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CERTIFIED ISO 9001

DESIGN AND MANUFACTURE OF VALVES AND CONTENTS GAUGES.
GENERAL SAFETY VALVE RECONDITIONING SERVICES.

CHANGEOVER VALVE

65 Barg Maximum Working Pressure, Hydraulic Test Pressure 97.5 Barg
Temperature range dependent on seal material.

General Description

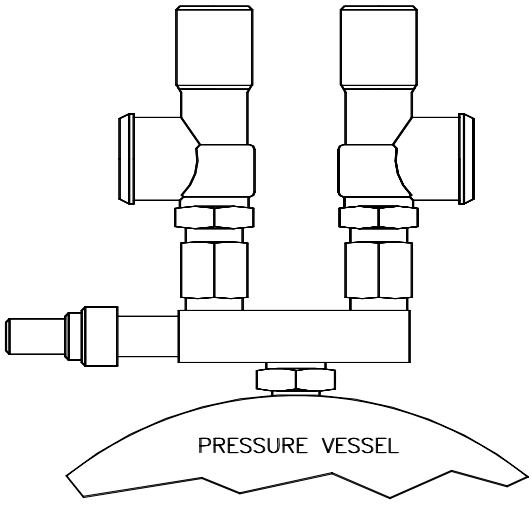
Changeover valves permit two valves to be mounted side by side, with one in service and one isolated. This means regular maintenance can be carried out without interruption of service to the vessel being protected. When operating the changeover valve it is necessary to ensure that the valve does not remain in any intermediate position. The respective part of the valve shall be fully open.

1. Competent Person

The changeover valve must only be operated by a competent person familiar with the hazards associated with pressurised systems. It must only be installed and operated in accordance with these instructions.

2. COV Installation

The COV (changeover valve) should be mounted as shown below. It is highly recommended that no isolation device should be fitted between the pressure vessel and COV unless it is strictly managed.



2.1 The COV should be attached to the pressure vessel using a suitable seal and tightened sufficiently to ensure no leakage.

2.2 Ensure that the COV can be accessed for operation purposes.

3. Installation and removal of safety valve onto COV

3.1 Fittings are supplied with both left and right-handed threads. Left-handed threads are indicated by 'V' notches machined into the hexagon near the ends of the fittings.

3.2 Ensure the changeover valve is set in the off position for the safety valve that is to be installed or removed.

3.3 Remove the female adaptor, and ensure the seal is located at the top of the male connector.

3.5 Re-attach the female adaptor, left hand thread end, onto the male connector. The female adaptor must be wound on until the first thread is engaged, then wound on a further three complete turns.

3.6 Without engaging the thread, position the safety valve on top of the female adaptor and rotate until the outlet is positioned in its desired orientation.

3.7 Holding the safety valve in position, rotate the female adaptor anti-clockwise, whilst engaging the thread of the safety valve until the valve tightens down on the seal. Tighten the female adaptor with a suitable spanner until a satisfactory seal is achieved. Max torque 50 Nm.

3.8 When removing a safety valve ensure the COV is set in the off position so that the safety valve is isolated from the pressure vessel. Remove safety valve slowly as there maybe pressure present under the valve.

4. Operation of the COV

4.1 The cap can be used to change over the working outlet of the COV.

4.2 Firstly, remove the cap. Rotate it 180^0 and insert it onto the hexagon on the end of the adjuster.

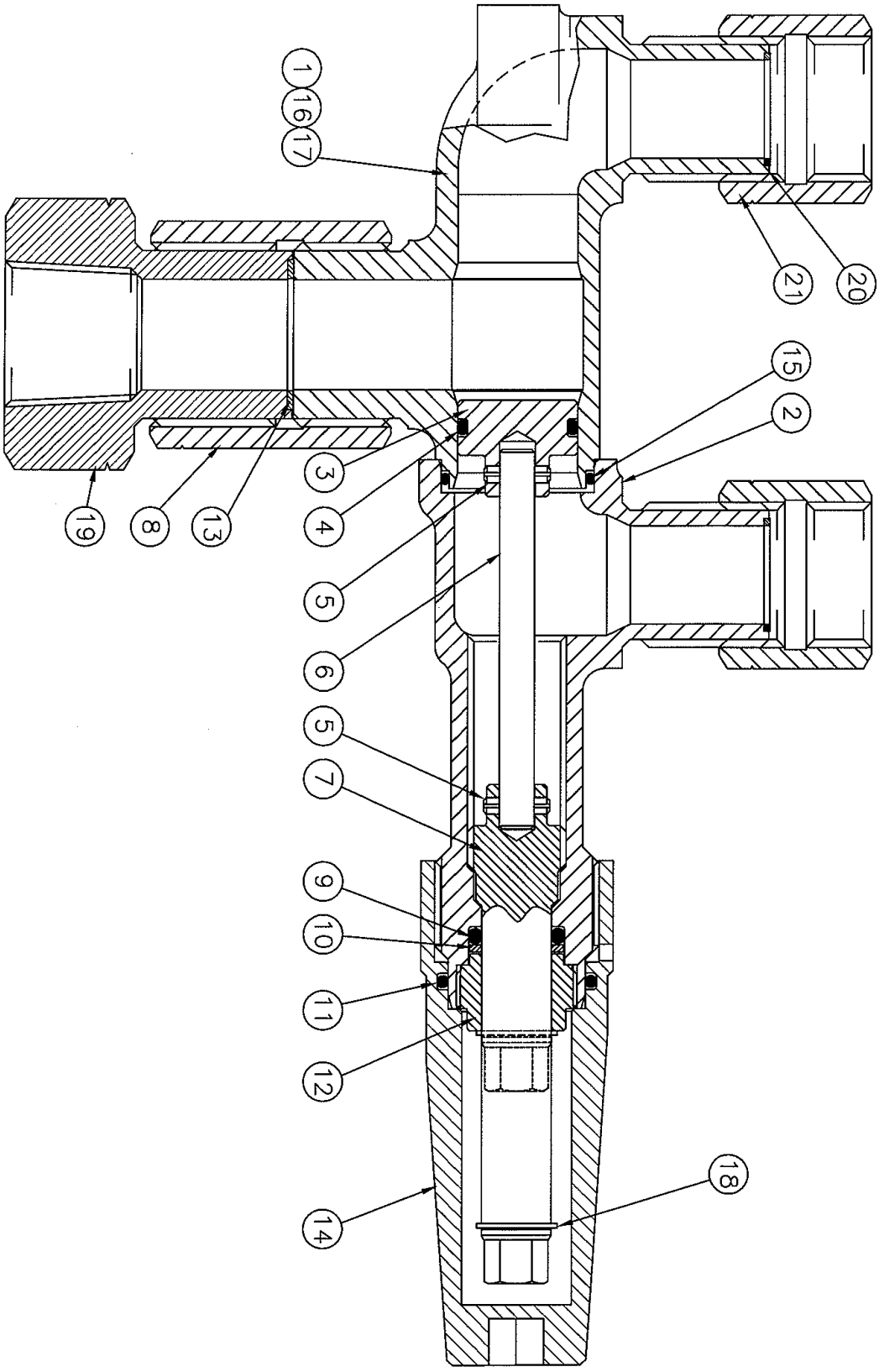
4.3 Once the COV has completely changed to its required position re-fit the cap.

4.4 Ensure that the COV does not remain in an intermediate position.

5. Maintenance

5.1 Removal and replacement of 'O' ring item 4 and 'O' ring item 15.
5.11 This should only be carried out when no pressure is present in the COV.
5.12 Remove cap item 14.
5.13 Fully wind back adjusting spindle item 7.
5.14 Ensuring that there is no pressure, remove the two M6 flange bolts item 16.
5.15 Carefully pull item 2 from item 1, items 4 and 15 will now be exposed. With the COV now in two parts remove any dirt or debris that may be present in both body sections.
5.16 Remove and replace any necessary 'O' rings.
5.17 Carefully re-assemble item 2 to item 1 and refit bolts item 16.
5.18 Replace cap item 14.
5.19 The COV can now be operated.

5.2 Removal and replacement of 'O' ring item 9 and back up washer item 10.
5.21 Follow instructions 5.11 to 5.15
5.22 Remove circlip item 18 and sealing insert item 12.
5.23 Wind forward adjusting spindle item 7 until completely removed from body item 2.
5.24 Items 9 and 10 can now be removed and replaced.
5.25 Re-assemble adjusting spindle and fully wind back to stop. Refit sealing insert and circlip.
5.26 Follow instructions 5.17 to 5.19.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PARTS LIST

Item Number	Description	Part Number
1	Body Section1	
2	Body Section 2	
3	Plunger	
4	‘O’ Ring	BS4518 0176-24
5	Grooved Pin	
6	Spindle	
7	Adjusting Spindle	
8	Orientator	
9	‘O’ Ring	BS1806 112
10	Back up Washer	
11	‘O’ Ring	BS4518 0246-24
12	Sealing Insert	
13	Washer	
14	Cap	
15	‘O’ Ring	BS4518 0251-16
16	M6 Bolt	
17	M6 Spring Washer	
18	Circlip	N1300 0050
19	Adaptor	
20	Washer	
21	Orientator	