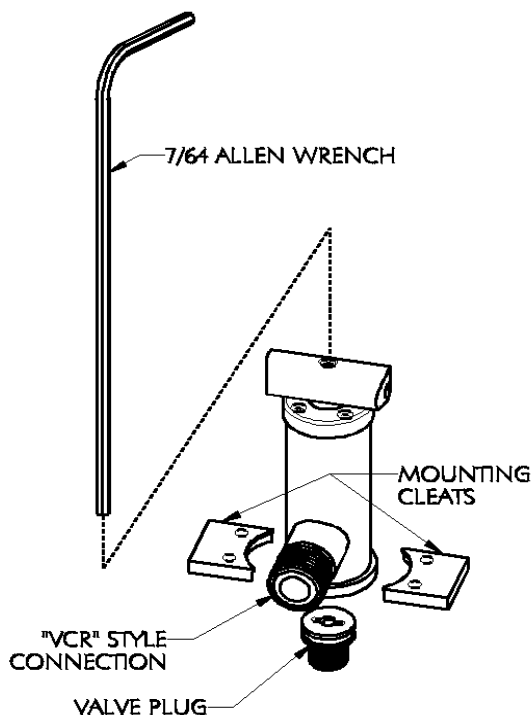


## **RA-B-VCO VACUUM VALVE**

### **GENERAL DESCRIPTION**

This valve is uniquely designed with detachable plug that allows the valve to be removed without voiding vacuum. Designed for small size, remove mass and a bulky appendage, simple to attach and use providing tamper proof vacuum sealing. Construction materials are nickel-plated brass body, brass stem with aluminum handle and viton “O” rings. Each valve is helium leak tested to  $2 \times 10^{-9}$  torr.

Vacuum connector port is adaptable to the ©Swagelok #4 VCR face seal connector, which is a very common connector used for this application.



## MOUNTING & UNMOUNTING VALVE

Review parts of valve in picture. Valve can be installed with or without plug attached to valve stem on bottom.

### Tools needed

Long 7/64" allen wrench, long 3/32" allen wrench with ball end, and wrench to fit the nut if necessary.

### Mounting valve to camera housing

- Make sure all surfaces are clean and free of scratches where "O" ring seal.
- Attach vacuum plug to valve stem if not already in chamber valve port bore.
- Pull back stem so nothing is protruding beyond the valve bottom.
- Loosely attach one (1 of 2) clamp plate (cleat) onto the valve port with 2, 4-40 screws.
- Slip valve into position nesting valve flange into the radius cutout of the cleat.
- Attach the other cleat loosely with two 4-40 screws.
- Turn the screws until they just start to apply compression to the "O" ring. Check the valve to make sure it is oriented and seated properly.

**Plug in housing:** Gently turn the knob clockwise while pushing down the handle until the stem seats into the plug. This will be obvious, as the handle will stop turning freely. **DO NOT FORCE TURNING THE KNOB.**

- Insert the 7/64 long hex allen wrench into the center hole in the knob and tighten the screw just enough to compress the "O" ring. **DO NOT OVERTIGHTEN THIS SCREW!** Compressing "O" ring is all that is necessary.

**Plug in valve body:** With valve in place, turn handle clockwise to thread plug into the housing. Stop when plug is seated. It is unnecessary to apply any force since the sealing is on the side of the plug, not the face.

- Tighten the cleat screws to compress the "O" ring main body seal.
- Attach the vacuum pump source to valve and start pumping with the valve closed. Check gauge to verify the seal of plug to valve stem is secure.

Open valve and pull back the stem to get the plug out of the pumping path.

After a satisfactory vacuum is achieved, the procedure to follow is:

1. Close valve.
2. Remove vacuum source.
3. Unscrew center screw in knob with 7/64 allen wrench.
4. Remove two cleat plates.
5. Remove valve.
6. Protect surface of valve port area from contamination and scratches