

# Butterball®

BB-SC SERIES AND "LEAD FREE"  
UPBBTSC SERIES



## FIRE SPRINKLER SYSTEM

SLO-CLOSE, INDICATING  
BUTTERFLY VALVES RATED  
FOR INDOOR & OUTDOOR AND  
POTABLE WATER SYSTEMS



*INNOVATION* IN EVERY VALVE



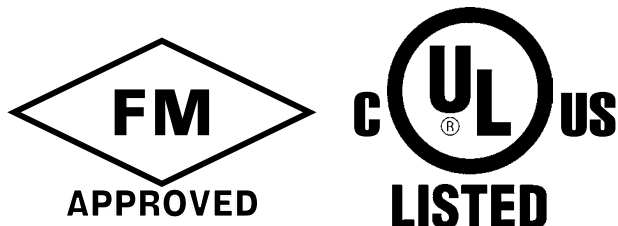
MILWAUKEE VALVE

REV. 10/18

# SPECIFICATIONS FOR SLO-CLOSE

## ALL PATENTED SLO-CLOSE BUTTERBALL VALVES...

- provide slow opening and closing properties in a quarter-turn valve. The purpose is to eliminate hydraulic shock and water hammer in fire protection and other liquid systems.
- are available with or without an internal, pre-wired supervisory tamper switch assembly. When mounted on any slo-close valve and wired, the switches signal movement of the valve disc from the full open position.
- are available factory mounted to a valve or as a kit for field installation on previously installed valves.
- have switch ratings of:  
10 Amps/115 VAC-60 Hz  
0.5 Amps/28 VDC
- are equipped with tamper switch assemblies FOR INDOOR AND OUTDOOR USE.
- have UL/FM ratings to 175 psi. (Also available at 350 psi with N.Y.C.B.S.A. approval.)



For use with fire protection sprinkler systems 175psi.

Approved by the New York City Board of Stds. & Appeals under Calendar No. 996-81 -SM, for 175 psi and Calendar number 720-83-SA for 350 psi.

## BUTTERBALL SLO-CLOSE INSTALLATION (BB-SC)

- The BBSC can be installed in any orientation in a piping system using standard National Pipe Threads. Wrench should be used to hex on the end of valve being threaded to pipe. Pipe sealants should be used sparingly.
- The valves with internal switches can be easily wired in the field. They will have two switches, switch-1 will have dual leads on the terminals. This switch is to be connected to the **supervisory** circuit of a Listed alarm control panel. Switch-2 will have single leads and may be connected to **auxiliary** equipment per direction of the local authority having jurisdiction. Cap any unused wire leads with wire nuts and tuck into junction box. All connections shall be reviewed and approved by the local authority having jurisdiction.
- A 14 gage green wire has been fastened to the interior of the housing and is to be used as a housing ground.
- Recommended type of wire to be used is No.16 Dual Rated UL 300V 80 C and 300V 105 C.
- Installation must be in compliance with NFPA 72 and 13, or bonded and grounded per Canadian Electrical Code Part 1.
- The BB-SC, BBHSC (threaded-end) and BBVSC, BVHSC (grooved-end) valves are intended for use with schedule 40 and/or 80 pipe, sizes 1", 1-1/4", 1-1/2", 2" and 2-1/2" per ASME/ANSI B36.10.

## INSTALLATION FOR NEW YORK CITY VALVES

N.Y.C. special valves have a large flow indicator which points in the direction of the valve disc, indicating open or closed. The valve should be installed in a position where the indicator is readily visible.

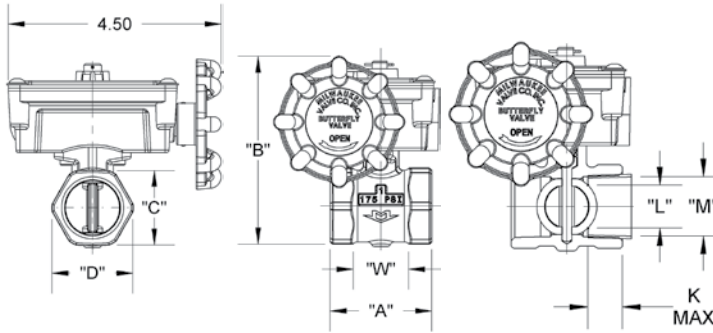
| MODEL    | DESCRIPTION       |                          |                     | SIZES                             |
|----------|-------------------|--------------------------|---------------------|-----------------------------------|
| BB-SC100 | Valve Less Switch | 175 psig - Threaded Ends | NYC BSA<br>Approved | 1", 1-1/4", 1-1/2",<br>2", 2-1/2" |
| BB-SCS02 | Valve With Switch |                          |                     |                                   |
| BBVSC100 | Valve Less Switch | 175 psig - Grooved Ends  | NYC BSA<br>Approved | 2", 2-1/2"                        |
| BBVSCS02 | Valve With Switch |                          |                     |                                   |
| BBHSC100 | Valve Less Switch | 350 psig - Threaded Ends | NYC BSA<br>Approved | 1", 1-1/4", 1-1/2",<br>2", 2-1/2" |
| BBHSCS02 | Valve With Switch |                          |                     |                                   |
| BVHSC100 | Valve Less Switch | 350 psig - Grooved Ends  | NYC BSA<br>Approved | 2", 2-1/2"                        |
| BVHSCS02 | Valve With Switch |                          |                     |                                   |

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 ⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

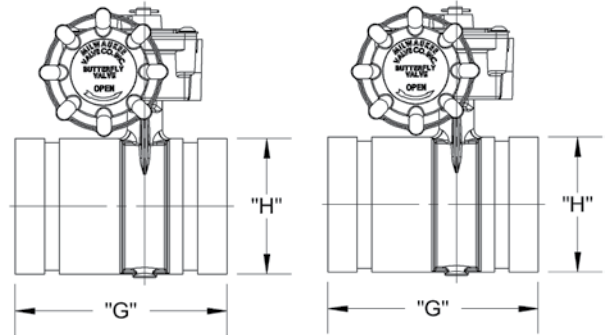


# Butterball® BUTTERFLY VALVES

## VALVE ASSEMBLY 175 PSI

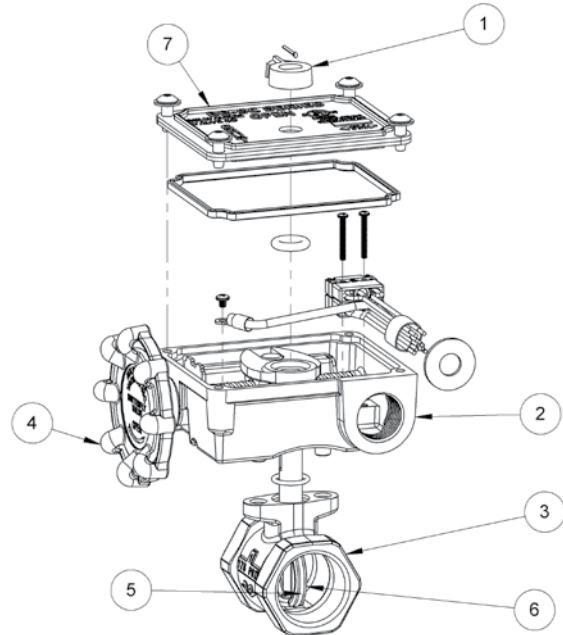
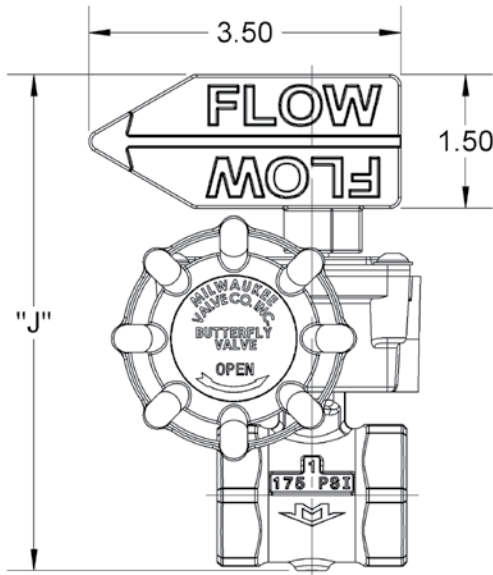


**BB-SC100 and BBSCS-02 (Threaded Ends)**  
**Sizes 1", 1-1/4", 1-1/2", 2", 2-1/2"**



**BBVSC100 and BBVSCS02 3 piece with Grooved Ends Size 2"**

**BBVSC100 and BBVSCS02 Uni-body with Grooved Ends Size 2-1/2"**



| ALL DIMENSIONS-INCHES |          |        |        |      |      |         |        |  |
|-----------------------|----------|--------|--------|------|------|---------|--------|--|
|                       | THREADED |        |        |      |      | GROOVED |        |  |
| SIZE                  | 1"       | 1-1/4" | 1-1/2" | 2"   | SIZE | 2"      | 2-1/2" |  |
| A                     | 2.13     | 2.63   | 2.88   | 3.25 | A    | -       | 4.13   |  |
| B                     | 3.94     | 4.28   | 4.50   | 5.00 | B    | 5.00    | 5.41   |  |
| C                     | 1.56     | 1.94   | 2.19   | 2.75 | C    | 2.75    | 3.19   |  |
| D                     | 1.72     | 2.11   | 2.38   | 3.06 | D    | 3.06    | 3.50   |  |
| J                     | 5.55     | 5.91   | 8.18   | 6.67 | E    | 0.63    | 0.31   |  |
| K                     | 0.66     | 0.73   | 0.73   | 0.79 | F    | 0.63    | 0.63   |  |
| L                     | 0.83     | 0.90   | 0.99   | 1.41 | G    | 6.00    | 4.50   |  |
| M-40                  | 1.05     | 1.38   | 1.61   | 2.07 | H    | 2.38    | 2.89   |  |
| M-80                  | 0.96     | 1.28   | 1.50   | 1.94 | J    | 6.13    | 6.25   |  |
| N-40                  | 2.25     | 2.00   | 2.50   | 2.25 | K    | 0.79    | 1.18   |  |
| W                     | 1.13     | 1.25   | 1.41   | 1.69 | L    | 1.41    | 1.29   |  |
|                       |          |        |        |      | M-40 | 2.07    | 2.47   |  |
|                       |          |        |        |      | M-80 | 1.94    | 2.32   |  |
|                       |          |        |        |      | N-40 | 2.25    | 10.00  |  |
|                       |          |        |        |      | W    | -       | 1.75   |  |

**M-40** ARE DIMENSIONS USING  
 SCHEDULE 40 PIPE

**M-80** ARE DIMENSIONS USING  
 SCHEDULE 80 PIPE

**N-40** IS FLOW RESISTANCE  
 EXPRESSED IN EQUIVALENT LENGTH OF  
 SCHEDULE 40 PIPE

**W** IS THE WRENCH MAKE-UP LENGTH

## MATERIAL LIST

| NO. | PART      | MATERIAL        | SPECIFICATION |
|-----|-----------|-----------------|---------------|
| 1   | Indicator | Sintered Iron   | F0008P        |
| 2   | Housing   | Bronze          | ASTM B584     |
| 3   | Body      | Bronze          | ASTM B584     |
| 4   | Handle    | Brass           |               |
| 5   | Disc      | Stainless Steel | Type 304      |
| 6   | Disc Seal | EPDM Elastomer  |               |
| 7   | Cover     | Bronze          | ASTM B584     |

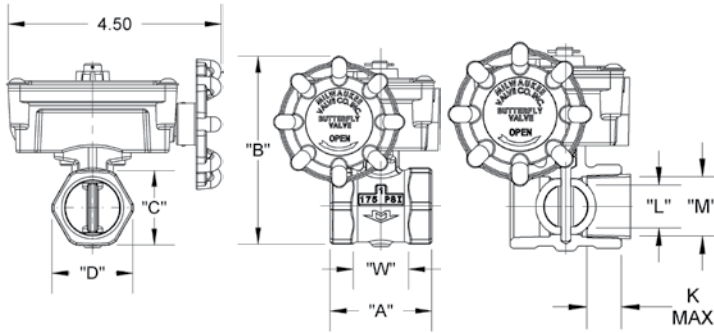
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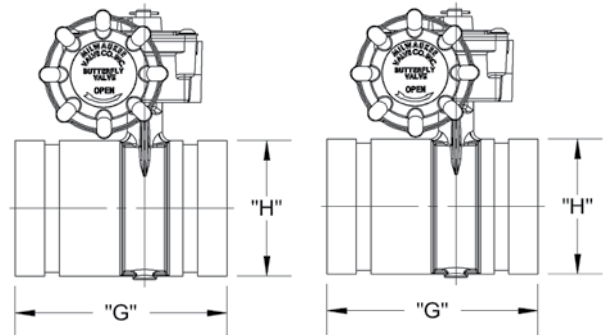


# Butterball® BUTTERFLY VALVES

## VALVE ASSEMBLY 350 PSI

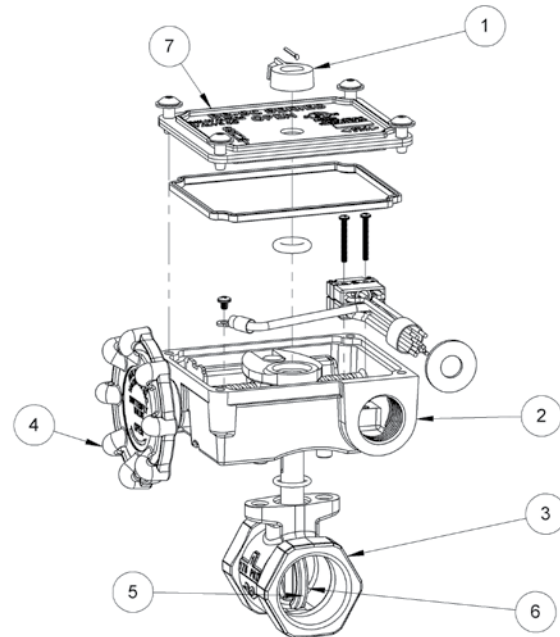
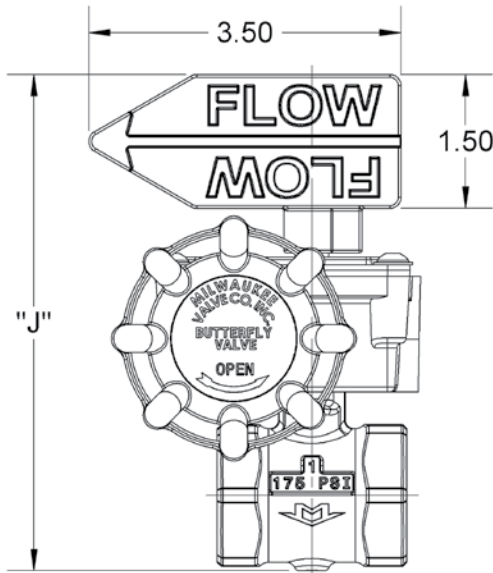


**BB-SC100 and BBSCS-02 (Threaded Ends)**  
**Sizes 1", 1-1/4", 1-1/2", 2", 2-1/2"**



**BBVHSC100 and BBVHS02 3 piece with Grooved Ends Size 2"**

**BBVHSC100 and BBVHS02 Uni-Body with Grooved Ends Size 2-1/2"**



| ALL DIMENSIONS-INCHES |          |        |        |      |      |         |        |  |
|-----------------------|----------|--------|--------|------|------|---------|--------|--|
|                       | THREADED |        |        |      |      | GROOVED |        |  |
| SIZE                  | 1"       | 1-1/4" | 1-1/2" | 2"   | SIZE | 2"      | 2-1/2" |  |
| A                     | 2.13     | 2.63   | 2.88   | 3.25 | A    | -       | 4.13   |  |
| B                     | 3.94     | 4.28   | 4.50   | 5.00 | B    | 5.00    | 5.41   |  |
| C                     | 1.56     | 1.94   | 2.19   | 2.75 | C    | 2.75    | 3.19   |  |
| D                     | 1.72     | 2.11   | 2.38   | 3.06 | D    | 3.06    | 3.50   |  |
| J                     | 5.55     | 5.91   | 8.18   | 6.67 | E    | 0.63    | 0.31   |  |
| K                     | 0.66     | 0.73   | 0.73   | 0.79 | F    | 0.63    | 0.63   |  |
| L                     | 0.83     | 0.90   | 0.99   | 1.41 | G    | 6.00    | 4.50   |  |
| M-40                  | 1.05     | 1.38   | 1.61   | 2.07 | H    | 2.38    | 2.89   |  |
| M-80                  | 0.96     | 1.28   | 1.50   | 1.94 | J    | 6.13    | 6.25   |  |
| N-40                  | 2.25     | 2.00   | 2.50   | 2.25 | K    | 0.79    | 1.18   |  |
| W                     | 1.13     | 1.25   | 1.41   | 1.69 | L    | 1.41    | 1.29   |  |
|                       |          |        |        |      | M-40 | 2.07    | 2.47   |  |
|                       |          |        |        |      | M-80 | 1.94    | 2.32   |  |
|                       |          |        |        |      | N-40 | 2.25    | 10.00  |  |
|                       |          |        |        |      | W    | -       | 1.75   |  |

**M-40** ARE DIMENSIONS USING SCHEDULE 40 PIPE  
**M-80** ARE DIMENSIONS USING SCHEDULE 80 PIPE  
**N-40** IS FLOW RESISTANCE EXPRESSED IN EQUIVALENT LENGTH OF SCHEDULE 40 PIPE  
**W** IS THE WRENCH MAKE-UP LENGTH

### MATERIAL LIST

| NO. | PART      | MATERIAL        | SPECIFICATION |
|-----|-----------|-----------------|---------------|
| 1   | Indicator | Sintered Iron   | F0008P        |
| 2   | Housing   | Bronze          | ASTM B584     |
| 3   | Body      | Bronze          | ASTM B584     |
| 4   | Handle    | Brass           |               |
| 5   | Disc      | Stainless Steel | Type 304      |
| 6   | Disc Seal | EPDM Elastomer  |               |
| 7   | Cover     | Bronze          | ASTM B584     |

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# UPBBTSCSCL/UPBBTSCS02L 1"-2"



Tested and Certified by  
APM 10000 to NSF/ANSI 372  
for lead-free compliance.



## MATERIAL LIST

| ITEM | PART      | MATERIAL          | ASTM SPEC |
|------|-----------|-------------------|-----------|
| 1    | Indicator | Sintered Iron     | F0008P    |
| 2    | Housing   | Bronze            | ASTM 584  |
| 3    | Body      | Bronze            | ASTM 584  |
| 4    | Handle    | Brass             |           |
| 5    | Disc      | Stainless Steel   | Type 304  |
| 6    | Disc Seal | EPDM              |           |
| 7    | Cover     | Die Cast Aluminum |           |

## ALL DIMENSIONS-INCHES

| SIZE | 1"   | 1-1/4" | 1-1/2" | 2"   |
|------|------|--------|--------|------|
| A    | 2.13 | 2.63   | 2.88   | 3.25 |
| B    | 3.94 | 4.28   | 4.5    | 5    |
| C    | 1.56 | 1.94   | 2.19   | 2.75 |
| D    | 1.72 | 2.11   | 2.38   | 3.07 |
| K    | 0.66 | 0.73   | 0.73   | 0.79 |
| L    | 0.83 | 0.9    | 0.1    | 1.41 |
| M-40 | 1.1  | 1.38   | 1.61   | 2.07 |
| M-80 | 0.96 | 1.28   | 1.5    | 1.94 |
| N-40 | 2.25 | 2      | 2.5    | 2.25 |
| W    | 1.13 | 1.25   | 1.41   | 1.69 |

**M-40** ARE DIMENSIONS USING  
SCHEDULE 40 PIPE

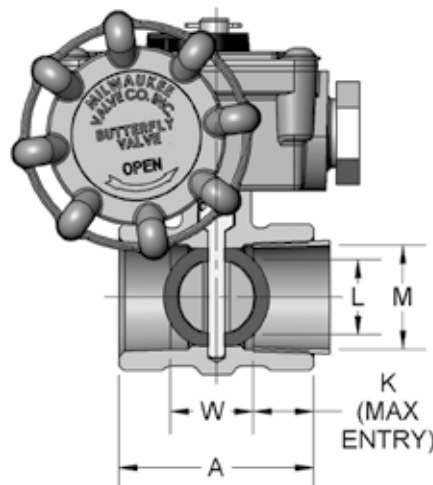
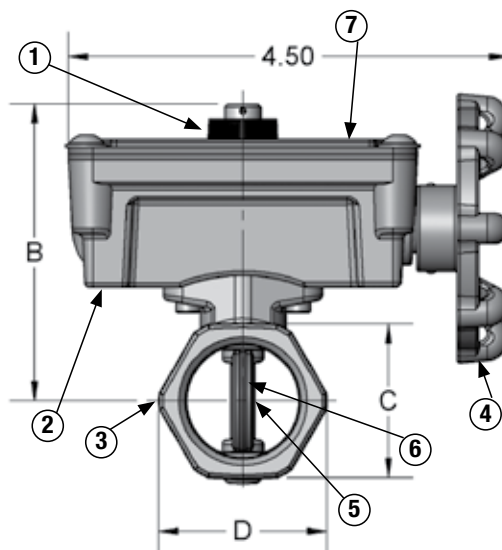
**M-80** ARE DIMENSIONS USING  
SCHEDULE 80 PIPE

**N-40** IS FLOW RESISTANCE  
EXPRESSED IN EQUIVALENT LENGTH OF  
SCHEDULE 40 PIPE

**W** IS THE WRENCH MAKE-UP LENGTH

## FEATURES

- Slow opening and closing
- Quarter turn operation
- Water Hammer elimination
- Optional internal tamper switch  
(Indoor/Outdoor use).
  - Signals disc movement
  - Factory or Field installation
  - 10 Amp / 115 VAC-60 Hz
  - 0.5 Amp / 28 VDC



**UPBBTSCSCL**  
**SIZES 1", 1-1/4", 1-1/2", 2"**

**UPBBTSCS02L**  
**(INCLUDES SWITCH)**  
**SIZES 1", 1-1/4", 1-1/2", 2"**

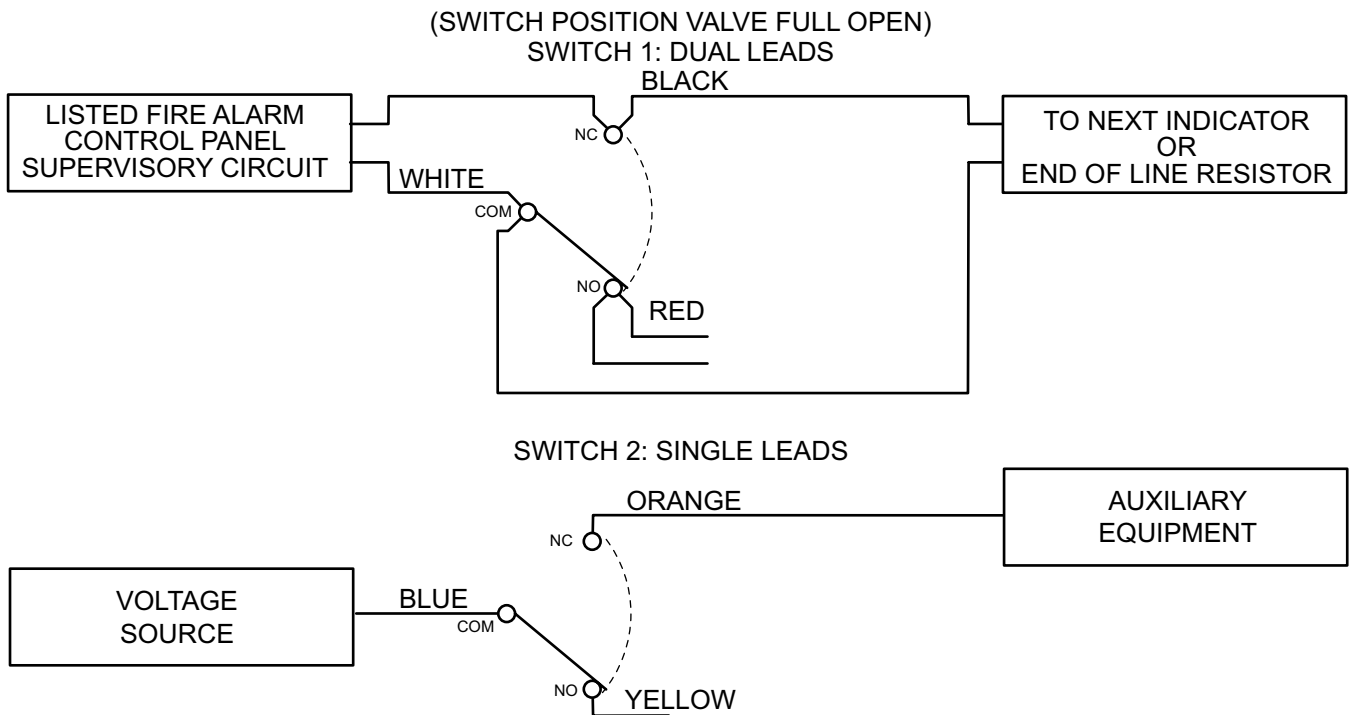
**Note:** Lead free refers to the wetted surface of the pipe, fittings and fixtures in potable water systems that have a weighted average lead content  $\leq 0.25\%$ . Source: California Health and Safety Code (116875).

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## WIRING DIAGRAM



Green Lead provided is ground for switch housing

Switch Rating: 10 AMP/115 VAC  
.5 AMP/28 VDC

Cap unused leads with wire nuts and tuck inside junction box (not provided)

NOTE: Valves incorporating supervisory tamper switches are for **indoor and outdoor use.**

