

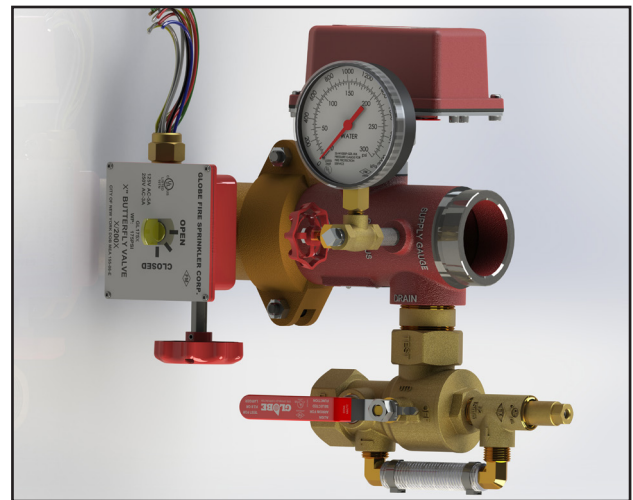
## MODEL UM UNIVERSAL MANIFOLD ASSEMBLY

(With or Without Control Valve)

1¼", 1½", 2", 2½", 76.1mm, 3", 4", 6", 165.1mm, 8"

### GENERAL DESCRIPTION

The Globe Series "UM" Universal Manifold is a Listed/Approved manifold assembly incorporating a flow switch, test & drain valve, system pressure gauge, and pressure relief valve. The UM may be ordered with or without an attached butterfly control valve. The UM is rated for a maximum working pressure of 300 psi (20.6 bar). It has been engineered to incorporate the above mentioned components in a compact envelope. The Test and Drain Valve contains a test orifice of K2.8 so that it may be utilized for flow testing any system with sprinklers having K-Factors of 2.8 or larger. The UM is available in a variety of sizes and end connections to allow for cost effectiveness and ease of connections to check valves, control valves, and piping. For sizes 3" and smaller, an 18" long stainless steel braided flexible hose is included with the UM for connecting the Test and Drain valve to a drain stack. The UM may be installed in the vertical (with flow upward) or horizontal orientation



**MODEL UM  
UNIVERSAL MANIFOLD ASSEMBLY**

### FLOOR CONTROL ASSEMBLY

The UM may be utilized to meet the NFPA 13 requirements for Floor Control Valve Assemblies where there are multi-story buildings exceeding two stories in height requiring zoning by floor or whenever separate control and floor zoning is specified. The UM has been engineered with space savings in mind for those commonly installed applications in stairwell landings and small alcoves. All UM assemblies include the NFPA 13 required Listed Pressure Relief Valve which is pre-piped to drain. The relief valve is preset for 175 psi and is adjustable to 310 psi for high pressure system conditions. In addition to the relief valve, the UM is equipped with a Test and Drain Valve. The Test and Drain Valve contains a test orifice of K2.8 so that it may be utilized for flow testing any system with sprinklers having K-Factors of 2.8 or larger.

*Note: NFPA 13 requires that a test connection providing a flow rate equal to or less than one sprinkler of a type having the smallest orifice on the system is to be provided.*

### TECHNICAL DATA

#### Approvals

- cULus
- FM

#### Maximum System Working Pressure

- 300 psi (20.6 bar)

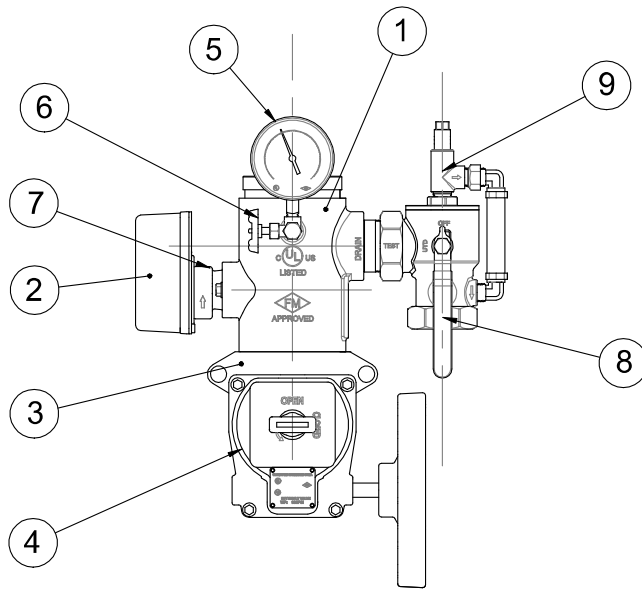
#### End Connections

- See Table A

#### Materials of Construction

- See Figure 1

**\*Multiple Patents Pending**



ITEM NO.	DESCRIPTION	MATERIAL
1	UMC VALVE BODY	DUCTILE IRON
2	FLOW SWITCH	SEE FLOW SWITCH TECHNICAL LITERATURE
3	RIGID COUPLING	SEE COUPLING TECHNICAL LITERATURE
4	BUTTERFLY CONTROL VALVE	SEE BUTTERFLY CONTROL VALVE TECHNICAL LITERATURE
5	PRESSURE GAUGE	PLASTIC
6	THREE-WAY (SOG) VALVE	BRONZE
7	FLOW SWITCH ADAPTER	DUCTILE IRON
8	MODEL UTD TEST AND DRAIN	SEE GLOBE TECHNICAL DATA SHEET GFV-570
9	MODEL ARV ADJUSTABLE RELIEF VALVE	SEE GLOBE TECHNICAL DATA SHEET GFV-575

NOTE:

- 4" (DN100) shown as reference (smaller size configurations vary)
- See ordering procedure for replacement part kits and Table A for part numbers for all sizes and configurations

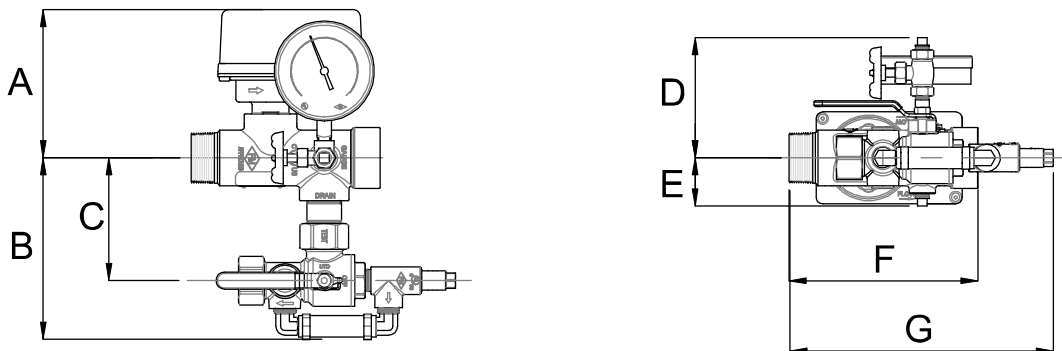
**FIGURE 1: MODEL UM ASSEMBLY MATERIALS OF CONSTRUCTION**

**TABLE A. MODEL UM ASSEMBLY CONFIGURATIONS**

SIZE	CONTROL VALVE	UM BODY END CONNECTIONS	MODEL UTD TEST AND DRAIN SIZE	PART NUMBER	APPROXIMATE SHIPPING WEIGHTS LBS. (kg)
1 1/4"	NONE	G x G	1"	317701-A-H	14.8 (6.7)
1 1/4"	GL300T	M x F THREADED	1"	317702-A-B-H	18.6 (8.4)
1 1/4"	NONE	M x F THREADED	1"	317702-A-H	14.8 (6.7)
1 1/2"	GL300T	M x F THREADED	1"	317710-A-B-H	19 (8.6)
1 1/2"	NONE	M x F THREADED	1"	317710-A-H	14.8 (6.7)
1 1/2"	NONE	G x G	1"	317709-A-H	14.8 (6.7)
2"	GL300T	M x F THREADED	1"	317718-A-B-H	20.5 (9.3)
2"	NONE	M x F THREADED	1"	317718-A-H	15.4 (7.0)
2"	GL300G	G x G	1"	317716-A-B-H	21.5 (9.8)
2"	NONE	G x G	1"	317716-A-H	14.6 (6.6)
2 1/2"	GL300G	G x G	1 1/4"	317720-A-B-H	25.5 (11.6)
2 1/2"	NONE	G x G	1 1/4"	317720-A-H	18.4 (8.3)
76.1 mm	GLR300G	G x G	1 1/4"	317720-D-A-B-H	25.5 (11.6)
76.1 mm	NONE	G x G	1 1/4"	317720-D-A-H	19.4 (8.8)
3"	GLR300G	G x G	1 1/4"	317725-A-B-H	43.5 (19.7)
3"	NONE	G x G	1 1/4"	317725-A-H	19.9 (9.0)
4"	GLR300G	G x G	2"	317730-A-B	61.0 (27.7)
4"	NONE	G x G	2"	317730-A	32.4 (14.7)
6"	GLR300G	G x G	2"	317735-A-B	89.0 (40.4)
6"	NONE	G x G	2"	317735-A	44.5 (20.2)
165.1 mm	GLR300G	G x G	2"	317735-D-A-B	89.0 (40.4)
165.1 mm	NONE	G x G	2"	317735-D-A	44.5 (20.2)
8"	GLR300G	G x G	2"	317740-A-B	119.0 (54.0)
8"	NONE	G x G	2"	317740-A	65.0 (29.5)

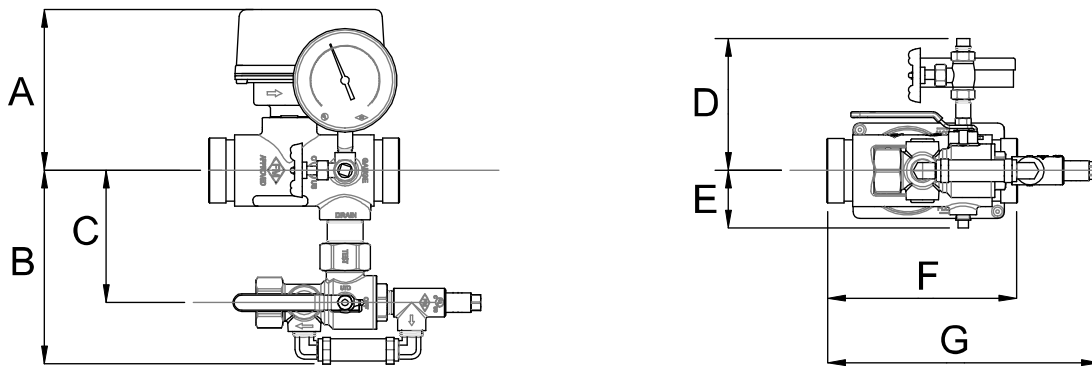
**TABLE B. MODEL UM AND BUTTERFLY VALVE END TO END DIMENSIONS**

Size	End to End Dimension <u>Without</u> Butterfly Control Valve	End to End Dimension <u>With</u> Globe Butterfly Control Valve	Globe Butterfly Control Valve End to End Dimension
1 1/4" MT x FT	7" (178)	9.3" (236)	2.6" (67)
1 1/4" G x G	7" (178)	N/A	N/A
1 1/2" MT x FT	7" (178)	9.6" (244)	2.87" (73)
1 1/2" G x G	7" (178)	N/A	N/A
2" MT x FT	7" (178)	9.6" (244)	3.24" (82.4)
2" G x G	7" (178)	11.5" (292)	4.5" (114)
2 1/2" G x G	7" (178)	11.5" (292)	4.5" (114)
76.1mm G x G	7" (178)	11.5" (292)	4.5" (114)
3" G x G	7" (178)	10.8" (274)	3.8" (96.4)
4" G x G	9" (229)	13.5" (343)	4.5" (114)
6" G x G	9" (229)	14.2" (361)	5.2" (132.4)
165.1 mm G x G	9" (229)	14.2" (361)	5.2" (132.4)
8" G x G	12" (305)	18" (457)	5.8" (147)



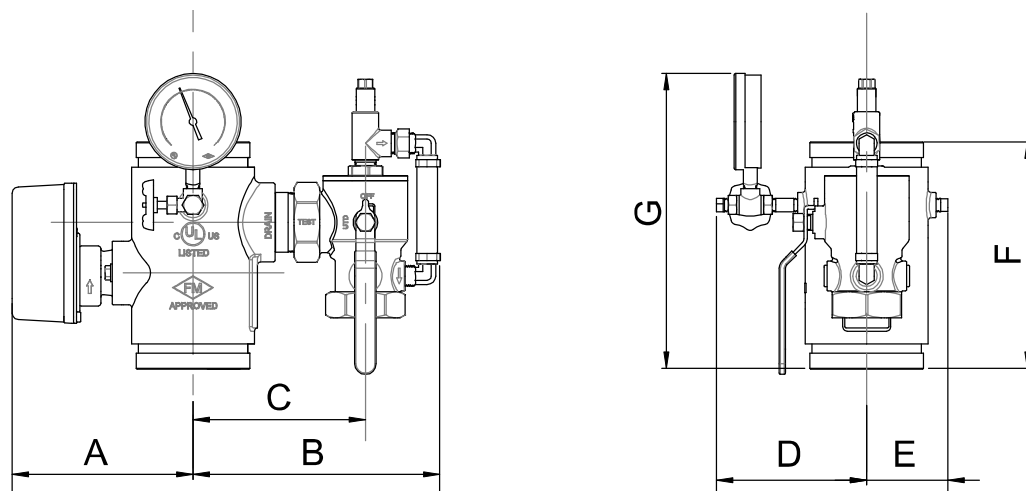
SIZE	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	F in. (mm)	G in. (mm)
1 1/4" MTxFT	6" (152)	7" (178)	5" (127)	5" (127)	2" (51)	7" (178)	10" (254)
1 1/2" MTxFT	6" (152)	7" (178)	5" (127)	5" (127)	2" (51)	7" (178)	10" (254)
2" MTxFT	6" (152)	7" (178)	5" (127)	5" (127)	2" (51)	7" (178)	10" (254)

**FIGURE 2: THREADED MODEL UM ASSEMBLY WITHOUT BFV DIMENSIONAL DRAWING FOR SIZES 1 1/4" TO 2"**



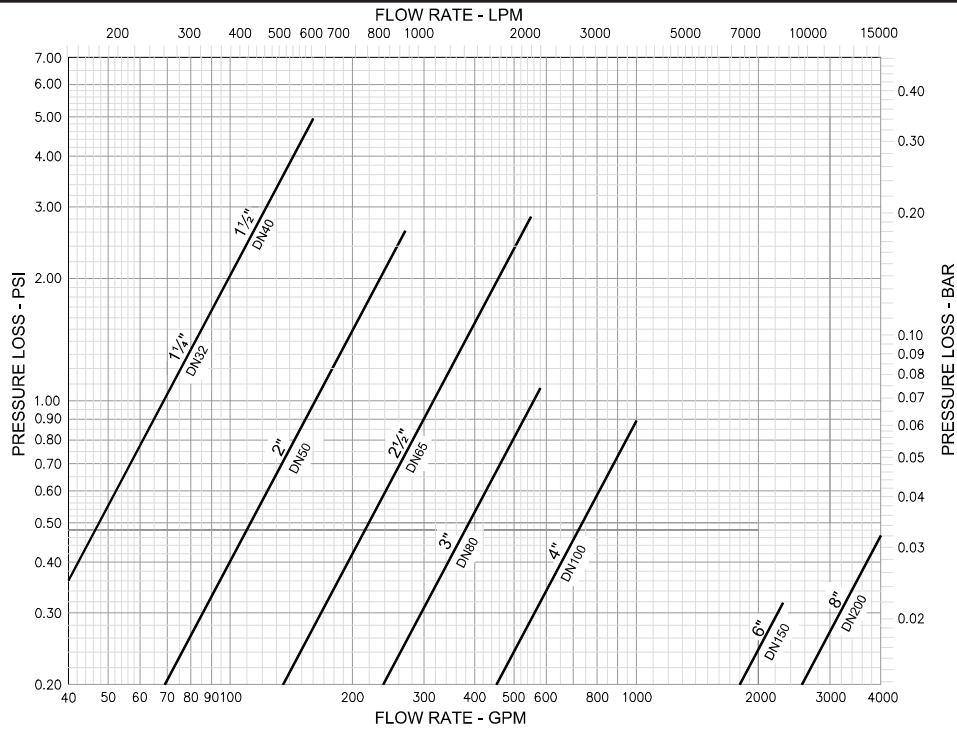
SIZE	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	F in. (mm)	G in. (mm)
1 1/4"	6" (152.4)	7" (178)	5" (127)	4.5" (114)	1.7" (43.2)	7" (178)	10" (254)
1 1/2"	6" (152.4)	7" (178)	5" (127)	5" (127)	2" (51)	7" (178)	10" (254)
2"	6" (152.4)	7" (178)	5" (127)	5" (127)	2" (51)	7" (178)	10" (254)
2 1/2" 76.1 mm	6" (152.4)	7.6" (193)	5" (127)	5" (127)	2" (51)	7" (178)	10" (254)
3"	6.5" (165)	8" (203)	5.4" (137)	5" (127)	3" (76.2)	7" (178)	10" (254)

**FIGURE 3: GROOVED MODEL UM ASSEMBLY WITHOUT BFV DIMENSIONAL DRAWING FOR SIZES 1 1/4" TO 3"**



SIZE	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	F in. (mm)	G in. (mm)
4"	7" (177)	10" (254)	7" (178)	6" (152)	3" (76.2)	9" (228.6)	12" (305)
6" 165.1 mm	8" (203)	11" (279)	8" (203)	7" (178)	4" (101.6)	9" (228.6)	12" (305)
8"	9" (228.6)	12" (305)	9" (228.6)	8" (203)	5" (127)	12" (305)	13.7" (348)

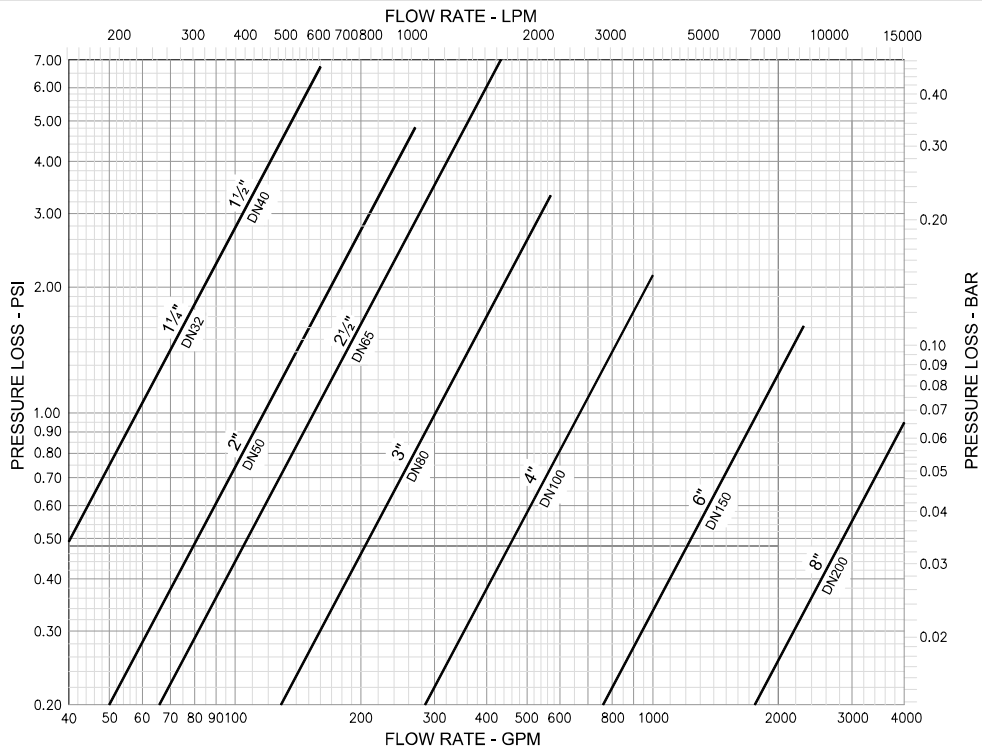
**FIGURE 4: GROOVED MODEL UM ASSEMBLY WITHOUT BFV DIMENSIONAL DRAWING FOR SIZES 4" TO 8"**



**UM Equivalent Length of Piping for Friction Losses Through Schedule 40 Pipe**

- 1 1/4" = 6 feet
- 1 1/2" = 6 feet
- 2" = 4 feet
- 2 1/2" = 3 feet
- 3" = 3 feet
- 4" = 4 feet
- 6" = 2 feet
- 8" = 4 feet

**FIGURE 5: MODEL UM MANIFOLD ONLY FRICTION LOSS CURVES - 1 1/4" TO 8"**



**UM Equivalent Length of Piping for Friction Losses Through Schedule 40 Pipe**

- 1 1/4" = 9 feet
- 1 1/2" = 9 feet
- 2" = 8 feet
- 2 1/2" = 11 feet
- 3" = 9 feet
- 4" = 8 feet
- 6" = 9 feet
- 8" = 8 feet

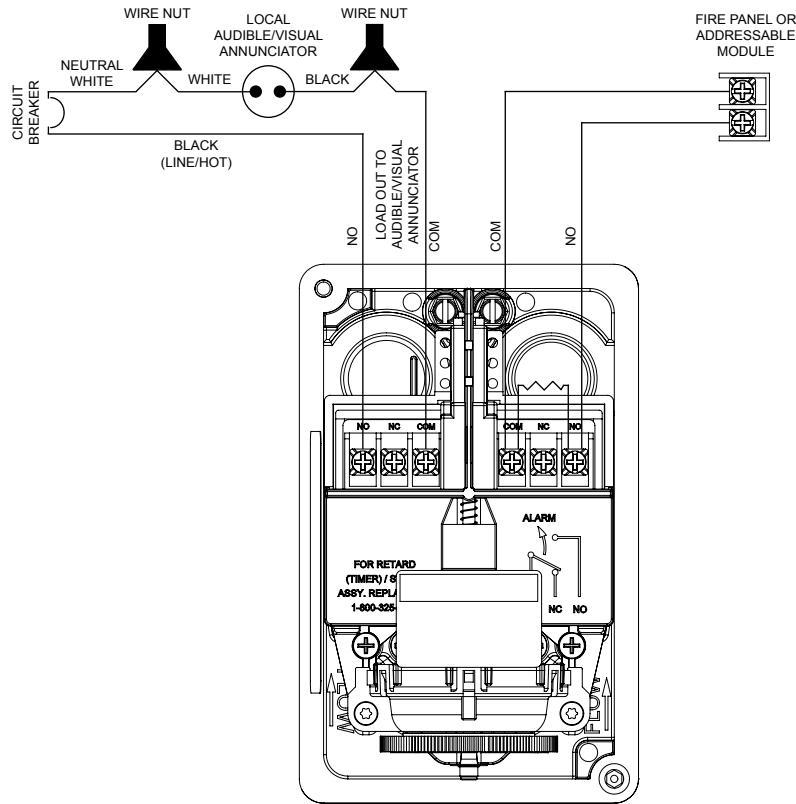
**FIGURE 6: MODEL UM AND GLOBE BVF ASSEMBLY FRICTION LOSS CURVES 1 1/4" TO 8"**

# FLOW SWITCH REQUIREMENTS

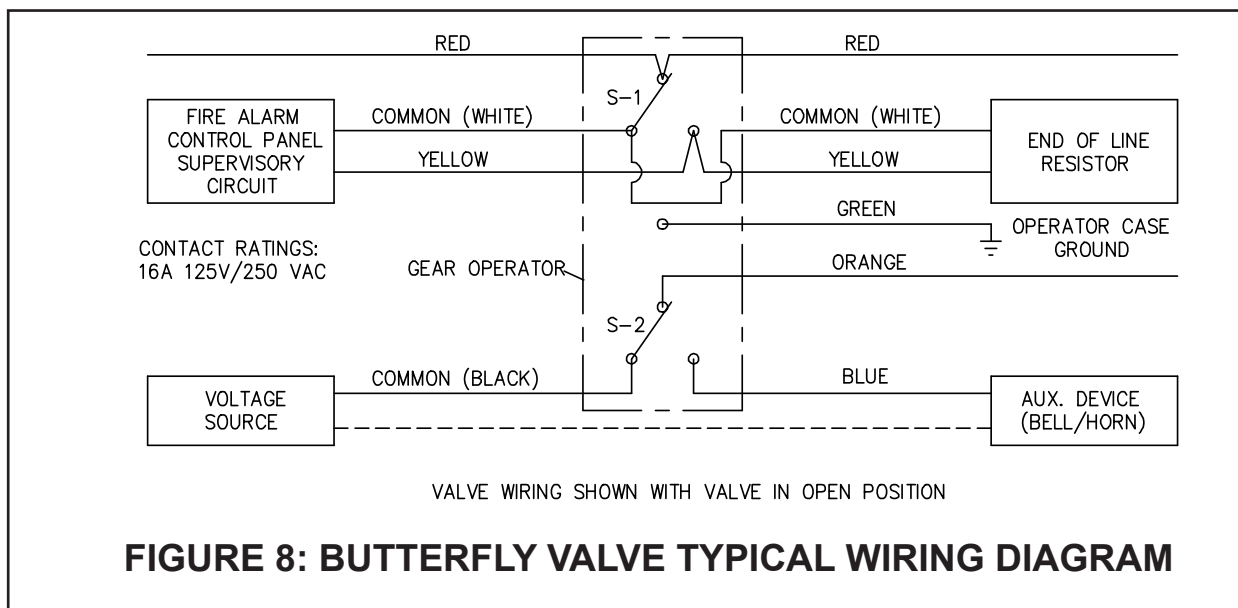
The Model UM Floor Control assembly is sold inclusive of a Potter VSR-S (size 1¼") and VSR-M (sizes 1½" through 6") flow switch. The VSR-M flow switch utilizes exactly the same electrical and switch components as the Potter VSR-S flow switch but includes an adapter which attaches directly to the Model UM Manifold assembly. This adapter has been tested as part of the UM assembly to ensure the hydrostatic strength as well as the placement and sensitivity of the paddle is within the criteria set forth by UL and FM.

The part number for the flow switch assembly can be found in the replacement parts section of the technical literature. The Potter VSR-S and VSR-M Flow switch includes 2 sets of switches, one set can be used to activate the central fire alarm system while the other set can be utilized to activate a local alarm (if necessary). See figure 7 for a typical wiring diagram for the Model VSR-S and VSR-M Flow switch.

*Note: For more information on the flow switch see [www.pottersignal.com](http://www.pottersignal.com).*



**FIGURE 7: MODEL VSR-M FLOW SWITCH TYPICAL WIRING DIAGRAM**



**FIGURE 8: BUTTERFLY VALVE TYPICAL WIRING DIAGRAM**

# INSTALLATION

The Model UM must be installed in an accessible and visible location, which is maintained at or above a minimum temperature of 40°F (4°C). The UM may be installed in the horizontal or vertical (flow upward) orientation.

All valves must be installed in accordance with the appropriate installation standard (i.e. NFPA 13 or other). All electrical connections must be made per the applicable installation standard and/or the National Electric Code (i.e. NFPA 70, NFPA 72 or other).

Proper hydrostatic test procedure must be followed per NFPA 13.

**Note: It is not necessary to remove the ARV Relief Valve prior to system hydrostatic test. The Adjustable ARV may simply be temporarily adjusted to a pressure above the test pressure during the hydrostatic test. Be sure to return the ARV Relief Valve to its normal setting after the completion of the hydrostatic test.**

## MODEL ARV RELIEF VALVE SETTING PROCEDURE

The Globe 1/2 inch Model ARV, 300 psi Adjustable Pressure Relief Valve, is factory set to relieve at a pressure of approximately 175 psi (12 bar).

The Pressure Relief Valve may be reset to a higher pressure; however, it must be reset to relieve at a pressure which is in accordance with the requirements of the authority having jurisdiction, typically nominal 10 psi (.7 bar) above the expected normal system pressure.

To reset the Model ARV pressure relief valve, use an adjustable crescent wrench, to turn the hex cap clockwise for a higher pressure setting or counter-clockwise for a lower pressure setting. Use the calibrated lines on the stem for an approximate relief pressure setting. 1 full turn of the hex cap will result in approximately 25 psi increase or decrease.

To verify the new setting, isolate the Model ARV relief valve and use a small hydrostatic pump attached to the supply. Increase the pressure at the relief valve to 10 psi above the expected normal system pressure. Readjust the ARV as needed to maintain a 10 psi higher relief setting.

## TESTING

Reference NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems.

Before proceeding with any tests involving water flow, the following precautions need to be taken:

- STEP 1.** Check the location where the test connection discharges to make sure that all is clear and that there is no possibility of the water flow causing damage or injury.
- STEP 2.** Check the end of the test connection to make sure that it is unobstructed. To achieve a satisfactory test, there must be an unrestricted flow of water when the test valve is wide open.

- STEP 3.** Check for alarm connections to a central station or fire department. If such connections are found, give proper notice to the signal receiving station before proceeding with the test.

*Note: A main drain test may also operate local fire alarms unless they are temporarily disabled.*

## MAINTENANCE

The owner is responsible for the Inspection, Testing and Maintenance of their fire protection system.

System inspection, testing and maintenance shall be performed in accordance with this section as well as NFPA 25 or other applicable Standard to insure the integrity of the entire system, including alarm functions as well as other system components. Any impairments must be immediately corrected.

Before closing a system main control valve for maintenance work on the fire protection system, obtain permission to shut down the affected fire protection system from the proper authorities and notify all personnel who may be affected.

It is important to ensure a clean water supply free of debris and solid particles such as sand, gravel, or mud.

If, during an inspection of a water control valve, sediment or free particles of matter are noted, a further examination of internal valve parts is necessary.

All deposits should be removed from all operating parts and ports.

Where difficulty in performance is experienced, the manufacturer or its authorized representative shall be contacted before any field adjustment is to be made.

**Water Flow Switch (VSR-M).** There is no maintenance required, only periodic testing and inspection. Should switch be found to be malfunctioning, refer to Potter Signal Technical Literature Brochure 5401580 for guidance.

**Model ARV Adjustable Relief Valve.** Valve is not field serviceable. If inadvertent leakage is observed, first test the pressure setting utilizing the procedure outlined in the ARV Relief Valve Setting Procedure. If valve does not respond to field adjustments, valve shall be replaced.

*Note:*

*Visual calibration lines on valve are used for approximate adjustment. Verify pressure setting with pressure gauge.*

**Model UTD Universal Test & Drain Valve:** The Globe Model UTD Universal Test and Drain Valve does not require any regularly scheduled maintenance. The UTD is not field serviceable. Model ARV Care and Maintenance



# ORDERING INFORMATION

## MODEL UM UNIVERSAL MANIFOLD ASSEMBLY

Specify: MODEL UM MANIFOLD ASSEMBLY,

SIZE (1¼", 1½", 2", 2½", 76.1 mm, 3", 4", 6", 165.1 mm, 8")

PN (see Part Numbers in Table A)

# REPLACEMENT PARTS

## MODEL UM UNIVERSAL MANIFOLD REPLACEMENT PARTS/KITS

### VSR-S FLOW SWITCH with ADAPTER

SIZE	PART NUMBER
1 1/4" .....	322385

### VSR-M FLOW SWITCH with ADAPTER

SIZE	PART NUMBER
1 1/2" .....	91144815-A
2" .....	91144802-A
2 1/2" .....	91144825-A
3" .....	91144803-A
4" .....	91144804-A
6" .....	91144806-A
8" .....	91144808-A

## MODEL UTD TEST AND DRAIN

(SEE GFV-570 for more information)

Specify: MODEL UTD TEST AND DRAIN WITH RELIEF VALVE, SIZE (1", 1 1/4", or 2") PN:

SIZE	PART NUMBER
1" (DN25) .....	311729
1 1/4"(DN32) .....	311730
2" (DN50) .....	311731

Specify: MODEL UTD TEST AND DRAIN, SIZE (1", 1 1/4", or 2") PN:

SIZE	PART NUMBER
1" (DN25) .....	311704
1 1/4"(DN32) .....	312368
2" (DN50) .....	311708

Note:

"DN" (Diametre Nominele) represents the Metric Equivalent of NPS (Nominal Pipe Size)

## MODEL ARV RELIEF VALVE

(SEE GFV-575 for more information)

Specify: MODEL ARV 1/2" ADJ RELIEF VALVE

PN..... 317900

## PRESSURE GAUGE

Specify: 300PSI WATER PRESSURE GAUGE

PN..... 300121-D

Note:

300 psi (20.6 bar) Pressure Gauges Standard

(600 psi (41.2 bar) Ordered Separately

## GLOBE® PRODUCT WARRANTY

Globe agrees to repair or replace any of its manufactured products found to be defective in material or workmanship for a period of one year from date of shipment.

For specific details of our warranty please refer to Price List Terms and Conditions of Sale (Our Price List).

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