



ARCHON Industries, Inc.

## **Tubular Glass Gauge Valves**

### **Model 945**

**SUPPLEMENT TO INSTALLATION/OPERATION/  
MAINTENANCE INSTRUCTION # 1011 Rev B**

## TUBULAR GLASS INSTALLATION

# Warning

Read all warnings and instructions before performing installation or maintenance. Safety glasses and gloves should be worn at all times when working with or examining water gauge glass and connections.

1. Refer to attached drawing.
2. Tubular glass, guard rods, plastic shields and shield retainers are shipped separately from the assembled valve bodies. Valve bodies are shipped with glass top and bottom washers, packing glands and packing nuts assembled.
3. Remove glass washers, glass packing glands, and glass packing nuts from the valve bodies.
4. Install the top and bottom valve bodies to the vessel. Install the valve with the  $\frac{3}{4}$ " NPT plug in the vent port as the TOP valve.
5. Remove the  $\frac{3}{4}$ " NPT plug from the top valve and retain for later installation.
6. Install the bottom glass washer 11-B in the bottom valve, with the machined recess face UP.
- 6A. If the gage is furnished with guard rods or plastic shield: Install item 17 shield retainers (guard rod retainers) over the glass packing nuts of both the top and bottom valves. Finger tighten the screw to hold the upper retainer in place. Note the orientation of the retainer to accept the shield. Line up the retainers so the guard rods can later be dropped through the holes in the top and through the holes in the bottom retainer. Do not install the guard rods or the shield at this time.
7. Install the tubular glass by inserting through the  $\frac{3}{4}$ " vent port of the top valve. While supporting the glass tube, install the following items in the listed sequence and orientation, by slipping over the bottom end of the glass:

Item	description
11-A	Top glass packing washer
12-A	PTFE packing (chamfer DOWN)
8-A	Glass Packing gland (chamfer UP)
14-A	Glass Packing nut (Thread UP)
14-A	Glass Packing nut (Thread DOWN)
8-A	Glass Packing gland (chamfer DOWN)
12-A	PTFE packing (chamfer UP)

# Danger

Improper installation or maintenance of gauge glass and connections can cause immediate or delayed breakage resulting in bodily injury and/or property damage.

8. Slide the lower items 12-A, 8-A and 14-A down near the lower end of the glass. Insert the glass with the packing into the valve opening. Slide lower glass packing down until the glass packing contacts the lower gauge fitting. Carefully raise the glass approximately 1/16" off the bottom glass washer. **DO NOT** allow the glass to remain in contact with any metal! While keeping the glass from moving, place the packing gland on the packing liner, and start the threads of the packing nut on the male threads of the valve body. Bottom the packing into the valve stuffing box, while keeping the glass from resting on the lower glass washer. Do not torque the lower glass packing nut
9. Carefully slide upper glass packing items 12-A up the glass up as far as possible towards the upper valve. Press packing along the glass into the valve opening. Slide the nut. and packing gland , 8-A and 14-A, up to the top valve. Start the threads of the packing nut on the male threads of the valve body.
10. Re-install ¾" pipe plug in vent fitting.
11. Gently Hand tighten both glass packing nuts, then tighten ½ turn more by wrench. Tighten only enough to prevent leakage. **DO NOT OVER TIGHTEN!** If any leakage should occur, tighten slightly, a quarter turn at a time, checking for leakage after each turn.
- 11A. If the gage is furnished with guard rods or plastic shield: Loosen the screws in item 17 retainer. Slide the slotted plastic shield item 19 around the glass tube and into the retainers. Secure by tightening thee screw item 22. Slip the guard rods item 18 through the holes in item 18.

## Use & Care

### DO NOT's

- DO NOT** use glass if it contains any scratches, chips, or any other visible signs of damage.
- DO NOT** reuse any tubular glass packing.
- DO NOT** subject gauge glass to bending or torsional stresses.
- DO NOT** over tighten glass packing nuts.
- DO NOT** allow glass to touch any metal parts.
- DO NOT** exceed the recommended pressure of the gauge or gauge glass.
- DO NOT** clean the gauge or gauge glass while pressurized or in operation.

### DO's

- DO** verify proper gauge has been supplied.
- DO** examine gauge glass and packing carefully for damage before installation.
- DO** install protective guards and utilize automatic ball checks where necessary to help prevent injury in case of glass breakage.
- DO** inspect the gauge glass daily, keep maintenance records, and conduct routine replacements.
- DO** protect glass from sudden changes in temperature such as drafts, water spray, etc.