

## Autonomous Fire Suppression Model BFV-300/BFC-300C Grooved End Butterfly Valve

### Description

The SPRAYSAFE Autonomous Fire Suppression (AFS) System is installed on the exterior of buildings and other structures to suppress fires. It typically includes a combination of robotic monitors, extension beams, a programmable logic controller (PLC), water control valves and piping, and flame detectors.

The Model BFV-300/BFV-300C Grooved End Butterfly Valves are indicating type valves designed for use in the SPRAYSAFE AFS System and other fire protection systems where a visual indication of open or closed valve condition is required. They are used, for example, as system, sectional and pump water control valves. They have grooved inlet and outlet connections that are suitable for use with grooved end pipe couplings listed or approved for fire protection systems.

For applications requiring supervision of the open or closed state of the valve, the gear operators for the Model BFV-300/BFV-300C Butterfly Valves feature two sets of factory installed internal switches, each having single-pole, double-throw (SPDT) contacts. The supervisory switches transfer their electrical contacts when there is movement from the open or closed disc position during the first two revolutions of the handwheel.

### NOTICE

The Model BFV-300/BFV-300C Grooved End Butterfly Valves described herein must be installed and maintained in compliance 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.

### Approvals

- UL Listed
  - FM Approved
  - CE Certified
  - VdS Approved
  - Russian Fire Certificate
  - CNPP R1 Listed-APSAD
  - Listed by California State Fire Marshall
- Refer to Tables A, B, and C for applicability.

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



MODEL BFV-300 WITH OPEN SUPERVISORY SWITCHES



MODEL BFV-300C WITH CLOSED SUPERVISORY SWITCHES

### Technical Specifications

<b>Sizes</b>	
2–12 in. (50.8 – 304.8 mm) (DN50–DN300)	
<b>UL/FM maximum working pressure</b>	
2–8 in. (50.8 – 203.2 mm) (DN50–DN200)	300 psi (20.7 bar)
10–12 in. (254 – 304.8 mm) (DN250–DN300)	175 psi (12.1 bar)
<b>VdS maximum working pressure</b>	
2–8 in. (50.8 – 203.2 mm) (DN50–DN200)	300 psi (20.7 bar)
10 in. (254 mm) (DN250)	232 psi (16.0 bar)
12 in. (304.8 mm) (DN300)	175 psi (12.1 bar)
<b>Maximum working temperature</b>	
212 °F (100 °C) in accordance with UL 1091	
<b>Materials of construction</b>	
Body	Ductile iron
Body coating	RILSAN PA11 black
Disc	Ductile iron
Disc seal	EPDM encapsulated
Upper and lower stem	Stainless steel
Handwheel	Ductile iron
(BFV-300 red painted; BFV-300C black painted)	
Actuator, 2–6 in. (50.8 – 152.4 mm) (DN50–DN150)	IP 65, bronze traveling nut gearbox, ductile iron housing
Actuator, 8–12 in. (203.2 – 304.8 mm) (DN200–DN300)	IP 65, brass segmented gearbox, ductile iron housing
<b>Silicone free model availability</b>	
Silicone free models are available. Contact Sales for information.	

## Technical Specifications (Continued)

### Tapping bosses

Two factory-plugged NPT threaded tapping bosses in the valve body are located on the upstream and downstream sides of the disc for connection to valve trim.

### Tapping boss sizes

2–3 in. (50.8 - 76.2 mm) (DN50–DN80) 3/8 NPT

4–12 in. (101.6 - 304.8 mm) (DN100–DN300) 1/2 NPT

### Control Valve Seat Leakage Class IEC 60534-4

CLASS VI (Type C) Control Valve Seat Leakage according to ANSI/FCI 70-2-2006 (ASME B16.104)

Nominal Valve Size inches (DN)	Pipe O.D. inches (mm)	Max. PSI (bar)	Part number		Agency listing/approval							
			BFV-300 supv. switch OPEN	BFV-300C supv. switch CLOSED	CE	UL	FM	VdS	CA Fire Marshall	CNPP	PAVUS	Russian Fire Cert.
2 (DN50)	2.38 (60.3)	300 (20.7)	59300G020WS	59300G020WSC	✓	✓		✓			✓	✓
2-1/2 (DN65)	2.88 (73.0)	300 (20.7)	59300G025WS	59300G025WSC	✓	✓	✓	✓	✓		✓	✓
— DN65	3 76.1	300 (20.7)	59300G026WS	59300G026WSC	✓	✓	✓	✓			✓	✓
3 (DN80)	3.5 (88.9)	300 (20.7)	59300G030WS	59300G030WSC	✓	✓	✓	✓	✓		✓	✓
4 (DN100)	4.5 (114.3)	300 (20.7)	59300G040WS	59300G040WSC	✓	✓	✓	✓	✓		✓	✓
— DN125	5.5 (139.7)	300 (20.7)	59300G056WS	59300G056WSC	✓	✓	✓	✓			✓	✓
5 (DN125)	5.56 (141.3)	300 (20.7)	59300G050WS	59300G050WSC	✓	✓	✓	✓	✓		✓	✓
— DN150	6.5 (165.1)	300 (20.7)	59300G066WS	59300G066WSC	✓	✓	✓	✓			✓	✓
6 (DN150)	6.63 (168.3)	300 (20.7)	59300G060WS	59300G060WSC	✓	✓	✓	✓	✓		✓	✓
8 (DN200)	8.63 (219.1)	300 (20.7)	59300G080WS	59300G080WSC	✓	✓	✓	✓	✓		✓	✓
10 (DN250)	10.75 (273)	175 (12.1)	59300G100WS	59300G100WSC	✓	✓	✓	✓	✓		✓	✓
12 (DN300)	12.75 (323.9)	175 (12.1)	59300G120WS	59300G120WSC	✓	✓		✓			✓	✓

**TABLE A**  
**MODEL BFV-300/BFV-300C GROOVED END BUTTERFLY VALVE**  
**WITH INTERNAL SUPERVISORY SWITCHES**  
**PART NUMBER SELECTION AND AGENCY LISTINGS/APPROVALS**

Nominal Valve Size inches (DN)	Pipe O.D. inches (mm)	Max. psi (bar)	Part number		Agency listing/approval		
			BFV-300 Supv. Switch OPEN	BFV-300C Supv. Switch CLOSED	CE	VdS	CNPP
2 (DN50)	2.38 (60.3)	300 (20.7)	59300G020AWS	59300G020AWSC	✓	✓	✓
2-1/2 (DN65)	2.88 (73.0)	300 (20.7)	59300G025AWS	59300G025AWSC	✓	✓	✓
— DN65	3 76.1	300 (20.7)	59300G026AWS	59300G026AWSC	✓	✓	✓
3 (DN80)	3.5 (88.9)	300 (20.7)	59300G030AWS	59300G030AWSC	✓	✓	✓
4 (DN100)	4.5 (114.3)	300 (20.7)	59300G040AWS	59300G040AWSC	✓	✓	✓
— DN125	5.5 (139.7)	300 (20.7)	59300G056AWS	59300G056AWSC	✓	✓	✓
5 (DN125)	5.56 (141.3)	300 (20.7)	59300G050AWS	59300G050AWSC	✓	✓	✓
— DN150	6.5 (165.1)	300 (20.7)	59300G066AWS	59300G066AWSC	✓	✓	✓
6 (DN150)	6.63 (168.3)	300 (20.7)	59300G060AWS	59300G060AWSC	✓	✓	✓
8 (DN200)	8.63 (219.1)	300 (20.7)	59300G080AWS	59300G080AWSC	✓	✓	✓
10 (DN250)	10.75 (273)	175 (12.1)	59300G100AWS	59300G100AWSC	✓	✓	✓
12 (DN300)	12.75 (323.9)	175 (12.1)	59300G120AWS	59300G120AWSC	✓	✓	✓

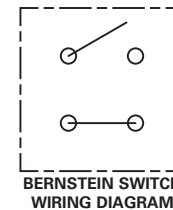
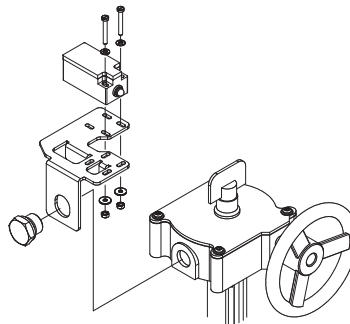
**TABLE B**  
**MODEL BFV-300/BFV-300C GROOVED END BUTTERFLY VALVE**  
**WITH CNPP-APSAF LARGE 100 X 100 MM FLAG AND INTERNAL SUPERVISORY SWITCHES**  
**PART NUMBER SELECTION AND AGENCY LISTINGS/APPROVALS**

Nominal valve size inches (DN)	Pipe O.D. inches (mm)	Max. PSI (bar)	Part number	Agency listing/approval							
				CE	UL	FM	VdS	CA Fire Marshall	CNPP	PAVUS	Russian Fire Cert.
2 (DN50)	2.38 (60.3)	300 (20.7)	59300G020NS	✓	✓		✓			✓	✓
2-1/2 (DN65)	2.88 (73.0)	300 (20.7)	59300G025NS	✓	✓	✓	✓	✓		✓	✓
— DN65	3 76.1	300 (20.7)	59300G026NS	✓	✓	✓	✓			✓	✓
3 (DN80)	3.5 (88.9)	300 (20.7)	59300G030NS	✓	✓	✓	✓	✓		✓	✓
4 (DN100)	4.5 (114.3)	300 (20.7)	59300G040NS	✓	✓	✓	✓	✓		✓	✓
— DN125	5.5 (139.7)	300 (20.7)	59300G056NS	✓	✓	✓	✓			✓	✓
5 (DN125)	5.56 (141.3)	300 (20.7)	59300G050NS	✓	✓	✓	✓	✓		✓	✓
— DN150	6.5 (165.1)	300 (20.7)	59300G066NS	✓	✓	✓	✓			✓	✓
6 (DN150)	6.63 (168.3)	300 (20.7)	59300G060NS	✓	✓	✓	✓	✓		✓	✓
8 (DN200)	8.63 (219.1)	300 (20.7)	59300G080NS	✓	✓	✓	✓	✓		✓	✓
10 (DN250)	10.75 (273)	175 (12.1)	59300G100NS	✓	✓	✓	✓	✓		✓	✓
12 (DN300)	12.75 (323.9)	175 (12.1)	59300G120NS	✓	✓		✓			✓	✓

**TABLE C  
MODEL BFV-300 GROOVED END BUTTERFLY VALVE  
WITHOUT INTERNAL SUPERVISORY SWITCHES  
PART NUMBER SELECTION AND AGENCY LISTINGS/APPROVALS**

Nominal valve size inches (DN)	Gear operator type	Part Number			
		Mounting bracket with mounting bolts	Bernstein i88-IP65 regular switch	Bernstein i88-IP65 LED switch 24V	Bernstein GC-SU1Z Ex IP-66/67 ATEX (Ex II2G Ex dIIC T6 Gb) switch
2-4 (DN50-DN100)	Travelling Nut	59300SPBRACKET10	59300SPSW	59300SPSWLED	59300SPSWATEX
5-6 (DN125-DN200)		59300SPBRACKET20			
8 (DN200)	Segmented Gear	59300SPBRACKET25			
10-12 (DN250-DN300)		59300SPBRACKET30			

**Note:** Install a single switch in either bracket mounting position to monitor open or closed valve condition



**TABLE D  
MODEL BFV-300 GROOVED END BUTTERFLY VALVE WITHOUT INTERNAL SUPERVISORY SWITCHES  
ACCESSORY EXTERNAL SUPERVISORY SWITCHES AND MOUNTING BRACKETS  
PART NUMBER SELECTION**

Nominal valve size inches (DN)	Part number	
	BFV-300, red painted	BFV-300C, black painted
2-4 (DN50-DN100)	59300SPHWHEEL10	59300SPHWHEEL10B
5-8 (DN125-DN200)	59300SPHWHEEL20	59300SPHWHEEL20B
10-12 (DN250-DN300)	59300SPHWHEEL30	59300SPHWHEEL30B

**TABLE E**  
**BFV-300/BFV-300C GROOVED END BUTTERFLY VALVE**  
**REPLACEMENT HANDWHEEL PART NUMBER SELECTION**

## Limited Warranty

For warranty terms and conditions, visit [www.tyco-fire.com](http://www.tyco-fire.com)

## Ordering Information

Contact your local distributor for availability. When placing an order, indicate the full product name and part number (P/N).

For further ordering information, refer to technical data sheet TFP1511 on [www.tyco-fire.com](http://www.tyco-fire.com)

## Butterfly Valves

### Model BFV-300 with internal open supervisory switches

Specify: (specify size) Model BFV-300 Grooved End Butterfly Valve, internal open supervisory switches, P/N (specify per Table A)

### Model BFV-300C with internal closed supervisory switches

Specify: (specify size) Model BFV-300C Grooved End Butterfly Valve, internal closed supervisory switches, P/N (specify per Table A)

### Model BFV-300 with internal open supervisory switches, APSAD approved

Specify: (specify size) Model BFV-300 Grooved End Butterfly Valve, internal open supervisory switches, APSAD approved, P/N (specify per Table B)

### Model BFV-300C with internal closed supervisory switches, APSAD approved

Specify: (specify size) Model BFV-300C Grooved End Butterfly Valve, internal closed supervisory switches, APSAD approved, P/N (specify per Table B)

### Model BFV-300 without internal supervisory switches

Specify: (specify size) Model BFV-300 Grooved End Butterfly Valve, P/N (specify per Table C)

## Accessories

### External supervisory switch and mounting bracket

**Note:** Accessory external supervisory switches and mounting brackets are applicable only to valves without factory-installed internal supervisory switches.

Refer to Table D for switch models and part numbers.

Specify: (specify size) Model BFV-300 Grooved End Butterfly Valve external switch mounting bracket, P/N (specify), with (specify quantity) Bernstein external switch (specify model), P/N (specify)

## Replacement Parts

**Note:** Only items described in this section are offered as replacement parts.

### Handwheel

Replacement handwheel includes pin. Refer to Table E for part numbers.

### Model BFV-300, red painted

Specify: Handwheel, (specify size) Model BFV-300 Grooved End Butterfly Valve, P/N (specify)

### Model BFV-300C, black painted

Specify: Handwheel, (specify size) Model BFV-300C Grooved End Butterfly Valve, P/N (specify)

**Note:** The converted values in this document are provided for dimensional reference only and do not reflect an actual measurement.

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