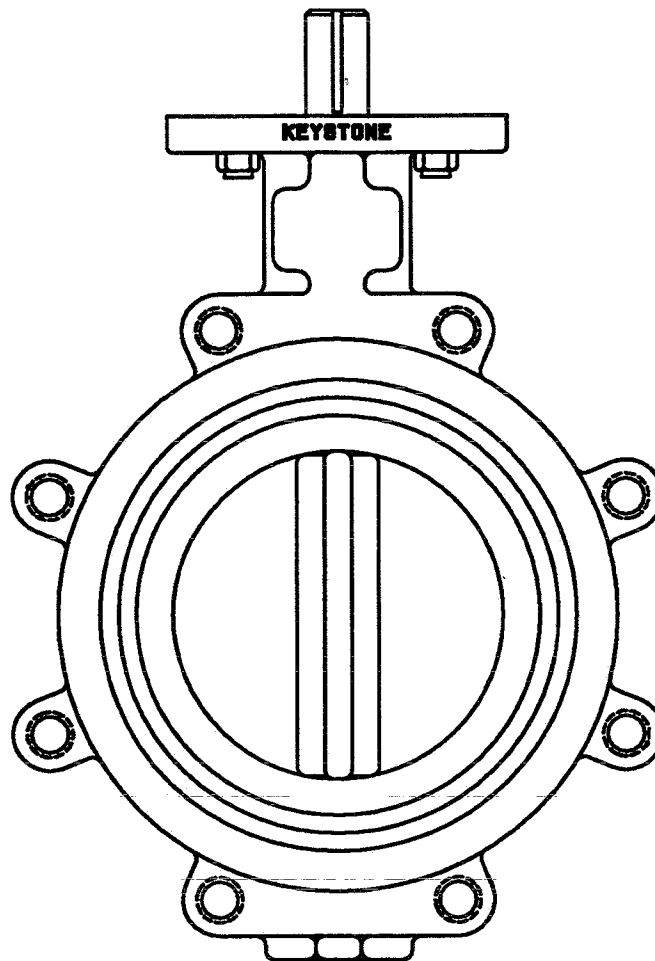


# KEYSTONE

VALVE USA, INC.

222-0  
REV. 0 5/93

## FIGURE 222 2" - 12" INSTALLATION AND MAINTENANCE MANUAL



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**2" – 12"**  
**INSTALLATION AND MAINTENANCE MANUAL**

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**FIGURE 222 INSTALLATION AND MAINTENANCE MANUAL**  
**2" – 12"**

**FLANGE REQUIREMENTS:**

The figure 222 valves are designed for installation between ANSI Class 125/150 flat or raised faced flanges. Gaskets are not required. Lined pipe, heavy wall pipe or flanges must have a minimum allowable inside diameter at the centered body face to clear the disc sealing edge when opening the valve.

**STORAGE:**

The valves should be stored on a pallet or "skid" in a clean, dry warehouse. If the valves must be stored outside, the following applies:

1. Valves must be kept off the ground and high enough to avoid standing water.
2. Cover the valves with a water repellent cover (not supplied by Keystone).

**SERVICE LOCATIONS:**

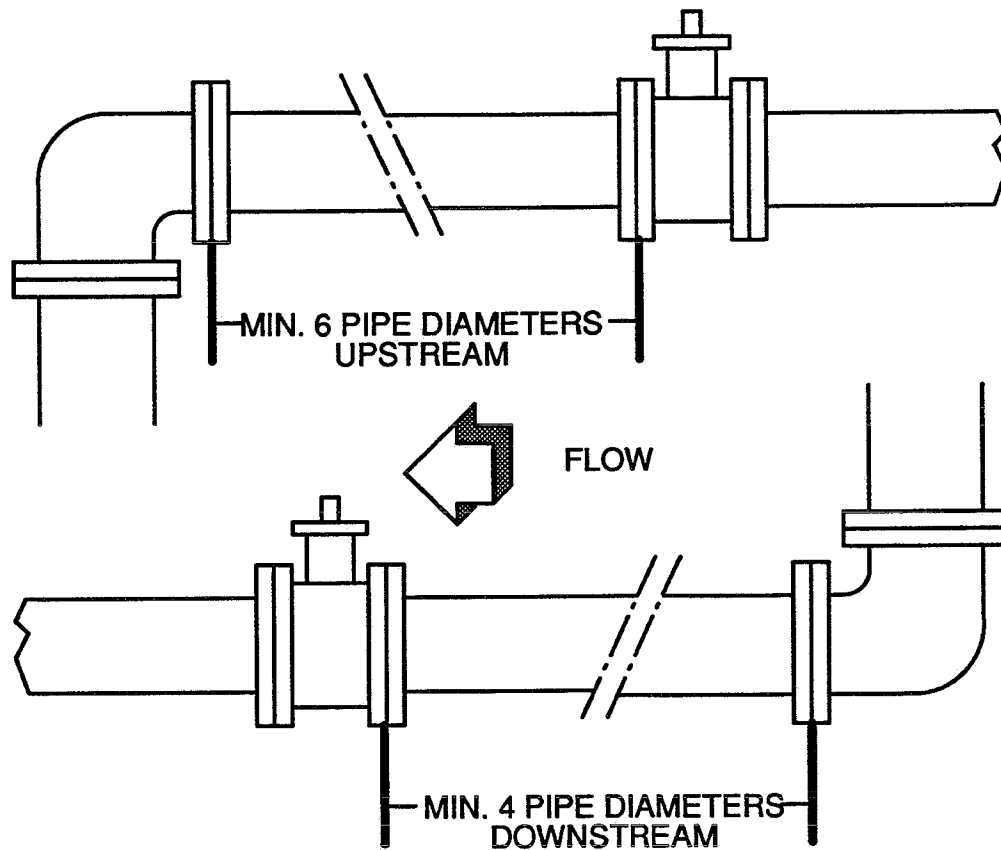
For service or technical information, contact your factory representative;

Keystone Valve U.S.A., Inc.  
P.O. Box 40010, Houston TX 77240  
Phone (713) 466-1176  
Fax (713) 937-5402  
Telex 166-038/755-265

**INSTALLATION INSTRUCTIONS:**

The figure 222 valves are bi-directional and will control flow equally well in either direction. For the best results in slurry service regarding sedimentation, position the valve assembly so that the valve stem is in the horizontal position and the lower disc edge opens downstream. This will create a self-flushing effect, thereby extending the service life of the valve.

Consideration should be given to the location of the valves in the piping system. The valve should not be placed too close to other valves, elbows, etc. as its performance may be affected. It is recommended the valve have a minimum of six pipe diameters upstream (see Illus. 1) and four pipe diameters downstream between it and other valves, elbows, etc. in the piping system.



**ILLUSTRATION 1**

**INSTALLATION BETWEEN PRE-EXISTING ANSI FLANGES:**

1. Spread the flanges to exceed the valves face-to-face dimension by 3/16" before placing the valve in position to prevent distortion and/or damage to the sealing face of the seat.
2. The valve may be installed with the disc in the open or closed position. Be careful not to damage the disc edge during installation.
3. Tighten the bolting hand tight. Slowly open the valve to check for adequate disc clearance.
4. Cross-tighten all bolting to the proper torque specification.

5. Again, check for adequate disc clearance. If the installation is satisfactory, the valve is ready for service and/or installing the valve actuator.

**INSTALLATION IN NEW CONSTRUCTION USING ANSI WELDING TYPE FLANGES:**

1. Align and center the companion flange bolt holes to the body lug holes.
2. Assemble the body and flanges with the flange bolting and mate-up the bolting using the flange-body-flange assembly for fit-up and centering to the pipe.
3. Tack weld the flanges to the pipe.
4. Remove the flange bolting and valve assembly from between the flanges.

**NOTE:**

Do not finish weld the flanges to the pipe with the valve bolted between the flanges as this will result in serious heat damage to the valve seat.

6. Finish welding the flanges to the pipe and allow the flanges to cool completely before proceeding.
7. Follow steps 2 thru 5 of "INSTALLATION BETWEEN PRE-EXISTING ANSI FLANGES."

**MAINTENANCE:**

Routine maintenance or lubrication is not required.

<b>TROUBLESHOOTING</b>		
<b>SYMPTOM</b>	<b>PROBABLE CAUSE</b>	<b>SOLUTION</b>
VALVE OPENS ONLY A FEW DEGREES AND STOPS (IT WILL NOT OPEN TO THE FULL ANGLE DESIRED).	IMPROPER INSTALLATION. THE VALVE IS IMPROPERLY ALIGNED.	LOOSEN THE FLANGE BOLTS, REALIGN THE VALVE WITH FLANGES, AND RETIGHTEN THE FLANGE BOLTS TO CORRECT TORQUE PER ANSI REQUIREMENTS.
LEAKAGE PAST THE FLANGE FACE.	1. FLANGE BOLTS ARE NOT EVENLY TORQUED.	1. LOOSEN THE FLANGE BOLTS AND TIGHTEN THE FLANGE BOLTS TO CORRECT TORQUE PER ANSI REQUIREMENTS.
	2. IMPROPER FLANGES.	2. REFER TO "FLANGE REQUIREMENTS" ON PAGE 1.

<b>TROUBLESHOOTING (CONT.)</b>		
<b>SYMPTOM</b>	<b>PROBABLE CAUSE</b>	<b>SOLUTION</b>
LEAKAGE IN THE CLOSED POSITION (LEAKAGE IN THE PIPELINE).	THE DISC IS NOT CLOSING FULLY: 1. ACTUATOR IS NOT PROPERLY ADJUSTED.	1. REFER TO ACTUATOR ADJUSTMENT PROCEDURES.
	2. LINE PRESSURE EXCEEDS VALVE'S WORKING PRESSURE.	2. REDUCE LINE PRESSURE TO VALVE WORKING PRESSURE.
WATER HAMMER	THE VALVE IS CLOSING TOO QUICKLY.	ADJUST THE ACTUATOR.
EXCESSIVELY HIGH TORQUE.	1. OBSTRUCTION IN THE PIPELINE.	1. REMOVE VALVE FROM PIPELINE AND REMOVE OBSTRUCTION.
	2. VALVE STEM OR DISC BENT.	2. RETURN VALVE TO FACTORY FOR DISC/STEM REPLACEMENT (CHECK FOR WATER HAMMER OR FREEZING OF LINE MATERIAL).
	3. SCALE BUILD-UP ON STEM OR SEAT.	3. OPEN AND CLOSE THE VALVE SEVERAL TIMES. OPERATE THE VALVE AT LEAST ONCE A MONTH. CHECK THE VALVE SEAT FOR DETERIORATION.