

J48

Low Pressure
Gas Pressure Regulator



Commissioning Instructions

General Arrangements

Parts Lists

Maintenance Instructions

For: J48 Regulator 2½" & 3" Screwed,

J48 Regulator 65mm, 80mm, 100mm & 150mm Flanged

J48: Commissioning Instructions

2½" – 6" Sizes

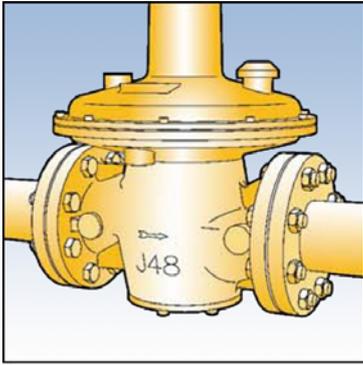


Fig. 1

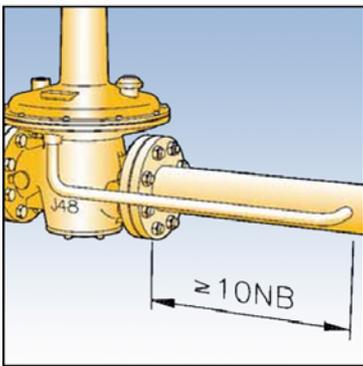


Fig. 2

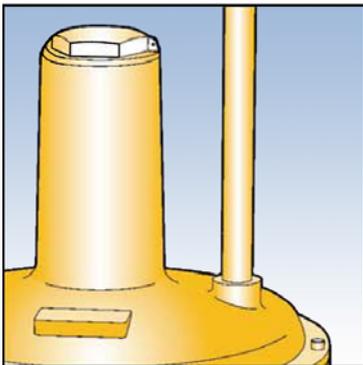


Fig. 3

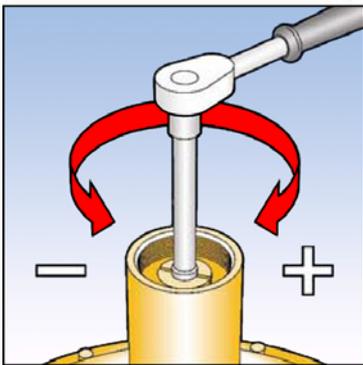


Fig. 4

FITTING UNITS INTO PIPEWORK

1. Remove the protection from the inlet and outlet ports.
2. Ensure that the installation pipework is thoroughly clean.
3. The direction of gas flow must be the same as the arrows on the regulator body. See Fig. 1.
4. Install regulator into pipework.

INSTALLATION OF EXTERNAL IMPULSE LINE (IF REQUIRED)

1. Remove the plastic protection plug.
2. Connect the impulse line (½"), using a jointing compound approved to national standards, and lead to a point downstream not less than ten times the nominal pipe diameter from the outlet. See Fig. 2.

INSTALLATION OF VENT LINE (IF REQUIRED)

1. Remove breather cover from regulator top case / cover.
2. Connect the vent line (½"), using a jointing compound approved to national standards, and lead to atmosphere in accordance with national standards. Ensure that no water can penetrate vent pipe. See Fig. 3.
3. If vent connection is to be used for top loading or other similar use refer to your own installation instructions.

SETTING OF OUTLET PRESSURE

1. Turn off inlet and outlet valves.
2. Remove top cap.
3. For L.P. 65mm and 80mm unit insert ½" square socket extension piece into square hole, or flat blade screwdriver into slot in spring adjuster. See Fig. 4.
4. For H.P. 65mm and 80mm unit and L.P. 100mm and 150mm unit, slacken locknut on spring adjusting stem and connect suitable spanner (24mm A/F) to hexagon of spring adjusting stem. See Fig. 5.
5. For 100mm and 150mm H.P. unit connect suitable spanner (27mm A/F) to hexagon of spring adjusting nut. See Fig. 6.
6. Turn spring adjustment anticlockwise to reduce pressure on loading spring.
7. Slowly turn on inlet supply.
8. Increase loading on spring by turning spring adjustment clockwise until the required outlet pressure, plus approximately 2.5mbar, is obtained).

J48: Commissioning Instructions

2½" – 6" Sizes

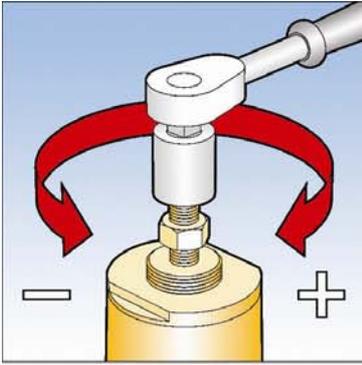


Fig. 5

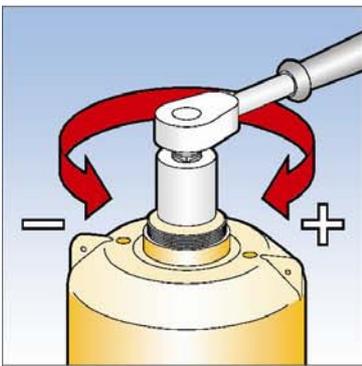


Fig. 6

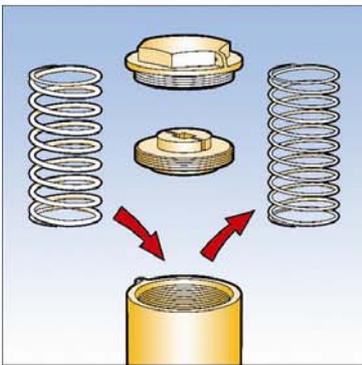


Fig. 7

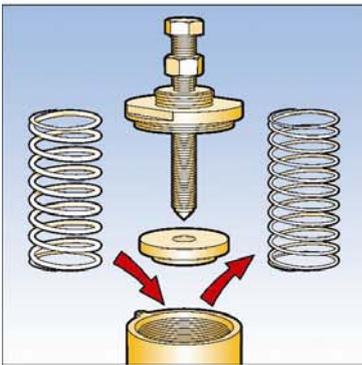


Fig. 8

SETTING THE OUTLET PRESSURE (Cont.)

9. Commission downstream appliance(s).
10. Trim the outlet pressure of the regulator, if necessary, when normal working flow rates have been achieved.
11. Replace the top cap Turn off inlet and outlet valve(s).

IF THE REQUIRED OUTLET PRESSURE CAN NOT BE ACHIEVED WITH THE SPRING FITTED.

1. Choose a loading spring from the catalogue that will give the required outlet pressure range.

For L.P. 65mm and 80mm units: See Fig. 7.

2. Remove top cap.
3. Fully unscrew and remove the spring holder.
4. Remove loading spring.
5. Insert new loading spring.
6. Screw spring holder back in place ensuring that spigot is located in loading spring.
7. Adjust the outlet pressure, as described earlier, until the required setting is achieved.
8. Replace top cap.

For H.P. 50mm and 80mm & L.P. 100mm and 150mm units: See Fig. 8.

9. Remove top cap.
10. Slacken locknut on spring adjusting stem.
11. Turn spring adjuster anticlockwise to reduce loading on spring.
12. Unscrew spring adjusting bush.
13. Remove top spring holder and loading spring.
14. Insert new loading spring.
15. Place top spring holder over spring ensuring that spigot is located in loading spring.
16. Screw spring adjusting bush into top cover making sure that the end of the stem is located in the recess in the top spring holder.
17. Adjust the outlet pressure, as described earlier, until the required setting is achieved.
18. Tighten locknut.
19. Replace top cap.

J48: Commissioning Instructions

2½" – 6" Sizes

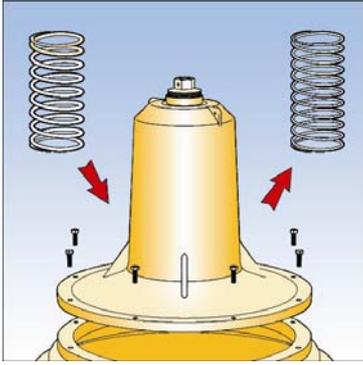


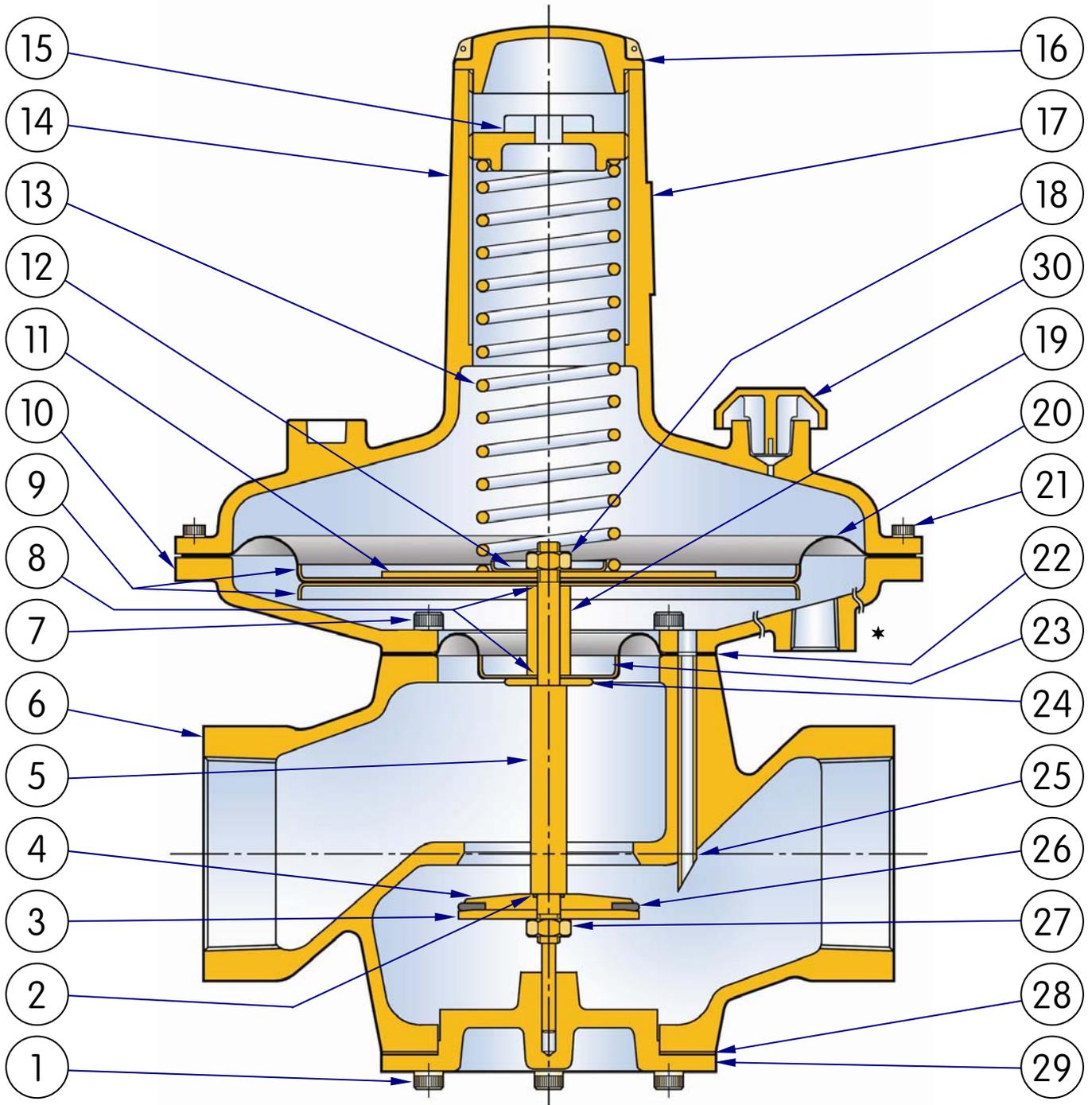
Fig. 9

For H.P. 100mm and 150mm units: See Fig. 9.

20. Remove top cap.
21. Turn spring adjusting nut anticlockwise to reduce loading on spring.
22. Remove 8 hexagon head screws that secure top cover to top diaphragm case. Carefully lift off top cover assembly and gasket.
23. Remove loading spring.
24. Install new loading spring over spring location washer in centre of diaphragm.
25. Replace gasket and top cover assembly and secure with 8 hexagon head screws.
26. Adjust the outlet pressure, as described on earlier, until the required setting is found.
27. Replace top cap.

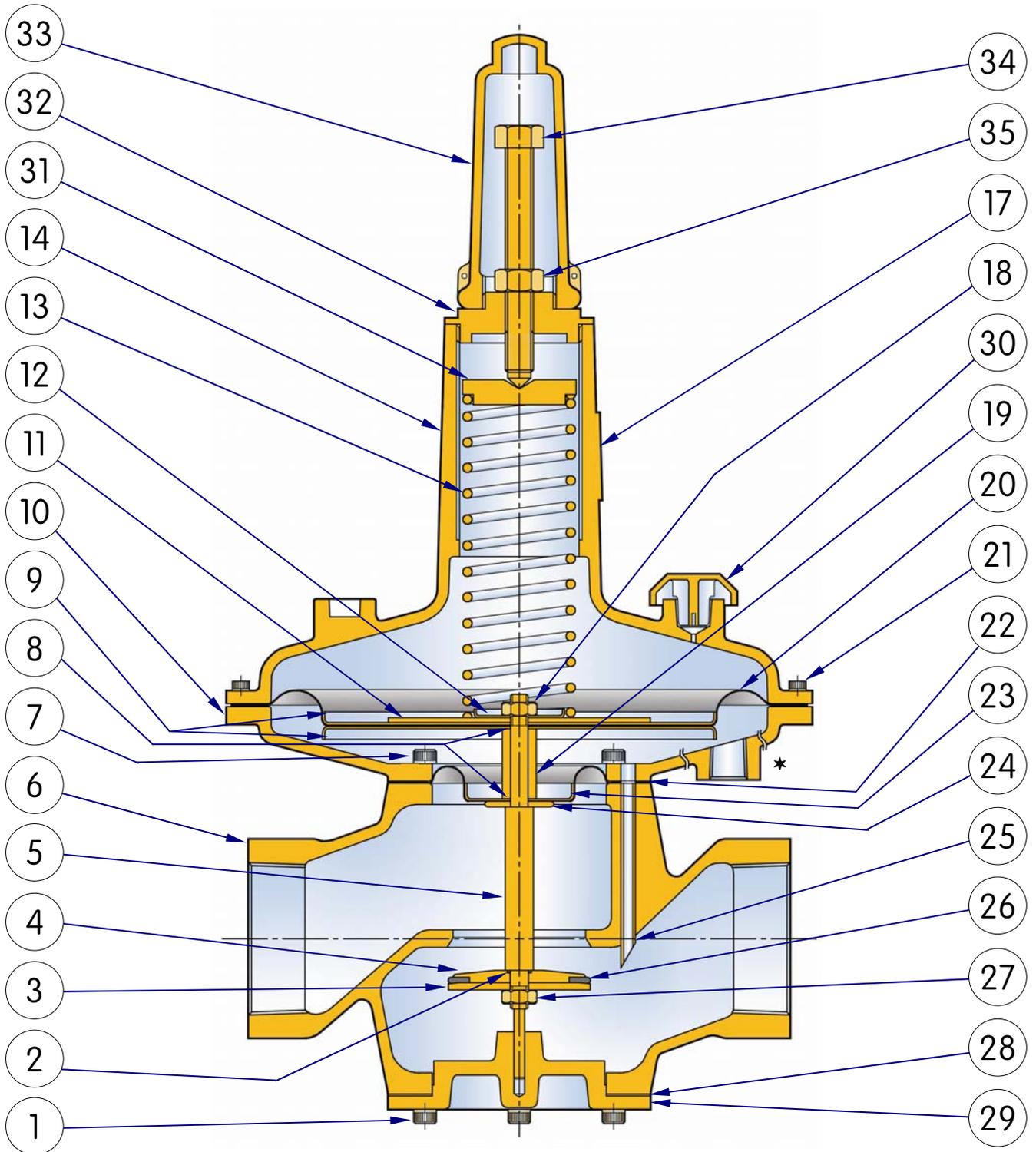
These setting instructions are for direct acting applications. If other control systems are to be used please refer to your own installations instructions.

J48: General Arrangement
 2½" & 3" Sizes, Low Pressure – Fig 10.



J48: General Arrangement

2½" & 3" Sizes, High Pressure – Fig. 11.



* Note: Boss machined on externally impulsed version only

J48: Parts List

2½" & 3" Sizes – Low & High Pressure

ITEM	DESCRIPTION	PART NUMBER	No Off
1	SCREW	JSA820SANZI	6
2	"O" RING SEAL	JOBS012	* 1
3	VALVE DISC CLAMPING WASHER	J4811-010	1
4	VALVE DISC HOLDER	J3311-037Z02	1
5	VALVE SPINDLE	J4811-008	1
6	BODY 2½" (SCREWED)	J4810-002+	1
6	BODY 65mm (FLANGED)	J4810-001+	1
6	BODY 3" (SCREWED)	J4811-002+	1
6	BODY 80mm (FLANGED)	J4811-001+	1
7	SCREW	JSA820SANZI	6
8	"O" RING SEAL	JOBS012	* 2
9	MAIN DIAPHRAGM PLATE	J4811-011	2
10	BOTTOM DIAPHRAGM CASE (INTERNAL IMPULSE)	J4811-003Z01	1
11	REINFORCING PLATE	J4811-015	1
12	LOADING SPRING GUIDE PLATE	J4811-018	1
13	LOADING SPRING	SEE TABLE	1
14	TOP COVER	J4811-004+	1
15	SPRING HOLDER	J4811-052Z01	1
16	TOP CAP	J4811-017Z01	1
17	NAMEPLATE	J8112-124	1
18	DIAPHRAGM SPINDLE NUT	JNA10FZD	1
19	DIAPHRAGM SPACER	J4811-014	1
20	MAIN DIAPHRAGM	J4811-005	* 1
21	SCREW	JSA620SANSS	10
22	SECONDARY DIAPHRAGM	J4811-006	* 1
23	SECONDARY DIAPHRAGM PLATE	J4811-012	1
24	SECONDARY DIAPHRAGM WASHER	J4811-013Z01	1
25	IMPULSE TUBE (INTERNAL IMPULSE ONLY)	J4811-032	1
26	VALVE DISC	J3311-035	* 1
27	VALVE SPINDLE NUT	JNA10FZD	1
28	BASE PLATE GASKET	J4811-019	* 1
29	BASE PLATE	J4811-007Z01	1
30	BREATHING HOLE COVER	J12309-029	1
31	H.P. TOP SPRING HOLDER	J4811-034	1
32	H.P. SPRING ADJUSTING BUSH	J12309-046	1
33	H.P. TOP CAP	JC085-017Z01	1
34	H.P. SPRING ADJUSTING STEM	J3309-016	1
35	H.P. LOCKNUT	JNA16FZD	1

Part numbers marked + require thread or flange specification to be stated with order

J48: Spares Kits and Springs

2½" & 3" Sizes – Low & High Pressure

SPARES KITS

Spares kit contents are marked * on parts

SPARES KIT CODE	SIZE
SK4811-01	2½" and 3"

	Spring Range		Part No.	Colour Code
	mbar	"wg		
L.P.	6 – 15	2.6 – 6	J4811-020	White / Yellow
	12.5 – 25	5 – 10	J4811-021	White / Black
	23 – 38	9 – 15	J4811-022	White / Orange
	35 – 50	14 – 20	J4811-028	White / Brown
	45 – 75	18 – 30	J4811-029	White
H.P.	70 – 100	28 – 40	J4811-030	White / Red
	100 - 150	40 - 60	J4811-031	White / Grey

J48: Maintenance Instructions

2½" & 3" Sizes – Low & High Pressure

Drawing Reference: Figs. 10 & 11

NOTE: Numbers in brackets identify items on drawings

Dismantling Procedure.

For H.P. unit go to instruction No.3.

1. Remove top cap (16).
2. Remove spring holder (15). Go to instruction No.8.
3. Remove H.P. top cap (33).
4. Loosen H.P. locknut (35).
5. Remove H.P. spring adjusting stem (34) and H.P. locknut (35).
6. Remove H.P. spring adjusting bush (32).
7. Remove H.P. spring holder (31).
8. Take out spring (13).
9. Remove the cover retaining cap screws (21) and carefully remove the top cover (14).
10. Unscrew the diaphragm spindle nut (18) with a spanner, use a screwdriver in the slot in the spindle (5) to stop the spindle rotating.
11. Remove the loading spring guide plate (12).
12. Remove the reinforcing plate (11) and the upper main diaphragm plate (9).
13. Remove the main diaphragm (20) and the lower main diaphragm plate (9).
14. Remove the diaphragm spacer (19) complete with two 'O' rings (8).
15. Remove the secondary diaphragm plate (23).
16. Remove the six cap screws (7) from the bottom diaphragm case (10).
17. Carefully lift off the bottom diaphragm case (10).
18. Remove the secondary diaphragm (22).
19. Remove the secondary diaphragm washer (24).
20. Remove the six cap screws (1) from the base plate (29).
21. Remove the base plate (29) and gasket (28) from the body. The valve spindle (5) complete with the valve assembly can also be withdrawn from the body.
22. Unscrew the lower valve spindle nut (27).
23. Remove the valve disc clamping washer (3).
24. Take the valve disc (26) from the valve disc holder (4).
25. Remove valve disc holder (4) complete with 'O' ring (2) from the spindle (5).
26. Unscrew breather hole cover (30) from top cover (14), check breather hole in cover is clear.
27. Check the hole in the impulse tube (25) is clear. (DO NOT REMOVE FROM BODY).
28. Wipe the valve seat and body clean of any dirt particles taking care not to damage sealing surfaces on body.
29. Inspect all diaphragms and soft seals and replace where necessary. A soft spares kit is available for this purpose.

J48: Maintenance Instructions

2½" & 3" Sizes – Low & High Pressure

Rebuilding Procedure.

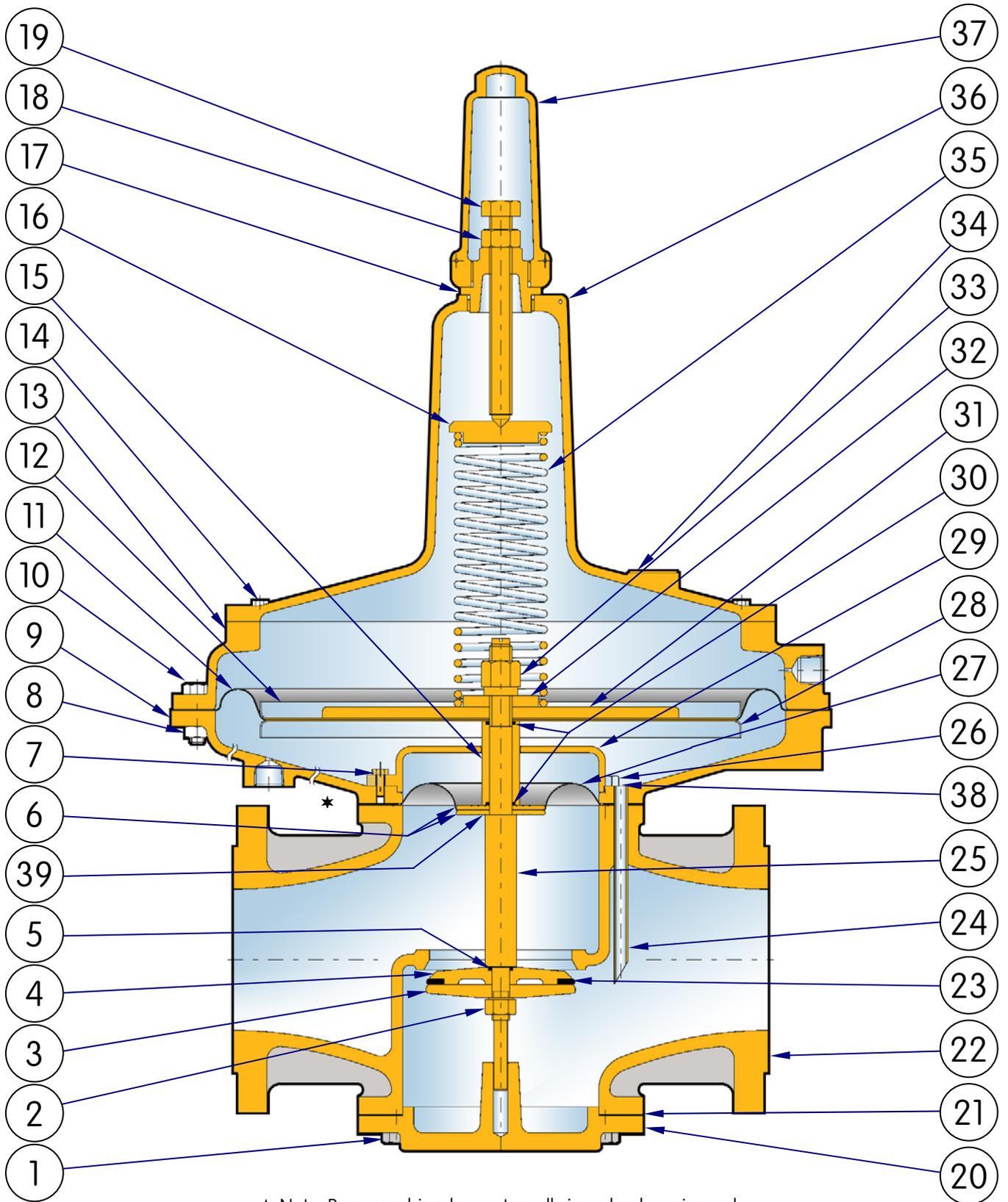
Note: Inspect all sealing 'O' rings, diaphragms, valves discs, gaskets and replace where necessary (a soft spares kit is available for this purpose).

The use of Molykote 111 "O" ring lubricant is recommended during the rebuild- unless for use with oxygen when no lubricant should be used.

1. Install the valve disc holder (4) complete with the 'O' ring (2) onto the valve spindle (5) (on the end without the slot).
 2. Replace the valve disc (26) in the valve disc holder (4).
 3. Place the valve disc clamping washer (3) onto the valve disc (26) and secure in position with spindle nut (27) and tighten with spanner.
 4. Ensure the valve seating area is clean.
 5. Place the base plate gasket (28) on to the base plate (29).
 6. Insert the complete valve spindle unit into the base plate (29) guide hole.
 7. Locate the valve spindle unit complete with base plate and gasket into body (6) and secure with six cap screws (1).
 8. Place the secondary diaphragm washer (24) on to the valve spindle (5).
 9. Lower the secondary diaphragm (22) on to the valve spindle (5) ensuring the convolution is uppermost and that the impulse hole is aligned with the impulse tube (25).
 10. Place the secondary diaphragm plate (23) over the secondary diaphragm (22).
 11. Install the diaphragm spacer (19) with 'O' rings (8) on each end, on to the valve spindle (5).
 12. Place the bottom diaphragm case (10) on to the secondary diaphragm (22) ensuring the impulse hole is aligned with the impulse tube (25).
 13. Secure the bottom diaphragm case (10) to the body using six cap screws (7).
 14. Place one main diaphragm plate (9) with the flat side uppermost on to the valve spindle (5).
 15. Locate the main diaphragm (20) on to the valve spindle (5) with the convolution uppermost.
 16. Place the second main diaphragm plate (9) over the valve spindle (5) with flat side against the main diaphragm (20).
 17. Place the reinforcing plate (11) on to the valve spindle (5).
 18. Place the loading spring guide plate (12) on to the valve spindle (5).
 19. Align the holes in the main diaphragm (20) with those in the bottom diaphragm case (10).
 20. Screw the diaphragm spindle nut (18) on to the valve spindle (5) and tighten (use a screwdriver in the slot in the spindle to prevent it from rotating).
 21. Lower the top cover (14) into position on top of the main diaphragm (20) with the screw holes aligned with those in the bottom diaphragm case and the vent positioned over the outlet of the regulator.
 22. Secure the top cover (14) to the bottom diaphragm case with ten cap screws (21).
 23. Insert the loading spring (13) into the top of the top cover (14).
 24. Screw the breather hole cover (30) into the top cover (14) boss.
- For H.P. unit go to instruction no.27.
25. Screw the spring holder (15) into the hole in the top cover (14) and adjust for outlet pressure.
 26. Replace the top cap (16) into the top of the top cover (14).
 27. Place H.P. top spring holder (31) with spigot located into loading spring (13).
 28. Screw H.P. spring adjusting bush (32) into chimney of top cover (14).
 29. Screw H.P. locknut (35) onto shaft of H.P. spring adjusting stem (34).
 30. Screw H.P. spring adjusting stem (34) into H.P. spring adjusting bush (32), with the end of the stem (34) locating in the recess in the top spring holder (15).
 31. Set regulator to correct outlet pressure then screw H.P. top cap (33) onto H.P. spring adjusting bush (32)

J48: General Arrangement

4" & 6" Sizes, Low Pressure – Fig 12.



* Note: Boss machined on externally impulsed version only

J48: Parts List

4" & 6" Sizes – Low Pressure

ITEM	DESCRIPTION	4" Size		6" Size	
		PART NUMBER	No Off	PART NUMBER	No Off
1	SCREW	JSA1030HHNZG	6	JSA1030HHNZG	8
2	VALVE DISC CLAMPING NUT	J3312-051	1	J3312-051	1
3	VALVE DISC CLAMPING WASHER	J3312-013Z01	1	J3314-013Z01	1
4	VALVE DISC HOLDER	J3312-012Z01	1	J3314-012Z01	1
5	"O" RING SEAL	JOBS112	* 1	JOBS112	* 1
6	SECONDARY DIAPHRAGM WASHER	J3312-016	2	J3312-013Z03	2
7	SCREW	JSA616HHNZG	3	JSA620HHNZG	4
8	NUT	JNA10FZD	12	JNA10FZD	16
9	BOTTOM DIAPHRAGM CASE (INTERNAL IMPULSE)	J3312-005Z01	1	J3314-005Z01	1
10	SCREW	JSA1035HHNZG	12	JBA1040HEXZG	16
11	MAIN DIAPHRAGM	J3312-047	* 1	J3314-033	* 1
12	TOP MAIN DIAPHRAGM PLATE	J3312-029	1	J12312-021	1
13	TOP DIAPHRAGM CASE	J3312-007A01	1	J3314-007A01	1
14	SCREW	JSA620HHNZG	8	JSA620HHNZG	8
15	DIAPHRAGM SPACER	J3312-040	1	J3314-026	1
16	TOP SPRING HOLDER	J3312-021	1	J3312-021	1
17	ADJUSTING STEM BUSH	J3309-017Z01	1	J3309-017Z01	1
18	NUT	JNA16FZD	1	JNA16FZD	1
19	SPRING ADJUSTING STEM	J3312-023	1	J3312-023	1
20	BASE PLATE	J3312-011Z01	1	J3314-011Z01	1
21	BASE PLATE GASKET	J3412-013	* 1	J3414-004	* 1
22	BODY	J3312-004+	1	J3314-004+	1
23	VALVE DISC	J3312-037	* 1	J3314-023	* 1
24	IMPULSE TUBE (INTERNAL IMPULSE ONLY)	J3312-017	1	J3314-015	1
25	VALVE SPINDLE	J3312-039	1	J3314-025	1
26	SCREW	JSA1030HHNZG	6	JSA1030HHNZG	8
27	SECONDARY DIAPHRAGM	J3312-046	* 1	J3314-032	* 1
28	BOTTOM MAIN DIAPHRAGM PLATE	J3312-030	1	J12312-016	1
29	VALVE SPINDLE GUIDE	J3312-010Z01	1	J3314-010Z01	1
30	"O" RING SEAL	JOBS114	* 2	JOBS114	* 2
31	REINFORCING PLATE	J4811-015Z03	1	J3314-044	1
32	BOTTOM SPRING HOLDER	J3312-020	1	J3312-020	1
33	VALVE SPINDLE NUT	J3311-042	1	J3311-042	1
34	NAME PLATE	J8112-124	1	J8112-124	1
35	LOADING SPRING	SEE TABLE	1	SEE TABLE	1
36	TOP COVER	J3312-008Z01	1	J3312-008Z01	1
37	TOP CAP	JC085-017Z01	1	JC085-017Z01	1
38	SEALING WASHER	J3312-056	6	J3312-056	8
39	SECONDARY DIAPHRAGM SEALING WASHER	J3310-013	1	J3310-013	1

Part numbers marked + require flange specification to be stated with order

J48: Spares Kits and Springs

4" & 6" Sizes – Low Pressure

SPARES KITS

Spares kit contents are marked * on parts

SPARES KIT CODE	SIZE
SK4812-01	4"
SK4814-01	6"

Spring Range		Part Number and Colour Code	
mbar	"wg	4"	6"
10 - 18	4 - 7	J3312-026 Black / Dark Green	J3314-019 Brown / Gold
12.5 – 25	5 – 10	J3312-027 Black / Dark Blue	J3314-020 Brown / Light Green
25 - 50	10 - 20	J3314-027 Black / Silver	J3314-036 Brown / Orange
50 - 75	20 - 30	J3314-036 Black / Dark Orange	J3314-035 Brown / Light Blue

For details of high pressure versions see later section.

J48: Maintenance Instructions

4" & 6" Sizes – Low Pressure

Drawing Reference: Fig. 12

NOTE: Numbers in brackets identify items on drawings

Dismantling Procedure.

1. Remove top cap (37).
2. Unlock locknut (18) and release spring compression by unscrewing adjusting stem (19).
3. Remove spring adjusting mechanism (17, 18 & 19) and check for signs of damage. Replace any parts if necessary.
4. Remove retaining screws (14) and carefully remove top cover (36).
5. Take out spring (35) and spring holder (16).
6. Remove retaining screws (10) and nuts (8), carefully remove top diaphragm case (13).
7. Unscrew valve spindle nut (33) with a spanner, use a screwdriver in slot in spindle (25) to stop spindle rotating.
8. Remove bottom spring holder (32).
9. Remove reinforcing plate (31) and top main diaphragm plate (12).
10. Remove main diaphragm (11) and bottom main diaphragm plate (28).
11. Remove diaphragm spacer (15) complete with two 'O' rings (30).
12. Unscrew screws (7) securing valve spindle guide (29).
13. Remove valve spindle guide (29).
14. Remove top secondary diaphragm washer (6).
15. Unscrew remaining screws (26) and remove washers (38) from bottom diaphragm case (9).
16. Carefully remove bottom diaphragm case (9).
17. Remove secondary diaphragm (27).
18. Remove lower secondary diaphragm washer (6) and secondary diaphragm sealing washer (39).
19. Unscrew screws (1) from base plate (20).
20. Remove base plate (20) and gasket (21) from body (22).
21. Withdraw spindle (25) complete with valve assembly from body.
22. Unscrew valve disc clamping nut (2).
23. Remove valve disc clamping washer (3).
24. Remove valve disc (23) from holder (4).
25. Remove valve disc holder (4) together with 'O' ring (5) from spindle (25).
26. Check hole in impulse tube (24) is clear. (DO NOT REMOVE FROM BODY).
27. Wipe valve seat and body clean of any dirt particles taking care not to damage sealing surfaces on body.
28. Inspect all diaphragms and soft seals and replace where necessary. A soft spares kit is available for this purpose.

J48: Maintenance Instructions

4" & 6" Sizes – Low Pressure

Rebuilding Procedure.

Note: Inspect all sealing 'O' rings, diaphragms, valves discs, gaskets and replace where necessary (a soft spares kit is available for this purpose).

The use of Molykote 111 "O" ring lubricant is recommended during the rebuild- unless for use with oxygen when no lubricant should be used.

1. Install valve disc holder (4) complete with 'O' ring (5) onto valve spindle (25) (on end without slot).
2. Replace valve disc (23) in valve disc holder (4).
3. Place valve disc clamping washer (3) onto valve disc (23) with flat side against valve disc secure in position with spindle nut (2) and tighten with spanner.
4. Ensure valve seating area is clean.
5. Place base plate gasket (21) on to base plate (20).
6. Insert complete valve spindle unit into base plate (20) guide hole.
7. Locate valve spindle unit complete with base plate and gasket into body (22) and secure with screws (1).
8. Place secondary diaphragm sealing washer (39) and secondary diaphragm washer (6) on to valve spindle (25).
9. Lower secondary diaphragm (27) on to valve spindle (25) ensuring convolution is uppermost and that impulse hole is aligned with impulse tube (24).
10. Place secondary diaphragm washer (6) over secondary diaphragm (27).
11. Install diaphragm spacer (15) with 'O' rings (30) on each end, on to valve spindle (25).
12. Place bottom diaphragm case (9) on to secondary diaphragm (27) ensuring impulse hole is aligned with impulse tube (24), secure with screws (26) and sealing washers (38).
13. If externally impulsed ensure machined boss is in correct orientation for when regulator is fitted to pipework.
14. Locate valve spindle guide (29) over diaphragm spacer (15) and secure with screws (7).
15. Locate bottom main diaphragm plate (28) with flat side uppermost on to valve spindle (25).
16. Locate main diaphragm (11) on to valve spindle (25) with convolution uppermost.
17. Place top main diaphragm plate (12) over valve spindle (25) with flat side against main diaphragm (11).
18. Place reinforcing plate (31) on to valve spindle (25).
19. Place bottom spring holder (32) on to valve spindle (25).
20. Align holes in main diaphragm (11) with those in bottom diaphragm case (9).
21. Screw valve spindle nut (33) on to valve spindle (25) and tighten (use a screwdriver in slot in spindle to prevent it from rotating).
22. Replace top diaphragm case (13) on top of main diaphragm (11) with screw holes aligned with those in bottom diaphragm case (9) and vent positioned over outlet, unless otherwise required.
23. Secure in place with screws (10) and nuts (8).
24. Locate loading spring holder (35) over bottom spring holder (32).
25. Seat top spring holder (16) on top of loading spring (35).
26. Lower top cover (36) in place on top of top diaphragm case (13) and secure in place with screws (14).
27. Screw back in place spring adjustment mechanism (17, 18 and 19) in top cover (36), replacing any worn or damaged components.
28. Adjust for outlet pressure using spring adjusting stem (19) and lock in position by means of nut (18).
29. Screw top cap (37) onto adjusting stem bush (17).

J48: Parts List

4" & 6" Sizes – High Pressure

ITEM	DESCRIPTION	4" Size		6" Size	
		PART NUMBER	No Off	PART NUMBER	No Off
1	SCREW	JSA1030HHNZG	6	JSA1030HHNZG	8
2	VALVE DISC CLAMPING NUT	J3312-051	1	J3312-051	1
3	VALVE DISC CLAMPING WASHER	J3312-013Z01	1	J3314-013Z01	1
4	VALVE DISC HOLDER	J3312-012Z01	1	J3314-012Z01	1
5	"O" RING SEAL	JOBS112	* 1	JOBS112	* 1
6	SECONDARY DIAPHRAGM WASHER	J3312-016	2	J3312-013Z03	2
7	SCREW	JSA616HHNZG	3	JSA620HHNZG	4
8	NUT	JNA10FZD	12	JNA10FZD	16
9	BOTTOM DIAPHRAGM CASE (INTERNAL IMPULSE)	J3312-005Z01	1	J3314-005Z01	1
10	SCREW	JSA1035HHNZG	12	JBA1040HEXZG	16
11	MAIN DIAPHRAGM	J3312-047	* 1	J3314-033	* 1
12	TOP MAIN DIAPHRAGM PLATE	J3312-029	1	J12312-021	1
13	TOP DIAPHRAGM CASE	J3312-007A01	1	J3314-007A01	1
14	SCREW	JSA625HHNZG	8	JSA625HHNZG	8
15	DIAPHRAGM SPACER	J3312-040	1	J3314-026	1
16	SRING HOLDER LOCKNUT	J8112-105	2	J8112-105	2
17	TOP SPRING HOLDER	J8112-049Z01	1	J8112-049Z01	1
18	SPRING ADJUSTING SCREW	J8112-103	1	J8112-103	1
19	TENSION PIN	JTP4X40	1	JTP4X40	1
20	"O" RING SEAL	JO2000032-4475	* 1	JO2000032-4475	* 1
21	TENSION PIN	JTP4X25	1	JTP4X25	1
22	BASE PLATE	J3312-011Z01	1	J3314-011Z01	1
23	BASE PLATE GASKET	J3412-013	* 1	J3414-004	* 1
24	BODY	J3312-004+	1	J3314-004+	1
25	VALVE DISC	J3312-037	* 1	J3314-023	* 1
26	IMPULSE TUBE (INTERNAL IMPULSE ONLY)	J3312-017	1	J3314-015	1
27	VALVE SPINDLE	J3312-039	1	J3314-025	1
28	SCREW	JSA1030HHNZG	6	JSA1030HHNZG	8
29	SECONDARY DIAPHRAGM	J3312-046	* 1	J3314-032	* 1
30	BOTTOM MAIN DIAPHRAGM PLATE	J3312-030	1	J12312-016	1
31	VALVE SPINDLE GUIDE	J3312-010Z01	1	J3314-010Z01	1
32	"O" RING SEAL	JOBS114	* 2	JOBS114	* 2
33	REINFORCING PLATE	J12309-041Z01	1	J12309-041Z01	1
34	BOTTOM SPRING HOLDER	J3312-052	1	J3312-052	1
35	VALVE SPINDLE NUT	J3311-042	1	J3311-042	1
36	NAME PLATE	J8112-124	1	J8112-124	1
37	LOADING SPRING	SEE TABLE	1	SEE TABLE	1
38	TOP COVER	J3312-050Z01	1	J3312-050Z01	1
39	THRUST WASHER	J8112-051	1	J8112-051	1
40	SPRING ADJUSTING NUT	J8112-052	1	J8112-052	1
41	TOP CAP	J12312-036Z01	1	J12312-036Z01	1
42	SEALING WASHER	J3312-056	6	J3312-056	8
43	SECONDARY DIAPHRAGM SEALING WASHER	J3310-013	1	J3310-013	1

Part numbers marked + require flange specification to be stated with order

J48: Spares Kits and Springs

4" & 6" Sizes – High Pressure

SPARES KITS

Spares kit contents are marked * on parts

SPARES KIT CODE	SIZE
SK4812-01	4"
SK4814-01	6"

Spring Range		Part Number and Colour Code			
mbar	"wg	4"		6"	
70 – 100	28 - 40	J8112-058	White / Light Blue	J8114-036	Grey / Light Blue
100 – 150	40 - 60	J8111-059	Yellow / Light Green	J8112-059	White / Brown
138 – 207	2 – 3 PSI	J8112-059	White / Brown	J8112-081	White / Light Green
138 - 345	2 – 5 PSI	J8112-082	White / Dark Blue	J8112-082	White / Dark Blue

For details of low pressure versions see previous section.

J48: Maintenance Instructions

4" & 6" Sizes – High Pressure

Drawing Reference: Fig. 13

NOTE: Numbers in brackets identify items on drawings

Dismantling Procedure.

1. Unscrew and remove top cap (41) together with "O" ring (20).
2. Release spring compression by unscrewing adjusting nut (40).
3. Remove screws (14) and carefully lift off top cover (38) together with the spring adjuster mechanism (16, 17, 18, 19, 21, 39 & 40).
4. Inspect the adjuster mechanism for signs of damage and wear, if necessary dismantle the assembly by knocking out pin (21) to release it from cover (38), if not go to step 7.
5. Remove pin (19) from thrust washer (39) and stem (18).
6. Remove top spring holder (17) and locknuts (16). Before removing the locknuts make a note of their position along the screw, this will ease the rebuilding procedure.
7. Remove spring (37).
8. Remove the retaining screws (10) and nuts (8), carefully remove the top diaphragm case (13).
9. Unscrew the valve spindle nut (35) with a spanner, use a screwdriver in the slot in the spindle (27) to stop the spindle rotating.
10. Remove the bottom spring holder (34).
11. Remove the reinforcing plate (33) and the top main diaphragm plate (12).
12. Remove the main diaphragm (11) and the bottom main diaphragm plate (30).
13. Remove the diaphragm spacer (15) complete with two "O" rings (32).
14. Unscrew the screws (7) securing the valve spindle guide (31).
15. Remove the valve spindle guide (31).
16. Remove top secondary diaphragm washer (6) and secondary diaphragm sealing washer (43).
17. Unscrew the remaining screws (28) and remove washers (42) from the bottom diaphragm case (9).
18. Carefully remove the bottom diaphragm case (9).
19. Remove secondary diaphragm (29).
20. Remove the lower secondary diaphragm washer (6).
21. Unscrew all screws (1) from the base plate (22).
22. Remove base plate (22) and gasket (23) from the body (24).
23. Withdraw spindle (27) complete with valve assembly from the body.
24. Unscrew the valve disc clamping nut (2).
25. Remove the valve disc clamping washer (3).
26. Remove the valve disc (25) from holder (4).
27. Remove valve disc holder (4) together with "O" Ring (5) from spindle (27).
28. Check the hole in the impulse tube (26) is clear. (DO NOT REMOVE FROM BODY).
29. Wipe the valve seat and body clean of any dirt particles taking care not to damage sealing surfaces on body.

J48: Maintenance Instructions

4" & 6" Sizes – Low Pressure

Rebuilding Procedure.

Note: Inspect all sealing 'O' rings, diaphragms, valves discs, gaskets and replace where necessary (a soft spares kit is available for this purpose).

The use of Molykote 111 "O" ring lubricant is recommended during the rebuild- unless for use with oxygen when no lubricant should be used.

1. Install the valve disc holder (4) complete with 'O' ring (5) onto the valve spindle (27) on end without slot.
2. Replace valve disc (25) in the valve disc holder (4).
3. Place valve disc clamping washer (3) onto valve disc (25) with flat side against valve disc, secure in position with spindle nut (2) and tighten with spanner.
4. Ensure valve seating area is clean.
5. Place base plate gasket (23) on to the base plate (22).
6. Insert complete valve spindle unit into base plate (22) guide hole.
7. Locate valve spindle unit complete with base plate and gasket into body (24), secure with screws (1).
8. Place secondary diaphragm sealing washer (43) and secondary diaphragm washer (6) onto valve spindle (27).
9. Lower the secondary diaphragm (29) on to the valve spindle (27) ensuring convolution is uppermost and that the impulse hole is aligned with impulse tube (26).
10. Place the secondary diaphragm washer (6) over the secondary diaphragm (29).
11. Install the diaphragm spacer (15) with "O" rings (32) on each end, on to the valve spindle (27).
12. Place the bottom diaphragm case (9) on to the secondary diaphragm (29) ensuring the impulse hole is aligned with the impulse tube (26).
13. Secure the bottom diaphragm case (9) to the body using screws (28) and sealing washers (42).
14. Locate the valve spindle guide (31) over the diaphragm spacer (15) and secure with screws (7).
15. Locate the bottom main diaphragm plate (30) with the flat side uppermost on to the valve spindle (27).
16. Locate the main diaphragm (11) on to the valve spindle (27) with the convolution uppermost.
17. Place top main diaphragm plate (12) over valve spindle (27) with flat side against main diaphragm (11).
18. Place the reinforcing plate (33) on to valve spindle (27).
19. Place the bottom spring holder (34) on to the valve spindle (27).
20. Align the holes in the main diaphragm (11) with those in the bottom diaphragm case (9).
21. Screw valve spindle nut (35) on to valve spindle (27) and tighten (use a screwdriver in slot in spindle to prevent it from rotating).
22. Lower the top diaphragm case (13) into position on top of the main diaphragm (11) with the screw holes aligned with those in the bottom diaphragm case (9) and the vent positioned over the outlet of the regulator, unless otherwise required.
23. Secure top diaphragm case (13) in place using screws (10) and nuts (8).
24. If the spring adjustment mechanism (16, 17, 18, 19, 21, 39 & 40) is already assembled and fitted to the top cover (38) then go to step 30.
25. Attach locknuts (16) to adjusting screw (18), the position of these nuts should be approximately that which was recorded during the dismantling procedure.
26. Feed top spring holder (17) onto adjusting screw (18), refer to general arrangement for which way round it is fitted.
27. Fit thrust washer (39) onto adjustment screw (18) and secure in place with the longer tension pin (19).
28. Fit the adjustment mechanism in top cover (38) making sure the slots in the top spring holder (17) line up with the ribs in the top cover.
29. Secure spring adjusting mechanism in place with adjusting nut (40) and the shorter tension pin (21).
30. Locate loading spring (37) over bottom spring holder (34).
31. Place top cover (38) on top of top diaphragm case (13) and secure in place with screws (14).
32. Adjust for the outlet pressure using the spring adjusting nut (40).
33. Fit "O" ring (20) in place on top cover (38).
34. Screw the top cap (41) onto the top cover (38).

Elster Jeavons is committed to a programme of continuous quality enhancement. All equipment designed by Elster Jeavons and manufactured within the Elster-Instromet Group benefits from the groups quality assurance standards, which are approved to EN ISO9001:2008.

Elster Jeavons has a programme of continuous product development and improvement and in consequence the information in this leaflet may be subject to change or modification without notice.

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