

PURGE HOUSING

2 POSITION & MULTIPOSITION VALVES

Technical Note 602

DESCRIPTION

The purge housing consists of front and rear purge chambers, a jumper loop connecting the two chambers, O-ring seals, and screws to hold the assembly together. When the housing is flushed with an inert gas such as helium, both ends of the valve seal are shielded from the atmosphere, effectively minimizing possible diffusion of O₂ and N₂ into the valve. A second application is as a safety measure, isolating the valve against leaks into the atmosphere when pyrophoric, toxic, or carcinogenic materials are present in the sample stream.

When ordered installed on a valve, the purge housing comes fully assembled and ready to plumb to gas purge lines with the nuts and plastic 1/16" ferrules provided. When it is necessary to remove the valve from the purge housing for cleaning or shaft and seal replacement, follow the procedures described in this document.

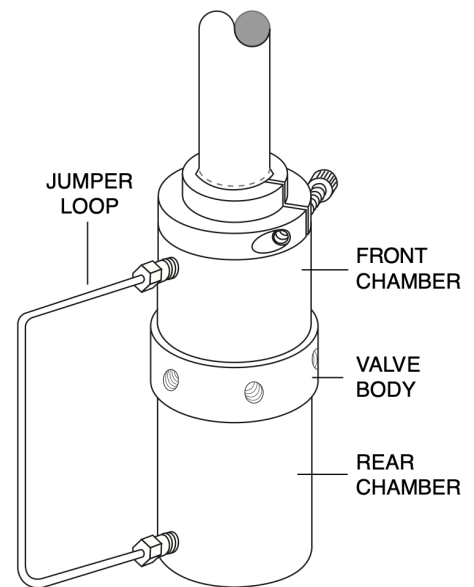
PURGE HOUSING RETROFIT

Existing valves with no mounting holes or with only one mounting hole must be returned to the factory to have a purge housing installed. Installation involves the drilling and tapping of blind holes on both faces of the valve to accommodate the purge housing screws.

DISASSEMBLY

1. Loosen the nuts and remove the jumper loop (shown in **Figure 1**) connecting the front and rear chambers of the purge housing.
2. Unscrew the two HWSC-SC6-28NT screws holding the rear chamber to the valve, being careful not to lose the two small W6/washers seated in each screw head recess. Remove the rear chamber from the valve.
3. Loosen the HWSC-SC6-10B screw in the standoff clamp ring and remove the valve (still attached to the front chamber) from the standoff.
4. Unscrew the two HWSC-SC6-28NT screws holding the front chamber to the valve, once again taking care

FIGURE 1: Purge housing assembled on valve



that the two small W6/washers seated in each screw head recess are not lost. Leave the drive shaft inserted through the front chamber, but remove the valve from the slotted coupling.

REASSEMBLY

1. Make sure the O-rings are properly seated in their grooves. Engage the rotor pin of the driver in the slotted coupling. Slide the front chamber against the face of the valve and line up the screw holes.
2. Insert the two HWSC-SC6-28NT screws (each with its two small washers) through the front chamber and screw them into the valve mounting holes. Tighten them in alternation so that there is an even seal. Snug is sufficient - do not over-tighten.
3. Repeat Step 2 with the rear chamber.
4. Insert the jumper loop to connect the front and rear chambers of the purge housing, and tighten the nuts only 1/4 turn past finger tight.
5. Put the purge housing/valve assembly back on the standoff, oriented as before. Tighten the HWSC-SC6-10B screw.
6. If the valve is on an actuator, check the alignment. Since the rotor pin cannot be seen, the only evidence of proper alignment is proper function: if flow is equal in both positions, the valve is aligned. (When comparing flow rates, be sure that there is no loop or tubing re restriction masquerading as valve restriction.)
7. If alignment is necessary: while the actuator is exerting force, slightly loosen and then re-tighten the screw attaching the standoff to the actuator. Switch the actuator to the other position and repeat. In one of these positions, the valve should rotate slightly as the actuator completes its travel, centering the valve on the actuator.

WARNING:

Do not exceed the limits of the O-rings.

Maximum temperature: 175°C

Maximum pressure: 20 psi

NOTE: The number of O-rings in the purge housing may vary from the illustration at right, based on the size of the valve body.

FIGURE 2: Purge housing exploded view

