



Elster Jeavons J123HP



For
J123HP Regulator 50mm and 80mm Sizes

J123HP2EN | 05/01/17

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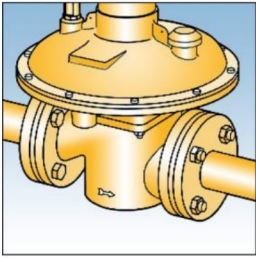


Fig. 1

FITTING REGULATOR INTO PIPEWORK

1. The unit should not be installed in a corrosive environment.
2. The ambient temperature (surface temperature) should be within the limits stated on the regulator catalogue.
3. Check the maximum allowable pressure on the regulator nameplate against the installation specification.
4. Remove the protection plugs from inlet and outlet ports.
5. Ensure that installation pipework is thoroughly clean.
6. The direction of gas flow must be the same as the arrows on the regulator body. See Fig. 1.
7. Install the regulator into pipework.

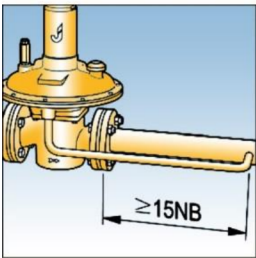


Fig. 2

INSTALLATION OF IMPULSE LINE

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

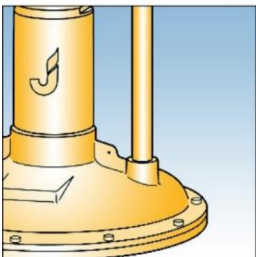


Fig. 3

INSTALLATION OF VENT LINE. (If Required)

1. Remove breather cover from regulator top case / cover.
2. Connect the vent line (1/2"), 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.

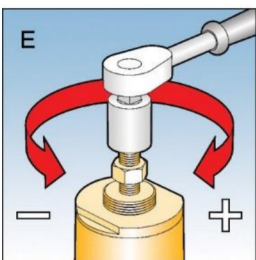


Fig. 4

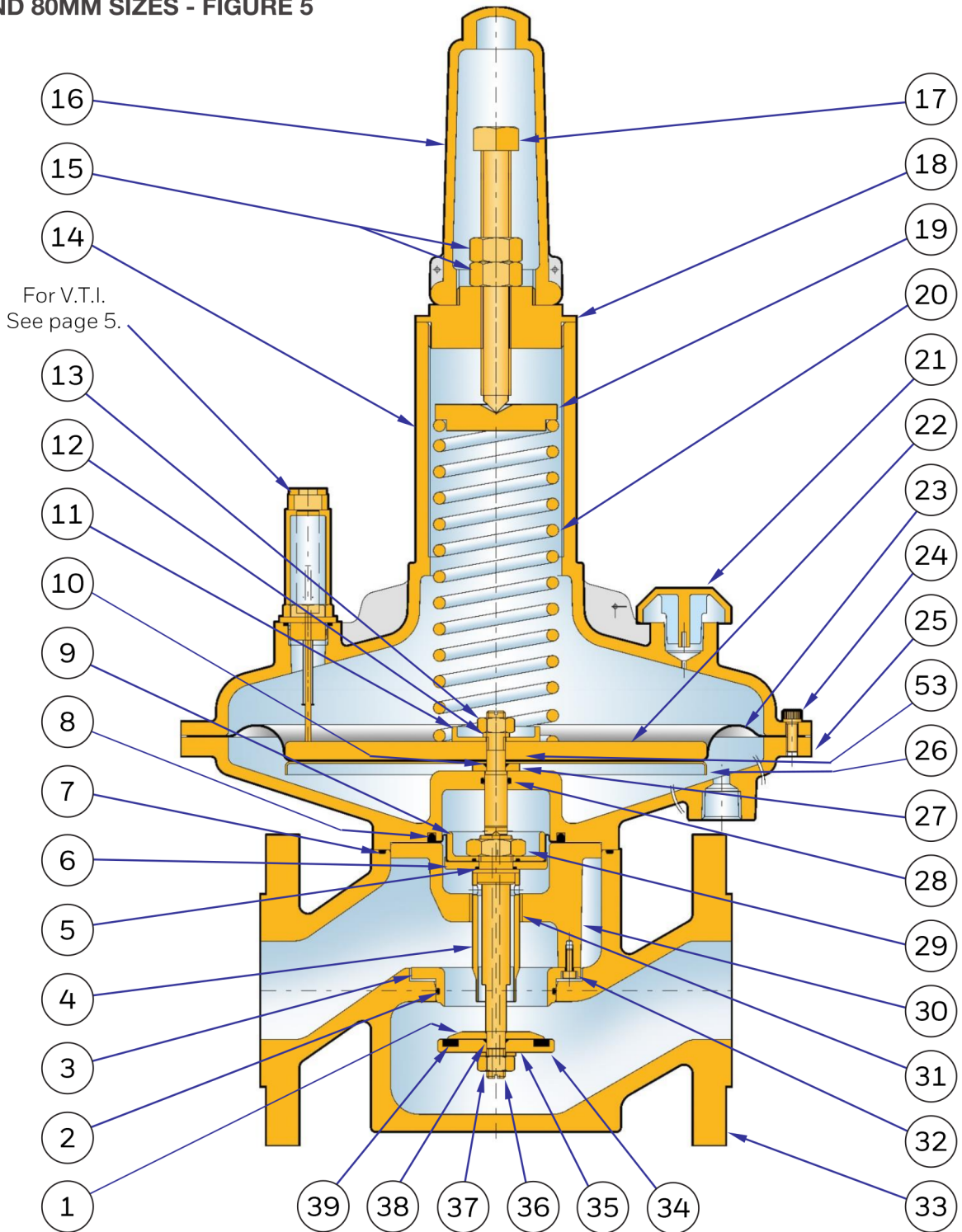
SETTING THE OUTLET PRESSURE.

1. Turn off inlet and outlet valves.
2. Remove top cap.
3. Slacken locknut on spring adjusting stem and connect suitable spanner (24mm A/F) to hexagon of spring adjusting stem. See Fig. 4.
4. Turn spring adjustment anticlockwise to reduce pressure on loading spring.
5. Slowly turn on inlet supply.
6. Increase loading on spring by turning spring adjustment clockwise until the required outlet pressure, plus approximately 2.5mbar, is obtained.
7. Commission downstream appliance(s).
8. Trim the outlet pressure of the regulator, if necessary, when normal working flow rates have been achieved.
9. Replace the top cap.



General Arrangement

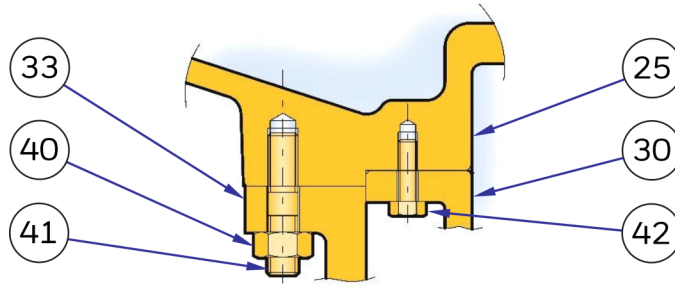
50MM AND 80MM SIZES - FIGURE 5



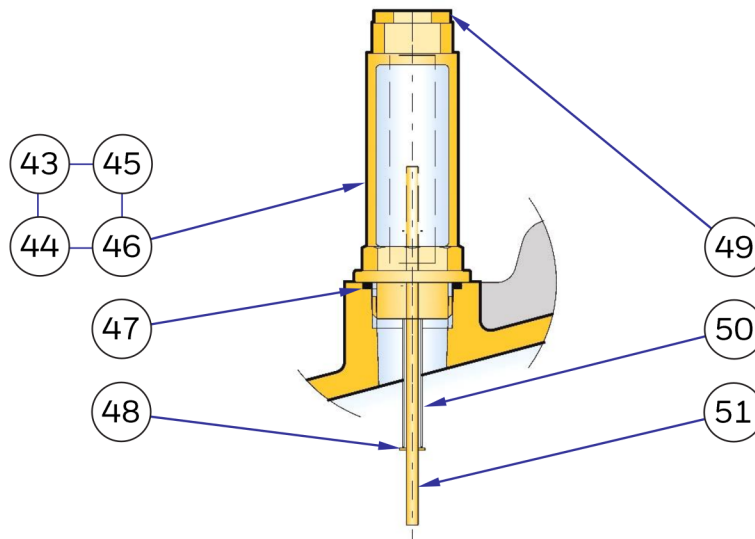


General Arrangement

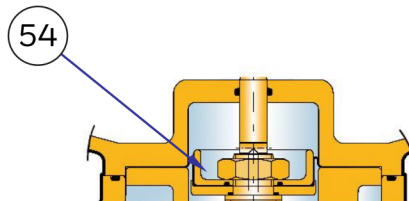
50MM AND 80MM SIZES



Detail of Module to
Body Clamping – Fig 6



Detail of V.T.I. – Fig. 7



Old Pattern Secondary Diaphragm – Fig. 8
(DN50 only, before Apr 2011)

Parts List

ITEM	DESCRIPTION	50mm	No. Off	80mm	No. Off
1	Valve Disc Clamping Washer	J12309-009	1	J12311-009	1
2	"O" Ring Seal	JORM0596-24	* 1	JORM0845-30	* 1
3	Valve Seat	J12309-006	1	J12311-011	1
4	Valve Spindle Guide	J12309-016 (Part of 36)		J12311-017 (Part of 36)	
5	"O" Ring Seal	JORM0181-16	* 1	JORM0181-16	* 1
6	Lower Secondary Diaphragm Plate	J12309-012	1	J12311-014	1
7	"O" Ring Seal	JORM1195-30	* 1	JORM1395-30	* 1
8	Secondary Diaphragm	J12309-052	* 1	J12311-005	* 1
9	Upper Secondary Diaphragm Plate	J12309-011	1	J12311-013	1
10	"O" Ring Seal	JOBS012	* 1	JOBS012	* 1
11	Lower Spring Holder	J12309-040	1	J12309-040	1
12	Spring Washer M10	JWM10BS4464BM	1	JWM10BS4464BM	1
13	Full Nut M10	03508838	1	03508838	1
14	Top Cover	J4811-004 +	1	J4811-004 +	1
15	Full Nut M16	JNA16FZD	2	JNA16FZD	2
16	Top Cap	JC085-017Z01	1	JC085-017Z01	1
17	Spring Adjusting Stem	J3309-016	1	J3309-016	1
18	Spring Adjusting Bush	J12309-046	1	J12309-046	1
19	Top Spring Holder	J12309-045	1	J12309-045	1
20	Loading Spring	SEE TABLE	1	SEE TABLE	1
21	Breather Hole Cover	J12309-029	1	J12309-029	1
22	Main Diaphragm Reinforcing Plate	J12309-050	1	J12309-050	1
23	Main Diaphragm	J4811-005F	* 1	J4811-005F	* 1
24	Cap Head Screws M6	03514611	10	03514611	10
25	Bottom Diaphragm Case	J12309-049 +	1	J12311-027 +	1
26	Lower Main Diaphragm Plate	J4811-011	1	J4811-011	1
27	Main Diaphragm Washer	J12309-017	1	J12309-017	1
28	"O" Ring Seal	JORM0116-24	* 1	JORM0146-24	* 1
29	Secondary Diaphragm Clamping Nut M18	J12309-042	1	J12309-042	1
30	Valve Seat Holder	J12309-003Z01	1	J12311-004Z01	1
31	Glacier DU Bush	JDUMB2515DU	1	JDUMB2515DU	1
32	Socket Head Cap Screw M4 x 12	JSA412SANZI	3	JSA412SANZI	3
33	Body	J12309-001 +	1	J12311-001 +	1

Note: Part numbers marked + require connection standard to be specified with order.



Parts List

ITEM	DESCRIPTION	50mm	No. Off	80mm	No. Off
34	Valve Disc Holder	J12309-008	1	J12311-010	1
35	Spring Washer	JWM10BS4464BM	1	JWM10BS4464BM	1
36	Spindle	J12309-043	1	J12311-025	1
37	Full Nut M10	03580038	1	03580038	1
38	"O" Ring Seal	JOBS012	* 1	JOBS012	* 1
39	Valve Disc	J12309-010	* 1	J12311-018	* 1
40	Full Nut M8	JNA8FZD	4	JNA8FZD	4
41	Stud M8 x 37	J12309-044	4	J12309-044	4
42	Hexagon Head Screw M5	03512149	6	035121073	6
43	Valve Travel Indicator Body	J8112-099Z01	1	J8112-099Z01	1
44	V.T.I. Tube	J8112-101	1	J8112-101	1
45	V.T.I. Nameplate	J8112-102	1	J8112-102	1
46	V.T.I. "O" Ring Seal	JOBS012	* 2	JOBS012	* 2
47	V.T.I. "O" Ring Seal	JORM0216-24	* 1	JORM0216-24	* 1
48	Starlock Washer	JW1/8B-F7025	2	JW1/8B-F7025	2
49	V.T.I. Top Cap	J8112-100	1	J8112-100	1
50	V.T.I. Spring	J8112-119	1	J8112-119	1
51	V.T.I. Spindle	J12309-032	1	J12309-032	1
52	Nameplate	J8112-124	1	J8112-124	1
53	"O" Ring Seal	JORM0221-16	* 1	JORM0221-16	* 1
54	Secondary diaphragm (no bead)	J12309-031	1		

Note: Part numbers marked + require connection standard to be specified with order.

Loading Springs

SPRING RANGE		PART NUMBER Colour Code
140 – 1035 mbar	2 – 15 PSIG	J12309-051 Light Green / Light Blue

Spares Kits

SPARES KIT CODE	SIZE
SK2309-03	50mm
SK2311-03	80mm

Spares kit contents are marked * on parts list above.
Each Spares Kit comprises all diaphragms, valve seats, gaskets and "O" ring seals all packed in one plastic bag.
Precise details of contents will be on the outside of each bag.



Maintenance Instructions - 50mm and 80mm sizes

Drawing Reference: Fig. 5 - 8

NOTE: Numbers in brackets identify items on drawings

Dismantling Procedure.

Note: Regulator can be serviced with body still in pipeline. Ensure that pressure is isolated and exhausted.

1. Check external surfaces for excessive corrosion.
2. Remove 4 nuts (40) to separate regulator module assembly from body (33).
3. Take "O" ring (7) from body (33).
4. Unscrew top cap (16).
5. Loosen nut (15) and remove stem (17) and nut (15).
6. Unscrew spring adjusting bush (18).
7. Remove top spring holder (19) and loading spring (20).
8. Unscrew Valve Travel Indicator assembly (43 - 51), and carefully remove "O" ring seal (47).
9. Invert regulator assembly, remove valve retaining nut (37) from end of valve spindle (36).
10. Remove spring washer (35), Valve disc holder (34) including valve disc (39), "O" ring seal (38) and clamping plate washer (1) from valve spindle (36).
11. Unscrew 3 socket head screws (32) and remove valve seat (3) from valve seat holder (30).
12. Take "O" ring seal (2) from valve seat (3).
13. Remove 6 hexagon head screws (42) and lift valve seat holder (30) from bottom diaphragm case (25). DO NOT remove bush (31) from valve seat holder unless necessary.
14. Unscrew 10 screws (24), remove the top cover (14) from the bottom diaphragm case (25).
15. Insert a flat bladed screwdriver into slot on end of valve spindle (36), and slacken off main diaphragm assembly retaining nut (13).
16. Remove retaining nut (13), spring washer (12), lower spring holder (11), main diaphragm reinforcing plate (22), main diaphragm (23) & lower main diaphragm plate (26).
17. Remove main diaphragm washer (27) taking care not to damage "O" ring seal (10).
18. The valve spindle assembly (36) can now be removed from the bottom diaphragm case (25), taking care not to damage "O" ring seal (28).
19. The valve spindle guide (4) MUST NOT be separated from the valve spindle (36) as this will affect the performance of the assembly.
20. Unscrew retaining nut (29) so secondary diaphragm assembly consisting of, upper secondary diaphragm plate (9), secondary diaphragm (8), lower secondary diaphragm plate (6), and "O" ring seal (5) can be removed.
21. Carefully remove "O" ring seal (28) from bottom diaphragm case (25).
22. Remove breather hole cover (21) from top cover (14) and check that hole in top cover is clear.
23. If required the valve travel indicator can be disassembled by unscrewing the top cap (49) and withdrawing the tube (44) with "O" ring seals (46).



Maintenance Instructions - 50mm and 80mm sizes

Rebuilding Procedure.

NOTE: Inspect all sealing "O" rings, and replace where necessary (a soft spares kit is available for this purpose, see page 7).

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. Carefully fit "O" ring seal (5) into groove on lower secondary diaphragm plate (6).
2. With lip facing upwards replace lower secondary diaphragm plate (6) over valve spindle (36) with M18 thread end facing upwards.
3. Place secondary diaphragm (8) on top of lower secondary diaphragm plate (6), ensure correct orientation with smooth surface against lower secondary diaphragm plate (6).
4. With lip facing upwards replace upper secondary diaphragm plate (9) on top of secondary diaphragm (8).
5. Screw together secondary diaphragm assembly using retaining nut (29).
6. Carefully replace "O" ring seal (28) in lower diaphragm case (25).
7. Insert valve spindle assembly (36) with M18 end first, into bottom diaphragm case (25).
8. Fit "O" ring seal (10) into groove on main diaphragm washer (27).
9. Replace main diaphragm washer (27) (with "O" ring facing upwards) on top of valve spindle (36).
10. With lip facing downwards replace lower main diaphragm plate (26) on top of main diaphragm washer (27).
11. Carefully replace main diaphragm (23) on top of lower main diaphragm plate (26). Ensure holes align with bottom diaphragm case (25).
12. Fit main diaphragm reinforcing plate (22) over main diaphragm (23).
13. With lip facing upwards replace lower spring holder (11) on top of main diaphragm reinforcing plate (22).
14. Place spring washer (12) on top of lower spring holder (11).
15. Screw nut (13) over valve spindle assembly (36) and tighten.
16. Carefully fit top cover (14) on top of main diaphragm (23) and bottom diaphragm case (25) ensuring holes align correctly, and then screw together using 10 socket head screws (24). Note: The breather boss on the top cover is usually positioned over the outlet of the regulator, and the impulse boss on the bottom diaphragm case has to be on the side of the regulator.
17. Reposition the valve seat holder (30) over the bottom of the valve spindle (36), ensuring that the secondary diaphragm (8) is fully home in the bottom diaphragm case (25), and that the 3 location pillars provide a unobtrusive gasway when fitted, in relation to the inlet port of the body (33). Tighten evenly in place using 6 hexagon head screws (42). Replace upper secondary diaphragm plate 'O' ring seal (5) on main valve spindle (42).
18. Using 3 socket head screws (32) secure valve seat (3) to valve seat holder (30).
19. Refit "O" ring seal (2) onto valve seat (3).
20. With flat face facing downwards, fit valve disc clamping washer (1) over bottom end of valve spindle (36).
21. Ensure valve disc (39) is attached to valve disc holder (34).
22. Refit "O" ring seal (38) into valve disc holder (34).
23. With valve disc (39) facing upwards replace valve disc holder (34) and "O" ring (38) onto valve disc clamping washer (1).
24. Replace spring washer (35) over valve disc holder (34).



Maintenance Instructions - 50mm and 80mm sizes

25. Using flat bladed screwdriver in slot in valve spindle (36), screw together valve disc assembly with retaining nut (37). Tighten to a torque of 16 - 20 Nm.
26. Carefully replace main "O" ring seal (7) in body (33).
27. Replace regulator assembly into body (33), ensure in correct position i.e. unrestricted inlet porting.
28. Secure together regulator assembly and body (33) using 4 studs (41) and nuts (40).
29. Replace loading spring (20) inside chimney of top cover (14) and ensure that bottom is located over lower spring holder (11).
30. Position top spring holder (19) on top of loading spring (20) with recess uppermost.
31. Screw spring adjusting bush (18) into chimney of top cover (14).
32. Screw nut (15) on to shaft of spring adjusting stem (17).
33. Screw spring adjusting stem (17) into spring adjusting bush (18), with the end of the stem (17) locating into the recess in the top spring holder (19).
34. Replace breather cover (21).
35. If taken apart - reassemble valve travel indicator by inserting tube (44), with "O" rings (46) at either end, into V.T.I. body (43). Replace V.T.I. top cap (49).
36. Screw valve travel indicator assembly (43-46) into hole in top cover (14).
37. Set Regulator to correct outlet pressure (see installation instructions) then screw top cap (16) on to spring adjusting bush (18).