

THERMOPLASTIC VALVE INSTALLATION INSTRUCTIONS

VALVE STORAGE

Thermoplastic valves should be stored indoors at ambient temperature in their original containers to keep them clean to avoid damage and elastomeric deterioration.

END CONNECTIONS

SOCKET: Provides a stronger connection than threading and is preferred in permanent installations. Socket dimensions are in conformance with ASTM D2467.

SOLVENT CEMENTED: Compatible with PVC and CPVC Valves, using normal solvent cementing techniques. Caution should be taken that cement does not get on the inside face of the end connection or inside the valve. Refer to cement manufacturer's guidelines for bonding temperature limitations and recommended cementing cure times.

NOTE: Shelf life of solvent cement is limited to the time advised by the manufacturer. That is approximately one year for CPVC and two years for PVC.

SOCKET FUSION (THERMAL BONDING): The superb resistance of PVDF and PP to organic solvents, including solvent cements make it necessary to join those socket connections, in 1/2" thru 4" sizes, by thermal bonding technique.

BUTT FUSION (THERMAL BONDING): A heat fusion technique necessary for joining PVDF and PP butt end connections to similar material piping.

THREADED: Preferred when occasional disconnecting of piping system is necessary, but limited to a maximum of 4 inches in diameter. Thermoplastic pipe of Schedule 80 or heavier should be used because threading reduces the effective wall thickness, resulting in a reduction in pressure rating to one-half that of solvent cemented or thermal bonded socket connections. Threads are American Standard Tapered Pipe Threads per ANSI B2.1.

Preparation for assembly consists of wrapping the pipe threads with Teflon (TFE) tape, starting with the second thread from the end and wrapping in the direction of threads, with a slight overlap. After a hand-tight assembly, an additional 1/2 to 1-1/2 turns with a strap wrench will complete the connection. Care must be taken to not overtighten, which can cause distortion or even failure of threads.

FLANGED: Manufactured to ANSI B16.5, (150lb. class). Available in most all sizes and most widely used throughout the industry for process systems that require occasional dismantling. Thermoplastic flanges may be connected to pipe or fitting by the method required by the individual material. A full flat face elastomeric gasket seal of a 50 to 70 durometer hardness, is required between flanges, with the exception of Butterfly Valves in which the outer face of the seal acts as the gasket.

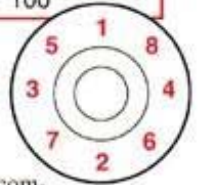
JOINING FLANGES:

1. Carefully observe for proper alignment of bolt holes, and also for parallelity and closeness of mating flanges.
2. Position gasket seal. Then insert and lubricate all bolts, using flat washers under bolt heads and nuts.
3. With a wrench on bolt head, tighten each nut with a torque wrench in a pattern, diametrically opposite each other, as shown below. Do this in increments until finally reaching the recommended torque values charted at right.

FLANGE SIZE (IN.)	RECOMMENDED TORQUE (FT. LBS.)*
1/2"-1 1/2"	10-15
2-4	20-30
5-8	30-45
10	50-75
12	80-110
14-24	100

* For a well lubricated bolt.

TIGHTENING PATTERN FOR FLANGE BOLTS



VALVE ADJUSTMENTS AND INSTALLATION GUIDE

COUPLING NUTS: On all true union style valves when installing into pipe line, nuts should be tightened by hand. It is not recommended to use pipe or strap wrench.

SAFTEY BLOCK TRUE UNION BALL VALVES: Adjustment for ball to seat tightness:

- (a) Sizes 1/2" thru 4" - Remove coupling nut on adjusting end of valve. Use valve handle on threaded cartridge and turn 20° clockwise. Replace coupling nut hand tight.
- (b) Sizes 3" and 4" - It is only necessary to tighten the adjustment end coupling nut. Do not over-tighten or handle will not turn valve from open to close position.

BALL CHECK VALVE: No adjustment is required other than making certain that the union nuts are tight. Install in line with the flow arrow in the same direction as the fluid flow. **Caution** should be taken not to install a Ball Check too close to a discharge pump. The resulting turbulent fluid flow may cause ball chatter and internal valve damage.

BUTTERFLY VALVE: Always install between two pipe flanges, and never with a gasket seal. The outer rim of the elastomeric valve seal acts as the gasket seal.

DIAPHRAGM VALVE:

Installation:

1. Refer to section "Joining Flanges" and follow written procedures.
2. Sizes 3" and larger have a bonnet grease fitting. Lubricate before placing valve in service.
3. Use torque wrench, follow same recommended torques shown for flange bolt connections and tighten body/bonnet bolting.
4. Full open flow setting has been set at factory before factory pressure testing.

Maintenance:

1. The TVI thermoplastic diaphragm valves require no maintenance other than periodic grease fitting lubrication.