

CR8 Manual Toggle Valve

Repair instructions

INSTRUCTIONS

CR8 manual toggle valves including all media end connections.

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

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

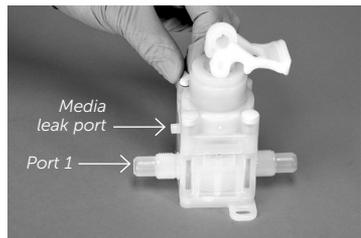
1. Repair kit contents: toggle actuator assembly, diaphragm and bolt caps. Consult factory if replacement bolts and lock washers are needed.

Handle diaphragm so that seal surfaces are not damaged



2. Remove four bolt plugs and discard.

NOTE that the media leak port is parallel to port 1 and points in the same direction.

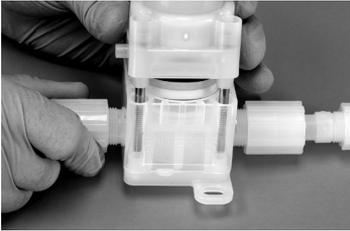


3. Remove four bolts and washers ½ turn at a time in a cross pattern (1, 2, 3, 4) with a 5/32" hex key. Save bolts and lock washers unless new ones have been purchased separately from the repair kit.



CAUTION! Point actuator away from personnel for this step.

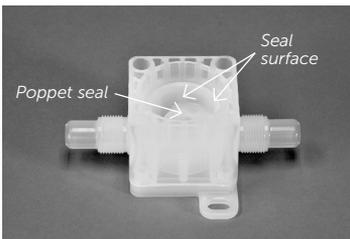
4. Apply less than 103 kPa (15 psig) air or nitrogen pressure to port 2 with port 1 capped to separate actuator assembly from the body. Discard actuator assembly and diaphragm after removal.



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

CAUTION! Do not contact the valve body seal surfaces 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. Place handle in position shown and install diaphragm onto actuator assembly by threading it clockwise into the threaded stem until it is finger tight.



7. Place handle in position shown and install actuator assembly onto the valve body with the media leak port facing in the same direction as noted in step 2.



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.

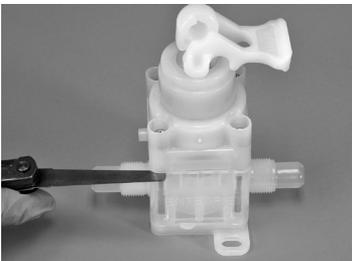


CAUTION! It is very important to perform step 10 exactly as directed.

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.



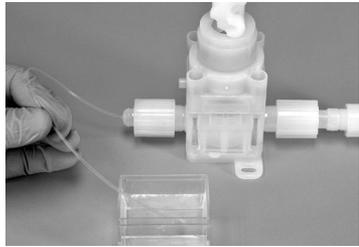
12. **Media test:** Put valve in open position as shown and apply 553 kPa (80 psig) air or nitrogen pressure to port 2. Attach a tube to the vent port and submerge the other end in water.

Wait for 30 seconds and then observe for one minute. No bubbles should be seen in the next one minute period.



13. **Port seal test:** With the valve in closed position, apply 552 kPa pilot (80 psig) pressure to port 2.

No leakage should be observed at port 1 over a 60-second period of time.



14. Install the bolt plugs.



REPAIR KIT INFORMATION

Repair parts kit

DESCRIPTION	QUANTITY
Actuator assembly	1
Diaphragm	1
Bolt plug	4

Customer-supplied items

5/32" hex keys
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
Flexible tubing with 6.35 mm (0.25") inside diameter or smaller
Standard port connection cap
Port connection cap with a hole in the end that accepts a 1/16" tube that fits tightly
Container that allows 25 mm (1") deep water level
DI water

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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