



POMPTECHNIEK • SERVICE • ONDERHOUD

Inventflow: Grundfos A-partner

Grundfos CR 45-12-2 A-F-A-E-HQQE

Find the pump here:

<https://inventflow.nl/en/pompenfilter/cr/grundfos-cr-45-12-2-a-f-a-e-hqqe>

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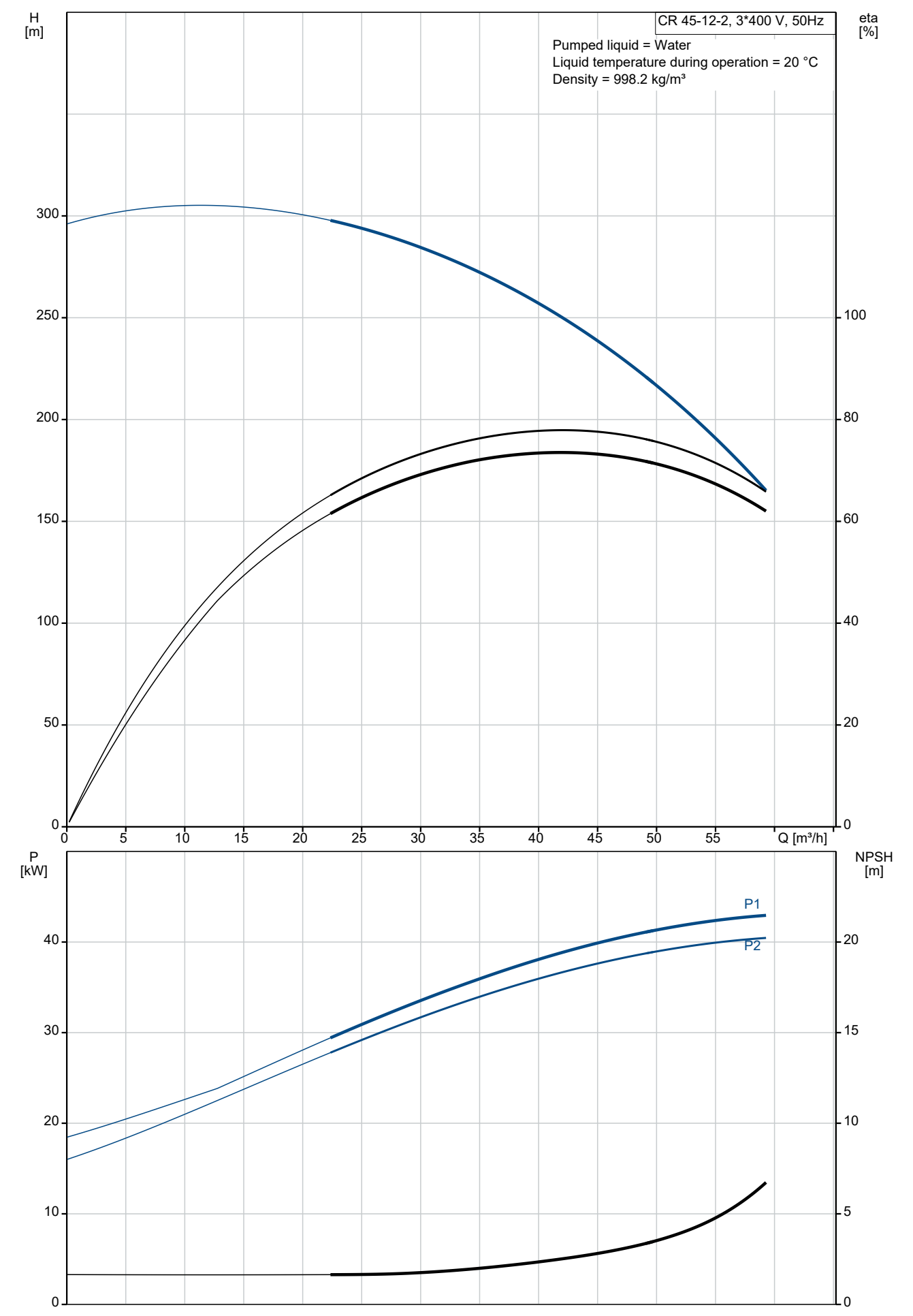
Datasheet



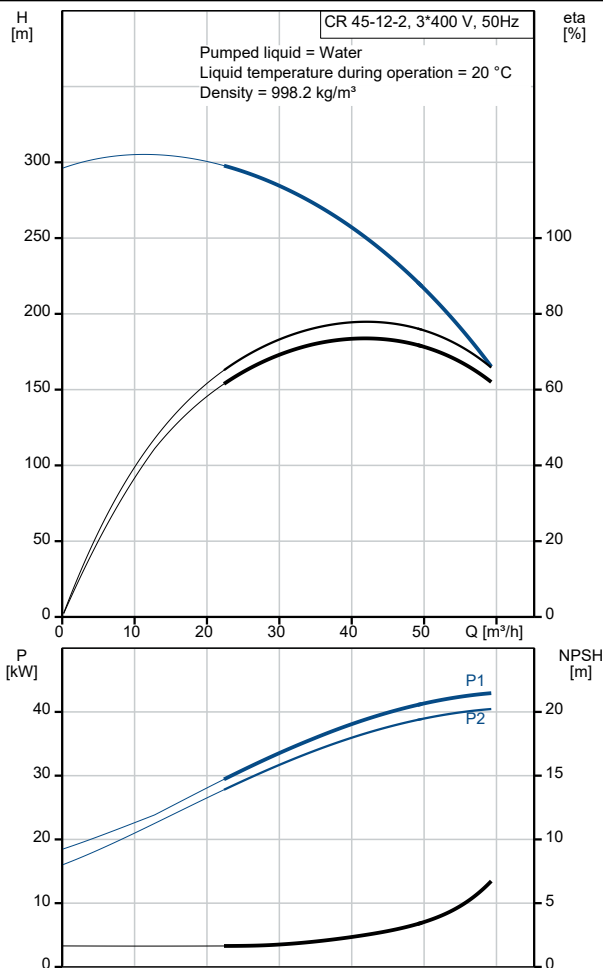
Qty.	Description
1	CR 45-12-2 A-F-A-E-HQQE  Note! Product picture may differ from actual product Product No.: 96122818 Vertical, non-self-priming, multistage, in-line, centrifugal pump for installation in pipe systems and mounting on a foundation. The pump has the following characteristics: - Impellers 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: 2960 rpm Rated flow: 45 m³/h Rated head: 242.1 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: 55 °C Maximum operating pressure: 33 bar Max pressure at stated temp: 33 bar / 120 °C 33 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: FF400 Electrical data: Motor standard: IEC Motor type: SIEMENS IE Efficiency class: IE3 Rated power - P2: 45 kW Power (P2) required by pump: 45 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-420D/660-725Y V Rated current: 81,0-74,0/47,0-43,0 A Starting current: 690-690 % Cos phi - power factor: 0.89 Rated speed: 2960 rpm Efficiency: IE3 94,0% Motor efficiency at full load: 94.0-94.0 % Motor efficiency at 3/4 load: 94.5-94.5 % Motor efficiency at 1/2 load: 94.4-94.4 % Number of poles: 2 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor No: 81U15336 Others: Minimum efficiency index, MEI ≥: 0.70 Net weight: 460 kg Gross weight: 562 kg Shipping volume: 1.24 m³ Danish VVS No.: 385907122 Finnish LVI No.: 4925504 Country of origin: DK Custom tariff no.: 84137075

96122818 CR 45-12-2 A-F-A-E-HQQE 50 Hz

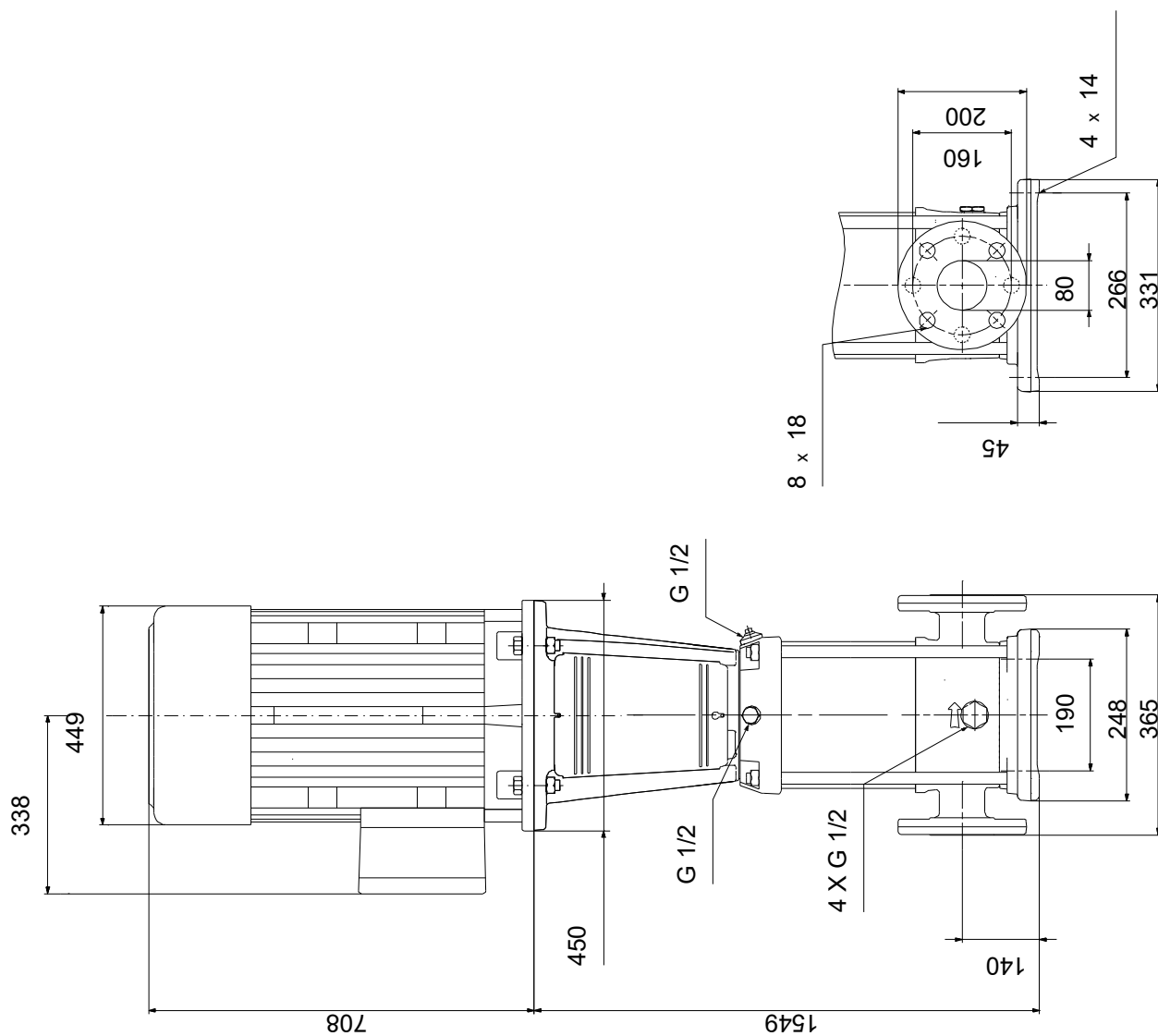


Description	Value		
General information:			
Product name:	CR 45-12-2 A-F-A-E-HQQE		
Product No:	96122818		
EAN number:	5700396688626		
Technical:			
Pump speed on which pump data are based:	2960 rpm		
Rated flow:	45 m³/h		
Rated head:	242.1 m		
Maximum head:	295.8 m		
Stages:	12		
Impellers:	12		
Number 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:	55 °C		
Maximum operating pressure:	33 bar		
Max pressure at stated temp:	33 bar / 120 °C		
Max pressure at stated temp:	33 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:	FF400		
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:	SIEMENS		
IE Efficiency class:	IE3		
Rated power - P2:	45 kW		
Power (P2) required by pump:	45 kW		
Mains frequency:	50 Hz		
Rated voltage:	3 x 380-420D/660-725Y V		
Rated current:	81,0-74,0/47,0-43,0 A		
Starting current:	690-690 %		
Cos phi - power factor:	0.89		
Rated speed:	2960 rpm		
Efficiency:	IE3 94,0%		
Motor efficiency at full load:	94.0-94.0 %		



Description	Value
Motor efficiency at 3/4 load:	94.5-94.5 %
Motor efficiency at 1/2 load:	94.4-94.4 %
Number of poles:	2
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Motor protec:	PTC
Motor No:	81U15336
Controls:	
Frequency converter:	NONE
Others:	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	460 kg
Gross weight:	562 kg
Shipping volume:	1.24 m ³
Danish VVS No.:	385907122
Finnish LVI No.:	4925504
Country of origin:	DK
Custom tariff no.:	84137075

96122818 CR 45-12-2 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.

Spare parts CR 45-12-2, Product No. 96122818
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	Chamber stack			96472029	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.				3	
	Guide cup					
	Guide cup					
	Cone					
	Guide vane					
	Chamber					
	Chamber					
45a	Neck ring cpl.					
47	Bearing					
- 4	Intermediate chamber cpl.				8	
	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): 969		2	
			Thread: M8			
- 44	Suction interconnector cpl.				1	
	Suction interconnector					
45	Seal ring					
46	Neck ring					
65	Top f/neck ring					
- 47a	Bearing cpl.				3	
	Driver					
	Holder					
	Disc spring					
	Bearing ring					
- 49e	Impeller cpl.				10	
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			96416594	1	pcs
	Adjusting fork				1	
- 8	Coupling cpl.		Dimension: 22/55		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			98497476	1	pcs
45	Seal ring				13	
47d	Lock ring				13	
47c	Bush				10	
49c	Wear ring				13	
65	Top f/neck ring				13	
-	Motor			99759458	1	pcs
156	Kit, fan			98671984	1	
151	Kit, fan cover			98062276	1	
156b	Kit, flange			98062292	1	
	Kit, lubrication nipple			98062533	1	
156a	Kit, ND-end shield cpl.			98062518	1	
159b	Kit, seal ring			98062552	1	
176	Kit, terminal board			98062237	1	
164a	Kit, terminal box			98062263	1	
2	Pump head			96547433	1	pcs
- 3	Upper chamber cpl.			98634042	1	pcs
47c	Bush			99321194	1	
- 4a	Intermediate chamber cpl.			99262867	3	pcs
47	Bearing			99964632	1	
47	Bearing			99928986	1	
+ 4a	Intermediate chamber cpl.			99139113	3	pcs
- 4	Intermediate chamber cpl.			99458546	8	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): 969	98983889	2	pcs
			Thread: M8			
26	Staybolt		Length (mm): 1127	98976727	4	pcs
			Thread: M16			
28	Hex socket head cap screw		Designation: DIN 912	96536147	4	pcs
			Length (mm): 50			
			Thread: M10			
28	Hex head screw			99869043	2	pcs
28	Hex head screw		Length (mm): 60	97506949	2	pcs
			Thread: M16			

Pos	Omschrijving	Opmerking tekst	Classificatie Gegevens	Onderdeelnr.	Aantal	Eenheid
32	Washer		Designation: DIN 125 A Internal diameter: 17 Outer diameter: 30 Thickness: 3	98923051	8	pcs
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	3	pcs
+ 47a	Bearing cpl.			96535951	3	pcs
48	Nut			99262680	1	pcs
48	Nut			99262683	1	pcs
48	Nut			96536016	1	pcs
- 49e	Impeller cpl.			98394328	10	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			98506323	1	pcs
55	Outer sleeve		Outer diameter: 216,0 Length (mm): 983,5	98820373	1	pcs
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