

Model BFV-N Butterfly Valve Grooved End

General Description

The Model BFV-N Grooved End Butterfly Valves (Ref. Figure 1) are indicating type valves 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 BFV-N Butterfly Valves are provided with two sets of factory installed internal switches each having SPDT contacts (Ref. Figure 3). 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 handwheel.

NOTICE

The Model BFV-N 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 operating condition. Contact the installing contractor or product manufacturer with any questions.

Technical Data

Approvals

UL and C-UL Listed
FM Approved

Listed by California State Fire Marshall
under Listing No. 7770-1670:100

All laboratory listings and approvals are for
indoor and outdoor use.

Sizes

2-1/2 thru 10 Inch (DN65 thru DN250)

Maximum Working Pressure

2-1/2 to 8 Inch (DN65 to DN200)

300 psi (20,7 bar)

10 Inch (DN250)

175 psi (12,0 bar)

Materials of Construction

Body

Ductile iron conforming to ASTM A395

Body Coating

Polyamide

Disc

Ductile iron conforming to ASTM A395

Disc Seal

Grade EPDM "E" encapsulated rubber
conforming to ASTM D2000

Upper & Lower Stem

Type 416 Stainless Steel conforming to
ASTM 582

Lower Plug

PVC

Operator

Gear operator with iron housing



Nominal Valve Sizes Inches (DN)	Pipe OD Inches (mm)	Nominal Installation Dimensions Inches (mm)								Weight Lbs. (kg)
		A	B	C	D	E	F	G	H	
2-1/2 (65)	2.88 (73,0)	3.85 (98,0)	11.94 (303,3)	3.25 (83,0)	5.67 (144,0)	5.90 (149,9)	5.82 (147,8)	2.13 (54,1)	0	22 (10,0)
76,1mm (65)	3.00 (76,1)	3.85 (98,0)	11.94 (303,3)	3.25 (83,0)	5.67 (144,0)	5.90 (149,9)	5.82 (147,8)	2.13 (54,1)	0	22 (10,0)
3 (80)	3.50 (88,9)	3.85 (98,0)	12.48 (317,0)	3.54 (90,0)	5.94 (150,9)	5.90 (149,9)	5.82 (147,8)	2.13 (54,1)	0	23 (10,4)
4 (100)	4.50 (114,3)	4.56 (116,0)	14.18 (360,2)	4.35 (110,0)	6.31 (160,3)	5.90 (149,9)	7.64 (194,1)	2.13 (54,1)	0	28 (12,7)
5 (125)	5.56 (141,3)	5.86 (149,0)	15.17 (385,3)	4.84 (123,0)	7.32 (185,9)	5.90 (149,9)	7.64 (194,1)	2.13 (54,1)	0	31 (14,1)
165,1mm (150)	— (165,1)	5.86 (149,0)	17.54 (445,5)	5.93 (151,0)	8.62 (218,9)	5.90 (149,9)	7.64 (194,1)	2.13 (54,1)	0.67 (17,0)	41 (18,6)
6 (150)	6.63 (168,3)	5.86 (149,0)	17.54 (445,5)	5.93 (151,0)	8.62 (218,9)	5.90 (149,9)	7.64 (194,1)	2.13 (54,1)	0.67 (17,0)	41 (18,6)
8 (200)	8.63 (219,1)	5.26 (134,0)	19.42 (493,3)	6.87 (174,0)	9.80 (248,9)	9.80 (248,9)	7.91 (200,9)	2.13 (54,1)	5.86 (148,8)	53 (24,1)
10 (250)	10.75 (273,1)	6.29 (160,0)	24.03 (610,4)	9.17 (233,0)	11.61 (294,9)	18.00 (457,2)	9.49 (241,0)	3.03 (77,0)	7.41 (188,2)	88 (40,0)

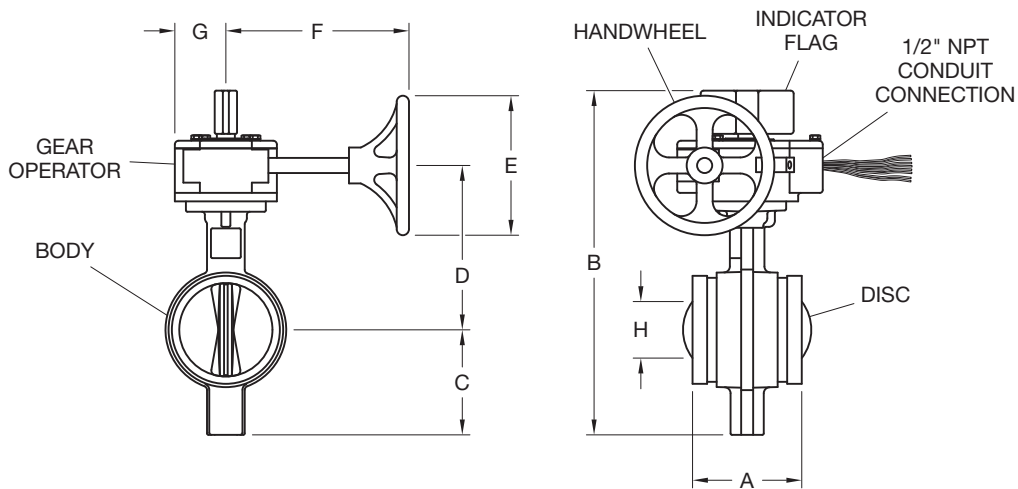


FIGURE 1
MODEL BFV-N GROOVED END BUTTERFLY VALVE
NOMINAL DIMENSIONS

CONTACT RATING:
 1/2A @ 125 VDC
 1/4A @ 250 VDC
 15.1A/12HP @ 125, 250 VAC
 5A @ 125 VAC "L"

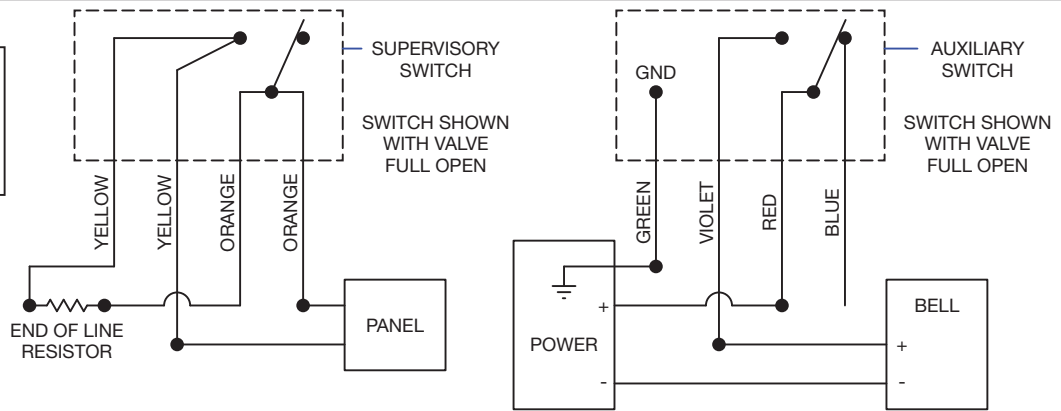
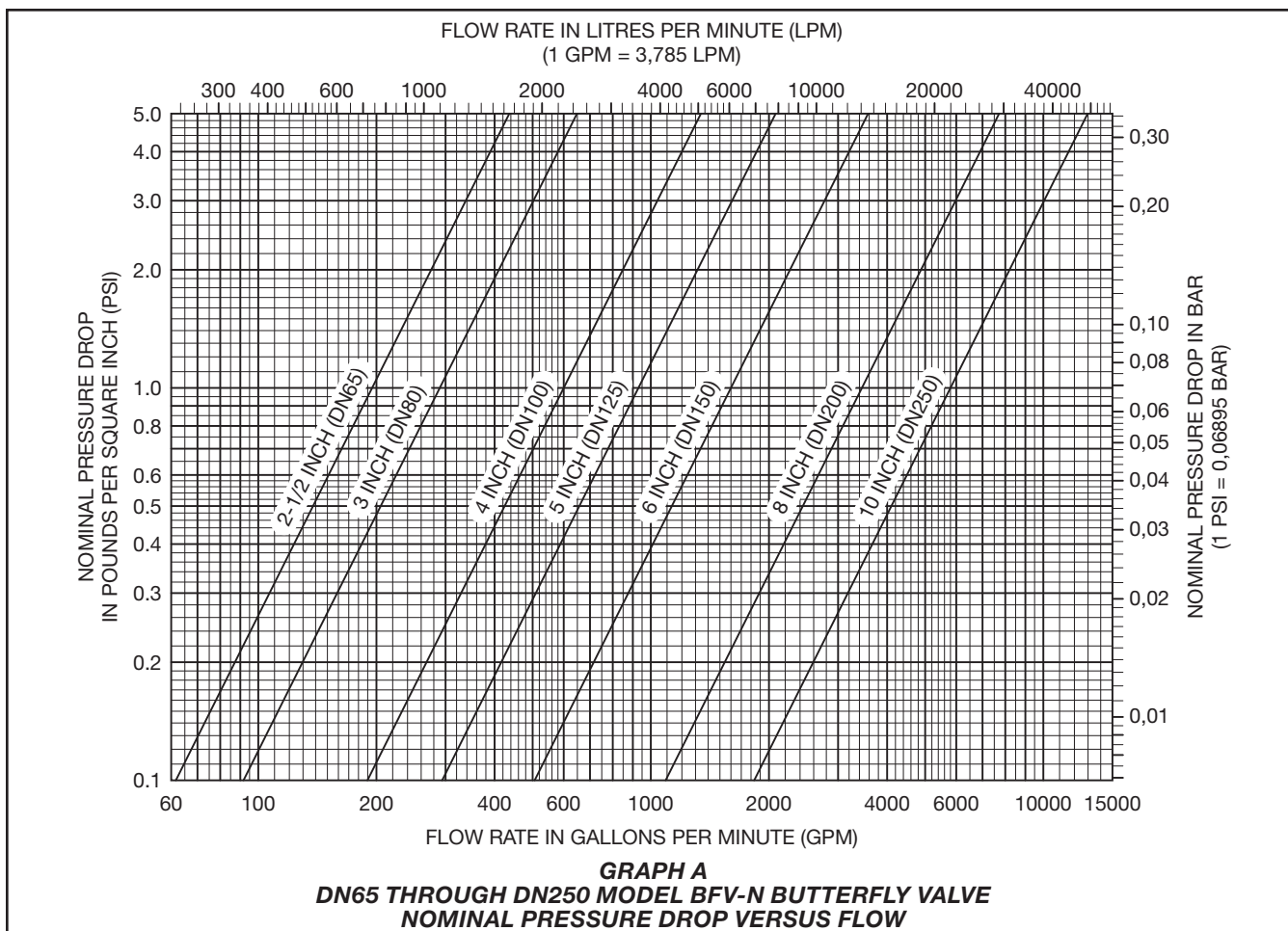


FIGURE 2
MODEL BFV-N BUTTERFLY VALVE
INTERNAL SWITCH WIRING DIAGRAM WITH VALVE IN OPEN POSITION



Installation

The Model BFV-N 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 BFV-N must be listed or approved for fire protection service and installed in accordance with the manufacturers instructions.

The Model BFV-N 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.

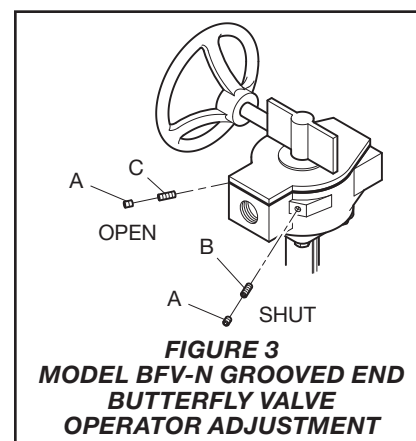
Conduit and electrical connections are to be made in accordance with the authority having jurisdiction and/or the National Electrical Code. With reference to Figure 2, the supervisory switch is intended for connection to the supervisory circuit of a fire alarm control panel in accordance with NFPA 72. The auxiliary switch is intended for the unsupervised connection to auxiliary equipment in accordance with NFPA 70, National Electric Code.

NOTE: For outdoor applications with internal supervisory switches, it is recommended that wiring connections be made at a temperature above 15°F (-9°C), in order to insure sufficient flexibility of the wire lead insulation.

Stop Adjustment Procedure

The gear operator's OPEN and SHUT position have been factory set. The following procedure should be used if slight adjustments are needed. Refer to Figure 3.

- Step 1.** Turn the Handwheel until the valve is fully closed.
- Step 2.** Remove two lock screws (A) from the gear operator body.
- Step 3.** Turn the Shut Stop Screw (B) clockwise until snug.
- Step 4.** Turn the Handwheel until the valve is fully open.
- Step 5.** Turn the Open Stop Screw (C) clockwise until snug.



Step 6. Close the valve by turning the Handwheel until the valve is fully in the closed position. Ensure the disc has returned to the fully closed position and the disc is centered in the seat area. Readjust the Shut Stop Screw if necessary.

Step 7. Replace two lock screws (A) into the gear Operator body locking the stops into position.

Care and Maintenance

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.

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., NFPA 25), in addition to the standards of any authority having jurisdiction. Contact the installing contractor or product manufacturer with any questions. Any impairment must be immediately corrected.

It is recommended that automatic sprinkler systems be inspected, tested, and maintained by a qualified inspection service.

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

Grooved End Butterfly Valves

Specify: (specify inch size) Model BFV-N Grooved End Butterfly Valve with internal supervisory switches, P/N (specify):

2-1/2 inch (DN65)	59-300-F-025N
76,1mm (DN65)*	59-300-F-076N
3 inch (DN80)	59-300-F-030N
4 inch (DN100)	59-300-F-040N
5 inch (DN125)	59-300-F-050N
165,1mm (DN150)*	59-300-F-165N
6 inch (DN150)	59-300-F-060N
8 inch (DN200)	59-300-F-080N
10 inch (DN250)	59-300-F-100N

*Available for EMEA and APAC markets only