Franklin Electric
FUELING SYSTEMS

# PRODUCT SHEAR VALVE

## INSTALL GUIDE

F-1675 r8

**MODEL NUMBER**
662500901
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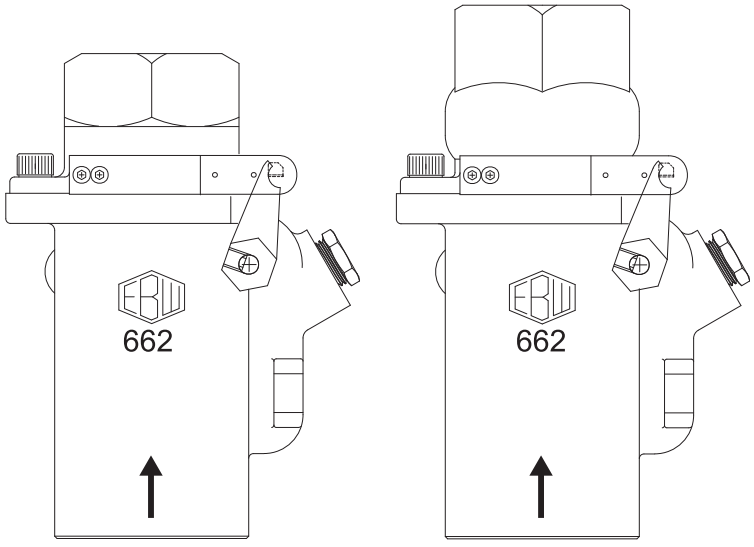

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F-1675 r7

## CONVENTIONS USED IN THIS DOCUMENT

This document includes safety precautions and other important information presented in the following format:

**NOTE**: This provides helpful supplementary information.

**IMPORTANT**: This provides important supplementary information and instructions to avoid damaging hardware or a potential hazard.

⚠ **CAUTION**: This indicates a potentially hazardous situation that could result in minor or moderate injury if not avoided. This may also be used to alert against unsafe practices.

⚠ **WARNING**: This indicates a potentially hazardous situation that could result in severe injury or death if not avoided.

⚠ **DANGER**: This indicates an imminently hazardous situation that will result in death if not avoided.

## OPERATING PRECAUTIONS

Franklin Electric equipment is designed to be installed in areas where volatile liquids such as gasoline and diesel fuel are present. Working in such a hazardous environment presents a risk of severe injury or death if you do not follow standard industry practices and the instructions in this document. Before working with or installing the equipment covered in this document, or any related equipment, read this entire document, particularly the following precautions:

**IMPORTANT**: To help prevent spillage from an underground storage tank, make sure the delivery equipment is well-maintained, that there is a proper connection, and that the fill adaptor is tight. Delivery personnel should inspect delivery elbows and hoses for damage and missing parts.

⚠ **CAUTION**: Use only original Franklin Electric parts. Substituting non-Franklin Electric parts could cause the device to fail, which could create a hazardous condition and/or harm the environment.

⚠ **WARNING**: Follow all codes that govern the installation and service of this product and the entire system. Always lock out and tag electrical circuit breakers while installing or servicing this equipment and related equipment. A potentially lethal electrical shock hazard and the possibility of an explosion or fire from a spark can result if the electrical circuit breakers are accidentally turned on while installing or servicing this product. Refer to this document (and documentation for related equipment) for complete installation and safety information.

⚠ **WARNING**: Before entering a containment sump, check for the presence of hydrocarbon vapors. Inhaling these vapors may cause dizziness/unconsciousness, and if ignited, can explode causing serious injury or death. Containment sumps are designed to trap hazardous liquid spills and prevent environmental contamination, so they can accumulate dangerous amounts of hydrocarbon vapors. Check the atmosphere in the sump regularly while work is in process. If vapors reach unsafe levels, exit the sump and ventilate it with fresh air before resuming work. Always have another person standing by for assistance.

⚠ **WARNING**: Follow all federal, state, and local laws governing the installation of this product and its associated systems. When no other regulations apply, follow NFPA codes 30, 30A, and 70 from the National Fire Protection Association. Failure to follow these codes could result in severe injury, death, serious property damage, and/or environmental contamination.

⚠ **WARNING**: Always secure the work area from moving vehicles. The equipment in this document is usually mounted underground, so reduced visibility puts service personnel working on it in danger from moving vehicles that enter the work area. To help prevent this safety hazard, secure the area by using a service truck or other vehicle to block access to the work area.

⚠ **DANGER**: Inspect the installation location for potential ignition sources such as flames, sparks, radio waves, ionizing radiation, and ultrasound sonic waves. If any potential ignition sources are identified, implement proper safety measures.

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# 1 Introduction

EBW® brand emergency shear valves immediately stop product flow in the event of fire or collision at the dispenser. A patented adapter shears clean upon impact, causing the poppet to seal on the valve body preventing fuel spillage. If fire occurs, a fusible link releases the fulcrum arm, engaging the poppet.

## 1.1 Documentation

- This document is intended for qualified and certified installation persons.
- Instructions of this document are in English. All other language versions are translations of this original document.
- Illustrations in this document show a typical setup and are for instruction and description purposes only.
- Information given in this document is given as a guide only. It is the installer's responsibility to ensure that correct and safe procedures are followed at all times.
- This document and related documents are available from Franklin Electric at www.franklinfueling.com.

### 1.1.1 Symbol Legend

Wear Protective Headwear

Wear Eye Protection

Wear Protective Clothing

Wear High-Visibility Clothing

Wear Protective Gloves

Wear Safety Footwear

Refer to instruction guide.

Ventilate Before & During Entering

Ensure Continuous Ventilation

Connect an earth terminal to the ground

Disconnect main plug from electrical outlet

Disconnect before carrying out maintenance or repair

General Warning

Warning: Industrial vehicles

Warning: Electricity

Warning: Flammable Material

No open flame; Fire, open ignition source and smoking prohibited

# 2 Safety/Security

## 2.1 General Safety Information

- Only perform procedures in this document that you are qualified and certified to perform.
- Personnel working on or with energized equipment must be authorized by relevant regulatory bodies to carry out such work and must have the appropriate training. Check with your employer and relevant regulatory body's rules for working with energized equipment.
- Obey all local laws, rules, regulations, and instructions in this document. In case of inconsistency or contradiction between information contained in this document and any laws, rules and regulations, obey the stricter of the two.
- Keep unqualified personnel at a safe distance during installation.
- If it is necessary to remove safety/security devices, immediately reinstall the safety/security devices after completing the work.

## 2.2 Hazard Assessment

Prior to beginning work and prior to recommencing work after leaving and returning to the worksite, a worksite, *pre-job hazard assessment* must be performed to identify safety and environmental needs. At a minimum, this hazard assessment should:

- Identify possible hazards and risks.
- Identify the safety needs of the job.
- Identify the correct procedures, practices and equipment.
- Eliminate unsafe conditions and actions from the worksite.
- Identify the need for personal protective equipment.
- Inspect equipment before use.
- Confirm sheaths of all cables are secured and undamaged.
- Confirm plugs and connectors are properly connected and serviceable.
- Perform ongoing risk assessment during the project.

## 2.3 Required Personal Protective Equipment (PPEs)

These PPEs are required during all phases of installation.

Wear Protective Clothing

Wear Eye Protection

Wear High-Visibility Clothing

Wear Protective Gloves

Wear Protective Headwear

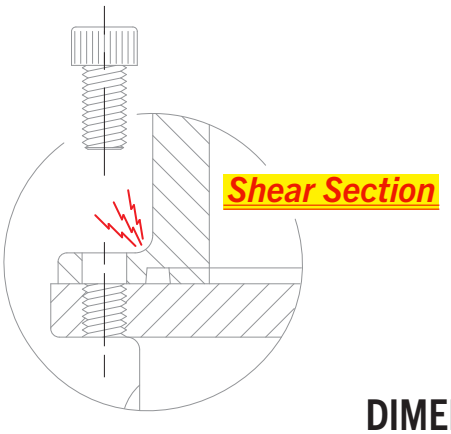
Wear Safety Footwear

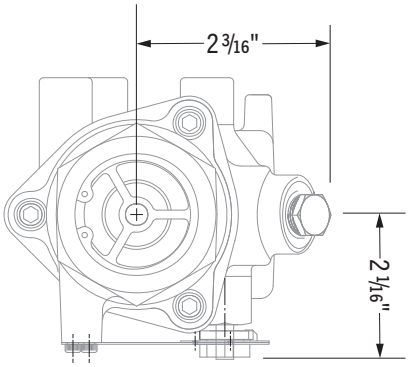
# 3 Installation

## 3.1 Overview

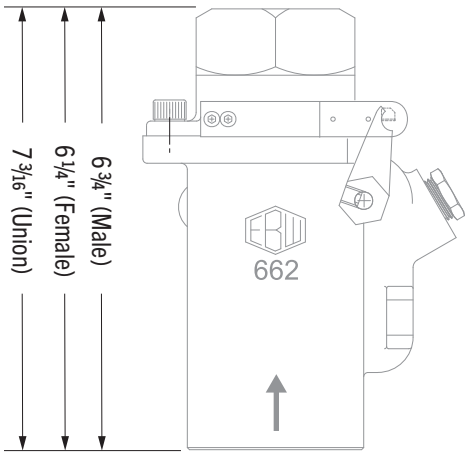
### Identifying 662-AGB models and adapters

- Normally-closed 662 models will have “NC” stamped on the top adapter.
- BSPT model 662 models will have “BSPT” stamped on the top adapter and body.

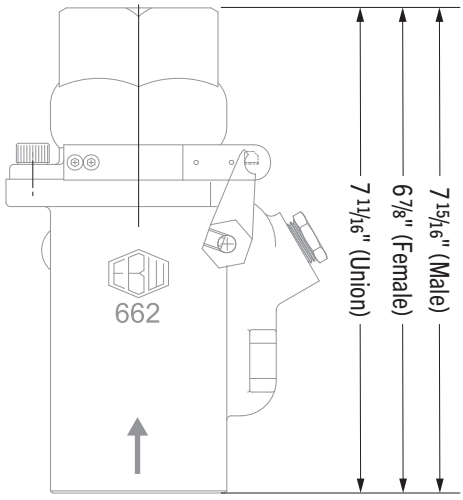



### DIMENSIONS




Single Poppet



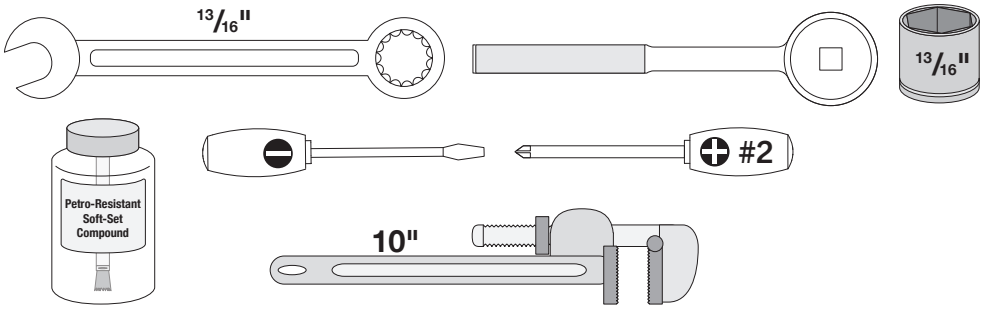

Double Poppet

# 3.2 Pre-Installation Inspection

**Upon Receipt of Item(s)**

- Verify all items are in accordance with the order.
- Check all items for damage.
- If any item shows damage or is not in accordance with the order, inform Franklin Electric *immediately*.
- Remove the packaging material.
    - Follow all local laws, rules and regulations regarding disposal of discarded parts, packaging material or items and any subsequent components.

# 3.3 Required Tools




# 3.4 Install Instructions

**NOTE**: The riser pipe going to the inlet end of the valve must be cut so that the shear section of the valve is level with the top of the island or at grade level +/– ½".

⚠ **WARNING**:

- The valve body must be rigidly anchored to a structural member within the island to ensure that the shear section breaks in the event of a severe impact. *Failure to provide a strong anchor may result in the valve not closing or, in the event of severe impact, the inlet pipe could break resulting in a hazardous condition.*
- The rigid outlet pipe *must be securely anchored to the dispenser frame at the lowest dispenser anchor bar/cross brace* ***prior to any directional fittings such as 90° or 45° fittings.***
- Only apply a UL classified, gasoline-resistant, soft-set pipe compound to the threads of the inlet and outlet pipe before attaching it to the valve. *DO NOT use PTFE pipe tape. PTFE tape may allow excess torque to be applied during installation, thereby causing the valve to crack.*
- Only use mating parts (inlet/outlet pipe; fittings), conforming to ANSI/ASME B1.20.1 (NPT) or ISO 7-1 (BSPT). *Failure to do so may result in a leaky connection and/or damage to the valve due to undersized/oversized mating parts.*

⚠ **CAUTION**: 662 Double Poppet emergency valves with normally OPEN poppeted adaptors ONLY (p/n 662-501 or 662-511).

**IMPORTANT**: Before installation, check to ensure the poppet in the upper adapter is in its OPEN position. *DO NOT install the valve if poppet in upper adapter is in its CLOSED position*.

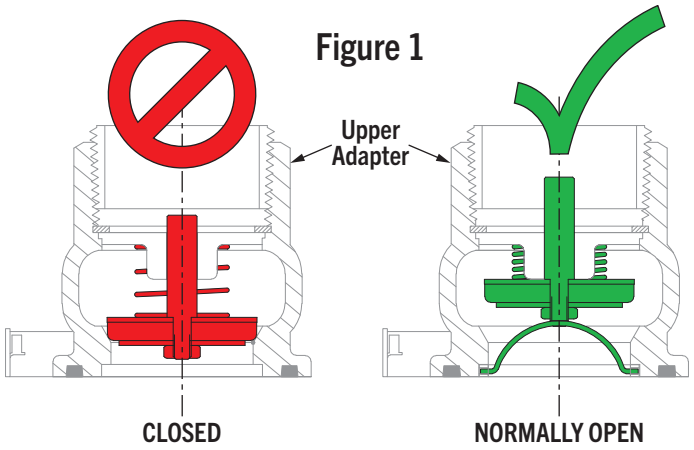



**Figure 1**

1. Remove Caplugs from the inlet and outlet, and any other packaging material.
2. Install the valve, threading hand tight so the arrow (indicating flow direction) points up (see Figure 2).

   **IMPORTANT**: There should be at least 3 5⁄16" of clearance from the center line of the inlet pipe during the installation of the valve to prevent damage to the fulcrum arm when the valve is tightened, and to prevent the valve from striking against the side of the pit as the valve closes. *If the lever hits the side of the pit, the valve may not close resulting in a hazardous condition (see Figure 2).*

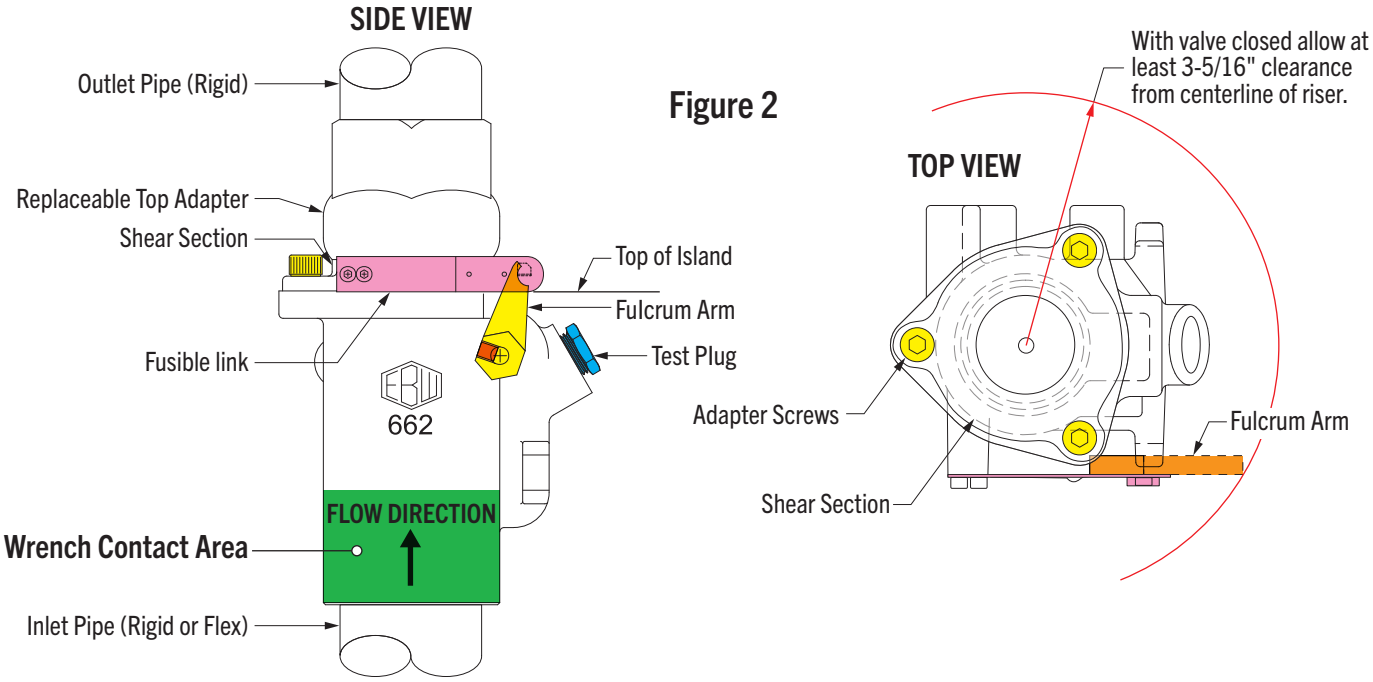



**Figure 2**

3. Finish tightening the valve by applying a wrench as shown in Figure 3, turning 1 to 3 turns past hand tight and then checking for leaks.

   **IMPORTANT**: DO NOT use a wrench on the valve above the shear section.

   ⚠ **WARNING**: DO NOT over-torque any of the connections, as this may damage the valve, resulting in improper operation.

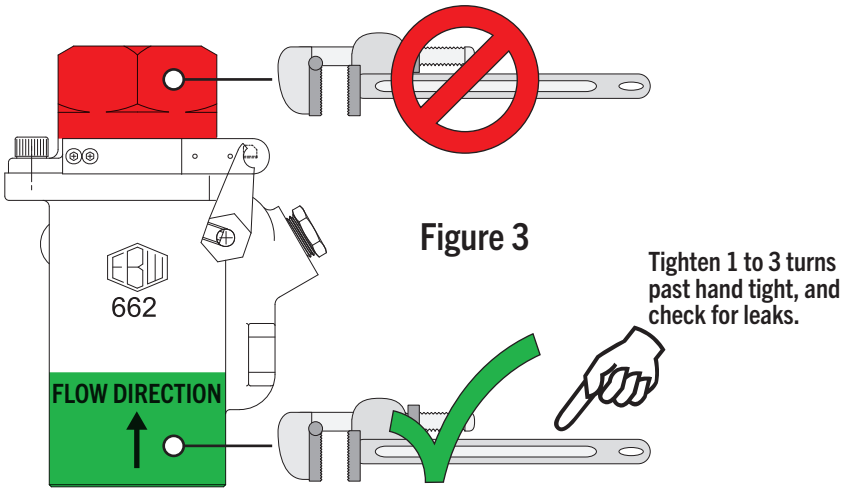


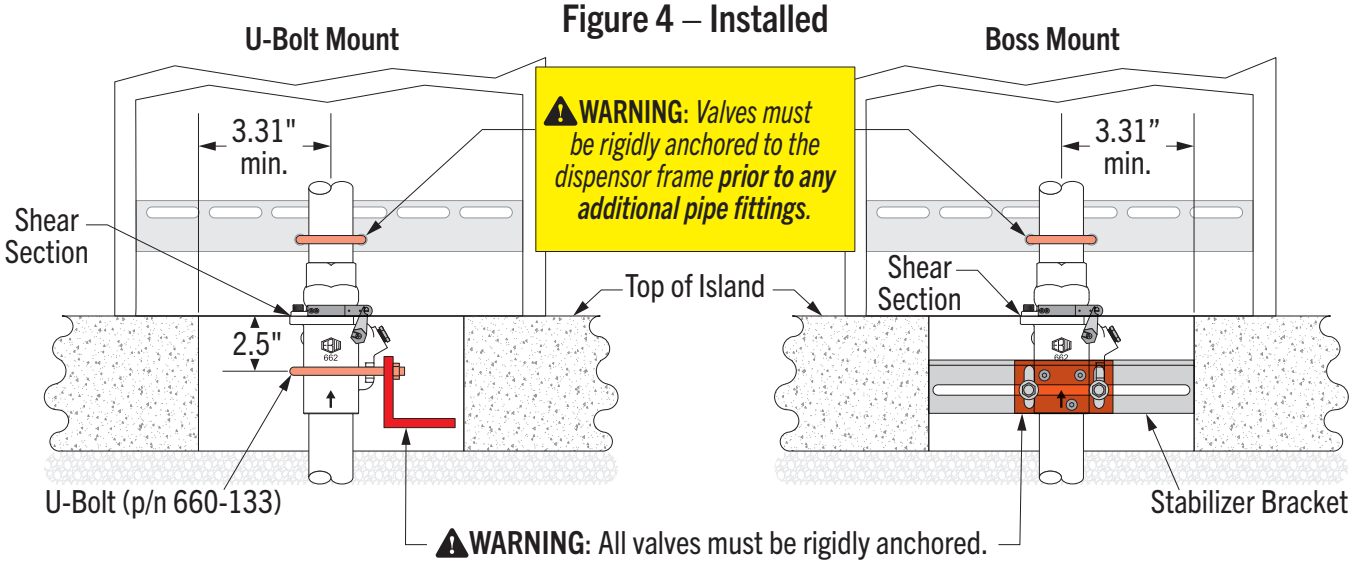

Figure 3

4. Properly align the dispenser inlet piping and the valve outlet piping.
5. Release valve linkage to the closed position to reduce the chance of distorting the linkage and the fulcrum arm.

   **IMPORTANT**: These valves are designed to shear off the top section when a bending moment is applied. *When tightening the adaptors, care should be taken to support the adaptors with a wrench so that the force applied is torque and not a bending moment.*

   ⚠ **CAUTION**: Flush away any liquid or soap residue remaining on the adaptor that may have accumulated during testing or installation. F*ailure to remove residue could compromise the performance of the valve.*

Figure 4 – Installed




**NOTE**: The riser pipe going to the inlet end of the valve must be cut so that the shear section of the valve is level with the top of the island or at grade level +/– ½".

# 4 Operation

**IMPORTANT**:

- Remove test plug using a 13⁄16" 6-point socket or combination wrench. *DO NOT use an adjustable crescent wrench. Be careful not to round off the corners of the test plug.*
- During Regular Operation – Do not apply more than 50 psi to a poppeted valve ***while it is closed****; applying more pressure may cause damage to the valve seat and disc. See NFPA 30A and PEI RP100 for details.*
- For Purposes of Testing – A pressure of up to 75 psi may be applied to a poppeted valve ***for the duration of the test.*** *Applying excess pressure may cause damage to the valve seat and disc. See NFPA 30A and PEI RP100 for details.*

## Closing the Valve Manually

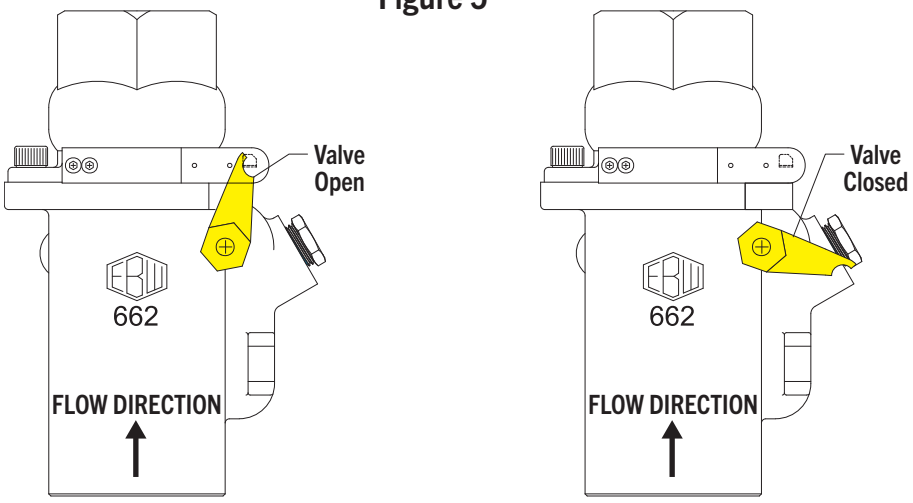
- Pull the outer end of the fusible link slightly outward to disengage the pin from the fulcrum arm.

## Opening the Valve

- Rotate the fulcrum arm counterclockwise and latch the pin into the fulcrum arm. *If it will not move, ensure the pressure has been relieved from the line.* ***DO NOT FORCE as the fulcrum arm should move freely.***

**NOTE**: DO NOT wrench or apply torque greater than 15 ft-lbs to the fulcrum arm or the valve may be damaged and would need replacement prior to the line being put back into service.

**Figure 5**




## Pressure Test Plug

- Each valve has been provided with a ⅜" NPT pipe plug for pressure testing the system. The tank must be isolated from the system and not subjected to piping system pressure.

# 5 Service and Maintenance

⚠ **WARNING**: The inlet or outlet piping MUST be grounded.

To ensure that the valve will function when called upon in an emergency, *the valve must be operated several times manually* ***at least once each year*** *because the accumulation of foreign material may impair function.*

### Damage Due to Impact or Fire

Should the valve be caused to close due to impact or heat, the valve should be inspected and tested to determine the extent of the damage. If the valve fails to seal, the entire valve must be replaced. In all cases of impact or fire, the adaptor top and seal ring should be replaced. The valve must be fully tested before returning it to service.

### Replacing the Top Adaptor

1. Close the valve manually and drain any product from the dispenser.
2. Remove the outlet piping, the damaged top adaptor (three socket head cap screws), and the square seal ring.
3. Assemble a new seal ring into a new adaptor (use white petroleum jelly to hold it in place) and reinstall the top adaptor on to the valve (three socket head cap screws) and tighten and leakproof it. After the valve has been installed, open the valve and engage the latch pin.
4. Fully test the valve before returning it to service.

# 6 Appendix

## 6.1 Certification

| Agency | Certification | Models Covered | Standards |
|---|---|---|---|
| UL | File MH 9253, 1:2 | All except 662-461 series. | UL 842, UL 842A, UL 842B, CAN/ULC S651:2016, |
| ATEX | II 1 G Ex h IIA T3 Ga<br>EN 13617-3 CLASS II<br>UL 23 ATEX 3087U | All except 662-461 series, and 662-502 series. | EN ISO 80079-36: 2016<br>EN ISO 80079-37: 2016<br>EN 13617-3: 2021 Class II |

## 6.2 Relevant Ignition Hazards

| Ignition Hazard | Mitigation |
|---|---|
| Electrostatic Discharge from Metal Body | Connection to grounded inlet and outlet piping |
| Electrostatic Discharge from Nonmetallic Components | Connection to grounded inlet and outlet piping |

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September 23, 2026