

J78



CONTROLS SUPPLY CHAIN
VALVES ACTUATORS INSTRUMENTATIONS

Low Pressure
Gas Pressure Regulator



Commissioning Instructions

General Arrangements

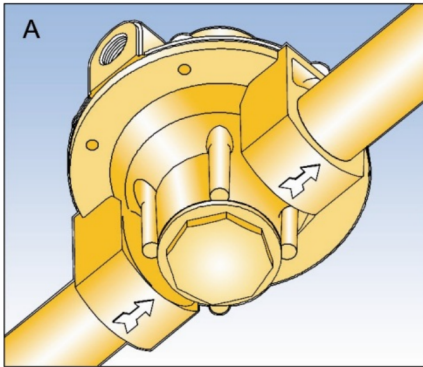
Parts Lists

Maintenance Instructions

For: J78R Regulator 1/2", 3/4" & 1",
J78RS Regulator 1/2", 3/4" & 1"



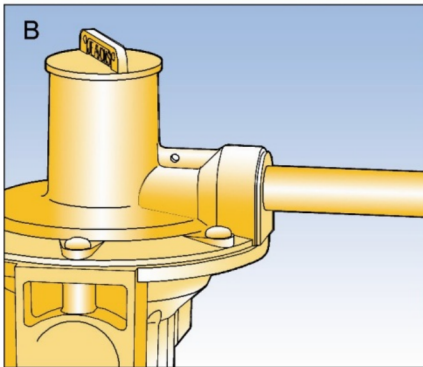




FITTING REGULATOR INTO PIPEWORK (A)

1. Remove the plastic protection plugs from inlet and outlet (and breather 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 regulator body.
4. Install the regulator into pipework using a jointing compound approved to national standards.

INSTALLATION OF VENT LINE (B) IF REQUIRED (J78RS only).

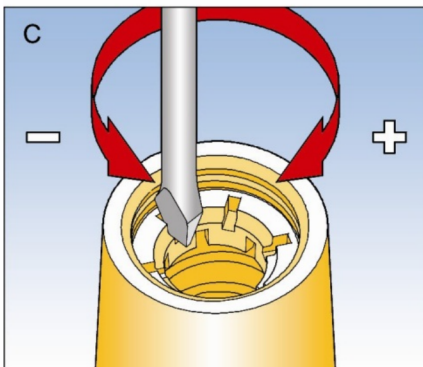


5. Remove the plastic protection plug.
6. Connect the vent line (1/4" connection), using a jointing compound approved to national standards, and lead to atmosphere in accordance with national standards. Ensure that no water can penetrate vent pipeline.

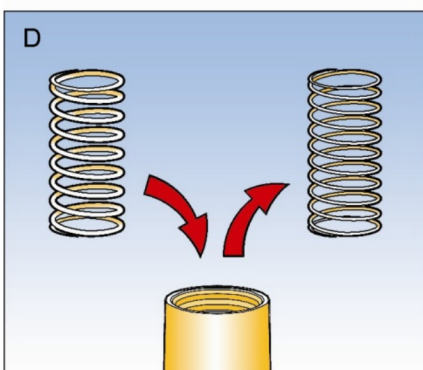
FOR PRE - SET REGULATORS

7. Turn off downstream valves.
8. Slowly turn on inlet supply.
9. Commission downstream appliance(s).

SETTING OF OUTLET PRESSURE (C)



10. Turn off downstream valves.
11. Remove the top cap.
12. Insert a flat bladed screwdriver into one of the partial slots in the top spring holder.
13. Turn anticlockwise to reduce pressure on the loading spring.
14. Slowly turn on inlet supply.
15. Increase loading on the spring by turning the spring holder clockwise until the required outlet pressure, plus approximately 2.5 mbar, is obtained.
16. Commission downstream appliance(s).
17. Trim the outlet pressure of the regulator, if necessary, when normal working flow rates have been achieved.

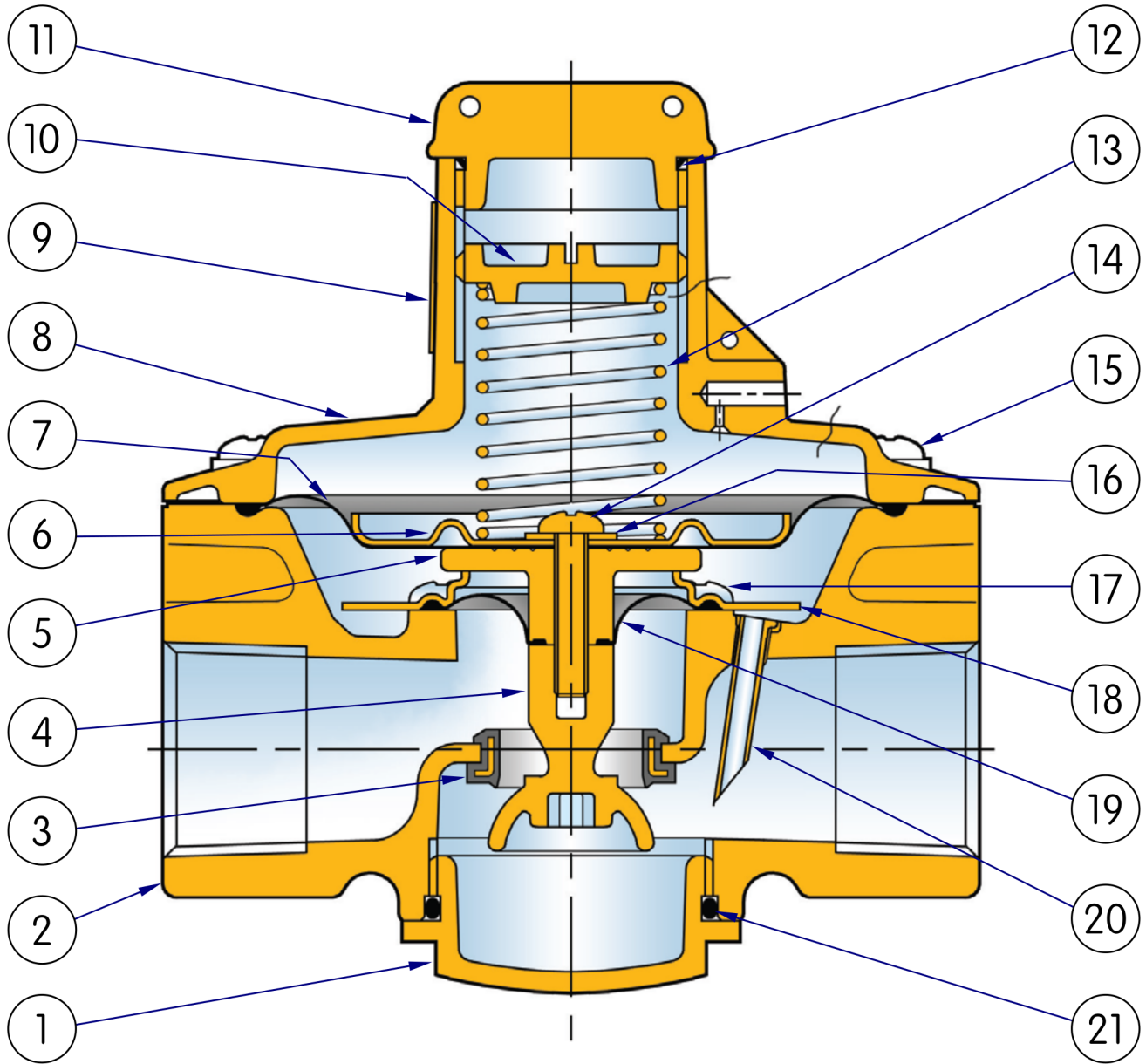


18. Replace the top cap (and seal if necessary).

IF THE REQUIRED OUTLET PRESSURE CANNOT BE ACHIEVED WITH THE SPRING FITTED. (D).

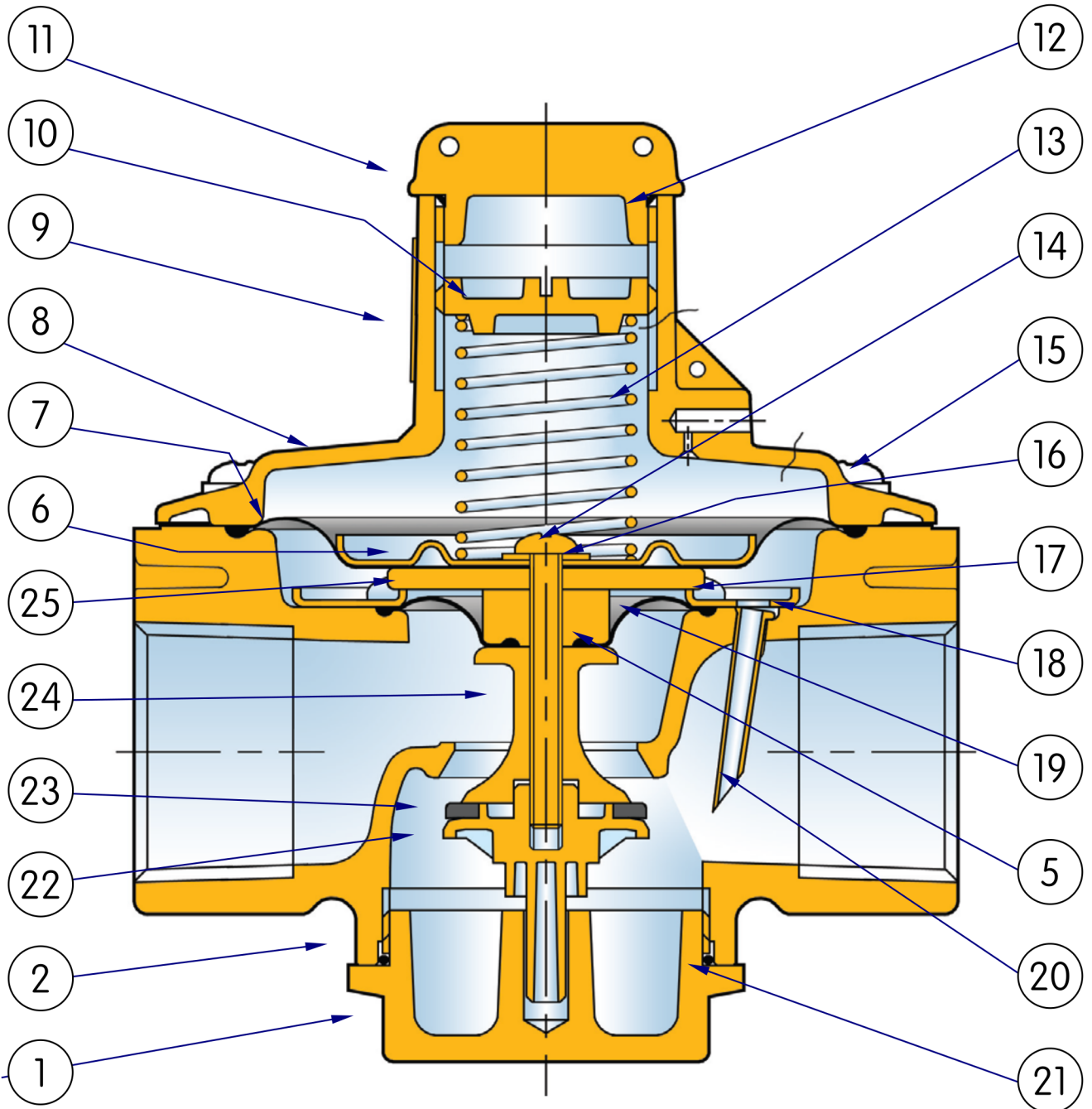
19. Choose a loading spring from the catalogue that will give the required outlet pressure range.
20. Fully unscrew and remove the top spring holder.
21. Remove the loading spring.
22. Insert the new spring.
23. Screw top spring holder back in place, ensuring that castellated spigot locates into loading spring.
24. Adjust the outlet pressure, as described above, until the required setting is found.
25. Replace the top cap (and seal if necessary).

J78R Sizes 1/2" & 3/4": General Arrangement



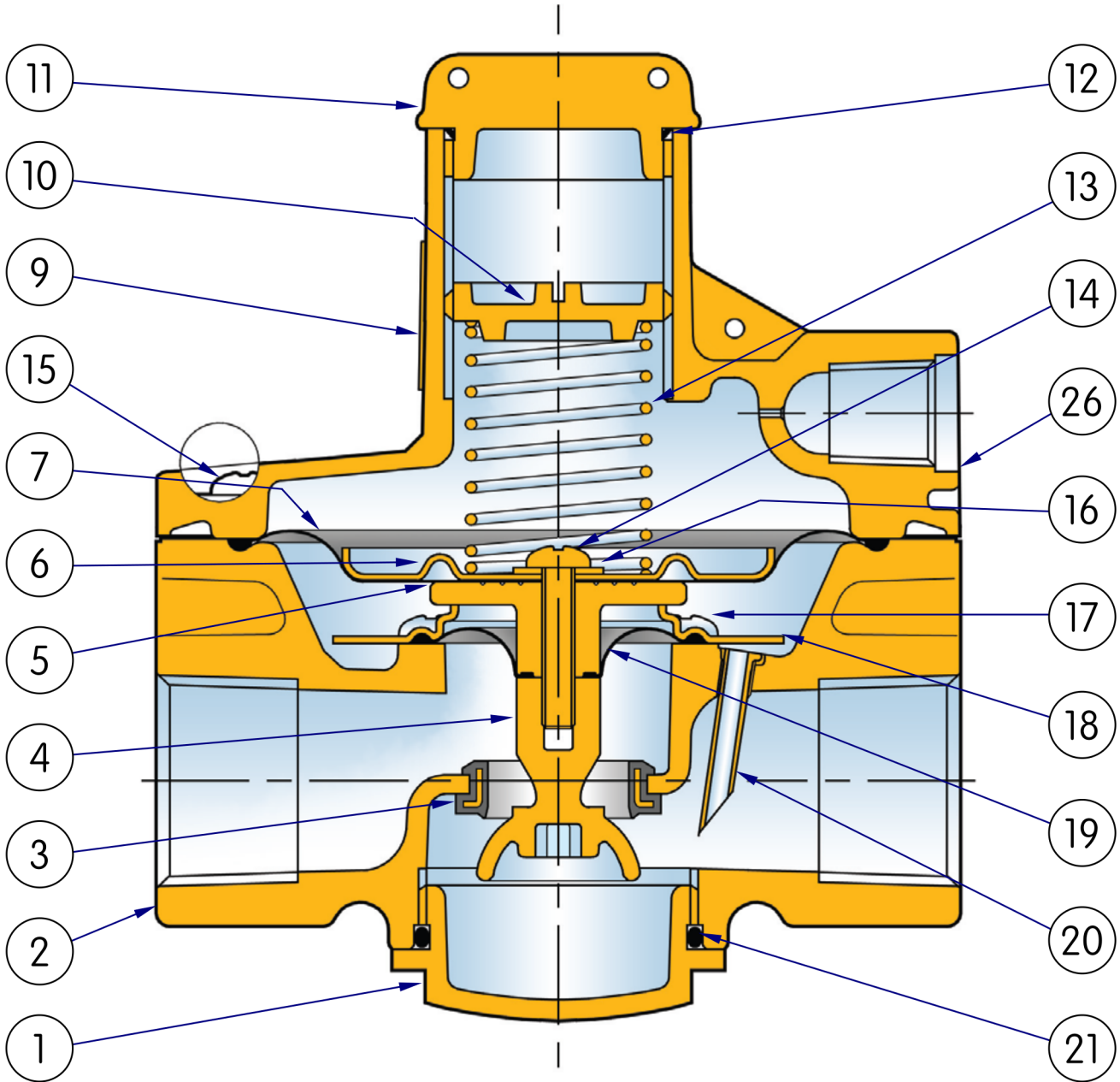
NOTE: VENT IN TOP COVER IS NOT SHOWN IN TRUE POSITION

J78R Size 1": General Arrangement



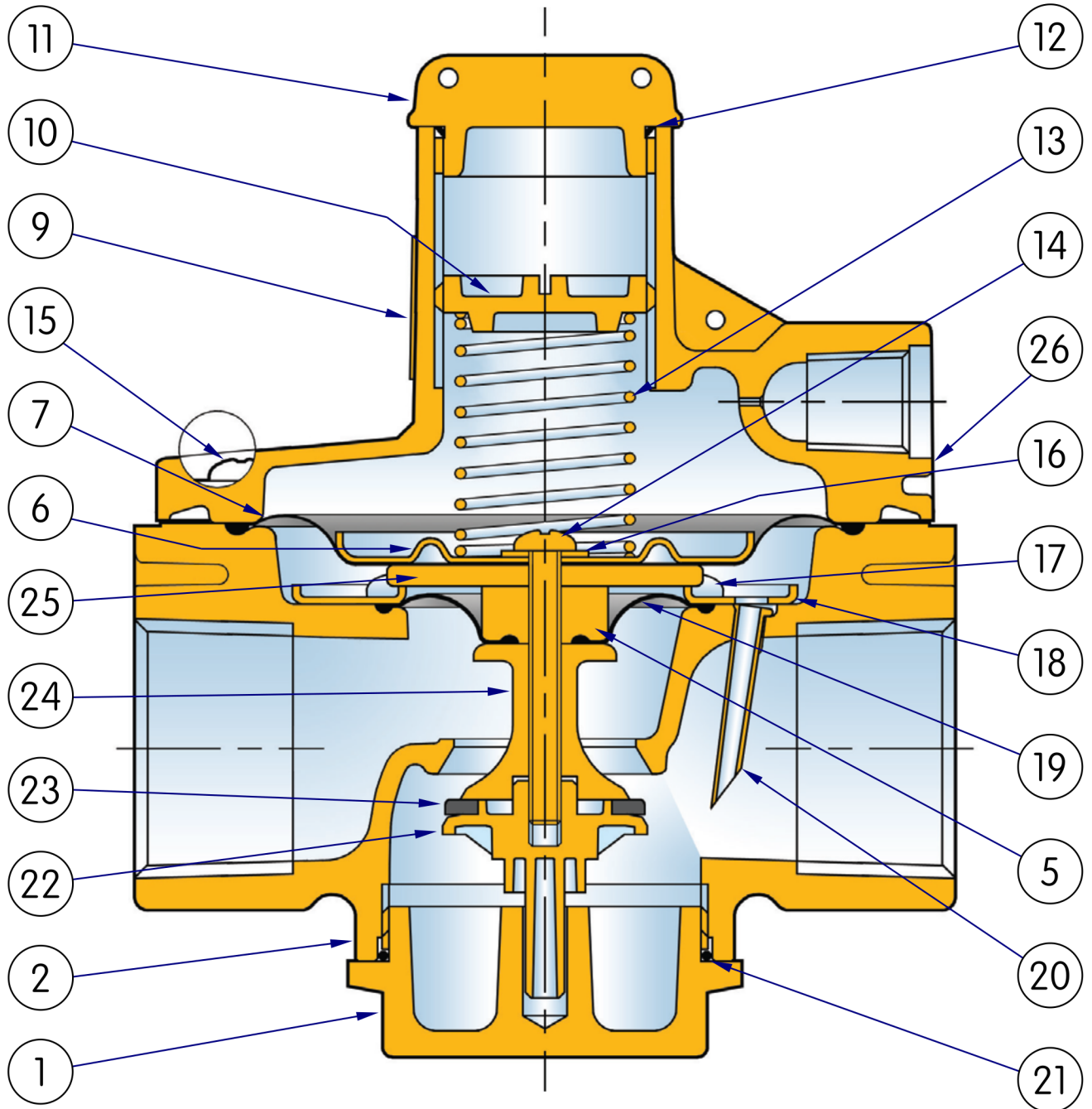
NOTE: VENT IN TOP COVER IS NOT SHOWN IN TRUE POSITION

J78RS Sizes 1/2" & 3/4": General Arrangement



NOTE: VENT IN TOP COVER IS NOT SHOWN IN TRUE POSITION

J78RS Size 1": General Arrangement



NOTE: VENT IN TOP COVER IS NOT SHOWN IN TRUE POSITION

J78R & RS: Parts List



CONTROLS SUPPLY CHAIN
VALVES ACTUATORS INSTRUMENTATIONS

ITEM	DESCRIPTION	1/2"	No. Off	3/4"	No. Off	1"	No. Off
1	BOTTOM PLUG	J7805-002Z02	1	J7805-002Z02	1	J4806-017Z03	1
2	BODY	J7804-003+	1	J7805-047+	1	J7806-021+	1
3	VALVE SEAT	J7705-079C	1	J7705-079C	1	-	-
4	VALVE	J7706A-041	1	J7706A-041	1	-	-
5	DIAPHRAGM SPACER	J7706A-040	1	J7706A-040	1	J7806-024	1
6	TOP DIAPHRAGM PLATE	J7706A-045	1	J7706A-045	1	J7706A-045	1
7	MAIN DIAPHRAGM	J7706A-043	* 1	J7706A-043	* 1	J7706A-043	* 1
8	TOP COVER (J78R TYPE)	J7706A-037Z01	1	J7706A-037Z01	1	J7706A-037Z01	1
9	NAMEPLATE	J7806-027	1	J7806-027	1	J7806-027	1
10	SPRING HOLDER	J7705-085	1	J7705-085	1	J7705-085	1
11	TOP CAP	J12506-142	1	J12506-142	1	J12506-142	1
12	"O" RING SEAL FOR TOP CAP	JORM0251-16	* 1	JORM0251-16	* 1	JORM0251-16	* 1
13	LOADING SPRING	SEE TABLE	1	SEE TABLE	1	SEE TABLE	1
14	VALVE SPINDLE	JSA420XPTZ	1	JSA420XPTZ	1	JSA435XPTZ	1
15	SCREWS	JSA412TPTM	6	JSA412TPTM	6	JSA412TPTM	6
	SCREWS (PRE MAY 2012)	JSA412XPTZ	6	JSA412XPTZ	6	JSA412XPTZ	6
16	SEALING WASHER	J7706A-044	* 1	J7706A-044	* 1	J7706A-044	* 1
17	SCREWS	JSA410TPTM	4	JSA410TPTM	4	JSA410TPTM	4
	SCREWS (PRE MAY 2012)	JSA410XPTZ	4	JSA410XPTZ	4	JSA410XPTZ	4
18	SEC DIAPHRAGM CLAMPING PLATE	J7805-048	1	J7805-048	1	J7806-022	1
19	SECONDARY DIAPHRAGM	J7706A-036	* 1	J7706A-036	* 1	J7806-023	* 1
	SECONDARY DIAPHRAGM FOR AIR	J7706A-046	* 1	J7706A-046	* 1	J7806-028	* 1
20	IMPULSE TUBE	J7805-056	1	J7805-056	1	J4806-120	1
	IMPULSE TUBE (PRE MAY 2011)	J7805-049	1	J7805-049	1	J4706-072	1
21	"O" RING SEAL FOR BOTTOM PLUG	JORM0316-24	* 1	JORM0316-24	* 1	JORM0376-24	* 1
22	VALVE DISC HOLDER	-	-	-	-	J4806-015	1
23	VALVE DISC	-	-	-	-	J4806-025	* 1
24	VALVE SPACER	-	-	-	-	J4806-014	1
25	LOWER DIAPHRAGM PLATE	-	-	-	-	J7806-025	1
26	TOP COVER (J78RS TYPE)	J7805-057+	1	J7805-057+	1	J7805-057+	1

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

SPARES KITS

Spares kit contents are marked * on parts list opposite

SPARES KIT CODE	SIZE
SK7805R-01	½" and ¾"
SK7805R-03	½" and ¾" for air
SK7806R-01	1"
SK7806R-03	1" for air

SPRINGS FOR J78R AND J78RS REGULATORS

J78R SPRING RANGE

½" and ¾"		1"		Part Number	Colour Code
9 – 17 mbar	3.6 – 6.8 "wg	13 – 19 mbar	5.2 – 7.6 "wg	J7805-038A	Yellow
15 – 23 mbar	6.0 – 9.2 "wg	20 – 24 mbar	8.0 – 9.6 "wg	J1105C-035A	Black
22 – 31 mbar	8.8 – 12.4 "wg	27 – 32 mbar	10.8 – 12.8 "wg	J1105C-016A	Orange
31 – 42 mbar	12.4 – 16.9 "wg	37 – 46 mbar	14.9 – 18.5 "wg	J7805-042A	Brown

J78RS SPRING RANGE

½" and ¾"		1"		Part Number	Colour Code
2 – 16 mbar	0.8 – 6.4 "wg	6 – 21 mbar	2.4 – 8.4 "wg	J7805-038A	Yellow
10 – 20 mbar	4.0 – 8.0 "wg	13 – 26 mbar	5.2 – 10.4 "wg	J1105C-035A	Black
16 – 28 mbar	6.4 – 11.2 "wg	18 – 36 mbar	7.2 – 14.4 "wg	J1105C-016A	Orange
22 – 40 mbar	8.8 – 16.0 "wg	28 – 48 mbar	11.2 – 19.3 "wg	J7805-042A	Brown



Dismantling Procedure.

1. Unscrew top cap (11) from top cover (8) or (26).
2. Remove "O" ring (12) from top cap (11).
3. Turn spring holder (10) anticlockwise (to reduce loading on spring).
4. Carefully remove spring holder (10) from top cover (8) or (26).
5. Remove loading spring (13) from top cover (8) or (26).
6. Remove top cover screws (15) and carefully lift off top cover (8) or (26).
7. Unscrew bottom plug (1) and remove from body (2).
8. Remove "O" ring (21) from bottom plug (1).
9. Restrain valve (4) with 5mm A/F allen key through bottom plug hole, and untighten valve spindle (14).
10. Withdraw valve (4) through bottom plug opening.
11. Remove valve spindle (14) and sealing washer (16).
12. Remove top diaphragm plate (6).
13. Carefully remove main diaphragm (7).
14. Remove diaphragm spacer (5).
15. Remove secondary diaphragm screws (17).
16. Carefully remove secondary diaphragm clamping plate (18).
17. Carefully remove secondary diaphragm (19).
18. Check seat (3) for damage to knife edge. If damage visible return to Jeavons for repair.
19. Check hole in impulse tube (20) is clear - do not remove from body.
20. Wipe body clean of any dirt particles.
21. Inspect diaphragms and soft seals for damage and renew where necessary. A soft spares kit is available for this purpose.

Rebuilding procedure:

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. Replace secondary diaphragm (19) with sealing bead in contact with body (2).
2. Replace secondary diaphragm clamping plate (18) with raised edge uppermost and ensuring screw and impulse holes are aligned correctly.
3. Secure secondary diaphragm clamping plate (18) to body (2) using screws (17).
4. Replace diaphragm spacer (5), ensuring diaphragm bead is located in groove of diaphragm spacer (5).
5. Replace main diaphragm (7) with convolution uppermost, ensuring that main diaphragm bead is located in groove in body (2).
6. Replace main diaphragm plate (6), ensuring raised edge is uppermost.
7. Locate sealing washer (16) onto valve spindle (14) and push through centre holes in main diaphragm plate (6), main diaphragm (7), diaphragm spacer (5) and secondary diaphragm (19).
8. Screw valve (4) onto valve spindle (14) through bottom plug opening. DO NOT TIGHTEN VALVE, this may result in damage to the secondary diaphragm.
9. Restrain valve (4) with 5mm A/F allen key and screw valve spindle (14) clockwise to tighten.
10. Add "O" ring (21) to bottom plug (1).
11. Replace bottom plug (1) in bottom opening in body (2) and screw tightly into position.
12. Carefully replace top cover (8) or (26) to body (2) with vent on right hand side of outlet (unless alternative position required), and secure using top cover screws (15).
13. Replace loading spring (13) in chimney of top cover (8) or (26).
14. Position spring holder (10) into top cover (8) or (26) ensuring that castellated spigot locates in loading spring (13).
15. Add "O" ring (12) to top cap (11).
16. Screw top cap (11) clockwise into top cover (8) or (26). Locate secondary diaphragm (22) with convolution uppermost on to the body (2). Ensure screw holes and impulse tube holes are aligned correctly.

Dismantling Procedure.

1. Unscrew top cap (11) from top cover (8) or (26).
2. Remove "O" ring (12) from top cap (11).
3. Turn spring holder (10) anticlockwise (to reduce loading on spring).
4. Carefully remove spring holder (10) from top cover (8) or (26).
5. Remove loading spring (13) from top cover (8) or (26).
6. Remove top cover screws (15) and carefully lift off top cover (8) or (26).
7. Unscrew bottom plug (1) and remove from body (2).
8. Remove "O" ring (21) from bottom plug (1).
9. Restrain valve disc holder (22) with 10mm box spanner and untighten valve spindle (14).
10. Withdraw valve disc holder (22), valve disc (23) and valve spacer (24) through bottom plug opening.
11. Remove valve spindle (14) and sealing washer (16).
12. Remove top diaphragm plate (6).
13. Carefully remove main diaphragm (7).
14. Remove lower diaphragm plate (25).
15. Remove diaphragm spacer (5).
16. Remove secondary diaphragm screws (17).
17. Carefully remove secondary diaphragm clamping plate (18).
18. Carefully remove secondary diaphragm (19).
19. Check hole in impulse tube (20) is clear - do not remove from body.
20. Wipe valve seat and body clean of any dirt particles, taking care not to damage any sealing surfaces in the body.
21. Inspect diaphragms and soft seals for damage and renew where necessary. A soft spares kit is available for this purpose.

Rebuilding procedure:

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. Replace secondary diaphragm (19) ensuring outer sealing bead is located in the groove in body (2).
2. Replace secondary diaphragm clamping plate (18) with raised edge uppermost and ensuring screw and impulse holes are aligned correctly.
3. Secure secondary diaphragm clamping plate (18) to body (2) using screws (17).
4. Replace diaphragm spacer (5), ensuring diaphragm bead is located in groove of diaphragm spacer (5).
5. Replace lower diaphragm plate (25) on diaphragm spacer (5), ensuring that centre hole is in line.
6. Replace main diaphragm (7) with convolution uppermost, ensuring that main diaphragm bead is located in groove in body (2).
7. Replace main diaphragm plate (6), ensuring raised edge is uppermost.
8. Locate sealing washer (16) onto valve spindle (14) and push through centre holes in main diaphragm plate (6), main diaphragm (7), lower diaphragm plate (6), diaphragm spacer (5) and secondary diaphragm (19).
9. Push valve spacer (24) onto valve spindle (14) through bottom plug opening, with large recess facing bottom plug opening.
10. Assemble valve disc (23) onto valve disc holder (22) with bed uppermost.
11. Screw valve disc holder (22) assembly onto valve spindle (14) through bottom plug opening. DO NOT TIGHTEN.
12. Restrain valve disc holder (22) with 10mm box spanner and tighten valve spindle (14) clockwise until secured.
13. Add "O" ring (21) to bottom plug (1).
14. Replace bottom plug (1) in bottom opening in body (2), locating valve disc holder (22) into guide hole and screw tightly into position.
15. Carefully replace top cover (8) or (26) to body (2) with vent on right hand side of outlet (unless alternative position required), and secure using top cover screws (15).
16. Replace loading spring (13) in chimney of top cover (8) or (26).
17. Position spring holder (10) into top cover (8) or (26) ensuring that castellated spigot locates in loading spring (13).
18. Add "O" ring (12) to top cap (11).
19. Screw top cap (11) clockwise into top cover (8) or (26).