

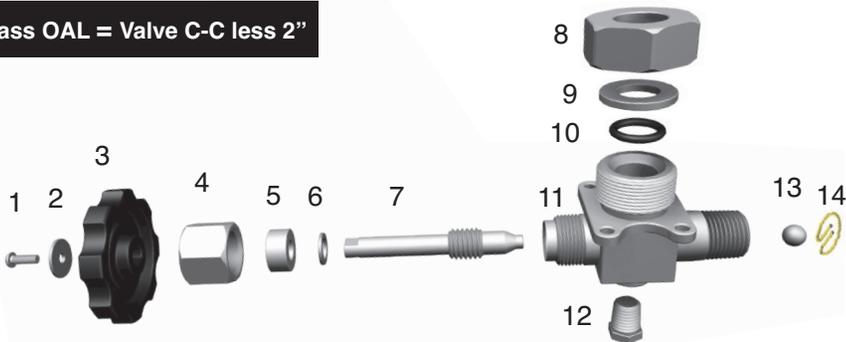
# MODEL 12T GAGE VALVE

## MODEL 12T PARTS LIST

WEIGHT: 3.3 lbs (1.5 kg) per set

ITEM	DESCRIPTION	MATERIAL—Standard	MATERIAL—Optional
1	Screw	Stainless Steel	n/a
2	Washer	Stainless Steel	n/a
3	Hand Wheel	Painted Aluminum, Yellow	Blue for SS
4	Packing Nut	Steel	Stainless Steel
5	Packing	TFE	Grafoil™ when required
6	Stem Washer	T304 SS	T316 SS
7	Stem	T304 SS	T316 SS
8	Stuffingbox Nut	Carbon Steel	Stainless Steel
9	Washer	Carbon Steel	Stainless Steel
10	O-Ring, 2-208	Viton™	Various
11	Body	Cast Steel (WCB)	T316 SS (CF8M)
12	Pipe Plug, 1/4" NPT	Carbon Steel	T316 SS
13	Ball, 3/8"	T304 SS	T316 SS
14	Snap Ring	CRA per NACE MR0175	n/a

Glass OAL = Valve C-C less 2"



## MODEL 12T INSTALLATION

1. Mount valves to tank; be sure to mount upper valve at top & lower valve at bottom.

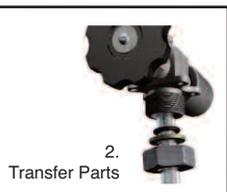


2. Transfer the nut, washer and seal from the valve to the end of the glass tube as shown. If using an Inferno Model TE gage instead of a bare glass tube then transfer these three items to the tubular end fittings of the gage.

**WARNING:** If the nut, washer and seal are left assembled on the valve and if the end of the glass is stabbed through the nut and washer and into the valve it is possible for the seal to sit off center and be sheared. Avoid damage to O-ring seal by first transferring these three items to the glass tube (or the end fittings when using a Model TE).

3. Insert glass deeply into upper valve at an angle as shown. Insert until bottom of glass clears the lower valve and can swing into place. For short C-C distances (under 12") it may be necessary to angle the upper valve body slightly (less than 1/8 turn) in the vessel coupling.

4. Lower the glass into resting position in lower valve.



## PRESSURE/TEMPERATURE RANGES

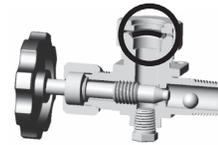
MAXIMUM WORKING PRESSURE, PSI

	-300°F	-50°F	-20°F	100°F	200°F	300°F	400°F	500°F
	-184°C	-46°C	-29°C	38°C	93°C	149°C	204°C	260°C
Cast Steel (WCC)			600	600	600	600	600	600
Cast SS (T316)	600	600	600	600	600	600	600	600

WARNING: GLASS TUBING RATINGS LIMITED BY WALL THICKNESS AND OVERALL LENGTH

## STANDARD FEATURES

- Straight Pattern
- Rigid Vessel Connection
- Integral Seat
- 5/8" Diameter Glass
- Corrosion resistant SS trim
- "UPPER" and "LOWER" markings help insure correct installation materials
- TFE Stem Packing standard—low friction turning
- Conforms to NACE MR-01-75



Improved Sealing on Glass with standard size 2-208 O-ring—

- Lower torque requirement
- Wide choice of elastomers (Viton™ is standard)

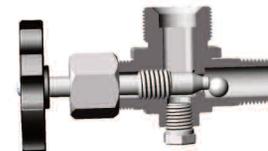
Safety ball check provides automatic shut-off in case of glass breakage

## RATING

Pressure rating of glass will always limit the rating of the valve. Do not operate this valve at pressures higher than the rating of the glass.

## BALL CHECKS

This valve contains a safety ball check which is designed to automatically close in case of glass or seal failure. Pressure acts on the ball and forces it against the upstream side of the seat. It takes approximately 6" head pressure (water) to move the ball into check position. Lower head pressure is not enough to check the ball. Also a low volume leak will not provide adequate force to move the ball closed. The safety ball is designed to prevent a large leak such as might occur when a glass blows out under pressure. It is not designed to completely contain a leak. Corrosion or trash between the ball and the seat will interfere with seating to some degree. However ball checks are a good safety device. In high pressure operation they can greatly limit the explosive force of a glass failure.



Ball denied seating by stem in closed or "cracked" position

## STEAM WARNING

Because of rapid corrosion of tubular glass by hot water, we recommend reflex glass or see-thru glass with mica protection in steam service over 50 WSP or 300°F.

## GLASS CLEANING

With valve stem(s) in full open position and drain plug(s) removed a cleaning brush may be inserted through valve body and into glass.

## NUISANCE CHECKING

Balls will check when a sight glass is "blown down" using a drain valve attached to the bottom of the lower valve. When this happens both gage valves must be closed and then slowly reopened until the fluid has a chance to equalize between the vessel and the glass. After a liquid level is re-established in the sight glass the valves should be opened all the way. This withdraws the "pusher" extension of the valve stem from the ball cavity. With the valves opened in this way the ball is set up again to close automatically in case of a pressure differential. **WARNING:** The valves should be opened 2 full turns minimum to enable automatic safety closing. For this reason it is best to operate the valves FULL OPEN as a standard practice. That way the ball checks are always enabled and the safety feature is maintained.

## BARE GLASS—EXPANDED METAL (PREFERRED) OR GUARD RODS

- Galvanized Steel Construction in standard 48" length (welded option to 96" OAL)
- Stainless Steel hose clamps, not pictured, secure guard over compression nut for greater rigidity



Guard Rods: 3/16" Ø  
Guard Rod Length = Valve C-C + 1/2"

WARNING: Guard rods not recommended over 12" length

## ARMORED TUBULAR GAGES

- Glass Isolated from force of compression nut
- O-Ring Sealed
- Protective Stainless Armor



MODEL TE

MODEL ATS