

## **INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS**

Review Date: 9/24/25

Original Date: 2/16/88

### **INSTALLATION AND MAINTENANCE GUIDELINES**

**FOR**

**2-PIECE**

**BRONZE/BRASS BALL VALVES**

**SOLDERED & THREADED END CONNECTIONS**

**T/S-580-70  
T/S-580-70-66  
T/S-585-70  
T/S-585-70-66  
T/S-585-70-HC  
T/S-585-70-66-HC  
T-580-70-SV  
T-585-70-SV  
T/S-585-70-SU  
T/S-585-70-66-SU  
T-585-70-66-ST  
T-580-70-UL  
T-585-70-UL  
TM-585-70-66  
T/S-585-70-W3  
T/S-585-70-66-W3  
T/S-585-80-LF\*, -66-LF\*  
T/S-685-80-LF\*  
FP600A  
FP600A-LF\*  
T-FP-40-BSPP**

**CAUTION:** Only qualified personnel should undertake the procedures outlined in this document.

## I. INSPECTION

1. Operate all valves, fully opened and closed, before installing to ensure functionality.

## II. THREADED INSTALLATION PROCEDURES

1. Assure the valve is suitable for service to which it is being applied. Contact NIBCO Technical Services with any concerns or questions: (888) 446-4226.
2. To ensure proper installation, standard piping practices should be followed.
3. NIBCO 2-piece ball valves are bi-directional service valves and can be installed in any orientation, vertically or horizontally.
4. Check connecting pipe threads are free of foreign materials such as scale or metal shavings, as well as in proper and functioning form.
5. Apply 2-3 wraps of PTFE tape, covering the lower  $\frac{3}{4}$  of the male thread length in a clockwise direction as viewed from the threaded end of the male pipe.

**WARNING: NIBCO does not recommend applying pipe compound on threaded joints, and under no circumstance should both PTFE tape and pipe compound be applied to any threaded joint.**

6. Hand tighten pipe into valve.
7. Use a flat-jawed wrench (adjustable) to engage the flats of the valve on the same end as the pipe being installed. If a pipe wrench is used, it must be applied only to the pipe, not the valve.
8. Do not apply excessive torque to assemble the joint. The best practice is to tighten (2) turns past hand tight. If tightening further, check with NIBCO Technical Services first. Do not allow the body-to-end-piece manufactured joint to be disturbed. Either tightening or loosening this joint will disrupt the factory thread seal, which may result in leaks.
9. Follow all other applicable and appropriate code requirements.

## III. SOLDERING INSTALLATION PROCEDURES – LEADED BRONZE & LEADED BRASS/LEAD-FREE\* BRASS\* BALL VALVES\*\*

**NOTE:** NIBCO ball valves can be soft soldered into lines using a low temperature solder such as 95/5 tin antimony solder which melts at 452° - 464°F. For all lead-free solders which melt in this temperature range, care must be used to prevent seat damage since temperatures above 500°F will affect the seat materials.

\*\*For instructions on soldering NIBCO *lead-free\* Performance Bronze™ alloys* see the latest edition of NIBCO Technical Bulletin NTB-0910 ([www.nibco.com](http://www.nibco.com)) or contact NIBCO Technical Services: (888) 446-4226

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1. To ensure proper installation, standard piping practices should be followed, including ASTM B828.
2. Clean and flux the surfaces to be soldered.
3. Close the valve. This does two things – it gets the handle out of the way and protects the PTFE seats from cold-flowing during heating by trapping them against the ball.
4. Wrap a wet rag around valve body.
5. With the flame directed away from the valve, apply heat to the end opposite the threaded end piece. Apply solder and move off.
6. Repeat step 4 on threaded insert end.
7. Upon completion of steps 1 – 5, leave the valve in the closed position until cool.
8. Heat from soldering, if excessive, may affect stem seal. After completion of soldering, it may be necessary to tighten packing gland. Always check for leakage after installation.

**WARNING: DO NOT under any circumstances, solder the downstream end of this valve while there is upstream pressure/or with fluid trapped in the cavity around the ball. Thermal expansion of this fluid could produce excessive internal pressure which could damage seat or body materials. Always drain down the system and cycle the valve two to three times after drain down is complete before applying heat. Steam created from trapped fluid in cavity around the ball could cause the valve to burst if valve is heated excessively.**

### IV. THROTTLING SERVICE

Ball valves are generally not recommended for modulating service where critical flow rates are required. Contact NIBCO Technical Services for throttling service applications.

**CAUTION: Throttling any ball valves is not recommended, where the valve is less than 45° open.**

### V. MAINTAINANCE

1. Valves must be exercised from fully opened to fully closed periodically to assure continued function. NIBCO recommends valves be put on a routine, periodic exercise program.
2. Packing adjustments, when necessary, should be made in 1/8 turn increments, and only as much as needed to stop a stem leak.
3. There are no field repairable or replaceable components within the pressure vessel of a NIBCO 2-piece ball valve.

**CAUTION:** Only qualified personnel should undertake the procedures outlined in this document.

4. These valves should be exercised at a minimum of four times a year (once a quarter).

**WARNING: Under no circumstances should these ball valves be disassembled for any reason, including to attempt internal repairs.**

\* Weighted average lead content  $\leq$  0.25%.