

MICROMETERING NEEDLE VALVES

Technical Note 603

Both the BNV1 with 1/16" tubes and the ZBNV1 with 1/16" zero volume fitting details are designed for bulkhead mounting.

CAUTION: Valco Micrometering Valves are not designed for use as ON/OFF valves, but are factory pre-set so that in the fully closed position the flow rate will be 1-2 ml/min at 15 psi. Removing the adjustment screw from the valve stem will alter the setting and could damage the needle or needle seat.

MOUNTING INSTRUCTIONS

1. Select the mounting location and drill the 7/16" mounting hole.
2. Remove the bulkhead nut from the threaded portion of the valve and slide it over the adjustment screw.
3. Insert the valve through the instrument panel from the inside, with the adjustment screw ending up on the outside.
4. Screw the bulkhead nut back onto the threads and tighten it with a 5/8" open end wrench, while supporting the body of the valve on the other side of the panel with another wrench. (1/2" for the BNV1 and 11/16" for the ZBNV1)
5. Connect the tubing according to the flow direction shown in Figure 1.

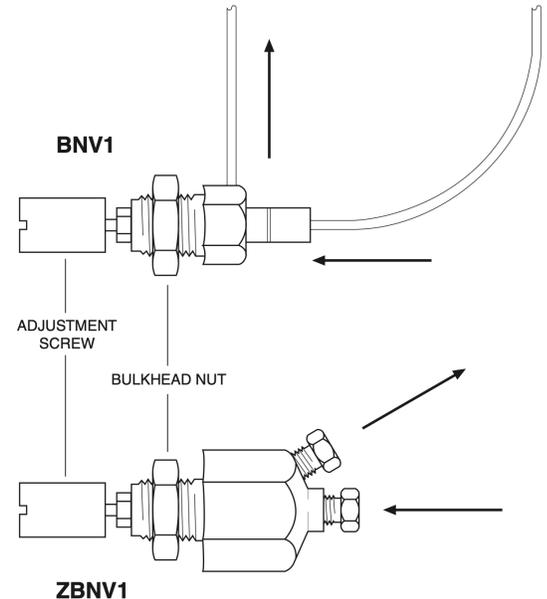
REPLACING THE SCREEN IN A ZBNV1

The 2 micron screen in the ZBNV1 can be removed and replaced when necessary, as indicated by restricted flow. (Order Product No. 2SR1)

NOTE: The model ZBNV1 is the only micrometering valve that has a replaceable screen. All others have a non-replaceable frit.

1. To remove the valve from the panel, reverse the steps for mounting found on the front page.

FIGURE 1: Direction of flow



WARNING: The valve stem must be removed with the adjustment screw in place, so that the factory-set stopping point isn't changed.

2. While supporting the valve body with an 11/16" open end wrench, use a 7/32" wrench to unscrew the valve stem nut from the valve body.
3. The screen, which rests in the bottom of the fitting detail of the inlet port, must be pushed out by a wire inserted through the needle orifice. The orifice is .026", so use wire of .024" diameter or less. (A piece of microbore column or a standard 24-26 gauge GC/LC syringe will also work.)
4. Drop the new screen into the inlet fitting detail and use the wire to move it roughly into position. Temporarily screw in the inlet tubing to push the screen the rest of the way into place.
5. Carefully reinsert the valve stem and tighten it into the valve body. 6. Re-mount the valve and connect the tubing.

FIGURE 2: Exploded view of a ZBNV1

