

Butterfly Valves

STC / STC-SR / STL / STL-SR / AL-STC / STDF / U-SECTION

Rev. 3.0 / 2013. 06. 18



Standard Butterfly Valve

STC **STC-SR**
STL **STL-SR**
AL-STC **U-SECTION**
STDF

Size : Boot design seat type : 2″ ~ 24″
Cartridge design seat type : 2" ~ 48"
Type : Wafer , Lug, Flanged Type
Pressure Rating : Class 125/150
Body Material : Cast Iron, Ductile Iron, Aluminum and Stainless Steel.
Seat Type : Standard Boot , Cartridge Type
Operation : Lever , Gear , Actuators
Drilling : ANSI 125/150, JIS 5/10/16K, DIN PN 10/16, TTMA, BS10

Available in tapped lug body or wafer design with common drilling (universal) including ANSI 125/150, JIS 5/10/16K, DIN PN 10/16.

- One – piece body construction of Ductile Iron, Cast Iron, Aluminum or Stainless Steel design complies with API 609, MSS SP 67, and ISO 5752.

- ISO 5211 mounting pad with square or key type stem shaft permits direct mount actuation for both Manual (Lever & gear), pneumatic and electric operations.

- Teflon stem bushing to assure long life even during extended period of activity. Lowers operating torque for easy manual operation and maximize shaft support.

- High strength two-piece stem eliminates taper pins or disc screws which often fail prematurely through abrasion, corrosion or fatigue.

- All disc castings are spherically machined & polished for extended seat life & bubble tight shut off.

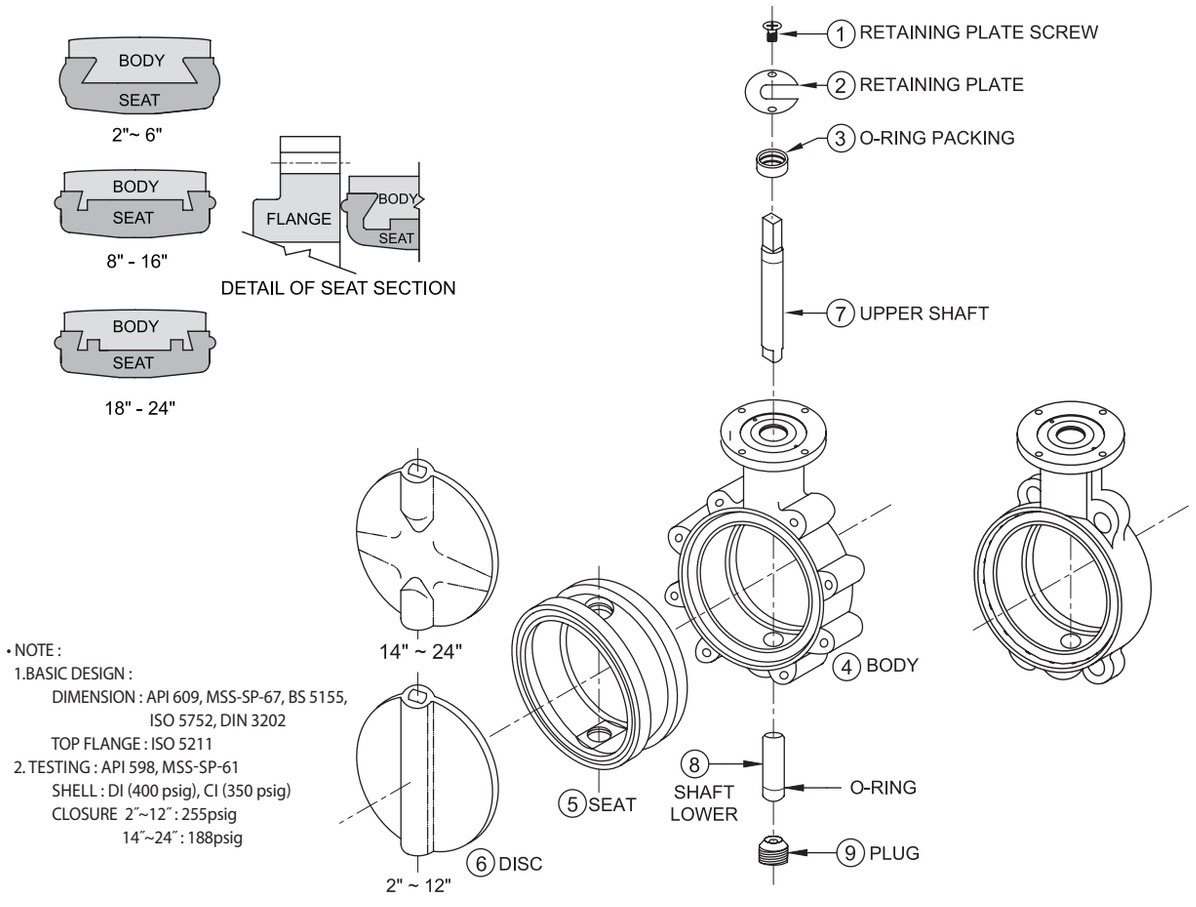
- Seat type available in both encapsulated phenolic or Aluminum backed Cartridge seat and Boot design. Cartridge design seat permits easy change without special tools

- Conform to API 598 and MSS SP 61. Shell tested to 150% and seat tested to 110% of maximum working pressure

- Lug body valves are rated for 150 PSI in dead end service.

- Valve Rating:
  Top flange mounting pad: ISO 5211
  Basic Design: API 609, MSS-SP-67, BS 5155, ISO 5752, DIN 3202
  Shell/Seat Test: API 598, MSS-SP-61
  Shell: 400 psig
  Closure: 2″ ~ 12″ : 255 psig
  14″ ~ 24″ : 188 psig

Standard Resilient Boot Type Seat Butterfly Valve Parts : STC / STL / AL-STC



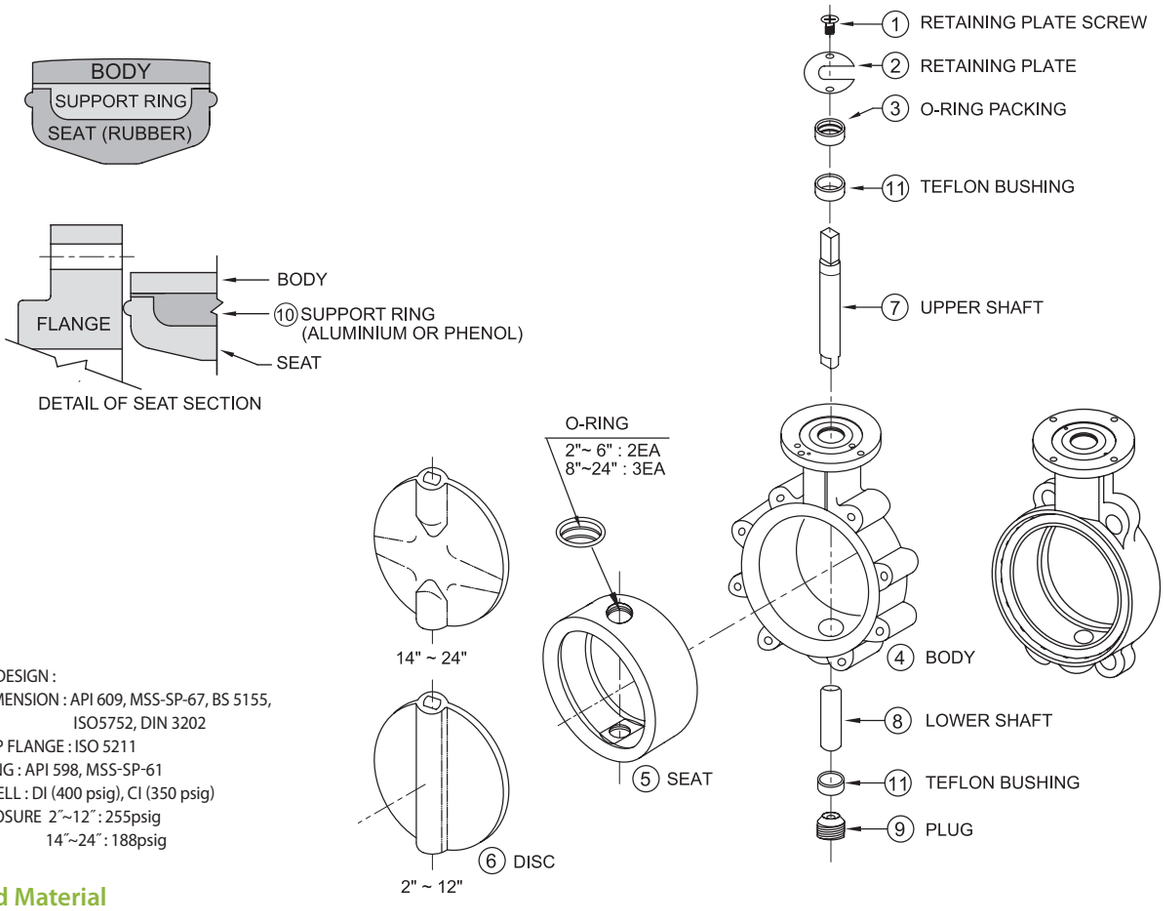
• NOTE :
1.BASIC DESIGN :
DIMENSION : API 609, MSS-SP-67, BS 5155, ISO 5752, DIN 3202
TOP FLANGE : ISO 5211
2. TESTING : API 598, MSS-SP-61
SHELL : DI (400 psig), CI (350 psig)
CLOSURE 2″~12″ : 255psig
14″~24″ : 188psig

Standard Material

NO	DESCRIPTION	MATERIAL	CODE NO.	STANDARD	REMARKS
1	RETAINING PLATE SCREW	CARBON STEEL		ASTM A283D-A36	GALVANIZED
2	RETAINING PLATE	CARBON STEEL		ASTM A283D-A36	GALVANIZED
3	O-RING PACKING	EPDM or NBR		ASTM D2000	
4	BODY	CAST IRON	GG25	ASTM A126/EN1561	
		DUCTILE IRON	GGG40	ASTM A536/DIN1693	
		ALUMINUM		ASTM B26	
5	SEAT				WORKING TEMPERATURE
		EPDM		ASTM D2000	-30 ℃ ~ +110 ℃
		BUNA-N (NBR)		ASTM D2000	-20 ℃ ~ +90 ℃
		WHITE EPDM		ASTM D2000	-30 ℃ ~ +110 ℃
		VITON		ASTM D2000	-10 ℃ ~ +160 ℃
		HIGH TEMPERATURE EPDM		ASTM D2000	-30 ℃ ~ +130 ℃
6	DISC	DUCTILE IRON	GGG40	ASTM A536/DIN1693	CHROME/ NICKEL PLATED
		STAINLESS STEEL	CF8	ASTM A351	
			CF8M	ASTM A351	
		ALUMINIUM BRONZE	ALBC	ASTM B148 C95300	
7	UPPER STEM	STAINLESS STEEL	SS 304	ASTM A 479 A 276 A 582	
			SS 316		
8	LOWER STEM		SS 410		
			SS 420		
9	PLUG	CARBON STEEL		ASTM A283D-A36	

** Alternative Material available upon Special Request

Cartridge Type Butterfly Valve Parts : STC-SR / STL-SR / U-SECTION



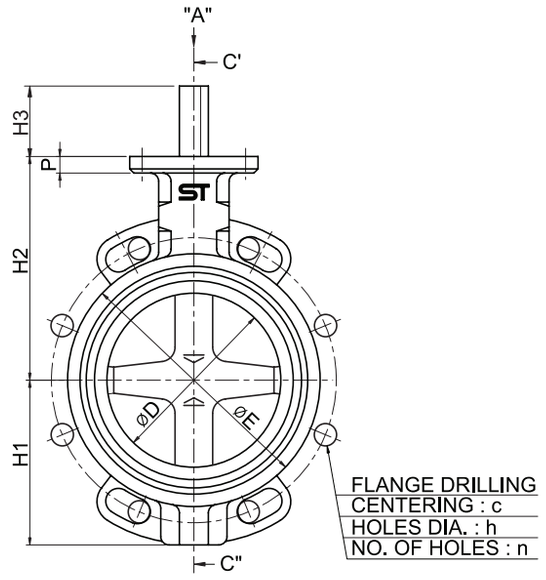
• NOTE :
1.BASIC DESIGN :
DIMENSION : API 609, MSS-SP-67, BS 5155, ISO5752, DIN 3202
TOP FLANGE : ISO 5211
2. TESTING : API 598, MSS-SP-61
SHELL : DI (400 psig), CI (350 psig)
CLOSURE 2″~12″ : 255psig
14″~24″ : 188psig

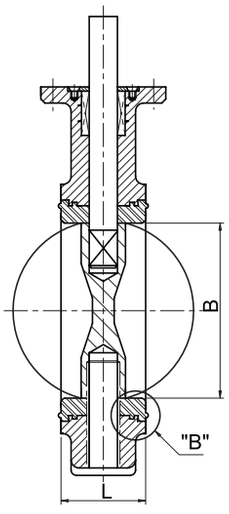
standard Material

NO	DESCRIPTION	MATERIAL	CODE NO.	STANDARD	REMARKS
1	RETAINING PLATE SCREW	CARBON STEEL/ STAINLESS STEEL304		ASTM A283D-A36	GALVANIZED
2	RETAINING PLATE	CARBON STEEL/ STAINLESS STEEL316		ASTM A283D-A36	GALVANIZED
3	O-RING PACKING	EPDM or NBR		ASTM D2000	
4	BODY	CAST IRON	GG25	ASTM A126/ EN1561	
		DUCTILE IRON	GGG40	ASTM A536/ DIN1693	
		STAINLESS STEEL	CF8M	ASTM A351	
5	SEAT				WORKING TEMPERATURE
		EPDM		ASTM D2000	-30 ℃ ~ +110 ℃
		BUNA-N (NBR)		ASTM D2000	-20 ℃ ~ +90 ℃
		WHITE EPDM		ASTM D2000	-30 ℃ ~ +110 ℃
		VITON		ASTM D2000	-10 ℃ ~ +160 ℃
		HIGH TEMPERATURE EPDM		ASTM D2000	-30 ℃ ~ +130 ℃
		TEFLON (PTFE)		PTFE	-40 ℃ ~ + 250 ℃
6	DISC	DUCTILE IRON	GGG40	ASTM A536/DIN1693	CHROME/ NICKEL PLATED
		STAINLESS STEEL	CF8	ASTM A351	
			CF8M	ASTM A351	
		ALUMINIUM BRONZE	ALBC	ASTM B 148 C95400	only available in CI/ DI Body
7	UPPER STEM	STAINLESS STEEL	SS 304	ASTM A 479 A 276 A 582	
			SS 316		
8	LOWER STEM		SS 410		
			SS 420		
9	PLUG	CARBON STEEL/ STAINLESS STEEL316		ASTM A283D-A36	
10	SUPPORT RING	PHENOL		ASTM D2000	(2″ ~ 14″)
		ALUMINIUM		ASTM B275	(16″ ~ 24″)
11	TEFLON BUSHING	TEFLON		PTFE	

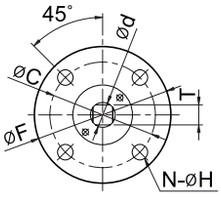
Model : **STC**

Wafer type, Common Drilled ANSI 150LBS, DIN PN10, PN16, JIS5K,10K

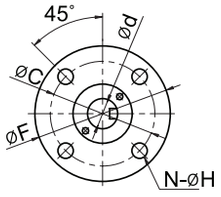




SECTION OF C'-C"



VIEW OF "A"
(TOP FLANGE)
2″~12″



VIEW OF "A"
(TOP FLANGE)
14″~24″

Dimensions

(unit : mm)

SIZE	TOP FLANGE & STEM									OUT LINE DIMENSION					
mm	Ød	P	ØC	N	H	T	ØF	H3	ISO 5211	L	ØD	H1	H2	ØE	B
50A	14.0	14	70	4	9.0	11	90	15.2	F07	43.0	52.0	75.0	133.0	94	49.0
65A	14.0	14	70	4	9.0	11	90	15.2	F07	46.0	67.0	80.0	141.0	109	64.0
80A	14.0	14	70	4	9.0	11	90	15.2	F07	46.0	80.0	84.0	145.0	123	77.0
100A	16.0	16	70	4	9.0	14	90	17.7	F07	52.0	100.0	95.0	166.5	147	97.0
125A	18.0	16	70	4	9.0	14	90	17.7	F07	56.0	125.0	110.0	190.5	173	122.0
150A	18.0	16	70	4	9.0	14	90	17.7	F07	56.0	150.5	143.0	206.5	202	148.0
200A	22.0	17	70	4	9.0	17	90	20.5	F07	60.0	196.5	168.0	240.0	251	193.5
250A	25.4	20	102	4	11.0	22	125	20.5	F10	68.0	247.0	203.0	286.0	318	244.4
300A	28.0	20	102	4	11.0	22	125	24.1	F10	78.0	295.5	242.0	313.0	362	293.0
350A	28.0	20	102	4	12.0		125	70.0	F10	78.0	330.0	264.5	345.5	415	326.0
400A	32.0	23	140	4	18.0		175	80.0	F14	102.0	379.0	298.5	349.5	462	376.5
450A	38.0	23	140	4	18.0		175	80.0	F14	114.0	437.0	354.5	400.0	527	434.0
500A	45.0	23	165	4	22.0		210	90.0	F16	127.0	490.0	384.5	440.0	578	486.0
600A	55.0	23	165	4	22.0		210	95.0	F16	154.0	574.5	444.5	510.0	680	570.5

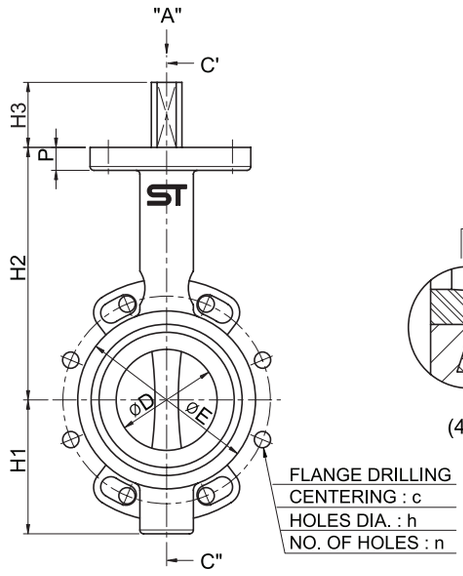
(unit : inch)

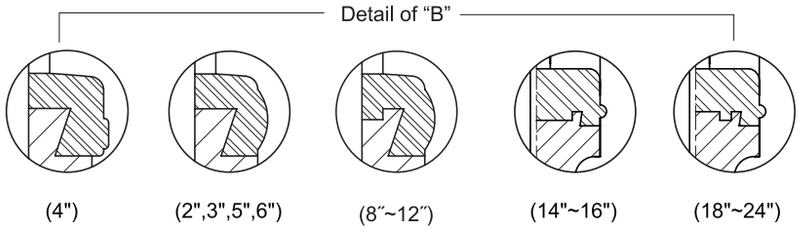
SIZE	TOP FLANGE & STEM									OUT LINE DIMENSION					
inch	Ød	P	ØC	N	H	T	ØF	H3	ISO 5211	L	ØD	H1	H2	ØE	B
2"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.69	2.05	2.95	5.24	3.70	1.93
2 1/2"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.81	2.64	3.15	5.55	4.29	2.52
3"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.81	3.15	3.31	5.71	4.84	3.03
4"	0.63	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.05	3.94	3.74	6.56	5.79	3.82
5"	0.71	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.20	4.92	4.33	7.50	6.81	4.80
6"	0.71	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.20	5.93	5.63	8.13	7.95	5.83
8"	0.87	0.67	2.76	4	0.35	0.67	3.54	0.81	F07	2.36	7.74	6.61	9.45	9.88	7.62
10"	1.00	0.79	4.02	4	0.43	0.87	4.92	0.81	F10	2.68	9.72	7.99	11.26	12.52	9.62
12"	1.10	0.79	4.02	4	0.43	0.87	4.92	0.95	F10	3.07	11.63	9.53	12.32	14.25	11.54
14"	1.10	0.79	4.02	4	0.47		4.92	2.76	F10	3.07	12.99	10.41	13.60	16.34	12.83
16"	1.26	0.91	5.51	4	0.71		6.89	3.15	F14	4.02	14.92	11.75	13.76	18.19	14.82
18"	1.50	0.91	5.51	4	0.71		6.89	3.15	F14	4.49	17.20	13.96	15.75	20.75	17.09
20"	1.77	0.91	6.50	4	0.87		8.27	3.54	F16	5.00	19.29	15.14	17.32	22.76	19.13
24"	2.17	0.91	6.50	4	0.87		8.27	3.74	F16	6.06	22.62	17.50	20.08	26.77	22.46

Model : STC

Wafer type, Common Drilled ANSI 150LBS, DIN PN10, PN16, JIS5K,10K







Flange Drilling Table

(unit : mm)

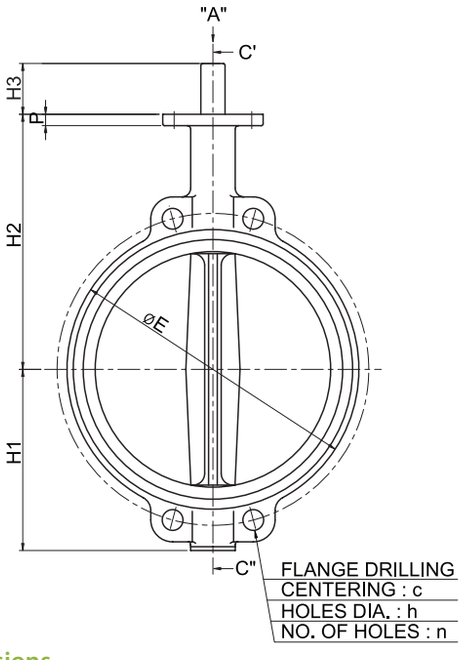
SIZE	PN 10			PN 16			ANSI 150 LBS			JIS 5K			JIS 10K		
mm	c	n	h	c	n	h	c	n	h	c	n	h	c	n	h
50A	125.0	4	18.0	125.0	4	18.0	120.7	4	19.1	105.0	4	15.0	120.0	4	19.0
65A	145.0	4	18.0	145.0	4	18.0	139.7	4	19.1	130.0	4	15.0	140.0	4	19.0
80A	160.0	8	18.0	160.0	8	18.0	152.4	4	19.1	145.0	4	19.0	150.0	8	19.0
100A	180.0	8	18.0	180.0	8	18.0	190.5	8	19.1	165.0	8	19.0	175.0	8	19.0
125A	210.0	8	18.0	210.0	8	18.0	215.9	8	22.2	200.0	8	19.0	210.0	8	23.0
150A	240.0	8	22.0	240.0	8	22.0	241.3	8	22.2	230.0	8	19.0	240.0	8	23.0
200A	295.0	8	22.0	295.0	12	22.0	298.5	8	22.2	280.0	8	23.0	290.0	12	23.0
250A	350.0	12	22.0	355.0	12	26.0	362.0	12	25.4	345.0	12	23.0	355.0	12	25.0
300A	400.0	12	22.0	410.0	12	26.0	431.8	12	25.4	390.0	12	23.0	400.0	16	25.0
350A	460.0	16	22.0	470.0	16	26.0	476.3	12	28.6	435.0	12	25.0	445.0	16	25.0
400A	515.0	16	26.0	525.0	16	30.0	539.8	16	28.6				510.0	16	27.0
450A	565.0	20	26.0	585.0	20	30.0	577.9	16	31.8				565.0	20	27.0
500A	620.0	20	26.0	650.0	20	33.0	635.0	20	31.8				620.0	20	27.0
600A	725.0	20	30.0	770.0	20	36.0	749.3	20	34.9				730.0	24	33.0

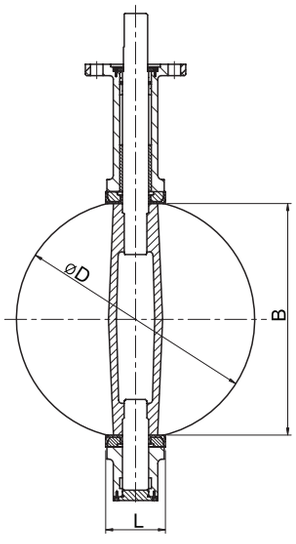
(unit : inch)

SIZE	PN 10			PN 16			ANSI 150 LBS			JIS 5K			JIS 10K		
inch	c	n	h	c	n	h	c	n	h	c	n	h	c	n	h
2"	4.92	4	0.71	4.92	4	0.71	4.75	4	0.75	4.13	4	0.59	4.72	4	0.75
2 1/2"	5.71	4	0.71	5.71	4	0.71	5.50	4	0.75	5.12	4	0.59	5.51	4	0.75
3"	6.30	8	0.71	6.30	8	0.71	6.00	4	0.75	5.71	4	0.75	5.91	8	0.75
4"	7.09	8	0.71	7.09	8	0.71	7.50	8	0.75	6.50	8	0.75	6.89	8	0.75
5"	8.27	8	0.71	8.27	8	0.71	8.50	8	0.87	7.87	8	0.75	8.27	8	0.91
6"	9.45	8	0.87	9.45	8	0.87	9.50	8	0.87	9.06	8	0.75	9.45	8	0.91
8"	11.61	8	0.87	11.61	12	0.87	11.75	8	0.87	11.02	8	0.91	11.42	12	0.91
10"	13.78	12	0.87	13.98	12	1.02	14.25	12	1.00	13.58	12	0.91	13.98	12	0.98
12"	15.75	12	0.87	16.14	12	1.02	17.00	12	1.00	15.35	12	0.91	15.75	16	0.98
14"	18.11	16	0.87	18.50	16	1.02	18.75	12	1.13	17.13	12	0.98	17.52	16	0.98
16"	20.28	16	1.02	20.67	16	1.18	21.25	16	1.13				20.08	16	1.06
18"	22.24	20	1.02	23.03	20	1.18	22.75	16	1.25				22.24	20	1.06
20"	24.41	20	1.02	25.59	20	1.30	25.00	20	1.25				24.41	20	1.06
24"	28.54	20	1.18	30.31	20	1.42	29.50	20	1.37				28.74	24	1.30

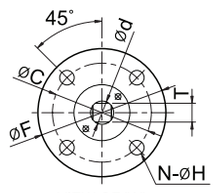
Model : **STC-SR** Cartridge Seat Type

Wafer Type, Common Drilled ANSI 150LBS, DIN PN10, PN16, JIS10K

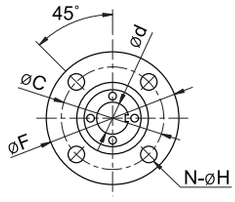




SECTION OF C'-C"



VIEW OF "A"
(TOP FLANGE)
2˝~12˝



VIEW OF "A"
(TOP FLANGE)
14˝~24˝

dimensions

(unit : mm)

SIZE	TOP FLANGE & STEM									OUT LINE DIMENSION					
mm	Ød	P	ØC	N	H	T	ØF	H3	ISO 5211	L	ØD	H1	H2	ØE	B
50A	14.0	14	70	4	9.0	11	90	15.2	F07	43.0	52.0	70.4	128.4	93.0	49.0
65A	14.0	14	70	4	9.0	11	90	15.2	F07	46.0	67.0	75.1	136.0	108.0	64.0
80A	14.0	14	70	4	9.0	11	90	15.2	F07	46.0	80.0	93.2	143.2	126.0	77.0
100A	16.0	16	70	4	9.0	14	90	17.7	F07	52.0	100.0	106.2	162.7	150.0	97.0
125A	18.0	16	70	4	9.0	14	90	17.7	F07	56.0	125.0	119.1	186.5	177.0	122.0
150A	18.0	16	70	4	9.0	14	90	17.7	F07	56.0	150.5	139.2	202.7	208.0	148.0
200A	22.0	17	70	4	9.0	17	90	20.5	F07	60.0	196.5	166.3	237.2	259.0	193.5
250A	25.4	20	102	4	11.0	22	125	20.5	F10	68.0	247.0	199.6	282.6	317.0	245.0
300A	28.0	20	102	4	11.0	22	125	24.1	F10	78.0	295.5	240.6	311.6	371.0	293.0
350A	28.0	20	102	4	12.0		125	70.0	F10	78.0	330.0	264.5	345.5	415.1	326.0
400A	32.0	23	140	4	18.0		175	80.0	F14	102.0	379.0	298.5	349.5	474.7	376.5
450A	38.0	23	140	4	18.0		175	80.0	F14	114.0	437.0	354.5	400.0	526.5	434.0
500A	45.0	23	165	4	22.0		210	90.0	F16	127.0	490.0	384.5	440.0	588.5	486.0
600A	55.0	23	165	4	22.0		210	95.0	F16	154.0	574.5	444.5	510.0	706.1	570.5

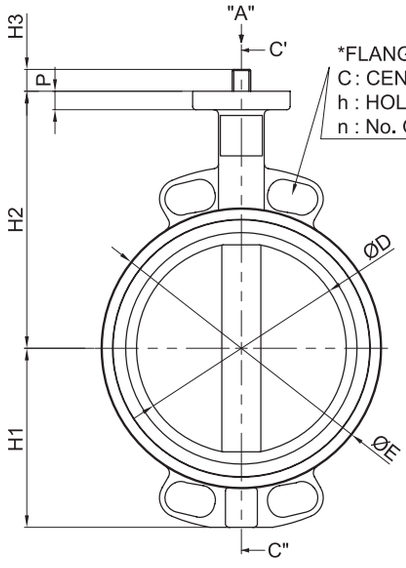
(unit : inch)

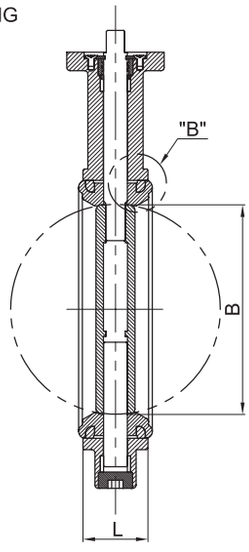
SIZE	TOP FLANGE & STEM									OUT LINE DIMENSION					
inch	Ød	P	ØC	N	H	T	ØF	H3	ISO 5211	L	ØD	H1	H2	ØE	B
2"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.69	2.05	2.77	5.06	3.66	1.93
2 1/2"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.81	2.64	2.96	5.36	4.25	2.52
3"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.81	3.15	3.67	5.64	4.96	3.03
4"	0.63	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.05	3.94	4.18	6.41	5.91	3.82
5"	0.71	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.20	4.92	4.69	7.34	6.97	4.80
6"	0.71	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.20	5.93	5.48	7.98	8.19	5.83
8"	0.87	0.67	2.76	4	0.35	0.67	3.54	0.81	F07	2.36	7.74	6.51	9.34	10.20	7.62
10"	1.00	0.79	4.02	4	0.43	0.87	4.92	0.81	F10	2.68	9.72	7.86	11.13	12.48	9.65
12"	1.10	0.79	4.02	4	0.43	0.87	4.92	0.95	F10	3.07	11.63	9.47	12.27	14.61	11.54
14"	1.10	0.79	4.02	4	0.47		4.92	2.76	F10	3.07	12.99	10.41	13.60	16.34	12.83
16"	1.26	0.91	5.51	4	0.71		6.89	3.15	F14	4.02	14.92	11.75	13.76	18.69	14.82
18"	1.50	0.91	5.51	4	0.71		6.89	3.15	F14	4.49	17.20	13.96	15.75	20.73	17.09
20"	1.77	0.91	6.50	4	0.87		8.27	3.54	F16	5.00	19.29	15.14	17.32	23.17	19.13
24"	2.17	0.91	6.50	4	0.87		8.27	3.74	F16	6.06	22.62	17.50	20.08	27.80	22.46

Model : **STC-SR** Cartridge Seat Type

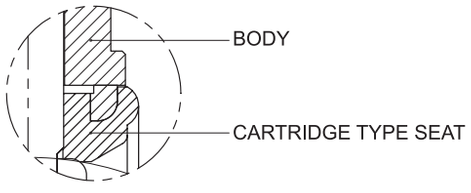
Wafer Type, Common Drilled ANSI 150LBS, DIN PN10, PN16, JIS10K







SECTION OF C'-C"



DETAIL OF "B"

Flange Drilling Table

(unit : mm)

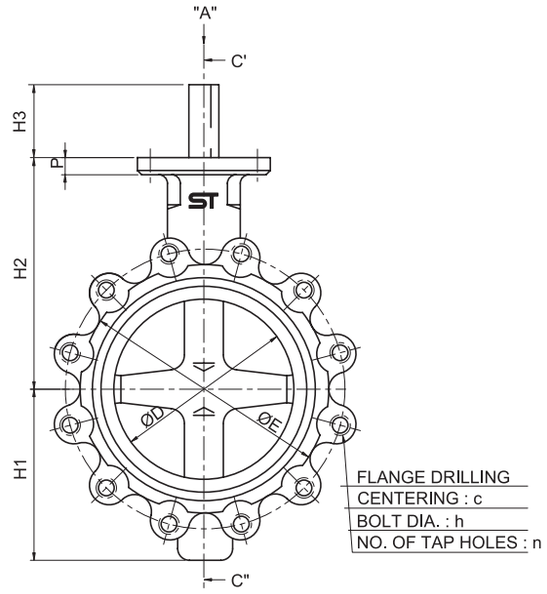
SIZE	PN 10			PN 16			ANSI 150 LBS			JIS 10K		
mm	c	n	h	c	n	h	c	n	h	c	n	h
50A	125.0	4	18.0	125.0	4	18.0	120.7	4	19.1	120.0	4	19.0
65A	145.0	4	18.0	145.0	4	18.0	139.7	4	19.1	140.0	4	19.0
80A	160.0	8	18.0	160.0	8	18.0	152.4	4	19.1	150.0	8	19.0
100A	180.0	8	18.0	180.0	8	18.0	190.5	8	19.1	175.0	8	19.0
125A	210.0	8	18.0	210.0	8	18.0	215.9	8	22.2	210.0	8	23.0
150A	240.0	8	22.0	240.0	8	22.0	241.3	8	22.2	240.0	8	23.0
200A	295.0	8	22.0	295.0	12	22.0	298.5	8	22.2	290.0	12	23.0
250A	350.0	12	22.0	355.0	12	26.0	362.0	12	25.4	355.0	12	25.0
300A	400.0	12	22.0	410.0	12	26.0	431.8	12	25.4	400.0	16	25.0
350A	460.0	16	22.0	470.0	16	26.0	476.3	12	28.6	445.0	16	25.0
400A	515.0	16	26.0	525.0	16	30.0	539.8	16	28.6	510.0	16	27.0
450A	565.0	20	26.0	585.0	20	30.0	577.9	16	31.8	565.0	20	27.0
500A	620.0	20	26.0	650.0	20	33.0	635.0	20	31.8	620.0	20	27.0
600A	725.0	20	30.0	770.0	20	36.0	749.3	20	34.9	-	-	-

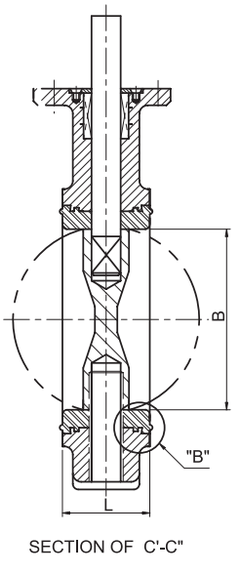
(unit : inch)

SIZE	PN 10			PN 16			ANSI 150 LBS			JIS 10K		
inch	c	n	h	c	n	h	c	n	h	c	n	h
2"	4.92	4	0.71	4.92	4	0.71	4.75	4	0.75	4.72	4	0.75
2 1/2"	5.71	4	0.71	5.71	4	0.71	5.50	4	0.75	5.51	4	0.75
3"	6.30	8	0.71	6.30	8	0.71	6.00	4	0.75	5.91	8	0.75
4"	7.09	8	0.71	7.09	8	0.71	7.50	8	0.75	6.89	8	0.75
5"	8.27	8	0.71	8.27	8	0.71	8.50	8	0.87	8.27	8	0.91
6"	9.45	8	0.87	9.45	8	0.87	9.50	8	0.87	9.45	8	0.91
8"	11.61	8	0.87	11.61	12	0.87	11.75	8	0.87	11.42	12	0.91
10"	13.78	12	0.87	13.98	12	1.02	14.25	12	1.00	13.98	12	0.98
12"	15.75	12	0.87	16.14	12	1.02	17.00	12	1.00	15.75	16	0.98
14"	18.11	16	0.87	18.50	16	1.02	18.75	12	1.13	17.52	16	0.98
16"	20.28	16	1.02	20.67	16	1.18	21.25	16	1.13	20.08	16	1.06
18"	22.24	20	1.02	23.03	20	1.18	22.75	16	1.25	22.24	20	1.06
20"	24.41	20	1.02	25.59	20	1.30	25.00	20	1.25	24.41	20	1.06
24"	28.54	20	1.18	30.31	20	1.42	29.50	20	1.37	-	-	-

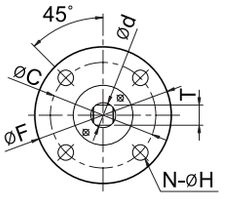
Model : **STL**

Lug Type, ANSI 150LBS, DIN PN10, PN16, JIS 5K,10K

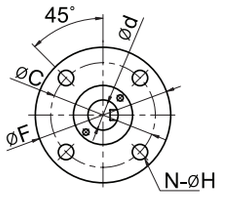




SECTION OF C'-C"



VIEW OF "A"
(TOP FLANGE)
2″~12″



VIEW OF "A"
(TOP FLANGE)
14″~24″

Dimensions

(unit : mm)

SIZE	TOP FLANGE & STEM								OUT LINE DIMENSION					
mm	Ød	P	ØC	N	H	T	ØF	H3	ISO 5211	L	ØD	H1	H2	ØE	B
50A	14.0	14	70	4	9	11	90	15.2	F07	43.0	52.0	75.0	130.0	93	49.0
65A	14.0	14	70	4	9	11	90	15.2	F07	46.0	67.0	80.0	137.0	108	64.0
80A	14.0	14	70	4	9	11	90	15.2	F07	46.0	80.0	84.0	156.0	122	77.0
100A	16.0	16	70	4	9	14	90	17.7	F07	52.0	100.0	110.0	170.0	150	97.0
125A	18.0	16	70	4	9	14	90	17.7	F07	56.0	125.0	123.0	185.0	180	122.0
150A	18.0	16	70	4	9	14	90	17.7	F07	56.0	150.5	143.0	203.0	208	148.0
200A	22.0	17	70	4	9	17	90	20.5	F07	60.0	196.5	168.0	238.0	259	193.5
250A	25.4	20	102	4	11	22	125	20.5	F10	68.0	247.0	203.0	270.0	318	244.4
300A	28.0	20	102	4	11	22	125	24.1	F10	78.0	295.5	242.0	310.0	370	293.0
350A	28.0	20	102	4	12		125	70.0	F10	78.0	330.0	264.5	345.5	415	326.0
400A	32.0	23	140	4	18		175	80.0	F14	102.0	379.0	298.5	349.5	468	376.5
450A	38.0	23	140	4	18		175	80.0	F14	114.0	437.0	350.0	400.0	527	434.0
500A	45.0	23	165	4	22		210	90.0	F16	127.0	490.0	380.0	440.0	578	486.0
600A	55.0	23	165	4	22		210	95.0	F16	154.0	574.5	440.0	510.0	680	570.5

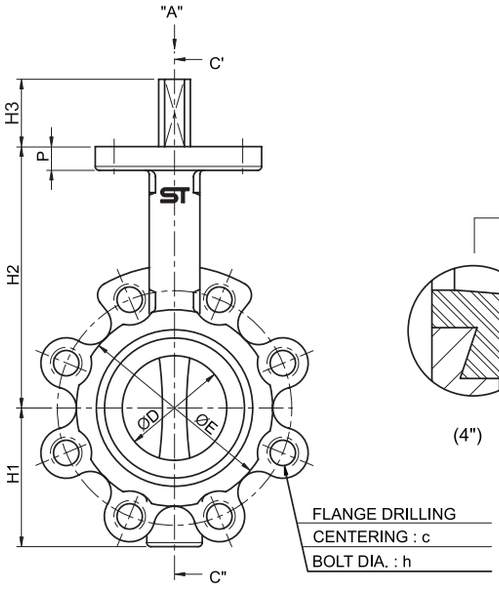
(unit : inch)

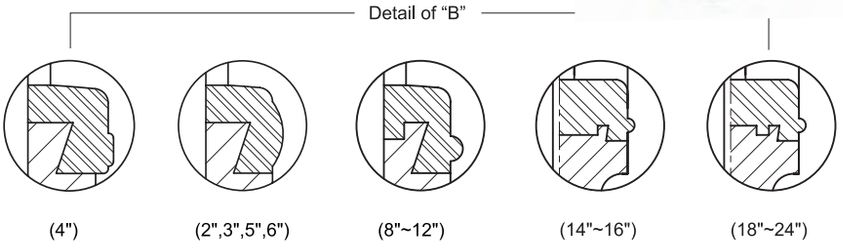
SIZE	TOP FLANGE & STEM								OUT LINE DIMENSION					
inch	Ød	P	ØC	N	H	T	ØF	H3	ISO 5211	L	ØD	H1	H2	ØE	B
2"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.69	2.05	2.95	5.12	3.66	1.93
2 1/2"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.81	2.64	3.15	5.39	4.25	2.52
3"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.81	3.15	3.31	6.14	4.80	3.03
4"	0.63	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.05	3.94	4.33	6.69	5.91	3.82
5"	0.71	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.20	4.92	4.92	7.28	7.09	4.80
6"	0.71	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.20	5.93	5.63	7.99	8.19	5.83
8"	0.87	0.67	2.76	4	0.35	0.67	3.54	0.81	F07	2.36	7.74	6.61	9.37	10.20	7.62
10"	1.00	0.79	4.02	4	0.43	0.87	4.92	0.81	F10	2.68	9.72	7.99	10.63	12.52	9.62
12"	1.10	0.79	4.02	4	0.43	0.87	4.92	0.95	F10	3.07	11.63	9.53	12.20	14.57	11.54
14"	1.10	0.79	4.02	4	0.47		4.92	2.76	F10	3.07	12.99	10.41	13.60	16.34	12.83
16"	1.26	0.91	5.51	4	0.71		6.89	3.15	F14	4.02	14.92	11.75	13.76	18.43	14.82
18"	1.50	0.91	5.51	4	0.71		6.89	3.15	F14	4.49	17.20	13.78	15.75	20.75	17.09
20"	1.77	0.91	6.50	4	0.87		8.27	3.54	F16	5.00	19.29	14.96	17.32	22.76	19.13
24"	2.17	0.91	6.50	4	0.87		8.27	3.74	F16	6.06	22.62	17.32	20.08	26.77	22.46

Model : **STL**

Lug Type, ANSI 150LBS, DIN PN10, PN16, JIS 5K,10K







Flange Drilling Table

(unit : mm)

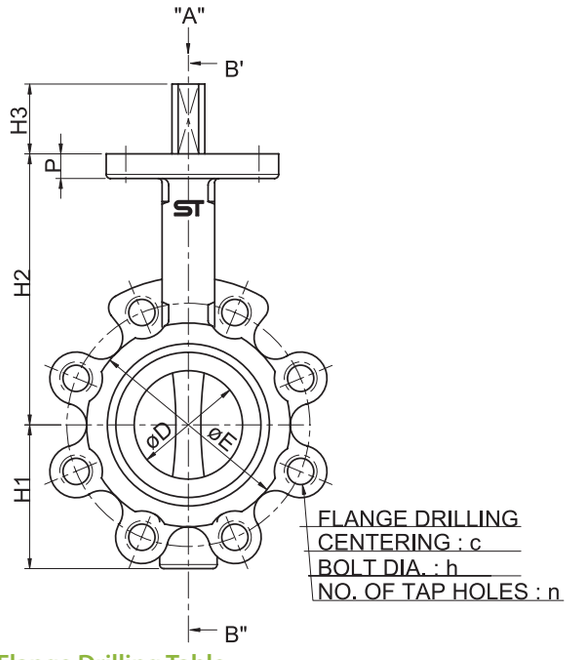
SIZE	PN 10			PN 16			ANSI 150 LBS			JIS 5K			JIS 10K		
mm	c	n	h	c	n	h	c	n	h	c	n	h	c	n	h
50A	125.0	4	M16	125.0	4	M16	120.7	4	5/8"	105.0	4	M12	120.0	4	M16
65A	145.0	4	M16	145.0	4	M16	139.7	4	5/8"	130.0	4	M12	140.0	4	M16
80A	160.0	8	M16	160.0	8	M16	152.4	4	5/8"	145.0	4	M16	150.0	8	M16
100A	180.0	8	M16	180.0	8	M16	190.5	8	5/8"	165.0	8	M16	175.0	8	M16
125A	210.0	8	M16	210.0	8	M16	215.9	8	3/4"	200.0	8	M16	210.0	8	M20
150A	240.0	8	M20	240.0	8	M20	241.3	8	3/4"	230.0	8	M16	240.0	8	M20
200A	295.0	8	M20	295.0	12	M20	298.5	8	3/4"	280.0	8	M20	290.0	12	M20
250A	350.0	12	M20	355.0	12	M24	362.0	12	7/8"	345.0	12	M20	355.0	12	M22
300A	400.0	12	M20	410.0	12	M24	431.8	12	7/8"	390.0	12	M20	400.0	16	M22
350A	460.0	16	M20	470.0	16	M24	476.3	12	1"	435.0	12	M22	445.0	16	M22
400A	515.0	16	M24	525.0	16	M27	539.8	16	1"	495.0	16	M22	510.0	16	M24
450A	565.0	20	M24	585.0	20	M27	577.9	16	1 1/8"	555.0	16	M22	565.0	20	M24
500A	620.0	20	M24	650.0	20	M30	635.0	20	1 1/8"	605.0	20	M22	620.0	20	M24
600A	725.0	20	M27	770.0	20	M33	749.3	20	1 1/4"	715.0	20	M24			

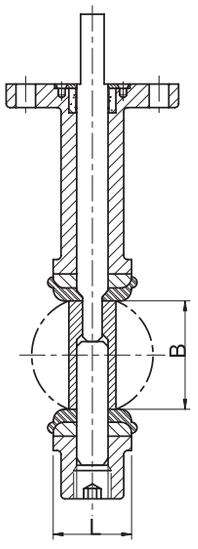
(unit : inch)

SIZE	PN 10			PN 16			ANSI 150 LBS			JIS 5K			JIS 10K		
inch	c	n	h	c	n	h	c	n	h	c	n	h	c	n	h
2"	4.92	4	M16	4.92	4	M16	4.75	4	5/8"	4.13	4	M12	4.72	4	M16
2 1/2"	5.71	4	M16	5.71	4	M16	5.50	4	5/8"	5.12	4	M12	5.51	4	M16
3"	6.30	8	M16	6.30	8	M16	6.00	4	5/8"	5.71	4	M16	5.91	8	M16
4"	7.09	8	M16	7.09	8	M16	7.50	8	5/8"	6.50	8	M16	6.89	8	M16
5"	8.27	8	M16	8.27	8	M16	8.50	8	3/4"	7.87	8	M16	8.27	8	M20
6"	9.45	8	M20	9.45	8	M20	9.50	8	3/4"	9.06	8	M16	9.45	8	M20
8"	11.61	8	M20	11.61	12	M20	11.75	8	3/4"	11.02	8	M20	11.42	12	M20
10"	13.78	12	M20	13.98	12	M24	14.25	12	7/8"	13.58	12	M20	13.98	12	M22
12"	15.75	12	M20	16.14	12	M24	17.00	12	7/8"	15.35	12	M20	15.75	16	M22
14"	18.11	16	M20	18.50	16	M24	18.75	12	1"	17.13	12	M22	17.52	16	M22
16"	20.28	16	M24	20.67	16	M27	21.25	16	1"	19.49	16	M22	20.08	16	M24
18"	22.24	20	M24	23.03	20	M27	22.75	16	1 1/8"	21.85	16	M22	22.24	20	M24
20"	24.41	20	M24	25.59	20	M30	25.00	20	1 1/8"	23.82	20	M22	24.41	20	M24
24"	28.54	20	M27	30.31	20	M33	29.50	20	1 1/4"	28.15	20	M24			

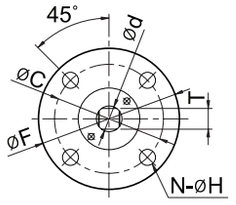
Model : **STL-SR**

Lug - Cartridge Type, ANSI 150LBS, DIN PN10, PN16, JIS10K

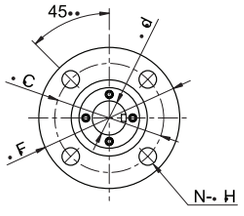




SECTION OF B'-B"



VIEW OF "A"
(TOP FLANGE)
2″~12″



VIEW OF "A"
(TOP FLANGE)
14″~24″

Flange Drilling Table

(unit : mm)

SIZE	TOP FLANGE & STEM									OUT LINE DIMENSION					
mm	ød	P	øC	N	H	T	øF	H3	ISO 5211	L	øD	H1	H2	øE	B
50A	14	14	70	4	9.0	11	90	15.2	F07	43.0	52.0	70.4	125.4	93	49.0
65A	14	14	70	4	9.0	11	90	15.2	F07	46.0	67.0	75.0	132.0	108	64.0
80A	14	14	70	4	9.0	11	90	15.2	F07	46.0	80.0	93.2	154.2	122	77.0
100A	16	16	70	4	9.0	14	90	17.7	F07	52.0	100.0	106.2	166.2	150	97.0
125A	18	16	70	4	9.0	14	90	17.7	F07	56.0	125.0	119.0	181.0	180	122.0
150A	18	16	70	4	9.0	14	90	17.7	F07	56.0	150.5	143.0	203.0	208	148.0
200A	22	17	70	4	9.0	17	90	20.5	F07	60.0	196.5	165.2	235.2	259	193.5
250A	25.4	20	102	4	11.0	22	125	20.5	F10	68.0	247.0	199.6	266.6	318	244.4
300A	28	20	102	4	11.0	22	125	24.1	F10	78.0	295.5	240.6	308.6	371	293.0
350A	28	20	102	4	12.0		125	70.0	F10	78.0	330.0	264.5	345.5	415.1	326.0
400A	32	23	140	4	18.0		175	80.0	F14	102.0	379.0	299.0	349.5	474.7	376.5
450A	38	23	140	4	18.0		175	80.0	F14	114.0	437.0	350.0	400.0	526.5	434.0
500A	45	23	165	4	22.0		210	90.0	F16	127.0	490.0	380.0	440.0	588.5	486.0
600A	55	23	165	4	22.0		210	95.0	F16	154.0	574.5	440.0	510.0	706.1	570.5

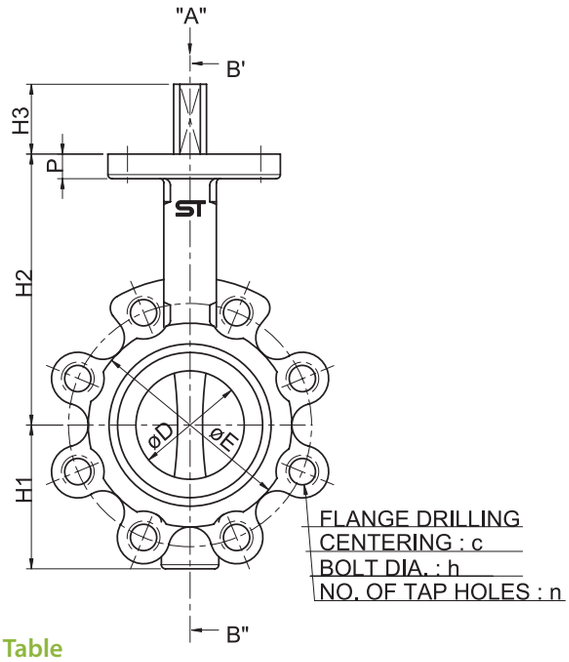
(unit : inch)

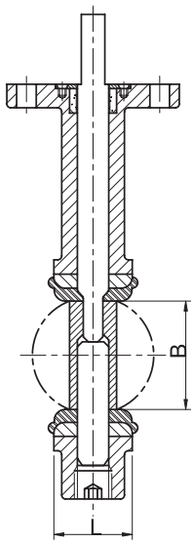
SIZE	TOP FLANGE & STEM									OUT LINE DIMENSION					
inch	ød	P	øC	N	H	T	øF	H3	ISO 5211	L	øD	H1	H2	øE	B
2"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.69	2.05	2.77	4.94	3.66	1.93
2 1/2"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.81	2.64	2.95	5.20	4.25	2.52
3"	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07	1.81	3.15	3.67	6.07	4.80	3.03
4"	0.63	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.05	3.94	4.18	6.54	5.91	3.82
5"	0.71	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.20	4.92	4.69	7.13	7.09	4.80
6"	0.71	0.63	2.76	4	0.35	0.55	3.54	0.70	F07	2.20	5.93	5.63	7.99	8.19	5.83
8"	0.87	0.67	2.76	4	0.35	0.67	3.54	0.81	F07	2.36	7.74	6.51	9.26	10.20	7.62
10"	1.00	0.79	4.02	4	0.43	0.87	4.92	0.81	F10	2.68	9.72	7.86	10.50	12.52	9.62
12"	1.10	0.79	4.02	4	0.43	0.87	4.92	0.95	F10	3.07	11.63	9.47	12.15	14.61	11.54
14"	1.10	0.79	4.02	4	0.47		4.92	2.76	F10	3.07	12.99	10.41	13.60	16.34	12.83
16"	1.26	0.91	5.51	4	0.71		6.89	3.15	F14	4.02	14.92	11.75	13.76	18.69	14.82
18"	1.50	0.91	5.51	4	0.71		6.89	3.15	F14	4.49	17.20	13.78	15.75	20.73	17.09
20"	1.77	0.91	6.50	4	0.87		8.27	3.54	F16	5.00	19.29	14.96	17.32	23.17	19.13
24"	2.17	0.91	6.50	4	0.87		8.27	3.74	F16	6.06	22.62	17.32	20.08	27.80	22.46

Model : **STL-SR**

Lug - Cartridge Type, ANSI 150LBS, DIN PN10, PN16, JIS 10K Drilling







SECTION OF B'-B"

Flange Drilling Table

(unit : mm)

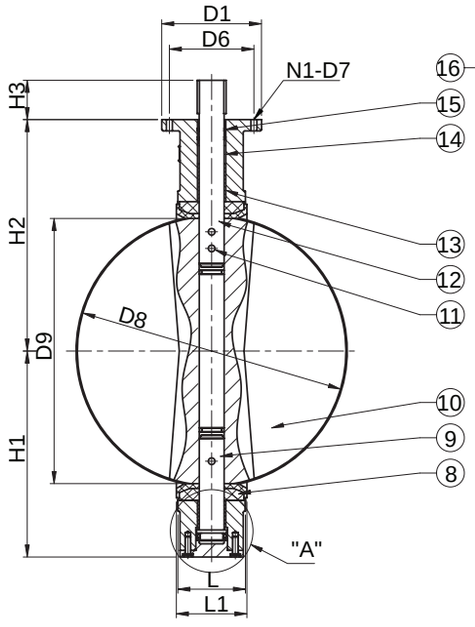
SIZE	PN 10			PN 16			ANSI 150 LBS			JIS 10K		
mm	c	n	h	c	n	h	c	n	h	c	n	h
50A	125.0	4	M16	125.0	4	M16	120.7	4	5/8"	120.0	4	M16
65A	145.0	4	M16	145.0	4	M16	139.7	4	5/8"	140.0	4	M16
80A	160.0	8	M16	160.0	8	M16	152.4	4	5/8"	150.0	8	M16
100A	180.0	8	M16	180.0	8	M16	190.5	8	5/8"	175.0	8	M16
125A	210.0	8	M16	210.0	8	M16	215.9	8	3/4"	210.0	8	M20
150A	240.0	8	M20	240.0	8	M20	241.3	8	3/4"	240.0	8	M20
200A	295.0	8	M20	295.0	12	M20	298.5	8	3/4"	290.0	12	M20
250A	350.0	12	M20	355.0	12	M24	362.0	12	7/8"	355.0	12	M22
300A	400.0	12	M20	410.0	12	M24	431.8	12	7/8"	400.0	16	M22
350A	460.0	16	M20	470.0	16	M24	476.3	12	1"	445.0	16	M22
400A	515.0	16	M24	525.0	16	M27	539.8	16	1"	510.0	16	M24
450A	565.0	20	M24	585.0	20	M27	577.9	16	1 1/8"	565.0	20	M24
500A	620.0	20	M24	650.0	20	M30	635.0	20	1 1/8"	620.0	20	M24
600A	725.0	20	M27	770.0	20	M33	749.3	20	1 1/4"			

(unit : inch)

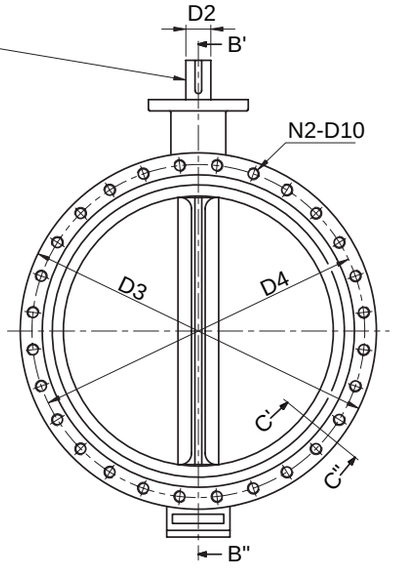
SIZE	PN 10			PN 16			ANSI 150 LBS			JIS 10K		
inch	c	n	h	c	n	h	c	n	h	c	n	h
2"	4.92	4	M16	4.92	4	M16	4.75	4	5/8"	4.72	4	M16
2 1/2"	5.71	4	M16	5.71	4	M16	5.50	4	5/8"	5.51	4	M16
3"	6.30	8	M16	6.30	8	M16	6.00	4	5/8"	5.91	8	M16
4"	7.09	8	M16	7.09	8	M16	7.50	8	5/8"	6.89	8	M16
5"	8.27	8	M16	8.27	8	M16	8.50	8	3/4"	8.27	8	M20
6"	9.45	8	M20	9.45	8	M20	9.50	8	3/4"	9.45	8	M20
8"	11.61	8	M20	11.61	12	M20	11.75	8	3/4"	11.42	12	M20
10"	13.78	12	M20	13.98	12	M24	14.25	12	7/8"	13.98	12	M22
12"	15.75	12	M20	16.14	12	M24	17.00	12	7/8"	15.75	16	M22
14"	18.11	16	M20	18.50	16	M24	18.75	12	1"	17.52	16	M22
16"	20.28	16	M24	20.67	16	M27	21.25	16	1"	20.08	16	M24
18"	22.24	20	M24	23.03	20	M27	22.75	16	1 1/8"	22.24	20	M24
20"	24.41	20	M24	25.59	20	M30	25.00	20	1 1/8"	24.41	20	M24
24"	28.54	20	M27	30.31	20	M33	29.50	20	1 1/4"			

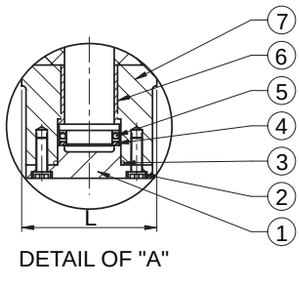
Model : **U-SECTION**

Lug - Cartridge Type, Butterfly Valve

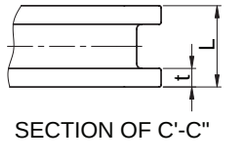


SECTION OF B'-B"

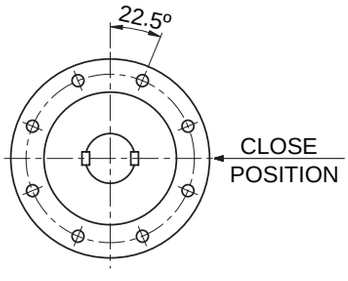




DETAIL OF "A"



SECTION OF C'-C"



TOP VIEW

Technical Data

WORKING PRESSURE		150 psi
TEST PRESSURE	**SEAT**	165 psi
	SHELL	225 psi
WORKING TEMP.	**EPDM**	-30˚ to 110˚
	BUNA-N (NBR)	-20˚ to 90˚

Standard Material

No.	Q'TY	DESCRIPTION	DESIGNATION, MATERIAL, DIMENSION ETC
1	1	End Cover	ASTM A536 Ductile Iron
2	4	Screw	Steel
3	1	"O" Ring	ASTM D2000 (NBR)
4	1	Gasket	Steel
5	1	Bearing	ASTM A584 C83600
6	1	Lower Bushing	ASTM A584 C83600
7	1	Body	ASTM A536 Ductile Iron
8	1	Seat	ASTM D2000 (EPDM, NBR)
9	1	Lower Shaft	ASTM A276 S31600
10	1	Disc	ASTM A351 CF8M
11	3	Taper Pin	ASTM A564 S17400
12	1	Upper Shaft	ASTM A276 S316
13	1	Long Bushing	ASTM A584 C83600
14	4	Short Bushing	ASTM A584 C83600
15	3	"O" Ring	ASTM D2000 (EPDM)
16	2	Key	Steel

Model : **U-SECTION**

Lug - Cartridge Type, Butterfly Valve

ANSI 125 LBS - ANSI B16.1 DESIGN

Dimensions

(unit : mm)

SIZE	D1	D2	D3	D4	N2	D10	D6	N1	D7	D8	D9	L	L1	H1	H2	H3	t	KEY
DN 700	300	63.35	927	863.6	28	1-1/4-7UNC-2B	254	8	18	695	676	163	169	520	624	66	54	18 x 63
DN 750	300	63.35	984	914.4	28	1-1/4-7UNC-2B	254	8	18	744	726	167	173	560	660	66	54	18 x 63
DN 800	300	63.35	1060	977.9	28	1-3/8-6UNC-2B	254	8	18	795	770.4	188	195	591	672	66	61	18 x 63
DN 900	300	75	1168	1086	32	1-1/2-6UNC-2B	254	8	18	865	841	203	211	656	720	118	61	20 x 100
DN 1000	300	85	1289	1200.2	36	1-1/2-6UNC-2B	254	8	18	965	941	216	224	721	800	150	64	20 x 100
DN 1050	350	95	1346	1257	36	1-1/2-6UNC-2B	298	8	22	1030	999	251	261	777	858	150	67	25 x 140
DN 1200	350	105	1511	1422	44	1-1/2-6UNC-2B	298	8	22	1160	1127	276	286	864	941	150	70	28 x 140

(unit : inch)

SIZE	D1	D2	D3	D4	N2	D10	D6	N1	D7	D8	D9	L	L1	H1	H2	H3	t	KEY
28"	11.81	2.49	36.50	34.00	28	1-1/4-7UNC-2B	10.00	0.31	0.71	27.36	26.61	6.42	6.65	20.47	24.57	2.60	2.13	0.71 x 2.48
30"	11.81	2.49	38.74	36.00	28	1-1/4-7UNC-2B	10.00	0.31	0.71	29.29	28.58	6.57	6.81	22.05	25.98	2.60	2.13	0.71 x 2.48
32"	11.81	2.49	41.73	38.50	28	1-3/8-6UNC-2B	10.00	0.31	0.71	31.30	30.33	7.40	7.68	23.27	26.46	2.60	2.40	0.71 x 2.48
36"	11.81	2.95	45.98	42.76	32	1-1/2-6UNC-2B	10.00	0.31	0.71	34.06	33.11	7.99	8.31	25.83	28.35	4.65	2.40	0.79 x 3.94
40"	11.81	3.35	50.75	47.25	36	1-1/2-6UNC-2B	10.00	0.31	0.71	37.99	37.05	8.50	8.82	28.39	31.50	5.91	2.52	0.79 x 3.94
42"	13.78	3.74	52.99	49.49	36	1-1/2-6UNC-2B	11.73	0.31	0.87	40.55	39.33	9.88	10.28	30.59	33.78	5.91	2.64	0.98 x 5.51
48"	13.78	4.13	59.49	55.98	44	1-1/2-6UNC-2B	11.73	0.31	0.87	45.67	44.37	10.87	11.26	34.02	37.05	5.91	2.76	1.10 x 5.51

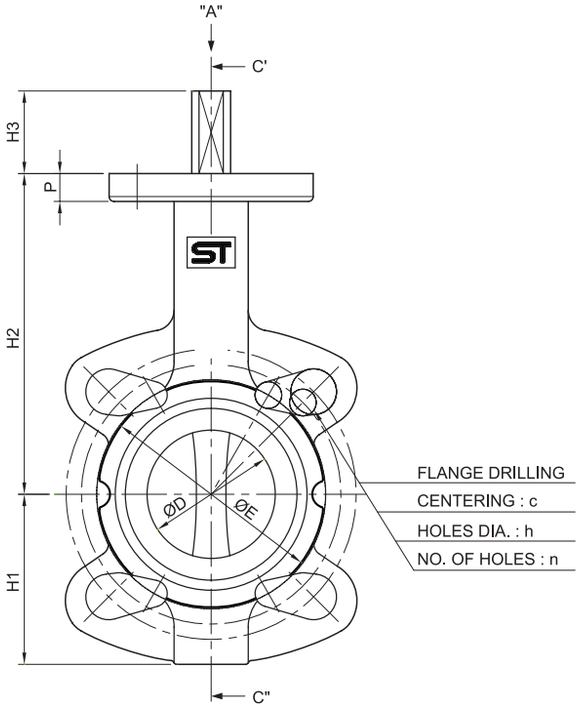
• NOTE :

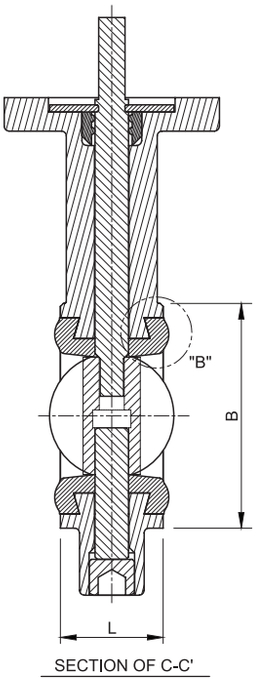
1. Please consult ST&H for alternative Material options
2. PN 10, PN 16 Rating / Drilling also available , Please Consult ST&H for more information

Model : **AL-STC**

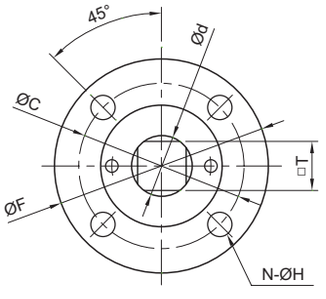
Light Weight Aluminum Body Wafer Standard Boot Type
Common Drilled ANSI 150LBS, PN10, PN16 & TTMA







SECTION OF C-C'



VIEW OF "A"
(TOP FLANGE)

• NOTE :
1. BASIC DESIGN :
DIMENSION : API 609, MSS-SP-67, BS 5155, ISO5752, DIN 3202
TOP FLANGE : ISO 5211
2. TESTING : API 598, MSS-SP-61
SHELL : Working Pressure x 1.5
CLOSURE : Working Pressure x 1.1

3. EMBOSSING

FRONT	BACK
ST MATERIAL	SIZE PRESSURE

Dimensions

UNIT : mm

SIZE	OUTLINE DIMENSION						TOP FLANGE & STEM								
MM	L	Ø D	H1	H2	Ø E	B	Ø d	p	Ø C	N	Ø H	T	Ø F	H3	ISO 5211
50A	43.0	52.0	75.0	133.0	94.0	49.0	14.0	14	70	4	9	11	90	15.2	F07
80A	46.0	80.0	84.0	145.0	123.0	77.0	14.0	14	70	4	9	11	90	15.2	F07
100A	52.0	100.0	95.0	166.5	147.0	97.0	16.0	16	70	4	9	14	90	17.7	F07
125A	56.0	125.0	110.0	190.5	173.0	122.0	18.0	16	70	4	9	14	90	17.7	F07
150A	56.0	150.5	143.0	206.5	202.0	148.0	18.0	16	70	4	9	14	90	17.7	F07
200A	60.0	196.5	168.0	240.0	251.0	193.5	22.0	17	70	4	9	17	90	20.5	F07

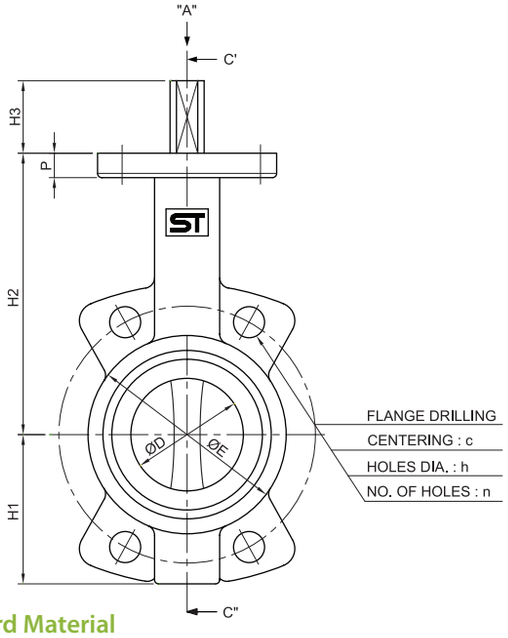
UNIT : inch

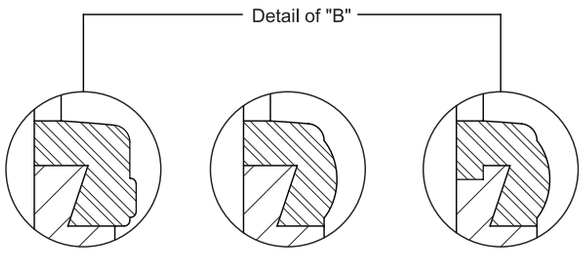
SIZE	OUTLINE DIMENSION						TOP FLANGE & STEM								
inch	L	Ø D	H1	H2	Ø E	B	Ø d	p	Ø C	N	Ø H	T	Ø F	H3	ISO 5211
2"	1.69	2.05	2.95	5.24	3.7	1.93	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07
3"	1.81	3.15	3.31	5.71	4.84	3.03	0.55	0.55	2.76	4	0.35	0.43	3.54	0.60	F07
4"	2.05	3.94	3.74	6.56	5.78	3.82	0.63	0.63	2.76	4	0.35	0.55	3.54	0.70	F07
5"	2.20	4.92	4.33	7.50	6.81	4.80	0.71	0.63	2.76	4	0.35	0.55	3.54	0.70	F07
6"	2.20	5.93	5.63	8.13	7.95	5.83	0.71	0.63	2.76	4	0.35	0.55	3.54	0.70	F07
8"	2.36	7.74	6.61	9.45	9.88	7.62	0.87	0.67	2.76	4	0.35	0.67	3.54	0.81	F07

Model : **AL-STC**

Light Weight Aluminum Body Wafer Standard Boot Type
Common Drilled ANSI 150LBS, PN10, PN16 & TTMA







Standard Material

No	DESCRIPTION	MATERIAL	CODE NO.	STANDARD	ISO 5211
1	RETAINING PLATE SCREW	CARBON STEEL		ASTM A283D-A36	GALVANIZED
2	RETAINING PLATE	CARBON STEEL		ASTM A283D-A36	GALVANIZED
3	O-RING PACKING	EPDM OR NBR			
4	BODY	ALUMINIUM	ALBC	ASTM B26	
5	SEAT				WORKING TEMPERATURE
		EPDM-BLACK/WHITE		ASTM D2000	-30℃ ~ +110℃
		BUNA-N(NBR)-BLACK/WHITE		ASTM D2000	-20℃ ~ +90℃
		VITON		ASTM D2000	-10℃ ~ +160℃
		HIGH TEMPERATURE EPDM		ASTM D2000	-30℃ ~ +130℃
6	DISC	DUCTILE IRON	GGG40	ASTM A536/DIN1693	CHROME PLATED
		STAINLESS STEEL	CF8	ASTM A351	
			CF8M	ASTM A351	
		ALUMINIUM BRONZE	ALBC2	ASTM B148 C95400	
7	UPPER STEM	STAINLESS STEEL	410SS	A479	
8	LOWER STEM		316SS	A276	
			304SS	A582	
9	PLUG	CATBON STEEL		ASTM A283D-A36	

Flange Drilling Table

UNIT : mm

SIZE	T.T.M.A 1			T.T.M.A 2			ANSI 150LBS		
MM	c	n	h	c	n	h	c	n	h
50A	125.0	4	M16	125.0	4	M16	120.0	4	M16
80A	160.0	8	M16	160.0	8	M16	150.0	8	M16
100A	180.0	8	M16	180.0	8	M16	175.0	8	M16
125A	210.0	8	M16	210.0	8	M16	210.0	8	M20
150A	240.0	8	M20	240.0	8	M20	240.0	8	M20
200A	295.0	8	M20	295.0	12	M20	290.0	12	M20
250A	350.0	12	M20	355.0	12	M24	355.0	12	M22
300A	400.0	12	M20	410.0	12	M24	400.0	16	M22

UNIT : inch

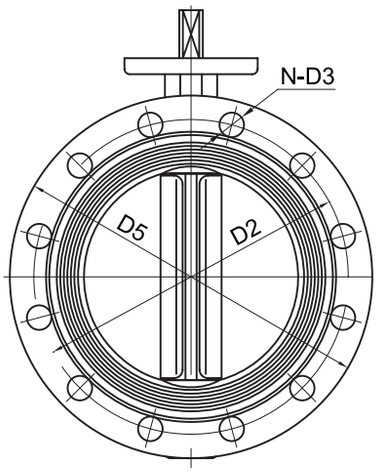
SIZE	T.T.M.A 1			T.T.M.A 2			ANSI 150LBS		
inch	c	n	h	c	n	h	c	n	h
2"	4.92	4	M16	4.92	4	M16	4.72	4	M16
3"	6.30	8	M16	6.30	8	M16	5.91	8	M16
4"	7.09	8	M16	7.09	8	M16	6.89	8	M16
5"	8.27	8	M16	8.27	8	M16	8.27	8	M20
6"	9.45	8	M20	9.45	8	M20	9.45	8	M20
8"	11.61	8	M20	11.61	12	M20	11.42	12	M20
10"	13.78	12	M20	13.98	12	M24	13.98	12	M22
12"	15.75	12	M20	16.14	12	M24	15.75	16	M22

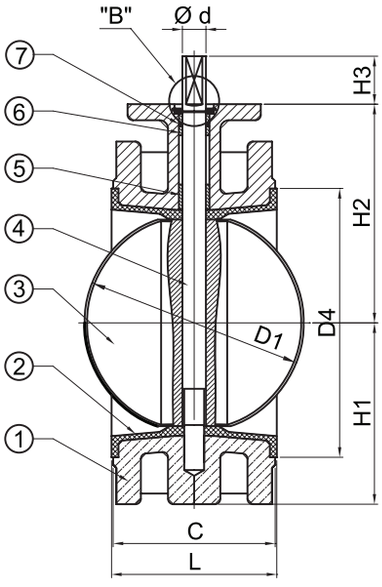
• NOTE : MEET WITH PN 10, PN16 FLANGE DRILLING AS WELL

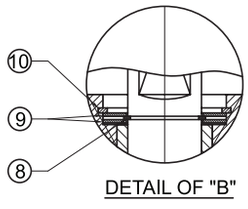
Model : **DOUBLE FLANGED BUTTERFLY VALVE**

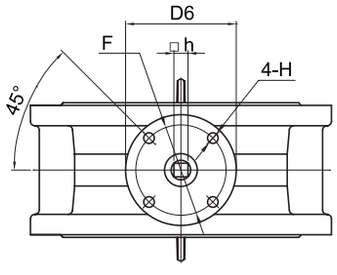
Face To Face - ISO 5752/EN588 Series 13 (2" ~ 12")











• NOTE :
1. FACE TO FACE CONFORM TO
   BS 5155, MSS-SP-67, API 609
   ISO5752 / EN 588 BASIC SERIES 13
2. TOP FLANGE CONFORM TO ISO 5211
3. FLANGE CONNECTION CONFORM TO BS4504, PN10, PN16

Feature

TEST PRESSURE	SHELL	400 psig
	CLOSURE	281 psig
WORKING TEMP.		-30˚ to 110˚

Standard Material

ITEM	Q'TY	DESCRIPTION	SPECIFICATION
1	1	BODY	ASTM A536 65-45-12
2	1	SEAT	ASTM D2000 EPDM
3	1	DISC	ASTM A536 65-45-12 (PLATE Ni), ASTM A351 CF8M
4	1	SHAFT	ASTM A582 SS416
5	1	LONG BUSHING	ASTM B584 C83600
6	2	SHORT BUSHING	ASTM B584 C83600
7	1	"O" RING	ASTM D2000 NBR
8	2	STOP COLLAR FOR SHAFT	STEEL
9	1	GASKET	STEEL
10	1	STOP COLLAR FOR HOLE	STEEL

Dimensions

(unit : mm)

SIZE	OUTLINE DIMENSION									TOP FLANGE & STEM						
MM	D1	D2	D4	D5	H1	H2	C	L	N	D3	F	D6	Ø d	H3	H	h
DN50	53	125	87	165	83	120	108	111	4	19	70	90	14	15.2	8.2	11
DN65	65	145	106	185	93	130	112	115	4	19	70	90	14	15.2	8.2	11
DN80	79	160	120	200	100	145	114	117	8	19	70	90	16	15.2	8.2	14
DN100	104	180	144	220	114	155	127	130	8	19	70	90	16	17.7	8.2	14
DN125	123	210	170	250	125	170	140	143	8	19	70	90	19	17.7	8.2	14
DN150	156	240	197	285	143	190	140	143	8	23	70	90	22	19.0	8.2	17
DN200	203	295	252	340	170	205	152	155	12	23	70	125	22	20.5	8.2	17
DN250	250	355	305	405	198	235	165	168	12	28	102	125	28	20.5	10.2	22
DN300	312	410	350	460	220	280	178	182	16	28	102	125	28	24.1	10.2	22

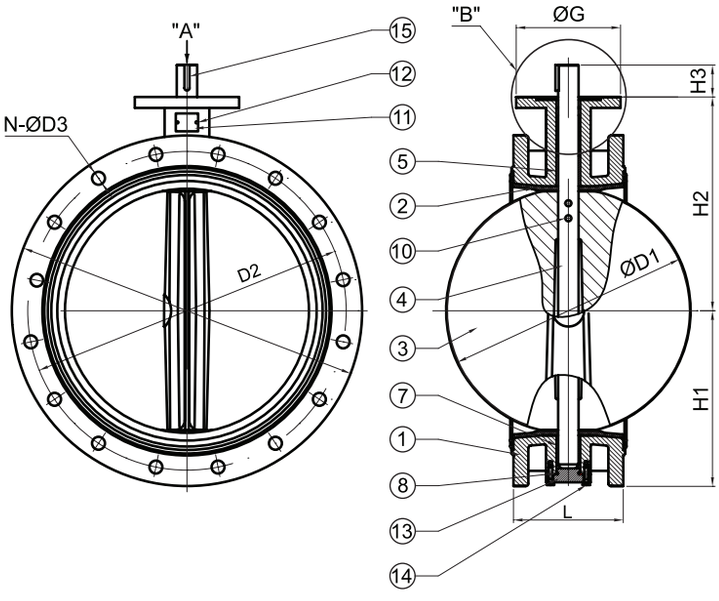
(unit : inch)

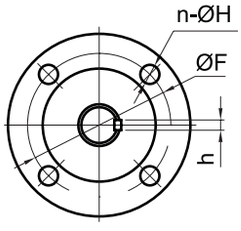
SIZE	OUTLINE DIMENSION									TOP FLANGE & STEM						
MM	D1	D2	D4	D5	H1	H2	C	L	N	D3	F	D6	Ø d	H3	H	h
2"	2.09	4.92	3.43	6.50	3.27	4.72	4.25	4.37	4	0.75	2.76	3.54	0.55	0.59	0.32	0.43
2-1/2"	2.56	5.71	4.17	7.28	3.66	5.12	4.41	4.53	4	0.75	2.76	3.54	0.55	0.59	0.32	0.43
3"	3.11	6.30	4.72	7.87	3.94	5.71	4.49	4.61	8	0.75	2.76	3.54	0.63	0.59	0.32	0.55
4"	4.09	7.09	5.67	8.66	4.49	6.10	5.00	5.12	8	0.75	2.76	3.54	0.63	0.69	0.32	0.55
5"	4.84	8.27	6.69	9.84	4.92	6.69	5.51	5.63	8	0.75	2.76	3.54	0.75	0.69	0.32	0.55
6"	6.14	9.45	7.76	11.22	5.63	7.48	5.51	5.63	8	0.91	2.76	3.54	0.87	0.75	0.32	0.67
8"	7.99	11.61	9.92	13.39	6.69	8.07	5.98	6.10	12	0.91	2.76	4.92	0.87	0.80	0.32	0.67
10"	9.84	13.98	12.01	15.94	7.80	9.25	6.50	6.61	12	1.10	4.02	4.92	1.10	0.80	0.40	0.87
12"	12.28	16.14	13.78	18.11	8.66	11.02	7.01	7.17	16	1.10	4.02	4.92	1.10	0.94	0.40	0.87

Model : DOUBLE FLANGED BUTTERFLY VALVE

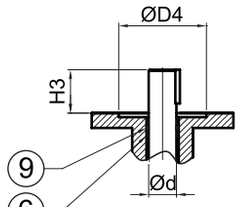
Face To Face - ISO 5752/EN588 Series 13 (14" ~ 24")







VIEW OF "A"
(TOP FLANGE)



DETAIL OF "B"

• NOTE :
1. FACE TO FACE CONFORM TO
   BS 5155, MSS-SP-67, API 609
   ISO5752 / EN 588 BASIC SERIES 13
2. TOP FLANGE CONFORM TO ISO 5211
3. FLANGE CONNECTION CONFORM TO BS4504, PN10, PN16

Feature

TEST PRESSURE	SHELL	400 psig
	CLOSURE	207 psig
WORKING TEMP.		-30˚ to 110˚

Standard Material

ITEM	Q'TY	DESCRIPTION	SPECIFICATION
1	1	BODY	ASTM A536 65-45-12
2	1	SEAT	ASTM D2000 EPDM, VULCANIZED
3	1	DISC	ASTM A536 65-45-12, ASTM A351 CF8M
4	1	SHAFT	ASTM A582 SS41600
5	1	LONG BUSHING	ASTM B584 C83600
6	2	SHORT BUSHING	ASTM B584 C83600
7	1	MIDDLE BUSHING	ASTM B584 C83600
8	1	"O" RING	ASTM D2000 NBR
9	1	"O" RING	ASTM D2000 NBR
10	2	TAPER PINS	ASTM A582 SS41600
11	1	NAME PLATE	ALUMINUM
12	2	PLATE RIVET	ALUMINUM
13	1	BOTTOM PLATE	ASTM A536 65-45-12
14	2	BOLTS	STEEL
15	1	KEY	STEEL

Dimensions

(unit : mm)

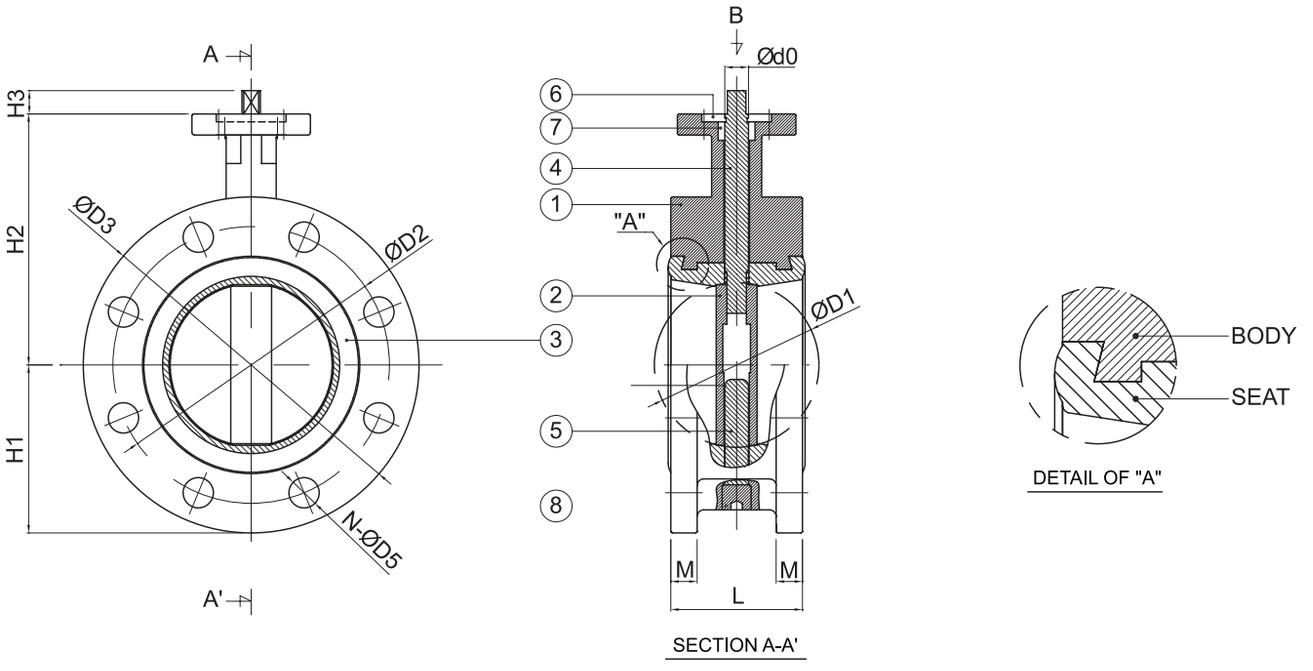
SIZE	OUTLINE DIMENSION									TOP FLANGE & STEM						
MM	D1	D2	D4	H1	H2	L	N	H	D3	H3	F	G	K	Ø d	n	h
DN 350	333	460	85	268.5	310	190	16	12	23	71.5	102	150	5	32	4	10
DN 400	390	515	100	296.5	340	216	16	18	28	80	140	175	5	32	4	10
DN 450	440	565	100	336.5	375	222	20	18	28	80	140	175	5	42	4	12
DN 500	492	620	130	364.5	430	229	20	22	28	90	165	210	5	45	4	12
DN 600	592	725	130	406.5	500	267	20	22	31	95	165	210	5	55	4	14

(unit : inch)

SIZE	OUTLINE DIMENSION									TOP FLANGE & STEM						
MM	D1	D2	D4	H1	H2	L	N	H	D3	H3	F	G	K	Ø d	n	h
14"	13.11	18.11	3.35	10.57	12.20	7.48	16	0.47	0.91	2.81	4.02	5.91	0.20	1.26	4	0.39
16"	15.35	20.28	3.94	10.67	13.39	8.50	16	0.71	1.10	3.15	5.51	6.89	0.20	1.26	4	0.39
18"	17.32	22.24	3.94	13.25	14.76	8.74	20	0.71	1.10	3.15	5.51	6.89	0.20	1.65	4	0.47
20"	19.37	24.41	5.12	14.35	16.93	9.02	20	0.87	1.10	3.54	6.50	8.27	0.20	1.77	4	0.47
24"	23.31	28.54	5.12	16.00	19.69	10.51	20	0.87	1.22	3.74	6.50	8.27	0.20	2.17	4	0.55

Model : **DOUBLE FLANGED BUTTERFLY VALVE**

Face To Face - JIS F7480 Type (5" ~ 24")



NO.	DESCRIPTION	MATERIAL	Q'TY
1	BODY	CAST STEEL/DUCTILE IRON	1
2	DISC	GGG40/CF8/CF8M/ALBC2	1
3	SEAT	EPDM/BUNA-N(NBR)	1
4	UPPER STEM	410SS/316SS/304SS	1
5	LOWER STEM	410SS/316SS/304SS	1
6	RETAINER PLATE	316SS	1
7	PACKING	SAME AS SEAT MATERIAL	1
8	PLUG	SS400	1

• NOTE :

1. BASIC DESIGN :
   DIMENSION : API 609, MSS-SP-67, BS 5155, ISO5752, DIN 3202K1
   TOP FLANGE : ISO 5211

2. FACE TO FACE DIMENSION : JIS F7480

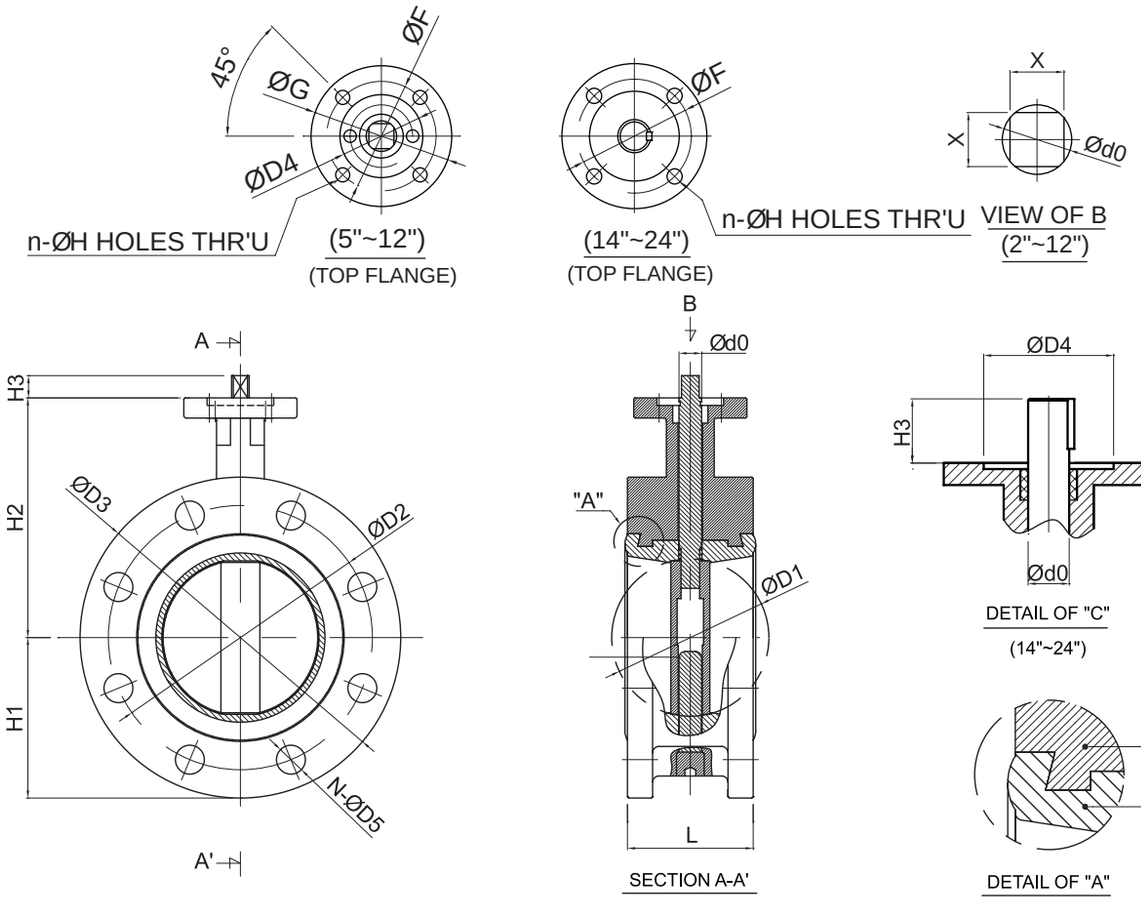
Flange Drilling Table

(unit : mm / inch)

SIZE		JIS 10K			JIS 5K			ANSI150			PN 10			PN 16		
mm	inch	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5
DN125	5"	210	8	Ø23(M20)	200	8	Ø19(M16)	215.9	8	7/8"(3/4")	210	8	Ø18(M16)	210	8	Ø18(M16)
DN150	6"	240	8	Ø23(M20)	230	8	Ø19(M16)	241.3	8	7/8"(3/4")	240	8	Ø22(M20)	240	8	Ø22(M20)
DN200	8"	290	12	Ø23(M20)	280	8	Ø23(M20)	298.5	8	7/8"(3/4")	295	8	Ø22(M20)	295	12	Ø22(M20)
DN250	10"	355	12	Ø25(M22)	345	12	Ø23(M20)	362.0	12	1"(7/8")	350	12	Ø22(M20)	355	12	Ø26(M24)
DN300	12"	400	16	Ø25(M22)	390	12	Ø23(M20)	431.8	12	1"(7/8")	400	12	Ø22(M20)	410	12	Ø26(M24)
DN350	14"	445	16	Ø25(M22)	435	12	Ø25(M22)	476.3	12	1 1/8"(1")	460	16	Ø22(M20)	470	16	Ø26(M24)
DN400	16"	510	16	Ø27(M24)	495	16	Ø25(M22)	539.8	16	1 1/8"(1")	515	16	Ø26(M24)	525	16	Ø30(M27)
DN450	18"	565	20	Ø27(M24)	555	16	Ø25(M22)	577.9	16	1 1/4"(1 1/8")	565	20	Ø26(M24)	585	20	Ø30(M27)
DN500	20"	620	20	Ø27(M24)	605	20	Ø25(M22)	635.0	20	1 1/4"(1 1/8")	620	20	Ø26(M24)	650	20	Ø33(M30)
DN600	24"	730	24	Ø33(M30)	715	20	Ø27(M24)	749.3	20	1 3/8"(1 1/4")	725	20	Ø30(M27)	770	20	Ø36(M33)

Model : **DOUBLE FLANGED BUTTERFLY VALVE**

Face To Face - JIS F7480 Type (5" ~ 24")



Dimensions

(unit : mm)

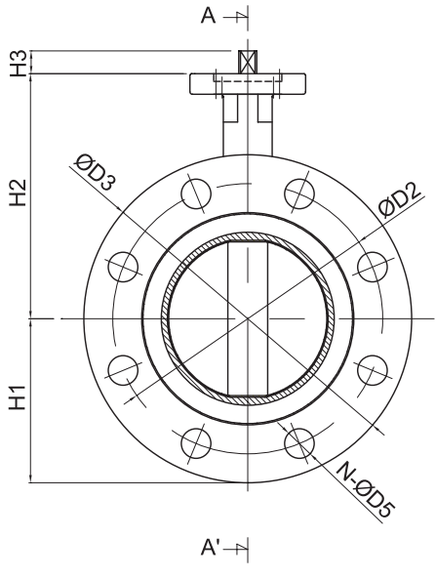
SIZE	OUTLINE DIMENSION					TOP FLANGE & STEM								
MM	D1	D3	H1	H2	L	H	D4	Ød	H3	F	G	n	X	ISO 5211
DN 125	125.0	255	127.50	190.50	100	9	53	18.0	17.70	70	90	4	14	F07
DN 150	150.5	285	143.00	206.50	100	9	53	18.0	17.70	70	90	4	14	F07
DN 200	196.5	345	172.50	240.00	100	9	58	22.0	20.50	70	90	4	17	F07
DN 250	247.0	405	203.00	286.00	110	11	58	25.4	20.50	102	125	4	22	F10
DN 300	295.5	485	242.50	313.00	110	11	68	28.0	24.10	102	125	4	22	F10
DN 350	330.0	535	267.50	345.50	120	12	68	28.0	70.00	102	125	4	-	F10
DN 400	379.0	595	298.50	390.50	130	18	80	32.0	80.00	140	175	4	-	F14
DN 450	437.0	640	350.00	413.00	150	18	80	38.0	80.00	140	175	4	-	F14
DN 500	490.0	715	380.00	460.50	160	22	90	45.0	90.00	165	210	4	-	F16
DN 600	574.5	840	440.00	523.00	170	22	105	55.0	95.00	165	210	4	-	F16

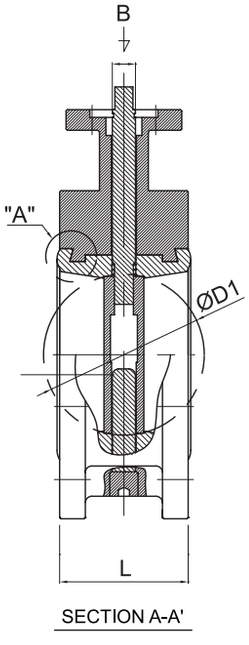
(unit : inch)

SIZE	OUTLINE DIMENSION					TOP FLANGE & STEM								
MM	D1	D3	H1	H2	L	H	D4	Ød	H3	F	G	n	X	ISO 5211
5"	4.92	10.04	5.02	7.50	3.94	0.35	2.09	0.71	0.70	2.76	3.54	4	0.55	F07
6"	5.93	11.22	5.63	8.13	3.94	0.35	2.09	0.71	0.70	2.76	3.54	4	0.55	F07
8"	7.74	13.58	6.79	9.45	3.94	0.35	2.28	0.87	0.81	2.76	3.54	4	0.67	F07
10"	9.72	15.94	7.99	11.26	4.33	0.43	2.28	1.00	0.81	4.02	4.92	4	0.87	F10
12"	11.63	19.09	9.55	12.32	4.33	0.43	2.68	1.10	0.95	4.02	4.92	4	0.87	F10
14"	12.99	21.06	10.53	13.60	4.72	0.47	2.68	1.10	2.76	4.02	4.92	4	-	F10
16"	14.92	23.43	11.75	15.37	5.12	0.71	3.15	1.26	3.15	5.51	6.89	4	-	F14
18"	17.20	25.20	13.78	16.26	5.91	0.71	3.15	1.50	3.15	5.51	6.89	4	-	F14
20"	19.29	28.1	14.96	18.13	6.30	0.87	3.54	1.77	3.54	6.50	8.27	4	-	F16
24"	22.62	33.07	17.32	20.59	6.69	0.87	4.13	2.17	3.74	6.50	8.27	4	-	F16

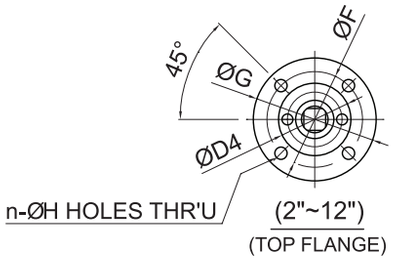
Model : **DOUBLE FLANGED BUTTERFLY VALVE**

Face To Face - Series 20 (2" ~ 12")

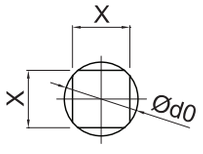




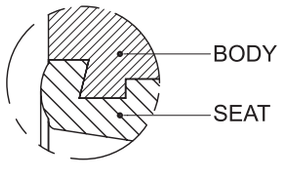
SECTION A-A'



(TOP FLANGE)



VIEW OF B
(2"~12")



DETAIL OF "A"

Dimensions

(unit : mm)

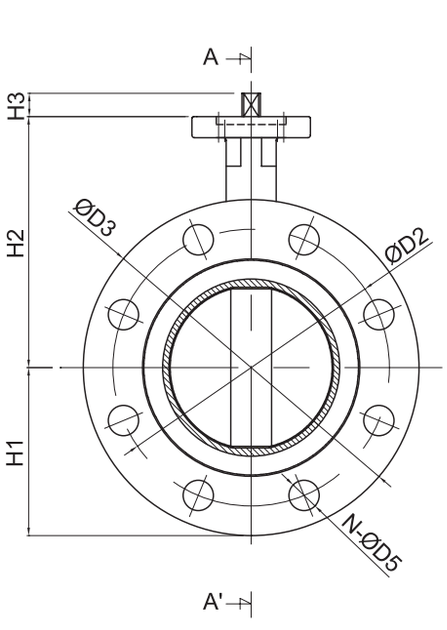
SIZE	TOP FLANGE & STEM								OUTLINE DIMENSION				
MM	H3	d0	X	G	F	n	H	ISO 5211	D3	D1	H1	H2	L
DN50	15.20	14.5	11.0	90	70	4	9	F07	165	52.0	82.50	133.00	43
DN65	15.20	14.5	11.0	90	70	4	9	F07	185	67.0	92.50	141.00	46
DN80	15.20	14.5	11.0	90	70	4	9	F07	200	80.0	100.00	145.00	46
DN100	17.70	16.5	14.0	90	70	4	9	F07	230	100.0	115.00	166.50	52
DN125	17.70	19.5	14.0	90	70	4	9	F07	270	125.0	135.00	190.50	56
DN150	17.70	19.5	14.0	90	70	4	9	F07	305	150.5	152.50	206.50	56
DN200	20.50	22.5	17.0	90	70	4	9	F07	350	196.5	175.00	240.00	60
DN250	20.50	25.9	22.0	125	102	4	11	F10	430	247.0	215.00	286.00	68
DN300	24.10	28.5	22.0	125	102	4	11	F10	485	295.5	242.50	313.00	78

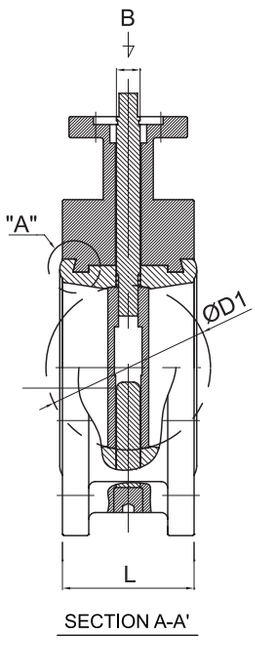
(unit : inch)

SIZE	TOP FLANGE & STEM								OUTLINE DIMENSION				
INCH	H3	d0	X	G	F	n	H	ISO 5211	D3	D1	H1	H2	L
2"	0.6	0.57	0.43	3.54	2.76	4	0.35	F07	6.5	2.05	3.25	5.24	1.69
2-1/2"	0.6	0.57	0.43	3.54	2.76	4	0.35	F07	7.28	2.64	3.64	5.55	1.81
3"	0.6	0.57	0.43	3.54	2.76	4	0.35	F07	7.87	3.15	3.94	5.71	1.81
4"	0.7	0.65	0.55	3.54	2.76	4	0.35	F07	9.06	3.94	4.53	6.56	2.05
5"	0.7	0.77	0.55	3.54	2.76	4	0.35	F07	10.63	4.92	5.31	7.5	2.2
6"	0.7	0.77	0.55	3.54	2.76	4	0.35	F07	12.01	5.93	6	8.13	2.2
8"	0.81	0.89	0.67	3.54	2.76	4	0.35	F07	13.78	7.74	6.89	9.45	2.36
10"	0.81	1.02	0.87	4.92	4.02	4	0.43	F10	16.93	9.72	8.46	11.26	2.68
12"	0.95	1.12	0.87	4.92	4.02	4	0.43	F10	19.09	11.63	9.55	12.32	3.07

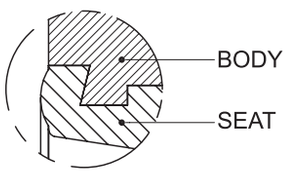
Model : DOUBLE FLANGED BUTTERFLY VALVE

Face To Face - Series 20 (2" ~ 12")





SECTION A-A'



DETAIL OF "A"

Flange Drilling Table

(unit : mm)

SIZE	PN10			PN16			ANSI 150 LBS			JIS 5K			JIS 10K			JIS 16K		
MM	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5
50A	125	4	18	125	4	18	120.7	4	19.1	105	4	15	120	4	19	120	8	19
65A	145	4	18	145	4	18	139.7	4	19.1	130	4	15	140	4	19	140	8	19
80A	160	8	18	160	8	18	152.4	4	19.1	145	4	19	150	8	19	160	8	23
100A	180	8	18	180	8	18	190.5	8	19.1	165	8	19	175	8	19	185	8	23
125A	210	8	18	210	8	18	215.9	8	22.2	200	8	19	210	8	23	225	8	25
150A	240	8	22	240	8	22	241.3	8	22.2	230	8	19	240	8	23	260	12	25
200A	295	8	22	295	12	22	298.5	8	22.2	280	8	23	290	12	23	305	12	25
250A	350	12	22	355	12	26	362.0	12	25.4	345	12	23	355	12	25	380	12	27
300A	400	12	22	410	12	26	431.8	12	25.4	390	12	23	400	16	25	430	16	27

(unit : inch)

SIZE	PN10			PN16			ANSI 150 LBS			JIS 5K			JIS 10K			JIS 16K		
INCH	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5	ØD2	N	ØD5
2"	4.92	4	0.71	4.92	4	0.71	4.75	4	0.75	4.13	4	0.59	4.72	4	0.75	4.72	4	0.75
2 1/2"	5.71	4	0.71	5.71	4	0.71	5.50	4	0.75	5.12	4	0.59	5.51	4	0.75	5.51	4	0.75
3"	6.30	8	0.71	6.30	8	0.71	6.00	4	0.75	5.71	4	0.75	5.91	8	0.75	6.30	8	0.91
4"	7.09	8	0.71	7.09	8	0.71	7.50	8	0.75	6.50	8	0.75	6.89	8	0.75	7.28	8	0.91
5"	8.27	8	0.71	8.27	8	0.71	8.50	8	0.87	7.87	8	0.75	8.27	8	0.91	8.86	8	0.98
6"	9.45	8	0.87	9.45	8	0.87	9.50	8	0.87	9.06	8	0.75	9.45	8	0.91	10.24	8	0.98
8"	11.61	8	0.87	11.61	12	0.87	11.75	8	0.87	11.02	8	0.91	11.42	12	0.91	12.01	12	0.98
10"	13.78	12	0.87	13.98	12	1.02	14.25	12	1.00	13.58	12	0.91	13.98	12	0.98	14.96	12	1.06
12"	15.75	12	0.87	16.14	12	1.02	17.00	12	1.00	15.35	12	0.91	15.75	16	0.98	16.93	16	1.06

• NOTE :

FOR 65A (2-1/2") 4 Bolt holes are also available upon special request.

Torques Required to Operate ST&H Butterfly Valves

STANDARD BUTTERFLY VALVE TORQUE
SEAT DESIGN : 1. CARTRIDGE TYPE
SEAT : EPDM, BUNA-N

ACTUAL TORQUE : N.m					ACTUAL TORQUE : lbf.inch					ACTUAL TORQUE : kgf.m				
SIZE		3bar	10bar	16bar	SIZE		50psi	145psi	255psi	SIZE		3kgf.m	10kgf.m	16kgf.m
50A	2"	16	42	42	50A	2"	142	367	367	50A	2"	2	5	5
65A	2.5"	29	42	42	65A	2.5"	254	367	367	65A	2.5"	3	5	5
80A	3"	29	42	55	80A	3"	254	367	480	80A	3"	3	5	6
100A	4"	42	42	67	100A	4"	367	367	593	100A	4"	5	5	7
125A	5"	67	67	74	125A	5"	593	593	649	125A	5"	7	7	8
150A	6"	71	94	110	150A	6"	621	824	971	150A	6"	8	10	12
200A	8"	118	151	215	200A	8"	1,039	1,332	1,896	200A	8"	12	16	22
250A	10"	303	370	453	250A	10"	2,675	3,273	4,006	250A	10"	31	38	47
300A	12"	383	459	523	300A	12"	3,386	4,063	4,627	300A	12"	39	47	54
350A	14"	337	800	1,521	350A	14"	2,961	7,076	13,385	350A	14"	34	82	156
400A	16"	461	1,802	1,991	400A	16"	4,047	15,948	17,506	400A	16"	49	184	203
450A	18"	619	2,028	2,676	450A	18"	5,445	17,950	23,542	450A	18"	64	207	275
500A	20"	766	2,214	3,305	500A	20"	6,737	19,595	29,076	500A	20"	78	227	337
600A	24"	1,237	5,436	5,324	600A	24"	10,872	48,107	46,847	600A	24"	128	554	544

SEAT DESIGN : 2. STANDARD BOOT TYPE
SEAT : EPDM, BUNA-N

ACTUAL TORQUE : N.m				ACTUAL TORQUE : lbf.inch				ACTUAL TORQUE : kgf.m			
SIZE		10bar	16bar	SIZE		145psi	255psi	SIZE		10kg/cm^2	16kg/ cm^2
50A	2"	34	75	50A	2"	294	294	50A	2"	4	4
65A	2.5"	34	75	65A	2.5"	294	310	65A	2.5"	6	6
80A	3"	34	75	80A	3"	294	500	80A	3"	4	6
100A	4"	64	76	100A	4"	587	660	100A	4"	7	8
125A	5"	71	102	125A	5"	621	790	125A	5"	8	10
150A	6"	71	102	150A	6"	621	903	150A	6"	8	11
200A	8"	121	160	200A	8"	1,073	1,410	200A	8"	13	17
250A	10"	336	433	250A	10"	2,967	4,502	250A	10"	34	45
300A	12"	405	530	300A	12"	36,207	5,077	300A	12"	42	55
350A	14"	1,172	1,521	350A	14"	10,307	13,385	350A	14"	121	156
400A	16"	1,532	1,991	400A	16"	13,475	17,506	400A	16"	156	203
450A	18"	2,060	2,676	450A	18"	18,115	23,542	450A	18"	211	275
500A	20"	2,543	3,305	500A	20"	22,368	29,076	500A	20"	259	337
600A	24"	4,098	5,324	600A	24"	49,051	46,847	600A	24"	419	544

Torques Required to Operate ST&H Butterfly Valves

TEFLON SEAT

ACTUAL TORQUE : N.m			TORQUE : lbf.inchs		
SIZE		11bar	SIZE		165psi
50A	2"	19	50A	2"	13
65A	2.5"	25	65A	2.5"	19
80A	3"	51	80A	3"	38
100A	4"	51	100A	4"	38
125A	5"	103	125A	5"	808
150A	6"	145	150A	6"	808
200A	8"	281	200A	8"	1395
250A	10"	358	250A	10"	3858
300A	12"	637	300A	12"	47070

• NOTE :
All torques shown on the chart were derived from test data using water at 5'c.
For torque using dry gases, multiply these numbers by 1.6
Above table has additional 30% safety factor to average net torque

The torques listed are applicable to sea water, lubricating type of hydro carbons and most media at temperature 0~82 ℃ (32~180 ℉).
The operating speed of the actuator must be considered in order to avoid water hammer when the valve is closed in junction with Liquid.

The factors affect the torque required to operate Butterfly Valves

- Valve Diameter
- Shaft Diameter
- Bearing Friction Coefficient
- Type of Seat Material
- Shut off Pressure
- Velocity
- Shape of Disc
- System Head Characteristics
- Piping Arrangement

Actuator torques can be calculated using the follwing formulas.

- $Ta = Tb + Ts + Th = 1.2Tb \pm Td$
- $Ts = CsD^2$
- $Tb = 4.17D^2dfp$
- $Td = CtD^3P$
- $Th = 3.06D^4$
- $V = Cf\sqrt{p} = \frac{Q}{0.785D^2}$

Ta : The required actuator torque(lb-ft)
Ts : Seating or unseating torque(lb-ft)
Td : Dynamic torque(lb-ft)
Th : Hydrostatic torque(lb-ft)
Q : Flow (cubic for per second)
V : Velocity (feet per second)
D : Diameter of valve (feet)
d : Diameter of Shaft (inch)
P : Pressure drop across valve(psi)
Cs : Coefficient of Seating or unseating torque
Ct : Coefficient of dynamic torque
Cf : Coefficient of flow
f : Bearing friction coefficient

Operating Characteristics for Sizing

• The Size of Butterfly Valve used for control purpose should be calculated on the basis of the operating characteristics.
In order to achieve optimum control, the flow coefficient (Cv, Kv) below need to be considered.

• Flow Coefficient for ST&H corporation Butterfly Valves.

SIZE		DISC OPENING															
		20°		30°		40°		50°		60°		70°		80°		90°	
		Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv
40	1 1/2″	2.6	3	4.3	5	9.5	11	16	18	22	26	39	45	60	70	69	80
50	2″	6.7	8	7.8	9	16	18	24	28	48	55	62	72	95	110	116	135
65	2 1/2″	8.6	10	13	15	23	27	38	44	73	85	95	110	145	168	181	210
80	3″	13	15	20	23	34	39	56	65	112	130	142	165	216	250	267	310
100	4″	23	27	35	41	61	71	99	115	198	230	259	300	401	465	466	540
125	5″	50	58	74	86	129	150	211	245	414	480	526	610	845	980	948	1100
150	6″	83	96	121	140	211	245	345	400	677	785	871	1010	1392	1615	1647	1910
200	8″	142	165	211	245	354	410	591	685	1099	1275	1478	1715	2302	2670	2746	3185
250	10″	220	255	328	380	560	650	974	1130	1810	2100	2328	2700	3664	4250	4224	4900
300	12″	319	370	466	540	819	950	1353	1570	2629	3050	3405	3950	5129	5950	6336	7350
350	14″	388	450	647	750	1120	1300	1905	2210	3517	4080	4836	5610	6964	8078	9665	11200
400	16″	552	640	776	900	1483	1720	2405	2790	4310	5000	6336	7650	9284	10770	11121	12900
450	18″	630	730	1078	1250	1978	2295	3190	3700	6078	7050	7914	9180	11983	13900	15086	17500
500	20″	785	910	1375	1595	2457	2850	3991	4630	7414	8600	9914	11500	15121	17540	19310	22400
600	24″	1078	1250	1974	2290	3448	4000	5250	6090	10776	12500	14224	16500	20336	23590	24397	28300

• Cv is in imperial units, the water flow in U.S. gallons per minute which passes through the valve giving a pressure drop of 1 PSI at a temperature of 68°F
In metric units the same coefficient is called Kv and correspond to the flow rate in m3/h passing through the valve giving a pressure drop of 1 bar at a temperature of 20°C
The approximate corresponding formulas are :

$$Q = Cv \cdot \sqrt{\frac{\Delta p \cdot 62.4}{D}}$$

where :
Q = valve flow rate in gpm (USGPM)
Δp = pounds per square inch (psi) pressure drop through the valve
62.4 = conversion factor for fluids computed in relation to water
D = pounds per cu.ft (pct) fluid density

$$Q = Kv \cdot \sqrt{\frac{\Delta p \cdot 1000}{D}}$$

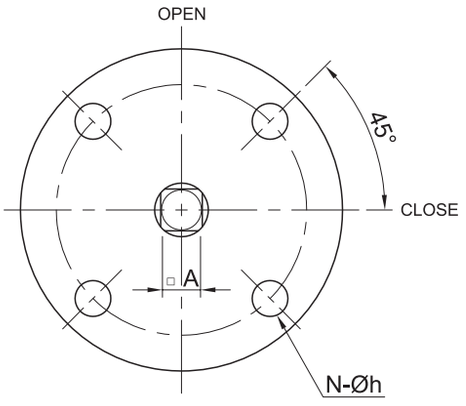
where :
Q = valve flow rate in m3/h
Δp = pressure drop through the valve in bar
1000 = conversion factor for fluids computed in relation to water.
D = Kg/m^3 fluid density

The relation between Cv and Kv, expressed in the above mentioned unit of measure is as follows ;
Cv = 1.16Kv

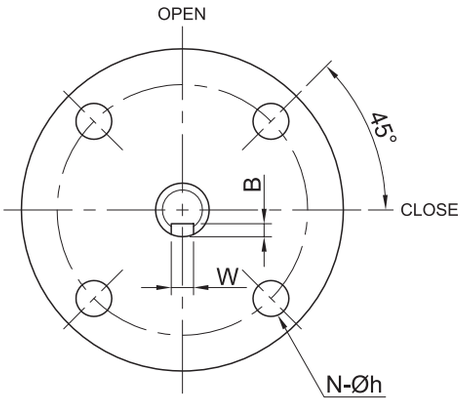
BUTTERFLY VALVE TOP FLANGE DIMENSION

STANDARD BUTTERFLY VALVE

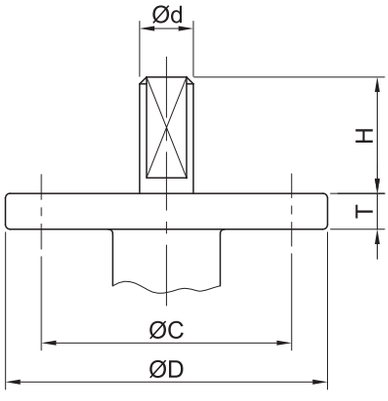
SIZE 1 1/2"~12"



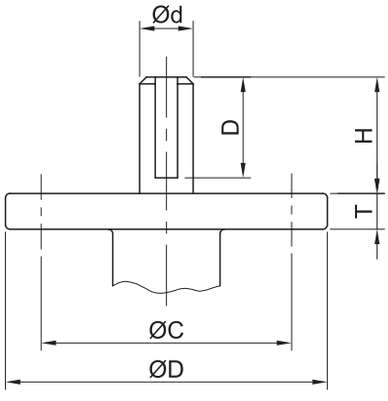
SIZE 14"~24"



Square Stem type



Key Stem type



Dimensions

(unit : mm)

SIZE		Ød	T	ØC	N	Øh	A	ØD	B	W	H	E	REMARKS
inch	mm												
1 1/2	40	14	10	50	4	8.0	11	65	-	-			F05
2	50	14	14	70	4	9.0	11	71	-	-	15.2	-	F07
2 1/2"	65	14	14	70	4	9.0	11	71	-	-	15.2	-	F07
3	80	14	14	70	4	9.0	11	71	-	-	15.2	-	F07
4	100	16	16	70	4	9.0	14	71	-	-	17.7	-	F07
5	125	18	16	70	4	9.0	14	71	-	-	17.7	-	F07
6	150	18	16	70	4	9.0	14	71	-	-	19	-	F07
8	200	22	17	70	4	9.0	17	71	-	-	20.5	-	F07
10	250	25.4	20	102	4	11	22	95	-	-	20.5	-	F10
12	300	28	20	102	4	11	22	95	-	-	24.1	-	F10
14	350	28	20	102	4	12	-	140	5	10	70	60	F10
16	400	32	23	140	4	18	-	160	5	10	88.5	70	F14
18	450	38	23	140	4	18	-	160	5	12	88.5	70	F14
20	500	45	23	165	4	22	-	160	5	12	88.5	70	F16
24	600	55	23	165	4	22	-	160	5	14	93.5	70	F16

• NOTE :
1. STANDARD : ISO 5211 F05~F16
2. "ØC", "Øh" TOLERANCE : $^{+0.1}_{-0.0}$
3. OTHERS TOLERANCE : $^{+0.3}_{-0.0}$

MATERIAL SELECTION / HOW TO ORDER



1. Model

STC : WAFER BOOT
STC-SR : WAFER CARTRIDGE
STL : LUG BOOT
STL-SR : LUG CARTRIDGE
STU : U - SECTION, LARGE DIAMETER LUG
AL-STC : LIGHT WEIGHT ALUMINUM BODY WAFER BOOT
STDF-JIS : DOUBLE FLANGED (JIS F7480 TYPE)
STDF-S13 : DOUBLE FLANGED (SERIES 13 TYPE)
STDF-S20 : DOUBLE FLANGED (SERIES 20 TYPE)

2. Body Material

1. CAST IRON=FC=CI
2. DUCTILE IRON=FCD=DI
4. SS316=CF8M
7. ALUMINUM

3. Disc

A. SS304=CF8
B. DUCTILE IRON
C. SS316=CF8M
G. AL/BC

4. Stem

4. SS 304
5. SS 316
6. SS 410
8. SS 416
9. SS 420

NOTE : Please contact ST&H sales representative for alternative material options

5. Seat

* CARTRIDGE TYPE
  - A. EPDM
  - B. BUNA-N(NBR)
  - C. WHITE EPDM
  - D. VITON
  - F. HIGH EPDM
  - I. TEFLON (2"~12" only)

* BOOT TYPE
  - J. EPDM
  - K. BUNA-N(NBR)
  - L. VITON
  - M. WHITE EPDM
  - O. HIGH EPDM

6. Operation

1. BARE STEM
3. STEEL LEVER (2"~12")
4. SS316 LEVER (2"~6" only)
5. INF LEVER (2"~6" only)
6. KEY TYPE GEAR(14" and over)
7. SQUARE GEAR(2"~12")
8. ACTUATORS

7. Drilling or Pressure Rate

0.150 Class COMMON
1.ANSI 150
2.JIS 5K
3.JIS 10K
4.DIN PN10
5.DIN PN16

8. Plate

0. NO INDICATE PLATE (BARE STEM OR GEAR)
3. STEEL NEW TYPE PLATE
4. SS316 NEW TYPE PLATE (2"~6" only)
5. STEEL INF PLATE