

# GLASS-TRAC LIQUID LEVEL GAGES AND VALVES

## INSTALLATION AND OPERATING INSTRUCTIONS

### A. CONNECTION OF GAGE TO VALVES

#### Reflex and Transparent Gages

The Standard screwed connection involves an NPT tapered pipe thread joint for sealing and is usually used with Reflex and Transparent Gages. This connection provides rigidity and excellent sealing in high-pressure services. The connection can be made most easily by simply screwing the valves directly to a 1/2" or 3/4" NPT pipe nipple which in turn screws into the taped gage body.

The union connection allows breaking the joint at the valve. The valve itself does not turn since it has a hex union which unscrews from the gage. On breaking this connection, both gage valves should be closed to avoid emptying the system.

Flanged or welded connection are sometimes used, but these do not allow the gage to be positioned so that the glass faces in any desired direction.

#### Tubular Gages

The stuffing box method, which depends on packing to seal the joint, is commonly used with Tubular Gages and for other gages with tubular adapters. The stuffing box design is suitable for low pressures and allows for easy glass removal and replacement. To remove glass, close both upper and lower valves, loosen the packing nut at each end of the glass, and lift the glass tube into the upper valve far enough to clear the lower valve. Then swing the tube out of position.

### B. CONNECTION OF VALVES TO VESSEL

Gage valves are usually provided with union tank connections so that gage assemblies can be made up as units with the valves properly spaced to match vessel connections. The unit can then be installed by simply screwing the threaded tailpiece of each valve, with the

nut in place, into the vessel couplings. Complete the installation by positioning the gage and tightening the union nuts.

The standard union tank connector on the valve is a 3/4" NPT threaded tailpiece. Other thread sizes are available. Threaded solid shanks or flanges integral with valve bodies are also available for special installations.

Valves should be opened a minimum of two (2) turns counterclockwise (1/4 turn if equipped with quick-closing systems) to allow the safety ball check (when so equipped) to function in the event of glass breakage.

**C. GLASS REPLACEMENT – REFLEX AND TRANSPARENT GAGES**

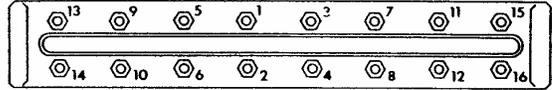
Since gage glass breakage is usually caused by mechanical strain rather than by internal pressure, the following precautions should be observed when replacing the glass:

1. Clean the gasket surfaces and glass cushion surfaces in both the gage cover and chamber
2. Check for flatness and warpage of glasses.
3. Use uniformly matching gaskets and cushions to install glass, and make sure that no metal touches the glass.

4. Support the gage uniformly throughout while installing glass.
5. Torque gage cover nuts as shown in the table below.

**GLASS-TRAC GAGE ASSEMBLY**

(Numbers indicate tightening sequence)



Gage Series	Torque (Tighten in 4-5 ft-lb steps)
Lo Pres., Large Chamber	20 ft-lb
Mid Pres.	32 ft-lb
High Pres.	40 ft-lb

**D. RECOMMENDED SPARE PARTS FOR ONE YEAR OF OPERATION**

One (1) gage glass for every ten of the same size, and one (1) gasket and cushion for that size.