# 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.
GL175T
Bronze Butterfly Valves
Threaded End, Sizes:
1", 1 ¼", 1 ½", 2" and 2 ½"

Specifications:

Working Pressure: 175 PSI (12.5 Bars)
Max. Test Pressure: 350 PSI (25.0 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 B-505
Disc: ASTM B-584 EPDM Encapsulated
Upper Stem: ASTM A-564 Type XM 12
Lower Stem: ASTM A-564 Type XM 12
Gear Housing, Cover: ASTM A-619
Hand Wheel: ASTM A-619
Flag Indicator: ASTM B-16
York Mechanism: ASTM A-283
Stem Bushing: ASTM B-16
Conduit Connector: ASTM A-307
O-Rings (All): EPDM Grade "E"
Cover Gasket: NBR

Approvals:
• cULus Listed
• FM Approved
• NYC - DOB MEA 155-06-E

<table>
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<tr>
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<th>A</th>
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<th>Part No.</th>
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<td>311725-G</td>
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<td>1 ¼&quot;</td>
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<td>2.75 (69.9)</td>
<td>2.19 (55.6)</td>
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GL175G
Bronze Butterfly Valves
Grooved End, Sizes:
2" and 2 ½"

Specifications:

Working Pressure: 175 PSI (12.5 Bars)
Max. Test Pressure: 350 PSI (25.0 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 B-505
Disc: ASTM B-584 EPDM Encapsulated
Upper Stem: ASTM A-564 Type XM 12
Lower Stem: ASTM A-564 Type XM 12
Gear Housing, Cover: ASTM A-619
Hand Wheel: ASTM A-619
Flag Indicator: ASTM B-16
York Mechanism: ASTM A-283
Stem Bushing: ASTM B-16
Conduit Connector: ASTM A-307
O-Rings (All): EPDM Grade "E"
Cover Gasket: NBR

Approvals:
• cULus Listed
• FM Approved
• NYC - DOB MEA 155-06-E

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<td>4.56 (115.8)</td>
<td>3.81 (96.8)</td>
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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
GLR300W
Wafer Type Butterfly Valves
Wafer Type End, Sizes:
2 ½", 3", 4", 6" and 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

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<td>2.28 (57.9)</td>
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Grooved End
Flow Characteristics

Wafer and Grooved End
Friction Loss

<table>
<thead>
<tr>
<th>Valve Model</th>
<th>Valve Size Inches (mm)</th>
<th>Friction Loss in Equivalent Feet of Pipe</th>
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<tbody>
<tr>
<td>DW (Wafer)</td>
<td>2½ (65)</td>
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<td>3 (76.2)</td>
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<td>4 (100)</td>
<td>2.4</td>
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<td></td>
<td>6 (150)</td>
<td>5.1</td>
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<tr>
<td></td>
<td>8 (200)</td>
<td>5.4</td>
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<tr>
<td>DG (Grooved)</td>
<td>2½ (65)</td>
<td>6.9</td>
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<td></td>
<td>3 (76.2)</td>
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</tr>
<tr>
<td></td>
<td>4 (100)</td>
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<td></td>
<td>6 (150)</td>
<td>5.5</td>
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<td></td>
<td>8 (200)</td>
<td>5.4</td>
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Grooved End
Flow Coefficient : CV

<table>
<thead>
<tr>
<th>DN (mm)</th>
<th>SIZE (in)</th>
<th>30°</th>
<th>40°</th>
<th>50°</th>
<th>60°</th>
<th>70°</th>
<th>80°</th>
<th>90°</th>
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<tbody>
<tr>
<td>65</td>
<td>2 ½&quot;</td>
<td>12</td>
<td>27.4</td>
<td>53.1</td>
<td>96</td>
<td>138</td>
<td>156</td>
<td>163</td>
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<td>80</td>
<td>3&quot;</td>
<td>18.9</td>
<td>39.4</td>
<td>78.9</td>
<td>144</td>
<td>210</td>
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<td>84</td>
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<td>369</td>
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<td>964</td>
<td>1196</td>
<td>1286</td>
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<td>200</td>
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<td>165</td>
<td>339</td>
<td>677</td>
<td>1230</td>
<td>2002</td>
<td>2850</td>
<td>3129</td>
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Wafer Type
Flow Coefficient : CV at full open

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<thead>
<tr>
<th>DN (mm)</th>
<th>SIZE (in)</th>
<th>CV</th>
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<tbody>
<tr>
<td>65</td>
<td>2 ½&quot;</td>
<td>222</td>
</tr>
<tr>
<td>80</td>
<td>3&quot;</td>
<td>389</td>
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<td>4&quot;</td>
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<td>6&quot;</td>
<td>1998</td>
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<td>200</td>
<td>8&quot;</td>
<td>4619</td>
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$Cv = \sqrt{\frac{\text{flow (gpm)}}{\text{pressure loss (psi)}}}$
GLOBE WARRANTY

Listed and approved sprinkler products and devices manufactured by Globe Fire Sprinkler Corporation are produced in strict accordance with standard quality control procedures. We warrant our products to be free from defects in material and workmanship under normal use and service. Our obligation under this warranty shall be limited to replacing, at our plant, any parts thereof which shall, within one year after delivery to the ORIGINAL PURCHASER, be demonstrated to be defective. In order to accomplish demonstration of defectiveness, the parts claimed to be defective must be sent by the original purchaser to Globe Fire Sprinkler Corporation, 4077 Airpark Drive, Standish, MI 48658. Globe's warranty does not extend to incidental or consequential damages of any nature. In no event shall Globe Fire Sprinkler Corporation be liable, in contract, tort, strict liability or under any other legal theory, for incidental, indirect, special or consequential damages, including but not limited to labor charges, regardless of whether Globe Fire Sprinkler Corporation was informed about the possibility of such damages, and in no event shall Globe Fire Sprinkler Corporation liability exceed an amount equal to the sales price. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED INCLUDING MERCHANT ABILITY AND FITNESS for purpose intended. No person, firm or corporation is authorized to assume for us any other liability in connection with the sale of our products.