CH8 Pneumatic Valve

Repair instructions

REPAIR INSTRUCTIONS

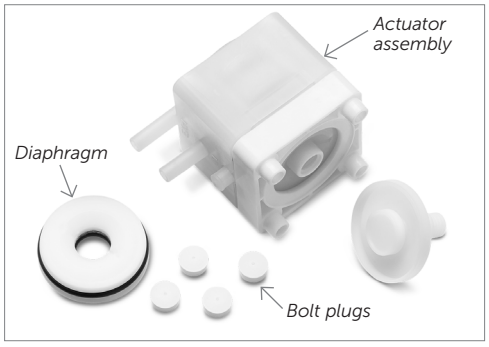
CH8 pneumatic valves, including normally closed, normally open, and all media end connections.

⚠ CAUTION! Never apply pilot pressure to a pneumatic actuator not assembled on a valve body and tightened securely.

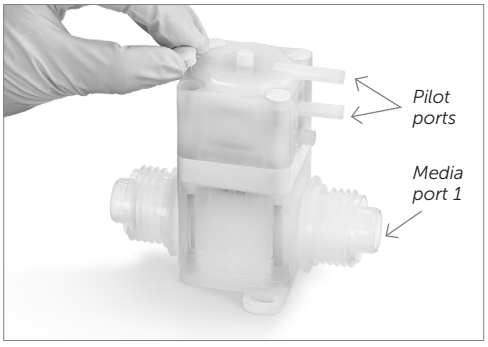
⚠ CAUTION! Never attempt to disassemble the actuator. The actuator has compressed springs that could cause injury if released.

⚠ CAUTION! Remove any pressurized sources from the valve before attempting repair.

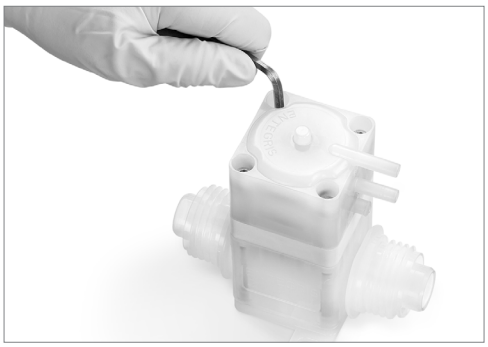
1. Repair kit contents: actuator assembly, diaphragm, and bolt plugs. Contact Entegris if replacement bolts and lock washers are needed.



2. Remove four bolt caps and discard. Note orientation of pilot ports with respect to the media ports.



3. Loosen four bolts and washers ½-turn at a time in a cross pattern (1, 2, 3, 4) with a 5⁄32" hex key. Remove and save bolts unless new ones have been purchased separately from the repair kit.



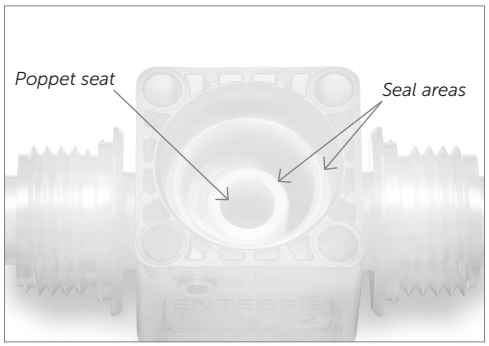
⚠ CAUTION! Point actuator away from personnel for step 4.

4. Apply less than 103 kPa (15 psig) air or nitrogen pressure to port 2, with port 1 capped to separate actuator assembly from the body. Discard actuator assembly and diaphragm after removal.

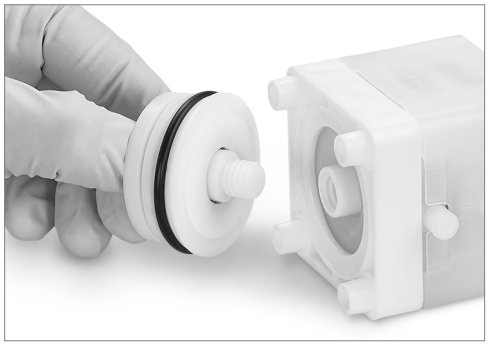
5. Clean the sealing detail within the body by spraying with isopropyl alcohol and drying with clean dry air or nitrogen.

⚠ CAUTION! Do not contact the valve body seal detail as it may cause damage.

Inspect the body poppet seat for signs of damage and/or wear. Do not touch the poppet seat. Magnification may be required. If damage is evident, replace the entire valve.



6. Install retainer and diaphragm onto actuator assembly by threading it clockwise into the yellow piston stem thread until it is finger tight. Ensure correct orientation of the retainer.



7. Place the actuator assembly onto the valve body with the pilot ports facing in the same direction as noted in step 2. Handle poppet so that seal surfaces are not damaged.

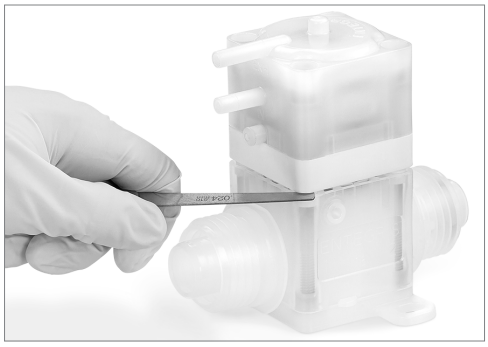
8. Push down on the actuator assembly so that the four bosses enter the holes in the body.

9. Install four bolts and lock washers into the holes in the actuator assembly.

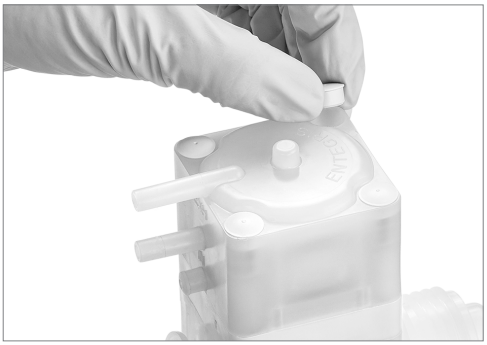
⚠ CAUTION! It is very important to perform step 10 exactly as instructed.

10. Tighten with a torque wrench to 0.11 N•m (1 in•lb) torque in a cross pattern (1, 2, 3, 4). Repeat this step in 0.11 N•m (1 in•lb) increments until 1.02 N•m (9 in•lb) torque is reached.

11. A recommended (but not required) step is to visually check the gap between the body and actuator. It should measure less than 1.1 mm (0.045") and not vary by more than 0.38 mm (0.015"). Use a feeler gauge or caliper to measure the gap at the corners of the valve.



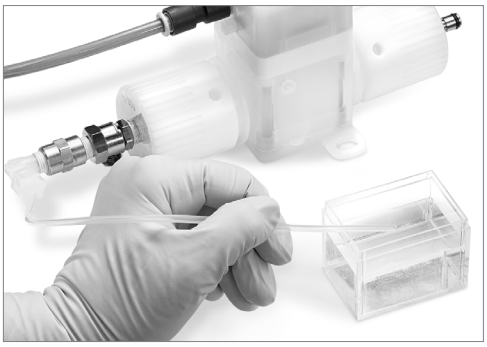
12. Install the caps.



VALVE TESTING

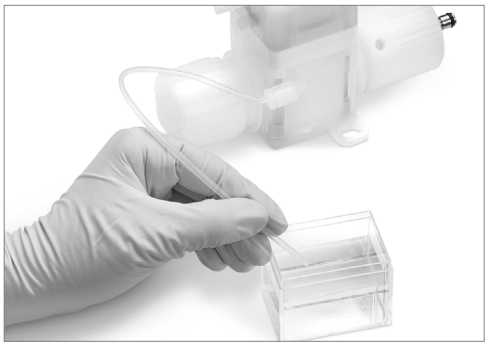
Port Seal Test

1. Connect 483 kPa (70 psig) pilot pressure to the IN pilot port (normally closed valve shown).
2. Connect 552 kPa (80 psig) air or nitrogen pressure to port 2 and apply pressure.
3. Cycle valve five times. Leave normally closed valves with pilot off and normally open valves with pilot on.
4. Connect cap with a 1⁄16" OD tube to port 1 and submerge tube end in water 12 mm (0.5") deep. Fewer than 5 bubbles per minute should be observed at port 1 over 60 seconds.



Media Leak Test

1. Put a cap on port 1 and apply 552 kPa (80 psig) air or nitrogen pressure to port 2.
2. Attach a tube to the vent port and submerge the other end in water.
3. Wait for 30 seconds and then observe for one minute. No bubbles should be seen in the next 60 seconds.



ORDERING INFORMATION

Repair Parts Kit Part Numbers CH8-2CL-RKIT, CH8-2CT-RKIT, CH8-2UL-RKIT, CH8-2UT-RKIT for normally closed and normally open tube and Luer designs

DESCRIPTION	QUANTITY
Actuator assembly	1
Diaphragm	1
Bolt plug	4
Retainer assembly	1
Actuator spacer (yellow)	1

Customer Supplied Items

- Torque wrench capable up to 1.02 N•m (9 in•lb)
- 5/32" hex driver that fits the customer supplied torque wrench
- Isopropyl alcohol
- Regulated air or nitrogen supply up to 552 kPa (80 psig)
- Feeler gauge set up to 1.1 mm (0.045") or caliper
- Means to connect air supply to pilot port and media port
- Means to plug media port and reduce to 1/16" tube for port-to-port test
- Means to connect a tubing to 4.2 mm (0.167") diameter leak port for external media test (barb fitting)
- Container that allows 25 mm (1") deep water level

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit **entegris.com** and select the Contact Us link to find the customer service center nearest you.

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