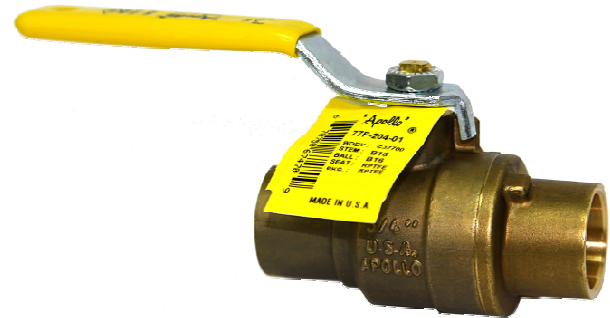




**77F AND 77FLF THREADED AND SOLDER END  
BALL VALVES  
INSTALLATION, OPERATION, & MAINTENANCE GUIDE**



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**INSTALLATION**

77F/77FLF threaded and solder end Apollo Ball valves are bi-directional. They may be installed in vertical or horizontal pipe runs without regard to flow direction and without regard to stem orientation.

Note: Valves may be installed in piping systems that comply with the applicable portions of the ASME B31 standards. Special considerations must be taken with respect to pipe line expansions and contractions and the media expansion and contractions within the piping system.

**Threaded End Valves**

Mating pipe connections should be accurately threaded, clean and free of foreign material or metal shavings. Two to four wraps of PTFE pipe tape (or pipe dope, but not both) should be applied to the male threads. Two wrenches must be used when mating up pipe joints to these valves. Apply one flat-faced wrench on the valve hex closest to the pipe joint being tightened and use a pipe wrench on the pipe to prevent transmitting torque through the valve body joint. Typical wrench make-up is 1-1/2 turns after installing the pipe hand-tight. Do not overtighten the valve onto the pipe, as this can damage or distort the valve. Do not reverse-rotate after tightening as this can damage the body/retainer seal.

**Solder End (Sweat In) Valves**

Caution: Use only solders with melt points below 500°F.

Caution: Valves should only be soldered in the fully open or closed position.

During soldering, the mid-portion of the valve body should not exceed 300°F. This can be monitored using Tempilstik® or an infra-red temperature sensor. Depending on the fuel selected and the orientation of the installation it may be necessary to wrap the valve body with wet rags or employ other heat absorbing techniques. Select a torch tip size appropriate for the tube size being soldered. The flame must be directed away from the valve body, concentrated on the solder cup. The cup should be heated evenly. Allow heated joints to cool naturally. Quenching with water will cause unnecessary stress on the joint.

| Fuel        | Flame Temp w/Oxygen |          |
|-------------|---------------------|----------|
| Propane     | 3596°F              | (1980)°C |
| Natural Gas | 3560°F              | (1960)°C |
| MAPP Gas    | 3670°F              | (2021)°C |
| Acetylene   | 4622°F              | (2550)°C |

Warning: Excessive heat input will damage the body seal resulting in leaks at the valve body joint. In extreme cases, seats and stem packing may also be damaged.

**OPERATION**

The valve handle is marked showing proper rotation direction for “ON” and “OFF” positions. Rotation is clockwise for “OFF” (closed) and counterclockwise for “ON” (open).

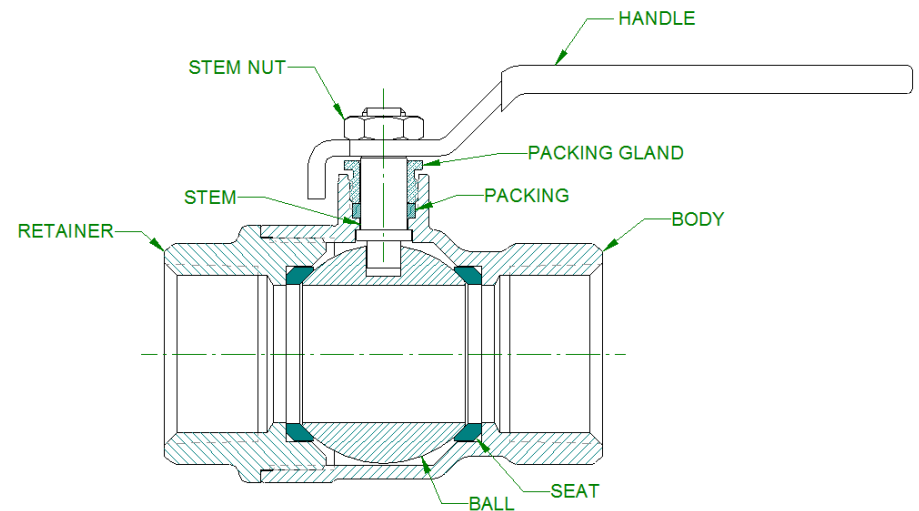
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**MAINTENANCE**

**Regular Maintenance**

Normal stem packing wear can be compensated for by tightening the packing gland screw. (Wrench part number H371400 is available to ease this operation.) Tighten the packing gland screw clockwise in 1/8 turn increments until observed leakage stops. If no additional adjustment to the packing gland screw can be made, the valve should be replaced. Repair of the 77F and 77FLF valve series beyond standard packing gland adjustment is not recommended.

Caution: Do not disassemble valve while under pressure nor with entrapped hazardous fluids therein.

**PARTS ILLUSTRATION**



**FOR NON-LEAD FREE VALVES:** It is illegal to use this product in the United States for potable water services (water intended for human consumption).

**FOR LEAD FREE VALVES:** This product complies with U.S. Safe Drinking Water Act (SDWA). Suitable for potable water applications intended for human consumption.