



Diamond Double Seat Valve Maintenance Instructions & Spares Kit

Valve size is given by the port connection size

SIZE INCH	AVAILABLE KITS IN THIS SERIES	THIS KIT
1.5	KDSV15 _	
2	KDSV 20 _	
2.5	KDSV 25 _	
3	KDSV 30 _	
4	KDSV 40 _	

IMPORTANT INFORMATION AND PRECAUTIONS

1. Ensure that the product line is clear, the electrics are isolated and pressure zero prior to commencing any work on the valve.
2. The body ring seals are compressed by the valve bodies to make an effective seal around the disc and should be replaced each time the valve is disassembled.
3. Store gaskets and seal rings out of UV light to increase storage life.
4. The user should establish a maintenance programme for valves depending on the application. For valves in constant use DPL recommends spares replacement at least every two years.
5. Actuator air inlet / exhausts are located on the side or the end of the actuator cylinder. Air fitting size is 1/8" BSP female. Recommended air supply pressure is 5.5 bar. Maximum air supply pressure is 6 bar.
6. Great care should be taken when operating the valve. Fingers should be kept clear to avoid the risk of entrapment / crushing from moving parts.
7. No attempt should be made to dismantle the actuator cylinder further than described in these instructions. The actuator cylinder houses a powerful spring held under compression that could cause serious harm if tampered with.

TO DISASSEMBLE A DOUBLE SEAT VALVE

NORMALLY CLOSED VALVES ONLY (spring pushing spindle into seat)

See Diagram over page

1. Before commencing work the valve should be isolated from all electrical input to the valve switchbox (where fitted). The pneumatic airline pressure should be reduced to zero and disconnected to prevent any automatic operation of the valve. The pipework line pressure should be reduced to zero and all remaining product within the system should be emptied to drain where possible.
2. If the valve is fitted with a switchbox, this must be removed from the valve. Note the position of any airlines that are fitted to the switchbox and actuator so that the correct orientation is achieved when re-fitting. Unscrew and remove the clear plastic switchbox cap. Using a 3mm Allen key, undo and remove the central black plastic shaft that passes through the middle of the switchbox by unscrewing the socket head screw in the centre shaft. Lift off the shaft together with the steel collars attached. Using a 5mm Allen key, undo and remove the two cap head bolts that secure the switchbox base to the actuator. Lift the switchbox assembly up and off the actuator.
3. The following procedure to remove the actuator from the valve involves actuating the valve (using compressed air) to the open position. Great care must be taken when introducing air pressure to the actuator. As the valve is actuated the central valve/actuator shaft will move. Hands/fingers and loose clothing should be kept away from the moving parts of the valve wherever possible as the valve is actuated.
4. Switch off CIP supply to the coupling to prevent accidental seat clean during maintenance.
5. Start by locating a suitable airline feed with a 5.5 bar supply pressure. Ensure that the airline pressure is zero, then connect to the lower air connection of the valve actuator keeping fingers clear of the valve to avoid moving parts. The 5.5 bar supply pressure should be maintained during the next procedure that follows.
6. Using an appropriate size spanner, undo and remove the four top valve body end cap bolts.
7. Now turn off and remove the air supply to the actuator keeping fingers clear to avoid moving parts.

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8. Lift off the actuator taking with it the spindle, guide and seat assembly. Check that the body seals came out with the assembly when removed.

9. Unscrew the lower spindle using an appropriate size pin through the cross-hole at the bottom of the spindle and the top of the actuator. Using an appropriate size Allen key, remove the four screws from the keep plate on the upper and lower spindles. Now all of the replaceable seals will be accessible, these can now be replaced.

10. Using an appropriate size spanner, undo and remove the four lower valve body end cap bolts. Lift away the lower end cap, guide and seal assembly.

11. Check that the body seal came out with the assembly when removed.

12. The spindle seals and bearing can now be replaced.

13. Clean and reassemble in the reverse order. Place the 'O' ring body seal on the spindle guide discs for ease of assembly and correct location. TIP: process compatible grease can help hold the seals in position.

14. Before replacing the actuator, spindle, guide and seat assembly into the valve body, ensure that hands/fingers and other body parts are clear of the valve before reconnecting the airline supply then activate the actuator to lift the spindle. Replace the actuator, spindle, guide and seat assembly into the valve body then tighten the four top valve body end cap bolts. Switch off the 5.5 bar air supply, the valve spindle will move returning the valve seat position to closed.

NORMALLY OPEN VALVES ONLY (SPRING PULLING UP)

Use the same procedure as per the previous page (from section 1) but no air connection is required, the valve should not be air actuated.

