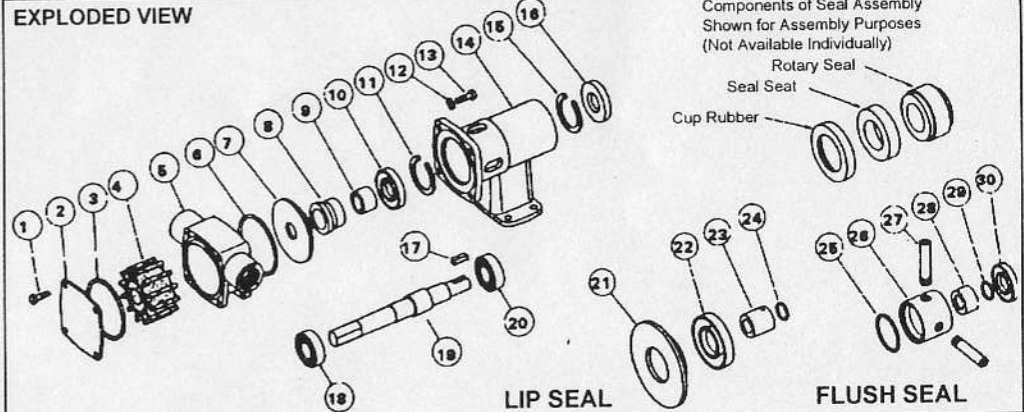


PARTS LIST			STANDARD PRESSURE IMPELLER			HIGH PRESSURE IMPELLER		
			Neoprene Elast: 28330-2101	Nitrile Elast: 28330-2103	Viton Elast: 28330-2104	Neoprene Elast: 28330-2121	Nitrile Elast: 28330-2123	Viton Elast: 28330-2124
Key	Description	Qty						
1	Screw	4	X3001-176F	X3001-176F	X3001-176F	X3001-176F	X3001-176F	X3001-176F
2	Endcover	1	28305-0010	28305-0010	28305-0010	28305-0010	28305-0010	28305-0010
3	"O" Ring	1	X4020-269A	X4020-269A	X4020-269B	X4020-269A	X4020-269A	X4020-269B
4	Impeller*	1	14282-0001B	14282-0003B	14282-0004B	8840-0021B	8840-0023B	8840-0024B
5	Body	1	28334-2000	28334-2000	28334-2000	28334-2000	28334-2000	28334-2000
6	"O" Ring	1	X4020-269A	X4020-269A	X4020-269B	X4020-269A	X4020-269A	X4020-269B
7	Wearplate (2)	1	28336-0000	28336-0000	28336-0000	28336-0000	28336-0000	28336-0000
8	Seal Assy*(2)	1	28331-0103B	28331-0103B	28331-0104B	28331-0103B	28331-0103B	28331-0104B
9	Seal Spacer (1)	1	28317-0000	28317-0000	28317-0000	28317-0000	28317-0000	28317-0000
10	Lip Seal	1	SP2701-0910	SP2701-0910	SP2701-0910	SP2701-0910	SP2701-0910	SP2701-0910
11	Retaining Ring	1	SP1701-438	SP1701-438	SP1701-438	SP1701-438	SP1701-438	SP1701-438
12	Washer	4	X3080-091F	X3080-091F	X3080-091F	X3080-091F	X3080-091F	X3080-091F
13	Screw	4	X3001-180F	X3001-180F	X3001-180F	X3001-180F	X3001-180F	X3001-180F
14	Bearing Housing	1	28303-0000	28303-0000	28303-0000	28303-0000	28303-0000	28303-0000
15	Retaining Ring	1	SP1701-438	SP1701-438	SP1701-438	SP1701-438	SP1701-438	SP1701-438
16	Lip Seal	1	SP2701-0910	SP2701-0910	SP2701-0910	SP2701-0910	SP2701-0910	SP2701-0910
17	Key	1	X4000-130A	X4000-130A	X4000-130A	X4000-130A	X4000-130A	X4000-130A
18	Bearing	1	SP2601-33	SP2601-33	SP2601-33	SP2601-33	SP2601-33	SP2601-33
19	Shaft	1	28307-0000	28307-0000	28307-0000	28307-0000	28307-0000	28307-0000
20	Bearing	1	SP2601-33	SP2601-33	SP2601-33	SP2601-33	SP2601-33	SP2601-33
Service Kit Contains*			SK377-0101	SK377-0103	SK377-0104	SK377-0121	SK377-0123	SK377-0124
Other Seal Options								
Model No. With H/F Seal			28330-2201	28330-2203	28330-2204	28330-2221	28330-2223	28330-2224
Model No. With Lip Seal			28330-2401	28330-2403	Not Available	28330-2421	28330-2423	Not Available
Model No. With H/F Seal Flushed			28330-2701	28330-2703	28330-2704	28330-2721	28330-2723	28330-2724
Model No. With Standard Seal Flushed			28330-2901	28330-2903	28330-2904	28330-2921	28330-2923	28330-2924
Parts For Appropriate Seal Conversion								
8	H/F Seal Assy	1	28331-0203B	28331-0203B	28331-0204B	28331-0203B	28331-0203B	28331-0204B
Lip Seal Kit No. & Contains			28331-0403B	28331-0403B	Not Available	28331-0403B	28331-0403B	Not Available
21	Wearplate	1	28366-0000	28366-0000	Not Available	28366-0000	28366-0000	Not Available
22	Lip Seal	1	SP2701-0914	SP2701-0914	Not Available	SP2701-0914	SP2701-0914	Not Available
23	Seal Spacer	1	28365-0011	28365-0011	Not Available	28365-0011	28365-0011	Not Available
24	"O" Ring	1	X4020-217A	X4020-217A	Not Available	X4020-217A	X4020-217A	Not Available
Flush Seal Kit No. & Contains			28332-0000B	28332-0000B	28332-0000B	28332-0000B	28332-0000B	28332-0000B
25	"O" Ring	1	X4020-244A	X4020-244A	X4020-244A	X4020-244A	X4020-244A	X4020-244A
26	Seal Housing	1	28312-0000	28312-0000	28312-0000	28312-0000	28312-0000	28312-0000
27	Tube	2	21844	21844	21844	21844	21844	21844
28	Seal Spacer	1	28317-0001	28317-0001	28317-0001	28317-0001	28317-0001	28317-0001
29	"O" Ring	1	X4020-217A	X4020-217A	X4020-217A	X4020-217A	X4020-217A	X4020-217A
30	Seal	1	SP2701-0914	SP2701-0914	SP2701-0914	SP2701-0914	SP2701-0914	SP2701-0914

(1) Key 9 Not Required For Models With Lip Seal And Flush Seal. (2) Key 7 & 8 Not Required For Lip Seal Models

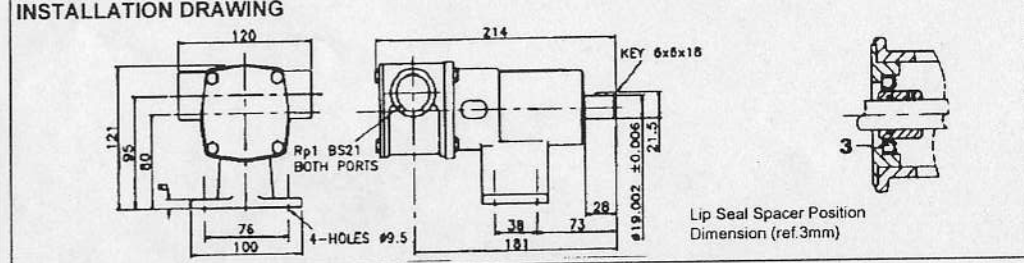


SERVICE INSTRUCTIONS

- Dis-Assembly**
- Remove screws (1), endcover and "O" ring.
 - Remove screws (13). Slide off body complete with impeller and wearplate.
 - Remove seal seat, cup rubber from the wearplate and push out impeller and "O" ring from body.
 - Gently lever the seal spacer and seal (8) off the shaft.
 - Prise out seal (16). Remove retaining ring (15) and carefully withdraw shaft and bearing assembly. Remove retaining ring (11) and push out seal (10).
 - To remove bearings from shaft an arbor press is required alternatively a bearing extractor may be used. Support inner race of bearing then apply a steady pressure on shaft until bearing is free. Repeat this procedure to remove other bearing.
- PUMPS WITH LIP SEAL:-** Push out lip seal (22) from wearplate (21). Loosen set screw to remove seal spacer (23). Prise out "O" ring (24) from seal spacer.
- PUMPS WITH FLUSH SEAL:-** After pulling out rotary seal, unscrew tubes (27) and pull out seal housing (26). Remove seal spacer (28) and prise out "O" ring (29). Remove "O" ring (25) and lip seal (30) from seal housing.

- Assembly**
- To fit bearings onto shaft:- Support inner race of bearing and press the shaft until bearing locates against the shoulder. Repeat procedure for other bearing.
 - Fit retaining ring (11) and lip seal (10) ensuring that spring on seal is facing outwards.
 - Fill the bearings with grease, and the space between bearings two thirds full. Smear grease on the shaft where lip seal locates. Push shaft and bearing assembly into bearing housing. Fit retaining ring (15) and seal (16) with spring facing outwards.
 - To fit seal:- Smear shaft with lubricating oil and slide seal spacer (19) up to the shoulder on shaft. Push rotary seal gently until it touches the spacer. Fit cup rubber and seal seat into wearplate (7). Slide wearplate assembly over the shaft.
 - Fit impeller into lubricated body with twisting motion in the same rotation as motion. Fit "O" ring (6) into body and slide over shaft.
 - Align wearplate and body into bearing housing and secure with screws (13) and washers (12). Do Not overtighten, a gap between bearing housing and body is normal. These screws and endcover screws should be tightened to a torque of 3.4 Nm.
 - Fit "O" ring (3) into body and place endcover over body and secure with screws (1). **PUMPS WITH LIP SEAL:-** Ensure "O" ring (24) is fitted under seal spacer (23). Smear seal spacer and shaft with lubricating oil. Slide spacer over shaft and secure with set screw to dimension shown. Press lip seal (22) into wearplate (21) and follow on from step 5 above.
- PUMPS WITH FLUSH SEAL:-** Ensure "O" ring (29) is fitted under seal spacer (28). Smear seal spacer and shaft with lubricating oil. Slide spacer over shaft up to shoulder. Press lip seal (30) into seal housing (26) and slide into position over shaft. Fit tubes (27) sealing with PTFE tape. Rotary seal and "O" ring (25) can now be fitted. Follow on from step (5) above.

Inspect all parts for wear or damage and replace if necessary.



Lip Seal Spacer Position Dimension (ref.3mm)