



D.H.C CONTROL VALVES

BALL VALVES (SOFT SEAT, METAL SEAT)

METAL / RESILIENT SEAT BALL VALVE

TRIPLE OFFSET BALL VALVE



**NEW
PRODUCTS**



D.H.C
24
00
CB
8B2

DH DAE HAN CONTROL CO., LTD.

New Revolution Technology of **D.H.C**



GREETINGS

Based on our vast experiences and continuous research & development, Dae Han Control Co., Ltd. has become one of the leading manufacturers of metal seated valves.

Power plant, Cogeneration, Petro-Chemical, Refining, Water and Waste Water Purification, Pulp & Paper, Marine, Steel and other Industrial process applications are some of the vast industries that we supply.

Throughout our history, we have endeavored to produce high quality products at competitive prices that meet and exceed customer's expectations.

Our desire is to make DHC valve a recognized standard in the valve industry. We would like to insure you that each of our products will be conforming to international standards such as ASME/ANSI, MSS, DIN, BS, JIS. Quality Assurance to ISO9001-2000, CE and API, will insure we maintain a high level of excellence to you our respected customer.

Thank you for your consideration.

President **Y. G. Kim**
DAE HAN CONTROL CO., LTD.

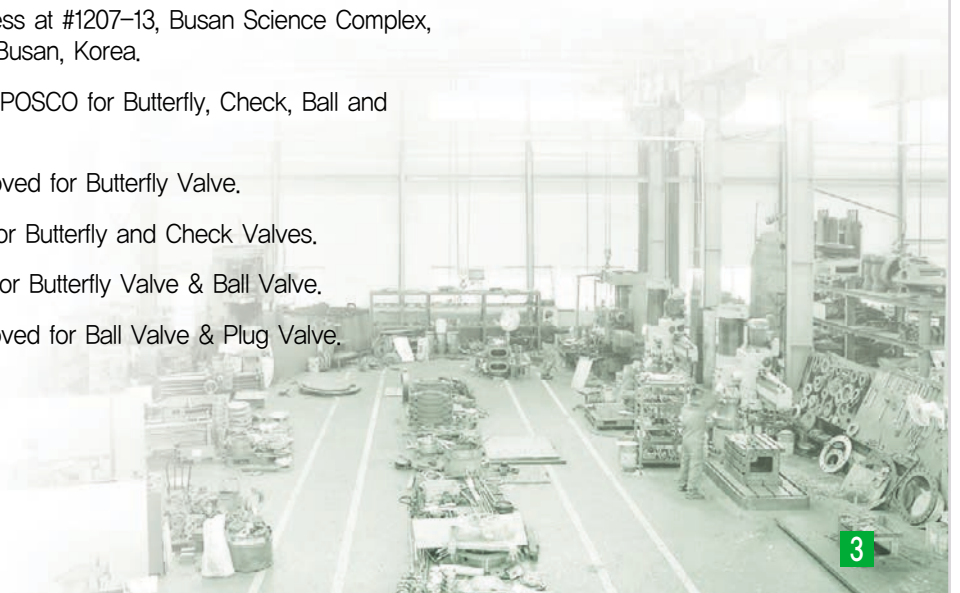
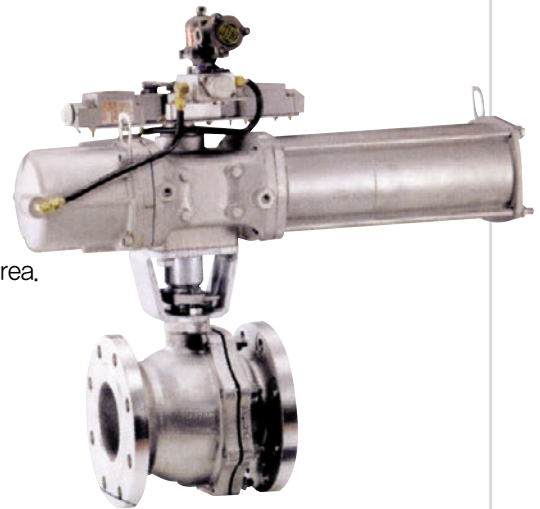


The best of best D.H.C



BRIEF HISTORY

- Oct. 1995 • Established DAE HAN CONTROL.
 - Started manufacturing Butterfly and Check Valves.
 - Exported Valves to Japan.
- Oct. 1998 • Moved into New Factory at Sasang-Gu, Busan, Korea.
 - Produced Butterfly Valve of Metal Seat and Hi-Performance Type.
 - Exported Valves to South-East Asia.
- Jan. 2000 • Incorporated the company DAEHAN CONTROL CO.,LTD.
- Oct. 2000 • Moved into bigger Factory at Kamjeon-Dong, Sasang-Gu, Busan, Korea.
 - ISO 9001 Quality Management System Approved for Butterfly and Check Valves.
 - Supplied with POSCO, KEPCO and KHNP.
- Nov, 2002 • Moved into New Factory with bigger Space and Equipments at Songjeong-Dong, Kangseo-Ku, Busan City.
 - Started Producing Special Valves.
- Jan. 2005 • Registered vendor list on KEPCO for Butterfly Valves
- Jan. 2006 • Moved into Current Address at #1207-13, Busan Science Complex, Jisa-dong, Kangseo-gu, Busan, Korea.
- Jan. 2007 • Registered vander list on POSCO for Butterfly, Check, Ball and Gate Valves etc.
- Aug. 2007 • Fire Test Certificate Approved for Butterfly Valve.
- Sept. 2007 • CE Certificate Approved for Butterfly and Check Valves.
- Oct. 2008 • API Certificate Approved for Butterfly Valve & Ball Valve.
- Dec. 2008 • Fire Test Certificate Approved for Ball Valve & Plug Valve.





APPROVAL CERTIFICATES



FLOTING BALL VALVES ANSI 150 & 300

Full bore : size 1 1/2" to 12"
For pipeline, oilfield or process industry

Standard Materials

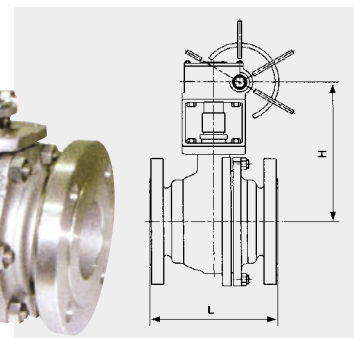
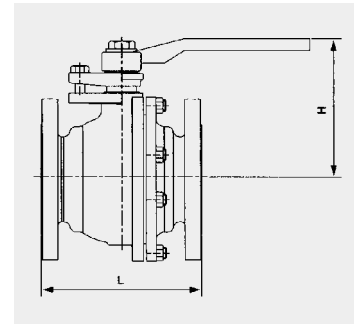
Body : Carbon Steel(WCB, LCB)
 Stainless Steel(CF8, CF8M)
Ball : Stainless Steel(CF8, CF8M)
Stem : SS304, SS316
Seats : PTFE, RTFE, Modified TFE

CLASS 150 DIMENSIONS

NPS	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12
d (Bore)	0.5	0.75	1	1.5	2	2.5	3	4	6	8	10	12
L	4.25	4.61	5	6.5	7	7.5	8	9	15.5	18	21	24
H	3.3	3.5	4	5	5.6	6	6.7	8.1	13.1	16	18.9	21.3
Cv Value	84	88	102	127	142	152	170	206	331	406	480	540
	26	61	270	270	500	800	1,200	5,300	5,300	9,700	16,000	20,000

CLASS 300 DIMENSIONS

NPS	1/2	3/4	1	1 1/2	2	3	4	6	8	10
d (Bore)	0.5	0.75	1	1.5	2	3	4	6	8	10
L	5.5	6	6.5	7.5	8.5	11.13	12	15.86	19.75	22.38
H	3.3	3.5	4	5.2	5.8	6.8	8.1	13.1	16	18.9
Cv Value	84	88	102	127	147	173	206	331	406	480
	26	61	113	270	500	1,200	2,200	5,300	9,700	16,000



FLOTING BALL VALVES ANSI 600

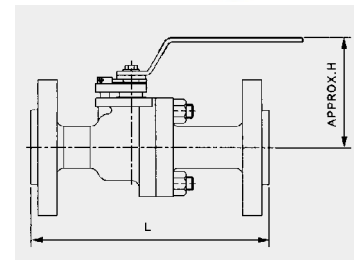
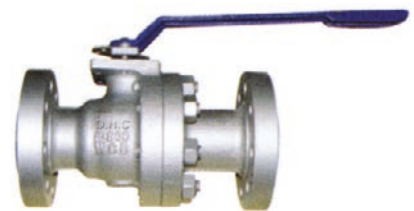
Full bore : size 1 1/2" to 6"
Reduced bore : Size 3" to 6"
For oilfield or process industry

Standard Materials

Body : Carbon Steel(WCB, LCB)
 Stainless Steel(CF8, CF8M)
Ball : Stainless Steel(CF8, CF8M)
Stem : SS304, SS316
Seats : RTFE, Nylon, PEET

CLASS 600 DIMENSIONS

NPS	1/2	3/4	1	1 1/2	2	3x2	3x3	4x3	4x4	6x4	6x6
d (Bore)	0.51	0.75	1	1.5	2	2	3	3	4	4	6
L	6.5	7.5	8.5	9.5	11.5	14	14	17	17	22	22
H	3.54	3.66	3.94	4.96	5.31	5.6	6.7	6.7	8.1	8.1	13.1
Cv Value	90	93	100	126	135	142	170	170	206	206	331
	21	44	75	239	406	590	745	1,000	1,830	2,860	4,570



ANSI 900 & 1500

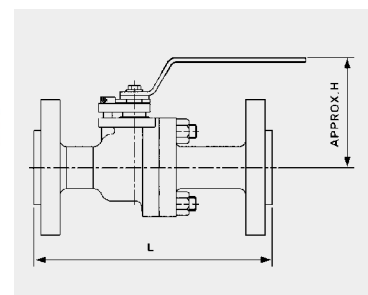
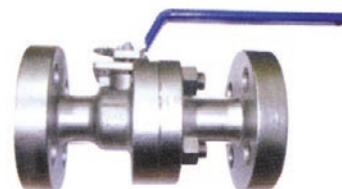
Full bore : size 1 1/2" to 1 1/2"
For oilfield or process industry

Standard Materials

Body : Carbon Steel(WCB, LCB)
 Stainless Steel(CF8, CF8M)
Ball : Stainless Steel(CF8, CF8M)
Stem : SS304, SS316
Seats : Nylon, RTFE or Devlon®, PEET

CLASS 900 & 1500 DIMENSIONS

NPS	1/2	3/4	1	1 1/2
d (Bore)	0.5	0.75	1	1.5
L	5.5	6	6.5	7.5
H	3.3	3.5	4	5.2
Cv Value	84	88	102	127
	26	61	113	270

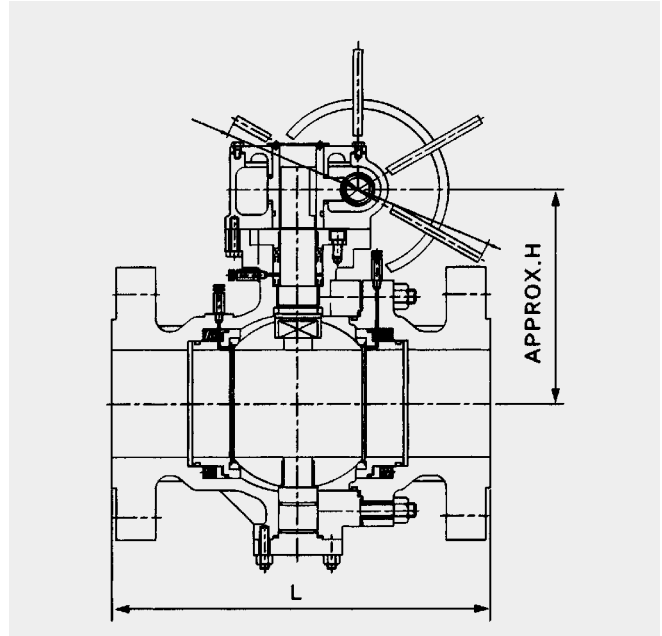


TRUNNION MOUNTED BALL VALVES, ANSI 150

Full bore : size 4" to 52"

Reduced bore : sizes 6" to 52"

- Applicable Standards : ANSI B16. 34,
BS5351, API 6D and/or JIS
- Face to face : ANSI B16. 10
- End Flange Dimensions : ANSI B16. 5



ANSI 150	BT & BTP series		BT series		BTP series		BT series		BTP series	
	L		H		H		Weight		Weight	
NPS	inch	mm	inch	mm	inch	mm	lb	kg	lb	kg
4×4	9.00	228.6	10.63	270	9.45	240	143	65	123	56
6×4	15.50	393.7	10.63	270	9.45	240	286	130	264	120
6×6	15.50	393.7	12.99	330	10.81	300	297	135	275	125
8×6	18.00	457.2	12.99	330	10.81	300	352	160	330	150
8×8	18.00	457.2	14.96	380	13.78	350	455	207	429	195
10×8	21.00	533.4	14.96	380	13.78	350	535	243	506	230
10×10	21.00	533.4	18.10	460	15.50	394	627	285	594	270
12×10	24.00	609.6	18.10	460	15.50	394	684	310	653	296
12×12	24.00	609.6	21.25	540	16.50	419	1058	480	1014	460
14×12	27.00	685.8	21.25	540	16.50	419	1080	490	1036	470
14×14	27.00	685.8	22.85	580	17.75	451	1786	810	1742	790
16×14	30.00	762.0	22.85	580	17.75	451	1433	650	1418	643
16×16	30.00	762.0	24.15	613	18.50	470	2337	1060	2271	1030
18×16	34.00	863.6	24.15	613	18.50	470	2426	1100	2408	1092
18×18	34.00	863.6	30.50	775	24.50	622	3109	1410	3043	1380
20×18	36.00	914.4	30.50	775	24.50	622	3308	1500	3308	1500
20×20	36.00	914.4	33.88	861	27.50	699	4697	2130	4653	2110
24×20	42.00	1066.8	33.88	861	27.50	699	5292	2400	5332	2418
24×24	42.00	1066.8	39.25	997	33.50	851	626	2840	6196	2810
26×26	45.00	1143.0	-	-	34.33	872	-	-	7040	3200
28×28	49.00	1244.6	-	-	35.94	913	-	-	8030	3650
30×24	51.00	1295.4	-	-	33.50	851	-	-	6160	2800
30×30	51.00	1295.4	-	-	37.95	964	-	-	10670	4850
36×30	60.00	1524.0	-	-	37.95	964	-	-	12650	5750
36×36	60.00	1524.0	-	-	41.93	1065	-	-	16610	7550
40×36	70.00	1778.0	-	-	41.93	1065	-	-	18810	8550

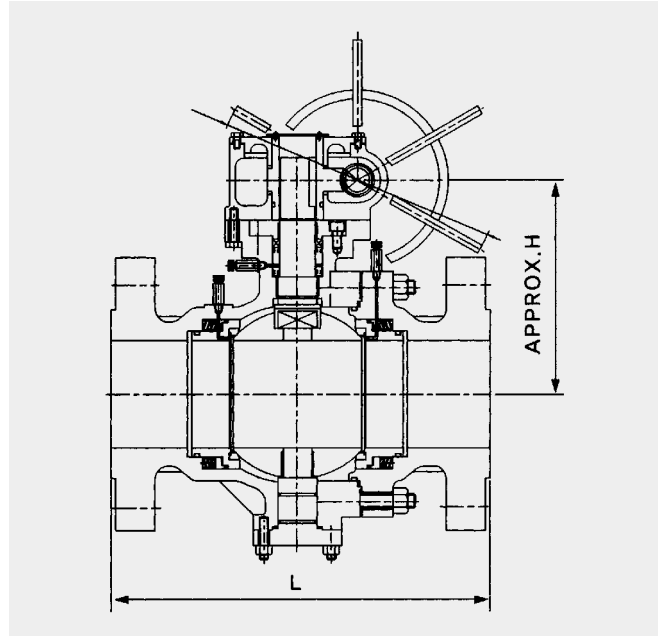
※ Other sizes are available upon request

TRUNNION MOUNTED BALL VALVES, ANSI 300

Full bore : size 4" to 52"

Reduced bore : sizes 6" to 52"

- Applicable Standards : ANSI B16. 34, BS5351, API 6D
- Face to face : ANSI B16. 10
- End Flange Dimensions : ANSI B16. 5



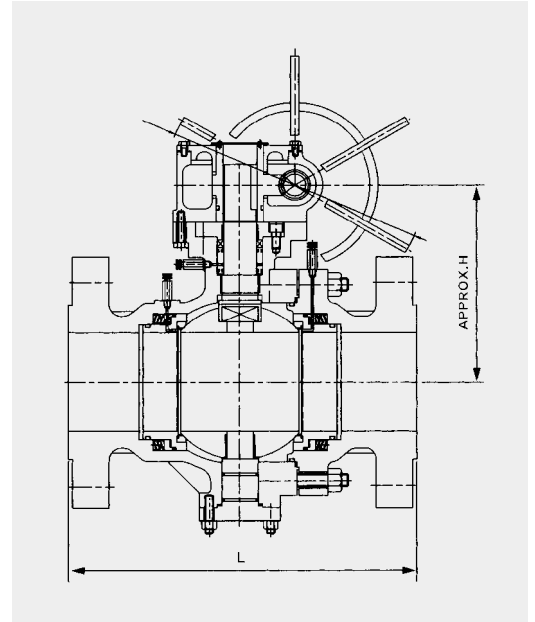
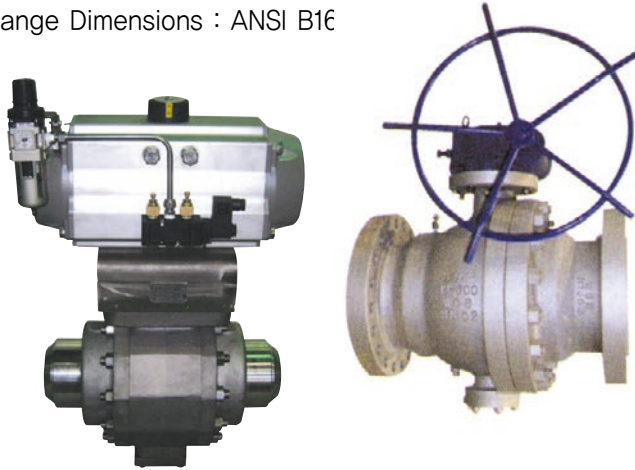
ANSI 150	BT & BTP series		BT series		BTP series		BT series		BTP series	
	L		H		H		Weight		Weight	
NPS	inch	mm	inch	mm	inch	mm	lb	kg	lb	kg
4×4	12.00	305	10.63	270	9.45	240	185	84	165	75
6×4	15.875	403.2	10.63	270	9.45	240	319	145	297	135
6×6	15.875	403.2	12.99	330	10.81	300	356	162	334	152
8×6	19.75	501.7	12.99	330	10.81	300	462	210	440	200
8×8	19.75	501.7	14.96	380	13.78	350	543	247	517	235
10×8	22.375	568.3	14.96	380	13.78	350	645	293	616	280
10×10	22.375	568.3	19.30	490	16.70	424	693	315	660	300
12×10	25.50	647.7	19.30	490	16.70	424	904	410	860	390
12×12	25.50	647.7	23.10	587	18.35	466	1191	540	1147	520
14×12	30.00	762.0	23.10	587	18.35	466	1367	620	1323	600
14×14	30.00	762.0	24.00	610	18.90	480	2183	990	2139	970
16×14	33.00	838.2	24.00	610	18.90	480	2315	1050	2271	1030
16×16	33.00	838.2	25.25	641	19.60	498	2712	1230	2646	1200
18×16	36.00	914.4	25.25	614	19.60	498	3087	1400	3021	1370
18×18	36.00	914.4	31.20	792	25.20	640	4256	1930	4190	1900
20×18	39.00	990.6	31.20	792	25.20	640	4388	1990	4322	1960
20×20	39.00	990.6	34.10	866	27.72	704	4807	2180	4763	2160
24×20	45.00	1143.0	34.10	866	27.72	704	5402	2450	5858	2430
24×24	45.00	1143.0	39.25	977	33.50	851	6703	3040	6637	3010
26×26	49.00	1244.6	-	-	34.33	872	-	-	8690	3950
28×28	53.00	1346.2	-	-	35.94	913	-	-	9350	4250
30×24	55.00	1397.0	-	-	33.50	851	-	-	8866	4030
30×30	55.00	1397.0	-	-	37.35	964	-	-	12892	5860
36×30	68.00	1727.2	-	-	37.95	964	-	-	15510	7050
36×36	68.00	1727.2	-	-	41.93	1065	-	-	18370	8350
40×36	78.00	1981.2	-	-	41.93	1065	-	-	21010	9550

* Other sizes are available upon request

TRUNNION MOUNTED BALL VALVES, ANSI 600

Full bore & Reduced bore : size 2" to 24"

- Applicable Standards : ANSI B16. 34,
BS5351, API 6D and/or JIS
- Face to face : ANSI B16. 10
- End Flange Dimensions : ANSI B16



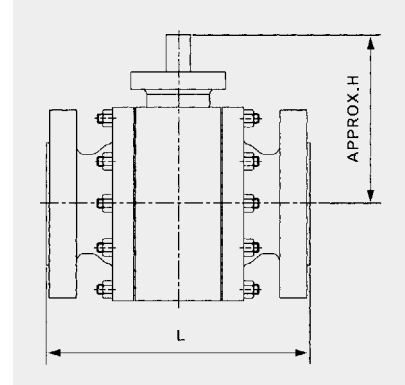
ANSI 600	d(Bore)		L(Face to Face)				H(Height)		Weight	
			RF/BW		RTJ		inch	mm	lb	kg
NPS	inch	mm	inch	mm	inch	mm	inch	mm	lb	kg
2×1.5	1.5	39	11.5	292.1	11.6	295	6.9	175	84	38
2×2	2.0	50	11.5	292.1	11.6	295	7.1	180	88	40
3×2	2.0	50	14.0	355.6	14.1	359	7.1	180	132	60
3×3	3.0	76	14.0	355.6	14.1	359	7.9	200	154	70
4×3	3.0	76	17.0	431.8	17.1	435	7.9	200	209	95
4×4	4.0	102	17.0	431.8	17.1	435	10.0	255	243	110
6×4	4.0	102	22.0	558.8	22.1	562	10.0	255	342	155
6×6	6.0	153	22.0	558.8	22.1	562	11.6	295	476	216
8×6	6.0	153	26.0	660.4	26.1	664	11.6	295	639	290
8×8	8.0	203	26.0	660.4	26.1	664	14.2	360	816	370
10×8	8.0	203	31.0	787.4	31.1	791	14.2	360	1080	490
10×10	10.0	254	31.0	787.4	31.1	791	16.4	417	1359	615
12×10	10.0	254	33.0	838.2	33.1	841	16.4	417	2156	980
14×10	10.0	254	35.0	889.0	35.1	892	16.4	417	2310	1050
12×12	12.0	305	33.0	838.2	33.1	841	18.0	457	2420	1100
16×12	12.0	305	39.0	990.6	39.1	994	18.0	457	2860	1300
14×14	13.2	336.5	35.0	889.0	35.1	892	18.6	473	2932	1330
18×14	13.2	336.5	43.0	1092.2	43.1	1095	18.6	473	3344	1520
16×16	15.2	386	39.0	990.6	39.1	994	20.0	506	3858	1750
20×16	15.2	386	47.0	1193.8	47.2	1200	20.0	506	4620	2100
18×18	17.2	438	43.0	1092.2	43.1	1095	22.6	574	5071	2300
22×18	17.2	438	51.0	1296.0	51.4	1305	22.6	574	5940	2700
20×20	19.3	489	47.0	1193.8	47.2	1200	24.8	630	6614	3000
24×20	19.3	489	55.0	1397.0	55.4	1406	24.8	630	7150	3250
22×22	21.1	538	51.0	1296.0	51.4	1305	25.8	655	7370	3350
26×22	21.2	538	57.0	1448.0	57.5	1460	25.8	655	7590	3450
24×24	23.2	590	55.0	1397.0	55.4	1406	27.0	685	7788	3540

※ Other sizes are available upon request

TRUNNION MOUNTED BALL VALVES, ANSI 900 & 1500

Full bore & Reduced bore :
size 2" to 24", 2 or 3 pieces

- Applicable Standards : ANSI B16. 34,
API 6D and/or JIS
- Face to face : ANSI B16. 10
- End Flange Dimensions : ANSI B16. 5



ANSI 900	d(Bore)		L(Face to Face)				H(Height)		Weight	
			RF/BW		RTJ		inch	mm	lb	kg
NPS	inch	mm	inch	mm	inch	mm				
2×1.5	1.5	39	14.5	368.3	14.6	371	7.1	180	121	55
2×2	2.0	50	14.5	368.3	14.6	371	7.3	185	154	70
3×2	2.0	50	15.0	381.0	15.1	384	7.3	185	198	90
3×3	3.0	76	15.0	381.0	15.1	384	8.9	225	243	110
4×3	3.0	76	18.0	457.2	18.1	460	8.9	225	374	170
4×4	4.0	102	18.0	457.2	18.1	460	10.3	260	573	260
6×4	4.0	102	24.0	609.6	24.1	613	10.3	260	682	310
6×6	6.0	153	24.0	609.6	24.1	613	12.4	315	794	360
8×6	6.0	153	29.0	736.6	29.1	740	12.4	315	1166	530
8×8	8.0	203	29.0	736.6	29.1	740	15.4	390	1367	620
10×8	8.0	203	33.0	838.2	33.1	841	15.4	390	1562	710
10×10	10.0	254	33.0	838.2	33.1	841	18.1	460	2067	950
12×10	10.0	254	38.0	965.2	38.1	968	18.1	460	2244	1020
14×10	10.0	254	40.5	1029.0	40.9	1038	18.1	460	2574	1170
12×12	12.0	303	38.0	965.2	38.1	968	22.8	580	2866	1300
16×12	12.0	303	44.5	1130.0	40.9	1140	22.8	580	3256	1480

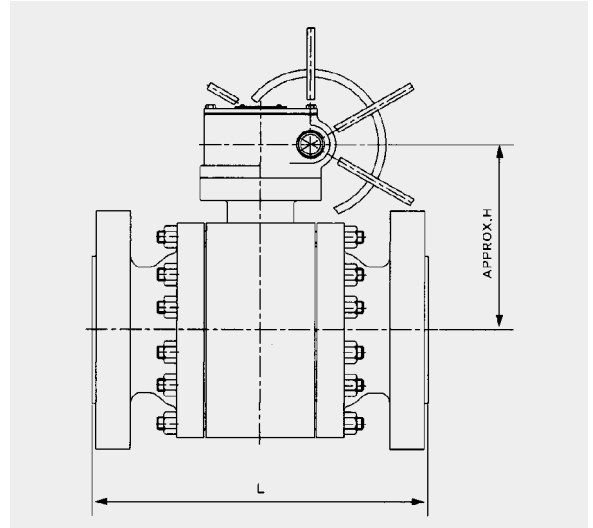
ANSI 1500	d(Bore)		L(Face to Face)				H(Height)		Weight	
			RF/BW		RTJ		inch	mm	lb	kg
NPS	inch	mm	inch	mm	inch	mm				
2×1.5	1.5	39	14.5	368.3	14.6	371	7.1	180	121	55
2×2	2.0	50	14.5	368.3	14.6	371	7.3	185	154	70
3×2	2.0	50	18.5	469.9	18.6	473	7.3	185	242	110
3×3	3.0	76	18.5	469.9	18.6	473	9.4	240	287	130
4×3	3.0	76	21.5	546.1	21.6	549	9.4	240	418	190
4×4	4.0	100	21.5	546.1	21.6	549	10.6	270	617	280
6×4	4.0	100	27.75	704.9	28.0	711	10.6	270	748	340
6×6	5.67	144	27.75	704.9	28.0	711	13.0	330	1124	510
8×6	5.67	144	32.75	831.9	33.1	841	13.0	330	1408	640
8×8	7.56	192	32.75	831.9	33.1	841	15.7	400	1543	700
10×8	7.56	192	39.0	990.6	39.4	1000	15.7	400	2200	1000
10×10	9.45	240	39.0	990.6	39.4	1000	18.9	480	2646	1200
12×10	9.45	240	44.5	1030.3	45.1	1146	18.9	480	3190	1450
14×10	9.45	240	49.5	1257.0	50.2	1276	18.9	480	3300	1500
12×12	11.34	288	44.5	1030.3	45.1	1146	23.6	600	3968	1800
16×12	11.34	288	54.5	1384.0	55.4	1406	23.6	600	5500	2500

※ Other sizes are available upon request
 ※ 1Estimated weihgts for 4" and larger includes gear operator

TRUNNION MOUNTED BALL VALVES, ANSI 2500

Full bore & Reduced bore

- Applicable Standards : ANSI B16. 34 & API 6D
- Face to face : ANSI B16. 10
- End Flange Dimensions : ANSI B16. 5



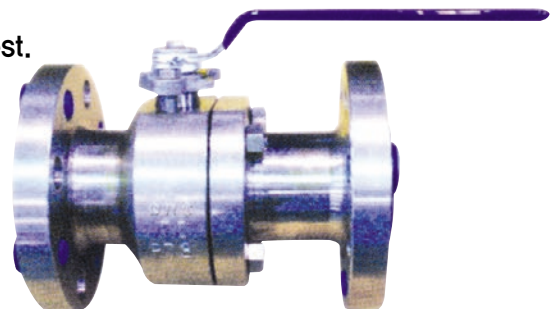
ANSI 2500	d(Bore)		L(Face to Face)				H(Height)		Weight	
			RF/BW		RTJ		inch	mm	lb	kg
NPS	inch	mm	inch	mm	inch	mm	inch	mm	lb	kg
2×2	1.75	44	17.75	451	17.88	454	9.25	235	220	100
3×2	1.75	44	22.75	578	23.0	584	9.25	235	330	150
3×3	2.52	64	22.75	578	23.0	584	11.81	300	550	250
4×3	2.52	64	26.5	673	26.88	683	11.81	300	726	330
4×4	3.50	89	26.5	673	26.88	683	13.58	345	814	370
6×4	3.50	89	36.0	914	36.5	927	13.58	345	1320	600
6×6	5.25	133	36.0	914	36.5	927	17.52	445	1870	850
8×6	5.25	133	40.25	1022	40.88	1038	17.52	445	2420	1100
8×8	7.125	181	40.25	1022	40.88	1038	20.08	510	3960	1800
10×8	7.125	181	50.0	1270	50.88	1292	20.08	510	4840	2200
10×10	8.8	225	50.0	1270	50.88	1292	30.03	585	5940	2700
12×10	8.8	225	56.0	1422	56.88	1445	30.03	585	8360	3800
12×12	10.51	267	56.0	1422	56.88	1445	26.97	685	9460	4300

※ Weight of Flanged end valve is for bare stem

SPECIAL MATERIAL VALVES

We can suggest information for other valves upon request.

- Alloy 20(A351-CN7M)
- Monel
- Hastelloy B,C
- Duplex stainless steel(F51, F53, 4A, 6A...)
- Al-Bronze
- Titanium
- Other materials

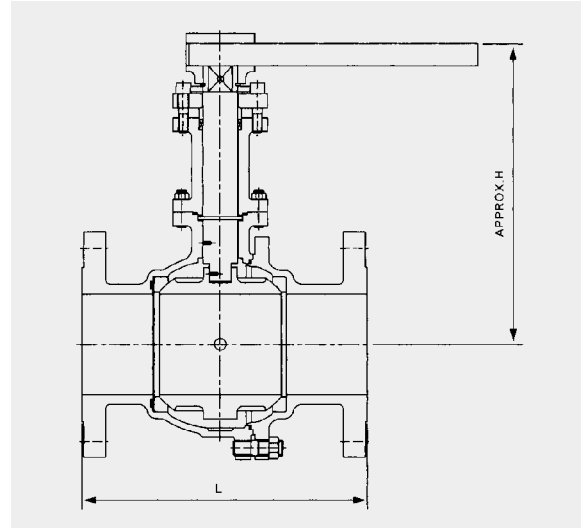


TITANIUM BALL VALVE

FLOATING & TRUNNION MOUNTED CRYOGENIC BALL VALVES

Full bore

- Applicable Standards : ANSI B16. 34 & API 6D
- Face to face : ANSI B16. 10
- End Flange Dimensions : ANSI B16. 5



CLASS 150 DIMENSIONS

(Units : inch / mm)

NPS	½	¾	1	1½	2	2½	3	4	6	8	10	12
d(Bore)	0.5	0.75	1	1.5	2	2.5	3	4	6	8	10	12
	13	19	25	38	51	64	76	102	152	203	254	305
L	4.25	4.61	5	6.5	7	7.5	8	9	15.5	18	21	24
	84	88	102	127	178	191	203	229	394	457	533	610
H	13.3	13.5	14	15	15.6	16	16.7	18.1	23.1	26	28.9	31.3
	338	343	356	381	396	406	414	460	587	660	734	795
Cv Value	26	61	113	270	500	800	1,200	2,200	5,300	9,700	16,000	20,000

CLASS 300 DIMENSIONS

(Units : inch / mm)

NPS	½	¾	1	1½	2	3	4	6	8	10
d(Bore)	0.5	0.75	1	1.5	2	3	4	6	8	10
	13	19	25	38	51	76	102	152	203	254
L	5.5	6	6.5	7.5	8.5	11.13	12	15.86	19.75	22.38
	140	152	165	191	216	283	305	403	502	568
H	13.3	13.5	14	15.2	15.8	16.8	18.1	23.1	26	28.9
	338	343	356	386	401	427	460	587	660	734
Cv Value	26	61	113	270	500	1,200	2,200	5,300	9,700	16,000

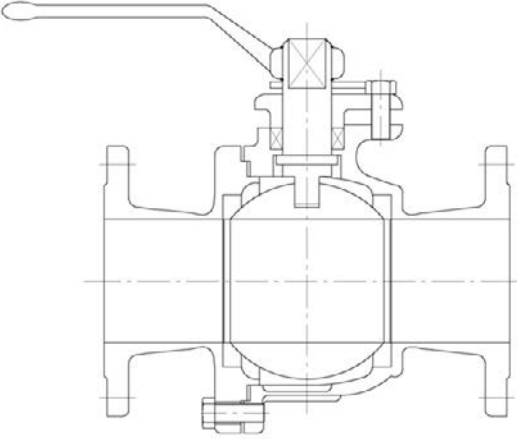
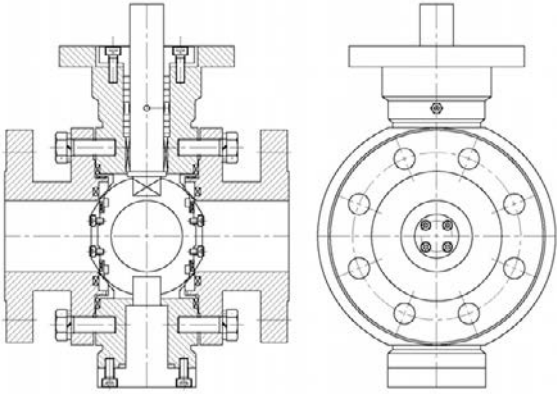
CLASS 600 DIMENSIONS

(Units : inch / mm)

NPS	½	¾	1	1½	2	3	4	6
d(Bore)	0.5	0.75	1	1.5	2	3	4	6
	13	19	25	38	51	76	102	152
L	6.5	7.5	8.5	9.5	11.5	14	17	22
	165	190	210	241	292	356	432	559
H	13.54	13.66	13.94	14.96	15.31	16.8	18.1	23.1
	344	347	354	380	389	427	460	587
Cv Value	26	61	113	270	500	1,200	2,200	5,300

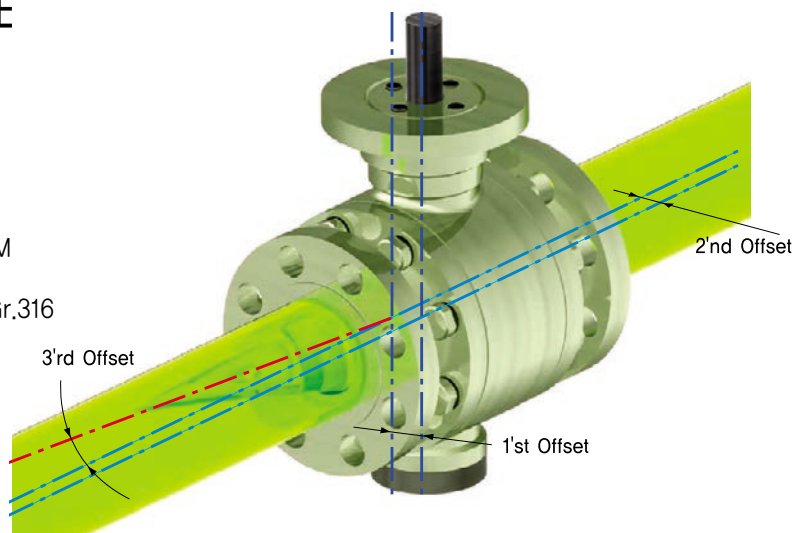
METAL/RESILIENT SEAT BALL VALVE, **TRIPLE OFFSET**

COMPARISON TABLE

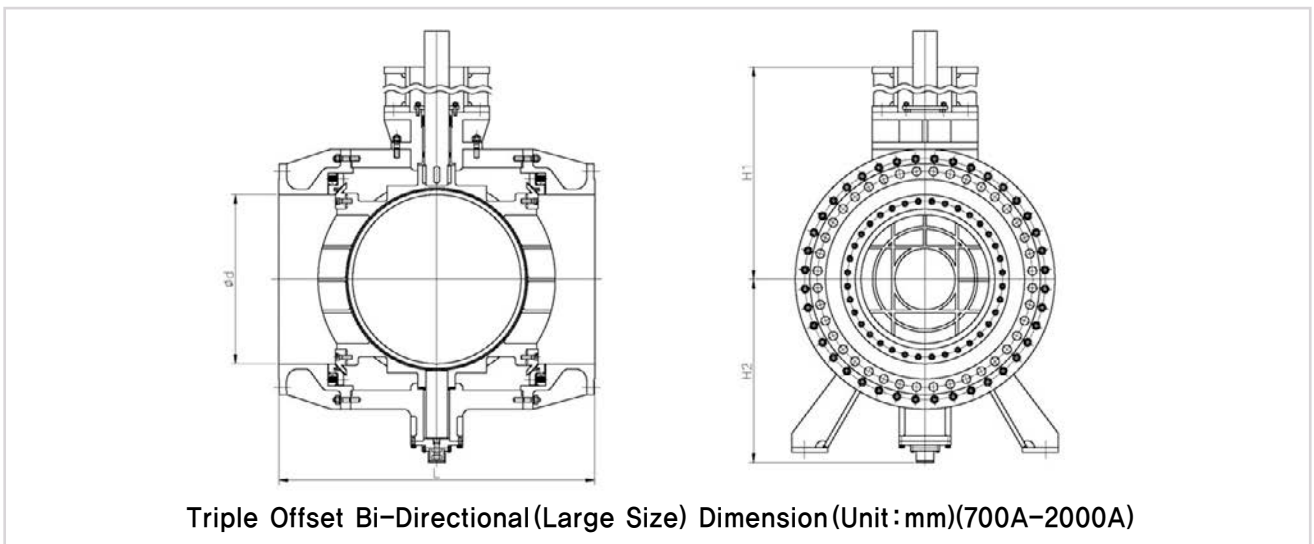
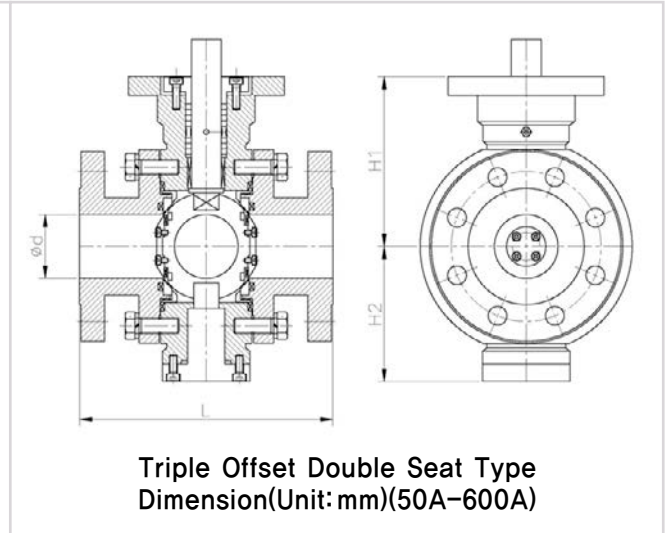
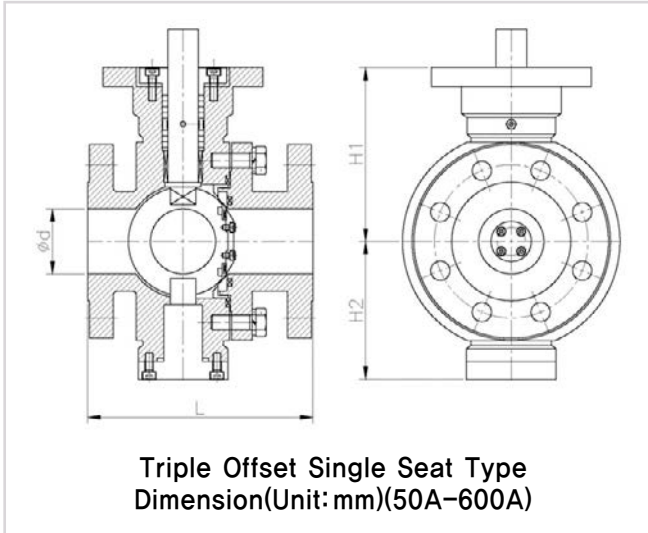
	
Existing Ball Valve	Triple Offset Ball Valve
<p>The operating torque is high since the sealing face is contacted with the ball always.</p>	<p>The operating torque is low since the sealing face is contacted with the ball when the fluid flow is closed.</p>
<p>The abrasion of the seat is severe since the seat is rubbed on the ball whenever the ball is revolved.</p>	<p>There is almost no abrasion of the seat since the seat is contacted with the ball at the moment of sealing.</p>
<p>In case of metal seated ball valve, replacing seat is difficult since the seat is manufactured by matching with the ball.</p>	<p>The seat which is machined by triple offset design can be replaceable easily.</p>
<p>The cost of the actuator is high since the torque value approx. 150~170% of the butterfly valve.</p>	<p>The cost of actuator is low since the torque value is same as the triple offset butterfly valve.</p>
<p>Making complete zero leakage of metal seated ball valve is not easy.</p>	<p>Making complete zero leakage of triple offset metal seated ball valve is easy.</p>

CLASS 150-1500LB RANGE

- DESIGN : API 6D, ANSI B16.34
- FLANGE RATING : ANSI B16.5/16.47
150LB~1500LB
JIS, DIN, AWWA, BS, ISO, ETC.
- NOMINAL DIA : 2"~ 80"
- STANDARD MATERIAL
 BODY-A216 WCB/A351 CF8M
 BALL-A351 CF8M+HF
 SHAFT-A564 Gr.630/A276 Gr.316
 SEAT-A240 Ty.316



METAL/RESILIENT SEAT BALL VALVE, TRIPLE OFFSET



SIZE	H1	H2	L	d	REMARK
50A	142	95	178	51	
80A	170	125	203	76	
100A	240	180	228.6	100	
150A	300	240	393.7	150	
200A	350	290	457.2	200	
250A	394	315	533.4	250	
300A	419	339	609.6	300	
350A	451	360	685.8	350	
400A	470	380	762	400	
450A	622	532	863.6	450	
500A	699	600	914.4	500	
600A	851	750	1066.8	600	

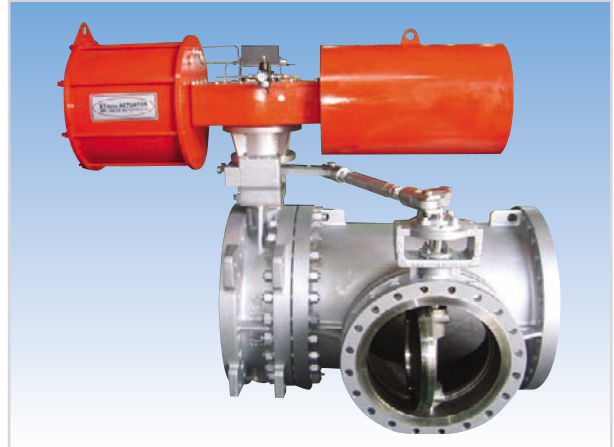
SIZE	H1	H2	L	d	REMARK
700A	1021	787	1370	700	
800A	1115	872	1520	800	
900A	1200	960	1660	900	
1000A	1270	1035	1800	1000	
1100A	1370	1110	1930	1100	
1200A	1465	1190	2080	1200	
1350A	1615	1320	2260	1350	
1500A	1745	1450	2500	1500	
1600A	1845	1525	2600	1600	
1650A	1885	1565	2660	1650	
1800A	2060	1700	2900	1800	
2000A	2205	1845	3100	2000	

※ NOTE

1. H1,H2 DIMENSION is for reference.
2. Dimmension can be changed according to the buyer.
If required please ask to our business department.

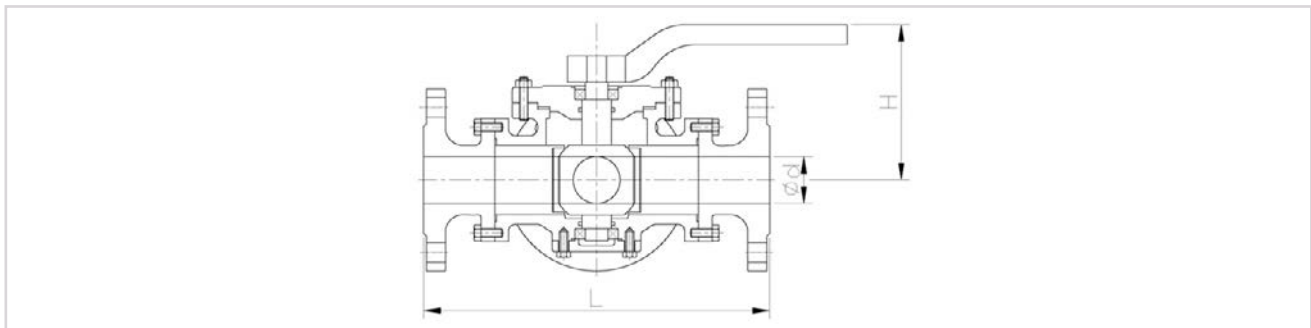
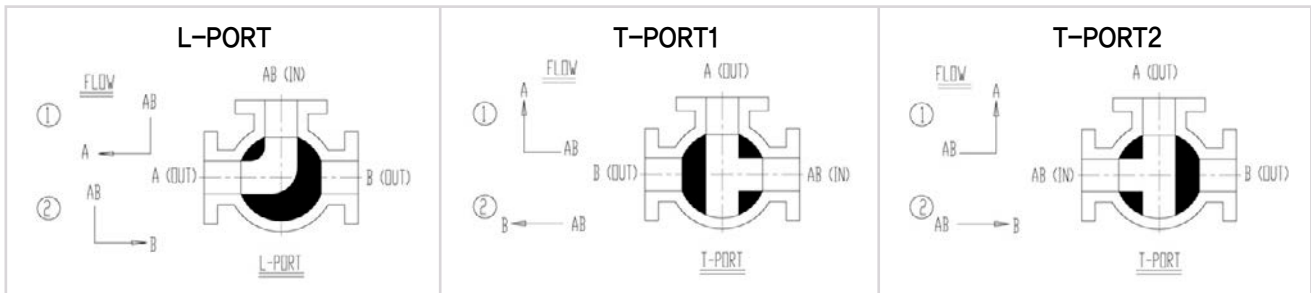
3-WAY BALL & BUTTERFLY VALVE

3-WAY BALL/BUTTERFLY PRODUCTS



SPECIFICATION

- TYPE OF VALVE : BALL VALVE(3-WAY, 4-WAY)
BUTTERFLY VALVE(3-WAY)
- TYPE OF PORT : L-PORT, T-PORT, LL-PORT
- FLANGE RATING : ANSI 150LB-1500LB/
DIN/BS PN10-PN40/
JIS/KS 10K-63K/ETC
- TEMPERATURE RANGE : -196~600Deg.C
- END CONNECTION : FLANGE ENDS, WELDING
ENDS GENERAL MATERIAL
- BODY : A216 WCB/A351 CF8,8M
- BALL/DISC : A216 WCB/A351 CF8,CF8M
- SHAFT : A276 Gr.304, 316, 316L/DUPLEX/
MONEL
- SEAT : METAL-A276 Gr.316/DUPLEX
RESILIENT - PTFE, RTFE, MTFE,
NBR, EPDM, VITON
- MEDIA : SEA WATER, DUST, GAS, OIL, ETC.



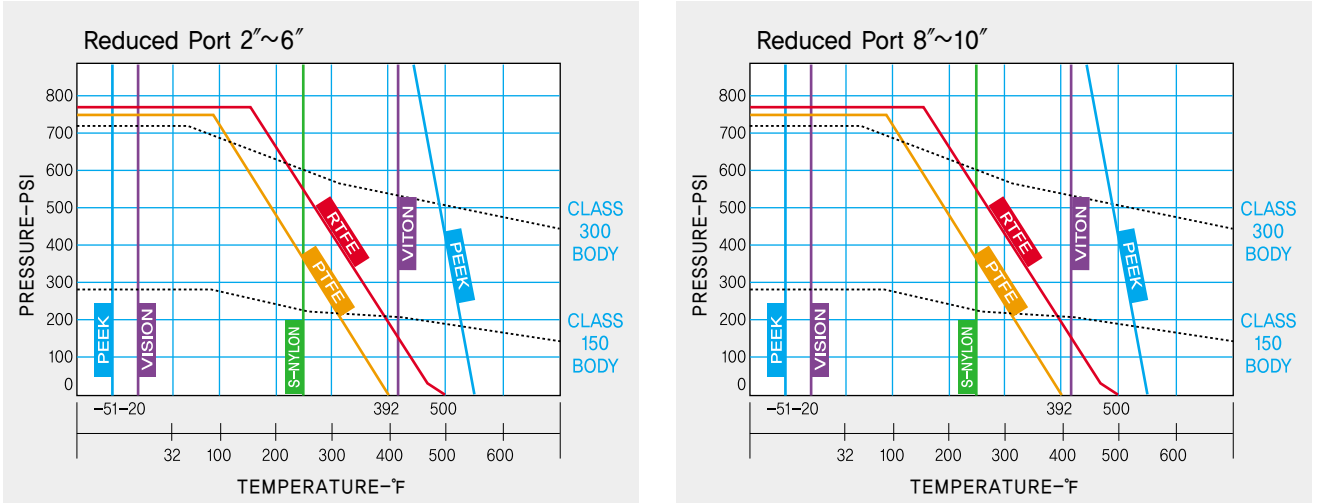
	CLASS 150LB DIMENSIONS								CLASS 300LB DIMENSIONS							
	1 1/2(40A)	2(50A)	3(80A)	4(100A)	6(150A)	8(200A)	10(250A)	12(300A)	1 1/2(40A)	2(50A)	3(80A)	4(100A)	6(150A)	8(200A)	10(250A)	12(300A)
d	38	51	76	102	152	203	254	305	38	51	76	102	152	203	254	305
L	209.5	220	26	330	580	670	790	900	230	239.5	290.5	350	600	690	815	920
H	132	155	194	222	435	490	500	580	132	155	194	222	435	490	500	580

※ NOTE. 3-WAY BUTTERFLY VALVE의 치수는 고객 요청에 의해 선정가능

ENGINEERING DATA

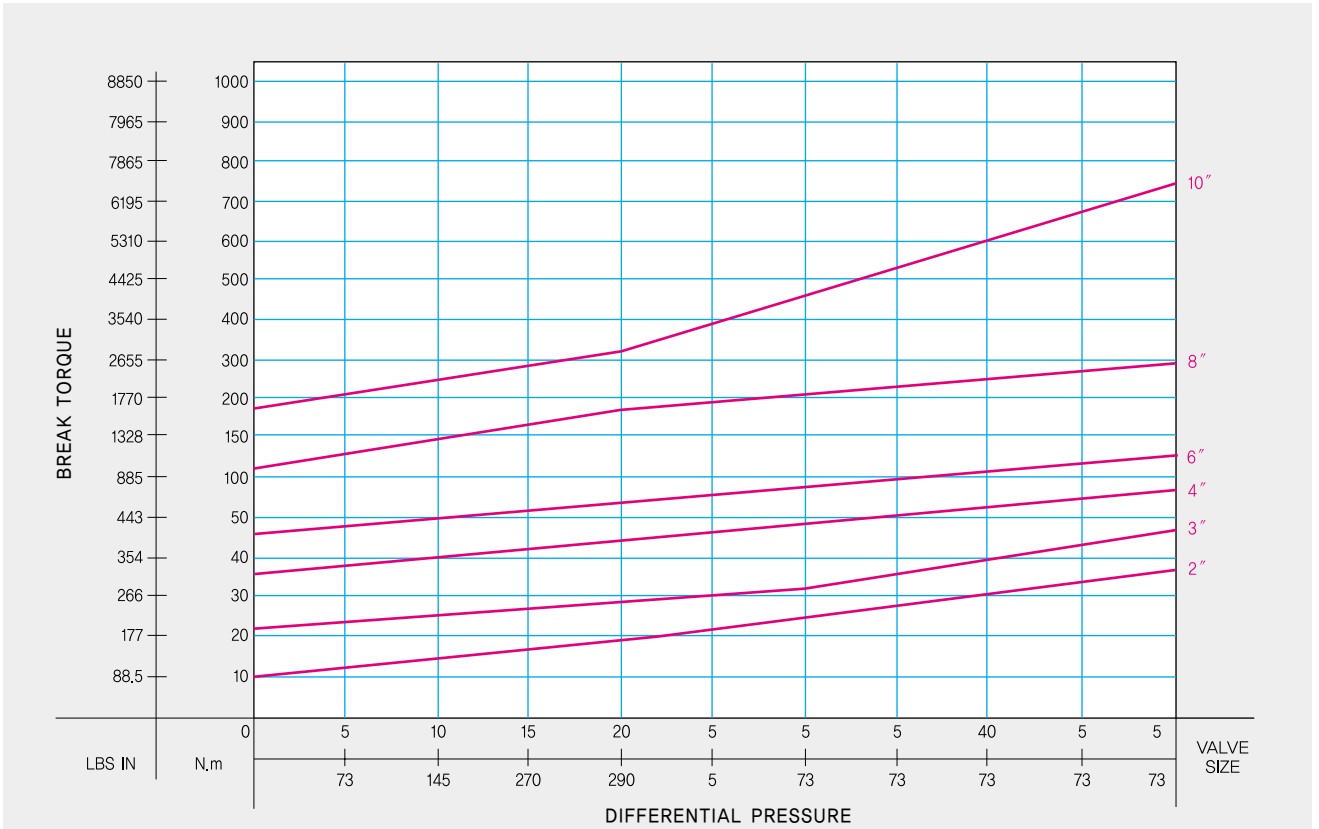
MODEL BU

PRESSURE/TEMPERATURE RATING



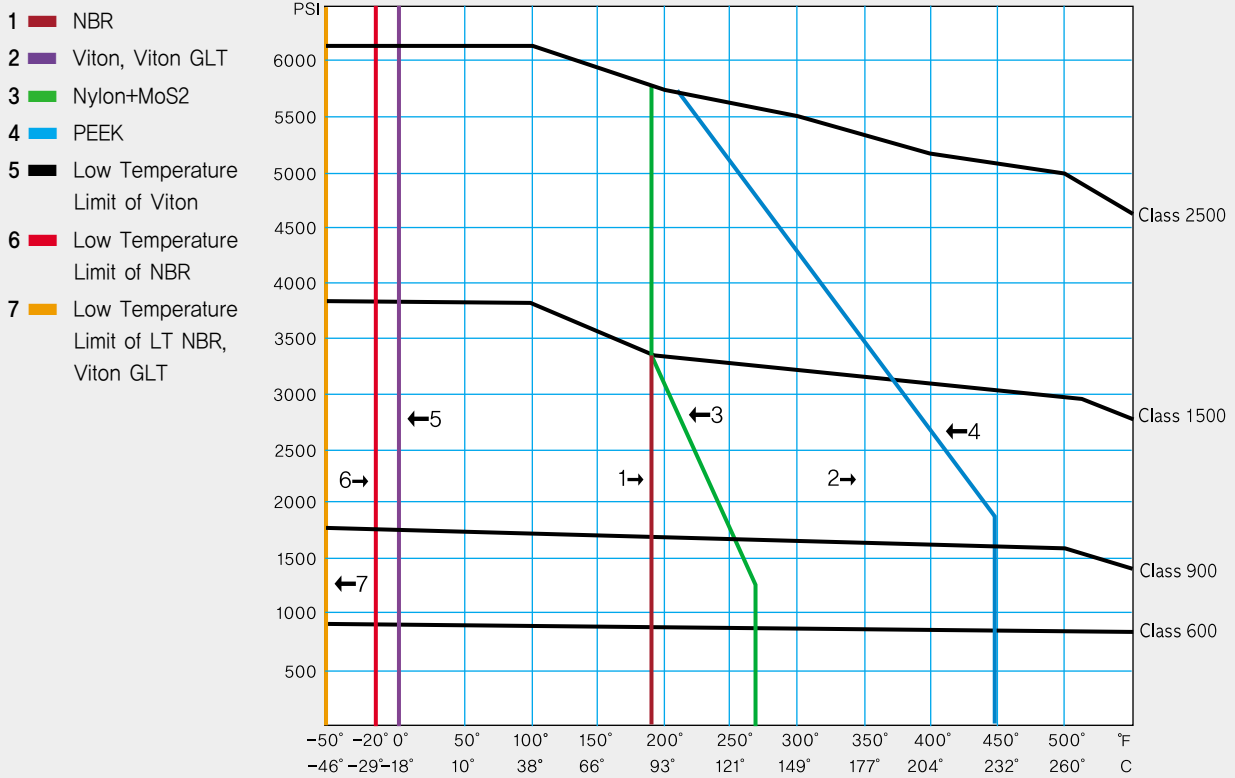
The dotted lines Indicate Working Pressures for casting stainless steel bodies.(ASTM A351-CF8M)
 The operating temperature of the valves is limited by the material of seat and seal.

PRESSURE/TEMPERATURE RATING



Seat Material : Reinforced PTFE
 To select the actuator, adding 25% safety factor to the required torque should be considered.

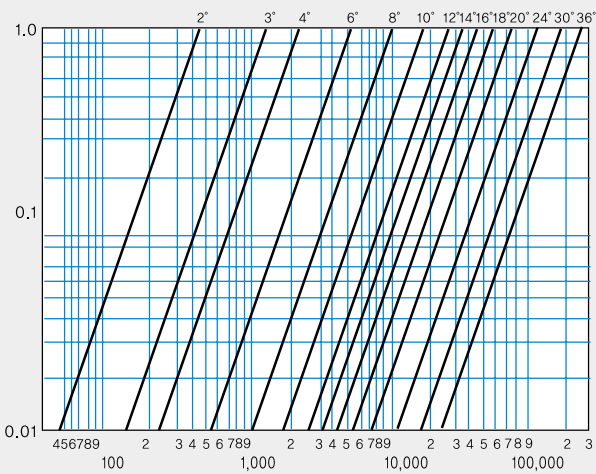
PRESSURE/TEMPERATURE RATING



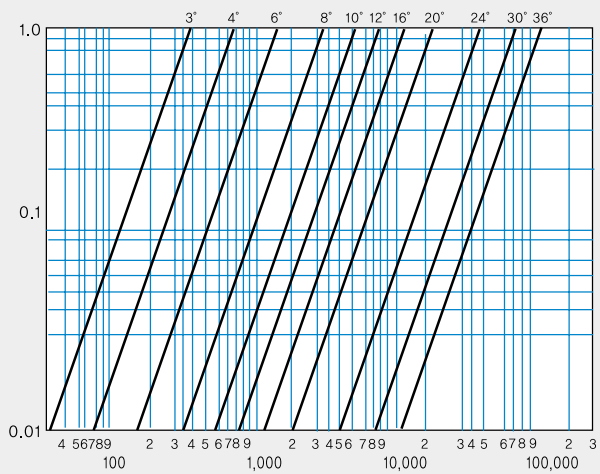
PRESSURE LOSS VS. FLOW RATE

FULL PORT BALL VALVES

REDUCED PORT BALL VALVES



• Flow in gallons per minute (Water 60°F)



• Flow in gallons per minute (Water 60°F)

MATERIALS

BODY & TRIM MATERIAL

CARBON STEEL

A150N A216WCB A216WCC

LOW TEMPERATURE CARBON STEEL

A350 LF2 A352 LCB A352 LCC

LOW ALLOY STEEL

AISI 4140 A694 F65 A694 F52

A694 F60 A350 LF3

API 6A 60K(A694 F60 Mod)

MARTENSITIC STAINLESS STEEL

A182F6A A182 F6NM

A217 CA15 A487 CA6NM

AUSTENITIC STAINLESS STEEL

A182 F316 A182 F316L

A182 F316LN-Mod. A182 F347

A182 F44(6% Mo) A182 FXM-19

(UNS S31254) (NITRONIC 50)

A351 CF8M A351 CF3

A351 CF3M

PRECIPITATION HARDENING STAINLESS STEEL

A564 Gr 630 H 1150M(UNS S 17400)

DUPLEX STAINLESS STEEL

A181 F51(UNS S31803)

A182 F53(UNS S31750)

A182 F55(UNS S31760)

A890-4A(UNS S31803)

A890-6A(UNS S32760)

NICKEL ALLOYS

Incoloy 825(UNS N08825) Incoloy 925(UNS N09925)

Incone 625(UNS N06625) Incone 728(UNS N07718)

Incone 750(UNS N07750)

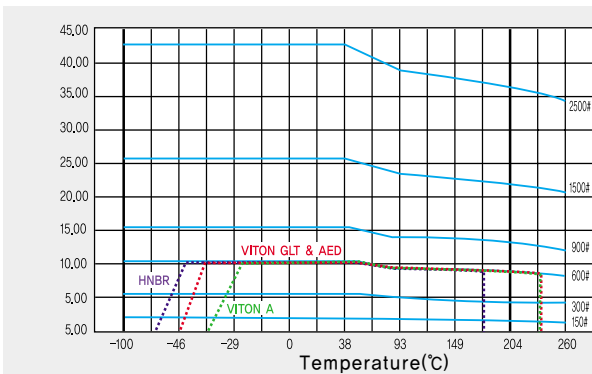
Monel 400

Mone K500

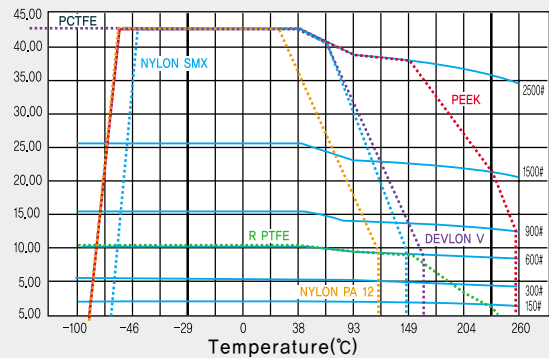
SEAT INSERT & SEALS MATERIALS OPERATING (DYNAMIC) LIMITS*

MATERIAL	TEMP °C		PRESSURE CLASS		SIZE	
	MIN.	MAX.	SEAT INSERT	SEAL	SEAT INSERT	SEAL
Nylon SMX	-40	120	2500	N/A	64"	N/A
Lauramid(Nylon 12G)	-60	100	2500	N/A	64"	N/A
Devlon(Nylon 6)	-60	140	2500	N/A	64"	N/A
Peek	-60	220	2500	N/A	36"	N/A
PTFE Glass Filled(25%)	-100	200	600	N/A	24"	N/A
PTFE Carbon Filled(25%)	-100	180	300	N/A	24"	N/A
PCTFE	-196	150	2500	N/A	36"	N/A
HNBR-Therban	-40	150	600	2500	64"	64"
FKM A(Viton A)	-29	180	600	2500	64"	64"
FKM GLT(Viton GLT)	-40	180	600	2500	64"	64"
FKM AED	-29	180	600	2500	64"	64"
PTFE+Elgiloy Springs	-196	200	N/A	2500	N/S	36"

SEAT INSERTS – STATIC / SHORT PERIOD*

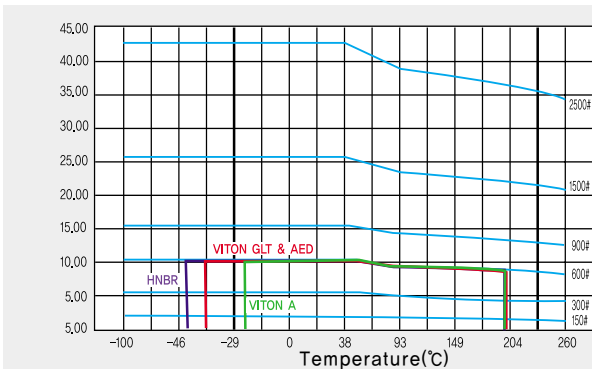


(ELASTOMERS)

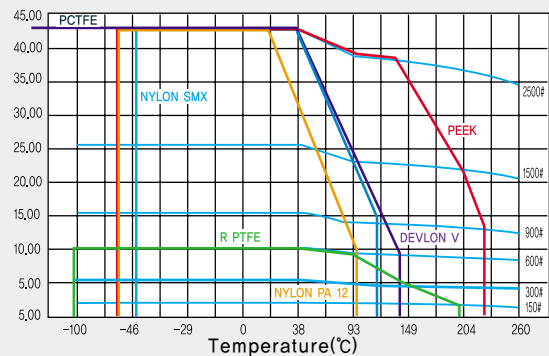


(PLASTIC)

SEAT INSERTS – STATIC / SHORT PERIOD*



(ELASTOMERS)



(ELASTOMERS)

MATERIAL FOR SEALING AND SEAT INSERT

MATERIAL FOR SEALING AND SEAT INSERT

MATERIAL	General Temperature Range	USE / Characteristic	Not Recommended for	High Temperature
FM (Viton A)	-13°F~400°F (-25°C~204°C)	aliphatic hydrocarbons(petroleum oil, mineral oil / grease, fuel oils, butane, propane, natural gas), aromatic hydrocarbons(benzene, toluene), chlorinated hydrocarbons, high vacuum, most acids / chemicals	brake fluid with glycol base, ammonia gas, amines, alkalis, acetone, skydrol, ethyl acetate, superheated steam, polar solvents(ketone, acetone, acetic acid, etc), low molecular esters and ethers	excellent resistance for wear, ozone, weather, aging, compression set, permeation
FKM (Viton GLT)	-50°F~400°F (-45°C~204°C)	extended low temperature service over Viton A. Excellent for water, steam and mineral acids in addition to use of Viton A	same as those of Viton A	similar to those of Viton A except a little inferior compression set and permeability
NBR (Buna-N, Nitrile)	-35°F~212°F (-37°C~100°C)	aliphatic hydrocarbons(petroleum oil, mineral oil / grease, fuel oils, butane, propane, natural gas) dilute acids, alkali, and salt solutions at low temperature, water	fuels of high aromatic content aromatic hydrocarbons(benzene), chlorinated hydrocarbons, polar solvents(ketone, acetone, acetic acid, ethylene-ester), strong acid, glycol based brake fluid, ozone, weather and atmospheric aging	good resistance for wear, compression set, permeation
PTFE	-400°F~450°F (-240°C~232°C)	almost all chemicals and solvents including strong acid and alkali, high and very low temperature service,	high mechanical loading	weather resistance, thermal stability, low friction
Nylon 6+ MOS2	-65°F~250°F (-54°C~121°C)	aliphatic and aromatic hydrocarbons, ketones, acetone, ethers, weak alkalis, and acids, inorganic salt solutions	strong acids and alkali, strong ammonia, sodium hydroxide	excellent load bearing, strength and rigidity, self lubricating, good abrasion resistance
PEEK (polyetheretherketon)	-40°F~500°F (-40°C~260°C)	superb chemical resistance including alcohols, acids, ammonia, esters, halogenated organics, hydrocarbons and inorganics	some strong acids-nitric, chromic, sulfuric, benzene sulfonic acids and aqua regia, etc, some inorganics-bromine, chlorine and fluorine, etc.	good high temperature performance, wear resistance, very low smoke and toxic gas emission, good hydrolysis resistance
Polymite	-65°F~275°F 185°F, water based fluids (-54°C~135°C)	petroleum and water based fluids, phosphate ester fluids, some chlorinated fluids and solvents, ketones, ethylene base glycols	strong acid, alcohols, brake fluids, dry chlorine, water over 185°F	very high sealability, tear strength, abrasion and extrusion resistance

TEMPERATURE LIMITS OF METAL PARTS

Forging	Casting	Low Temperature	High Temperature
A105	A216 WCB	-20° F(-29°C)	800° F(426°C)
A350 LF2	A352 LCB, LCC	-50° F(-46°C)	650° F(343°C)
A182 F 316	A351 CF8M	-425° F(-254°C)	1500° F(815°C)

TYPICAL GASKET SPECIFICATIONS

Type	Material	Low Temperature	High Temperature	Max. Pressure
Spiral wound	316 SS+Graphite	-420° F(-250°C)	1500° F(815°C)	6,250psi(430bar)
Spiral wound	316 SS+PTFE	-200° F(-129°C)	450° F(232°C)	6,000psi(415bar)

PRODUCTS

HIGH PRESSURE BALL VALVE,
HIGH TEMP,
METAL SEAT BUTTERFLY VALVE
CRYOGENIC VALVE,
WORKS WATER VALVE,
SPECIAL VALVE etc.

 **DAE HAN CONTROL CO., LTD.**

- **HEAD OFFICE PLANT**
1207-13, Busan Science Industrial
Complex Jisa-dong,
Kangseo-gu, Busan, Korea.
Tel. +82-51-974-1221~3,
Fax. +82-51-974-1224
Over seas office: +82-51-941-1223
Homepage : www.dhcv.co.kr
E-mail : dhc@dhcv.co.kr
- **SEOUL OFFICE**
Tel. +82-31-393-6078,
Fax. +82-31-393-7554
E-mail : rhim@dhcv.co.kr,
jhrhim@unitel.co.kr