• INSTALLATION, MAINTENANCE AND ADJUSTMENT OF “DEAD MAN” FLOW SHUT-OFF VALVE

model 417

TECNOLOGIA EM MANUSEIO DE LÍQUIDOS

REDLANDS

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1. INTRODUCTION

Used primarily in industrial applications, this valve features two-part construction (body and cap), with a robust appearance and fully reliable under severe working conditions.

2. INSTALLING THE 417 FLOW SHUT-OFF VALVE

When the valve is installed, operate the lever by moving it several times in rapid succession to vent the air trapped in the cylinder. This way, the valve is ready for use.

Image 1. Operate the valve using the lever to vent the air trapped in the cylinder.

Image 2. When the lever is pulled back, the piston opens the passage for the flow.

3. MAINTENANCE OF 417 VALVE

3.1. Tools required.

- 11/16” open-end wrench.
- 3/8” open-end wrench.
- 5/16” Allen wrench.
- Screwdriver.
- Adjustable (crescent) wrench.

Image 1. Tools used for maintenance and adjustment of the 417 valve.

3.2. Maintenance 417 Valve

1. In some cases, the seal of the valve piston gets worn down, causing leakage. To change the valve seal, remove the screws with a 11/16” open-end wrench and remove the cover carefully because it is under pressure from the spring.

Image 3. Remove all the screws of the valve cover.

Image 4. Open the lid carefully.

2. Remove the spring from the valve seat, pulling it out.

3. The valve piston subassembly can be removed by pushing the drive lever forward. (Note: Care should be taken when re-assembling the disc guide, maintaining it perfectly centered.)

Image 5. Move the lever forward and release the piston assembly.

Image 6. Remove the piston subassembly from the valve carefully.

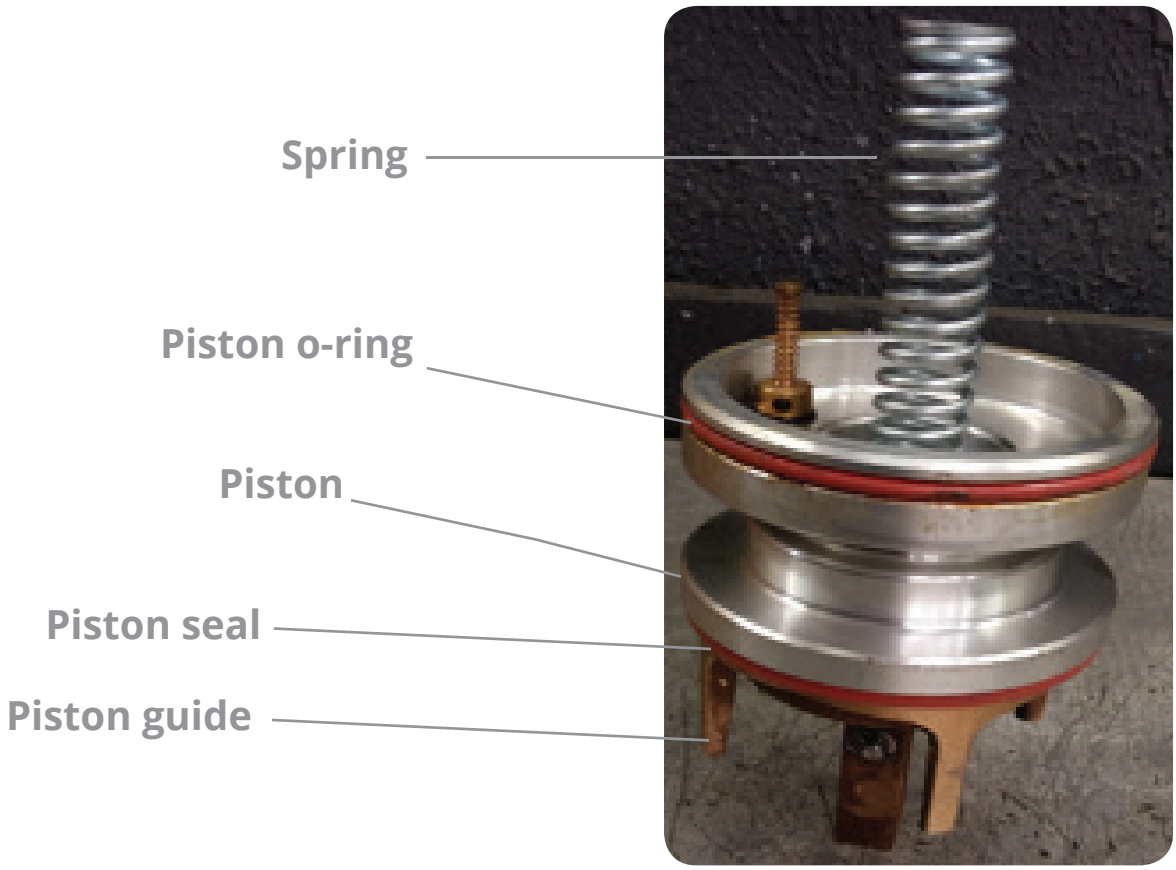


Image 7. Drive piston.

4. Then remove the three screws from the base of the guide with the 1/4" Allen wrench.

Image 8. Turn the Allen wrench counter-clockwise.

5. Using an 11/16" open-end wrench, unscrew the copper seat counterclockwise, releasing the fork.

Image 9. Pull the guide, separating it from the piston.

6. This way, the piston subassembly will be free to change the seal.

Image 10. Remove the seal to replace it.

7. Follow the instructions in the opposite order to reassemble the piston subassembly.
(Note: When reassembling the valve, it is recommended to place a new piston o-ring.)

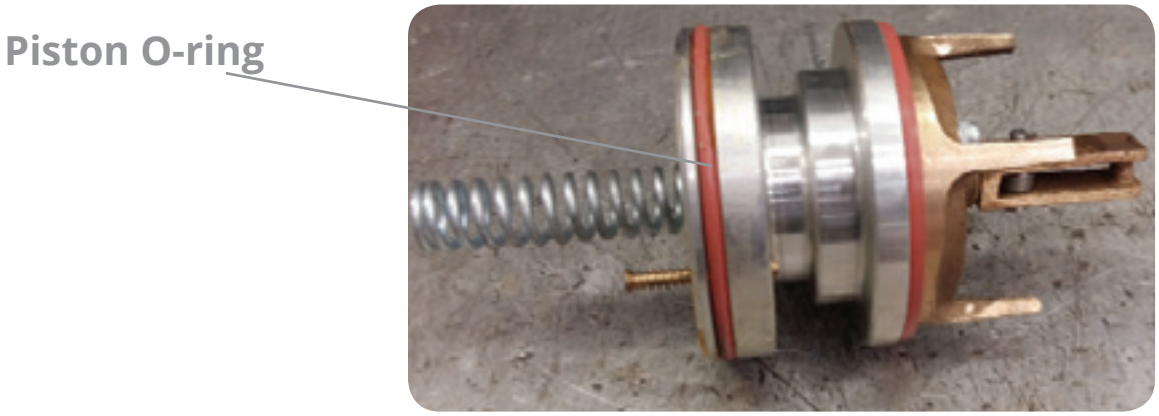


Image 11. Change the o-ring after reassembly

4. INSTRUCTIONS FOR ADJUSTING THE 417 FLOW SHUT-OFF VALVE

CAUTION: Remove the pressure from the line before starting the adjustment of the closing speed.

4.1. 4-inch Model 417 Valve

1. Remove the valve cover.
2. Using a screwdriver:

A) For a slower flow shut-off, turn the screw clockwise, as shown in the photo below.

B) For a faster flow shut-off, turn the needle counter-clockwise.

Image 12. Clockwise for a slower shut-off.

Image 13. Turn counter-clockwise for a faster shut-off.

4.2. 3-inch Model 417 Valve

1. Remove only the plug using a 1” wrench.
2. Loosen the locknut of the needle.
3. Adjust the closing speed.
4. Re-tighten the locknut.
5. Install the plug again.

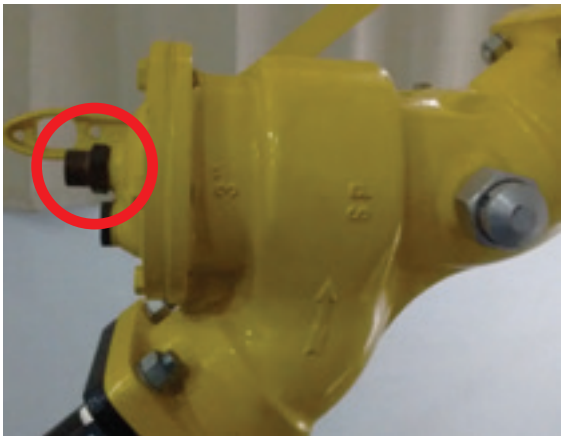


Image 14. 3-inch 417 Valve.

Image 15. Plug.

A) For slower flow shut-off, turn the screw clockwise, as shown in the photo below.

B) For a faster flow shut-off, turn the needle counter-clockwise.

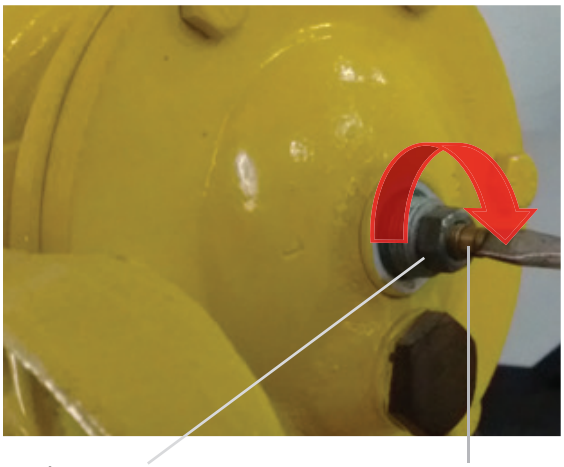


Image 16. Clockwise for a slower shut-off.

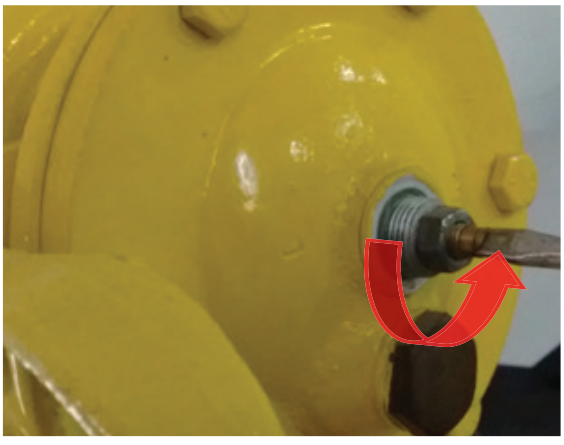
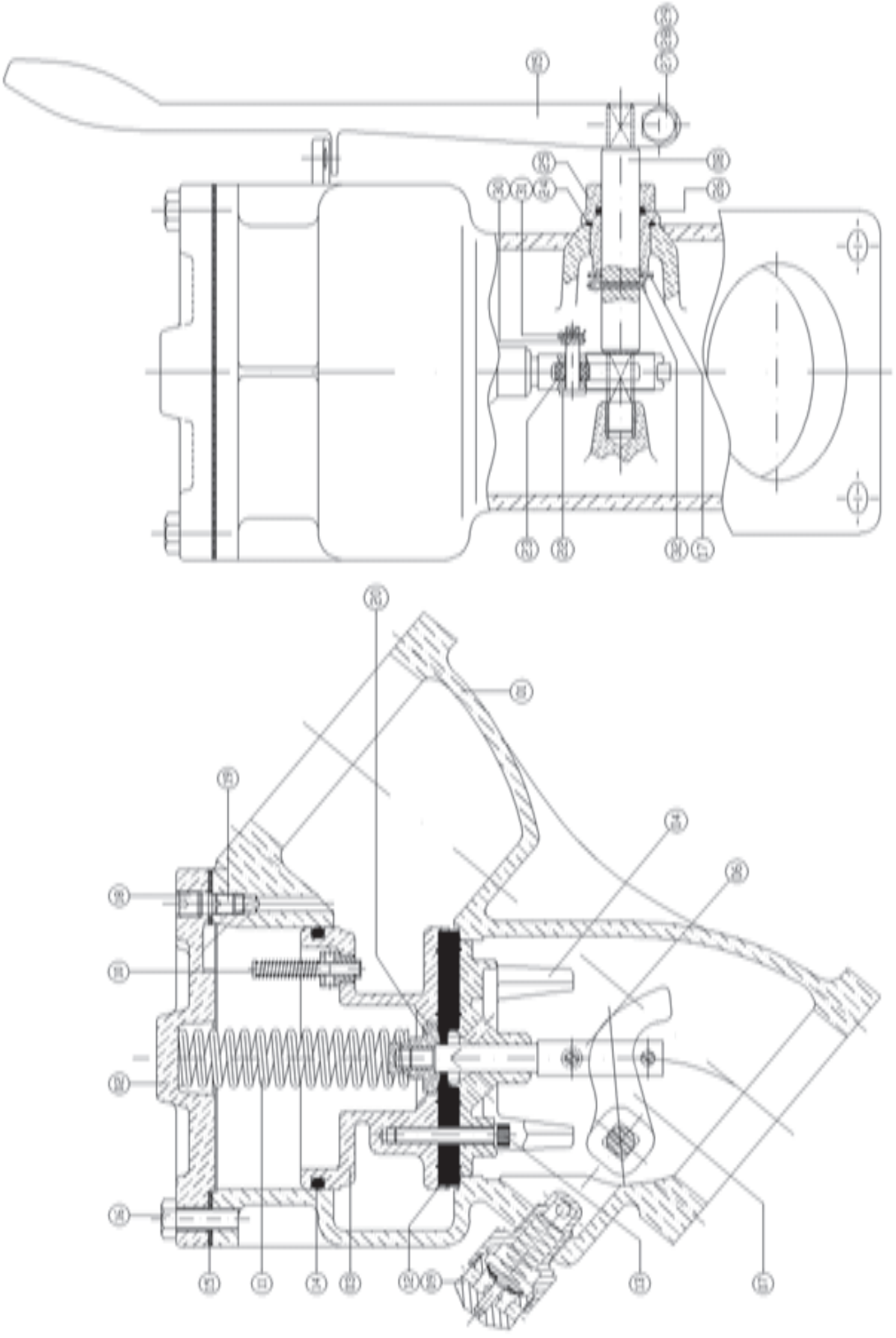


Image 17. Turn counter-clockwise for a faster shut-off.

NOTE: The model 417 flow shut-off valves are shipped from our factory with needle unscrewed 1 1/2 turns, approximately in the middle position.

5. COMPONENTS OF THE 417 FLOW SHUT-OFF VALVE

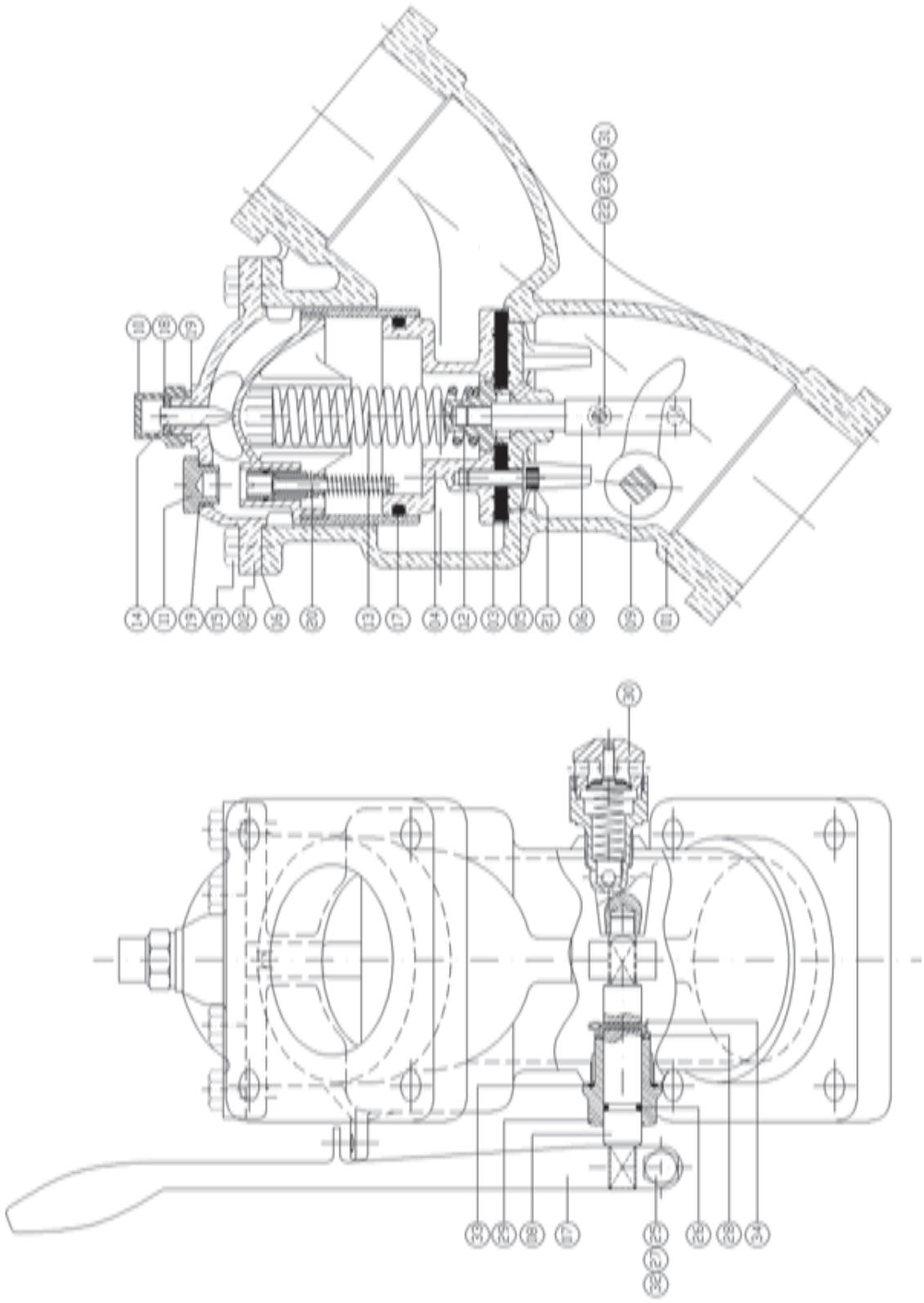
5.1. 4-inche 417 Valve



Components of the 417 flow shut-off valve (4”)

ITEM	QTY	CODE	DESCRIPTION
1	1	A0222-0145	417 VALVE BODY
2	1	A0236-0155	417 VALVE COVER
3	1	A0242-0110	VALVE PISTON
4	1	A0216-0227	PISTON GUIDE
5	1	A0007-5302	LEVER
6	1	A0215-0202	LEVER FORK
7	1	A0206-5303	STROKE ARM
8	1	A0243-4150	LEVER SHAFT
9	1	476-SA	VACUUM BREAKER SET
10	1	S0051-0501	RELIEF VALVE SET
11	1	A0201-0405	PISTON SPRING
12	1	A0233-0718	VALVE SEAL
13	3	A0203-0469	ALLEN SCREW WITH 5/6” HEAD x 1.1/2”
14	1	A0018-0717	PISTON RING
15	1	A0217-1229	COVER GASKET
16	8	A0003-0465	HEX HEAD SCREW 3/8” W x 1.1/4”
17	1	A0205-4153	THRUST WASHER
18	1	A0014-0309	PLUG 1/4” NPT
19	1	A0238-0503	ADJUSTMENT NEEDLE
20	1	A0227-0201	VALVE SEAT
21	1	A0223-0204	GUIDE SLEEVE
22	1	A0209-4112	FIXED PIN OF THE ROLLER
23	1	A0240-4101	PIN ROLLER
24	1	A0018-0703	O’RING
25	1	A0223-0202	LEVER SLEEVE
26	1	A0218-0770	SHAFT O-RING
27	1	A0003-0408	HEX HEAD SCREW 5/16” W x 2”
28	1	A0005-0406	LOCK WASHER 5/16”
29	1	A0004-0404	NUT 5/16” W
30	1	A0205-4152	FLAT WASHER
31	1	A0008-4127	PIN COTTER PIN
32	1	A0208-4105	SHAFT COTTER PIN

5.2. 3-inch 417 Valve



Components of the 417 flow shut-off valve (3”)

ITEM	QTY	CODE	DESCRIPTION
1	1	A0222-0102	VALVE BODY 417-L-3”
2	1	A0236-0102	VALVE COVER 417-3”
3	1	A0233-0701	VITON SEAL
4	1	A0242-0101	VALVE PISTON-3”
5	1	A0216-0201	VALVE GUIDE 417-3”
6	1	A0215-0201	VALVE FORK
7	1	A0007-5302	REMOTE CONTROL LEVER
8	1	A0243-4101	410 STAINLESS STEEL LEVER SHAFT
9	1	A0206-5302	CURSOR ARM 417-3”
10	1	A0213-0501	PLUG WITH INSIDE THREAD
11	1	A0213-0502	CAP WITH OUTSIDE THREAD
12	1	A0227-0201	VALVE SEAT
13	1	A0201-0403	PISTON SPRING 417-3”
14	1	A0238-0501	VALVE NEEDLE
15	6	A0003-0406	HEX HEAD SCREW 3/8” W x 1
16	1	A0217-1249	VALVE COVER GASKET 417-3”
17	1	A0018-0708	PISTON O-RING
18	1	A0004-0403	HEX NUT 5/16” UNF
19	2	A0217-0801	VALVE PLUG GASKETS 417-3”
20	1	20401	RELIEF VALVE SET
21	3	A0203-0407	ALLEN SCREW WITH 5/6 “ HEAD x 1”
22	1	A0240-4101	PIN ROLLER
23	1	A0209-4112	FIXED PIN OF THE ROLLER
24	1	A0205-4152	FLAT WASHER
25	1	A0003-0408	HEX HEAD SCREW 5/16” W x 2”
26	1	A0018-0701	SEALING ASSEMBLY RING
27	1	A0005-0406	LOCK WASHER 5/16”
28	1	A0205-4153	THRUST WASHER
29	1	A0223-0201	LEVER SLEEVE
30	1	476-SA	VACUUM BREAKER
31	1	A0008-4127	COTTER PIN 3/32” x 1/2”
32	1	A0004-0404	HEX NUT 5/16” W
33	1	A0018-0703	RING WITH LEVER SLEEVE
34	1	A0208-4105	417 COTTER PIN
35	1	A0246-0501	VALVE SKIRT

6. Instructions for assembling the remote control (1000-R-3 & 4)

Attach one end of the bar on the valve actuating lever and the other end of the bar on the remote control lever, with 5/16” screw and nut.

Image 18. Fixed bar on the valve lever up to the remote control lever.

7. VACUUM BREAKER VALVE - 476 SA

The vacuum breaker valve assures a complete and rapid emptying of the product from the pipe, since it is designed to open at ½-ounce vacuum.

If any leaks occur through the vacuum breaker valve fixation screw, unscrew it from the 417 valve with an adjustable wrench, replace the thread sealing tape or use liquid PTFE and revove again screw it back into the valve.

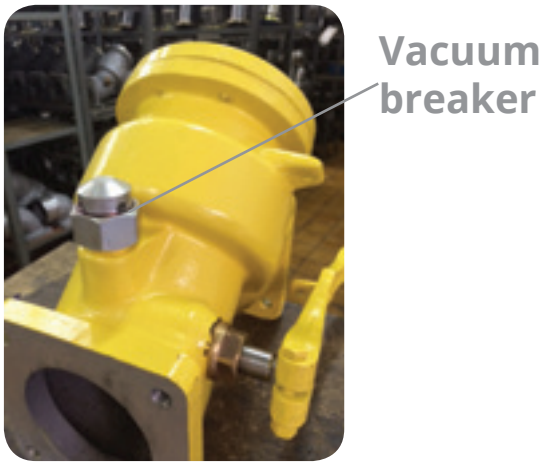


Image 19. Vacuum breaker valve installed.

Image 20. vacuum breaker.

8.CONCLUSION

Redlands has been ISO 9001 certified since September 2002. This certification represents the service commitment we make to all our customers and employees, and establishes our leading position in this market segment.

Thank you for purchasing Redlands equipment.

For any clarifications or further information, please contact our engineering and technical assistance.

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