MODEL SJ-300N BUTTERFLY VALVE

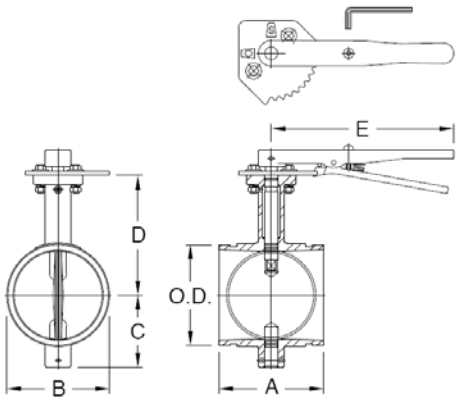
The Model SJ-300N Butterfly Valve is a grooved-end tight shut-off valve designed, manufactured and tested to MSS SP-67. The valve can be shipped either with a 10-position lever handle with a locking device (SJ-300N-L) or with a worm gear operator (SJ-300N-W). The valve consists of epoxy powder coated ductile iron body and EPDM or Nitrile (NBR) rubber encapsulated dual-seal disc. The SJ-300N is UL classified in accordance with ANSI/NSF 61 and Annex G for cold potable water service to temperature 73.4°F (23°C).

SJ-300N-L
w / lever handle

End-to-end dimensions: MSS SP-67 Table 4
End connections: Grooved ends to ANSI/AWWA C-606
Pressure rating: 300 psi / 2.1 MPa (non-shock cold water)
Max. service temperature:
73.4°F / 23°C (EPDM) – Potable water service
200°F / 93°C (EPDM)* – General service
(*Please refer to the material's note on last page.)

CLASSIFIED UL WATER QUALITY

MODEL SJ-300N-L BUTTERFLY VALVE WITH LEVER HANDLE



Model SJ-300N-L Butterfly Valve with Lever Handle

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	ASME/ANSI Pressure Class Rating^ @100°F/@38°C	Dimensions					Operating Torque	Weight‡
				A	B	C	D	E		
in	in	PSI	PSI	in	in	in	in	in	In - Lb	Lbs
mm	*mm*	*Bar*	*Nom. Class*	*mm*	*mm*	*mm*	*mm*	*mm*	*N - m*	*Kgs*
2	2.375	300	300	3.19	2.52	2.48	4.17	7.56	80	6.8
50	*60.3*	*20*	*150*	*81*	*64*	*63*	*106*	*192*	*9*	*3.1*
2½	2.875	300	300	3.82	3.11	2.68	4.37	7.56	120	8.2
65	*73.0*	*20*	*150*	*97*	*79*	*68*	*111*	*192*	*14*	*3.7*
76.1 mm	3.000	300	300	3.82	3.11	2.68	4.37	7.56	120	8.4
	76.1	*20*	*150*	*97*	*79*	*68*	*111*	*192*	*14*	*3.8*
3	3.500	300	300	3.82	3.62	2.99	4.96	7.56	160	9.0
80	*88.9*	*20*	*150*	*97*	*92*	*76*	*126*	*192*	*18*	*4.1*
4	4.500	300	300	4.57	4.65	3.50	5.32	10.24	450	11.4
100	*114.3*	*20*	*150*	*116*	*118*	*89*	*135*	*260*	*51*	*5.2*
139.7 mm	5.500	300	300	5.83	5.71	4.02	6.61	10.24	700	16.9
	139.7	*20*	*150*	*148*	*145*	*102*	*168*	*260*	*79*	*7.7*
5	5.563	300	300	5.83	5.71	4.02	6.61	10.24	700	16.9
125	*141.3*	*20*	*150*	*148*	*145*	*102*	*168*	*260*	*79*	*7.7*

Model SJ-300N-L Butterfly Valve with Lever Handle

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	ASME/ANSI Pressure Class Rating^ @100°F/@38°C	Dimensions A	B	C	D	E	Operating Torque	Weight‡
in *mm*	in *mm*	PSI *Bar*	PSI *Nom. Class*	in *mm*	in *mm*	in *mm*	in *mm*	in *mm*	In - Lb *N - m*	Lbs *Kgs*
165.1 mm	6.500 *165.1*	300 *20*	300 *150*	5.83 *148*	6.77 *172*	4.49 *114*	7.24 *184*	10.24 *260*	900 *102*	20.2 *9.2*
6 *150*	6.625 *168.3*	300 *20*	300 *150*	5.83 *148*	6.77 *172*	4.49 *114*	7.24 *184*	10.24 *260*	900 *102*	20.2 *9.2*
200 JIS	8.516 *216.3*	300 *20*	300 *150*	5.24 *133*	8.74 *222*	5.51 *140*	8.19 *208*	10.24 *260*	1200 *136*	26.8 *12.2*
8 *200*	8.625 *219.1*	300 *20*	300 *150*	5.24 *133*	8.74 *222*	5.51 *140*	8.19 *208*	10.24 *260*	1200 *136*	26.8 *12.2*
10 *250*	10.750 *273.0*	300 *20*	300 *150*	6.25 *159*	10.86 *276*	6.69 *170*	9.25 *235*	14.02 *356*	1800 *204*	48.4 *22.0*
12 *300*	12.750 *323.9*	300 *20*	300 *150*	6.53 *165*	12.87 *327*	8.07 *205*	10.24 *260*	14.02 *356*	2500 *282*	73.7 *33.5*

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

^ The ASME/ANSI pressure class rating is not the design or maximum pressure rating, rather is provided for those that are accustomed to specifying or using ASME/ANSI pressure class rated components such as flange, valves, etc.

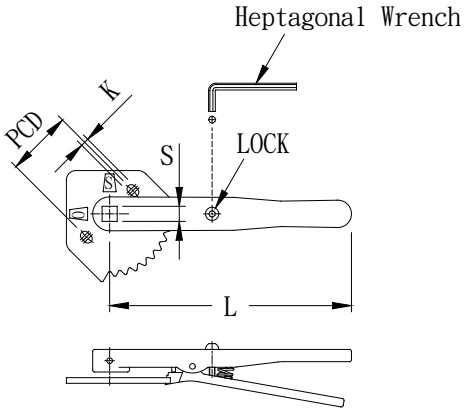
‡ The weight includes the lever handle.

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

10 - POSITION INDICATOR AND LEVER

10-Position Indicator and Lever

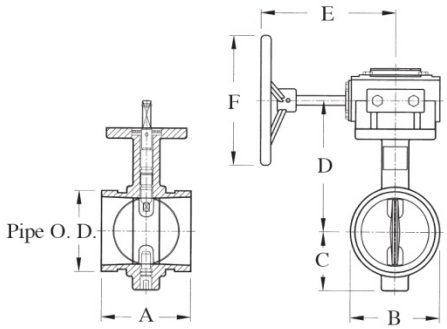
Nominal Size	PCD (dia.)	K (dia.)	S (square)	L
in *mm*	in *mm*	mm	in *mm*	in *mm*
2 *50*	2.75 *70*	M8	0.39 *10*	7.56 *192*
2½ *65*	2.75 *70*	M8	0.39 *10*	7.56 *192*
3 *80*	2.75 *70*	M8	0.39 *10*	7.56 *192*
4 *100*	2.75 *70*	M8	0.47 *12*	10.24 *260*
5 *125*	2.75 *70*	M8	0.47 *12*	10.24 *260*
6 *150*	2.75 *70*	M8	0.63 *16*	10.24 *260*
8 *200*	2.75 *70*	M8	0.63 *16*	10.24 *260*
10 *250*	4.00 *102*	M10	0.94 *24*	14.02 *356*
12 *300*	4.00 *102*	M10	0.94 *24*	14.02 *356*



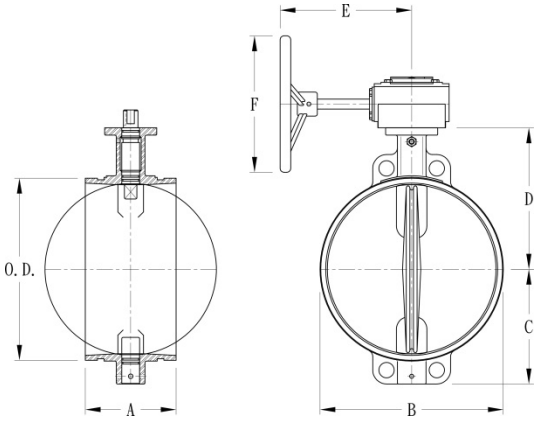
MODEL SJ-300N-W BUTTERFLY VALVE WITH GEAR OPERATOR

The Model SJ-300N can be equipped with a worm gear operator.
The ISO 5211 mounting pad allows for the mounting of power actuators.

SJ-300N-W
w/gear operator



Size: 2” ~ 12”



Size: 14” ~ 24”

Model SJ-300N-W Butterfly Valve with Gear Operator

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	ASME/ANSI Pressure Class Rating^ @100°F/@38°C	Dimensions						Weight‡
				A	B	C	D	E	F	
in	in	PSI	PSI	in	in	in	in	in	in	Lbs
mm	*mm*	*Bar*	*Nom. Class*	*mm*	*mm*	*mm*	*mm*	*mm*	*mm*	*Kgs*
2	2.375	300	300	3.19	2.52	2.48	4.17	6.00	6.00	13.6
50	*60.3*	*20*	*150*	*81*	*64*	*63*	*106*	*152*	*152*	*6.2*
2½	2.875	300	300	3.82	3.11	2.68	4.37	6.00	6.00	14.3
65	*73.0*	*20*	*150*	*97*	*79*	*68*	*111*	*152*	*152*	*6.5*
76.1 mm	3.000	300	300	3.82	3.11	2.68	4.37	6.00	6.00	14.3
	76.1	*20*	*150*	*97*	*79*	*68*	*111*	*152*	*152*	*6.5*
3	3.500	300	300	3.82	3.62	2.99	4.96	6.00	6.00	16.0
80	*88.9*	*20*	*150*	*97*	*92*	*76*	*126*	*152*	*152*	*7.3*
4	4.500	300	300	4.57	4.65	3.50	5.32	6.00	6.00	19.1
100	*114.3*	*20*	*150*	*116*	*118*	*89*	*135*	*152*	*152*	*8.7*
139.7 mm	5.500	300	300	5.83	5.71	4.02	6.61	6.00	6.00	21.8
	139.7	*20*	*150*	*148*	*145*	*102*	*168*	*152*	*152*	*9.9*
5	5.563	300	300	5.83	5.71	4.02	6.61	6.00	6.00	21.8
125	*141.3*	*20*	*150*	*148*	*145*	*102*	*168*	*152*	*152*	*9.9*
165.1 mm	6.500	300	300	5.83	6.77	4.49	7.24	6.00	6.00	25.0
	165.1	*20*	*150*	*148*	*172*	*114*	*184*	*152*	*152*	*11.4*
6	6.625	300	300	5.83	6.77	4.49	7.24	6.00	6.00	25.3
150	*168.3*	*20*	*150*	*148*	*172*	*114*	*184*	*152*	*152*	*11.5*
200 JIS	8.516	300	300	5.24	8.74	5.51	8.19	6.00	6.00	31.9
	216.3	*20*	*150*	*133*	*222*	*140*	*208*	*152*	*152*	*14.5*
8	8.625	300	300	5.24	8.74	5.51	8.19	6.00	6.00	32.0
200	*219.1*	*20*	*150*	*133*	*222*	*140*	*208*	*152*	*152*	*14.5*

Model SJ-300N-W Butterfly Valve with Gear Operator

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	ASME/ANSI Pressure Class Rating^ @100°F/@38°C	Dimensions A	B	C	D	E	F	Weight‡
in *mm*	in *mm*	PSI *Bar*	PSI *Nom. Class*	in *mm*	in *mm*	in *mm*	in *mm*	in *mm*	in *mm*	Lbs *Kgs*
10 *250*	10.750 *273.0*	300 *20*	300 *150*	6.25 *159*	10.86 *276*	6.69 *170*	9.25 *235*	8.00 *203*	8.00 *203*	59.4 *27.0*
12 *300*	12.750 *323.9*	300 *20*	300 *150*	6.53 *165*	12.87 *327*	8.07 *205*	10.24 *260*	8.00 *203*	8.00 *203*	73.7 *33.5*
14 *350*	14.000 *355.6*	300 *20*	300 *150*	7.00 *178*	14.37 *365*	8.82 *224*	10.86 *276*	9.50 *241*	12.00 *305*	130.0 *59.0*
16 *400*	16.000 *406.4*	300 *20*	300 *150*	7.00 *178*	16.38 *416*	9.76 *248*	11.89 *302*	9.50 *241*	12.00 *305*	147.4 *67.0*
18 *450*	18.000 *457.2*	300 *20*	300 *150*	8.00 *203*	18.50 *470*	11.14 *283*	13.78 *350*	9.50 *241*	12.00 *305*	189.2 *86.0*
20 *500*	20.000 *508.0*	300 *20*	300 *150*	8.50 *216*	20.75 *527*	12.36 *314*	15.08 *383*	11.50 *292*	16.00 *406*	292.6 *133.0*
22 *550*	22.000 *559.0*	300 *20*	300 *150*	9.25 *235*	22.75 *578*	13.48 *343*	16.81 *427*	11.50 *292*	16.00 *406*	324.1 *147.0*
24 *600*	24.000 *609.6*	300 *20*	300 *150*	10.00 *254*	24.76 *629*	14.49 *368*	17.83 *453*	11.50 *292*	16.00 *406*	352.0 *160.0*

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

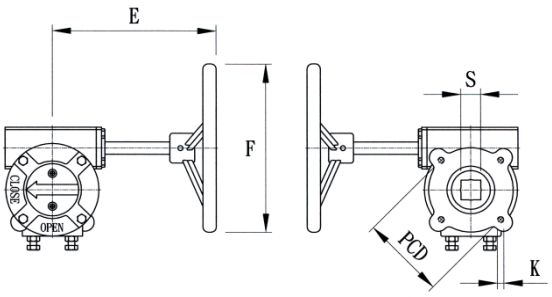
^ The ASME/ANSI pressure class rating is not the design or maximum pressure rating, rather is provided for those that are accustomed to specifying or using ASME/ANSI pressure class rated components such as flange, valves, etc.

‡ The weight includes the worm gear operator.

WORM GEAR OPERATOR

Worm Gear Operator

Nominal Size	E	F (dia.)	PCD (dia.)	K	S (square □ or **round** ○)	Wt.
in *mm*	in *mm*	in *mm*	in *mm*	mm	in *mm*	lbs *Kgs*
2 *50*	6.00 *152*	6.00 *152*	2.75 *70*	M8	□ 0.39 *10.0*	9.0 *4.1*
2½ *65*	6.00 *152*	6.00 *152*	2.75 *70*	M8	□ 0.39 *10.0*	9.0 *4.1*
3 *80*	6.00 *152*	6.00 *152*	2.75 *70*	M8	□ 0.39 *10.0*	9.0 *4.1*
4 *100*	6.00 *152*	6.00 *152*	2.75 *70*	M8	□ 0.47 *12.0*	9.0 *4.1*
5 *125*	6.00 *152*	6.00 *152*	2.75 *70*	M8	□ 0.47 *12.0*	9.0 *4.1*
6 *150*	6.00 *152*	6.00 *152*	2.75 *70*	M8	□ 0.63 *16.0*	9.0 *4.1*
8 *200*	6.00 *152*	6.00 *152*	2.75 *70*	M8	□ 0.63 *16.0*	9.0 *4.1*
10 *250*	8.00 *203*	8.00 *203*	4.02 *102*	M10	□ 0.94 *24.0*	12.3 *5.6*
12 *300*	8.00 *203*	8.00 *203*	4.02 *102*	M10	□ 0.94 *24.0*	12.3 *5.6*
14 *350*	9.50 *241*	12.00 *305*	4.90 *125*	M12	□ 0.94 *24.0*	32.8 *14.9*
16 *400*	9.50 *241*	12.00 *305*	4.90 *125*	M16	○ 1.44 *36.6*	32.8 *14.9*
18 *450*	9.50 *241*	12.00 *305*	5.50 *140*	M16	○ 1.63 *41.3*	32.8 *14.9*
20 *500*	11.50 *292*	16.00 *406*	6.50 *165*	M20	○ 2.04 *52.0*	67.1 *30.5*
22 *550*	11.50 *292*	16.00 *406*	6.50 *165*	M20	○ 2.04 *52.0*	67.1 *30.5*
24 *600*	11.50 *292*	16.00 *406*	6.50 *165*	M20	○ 2.04 *52.0*	67.1 *30.5*

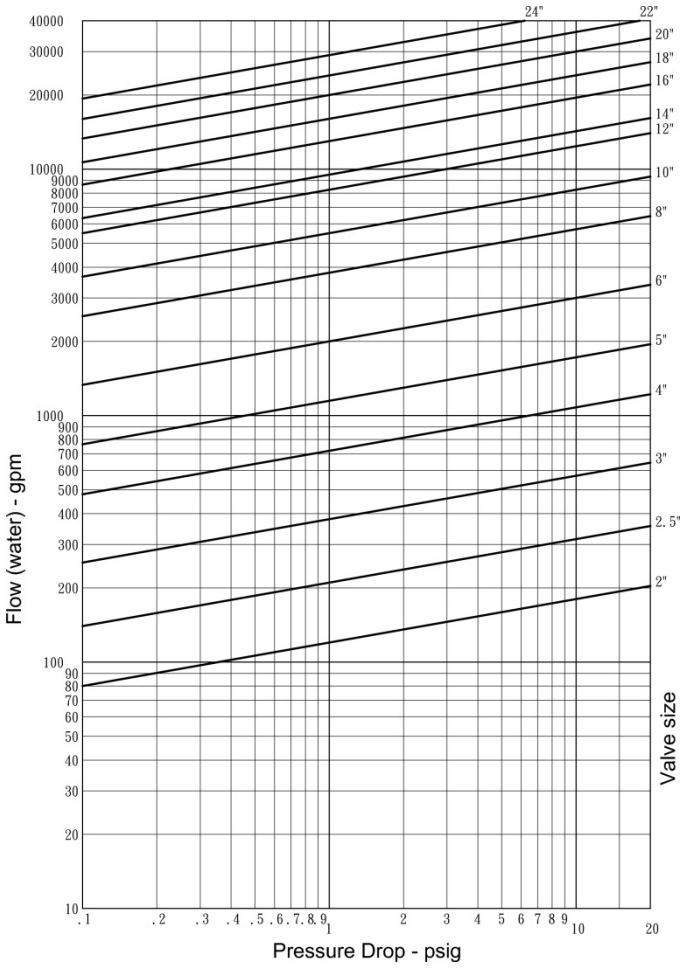


Flow Data

Equivalent length and C_v values for flow of water are shown below (water temperature at +86°F or +30°C)

Nominal Size	Equivalent Length on Sch. 40 pipe*	C_v Values
in	Feet (Meter)	
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)	2250
8	9.2 (2.8)	3800
10	13.5 (4.1)	5500
12	15.1 (4.6)	8250
14	19.6 (6.0)	9500
16	21.8 (6.6)	13000
18	23.8 (7.3)	16000
20	27.3 (8.3)	20000
22	30.5 (9.3)	24000
24	33.7 (10.3)	29000

*At 15 feet/sec. (4.6m/s) velocity of water.



Valve Torque Requirements

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

Model SJ-300N-W Torque Requirements			
Nominal Size	Torque	Nominal Size	Torque
in *mm*	In-Lbs *N-m*	in *mm*	In-Lbs *N-m*
2 *50*	80 *9.0*	10 *250*	1800 *203.4*
2½ *65*	120 *13.7*	12 *300*	2500 *282.5*
3 *80*	160 *18.1*	14 *350*	3000 *339.0*
4 *100*	450 *50.9*	16 *400*	4000 *452.0*
5 *125*	700 *79.1*	18 *450*	5500 *621.5*
6 *150*	900 *101.7*	20 *500*	8000 *904.0*
8 *200*	1200 *135.6*	24 *550*	9500 *1073.5*

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

MATERIAL SPECIFICATIONS

• Valve Body & Disc:

Ductile Iron to ASTM A536, Gr. 65-45-12 and or to ASTM A395, Gr. 65-45-15.

• Valve Body Coating:

Epoxy powder coating, black color, meets NSF 61 and Annex G, for use in +73.4°F (+23°C) cold potable water system.

• Disc Encapsulation:

Grade E-pw EPDM (Color code: Double Green stripe) certified under ANSI / NSF 61 and Annex G for cold potable water service to +73.4°F (+23°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals. Not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons.
EPDM Rubber is certified under NSF61 for use in potable water systems.

- ☐ Grade "E" EPDM (Color code: Green stripe) Good for cold & hot water up to +200°F (+93°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals. Not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons.
  Maximum Temperature Range: -30°F (-34°C) to +200°F (+93°C)*.
  *EPDM seat for water services are not recommended for steam services unless valves or components are accessible for frequent replacement.
- ☐ Grade T Nitrile (NBR): (Color code: Orange stripe) Grade T Nitrile is recommended for petroleum products, vegetable oils, mineral oils and air with vapors. Maximum Temperature Range: -20°F (-29°C) to +180°F (+82°C).
- ☐ Other options: Grade "O" - Fluoroelastomer.
  Grade "V" - Neoprene.

  For additional details contact *Shurjoint.*

• Upper & Lower Shafts:

Stainless steel Type 410.

• Stem Seals:

O-Ring, EPDM.

• Lever Handle:

Ductile Iron to ASTM A536, Gr. 65-45-12 and or to ASTM A395 Gr. 65-45-15. Black painted.

General Notes:

- *ASME/ANSI Pressure-Temperature Rating* is provided as an aid in selecting a proper coupling to incorporate with other piping components (valves, flanges, and etc.) that are used in the same system and carry the ASME/ANSI rating. Select a Class 150 coupling to incorporate with Class 150 valves and flanges.
- *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.
- 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.

Job Name:	System No.	Location:
Contractor:	Approved:	Date:
Engineer:	Approved:	Date:

Shurjoint *product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact* ***Shurjoint*** *Technical Service.* ***Shurjoint*** *reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligations to make such changes and modifications on* ***Shurjoint*** *products previously subsequently sold.*