OPERATOR'S MANUAL 1875AXXXXXX

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

RELEASED: 9-15-10
(REV. 01)

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 piston rod, which would drag through the packings, ruin them and eventually scour the piston rod.

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.

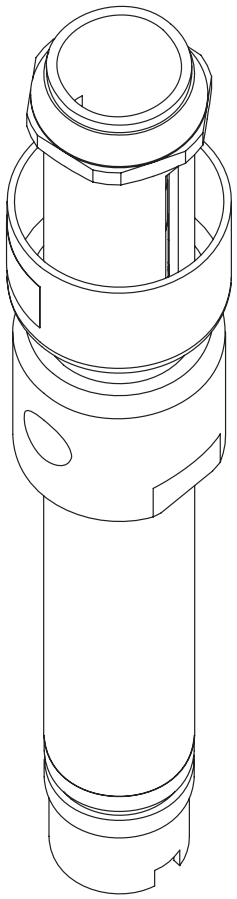


Figure 1

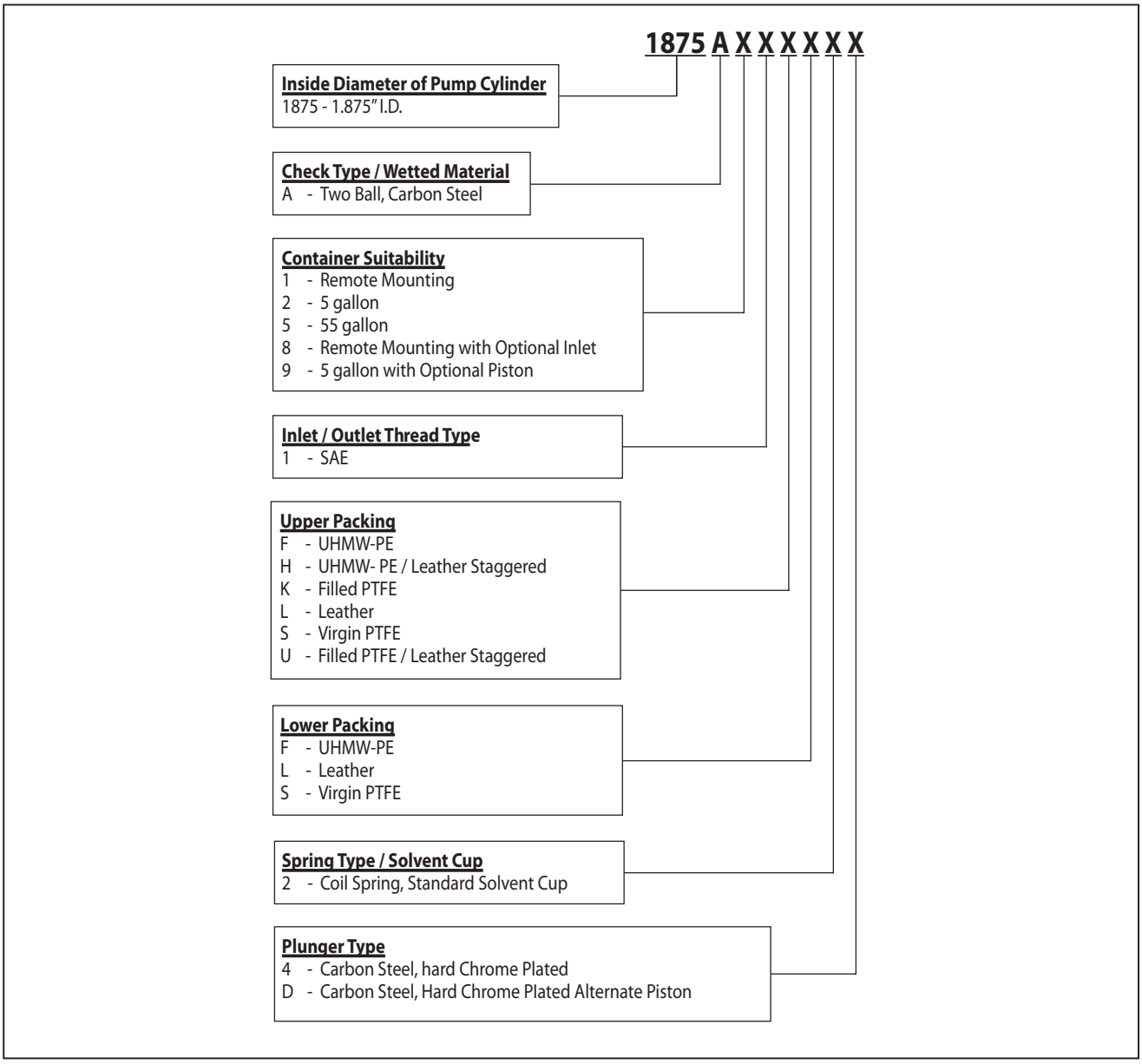
INGERSOLL RAND COMPANY LTD
209 NORTH MAIN STREET – BRYAN, OHIO 43506
(800) 495-0276 • FAX (800) 892-6276
www.ingersollrandproducts.com

CCN 46726246

ARO

Ingersoll Rand
Industrial Technologies

MODEL DESCRIPTION CHART



PARTS LIST

Item	Description (size)	Qty	Part No.	Mtl
1	Piston Rod	(1)	90584	[C]
2	Lock Nut	(1)	90571	[C]
3	Spacer Tube	(1)	90582	[C]
❶ 4	"O" Ring (1/16" x 2" o.d.)	(1)	Y325-32	[B]
5	Solvent Cup	(1)	91182	[C]
6	Washer	(1)	77432	[SS]
7	Female Packing Washer	(1)	77327	[D]
❶ 8	"V" Packing (models 1875AP4H, AP4L, AP4U)	(3)	90578-1	[L]
	(models 1875AP4K, AP4U)	(6)	90578-2	
	(models 1875AP4S)	(6)	90578-3	[T]
	(models 1875AP4F, AP4H)	(3)	90578-4	[UH]
❶ 9	"V" Packing (models 1875AP4L)	(3)	90580	[Br]
	(models 1875AP4S)	(2)	90578-3	[T]
	(models 1875AP4F, AP4H)	(2)	90578-4	[UH]
10	Male Packing Washer	(1)	91349	[D]
11	Spring	(1)	90120	[C]
❶ 12	Washer	(1)	90125	[Co]

Item	Description (size)	Qty	Part No.	Mtl
13	Pump Body	(1)	90579	[C]
14	Connector	(1)	91168	[C]
16	Cup Follower	(1)	75678	[C]
❶ 17	Cup (models 1875A1P5L, A9P5L)	(2)	75680	[L]
	(models 1875A1P5S, A9P5S)	(2)	73919	[T]
	(models 1875A9P5F)	(2)	92867-1	[UH]
18	Washer	(1)	75682	[C]
19	Ball (1.0000" diameter)	(1)	Y16-232	[C]
20	Inner Check Seat	(1)	90583	[C]
❶ 21	Washer	(1)	90125	[Co]
22	Suction Tube	(1)	90581	[C]
23	"O" Ring (1/8" x 1-7/8" o.d.)	(1)	Y325-223	[B]
24	Ball (1.1875" diameter)	(1)	Y16-238	[C]
25	Ball Stop Pin (3/16" o.d. x 1-13/16")	(1)	90438	[SS]
26	Foot Valve Seat	(1)	90441	[C]
❶	Items included in Service Kit	(1)	K1875AXXXXXX	

MATERIAL CODE

[B] = Nitrile
[Br] = Brass
[C] = Carbon Steel
[Co] = Copper
[D] = Acetal
[L] = Leather
[SS] = Stainless Steel
[T] = PTFE
[UH] = UHMW-PE

LOWER PUMP DISASSEMBLY

NOTE: All threads are right hand.

1. Secure the lower pump assembly in a vise, clamping on flats of (13) pump body.
2. Securely hold (22) suction tube with a strap wrench and unthread and remove (26) foot valve seat.
3. Remove (25) ball stop pin, releasing (24) ball.
4. Using a strap wrench, unthread and remove (22) suction tube and (21) washer from (13) pump body.
5. Push (1) piston rod and components out thru the bottom end of (13) pump body. NOTE: Be careful not to damage the finish on (1) piston rod.
6. Unthread and remove (20) inner check seat, releasing (19) ball, (17) cups and (18) washer.
7. Unthread and remove (3) spacer tube and (5) solvent cup from (13) pump body, releasing (12) washer, (11) spring, (8 and 9) "V" packings, (7) female packing washer and (6) washer.
8. Unthread and remove (5) solvent cup from (3) spacer tube and remove (4) "O" ring.
9. Unthread and remove (14) connector from (1) piston rod and (16) cup follower.

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.

1. Assemble (4) "O" ring to groove in (3) spacer tube and assemble (5) solvent cup to (3) spacer tube.
2. Assemble (6) washer, (7) female packing washer, (8 and 9) "V" packings, (10) male packing washer and (11) spring into (3) spacer tube.
3. Assemble (12) washer and (3) spacer tube and components into (13) pump body. NOTE: Do not tighten at this time.
4. Slide (1) piston rod into (3) spacer tube and (13) pump body, being careful not to damage (8 and 9) "V" packings.
5. Apply Loctite® 242® Threadlocker to threads of (14) connector and assemble to (16) cup follower.
6. 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).
7. Assemble (21) washer into (13) pump body.
8. Apply Loctite 242 Threadlocker to threads of (14) connector and thread into (1) piston rod.
9. Assemble (22) suction tube to (13) pump body, being careful not to damage (17) cups.
10. Assemble (23) "O" ring to groove in (26) foot valve seat.
11. Assemble (24) ball to (26) foot valve seat, securing with (25) ball stop pin.
12. Assemble (26) foot valve seat and components to (22) suction tube. NOTE: Tighten to 150 - 175 ft lbs (203.4 - 237.3 Nm).
13. Tighten (3) spacer tube to (13) pump body.

TROUBLE SHOOTING

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 downstroke).

- (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 downstroke (collapsed hose).

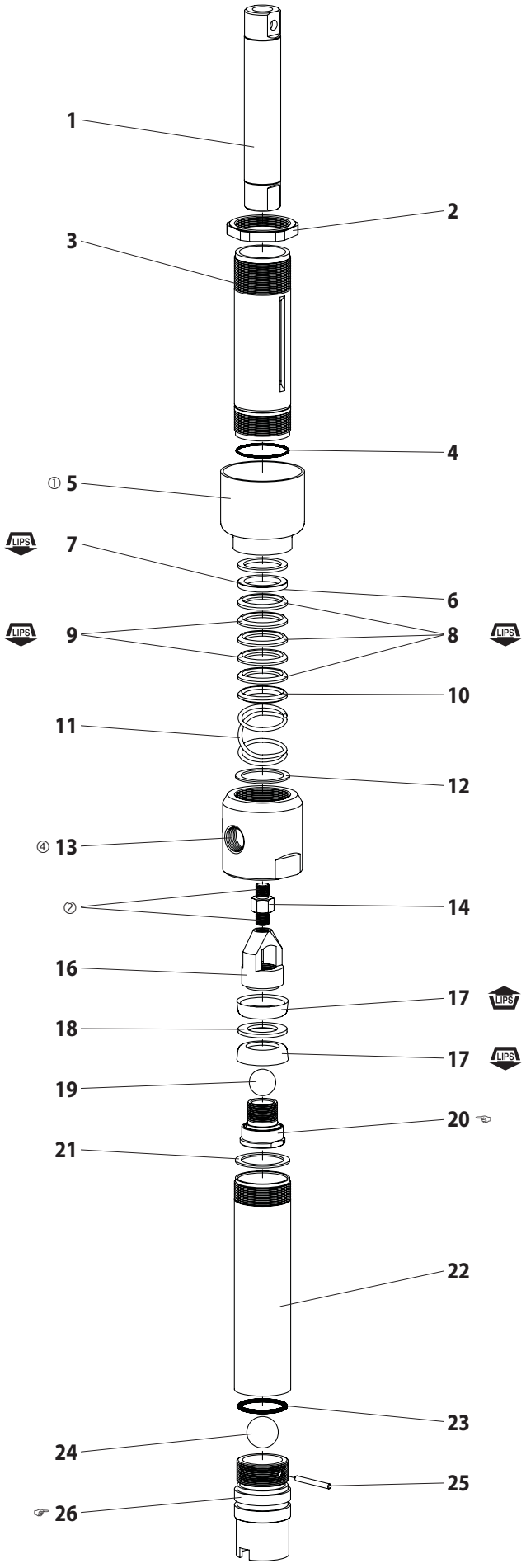


Figure 2

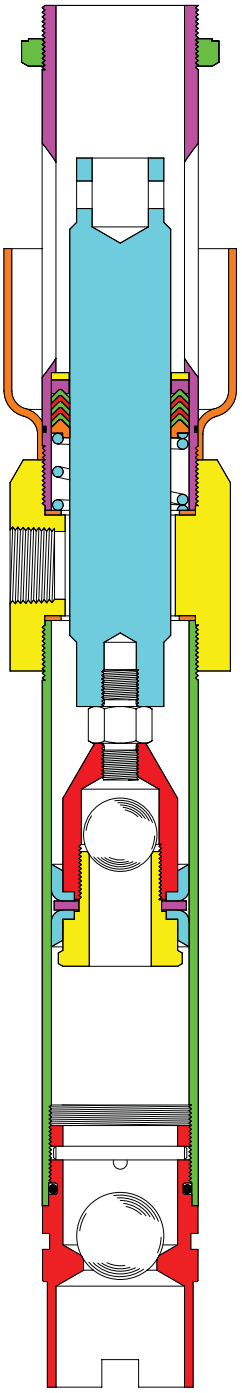


Figure 3

ASSEMBLY TORQUE REQUIREMENTS

NOTE: DO NOT OVERTIGHTEN FASTENERS.

(20) inner check seat, 65 - 70 ft lbs (88.1 - 94.9 Nm).
(26) foot valve seat, 150 - 175 ft lbs (203.4 - 237.3 Nm).

LUBRICATION / SEALANTS

① Keep solvent cup filled with a lubricant such as Wet-Sol "Plus" or equivalent.
② Apply Loctite® 242® to threads.
③ Apply Shell Gadus® S2 U1000 to all threads and (12 and 21) washers.
④ 3/4 - 14 NPTF - 1