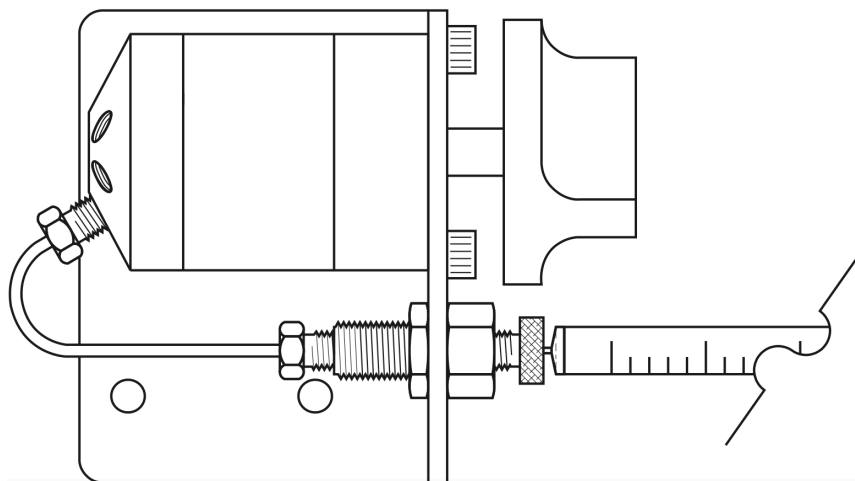# CHEMINERT® LOOP FILLER PORT ASSEMBLY
INSTALLATION & USE
Technical Note 806

The loop filler port assembly includes an aluminum bracket, two syringe fill ports (for 3/4" or 2" needles), a bulkhead union, and two pieces of stainless tubing. One piece is .010" ID with a volume of 4 μl, and the other is .020" ID and 17 μl.

MOUNTING THE VALVE ON THE BRACKET

1. Two types of knobs have been used on these valves: if your valve has a black plastic knob, just pull it off the valve shaft; if it has an aluminum knob, use a 5/64" hex driver to loosen the set screw within the knob before pulling it off the valve.

2. Note the orientation of the valve on its original bracket, so that you can give it the same orientation on the loop filler port bracket. Use the 9/64" hex driver to remove the two screws which hold the bracket to the valve, and remove the bracket. Save the screws – they will be used in Step 4.

3. The bulkhead union is already mounted on the loop filler port bracket. Beside it is a row of three holes. Slide the shaft of the valve through the middle hole, with the valve oriented as it was on the original bracket.

4. Insert the screws removed in Step 2 through the other two holes, and start them into the valve by hand. Tighten them with the hex driver.

5. Reinstall the knob on the valve shaft.

INSTALLING THE TUBING

1. Select the piece of tubing appropriate to your application: the smaller ID is best for small sample volumes, but the larger ID allows faster loop loading. Slide a nut and ferrule onto one end of the tubing and insert the tubing/nut/ferrule assembly into one of the valve ports, screwing the nut in two or three turns by hand.

2. Push the tubing all the way into the port detail so that it seats firmly. This is essential for a proper Zero Dead Volume connection.

3. Manually turn the nut into the detail until it is finger tight.

4. While making sure that the tubing stays pushed all the way in, use an open end wrench to turn the nut 1/4 turn (90°) past finger tight.

5. Remove the fitting and inspect it. When made up properly, the ferrule may be free to spin axially on the tubing, but should have no lateral movement along the tubing. If the ferrule moves laterally, reinstall the fitting into the port and tighten it another 1/8 turn past finger tight.

6. Remove, reinspect, and repeat, if necessary. Once this end of the tubing is made up correctly, remove the tubing from the valve and repeat Steps 2-5 with the other end.

7. Screw one end of the tubing into the valve port where it will actually be installed. (Typically the loop is installed in ports 1 and 4, so the tubing goes in port 5.) Leave it loose enough to allow the tubing to rotate in the nut.

8. Grasp the nut on the other end and pull it into line with the union. Bend the tubing as necessary to get the nut on the same axis as the fitting, and screw the nut in by hand.

9. Tighten both nuts with the open end wrench. Usually 1/8 to 1/4 turn is sufficient.

INSTALLATION AND USE OF THE SYRINGE FILL PORT

Two syringe fittings are supplied – one for 3/4" needles and one for 2" needles. The fittings are identical except for their lengths.

1. Screw the syringe fitting into the bulkhead union until it just touches the bottom of the fitting detail.

2. Fill the syringe with at least twice the volume of the loop, plus the volume of the fill tube (either 4 µl or 17 µl, depending on which one is used). This will insure that all mobile phase will be flushed from the loop and that all previous sample will be removed from the connecting tubing.

3. Turn the valve to the counterclockwise position. Insert the syringe into the fill port as far as it will go and inject at least twice the loop volume. Leave the syringe in place.

4. Turn the valve to the inject position and remove the syringe.