

Inventflow: Grundfos A-partner

Grundfos CR 45-4-2 A-F-A-E-HQQE

Find the pump here:

<https://inventflow.nl/en/pompenfilter/cr/grundfos-cr-45-4-2-a-f-a-e-hqqe>

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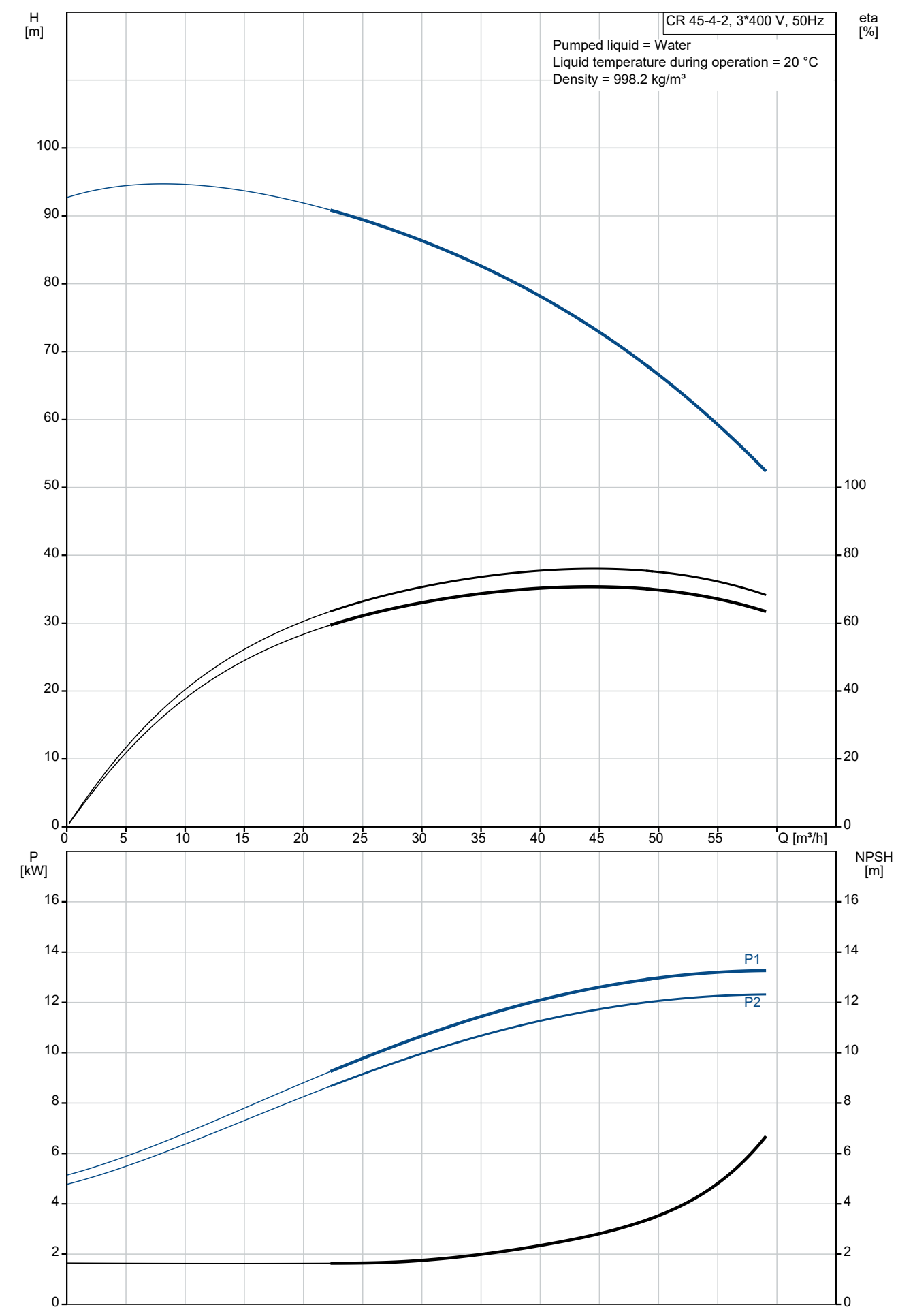
Datasheet



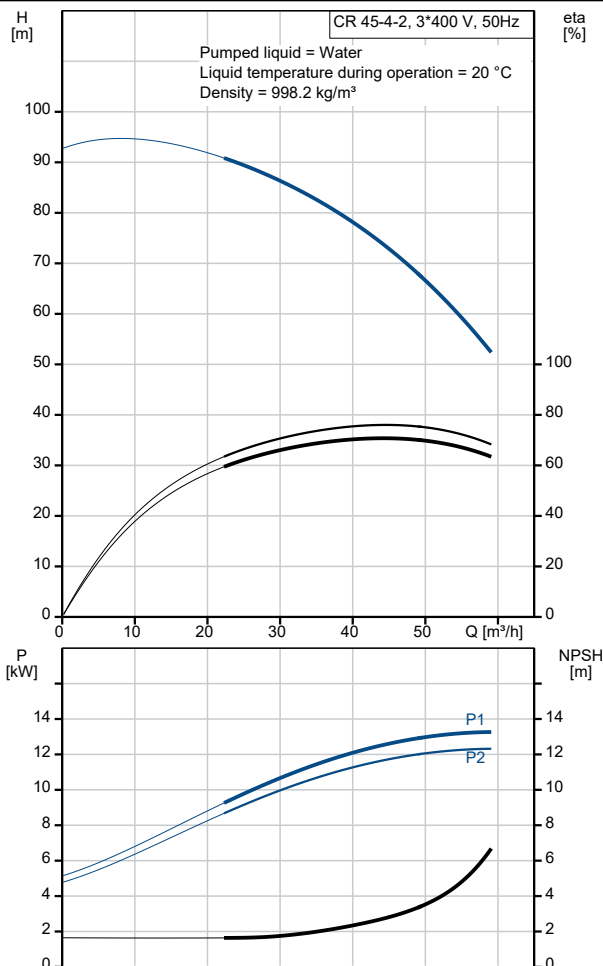
Qty.	Description
1	CR 45-4-2 A-F-A-E-HQQE  Note! Product picture may differ from actual product Product No.: 96122802 Vertical, non-self-priming, multistage, in-line, centrifugal pump for installation in pipe systems and mounting on a foundation. The pump has the following characteristics: - Impellers and intermediate chambers are made of Stainless steel, EN 1.4301. Impeller: Stainless steel, 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. Phase: The motor is a 3-phase AC motor. Controls: Frequency converter: NONE 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: 2923 rpm Rated flow: 45 m³/h Rated head: 72.1 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:

Qty.	Description
	Maximum ambient temperature: 60 °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: 160MD IE Efficiency class: IE3 Rated power - P2: 15 kW Power (P2) required by pump: 15 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-415D/660-690Y V Rated current: 28,0-26,0/16,2-15,6 A Starting current: 660-780 % Cos phi - power factor: 0.89-0.87 Rated speed: 2930-2950 rpm Efficiency: IE3 91,9% Motor efficiency at full load: 91.9-91.9 % Motor efficiency at 3/4 load: 92.4 % Motor efficiency at 1/2 load: 92.4 % Number of poles: 2 Enclosure class (IEC 34-5): 55 Dust/Jetting Insulation class (IEC 85): F Motor No: 85U17526 Others: Minimum efficiency index, MEI ≥: 0.70 Net weight: 179 kg Gross weight: 212 kg Shipping volume: 0.495 m³ Danish VVS No.: 385907042 Finnish LVI No.: 4925488 Country of origin: DK Custom tariff no.: 84137075

96122802 CR 45-4-2 A-F-A-E-HQQE 50 Hz

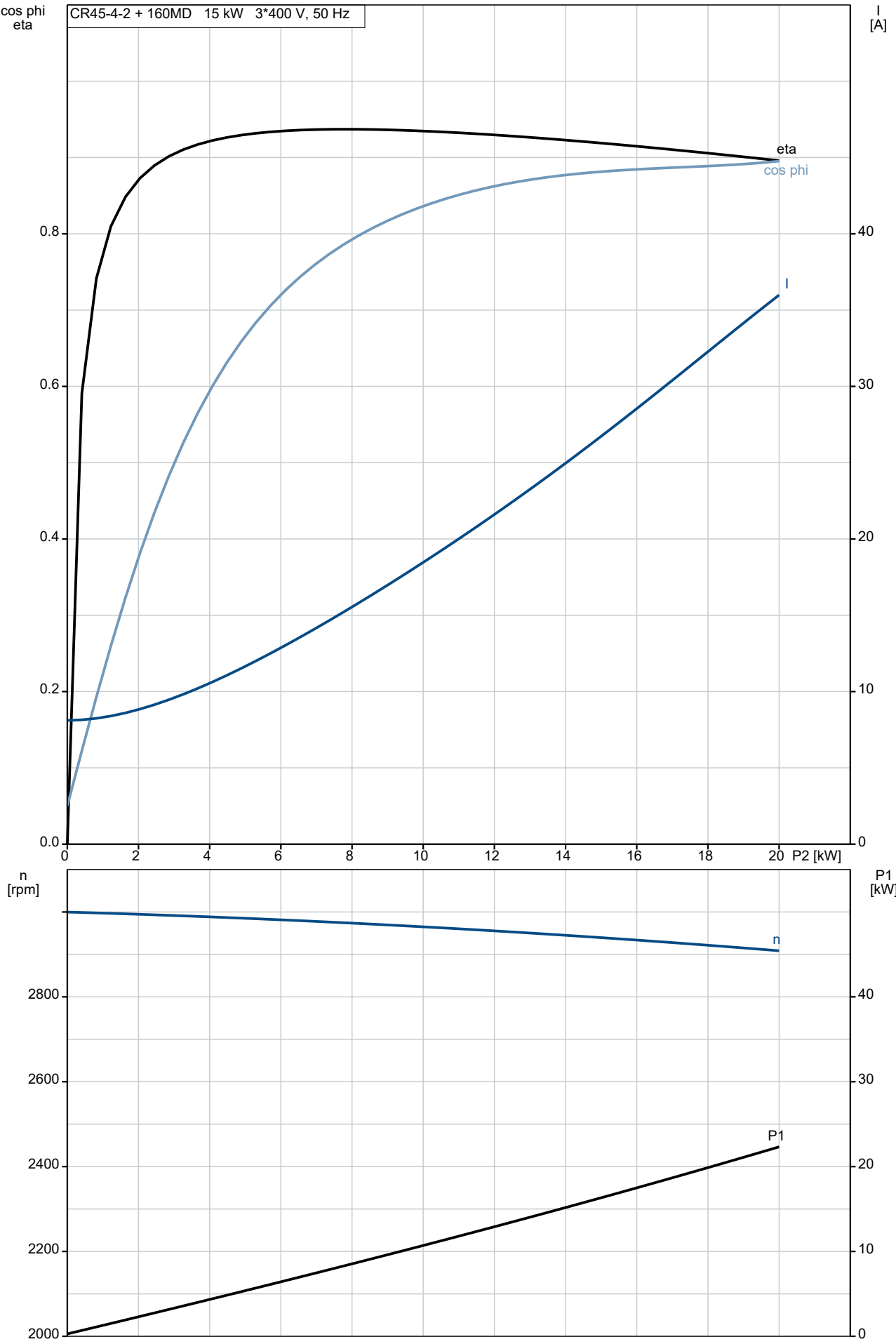


Description	Value
General information:	
Product name:	CR 45-4-2 A-F-A-E-HQQE
Product No:	96122802
EAN number:	5700396688466
Technical:	
Pump speed on which pump data are based:	2923 rpm
Rated flow:	45 m³/h
Rated head:	72.1 m
Maximum head:	92.4 m
Stages:	4
Impellers:	4
Number of reduced-diameter impellers:	2
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:	60 °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:	160MD
IE Efficiency class:	IE3
Rated power - P2:	15 kW
Power (P2) required by pump:	15 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415D/660-690Y V
Rated current:	28,0-26,0/16,2-15,6 A
Starting current:	660-780 %
Cos phi - power factor:	0.89-0.87
Rated speed:	2930-2950 rpm
Efficiency:	IE3 91,9%
Motor efficiency at full load:	91.9-91.9 %

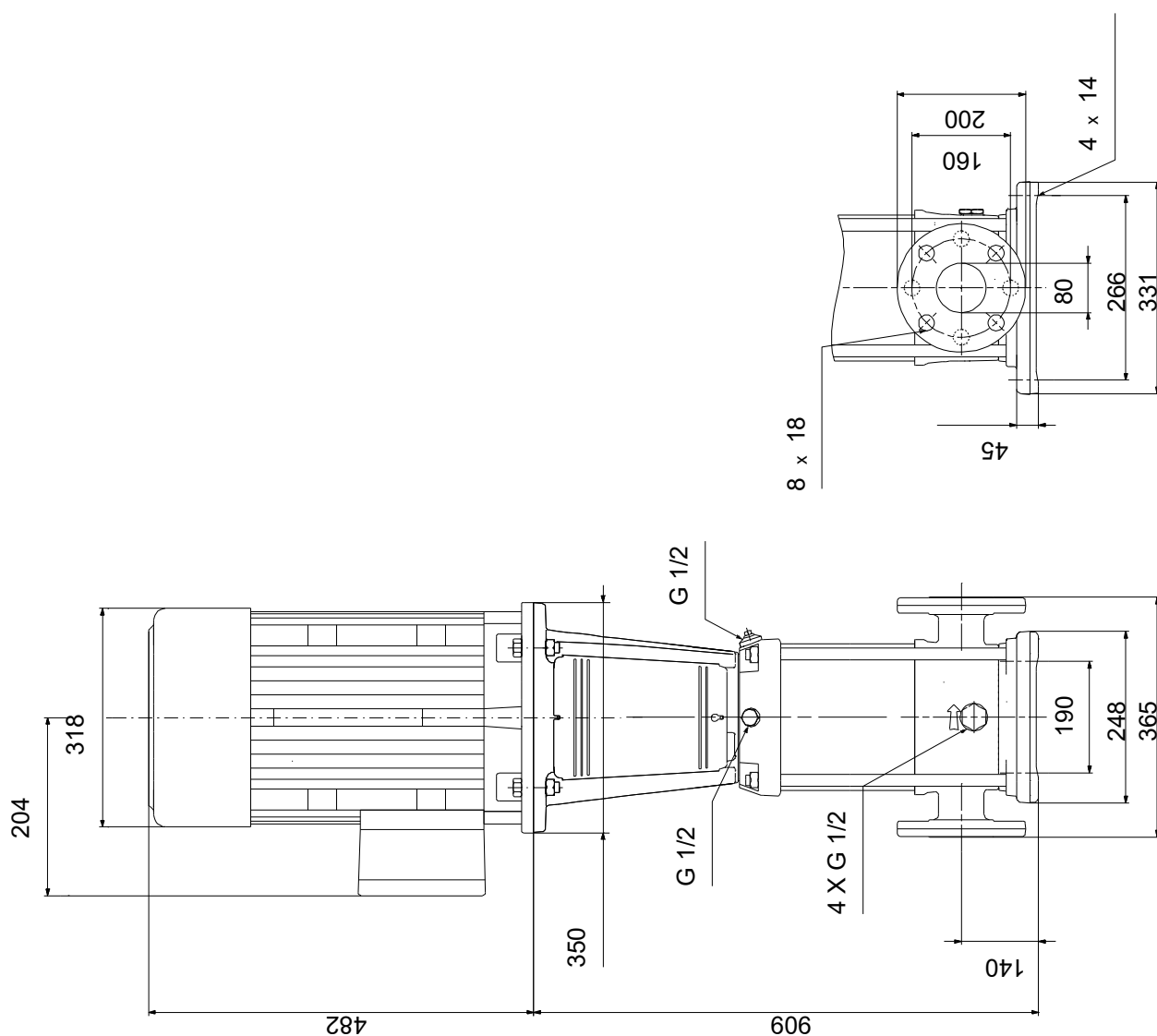


Description	Value
Motor efficiency at 3/4 load:	92.4 %
Motor efficiency at 1/2 load:	92.4 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Motor protec:	PTC
Motor No:	85U17526
Controls:	
Frequency converter:	NONE
Others:	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	179 kg
Gross weight:	212 kg
Shipping volume:	0.495 m ³
Danish VVS No.:	385907042
Finnish LVI No.:	4925488
Country of origin:	DK
Custom tariff no.:	84137075

96122802 CR 45-4-2 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 CR 45-4-2, Product No. 96122802
Produced After 1410 (production year and week number)

Pos	Omschrijving	Opmerking tekst	Classificatie Gegevens	Onderdeelnr.	Aantal	Eenheid
-	Base			96587694	1	pcs
6	Base				1	
-	Kit, chamber stack			96416229	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.				2	
	Guide cup					
	Guide cup					
	Cone					
	Guide vane					
	Chamber					
	Chamber					
45a	Neck ring cpl.					
47d	Lock ring					
47c	Bush					
26c	Washer		Designation: DIN 125A		2	
			Thickness: 1,6			
26b	Hex socket head cap screw				2	
26a	Strap cpl.		Length (mm): 329		2	
			Thread: M8			
- 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.				2	
48	Nut					
49b	Split cone					
- 49	Impeller					
	Impeller hub					
49c	Wear ring					
- 49d	Impeller cpl.				2	
48	Nut					
49b	Split cone					
- 49a	Impeller, reduced diameter					
	Impeller hub					
49c	Wear ring					

Pos	Omschrijving	Opmerking tekst	Classificatie Gegevens	Onderdeelnr.	Aantal	Eenheid
51	Shaft				1	
-	Kit, chambers			98497485	1	pcs
- 4a	Intermediate chamber cpl.				1	
	Guide cup				1	
	Guide cup				1	
	Cone				1	
	Guide vane				10	
	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, Impeller, reduced			98634014	1	pcs
48	Nut				1	
48	Nut				1	
49b	Split cone				1	
- 49a	Impeller, reduced diameter				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	

Pos	Omschrijving	Opmerking tekst	Classificatie Gegevens	Onderdeelnr.	Aantal	Eenheid
			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	
			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, eyebolt			96796712	1	
189	Eyebolt				2	
-	Kit, fan			96796654	1	
156.c	Retaining ring				1	
156	Fan				1	
-	Kit, fan cover			96796647	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, gaskets			96798508	1	
184	O-ring		Diameter: 235		2	
-	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, shaft seal			96843459	1	
159.b	V-ring				1	
159	V-ring				1	
-	Kit, terminal board			96796657	1	
	Terminal connection				3	
	Washer				12	
36	Hex nut				12	
173	Torx Screw				1	
176.d	Terminal board				1	
176	Terminal board				1	
177	Torx Screw				1	
-	Kit, terminal box cover			96796659	1	
164	Terminal box cover				1	
273a	Pan head thread forming screw				4	
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	2	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.	Length (mm): 329		98983870	2	pcs
		Thread: M8				
26	Staybolt	Length (mm): 487		98976713	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
48	Nut			99262680	1	pcs
48	Nut			99262683	1	pcs
48	Nut			96536016	1	pcs

Pos	Omschrijving	Opmerking tekst	Classificatie Gegevens	Onderdeelnr.	Aantal	Eenheid
- 49e	Impeller cpl.			98394328	2	pcs
48	Nut			99262680	1	
48	Nut			99262683	1	
48	Nut			96536016	1	
49b	Split cone			96536010	1	
- 49	Impeller			96535946	1	
49c	Wear ring			96535949	1	
49b	Split cone			96536010	1	pcs
- 49a	Impeller, reduced diameter			96535954	1	pcs
49c	Wear ring			96535949	1	
51	Shaft			98506308	1	pcs
55	Outer sleeve		Outer diameter: 216,0	98820342	1	pcs
			Length (mm): 343,5			
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