HPR15

High Pressure Relief Valve

This product is discontinued!

Commissioning Instructions

General Arrangement

Parts List

Maintenance Instructions

For: HPR15 Relief Valve 1"

elster Jeavons

HPR15: Commissioning Instructions

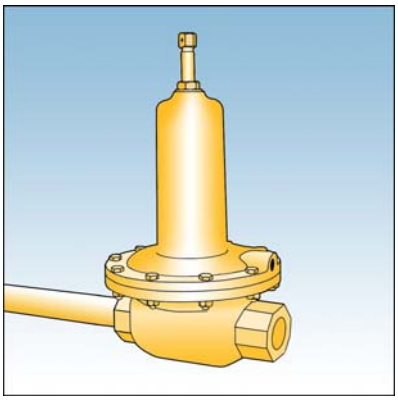


Fig. 1

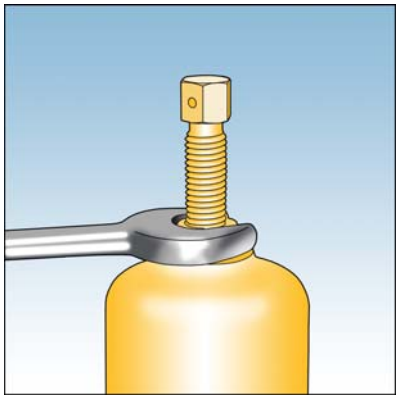


Fig. 2

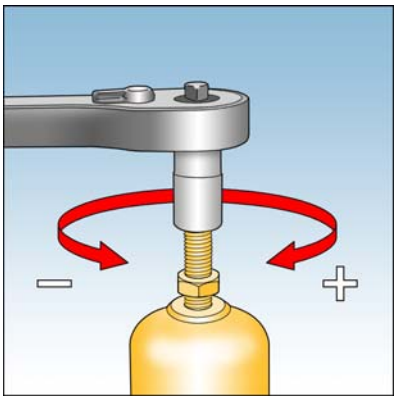


Fig. 3

OPERATING INSTRUCTIONS

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 relief valve catalogue.
3. Check the maximum allowable pressure on the relief valve nameplate against the installation specification.
4. Ensure that this product is suitable for the chosen application.
5. Installation, adjustment and maintenance by authorised, trained personnel only.
6. It is advised that a slam shut device is fitted in the installation to protect downstream equipment.

Warning! Incorrect installation, adjustment, modification, operation and maintenance may cause injury or damage.
Read the instructions before use. This control must be installed in accordance with the rules in force.

FITTING RELIEF VALVE INTO PIPEWORK (Fig. 1)

1. Remove the plastic protection plugs from inlet and outlet and vent.
2. Ensure that installation pipework is thoroughly clean.
3. Install the relief valve into the pipework using a jointing compound approved to national standards.

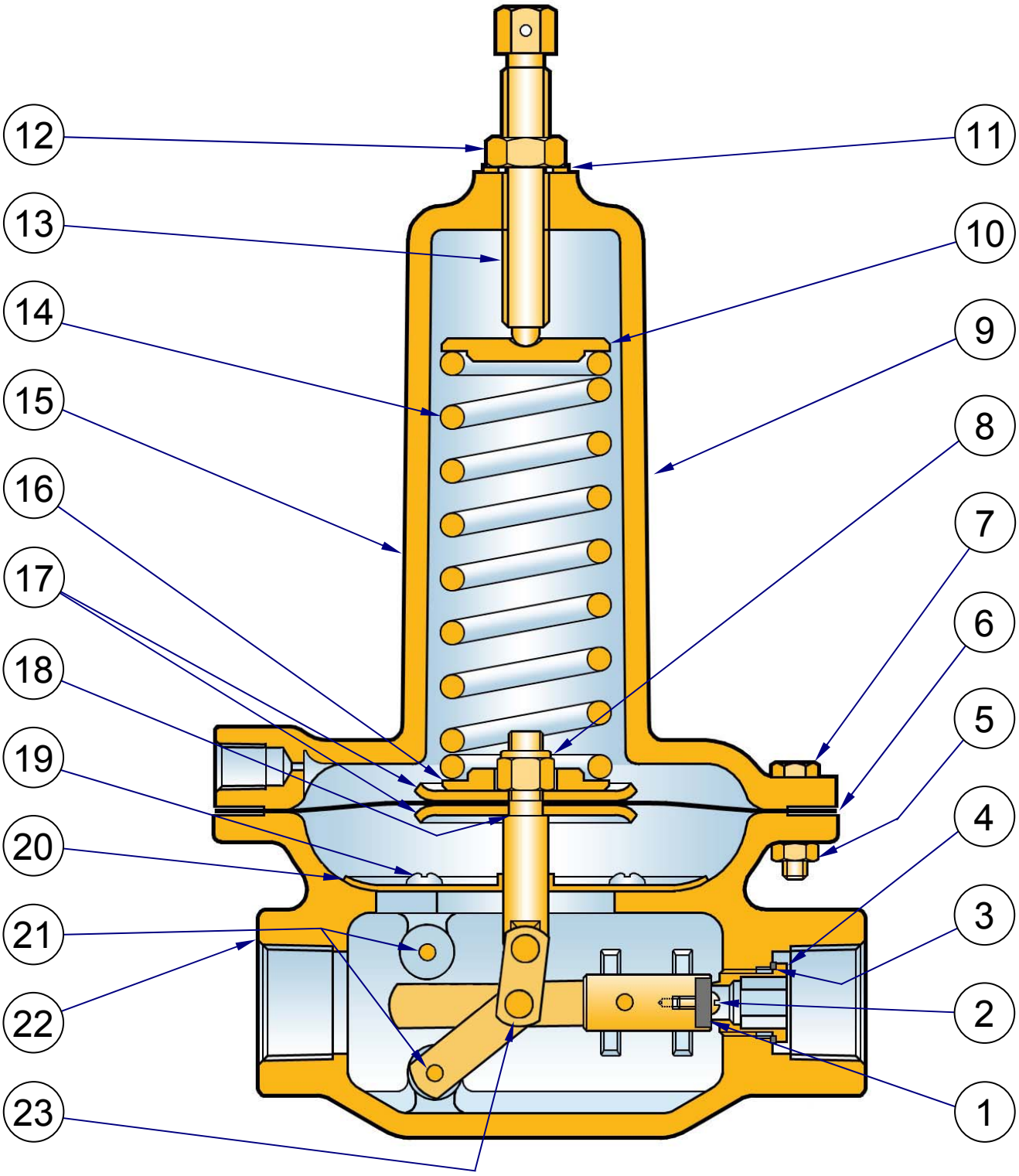
FOR PRE-SET RELIEF VALVES.

1. Slowly turn on inlet valve.

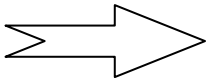
SETTING THE RELIEF PRESSURE.

1. Loosen locknut (19mm A/F) on spring adjusting stem. See Fig. 2.
2. Connect suitable spanner (15mm A/F) to hexagon of spring adjusting stem. See Fig. 3.
3. Turn clockwise to increase pressure on the loading spring.
4. Slowly turn on inlet supply. If possible adjust supply pressure to the required relief pressure (It is recommended that the relief pressure is set at a minimum of 1.2 times the system working pressure).
5. To set the relief valve turn the spring adjusting stem anticlockwise until the valve starts to relieve.
6. Reduce the supply pressure to normal working conditions.
7. Tighten locknut.

HPR15: General Arrangement



Direction of Flow



HPR15: Parts List

ITEM	DESCRIPTION	Part Number	No. Off
1	VALVE SEAT DISC	I070041P020	1✷
2	SCREW, ROUND HEAD SLOTTED	I078003P005	1✷
3	VALVE GASKET	I070176P013	1✷
4	VALVE SEAT ⅜" ORIFICE	I070116P006	1
5	¼" - 20 UNC FULL NUT	JNHCFZ	10
6	MAIN DIAPHRAGM	I070014P026	1✷
7	¼" UNC x 1 " HEX SET SCREW	JSNCUHHNZ	10
8	⅜" - 24 UNF NUT	JNEEDZ	1
9	LABEL	J7806-027	1
10	UPPER SPRING FOLLOWER	I070863P001	1
11	WASHER ADJUSTING SCREW	I078142P003	1✷
12	½" UNC LOCKNUT	JNHGLZ	1
13	PRESSURE ADJUSTING SCREW	I070868P001	1
14	LOADING SPRING	See Table Below	1
15	TOP COVER Machined	I070510+	1
16	LOWER SPRING FOLLOWER	I071336P001	1
17	DIAPHRAGM PLATE	I070012P011	2✷
18	WASHER DIAPHRAGM STEM	I070176P002	1✷
19	No10 x ⅜" SELF TAP SCREWS	JSQ10EXPPZ	2
20	GUIDE PLATE DIAPHRAGM STEM	I071752P001	1
21	CONNECTING PIN ASSEMBLY	I071335G001	2
22	1" BODY Machined	I070481+	1
23	TOGGLE ASSEMBLY	I070356G001	1✷

HPR15: Spares Kit and Loading Springs

SPARES KIT

Spares kit contents are marked ✶ on parts list

SPARES KIT CODE	SIZE
SKHPR10-01	1"

LOADING SPRINGS

Relief Range		Part Number	Colour Code
bar	PSIG		
0.17 - 0.34	2.5 - 5	I071421P009	Red / Black
0.34 - 1.0	5 - 14.5	I071421P011	Green / Black
1.0 - 1.7	14.5 - 24.7	I071421P012	Yellow / Black
1.0 - 2.8	14.5 - 40.6	I071421P014	Blue / Black

HPR15: Maintenance Instructions

Dismantling Procedure:

1. Loosen locknut (12) and remove pressure adjusting screw (13) and washer (11).
2. Undo and remove ten nuts (5) and set screws (7) and carefully remove top cover (15).
3. Take off upper spring follower (10), loading spring (14) and lower spring follower (16).
4. Undo and remove diaphragm clamping nut (8) and take off upper and lower diaphragm plates (17) and diaphragm (6).
5. Take out guide plate clamping screws (19) and remove guide plate (20).
6. Undo and withdraw lower connecting pin (21), there is no need to disturb the upper connecting pin.
7. Lift out toggle assembly (23).
8. Inspect face of valve seat disc (1) for wear and damage. A complete toggle assembly (23) is included in the soft spares kit so further disassembly is not required.
9. Unscrew and remove valve seat orifice (4) and valve gasket (3).

Rebuilding procedure:

Note: Inspect diaphragm, valve disc and gaskets and replace where necessary (a soft spares kit is available for this purpose).

1. Install the toggle assembly (23) into body (22).
2. Apply thread sealant with PTFE to thread of lower connecting pin (21).
3. Insert upper connecting pin (21) through lower hole in body (22), align with hole in link of toggle assembly (23) and tighten to seal.
4. Place guide plate (20) over diaphragm stem of toggle assembly (23) with concave face upwards, and align hole with screw holes in body (22).
5. Secure using two screws (19) tightened to 68 Nm ±7 Nm.
6. Apply a single bead of thread sealant with PTFE to shoulder of diaphragm stem of toggle assembly (23).
7. Install diaphragm stem washer (18) and rotate twice 360° to spread sealant.
8. Apply a single bead of thread sealant with PTFE to diaphragm stem (23) above washer (18).
9. Place lower diaphragm plate (17) with convex side uppermost over diaphragm stem of toggle assembly (23) and rotate twice 360° to spread sealant.
10. Install diaphragm (6) with patterned face upward, upper diaphragm plate (17) – with convex side toward diaphragm (6) – and diaphragm clamping nut (8) over diaphragm stem of toggle assembly (23). Align holes in diaphragm (6) with holes in body (22).
11. Tighten diaphragm clamping nut (8) to 170 Nm ±14 Nm. When tightened the diaphragm holes must move freely an equal distance either side of the flange holes.
12. Place lower spring follower (16), with spigot upwards, over clamping nut (8).
13. Carefully position loading spring (14) over lower spring follower (16).
14. Insert spigot of upper spring follower (10) into top of loading spring (14).
15. Lower top cover (15) over loading spring (14) ensuring that holes align with cover (15), diaphragm (6) and body (22).
16. Replace ten set screws (7) and nuts (5) and tighten evenly to 135 Nm ±14 Nm.
17. Ensure that locknut (12) is assembled to pressure adjusting screw (13).
18. Place the adjusting screw washer (11) on top of cover (15) and thread the pressure adjusting screw (13) through washer and into top cover (15) until it makes contact with the upper spring follower (10) and seats in the central depression.
19. Insert the valve seat orifice (3) through the valve gasket (4).
20. Apply thread sealant with PTFE to thread of the valve seat orifice (3) and insert into body (22) tightening to 40 Nm ±7 Nm.

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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