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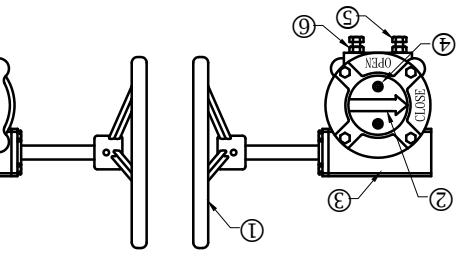
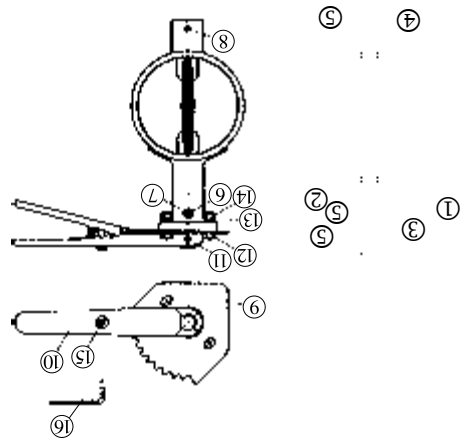
Part List

10-Position Indicator and Lever Handle



No.	Part Name	Material
1	Handwheel	D.I. A536 Gr. 65-45-12
2	Indicator	Cast Iron A126-B
3	Gear Case	Cast Iron A126-B
4	Adjusting Screw	Carbon Steel
5	Stop Screw	Carbon Steel
6	Fixing Nut	Carbon Steel
7	Set Screws w/ Spring Washers	Carbon Steel
8	Pin Hole Aligner	Carbon Steel

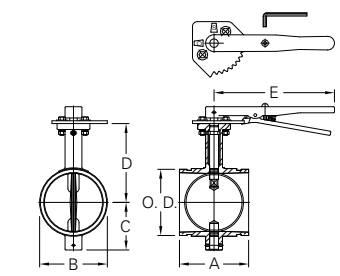
Worm-Gear Operator

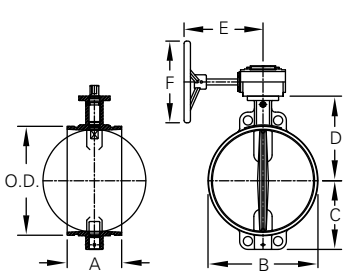


No.	Part Name	Material
1	Body	D.I. A536 Gr. 65-45-12
2	Disc	D.I. A536 Gr. 65-45-12 EPDM Encapsulated
3	Upper Stem	ASTM A582 Type 410
4	Lower Stem	ASTM A582 Type 410
5	O-Rings	EPDM
6	Set Screw	Cr-Mo Steel
7	Hex. Nut	Carbon Steel
8	Spring Pin	Spring Steel
9	10-Position Indicator	D.I. A536 Gr. 65-45-12
10	Lever Handle	D.I. A536 Gr. 65-45-12
11	Spring Pin	Spring Steel
12	Hex. Bolt	Carbon Steel
13	Spring Washer	Spring Steel
14	Hex. Nut	Carbon Steel
15	Lockscrew	Carbon Steel
16	Heptangonal Wrench	Cr-Mo Steel

Performance Data

Worm Gear Operator





Nominal Size	Pipe O.D.	Valve Body Dimensions					Lever Handle Type		Worm Gear Type		Weight
		A	B	C	D	E	Operating Torque	Weight	E	F	
in mm	in mm	in mm	in mm	in mm	in mm	in mm	In-Lb Nm	Lbs Kgs	in mm	in mm	Lbs Kgs
2 50	2.375 60.3	3.19 81	2.52 64	2.48 63	4.17 106	7.56 192	80 9	6.8 3.1	6.00 152	6.00 152	13.6 6.2
2½ 65	2.875 73.0	3.82 97	3.11 79	2.68 68	4.37 111	7.56 192	120 14	8.2 3.7	6.00 152	6.00 152	14.3 6.5
76.1 mm	3.000 76.1	3.82 97	3.11 79	2.68 68	4.37 111	7.56 192	120 14	8.4 3.8	6.00 152	6.00 152	14.3 6.5
3 80	3.500 88.9	3.82 97	3.62 92	2.99 76	4.96 126	7.56 192	160 18	9.0 4.1	6.00 152	6.00 152	16.0 7.3
4 100	4.500 114.3	4.57 116	4.65 118	3.50 89	5.32 135	10.24 260	450 51	11.4 5.2	6.00 152	6.00 152	19.1 8.7
139.7 mm	5.500 139.7	5.83 148	5.71 145	4.02 102	6.61 168	10.24 260	700 79	16.9 7.7	6.00 152	6.00 152	21.8 9.9
5 125	5.563 141.3	5.83 148	5.71 145	4.02 102	6.61 168	10.24 260	700 79	16.9 7.7	6.00 152	6.00 152	21.8 9.9
165.1 mm	6.500 165.1	5.83 148	6.77 172	4.49 114	7.24 184	10.24 260	900 102	20.2 9.2	6.00 152	6.00 152	25.0 11.4
6 150	6.625 168.3	5.83 148	6.77 172	4.49 114	7.24 184	10.24 260	900 102	20.2 9.2	6.00 152	6.00 152	25.3 11.5
200 JIS	8.516 216.3	5.24 133	8.74 222	5.51 140	8.19 208	10.24 260	1200 136	26.8 12.2	6.00 152	6.00 152	31.9 14.5
8 200	8.625 219.1	5.24 133	8.74 222	5.51 140	8.19 208	10.24 260	1200 136	26.8 12.2	6.00 152	6.00 152	32.0 14.5
10 250	10.750 273.0	6.25 159	10.86 276	6.69 170	9.25 235	14.02 356	1800 204	48.4 22.0	8.00 203	8.00 203	59.4 27.0
12 300	12.750 323.9	6.53 165	12.87 327	8.07 205	10.24 260	14.02 356	2500 282	73.7 33.5	8.00 203	8.00 203	73.7 33.5
14 350	14.000 355.6	7.00 178	14.37 365	8.82 224	10.86 276	— —	— —	— —	9.53 242	12.00 306	130.0 59.0
16 400	16.000 406.4	7.00 178	16.38 416	9.76 248	11.89 302	— —	— —	— —	9.53 242	12.00 306	147.4 67.0
18 450	18.000 457.2	8.00 203	18.50 470	11.14 283	13.78 350	— —	— —	— —	9.53 242	12.00 306	189.2 86.0
20 500	20.000 508.0	8.50 216	20.75 527	12.36 314	15.08 383	— —	— —	— —	11.40 290	16.20 412	292.6 133.0
22 550	22.000 559.0	9.25 235	22.75 578	13.48 343	16.81 427	— —	— —	— —	11.40 290	16.20 412	324.1 147.0
24 600	24.000 609.6	10.00 254	24.76 629	14.49 368	17.83 453	— —	— —	— —	11.40 290	16.20 412	352.0 160.0

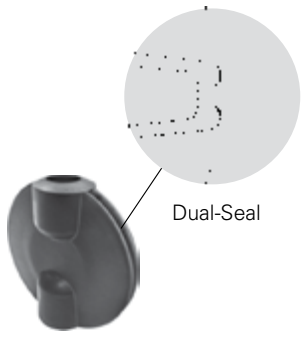
MODEL SJ-300N BUTTERFLY VALVE

Resilient Seated Butterfly Valve from 2″ to 24″

The Model SJ-300N Butterfly Valve is a grooved-end shut-off valve with outstanding flow characteristic, rated to 300 psi (20 Bar, 2.0 MPa) working pressure. The valve can be supplied with either a 10-position lever handle or a worm gear operator. The epoxy coated ductile iron body and rubber encapsulated dual-seal disc offer a bi-directional bubble tight seal.

Model SJ-300N-L
300 psi Butterfly Valve
with lever handle
Size range: 2″ to 12″

Model SJ-300N-W
300 psi Butterfly Valve
with gear operator
Size range: 2″ to 24″



Specifications:
Actuator platform: ISO 5211
Overall dimension: MSS SP 67
Applicable pipe:
ANSI B36.10, ISO 4200, DIN 2448, BSI1387-3600, NFA 49004

Technical Data:
Range: 2″ – 24″
Working pressure: 300 psi (20 Bar, 2.0 MPa)

Factory tested:
All valves are tested prior to shipping.
Sealing test: 110% of working pressure
Shell test: 200% of working pressure

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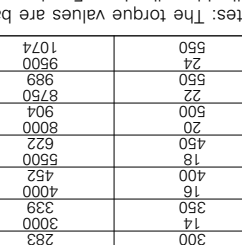
Web site: www.shurjoint.com
II / SJ-300N / 7

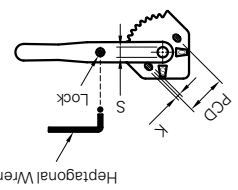
Performance Data / Operating Torque

Worm Gear Operator



Nominal Size	PCD (dia.)	K	S (round ○ or square □)	Weight
in mm	in mm	mm	in mm	Lbs Kgs
2 50	2.75 70	M8	□ 0.39 10	9.0 4.1
2½ 65	2.75 70	M8	□ 0.39 10	9.0 4.1
3 80	2.75 70	M8	□ 0.39 10	9.0 4.1
4 100	2.75 70	M8	□ 0.47 12	9.0 4.1
5 125	2.75 70	M8	□ 0.47 12	9.0 4.1
5 125	2.75 70	M8	□ 0.63 16	9.0 4.1
8 200	2.75 70	M8	□ 0.63 16	9.0 4.1
10 250	4.00 102	M10	□ 0.94 24	12.3 5.6
12 300	4.00 102	M10	□ 0.94 24	12.3 5.6
14 350	4.90 125	M12	□ 0.94 24	32.8 14.9
16 400	5.50 140	M16	○ 1.44 36.6	32.8 14.9
18 450	5.50 140	M16	○ 1.625 41.28	32.8 14.9
20 500	6.50 165	M20	○ 2.04 51.9	67.1 30.5
22 550	6.50 165	M20	○ 2.04 51.9	67.1 30.5
24 600	6.50 165	M20	○ 2.04 51.9	67.1 30.5

10-Position Indicator and Lever Handle



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

Operating Torque (SJ-300N-W)

Nominal Size	Torque
in mm	In-Lbs Nm
2 50	80 9
2½ 65	120 14
3 80	160 18
4 100	450 51
5 125	700 79
6 150	900 102
8 200	1200 136
10 250	1800 203
12 300	2500 283
14 350	3000 339
16 400	4000 452
18 450	5500 622
20 500	8000 904
22 550	8750 989
24 550	9500 1074

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

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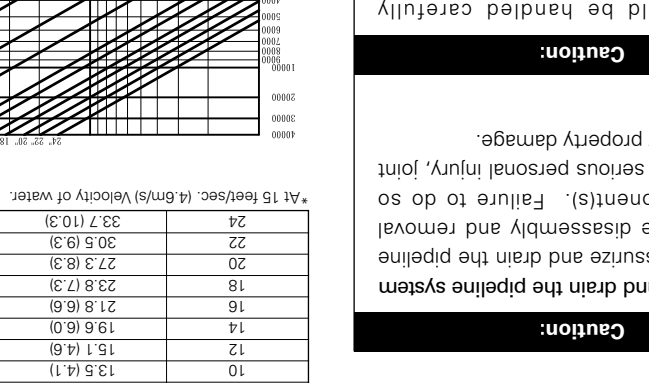
Mounting Instructions



1. Pipe End Preparation
Prepare the right OD pipe to match the valve size and process a groove at each pipe end. Make sure that the seating surface is free from roll marks or other harmful defects that could affect seating.

2. Lubricate gaskets
Apply thin coat of lubricant to gasket lips and complete exterior of gaskets.

> **Warning:**
> Warning: Do not use the Grade "E" EPDM gaskets for petroleum or other oil services.

3. Install gaskets
Place gaskets on each pipe end, and make sure that gasket lips do not overhang pipe ends.

4. Position the butterfly valve
Position the valve between pipe ends and butt to mating pipe ends. Slide the gasket over the ends and center it between the grooves on the pipe end and valve. No part of the gasket should protrude into the groove of either pipe or valve. The gear-operator should be in a position that an observer can see the indicator clearly and can tell that the valve is open or closed.

5. Install coupling halves:
Place the coupling halves over the gasket and make sure that the coupling keys are engaged into the grooves.

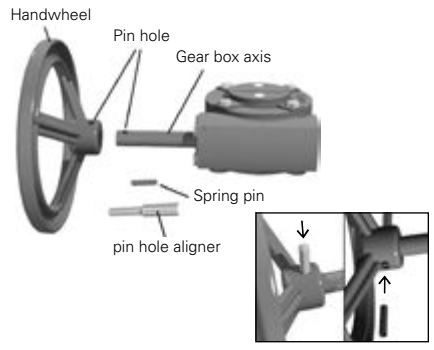
6. Insert bolt:
Insert the bolts and nuts. Make sure that the oval neck of the bolt engages into the bolt hole of the housing. Valve position can be adjusted prior to tightening.

7. Tighten nuts:
Tighten the nuts alternately and equally until the bolt pads come together, metal-to-metal.

8. Disassembly of valve
1) Drain the fluid completely from the pipeline.
2) Leave the valve slightly opened.
3) Loosen the coupling bolts and nuts.
4) Remove the valve from the pipeline.

Worm Gear Operator Installation

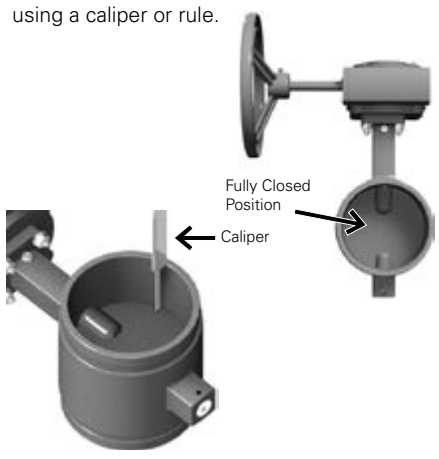
1. Affix the handwheel to the gear box axis by inserting the spring pin. Use the factory supplied pin hole aligner to help align the pinholes of the handwheel and the gear box axis.



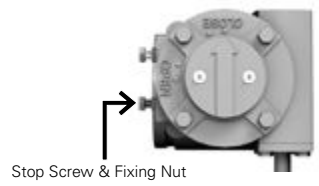
2. Affix the gear box with the four set screws supplied.

Valve size	Gear Box	Screw	Q'ty
2" ~ 8"	WGO-0	M8	4
10" ~ 12"	WGO-1	M10	4
14"	WGO-3	M12	4
16" ~ 18"	WGO-3	M16	4
20" ~ 24"	WGO-4	M20	4

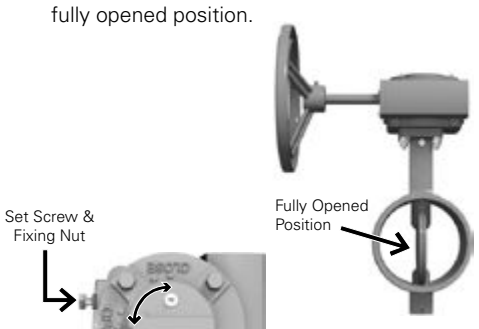
3. Turn the valve disc to fully closed position. Make sure the disc is even on both sides using a caliper or rule.



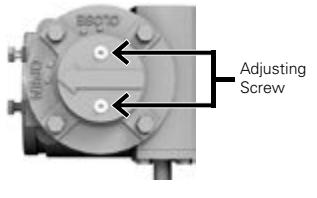
4. Fasten the stop screw on the right (of the word "OPEN" on the gear box) at fully closed position. The fully closed position is now set up.



5. Turn the disc to fully opened position making the valve disc perpendicular to valve body. Fasten the set-screw on the left to set up fully opened position.



6. Double check to ensure the indicator arrow on top of the gear box is pointing to CLOSE/ OPEN when valve is fully closed/opened. If not, loosen the two adjusting screws besides the indicator arrow, adjust, and fasten the screws accordingly.



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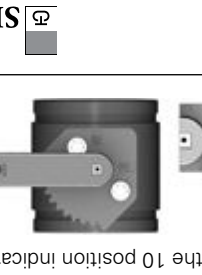
Lever Handle Installation

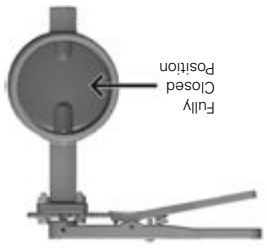
1. As supplied, the lever handle is disassembled and the 10 position indicator is not firmly affixed on the valve.



> **Caution:** Do not detach the indicator plate.

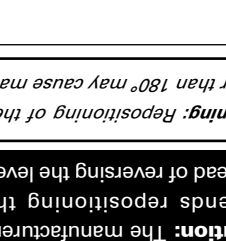
2. Mount the lever handle on the stem. Do not tighten the set screws yet.

3. Turn the lever handle until the disc comes to the fully closed position.



4. Make sure that the lever is positioned to point 'S' on the 10 position indicator plate.

5. Tighten the nuts firmly and affix the 10 position indicator plate on the valve.



6. Affix the lever handle to the valve stem by inserting the spring pin.

* Reverse Installation of Lever Handle

You may mount the lever handle on the reverse side of the valve only when it is absolutely necessary. Detach the lever handle and indicator plate, and reposition the indicator plate 180° on the opposite side. Then install the lever handle in the same manner as mentioned in 2 - 6.

> **Caution:** The manufacturer strongly recommends repositioning the entire valve instead of reversing the lever handle.

> **Warning:** *Repositioning of the indicator plate other than 180° may cause malfunction.*

Maintenance / Flow Data

Maintenance Instructions
The Model #SJ-300N Butterfly Valves require no regular maintenance. We do however recommend that you periodically inspect and verify proper operation of the unit on an annual basis or in accordance with the local authority(s) having jurisdiction. The inspection should include visual check for leakage at the valve pipe connection and the body to operator connection. Inspection and maintenance should be performed by qualified inspection personnel.

> **Caution:**
> **Depressurize and drain the pipeline system**
> Always depressurize and drain the pipeline system before disassembly and removal of any component(s). Failure to do so could result in serious personal injury, joint leakage and or property damage.

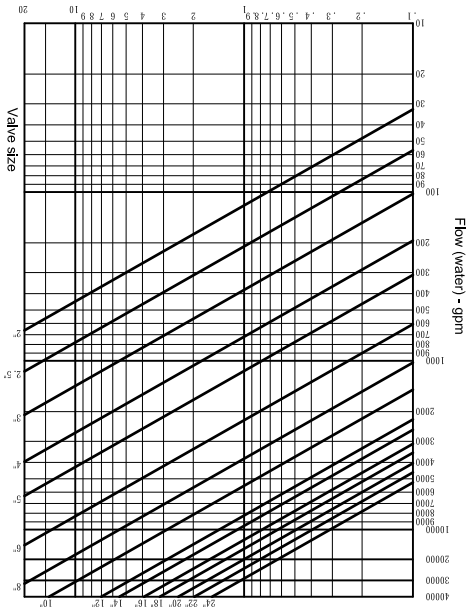
> **Caution:**
> Valves should be handled carefully to avoid any damage, especially to the seating area. If a valve tends to close hard, it usually indicates debris is lodged in the seating area. In such a case, back off the hand wheel and attempt to close the disc again.

> **Warning:**
> Do not use a wrench or other tool on the handwheel when opening or closing the valve as this may distort the valve components or score the sealing surface. The pipeline should be properly supported to prevent excess stress on the valve body.

Flow Data
Equivalent length and Cv values for flow of water are shown below (water temperature at +20°C or +68°F).

Nominal Size (in)	Equiv. Length of 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
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.



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