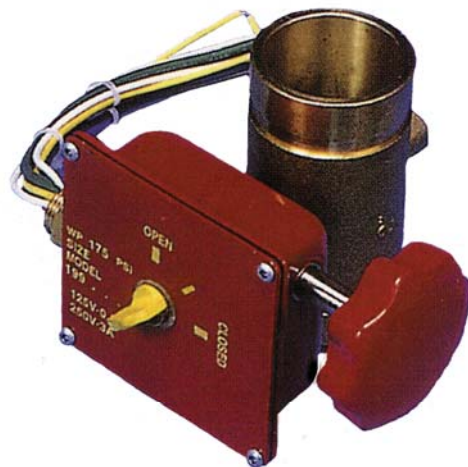
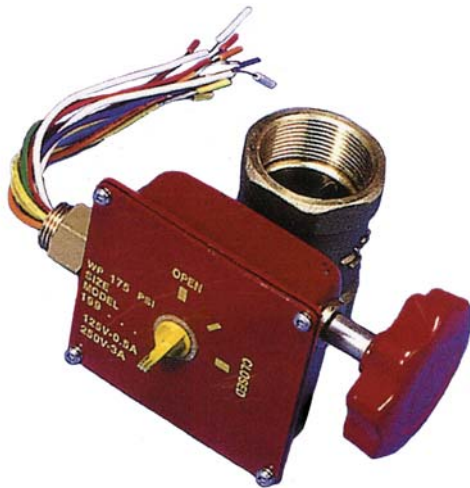


# **GLOBE**

**FIRE SPRINKLER CORPORATION**

## **Butterfly Valves**



4077 AIRPARK DRIVE • STANDISH, MICHIGAN 48658  
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# GLOBE BUTTERFLY VALVE INSTALLATION AND MAINTENANCE GUIDE

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# GLOBE BUTTERFLY VALVE INSTALLATION AND MAINTENANCE GUIDE

## Design Requirements

The Globe grooved butterfly valve should be connected to the piping system with approved couplings or flange adapters. Flow may be from either direction, and the valve may be positioned in any direction.

Globe butterfly valves have been designed with a slow close hand wheel operator, which effectively minimizes water hammer. These valves feature minimum flow restriction and pressure loss when in the fully open position.

## Installation

When the valves are received from the manufacturer they should be handled carefully to avoid breakage and damage to the seating area. Before installation of the valve, clean piping, flange and coupling. When the valve closes hard, it is usually due to debris lodged in the sealing area. Often this may be corrected by backing off the hand wheel and closing again.

The valve should never be forced to seat by applying a wrench to the hand wheel as this may distort the valve components or score the sealing surface. The use of excessive force to open or close the valve violates all warranties whether express or implied.

The inlet and outlet pipe adjacent to the valve should be properly supported to prevent excessive stress on the valve body. The valves should not be used to force a pipeline into position as this may result in distortion of the valve body.

Conduit and electrical connections to the optional tamper switch must be in accordance with National Electrical Code (NFPA 72) and requirements of the local authority having jurisdiction.

## Care and Maintenance

Globe butterfly valves require no regular maintenance, however, it is advisable to inspect and verify proper operation of the unit annually or in accordance with the authority having jurisdiction.

The inspection should include a visual check for leakage at the valve pipe connection and body to operator connection. Inspection and maintenance should be performed by a qualified inspection service.

## Switch Installation

Globe butterfly valves are provided with internal supervisory position switches. The tamper switch operates by a cam connected to the valve stem. The switch will change position within two (2) full turns of the hand wheel from the fully open position.

### Switch #1

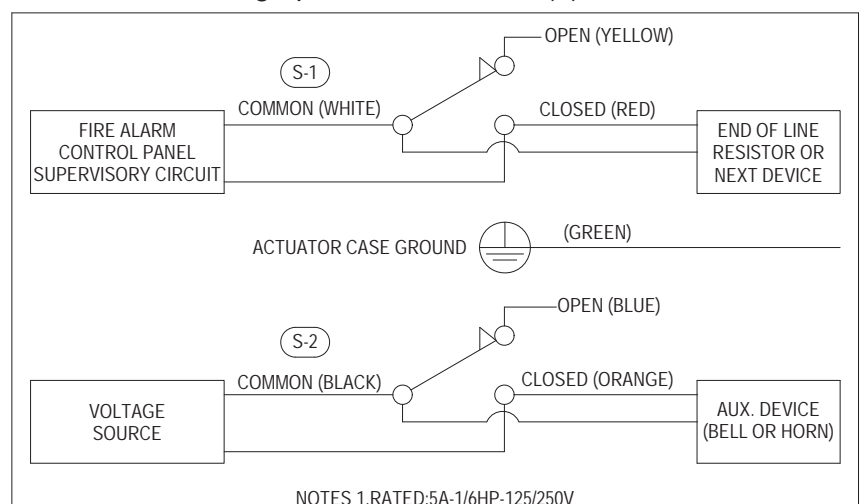
For connection to the supervisory circuit.

Normally closed: 2 Red  
Normally open: 2 Yellow  
Common: 2 White

### Switch #2

Auxiliary switch connected per authority.

Normally closed: 1 Orange  
Normally open: 1 Blue  
Common: 1 Black  
Ground Lead: 1 Green



Shown with valve in closed position.



**GLR300G**  
**Grooved Butterfly Valves**  
**Grooved End, Sizes :**  
**2 1/2", 65mm, 3", 4", 6", 150mm, 8"**

**Specifications:**

**Working Pressure :** 300 PSI (21.4 Bars)  
**Max. Test Pressure :** 600 PSI (42.8 Bars)  
**Max. Working Temp. :** 250°F (120°C)

Factory Installed UL Listed Double Tamper Switch for Indoor and Outdoor Use.

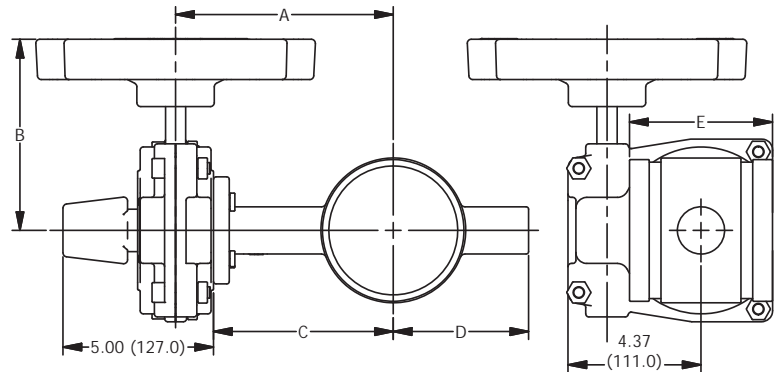


**Materials of Primary Components**

**Body :** ASTM A-536 Nylon-11 Coated  
**Disc :** ASTM A-536 EPDM Encapsulated  
**Upper and Lower Stems :** AISI 420-SS  
**Worm Gear Shaft :** AISI 410-SS  
**Housing :** ASTM A-536  
**Hand Wheel :** ASTM A-536  
**Flag Indicator :** ASTM A-536  
**Sheer Pin :** ASTM A-510  
**Segment Gear :** ASTM B-148 or B-584  
**Housing Gasket :** EPDM Grade "E"  
**O-Rings (All) :** EPDM Grade "E"

**Approvals:**

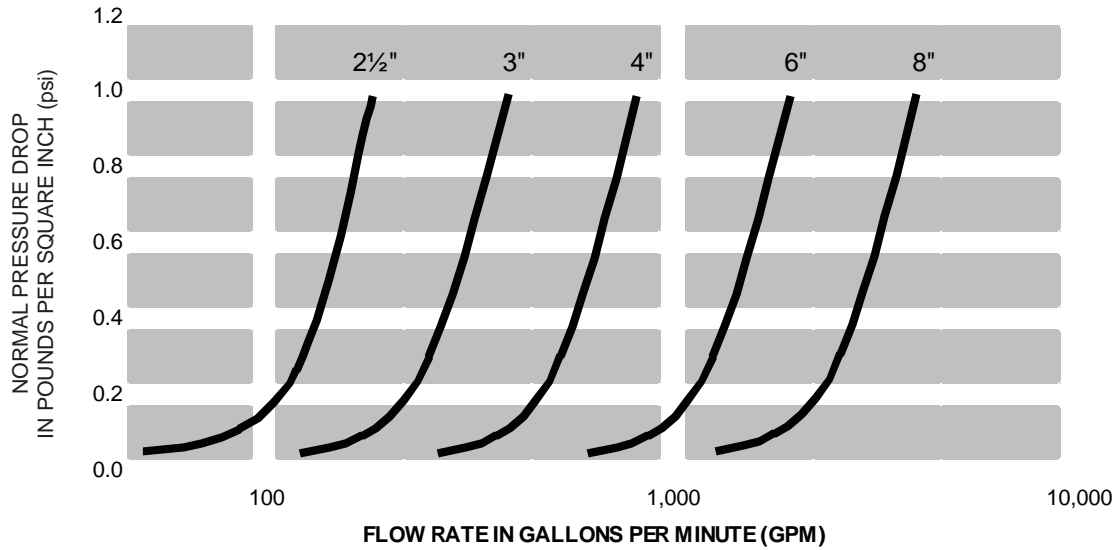
- cULus Listed
- FM Approved
- NYC - DOB MEA 155-06-E



DIMENSION						UNIT: IN (mm)
SIZE	A	B	C	D	E	Part No.
2 1/2"	5.31 (134.9)	5.06 (128.5)	4.13 (104.9)	3.31 (84.1)	3.81 (96.8)	311785-G
65mm (76mm PIPE O.D.)	5.31 (134.9)	5.06 (128.5)	4.13 (104.9)	3.31 (84.1)	3.81 (96.8)	311785-GD
3"	5.59 (142.0)	5.06 (128.5)	4.41 (112.0)	3.61 (91.7)	3.81 (96.8)	311790-G
4"	6.88 (174.8)	5.06 (128.5)	5.71 (145.0)	4.31 (109.5)	4.53 (115.1)	311795-G
6"	8.25 (209.6)	8.66 (220.0)	7.06 (179.3)	5.71 (145.0)	5.22 (132.6)	311805-G
150mm (165mm PIPE O.D.)	8.25 (209.6)	8.66 (220.0)	7.06 (179.3)	5.71 (145.0)	5.22 (132.6)	311805-GD
8"	9.22 (234.2)	8.66 (220.0)	8.03 (204.0)	6.71 (170.4)	5.81 (147.6)	311815-G

## Grooved End

Flow Characteristics



## Wafer and Grooved End

Friction Loss

Valve Model	Valve Size Inches (mm)	Friction Loss in Equivalent Feet of Pipe
DW (Wafer)	2½ (65)	4.8
	3 (76.2)	3.5
	4 (100)	2.4
	6 (150)	5.1
	8 (200)	5.4

Valve Model	Valve Size Inches (mm)	Friction Loss in Equivalent Feet of Pipe
DG (Grooved)	2½ (65)	6.9
	3 (76.2)	4.1
	4 (100)	3
	6 (150)	5.5
	8 (200)	5.4

## Grooved End

Flow Coefficient : CV

DN (mm)	SIZE (in)	Disk Open Angle						
		30°	40°	50°	60°	70°	80°	90°
65	2 ½"	12	27.4	53.1	96	138	156	163
80	3"	18.9	39.4	78.9	144	210	243	249
100	4"	30	65.1	129	226	377	488	514
150	6"	84	184	369	634	964	1196	1286
200	8"	165	339	677	1230	2002	2850	3129

## Wafer Type

Flow Coefficient : CV at full open

DN (mm)	65	80	100	150	200
SIZE (in)	2½"	3"	4"	6"	8"
CV	222	389	1000	1998	4619

$$C_v = \frac{\text{flow (gpm)}}{\sqrt{\text{pressure loss (psi)}}} = \frac{Q}{\sqrt{\Delta P}}$$