

SJ-300F RESILIENT SEATED BUTTERFLY VALVE



For pressure rating, listing, and approval information, refer to data sheet or visit SHURJOINT website www.shurjoint.com for details or contact your SHURJOINT representatives.

The Model SJ-300F Butterfly Valve is a grooved-end shut-off valve equipped with a weatherproof worm gear operator and supervisory switch and wiring.

The Model SJ-300F is cULus and FM approved for 300 psi (20 Bar, 2.0 MPa) WWP (water working pressure) service for indoor and outdoor use[^]. Flow characteristics satisfy UL Specification 1091 and FM Approval Standard 1112.

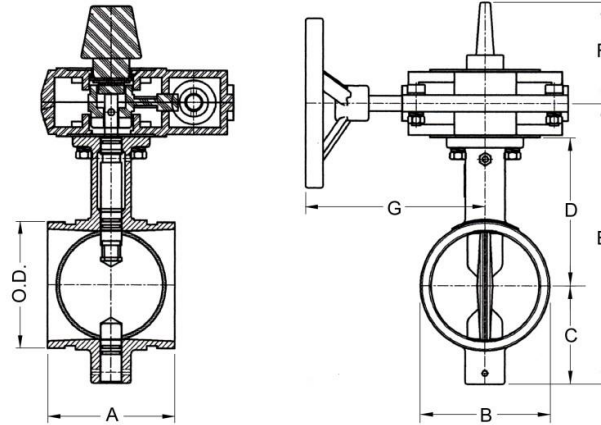
When the Model SJ-300F Butterfly Valve is used in a fire protection pipeline, installation shall conform to NFPA 13 and NFPA 72.

The valve consists of an epoxy powder coated ductile iron body and EPDM rubber encapsulated dual-seal disc.

material specification

- **Valve Body:**
Ductile Iron to ASTM A536, Gr. 65-45-12, min. tensile strength 65,000 psi (448 MPa).
- **Valve Body Coating:**
Epoxy powder coating, black color.

- **Disc Encapsulation:**
Grade E-pw EPDM (Color code: Double Green stripe)
Good for potable water service to +180°F (+82°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and wastewater, dilute acids, oil-free air and many chemicals.
Not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons.
 - Other options: Grade "E" - EPDM
- **Upper & Lower Shafts:**
Stainless steel Type 410.
- **Shaft Bearing:**
Teflon.
- **Stem Seals:**
O-Ring, Nitrile.



Model SJ-300F Resilient Seated Butterfly Valve

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Dimensions							Weight ⁽²⁾
			A ⁽¹⁾	B	C	D	E	F	G	
in	in	PSI	in	in	in	in	in	in	in	lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	mm	kg
2	2.375	300	3.19	2.56	2.48	4.17	7.87	3.62	6.42	16.70
50	60.3	20	81	65	63	106	200	92	163	7.60
2½	2.875	300	3.81	3.15	2.68	4.37	8.27	3.62	6.42	18.26
65	73.0	20	97	80	68	111	210	92	163	8.30
76.1	3.000	300	3.81	3.15	2.68	4.37	8.27	3.62	6.42	18.41
	76.1	20	97	80	68	111	210	92	163	8.37
3	3.500	300	3.81	3.62	3.00	4.96	9.17	3.62	6.42	18.92
80	88.9	20	97	92	76	126	233	92	163	8.60
4	4.500	300	4.56	4.65	3.50	5.31	10.04	3.62	6.42	21.78
100	114.3	20	116	118	89	135	255	92	163	9.90
139.7	5.500	300	5.81	5.71	4.00	6.61	11.85	3.62	6.42	27.08
	139.7	20	148	145	102	168	301	92	163	12.31
5	5.500	300	5.81	5.71	4.00	6.61	11.85	3.62	6.42	26.84
125	141.3	20	148	145	102	168	301	92	163	12.20

Model SJ-300F Resilient Seated Butterfly Valve

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Dimensions							Weight ⁽²⁾
			A ⁽¹⁾	B	C	D	E	F	G	
in	in	PSI	in	in	in	in	in	in	in	lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	mm	kg
165.1	6.500	300	5.81	6.77	4.50	7.25	12.95	3.62	6.42	30.38
	165.1	20	148	172	114	184	329	92	163	13.81
6	6.625	300	5.81	6.77	4.50	7.25	12.95	3.62	6.42	30.14
150	168.3	20	148	172	114	184	329	92	163	13.70
8	8.625	300	5.24	8.74	5.51	8.19	14.92	3.62	6.42	38.72
200	219.1	20	133	222	140	208	379	92	163	17.60
200 JIS	8.516	300	5.24	8.74	5.51	8.19	14.92	3.62	6.42	38.72
	216.3	20	133	222	140	208	379	92	163	17.60
10	10.750	300	6.25	10.87	6.69	9.25	17.17	3.62	6.42	59.27
250	273.0	20	159	276	170	235	436	92	163	26.88
12	12.750	300	6.50	12.87	8.07	10.24	19.53	3.62	6.42	74.97
300	323.9	20	165	327	205	260	496	92	163	34.00

(1) End to end dimensions conforms to MSS SP-67.

(2) The weight includes the worm gear operator.

*Working pressure is based on connection with roll- or cut-grooved standard wall carbon steel pipe.

(^) Please check resources/certificates section at www.shurjoint.com for sizes that are UL listed and FM approved

Valve Torque Requirements

These torque values were derived from test data with non-lubricated valves in water, non-pressurized at ambient temperatures with EPDM seals.

Model SJ-300F Butterfly Valve Torque Requirements		
Nominal Size	Pipe O.D.	Torque
in	in	lbs-in
mm	mm	Nm
2	2.375	80
50	60.3	9
2½	2.875	120
65	73.0	14
76.1	3.000	120
	76.1	14
3	3.500	160
80	88.9	18
4	4.500	450
100	114.3	51
139.7	5.500	700
	139.7	79
5	5.563	700
125	141.3	79
165.1	6.500	900
	165.1	102
6	6.625	900
150	168.3	101.7
8	8.625	1200
200	219.1	136
200 JIS	8.516	1200
	216.3	136
10	10.750	1800
250	273.0	203
12	12.750	2500
300	323.9	283

Note: The torque values are based on liquid applications. For dry or non-lubricating applications add a 25% service factor to the above values.

Flow Data - Cv Values

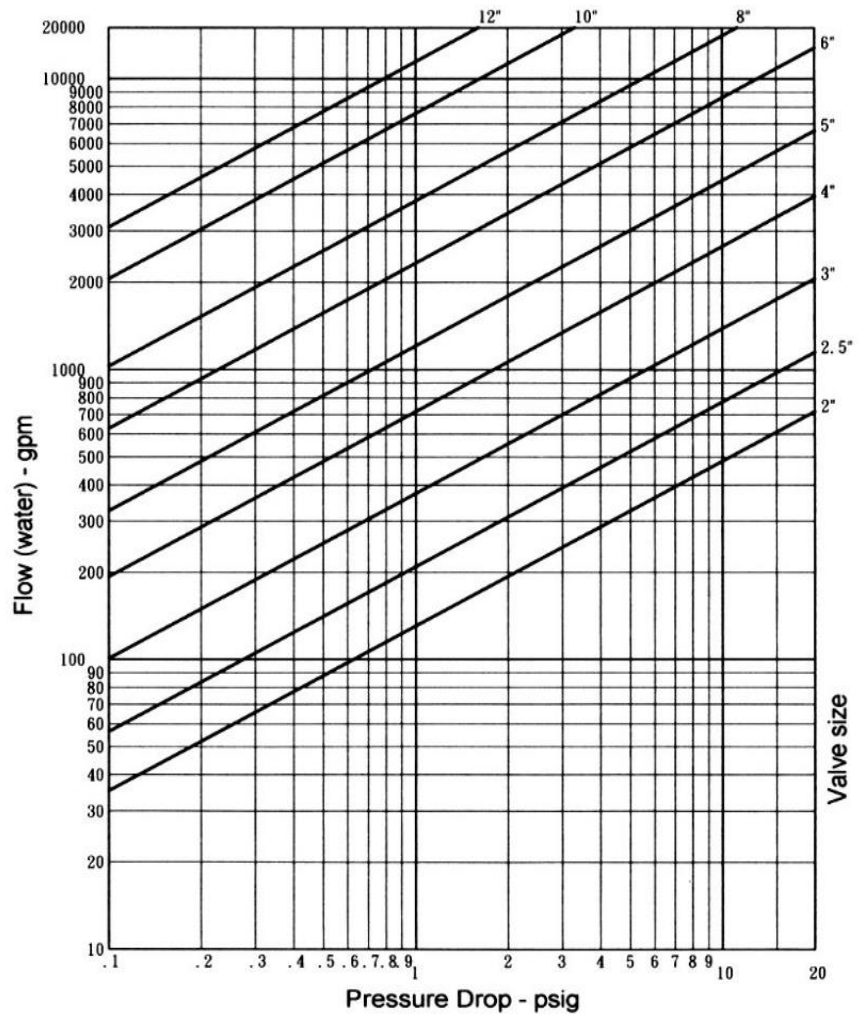
Values for flow of water at +60°F (+16°C).

$$Cv = \frac{Q}{\sqrt{\Delta P}}$$

Where: Cv = Flow coefficient
 Q = Flow (GPM)
 ΔP = Pressure drop (psi)

Model #SJ-300F Cv (Fully Open)		
Nominal Size (in)	Equivalent Length on Sch. 40 pipe* Feet (Meter)	Cv Values
2	4.7 (1.4)	120
2½	5.2 (1.6)	210
3	5.5 (1.7)	380
4	6.8 (2.1)	720
5	8.5 (2.6)	1150
6	7.4 (2.3)	2000
8	9.2 (2.8)	3800
10	13.5 (4.1)	5500
12	15.1 (4.6)	8250

This chart should be used as a general guide.
 *At 15 feet/sec, (4.6m/s) Velocity of water



Switch & Wiring

The supervisory switch is designed to supervise in the “open” position and contains two, single pole, double throw, pre-wired switches.

Switch 1 (S1) has two #18 AWG wires per terminal used for connection to supervisory circuit of a UL listed alarm control panel.

- Normally closed: (2) Blue
- Common: (2) Yellow

Switch 2 (S2) has one #18 AWG wire per terminal for connection to auxiliary devices which may be required by the authority having jurisdiction.

- Normally closed: (1) Red
- Normally open: (1) Black
- Common: (1) White

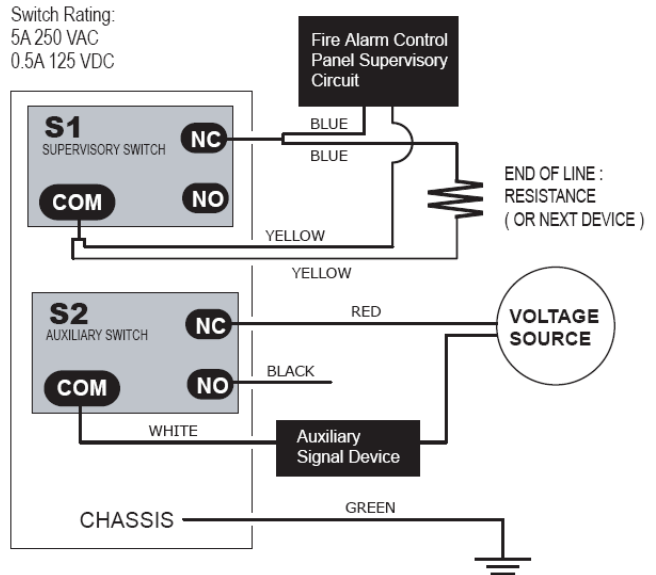
This double circuit provides flexibility to operate two electrical devices at separate locations, such as an indicating light and an audible alarm, in the area that the valve is installed.

Besides, a #14 AWG ground lead (green) is provided.

The diagram shows a typical connection between the common terminal and the normally closed terminal. The indicator light and alarm will stay on until the valve is fully open. When the valve is fully open, the indicator light and alarm will go out.

The connection of the alarm switch wiring shall be in accordance with NFPA 72 and the auxiliary switch per NFPA 70 (NEC).

SWITCH WIRING DIAGRAM



General note

- Maximum Working Pressure (CWP) listed is the maximum cold water pressure for general piping services tested to ASTM F1476 and or AWWA C606 methods. Figures listed are based on roll- or cut-grooved standard wall carbon steel pipe. For other pipe schedules or pipe materials, contact Shurjoint for additional information.
- Max. End Load is calculated based on the maximum working pressure (CWP).
- Listed and or Approved Pressures are pressure ratings for fire protection systems, tested and approved by various approval bodies. Please always refer to the latest approval data posted on the Shurjoint website.
- Field Joint Test: For one time only the system may be tested hydrostatically at 1½ times the maximum working pressure listed (AWWA C606 5.2.3).
- Warning: Piping systems must always be depressurized and drained before attempting disassembly and or removal of any components.
- The 10 Year Limited Warranty applies to manufacturing defects only and does not cover severe service/temperature applications or wear parts.
- Shurjoint reserves the right to change specifications, designs and or standard without notice and without incurring any obligations.