

VtekTM

Controls

SERIES VTO

Triple Offset Butterfly



Design Specifications

- **Sizes :** 3" - 48"
- **Body Materials:** CF8M / WCB / CF8/ WCC
- **Seats:** Graphite Laminated Disc
- **ISO 5211 Direct Mount**
- **Pressure rating :** ANSI 150 / 300 / 600/ 900
- **Blow-out Proof Stem**
- **General & Industrial Applications**

Standards

- **ASME** ASME B16.5 (3" - 24") ,
ASME B16.47 (26" & Larger).
ASME B16.10 / EN558-1 1995
S13/S14/S16/S20.
- **Quality Assurance:** ISO 9001, 5209
- **Inspection and Test:** API 598
- **Design:** API 609

Materials:

Parts	Material
Body	ASTM A216 WCB/WCC ASTM A351 CF8/CF3/CF8M/CF3M
Disc	ASTM A216 WCB/WCC ASTM A351 CF8/CF3/CF8M/CF3M
Seat	ASTM A182 F304/F316/F316L Combination R.TFE or Graphite
Plug	ASTM A276 420 ASTM A276 F304/F316/F316L
Ring	ASTM A276 410 ASTM A182 F304/F316/F316L

Note: Consult Vtek Controls for special Alloy not listed above

OPTIONS

Trim: Multi-level Valve Seat
Triple Eccentric Structure

Body: Straight

Bonnet: Standard

Temperature Range: -49~ 1000F (196-538C)

Plug sealing: Standard Graphite

Leakage : CLASS VI

Flow Characteristic : Approximate Equal%

Pipe Connection: Flange Wafer Range ability: 30:1

Figure 1



Figure 2

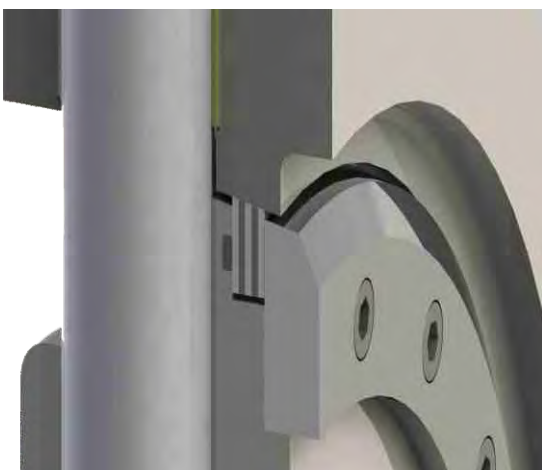
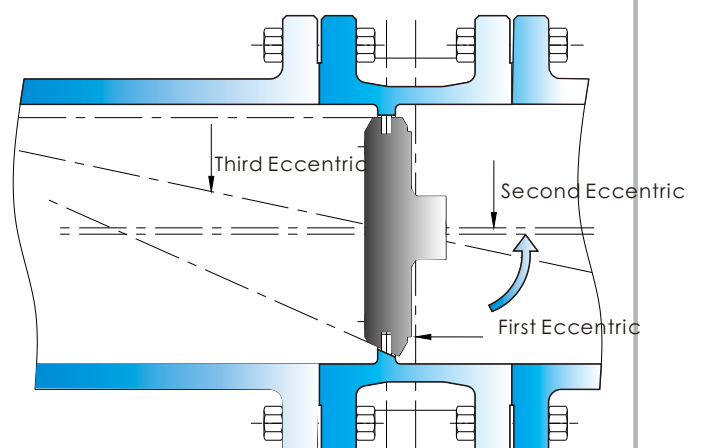
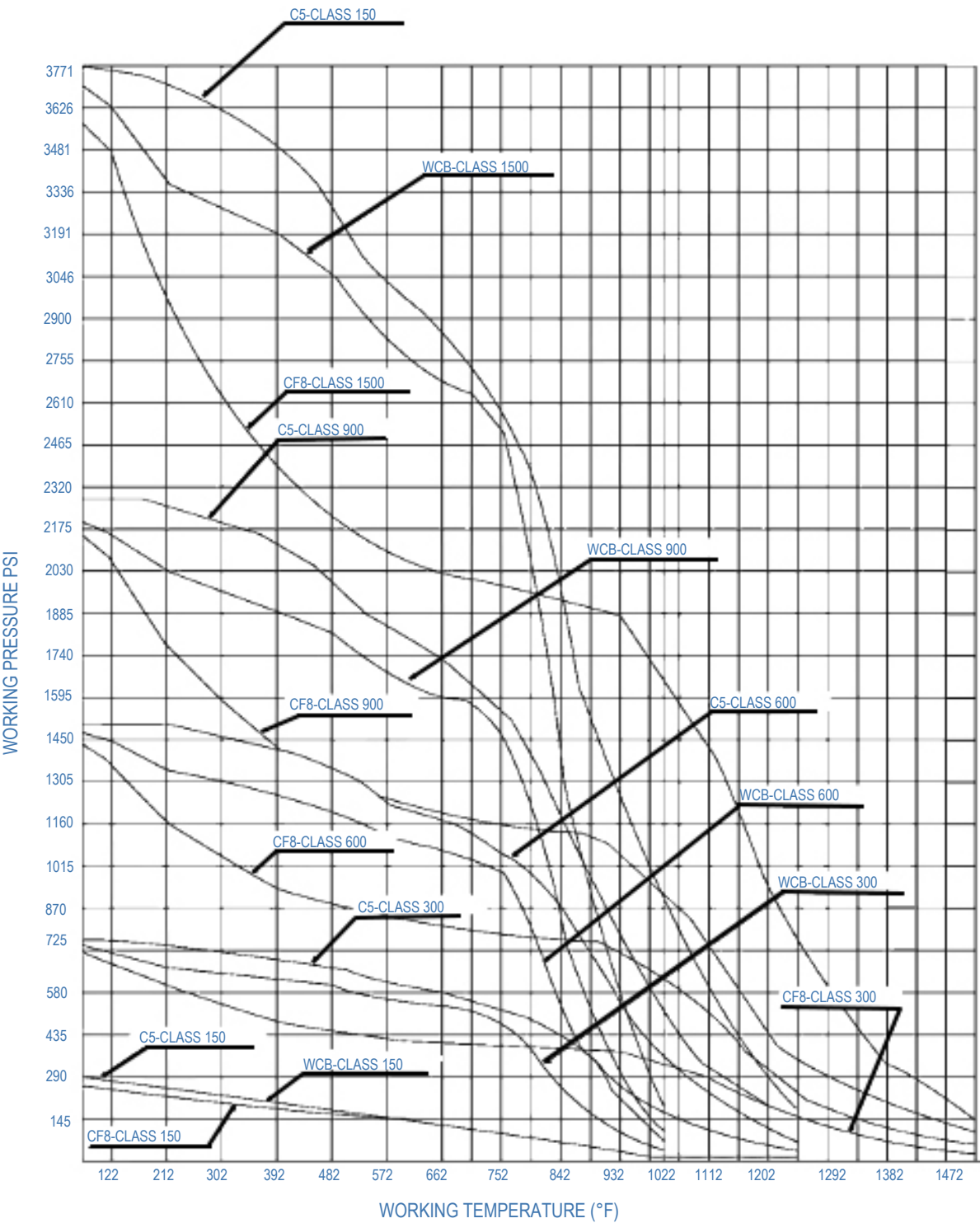


Figure 3



Pressure Vs. Temperature Chart



CV Value::

150LB

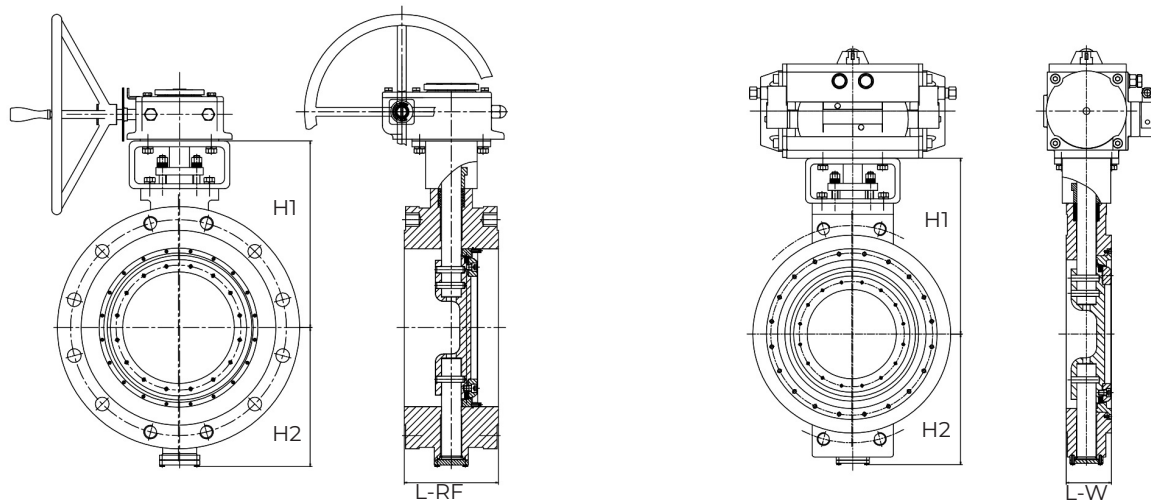
Size	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
3"	1	6	14	23	31	39	47	54	62	71	82	96	112	128	143	156	163	163
4"	2	12	26	42	57	72	85	98	113	130	150	176	205	234	262	285	299	302
6"	16	31	45	59	76	101	134	178	233	297	369	448	531	616	698	758	796	796
8"	30	57	82	108	140	185	246	327	427	544	676	821	974	1130	1280	1390	1460	1460
10"	52	99	142	187	242	320	426	566	739	942	1170	1420	1690	1960	2220	2410	2530	5630
12"	78	147	212	279	362	478	636	846	1100	1410	1750	2120	2520	2920	3310	3600	3780	3780
14"	106	201	289	380	493	651	866	1150	1500	1920	2380	2890	3430	3980	4510	4890	5140	5140
16"	165	313	451	594	769	1020	1350	1800	2350	2990	3720	4510	5350	6210	7040	7640	8020	8020
18"	217	413	594	782	1010	1340	1780	1370	3090	3940	4890	5940	7050	8180	9270	10100	10600	10600
20"	268	509	733	965	1250	1650	2200	2920	3820	4860	6040	7340	8710	10100	11400	12400	13000	13000
24"	386	734	1060	1390	1800	2380	3170	4210	5500	7000	8700	10600	12500	14500	16500	17900	18800	18800
28"	559	1060	1530	2010	2610	3450	4590	6100	7960	10100	12600	15300	18200	21000	23900	25900	27200	27200
30"	630	1200	1720	2270	2940	3880	5160	6870	8960	11400	14200	17200	20400	23700	28900	29200	30700	30700
32"	719	1370	1970	2590	3360	4440	5900	7840	10200	13000	16200	19700	23300	27100	30700	33300	35000	35000
36"	884	1680	2420	3180	4210	5450	7250	9630	12600	16000	19900	24200	28700	33300	49800	40900	43000	43000
40"	1170	2220	3190	4210	5450	7210	9580	12700	16600	21200	26300	31900	37900	44000	52600	54100	56900	56900
42"	1230	2340	3370	4440	5760	7610	10100	13400	17600	22400	27800	33700	40000	46500	57100	57100	60000	60000
48"	1640	3120	4490	5920	7670	10100	13500	17900	23400	29800	37000	45000	53400	61900	70100	76100	80000	80000

300LB

Size	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
3"	1	6	14	23	31	39	47	54	62	71	82	96	112	128	143	156	163	165
4"	2	12	26	42	57	72	85	98	113	130	150	176	205	234	262	285	299	302
6"	6	25	41	54	69	91	121	162	212	268	334	407	482	559	634	689	725	725
8"	11	45	74	98	126	166	222	298	389	492	613	746	884	1030	1160	1260	1330	1330
10"	19	82	135	178	229	301	402	540	705	891	1110	1350	1600	1860	2110	2290	2410	2410
12"	29	122	202	266	342	450	601	807	1050	1330	1660	2020	2400	2780	3150	3420	3600	3600
14"	39	167	274	363	466	613	818	1100	1430	1810	2260	2750	3260	3780	4290	4660	4900	4900
16"	58	248	408	539	692	910	12220	1630	2130	2690	3360	4090	4840	5610	6370	6920	7280	7280
18"	77	326	537	710	911	1200	1600	2150	2810	3550	4420	5380	6380	7400	8390	9110	9590	9590
20"	95	403	663	876	1130	1480	1980	2650	3460	4380	5460	6640	7880	9130	10400	11300	11800	11800
24"	136	580	955	1260	1620	2130	2850	3820	4990	6310	7860	9570	11300	13100	14900	16200	17100	17100
28"	199	844	1390	1840	2360	3100	4150	5560	7260	9190	11400	13900	16500	19100	21700	23600	24800	24800
30"	232	986	1620	2150	2750	3620	4840	6490	8480	10700	13400	16300	19300	22400	25400	27500	29000	29000
32"	261	1110	1830	2420	3100	4080	5450	7310	9550	12100	15000	18300	21700	25200	28600	31000	32600	32600
36"	332	1410	2320	3070	3940	5190	6930	9300	12100	15400	19100	23300	27600	32000	36300	39400	41500	41500
40"	399	1700	2790	3690	4740	6230	8330	11200	14600	18400	23000	28000	33200	38400	43600	47400	49900	49900
42"	457	1940	3200	4230	5430	7140	9540	12800	16700	21100	26300	32000	38000	44000	50000	54200	57100	57100
48"	480	2040	3360	4440	5700	7500	10000	13400	17500	22200	27700	33700	39900	46300	52500	57000	60000	60000

Dimensions 150 ANSI:

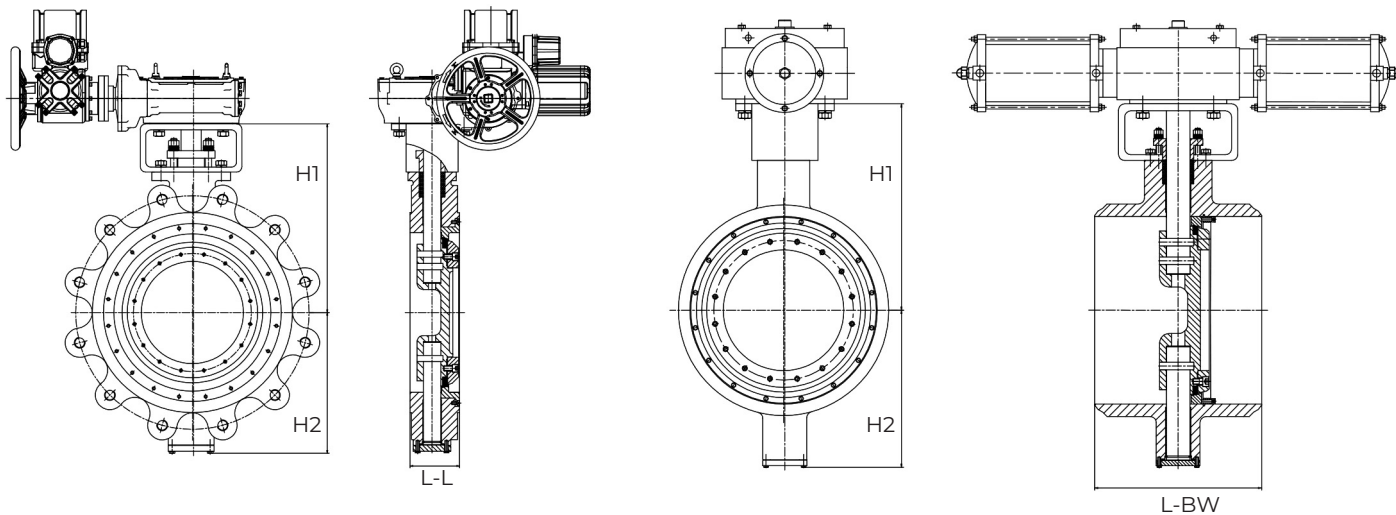
150# Dimensions (2.0 MPa)



Size	Dimensions							Weight			
	L-RF	L-BW	L-W/L	L-DD	H1	H2	H1-DD	W-RF	W-BW	W-W	W-L
2"	4.25		1.69		7.48	4.33		44		20	22
2-1/2"	4.41		1.81		7.87	4.72		49		22	26
3"	4.49	7.09	1.89		8.46	5.12		51	37	24	29
4"	5.00	7.48	2.13		9.06	5.31		55	42	29	42
5"	5.51	7.87	2.20		10.24	5.91		75	55	35	51
6"	5.51	8.27	2.24	15.87	11.02	6.69	26.8	93	62	46	64
8"	5.98	9.06	2.52	16.50	12.99	9.06	27.6	128	108	88	112
10"	6.50	9.84	2.80	17.99	13.98	10.24	29.9	198	209	110	152
12"	7.01	10.63	3.19	19.76	15.94	11.81	31.9	265	287	165	240
14"	7.48	11.42	3.62	22.5	17.32	12.99	32.3	375	392	225	315
16"	8.50	12.20	4.02	24.0	18.90	14.37	33.5	518	525	320	430
18"	8.74	12.99	4.49	26.0	19.88	15.94	35.4	628	606	419	584
20"	9.02	13.78	5.00	28.0	21.9	17.13	37.4	849	933	562	739
24"	10.51	15.35	6.06	32.0	24.4	19.88	43.3	1279	1213	794	1014
28"	11.50	16.93	6.50	36.0	26.8	20.7	45.3	1554	1466	1036	1631
30"	12.52	17.91	7.09	36.0	27.8	21.7	48.4	1830	1598	1146	1907
32"	12.52	18.50	7.48	38.0	29.1	22.4	51.2	2138	1797	1444	2028
36"	12.99	20.1	7.99	40.0	33.1	25.2	53.2	3042	2998	1830	2601
40"	16.14	21.7	8.50	45.3	35.0	27.2	59.1	3858	3549	2496	2910
42"	16.93	22.4	10.00	45.3	38.0	30.3		4894	4112	2756	3219
48"	18.5	24.8	10.00		40.2	32.3		6129	5327	3241	3858
56"	20.9	28.0	15.35		45.7	36.4		8929	7319	4630	5423
64"	23.6	31.1	17.32		51.4	41.1					
72"	26.4	34.3	19.29		55.9	45.3					
80"	29.9	37.4	21.3		58.7	49.4					
88"	31.5	39.4	23.2		62.2	53.2					
96"	33.5	43.3	25.6		67.13	57.3					
104"	35.4	47.2	27.6		72.1	60.4					
112"	37.4	51.2	18.1		76.8	65.0					
120"	39.4	55.1	31.9		82.7	70.1					
128"	41.3	59.1			88.6	73.2					
136"	43.3	63.0			96.7	76.8					
144"	45.2	66.9			106	82.7					

Dimensions 300 ANSI:

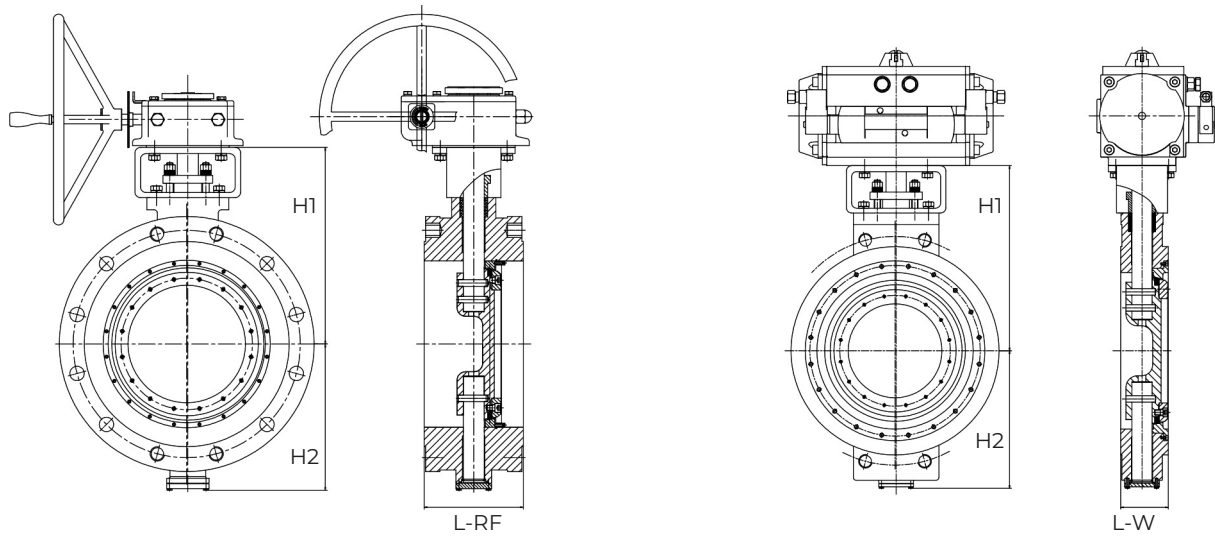
300# Dimensions (5.0 MPa)



Size	Dimensions							Weight			
	L-RF	L-BW	L-W/L	L-DD	H1	H2	H1-DD	W-RF	W-BW	W-W	W-L
2"	5.91		1.69		8.07	4.13		71		32	35
2-1/2"	6.69		1.81		8.27	4.13		78		35	42
3"	7.09	7.09	1.89		8.66	4.92		81	37	39	46
4"	7.48	7.48	2.13		10.63	6.30		88	42	46	67
5"	7.87	7.87	2.20		11.02	6.30		120	55	56	81
6"	8.27	8.27	2.32		12.60	8.07		148	62	74	102
8"	9.06	9.06	2.87	22.05	14.17	9.25	28.15	205	108	141	180
10"	9.84	9.84	3.27	24.21	16.73	11.42	30.71	317	209	176	243
12"	10.63	10.63	3.62	25.39	17.91	13.78	32.68	423	287	265	384
14"	11.42	11.42	4.61	28.15	18.50	14.17	34.84	600	392	360	504
16"	12.20	12.20	5.24	28.74	20.47	14.96	36.02	829	525	511	688
18"	12.99	12.99	5.87	30.71	21.85	16.14	39.17	1005	606	670	935
20"	13.78	13.78	6.26	31.30	23.43	17.72	39.37	1358	933	899	1182
24"	15.35	15.35	7.13	35.04	26.57	21.06	45.28	2046	1213	1270	1623
28"	16.93	16.93	9.02	37.01	30.31	22.44	50.79	2487	1466	1658	2610
30"	17.72	17.72	9.06	39.57	33.46	23.82	53.54	2976	1631	2006	2910
32"	18.50	18.50	9.49	39.96	35.04	24.61	54.33	3422	1797	2310	3245
36"	20.08	20.08	9.49	43.31	37.80	28.54	57.09	4868	2998	2928	4162
40"	21.65	21.65	11.81	46.46	41.14	32.489	61.02	6173	3549	3993	4656
42"	23.23	23.23	12.20	46.46	44.09	36.02	61.02	8270	4740	4881	5688
48"	24.80	24.80	13.78		47.24	38.58		9806	5234	5185	6173
56"	27.95	27.95	15.35		54.33	45.87		14286	7319	7408	8677
64"	31.10	31.10	17.32		61.42	53.94					

Dimensions 600 ANSI:

600# Dimensions (10.0 MPa)



Size	Dimensions						Weight				
	L-RF	L-RTJ	L-BW	L-W/L	H1	H2	W-RF	W-RTJ	W-BW	W-W	W-L
3"	7.09	7.20	7.09	1.89	10.24	7.28	162	170	75	78	92
4"	7.48	7.48	7.48	2.13	11.42	8.07	176	185	84	92	134
5"	7.87	7.87	7.87	2.20	12.99	9.06	240	252	83	113	162
6"	8.27	8.27	8.27	2.32	13.58	9.84	296	311	93	148	205
8"	9.06	9.06	9.06	2.87	16.34	11.61	409	430	162	282	360
10"	9.84	9.84	9.84	3.27	17.13	13.19	635	667	314	353	487
12"	10.63	10.63	10.63	3.62	19.29	13.98	847	889	430	529	769
14"	11.42	11.42	11.42	4.61	20.08	15.75	1199	1259	589	720	1009
16"	12.20	12.20	12.20	5.24	22.05	16.34	1658	1741	787	1023	1376
18"	12.99	12.99	12.99	5.87	21.85	16.14	2011	2111	909	1340	1870
20"	13.78	13.78	13.78	6.26	23.43	17.72	2716	2852	1399	1799	2363
24"	15.35	15.35	15.35	7.13	26.57	21.06	4092	4296	1819	2540	3245
28"	16.93	16.93	16.93	9.02	35.43	24.02	4974	5222	2199	3316	5221
30"	17.72	17.72	17.72	9.06		25.98	5975	6273	2535	4012	5928
32"	18.50	18.50	18.50	9.49	37.40	27.76	6843	7185	2695	4621	6490
36"	20.08	20.08	20.08	9.49	44.69	32.28	9736	10222	4497	5855	8325
40"	21.65	21.65	21.65	11.81	50.39	36.81	12346	12963	5324	7986	9312

Options:

Actuator:

Rack & Pinion / Scotch Yoke / Hydraulic / Electric

Ordering:

Series	Port	Body Material	Disc	Stem	End Connection	Size
VTO	B3 - Triple Offset	S - Stainless Steel C - Carbon Steel E - 304 Stainless Steel	S - 316 SS C - Carbon Steel E - 304 Stainless Steel	X - XM-19 Nitronic 50 S - 316 SS E - 304 Stainless Steel	W1 - Wafer 150 W3 - Wafer 300 W6 - Wafer 600 L1 - Lug 150 L3 - Lug 300 L6 - Lug 600 L9 - Lug 900 F3 - 300 RF F6 - 600 RF F9 - 900 RF	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	
G- GRAPHITE M -METAL	G- GRAPHITE	Blank - No Options	Blank - Bare Stem L - Locking Handle G - Gear Operated	Blank - No Options Cryogenic	Blank - No Options	



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