

15/02/2019

Qty. | Description

1

CRN 3-8 A-FGJ-A-E-HQQE



Product No.: 96516832

Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). Pump materials in contact with the liquid are in high-grade 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 combined DIN-ANSI-JIS flanges.

The pump is fitted with a 3-phase, fan-cooled asynchronous motor.

Further product details

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:

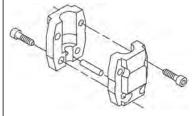
1) Alkaline-based cleaning.

- 2) Zinc phosphating.
- Cathodic electro-deposition.
- 4) Curing to a dry film thickness 18-22 my m.

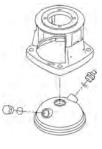
The colour code for the finished product is NCS 9000/RAL 9005.

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 and flange for motor mounting is made in one piece (cast iron). The pump head cover is a separate component (stainless steel). 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)



Qty. Description

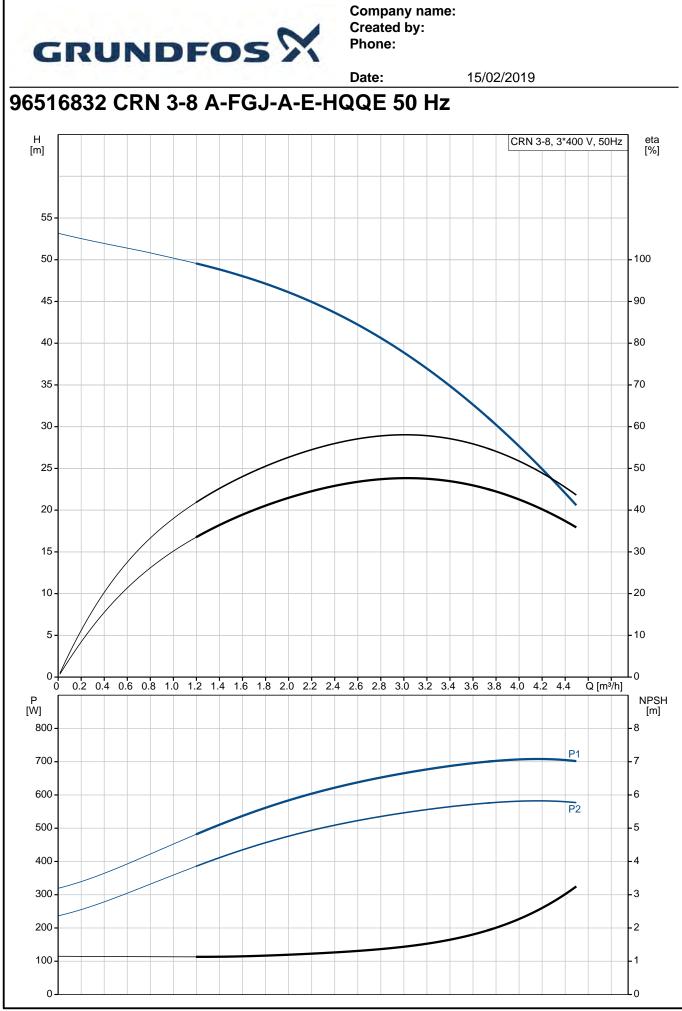
Date:

15/02/2019

Image:		Dute.	10/02/2010
This material pairing offers good resistance against abraive pariticles. Secondary seal material: EPDM (ethylene-propylene rubber) EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils. Image: Secondary seal material: EPDM (ethylene-propylene rubber) EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils. Image: Secondary seal material: EPDM (ethylene-propylene rubber) EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils. Image: Secondary seal material: EPDM (ethylene-propylene rubber) EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils. Image: Secondary seal material painting is used where a secondary seal material painting offers. 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 PT offering improved sealing and high efficiency. The impellers have smooth surfaces, and the shape of the ensure a high efficiency. The pump has a stainless-steel base mounted on a seperate base plate. This base and base plate are position by the tension of the staybolts which hold the pump together. The outlet side of the base has drain plug and bypass vale. The pump is secured to the toundation by four bolts through the base plate are position by the tension of the staybolts with chold the pump together. The outlet side of the base has drain plug and bypach vale. The pump tension of DIN, ANSI or JE. Motor The motor feicency is classified as IE3 in acc	Description		
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position by the tension of the staybolts which hold the pump together. The outlet side of the base has drain plug and bypass valve. The pump is secured to the foundation by four botts through the base pla flanges and base are cast in one piece and prepared for connection by means of DIN, ANSI or JIS. Motor The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. 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 designation in accordance with IEC 60034-30-1. The motor designation in accordance with IEC 60034-30-1. The motor designation be motor protection and must be connected to a motor-protective circuit which can be manually reset. The motor-protective circuit breaker must be set according to the rated of motor (11/1). Technical data Controls: Frequency converter: NONE Liquid temperature range: -20 120 °C Liquid temperature during operation: 20 °C Density: 998.2 kg/m³ Technical: Pump speed on which pump data are based: Pump speed on which pump data are based: 2864 rpm Rated flow: 3 m³/h Rated flow: 3 m³/h Rated flow: 3 m³/h Rated flow: 3 m³/h <th>offering improved sealing and hid</th> <th>made of stainless-steel sheet. The cham gh efficiency. The impellers have smooth</th> <th>bers are provided with a PTFE neck ring surfaces, and the shape of the blades</th>	offering improved sealing and hid	made of stainless-steel sheet. The cham gh efficiency. The impellers have smooth	bers are provided with a PTFE neck ring surfaces, and the shape of the blades
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Frequency converter: NONE Liquid: Pumped liquid: Water Liquid temperature range: -20120 °C Liquid temperature during operation: 20 °C Density: 998.2 kg/m³ Technical: Pump speed on which pump data are based: Pump speed on which pump data are based: 2864 rpm Rated flow: 3 m³/h Rated head: 38.3 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 Stainless steel	Technical data		
Pumped liquid: Water Liquid temperature range: -20 120 °C Liquid temperature during operation: 20 °C Density: 998.2 kg/m³ Technical: Pump speed on which pump data are based: 2864 rpm Rated flow: 3 m³/h Rated head: 38.3 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 Stainless steel		NONE	
Technical: Pump speed on which pump data are based: 2864 rpm Rated flow: 3 m³/h Rated head: 38.3 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: Ease: Stainless steel EN 1.4408	Pumped liquid: Liquid temperature range: Liquid temperature during operat	-20 120 °C tion: 20 °C	
Base: Stainless steel EN 1.4408	Technical: Pump speed on which pump data Rated flow: Rated head: Pump orientation: Shaft seal arrangement: Code for shaft seal: Approvals on nameplate:	a are based: 2864 rpm 3 m ³ /h 38.3 m Vertical Single HQQE CE, EAC,ACS	
		EN 1.4408	



Stainless steel EN 1.4401 AISI 316 SIC perature: 60 °C essure: 25 bar I temp: 25 bar / 120 °C 25 bar / -20 °C DIN / ANSI / JIS n: DN 25/32 1 1/4 inch e connection: PN 25 300 lb FT100 IEC 80A			
EN 1.4401 AISI 316 SIC perature: 60 °C essure: 25 bar 1 temp: 25 bar / 120 °C 25 bar / -20 °C DIN / ANSI / JIS n: DN 25/32 1 1/4 inch on: DN 25/32 1 1/4 inch e connection: PN 25 300 lb FT100			
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e connection: PN 25 300 lb FT100 IEC			
300 lb FT100 IEC			
FT100 IEC			
IEC			
80A			
IE3			
0.75 kW			
/ pump: 0.75 kW			
	80-415Y V		
J). I			
lex, MEI ≥: 0.70			
0.063 m³			
	50 Hz 3 x 220-240D/3 3.30/1.90 A 580-620 % 0.81-0.71 2840-2870 rpm IE3 80,7% load: 80.7 % load: 82.7 % load: 81.7 % 2	50 Hz 3 x 220-240D/380-415Y V 3.30/1.90 A 580-620 % 0.81-0.71 2840-2870 rpm IE3 80,7% load: 80.7 % load: 82.7 % load: 81.7 % 2 34-5): 55 Dust/Jetting 5): F dex, MEI ≥: 0.70 25.8 kg 28.5 kg	50 Hz 3 x 220-240D/380-415Y V 3.30/1.90 A 580-620 % 0.81-0.71 2840-2870 rpm IE3 80,7% load: 80.7 % load: 82.7 % load: 81.7 % 2 34-5): 55 Dust/Jetting 5): F dex, MEI ≥: 0.70 25.8 kg 28.5 kg



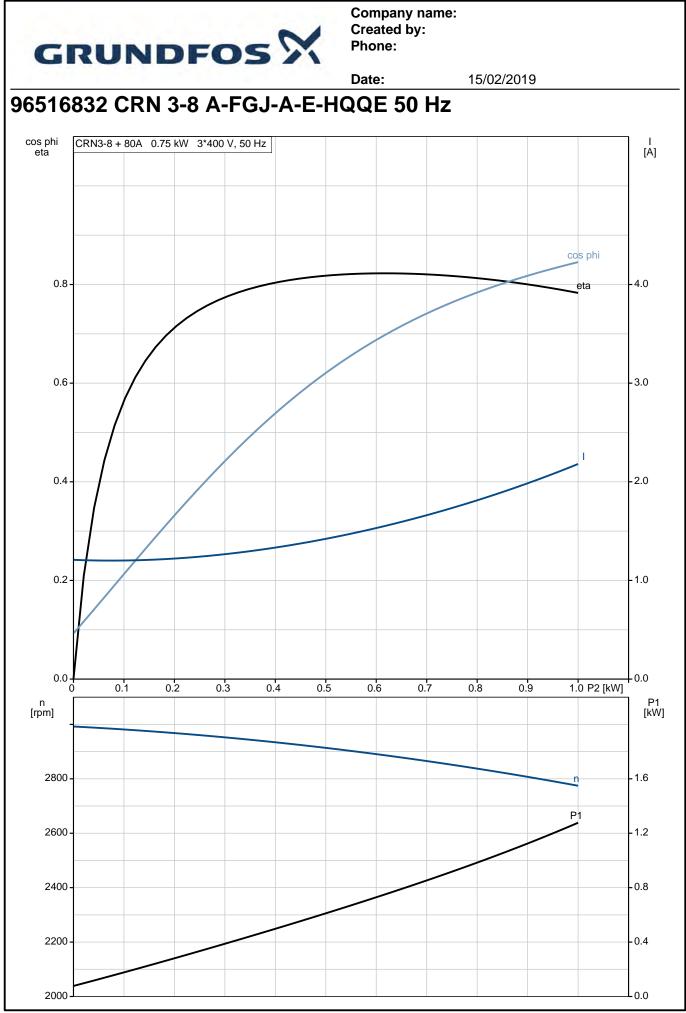


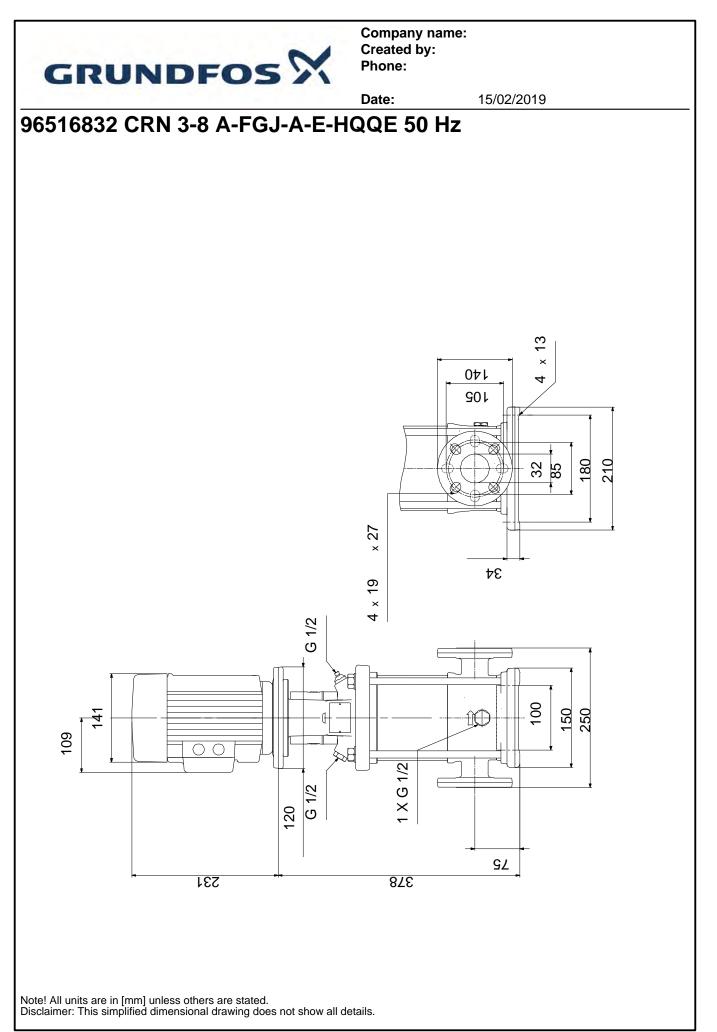
		Date:	15/02	/2019		
Description	Value	H [m]		CRN 3-8, 3*40	0 V, 50Hz	eta [%]
General information:						
Product name:	CRN 3-8 A-FGJ-A-E-HQQE	55 -				
Product No:	96516832	50 -				100
EAN number:	5700396750613	45 -				90
Technical:				\searrow		
Pump speed on which pump data are based:	2864 rpm	40				30 70
Rated flow:	3 m³/h					
Rated head:	38.3 m	30 -			-e	60
Head max:	52.8 m	25 -			↓ ↓₅	50
Stages:	8					
Impellers:	8	20 -			\mathbf{N}	10
Number of reduced-diameter impellers:	0	15 -				30
Low NPSH:	N	10 -				20
Pump orientation:	Vertical	10-				20
Shaft seal arrangement:	Single	5-				10
Code for shaft seal:	HQQE					
Approvals on nameplate:	CE, EAC, ACS	0 0.5	1.0 1.5 2.0	2.5 3.0 3.5 4.0	Q [m³/h]	
Curve tolerance:	ISO9906:2012 3B	P [W]				NPSH [m]
Pump version:	A				P1 _	
Model:	A	700 -				
Materials:		600 -				6
Base:	Stainless steel	500 -			-5	5
	EN 1.4408	400 -			- 4	1
	AISI 316	300 -			1 3	3
Impeller:	Stainless steel	200 -				2
•	EN 1.4401	100 -				I
	AISI 316)
Material code:	A					
Code for rubber:	E		109			
Bearing:	SIC		141			
Installation:						
Maximum ambient temperature:	60 °C	33				
Maximum operating pressure:	25 bar		<u> </u>			
Max pressure at stated temp:	25 bar / 120 °C	120				
· · ·	25 bar / -20 °C	<u>G 1/2</u>	G 1/2			
Type of connection:	DIN / ANSI / JIS	ς		27		
Size of inlet connection:	DN 25/32	₿ <u>1 X G 1/2</u>	$\mathbb{R} \mid \mathbb{R}$			
	1 1/4 inch					
Size of outlet connection:	DN 25/32	75	╨╈╫╢┈			
	1 1/4 inch		100	<u>32</u> 85		
Pressure rating for pipe connection:	PN 25		250	210		
Flange rating inlet:	300 lb			<u>k</u>		
Flange size for motor:	FT100					
Connect code:	FGJ		HIGH VOLTAGE ECTION OF ROTATION			
Liquid:						
Pumped liquid:	Water					
Liquid temperature range:	-20 120 °C					
Liquid temperature during operation:	20 °C	— — ·†·ť				
Density:	998.2 kg/m ³					
Electrical data:	-		<u>®</u> a			
Motor standard:	IEC		LOW VOLTAGE ECTION OF ROTATION	-		
Motor type:	80A					
IE Efficiency class:	IE3	ד, —	3			
Rated power - P2:	0.75 kW		Jailta			
Power (P2) required by pump:	0.75 kW	— 🖛 '+-(Ĵ Ĵ			
Mains frequency:	50 Hz	—				
	50 T IE			98.3.169		

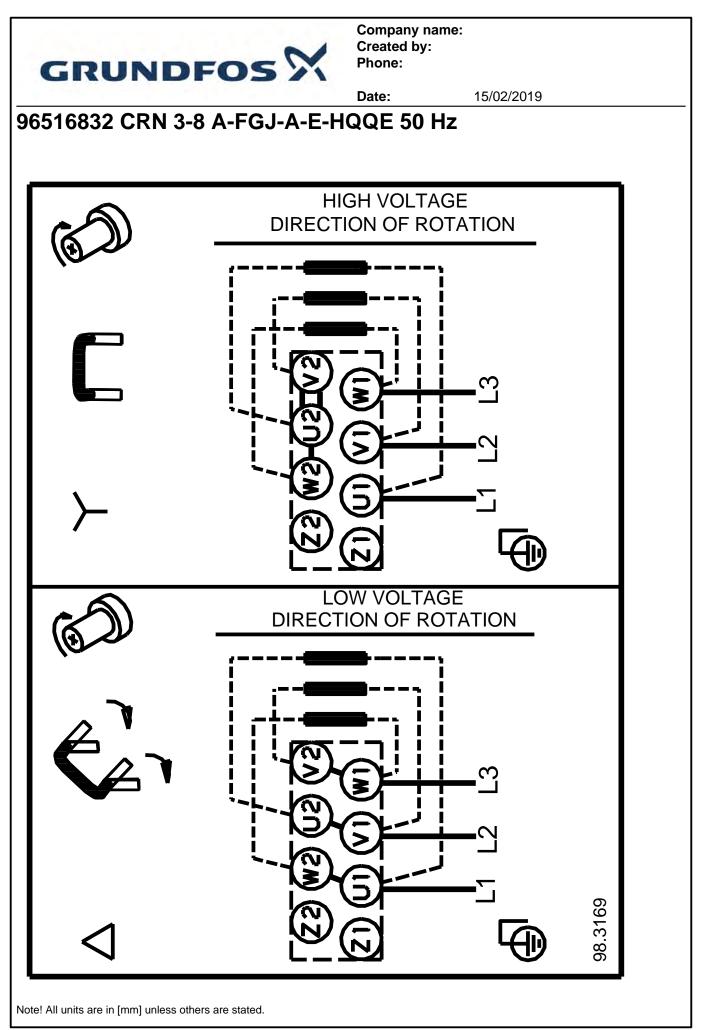
Printed from Grundfos Product Centre [2018.09.002]



		Date:	15/02/2019
Description	Value		
Rated voltage:	3 x 220-240D/380-415Y V	-	
Rated current:	3.30/1.90 A		
Starting current:	580-620 %		
Cos phi - power factor:	0.81-0.71		
Rated speed:	2840-2870 rpm		
Efficiency:	IE3 80,7%		
Motor efficiency at full load:	80.7 %		
Motor efficiency at 3/4 load:	82.7 %		
Motor efficiency at 1/2 load:	81.7 %		
Number of poles:	2		
Enclosure class (IEC 34-5):	55 Dust/Jetting		
Insulation class (IEC 85):	F		
Motor protec:	NONE		
Motor No:	85U05104		
Controls:			
Frequency converter:	NONE		
Others:			
Minimum efficiency index, MEI ≥:	0.70		
Net weight:	25.8 kg		
Gross weight:	28.5 kg		
Shipping volume:	0.063 m³		



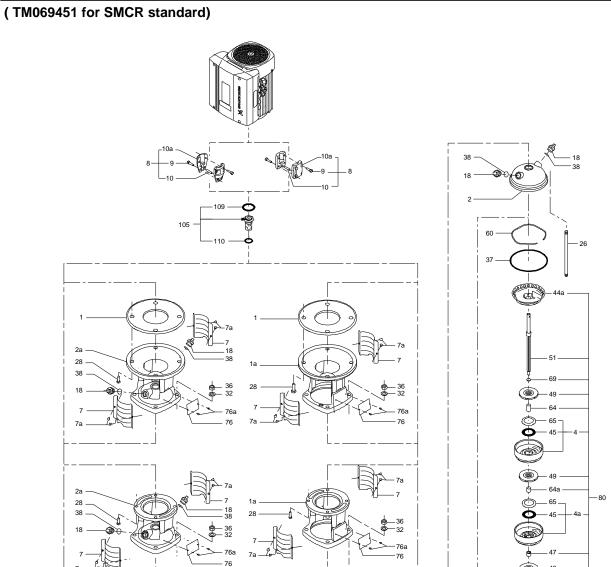


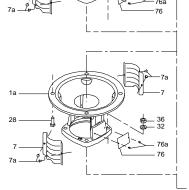


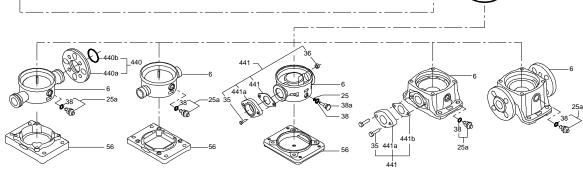


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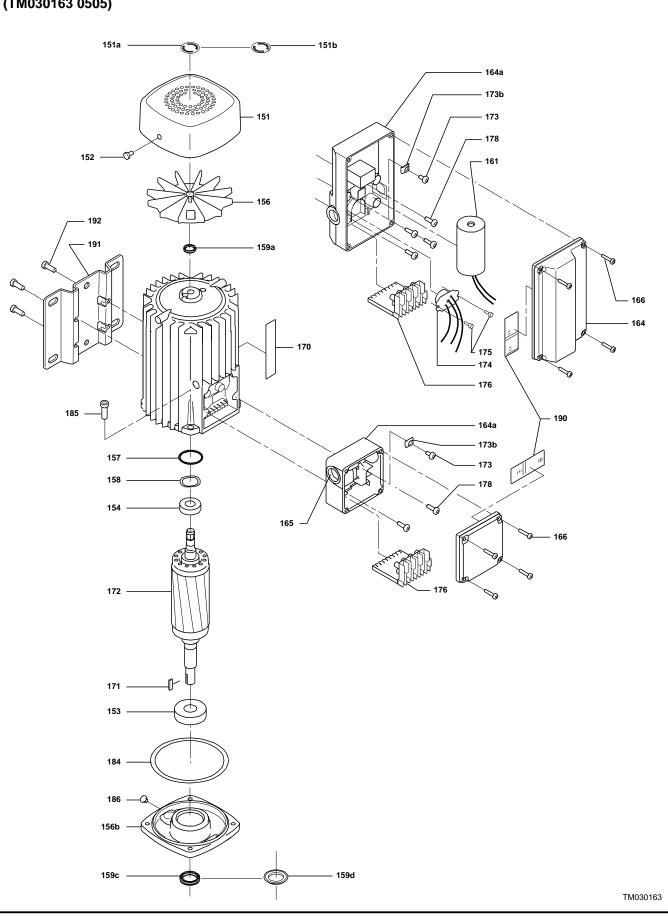
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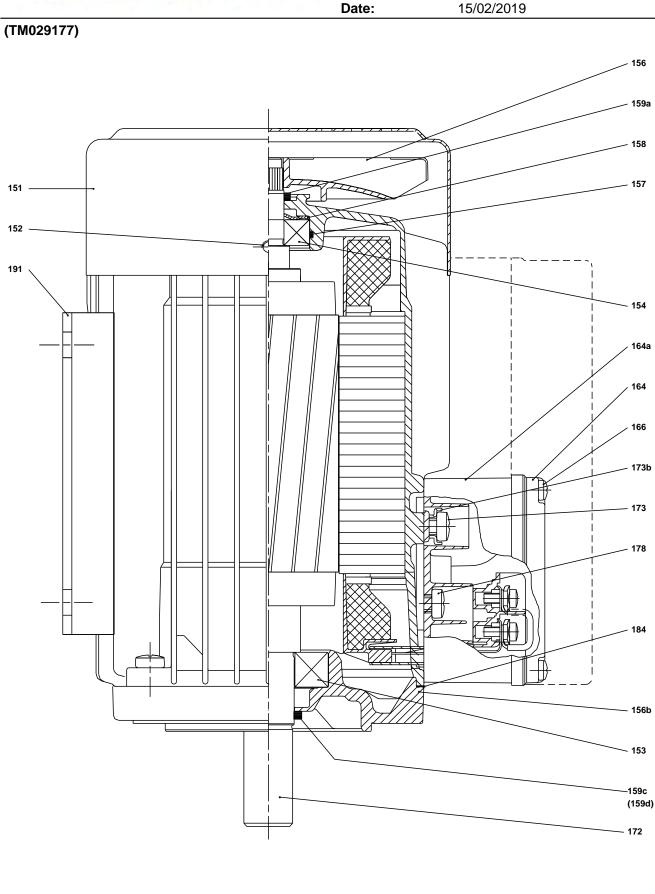


15/02/2019









TM029177)



15/02/2019

Spare parts CRN 3-8, Product No. 96516832 Valid from 7.2.2011 (1106)

Pos	Description	Annotation		Part no.	Qty.	
	Kit, chamber stack		Bearing type: SILICON CARBIDE	96453558	1	pcs
4a	Chamber w. bearing cpl.					1
4a	Intermediate chamber					
45	Neck ring					
65	Neck ring retainer					
4	Chamber cpl.					6
4a	Intermediate chamber					
45	Neck ring					
65	Neck ring retainer					
5a	Chamber cpl.					1
4a	Intermediate chamber					
45	Neck ring					
65	Neck ring retainer					
44a	Guide vane cpl.					1
ττu	Plate					
	Guide vane					
50	Top plate					
50 47	Bearing ring, rotating					1
49	Impeller cpl.					8
51	Shaft, spline, cpl.					1
64d	Spacing pipe		Internal diameter: 12,85			1
			Outer diameter: 15,85			
			Length (mm): 4,50			
64c	Clamp, splined		Internal diameter: 8,5			1
			Outer diameter: 15			
64a	Spacing pipe					6
66	Wedge lock washer					1
67	Lock nut		Thread: M8			1
	Kit, coupling			00415061	1	pcs
9	Hex socket head cap screw		Designation: DIN 912			4
			Length (mm): 20			
			Thread: M6			
10a	Coupling half					2
10	Shaft pin		Diameter: 5			1
			Length (mm): 26			
	Kit, coupling guard		. ,	96505130	1	pcs
7.a	Combi Slot Torx screw					4
7	Coupling guard					2
	Kit, gaskets			96455090		pcs
37	O-ring					2
38	O-ring		Diameter: 16,3			1
00	C mig		Material type: EPDM			•
			Thickness: 2,4			
38	O-ring		Diameter: 16,3			2
50	O-mily					۲
			Material type: EPDM			
100	0 ring		Thickness: 2,4			4
109	O-ring		Diameter: 22,00			1
			Material type: EPDM			
			Thickness: 2,75			
	Kit, plug			96505133		pcs
18	Air vent screw					1
	Spindle					
	Plug					



Pos	Description	Annotation Classification Data Part no. Qt	. Unit
23b	Spindle		1
25	Plug		1
25	Plug		1
38	O-ring	Diameter: 16,3	1
		Material type: FKM	
		Thickness: 2,4	
38	O-ring	Diameter: 16,3	2
50	O-Inig	Material type: FKM	2
20	O ring	Thickness: 2,4	4
38	O-ring	Diameter: 16,3	1
		Material type: EPDM	
		Thickness: 2,4	
38	O-ring	Diameter: 16,3	2
		Material type: EPDM	
		Thickness: 2,4	
	Kit, shaft seal HQQE	96455086 1	pcs
105	Shaft seal	Material type: HQQE	1
	Kit, wear parts	Material type: SILICON CARBIDE 96455095 1	pcs
4a	Chamber w. bearing cpl.	21	1
4a	Intermediate chamber		-
45	Neck ring		
45 65	Neck ring retainer		
			0
45	Neck ring		8
47	Bearing ring, rotating		1
64d	Spacing pipe	Internal diameter: 12,85	1
		Outer diameter: 15,85	
		Length (mm): 4,50	
64c	Clamp, splined	Internal diameter: 8,5	1
		Outer diameter: 15	
65	Neck ring retainer		8
66	Wedge lock washer		1
67	Lock nut	Thread: M8	1
441b	Gasket		2
	Motor	85903982 1	pcs
	Kit, Ball bearing	96279730	•
111	Ball bearing	Designation: 6204.2Z.C3.SYN	•
111	Ball bearing	Designation: 0204.22.03.0114	
157		Diameter: 32	
157	O-ring		
		Material type: NBR	
		Thickness: 2	
158	Waved washer		
	Kit, fan	96279721	1
156	Fan		
159a	Seal ring		
	Kit, fan cover	96279720	1
151	Fan cover		
152	Pan head thread forming screw		
	Kit, flange	96279854	1
156b	Flange	30279034	•
1500 159c			
	Seal ring	Internal dispetary 444.00	
184	Gasket	Internal diameter: 114,80 Outer diameter: 121,20	
		Thickness: 0,25	
185	Pan head screw		
186	Drain plug		
	Kit, shaft seal	96279722	1
159c	Seal ring		
159a	Seal ring		



Pos	Description	Annotation	Classification Data	Part no. Q	ty. Unit
. 03	Kit, terminal box	Annotation	Chaodinioution Data	96279724	
152	Pan head thread forming screw				
164a	Terminal box w/gasket				
164	Terminal box cover w/gasket				
173a	Washer		Designation: SQUA	RF	
mea			Internal diameter: 5,5		
			Outer diameter: 10X10		
			Thickness: 1.5		
173a	Base		Thickness. 1,5		
173	Pan head thread forming screw		Designation: COMB		
173	Pan head screw		Designation: DIN 79		
175	Pan head screw		Designation: DIN 79		
175			Designation. DIN 75	900	
2	Terminal cpl.			06500044 4	
	Pump cover			96588244 1	pcs
4a	Bulk, Chamber w. bearing cpl. (5 pcs)			97690603 1	pcs
4a	Bulk, Chamber w. bearing cpl. (5 pcs)			96547661 1	pcs
4a	Chamber w. bearing cpl.			98371226 1	pcs
4	Bulk, Chamber cpl. (5 pcs)			97690021 6	pcs
45	Bulk, Neck ring (24 pcs)			96536194	
65	Bulk, Neck ring retainer (8 pcs)			99490745	
65	Bulk, Neck ring retainer (24 pcs)			99490747	1
4	Bulk, Chamber cpl. (10 pcs)			96547663 6	pcs
4	Chamber cpl.			98371224 6	pcs
5a	Chamber cpl.			98371222 1	pcs
6	Base			96588143 1	pcs
7.a	Bulk, Combi Slot Torx screw (1000 pcs)			96886324 4	pcs
10a	Coupling half			96588030 2	pcs
10	Bulk, Shaft pin (10 pcs)		Diameter: 5	96536473 1	pcs
			Length (mm): 26		•
18	Bulk, Air vent screw (5 pcs)		6 ()	96547461 1	pcs
18	Air vent screw			95061351 1	pcs
25	Bulk, Plug (10 pcs)			96536013 1	pcs
25a	Drain plug w/bypass valve			96588243 1	pcs
38	Bulk, O-ring (10 pcs)		Diameter: 16,3	99198815	
00			Material type: EPDM	00100010	•
			Thickness: 2,4		
38	Bulk, O-ring (50 pcs)		Diameter: 16,3	99412727	1
00			Material type: EPDM	33412121	I
			Thickness: 2,4		
26	Staybolt		Length (mm): 241	98986284 4	nce
20	σιαγροπ		Thread: M12	30300204 4	pcs
27	Rulk Oring (24 ppg)			96547656 2	000
37 38	Bulk, O-ring (24 pcs)		Diamator: 16.2	96547656 2 99198815 2	pcs
30	Bulk, O-ring (10 pcs)		Diameter: 16,3	99190019 Z	pcs
			Material type: EPDM		
20			Thickness: 2,4	00440707	
38	Bulk, O-ring (50 pcs)		Diameter: 16,3	99412727 2	pcs
			Material type: EPDM		
			Thickness: 2,4		
44a	Guide vane cpl.			98928568 1	pcs
47	Bulk, Bearing ring, rotating (10 pcs)			97905743 1	pcs
47	Bearing ring, rotating			96547649 1	pcs
49	Bulk, Impeller cpl. (4 pcs)			98271529 8	pcs
49	Bulk, Impeller cpl. (10 pcs)			98394270 8	pcs
49	Bulk, Impeller cpl. (24 pcs)			96547601 8	pcs
49	Impeller cpl.			98394417 8	pcs
51	Shaft, spline, cpl.			98368513 1	pcs
55	Outer sleeve			98811303 1	pcs
	Base plate			96588141 1	pcs



			Date:	15/02/2019		
Po	s Description	Annotation	Classification Data	Part no.	Qty.	Unit
60	Formed wire spring			96547664	1	pcs
640	Bulk, Clamp, splined (5 pcs)		Internal diameter: 8,5	98496968	1	pcs
			Outer diameter: 15			
64a	Bulk, Spacing pipe (24 pcs)			96536198	6	pcs
66	Bulk, Wedge lock washer (10 pcs)			96536157	1	pcs
67	Bulk, Lock nut (10 pcs)		Thread: M8	98277008	1	pcs
+ 105	Bulk, Shaft seal (15 pcs)		Material type: HQQE	96983415	1	pcs
44(b Bulk, Lock ring (2 pcs)			98918331	2	pcs
44(a Flange			99037117	2	pcs