



Qty.	Description
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Date:

16/02/2019

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 tapped-hole flange (FT). Motor-mounting designation in accordance with IEC 60034-7: IM B 14 (Code I) / IM 3601 (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: NONE Frequency converter: Liquid: Pumped liquid: Water Liquid temperature range: -20 .. 120 °C Liquid temperature during operation: 20 °C Density: 998.2 kg/m³



			Date:	16/02/2019
•	Description			
	Technical:			
	Pump speed on which pump da	ta are based: 2917	rpm	
	Rated flow:	17 m³/h		
	Rated head:	55.4 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:	Stainless steel		
		EN 1.4408		
		AISI 316		
	Impeller:	Stainless steel		
		EN 1.4401		
		AISI 316		
	Pooring	SIC		
	Bearing:	310		
	Installation:			
	Maximum ambient temperature:			
	Maximum operating pressure:	25 bar		
	Max pressure at stated temp:	25 bar / 120 °C		
		25 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 connect	tion: PN 50		
	Flange size for motor:	FT130		
	Electrical data:			
	Motor standard:	IEC		
	Motor type:	112MC		
	IE Efficiency class:	IE3		
	Rated power - P2:	4 kW		
	Power (P2) required by pump:	4 kW		
	Mains frequency:	50 Hz		
	Rated voltage:	3 x 380-415D V		
	Rated current:	7.9 A		
	Starting current:	1000-1110 %		
	Cos phi - power factor:	0.87-0.87		
	Rated speed:	2920-2940 rpm		
	Efficiency:	IE3 88,1%		
	Motor efficiency at full load:	88.1 %		
	Motor efficiency at 3/4 load:	88.6 %		
	Motor efficiency at 1/2 load:	85.2 %		
	Number of poles:	2		
	Enclosure class (IEC 34-5):	55 Dust/Jetting		
	Insulation class (IEC 85):	F		
	Others:			
	Minimum efficiency index, MEI a	à‰¥: 0.70		
	Net weight:	67 kg		
	Gross weight:	70 kg		
	Gross weight: Shipping volume:	70 kg 0.13 m ³		



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		Date:	16/02/2019
Description	Value		
Starting current:	1000-1110 %		
Cos phi - power factor:	0.87-0.87		
Rated speed:	2920-2940 rpm		
Efficiency:	IE3 88,1%		
Motor efficiency at full load:	88.1 %		
Motor efficiency at 3/4 load:	88.6 %		
Motor efficiency at 1/2 load:	85.2 %		
Number of poles:	2		
Enclosure class (IEC 34-5):	55 Dust/Jetting		
Insulation class (IEC 85):	F		
Motor protec:	PTC		
Motor No:	85U15413		
Controls:			
Frequency converter:	NONE		
Others:			
Minimum efficiency index, MEI ≥:	0.70		
Net weight:	67 kg		
Gross weight:	70 kg		
Shipping volume:	0.13 m³		
Danish VVS No.:	385914050		









16/02/2019 Date: (tm069469 for MECR15,20 standard) 38 25 18 - 38 あ Ø 2 60 37 10a 10; 8 . a 51 62 61 109. 105 ŧ Ċ 110 49c -64 -65 Ĵ- 28a 45 28a ţ 2a 1a 49c 28 25 28 64a 38 -65 45 B 80 47 -64d 2a 28 28 49c 25 -64c 38 7 7 -66 -67 -65 -45 -44b -26c -26b 2a 1 C Ā å 28 38 25 55 76; 76 7a 37 **(**) 440b 140a 441b 25a 25a 38a 38 38 -25a -25a -38 38 56 441





16/02/2019

Date:







16/02/2019

Spare parts CRN 15-5, Product No. 96501950 Valid from 1.1.2011 (1152)

Pos	Description	Annotation	Classification Data	Part no.	Qty.	
	Kit, chamber stack			96491763	1	pcs
80	Chamber stack				1	
3	Top intermediate chamber					
	Guide vane					
	Cover plate					
3	Intermediate chamber					
4a	Intermediate chamber cpl.					
	Sand Lifter					
	Guide cup					
	Bearing plate					
	Guide vane					
3	Intermediate chamber					
- 45a	Neck ring cpl.					
47	Bearing bush					
65	Retainer					
4	Intermediate chamber cpl.					
3	Intermediate chamber cpi.					
3 45a	Neck ring cpl.					
65	Retainer					
26a	Strap cpl.					
26.c	Washer		Designation: DIN 125A			
			Thickness: 1,6			
26.b	Hex head screw					
44b	Inlet part					
44a	Inlet part cpl.					
45a	Neck ring cpl.					
65	Retainer					
47	Bearing ring					
49	Impeller cpl.					
49c	Wear ring					
49	Impeller					
51	Shaft, spline, cpl.					
	Bar					
62	Stop ring					
64d	Spacing bush					
64c	Spacing pipe		Length (mm): 12.7			
64a	Spacing pipe		Internal diameter: 17,5			
UHU	opaoling pipe		Length (mm): 17			
64	Spacing pipe		Length (mm): 43.6			
66	Wedge lock washer		Length (mm): 43.0			
67	Lock nut		Thread: M8			
69			Thead. No			
69	Spacing bush			00544050		
	Kit, coupling			96511350		pcs
_	Adjusting fork				1	
9	Hex socket head cap screw		Designation: DIN 912		4	•
			Length (mm): 25			
			Thread: M8			
10a	Coupling half				2	
10	Shaft pin		Diameter: 5		1	
			Length (mm): 26			
	Kit, coupling guard			96509612	1	pcs
7.a	Combi Slot Torx screw				4	
7	Coupling guard				2	



os	Description	Annotation C	lassification Data	Part no.	Qty.	
	Kit, gaskets			96509609	1	pcs
	Gasket				2	
24	O-ring				2	
37	O-ring				2	
38a	O-ring		Diameter: 5,3		1	
			laterial type: EPDM			
		Т	hickness: 2,4			
38	O-ring		Diameter: 16,3		1	
			laterial type: EPDM			
		Т	hickness: 2,4			
38	O-ring		Diameter: 16,3		2	
			laterial type: EPDM			
		Т	hickness: 2,4			
60	Spring				4	
115	Gasket				2	
141b	Gasket		Internal diameter: 49		2	
		0	outer diameter: 92			
			hickness: 2			
	Kit, plug			96511312	1	pcs
8	Air vent screw				. 1	
-	Spindle					
	Plug					
25a	Drain plug				1	
25a 25						
	Plug		Diamator: 5.2		1	
38a	O-ring	•	Diameter: 5,3		1	
			laterial type: FKM			
		T	hickness: 2,4			
38a	O-ring		Diameter: 5,3		1	
			laterial type: EPDM			
		Т	hickness: 2,4			
38	O-ring		Diameter: 16,3		1	
			laterial type: FKM			
		Т	hickness: 2,4			
38	O-ring		Diameter: 16,3		2	
		Ν	laterial type: FKM			
		Т	hickness: 2,4			
38	O-ring		Diameter: 16,3		1	
	~	Ν	laterial type: EPDM			
			hickness: 2,4			
38	O-ring	• •	Diameter: 16,3		2	
	g	M	laterial type: EPDM		-	
			hickness: 2,4			
	Kit, shaft seal HQQE	•		96511844	1	pcs
	Emery cloth			50511044	1	P03
	Grinding device				1	
05	Shaft seal		Matorial type: UOOF		1	
00			Material type: HQQE	00544004	-	D .55
1	Kit, wear parts			96511824		pcs
la	Intermediate chamber cpl.				1	
	Sand Lifter					
	Guide cup					
	Bearing plate					
	Guide vane					
3	Intermediate chamber					
15a	Neck ring cpl.					
17	Bearing bush					
65	Retainer					
26.c	Washer		Designation: DIN 125	A	2	
-0.0		т	hickness: 1,6		2	
		1				

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os	Description	Annotation Classification Data	Part no. Qty. Unit
45a	Neck ring cpl.		5
47	Bearing ring		1
49c	Wear ring		6
62	Retaining ring		1
64d	Spacing bush		1
64c	Spacing pipe	Length (mm): 12.7	1
64b	Spacing bush	Length (mm): 5.00	1
64a	Spacing pipe	Internal diameter: 17,5	1
		Length (mm): 17	
65	Retainer	0 ()	5
66	Wedge lock washer		1
67	Lock nut	Thread: M8	1
	Motor		85903740 1 pcs
	Kit, bearing cpl.		96279802 1
111	Ball bearing	Designation: 6206.2Z	
153	Angular-contact bearing		
157	O-ring	Diameter: 62	
	C mig	Material type: NBR	
		Thickness: 3	
158	Waved washer	Thiokho35. 5	
100	Kit, end shield		96279790 1
156a	End shield		30213130 1
156a 157		Diameter: 62	
157	O-ring		
		Material type: NBR	
450		Thickness: 3	
158	Waved washer		
159a	Seal ring		
	Kit, eyebolt		96279825 1
189	Eyebolt		
	Kit, fan		96279758 1
156	Fan		
159c	Seal ring		
159a	Seal ring		
	Kit, fan cover		96279756 1
151b	Label		
151	Fan cover		
152	Pan head thread forming	screw	
	Kit, flange		96279779 1
156b	Flange		
159.c	Seal ring		
186	Drain plug		
	Kit, shaft seal		96279763 1
159c	Seal ring		
159a	Seal ring		
	Kit, staybolts		96279793 1
181	Pan head staybolt		
	Kit, terminal board		96279769 1
173a	Base		
173	Pan head thread forming	screw Designation: COMBI	TORX T25
176	Slot cheese head screw	Designation: COMBI	
		Length (mm): 10	
		Thread: M5	
176	Terminal	THEAU. WO	
176	Connecting piece		
176	Wire clamp		
176	Terminal board		
177	Pan head screw		
	Kit, terminal box		96279772 1
164	Terminal box cover w/ga	sket	



			Date:	16/02/2019		
Pos	Description	Annotation	Classification Data	Part no.	Qty.	Unit
166	Pan head thread forming screw					
1a	Pump head			98824712	1	pcs
2	Pump cover			98481138	1	pcs
+ 3	Bulk, Top intermediate chamber (3 pcs)			98371113	1	pcs
+ 3	Top intermediate chamber			98734577	1	pcs
+ 4a	Bulk, Intermediate chamber cpl. (10 pcs)			96538853	1	pcs
+ 4a	Intermediate chamber cpl.			98371117		pcs
- 4	Bulk, Intermediate chamber cpl. (10 pcs)			96538840	3	pcs
3	Intermediate chamber			98371	143 1	l
65	Retainer			965473		
+ 4	Intermediate chamber cpl.			98371115		pcs
6	Base			98654159	1	pcs
7.a	Bulk, Combi Slot Torx screw (1000 pcs)			96886324	4	pcs
10	Bulk, Shaft pin (10 pcs)		Diameter: 5	96536473	1	pcs
			Length (mm): 26			
+ 18	Bulk, Air vent screw (5 pcs)			96547461		pcs
+ 18	Air vent screw			95061351		pcs
25	Bulk, Plug (10 pcs)			96536013		pcs
26a	Strap cpl.			98967460		pcs
26.c	Bulk, Washer (4 pcs)		Designation: DIN 125A	99262704	2	pcs
			Thickness: 1,6			
26.c	Washer		Designation: DIN 125A	96586880	2	pcs
			Thickness: 1,6			
26	Staybolt			98982878		pcs
37.a	Bulk, O-ring (20 pcs)			96538857		pcs
38a	Bulk, O-ring (10 pcs)		Diameter: 5,3	99198791	1	pcs
			Material type: EPDM			
			Thickness: 2,4		_	
38	Bulk, O-ring (10 pcs)		Diameter: 16,3	99198815	2	pcs
			Material type: EPDM			
			Thickness: 2,4	00440707		
38	Bulk, O-ring (50 pcs)		Diameter: 16,3	99412727	2	pcs
			Material type: EPDM			
446	lalat nort		Thickness: 2,4	98814593	4	
44b	Inlet part					pcs
+ 44a	Inlet part cpl. Bulk, Bearing ring (10 pcs)			98818922 96538795		pcs
47 - 49	Bulk, Impeller cpl. (5 pcs)			96538795 98394288		pcs
- 49 49c	Bulk, Wear ring (10 pcs)			98394288		pcs
49C + 49	Impeller cpl.			98394449		
+ 49 + 51	Shaft, spline, cpl.			98368632		pcs pcs
+ 51 55	Outer sleeve			98812637		pcs
55 56	Base plate			98481136		•
56 60	Base plate Bulk, Spring (20 pcs)			96538963		pcs
60 64d	Bulk, Spacing bush (20 pcs)			96538947		pcs
640 64c	Bulk, Spacing pipe (5 pcs)		Length (mm): 12.7	97980241		pcs
64a	Bulk, Spacing pipe (5 pcs) Bulk, Spacing pipe (10 pcs)		Internal diameter: 17,5	98417487		pcs pcs
0 4 a	Dain, Opaoling pipe (10 pos)		Length (mm): 17	30417407	1	pus
64	Bulk, Spacing pipe (20 pcs)		Length (mm): 43.6	96535107	3	pcs
66	Bulk, Wedge lock washer (10 pcs)		-singun (mini)to.o	96536157		pcs
67	Bulk, Lock nut (10 pcs)		Thread: M8	98277008		pcs
69	Bulk, Spacing bush (20 pcs)			96538949		pcs
76a	Bulk, Rivet (100 pcs)			96620489		pcs
105	Bulk, Shaft seal (11 pcs)		Material type: HQQE	96538914		•
105			material type. Howe	30330314	1	pcs