

# OPERATOR'S MANUAL

# 1875AXXXXXX

INCLUDING: SERVICE KITS, TROUBLESHOOTING, PARTS LIST,  
DISASSEMBLY AND REASSEMBLY.

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(REV: E)

## 1875AXXXXXX

### LOWER PUMP END

Also covers K1875AXXXXXX service kits



**READ THIS MANUAL CAREFULLY BEFORE INSTALLING,  
OPERATING OR SERVICING THIS EQUIPMENT.**

It is the responsibility of the employer to place this information in the hands of the operator. Keep for future reference.  
The original language of this manual is English.

#### GENERAL DESCRIPTION

**⚠ WARNING** DO NOT EXCEED MAXIMUM OPERATING PRESSURE AS INDICATED ON PUMP MODEL PLATE.

**⚠ WARNING** REFER TO GENERAL INFORMATION SHEET FOR ADDITIONAL SAFETY PRECAUTIONS AND IMPORTANT INFORMATION.

- This manual covers the lower pump section. It is one of four documents which support an ARO pump. Replacement copies of these forms are available upon request.
  - ☐ Pump Model Operator's Manual.
  - ☐ General Information for Air / Hydraulically Operated Piston Pumps.
  - ☒ Lower Pump End Operator's Manual.
  - ☐ Air / Hydraulic Motor Operator's Manual.

#### MAINTENANCE

The air / hydraulic motor is completely separate from the lower pump end. This helps to keep the motor from being contaminated by the material being pumped. Periodically, flush entire pump system with a solvent that is compatible with the material being pumped.

Keep solvent cup filled with this compatible solvent. This will keep the material from drying on the plunger, which would drag through the packings, ruin them and eventually scour the plunger. Provide a clean work surface to protect sensitive internal moving parts from contamination from dirt and foreign matter during disassembly and reassembly.

Before reassembling, lubricate parts as required. When assembling "O" rings, or parts adjacent to "O" rings, exercise care to prevent damage to "O" rings and "O" ring groove surface.

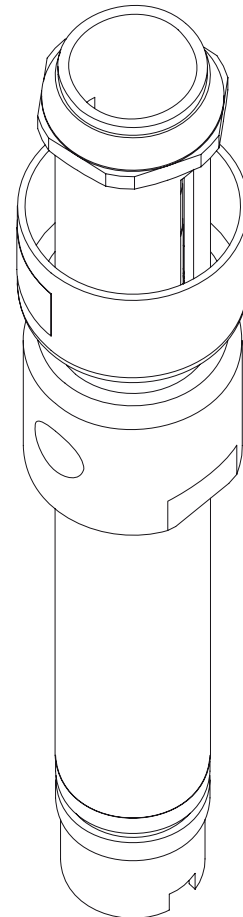


Figure 1

## MODEL DESCRIPTION CHART

**1875 A X X X X X**

**Inside Diameter of Pump Cylinder**

1875 - 1.875" ID

**Check Type / Wetted Material**

A - Two Ball, Carbon Steel

**Container Suitability**

- 1 - Remote Mounting
- 2 - 5 gallon
- 5 - 55 gallon
- 8 - Remote Mounting with Optional Inlet
- 9 - 5 gallon with Optional Piston

**Inlet / Outlet Tread Type**

1 - SAE

**Upper Packing**

- A - Viton / Virgin PTFE Staggered
- F - UHMW-PE
- H - UHMW- PE / Leather Staggered
- K - Glass Filled PTFE
- L - Leather
- S - Virgin PTFE
- U - Glass Filled PTFE / Leather Staggered

**Lower Packing**

- F - UHMW-PE
- L - Leather
- S - Virgin PTFE

**Spring Type / Solvent Cup**

2 - Coil Spring, Standard Solvent Cup

**Plunger Type**

- 4 - Carbon Steel, hard Chrome Plated
- D - Carbon Steel, Hard Chrome Plated Alternate Piston

## PARTS LIST

Item	Description (size)	Qty	Part No.	Mtl
1	Plunger	(1)	90584	[C]
2	Lock Nut	(1)	90571	[C]
3	Spacer Tube	(1)	90582	[C]
❶ 4	"O" Ring (1/16" x 2" OD)	(1)	Y325-32	[B]
5	Solvent Cup	(1)	91182	[C]
6	Washer	(1)	77432	[SS]
❶ 7	Female Packing Washer	(1)	77327	[D]
❶ 8	"V" Packing (1875AXXAXXX)	(3)	90578-3	[T]
	(1875AXXLXXX)	(4)	90578-1	[L]
	(1875AXXKXXX)	(6)	90578-2	[T]
	(1875AXXUXXX)	(3)	90578-2	[T]
	(1875AXXSXXX)	(6)	90578-3	[T]
	(1875AXXFXXX)	(6)	90578-4	[UH]
❶ 9	"V" Packing (1875AXXAXXX)	(3)	90578-5	[V]
	(1875AXXHXXX, 1875AXXUXXX)	(3)	90578-1	[L]
	(1875AXXLXXX)	(3)	90580	[Br]
❶ 10	Male Packing Washer	(1)	91349	[D]
❶ 11	Spring	(1)	90120	[C]
❶ 12	Washer	(1)	90125	[SS]
13	Pump Body	(1)	90579	[C]
14	Connector Rod (1875A1XXXXX, 1875A2XXXXX, 1875A8XXXXX)	(1)	76507	[C]
	(1875A5XXXXX)	(1)	90642	[C]
	(1875A9XXXXX)	(1)	91168	[C]
15	Nut (1875A1XXXXX, 1875A2XXXXX, 1875A5XXXXX, 1875A8XXXXX)	(1)	Y11-108-N	[C]

### MATERIAL CODE

[B]	= Nitrite
[Br]	= Brass
[C]	= Carbon
[D]	= Acetal
[L]	= Leather

### MATERIAL CODE

[SS]	= Stainless Steel
[T]	= PTFE
[UH]	= UHMW-PE
[V]	= Viton

## LOWER PUMP DISASSEMBLY

NOTE: All threads are right hand.

- Secure the lower pump assembly in a vise, clamping on flats of (12) pump body.
- Securely hold (21) suction tube with a strap wrench and unthread and remove (26) foot valve body.
- Remove (25) dowel pin, (24) ball, (22) snap ring and (23) "O" ring.
- Using a strap wrench, unthread and remove (21) suction tube and (19) "O" ring seal from (12) pump body.

## LOWER PUMP REASSEMBLY

NOTE: Thoroughly clean and lubricate all seals. Replace all soft parts with new ones included in the repair kit. Lubricate all threads and (12 and 21) washers with Shell Gadus® S2 U1000 grease before assembly. Note: Refer to the illustration (figure 2, page 2) for "V" packing lip direction.

- Assemble (4) "O" ring to groove in (3) spacer tube and assemble (5) solvent cup to (3) spacer tube.
- Assemble (6) washer, (7) female packing washer, (8 and 9) "V" packings, (10) male packing washer and (11) spring into (3) spacer tube.
- Assemble (12) washer and (3) spacer tube and components into (13) pump body. NOTE: Do not tighten at this time.
- Slide (1) piston rod into (3) spacer tube and (13) pump body, being careful not to damage (8 and 9) "V" packings.

Item	Description (size)	Qty	Part No.	Mtl
16	Cup Follower	(1)	75678	[C]
❶ 17	Cup (1875A1XXSXX, 1875A2XXSXX, 1875A5XXSXX, 1875A8XXSXX)	(1)	73919	[T]
	(1875A9XXSXX)	(2)	73919	[T]
	(1875A1XXLXX, 1875A2XXLXX, 1875A5XXLXX, 1875A8XXLXX)	(1)	75680	[L]
	(1875A9XXLXX)	(2)	75680	[L]
	(1875A1XXFXX, 1875A2XXFXX, 1875A5XXFXX, 1875A8XXFXX)	(1)	92867-1	[UH]
❶ 18	(1875A9XXFXX)	(2)	92867-1	[UH]
	Washer	(1)	75682	[C]
19	Ball (1.0000" diameter)	(1)	Y16-232	[C]
20	Inner Check Seat (1875AXXXXXX4)	(1)	75681	[C]
	(1875AXXXXXXD)	(1)	90583	[C]
❶ 21	Washer	(1)	90125	[SS]
22	Suction Tube (1875A9XXXXX)	(1)	90581	[C]
	(1875A5XXXXX)	(1)	90641	[C]
	(1875A1XXXXX, 1875A2XXXXX, 1875A8XXXXX)	(1)	91116	[C]
❶ 23	"O" Ring (0.070 x 1.879" OD) (1875AXX-FXXX, 1875AXXHXXX, 1875AXXLXXX, 1875AXXSXXX)	(1)	Y325-223	[B]
	(1875AXXKXXX, 1875AXXUXXX)	(1)	Y327-223	[V]
	Ball (1.1875" diameter)	(1)	Y16-238	[C]
25	Ball Stop Pin (3/16" x 1.812")	(1)	90438	[SS]
26	Foot Valve Seat (1875A8XXXXX)	(1)	77006	[C]
	(1875A5XXXXX)	(1)	90119	[C]
	(1875A2XXXXX, 1875A9XXXXX)	(1)	90441	[C]
	(1875A1XXXXX)	(1)	94398	[C]
❶	Items included in Service Kit	(1)	K1875AXXXXXX	

- Apply Loctite® 242® Thread locker to threads of (14) connector and assemble to (16) cup follower.
- Assemble (17) cup, (18) washer, (17) cup and (19) ball to (16) cup follower, securing with (20) inner check seat. **NOTE:** Tighten to 65 - 70 ft lbs (88.1 - 94.9 Nm).
- Assemble (21) washer into (13) pump body.
- Apply Loctite 242 Thread locker to threads of (14) connector and thread into (1) piston rod.
- Assemble (22) suction tube to (13) pump body, being careful not to damage (17) cups.
- Assemble (23) "O" ring to groove in (26) foot valve seat.
- Assemble (24) ball to (26) foot valve seat, securing with (25) ball stop pin.
- Assemble (26) foot valve seat and components to (22) suction tube. NOTE: Tighten to 150 - 175 ft lbs (203.4 - 237.3 Nm).
- Tighten (3) spacer tube to (13) pump body.

## TROUBLESHOOTING

### Material leakage out of solvent cup.

- Worn packings. Replace (8 and 9) packings.

### Material in one stroke only (fast upstroke).

- (19) ball may not be seating on (20) inner check seat. Remove ball from assembly, clean and inspect the ball seat area. If either the ball or the inner check seat is damaged, replace.

### Material in one stroke only (fast down stroke).

- (24) ball may not be seating on (26) foot valve seat. Remove ball from foot valve, clean and inspect the ball and seat area. If either the ball or the foot valve seat is damaged, replace. Also, restriction on the suction inlet will cause fast down stroke (collapsed hose).

## PARTS LIST

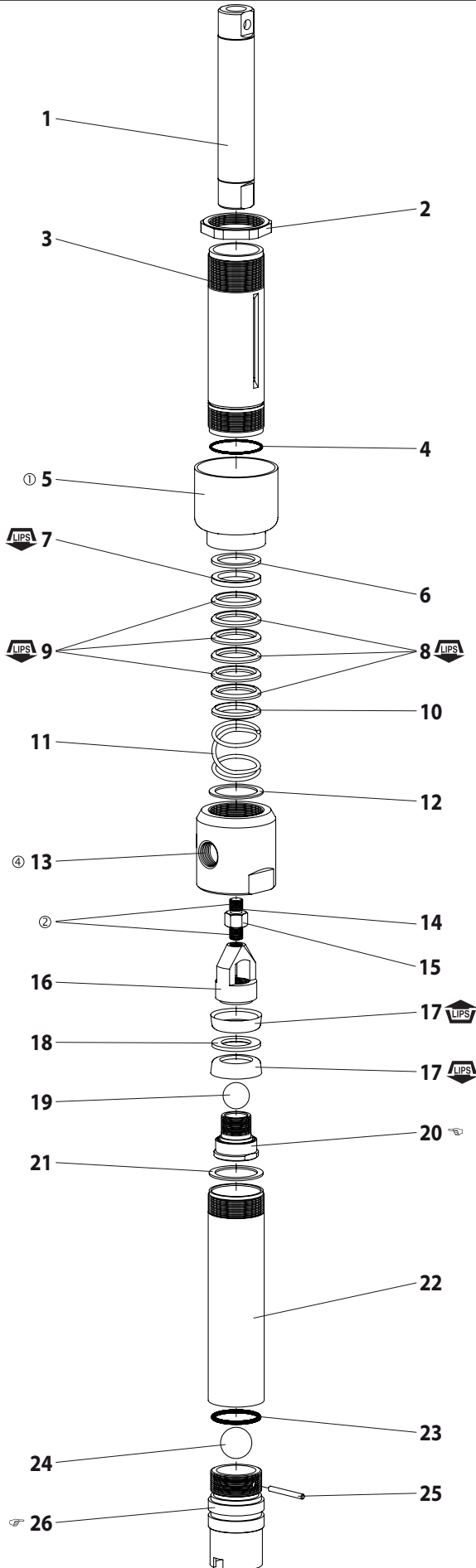


Figure 2

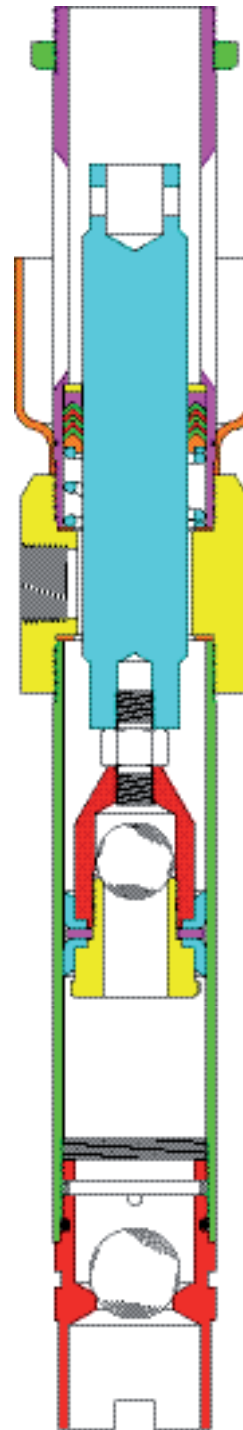


Figure 3

### ASSEMBLY TORQUE REQUIREMENTS

**NOTE: DO NOT OVERTIGHTEN FASTENERS.**

(3) spacer tube, (21) suction tube and (26) foot valve body  
125 - 150 ft lbs (165.5 - 203.4 Nm).

(13) connector rod and (14) cup follower 50 ft lbs (67.8 Nm).  
(18) inner check seat 65 - 70 ft lbs (88.1 - 94.9 Nm)

### LUBRICATION / SEALANTS

- ① Apply Loctite nickel anti-seize to threads.
- ② Lubricate packings with WetSol upon assembly.