

# ARITA UL/FM Resilient Seat Butterfly Valve with Tamper Switch



## General

### Model

BF-28G series	Butterfly Valve Groove Type
BF-29G series	Butterfly Valve Groove Type
BF-28W series	Butterfly Valve Wafer Type
BF-29W series	Butterfly Valve Wafer Type



Feature	Benefit
Ductile Iron Body	Weighs ~50% less than conventional cast iron design, easy on-site handling and halved shipping cost
EPDM Coated Ductile Iron Disc	Full encapsulated design ensures drop-tight sealing and reduction of wear and jamming
Bubble Tight Closure	Zero leakage at full rated pressure
Epoxy Resin Coated Body and Bonnet	Enhanced UV protection in exposed installations for long and reliable service life, internally protect against corrosion and abrasion
2 sets of Tamper Switch	One for connection to supervisory circuit and the other to be connected to auxiliary devices

## TECHNICAL DATA

### Size

BF 28 Series	2 to 8 inch
BF 29 Series	10 to 12 inch

### Approval

UL Listed	2 to 12 inch
FM Approved	2 to 12 inch

### Pressure Rating

2 inch to 12 inch	300 PSI
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### Temperature Rating

14°F (-10 °C) ~ 248°F (120°C)

### Standard

Compliance	UL 1091/FM 1112/NFPA 11 NFPA 13/NFPA 14/NFPA 15/NFPA 16 NFPA 20/NFPA 22/NFPA 24/NFPA 71 NFPA 72
Design Standard	AWWA C504/API 609 (Groove Type) AWWA C504/API 609 (Wafer Type)
Groove Connection Dimension	AWWA C606
Connecting Flange Standard	ASME B16.42 ANSI 150 (Wafer Type)
Face to Face Dimension	ASME B16.1
Epoxy Coating	AWWA C550
Rubber to Iron bond on Disc	Inspected per ASTM D 429-73

## **MATERIAL SPECIFICATION**



### **BF28 Series (2" to 8")**

- Body: Ductile Iron, ASTM A536 Gr. 65-45-12
- End Face Seal & Shaft Seal: ASTM D2000 EPDM
- Stem Bushing: PTFE/C95400
- Body Coating: Epoxy Resin Fusion Bonded
- Top Shaft: Stainless Steel, ASTM A582 SS416
- Under Shaft: Stainless Steel, ASTM A582 SS416
- Disc: EPDM Coated Ductile Iron, ASTM A536 Gr. 65-45-12
- Shaft Sealing Nut: Carbon Steel, ASTM A216 WCB

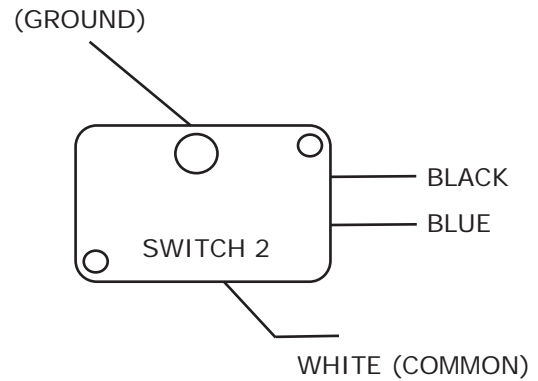
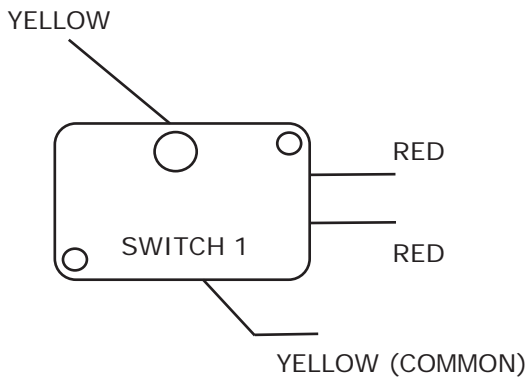
### **BF29 Series (10" to 12")**

- Body: Ductile Iron, ASTM A536 Gr. 65-45-12
- End Face Seal & Shaft Seal: ASTM D2000 EPDM
- Stem Bushing: C95400+Graphite
- Body Coating: Epoxy Resin Fusion Bonded
- Top Shaft: Stainless Steel, ASTM A582 SS416
- Under Shaft: Stainless Steel, ASTM A582 SS416
- Disc: EPDM Coated Ductile Iron, ASTM A536 Gr. 65-45-12
- Shaft Sealing Nut: Carbon Steel, ASTM A216 WCB
- Key: Carbon Steel, ASTM A216 WCB

## TAMPER SWITCH WIRING DIAGRAM



### Wiring Diagram



#### Switch 1: Supervisory Switch

Red & Yellow 1 > Supervisory Panel  
Red 2 > S.P.S.T.N.C Switch with dual leads soldered to switch tabs (switch shown in FULL OPEN position)

Yellow 2 > To end of line resistor or next supervisory switch

#### Switch 2: Auxiliary Switch

Black > to Auxiliary Device  
Blue > S.P.D.T Switch with single lead soldered to switch tab (switch shown in FULL OPEN position)

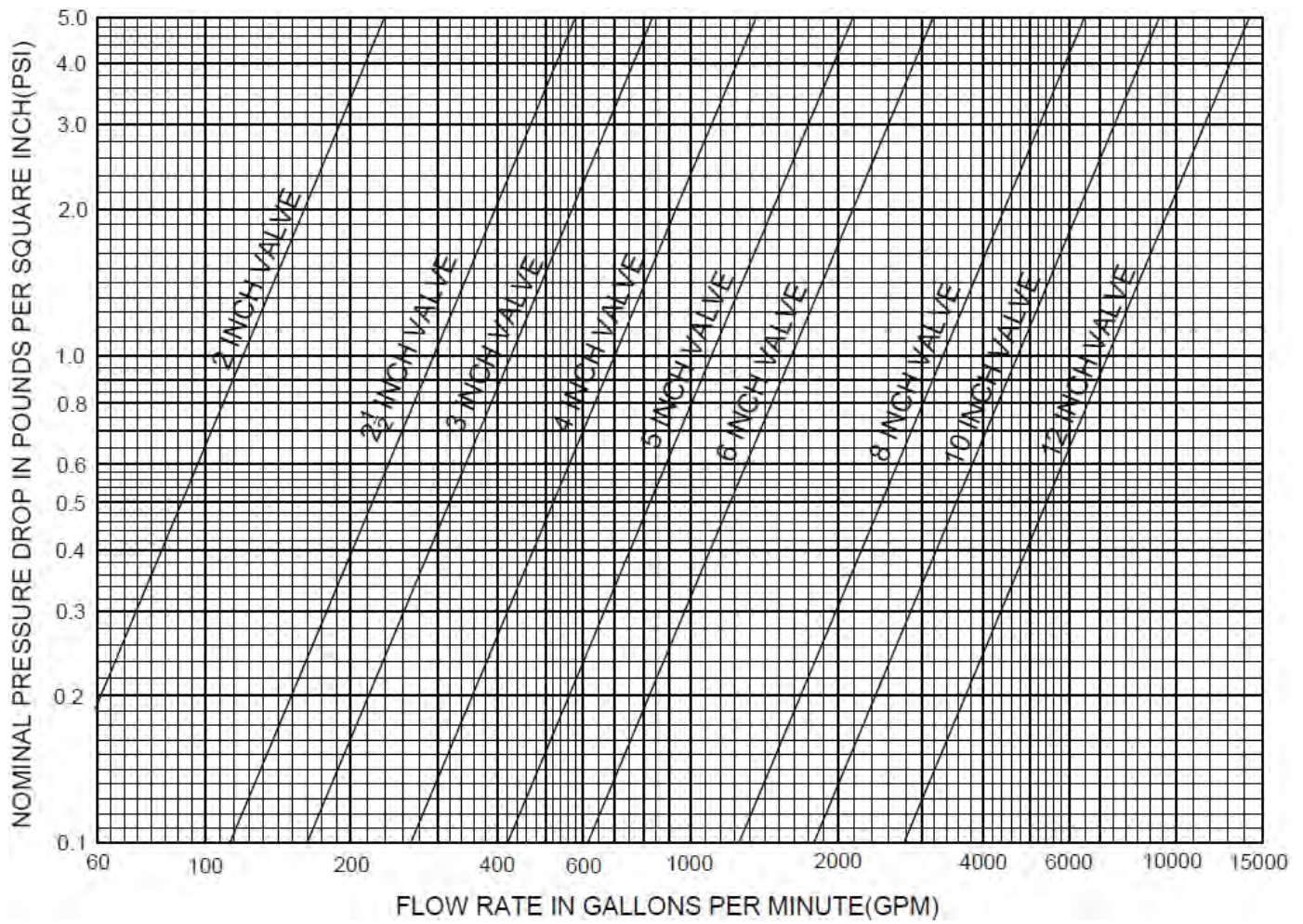
Green > Connect to ground screw inside housing

BF-28 & BF-29 series Butterfly Valve is installed with one supervisory switch and one auxiliary switch with actuator suitable for outdoor and indoor use.

Switches are installed with current monitor, Input Rating: 10A 250 VAC

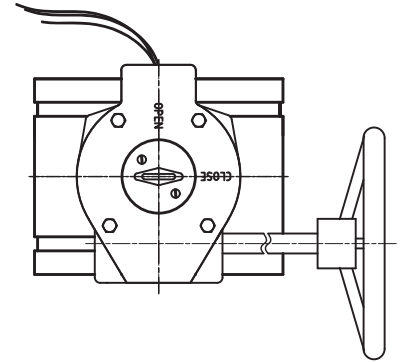
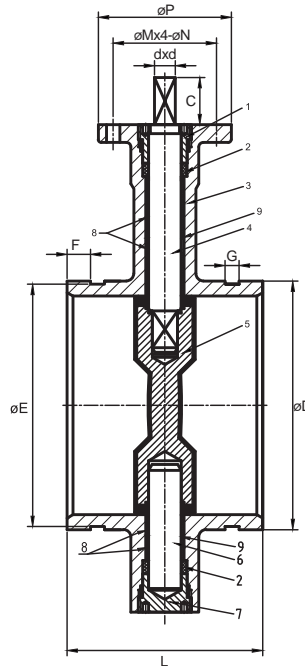
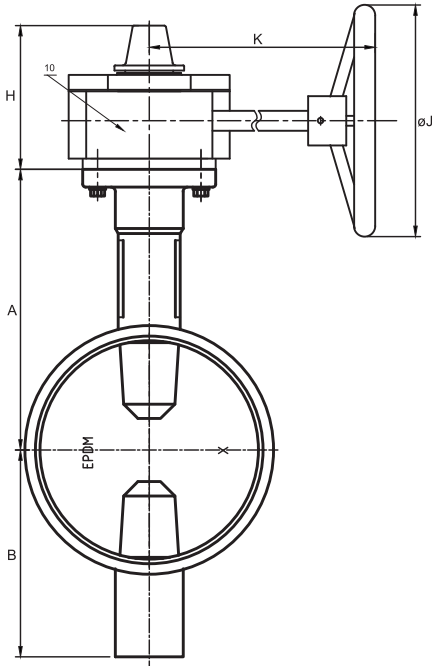
Conduit and electrical connections to tamper switch must be in accordance to NFPA 13, 71 and 72.

## FLOW RATE



## BUTTERFLY VALVE FRICTION LOSS

## GROOVE BUTTERFLY VALVE 2"-12" 300PSI



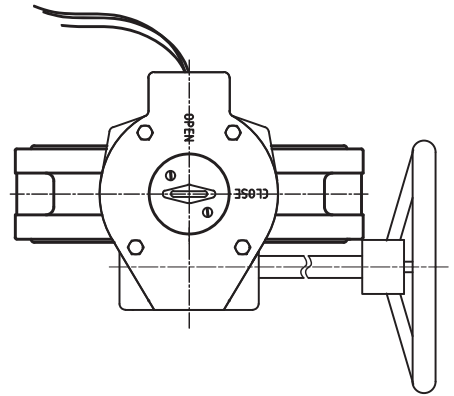
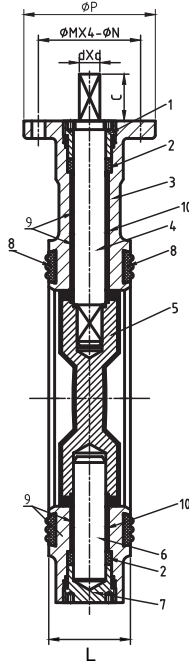
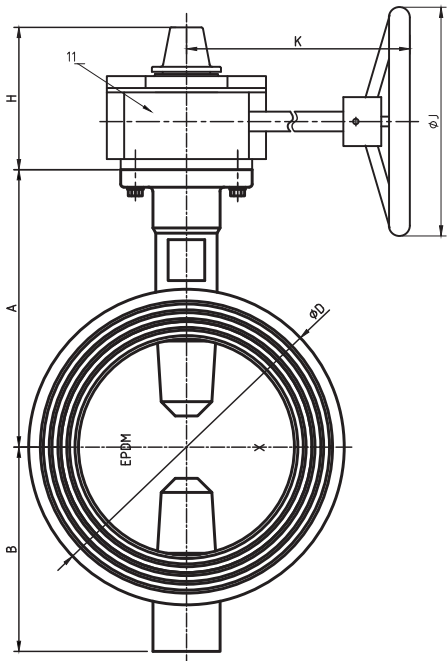
No	Name	Material
1	Upper Shaft Seling Nut	ASTM A216 WCB
2	Shaft Seal	ASTM D2000 EPDM
3	Body	ASTM A536 GR 65-45-12+EPDM
4	Upper Shaft	ASTM A582 SS416
5	Disc	ASTM A536 GR 65-45-12+EPDM
6	Lower Shaft	ASTM A582 SS416
7	Lower Shaft Sealing Nut	ASTM A216 WCB
8	Stem Bushing	PTFE/C954
9	O-Ring	EPDM
10	Gear Box	

Valves conform to the standards and specifications:

1. The valve structure conform to API 609
2. The valve test accord with UL1091 / FM1112 300 psi
3. The valve connecting flange in accordance with AWWA C606 groove connection standard, etc.
4. The body surface coated with epoxy
5. test standard API 598

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	88
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	9.5	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	132.4
				141.3	137											
6"	190	140	32	165.1	160.9	15.9	9.5	111	153	218	200	90	70	9	16	132.4
				168.3	164											
8"	230	175	32	219.1	214.4	19	11.1	126	210	232	300	125	102	12	19	147.4
				216.3	211.6											
10"	260	200	45	267.4	262.6	19	12.7	126	210	232	300	125	102	12	24	159
				273	268.3											
12"	300	240	45	318.5	312.9	19	12.7	161	249	350	150	125	14	26	165	
				323.9	318.3											

**WAFER BUTTERFLY VALVE 2"-8" 300PSI**



No	Name	Material
1	Upper Shaft Seling Nut	ASTM A216 WCB
2	Shaft Seal	ASTM D2000 EPDM
3	Body	ASTM A536 GR 65-45-12+EPDM
4	Upper Shaft	ASTM A582 SS416
5	Disc	ASTM A536 GR 65-45-12+EPDM
6	Lower Shaft	ASTM A582 SS416
7	Lower Shaft Sealing Nut	ASTM A216 WCB
8	End Face Seal	ASTM D2000 EPDM
9	Stem Bushing	PTFE/C95400
10	O-Ring	EPDM
11	Gear Box	

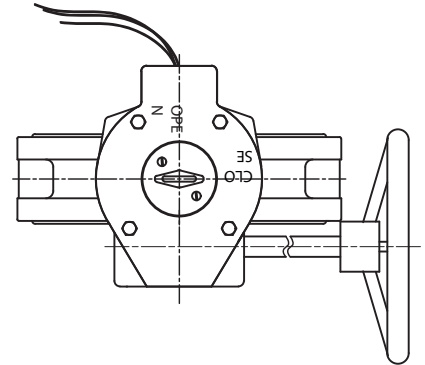
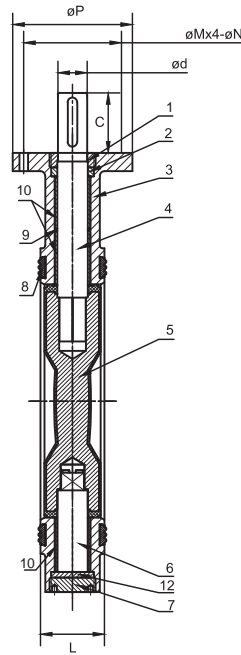
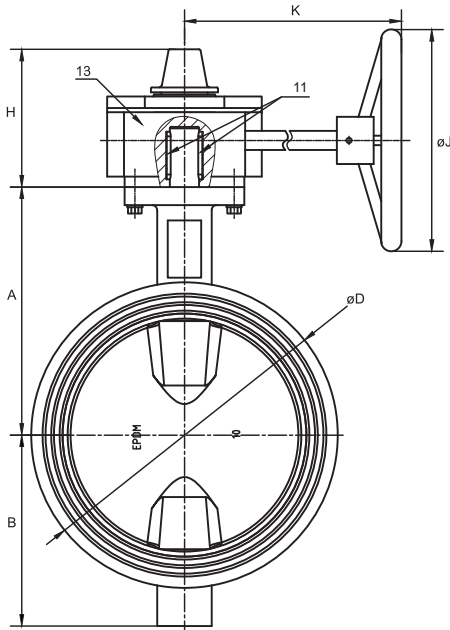
Valves conform to the standards and specifications:

1. The valve structure conform to API 609
2. The valve test accord with UL1091 / FM1112 300 psi
3. The valve face to face dimension in accordance with ASME B16.1
4. The body surface coated with epoxy
5. The top flange standard conform to ISO 5211

SIZE	A	B	C	D	H	K		J	P	M	N	d	L
2"	110	85	32	100	111	153	218	152	90	70	9	10	42
2.5"	125	95	32	112	111	153	218	152	90	70	9	10	44.2
3"	140	100	32	120	111	153	218	152	90	70	9	11	45.3
4"	160	100	32	161	111	153	218	152	90	70	9	14	52
5"	170	125	32	182	111	153	218	152	90	70	9	14	54.4
6"	190	140	32	216	111	153	218	200	90	70	9	16	55.8
8"	230	175	32	260	126	210	232	300	125	102	12	19	60.5



## WAFER BUTTERFLY VALVE 10" 300PSI



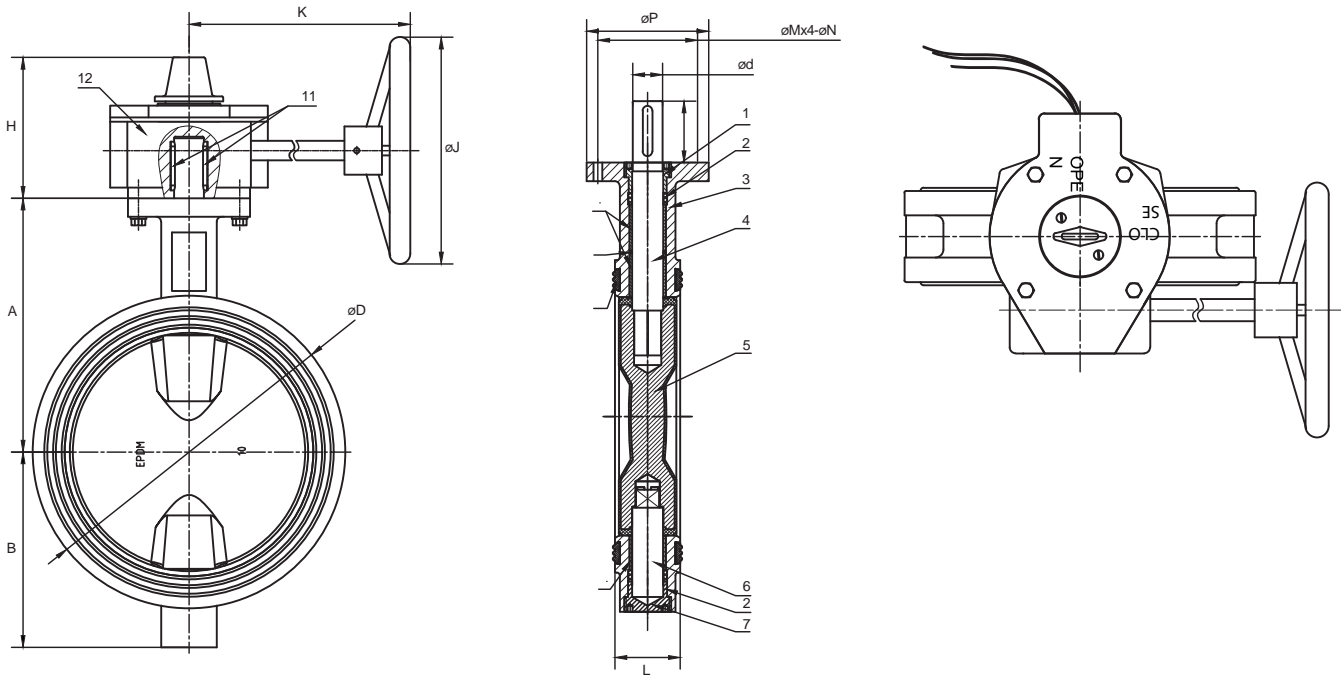
No	Name	Material
1	Upper Shaft Seling Nut	ASTM A216 WCB
2	Shaft Seal	ASTM D2000 EPDM
3	Body	ASTM A536 GR 65-45-12+EPDM
4	Upper Shaft	ASTM A582 SS416
5	Disc	ASTM A536 GR 65-45-12+EPDM
6	Lower Shaft	ASTM A582 SS416
7	Lower Shaft Sealing Nut	ASTM A216 WCB
8	End Face Seal	ASTM D2000 EPDM
9	O-Ring	ASTM D2000 EPDM
10	Stem Bushing	C95400+GRAPHITE
11	Key	ASTM A216 WCB
12	Lower Shaft Seal	ASTM D2000 EPDM
13	Gear Box	

Valves conform to the standards and specifications:

1. The valve structure conform to API 609
2. The valve test accord with UL1091 / FM1112 300 psi
3. The valve face to face dimension in accordance with ASME B16.1
4. The body surface coated with epoxy
5. The top flange standard conform to ISO 5211

SIZE	A	B	C	D	H	K	J	P	M	N	d	L	
10"	260	200	63	320	126	210	232	300	125	102	12	30.5	66.5

**WAFER BUTTERFLY VALVE 12" 300PSI**



No	Name	Material
1	Upper Shaft Sealing Nut	ASTM A216 WCB
2	Shaft Seal	ASTM D2000 EPDM
3	Body	ASTM A536 GR 65-45-12+EPDM
4	Upper Shaft	ASTM A582 SS416
5	Disc	ASTM A536 GR 65-45-12+EPDM
6	Lower Shaft	ASTM A582 SS416
7	Lower Shaft Sealing Nut	ASTM A216 WCB
8	End Face Seal	ASTM D2000 EPDM
9	O-Ring	ASTM D2000 EPDM
10	Stem Bushing	C95400+GRAPHITE
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5. The top flange standard conform to ISO 5211

SIZE	A	B	C	D	H	K	J	P	M	N	d	L
12"	300	240	77	375	161	249	350	150	125	14	33	76.9