

DUAL CHECK VALVES



We Make...

*PLUG VALVE
BALL VALVE
CASTING VALVE
FORGED VALVE
CASTING GATE, GLOBE, CHECK VALVE
DUAL CHECK VALVE
DOUBLE BLOCK & BLEED VALVE
SAFETY VALVE*



Your Best Partner of All Valves

COMPANY INTRODUCTION

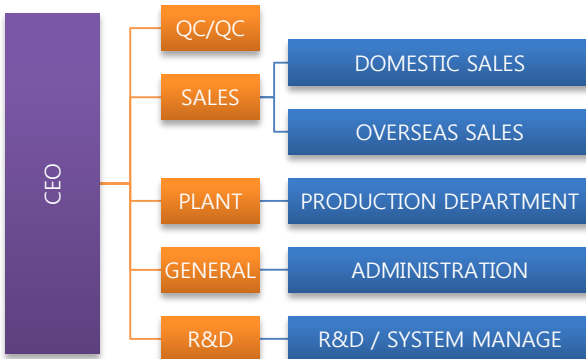
Greetings

KCL Valve is located in South Korea since 2001. We have our own factory and also have huge network resources of valve manufacturing companies in Korea. KCL's main items are Casting and Forged Valves with the range of Ball, Plug, Gate, Globe, Check and Butterfly Valves. We have domestic and overseas partners also to secure the sales capability to local and foreign provinces. For more information, contact to our web site or phone. Thanks.

Factory View



Organization



Certificates Retained

API-6D



ISO9001



API-6FA(DBB All spec.)



API-607(BALL,PLUG)



Registered Authorities

TAKREER



RUWAIIS FERTIL



NIOEC



UAE Ministry of E&C Dpt. SAMSUNG GRUOP



SK GROUP



NEW SEONGJU FACTORY VIEW



Assembly Building



Office Building



Assembly Building

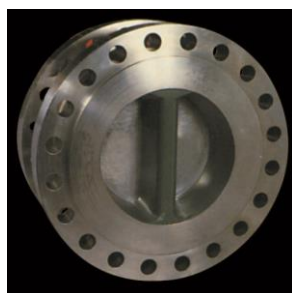
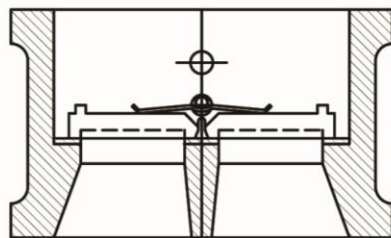


Office Building

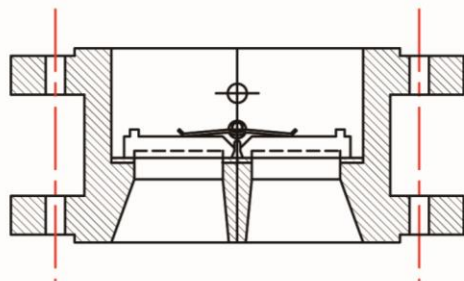
DUAL PLATE CHECK VALVE TYPES



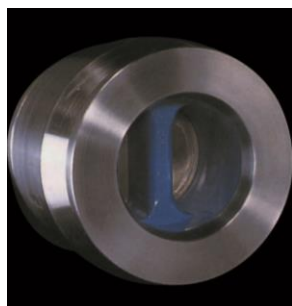
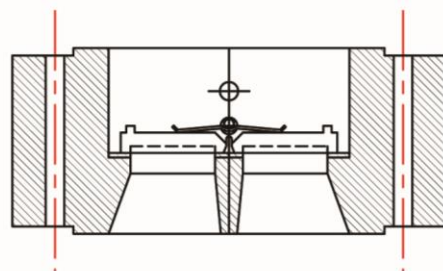
Wafer
Retainerless



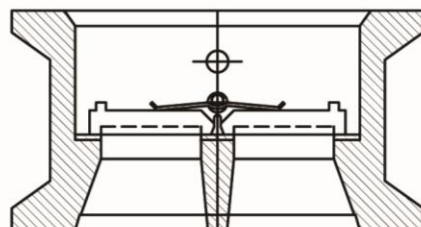
Flanged
Retainerless



Solid Lug
Retainerless



Hub Ended



AVAILABLE MATERIALS

VALVE BODY MATERIAL

- CAST IRON : A126. Cl.B, A395, A536, A439. D2
- CARBON STEEL : A216. WCB/C, A352. LCB/C
- STAINLESS STEEL : A351. CF8/CF8M/CF3/CF3M/CG8M/CG3M
- ALUMINIUM BRONZE : BS1400. AB2, B148. C95400/C95800
- DUPLEX STAINLESS : A890. 4A/5A, CD4MCU
- ALLOY STEEL : Alloy20, CN3MN, Inconel 625, Hastelloy B/C, Monel 400/500
- TITANIUM : B348. Gr2/B381. F2, B367. Gr2/Gr3/Gr5

VALVE DISC(PLATE) MATERIAL

- STAINLESS STEEL : A351. CF8/CF8M/CF3/CF3M/CG8M/CG3M
- ALUMINIUM BRONZE : BS1400. AB2, B148. C95400/C95800
- DUPLEX STAINLESS : A890. CD4MCU
- ALLOY STEEL : Alloy20, CN3MN, Inconel 625, Hastelloy B/C, Monel 400/500
- TITANIUM : B348. Gr2/B381. F2, B367. Gr2/Gr3/Gr5

VALVE TRIM MATERIAL

- 410SS, 304SS, 316SS, 304L, 316L, UNS S31803, Monel 400, Hastelloy B/C, Inconel 625, B348. Gr2/B381. F2

VALVE SPRING MATERIAL

- 304SS, 316SS, Inconel 625, Inconel x 750, TITANIUM

VALVE SEAT MATERIAL

- EPDM, BUNA-N, VITON A, 410SS, STELLITE 6, AS PLATE

MATERIAL TEMPERATURE LIMITS

Upper Temperature Limits

Material	Upper Limit F(°C)
316SS	250(121)
Inconel x 750	1000(537)
Monel	400(204)
Hastelloy	800(426)
Alloy20	250(121)
Buna-N(NBR)	250(121)
EPDM	300(149)
PTFE	450(232)
Metal Overlay	As Body
Metal to Metal	As Body

Lower Temperature Limits

Material	Lower Limit F(°C)
WCB	-20(-28.9)
LCC	-50(-45.6)
CF8M	-450(-268)
Buna-N(NBR)	-70(-56.7)
EPDM	-14(-11.4)
Viton	-40(-40)
PTFE	-200(-129)
Metal to Metal	As Body

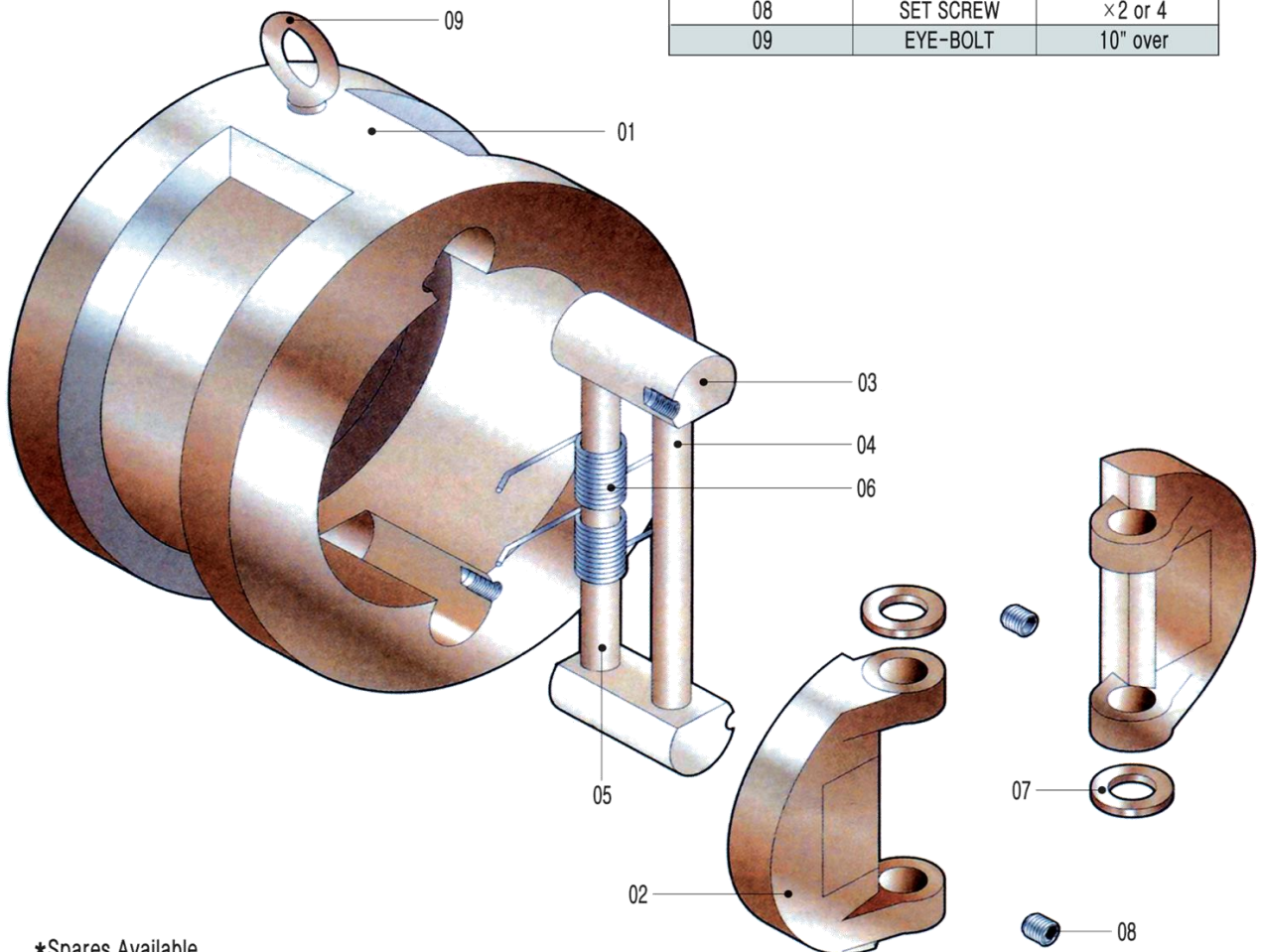
VALVE CONSTRUCTION

Design Features

KCL dual plate check valves are supplied retainerless as standard. Our design does not have any threaded Plugs in the pressure boundary and totally eliminates the potential leakpath to atmosphere. This design meet fugitive emission control.

Valve's components

01	BODY	×1
02	DISC	×2
03	GUIDE	×2
04	STOP PIN	×1
05	HINGE PIN	×1
06	SPRING	×1 to 4
07	WASHER	×2 over
08	SET SCREW	×2 or 4
09	EYE-BOLT	10" over



*Spares Available.

TIPICAL CONSTRUCTIONS

STANDARD DESIGN

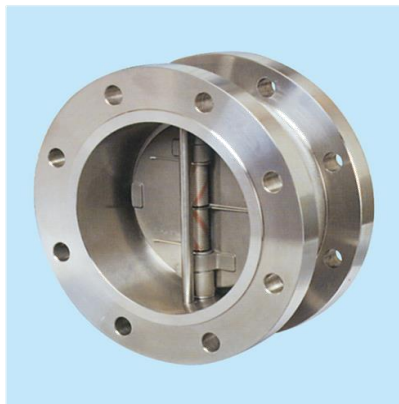
WAFER TYPE

Retainerless design supplied as standard

- ANSI B16.5
 - Flange dims to ANSI B16.5(MSS-SP44)24"
 - Face to face dims to API 594
- API 605
 - Flange dims to API 605
 - Face to face dims to API 594
- API 6A
 - Flange dims to API 6A
 - Face to face dims to API 6A
- API 6D
 - Flange dims to ANSI B16.5
 - Face to face dims to API 6D
- JIS 2210 & KS B1511
- EXTENDED BODY
 - Flange dims to ANSI B16.5

FLANGED TYPE

- Flange dims to ANSI B16.5(MSS-SP44)24"
- Face to face dims to API 594



SOLID LUG TYPE

- Flange dims to ANSI B16.5(MSS-SP44)24"
- Face to face dims to API 594
- *Threaded lug type also available



CHECK VALVE FEATURES

PRESSURE CLASSES

• ANSI 150 TO 2500 LB, API 2000 TO 10000 LB.

• JIS & KS 5K TO 63K

NOMINAL SIZE RANGE

ANSI 150 lb.	2" to
ANSI 300 lb.	2" to 64"
ANSI 600 lb.	2" to 36"
ANSI 900 lb.	2" to 36"
ANSI 1500 lb.	2" to 24"
ANSI 2500 lb.	2" to 12"

Larger diameter valves for the respective pressure classes can be designed and manufactured on request.

RETAINERLESS DESIGN

dual plate check valves are supplied retainerless as standard. Our patented design does not have any threaded plugs in the pressure boundary and totally eliminates the potential leakpath to atmosphere. This design meet fugitive emission control.

SEAT

The seat is designed equal pressure at the plate with the state of stationary hour. The shape of rubber seat could not be changed even in many operation because of having its most hardness satisfaction. The metal to metal seated valve is tested to API 598.

DISC (PLATE)

The two semicircle plate responsiveness of opening and closing is quick and it is strong against corrosion also has a strong durability.

SPRING

The springs have been designed to endure stresses and also ensure operating without failure for much cycles.

RUBBER LINED

Fully Rubber Lined Valves to avoid corrosion Inside are available.

INSTALLATION DIMENSIONS

ANSI B16.5

Size inches	Pressure Rating ANSI	ΦD	L	φd
		mm	mm	mm
2 (50mm)	150	105	60	60
	300	111	60	60
	600	111	60	60
	900	143	70	60
	1500	143	70	60
	2500	146	70	60
3 (80mm)	150	137	73	88
	300	149	73	88
	600	149	73	88
	900	168	83	88
	1500	175	83	88
	2500	197	86	88
4 (100mm)	150	175	73	113
	300	181	73	113
	600	194	79	113
	900	206	102	113
	1500	210	102	113
	2500	235	105	113
6 (150mm)	150	222	98	166
	300	251	98	166
	600	267	137	166
	900	289	159	166
	1500	283	159	166
	2500	318	159	166
8 (200mm)	150	279	127	219
	300	308	127	219
	600	321	165	219
	900	359	206	219
	1500	352	206	219
	2500	387	206	219
10 (250mm)	150	340	146	270
	300	362	146	270
	600	400	213	270
	900	435	241	270
	1500	435	248	270
	2500	476	254	270
12 (300mm)	150	410	181	320
	300	422	181	320
	600	457	229	320
	900	498	229	320
	1500	521	305	320
	2500	549	305	320

ANSI B16.5 / ANSI B16.47 SERIES A

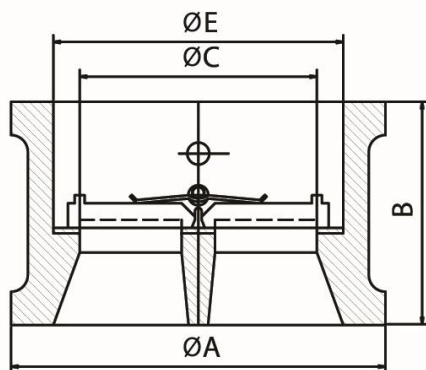
Size inches	Pressure Rating ANSI	ΦD	L	φd
		mm	mm	mm
14 (350mm)	150	451	184	340
	300	486	222	340
	600	492	273	340
	900	521	356	340
	1500	578	356	340
16 (400mm)	150	514	191	400
	300	540	232	400
	600	565	305	400
	900	575	384	400
	1500	641	384	400
18 (450mm)	150	549	203	440
	300	597	264	440
	600	613	362	440
	900	638	451	440
	1500	705	468	440
20 (500mm)	150	606	219	500
	300	654	292	500
	600	683	368	500
	900	699	451	500
	1500	756	533	500
24 (600mm)	150	718	222	579
	300	775	318	579
	600	791	438	579
	900	838	495	579
	1500	902	559	579
26 (650mm)	150	775	356	629
	300	835	356	629
	600	867	457	629
	900	883	533	629
28 (700mm)	150	832	381	680
	300	899	381	680
	600	914	483	680
	900	946	572	680
30 (750mm)	150	883	305	740
	300	953	368	740
	600	972	505	740
	900	1010	635	740
32 (800mm)	150	940	356	784
	300	1006	641	784
	600	1022	533	784
	900	1073	660	784
36 (900mm)	150	1048	368	865
	300	1118	485	865
	600	1130	635	865
	900	1200	718	865

WAFER TYPE BR

INSTALLATION DIMENSIONS

ANSI B16.47 SERIEA A / AWWA C207 CLASS E

Size inches	Pressure Rating ANSI	ϕD	L	ϕd
		mm	mm	mm
40 (1000mm)	150	1162	432	987
	300	1114	546	909
	600	1156	660	909
	900	1251	762	909
42 (1050mm)	150	1219	432	1022
	300	1168	568	1022
	600	1219	702	1022
	900	1302	787	1022
48 (1200mm)	150	1384	524	1193
	300	1324	629	1136
	600	1391	787	1136
54 (1350mm)	150	1549	591	1281
	300	1492	718	1281
60 (1500mm)	150	1715	660	1422
	300	1645	838	1422



ANSI B16.47 SERIEA B

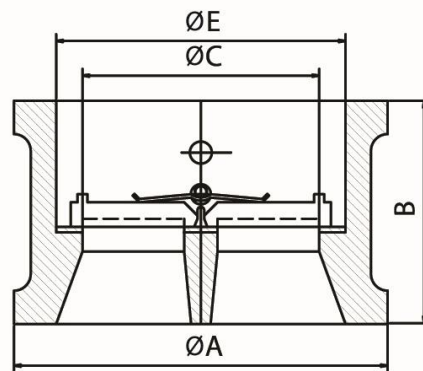
Size inches	Pressure Rating ANSI	ϕD	L	ϕd
		mm	mm	mm
26 (650mm)	150	725	356	629
	300	771	356	629
	600	765	457	629
	900	838	533	629
28 (700mm)	150	776	381	680
	300	826	381	680
	600	819	483	680
	900	902	572	680
30 (750mm)	150	827	305	735
	300	886	368	735
	600	880	505	735
	900	959	635	735
32 (800mm)	150	881	356	784
	300	940	406	784
	600	933	533	784
	900	1016	660	810
36 (900mm)	150	987	368	865
	300	1048	483	865
	600	1048	635	865
	900	1124	718	865
40 (1000mm)	150	1095	432	987
	300	1150	546	909
42 (1050mm)	150	1146	432	1062
	300	1200	568	1015
48 (1200mm)	150	1307	524	1193
	300	1368	629	1136
54 (1350mm)	150	1464	591	1281
	300	1530	718	1281
60 (1500mm)	150	1630	660	1422
	300	1707	838	1422

WAFER TYPE BR

INSTALLATION DIMENSIONS

JIS 2210 & B1511

Size inches	Pressure Rating ANSI	ϕD	L	ϕd
		mm	mm	mm
2 (50mm)	10K	101	60	57
	20K	101	60	57
3 (80mm)	10K	131	73	87
	20K	137	73	87
4 (100mm)	10K	156	89	113
	20K	162	73	113
6 (150mm)	10K	217	98	166
	20K	235	98	166
8 (200mm)	10K	267	127	206
	20K	280	137	206
10 (250mm)	10K	330	146	260
	10K	353	146	260
12 (350mm)	20K	375	181	300
	20K	403	181	300
14 (350mm)	10K	420	184	339
	20K	447	222	339
16 (400mm)	10K	483	191	332
	20K	507	232	387
18 (450mm)	10K	538	203	438
	20K	572	264	438
20 (500mm)	10K	593	219	487
	20K	627	292	487
24 (600mm)	10K	697	222	579
	20K	731	318	579
26 (650mm)	10K	747	356	629
	20K	802	356	629
28 (700mm)	10K	807	381	680
	20K	852	381	680
30 (750mm)	10K	867	305	734
	20K	914	368	734
32 (800mm)	10K	917	356	784
	20K	974	406	784
36 (900mm)	10K	1017	368	865
	20K	1084	483	909
40 (1000mm)	10K	1211	432	909
48 (1200mm)	10K	1341	524	1193
54 (1350mm)	10K	1495	590	1281
60 (1500mm)	10K	1655	660	1421



FLANGED TYPE BFR

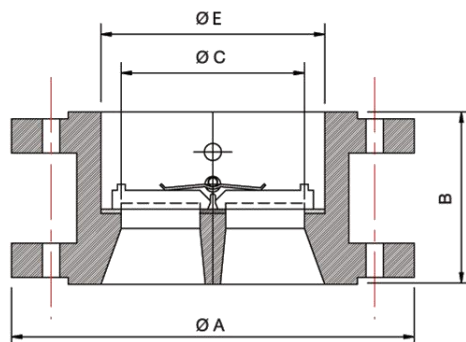
INSTALLATION DIMENSIONS

ANSI B16.5 / ANSI B16.47 SERIES A

Size inches	Pressure Rating ANSI	φD mm	L mm	φd mm
8 (200mm)	150	343	127	207
10 (250mm)	150	406	146	260
	600	508	213	260
	900	546	241	260
12 (300mm)	150	483	181	300
	300	521	181	300
	600	559	229	300
	900	610	292	300
14 (350mm)	150	533	184	339
	300	584	222	339
	600	603	273	339
	900	641	356	339
16 (400mm)	150	597	191	387
	300	648	232	387
	600	686	305	387
	900	705	384	387
18 (450mm)	150	635	203	438
	300	711	264	438
	600	743	362	438
	900	787	451	438
20 (500mm)	150	699	219	487
	300	775	292	487
	600	813	368	487
	900	857	451	487
24 (600mm)	150	813	222	579
	300	914	318	579
	600	940	438	579
	900	1041	495	579
26 (650mm)	150	870	356	629
	300	972	356	629
	600	1016	457	629
	900	1086	533	629
28 (700mm)	150	927	381	680
	300	1035	381	680
	600	1073	483	680
	900	1168	572	680
30 (750mm)	150	984	305	735
	300	1092	368	735
	600	1130	505	735
	900	1232	635	735
32 (800mm)	150	1060	356	784
	300	1149	406	784
	600	1194	533	784
	900	1314	660	784

ANSI B16.47 SERIES A / AWWA C207 CLASS E

Size inches	Pressure Rating ANSI	φD mm	L mm	φd mm
36 (900mm)	150	1168	368	865
	300	1270	483	865
	600	1314	635	865
	900	1461	718	865
40 (1000mm)	150	1289	432	987
	300	1238	546	909
	600	1321	660	909
	900	1151	762	909
42 (1050mm)	150	1346	432	1062
	300	1289	184	339
	600	584	568	1015
	900	1403	702	972
48 (1200mm)	150	1511	524	1193
	300	1467	629	1136
	600	1594	787	1136
54 (1200mm)	150	1683	591	1281
	300	1657	718	1281
60 (1500mm)	150	854	660	1422
	300	1810	838	1422
66 (1650mm)	150	2032	787	1435
72 (1800mm)	150	2197	851	1818
78 (1950mm)	150	2362	927	1974
84 (2100mm)	150	2534	1041	2116
90~144 (2250mm~ 3600mm)	150	**	**	**

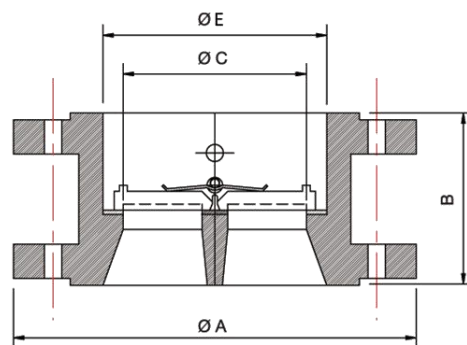


FLANGED TYPE BSR

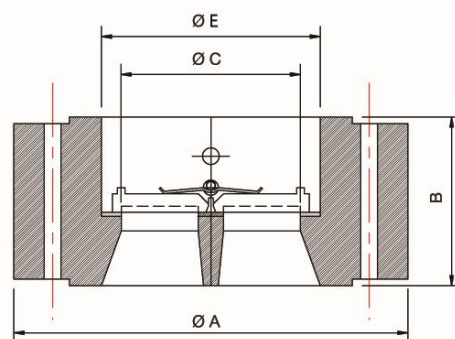
INSTALLATION DIMENSIONS

ANSI B16.47 SERIES B

Size inches	Pressure Rating ANSI	ϕD	L	ϕd
		mm	mm	mm
26 (650mm)	150	786	356	629
	300	867	356	629
	600	889	457	629
	900	1022	533	629
28 (700mm)	150	837	381	680
	300	921	381	680
	600	953	483	680
	900	1105	572	680
30 (750mm)	150	887	305	735
	300	991	368	735
	600	1022	505	735
	900	1181	635	735
32 (800mm)	150	941	356	1193
	300	1054	406	1136
	600	1086	533	784
	900	1238	660	784
36 (900mm)	150	1057	368	865
	300	1172	483	865
	600	1213	635	865
	900	1346	718	865
40 (1000mm)	150	1175	432	987
	300	1273	546	909
42 (1050mm)	150	1226	432	1062
	300	1334	568	1015
48 (1200mm)	150	1392	524	1193
	300	1511	629	1136
54 (1350mm)	150	1549	591	1281
	300	1673	718	1281
60 (1500mm)	150	1726	660	1422
	300	1878	838	1422



FLANGED TYPE BSR



SOLID LUF TYPE BSR

SOLID LUG TYPE BSR

INSTALLATION DIMENSIONS

ANSI B16.5

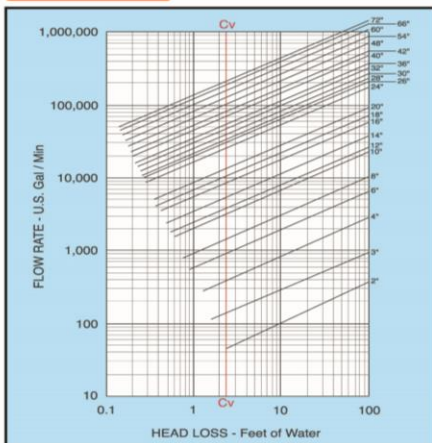
Size inches	Pressure Rating ANSI	ϕD mm	L mm	ϕd mm
2 (50mm)	150	152	60	57
	300	165	60	57
	600	165	60	57
	900	216	70	57
	1500	216	70	57
	2500	216	70	57
3 (80mm)	150	191	73	87
	300	210	73	87
	600	210	73	87
	900	241	83	87
	1500	267	83	87
	2500	305	83	87
4 (100mm)	150	229	73	113
	300	254	73	113
	600	79	89	113
	900	292	102	113
	1500	311	102	113
	2500	356	105	113
6 (150mm)	150	279	98	166
	300	318	98	166
	600	356	137	166
	900	381	159	166
	1500	394	159	166
	2500	483	159	166
8 (200mm)	150	343	127	207
	300	381	127	207
	600	419	165	207
	900	470	260	207
	1500	483	260	207
	2500	552	260	207
10 (250mm)	150	406	146	260
	300	445	146	260
	600	508	213	260
	900	546	213	260
	1500	584	248	260
	2500	673	254	260
12 (300mm)	150	483	181	300
	300	521	181	300
	600	559	229	300
	900	610	229	300
	1500	673	305	300
	2500	762	305	300
14 (350mm)	150	533	184	339
	300	584	222	339
	600	603	273	339
	900	641	356	339
	1500	749	356	339
	2500	826	384	387
16 (400mm)	150	597	191	387
	300	648	232	387
	600	686	384	387
	900	705	384	387
	1500	826	384	387

ANSI B16.5 / ANSI B16.47 SERIES A

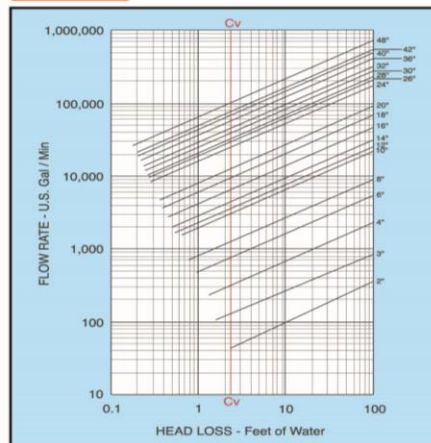
Size inches	Pressure Rating ANSI	ϕD mm	L mm	ϕd mm
18 (450mm)	150	635	203	438
	300	711	264	438
	600	743	362	438
	900	787	451	438
	1500	914	468	438
	2500	984	533	487
20 (500mm)	150	699	219	487
	300	775	292	487
	600	813	368	487
	900	857	451	487
	1500	984	533	487
	2500	1061	603	508
24 (600mm)	150	813	222	579
	300	914	318	579
	600	940	438	579
	900	1041	495	579
	1500	1168	559	579
	2500	1244	635	603
26 (650mm)	150	870	356	629
	300	972	356	629
	600	1016	457	629
	900	1086	533	629
	1500	1168	572	680
	2500	1244	635	705
28 (700mm)	150	927	381	680
	300	1035	381	680
	600	1073	483	680
	900	1168	572	680
	1500	1244	635	705
	2500	1320	705	730
30 (750mm)	150	984	305	735
	300	1092	368	735
	600	1130	505	735
	900	1232	635	735
	1500	1320	705	735
	2500	1396	775	760
32 (800mm)	150	1060	356	784
	300	1149	406	784
	600	1149	533	784
	900	1314	660	784
	1500	1396	705	809
	2500	1472	775	833
36 (900mm)	150	1168	368	865
	300	1270	483	865
	600	1314	635	865
	900	1461	718	865
	1500	1537	794	865
	2500	1613	865	865
40 (1000mm)	150	1289	432	987
	300	1283	546	909
	600	1321	660	909
	900	1511	762	909
	1500	1346	432	1062
	2500	1422	508	1087
42 (1050mm)	150	1289	568	1015
	300	1403	702	972
	600	1562	787	972
	900	1511	524	1193
	1500	1467	629	1136
	2500	1594	787	1136
48 (1200mm)	150	1511	524	1193
	300	1467	629	1136
	600	1594	787	1136
	900	1683	591	1281
	1500	1657	718	1281
	2500	1854	660	1422
54 (1350mm)	150	1854	660	1422
	300	1810	838	1422

HEAD LOSS-FOR WATER AT 60°F

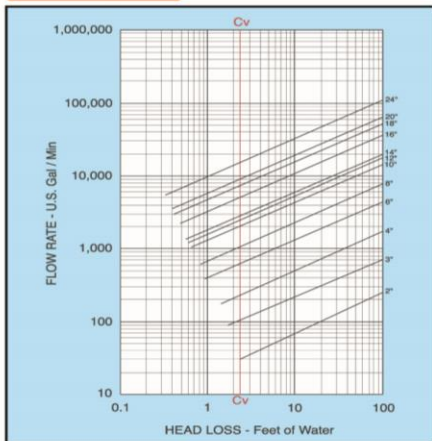
CLASS 150/300



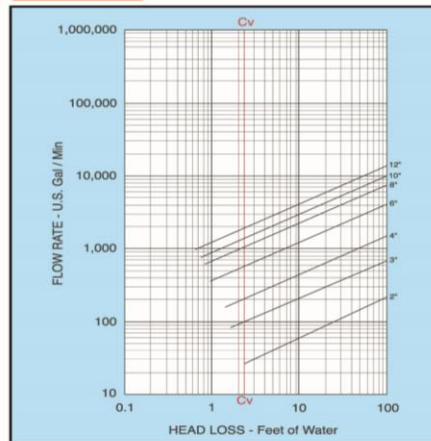
CLASS 600



CLASS 900/1500



CLASS 2500



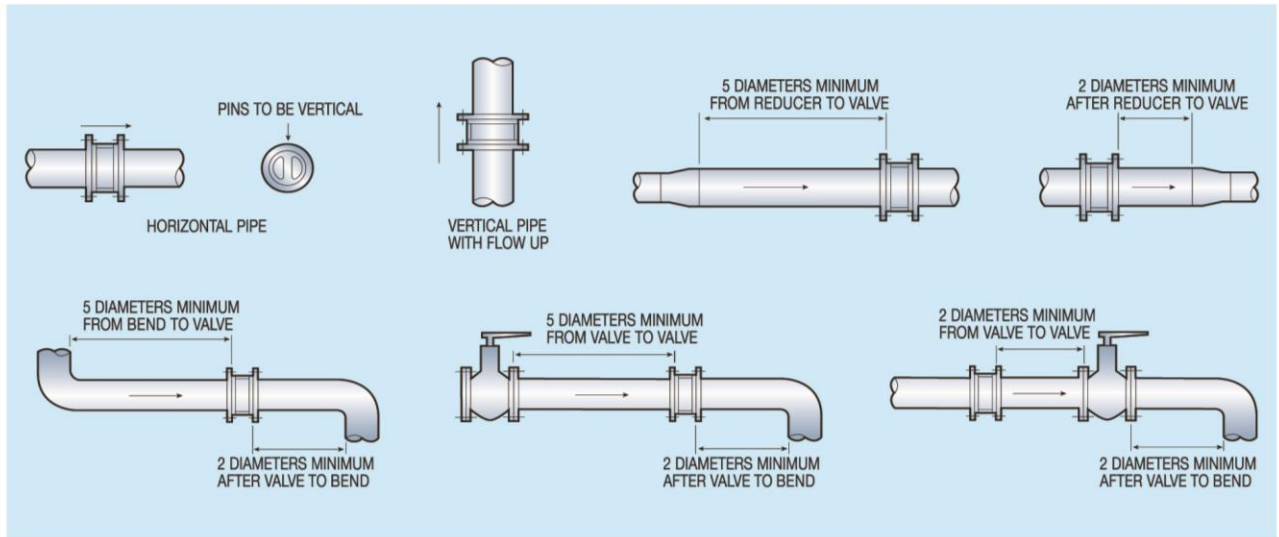
VALVE Cv—EFFICIENT ANSI 150/300

Valve Size	Cv	Valve Size	Cv
2"	47	20"	12,700
3"	130	24"	23,700
4"	265	26"	30,000
6"	715	28"	34,000
8"	1,390	30"	39,000
10"	2,580	32"	47,250
12"	3,860	36"	59,700
14"	5,025	40"	78,500
16"	7,400	42"	95,000
18"	10,700	48"	128,000

● Head losses are for valves fitted in lines with connecting pipe bores appropriate to pressure class of valve.

● Valves fitted to larger bore pipes will have lower pressure drops.

BEST PRACTICE VALVE INSTALLATION



VALVE LOCATION AND ORIENTATION IN PIPING

Check valve should be installed if possible a minimum of 5 diameters from other line elements. i. e. fittings, pumps, valves, ect

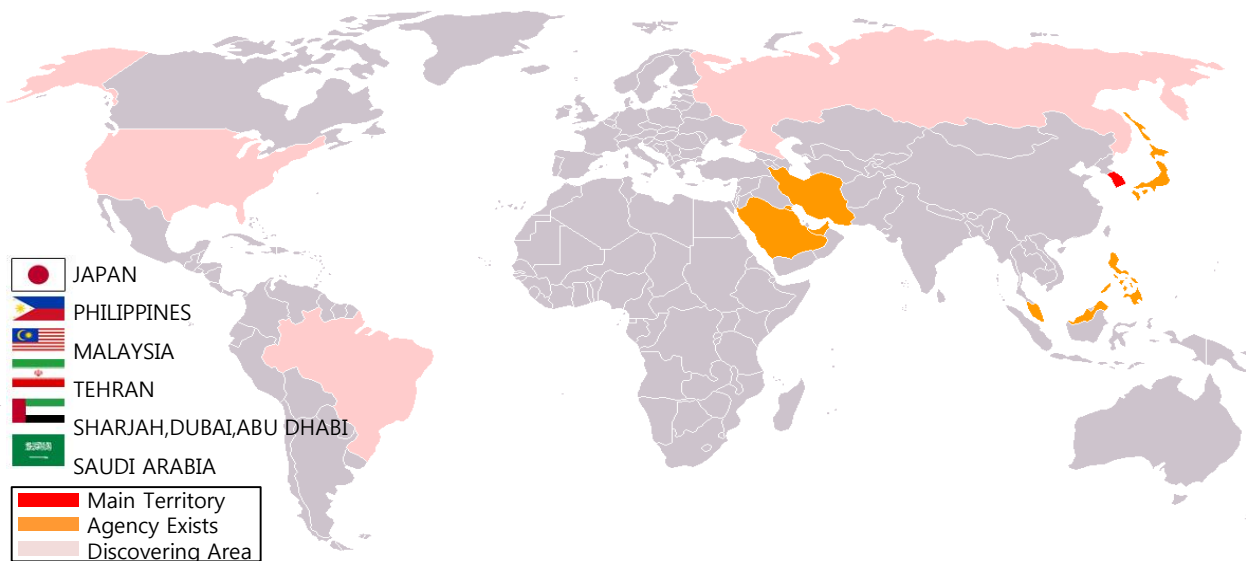
Horizontal lines

Valve installed in horizontal lines must be bolted in place with the hinge post the vertical position. i. e. in such a manner that the hinge pin retainers are at the top and bottom of installed valve, perpendicular to the flow.

Vertical lines

In the upward position, no special attention needs to be given to the hinge position. The only exception being when mounted directly downstream of an elbow. In this case the hinge post should be mounted perpendicular to the outermost portion of an elbow.

Foreign Agencies



Seongju Factory



Head Office



Gimhae Factory



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Your Best Choice of All Valves