

Vtek

Controls

SERIES VRS

Resilient Lined Butterfly Valve



Design Specifications

- **Standard Sizes :** 2" – 48"
- **Body Materials:** Cast Iron / Ductile Iron / Alum / BRZ / Stainless
- **Seats:** NBR, EPDM, FKM, PTFE Silicone
- **Coating:** Epoxy RAL 5005, 7011
- **ISO 5211** Direct Mount - 2" to 12"
- **Blow-Out Proof Stem**
- **ANSI 125 / 150, Lug & Wafer**
- **General & Industrial Applications**

Standards

- **Compliance Standard:** API 609, CE0038, ISO 5211, BS5155, EN1092, EN593, ISO 5752
- **Testing:** API 598, ISO5208, EN512266-1
- **Quality Assurance:** ISO 9001, 5209

Data:



Size : 2" ~ 48"

Type: Wafer , Lug

Pressure Rating: Class 125, 150

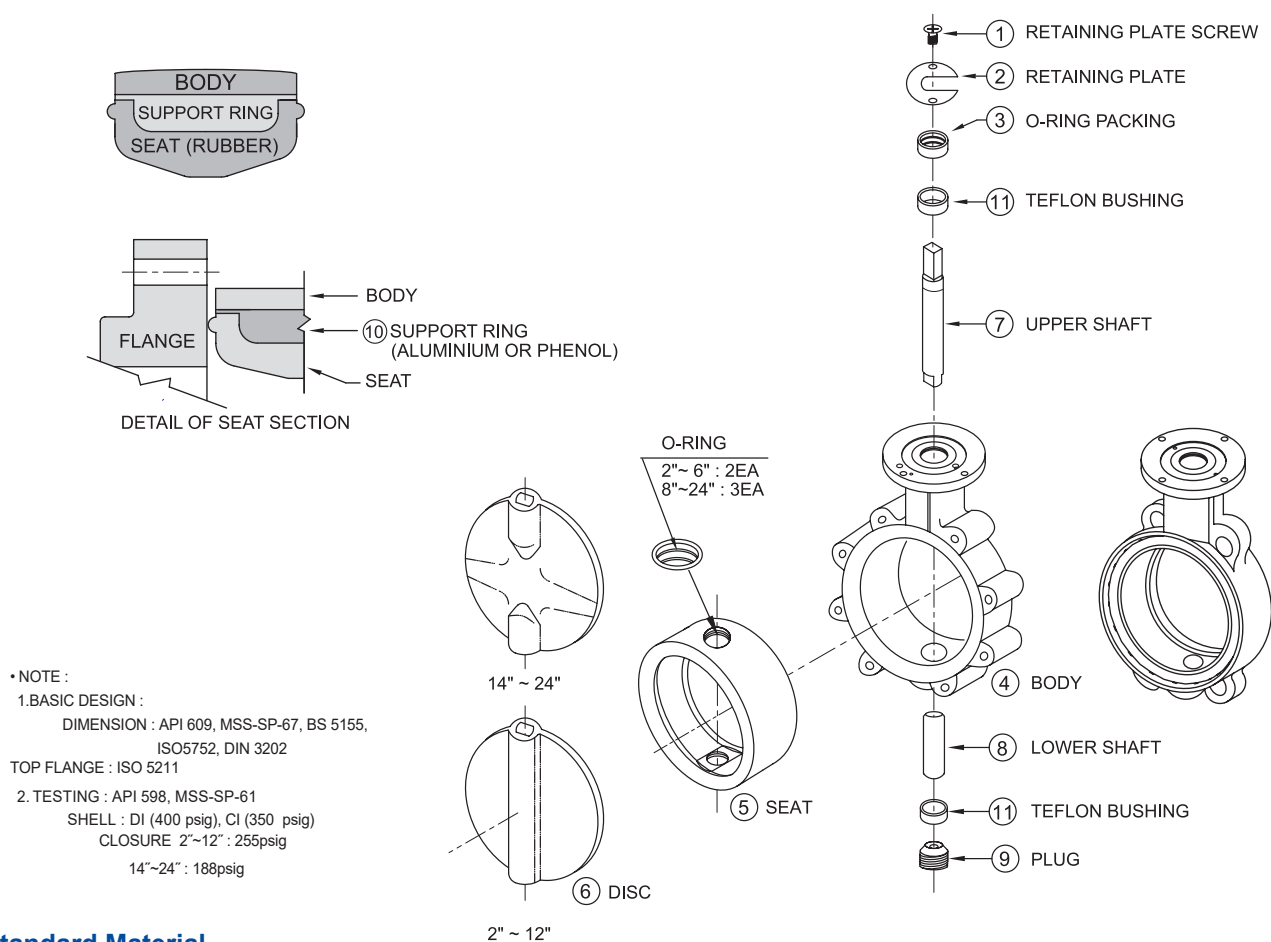
Body Material: Cast Iron / Ductile Iron / Alum / BRZ / Stainless

Seat Material: NBR, EPDM, FKM, PTFE, Silicone

Operation: Lever , Gear operated, Bare stem.

- Tight shut-off design.
- One - piece body.
- Cartridge Type Seat
 - One-piece and two-piece stems in A564 Gr.630 / PH 17-4 / 316 materials.
 - ISO 5211 mounting pad with square shaft 2" ~ 14, Key Type Connection 16" ~ 48"
 - Hand Polished Disc to maximized flow and minimize resistance providing high Cv.
 - Epoxy Coating
 - Non-corrosive stem bushing
 - Bi-directional flow
 - Under-Cut Disc available upon request.
 - 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 : DI (400 psig), CI (350 psig)
 - Closure 2"~12" : 255psig
 - 14"~24" : 188psig

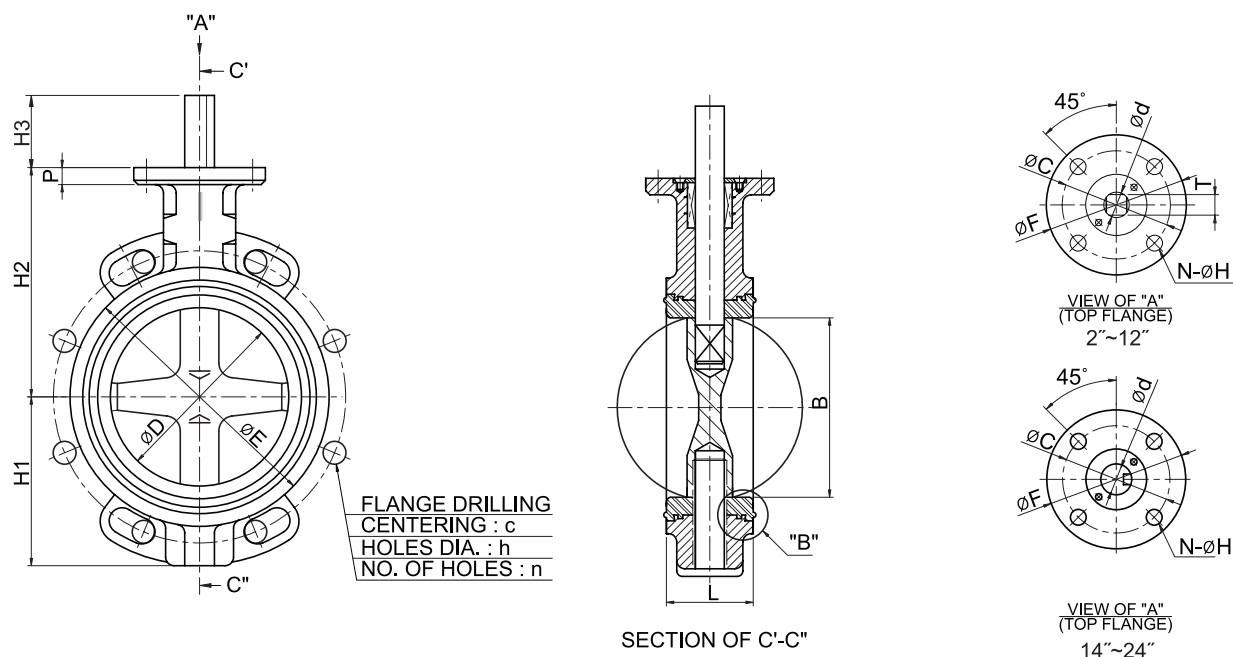
Material:



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 °C ~ +110 °C
		BUNA-N (NBR)		ASTM D2000	-20 °C ~ +90 °C
		WHITE EPDM		ASTM D2000	-30 °C ~ +110 °C
		VITON		ASTM D2000	-10 °C ~ +160 °C
		HIGH TEMPERATURE EPDM		ASTM D2000	-30 °C ~ +130 °C
6	DISC	TEFLON (PTFE)		PTFE	-40 °C ~ +250 °C
		DUCTILE IRON	GGG40	ASTM A536/DIN1693	CHROME/ NICKEL PLATED
		STAINLESS STEEL	CF8	ASTM A351	
			CF8M	ASTM A351	
7	UPPER STEM	ALUMINIUM BRONZE	ALBC	C95400	only available in CI/ DI Body
		STAINLESS STEEL	SS 304	ASTM A479 A 276 A 582	
			SS 316		
			SS 410		
			SS 420		
8	LOWER STEM				
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	

Dimensions Wafer Type 150 lb:



Dimensions

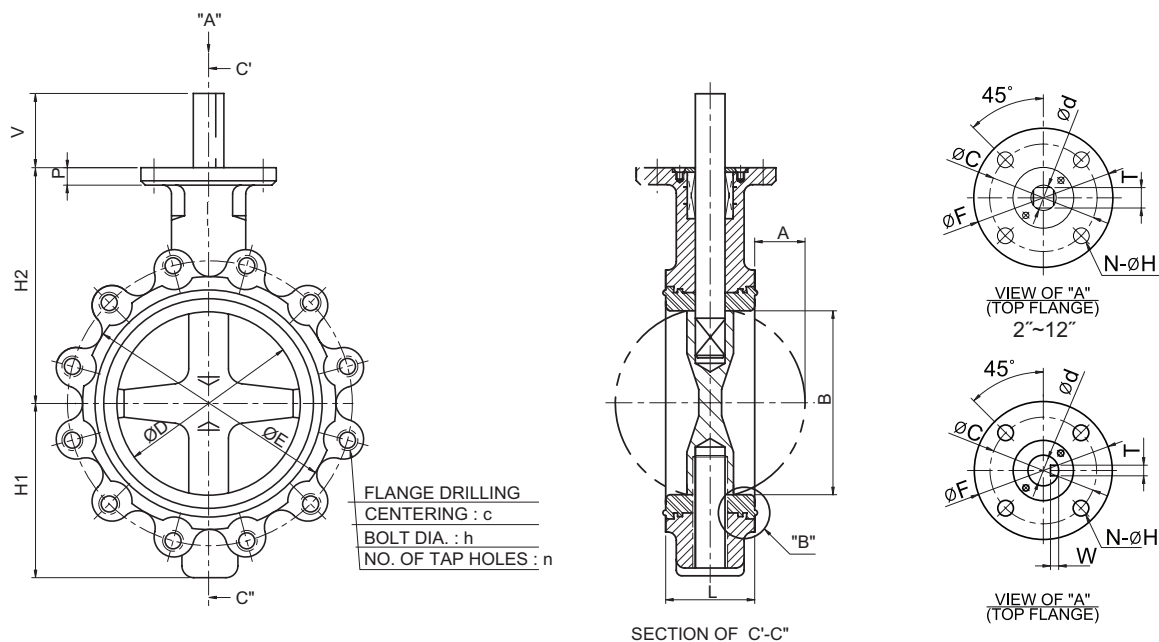
(unit : mm)

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

Dimensions: Lug Style 150lbs:



Dimensions

(unit : mm)

SIZE	TOP FLANGE & STEM														
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

Torque:

EPDM / BUNA

ACTUAL TORQUE : lbf.inch				
SIZE		50psi	145psi	230psi
50A	2"	142	367	367
65A	2.5"	254	367	367
80A	3"	254	367	480
100A	4"	367	367	593
125A	5"	593	593	649
150A	6"	621	824	971
200A	8"	1,039	1,332	1,896
250A	10"	2,675	3,273	4,006
300A	12"	3,386	4,063	4,627
350A	14"	2,961	7,076	13,385
400A	16"	4,047	15,948	17,506
450A	18"	5,445	17,950	23,542
500A	20"	6,737	19,595	29,076
600A	24"	10,872	36,036	46,847

TEFLON SEAT

TORQUE : lbf.inchs		
SIZE		165psi
50A	2"	13
65A	2.5"	19
80A	3"	38
100A	4"	38
125A	5"	808
150A	6"	808
200A	8"	1395
250A	10"	3858
300A	12"	47070

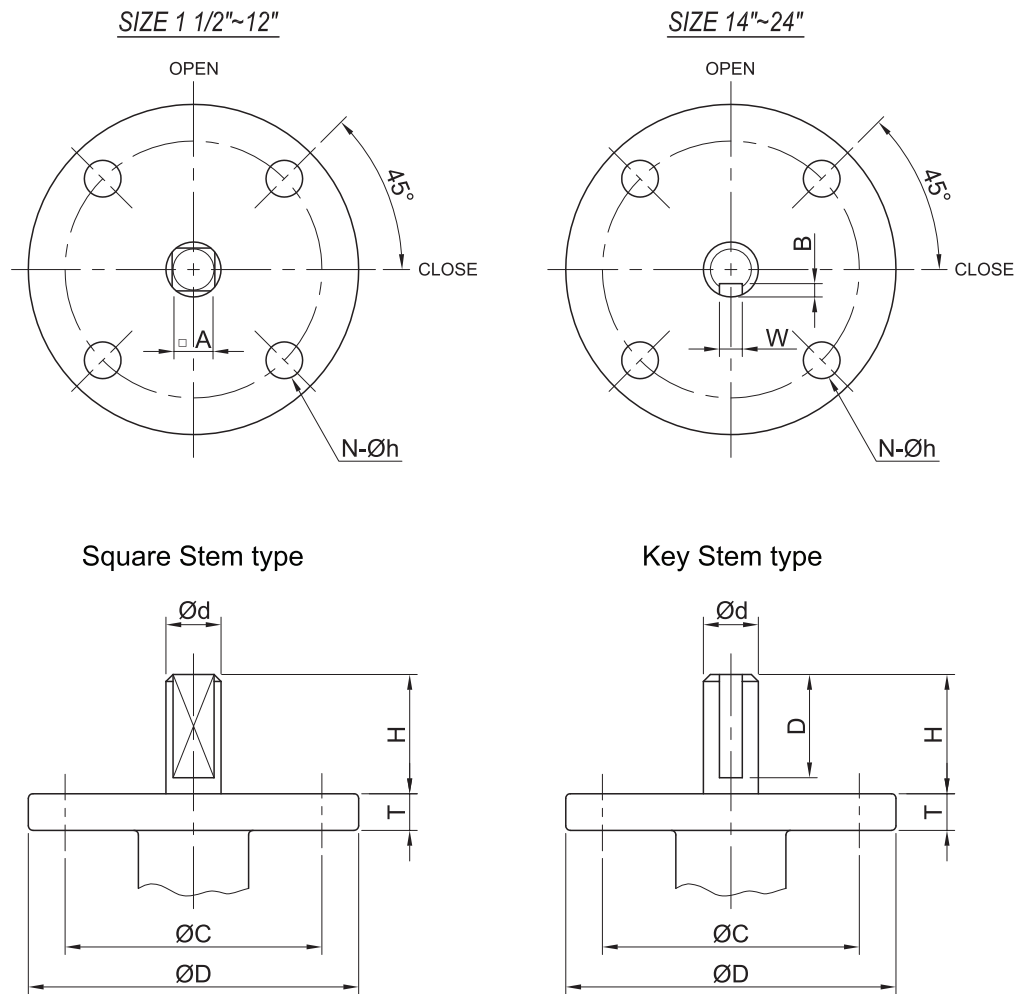
NOTE :

Above table has additional 30% safety factor to average net torque

Flow Coefficient Cv:

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

Mounting Dimensions:



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

Ordering:

Series	Port	Body Material	Disc	Stem	End Connection	Size
VRS	B1- Concentric Butterfly	S - Stainless Steel I - Cast Iron D - Ductile Iron	S - 316 SS C -Carbon	S - 316 SS P - 17-4PH	L1- Lug 125 / 150 W1- Wafer 125 / 150	0200 - 2" 0250 - 2-1/2" 0300 - 3" 0400 - 4" 0500 - 5" 0600 - 6" 0800 - 8" 1000 - 10" 1200 - 12" 4800 - 48"
Seats	Packing	Body Seal	Operator	Options	Stem O-ring	
P - PTFE B - BUNA V - VITON / FKM E - EPDM L - SILICONE	P - PTFE B - BUNA V - VITON / FKM E - EPDM L - SILICONE	N/A	Blank - Bare Stem L - Locking Handle G - Gear Operated	Blank - No Options	P - PTFE B - BUNA V - VITON / FKM E - EPDM L - SILICONE	

Vtek Controls, LLC reserves the right to make revisions to it's products, specifications, literature, and related information without notice. Please visit our Website for the latest information and updates.

Vtek
Controls

Vtek Controls, LLC
420-H Wards Corner Rd
Loveland, OH 45140
Ph 513-928-3630
www.vtekcontrols.com