

# CR8 Manual Multi-turn Valve

## Repair instructions

### INSTRUCTIONS

CR8 manual multi-turn valves including all media end connections.

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

1. Repair kit contents: multi-turn actuator assembly, diaphragm, bolt plugs, stop nut and handle. Consult factory if replacement bolts and lock washers are needed.

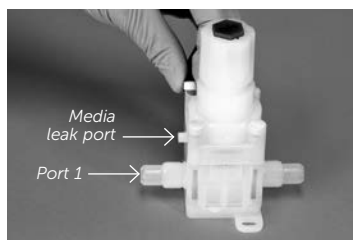
Handle diaphragm so that seal surfaces are not damaged.



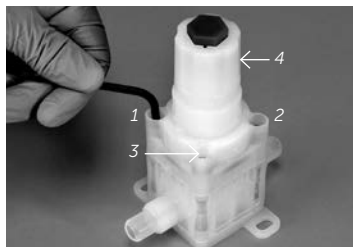
2. Remove four bolt plugs and discard.

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

Turn handle counterclockwise so valve is in the open position.



3. Remove four bolts and washers  $\frac{1}{2}$  turn at a time in a cross pattern (1, 2, 3, 4) with a  $\frac{5}{32}$ " 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 step 4.

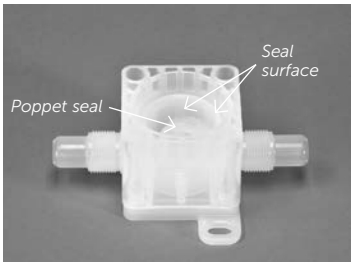
4. Apply less than 103 kPa (15 psig) air or nitrogen pressure to port 2 with port 1 capped to separate actuator assembly from the body. Discard actuator assembly and diaphragm after removal.



5. Clean the sealing 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.

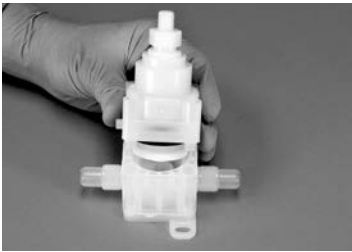


6. Install diaphragm onto actuator assembly by threading it clockwise into the threaded stem until it is finger tight.

Turn actuator open by rotating hex nut on top counterclockwise.



7. Place the 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.

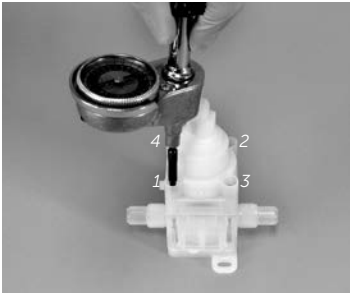


9. Install four bolts and lock washers into the holes in the actuator assembly.



**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.



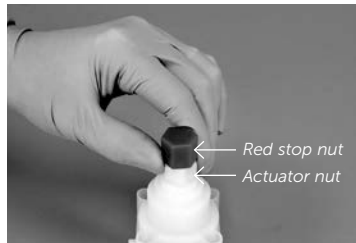
11. A recommended (but not required) step is to visually check the gap between the body and actuator. It should measure less than 1.1 mm (0.045") and not vary by more than 0.38 mm (0.015"). Use a feeler gauge or caliper to measure the gap at the corners of the valve.



12. Turn actuator nut clockwise to 0.56 N•m (5 in•lb) with a ¾" deep well socket.



13. Install red stop nut by turning it clockwise by hand until it stops. Turn stop nut counterclockwise ½–⅔ turns and align corners of the stop nut and actuator nut as shown.



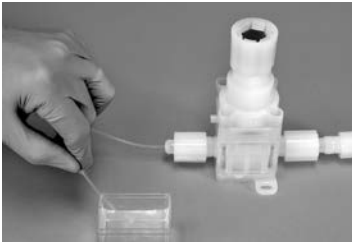
14. Install the handle temporarily upside down as shown. Turn the handle clockwise with a comfortable finger tight torque.



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

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

If leakage is observed, repeat steps 12–13.



16. Once the port seal test passes, carefully remove handle and install in the correct position as shown without disturbing the position of the hexes.



17. **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.



18. Install the bolt plugs.



## REPAIR KIT INFORMATION

### Repair parts kit

DESCRIPTION	QUANTITY
Actuator assembly	1
Diaphragm	1
Bolt plug	4
Red stop nut	1
Handle	1

### 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
3/4" deep well socket

## FOR MORE INFORMATION

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