

**TABLE 7-1 - SPARE MODULES, GASKET SETS, AND REPAIR KITS**

Number Required Per Unit		Pump Model						Part Name	Catalog No.	Remarks
D2A	D4A	D8A	D16A	D30A	D60A/ D90A					
1							Module, standard	899510	The module is made up of all parts listed with an "..." beside its catalog number in Table 7-2.  For extreme-corrosive service pump modules, contact the main office.	
1	1						Module, corrosive series	10166C		
	1						Module, standard	899511		
		1					Module, corrosive series	10167C		
		1					Module, standard	899512		
		1	1				Module, corrosive series	899512		
			1				Module, standard	899513		
				1			Module, corrosive series	899513		
				1			Module, standard	899514		
				1			Module, corrosive series	10170C		
					1		Module, standard	899515		
					1		Module, corrosive series	10171C		
1	1						Universal gasket set	200-39-063	The gasket set is made up of all parts listed with a "+ +" beside its catalog number in Table 7-2. The gaskets are Viton; they can be used for standard, corrosive, and extreme-corrosive applications. Buna gasket sets are available on request.	
		1	1				Universal gasket set	200-39-064		
				1			Universal gasket set	200-39-054		
1							Module repair kit	899527	The repair kit is made up of all parts listed with a "+ +" or "or" + " beside its catalog number in Table 7-2.	
	1						Module repair kit	899528		
		1					Module repair kit	899529		
			1				Module repair kit	899530		
				1			Module repair kit	899531		
					1		Module repair kit	899532		
1	1						Oil Filter (demister)	390 26 121		
		1	1				Oil Filter (demister)	390 26 117		
1	1						Anti-suckback modification kit ‡	720-24-003		
1	1						Anti-suckback modification kit ‡	720-24-002		
		1	1				Anti-suckback modification kit ‡	720-24-005		
		1	1				Anti-suckback modification kit ‡	720-24-004		
				1			Anti-suckback modification kit ‡	720-24-001		

‡ This kit must be installed before pumping toxic, pyrophoric, or hazardous gases. See the supplemental instructions that come with the kits and with the TRIVAC AC pumps for the part numbers of each item in the kit.

TABLE 7-2—COMPLETE LIST OF PARTS

Position No. on Figs.	Number Required per Unit							Part Name	Catalog No.	Dimensions (mm)	Material	Remarks
	Pump Model											
	D2A	D4A	D8A	D16A	D30A	D60A/D90A						
1	1							INTAKE TUBE ASSEMBLY	433 60 118	KF16	Al-aly	
1			1					Intake tube	433 60 119	KF25x71	Al-aly	
1				1	1			Intake tube	431 65 116	KF40x107	Al-aly	
2	1	1						Dirt trap with centering ring	411 70 122	KF16	Steel	
2			1	1				Dirt trap & centering ring	411 70 206	KF25	Steel	
2					1	1		Dirt trap with centering ring	411 70 121	KF40	Steel	
3	2	2						O-ring	239 70 176++	D18x5	Viton	One of the O-rings goes on the intake centering ring; the other goes on the exhaust centering ring.
3			2	2				O-ring	239 70 506++	D28x5	Viton	
3					2	2		O-ring	239 70 516	D42x5	Viton	
4	2	2						Flat gasket	238 20 147++ *	D38x44	AFM	One of the flat gaskets fits under the intake tube; the other fits under the gas ballast valve.
4			2	2				Flat gasket	238 20 156++ *	D55x63	AFM	
4					2	2		Flat gasket	238 20 158++ *	D75x84	AFM	
5	1	1						O-ring	239 70 410++	D22x3	Viton	
5			1	1				O-ring	239 70 117++	D29x3	Viton	
5					1	1		O-ring	239 70 304++	D45x3	Viton	
6	1	1						EXHAUST PORT ASSEMBLY	433 60 113	KF16	Al-aly	
6			1	1				Exhaust port	433 60 117	KF25x42	Al-aly	
6					1	1		Exhaust port	433 60 115	KF40x63	Al-aly	

++Included in universal gasket set and module repair kit (see page 57 of parts list).

\*Included in the standard module (see Page 57).

KF — Leybold quick assembly clamp ring diameter  
D — diameter  
Al-aly — aluminum alloy  
Viton — heat resistant synthetic rubber  
AFM — asbestos-free gasket fiber

TABLE 7-2 — COMPLETE LIST OF PARTS (continued)

Position No. on Figs.	Number Required per Unit										Part Name	Catalog No.	Dimensions (mm)	Material	Remarks
	Pump Model														
	D2A	D4A	D8A	D16A	D30A	D60A/D90A									
7	1	1									EXHAUST PORT ASSY. (Cont'd.) Centering ring with O-ring	88346	KF16	SS, Viton	
7			1	1							Centering ring with O-ring	88347	KF25	SS, Viton	
7					1	1					Centering ring with O-ring	88348	KF40	SS, Viton	
8	3	4	4	4	4	4					PUMP HOUSING ASSEMBLY Plug screw	201 27 105 ++	D16x1.5	Stl	DIN 908, Isometric, Straight
9	3	4	4	4	4	4					Flat gasket	239 55 165 ++	D22x15.1x2	Viton	
10					1	1					Eye bolt	201 13 101	M8	Stl	See Figure 7-2.
11	1	1									Coupling housing	720 00 001	228x140x185	C Al-aly	
11			1	1							Coupling housing	720 00 003	265x172.5x216.5	C Al-aly	
11					1						Coupling housing	720 00 019	149x242x272.5	Cast iron	
11						1					Coupling housing	720 00 021	164x242x272.5	Cast iron	
12	1										Oil casing	720 00 005	127.5x135x162	C Al-aly	
12		1									Oil casing	720 00 007	162.5x135x162	C Al-aly	
12			1								Oil casing	720 00 009	158x172.5x192.5	C Al-aly	
12				1							Oil casing	720 00 011	200.5x172.5x192.5	C Al-aly	
12					1						Oil casing	720 00 015	246.5x242x279.5	Al-aly	
12						1					Oil casing	720 00 017	321.5x242x279.5	Al-aly	
13	1	1									Seal	200 10 724 ++*	136x162x1	AFM	Asbestos-free
13			1	1							Seal	200 10 725 ++*	172x190x1	AFM	Asbestos-free
13					1	1					Seal	200 10 726 ++*	242x270x1	AFM	Asbestos-free

SS—Stainless Steel  
 KF—Leybold quick assembly clamp ring diameter  
 D—Diameter  
 Stl—steel  
 Viton—heat resistant synthetic rubber  
 C Al-aly—cast aluminum alloy  
 Al-aly—aluminum alloy  
 AFM—asbestos-free gasket fiber  
 Buna-N—synthetic rubber  
 Al—Aluminum

++Included in universal gasket set and module repair kit (see page 57 of parts list).

\*Included in the standard module (see Page 57).

TABLE 7-2 — COMPLETE LIST OF PARTS (continued)

Position No. on Figs.	Number Required per Unit							Part Name	Catalog No.	Dimensions (mm)	Material	Remarks
	Pump Model											
	D2A	D4A	D8A	D16A	D30A	D60A/D90A						
14	1	1						PUMP HOUSING ASSY. (Cont'd.) Handle	283 02 106	100x86x28	Black plastic	
14			1					Handle	283 02 107	106x120x32	Black plastic	
15	1	1						Oil level glass	520 40 124	M50x1.5	Glass, Viton	Includes flat gasket (Item 15A)
15			1	1	1	1		Oil level glass	520 40 125	M60x2	Glass, Viton	
15A	1	1						Flat gasket	239 55 172 ++	48x56x2	Viton	
15A			1	1	1	1		Flat gasket	239 55 171 ++	60x68x2	Viton	
16	4	4	4	4				Rubber foot	279 80 308	D20x16	Buna-N	
16					2	2		Support	720-00-088	63.5x38	Stl	Not shown in Figs.
					4	4		Vibration pad	99 274 005		Buna-S	
	1	1						GAS BALLAST VALVE ASSEMBLY				
			1					Gas ballast valve assy.	720 00 077			This assembly includes Position Numbers 17 thru 27 and 30, 31, & 32.
				1				Gas ballast valve assy.	720 00 079			
					1			Gas ballast valve assy.	720 00 080			
17	1	1						Gas ballast valve stem	‡	43x109	Al-aly, Stl	
17			1	1				Gas ballast valve stem	‡	65x113.5	Al-aly-Stl	
17					1	1		Gas ballast valve stem	‡	85x85x67	Al-aly, Stl	
								Flat gasket				See Position No. 4.
18	1	1						Cap	349 75 102	D22x24	Buna-N	
18			1	1	1	1		Cap	349 75 105	D50x40	Buna-N	
19			1	1	1	1		Valve assembly	350 20 158	D31.7x6	Thermoplastic	See Fig. 5-10A.
20			1	1	1	1		O-ring	239 70 436 + +	D27x2.5	Viton	See Fig. 5-10A.
21			1	1	1	1		Retaining washer	221 49 207	D19.5x33x0.9	Steel	See Fig. 5-10A.
22	1	1						Stiffening disk	222 04 104	D15x3	Brass	
22			1	1	1	1		Stiffening disk	222 04 107	D40x0.5	Bronze	
23	1	1						Nonreturn valve	350 20 126	D16x26	Steel	
24	1	1						Flat gasket	239 73 133 + +	19x6x1	Viton	
25	1	1						Spring	451 74 424 + +	19x0.1	Steel	
26	1	1						Strengthening piece	451 74 425 + +	6x7x0.1	Steel	
	1	1						Pan head screw	201 04 129	M2 x 6	Steel	Not shown

+ + Included in universal gasket set and module repair kit (see page 57 of parts list).

‡ Must be purchased as gas ballast assembly.

Buna-N — synthetic rubber  
 Stl — steel  
 Al-aly — aluminum alloy  
 D — diameter  
 Viton — heat resistant synthetic rubber

TABLE 7-2 — COMPLETE LIST OF PARTS (continued)

Position No. on Figs.	Number Required per Unit										Part Name	Catalog No.	Dimensions (mm)	Material	Remarks
	Pump Model														
	D2A	D4A	D8A	D16A	D30A	D60A/D90A									
27	1	1	1	1			GAS BALLAST VALVE ASSEMBLY (Cont'd.)				239 70 148++	D5x2	Viton		
27					1	1	O-ring				239 70 147++	D16x2.5	Viton		
28							Spring (filter)				221 62 144	D14.5x12x1.25	Steel		
28			1	1			Spring (filter)				221 62 143	D20x35	Steel		
28					1	1	Spring (filter)				221 62 142	D25.2x38	Steel		
29	1	1					Flat gasket				239 25 227++	D18x10x1	Viton		
29			1	1			Flat gasket				239 25 226++	D30x16x1	Viton		
29					1	1	Flat gasket				239 25 225++	D30x18x1	Viton		
30					1	1	Retainer ring				231 04 104	D15x1	Steel	See Fig. 5-10B.	
31					1	1	Spring (gas ballast)				221 62 140	D15x11.5	Steel	See Fig. 5-10B.	
32					1	1	Valve plate				401 64 117++	D14.8x0.2	Steel	See Fig. 5-10B.	
33			1	1			Cover				341 01 109	D48x5	Steel	Not shown in Figs.	
34			1	1			Retainer ring				231 03 106	17x1	Steel	Not shown in Figs.	
35	1	1					Oil filter				390 26 121+	D36x55	Stl, fiber		
35			1	1			Oil filter				390 26 117+	D42x55	Stl, fiber		
35					1	1	Oil separator				411 12 108-A	D58x90	Steel	See Fig. 5-10B.	
							Oil filter spring							See position 28	
36	1	1	1	1			COUPLING ASSEMBLY								
36							Elastic element				701 00 147* ++	41x15	Buna-N		
37	1	1			1	1	Coupling ring				701 00 196* ++	D80x21	Vulkollan	See Fig. 5-11.	
37							Coupling, complete				570 42 130*	D58x60		Includes pump-side and motor-side coupling and Pos. No. 36.	
37			1	1			Coupling, complete				570 42 134*	D58x61			
37					1	1	Coupling, complete				570 42 132*	D85x85	Cast iron		
37						1	Coupling, complete				570 42 133*	D85x85	Cast iron	See Fig. 5-3.	

\* Included in module (see page 57 of parts list).

+ Included in module repair kit (see page 57 of parts list).

++ Included in universal gasket set and module repair kit (see page 57 of parts list).

Stl — steel  
 Vulkollan — vulcanized rubber  
 Buna-N — synthetic rubber  
 Viton — heat resistant synthetic rubber  
 D — diameter

TABLE 7-2 — COMPLETE LIST OF PARTS (continued)

Position No. on Figs.	Number Required per Unit							Part Name	Catalog No.	Dimensions (mm)	Material	Remarks
	Pump Model											
	D2A	D4A	D8A	D16A	D30A	D60A/D90A						
38	1						COUPLING ASSEMBLY (Cont'd.)	221 16 065*	4x4x18	Steel		
38		1					Key (coupling)	221 16 151*	5x5x18	Steel		
38					1	1	Key (coupling)	221 16 179*	6x6x22	Steel		
39	1	1					CENTRIFUGAL SWITCH AND RETAINER RING	500 36 123*	D60x23	Brs, Stl		
39			1				Centrifugal switch	500 36 128*	D70x27	Brs, Stl		
39				1		1	Centrifugal switch	500 36 147*	D60x23	Brs, Stl		
40	1	1					Retainer ring	231 03 101*	D12x1	Steel		
40		1					Retainer ring	231 03 104*	D15x1	Steel		
40				3	3		Retainer ring	231 03 111*	D22x1.2	Steel	The 2 additional rings fit onto the shaft on both sides of the second stage rotor.	
41	1	1					LEVER ASSEMBLY	281 53 130*	73x36	Steel		
41			1				Lever	281 53 102*	88x40x1	Steel		
41					1	1	Lever	281 53 101*	109x40x1	Steel		
42	1	1					Spring (lever)	221 61 199*	D5.8x18x0.4	Steel		
42			1		1	1	Spring (lever)	221 62 141*	D8.5x23	Steel		
43	1	1	1	1	1	1	Seal (lever)	239 73 131**	D9x11	Buna-N		
44	1	1					SECOND STAGE ASSEMBLY	301 51 138*	D12x18	Cl, Brz		
44			1		1		Front end plate	301 51 137*	D15x23	Cl, Brz		
44					1	1	Front end plate	301 51 140*	D40x27	Cl		
45	2	2					Radial shaft seal	239 53 124**	D12x28x7	Viton	One of the seals fits into the front end plate; the other fits into the rear end plate.	
45		2	2		2	2	Radial shaft seal	239 53 142**	D15x32x7	Viton		
45						2	Radial shaft seal	239 53 110**	D22x40x7	Viton		

\*Included in module (see Page 57 of parts list).

\*\*Included in universal gasket set and module repair kit (see page 57 of parts list).

Stl — steel  
Cl — cast iron  
Viton — heat resistant synthetic rubber

D — diameter  
Brs — brass  
Brz — bronze

TABLE 7-2 — COMPLETE LIST OF PARTS (continued)

Position No. on Figs.	Number Required per Unit										Part Name	Catalog No.	Dimensions (mm)	Material	Remarks
	Pump Model														
	D2A	D4A	D8A	D16A	D30A	D60A/D90A									
46	1	1									SECOND STAGE ASSEMBLY (Cont'd.)	231 58 117*	D54.8x35	CI	
46			1								Second stage pump cylinder	231 58 124*	D79x45	CI	
46					1						Second stage pump cylinder	231 58 122*	D118.5x75	CI	
47	4	4									O-ring	239 70 409*++	D60x2	Viton	Two of these O-rings go on the second stage pump cylinder; the other two go on the high vacuum stage pump cylinder.
47			4	4							O-ring	239 70 156*++	D86x2	Viton	
47					4						O-ring	239 70 411*++	D122x3	Viton	
48	1										Oil nozzle				See Position No. 56.
48		1									Rotor with shaft	481 21 242*	D48x151	CI, Stl	
48											Rotor with shaft	481 21 243*	D48x186	CI, Stl	
48			1								Rotor with shaft	481 21 238*	D68x183	CI, Stl	
48				1							Rotor with shaft	481 21 239*	D68x228	CI, Stl	
48					1						Rotor with shaft	481 21 240*	D101 x 75	CI, Stl	
48									1		Rotor with shaft	481 21 241*	D101 x 75	CI, Stl	
49	3	3									Vane	200 10 878*+	14x35x4.5	Inkutex	Asbestos-free
49			3								Vane	200 10 882*+	22x45x4.5	Inkutex	Asbestos-free
49					3					3	Vane	200 10 846*+	32.5x75x4.5	Inkutex	Asbestos-free

\* Included in module (see page 57 of parts list).

+ Included in module repair kit (see page 57 of parts list).

++ Included in universal gasket set and module repair kit (see page 57 of parts list).

Stl — steel

CI — cast iron

Viton — heat resistant synthetic rubber

D — diameter

TABLE 7-2 — COMPLETE LIST OF PARTS (continued)

Position No. on Figs.	Number Required per Unit							Part Name	Catalog No.	Dimensions (mm)	Material	Remarks
	Pump Model											
	D2A	D4A	D8A	D16A	D30A	D60A/D90A						
50	1						SECOND STAGE ASSEMBLY (Cont'd.)					
50		1	1				Valve plate (standard)	401 64 109*+	45x35x0.1	Stl	For strd. series pumps.	
50				1			Valve plate (standard)	401 64 116*+	63x45x0.1	Stainless steel	For strd. series pumps.	
50	1				1		Valve plate (corrosive)	401 64 114*+	75x82x0.2	Stl	For strd. series pumps.	
50		1	1				Valve plate (corrosive)	401 64 121*	45x35x0.1	Gold plated	For corr. series pumps.	
50				1			Valve plate (corrosive)	401 64 116*+	63x45x0.1	Stainless steel	For corr. series pumps.	
50	1	1			1		Valve plate (corrosive)	401 64 124*	75x82x0.2	Gold plated	For corr. series pumps.	
51		1					Valve stop	373 58 103*	34.6x45x10	Black plastic	The valve stop in the	
51			1	1			Valve stop	373 58 107*	63x45x9	Black plastic	Figures is made of black plastic.	
51					1	1	Valve stop	373 58 106*	80x74.5x12	Al-aly		
52	1	1					Center bearing	261 51 132*	D12x15	Cast iron		
52			1	1			Center bearing	261 51 131*	D15x15	Cast iron		
52					1	1	Intermediate plate	261 51 135*	D30x30	Cast iron		
53	3						HIGH VACUUM STAGE ASSEMBLY					
53		3					Vane	200 10 878*+	14x35x4.5	Inkutex	Asbestos-free	
53			3				Vane	200 10 879*+	14x70x4.5	Inkutex	Asbestos-free	
53				3			Vane	200 10 882*+	22x45x4.5	Inkutex	Asbestos-free	
53					3		Vane	200 10 881*+	22x90x4.5	Inkutex	Asbestos-free	
53						3	Vane	200 10 846*+	32.5x75x4.5	Inkutex	Asbestos-free	
53						3	Vane	200 10 880*+	32.5x150x4.5	Inkutex	Asbestos-free	

\*Included in module (see page 57 of parts list).  
 +Included in module repair kit (see page 57 of parts list).

D — diameter  
 Duroplast — durable thermoplastic  
 Al-aly — aluminum alloy