



CR1-H

Parts List & Kits

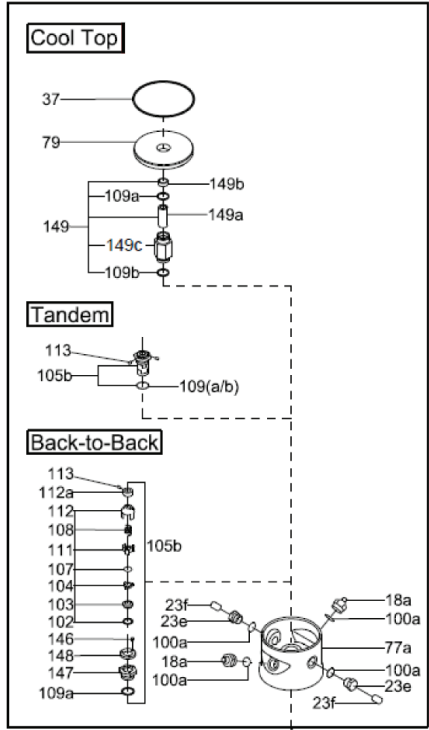
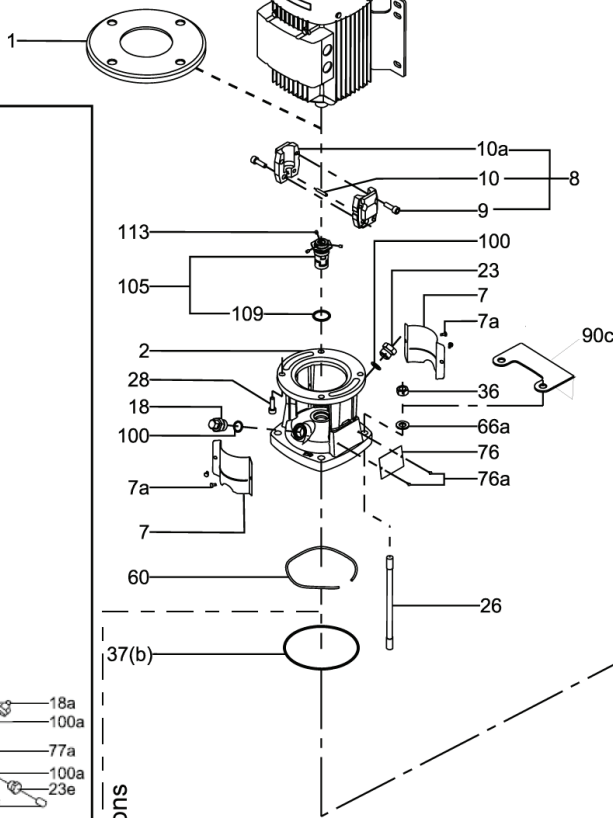
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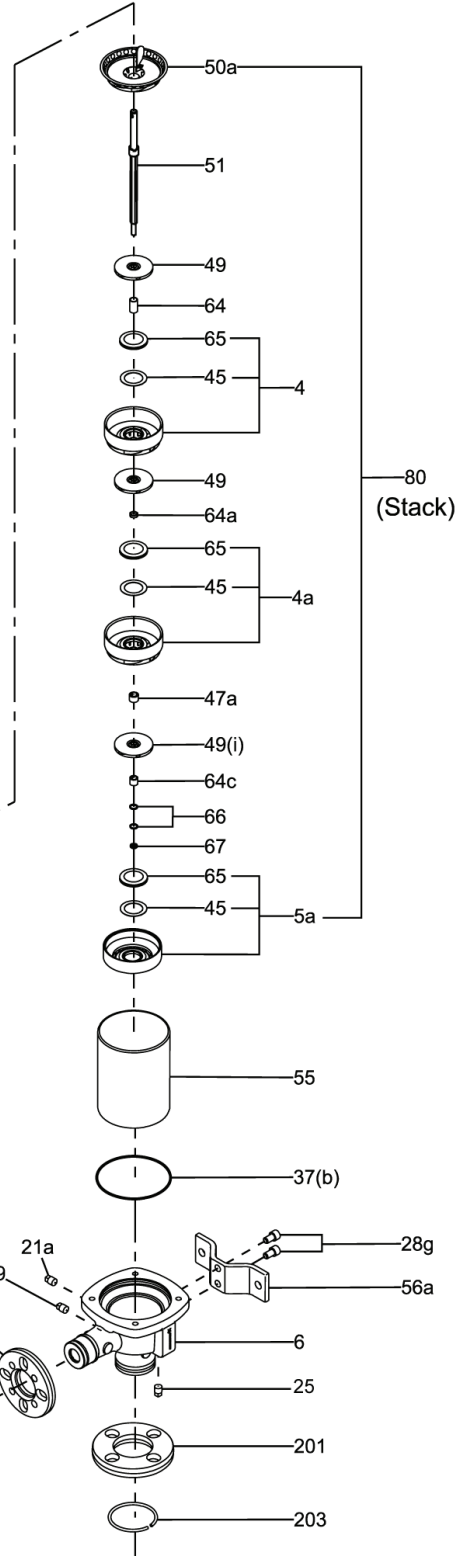
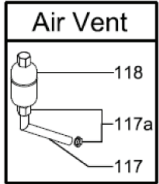
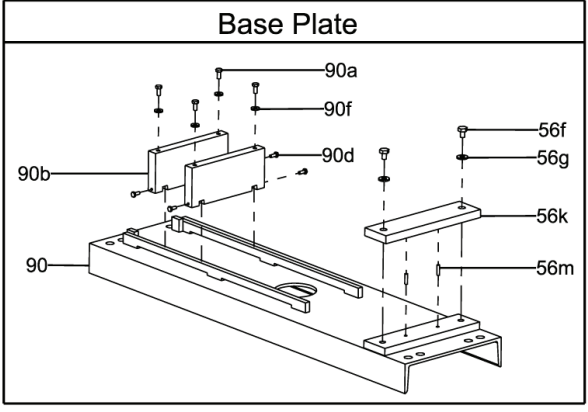


Exploded View CR1-H

213/215TC
Motor Frame Only



Options



80
(Stack)

Parts List & Kits CR1-H

Pos. No.	Part Description	Model	Stages	No. Used	Comments/Dimensions	B.O.M. Ref. No.	Material No.	Included in kits ?
PARTS LIST								
1	Adapter for Motor Stool			1	For NEMA, 213/215TC, 7.5 - 10 HP	96476208		No
2	Motor Stool		3/2-17	1	NEMA, 56C, 1/3 - 2HP	96436501		No
			19-27	1	NEMA, 182/184TC, 3 - 5 HP	96436502		No
4	Chamber, Complete with Pos. 45 & 65		3/2-36	^^^	PTFE Pos. 45	96439480		No
			3/2-36	^^^	PTFE Pos. 45 (97690020 is qty of 5)	96439480	97690020	No
4a	Chamber Cpl. w/Pos. 45 & 65 & Bearing		3/2-36	^^^^	Silicon Carbide Brg, PTFE Pos. 45	96439475		YES
	Chamber Cpl. w/Pos. 45 & 65 & Brg. (option)		3/2-36	^^^^	Silicon Crb. Brg, PTFE Pos. 45 (97690601 qty 5)	96439475	97690601	YES
			3/2-36	^^^^	Bronze Bearing, PTFE Pos. 45	96440612		YES
			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	96439484	96588148	No
6	Base		3/2-36	1	GA, Cast Iron	95922004		No
7	Coupling Guard		3/2-17	2	NEMA, 56C	96438137		YES
			19-27	2	NEMA, 182-215TC	96438138		YES
7a	Screw for Coupling Guard		3/2-36	4	Screw comb. slot torx/straight slot 4 x 8mm	96488481		YES
9	Allen Screw		3/2-17	4	M6 x 20mm, Delta Tone/Seal	001D7899		YES
			19-27	4	M8 x 25mm, Delta Tone/Seal	001D7900		YES
					M10 x 25mm, Delta Tone/Seal	001D7901		YES
10	Shaft Pin		3/2-36	1	ø5 x 26mm	310192		YES
10a	Coupling Half		3/2-17	2	NEMA, 56C, 1/3 - 2HP. ø15.8 / ø12	410108		YES
			3/2-27	1	NEMA, 143/5TC, 1/3-3HP.ø22.225 /ø12 (Mach)	97851501		YES
			19-27	2	NEMA, 182/184TC, 3-5HP. ø28.5/ø12	410109		YES
					NEMA, 213TC, 7.5-10HP. ø34.9/ø12	96472175		YES
18(a)	Priming/Vent Plug		3/2-36	*	G 1/2A, NV24 with NV9 x M8 stem	405150	95061351	No
19(a)	Pipe Plug		3/2-36	**	1/4" NPT,SS SQHD, with Loctite	91136507		No
21a	Pipe Plug		3/2-36	**	1/4" NPT,SS SQHD, with Loctite	91136507		No
23(c)	Plug		3/2-36	**	G 1/2A, Solid No port, NV24	370025	95061733	No
23a, e	Plug (option)		3/2-36	**	G 1/2A, w/1/4"port, NV24	91120659		No
23b, f	Pipe Plug for Pos. 23a , 23e		3/2-36	**	1/4" NPT,SS SQHD, with Loctite	91136507		No
23d	Plug, Vented for Pos. 77a Cool Top® option only		3/2-36	**	G 1/2A, NV24, Vented	96510323		No
25	Drain Plug		3/2-36	1	1/4" NPT,SS SQHD, with Loctite	91136507		No
26	Staybolt		3/2-3	4	M12, ø10,7 x 79mm	96919075		No
			4	4	M12, ø10,7 x 97mm	96919076		No
			5	4	M12, ø10,7 x 115mm	96919078		No
			6	4	M12, ø10,7 x 133mm	96919079		No
			7	4	M12, ø10,7 x 151mm	96919080		No
			8	4	M12, ø10,7 x 169mm	96919092		No
			9	4	M12, ø10,7 x 187mm	96919093		No
			10	4	M12, ø10,7 x 205mm	96919094		No
			11	4	M12, ø10,7 x 223mm	96919096		No
			12	4	M12, ø10,7 x 241mm	96919097		No
			13	4	M12, ø10,7 x 259mm	96919098		No
			15	4	M12, ø10,7 x 295mm	96919101		No
			17	4	M12, ø10,7 x 331mm	96919503		No
			19	4	M12, ø10,7 x 367mm	96919505		No
			21	4	M12, ø10,7 x 403mm	96919507		No
			23	4	M12, ø10,7 x 439mm	96919509		No
			25	4	M12, ø10,7 x 475mm	96919511		No
			27	4	M12, ø10,7 x 511mm	96919542		No
			30	4	M12, ø10,7 x 565mm, 4 pole & 50 Hz.	96923538		No
			33	4	M12, ø10,7 x 619mm, 4 pole & 50 Hz.	96923539		No
			36	4	M12, ø10,7 x 673mm, 4 pole & 50 Hz.	96923540		No
	Staybolt (Cool Top®, Back-to-Back&Tandem Seal option)		3/2-3	4	M12, ø10,7 x 187mm	96919093		No
			4	4	M12, ø10,7 x 205mm	96919094		No
			5	4	M12, ø10,7 x 223mm	96919096		No
			6	4	M12, ø10,7 x 241mm	96919097		No
			7	4	M12, ø10,7 x 259mm	96919098		No
			8	4	M12, ø10,7 x 277mm	97525055		No
			9	4	M12, ø10,7 x 295mm	96919101		No
			10	4	M12, ø10,7 x 313mm	97525057		No
			11	4	M12, ø10,7 x 331mm	96919503		No
			12	4	M12, ø10,7 x 349mm	96919504		No
			13	4	M12, ø10,7 x 367mm	96919505		No
			15	4	M12, ø10,7 x 403mm	96919507		No
			17	4	M12, ø10,7 x 439mm	96919509		No
			19	4	M12, ø10,7 x 475mm	96919511		No
			21	4	M12, ø10,7 x 511mm	96919542		No
			23	4	M12, ø10,7 x 547mm	97525060		No
			25	4	M12, ø10,7 x 583mm	97525081		No
			27	4	M12, ø10,7 x 619mm	96923539		No

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Pos. No.	Part Description	Model	Stages	No. Used	Comments/Dimensions	B.O.M. Ref. No.	Material No.	Included in kits ?		
26	Staybolt (Cool Top®, Back-to-Back&Tandem Seal option) (Continued)		30	4	M12, ø10,7 x 673mm, 4 pole & 50 Hz.	96923540		No		
			33	4	M12, ø10,7 x 727mm, 4 pole & 50 Hz.	97525082		No		
			36	4	M12, ø10,7 x 781mm, 4 pole & 50 Hz.	97525084		No		
28	Motor Bolt		3/2-17	4	NEMA, 56C, 1/3 - 2 HP, UNC 3/8" x 25mm	00ID1839		No		
			19-27		NEMA, 182/184TC, 3 - 5HP, UNC1/2" x 25mm	00ID1840		No		
					NEMA, 213TC, 7.5 -10 HP, UNC 1/2" x 1.25"	91128631		No		
28g	Bolt for foot Pos. 56a		3/2-36	2	M12 x 1.75 x 20mm, Delta Tone/Seal	95922048		No		
36	Staybolt Nut		3/2-36	4	19mm x M12, Delta Tone/Seal	00ID7917		No		
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	◆◆	FXM, ø137.5 x 3.3mm	96458109		YES		
			3/2-36	◆◆	FFKM, ø136.12 x 3.53mm	96466718		YES		
45	Neck Ring		3/2-36	# stgs	ø41.3 x ø30.6 x .75mm, PTFE	400003		YES		
47a	Bearing Ring/Spacer Brg. Ring/Spacer (option for Grafion / Brz. 4a)		3/2-36	^^^^	SiC 150, ø17.37 x ø13.10 x ø10.9 x 13mm	96437488		YES		
			3/2-36	^^^^	TC, ø15.92 x ø13.10 x ø10.9 x 9.7mm	400041		YES		
49	Impeller		3/2-36	# stgs	ø73.6 x ø30.6 x 9.1mm (back-plate .5mm)	96440325		No		
			3/2-36	# stgs	96547665 has a qty of 24	96440325	96547665	No		
50a	Top Guide Vane Top Guide Vane Plate (option for destaging)		3-36	1		96457637		No		
			3/2	1		96478562		No		
51	Shaft, Complete		3/2-3	1	ø12 x 160.5mm	96439607	96588198	No		
			4	1	ø12 x 180.5mm	96440386	96588199	No		
			5	1	ø12 x 196.5mm	96440387	96588230	No		
			6	1	ø12 x 214.5mm	96440388		No		
			7	1	ø12 x 234.5mm	96440389	96588231	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	96588233	No		
			13	1	ø12 x 342.5mm	96440395	96588234	No		
			15	1	ø12 x 376.5mm	96440396	96588235	No		
			17	1	ø12 x 412.5mm	96440398		No		
			19	1	ø12 x 450.5mm	96440400		No		
			21	1	ø12 x 484.5mm	96440401	96588236	No		
			23	1	ø12 x 520.5mm	96440403		No		
			25	1	ø12 x 556.5mm	96440405	96588237	No		
			27	1	ø12 x 592.5mm	96440406		No		
			30	1	ø12 x 646.5mm, 4 pole & 50 Hz.	96440408		No		
			33	1	ø12 x 700.5mm, 4 pole & 50 Hz.	96440410		No		
			36	1	ø12 x 754.5mm, 4 pole & 50 Hz.	96440411	96588238	No		
		55	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		
	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, 4 pole & 50 Hz.	96457583		No		
	33			1	ø12 x 805.5mm, 4 pole & 50 Hz.	96457585		No		
	36			1	ø12 x 859.5mm, 4 pole & 50 Hz.	96457586		No		
55	Outer Sleeve				3/2-3	1	ø138 x 44.6mm	96437865		No
					4	1	ø138 x 62.6mm	96440010		No
					5	1	ø138 x 80.6mm	96441510		No
					6	1	ø138 x 98.6mm	96439999		No
					7	1	ø138 x 116.6mm	96441511	96588241	No
					8	1	ø138 x 134.6mm	96441513		No
			9	1	ø138 x 152.6mm	96440000		No		
			10	1	ø138 x 170.6mm	96441514		No		

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Pos. No.	Part Description	Model	Stages	No. Used	Comments/Dimensions	B.O.M. Ref. No.	Material No.	Included in kits ?
PARTS LIST								
55	Outer Sleeve <i>(Continued)</i>		11	1	ø138 x 188.6mm	96441516		No
			12	1	ø138 x 206.6mm	96440001		No
			13	1	ø138 x 224.6mm	96441517		No
			15	1	ø138 x 260.6mm	96440002		No
			17	1	ø138 x 296.6mm	96441520		No
			19	1	ø138 x 332.6mm	96441521		No
			21	1	ø138 x 368.6mm	96440004		No
			23	1	ø138 x 404.6mm	96441524		No
			25	1	ø138 x 440.6mm	96441525		No
			27	1	ø138 x 476.6mm	96440006		No
						30	1	ø138 x 530.6mm, 4 pole & 50 Hz.	96440007		No
			33	1	ø138 x 584.6mm, 4 pole & 50 Hz.	96440008		No
			36	1	ø138 x 638.6mm, 4 pole & 50 Hz.	96439652		No
56a	Foot for Pos. 6	56C/182TC	3/2-36	1	H=43mm, W=196mm, ø16mm hole CL 152mm, CL.	95922025		No
56f	Bolt for base Pos. 90		3/2-36	2	Hex Hd.1/2 -13 UNC x 1" SAE 5, Zinc plated			YES
56g	Washer for bolt Pos. 56f		3/2-36	2	1/2" SAE, Zinc plated			YES
60	Stack Compression Spring		3/2-36	1	ø136 x 3.5mm	96439662	96547664	No
64	Spacing Pipe		2-36	^^^	ø15.85 x ø12.85 x 17.52mm	400035	95061339	No
64a	Spacing Pipe		3/2-36	^^^^	ø15.85 x ø12.85 x 4.5mm	96440292		YES
	Spacing Pipe (option for Graflon / Brz. 4a)		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	# stgs	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, Delta Tone/Seal	96430377		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	95061443	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
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	1	Stainless	96456296		No
90	Main Support Baseplate	GA	3/2-19	1	BP. Cpl.139, L=991mm x W=305mm x H=106.5mm	96956336		YES
	Main Support Baseplate - Longer versions	GA	21-27	1	XLBP1 (139), L=1500mm x W=381mm x H=106.5mm	96956376		YES
90a	Bolt for motor to slider Pos. 90b	56C	3/2-17	4	Hex Head 5/16 -18 UNC x .75" SAE 5, Zinc plated			YES
		182TC	19-27	4	Hex Head 3/8 -16 UNC x .5" SAE 5, Zinc plated			YES
90b	Motor support /slide rail	56C	3/2-17	2	BP139, L=204mm x H=45.5mm x W=25.4mm	96956339		YES
		182TC	19-27	2	BP139, L=230mm x H=23.0mm x W=25.4mm	96956338		YES
90c	Support Bracket for Pump Cartridge		3/2-27	1	304 SS, H=74mm CL of hole, GA	95131235		No
90d	Bolt for motor slide rail Pos. 90b to base Pos. 90	56C	3/2-17	4	Hex Head 1/4 -20 UNC x 1" SAE 5, Zinc plated			YES
		182TC	19-27	4	Hex Head 1/4 -20 UNC x 1.75" SAE 5, Zinc plated			YES
90f	Washer for motor bolt Pos. 90a to slide rail Pos. 90b	56C	3/2-17	4	5/16" SAE, Zinc plated			YES
		182TC	19-27	4	3/8" SAE, Zinc plated			YES
100	Priming/Vent Plug O-ring		3/2-36	■	EPDM, ø16.3 x 2.4mm	00ID1288		YES
100(a)	Priming/Vent Plug O-ring (option)		3/2-36	■	FKM, ø16.3 x 2.4mm	00ID2231		YES
			3/2-36	■	FFKM, ø16.3 x 2.4mm	96428162		YES
			3/2-36	■	FXM, ø16.3 x 2.4mm	96442869		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		YES
			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		YES
	Stationary Seal Ring for 105b Back-to-Back (opt.)		3/2-36	1	SiC, 12mm	980746		YES
104	Rotating Seal Ring for 105b Back-to-Back		3/2-36	1	TC, 12mm	980163		YES
			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, FFKM	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, FFKM	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
				3/2-36	***	TC, Carbon with resin-impregnated, EPDM	96441873		YES
105(b)	Shaft Seal HUBE		3/2-36	***	TC, Carbon with resin-impregnated, FFKM	96441874		YES
	Shaft Seal HUBV		3/2-36	***	TC, Carbon with resin-impregnated, FFKM	96481464		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
	Shaft Seal HUUE		3/2-36	***	TC, TC, EPDM	96441875		YES
	Shaft Seal HUUUV		3/2-36	***	TC, TC, FFKM	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

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PARTS LIST								
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	405145	YES
	Shaft Seal/inboard for Back-to-Back OUUV		3/2-36	1	TC, TC, FKM	985190	405145	YES
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		YES
			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	FFKM, $\phi 23.47 \times 2.62\text{mm}$	96464384		YES
			3/2-36	1	FXM, $\phi 22 \times 2.75\text{mm}$	96458111		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	Air Vent Pipe for 118		3/2-36	1	G1/2, 316SS, 60 x 43mm	96525189		YES
117a	Counter Nut for Pipe 117		3/2-36	1	NV24, internal G1/2, 316SS	96506709		YES
118	Air Vent		3/2-36	1	Air vent type 1511-AV - 5/6430	96427483		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		YES
148	Seal Retainer Washer - Pos. 105b Back-to-Back		3/2-36	1	316SS, $\phi 36.0 \times \phi 26.0 \times \phi 23.0 \times \phi 21.6 \times 5.0\text{mm}$	96457355		YES
149	Connecting Pipe Complete for Cool Top®		3/2-36	1	NV36, 316SS, FXM & EPDM	96460414		YES
			3/2-36	1	NV36, 316SS, FXM & FKM	96460415		YES
149a	Retainer for bushing		3/2-36	1	316SS, $\phi 22.0 \times \phi 17.0 \times 9\text{mm}$	96457639		YES
149b	Bushing		3/2-36	1	Graflon®, $\phi 21.2 \times \phi 12.4 \times 53\text{mm}$	96456297		YES
149c	Connecting Pipe less 109a&b and 149a&b		3/2-36	1	NV36, 316SS	96456295		YES
201	Flange, Suction		3/2-17	1	1.5" 150#, 4 x 1/2"-13 UNC threaded flange, e-coat	96922828		No
			3/2-36	1	1.5" 300#, 4 x 3/4"-10 UNC threaded flange, e-coat	96956145		No
201a	Flange, Discharge		3/2-17	1	1" 150#, 4 x 1/2"-13 UNC threaded flange, e-coat	96922827		No
			3/2-36	1	1" 300#, 4 x 5/8"-11 UNC threaded flange, e-coat	96956144		No
203	Retaining ring for 201, 1.5" flange		3/2-36	1	Stainless, $\phi 72.6 \times 5$	96475395		No
203a	Retaining ring for 201a, 1.0" flange		3/2-36	1	Stainless, $\phi 53.6 \times 3.2$	96439718		No

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

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

B.O.M. Ref. Number is only available if it is not included in a kit or does not have a material number listed. If it is included in a kit (YES), or has a material number, request one of these numbers. If not included in a kit (No), but has a Material Number, use Material Number.

Notes:

The first number is total number of impellers.

An exceptions to this format is the CR1-2H.

Example: a CR1-2H is actually a CR1-3/2H, it has 3 chambers and 2 impellers (de-staged by 1) - it uses a 3 stage shaft.

- ^^^ 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
 Exception: When de-staging pump by 2 impellers, replace top chamber Pos. 4 with Pos. 5a
- ^^^ 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
 1 used in Hxxx (Standard) plus an Oxxx for back to Back pump version
- # stgs- Use the number of stages in standard models, less 1 in a 2 stage
- ◆◆ Standard use 2. Back-to-Back or Tandem pump version use 3
- Standard use 2. Back-to-Back or Tandem pump version use 6
- 1* Standard use 1. When de-staging pump by 2 impellers, replace top chamber Pos. 4 with an additional Pos. 5a

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

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Spare Part Kits CR1-H

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		96455092		96455093		96455094	
WEAR PARTS KIT 2-9		Kit No. 96455095		96455092		96455093		96455094	
WEAR PARTS KIT 10-19		Kit No. 96455095		96455092		96455093		96455094	
WEAR PARTS KIT 20-27		Kit No. 96455095		96455092		96455093		96455094	
WEAR PARTS KIT 28-36		Kit No. 96455095		96455092		96455093		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			

CR(I, N)1S, 1, & 3 Grafion Bearing		Kit No. 96460140		96455110		96455111		96455112	
WEAR PARTS KIT 2-9		Kit No. 96460140		96455110		96455111		96455112	
WEAR PARTS KIT 10-19		Kit No. 96460140		96455110		96455111		96455112	
WEAR PARTS KIT 20-27		Kit No. 96460140		96455110		96455111		96455112	
WEAR PARTS KIT 28-36		Kit No. 96460140		96455110		96455111		96455112	
Pos. No.	Description	Material No.	Qty. Included in each Kit						
4a	Chamber N Cpl. w/Pos.45 & 65 & Grafion Bearing	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			

CR(I)1S, 1, & 3 Bronze Bearing		Kit No. 96455102		96455104		96455105		96455106	
WEAR PARTS KIT 2-9		Kit No. 96455102		96455104		96455105		96455106	
WEAR PARTS KIT 10-19		Kit No. 96455102		96455104		96455105		96455106	
WEAR PARTS KIT 20-27		Kit No. 96455102		96455104		96455105		96455106	
WEAR PARTS KIT 28-36		Kit No. 96455102		96455104		96455105		96455106	
Pos. No.	Description	Material No.	Qty. Included in each Kit						
4a	Chamber Cpl. w/Pos.45 & 65 & Bronze Bearing	96440612	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			

STANDARD SHAFT SEAL KIT, BALANCED CARTRIDGE		Kit No. 96455088		96491375		96455089		96455086		96533327		96533326		96455087	
(Maximum allowed working PSI is 435)		Kit No. 96455088		96491375		96455089		96455086		96533327		96533326		96455087	
(Tandem Seal option Pumps require 2 of each Seal Kit)		Kit No. 96455088		96491375		96455089		96455086		96533327		96533326		96455087	
Pos. No.	Description	Material No.	Qty. Included in each Kit												
105	HQBE	96441879	1												
	HQBK	96489537		1											
	HQBV	96441880			1										
	HQQE	96441877				1									
	HQQF	96472620					1								
	HQQK	96498109						1							
	HQQV	96441878												1	
N/A	Grinding Device Tool for Emery Cloth	370711	1	1	1	1	1	1	1	1	1	1	1	1	1
N/A	Emery Cloth	370712	1	1	1	1	1	1	1	1	1	1	1	1	1

STACK KITS	
Model	Material Number
CR(I)1-3/2	96453485
CR(I)1-3	96453486
CR(I)1-4	96453487
CR(I)1-5	96453488
CR(I)1-6	96453489
CR(I)1-7	96453490
CR(I)1-8	96453491
CR(I)1-9	96453492
CR(I)1-10	96453493
CR(I)1-11	96453494
CR(I)1-12	96453495
CR(I)1-13	96453496
CR(I)1-15	96453497
CR(I)1-17	96453498
CR(I)1-19	96453499
CR(I)1-21	96453500
CR(I)1-23	96453501
CR(I)1-25	96453502
CR(I)1-27	96453503
*** CR(I)1-30	96453504
*** CR(I)1-33	96453505
*** CR(I)1-36	96453506

***For 50 Hz & 4 pole operation only.

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. 96455082									
		Kit No. 96533323									
		Kit No. 96533322									
		Kit No. 96455083									
		Kit No. 96455084									
		Kit No. 96533325									
		Kit No. 96533324									
		Kit No. 96455085									
Pos. No.	Description	Material No.	Qty. Included in each Kit								
105	HUBE	96441873	1								
	HUBF	96481464		1							
	HUBK	96481463			1						
	HUBV	96441874				1					
	HUUE	96441875					1				
	HUUF	96475542						1			
	HUUK	96498108							1		
	HUUV	96441876								1	
N/A	Grinding Device Tool for Emery Cloth	370711	1	1	1	1	1	1	1	1	1
N/A	Emery Cloth	370712	1	1	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									
INBOARD SHAFT SEAL & Gasket KIT, Back to Back OQQW		Kit No. 96989183									
INBOARD SHAFT SEAL & Gasket KIT, Back to Back OQQK		Kit No. 96536168									
INBOARD SHAFT SEAL & Gasket KIT, Back to Back OUUE/V (An HQQx or HUUX seal kit must also be used for respectively to complete seal repairs)		Kit No. 405145									
Pos. No.	Description	Material No.	Qty. Included in each Kit								
37	Sleeve O-ring, EPDM, $\phi 137.5 \times 3.3\text{mm}$	96438743	3								
	Sleeve O-ring, FKM, $\phi 137.5 \times 3.3\text{mm}$	96438744		3							
38, 100(a)	Drain Plug O-ring, EPDM, $\phi 16.3 \times 2.4\text{mm}$	00ID1288	7								
	Drain Plug O-ring, FKM, $\phi 16.3 \times 2.4\text{mm}$	00ID2231		7							
102	O-ring, EPDM, $\phi 18 \times 2.5\text{mm}$	00ID2041	1						1		
	O-ring, FKM, $\phi 17.86 \times 2.62\text{mm}$	00ID2187		1	1				1		
	O-ring, FFKM, $\phi 17.86 \times 2.62\text{mm}$	96440281					1				
103	Stationary Seal Ring, SiC, 12mm	980746	1								
	Stationary Seal Ring, TC, 12mm	980190								1	
104	Rotating Seal Ring, SiC, 12mm	980733	1	1	1	1					
	Rotating Seal Ring, TC, 12mm	989163								1	
107	O-ring, EPDM, $\phi 11.5 \times 4.3\text{mm}$	00ID2040	1							1	
	O-ring, FKM, $\phi 11.5 \times 4.3\text{mm}$	00ID2186		1	1					1	
	O-ring, FFKM, $\phi 11.5 \times 4.3\text{mm}$	96440282					1				
108	Spring, 12mm	980195	1	1	1	1				1	
109a	O-ring, EPDM, $\phi 21.3 \times 3.0\text{mm}$	00ID1798	1								
	O-ring, FKM, $\phi 21.2 \times 3.0\text{mm}$	00ID2339		1	1						
	O-ring, FFKM, $\phi 23.47 \times 2.62\text{mm}$	96464384					1				
111	Driver for pos.104	980192	1	1	1	1				1	
112	Driver for pos.111	980191	1	1	1	1				1	
112a	Driver for pos.112	400203	1	1	1	1					
113	Set Screw for pos.112a	00ID7392	2	2	2	2					
146	Allen Bolt for pos.147 & 148, 2.5mm x M3 x 5mm	96462639	3	3	3	3					
147	Stationary Seal Retainer - NV36, 316SS	96457354					1			1	
148	Seal Retainer Washer - 316SS, $\phi 36.0 \times \phi 21.6 \times 5.0\text{mm}$	96457355					1			1	
N/A	Grinding Device Tool for Emery Cloth	370711								1	
N/A	Emery Cloth	370712								1	

GASKET KIT (EPDM)		Kit No. 96455090									
GASKET KIT (FKM)		Kit No. 96455091									
GASKET KIT (FKM)		Kit No. 96463944									
GASKET KIT (FKM)-Double Seal option.		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, $\phi 137.5 \times 3.3\text{mm}$	96438743	2					3			1
	Sleeve O-ring, FKM, $\phi 137.5 \times 3.3\text{mm}$	96438744		2					3		
37b	Sleeve O-ring, FXM, $\phi 137.5 \times 3.3\text{mm}$	96458109			2						2
	Sleeve O-ring, FFKM, $\phi 136.12 \times 3.53\text{mm}$	96466718				2				3	
38, 100(a)	Drain Plug O-ring, EPDM, $\phi 16.3 \times 2.4\text{mm}$	00ID1288	3					7			4
	Drain Plug O-ring, FKM, $\phi 16.3 \times 2.4\text{mm}$	00ID2231		3					7		
38, 100a	Drain Plug O-ring, FXM, $\phi 16.3 \times 2.4\text{mm}$	96442869			3						3
	Drain Plug O-ring, FFKM, $\phi 16.3 \times 2.4\text{mm}$	96428162				3				7	
109(a)	O-ring for Pos.105(b) & 149, EPDM, $\phi 21.3 \times 3.0\text{mm}$	00ID1798	1					1			
	O-ring for Pos.105(b) & 149, FKM, $\phi 21.2 \times 3.0\text{mm}$	00ID2339		1					1		
109b	O-ring for Pos.105(b) & 149, FXM, $\phi 22.0 \times 2.75\text{mm}$	96458111				1					2
	O-ring for Pos.105(b) & 149, FFKM, $\phi 23.47 \times 2.62\text{mm}$	96464384					1				2

NEMA COUPLING KIT											
$\phi 15.8/\phi 12$		Kit No. 415314									
$\phi 22.225/\phi 12$		Kit No. 97919247									
$\phi 28.5/\phi 12$		Kit No. 415315									
$\phi 34.9/\phi 12$		Kit No. 96478700									
Pos. No.	Description	Material No.	Qty. Included in each Kit								
9	Allen Screw, M6 x 20mm, Delta Seal	00ID7899	4	4							
	Allen Screw, M8 x 25mm, Delta Seal	00ID7900			4						
	Allen Screw, M10 x 25mm, Delta Seal	00ID7901								4	
10	Shaft Pin, $\phi 5 \times 26\text{mm}$, Stainless	310192	1	1				1		1	
10a	Coupling Half, 56C, 1/3 - 2HP, $\phi 15.8 / \phi 12$	410108	2								
	Coupling Half, 143/5TC, 1/3 - 3HP, $\phi 22.225 / \phi 12$	97851501			2				2		
	Coupling Half, 182/184TC, 3-5HP, $\phi 28.5/\phi 12$	410109							2		
	Coupling Half, 213TC, 7.5-10HP, $\phi 34.9/\phi 12$	96472175								2	

Spare Part Kits • Accessories **CR1-H**

Spare Part Kits (continued)

COUPLING GUARD KIT		Kit No.	96505131	
NEMA 56C, 1/3-2HP		Kit No.	96505132	
NEMA 182-215TC, 3-10HP		Kit No.	96505132	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
7	Coupling Guard, W=127mm x H=90.5mm	96438137	2	
	Coupling Guard, W=157mm x H=171mm	96438138		2
7a	Screw comb.slot torx/straight slot 4 x 8mm	96488481	4	4

Air Vent Kit - Horizontal Units		Kit No.	91136720	
CR-H, CRN-H15 to 20		Kit No.	91136720	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
117	Air Vent Pipe, short for 118, G1/2, 60x43	96525189	1	
117a	Counter Nut for Pipe 117, G1/2	96506709	2	
118	Air vent type 1511-AV - 5/6430	96427483	1	

Connecting Pipe for Cool Top		Kit No.	96578704	
(EPDM, FKM & FXM)		Kit No.	96578704	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
109a	O-ring for Pos.105(b) &149, EPDM, Ø21.3 x 3.0mm	00ID1798	1	
	O-ring for Pos.105(b) &149, FKM, Ø21.2 x 3.0mm	00ID2339	1	
109b	O-ring for Pos.105(b) &149, FXM, Ø22.0 x 2.75mm	96458111	1	
149a	Retainer for bushing, 316SS, Ø22.0 x Ø17.0 x 9mm	96457639	1	
149b	Bushing, Graflon®, Ø21.2 x Ø12.4 x 53mm	96456297	1	
149c	Connecting pipe, NV36, 316SS	96456295	1	

Accessories

ANSI COMPANION FLANGES FOR CR-H, CRN-H15 to 20		Kit No.	97642565	
1-1/2" and 1" Threaded CI Black for GA 125 Lb. Class		Kit No.	97642565	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
N/A	Hex Head Cap Screw/Bolt 1/2"-13X 2" UNC ZP	97743748	8	
N/A	Flange ANSI #150 1.5" NPT. Cast Iron - Black	91123167	1	
N/A	Flange ANSI #150 1" NPT. Cast Iron - Black	96983489	1	
N/A	Gasket 1 1/2" Full Face 150 Lb. ANSI	91123168	1	
N/A	Gasket 1" Full Face 150 Lb. ANSI	97692916	1	

ANSI COMPANION FLANGES FOR CR-H, CRN-H15 to 20		Kit No.	96967594	
1-1/2" and 1" Threaded CI Black for GA 250 Lb. Class		Kit No.	96967594	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
N/A	Hex Head Cap Screw/Bolt 3/4"-10 X 2.5" UNC ZP	91137423	4	
N/A	Hex Head Cap Screw/Bolt 5/8"-11 X 2.25" UNC ZP	91130816	4	
N/A	Flange ANSI #300 1.5" NPT. Cast Iron - Black	96983494	1	
N/A	Flange ANSI #300 1" NPT. Cast Iron - Black	96983493	1	
N/A	Gasket 1 1/2" Full Face 300 Lb. ANSI	97694408	1	
N/A	Gasket 1" Full Face 300 Lb. ANSI	97694407	1	

ANSI COMPANION FLANGES FOR CR-H, CRN-H15 to 20		Kit No.	97698645	
1-1/2" and 1" Threaded Stainless, 150 Lb. Class		Kit No.	97698645	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
N/A	Hex Head Cap Screw/Bolt 1/2"-13X 2" 316SS	97743748	8	
N/A	Flange ANSI #150 1.5" NPT 316SS	96983498	1	
N/A	Flange ANSI #150 1" NPT 316SS	96983497	1	
N/A	Gasket 1 1/2" Full Face 150 Lb. ANSI	97694409	1	
N/A	Gasket 1" Full Face 150 Lb. ANSI	97692916	1	

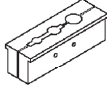
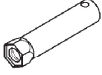
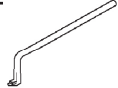

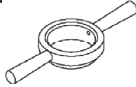

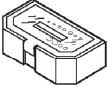

ANSI COMPANION FLANGES FOR CR-H, CRN-H15 to 20		Kit No.	97698646	
1-1/2" and 1" Threaded Stainless, 300 Lb. Class		Kit No.	97698646	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
N/A	Hex Head Cap Screw/Bolt 3/4"-10 X 2.5" 316SS	91143035	4	
N/A	Hex Head Cap Screw/Bolt 5/8"-11 X 2.25" 316SS	91143029	4	
N/A	Flange ANSI #300 1.5" NPT 316SS	96983496	1	
N/A	Flange ANSI #300 1" NPT 316SS	96983495	1	
N/A	Gasket 1 1/2" Full Face 300 Lb. ANSI	97694408	1	
N/A	Gasket 1" Full Face 300 Lb. ANSI	97694407	1	

Baseplate Kit		Kit No.	97534517	
139 56C for GA		Kit No.	97534518	
182TC for GA		Kit No.	97534518	
XLBP1 56C for GA		Kit No.	97534573	
182TC for GA		Kit No.	97534574	
Pos. No.	Description	Material No.	Qty. Included in each Kit	
90	Baseplate Cpl. 139, L=991" x W=305" x H=106.4768"	96956336	1	1
	Baseplate Cpl. XLBP1, L=1500" x W=305" x H=106.4768"	96956376		1
N/A	Slider & fasteners for 56C (consists of slider & hardware)	96983855	1	1
N/A	Slider & fastener for 182TC (consists of slider & hardware)	96983858	1	1
N/A	Hardware Kit -96983855/68/78 (cont. pos.56f, g, 90a,d& f)**	97501470	1	1
N/A	Hardware Kit -96983858 (cont. pos.56f & g, 90a, d & f)**	97501481	1	1
56f	Bolt, Hex Head 1/2"-13 UNC x 1" SAE 5, Zinc plated	N/A	2	2
56g	Washer, 1/2" SAE, Zinc plated	N/A	2	2
90a	Bolt, Hex Head 5/16 -18 UNC x .75" SAE 5, Zinc plated	N/A	4	4
	Bolt, Hex Head 3/8 -16 UNC x .5" SAE 5, Zinc plated	N/A	4	4
90b	Slider, GA/B/C 56C/139BP, L=204" x H=45.5" x W=25.4"	96956339	2	2
	Slider, GA/B/C 182TC/139 BP, L=230" x H=23" x W=25.4"	96956338	2	2
90d	Bolt, Hex Head 1/4 -20 UNC x 1" SAE 5, Zinc plated	N/A	4	4
	Bolt, Hex Head 1/4 -20 UNC x 1.75" SAE 5, Zinc plated	N/A	4	4
90f	Washer, 5/16" SAE, Zinc plated	N/A	4	4
	Washer, 3/8" SAE, Zinc plated	N/A	4	4

* Values in mm, Length (L) is +/- 2mm, Height (H) is +/- 1mm, Width (W). ** Hardware kits 97501470 and 81 are also available for sale.

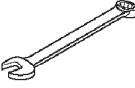

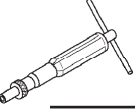




Special Tools

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	

be think innovate

Being responsible is our foundation
Thinking ahead makes it possible
Innovation is the essence



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