

Installation manual Butterfly valves

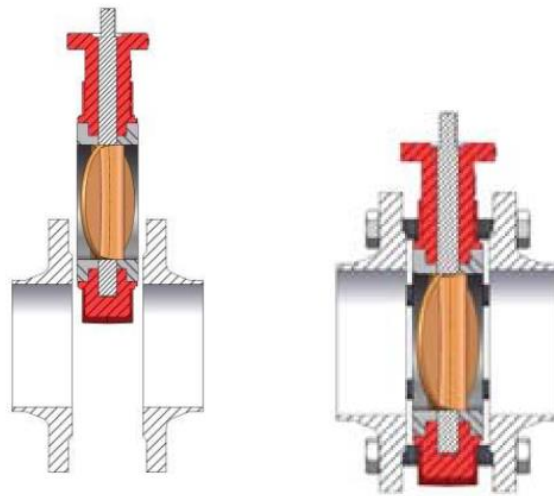


<p>OILFIELD SUPPLY</p> <ul style="list-style-type: none"> Riser Tensioner Fluids BOP Control Fluids <p>Houghton</p> <p>Environmentally friendly</p> <ul style="list-style-type: none"> Thread Compounds Jacking system grease Valve grease <p>Jet-Lube</p> <p>Diaphragm Pumps 409-M</p>	<p>HOSES</p> <p>Parker</p> <p>Quintamal's</p> <p>Flexible Choke & Kill Line with Tauroflon™ liner (up to 130°C)</p>	<p>VALVES</p> <p>Butterfly valve for abrasive fluids</p> <p>Chokes Ball Butterfly Gate, Globe & Check Double Block & Bleed</p>	<p>FILTRATION</p> <p>Spare and Tailor made solutions Engine</p> <ul style="list-style-type: none"> HVAC Process, Diesel, and Self Cleaning Filters 	<p>MECHANICAL SOLUTIONS</p> <ul style="list-style-type: none"> Engineering Machining Fabrication Service
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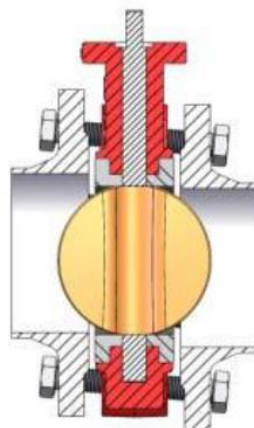
Installation manual Butterfly valves Installation

The valves shall never be installed where service conditions could exceed the valve ratings concerning pressure, temperature or operating media. Failure to comply with this warning may result in personal injury or property damage.

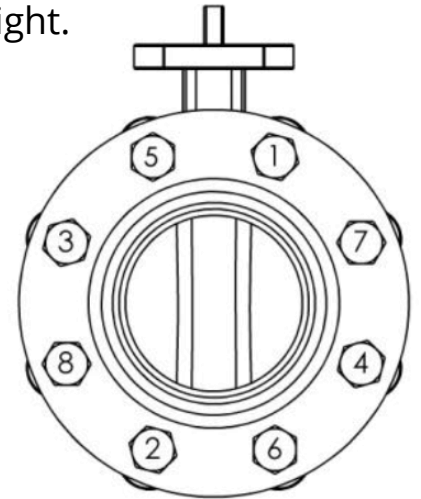
1. Check the valve identification tag to make sure the pressure and valve materials are correct for the application.
2. Make sure the pipe line has sufficient support in order to prevent vibrations and load weight from damaging the valve.
3. Make sure pipes are aligned
4. Make sure the pipe flanges and valve sealing faces are clean from any debris.
5. Spread the flanges enough to allow the butterfly valve to fit with partly opened disc (5-10 degrees).



6. Fix the valve (without any gaskets) with the bolts - without tighten them - open the disc to a fully open position and make sure it will not be in contact with the pipe.



7. Tighten each bolt crosswise according to figure on the right.



Bolt tightening sequence

Crosswise bolt tightening to ensure a fixed installation, other bolt tightening may affect the installation. Bolt torque is given below

Bolt torque (Nm)

(Torque values require correct lubrication of bolts)

Thread size	8.8	10.9	12.9
M5	5,7	8,1	9,7
M6	9,8	14	17
M8	24	33	40
M10	47	65	79
M12	81	114	136
M16	197	277	333
M20	385	541	649
M24	665	935	1120
M30	1310	1840	2210
M36	2280	3210	3850

UNC	8.8	10.9	12.9
1/4 - 20	11	15	19
5/16 - 18	22	31	38
3/8 - 16	38	54	68
7/16 - 14	61	87	108
1/2 - 13	93	131	163
9/16 - 12	133	187	234
5/8 - 11	183	259	323
3/4 - 10	322	455	568
7/8 - 9	516	729	909
1 - 8	772	1090	1360
1 1/8 - 7	1090	1550	1930
1 1/4 - 7	1530	2160	2690
1 1/2 - 6	2650	3750	4680

Bolt dimension- Wafer

		PN 10 Flange Type 11			PN 16 Flange Type 11			ANSI B16.5 class 150		
Valve size	Face to face length	Flange thickness	No. of boltholes in body + Remaining boltholes	Boltsize	Flange thickness	No. of boltholes in body + Remaining boltholes	Boltsize	Flange thickness	No. of boltholes in body + Remaining boltholes	Boltsize
mm	Lk [mm]	B [mm]		L [mm]	B [mm]	L [mm]	L [mm]	B [mm]		L [mm]
20	25	18	4 + 0	M12x85	18	4 + 0	M12x85	12.7	4 + 0	1/2"-13 UNC x 80
25	25	18	4 + 0	M12x85	18	4 + 0	M12x85	14.2	4 + 0	1/2"-13 UNC x 85
32	33	18	2 + 2 ¹⁵	M16x100	18	2 + 2 ¹⁵	M16x100	15.7	2 + 2 ¹⁵	1/2"-13 UNC x 95
40	33	18	2 + 2	M16x100	18	2 + 2	M16x100	17.5	2 + 2	1/2"-13 UNC x 100
50	43	18	2 + 2	M16x110	18	2 + 2	M16x110	19.1	2 + 2	5/8"-11 UNC x 120
65	46	18	2 + 2	M16x120	18	2 + 2	M16x120	22.4	2 + 2	5/8"-11 UNC x 130
80	46	20	2 + 6	M16x120	20	2 + 6	M16x120	23.9	2 + 2	5/8"-11 UNC x 130
100	52	20	2 + 6	M16x130	20	2 + 6	M16x130	23.9	2 + 6	5/8"-11 UNC x 140
125	56	22	2 + 6	M16x130	22	2 + 6	M16x130	23.9	2 + 6	3/4"-10 UNC x 150
150	56	22	2 + 6	M20x140	22	2 + 6	M20x140	25.4	2 + 6	3/4"-10 UNC x 150
200	60	24	2 + 6	M20x150	24	2 + 10	M20x150	28.4	2 + 6	3/4"-10 UNC x 160
250	68	26	2 + 10	M20x160	26	2 + 10	M24x180	30.2	2 + 10	7/8"-9 UNC x 180
300	78	26	2 + 10	M20x170	28	2 + 10	M24x180	31.8	2 + 10	7/8"-9 UNC x 190
350	78	26	4 + 12	M20x170	30	4 + 12	M24x200	35.1	4 + 8	1"-8 UN x 200
400	102	26	4 + 12	M24x200	32	4 + 12	M27x220	36.6	4 + 12	1"-8 UN x 230
450	114	28	4 + 16	M24x220	40	4 + 16	M27x260	39.6	4 + 12	1.1/8"-8 UN x 260
500	127	28	4 + 16	M24x230	44	4 + 16	M30x280	42.9	4 + 16	1.1/8"-8 UN x 280
600	154	28	4 + 16	M27x260	54	4 + 16	M33x340	47.8	4 + 16	1.1/4"-8 UN x 320
700	165	30	8 + 20	See note ⁹	36	8 + 20	See note ¹²	71.5	4 + 24	1.1/4"-8 UN x 380
750	190		Not available			Not available		74.5	4 + 24	1.1/4"-8 UN x 410
800	190	32	8 + 20	See note ¹⁰	38	8 + 20	See note ¹³	81.0	4 + 24	1.1/4"-8 UN x 430
900	203	34	8 + 24	See note ¹¹	40	8 + 24	See note ¹⁴	90.4	4 + 28	1.1/4"-8 UN x 470

- Notes**
9. 8 pcs. M27x85 + 20 pcs. M27x280
 10. 8 pcs. M30x90 + 20 pcs. M30x310
 11. 8 pcs. M30x90 + 24 pcs. M30x330
 12. 8 pcs. M33x95 + 20 pcs. M33x300
 13. 8 pcs. M36x100 + 20 pcs. M36x340
 14. 8 pcs. M36x100 + 24 pcs. M36x350

Bolt dimension- Lugged

		PN 10 Flange Type 11			PN 16 Flange Type 11			ANSI B16.5 class 150		
Valve size	Face to face length	Flange thickness	No. of boltholes	Boltsize	Flange thickness	No. of boltholes	Boltsize	Flange thickness	No. of boltholes	Boltsize
mm	Lk [mm]	B [mm]		L [mm]	B [mm]		L [mm]	B [mm]		L [mm]
20	25	18	4	M12x30	18	4	M12x30	12.7	4	1/2"-13 UNC x 27
25	25	18	4	M12x30	18	4	M12x30	14.2	4	1/2"-13 UNC x 29
32	33	18	4	M16x35	18	4	M16x35	15.7	4	1/2"-13 UNC x 32
40	33	18	4	M16x35	18	4	M16x35	17.5	4	1/2"-13 UNC x 34
50	43	18	4	M16x40	18	4	M16x40	19.1	4	5/8"-11 UNC x 40
65	46	18	4	M16x40	18	4	M16x40	22.4	4	5/8"-11 UNC x 43
80	46	20	8	M16x40	20	8	M16x40	23.9	4	5/8"-11 UNC x 45
100	52	20	8	M16x45	20	8	M16x45	23.9	8	5/8"-11 UNC x 47
125	56	22	8	M16x45	22	8	M16x45	23.9	8	3/4"-10 UNC x 49
150	56	22	8	M20x45	22	8	M20x45	25.4	8	3/4"-10 UNC x 50
200	60	24	8	M20x50	24	12	M20x50	28.4	8	3/4"-10 UNC x 55
250	68	26	12	M20x55	26	12	M24x55	30.2	12	7/8"-9 UNC x 60
300	78	26	12	M20x60	28	12	M24x60	31.8	12	7/8"-9 UNC x 65
350	78	26	16	M20x60	30	16	M24x65	35.1	12	1"-8 UN x 70
400	102	26	16	M24x70	32	16	M27x75	36.6	16	1"-8 UN x 75
450	114	28	20	M24x80	40	20	M27x90	39.6	16	1.1/8"-8 UN x 90
500	127	28	20	M24x90	44	20	M30x90	42.9	20	1.1/8"-8 UN x 100
600	154	28	20	M27x100	54	20	M33x110	47.8	20	1.1/4"-8 UN x 110
700	165	30	24	M27x110	36	24	See note ²	71.5	28	1.1/4"-8 UN x 145 ⁵
750	190	Not available			Not available			74.5	28	1.1/4"-8 UN x 155 ⁶
800	190	32	24	M30x125	38	24	See note ³	81.0	28	1.1/2"-8 UN x 165 ⁷
900	203	34	28	See note ¹	40	28	See note ⁴	90.5	32	1.1/2"-8 UN x 180 ⁸

- Notes:**
- 1 24 pcs. M30x130 + 4 pcs. M30x90
 - 2 20 pcs. M33x110 + 4 pcs. M33x75
 - 3 20 pcs. M36x120 + 4 pcs. M36x80
 - 4 24 pcs. M36x130 + 4 pcs. M36x90
 - 5 near neck max 110 due to not drilled through threaded holes
 - 6 near neck max 120 due to not drilled through threaded holes
 - 7 near neck max 130 due to not drilled through threaded holes
 - 8 near neck max 145 due to not drilled through threaded holes