

Elster Jeavons S300

H.P. Over Pressure Slam Shut valve
Inlet pressures up to 20 bar

Commissioning Instructions

General Arrangements

Parts Lists

Maintenance Instructions

For: S300 Slam Shut Valve

$\frac{3}{4}$ " and 1" sizes



S300: Commissioning Instructions

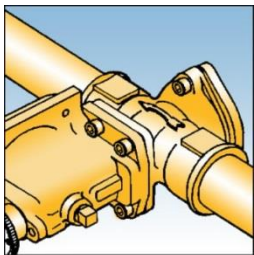


Fig. 1

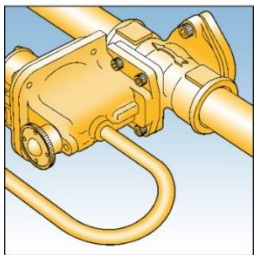


Fig. 2

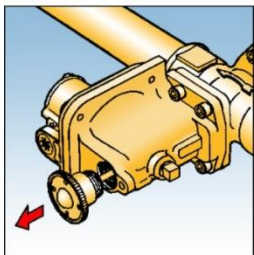


Fig. 3

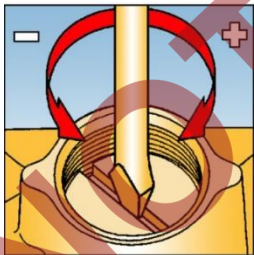


Fig. 4

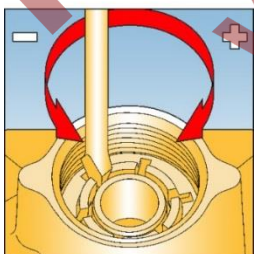


Fig. 5

FITTING REGULATOR INTO PIPEWORK (A)

1. Remove the plastic protection plugs from inlet and outlet (and external impulse hole if applicable)
2. Ensure that installation pipework is thoroughly clean.
3. The direction of gas flow must be the same as the arrows on the OPSS body. See Fig. 1.
4. Install the OPSS into pipework using a jointing compound approved to national standards.
5. If external impulsed unit, connect impulse pipe as per national standards. See Fig. 2.

OPSS COMMISSIONING INSTRUCTIONS (For non preset units)

1. Turn off upstream and downstream isolation valves.
2. Unscrew reset cap.
3. Firmly pull out reset spindle to re-cock OPSS unit and release spindle gently. See Fig. 3.
4. Remove top cap from OPSS cover.
5. Insert a flat bladed screwdriver into slot on the OPSS spring adjuster. See Fig. 4 HP or 5 LP.
6. Turn clockwise (+) to increase loading on the OPSS spring to maximum.
7. Apply external pressure source to a suitable point on the downstream pipework, slowly increase pressure to that required for OPSS trip-off.
Note: If pressure point on underside of OPSS unit is used as external impulse, care must be taken to ensure that pressures are equalised across the orifice before re-cocking OPSS.
5. Slowly turn OPSS spring adjuster anticlockwise (-) until OPSS device trips off. See Fig. 4 HP or 5 LP.
6. Exhaust external pressure source.
7. Re-cock OPSS by firmly pulling reset spindle. See Fig. 3. (Hold for approx. 5- 10 secs).
8. Slowly increase external pressure to check for OPSS trip-off. Trim adjustment if necessary.
Note: OPSS device is now set.
9. Remove external pressure source and replace OPSS top cap. (Wire seal if necessary).
10. Re-cock OPSS unit as instructed (iii) above.
11. Replace OPSS reset cap. (Wire seal if necessary).
12. Slowly open upstream valves to establish gas supply.

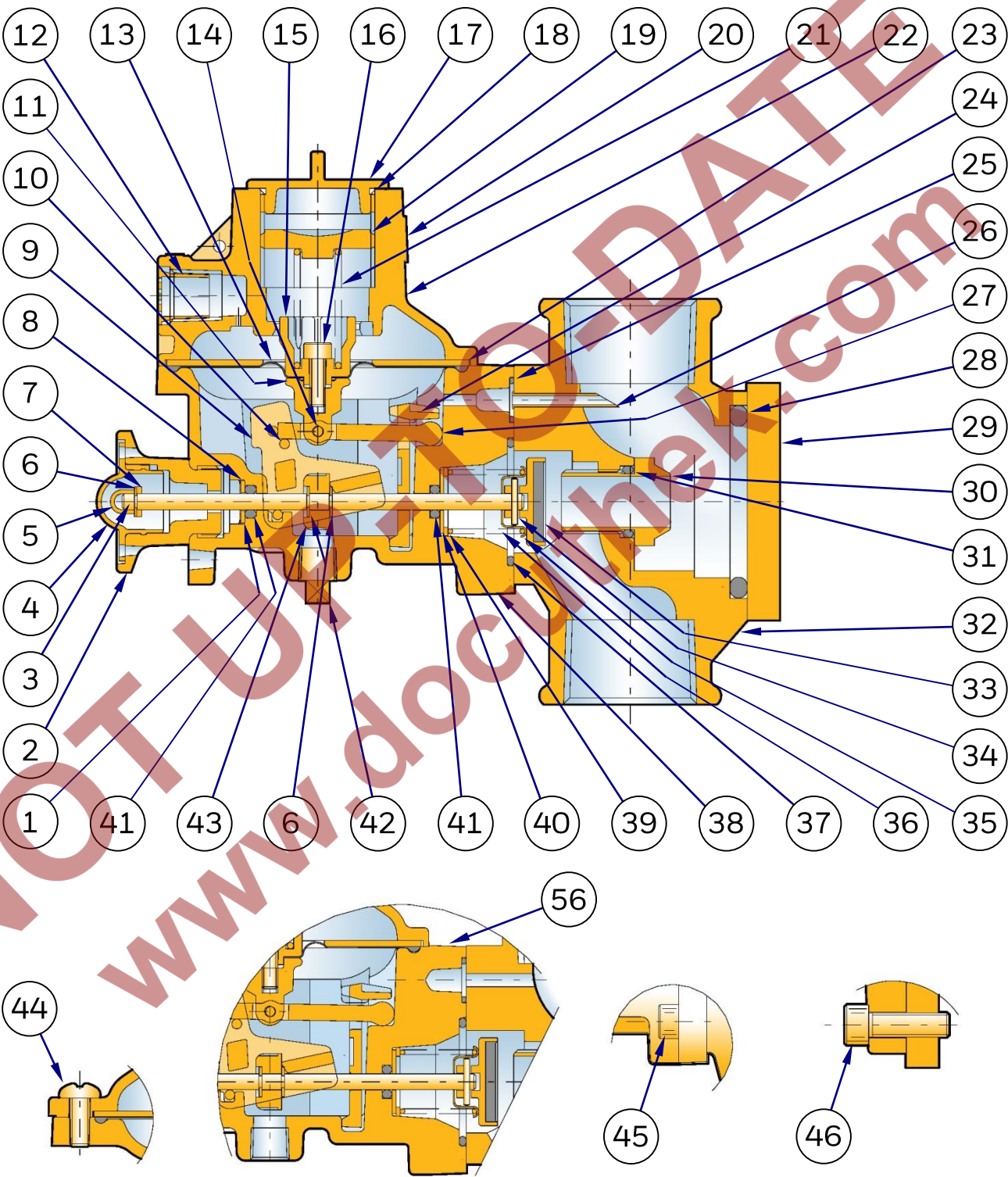
OPSS COMMISSIONING INSTRUCTIONS (For pre-set units)

1. Turn off upstream and downstream isolation valves.
2. Unscrew reset cap.
3. Firmly pull out reset spindle to re-cock OPSS unit and release spindle gently. See Fig. 3.
4. Apply external pressure source to a suitable point on the downstream pipework, slowly increase pressure to that indicated on the label.
5. Note: If pressure point on underside of OPSS unit is used as external impulse, care must be taken to ensure that pressures are equalised across the orifice before re-cocking OPSS.
6. If unit functions as expected, exhaust and remove external pressure source.
7. Re-cock OPSS unit as instructed in (iii) above.
8. Replace OPSS reset cap. (Wire seal if necessary).
9. Slowly open upstream valves to establish gas supply.

RESETTING OPSS AFTER TRIPPING

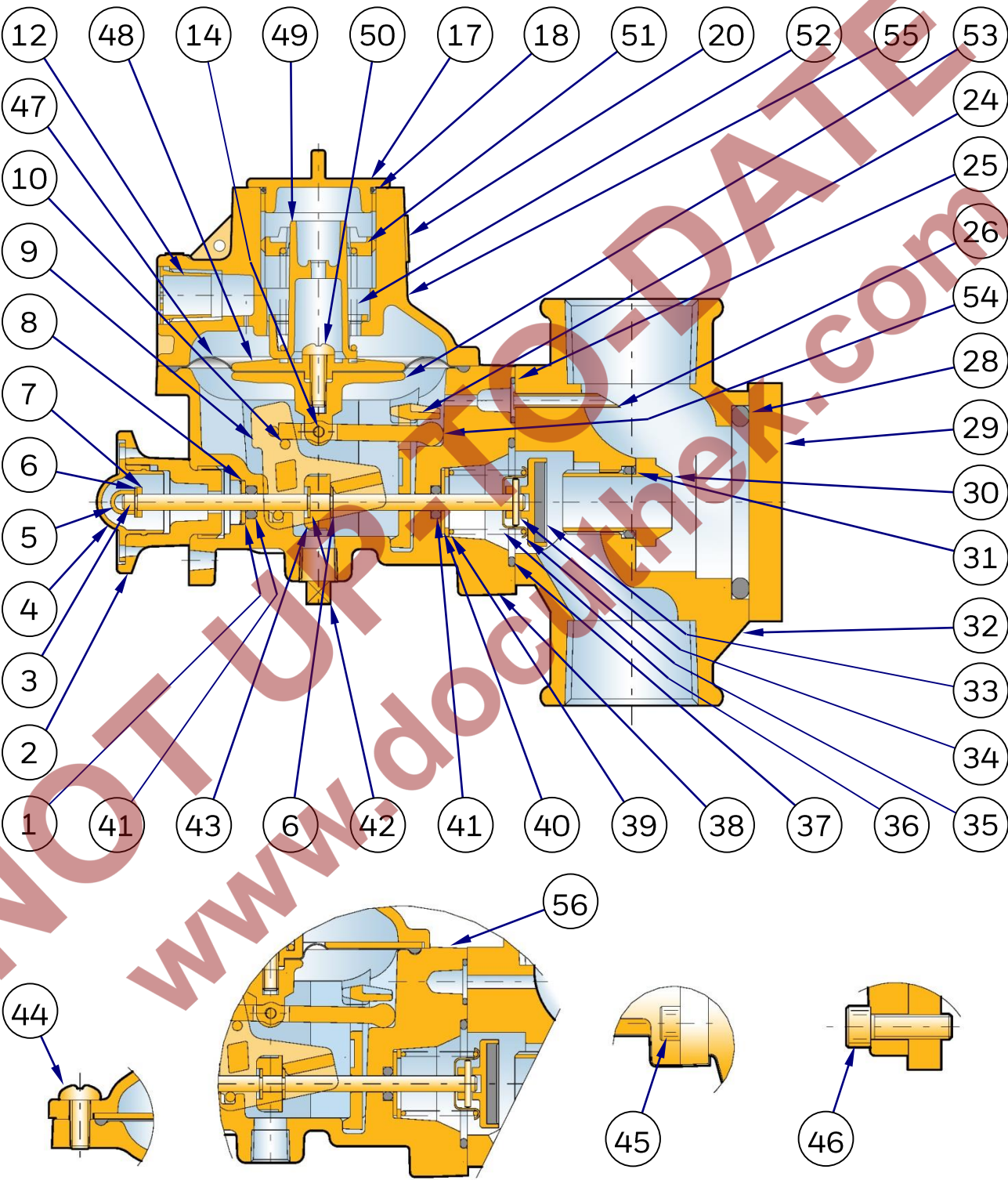
1. Turn off all upstream valves.
2. Dissipate downstream gas through burning and close downstream valves.
3. Remove wire seal if fitted.
4. Unscrew reset cap.
5. Firmly pull out reset spindle to re-cock OPSS unit. Hold for 5 - 10 seconds and release spindle gently. See Fig. 3.
6. Slowly open upstream valves to re-establish gas supply.
7. If gas supply re-established, replace OPSS reset cap and wire seal if needed.
8. If gas supply not re-established, turn off all upstream valves and repeat steps 2, 5 and 6.
9. If after the second attempt the gas supply is not re-established, ensure all upstream and downstream valves are turned off.
10. Inspect system, identify and correct cause of over-pressure leading to trip-off.
11. Repeat steps 5 and 6.

S300: General Arrangement
 High Pressure Unit – Fig. 6



OPSS Cover to Body Fixing Part View Showing External Impulse Version OPSS Assembly to Reg Body Fixing Blanking Plate to Reg Body Fixing

S300: General Arrangement
 Low Pressure Unit – Fig. 7



OPSS Cover to Body Fixing

Part View Showing External Impulse Version

OPSS Assembly to Reg Body Fixing

Blanking Plate to Reg Body Fixing

S300: Parts List

ITEM	DESCRIPTION	PART NUMBER	No. Off
1	REAR "O" RING RETAINING WASHER	J12506-253	1
2	RESET SPINDLE END CAP	J12506-254	1
3	VALVE SPINDLE	J12506-259	1
4	COVER FOR RESET END CAP	J12506-255	1
5	INDICATOR CAP	JCLOSEMC4	1
6	CIRCLIP FOR VALVE SPINDLE	03627606	3*
7	WASHER REAR CIRCLIP PROTECTION	J12506-292	1
8	STARLOCK WASHER	JCIR1305-043B	1*
9	TRIP-OFF LATCH	J12506-241	1
10	NEEDLE ROLLER	JNR02S	1
11	LOWER DIAPHRAGM PLATE (HP Unit)	J12506-304	1
12	SCREEN VENT	J12506-277	1
13	DIAPHRAGM (HP Unit)	J12506-306	1☒
14	NEEDLE ROLLER	JNR02S	1
15	UPPER DIAPHRAGM PLATE (HP Unit)	J12506-305	1
16	SCREW FOR DIAPHRAGM PLATES (HP Unit)	JSA412SANZI	1
17	TOP CAP	J12506-142	1
18	"O" RING SEAL FOR TOP CAP	JORM0251-16	1*
19	TOP SPRING HOLDER (HP Unit)	J7705-085	1
20	NAMEPLATE	J7806-027	1
21	OPSS SPRING (HP Unit)	SEE TABLE	1
22	TOP COVER (HP unit)	J12506-240+03	1
23	DIAPHRAGM REDUCING PLATE (HP Unit)	J12506-303	1
24	TRIP-OFF LEVER RETAINING PLATE	J12506-243	1
25	"O" RING SEAL FOR IMPULSE PASSAGE	03110340	1*
26	IMPULSE TUBE (BRASS - UP TO SEPTEMBER 2011)	J4706-072	1
	IMPULSE TUBE (PLASTIC – FROM OCTOBER 2011)	J4806-120	1
27	TRIP-OFF LEVER Stainless Steel (HP Unit)	J12506-308	1
28	"O" RING SEAL FOR BLANKING PLATE/REG BODY	JO200325-4475	1*
29	BLANKING PLATE	J12506-310	1
30	VALVE SEAT 12.7mm (1/2")	J12506-299	1
31	"O" RING FOR VALVE SEAT	JORM0136-24	1*
32	MAIN BODY 1" SCREWED	J12506-226+08	1
	MAIN BODY 3/4" SCREWED	J12505-226+08	1

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

S300: Parts List

ITEM	DESCRIPTION	PART NUMBER	No. Off
33	VALVE DISC HOLDER	J12506-271M	1*
34	NEEDLE ROLLER	JNR01	1
35	VALVE SPRING CUP	J12506-251	1
36	VALVE SPRING	J12506-182	1
37	"O" RING FOR OPSS BODY/MAIN BODY	JORM0276-24	1*
38	SLAM SHUT BODY (Internally Impulsed)	J12506-239+01	1
39	CIRCLIP FOR FRONT "O" RING WASHER	JCIR2000K-17B	1*
40	FRONT "O" RING RETAINING WASHER	J12506-252	1
41	"O" RING FOR VALVE SPINDLE	JO4-25	2*
42	MALL RAISED HD PLUG Rc1/8 (For Internal Imp)	JMFP101	1
43	TRIP-OFF BUSH	J12506-244	1
44	SCREW FOR OPSS COVER / BODY	JSA512TPTS	4
45	SCREW FOR OPSS BODY/MAIN BODY	JSA516SANSS	4
46	SCREW FOR MAIN BODY/BLANKING PLATE	JSA620SANSS	2
47	DIAPHRAGM (LP Unit)	J12506-246	1*
48	UPPER DIAPHRAGM PLATE (LP Unit)	J12506-245	1
49	BOTTOM SPRING HOLDER (LP Unit)	J12506-250	1
50	SCREW FOR SHUT-OFF DIAPHRAGM (LP Unit)	JSA412XPTZ	1
51	TOP SPRING HOLDER (LP Unit)	J12506-248	1
52	OPSS SPRING (LP Unit)	SEE TABLE	1
53	BOTTOM DIAPHRAGM PLATE (LP Unit)	J12506-247	1
54	TRIP-OFF LEVER Plastic (LP Unit)	J12506-242	1
55	TOP COVER (LP unit)	J12506-240+01	1
56	SLAM SHUT BODY (Externally Impulsed)	J12506-239+03	1

ITEMS MARKED * ARE INCLUDED IN SPARES KIT (See Separate Table)
PART NUMBERS THAT INCLUDE + REQUIRE CONNECTION INFORMATION.

S300: Spares Kits and Springs

SPARES KITS

Spares kit contents are marked * on parts list opposite

SPARES KIT CODE	DESCRIPTION
SK3006-01	S300 OPSS Low Pressure
SK3006-02	S300 OPSS High Pressure

HIGH PRESSURE OVER-PRESSURE SLAM-SHUT SPRINGS

Bar	PSIG	Part Number	Colour Code
0.5 - 1.0	7.25 - 14.5	J12506-311	DARK BLUE / BLACK
1.0 - 2.0	14.5 - 29.0	J12506-312	DARK BLUE / ORANGE
2.0 - 4.0	29.0 - 58.0	J12506-313	DARK BLUE / RED

LOW PRESSURE OVER-PRESSURE SLAM-SHUT SPRINGS

mbar	"wc	Part Number	Colour Code
18 - 60	7.5 - 24	J12506-281	BLACK
50 - 80	20 - 32	J12506-282	ORANGE
60 - 110	24 - 44	J12506-283	RED
100 - 210	40 - 84	J12506-284	DARK GREEN
200 - 350	3 - 5 PSI	J12506-287	YELLOW
280 - 500	4 - 7 PSI	J12506-288	WHITE

S300: Maintenance Instructions

Drawing Reference Figs 6 & 7

Dismantling Procedure.

1. Disconnect blanking plate (29) from main body (32) by removing the two capscrews (46).
2. Remove "O" ring (28).
3. Disconnect the safety shut-off unit assembly from main body (32) by removing the four cap screws (45).
4. Remove "O" rings (25 and 37) from face of safety shut-off unit (38 or 56).
5. Remove valve seat (30) from the main body (32).
6. Remove "O" ring (31) from valve seat (30).
7. Wipe clean the valve seat (30), check for any damage, and replace if necessary.
8. If fitted check that the impulse tube (26) is clear. DO NOT REMOVE TUBE FROM BODY.
9. Unscrew top cap (17) and remove "O" ring (18).

For Low Pressure units go to instruction 16.

For High Pressure Version.

10. Unscrew and remove top spring holder (19) together with OPSS spring (21).
11. Remove top cover (22) by unscrewing the four screws (44).
12. Remove diaphragm reducing plate (23).
13. Lift diaphragm assembly from slam shut body (38 or 56).
14. Unscrew diaphragm clamping screw (16) & remove upper diaphragm plate (15) and main diaphragm (13).
15. Remove needle roller (14) to release lever arm (27) from lower diaphragm plate (11).

Go to instruction 22.

For Low Pressure Version.

16. Unscrew and remove top spring holder (51) together with OPSS spring (52).
17. Remove bottom spring holder (49).
18. Remove top cover (55) by unscrewing the four screws (44).
19. Lift diaphragm assembly from slam shut body (38 or 56).
20. Unscrew diaphragm clamping screw (50) & remove upper diaphragm plate (48) and main diaphragm (47).
21. Remove needle roller (14) to release lever arm (54) from lower diaphragm plate (53).

All Versions

22. Push valve spring cup (35) towards slam shut body (38 or 56) to release needle roller (34). Remove valve (33), valve spring cup (35) and valve spring (36).
23. Unscrew reset spindle end cap (2) and pull out until it comes to a stop.
24. Inside body prise visible circlip (6) from valve spindle (3) to release trip-off bush (43).
25. Slide trip-off bush (43) forward and prise second circlip (6) from valve spindle (3).
26. Withdraw valve spindle (3) and end cap assembly (2), (4), (5), (6) & (7) from slam shut body (38 or 56).

J123HP: Maintenance Instructions

Continued

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).

J123HP: Maintenance Instructions

Continued

Rebuilding Procedure (Continued).

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).

NOT UP-TO-DATE
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Your Contacts:

United Kingdom
Elster Metering Ltd
Paton Drive, Tollgate Business Park,
Beaconside, Stafford, Staffs. ST16 3EF
T +44 1785 275200
F +44 1785 275305
www.elster-instromet.com
stafford.enquiries@honeywell.com

United Kingdom
Elster Metering Ltd
Mutual House, Leicester Road,
Melton Mowbray, Leics. LE13 0DB
T +44 1664 567797
F +44 1664 504199
www.elster-instromet.com
elsteruksales.hps@honeywell.com

Germany
Elster GmbH
Steinern St. 19 - 21
55252 Mainz -Kastel
T +49 6134 605 0
F +49 6134 605 223
www.elster-instromet.com
info@GE4N@honeywell.com

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MS3001EN | 04 | 01/17
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