

# DIAPHRAGM REPLACEMENT

## MODELS DV-13 & DV-23 DIAPHRAGM VALVES

### Technical Note 623

**CAUTION: Service or replacement of the o-rings, plungers, or springs must be performed at the factory. Do not disassemble the valve unless system malfunction is definitely isolated to the valve. Perform all other system checks first.**

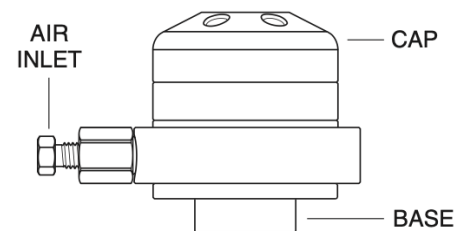
All disassembly operations must be performed in a clean, well-lighted area. Flush all hazardous or toxic materials from the valve before starting. Handle all internal parts with clean, dry hands in a dust free environment.

1. Disconnect all the plumbing from the valve, including the air supply and exhaust line. Remove the valve from the system and place it on a clean surface.
2. With a 9/64" hex wrench, remove the hex head screw from the center of the valve cap (refer to **Figure 2**), and lift the cap from the two alignment pins. Set the cap aside in a safe, clean spot, with the polished side up so that it doesn't get scratched.

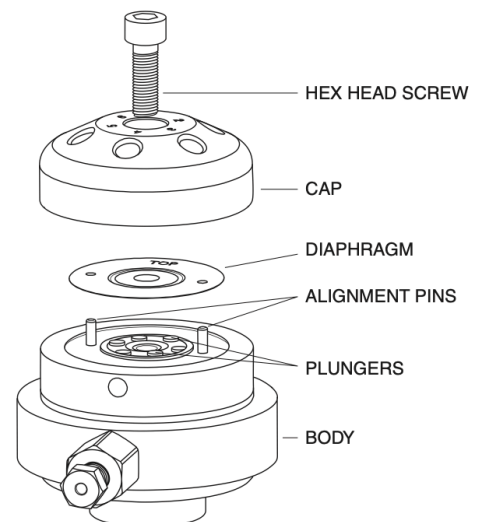
**CAUTION: Do not unscrew the hex head screw in the center of the base.**

3. Use tweezers or a knife blade under the edge of the diaphragm to carefully lift and work it off the alignment pins. Be careful that you don't tilt the valve and let the plungers fall out.
4. Set the valve on a clean surface, with the base down and the plungers up.
5. Wearing powder-free rubber gloves, remove the new diaphragm from its packaging. Hold it carefully by the edges so that the surface is not contaminated or damaged. Note that it is slightly cupped, and that one side says "TOP". Slide it over the alignment pins with the "TOP" side toward the cap, away from the plungers.
6. Clean the cap thoroughly with an appropriate solvent and a clean tissue or cotton swab, taking care not to scratch the surface.

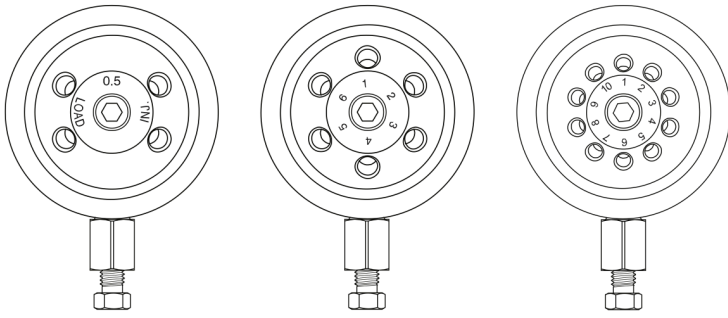
**FIGURE 1: Valve**



**FIGURE 2: Exploded view of VICI diaphragm valve**



**FIGURE 3: Cap orientation**



7. Blow with clean compressed gas to remove any lint left by the tissue or swab.
8. The cap can go on two ways. Install it over the alignment pins with port number 1 opposite the air inlet. **(Figure 3)**
9. Reinstall the hex head screw in the center of the cap, and use a torque wrench with a 9/64" hex attachment to tighten it to 45 inch-pounds.

The valve is now ready to be reinstalled in your system.

## **TROUBLESHOOTING**

About all that can go wrong in this procedure is for the diaphragm to get installed upside down. If the diaphragm is installed incorrectly, flow will be reduced or eliminated entirely.