

# KENCO ENGINEERING COMPANY

P.O. BOX 470426, TULSA, OK 74147-0426

PHONE: (918) 663-4406 FAX: (918) 663-4480

<http://www.kenco-eng.com> e-mail: [info@kenco-eng.com](mailto:info@kenco-eng.com)

## INSTALLATION AND MAINTENANCE INSTRUCTIONS FOR TUBULAR GAUGE GLASS VALVES (KTV)

### INSTALLATION

Prior to installation, turn hand wheel of each valve to close the valve assembly. Install upper valve (valve with deep glass insertion hole) and lower valve to tank using Teflon tape. Tighten valves making certain that the gauge glass connections are aligned vertically. To install the EPG level gauge or tubular gauge glass, turn the upper valve approximately 1/8 of a turn and loosen glass packing nut to insure there is no compression of the glass packing. Insert the EPG or tubular gauge into the upper valve sight glass connection. Tighten the upper valve to its original position while holding the EPG or gauge glass in position to insure it clears the lower sight glass connection. Loosen glass packing nut on the lower valve and lower the EPG or gauge glass down into the lower sight glass connection to a positive stop. Tighten upper and lower glass packing nuts.

### MAINTENANCE

The user should make maintenance schedules, safety manuals, and inspection criteria for each installation of gauge valve sets. The user should set up a regular inspection of the following areas: Signs of leakage around the stem area, around the glass area and signs of internal or external corrosion. Stem packing can often be corrected by tightening the stem packing nut. If leakage persists, follow the steps detailed in disassembly of the valve. Signs of leakage around the gauge glass indicate worn out glass packing or improper compression of the glass packing. If tightening the glass packing nut does not stop the leakage then the glass packing must be replaced. To replace the glass packing, follow the steps detailed in disassembly of the valve. Signs of internal or external corrosion could be an indication of misapplication. An investigation should be carried out immediately to determine the cause. It is the responsibility of the user to choose the gauge valve material compatible with internal and external environment. For broken sight glass replacement, review valve disassembly procedures.

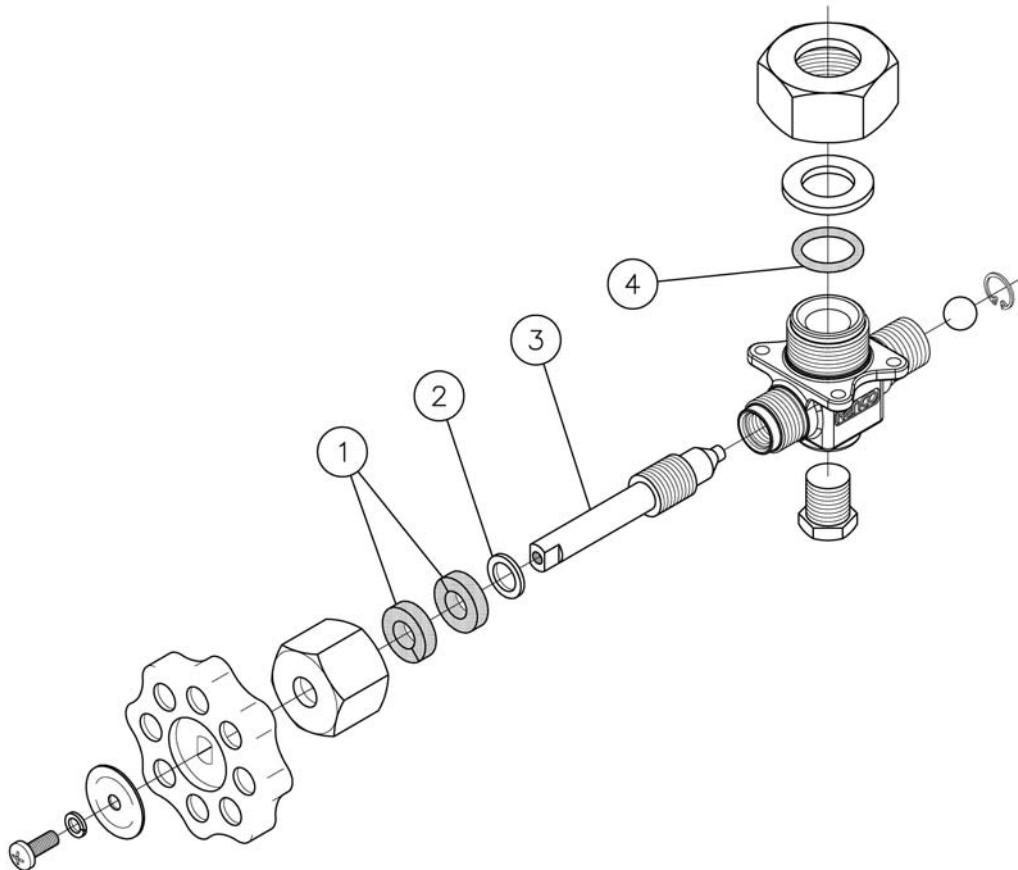
### DISASSEMBLY AND ASSEMBLY PROCEDURE

**CAUTION:** Do not proceed with disassembly unless the valve has been relieved of all pressure, has been allowed to reach ambient temperature and has been drained of all fluids. To disassemble the valve, close upper and lower valves, remove upper and lower pipe plugs, and allow valves to drain. Remove hand wheel screws and hand wheel from stem, loosen and remove stem packing nut and remove stem by turning counterclockwise. Once the stem has been removed, slip stem packing retainer from stem. To replace glass packing, loosen both upper and lower packing nuts. Slide EPG or gauge glass upward into the upper valve until the bottom of EPG nozzle or the gauge glass clears the stuffing box connection of the lower valve. While holding the EPG or gauge glass in this upward position, rotate upper valve approximately 1/8 turn to allow clearance to remove EPG or gauge glass from upper valve. Once EPG or gauge glass has been removed, remove glass packing nuts, glass packing and glass packing retainers.

To reassemble valves, clean all packing areas and glands. Slip packing retainer on stem and install new stem packing. Thread stem assembly into valve by turning clockwise until stem seats and then back off one turn. Assemble stem packing nut and tighten, and assemble hand wheel onto stem. Install new glass

packing, glass packing retainer, and glass packing nut on valves. Once these steps have been followed, you may reinstall the EPG or tubular gauge glass into the gauge valve set as previously detailed.

## **WARNING: UNDER NO CIRCUMSTANCE SHOULD THE KTV TUBULAR GLASS VALVES BE USED FOR STEAM-WATER APPLICATIONS.**



### **RECOMMENDED SPARE PARTS**

#### **ITEM NO.**

- 1) STEM PACKING (REQUIRED 2 PER VALVE) P/N 15179
  - 2) WASHER, RETAINER P/N 15085
  - 3) VALVE STEM P/N 21764
  - 4) GLASS PACKING FOR 5/8" GLASS (REQUIRES 1 PER VALVE) P/N 13208
- OR**
- 4) GLASS PACKING FOR 3/4" GLASS (REQUIRES 1 PER VALVE) P/N 13210

MAXIMUM PRESSURE 500 PSIG AT 400°F USING TEFLON PACKING

ALL PRESSURE RATINGS ARE SUBJECT TO THE LIMITATIONS OF THE TUBULAR GAUGE GLASS.