

# RED-WHITE VALVE CORP.

Installation, Operation and Maintenance Manual



**LEADERS IN VALVE TECHNOLOGY**

## **1.0 INTRODUCTION**

This manual is designed to cover the installation operation and maintenance instructions for Red-White Valve Corp. valves. While this manual attempts to cover basic technical issues, specific installation, specific operation and maintenance questions should be addressed to Red-White Valve Corp (RWVC).

## **2.0 INSTALLATION**

### **2.1 Selection**

Prior to installing any valve, ensure that the selected product is suitable for installation into the piping system application. Factors such as materials, chemical resistance, temperatures and pressure should all be considered when selecting a valve. Any valve applications beyond the scope of normal residential or light industrial plumbing, should be reviewed and approved by RWVC. prior to installation. Additionally all federal, state and local/municipal codes, standards, and applicable certifications should be reviewed for proper valve selection.

All Red-White valves are designed to be installed and operated in a non-shock environment. The pressure ratings for our valves are based on non-shock applications. If substantial system shock, such as water hammer or extreme volume/pressure changes is expected, please contact RWVC. for proper valve selection.

### **2.2 Preparation**

All piping systems should be properly supported per applicable plumbing codes and free from misalignment and side loading. All pipe ends should be centered and aligned with the valve centers. Proper gasket selection, where applicable, should be maintained. All federal, state and local/municipal codes and standards should be reviewed for proper system design and installation.

### **2.3 Valve location/Orientation**

Whenever possible, valves should be fitted in the piping system to allow easy operability and access to perform necessary maintenance.

Check, Globe and Strainer valves have a direction of normal flow indicated by an arrow. They are required to be installed accordingly. Unless otherwise noted, Ball, Gate and Butterfly valves can be installed with flow in either direction. Contact RWVC. with any installation questions.

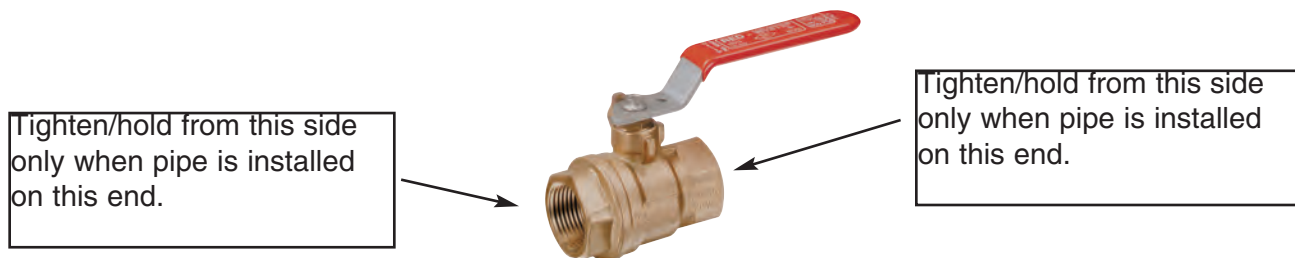
Ball, Gate, Globe and Butterfly style valves can normally be installed in vertical or horizontal lines.

Swing Check style valves should be installed in the horizontal position. They may also be installed in a vertical position where the normal flow direction is up. Installation of check valves in any other orientation is not recommended.

In-line style checks (Fig. # 232/233) can normally be installed in any orientation.

### **2.4 Threaded Joints**

When applying a PTFE tape, liquid or pipe joint compound thread sealant to the valve, ensure that the sealant is proper for the application and that all applicable codes are followed. PTFE tape should always be wrapped in the direction of the threads or in the clockwise direction to prevent tape from unwinding inside the valve. Additionally, the tape should be stretched tight around the threads to be securely attached. When installing a threaded ball valve, do not tighten from the opposite end of the valve (See diagram next page)



Prior to installation, all mating pipe threads should be inspected to ensure that they are fully formed, undamaged and of correct style. Care should be taken to not over-tighten or over torque threaded valves during installation.

## 2.5 Solder Joints

Extreme care should be taken when installing solder end valves. Use only the minimum amount of heat required to melt the solder. The flame should be isolated to the valve's fitting cup and tubing and always directed away from the valve body seats. Excess heat applied to the valve can distort and/or destroy the seats on many valve styles, leading to failure.

Solder and flux choices should also be compatible with the piping system and approved for use by all applicable codes and standards. To dissipate heat and pressure build up, valves should generally be soldered in the full open position with ball valves being about 90% open. In addition, a wet rag, wrapped around the valve body may be used to help prevent heat damage to the valve.

## 2.6 EzPress Joints

1. Cut the copper pipe to appropriate length, making sure that the cut is as square as possible. EzPress valves are designed to be used with "K", "L" & "M" grades of copper pipe/tubing.

2. A minimum distance of 5 pipe diameters is required between any solder connections and an EzPress joint. Extreme care should be taken to ensure that any heat applied to nearby fittings does not reach the EzPress joint. It is preferable to perform all solder connections first, allowing the pipe to cool completely before installing any EzPress joint. A minimum of 2 pipe diameters spacing is recommended between any two press joints to ensure proper sealing of the copper pipe.

3. Deburr both the inside and outside of the pipe. If installing on existing pipe, it may be necessary to lightly sand the pipe ends to remove any scale or buildup. Inspect to ensure that the pipe and valve ends are free from any foreign material or debris. Special care should be taken to also ensure that the o-ring in the valve end is seated correctly.

5. While using a twisting motion, slide the valve onto the pipe (Fig. # 5020, 5029) or slide the fittings onto the valve (Fig. # 5023). No lubricants or sealants should be used on either valve style.

6. It may be necessary to mark the insertion depth of the pipe/valve to ensure that the joint does not move prior to the crimping process. Fig. # 5020 & 5029 valves have internal stops to limit the insertion depth of the pipe. When using Fig. # 5023 valves, typically the fitting stop will limit the insertion depth. When using fittings that do not contain internal stops, care should be taken to ensure that an adequate distance is left on either end of the fitting to allow for a proper joint.

7. Using the appropriate crimp tool, follow the tool manufacturers instructions for proper calibration and use. Take care to ensure that the tool is in proper working condition and that the crimping jaws are clean and free from damage or defects.

## 2.7 Compression Joints

Ensure that the pipe ends are cut square and are free from burrs or debris. The pipe should pass completely through the compression ferrule until it seats in the valve. The compression nut should be tightened sufficiently to firmly grip and slightly indent the pipe. Thread sealants are not required for this type of joint.

## 2.8 Pex Joints

Ensure that the tubing is cut square and is free from burrs and/or debris. The tubing should be seated completely on the valve and firmly engage all of the end barbs. An appropriate sized crimp ring should be installed using a properly sized/adjusted tool.

## 2.9 Flanged Joints

Care should be taken to ensure that all flanges are properly aligned and that no side loading or misalignment occurs. All bolting materials/torques should meet applicable codes. Flanges should be tightened in a star type pattern to properly level the joint.

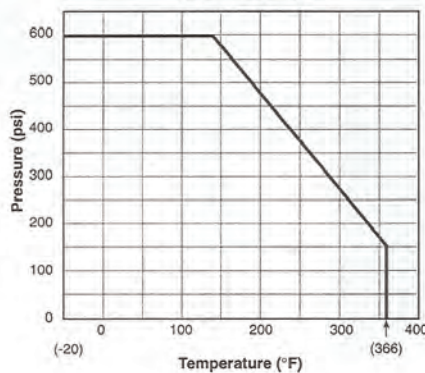
## 3.0 OPERATION & MAINTENANCE

### 3.1 General

All Red-White Valves are designed to be operated with the provided operating mechanism (lever, wheel, gear, motor, etc.) The use of additional aids such as “cheater bars”, “snipes” or other extensions is not recommended.

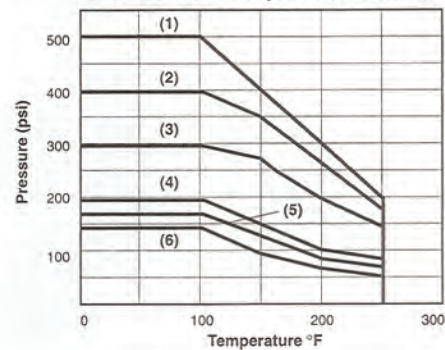
Pressure and temperature charts are shown below and should be referenced when selecting a valve for a specific application. Contact RWVC with any specific application questions.

**600 WOG Bronze/Brass Ball Valves (Screwed)**

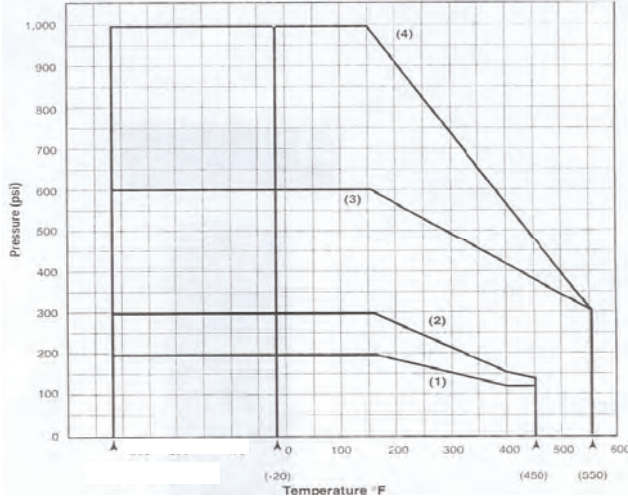


1. ASTM B32, 95TA (3/8-1")
2. ASTM B32, 95TA (1-1/4 -2")
3. ASTM B32, 95TA (2-1/2 -4")
4. ASTM B32, 50A (3/8-1")
5. ASTM B32, 50TA (1-1/4 -2")
6. ASTM B32, 50TA (2-1/2 -4")

**Bronze Valves (Solder Joint)**

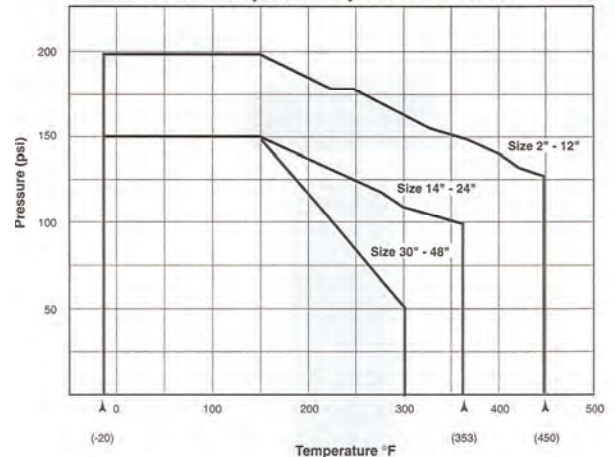


**Bronze Valves (Screwed)**



1. Class 125 (200 WOG)
2. Class 150 (300 WOG)
3. Class 300 (600 WOG)
- Fig. # 360
4. Class 300 (1000 WOG)
- Fig. # 318

**Class 125 (200 WOG) Cast Iron Valves**



### **3.1 General (cont.)**

All valves should be periodically inspected to ensure that they are operating correctly. Visual inspections should look for indications of: packing leaks, bonnet/body joint leaks, end connection leaks, obvious physical damage and stem thread wear (on rising stem gates valves). Any leaks should be repaired immediately.

When the piping system allows, valves should be physically opened and closed to ensure smooth operation. Binding, sticking or grinding may be signs of internal damage or improper installation.

Additionally it is recommended that all valves be “exercised” on a regular basis. This process will help reduce the possibility of residual build-up thereby reducing corrosion. While each installation is different, at a minimum, and when allowed by the piping system, each valve should be cycled fully open and fully closed six times a year.

Certain Red-White valves feature adjustable stem packing. This packing can be adjusted using the packing compression nut.

It is important not to over tighten this nut as the amount of force required to operate the valve will be significantly increased. If this adjustment does not stop the packing leak, packing or valve replacement may be necessary.

### **3.2 Ball Valves**

Ball valves are typically lever or wing handle operated. They are designed to operate with a quarter turn operation. All Red-White Ball valves have integral stops to indicate the full open and full closed positions. Modification/alteration of these stops is not recommended.

Red-White Ball valves are intended for isolation (on-off) service and are not recommended for throttling applications.

### **3.3 Gate Valves**

Gate valves are typically handwheel operated. They are designed to be operated in a multi-turn operation. All Red-White gate valves open in the counterclockwise direction and close in the clockwise direction. On rising stem gate valves the stem will also rise out of the valve bonnet during opening.

Red-White gate valves are intended for isolation (on-off) service and are not recommended for throttling applications.

### **3.4 Globe Valves.**

Gate valves are typically handwheel operated. They are designed to be operated in a multi-turn operation. All Red-White globe valves open in the counterclockwise direction and close in the clockwise direction.

Red-White globe valves are intended for throttling applications. They may also be used for isolation service.

### 3.5 Check Valves

Check valves are operated by a reversal in normal system flow. These valves generally do not require external input or maintenance, but should still be periodically inspected for proper operation and any external signs of leakage or damage.

Red-White check valves are intended for directional check service. These valves are designed to greatly reduce the amount of force that is sent through a system during reverse flow. Check valves are not intended for isolation service.

#### Butterfly Valves

Butterfly valves are typically operated by lever, gear or motor. They are designed to operate in a quarter turn operation. Red-White butterfly valves feature adjustable stop points and “memory stop” positioners. These stops should only be set by qualified personnel.

Butterfly valves can be used for throttling or isolation (on/off) applications.

### 3.6 Other Valve types

Certain Red-White Valve products are packaged with product specific instructions. Care should be taken during removal from the factory packaging to ensure that these instructions are retained and followed.

### 4.0 REPAIRS, PARTS & SERVICE

Certain configurations of Red-White Valves are field serviceable. Only use Genuine Red-White valve replacement parts. All parts replacements and repairs should be performed by qualified personnel only. The use of non-approved parts is considered a breach of warranty and all liability for performance of that product shifts to the person or company performing the repairs.

When valve disassembly is required, purge system of all pressure and when applicable drain the system of residual materials.

Care should be taken when disassembling any valve to ensure that it is not damaged in the process.

### 5.0 VALVE DATA

Specific valve construction, performance and dimensional information is available on our valve specification sheets located at [www.redwhitevalveusa.com](http://www.redwhitevalveusa.com).

**For additional information contact Red-White Valve or visit [www.redwhitevalveusa.com](http://www.redwhitevalveusa.com)**



### Product Warranty

RED-WHITE VALVE CORP. provides this limited warranty for each product sold by the Company directly or by its authorized distributors against defects in material and workmanship under normal use for a period of three (3) years from the date of shipment from the Company. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge. To obtain warranty service, contact the Company by phone at 949-859-1010 or by email [sales@rwvcusa.com](mailto:sales@rwvcusa.com). A purchase receipt or other proof of purchase will be required to obtain warranty service. This shall constitute the exclusive remedy, and the Company shall not be responsible for any incidental or consequential damages, including, without limitation, damages or other costs resulting from labor charges, delays, or repairing or replacing other property which is damaged if this product does not work properly. This limited warranty does not cover effects of vandalism, natural disasters, negligence of anyone other than the Company, fouling caused by foreign material, damage from adverse water conditions or chemicals, or any other circumstances over which the Company has no control. This limited warranty shall be invalidated by any abuse, misuse, misapplication, or improper installation and/or maintenance of the products. It is the responsibility of the user to determine whether the product is suited to a particular purpose or application. Products sold by anyone other than authorized distributors carry no warranty. The Company sells its products "as is" and, so far as consistent with applicable state law, disclaims all warranties express or implied except as provided in this explicit limited warranty. TO THE FULLEST EXTENT ALLOWED BY LAW, RED-WHITE VALVE CORP. AND ITS EMPLOYEES, AGENTS, AND REPRESENTATIVES WILL NOT BE LIABLE TO ANY PERSON FOR ANY LIABILITY OR DAMAGES, WHETHER DIRECT, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL, ARISING FROM THE USE OF, OR INABILITY TO USE, THE COMPANY' S PRODUCTS.

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