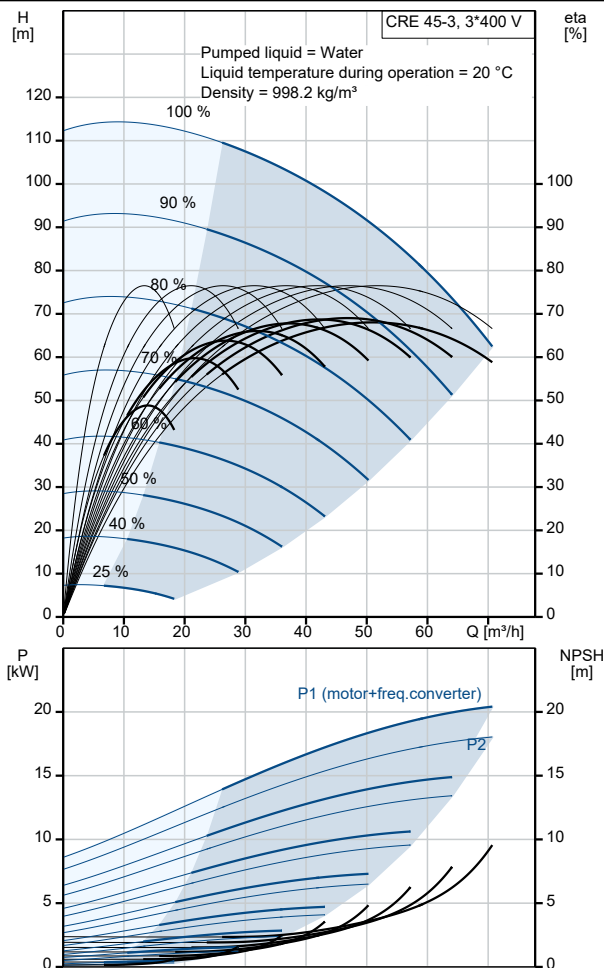


Description	Value		
General information:			
Product name:	CRE 45-3 A-F-A-E-HQQE		
Product No:	96123406		
EAN number:	5700396694627		
Technical:			
Pump speed on which pump data are based:	3540 rpm		
Rated flow:	54 m³/h		
Rated head:	86.1 m		
Maximum head:	111.2 m		
Stages:	3		
Impellers:	3		
Number of reduced-diameter impellers:	0		
Low NPSH:	N		
Pump orientation:	Vertical		
Shaft seal arrangement:	Single		
Code for shaft seal:	HQQE		
Approvals on nameplate:	CE,EAC,UKCA,WRAS,A CS		
Curve tolerance:	ISO9906:2012 3B		
Pump version:	A		
Model:	B		
Materials:			
Base:	Cast iron		
Base:	EN 1563 EN-GJS-500-7		
Base:	ASTM A536 80-55-06		
Impeller:	Stainless steel		
Impeller:	EN 1.4301		
Impeller:	AISI 304		
Material code:	A		
Code for rubber:	E		
Bearing:	SIC		
Support bearing:	Graflon		
Installation:			
Maximum ambient temperature:	40 °C		
Maximum operating pressure:	16 bar		
Max pressure at stated temp:	16 bar / 120 °C		
Max pressure at stated temp:	16 bar / -30 °C		
Type of connection:	DIN		
Size of inlet connection:	DN 80		
Size of outlet connection:	DN 80		
Pressure rating for connection:	PN 40		
Flange size for motor:	FF300		
Connect code:	F		
Liquid:			
Pumped liquid:	Water		
Liquid temperature range:	-30 .. 120 °C		
Selected liquid temperature:	20 °C		
Density:	998.2 kg/m³		
Electrical data:			
Motor standard:	IEC		
Motor type:	160LB		
IE Efficiency class:	IE3		
Rated power - P2:	18.5 kW		
Power (P2) required by pump:	18.5 kW		
Mains frequency:	50 Hz		
Rated voltage:	3 x 380-480 V		
Rated current:	37.0-31.0 A		
Cos phi - power factor:	0.91-0.88		
Rated speed:	480-3540 rpm		
Efficiency:	IE3 92,4%		
Motor efficiency at full load:	92.4 %		
Number of poles:	2		
Enclosure class (IEC 34-5):	IP55		

Performance Curves

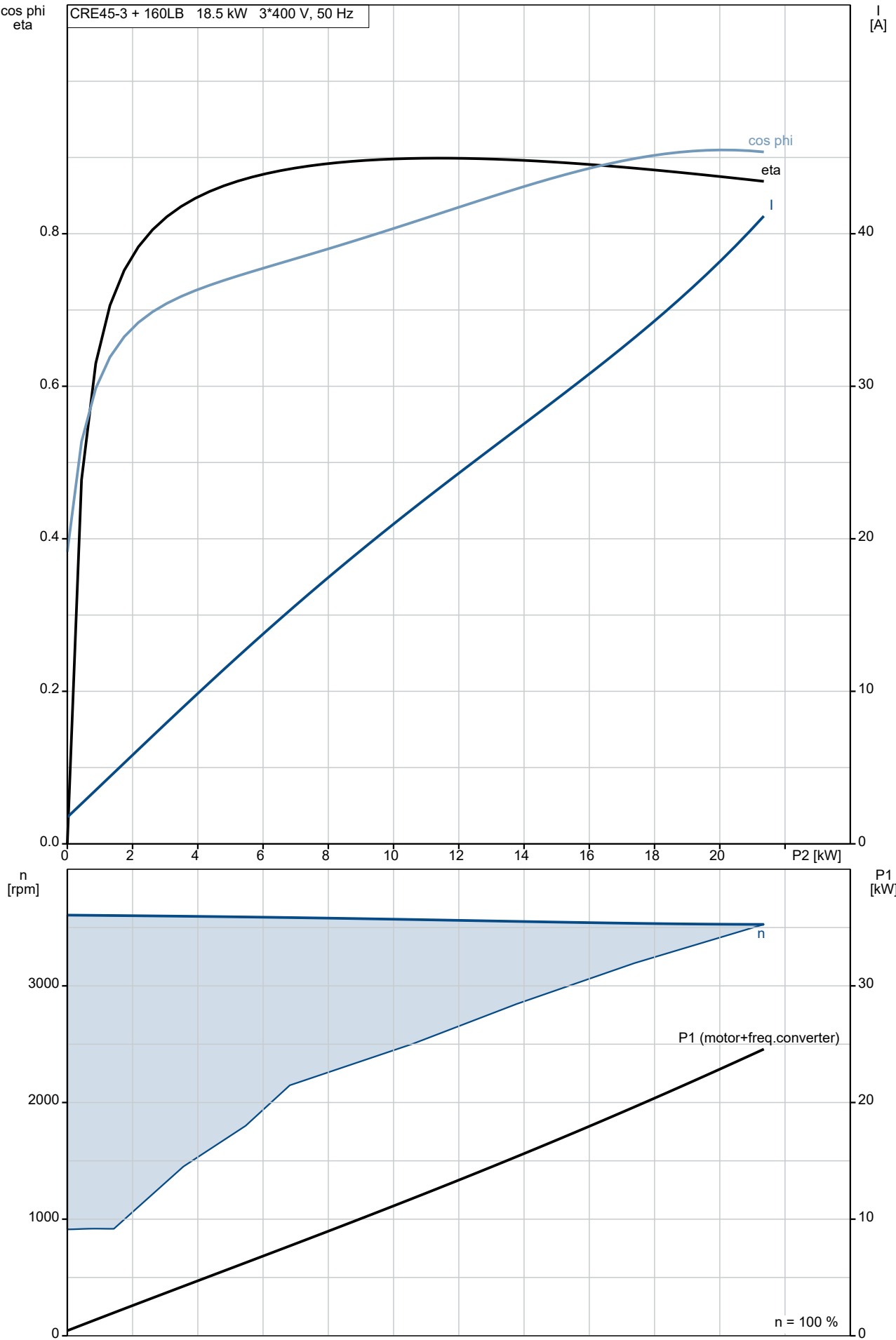
CRE 45-3, 3*400 V

Pumped liquid = Water
Liquid temperature during operation = 20 °C
Density = 998.2 kg/m³

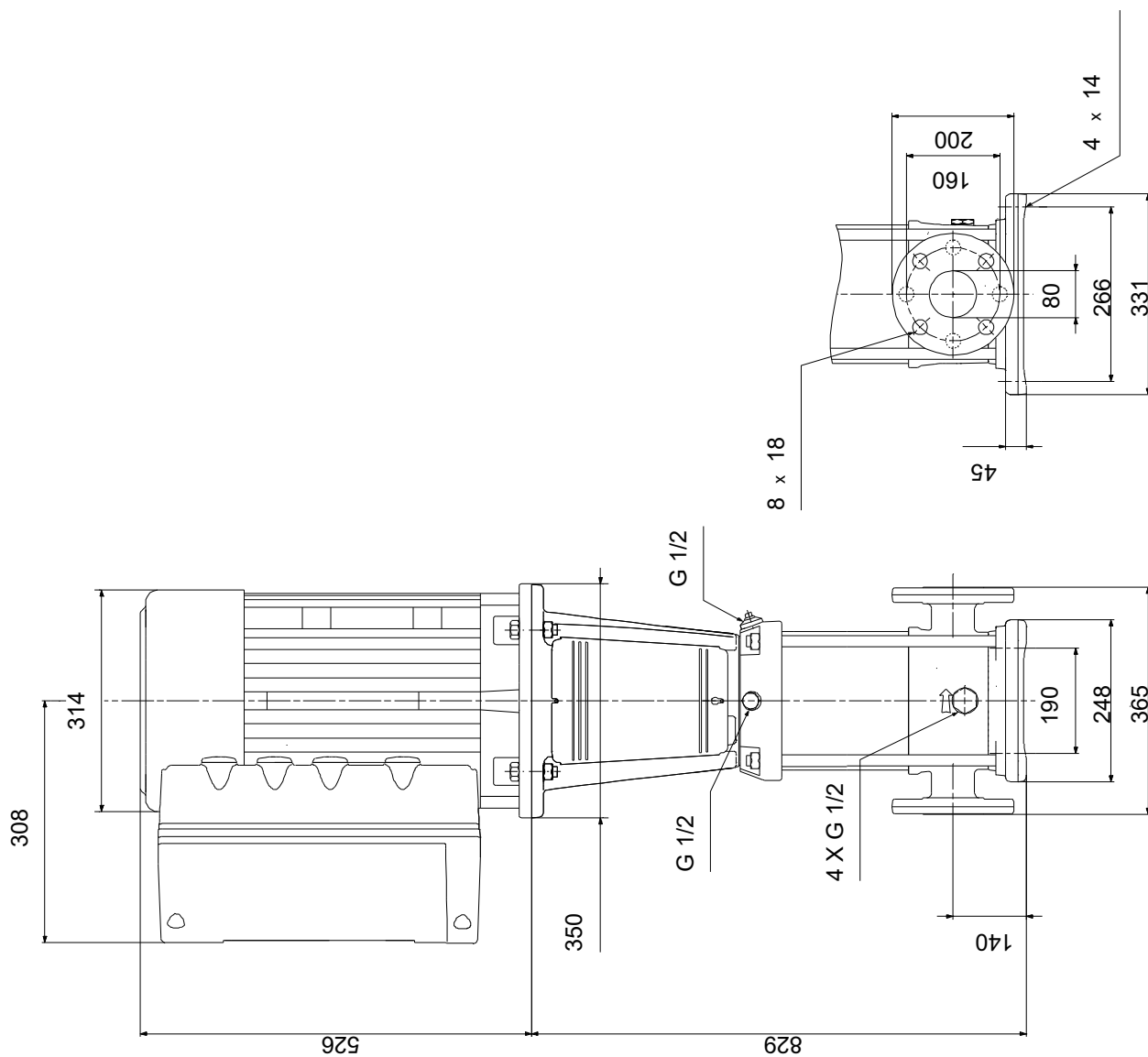


Description	Value
Insulation class (IEC 85):	F
Motor protec:	YES
Motor No:	85901026
Controls:	
Function Module:	ADVANCED I/O
Frequency converter:	Built-in
Pressure sensor:	N
Others:	
Minimum efficiency index, MEI ≥:	0.70
DOE Pump Energy Index CL:	0.00
DOE Pump Energy Index VL:	0.00
Net weight:	220 kg
Gross weight:	271 kg
Shipping volume:	0.82 m ³
Config. file no:	95139531
Danish VVS No.:	385947730
Finnish LVI No.:	4925718
Country of origin:	DK
Custom tariff no.:	84137075

96123406 CRE 45-3 A-F-A-E-HQQE 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.

Spare parts CRE 45-3, Product No. 96123406
Produced After 1410 (production year and week number)

Pos	Omschrijving	Opmerking tekst	Classificatie Gegevens	Onderdeelnr.	Aantal	Eenheid
-	Base			96587694	1	pcs
6	Base				1	
- 80	Kit, chamber stack			96416228	1	pcs
- 80	Chamber stack				1	
- 3	Upper chamber cpl.				1	
	Guide cup					
	Guide cup					
	Cone					
	Guide vane					
	Chamber					
	Chamber					
47d	Lock ring					
47c	Bush					
- 4a	Intermediate chamber cpl.				1	
	Guide cup					
	Guide cup					
	Cone					
	Guide vane					
	Chamber					
	Chamber					
45a	Neck ring cpl.					
47	Bearing					
- 4	Intermediate chamber cpl.				1	
	Guide cup					
	Guide cup					
	Cone					
	Guide vane					
	Chamber					
	Chamber					
45a	Neck ring cpl.					
47d	Lock ring					
47c	Bush					
26c	Washer		Designation: DIN 125A Thickness: 1,6		2	
26b	Hex socket head cap screw				2	
26a	Strap cpl.				2	
- 44	Suction interconnector cpl.				1	
	Suction interconnector					
45	Seal ring					
46	Neck ring					
65	Top f/neck ring					
- 47a	Bearing cpl.				1	
	Driver					
	Holder					
	Disc spring					
	Bearing ring					
- 49e	Impeller cpl.				3	
48	Nut					
49b	Split cone					
- 49	Impeller					
	Impeller hub					
49c	Wear ring					
51	Shaft				1	
-	Kit, chambers			98497485	1	pcs
- 4a	Intermediate chamber cpl.				1	
	Guide cup				1	
	Guide cup				1	
	Cone				1	
	Guide vane				10	

Pos	Omschrijving	Opmerking tekst	Classificatie Gegevens	Onderdeelnr.	Aantal	Eenheid
	Chamber				1	
	Chamber				1	
45a	Neck ring cpl.				1	
47	Bearing				1	
- 47a	Bearing cpl.				1	
	Driver				1	
	Holder				1	
	Disc spring				1	
	Bearing ring				1	
-	Kit, coupling			96416592	1	pcs
	Adjusting fork				1	
- 8	Coupling cpl.		Dimension: 22/42		1	
9	Hex socket head cap screw		Designation: DIN 912		4	
			Length (mm): 25			
			Thread: M10			
10a	Coupling half				2	
-	Kit, coupling guard			96505135	1	pcs
7a	Socket button head screw				4	
7	Coupling guard				2	
-	Kit, cover			98832448	1	pcs
58a	Hex socket head cap screw		Designation: DIN 912		4	
			Length (mm): 25			
			Thread: M10			
58	Cover				1	
-	Kit, gaskets			96416599	1	pcs
	Adjusting fork				1	
37	O-ring				2	
38	O-ring				2	
38	O-ring				4	
60	Spring				4	
109	O-ring				1	
110	O-ring		Diameter: 21,2		1	
			Material type: EPDM			
			Thickness: 3,55			
-	Kit, impeller			98497488	1	pcs
48	Nut				1	
48	Nut				1	
49b	Split cone				1	
- 49	Impeller				1	
	Impeller hub				1	
49c	Wear ring				1	
-	Kit, plug			96505136	1	pcs
- 18	Air vent screw				1	
	Spindle				1	
	Plug				1	
25	Plug				4	
25	Plug				1	
38	O-ring				2	
38	O-ring				4	
38	O-ring		Diameter: 16,3		2	
			Material type: FKM			
			Thickness: 2,4			
38	O-ring		Diameter: 16,3		4	
			Material type: FKM			
			Thickness: 2,4			
38	O-ring		Diameter: 16,3		6	
			Material type: FKM			
			Thickness: 2,4			
-	Kit, shaft seal HQQE			96525458	1	pcs
	Grinding device				1	
- 105	Shaft seal		Material type: HQQE		1	
	Adjusting fork				1	
109	O-ring				1	
110	O-ring		Diameter: 21,5		1	

Pos	Omschrijving	Opmerking tekst	Classificatie Gegevens	Onderdeelnr.	Aantal	Eenheid
			Material type: EPDM			
			Thickness: 4,25			
-	Kit, wear parts			98497474	1	pcs
45	Seal ring				7	
47d	Lock ring				7	
47c	Bush				5	
49c	Wear ring				7	
65	Top f/neck ring				7	
-	Motor				1	pcs
-	Kit, bearing cpl.			96796676	1	
32b	Waved washer				2	
153	Angular-contact bearing				1	
154	Ball bearing				1	
157	O-ring				1	
159	V-ring				1	
-	Kit, bearing plate			96796664	1	
155.a	Bearing cover				1	
208a	Gasket				3	
208	Hex socket head cap screw		Designation: DIN912		3	
			Length (mm): 40			
			Thread: M5			
-	Kit, connector plugs			96348923	1	
	Connector plug 5-pole				1	
	Connector plug 4-pole				1	
	Connector plug 4-pole				1	
	Connector plug 3-pole				1	
	Connector plug 3-pole				1	
	Connector plug 3-pole				1	
	Connector plug 3-pole				1	
	Connector plug				1	
- 273	Kit, control board			96348918	1	
	Service kit instruction				1	
	Controlboard				1	
-	Kit, eyebolt			96796712	1	
189	Eyebolt				2	
-	Kit, fan cover			96830826	1	
151	Fan cover				1	
152.a	Rubber bush				4	
152	Hex head cap screw				4	
196	Diaphragm				1	
-	Kit, flange			96796662	1	
156.b	Flange				1	
159.b	Seal ring				1	
185.b	Nut				4	
185	Hex socket head cap screw				4	
186	Drain plug				4	
195.a	Grease nipple				1	
-	Kit, funct. module - adv. I/O			96348936	1	
263	Add-on module, cpl. w/plugs				1	
-	Kit, funct. module -Geni/RS485			96348932	1	
263	Add-on module, cpl. w/plugs				1	
-	Kit, gaskets			96798508	1	
184	O-ring		Diameter: 235		2	
275	Kit, inverter board			96348920	1	
-	Kit, lubrication nipple			96796671	1	
195.b	Grease nipple				2	
195.a	Grease nipple				1	
-	Kit, ND-end shield cpl.			96796669	1	
32b	Waved washer				1	
156.a	End shield NDE				1	
157	O-ring				1	
159	V-ring				1	
185.c	Nut				4	
185.a	Hex socket head cap screw				4	

Pos	Omschrijving	Opmerking tekst	Classificatie Gegevens	Onderdeelnr.	Aantal	Eenheid
195.b	Grease nipple				1	
-	Kit, opr. panel			96348924	1	
259	Operation panel				1	
274	Kit, rectifier board			96348921	1	
-	Kit, terminal box			96348914	1	
164	Cover cpl.				1	
166	Pan head thread forming screw				5	
251	Terminal box				1	
277	Blind cover				1	
283	Motor cover cpl.				1	
284	Cover				1	
-	Kit, varistor			96348917	1	
279.b	Pan head thread forming screw				2	
279	Varistor				1	
1a	Motor stool			98993921	1	pcs
2	Pump head			96547433	1	pcs
-	3 Upper chamber cpl.			98634042	1	pcs
47c	Bush			99321194	1	
-	4a Intermediate chamber cpl.			99262867	1	pcs
47	Bearing			99964632	1	
47	Bearing			99928986	1	
+ 4a	Intermediate chamber cpl.			99139113	1	pcs
- 4	Intermediate chamber cpl.			99458546	1	pcs
45a	Neck ring cpl.			98763585	1	
45a	Neck ring cpl.			96547397	1	
7a	Socket button head screw			96549696	4	pcs
7	Coupling guard			96603279	2	pcs
9	Hex socket head cap screw	Designation: DIN 912		99789390	4	pcs
		Length (mm): 25				
		Thread: M10				
+ 18	Air vent screw			96547461	1	pcs
+ 18	Air vent screw			95061351	1	pcs
25	Plug			96536013	1	pcs
26c	Washer	Designation: DIN 125A		99262704	2	pcs
		Thickness: 1,6				
26c	Washer	Designation: DIN 125A		99886930	2	pcs
		Thickness: 1,6				
26b	Hex socket head cap screw			98931380	2	pcs
26a	Strap cpl.			98983869	2	pcs
26	Staybolt	Length (mm): 407		98976712	4	pcs
		Thread: M16				
28.a	Hex head screw			96620478	4	pcs
28	Hex socket head cap screw	Designation: DIN 912		96536147	4	pcs
		Length (mm): 50				
		Thread: M10				
32	Washer	Designation: DIN 125 A		98923051	8	pcs
		Internal diameter: 17				
		Outer diameter: 30				
		Thickness: 3				
36	Hex nut	Thread: M16		96620480	4	pcs
37	O-ring			96536142	1	pcs
38	O-ring			99198815	2	pcs
38	O-ring			99412727	2	pcs
- 44	Suction interconnector cpl.			98634054	1	pcs
45	Seal ring			97911448	1	
45	Seal ring			96535952	1	
65	Top f/neck ring			96547390	1	
+ 47a	Bearing cpl.			99270649	1	pcs
+ 47a	Bearing cpl.			96535951	1	pcs
- 49e	Impeller cpl.			98394328	3	pcs
48	Nut			99262680	1	
48	Nut			99262683	1	
48	Nut			96536016	1	
49b	Split cone			96536010	1	

Pos	Omschrijving	Opmerking tekst	Classificatie Gegevens	Onderdeelnr.	Aantal	Eenheid
- 49	Impeller			96535946	1	
49c	Wear ring			96535949	1	
51	Shaft			98506306	1	pcs
55	Outer sleeve	Outer diameter: 216,0		98820341	1	pcs
		Length (mm): 263,5				
58	Cover			98893158	1	pcs
60	Spring			96536032	4	pcs
- 105	Shaft seal	Material type: HQQE		96984086	1	pcs
	Adjusting fork			96587896	1	
109	O-ring			99651108	1	
109	O-ring			96547586	1	
+ 105	Shaft seal	Material type: HQQE		96984070	1	pcs
440b	Lock ring			96535943	1	pcs