



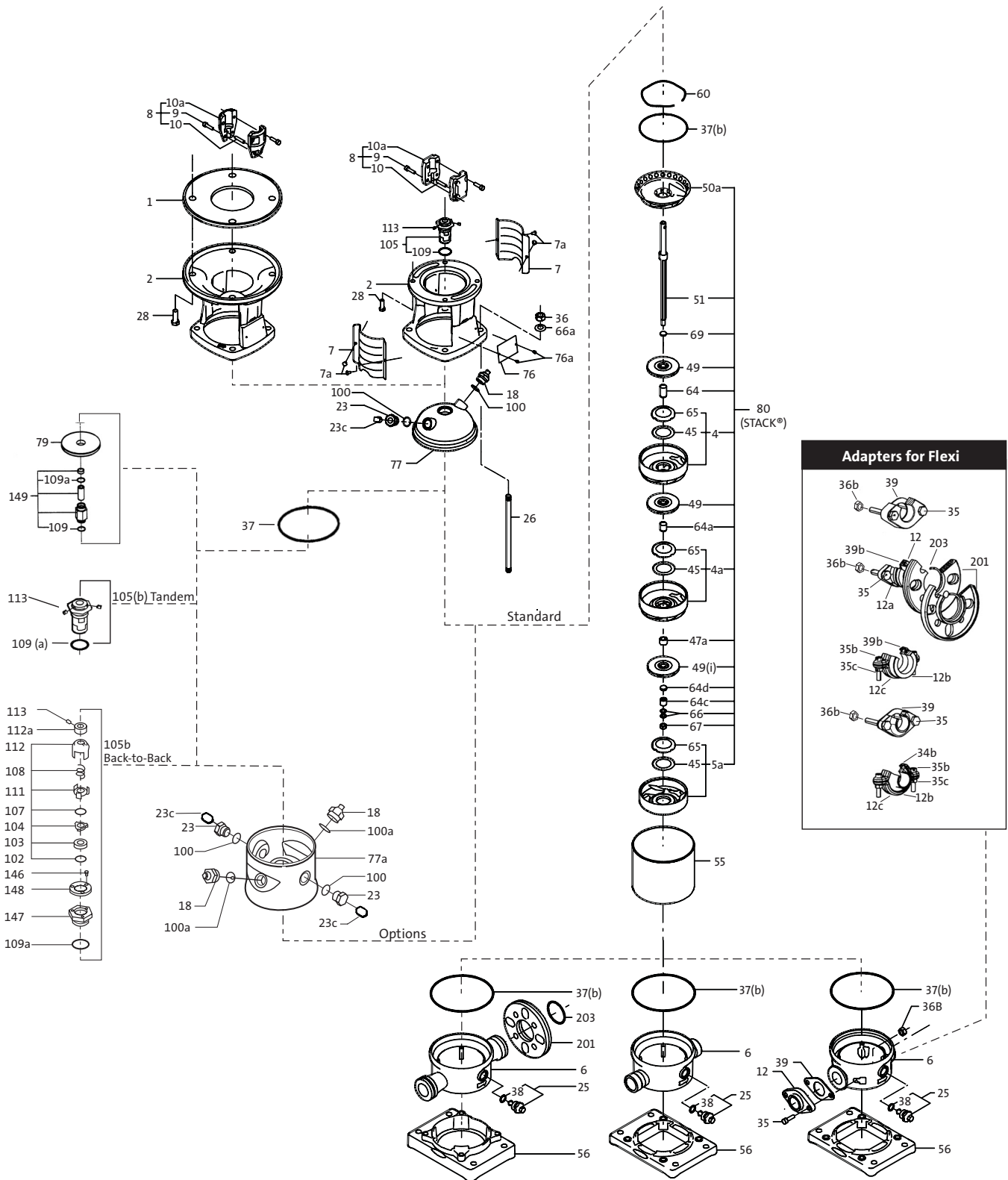
CRN1s

Parts List & Kits

Contents

Parts List
Spare Part Kits
Accessories
Special Tools
Standard Tools
Tools for Torques

Exploded View CRN1s



Parts List

Pos. No.	Part Description	Model	Stages	No. Used	Comments/Dimensions	Material Number	Included in Kits?
1	Adapter for Motor Stool				For NEMA, 213/215TC, 7.5 - 10HP	96476208	NO
2	Motor Stool		3/2-27	1	NEMA, 56C, 1/3 - 2HP	96436510	NO
					NEMA, 182/184TC, 3 - 5HP	96436511	NO
					Add Pos. 1, NEMA, 213TC, 7.5 - 10HP	96436511	NO
			3/2-19	1	IEC, F85, MG 71, .37 - .55kW	96436506	NO
			21-36	1	IEC, F100, MG 80, .75 - 1.1kW	96436507	NO
					IEC, F115, MG 90, 1.5 - 2.2kW	96436508	NO
					IEC, F130, MG 100/112, 3.0 - 4.0 kW	96436509	NO
					IEC, F265, MG132, 5.5 - 7.5kW	96436514	NO
4	Chamber, Complete with Pos.45 & 65		3/2-36	^^^	PTFE Pos.45	96439481	NO
4a	Chamber Cpl. w/Pos.45 & 65 & Bearing		3/2-36	^^^^	Silicon Carbide Bearing, PTFE Pos.45	96439476	Yes
	Chamber Cpl. w/Pos.45 & 65 & Brg. (option)		3/2-36	^^^^	Graflon Bearing, PTFE Pos.45	96440615	Yes
5a	Chamber, Bottom Complete with Pos.45 & 65		3/2-36	1	PTFE Pos.45	96439485	NO
6	Base		3/2-17	1	Flexi -Clamp / Oval, Stainless (max 232 PSI)	96438394	NO
			3/2-36	1	For Flanges JIS, FGJ, ANSI, Stainless (Max 362 PSI)	96438328	NO
			3/2-36	1	Victualic (PJE) 1.25", Stainless (Max 362 PSI)	96436851	NO
7	Coupling Guard			2	IEC, F85-F100	96438136	NO
				2	NEMA-56C, IEC-F115,130, & 265	96438137	NO
					NEMA, 182-215TC	96438138	NO
7a	Screw for Coupling Guard		3/2-36	4	M4 x 8mm	96488481	NO
9	Allen Screw		3/2-27	4	M6 x 20mm, Delta Seal	00ID7899	Yes
				4	M8 x 25mm, Delta Seal	00ID7900	Yes
					M10 x 25mm, Delta Seal	00ID7901	Yes
10	Shaft Pin		3/2-36	1	ø5 x 26mm	310192	Yes
10a	Coupling Half		3/2-27	2	NEMA, 56C, 1/3 - 2HP. ø15.8 / ø12	410108	Yes
				2	NEMA, 182/184TC, 3-5HP. ø28.5/ø12	410109	Yes
					NEMA, 213TC, 7.5-10HP. ø34.9/ø12	96472175	Yes
			3/2-19	2	IEC, F85, MG71, .37-.55kW. ø14/ø12	410041	Yes
			21-36	2	IEC, F100, MG80,.75-1.1kW. ø19/ø12	410043	Yes
				2	IEC, F115, MG 90, 1.5-2.2kW. ø24/ø12	410045	Yes
					IEC, F130, MG100/112, 3-4 kW.ø28/ø12	410047	Yes
					IEC, F265, MG132, 5.5-7.5kW. ø38/ø12	410115	Yes
12	Oval Flange for Flexi Base		3/2-17	2	Stainless, 1" -11.5 NPT (max 232 PSI)	96468336	Yes
			3/2-23	2	Stainless, RP 1" BSP DIN (max 232 PSI)	96437814	NO
12a	Adapter Flg. for ANSI pos.201/Flexi Base (option)		3/2-17	2	Stainless, (max 232 PSI)	96437818	Yes
12b	Pipe Stub for Clamp/Flexi Base (option)		3/2-17	2	Stainless, Internal 1" -11.5 NPT (max 232 PSI)	400182	Yes
			3/2-17	2	Stainless, Internal 1.25" -11.5 NPT (max 232 PSI)	410279	Yes
			3/2-17	2	Stainless, External 2" -11.5 NPT (max 232 PSI)	96468338	Yes
12c	Clamp for Flexi Base & pos.12b (option)		3/2-17	4	Stainless, (max 232 PSI)	00ID7194	Yes
18	Priming/Vent Plug		3/2-36	*	G 1/2A, NV24 with NV9 x M8 stem	405150	NO
23	Plug		3/2-36	**	G 1/2A, w/1/4"port, NV24	91120659	NO
	Plug (option)		3/2-36	**	G 1/2A, Solid no port, NV24	370025	NO
23c	Pipe Plug for Pos.23 & 25 with hollow stem		3/2-36	**	1/4" NPT,SS SQHD	00ID7216	NO
25	Drain/Priming Plug Cpl. with O-rings		3/2-36	1	G 1/2A, NV24 w/NV9 x M8 stem, EPDM	96440611	NO
			3/2-36	1	G 1/2A, NV24 w/NV9 x M8 stem, FKM	96446891	NO
	Drain/Priming Plug Cpl. with O-rings (option)		3/2-36	1	G 1/2A, NV24 w/NV9 x M8 stem, FXM	96460009	NO
			3/2-36	1	G 1/2A, NV24 w/NV9 x M8 stem, FFKM	96475474	NO
	Dr./Pr. Plug Cpl. for gauge, w/O-rings (option)		3/2-36	1	G 1/2A, NV24 w/NV9 x M8 hollow stem, EPDM	96527050	NO
			3/2-36	1	G 1/2A, NV24 w/NV9 x M8 hollow stem, FKM	96527051	NO
			3/2-36	1	G 1/2A, NV24 w/NV9 x M8 hollow stem, FXM	96549174	NO
			3/2-36	1	G 1/2A, NV24 w/NV9 x M8 hollow stem, FFKM	96527052	NO
26	Staybolt		3/2-3	4	M12 x 151mm	96487020	NO
			4	4	M12 x 169mm	96442055	NO
			5	4	M12 x 187mm	414103	NO
			6	4	M12 x 209mm	404135	NO
			7	4	M12 x 227mm	414134	NO
			8	4	M12 x 241mm	414105	NO
			9	4	M12 x 259mm	96459210	NO
			10	4	M12 x 281mm	414136	NO
			11	4	M12 x 295mm	414107	NO
			12	4	M12 x 313mm	96463414	NO
			13	4	M12 x 335mm	414138	NO
			15	4	M12 x 367mm	96459214	NO
			17	4	M12 x 403mm	414111	NO
			19	4	M12 x 439mm	96442118	NO
			21	4	M12 x 475mm	414143	NO
			23	4	M12 x 511mm	414115	NO
			25	4	M12 x 547mm	96442119	NO
			27	4	M12 x 587mm	404156	NO
			30	4	M12 x 637mm (50Hz.)	96461557	NO
			33	4	M12 x 691mm (50Hz.)	96442122	NO
			36	4	M12 x 745mm (50Hz.)	96442123	NO
26	Staybolt (Cool Top®, Back-to-Back & Tandem Seal option)		3/2-3	4	M12 x 263mm	404138	NO
			4	4	M12 x 281mm	414136	NO
			5	4	M12 x 295mm	414107	NO

Due to part changes over time, all position numbers (1-203) may not be used.

This column indicates which pump model uses the spare part. If blank, the part is used in all models.

Parts List & Kits CRN1s

Parts List

Pos. No.	Part Description	Model	Stages	No. Used	Comments/Dimensions	Material Number	Included in Kits?		
26	Staybolt (Cool Top®, Back-to-Back & Tandem Seal option)		6	4	M12 x 317mm	404141	NO		
			7	4	M12 x 335mm	414138	NO		
			8	4	M12 x 349mm	414109	NO		
			9	4	M12 x 367mm	96459214	NO		
			10	4	M12 x 385mm	96458503	NO		
			11	4	M12 x 403mm	414111	NO		
			12	4	M12 x 425mm	404147	NO		
			13	4	M12 x 439mm	96442118	NO		
			15	4	M12 x 475mm	414143	NO		
			17	4	M12 x 511mm	414115	NO		
			19	4	M12 x 547mm	96442119	NO		
			21	4	M12 x 587mm	404156	NO		
			23	4	M12 x 619mm	414119	NO		
			25	4	M12 x 659mm	414160	NO		
			27	4	M12 x 691mm	96442122	NO		
		28	Motor Bolt		3/2-27	4	NEMA, 56C, 1/3 - 2HP. UNC 3/8" x 25mm	00ID1839	NO
							NEMA, 182/184TC, 3 - 5HP.UNC1/2" x 25mm	00ID1840	NO
					NEMA, 213TC, 7.5 -10HP. UNC 1/2" x 1.25"	91128631	NO		
	3/2-19			4	IEC, F85, MG71, .37-.55kW. M6 x 20mm	00ID8022	NO		
	21-36			4	IEC, F100, MG80,.75-1.1kW. M6 x 25mm	00ID8023	NO		
					IEC, F115, MG 90, 1.5-2.2kW. M8 x 20mm	00ID8024	NO		
					IEC, F130, MG100/112, 3-4 kW. M8 x 25mm	00ID8025	NO		
					IEC, F265, MG132, 5.5-7.5kW. M12 x 45mm	00ID7914	NO		
	3/2-17			4	M10 x70mm, 8.8, A4, DIN931	96447227	Yes		
	3/2-17			4	M10 x 60mm, A4, DIN931	96447228	Yes		
35b	Screw for Clamp Pos.12c (Flexi option)	3/2-17	4	M8 x 40mm - A2, RR DIN933	00ID7188	Yes			
35c	Nut for Screw Pos.35b for Clamp Pos.12c (Flexi option)	3/2-17	4	M8, 3045S	00ID7187	Yes			
36	Staybolt Nut	3/2-36	4	19mm x M12, 316SS	00ID0876	NO			
36b	Nut for Screw Pos.35 Oval Flange (Flexi option)	3/2-17	4	M10, 316SS w/Delta Seal	96438757	Yes			
37	Sleeve O-ring	3/2-36	◆◆	EPDM, ø137.5 x 3.3mm	96438743	Yes			
		3/2-36	◆◆	FKM, ø137.5 x 3.3mm	96438744	Yes			
37b	Sleeve O-ring (option)	3/2-36	◆◆	FKM, ø137.5 x 3.3mm	96458109	Yes			
	Sleeve O-ring (option)	3/2-36	◆◆	FFKM, ø136.12 x 3.53mm	96466718	Yes			
38	Drain Plug O-ring		3/2-36	1	EPDM, ø16.3 x 2.4mm	00ID1288	Yes		
			3/2-36	1	FKM, ø16.3 x 2.4mm	00ID2231	Yes		
			3/2-36	1	FFKM, ø16.3 x 2.4mm	96428162	Yes		
			3/2-36	1	FKM, ø16.3 x 2.4mm	96442869	Yes		
39	Gasket for Oval Flange	3/2-17	2	95 x 55 x ø35 x 2mm, KLINGERSIL C4430	400189	Yes			
39b	O-ring for Clamp,Thread stub-Union-& FGJ Flange (option)	3/2-17	2	EPDM, ø44.45 x 3.53mm	96407726	Yes			
	O-ring for Clamp,Thread stub-Union-& FGJ Flange (option)	3/2-17	2	FKM, ø44.45 x 3.53mm	96411713	Yes			
45	Neck Ring	3/2-36	# stgs	ø41.3 x ø30.6 x .75mm, PTFE	400003	Yes			
47a	Bearing Ring/Spacer	3/2-36	^^^^	SiC 150, ø17.37 x ø13.10 x ø10.9 x 13mm	96437488	Yes			
	Brg. Ring/Spacer (option for Graflon Pos.4a)	3/2-36	^^^^	TC, ø15.92 x ø13.10 x ø10.9 x 9.7mm	400041	Yes			
49	Impeller	3/2-36	# stgs	ø73.0 x ø30.6 x 9.0mm (back-plate .5mm)	96433166	NO			
50a	Top Guide Vane		3-36	1		96457638	NO		
			3/2	1		96478562	NO		
51	Shaft, Complete		3/2-3	1	ø12 x 160.5mm	96439607	NO		
			4	1	ø12 x 180.5mm	96440386	NO		
			5	1	ø12 x 196.5mm	96440387	NO		
			6	1	ø12 x 214.5mm	96440388	NO		
			7	1	ø12 x 234.5mm	96440389	NO		
			8	1	ø12 x 250.5mm	96440390	NO		
			9	1	ø12 x 268.5mm	96440391	NO		
			10	1	ø12 x 288.5mm	96440392	NO		
			11	1	ø12 x 304.5mm	96440393	NO		
			12	1	ø12 x 322.5mm	96440394	NO		
			13	1	ø12 x 342.5mm	96440395	NO		
			15	1	ø12 x 376.5mm	96440396	NO		
			17	1	ø12 x 412.5mm	96440398	NO		
			19	1	ø12 x 450.5mm	96440400	NO		
			21	1	ø12 x 484.5mm	96440401	NO		
			23	1	ø12 x 520.5mm	96440403	NO		
			25	1	ø12 x 556.5mm	96440405	NO		
	27	1	ø12 x 592.5mm	96440406	NO				
	30	1	ø12 x 646.5mm (50Hz.)	96440408	NO				
	33	1	ø12 x 700.5mm (50Hz.)	96440410	NO				
	36	1	ø12 x 754.5mm (50Hz.)	96440411	NO				
51	Shaft, Cpl. (Cool Top®, Back-to-Back & Tandem Seal option)		3/2-3	1	ø12 x 265.5mm	96457560	NO		
			4	1	ø12 x 285.5mm	96457561	NO		
			5	1	ø12 x 301.5mm	96457562	NO		
			6	1	ø12 x 319.5mm	96457563	NO		
			7	1	ø12 x 339.5mm	96457564	NO		
			8	1	ø12 x 355.5mm	96457565	NO		
			9	1	ø12 x 373.5mm	96457566	NO		

Due to part changes over time, all position numbers (1-203) may not be used.

This column indicates which pump model uses the spare part. If blank, the part is used in all models.

Parts List

Pos. No.	Part Description	Model	Stages	No. Used	Comments/Dimensions	Material Number	Included in Kits?		
51	Shaft, Cpl. (Cool Top®, Back-to-Back & Tandem Seal option)		10	1	ø12 x 393.5mm	96457567	NO		
			11	1	ø12 x 409.5mm	96457568	NO		
			12	1	ø12 x 427.5mm	96457569	NO		
			13	1	ø12 x 447.5mm	96457570	NO		
			15	1	ø12 x 481.5mm	96457571	NO		
			17	1	ø12 x 517.5mm	96457573	NO		
			19	1	ø12 x 555.5mm	96457575	NO		
			21	1	ø12 x 589.5mm	96457576	NO		
			23	1	ø12 x 625.5mm	96457578	NO		
			25	1	ø12 x 661.5mm	96457580	NO		
			27	1	ø12 x 697.5mm	96457581	NO		
			30	1	ø12 x 751.5mm (50Hz.)	96457583	NO		
			33	1	ø12 x 805.5mm (50Hz.)	96457585	NO		
			36	1	ø12 x 859.5mm (50Hz.)	96457586	NO		
		55	Outer Sleeve		3/2-3	1	ø138 x 44.6mm	96439996	NO
					4	1	ø138 x 62.6mm	96440025	NO
	5			1	ø138 x 80.6mm	96441528	NO		
	6			1	ø138 x 98.6mm	96440014	NO		
	7			1	ø138 x 116.6mm	96441529	NO		
	8			1	ø138 x 134.6mm	96441531	NO		
	9			1	ø138 x 152.6mm	96440015	NO		
	10			1	ø138 x 170.6mm	96441532	NO		
	11			1	ø138 x 188.6mm	96441534	NO		
	12			1	ø138 x 206.6mm	96440016	NO		
	13			1	ø138 x 224.6mm	96441535	NO		
	15			1	ø138 x 260.6mm	96440017	NO		
	17			1	ø138 x 296.6mm	96441538	NO		
	19			1	ø138 x 332.6mm	96441539	NO		
	21			1	ø138 x 368.6mm	96440019	NO		
	23			1	ø138 x 404.6mm	96441542	NO		
	25			1	ø138 x 440.6mm	96441543	NO		
	27			1	ø138 x 476.6mm	96440021	NO		
56	Base Plate (Low) for PJE / Flexi-clamp Pos.6				2-36	1	Cast Iron	96438133	NO
		B. P. (High) for Flexi-clamp w/ANSI/DIN/JIS Pos.6		2-36	1	Cast Iron	96438132	NO	
				2-36	1	Cast Stainless	96437870	NO	
				2-36	1	Cast Stainless	96437868	NO	
				2-36	1	Cast Stainless	96437868	NO	
60	Stack Compression Spring		3/2-36	1	ø136 x 3.5mm	96439662	NO		
			2-36	^^^	ø15.85 x ø12.85 x 17.52mm	400035	NO		
64a	Spacing Pipe		3/2-36	^^^^	ø15.85 x ø12.85 x 4.5mm	96440292	Yes		
			3/2-36	^^^^	Use with TC Pos.47a, ø15 x ø12.7 x 7.8mm	400016	Yes		
64c	Clamp, Splined		3/2-36	1	ø15 x ø13.10 x ø10.9 x 13mm	96439668	Yes		
65	Neck Ring Retainer		3/2-36	# stgts	ø43.5 x ø34.0 x 3.6mm	96438746	Yes		
66	Lock Washer Set for Shaft		3/2-36	1	ø13.5 x ø8.2 x 2.6mm	96417297	Yes		
66a	Washer for Staybolt		3/2-36	4	DIN 125A, ø24 x ø13 x 2.5mm	00ID3103	NO		
67	Lock Nut for Shaft		3/2-36	1	13mm x M8	00ID2061	Yes		
69	Spacing Pipe		3/2	1	ø15.85 x 12.85 x 18.0mm	400125	NO		
76	Nameplate		3/2-36	1	304SS, 60 x 45mm	96439820	NO		
76a	Rivet for Nameplate		3/2-36	2	304SS, ø3 x 5mm	96022882	NO		
77	Pump Head Cover for Motor Stool Pos.2		3/2-36	1	Cast Stainless	96436340	NO		
77a	Pump Head Cover for Back-to-Back & Tandem Seal		3/2-36	1	Cast Stainless	96456293	NO		
77a	Pump Head Cover for Cool Top® (option)		3/2-36	1	Cast Stainless	96456294	NO		
79	Disc / Plate for Cool Top®		3/2-36	■	Stainless	96456296	NO		
100	Priming/Vent Plug O-ring		3/2-36	■	EPDM, ø16.3 x 2.4mm	00ID1288	Yes		
			3/2-36	■	FKM, ø16.3 x 2.4mm	00ID2231	Yes		
100a	Priming/Vent Plug O-ring (option)		3/2-36	■	FFKM, ø16.3 x 2.4mm	96428162	Yes		
			3/2-36	■	FXM, ø16.3 x 2.4mm	96442869	Yes		
102	O-ring for Pos.105b Back-to-Back		3/2-36	1	EPDM, ø18 x 2.5mm	00ID2041	Yes		
			3/2-36	1	FKM, ø17.86 x 2.62mm	00ID2187	Yes		
	O-ring for Pos.105b Back-to-Back (option)		3/2-36	1	FFKM, ø17.86 x 2.62mm	96440281	NO		
	O-ring for Pos.105b Back-to-Back (option)		3/2-36	1	FXM, ø17.86 x 2.62mm	96472584	NO		
103	Stationary Seal Ring for 105b Back-to-Back		3/2-36	1	TC, 12mm	980190	NO		
			3/2-36	1	SiC, 12mm	980746	Yes		
104	Rotating Seal Ring for 105b Back-to-Back		3/2-36	1	TC, 12mm	980163	NO		
			3/2-36	1	SiC, 12mm	980733	Yes		
105(b)	Shaft Seal HQBE		3/2-36	***	SiC, Carbon with resin-impregnated, EPDM	96441879	Yes		
	Shaft Seal HQBV		3/2-36	***	SiC, Carbon with resin-impregnated, FKM	96441880	Yes		
	Shaft Seal HQBK (option)		3/2-36	***	SiC, Carbon with resin-impregnated, FFKM	96489537	Yes		
	Shaft Seal HQQE		3/2-36	***	SiC, SiC, EPDM	96441877	Yes		
	Shaft Seal HQQV		3/2-36	***	SiC, SiC, FKM	96441878	Yes		
	Shaft Seal HQQF (option)		3/2-36	***	SiC, SiC, FXM	96472620	Yes		
	Shaft Seal HQQK (option)		3/2-36	***	SiC, SiC, FFKM	96464381	Yes		
	Shaft Seal HUBE		3/2-36	***	TC, Carbon with resin-impregnated, EPDM	96441873	Yes		
	Shaft Seal HUBV		3/2-36	***	TC, Carbon with resin-impregnated, FKM	96441874	Yes		
	Shaft Seal HUBF (option)		3/2-36	***	TC, Carbon with resin-impregnated, FXM	96481464	Yes		
	Shaft Seal HUBK (option)		3/2-36	***	TC, Carbon with resin-impregnated, FFKM	96481463	Yes		

Due to part changes over time, all position numbers (1-203) may not be used.

This column indicates which pump model uses the spare part. If blank, the part is used in all models.

Parts List & Kits CRN1s

Parts List

Pos. No.	Part Description	Model	Stages	No. Used	Comments/Dimensions	Material Number	Included in Kits?
105 (b)	Shaft Seal HUUE		3/2-36	***	TC, TC, EPDM	96441875	Yes
	Shaft Seal HUUV		3/2-36	***	TC, TC, FKM	96441876	Yes
	Shaft Seal HUUF (option)		3/2-36	***	TC, TC, FXM	96475542	Yes
	Shaft Seal HUUK (option)		3/2-36	***	TC, TC, FFKM	96467885	Yes
105b	Shaft Seal/inboard for Back-to-Back OQQE		3/2-36	1	SiC, SiC, EPDM	985200	Yes
	Shaft Seal/inboard for Back to Back OQQV		3/2-36	1	SiC, SiC, FKM	985760	Yes
	Shaft Seal/inboard for Back-to-Back OUUE		3/2-36	1	TC, TC, EPDM	985189	NO
	Shaft Seal/inboard for Back-to-Back OUUV		3/2-36	1	TC, TC, FKM	985190	NO
107	O-ring for Pos.105b Back-to-Back		3/2-36	1	EPDM, $\phi 11.5 \times 4.3\text{mm}$	00ID2040	Yes
			3/2-36	1	FKM, $\phi 11.5 \times 4.3\text{mm}$	00ID2186	Yes
	O-ring for Pos.105b Back-to-Back (option)		3/2-36	1	FFKM, $\phi 11.5 \times 4.3\text{mm}$	96440282	NO
	O-ring for Pos.105b Back-to-Back (option)		3/2-36	1	FXM, $\phi 11.5 \times 3.18\text{mm}$	96472618	NO
108	Spring for Pos.105b Back-to-Back		3/2-36	1	12mm	980195	Yes
109(a)	O-ring for Shaft Seal Pos.105		3/2-36	1	EPDM, $\phi 21.3 \times 3.0\text{mm}$	00ID1798	Yes
			3/2-36	1	FKM, $\phi 21.2 \times 3.0\text{mm}$	00ID2339	Yes
109b	O-ring for Shaft Seal Pos.105 (option)		3/2-36	1	FXM, $\phi 22 \times 2.75\text{mm}$	96458111	Yes
	O-ring for Shaft Seal Pos.105 (option)		3/2-36	1	FFKM, $\phi 23.47 \times 2.62\text{mm}$	96464384	Yes
111	Seal Driver (small) for Pos.105b Back-to-Back		3/2-36	1		980192	Yes
112	Seal Driver (large) for Pos.105b Back-to-Back		3/2-36	1		980191	Yes
112a	Seal Drv threaded for 112, Pos.105b Back-to-Back		3/2-36	1		400203	Yes
113	Set Screw for 112a, for Pos.105b Back-to-Back		3/2-36	1	3mm x M5 x 6mm	00ID7392	Yes
117	Pipe for Air Vent (option)		3/2-36	1	R 1/2", 316 Stainless	330272	Yes
118	Automatic Air Vent (option)		3/2-36	1	Type AE50S 1/2" BSP, Stainless	96498508	Yes
146	Allen Bolt for 147/148, for Pos.105b Back-to-Back		3/2-36	1	2.5mm x M3 x 5mm	96462639	Yes
147	Stationary Seal Retainer - Pos.105b Back-to-Back		3/2-36	1	NV36, 316SS	96457354	NO
148	Seal Retainer Washer - Pos.105b Back-to-Back		3/2-36	1	316SS, $\phi 36.0 \times \phi 21.6 \times 5.0\text{mm}$	96457355	NO
149	Connecting Pipe for Cool Top®		3/2-36	1	NV36, 316SS, FXM & EPDM	96460414	NO
			3/2-36	1	NV36, 316SS, FXM & FKM	96460415	NO
201	Flange		3/2-36	1	ANSI, DIN, JIS PN40/30K, Cast Iron	96439203	Yes
			3/2-36	1	ANSI, DIN, JIS PN40/30K, Stainless	96439492	Yes
203	Lock Ring for Flange		3/2-36	1	Stainless	96439718	Yes

Due to part changes over time, all position numbers (1-203) may not be used.

This column indicates which pump model uses the spare part. If blank, the part is used in all models.

NOTES:

- ^^ 3/2 to 9 stage= # of Stages less 2
10 to 19 stage= # of stages less 3
21 to 27 stage = # of stages less 4
29 to 36 stage = # of stages less 5
- ^^^ 3/2 to 9 stage= use 1
10 to 19 stage= use 2
21 to 27 stage = use 3
29 to 36 stage = use 4
- * Standard use 1. Back-to-Back or Tandem pump version use 3
- ** Standard use 1. Back-to-Back or Tandem pump version use 3
- *** 1 used in Hxxx (Standard), 2 used in Pxxx (Tandem) pump version
- ◆ Standard use 2. Back-to-Back or Tandem pump version use 3
- Standard use 2. Back-to-Back or Tandem pump version use 6

Cool Top® is a registered trademark of Grundfos Pumps

Key to Symbols

- KITS** Recommended spare part
- ∅ Diameter
- ANSI American National Standards Institute
- CPL Complete Assembly – these parts consist of more than one component
- EPDM Ethylene Propylene (also known as EPR and EPT) – an elastic substance similar to rubber
- FFKM Kalrez Elastomer made by DuPont
- FKM Fluoro Elastomer (generic for Viton)
- FXM Fluoraz Elastomer made by Greene Tweed
- M International standard thread size designation (thread diameter in mm)
- mm Millimeter
- MG Identifies Grundfos motor type/size
- N Stainless
- NBR Buna - N (also known as Nitrile) – an elastic substance similar to rubber
- NEMA National Electrical Manufacturers Association
- PTFE Teflon
- SiC Silicon Carbide
- TC Tungsten Carbide
- UNC Unified National Coarse – a standard for threads on bolts

Spare Part Kits

Since certain pump parts can be expected to exhibit wear at the same time as related pump parts, they have been grouped into the following kits for your convenience. The numbers indicate the quantity of the part within each kit. Please order these kits using the kit material number at the top of the columns.

CR(I, N)1S, 1, & 3 SiC Bearing				Kit No. 96455095			
WEAR PARTS KIT 2-9				Kit No. 96455092			
WEAR PARTS KIT 10-19				Kit No. 96455093			
WEAR PARTS KIT 28-36				Kit No. 96455094			
Pos. No.	Description	Material No.	Qty. Included in each Kit				
4a	Chamber N Cpl. w/Pos.45 & 65 & SiC Bearing	96439476	1	2	3	4	
39	Gasket for Oval Flange, 95 x 55 x ø35 x 2mm	400189	2	2	2	2	
45	Neck Ring, ø41.3 x ø30.6 x .75mm, PTFE	400003	8	17	24	32	
47a	Bearing Ring/Spacer, SiC 150, 13mm	96437488	1	2	3	4	
64a	Spacing Pipe, ø15.85 x ø12.85 x 4.5mm	96440292	1	2	3	4	
64c	Clamp, Splined, ø15 x ø13.10 x ø10.9 x 13mm	96439668	1	1	1	1	
65	Neck Ring Retainer, N, ø43.5 x ø34.0 x 3.6mm	96438746	8	17	24	32	
66	Lock Washer Set of 2, ø13.5 x ø8.2 x 2.6mm	96417297	1	1	1	1	
67	Lock Nut, 13mm x M8	00ID2061	1	1	1	1	

STACK KITS	
Model	Material No.
CRN1S-3/2	96479078
CRN1S-3	96479079
CRN1S-4	96479080
CRN1S-5	96479081
CRN1S-6	96479082
CRN1S-7	96479083
CRN1S-8	96479084
CRN1S-9	96479085
CRN1S-10	96479086
CRN1S-11	96479087
CRN1S-12	96479088
CRN1S-13	96479089
CRN1S-15	96479090
CRN1S-17	96479091
CRN1S-19	96479092
CRN1S-21	96479093
CRN1S-23	96479094
CRN1S-25	96479095
CRN1S-27	96479096
*** CRN1S-30	96479097
*** CRN1S-33	96479098
*** CRN1S-36	96479099

***For 50 Hz operation only.

CR(I, N)1S, 1, & 3 Grafion Bearing				Kit No. 96460140			
WEAR PARTS KIT 2-9				Kit No. 96455110			
WEAR PARTS KIT 10-19				Kit No. 96455111			
WEAR PARTS KIT 20-27				Kit No. 96455112			
Pos. No.	Description	Material No.	Qty. Included in each Kit				
4a	Chamber N Cpl. w/Pos.45 & 65 & Grafion Brg.	96440615	1	2	3	4	
39	Gasket for Oval Flange, 95 x 55 x ø35 x 2mm	400189	2	2	2	2	
45	Neck Ring, ø41.3 x ø30.6 x .75mm, PTFE	400003	8	17	24	32	
47a	Bearing Ring/Spacer, TC, 9.7mm	400041	1	2	3	4	
64a	Spacing Pipe, ø15.85 x ø12.85 x 7.8mm	400016	1	2	3	4	
64c	Clamp, Splined, ø15 x ø13.10 x ø10.9 x 13mm	96439668	1	1	1	1	
65	Neck Ring Retainer, N, ø43.5 x ø34.0 x 3.6mm	96438746	8	17	24	32	
66	Lock Washer Set of 2, ø13.5 x ø8.2 x 2.6mm	96417297	1	1	1	1	
67	Lock Nut, 13mm x M8	00ID2061	1	1	1	1	

GASKET KIT (EPDM)				Kit No. 96455090					
GASKET KIT (FKM)				Kit No. 96455091					
GASKET KIT (FKM)				Kit No. 96463944					
GASKET KIT (FKM)				Kit No. 96533328					
GASKET KIT (EPDM)-Double Seal option.				Kit No. 96533362					
GASKET KIT (FKM)-Double Seal option.				Kit No. 96533363					
GASKET KIT (FKM)-Double Seal option.				Kit No. 96533364					
GASKET KIT (FKM, & EPDM)-Cool Top® option				Kit No. 96533329					
Pos. No.	Description	Material No.	Qty. Included in each Kit						
37	Sleeve O-ring, EPDM, ø137.5 x 3.3mm	96438743	2			3			1
	Sleeve O-ring, FKM, ø137.5 x 3.3mm	96438744		2			3		
37b	Sleeve O-ring, FXM, ø137.5 x 3.3mm	96458109			2				2
	Sleeve O-ring, FFKM, ø136.12 x 3.53mm	96466718				2		3	
38, 100(a)	Drain Plug O-ring, EPDM, Ø16.3 x 2.4mm	00ID1288	3			7			4
	Drain Plug O-ring, FKM, Ø16.3 x 2.4mm	00ID2231					7		
38, 100a	Drain Plug O-ring, FXM, ø16.3 x 2.4mm	96442869			3				3
	Drain Plug O-ring, FFKM, ø16.3 x 2.4mm	96428162				3		7	
109(a)	O-ring for Pos.105(b) & 149, EPDM, Ø21.3 x 3.0mm	00ID1798	1				1		
	O-ring for Pos.105(b) & 149, FKM, Ø21.2 x 3.0mm	00ID2339		1				1	
109b	O-ring for Pos.105(b) & 149, FKM, Ø22.0 x 2.75mm	96458111			1				2
	O-ring for Pos.105(b) & 149, FFKM, Ø23.47 x 2.62mm	96464384				1			2

STANDARD SHAFT SEAL KIT, BALANCED CARTRIDGE				Kit No. 96455088					
(Maximum allowed working PSI is 435)				Kit No. 96455089					
(Tandem Seal option Pumps require 2 of each Seal Kit)				Kit No. 96455086					
				Kit No. 96455087					
				Kit No. 96455082					
				Kit No. 96455083					
				Kit No. 96455084					
				Kit No. 96455085					
Pos. No.	Description	Material No.	Qty. Included in each Kit						
105	HQBE	96441879	1						
	HQBV	96441880		1					
	HQQE	96441877			1				
	HQQV	96441878				1			
	HUBE	96441873					1		
	HUBV	96441874						1	
	HUUE	96441875							1
	HUUV	96441876							1
N/A	Grinding Device Tool for Emery Cloth	370711	1	1	1	1	1	1	1
N/A	Emery Cloth	370712	1	1	1	1	1	1	1

Spare Part Kits CRN1s

Spare Part Kits (continued)

OPTIONAL SHAFT SEAL KIT, BALANCED CARTRIDGE (Maximum allowed working PSI is 435) (Tandem Seal option Pumps require 2 of each Seal Kit)		Kit No.	96491375						
		Kit No.	96533327						
		Kit No.	96533326						
		Kit No.	96533323						
		Kit No.	96533322						
		Kit No.	96533325						
		Kit No.	96533324						
Pos. No.	Description	Material No.	Qty. Included in each Kit						
105	HQBK	96489537	1						
	HQQF	96472620		1					
	HQQK	96498109			1				
	HUBF	96481464				1			
	HUBK	96481463					1		
	HUUF	96475542						1	
	HUUK	96498108							1
N/A	Grinding Device Tool for Emery Cloth	370711	1	1	1	1	1	1	1
N/A	Emery Cloth	370712	1	1	1	1	1	1	1

INBOARD SHAFT SEAL & Gasket KIT, Back to Back OQQE		Kit No.	96533360	
INBOARD SHAFT SEAL & Gasket KIT, Back to Back OQQV		Kit No.	96533361	
(An HQQx seal kit must also be used for a seal repair)				
Pos. No.	Description	Material No.	Qty. Included in each Kit	
37	Sleeve O-ring, EPDM, ϕ 137.5 x 3.3mm	96438743	3	
	Sleeve O-ring, FKM, ϕ 137.5 x 3.3mm	96438744		3
38, 100(a)	Drain Plug O-ring, EPDM, ϕ 16.3 x 2.4mm	00ID1288	7	
	Drain Plug O-ring, FKM, ϕ 16.3 x 2.4mm	00ID2231		7
102	O-ring, EPDM, ϕ 18 x 2.5mm	00ID2041	1	
	O-ring, FKM, ϕ 17.86 x 2.62mm	00ID2187		1
103	Stationary Seal Ring, SiC, 12mm	980746	1	
104	Rotating Seal Ring, SiC, 12mm	980733	1	1
107	O-ring, EPDM, ϕ 11.5 x 4.3mm	00ID2040	1	
	O-ring, FKM, ϕ 11.5 x 4.3mm	00ID2186		1
108	Spring, 12mm	980195	1	1
109a	O-ring, EPDM, ϕ 21.3 x 3.0mm	00ID1798	1	
	O-ring, FKM, ϕ 21.2 x 3.0mm	00ID2339		1
111	Driver for pos.104	980192	1	1
112	Driver for pos.111	980191	1	1
112a	Driver for pos.112	400203	1	1
113	Set Screw for pos.112a	00ID7392	2	2
146	Allen Bolt for pos.147 & 148, 2.5mm x M3 x 5mm	96462639	3	3

IEC COUPLING KIT		Kit No.	415060			
		Kit No.	415061			
		Kit No.	415062			
		Kit No.	415063			
		Kit No.	415065			
Pos. No.	Description	Material No.	Qty. Included in each Kit			
9	Allen Screw, M6 x 20mm, Delta Seal	00ID7899	4			
	Allen Screw, M8 x 25mm, Delta Seal	00ID7900		4	4	
	Allen Screw, M10 x 25mm, Delta Seal	00ID7901				4
10	Shaft Pin, ϕ 5 x 26mm, Stainless	310192	1	1	1	1
10a	Coupling Half, F85, MG71, 37-55kW. ϕ 14/ ϕ 12	410041	2			
	Coupling Half, F100, MG80, 75-1.1kW. ϕ 19/ ϕ 12	410043		2		
	Coupling Half, F115, MG 90, 1.5-2.2kW. ϕ 24/ ϕ 12	410045			2	
	Coupling Half, F130, MG100/112, 3-4 kW. ϕ 28/ ϕ 12	410047				2
	Coupling Half, F265, MG132, 5.5-7.5kW. ϕ 38/ ϕ 12	410115				2

NEMA COUPLING KIT		Kit No.	415314		
		Kit No.	415315		
		Kit No.	96478700		
Pos. No.	Description	Material No.	Qty. Included in each Kit		
9	Allen Screw, M6 x 20mm, Delta Seal	00ID7899	4		
	Allen Screw, M8 x 25mm, Delta Seal	00ID7900		4	4
	Allen Screw, M10 x 25mm, Delta Seal	00ID7901			
10	Shaft Pin, ϕ 5 x 26mm, Stainless	310192	1	1	1
10a	Coupling Half, 56C, 1/3 - 2HP. ϕ 15.8 / ϕ 12	410108	2		
	Coupling Half, 182/184TC, 3-5HP. ϕ 28.5/ ϕ 12	410109		2	
	Coupling Half, 213TC, 7.5-10HP. ϕ 34.9/ ϕ 12	96472175			2

Spare Part Kits (continued)

FLEXI FLANGE KIT FOR SMALL CR11S, 1, & 3 1" Threaded Stainless (232 PSI Max.)			Kit No. 964680850	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
12	Flange, Stainless, 1" - 11.5 NPT	96468336	2	
35	Hex Head Bolt, M10 x 60mm, A4, DIN931	96447228	4	
36b	Nut, M10, 316SS w/Delta Seal	96438757	4	
39	Gasket, 95 x 55 x ø35 x 2mm, KLINGERSIL C4430	400189	2	

FLEXI FLANGE KIT FOR SMALL CR11S, 1, 3, & 5 1-1/4" Threaded Stainless (232 PSI Max.)			Kit No. 96480851	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
12	Flange, Stainless, 1" - 11.5 NPT	96468337	2	
35	Hex Head Bolt, M10 x 60mm, A4, DIN931	96447228	4	
36b	Nut, M10, 316SS w/Delta Seal	96438757	4	
39	Gasket, 95 x 55 x ø35 x 2mm, KLINGERSIL C4430	400189	2	

FLEXI CLAMP FLANGE KIT FOR SMALL CR(N)1S, 1, 3, & 5 1-1/4" Stainless Flange (Conversion max. allowable operating pressure 232)			EPDM FKM	Kit No. 96480858	Kit No. 96480859
Pos. No.	Description	Material No.	Qty. Included in each Kit		
12a	Adapter Flg. for ANSI pos.201/Flexi Base (232 PSI)	96437818	2		
35	Hex Head Bolt, M10 x 60mm, A4, DIN931	96447228	4		
36b	Nut, M10, 316SS w/Delta Seal	96438757	4		
39b	O-ring, EPDM, ø44.45 x 3.53mm	96407726	2		
	O-ring, FKM, ø44.45 x 3.53mm	96411713	2		
201	Flange, ANSI, DIN, JIS PN40/30K, Stainless	96439492	2		
203	Lock Ring, Stainless	96439718	2		

FLEXI CLAMP KIT FOR SMALL CR11S, 1, & 3 1" Internal Threaded SS Pipe Stub (232 PSI Max.)			EPDM FKM	Kit No. 96480854	Kit No. 96480855
Pos. No.	Description	Material No.	Qty. Included in each Kit		
12b	Stainless, Internal 1" -11.5 NPT	400182	2		
12c	Clamp for Flexi Base & pos.12b	00ID7194	4		
35b	Screw for Pos. 12c, M8 x 40mm - A2, RR DIN933	00ID7188	4		
35c	Nut for Pos. 35b, M8, 304SS	00ID7187	4		
39b	O-ring, EPDM, ø44.45 x 3.53mm	96407726	2		
	O-ring, FKM, ø44.45 x 3.53mm	96411713	2		

FLEXI CLAMP KIT FOR SMALL CR11S, 1, 3, & 5 1-1/4" Internal Threaded SS Pipe Stub (232 PSI Max.)			EPDM FKM	Kit No. 96480856	Kit No. 96480857
Pos. No.	Description	Material No.	Qty. Included in each Kit		
12b	Stainless, Internal 1-1/4" -11.5 NPT	410279	2		
12c	Clamp for Flexi Base & pos.12b	00ID7194	4		
35b	Screw for Pos. 12c, M8 x 40mm - A2, RR DIN933	00ID7188	4		
35c	Nut for Pos. 35b, M8, 304SS	00ID7187	4		
39b	O-ring, EPDM, ø44.45 x 3.53mm	96407726	2		
	O-ring, FKM, ø44.45 x 3.53mm	96411713	2		

FLEXI CLAMP KIT FOR SMALL CR11S, 1, 3, & 5 2" External Threaded SS Pipe Stub (232 PSI Max.)			EPDM FKM	Kit No. 96480852	Kit No. 96480853
Pos. No.	Description	Material No.	Qty. Included in each Kit		
12b	Stainless, Internal 2" -11.5 NPT	96468338	2		
12c	Clamp for Flexi Base & pos.12b	00ID7194	4		
35b	Screw for Pos. 12c, M8 x 40mm - A2, RR DIN933	00ID7188	4		
35c	Nut for Pos. 35b, M8, 304SS	00ID7187	4		
39b	O-ring, EPDM, ø44.45 x 3.53mm	96407726	2		
	O-ring, FKM, ø44.45 x 3.53mm	96411713	2		

AIR VENT FOR SMALL CR			Kit No. 91128708	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
117	Pipe for Air Vent, R1/2", 316SS	330272	1	
118	Automatic Air Vent, Type AE50S 1/2" BSP, SS.	96498508	1	

Accessories

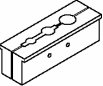
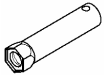
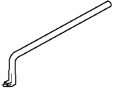

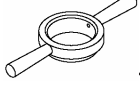

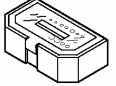

ANSI COMPANION FLANGES FOR SMALL CR 1-1/4" Threaded Stainless, 300 Lb. Class			Kit No. 91129013	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
N/A	Nut, HEX 5/8"-11 UNC, 18-8SS	0ID00164	8	
N/A	Bolt, HEX 5/8" x 2-3/4", UNC 18-8SS	00ID7241	8	
N/A	Flange 1-1/4" Stainless, ANSI, DIN, JIS PN40/30K,	00ID7239	2	
N/A	Gasket Full Face Flange, 1-1/4", 300#, Cut Ring	400201	2	

VICTAULIC TYPE COMPANION CONNECTIONS FOR SMALL CR(N)			EPDM FKM	Kit No. 4013010	Kit No. 0ID00118
Pos. No.	Description	Material No.	Qty. Included in each Kit		
N/A	Victaulic Type Coupling, 1-1/4", EPDM	0ID17810	2		
N/A	Victaulic Type Coupling, 1-1/4", 77 FKM	0ID00112	2		
N/A	1-1/4" Stainless NPT Nipple	4000011	2		

Spare Part Kits • Special Tools **CRN1s**

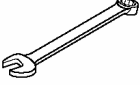
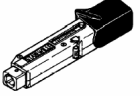
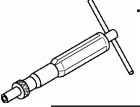




Special Tools

Tools not generally available from normal sources.

Mat. No.	Description and Use	
00SV0040	Shaft Holder for Dismantling/Assembly Used to hold and protect the shaft during dismantling and assembly.	
00SV2007	Tubular Box Spanner for Shaft Seal 36.1 mm Used to install and remove the shaft seal. Fits a 1/2" drive ratchet.	
00SV0239	Puller for Neck Ring Used to remove the Neck Ring from Chamber.	
00SV2014	Circlip Pliers for Flange Lock Ring Used to remove the Lock Ring for the Flange.	
00SV2066	Tool for Outer Sleeve Used to press sleeve into base. (optional)	
00SV2011	Bit Holder Used with Bits Kit, 1/4"	
00SV2010	Bits Kit NV 5 mm for M6, 1/4" NV 6 mm for M8, 1/4" NV 8 mm for M10, 1/4"	
00SV2012	Hexagon Socket Bit Used for Shaft Seal NV 2.5 mm for M5, 1/4"	

Standard Tools

In addition to being available from Grundfos, comparable tools can be purchased through normal sources.

Mat. No.	Description and Use	
00SV0083 00SV0055 00SV0056 00SV0054 00SV0122	Wrenches Used to tighten various nuts. NV 10 mm for M6 NV 13 mm for M8 NV 17 mm for M10 NV 19 mm for M12 NV 24 mm for M16	
00SV0292 00SV0269 00SV0400	Torque Wrench Used to torque various screws. 4-20 Nm, 9 x 12 20-100 Nm, 9 x 12 40-200 Nm, 14x18	
00SV0438	Torque Screwdriver Used to tighten various nuts. 1-6 Nm, 1/4"	
00SV0295	Ratchet Spanner for all Adapters 9 mm x 12 mm, 1/2"	
00SV0296 00SV0297 00SV0298	Socket Spanner with Inside Hex NV 5 mm for M6, 1/2" x 1/2" NV 6 mm for M8, 1/2" x 1/2" NV 8 mm for M10, 1/2" x 1/2"	
00SV0310 00SV0294 00SV0270 00SV0271 00SV0524	Ring Spanner NV 10 mm for M6 NV 13 mm for M8 NV 17 mm for M10 NV 19 mm for M12 NV 24 mm for M16	
00SV2013	Socket Spanner NV 13 mm for M8, 9 x 12	



L-CR-SM-029|05/04
PRINTED IN USA

Subject to alterations.

GRUNDFOS Pumps Corporation
17100 W. 118th Terrace
Olathe, Kansas 66062
Phone: 913.227.3400
Fax: 913.227.3500

www.grundfos.com

GRUNDFOS Canada, Inc.
2941 Brighton Road
Oakville, Ontario L6H 6C9 Canada
Phone: 905.829.9533
Fax: 905.829.9512

Bombas GRUNDFOS de Mexico S.A. de C.V.
Boulevard TLC No. 15
Parque Industrial Stiva Aeropuerto
Apodaca, N.L. Mexico 66600
Phone: 52.81.8144.4000
Fax: 52.81.8144.4010

GRUNDFOS