

# FNW410A/411A & X410C/X411C

## BALL VALVES



### 2-PIECE THREADED AND SOLDERED END BALL VALVES

This instruction sheet includes installation, operation and maintenance procedures for 2-piece threaded and soldered end brass or bronze ball valves.



#### WARNING:

To avoid personal injury to yourself and fellow workers, or to avoid property damage due to accidental release of fluid from the system, before installation please utilize the following procedure:

- Shut off all operating lines to the valve site
- Isolate the valve site from the line fluid
- Relieve the pressure of the fluid in the system
- Drain the fluid in the system around the valve site

- Prior to installation, the valve should be inspected for any exterior deformations and the interior or porting area inspected for any foreign matter or damage to the treads or soldering cups.
- Prior to installation, inspect the pipeline and the mating pipe, making sure both are free of foreign material. In addition, inspect these piping components ensuring they are clean and there are zero burrs or pits that could cause leakage.
- Make sure piping system is tension free before and after installation.
- The valve should be manually cycled a couple of times prior to installation.
- Make sure the valve is installed in the OPEN position.
- Brass ball valves are NOT to be installed AT OR BELOW GROUND LEVEL.
- Bronze ball valves can be installed at or below ground level, but NOT BURIED.

#### THREADED ENDS

1. Unless otherwise specified, ball valve pipe threads are American National Standard Taper Pipe Threads [NPT] to ANSI/ASME B1.20.1. Use pipe sealants in accordance with the manufacturer's instructions and in keeping with good piping.



#### WARNING:

Use only one type of pipe thread sealant. Do not use tape and pipe dope together. This may cause damage to the valve body that is not apparent on installation.

2. To prevent distortion or damage to the brass or bronze ball valve, do not apply torque directly to the valve. When tightening the valve, always use a wrench on the end nearest the pipe being tightened. It is preferred that the pipe be screwed into the valve, holding the valve stationary at the end being connected.



#### WARNING:

Do not overtighten threaded connections. This may damage the valve.

3. Always leak test the system before using.

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### 2-PIECE THREADED AND SOLDERED END BALL VALVES

#### **SOLDERED ENDS**

1. Ball valve should be in the open position.
2. After cutting tubing square, use 100-180 grit emery cloth to burnish the end of the tube.
3. Use solders with melting points below 500°F.
4. Clean and prepare the pipe and valve with a clean rag. For drinking water systems (lead-free valves), apply a non-toxic, water-based solder/flux compliant with NSF 61 to maintain certification throughout the piping system.
5. During the soldering process, the ball valve body should not exceed 300°F or deformation of the PTFE seats can occur. To avoid this, use a wet rag or similar heat absorbing technique over the valve body while soldering.
6. Keep the flame away from the valve body and direct it only towards the soldering cups.
7. Apply heat directly to and away from the valve end and the pipe. Continue heating from the bottom of the valve while placing non-toxic solder to the top of the connection.
8. Move the torch up and around both sides of the joint while maintaining pressure on the solder at the top.
9. When the solder melts rapidly and is sucked into the joint, continue applying solder until it drips from the bottom of the connection.
10. Once the first joint is evenly soldered, allow it to cool down before beginning the second joint.
11. When done, make sure to leak test the system.

#### **MANUAL OPERATION**

1. Periodically open and close the valve by turning the handle one-quarter turn (90°). Valves may have a locking lever device. If so equipped, slide the locking plate up the lever before operating.
2. The valve is in the open position when the maximum handle length is parallel to the pipe.
3. The valve is in the closed position when the maximum handle length is perpendicular to the pipe.

#### **MAINTENANCE**



##### **WARNING:**

To avoid personal injury to yourself or fellow workers, or damage to property from release of process fluids, before performing any maintenance:

- Shut off all operating lines to the valve.
- Isolate the valve completely from the process.
- Release process pressure.
- Drain the process fluid from the valve.

1. Brass and bronze body ball valves are not designed for rebuilding, nor is it economical to do so. If over time the valve leaks, complete replacement is recommended.
2. Ball valves, if properly used, do not require internal lubrication or maintenance. However, a visual inspection should be part of a regular maintenance program. A higher frequency of inspection is recommended for valves operating under extreme conditions. Also, for proper operation it is recommended that the valve be opened and closed at least twice a year.
3. Before any maintenance, open and close the valve at least once to release the pressure completely from the valve body.
4. The packing glands on FNW's Ball Valves are adjustable. If a leak should occur, you may adjust the packing gland by tightening it slightly in a clockwise manner.

## Warranty

Subject to the limitations expressed herein, Seller warrants that products manufactured by Seller shall be free from defects in design, material and workmanship under normal use for a period of one year from installation but in no case shall the warranty period extend longer than eighteen months from the date of sale. This warranty is void for any damage caused by misuse, abuse, neglect, acts of God or improper installation. For the purpose of this section, "Normal Use" means in strict accordance with the installation, operation and maintenance manual. The warranty for all other products is provided by the original equipment manufacturer.

## Claim Process and Remedies

Seller shall repair or replace, at its option, any non-conforming or otherwise defective product, upon receipt of notice from Buyer during the Manufacturer's warranty period at no additional charge.

In order to file a claim under the terms of this Warranty, a claimant must promptly notify FNW that a Product may be defective within 30 days of the suspected failure or defect via the telephone number, mail or website listed below and may be required to submit proof of purchase and/or photographs.

- Telephone: 1-800-221-3379
- Mailing Address:  
751 Lakefront Commons, Newport News, VA 23606
- Website: fnw.com

All Products alleged to be defective must be sent to FNW for inspection and testing for determination of the cause of the alleged defect or failure.

## Limitation of Liability

UNDER NO CIRCUMSTANCES SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR INCIDENTAL, PUNITIVE, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. BUYER HEREBY ACKNOWLEDGES AND AGREES THAT UNDER NO CIRCUMSTANCES, AND IN NO EVENT, SHALL SELLER'S LIABILITY, IF ANY, EXCEED THE NET SALES PRICE OF THE DEFECTIVE PRODUCT(S) PURCHASED DURING THE PREVIOUS CONTRACT YEAR. SELLER HEREBY DISCLAIMS ALL OTHER EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS OR FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

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Seller may assist Buyer in selection decisions by providing information regarding products that it manufactures and those manufactured by others. However, Buyer acknowledges that Buyer ultimately chooses the product's suitability for its particular use, as normally signified by the signature of Buyer's technical representative. Any recommendations made by Seller concerning the use, design, application or operation of the products shall not be construed as representations or warranties, expressed or implied. Failure by Seller to make recommendations or give advice to Buyer shall not impose any liability upon Seller.

## Excused Performance

Seller will make a good faith effort to complete delivery of the products as indicated by Seller in writing, but Seller assumes no responsibility or liability and will accept no back charge for loss or damage due to delay or inability to deliver, caused by acts of God, war, labor difficulties, accidents, inability to obtain materials, delays of carriers, contractors or suppliers or any other causes of any kind whatever beyond the control of Seller. Under no circumstances shall Seller be liable for any special, consequential, incidental, or indirect damages, losses, or expense (whether or not based on negligence) arising directly or indirectly from delays or failure to give notice of delay.