

DESCRIPTION

The Grooved End & Wafer type Butterfly valves are indicating type designed for use in fire protection systems where a visual indication is required as to whether the valve is open or closed. They are used, for example, as system, sectional, and pump water control valves. They have cut groove inlet and outlet connections that are suitable for use with grooved end pipe couplings that are listed and approved for fire protection systems. For applications requiring supervision of the open position of the valve, the Gear Operators for the Model BO-G Butterfly Valves are provided with two sets of factory installed internal switches each having SPDT contacts. The supervisory switches transfer their electrical contacts when there is movement from the valve's normal open position during the first two revolutions of the hand wheel.

TECHNICAL DATA

| | |
|------------------------------|---|
| MODEL | FG-BO-G, FG-BO-W-300Psi 2 ½" (DN65), 4" (DN100), 6" (DN200), |
| SIZE | ANSI inches/DN |
| MODEL | The 2 ½" through 8" Wafer type & Grooved End butterfly valves are UL Listed & FM Approved from 10" are UL approved only |
| MAX. WORKING PRESSURE | *2 ½" - 12" (DN65-DN300) PRESSURE 300psi (20.7 bar) |

MATERIAL OF CONSTRUCTION

| | |
|-------------------------------|--|
| BODY & CASTING | Ductile iron conforming to ASTM A-395. Polyamide |
| DISC | SAME AS BODY |
| DISC SEAT | Grade EPDM "E" encapsulated rubber conforming to ASTM D-2000 |
| UPPER & LOWER STEM | Type 416 stainless steel conforming to ASTM 582 |

FRICITION LOSS

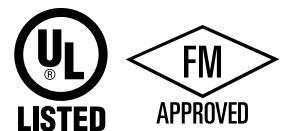
The approximate friction loss, based on the Hazen Williams formula and expressed in equivalent length of pipe with $c=120$, is as follows. The data is based on friction loss information collected at a typical flow rate of 15 feet per sec.

- 6.9 of 2 ½" Sch. 40 pipe for the 2 ½" valve
- 8.7 of 3" Sch. 40 pipe for the 3" valve.
- 4.5 of 4 ½" Sch. 40 pipe for the 4" valve.
- 11.1 of 6" Sch. 40 pipe for the 6" valve.
- 10.2 of 8 ½" Sch. 30 pipe for the 8" valve.

WARNING

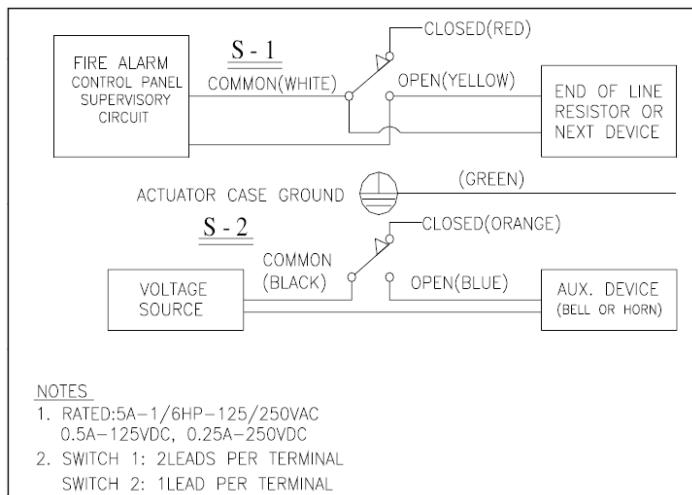
The Model BO-G Grooved End Butterfly valves described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operation condition. The installing contractor or sprinkler manufacturer should be contacted with any questions.



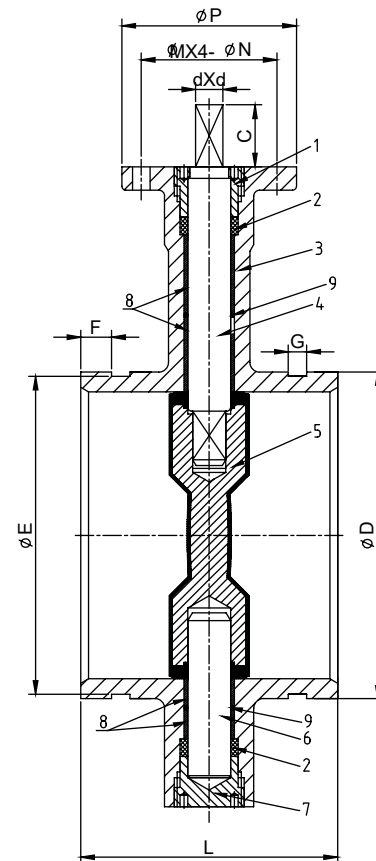
INSTALLATION

The Model BO-G Grooved End Butterfly valves may be installed with flow in either direction and can be positioned either horizontally or vertically. The grooved end pipe couplings used with the Model BO-G must be listed or approved for fire protection service and installed in accordance with the manufacturer's instructions. The Model BO-G Butterfly Valve may be installed with any schedule of pressure class of pipe or tubing that is listed or approved for fire protection. As applicable, refer to Figure 2 for the internal switch wiring diagram. Conduit and electrical connections are to be made in accordance with the authority having jurisdiction and or the National Electrical Code. With reference to Figure 2, the 'supervisory switch' is intended for connection to the supervisory circuit of a fire alarm control panel in accordance with NFPA 72. The "auxiliary switch" is in-tended for the unsupervised connection to auxiliary equipment in accordance with NFPA 70. National Electric code.

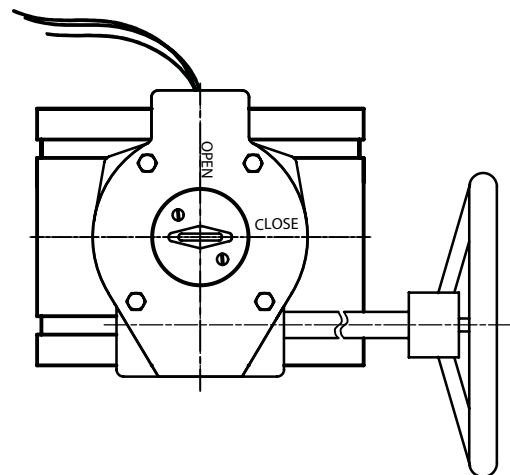


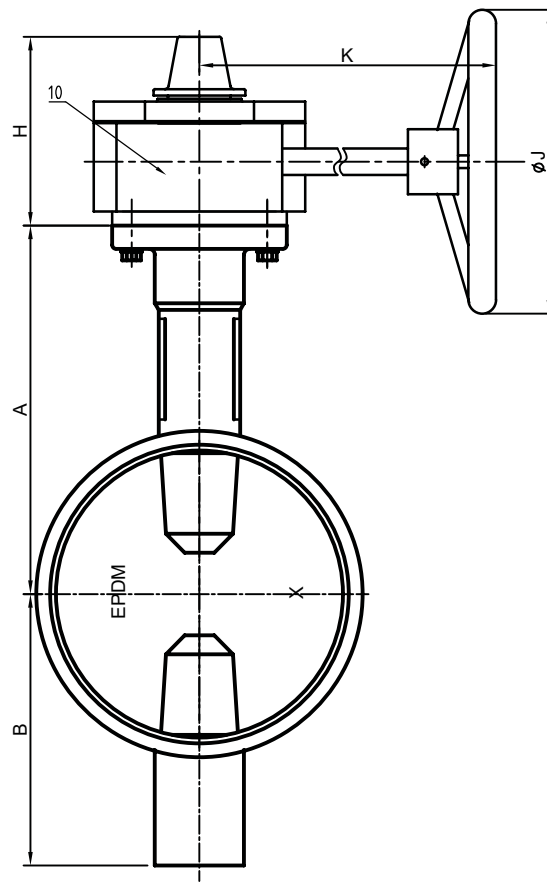
CARE & MAINTENANCE

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in accordance with the applicable standards of the National Fire Protection Association (e. g., NFPA25), in addition to the standards of any authority having jurisdiction. The installing contractor or product manufacturer should be contacted sprinklers stems be inspected tested and maintained by a qualified inspection service relative to any questions. Any impairment must be immediately corrected. It is recommended that automatic systems inspected, tested, by qualified service.



| NO. | NAME | WCB | REMARK | DRAWING CODE |
|-----|-------------------------|---------|------------|------------------------------|
| 1 | Upper shaft sealing Nut | WCB | ASTM A216 | GD-381X-05-01 |
| 2 | Shaft Seal | EPDM | ASTM D2000 | GD-381X-04 |
| 3 | Body | DI | ASTM A536 | GD-381X-01 |
| 4 | Upper Shaft | SS416 | ASTM A582 | GD-381X-03 |
| 5 | Disc | DI+EPDM | | GD-381X-02 |
| 6 | Lower Shaft | SS416 | ASTM A582 | GD-381X-03 |
| 7 | Lower Shaft sealing Nut | WCB | ASTM A2216 | GD-381X-07-06 |
| 8 | Stem Bushing | PTFE | 2" - 6" | GD-381X-07-06 |
| | | FZ2175 | 8" | |
| 9 | O-ring | EPDM | | |
| 10 | Gear Box | | | XHQD-00-00 or XDQD-00-00A |





| SIZE | A | B | C | D | E | F | G | H | K | | J | P | M | N | d | L |
|------|-----|-----|----|-------|-------|------|------|-----|-----|-----|-----|-----|-----|----|-----|-----------------|
| 2" | 110 | 85 | 32 | 60.3 | 57.15 | 15.9 | 7.9 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 10 | <u>88</u> 81 |
| 2.5" | 125 | 95 | 32 | 73 | 69.1 | 15.9 | 7.9 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 10 | 96.4 |
| | | | | 76.1 | 72.3 | | | | | | | | | | | |
| 3" | 140 | 100 | 32 | 88.9 | 84.9 | 15.9 | 7.9 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 11 | 97 |
| 4" | 160 | 100 | 32 | 114.3 | 110.1 | 15.9 | 7.9 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 14 | 115.1 |
| 5" | 170 | 125 | 32 | 139.7 | 135.5 | 15.9 | 9.5 | 111 | 153 | 218 | 152 | 90 | 70 | 9 | 14 | <u>132.4</u> |
| | | | | 141.3 | 137 | | | | | | | | | | | 148 |
| 6" | 190 | 140 | 32 | 165.1 | 160.9 | 15.9 | 9.5 | 111 | 153 | 218 | 200 | 90 | 70 | 9 | 16 | <u>132.4</u> |
| | | | | 168.3 | 164 | | | | | | | | | | | 148 |
| 8" | 230 | 175 | 32 | 219.1 | 214.4 | 19 | 11.1 | 126 | 210 | 232 | 300 | 125 | 102 | 12 | 19 | <u>147.4</u> |
| | | | | 216.3 | 211.6 | | | | | | | | | | | 133 |
| 10" | 260 | 200 | 45 | 267.4 | 262.6 | 19 | 12.7 | 126 | 210 | 232 | 300 | 125 | 102 | 12 | 24 | 159 |
| | | | | 273 | 268.6 | | | | | | | | | | | |
| 12" | 300 | 240 | 45 | 318.5 | 312.9 | 19 | 12.7 | 161 | 249 | 350 | 150 | 125 | 14 | 26 | 165 | |
| | | | | 323.9 | 318.3 | | | | | | | | | | | |

NOTE:
Before closing a fire protection system control valve for maintenance or inspection work on either the valve or fire protection system which it controls, permission to shut down the affected fire protection systems must be obtained from the proper authorities and all personnel who may be affected by this decision must be notified.