

# SYSTEM ONE® PARTS

## Power End Conversions

Keep with Instructions 1301-C00 for Installation, Operation and Maintenance

### PARTS LIST 1301-C07

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Effective	Feb 2013
Replaces	New

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#### **NOTES:**

Original ANSI length Power End Conversions are obsolete and unique parts for these have been discontinued. It is recommended that pumps with these power ends be upgraded with an LD23 or LD18 PEC currently available.

All parts that are unique to power end conversions are indicated in **bold**. All other parts are identical to the corresponding Frame-S, LD17, or Frame-M parts. Any parts not listed here can be found in the corresponding Frame-S, LD17, or Frame-M parts list.

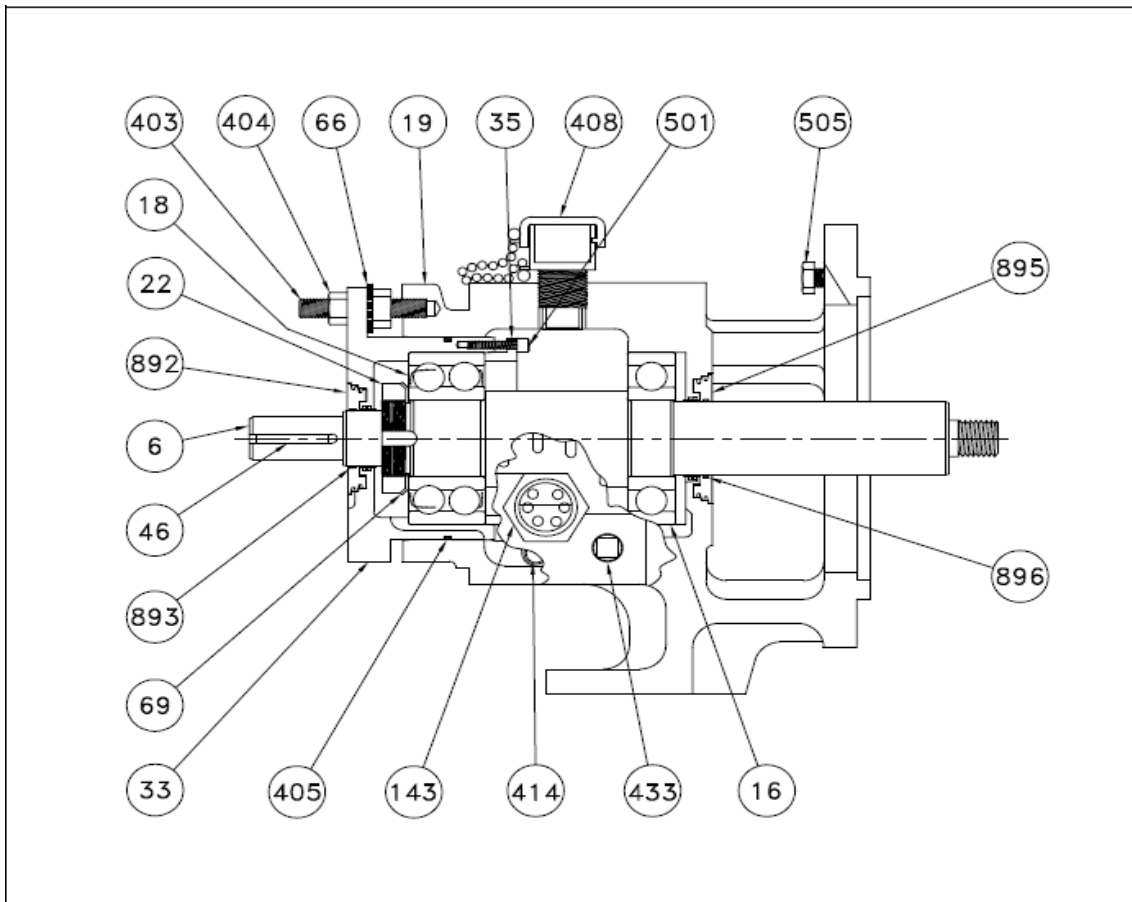


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## FRAME S POWER END CONVERSIONS Cross Section



NO.	ITEM	NO.	ITEM	NO.	ITEM
6	SHAFT	66	NUT, MICROMETER	433	PIPE PLUG, OIL DRAIN
16	BEARING, RADIAL	69	WASHER, BEARING LOCK NUT	501	SCREW, RETAINER COVER
18	BEARING, THRUST	143	SIGHT GLASS, OIL LEVEL	505	SCREW, JACK
19	BEARING FRAME	403	STUD, CARTRIDGE	892	LABYRINTH ROTOR, THRUST
22	LOCKNUT, THRUST	404	NUT, CARTRIDGE LOCK	893	O-RING, LABYRINTH THRUST
33	CARTRIDGE	405	O-RING, CARTRIDGE	895	LABYRINTH ROTOR, RADIAL
35	COVER, BEARING RETAINER	408	OIL FILTER AND FILLER CAP	896	O-RING, LABYRINTH RADIAL
46	KEY, COUPLING	414	PIPE PLUG, MAGNETIC		

## Power End Conversion SPARE PARTS Frame-S

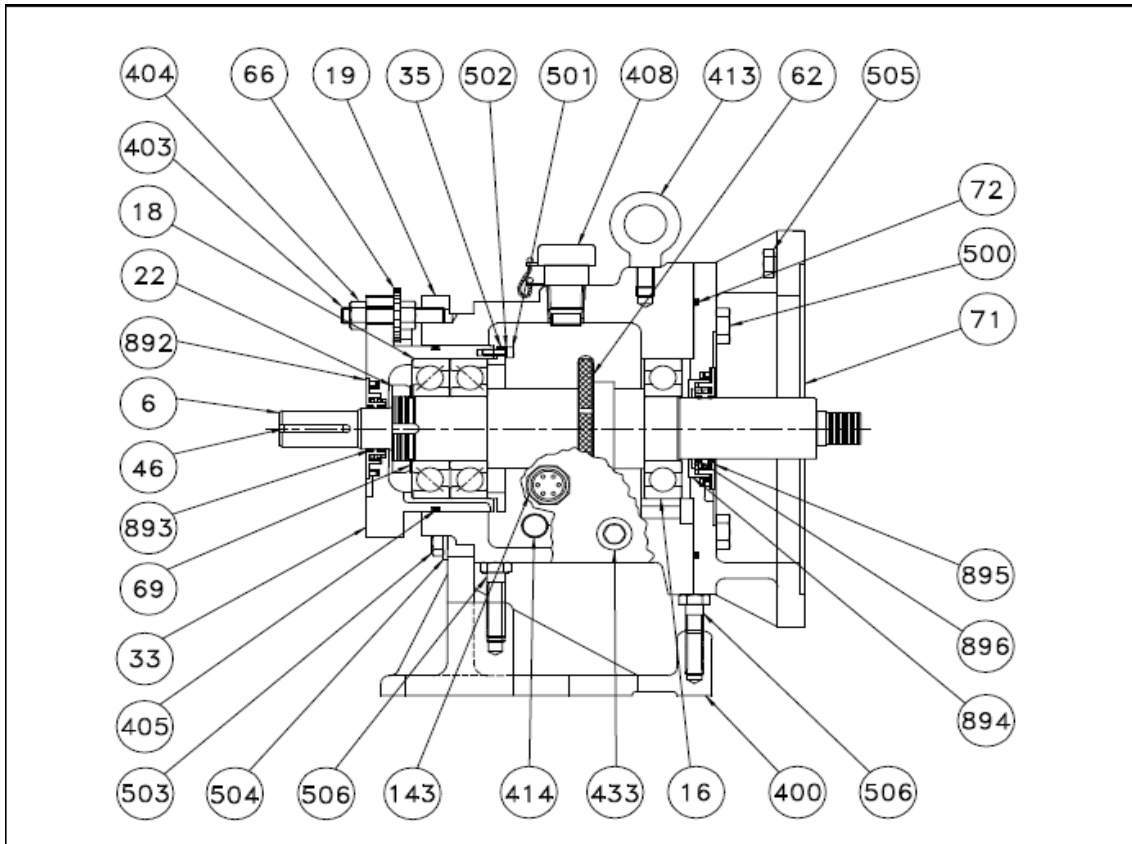
Part numbers in **bold** are for conversions only. Others also fit standard Frame S.

Ref.#	Description	Parts/pump	Part #	Comment/Note
<b>6</b>	<b>Shaft Assemblies and Rotating Elements.</b>			
	Ref# 6-SA: <b>Shaft Assembly</b> Includes shaft (6), locknut (22), locknut washer (69), and key (46).			
	Ref# 6-RE: <b>Rotating Element</b> Includes shaft assembly (6-SA), bearings (16&18), bearing cover (35).			
6-SA	For Goulds 3196 ST(X)			
	Shaft Assembly FRS CS/316	1	099652	
	Shaft Assembly FRS CS/A20		059448	
	Shaft Assembly FRS CS/HB		628600	
	Shaft Assembly FRS CS/HC		098070	
	For Durco Mark II Group I			
	Shaft Assembly FRS CS/316	1	<b>099651</b>	
6-RE	For Goulds 3196 ST(X)			
	Rotating Element FRS CS/316 (w/ 5308)	1	099654	
	Rotating Element FRS CS/A20 (w/ 5308)		097419	
	Rotating Element FRS CS/HB (w/ 5308)		628601	
	Rotating Element FRS CS/HC (w/ 5308)		098071	
	Rotating Element FRS CS/HC (w/ 3308)		808422	
	For Durco Mark II Group I			
	Rotating Element FRS CS/316 (w/ 5308)	1	<b>099653</b>	
11	Back Cover - For 3196ST see Frame-S back covers in parts page 1301-C01			
	Back Cover Mark II Group I CF 6"	1	<b>099683</b>	
	Back Cover Mark II Group I CF 8"		<b>099684</b>	
	All covers include hardware, have 2.38" bore and accomodate 1.5" shaft.			
16	Radial Bearing 6308 C3	1	099649	
18	Thrust Bearing 5308 AH/C3 <sup>1</sup>	1	099648	
	Thrust Bearing 3308 DNRCBM <sup>1</sup> (Optional)		801597	
19	Bearing Frame Assembly 3196 ST	1	099642	
	Includes: bearing frame (19), sight glass (143), stud (403), oil cap (408), plugs (414 and 433), Jackbolts. Bearing Frame Assembly Mark II Group I		<b>099643</b>	
22	Bearing Locknut N08	1	099794	
33	Cartridge (5308, 3308 brgs.) Incl. Hrdw'r, O-ring	1	363721	
35	Retainer Cover	1	099644	
46	Key	1	361875	
66	Micrometer Nut SS	3	099793	
69	Bearing Lockwasher W08	1	099790	
89B	Thrust Lab Seal Rotary, 1.12" SS	1	099646	892 in drawing
89C	Thrust Lab Seal Rotary O Ring (2-024 FKM)	1	098954	893 in drawing
89E	Radial Lab seal Rotary, 1.50" SS	1	099647	895 in drawing
89F	Radial Lab Seal Rotary O Ring (2-029 FKM)	1	098972	896 in drawing
143	Oil Sight Glass 0.75-14 NPT	1	099645	
400	Bearing Frame Front Foot ( 6" sizes only)	1	090732	
403	Micrometer Stud (.37-24x2.38) SS ( 3 req'd.) ea.	3	099682	
404	Cartridge Locknut (.37-24) SS (3 req'd) ea.	3	099681	
405	Cartridge O-Ring (2-155 Buna)	1	099897	Included in #33
408	Oil Filler and Cap	1	098364	
414	Magnetic Drain Plug .25-18 NPT	2	099792	
432	Adapter Plate Assembly (req'd for 8" sizes only)	1	090700	
433	Magnetic Drain Plug .25-18 NPT	1	099792	
501	Retainer Cover Socket Head Cap Screws	8	361865	
*	Temperature Monitor (optional)	1	685362	
*	Bearing Housing Cooling Coil (optional)	1	099904	

\* Not depicted in drawing.



**LD23 and LD18 POWER END CONVERSIONS Cross Section**



NO.	ITEM	NO.	ITEM	NO.	ITEM
6	SHAFT	72	O-RING, FRAME ADAPTER	502	WASHER, RETAINER COVER
16	BEARING, RADIAL	143	SIGHT GLASS, OIL LEVEL	503	SCREW, BEARING FRAME FOOT
18	BEARING, THRUST	400	FOOT, BEARING FRAME	504	WASHER, BEARING FRAME FOOT
19	BEARING FRAME	403	STUD, CARTRIDGE	505	SCREW, JACK
22	LOCKNUT, THRUST	404	NUT, CARTRIDGE LOCK	506	SCREW, FOOT ADJUST
33	CARTRIDGE	405	O-RING, CARTRIDGE	892	LABYRINTH ROTOR, THRUST
35	COVER, BEARING RETAINER	408	OIL FILTER AND FILLER CAP	893	O-RING, LABYRINTH THRUST
46	KEY, COUPLING	413	LIFTING EYE	894	LABYRINTH STATOR, RADIAL
62	FLINGER FILTER	414	PIPE PLUG, MAGNETIC	895	LABYRINTH ROTOR, RADIAL
66	NUT, MICROMETER	433	PIPE PLUG, OIL DRAIN	896	O-RING, LABYRINTH RADIAL
69	WASHER, BEARING LOCK NUT	500	SCREW, FRAME ADAPTER		
71	FRAME ADAPTER	501	SCREW, RETAINER COVER		

## Power End Conversion SPARE PARTS LD18 and LD23

Part numbers in **bold** are for conversions only. Others also fit standard LD17.

Ref.#	Description	Parts/pump	Part #	Comment/Note
<b>6</b>	<b>Shaft Assemblies and Rotating Elements.</b>			
	Ref# 6-SA: <b>Shaft Assembly</b> Includes shaft (6), locknut (22), locknut washer (69), and key (46).			
	Ref# 6-RE: <b>Rotating Element</b> Includes shaft assembly (6-SA), bearings (16&18), bearing cover (35), flinger filter (62).			
6	<b>For Goulds 3196MT, MTX &amp; 3796 MT(X)</b>			
	Shaft Assembly 3196MT LD23 CS/316 1.375	1	<b>059193</b>	
	Rotating Element 3196MT LD23 CS/316 1.375		<b>059194</b>	
	<b>For Durco MkII and MkIII Group II</b>			
Shaft Assembly MK2/3 LD18 CS/316 1.375	1	<b>364276</b>		
Rotating Element MK2/3 LD18 CS/316 1.375		<b>364277</b>		
<b>Note:</b> Original ANSI length design uses 5310 thrust bearing and shaft is 1.125" at the coupling end. Shaft Assemblies for discontinued ANSI length power end conversions are unavailable. It is possible to convert old power ends to LD18 or LD23 standard. It may be more feasible to purchase complete LD18 or LD23 power end. Consult Blackmer for details.				
<b>Parts required to convert Original ANSI length Power End (1.125" cplg. end ) to current LD18 or LD23 design (1.375" cplg. end):</b>				
1 ea Rotating Element ***** CS/316 1.375 (ref 6)				
1 ea Frame Adapter (ref 71)				
1 ea Thrust Lab seal Stationary 1.50" NPS** (ref 89A)				
1 ea Thrust Lab Seal Rotary 1.50" 316SS (89B)				
1 ea Coupling half for 1.375" shaft (by others)				
** If cartridge is also being replaced, this item is unnecessary.				

Ref.#	Description	Part No.	Comment/Note
<b>11</b>	<b>Back Cover/Seal Chamber Assemblies</b>		
	Assemblies include hardware for mounting to frame adaptor and for mounting mechanical seals.		
	Assemblies do not include gasket (Ref #73A)		
11	<b>For Goulds 3196MT, MTX &amp; 3796 MT(X)</b>		
	Back Cover Assembly 3196MT LD23 316 10"	1	<b>059196</b>
	Back Cover Assembly 3196MT LD23 316 13"		<b>059198</b>
	<b>For Durco MkII and MkIII Group II</b>		
Back Cover Assembly Mark2/3 Group 2 CD4 10"	1	<b>089654</b>	
Back Cover Assembly Mark2/3 Group 2 CD4 13"		<b>089655</b>	
16	Radial Bearing 6310 C3	1	098381 Included in #6-RE
18	Thrust Bearing 7310 BEGAY (2 required)	2	098054 Included in #6-RE
19	Bearing Frame Assembly Includes: bearing frame (19), sight glass (143), stud (403), oil cap (408), eyebolt (413), plugs (414 and 433).	1	098299
22	Bearing Locknut N10	1	098383 Included in #6-SA
33	Cartridge Thrust Bearing Assembly Includes: cartridge (33), screw (35a), washers (35b), O-ring (405).	1	801140
35	Retainer cover	1	098371 Included in #6-RE
46	Key	1	059241 Included in #6-SA
62	Flinger Filter	1	098385 Included in #6-RE
66	Micrometer Nut SS	3	098376
69	Bearing Lockwasher W10	1	098384 Included in #6-SA
71	Frame Adapter LD23 10"	1	<b>059200</b>
	Frame Adapter LD23 13"		<b>059202</b>
	Frame Adapter LD18 10"		<b>364269</b>
	Frame Adapter LD18 13"		<b>364268</b>
72	Frame Adapter O-ring (2-265 Buna)	1	098396 Included in #71 assy



## Power End Conversion SPARE PARTS LD18 and LD23

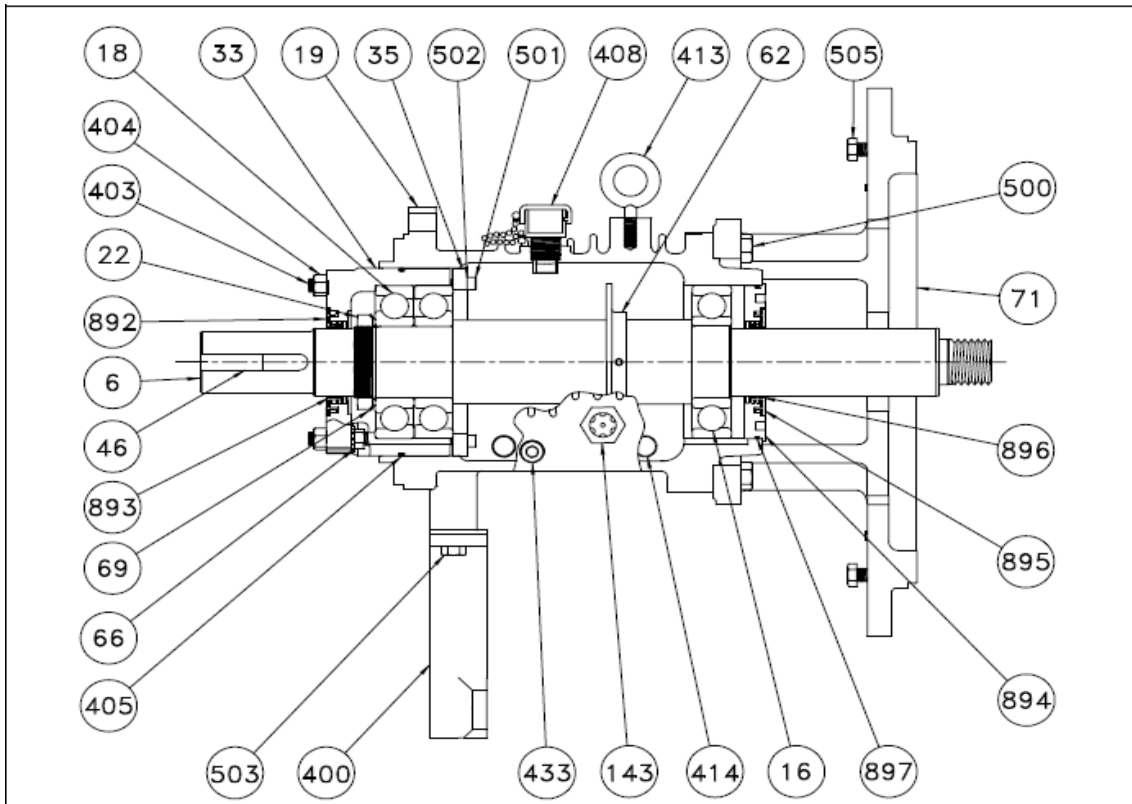
Part numbers in **bold** are for conversions only. Others also fit standard LD17.

Ref.#	Description	Parts/pump	Part #	Comment/Note
73	Back Cover Gasket CFN 10"	1	<b>363428</b>	
	Back Cover Gasket CFN 13"		<b>363427</b>	
	Back Cover Gasket PTFE 10"		<b>099848</b>	
	Back Cover Gasket PTFE 13"		<b>099847</b>	
89A	Thrust Lab seal Stationary 1.50" NPS	1	364238	Note 4.
<b>Note:</b>	Thrust lab seal stationaries have been omitted on all LD18 and LD23 Power End Conversions built after May 2000			
89B	Thrust Lab Seal Rotary 1.50" 316SS	1	090697	892 in drawing
89C	Thrust lab seal rotary O-ring 1.50" (2-128)	2	099924	(893) Included in #89B assy
89D	Radial Lab Seal Stationary 1.87" NPS	1	364240	894 in drawing
89E	Radial Lab seal Rotary 1.87" 316SS	1	098478	895 in drawing
89F	Radial lab seal rotary O-ring (2-134)	2	098374	(896) Included in #89E assy
143	Oil sight glass 1.00-11.5 NPT	1	098306	2nd SG optional
400	Bearing Frame Foot for 8.25" pumps without C-frame Adaptor	1	059293	Marked 2536
	Bearing Frame Foot 10.00" pumps without C-frame Adaptor		059295	Marked 2537
	C-Frame Adaptor Foot for 8.25" pumps		059297	Marked 2538
	C-Frame Adaptor Foot for 10.00" pumps		059293	Marked 2536
<b>Note:</b>	If C-frame adaptor is used, use C-frame adaptor feet attached to adaptor rather than bearing frame foot attached to frame. Bearing Frame Feet and C-Frame Adaptor feet include ref. 503, 504 & 506.			
403	Micrometer stud 1/2-20 UNF SS	3	098366	
404	Cartridge Locknut 1/2-20 UNF SS	3	098377	
405	Cartridge O-Ring (2-248 Buna)	1	098375	Included in #33 assy
408	Oil Filler & Cap Assembly	1	098364	
413	Lifting Eyebolt .50-13	1	098365	
414	Magnetic Plugs .50-14 NPT (2 req'd)	2	098363	
433	Drain plug .25-18 NPT	1	099792	
500	Hex Head Cap Screw, .62-11x1.25 (4 req.)	4	098331	
501	Retainer Cover Socket Head Cap Screws 10-32	8	098387	Included in #33 assy
502	Washer for 35A	8	098389	Included in #33 assy
503	Screw, Bearing Frame Foot	2	350729	
504	Washer for Screw 503	2	350727	
505	Jacking Screw	2	098278	Included in #71 assy
506	Screw, Bearing Frame Support	2	350728	
*	Temperature Monitor (optional)	1	685361	
*	Bearing Housing Cooling Coil Assy (optional)	1	098308	
*	Motor Adapter Foot Assembly 8.25" CLH		059297	Marked 2538
*	Motor Adapter Foot Assembly 10" CLH		059293	Marked 2536

\* Not depicted in drawing.



## FRAME M POWER END CONVERSIONS Cross Section



NO.	ITEM	NO.	ITEM	NO.	ITEM
6	SHAFT	71	FRAME ADAPTER	501	SCREW, RETAINER COVER
16	BEARING, RADIAL	143	SIGHT GLASS, OIL LEVEL	502	WASHER, RETAINER COVER
18	BEARING, THRUST	400	FOOT, BEARING FRAME	503	SCREW, BEARING FRAME FOOT
19	BEARING FRAME	403	STUD, CARTRIDGE	505	SCREW, JACK
22	LOCKNUT, THRUST	404	NUT, CARTRIDGE LOCK	892	LABYRINTH ROTOR, THRUST
33	CARTRIDGE	405	O-RING, CARTRIDGE	893	O-RING, LABYRINTH THRUST
35	COVER, BEARING RETAINER	408	OIL FILTER AND FILLER CAP	894	LABYRINTH STATOR, RADIAL
46	KEY, COUPLING	413	LIFTING EYE	895	LABYRINTH ROTOR, RADIAL
62	FLINGER FILTER	414	PIPE PLUG, MAGNETIC	896	O-RING, LABYRINTH RADIAL
66	NUT, MICROMETER	433	PIPE PLUG, OIL DRAIN	897	O-RING, STATOR RADIAL
69	WASHER, BEARING LOCK NUT	500	SCREW, FRAME ADAPTER		

## Power End Conversion SPARE PARTS Frame-M

All parts fit standard Frame M.

Ref.#	Description	Parts/pump	Part #	Comment/Note
6-SA	Shaft Assembly CS/316 Includes shaft (6), Locknut (22), Key (46) and washer 69).	1	637473	
6-RE	Rotating Element CS/316 Includes shaft assembly (6-SA), bearings (16&18), cover (35), flinger (62), and screw (62a).		637472	
14*	Motor Frame Adaptor (284TC - 365TC) (Optional)	1	640588	
	Includes 5-350483; 4-098277; 4-637486			
	Motor Frame Adaptor (404TC - 449TC) (Optional) includes 9-350483; 4-350483; 4-637486		640589	
16	Radial Bearing 6314 C3	1	630999	
18	Thrust Bearing (7314 BEGay)	2	630998	
19	Bearing Frame Assembly Includes bearing frame (19), sight glass (143), studs (403), oil cap (408), eyebolt (413), plugs (414&433).	1	637480	
22	Bearing Locknut N14	1	637474	
33	Thrust Bearing Cartridge Includes cartridge (33), Screws (35a), washers (35b), and O ring (405).	1	637476	
35	Retainer Cover	1	634929	
46	Key	1	360346	
62	Flinger	1	634930	
62A	Set screw for Flinger	1	350429	
66	Micrometer Nut (.50"-20) 304SS	4	637484	
69	Bearing Lockwasher W14	1	637475	
71	Frame Adapter 13" D.I. Includes jack screws (71a)	1	637470	
	Frame Adapter 15" D.I. Includes jack screws (71a)	1	981457	
89B	Thrust Lab Seal Rotary	1	634931	892 in drawing
89C	Thrust Lab Seal Rotary O-Ring (2-146 FKM)	2	360797	893 in drawing
89D	Radial Lab Seal Stationary	1	634932	894 in drawing
89E	Radial Lab Seal Rotor	1	634931	895 in drawing
89F	Radial Lab Seal Rotary O-Ring (2-146 FKM)	2	360797	896 in drawing
89G	Radial Lab Seal Stationary O-Ring (2-161 FKM)	1	363628	897 in drawing
143	Oil Sight Glass 1.00"-11.5 NPT	1	098306	
400	Bearing Frame Foot C.I.	1	634978	
400A	Foot Bolts (.62-11x1.50)	2	981706	
403	Micrometer Stud (.50"-20 x4" ) CS	4	637481	
404	Cartridge Locknut (.50"-20) CS	4	637485	
405	Cartridge O -Ring (2-262 Buna)	1	637477	
408	Oil Filler	1	098364	
413	Lifting Eyebolt .50"-13	1	098365	
414	Magnetic Plug .50"-14 NPT	2	098363	
433	Magnetic Plug .25"-18 NPT	1	099792	
500	Bolt for Adaptor/Bearing frame .62"-11x1.75 CS	6	637486	
501	Retainer Cover Socket Head Cap Screws	8	637478	
502	Washer for Screws	8	637479	
505	Jacking screw	3	801187	Included in #71
*	Temperature Monitor (Optional)	1	685361	
*	Cooling Coil (Optional)	1	643085	

\* Not depicted in drawing

