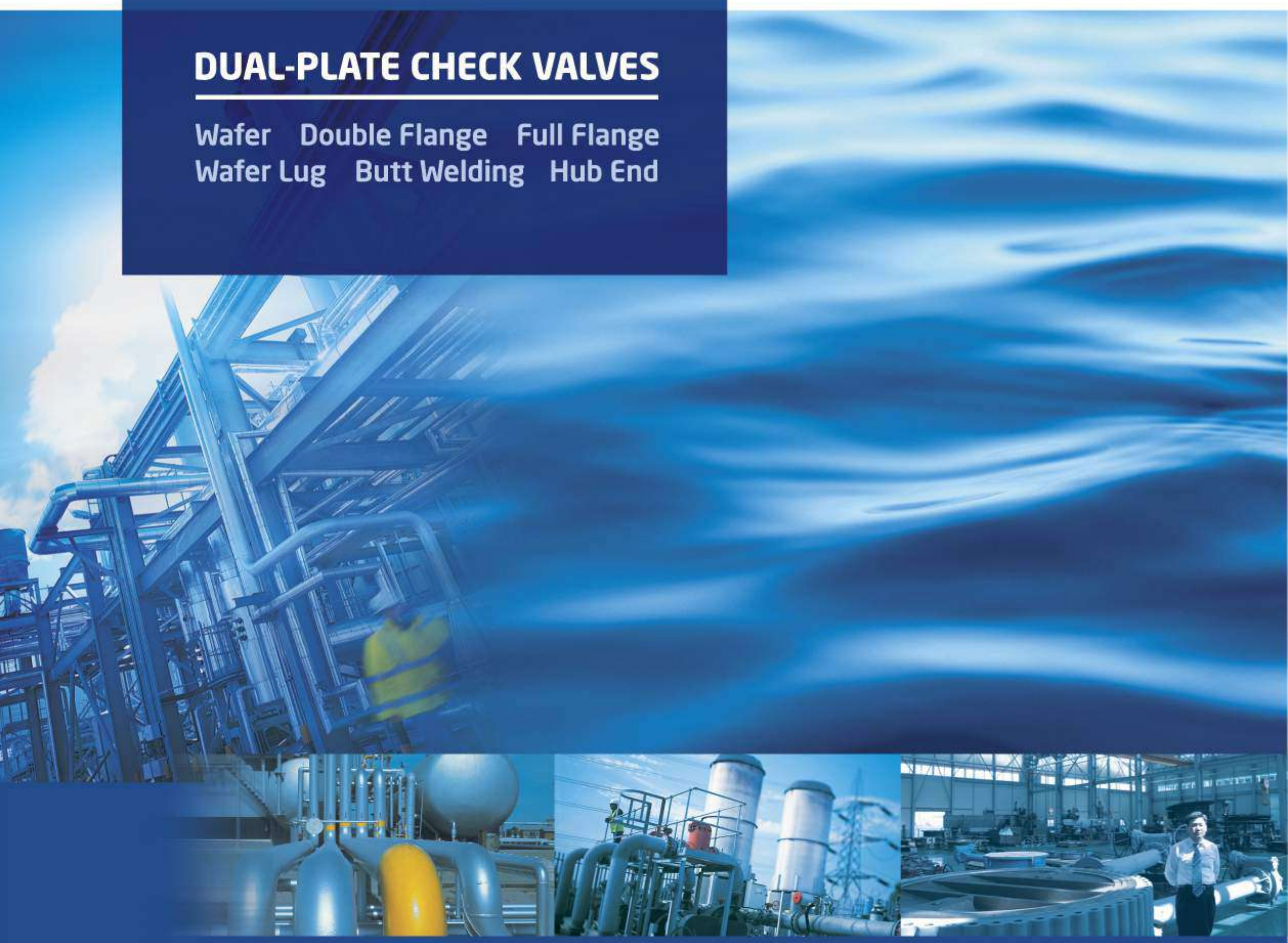
SEJIN VALVE

DUAL-PLATE CHECK VALVES

Wafer Double Flange Full Flange
Wafer Lug Butt Welding Hub End



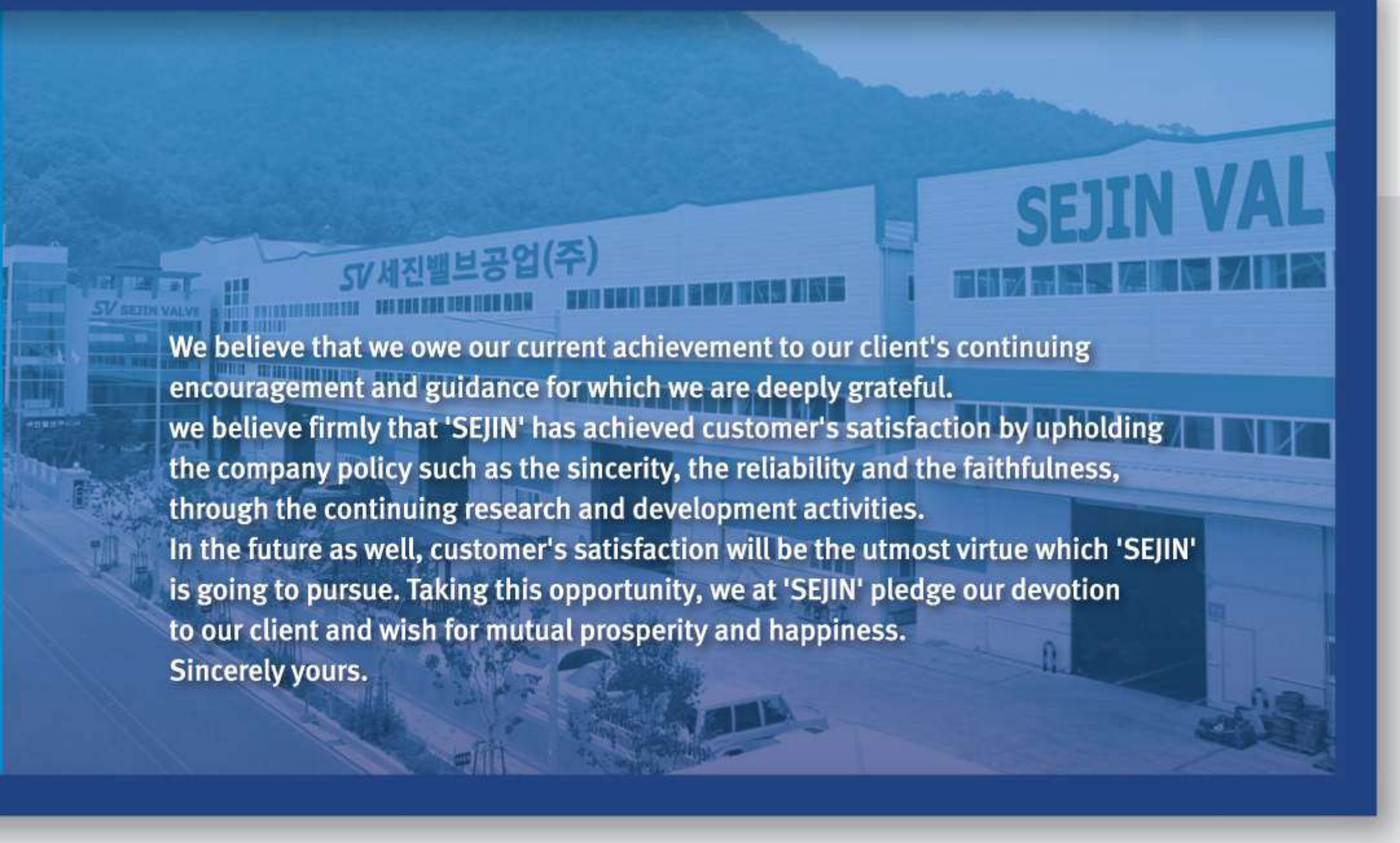
SEJIN VALVE IND. CO., LTD.

SEJIN VALVE

We are indeed pleased to take this opportunity to introduce SEJIN VALVE INDUSTRIAL CO., LTD. and its business activities to you.
We are Proud of our clients recognition of its quality and high performance, as reflected in our valves being widely used in service water and in power plant and the others plants as well.

HISTORY

1999	Established SEJIN VALVE CO.
	Converted to Corporation, SEJIN VALVE IND. CO., LTD.
	Obtained Licence of Trading Business (The First Grade)
	Acquired ISO 9001 Certificate from KS
2000	Subscription of a Member of Korea Valve Industry Corporation
	Registered as One of Supplying Vendors for Korea Electric Power Corporation (KEPCO).
	R-Class / 120" and smaller.
	Developed Valve for Ultralow Temperature for LNG (-196°C)
	Developed Dual Plate Check Valve
2002	Acquired Certificate of KS (KSB 2333)
2003	Acquired Certificate of KS (KSB 2813)
	Registered as One of Supplying Vendors for Korea Hydro & Nuclear Power Corporation.
	NUCLEAR R-Class / 120" and smaller.
2004	Developed Valve for Triple Eccentric type Butterfly Valve.
2005	Moved New Factory to Songjeong-dong, Kangseo-gu, Busan, Korea.
	Acquired Certificate of CE (BUREAU VERITAS)
2006	Up-grade as One of Supplying Vendors for Korea Hydro & Nuclear Power Corporation.
	NUCLEAR T-Class / 120" and Smaller.
2013	Moved New Factory to Hwajeon-dong, Kangseo-gu, Busan, Korea.
2014	Acquired ISO 14001 Certificate from KS
2015	Moved New Factory to Noksan Industrial Complex.



We believe that we owe our current achievement to our client's continuing encouragement and guidance for which we are deeply grateful.
we believe firmly that 'SEJIN' has achieved customer's satisfaction by upholding the company policy such as the sincerity, the reliability and the faithfulness, through the continuing research and development activities.
In the future as well, customer's satisfaction will be the utmost virtue which 'SEJIN' is going to pursue. Taking this opportunity, we at 'SEJIN' pledge our devotion to our client and wish for mutual prosperity and happiness.
Sincerely yours.

Our company endeavor ceaselessly to develop new products and for quality improvement.

Technological Know-how of SEJIN VALVE

- KS Q 9001 : 2009 / ISO 9001 : 2008
- KS (Korean Industrial Standards) - KS B 2333 /2002
- KS (Korean Industrial Standards) - KS B 2813 /2003
- Practical Use Registration - Butterfly Valve /2003
- KS I ISO 14001 : 2009 / ISO 14001 : 2004
- Registered as Supplying Vendors for Korea
  -Hydro & Nuclear Power corporation (Nuclear T/R-class)
- Registered as Supplying Vendors for Korea
  -Electric Power Coporation (Kepco T/R-class)
- Acquired Cretificate of CE (BUREAU VERITAS)

CHECK VALVES

DUAL DISC ASME Class 150, 300, 600, 900, 1500, 2500

CKD-WF Series

WAFER TYPE

6~9P

STANDARD FEATURES	FEATURES UPON REQUEST
END CONNECTION : Wafer Flat Face	END CONNECTION : Wafer RTJ
SEAT : NBR	SEAT : EPDM, Viton, Metal-to-Metal
SPRING : 316 Stainless Steel	SPRING : Inconel X-750, Monel
SIZE : 2"~ 60"	Retainerless Design
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys

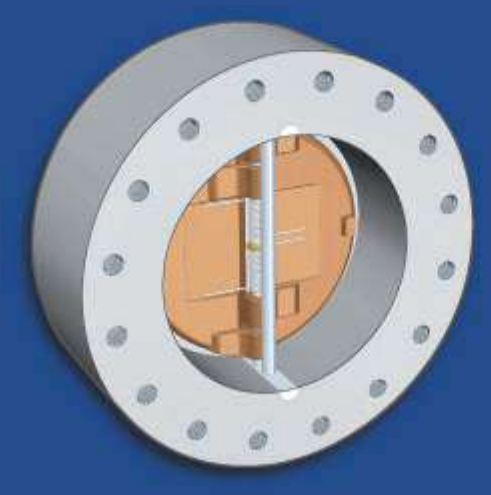
CKD-DF Series

DOUBLE FLANGE TYPE

10~12P

STANDARD FEATURES	FEATURES UPON REQUEST
END CONNECTION : Raised Face	END CONNECTION : Raised Face RTJ
SEAT : NBR	SEAT : EPDM, Viton, Metal-to-Metal
SPRING : 316 Stainless Steel	SPRING : Inconel X-750, Monel
SIZE : 10"~ 60"	Retainerless Body Design
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys

CKD-FF Series

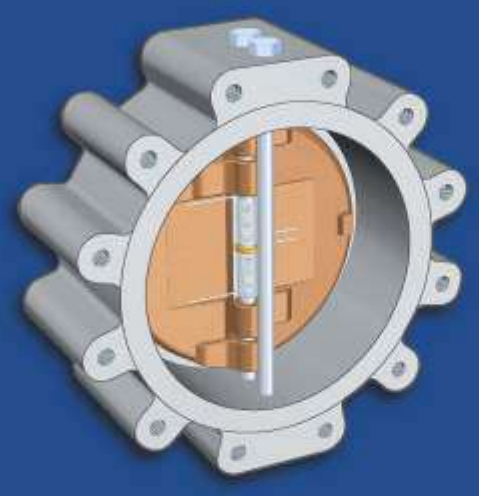


FULL FLANGE TYPE

13~15P

STANDARD FEATURES	FEATURES UPON REQUEST
END CONNECTION : Raised Face	END CONNECTION : Raised Face RTJ
SEAT : NBR	SEAT : EPDM, Viton, Metal-to-Metal
SPRING : 316 Stainless Steel	SPRING : Inconel X-750, Monel
SIZE : 2"~ 60"	Retainerless Body Design
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys

CKD-WL Series



WAFER LUG TYPE

16~19P

STANDARD FEATURES	FEATURES UPON REQUEST
END CONNECTION : Raised Face	END CONNECTION : Raised Face RTJ
SEAT : NBR	SEAT : EPDM, Viton, Metal-to-Metal
SPRING : 316 Stainless Steel	SPRING : Inconel X-750, Monel
SIZE : 2"~ 60"	Retainerless Body Design
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys

CKD-BW Series

BUTT WELDING TYPE

20-21P

STANDARD FEATURES	FEATURES UPON REQUEST
END CONNECTION : Butt Welding	Retainerless Body Design
SEAT : Metal-to-Metal	Fire safe Design
SPRING : Inconel X-750, Monel	
SIZE : 4"~ 24"	
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys

CKD-HB Series

HUB END TYPE

22-23P

STANDARD FEATURES	FEATURES UPON REQUEST
END CONNECTION : Hub End	Retainerless Body Design
SEAT : Metal-to-Metal	Fire safe Design
SPRING : Inconel X-750, Monel	Cryogenic Design
SIZE : 4"~ 24"	
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys

CHECK VALVES
DUAL DISC

Wafer type
ASME Class 150, 300, 600, 900, 1500, 2500

Standard Specification

STANDARD DESIGN	API 6D, API 594
FACE-TO-FACE DIMENSIONS	API 6D, API 594
END FLANGE DIMENSIONS	ASME B16.5 / B16.47 Series A
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 594
TEST & INSPECTION	API 6D, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- END CONNECTION : Wafer Flat Face, Wafer RTJ
- SEAT : NBR, Viton, EPDM, Metal-to-Metal
- SPRING : 316 Stainless Steel, Inconel X750, Monel
- Retainerless Design (option)

Product Range

ASME B16.5 / B16.47 Series A, Class 150, 300, 600	2" ~ 60"	ASME B16.5, Class 1500	2" ~ 24"
ASME B16.5 / B16.47 Series A, Class 900	2" ~ 48"	ASME B16.5, Class 2500	2" ~ 12"

Standard Trim Configurations (API 594)

TRIM NO.	TRIM NO.1	TRIM NO.5	TRIM NO.8	TRIM NO.10
NOMINAL TRIM	13Cr	Hard-faced	13Cr and Hard-faced	Type 316
MATERIAL TYPE	11-13Cr	Co-Cr-A	11-13Cr, Co-Cr-A	13Cr-18Ni-Mo
BODY SEATING SURFACE	A217 CA15	Co-Cr-A	Co-Cr-A	A351 CF8M
DISC SEATING SURFACE	A217 CA15	Co-Cr-A	A217 CA15	A351 CF8M

Materials (Applicable ASTM Specification)

Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

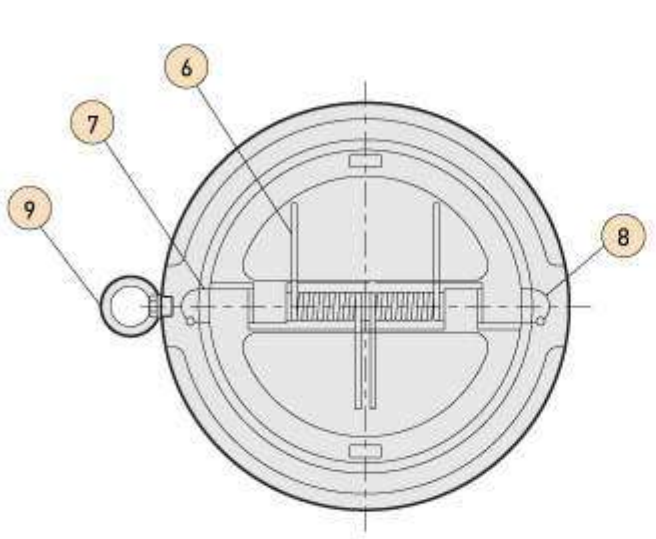
Pressure Testing (Working & Test Pressure at Ambient Temperature)

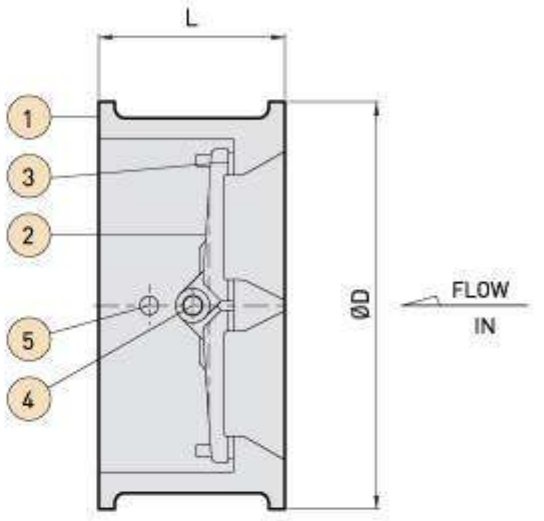
CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 150	19	275	29	413	21	303	6	100		
ASME 300	50	720	75	1080	56	792	6	100	Size (NPS)	Test Time (sec)
ASME 600	99	1440	149	2160	109	1584	6	100	≤2	60
ASME 900	149	2160	224	3240	164	2376	6	100	2½ - 6	60
ASME 1500	248	3600	372	5400	273	3960	6	100	8 - 12	120
ASME 2500	413	5988	620	8982	454	6587	6	100	≥14	120

Wafer type

ASME B16.5 Class 150, 300, 600, 900, 1500, 2500

CKD-WF Series





PARTS LIST

NO.	PART NAME	STANDARD MATERIALS SPECIFICATION	
		CARBON STEEL	STAINLESS STEEL
1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	NBR	NBR
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

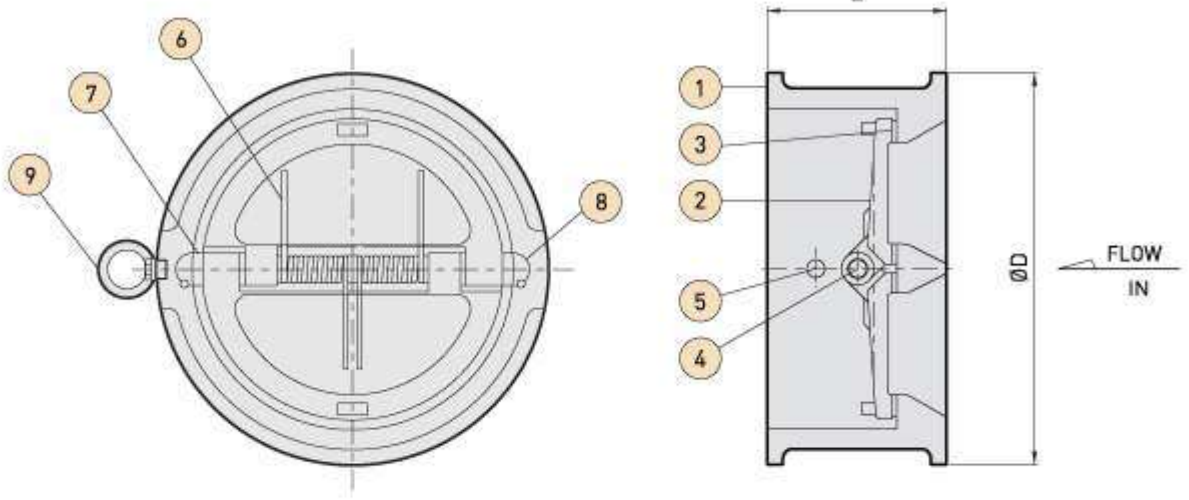
Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)					Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	ϕD	ϕG	T	F						
50	2"	150	60	105	-	-	-	120.7	19	4	5/8"	165	4
		300	60	110	-	-	-	127.0	19	8	5/8"	175	5
		600	60	110	-	-	-	127.0	19	8	5/8"	195	6
		900	70	142	-	-	-	165.1	26	8	7/8"	240	9
		1500	70	142	-	-	-	165.1	26	8	7/8"	240	14
		2500	70	145	-	-	-	171.4	29	8	1"	275	15
65	2.5"	150	67	124	-	-	-	139.7	19	4	5/8"	175	6
		300	67	130	-	-	-	149.2	19	8	5/8"	175	7
		600	67	130	-	-	-	149.2	19	8	5/8"	205	8
		900	83	165	-	-	-	190.5	23	8	7/8"	250	10
		1500	83	165	-	-	-	190.5	23	8	7/8"	250	15
		2500	83	168	-	-	-	196.8	29	8	1"	285	20
80	3"	150	73	137	-	-	-	152.4	19	4	5/8"	185	7
		300	73	149	-	-	-	168.3	23	8	3/4"	205	9
		600	73	149	-	-	-	168.3	23	8	3/4"	230	10
		900	83	168	-	-	-	190.5	26	8	7/8"	255	13
		1500	83	175	-	-	-	203.2	32	8	1-1/8"	285	25
		2500	86	197	-	-	-	228.6	35	8	1-1/4"	335	29
100	4"	150	73	175	-	-	-	190.5	19	8	5/8"	185	10
		300	73	180	-	-	-	200.0	23	8	3/4"	210	12
		600	79	193	-	-	-	215.9	26	8	7/8"	255	15
		900	102	205	-	-	-	235.0	32	8	1-1/8"	300	39
		1500	102	210	-	-	-	241.3	35	8	1-1/4"	325	41
		2500	105	235	-	-	-	273.0	42	8	1-1/2"	395	42
150	6"	150	98	222	-	-	-	241.3	23	8	3/4"	240	19
		300	98	250	-	-	-	269.9	23	12	3/4"	245	30
		600	136	266	-	-	-	292.1	29	12	1"	340	40
		900	159	288	-	-	-	317.5	32	12	1-1/8"	380	55
		1500	159	282	-	-	-	317.5	38	12	1-3/8"	455	70
		2500	159	317	-	-	-	368.3	54	8	2"	540	95
200	8"	150	127	279	-	-	-	298.5	23	8	3/4"	255	35
		300	127	308	-	-	-	330.2	26	12	7/8"	290	45
		600	165	320	-	-	-	349.2	32	12	1-1/8"	385	70
		900	206	358	-	-	-	393.7	38	12	1-3/8"	455	135
		1500	206	351	-	-	-	393.7	45	12	1-5/8"	530	138
		2500	206	386	-	-	-	438.2	54	12	2"	630	148

Wafer type

ASME B16.5 Class 150, 300, 600, 900, 1500, 2500

CKD-WF Series



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1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	NBR	NBR
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

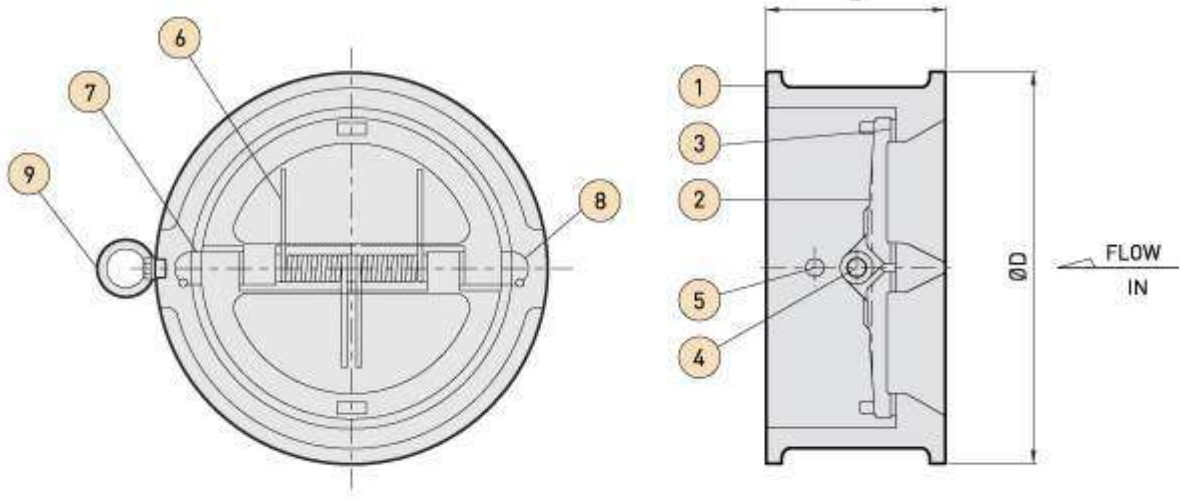
Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)					Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	ϕD	ϕG	T	F						
250	10"	150	146	340	-	-	-	362.0	26	12	7/8"	290	65
		300	146	362	-	-	-	387.4	29	16	1"	330	70
		600	213	400	-	-	-	431.8	35	16	1-1/4"	460	150
		900	241	435	-	-	-	469.9	38	16	1-3/8"	510	210
		1500	248	435	-	-	-	482.6	51	12	1-7/8"	620	220
		2500	254	476	-	-	-	539.8	67	12	2-1/2"	790	230
300	12"	150	181	410	-	-	-	431.8	26	12	7/8"	330	95
		300	181	422	-	-	-	450.8	32	16	1-1/8"	380	110
		600	229	457	-	-	-	489.0	35	20	1-1/4"	480	180
		900	292	498	-	-	-	533.4	38	20	1-3/8"	580	380
		1500	305	521	-	-	-	571.5	54	16	2	720	390
		2500	305	549	-	-	-	619.1	74	12	2-3/4"	900	420
350	14"	150	184	451	-	-	-	476.3	29	12	1"	340	110
		300	222	486	-	-	-	514.4	32	20	1-1/8"	430	170
		600	273	492	-	-	-	527.0	38	20	1-3/8"	540	230
		900	356	541	-	-	-	558.8	42	20	1-1/2"	660	460
		1500	356	578	-	-	-	635.0	61	16	2-1/4"	810	560
400	16"	150	191	514	-	-	-	539.8	29	16	1"	350	150
		300	232	540	-	-	-	571.5	35	20	1-1/4"	450	210
		600	305	565	-	-	-	603.2	42	20	1-1/2"	590	360
		900	384	575	-	-	-	616.0	45	20	1-5/8"	710	560
		1500	384	641	-	-	-	704.8	67	16	2-1/2"	890	640
450	18"	150	203	549	-	-	-	577.9	32	16	1-1/8"	380	180
		300	264	597	-	-	-	628.6	35	24	1-1/4"	490	310
		600	362	613	-	-	-	654.0	45	20	1-5/8"	670	480
		900	451	638	-	-	-	685.8	51	20	1-7/8"	820	760
		1500	468	705	-	-	-	774.7	74	16	2-3/4"	1010	1100
500	20"	150	219	606	-	-	-	635.0	32	20	1-1/8"	400	210
		300	292	654	-	-	-	685.8	35	24	1-1/4"	520	390
		600	368	683	-	-	-	723.9	45	24	1-5/8"	690	650
		900	451	699	-	-	-	749.3	54	20	2"	840	890
		1500	533	755	-	-	-	831.8	80	16	3"	1130	1510
600	24"	150	222	718	-	-	-	749.3	35	20	1-1/4"	440	320
		300	318	775	-	-	-	812.8	42	24	1-1/2"	590	610
		600	438	791	-	-	-	838.2	51	24	1-7/8"	800	970
		900	495	838	-	-	-	901.7	67	20	2-1/2"	980	1520
		1500	559	901				990.6	92	16	3-1/2"	1240	2990

Wafer type

ASME B16.47 Series A Class 150, 300, 600

CKD-WF Series



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7	GUIDE	A276 304	A276 304
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9	EYE BOLT	A105	A182 F304

Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)					Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	ϕD	ϕG	T	F						
650	26"	150	279	772	-	-	-	806.5	35	24	1-1/4"	610	480
		300	356	833	-	-	-	876.3	45	28	1-5/8"	660	720
		600	457	865	-	-	-	914.4	51	28	1-7/8"	850	930
700	28"	150	305	830	-	-	-	863.6	35	28	1-1/4"	640	560
		300	368	896	-	-	-	939.8	45	28	1-5/8"	690	780
		600	483	912	-	-	-	965.2	54	28	2"	895	1220
750	30"	150	305	880	-	-	-	914.4	35	28	1-1/4"	570	650
		300	368	950	-	-	-	997.0	48	28	1-3/4"	690	940
		600	505	970	-	-	-	1022.4	54	28	2"	925	1510
800	32"	150	356	937	-	-	-	977.9	42	28	1-1/2"	650	750
		300	406	1005	-	-	-	1054.1	51	28	1-7/8"	750	1240
		600	533	1020	-	-	-	1079.5	61	28	2-1/4"	970	1720
850	34"	150	356	987	-	-	-	1028.7	42	32	1-1/2"	680	860
		300	455	1055	-	-	-	1104.9	51	28	1-7/8"	790	1490
		600	580	1070	-	-	-	1130.3	61	28	2-1/4"	990	1950
900	36"	150	368	1045	-	-	-	1085.9	42	32	1-1/2"	680	960
		300	483	1115	-	-	-	1168.4	54	32	2"	850	1670
		600	635	1130	-	-	-	1193.8	67	28	2-1/2"	1100	2650
1000	40"	150	419	1160	-	-	-	1200.2	42	36	1-1/2"	730	1280
		300	546	1112	-	-	-	1155.7	45	32	1-5/8"	920	2090
		600	660	1153	-	-	-	1212.9	61	32	2-1/4"	1150	3590
1050	42"	150	432	1217	-	-	-	1257.3	42	36	1-1/2"	760	1420
		300	568	1163	-	-	-	1206.5	45	32	1-5/8"	940	2550
		600	701	1217	-	-	-	1282.7	67	28	2-1/2"	1230	
1100	44"	150	432	1275	-	-	-	1314.5	42	40	1-1/2"	870	
		300	568	1217	-	-	-	1263.7	48	32	1-3/4"		
		600	701	1270	-	-	-	1333.5	67	32	2-1/2"		
1200	48"	150	524	1382	-	-	-	1422.4	42	44	1-1/2"	890	2190
		300	629	1321	-	-	-	1371.6	51	32	1-7/8"	1100	2970
		600	787	1390	-	-	-	1460.5	74	32	2-3/4"		
1350	54"	150	591	1547	-	-	-	1593.9	48	44	1-3/4"		
		300	718	1490	-	-	-	1549.4	61	28	2-1/4"		
		600	889	1553	-	-	-	1632.0	80	32	3"		
1500	60"	150	660	1712	-	-	-	1759.0	48	52	1-3/4"	1070	4360
		300	838	1642	-	-	-	1701.8	61	32	2-1/4"	1340	5330
		600	991	1732	-	-	-	1822.5	92	28	3-1/2"	1695	

CHECK VALVES
DUAL DISC

Double Flange type
ASME Class 150, 300, 600, 900, 1500, 2500

Standard Specification

STANDARD DESIGN	API 6D, API 594
FACE-TO-FACE DIMENSIONS	API 6D, API 594
END FLANGE DIMENSIONS	ASME B16.5 / B16.47 Series A
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 594
TEST & INSPECTION	API 6D, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- END CONNECTION : Flat Face, Raised Face, RTJ, Flanged
- SEAT : NBR, Viton, EPDM, Metal-to-Metal
- SPRING : 316 Stainless Steel, Inconel X750, Monel
- Retainerless Design (option)

Product Range

ASME B16.5 / B16.47 Series A, Class 150, 300, 600	10" ~ 60"	ASME B16.5, Class 1500	10" ~ 24"
ASME B16.5 / B16.47 Series A, Class 900	10" ~ 48"	ASME B16.5, Class 2500	10" ~ 12"

Standard Trim Configurations (API 594)

TRIM NO.	TRIM NO.1	TRIM NO.5	TRIM NO.8	TRIM NO.10
NOMINAL TRIM	13Cr	Hard-faced	13Cr and Hard-faced	Type 316
MATERIAL TYPE	11-13Cr	Co-Cr-A	11-13Cr, Co-Cr-A	13Cr-18Ni-Mo
BODY SEATING SURFACE	A217 CA15	Co-Cr-A	Co-Cr-A	A351 CF8M
DISC SEATING SURFACE	A217 CA15	Co-Cr-A	A217 CA15	A351 CF8M

Materials (Applicable ASTM Specification)

Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

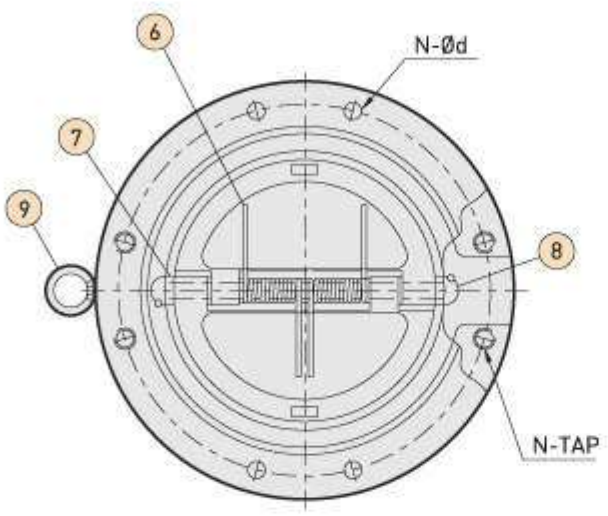
Pressure Testing (Working & Test Pressure at Ambient Temperature)

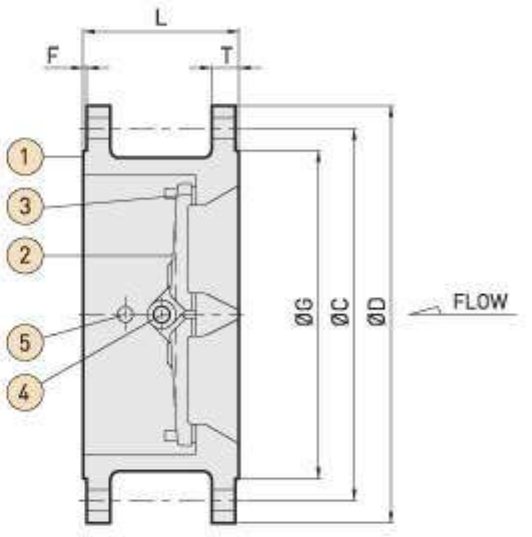
CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 150	19	275	29	413	21	303	6	100		
ASME 300	50	720	75	1080	56	792	6	100	Size (NPS)	Test Time (sec)
ASME 600	99	1440	149	2160	109	1584	6	100	≤2	60
ASME 900	149	2160	224	3240	164	2376	6	100	2½ - 6	60
ASME 1500	248	3600	372	5400	273	3960	6	100	8 - 12	120
ASME 2500	413	5988	620	8982	454	6587	6	100	≥14	120

Double Flange type

ASME B16.5 Class 150, 300, 600, 900, 1500, 2500

CKD-DF Series





PARTS LIST

NO.	PART NAME	STANDARD MATERIALS SPECIFICATION	
		CARBON STEEL	STAINLESS STEEL
1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	NBR	NBR
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

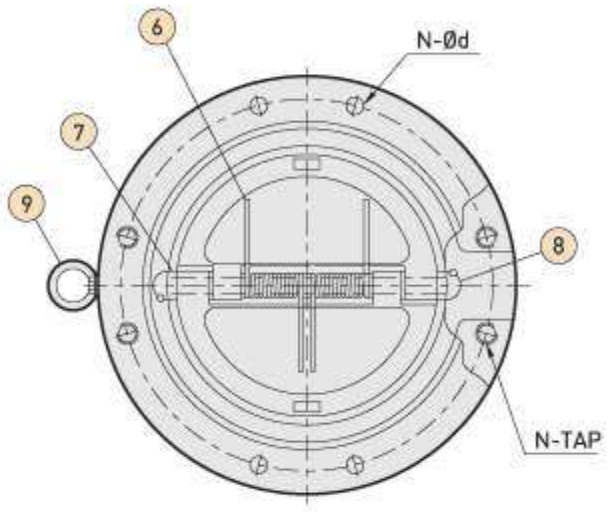
Dimensions and Weights

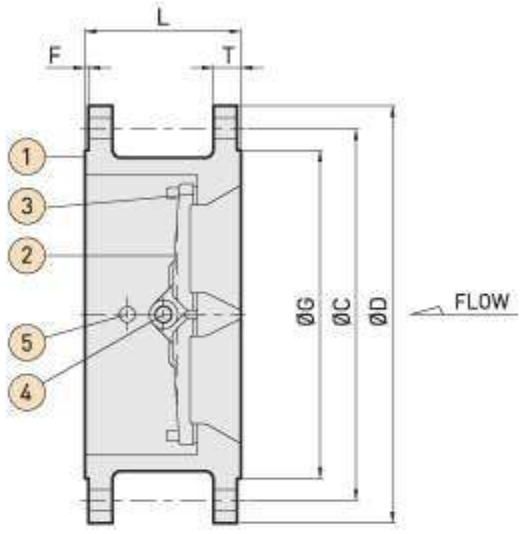
SIZE		CLASS	DIMENSIONS (mm)					Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	ϕD	ϕG	T	F						
250	10"	150	146	405	323.9	30.2	2	362.0	26	12	7/8"	127	95
		300	146	445	323.9	47.8	2	387.4	29	16	1"	175	205
		600	213	508	323.9	63.5	7	431.8	35	16	1-1/4"	220	220
		900	241	546	323.9	69.9	7	469.9	38	16	1-3/8"	235	310
		1500	248	584	323.9	108.0	7	482.6	51	12	1-7/8"	340	360
		2500	254	673	323.9	165.1	7	539.8	67	12	2-1/2"	490	430
300	12"	150	181	483	381.0	31.8	2	431.8	26	12	7/8"	135	140
		300	181	521	381.0	50.8	2	450.8	32	16	1-1/8"	185	160
		600	229	559	381.0	66.5	7	489.0	35	20	1-1/4"	230	260
		900	292	610	381.0	79.2	7	533.4	38	20	1-3/8"	260	350
		1500	305	673	381.0	124.0	7	571.5	54	16	2	380	480
		2500	305	762	381.0	184.2	7	619.1	74	12	2-3/4"	540	610
350	14"	150	184	533	412.8	35.1	2	476.3	29	12	1"	150	150
		300	222	584	412.8	53.8	2	514.4	32	20	1-1/8"	195	220
		600	273	603	412.8	69.9	7	527.0	38	20	1-3/8"	235	390
		900	356	641	412.8	85.9	7	558.8	42	20	1-1/2"	280	490
		1500	356	749	412.8	133.4	7	635.0	61	16	2-1/4"	410	620
400	16"	150	191	597	469.9	36.6	2	539.8	29	16	1"	150	170
		300	232	648	469.9	57.2	2	571.5	35	20	1-1/4"	210	290
		600	305	686	469.9	76.2	7	603.2	42	20	1-1/2"	260	450
		900	384	705	469.9	88.9	7	616.0	45	20	1-5/8"	290	560
		1500	384	826	469.9	146.1	7	704.8	67	16	2-1/2"	450	840
450	18"	150	203	635	533.4	39.6	2	577.9	32	16	1-1/8"	160	210
		300	264	711	533.4	60.5	2	628.6	35	24	1-1/4"	215	390
		600	362	743	533.4	82.6	7	654.0	45	20	1-5/8"	275	560
		900	451	787	533.4	101.6	7	685.8	51	20	1-7/8"	330	850
		1500	468	914	533.4	162.1	7	774.7	74	16	2-3/4"	500	1030
500	20"	150	219	699	584.2	42.9	2	635.0	32	20	1-1/8"	175	290
		300	292	775	584.2	63.5	2	685.8	35	24	1-1/4"	230	505
		600	368	813	584.2	88.9	7	723.9	45	24	1-5/8"	290	780
		900	451	857	584.2	108.0	7	749.3	54	20	2"	355	1780
		1500	533	984	584.2	177.8	7	831.8	80	16	3"	545	2220
600	24"	150	222	813	692.2	47.8	2	749.3	35	20	1-1/4"	185	420
		300	318	914	692.2	69.9	2	812.8	42	24	1-1/2"	260	770
		600	438	940	692.2	101.6	7	838.2	51	24	1-7/8"	335	1160
		900	495	1041	692.2	139.7	7	901.7	67	20	2-1/2"	440	1890
		1500	559	1168	692.2	203.2	7	990.6	92	16	3-1/2"	620	3060

Double Flange type

ASME B16.47 Series A Class 150, 300, 600

CKD-DF Series





PARTS LIST

NO.	PART NAME	STANDARD MATERIALS SPECIFICATION	
		CARBON STEEL	STAINLESS STEEL
1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	NBR	NBR
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)					Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	ϕD	ϕG	T	F						
650	26"	150	279	870	749.0	68.7	2	806.5	35	24	1-1/4"		720
		300	356	970	749.0	84.6	2	876.3	45	28	1-5/8"		1260
		600	457	1015	749.0	132.5	7	914.4	51	28	1-7/8"		1430
700	28"	150	305	925	800.0	71.9	2	863.6	35	28	1-1/4"		870
		300	368	1035	800.0	90.9	2	939.8	45	28	1-5/8"		1350
		600	483	1075	800.0	137.8	7	965.2	54	28	2"		1620
750	30"	150	305	985	857.0	75.1	2	914.4	35	28	1-1/4"		950
		300	368	1090	857.0	95.7	2	997.0	48	28	1-3/4"		1430
		600	505	1130	857.0	146.7	7	1022.4	54	28	2"		1700
800	32"	150	356	1060	914.0	81.4	2	977.9	42	28	1-1/2"		1150
		300	406	1150	914.0	100.5	2	1054.1	51	28	1-7/8"		1490
		600	533	1195	914.0	154.7	7	1079.5	61	28	2-1/4"		2150
850	34"	150	356	1110	965.0	83.0	2	1028.7	42	32	1-1/2"		1240
		300	455	1205	965.0	105.2	2	1104.9	51	28	1-7/8"		1750
		600	580	1245	965.0	161.0	7	1130.3	61	28	2-1/4"		1450
900	36"	150	368	1170	1022.0	90.9	2	1085.9	42	32	1-1/2"		1320
		300	483	1270	1022.0	111.6	2	1168.4	54	32	2"		2140
		600	635	1315	1022.0	169.0	7	1193.8	67	28	2-1/2"		2870
1000	40"	150	419	1290	1124.0	90.9	2	1200.2	42	36	1-1/2"		1590
		300	546	1240	1086.0	114.8	2	1155.7	45	32	1-5/8"		2740
		600	660	1320	1111.0	169.0	7	1212.9	61	32	2-1/4"		3750
1050	42"	150	432	1345	1194.0	97.3	2	1257.3	42	36	1-1/2"		2160
		300	568	1290	1137.0	119.5	2	1206.5	45	32	1-5/8"		3970
		600	701	1405	1168.0	178.5	7	1282.7	67	28	2-1/2"		4520
1100	44"	150	432	1405	1245.0	102.1	2	1314.5	42	40	1-1/2"		2460
		300	568	1355	1194.0	124.3	2	1263.7	48	32	1-3/4"		4650
		600	701	1455	1226.0	184.8	7	1333.5	67	32	2-1/2"		5520
1200	48"	150	524	1510	1359.0	108.4	2	1422.4	42	44	1-1/2"		2890
		300	629	1465	1302.0	133.8	2	1371.6	51	32	1-7/8"		5220
		600	787	1595	1334.0	202.3	7	1460.5	74	32	2-3/4"		6430
1350	54"	150	591	1685	1511.0	121.1	2	1593.9	48	44	1-3/4"		3670
		300	718	1660	1467.0	152.9	2	1549.4	61	28	2-1/4"		5860
		600	889	1780	1492.0	224.5	7	1632.0	80	32	3"		8640
1500	60"	150	660	1855	1676.0	132.2	2	1759.0	48	52	1-3/4"		4850
		300	838	1810	1626.0	164.0	2	1701.8	61	32	2-1/4"		6120
		600	991	1995	1657.0	249.9	7	1822.5	92	28	3-1/2"		11850

Full Flange type

ASME Class 150, 300, 600, 900, 1500, 2500

Standard Specification

STANDARD DESIGN	API 6D, API 594
FACE-TO-FACE DIMENSIONS	API 6D, API 594
END FLANGE DIMENSIONS	ASME B16.5 / B16.47 Series A
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 594
TEST & INSPECTION	API 6D, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- END CONNECTION : Flat Face, Raised Face, RTJ, Flanged
- SEAT : NBR, Viton, EPDM, Metal-to-Metal
- SPRING : 316 Stainless Steel, Inconel X750, Monel
- Retainerless Design (option)

Product Range

- ASME B16.5 / B16.47 Series A, Class 150, 300, 600 : 2" ~ 60"
- ASME B16.5 / B16.47 Series A, Class 900 : 2" ~ 48"
- ASME B16.5, Class 1500 : 2" ~ 24"
- ASME B16.5, Class 2500 : 2" ~ 12"

Standard Trim Configurations (API 594)

TRIM NO.	TRIM NO.1	TRIM NO.5	TRIM NO.8	TRIM NO.10
NOMINAL TRIM	13Cr	Hard-faced	13Cr and Hard-faced	Type 316
MATERIAL TYPE	11-13Cr	Co-Cr-A	11-13Cr, Co-Cr-A	13Cr-18Ni-Mo
BODY SEATING SURFACE	A217 CA15	Co-Cr-A	Co-Cr-A	A351 CF8M
DISC SEATING SURFACE	A217 CA15	Co-Cr-A	A217 CA15	A351 CF8M

Materials (Applicable ASTM Specification)

Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

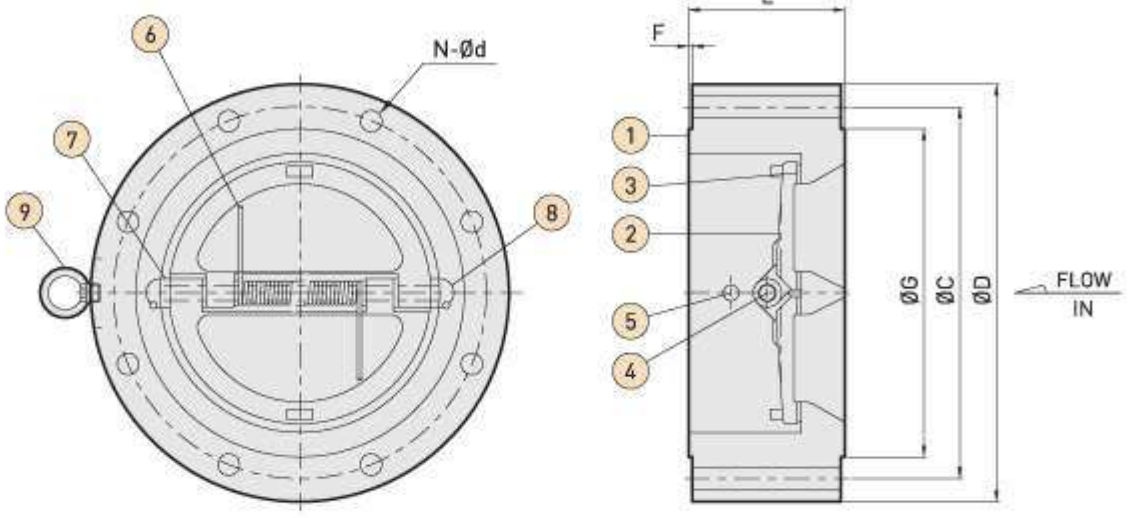
Pressure Testing (Working & Test Pressure at Ambient Temperature)

CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 150	19	275	29	413	21	303	6	100		
ASME 300	50	720	75	1080	56	792	6	100	Size (NPS)	Test Time (sec)
ASME 600	99	1440	149	2160	109	1584	6	100	≤2	60
ASME 900	149	2160	224	3240	164	2376	6	100	2½ - 6	60
ASME 1500	248	3600	372	5400	273	3960	6	100	8 - 12	120
ASME 2500	413	5988	620	8982	454	6587	6	100	≥14	120

Full Flange type

ASME B16.5 Class 150, 300, 600, 900, 1500, 2500

CKD-FF Series



PARTS LIST

NO.	PART NAME	STANDARD MATERIALS SPECIFICATION	
		CARBON STEEL	STAINLESS STEEL
1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	NBR	NBR
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

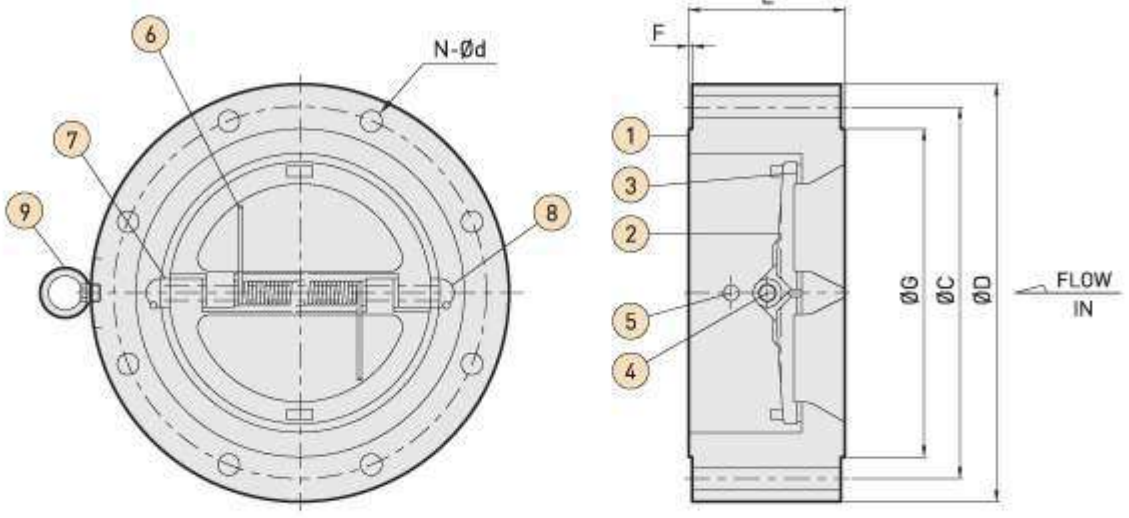
Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)					Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	ϕD	ϕG	T	F						
50	2"	150	60	150	91.9	-	2	120.7	19	4	5/8"	165	
		300	60	165	91.9	-	2	127.0	19	8	5/8"	175	
		600	60	165	91.9	-	7	127.0	19	8	5/8"	195	
		900	70	215	91.9	-	7	165.1	26	8	7/8"	240	
		1500	70	215	91.9	-	7	165.1	26	8	7/8"	240	
		2500	70	235	91.9	-	7	171.4	29	8	1"	275	
65	2.5"	150	67	180	104.6	-	2	139.7	19	4	5/8"	175	
		300	67	190	104.6	-	2	149.2	19	8	5/8"	175	
		600	67	190	104.6	-	7	149.2	19	8	5/8"	205	
		900	83	245	104.6	-	7	190.5	23	8	7/8"	250	
		1500	83	245	104.6	-	7	190.5	23	8	7/8"	250	
		2500	83	265	104.6	-	7	196.8	29	8	1"	285	
80	3"	150	73	190	127.0	-	2	152.4	19	4	5/8"	185	
		300	73	210	127.0	-	2	168.3	23	8	3/4"	205	
		600	73	210	127.0	-	7	168.3	23	8	3/4"	230	
		900	83	240	127.0	-	7	190.5	26	8	7/8"	255	
		1500	83	265	127.0	-	7	203.2	32	8	1-1/8"	285	
		2500	86	305	127.0	-	7	228.6	35	8	1-1/4"	335	
100	4"	150	73	230	157.2	-	2	190.5	19	8	5/8"	185	
		300	73	255	157.2	-	2	200.0	23	8	3/4"	210	
		600	79	275	157.2	-	7	215.9	26	8	7/8"	255	
		900	102	290	157.2	-	7	235.0	32	8	1-1/8"	300	
		1500	102	310	157.2	-	7	241.3	35	8	1-1/4"	325	
		2500	105	355	157.2	-	7	273.0	42	8	1-1/2"	395	
150	6"	150	98	280	215.9	-	2	241.3	23	8	3/4"	240	
		300	98	320	215.9	-	2	269.9	23	12	3/4"	245	
		600	136	355	215.9	-	7	292.1	29	12	1"	340	
		900	159	380	215.9	-	7	317.5	32	12	1-1/8"	380	
		1500	159	395	215.9	-	7	317.5	38	12	1-3/8"	455	
		2500	159	485	215.9	-	7	368.3	54	8	2"	540	
200	8"	150	127	345	269.7	-	2	298.5	23	8	3/4"	255	
		300	127	380	269.7	-	2	330.2	26	12	7/8"	290	
		600	165	420	269.7	-	7	349.2	32	12	1-1/8"	385	
		900	206	470	269.7	-	7	393.7	38	12	1-3/8"	455	
		1500	206	485	269.7	-	7	393.7	45	12	1-5/8"	530	
		2500	206	550	269.7	-	7	438.2	54	12	2"	630	

Full Flange type

ASME B16.5 Class 150, 300, 600, 900, 1500, 2500

CKD-FF Series



PARTS LIST

NO.	PART NAME	STANDARD MATERIALS SPECIFICATION	
		CARBON STEEL	STAINLESS STEEL
1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	NBR	NBR
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

Dimensions and Weights

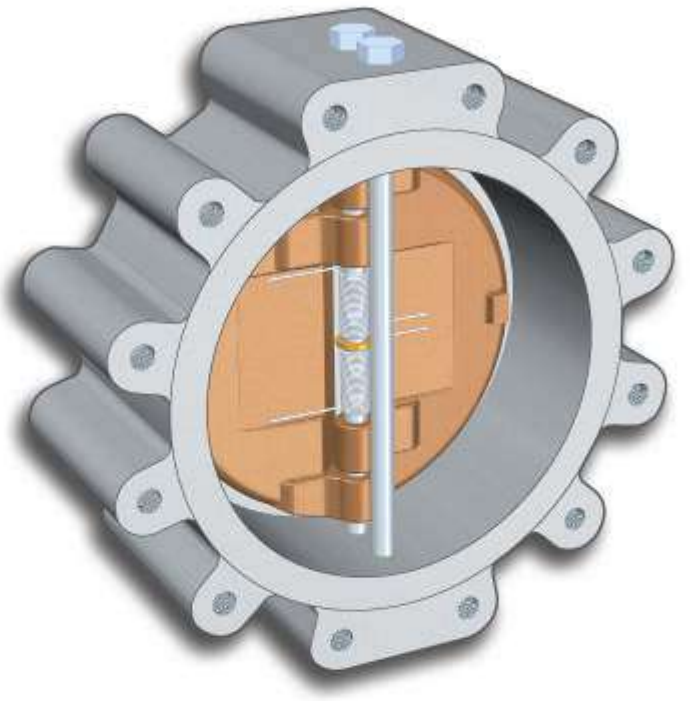
SIZE		CLASS	DIMENSIONS (mm)					Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	ϕD	ϕG	T	F						
250	10"	150	146	405	323.9	30.2	2	362.0	26	12	7/8"	290	
		300	146	445	323.9	47.8	2	387.4	29	16	1"	330	
		600	213	508	323.9	63.5	7	431.8	35	16	1-1/4"	460	
		900	241	546	323.9	69.9	7	469.9	38	16	1-3/8"	510	
		1500	248	584	323.9	108.0	7	482.6	51	12	1-7/8"	620	
		2500	254	673	323.9	165.1	7	539.8	67	12	2-1/2"	790	
300	12"	150	181	483	381.0	31.8	2	431.8	26	12	7/8"	330	
		300	181	521	381.0	50.8	2	450.8	32	16	1-1/8"	380	
		600	229	559	381.0	66.5	7	489.0	35	20	1-1/4"	480	
		900	292	610	381.0	79.2	7	533.4	38	20	1-3/8"	580	
		1500	305	673	381.0	124.0	7	571.5	54	16	2	720	
		2500	305	762	381.0	184.2	7	619.1	74	12	2-3/4"	900	
350	14"	150	184	533	412.8	35.1	2	476.3	29	12	1"	340	
		300	222	584	412.8	53.8	2	514.4	32	20	1-1/8"	430	
		600	273	603	412.8	69.9	7	527.0	38	20	1-3/8"	540	
		900	356	641	412.8	85.9	7	558.8	42	20	1-1/2"	660	
		1500	356	749	412.8	133.4	7	635.0	61	16	2-1/4"	810	
400	16"	150	191	597	469.9	36.6	2	539.8	29	16	1"	350	
		300	232	648	469.9	57.2	2	571.5	35	20	1-1/4"	450	
		600	305	686	469.9	76.2	7	603.2	42	20	1-1/2"	590	
		900	384	705	469.9	88.9	7	616.0	45	20	1-5/8"	710	
		1500	384	826	469.9	146.1	7	704.8	67	16	2-1/2"	890	
450	18"	150	203	635	533.4	39.6	2	577.9	32	16	1-1/8"	380	
		300	264	711	533.4	60.5	2	628.6	35	24	1-1/4"	490	
		600	362	743	533.4	82.6	7	654.0	45	20	1-5/8"	670	
		900	451	787	533.4	101.6	7	685.8	51	20	1-7/8"	820	
		1500	468	914	533.4	162.1	7	774.7	74	16	2-3/4"	1010	
500	20"	150	219	699	584.2	42.9	2	635.0	32	20	1-1/8"	400	
		300	292	775	584.2	63.5	2	685.8	35	24	1-1/4"	520	
		600	368	813	584.2	88.9	7	723.9	45	24	1-5/8"	690	
		900	451	857	584.2	108.0	7	749.3	54	20	2"	840	
		1500	533	984	584.2	177.8	7	831.8	80	16	3"	1130	
600	24"	150	222	813	692.2	47.8	2	749.3	35	20	1-1/4"	440	
		300	318	914	692.2	69.9	2	812.8	42	24	1-1/2"	590	
		600	438	940	692.2	101.6	7	838.2	51	24	1-7/8"	800	
		900	495	1041	692.2	139.7	7	901.7	67	20	2-1/2"	980	
		1500	559	1168	692.2	203.2	7	990.6	92	16	3-1/2"	1240	

CHECK VALVES
DUAL DISC

Wafer Lug type
ASME Class 150, 300, 600, 900, 1500, 2500

Standard Specification

STANDARD DESIGN	API 6D, API 594
FACE-TO-FACE DIMENSIONS	API 6D, API 594
END FLANGE DIMENSIONS	ASME B16.5 / B16.47 Series A
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 594
TEST & INSPECTION	API 6D, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34



Design Features

- END CONNECTION : Flat Face, Raised Face, RTJ, Flanged
- SEAT : NBR, Viton, EPDM, Metal-to-Metal
- SPRING : 316 Stainless Steel, Inconel X750, Monel
- Retainerless Design (option)

Product Range

ASME B16.5 / B16.47 Series A, Class 150, 300, 600	2" ~ 60"	ASME B16.5, Class 1500	2" ~ 24"
ASME B16.5 / B16.47 Series A, Class 900	2" ~ 48"	ASME B16.5, Class 2500	2" ~ 12"

Standard Trim Configurations (API 594)

TRIM NO.	TRIM NO.1	TRIM NO.5	TRIM NO.8	TRIM NO.10
NOMINAL TRIM	13Cr	Hard-faced	13Cr and Hard-faced	Type 316
MATERIAL TYPE	11-13Cr	Co-Cr-A	11-13Cr, Co-Cr-A	13Cr-18Ni-Mo
BODY SEATING SURFACE	A217 CA15	Co-Cr-A	Co-Cr-A	A351 CF8M
DISC SEATING SURFACE	A217 CA15	Co-Cr-A	A217 CA15	A351 CF8M

Materials (Applicable ASTM Specification)

Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

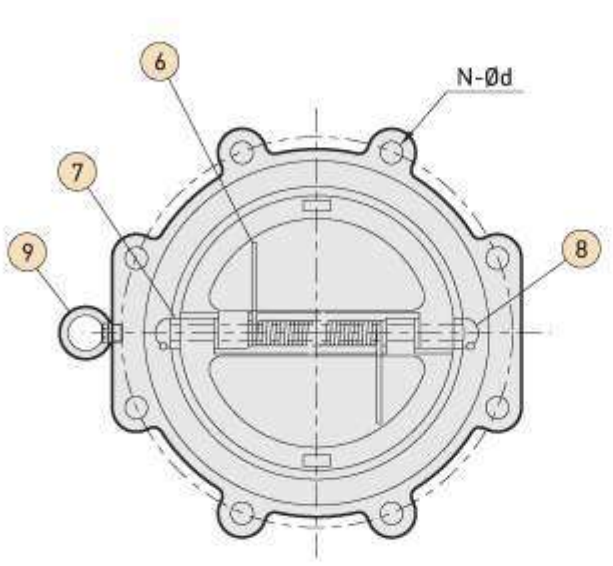
Pressure Testing (Working & Test Pressure at Ambient Temperature)

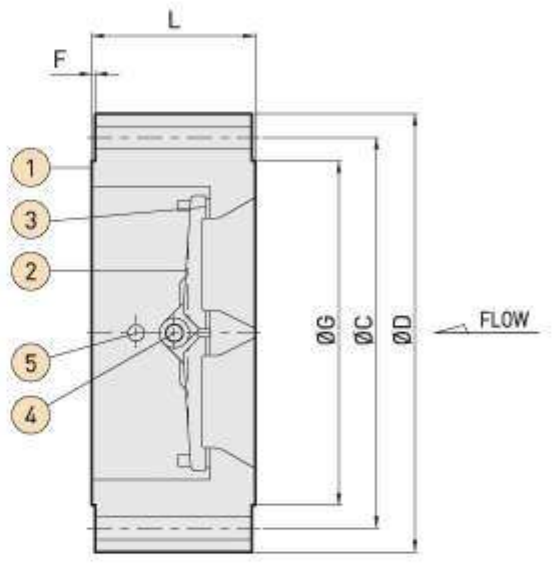
CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 150	19	275	29	413	21	303	6	100		
ASME 300	50	720	75	1080	56	792	6	100	Size (NPS)	Test Time (sec)
ASME 600	99	1440	149	2160	109	1584	6	100	≤2	60
ASME 900	149	2160	224	3240	164	2376	6	100	2½ - 6	60
ASME 1500	248	3600	372	5400	273	3960	6	100	8 - 12	120
ASME 2500	413	5988	620	8982	454	6587	6	100	≥14	120

Wafer Lug type

ASME B16.5 Class 150, 300, 600, 900, 1500, 2500

CKD-WL Series





PARTS LIST

NO.	PART NAME	STANDARD MATERIALS SPECIFICATION	
		CARBON STEEL	STAINLESS STEEL
1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	NBR	NBR
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

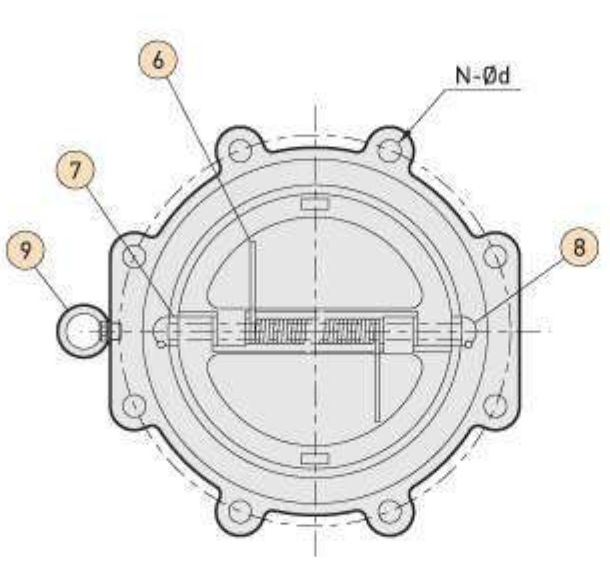
Dimensions and Weights

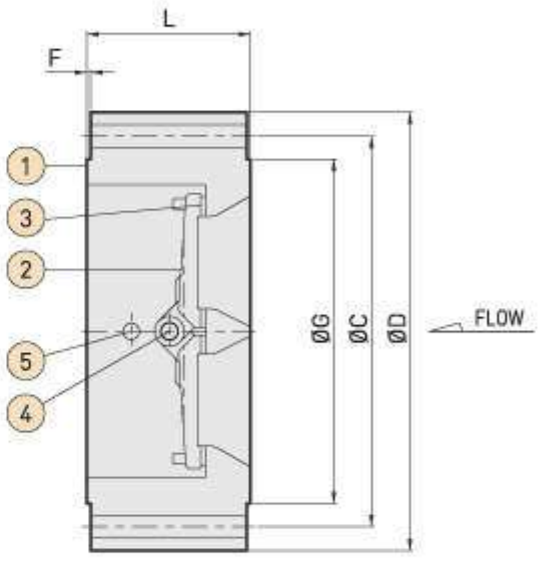
SIZE		CLASS	DIMENSIONS (mm)					Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	ϕD	ϕG	T	F						
50	2"	150	60	150	91.9	-	2	120.7	19	4	5/8"	165	
		300	60	165	91.9	-	2	127.0	19	8	5/8"	175	
		600	60	165	91.9	-	7	127.0	19	8	5/8"	195	
		900	70	215	91.9	-	7	165.1	26	8	7/8"	240	
		1500	70	215	91.9	-	7	165.1	26	8	7/8"	240	
		2500	70	235	91.9	-	7	171.4	29	8	1"	275	
65	2.5"	150	67	180	104.6	-	2	139.7	19	4	5/8"	175	
		300	67	190	104.6	-	2	149.2	19	8	5/8"	175	
		600	67	190	104.6	-	7	149.2	19	8	5/8"	205	
		900	83	245	104.6	-	7	190.5	23	8	7/8"	250	
		1500	83	245	104.6	-	7	190.5	23	8	7/8"	250	
		2500	83	265	104.6	-	7	196.8	29	8	1"	285	
80	3"	150	73	190	127.0	-	2	152.4	19	4	5/8"	185	
		300	73	210	127.0	-	2	168.3	23	8	3/4"	205	
		600	73	210	127.0	-	7	168.3	23	8	3/4"	230	
		900	83	240	127.0	-	7	190.5	26	8	7/8"	255	
		1500	83	265	127.0	-	7	203.2	32	8	1-1/8"	285	
		2500	86	305	127.0	-	7	228.6	35	8	1-1/4"	335	
100	4"	150	73	230	157.2	-	2	190.5	19	8	5/8"	185	
		300	73	255	157.2	-	2	200.0	23	8	3/4"	210	
		600	79	275	157.2	-	7	215.9	26	8	7/8"	255	
		900	102	290	157.2	-	7	235.0	32	8	1-1/8"	300	
		1500	102	310	157.2	-	7	241.3	35	8	1-1/4"	325	
		2500	105	355	157.2	-	7	273.0	42	8	1-1/2"	395	
150	6"	150	98	280	215.9	-	2	241.3	23	8	3/4"	240	
		300	98	320	215.9	-	2	269.9	23	12	3/4"	245	
		600	136	355	215.9	-	7	292.1	29	12	1"	340	
		900	159	380	215.9	-	7	317.5	32	12	1-1/8"	380	
		1500	159	395	215.9	-	7	317.5	38	12	1-3/8"	455	
		2500	159	485	215.9	-	7	368.3	54	8	2"	540	
200	8"	150	127	345	269.7	-	2	298.5	23	8	3/4"	255	
		300	127	380	269.7	-	2	330.2	26	12	7/8"	290	
		600	165	420	269.7	-	7	349.2	32	12	1-1/8"	385	
		900	206	470	269.7	-	7	393.7	38	12	1-3/8"	455	
		1500	206	485	269.7	-	7	393.7	45	12	1-5/8"	530	
		2500	206	550	269.7	-	7	438.2	54	12	2"	630	

Wafer Lug type

ASME B16.5 Class 150, 300, 600, 900, 1500, 2500

CKD-WL Series





PARTS LIST

NO.	PART NAME	STANDARD MATERIALS SPECIFICATION	
		CARBON STEEL	STAINLESS STEEL
1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	NBR	NBR
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

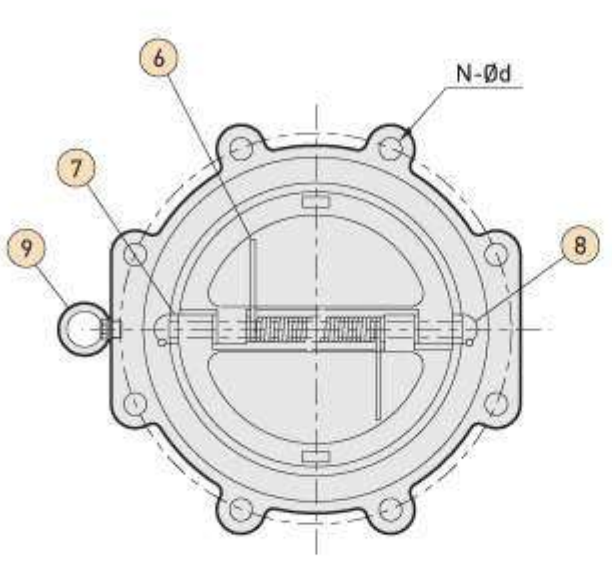
Dimensions and Weights

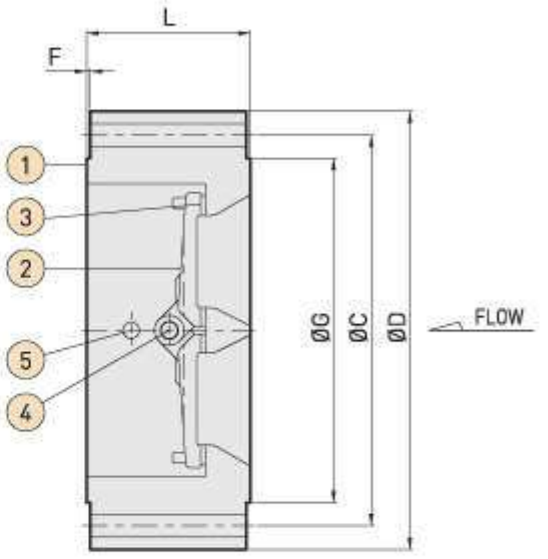
SIZE		CLASS	DIMENSIONS (mm)					Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	ϕD	ϕG	T	F						
250	10"	150	146	405	323.9	30.2	2	362.0	26	12	7/8"	290	
		300	146	445	323.9	47.8	2	387.4	29	16	1"	330	
		600	213	508	323.9	63.5	7	431.8	35	16	1-1/4"	460	
		900	241	546	323.9	69.9	7	469.9	38	16	1-3/8"	510	
		1500	248	584	323.9	108.0	7	482.6	51	12	1-7/8"	620	
		2500	254	673	323.9	165.1	7	539.8	67	12	2-1/2"	790	
300	12"	150	181	483	381.0	31.8	2	431.8	26	12	7/8"	330	
		300	181	521	381.0	50.8	2	450.8	32	16	1-1/8"	380	
		600	229	559	381.0	66.5	7	489.0	35	20	1-1/4"	480	
		900	292	610	381.0	79.2	7	533.4	38	20	1-3/8"	580	
		1500	305	673	381.0	124.0	7	571.5	54	16	2	720	
		2500	305	762	381.0	184.2	7	619.1	74	12	2-3/4"	900	
350	14"	150	184	533	412.8	35.1	2	476.3	29	12	1"	340	
		300	222	584	412.8	53.8	2	514.4	32	20	1-1/8"	430	
		600	273	603	412.8	69.9	7	527.0	38	20	1-3/8"	540	
		900	356	641	412.8	85.9	7	558.8	42	20	1-1/2"	660	
		1500	356	749	412.8	133.4	7	635.0	61	16	2-1/4"	810	
400	16"	150	191	597	469.9	36.6	2	539.8	29	16	1"	350	
		300	232	648	469.9	57.2	2	571.5	35	20	1-1/4"	450	
		600	305	686	469.9	76.2	7	603.2	42	20	1-1/2"	590	
		900	384	705	469.9	88.9	7	616.0	45	20	1-5/8"	710	
		1500	384	826	469.9	146.1	7	704.8	67	16	2-1/2"	890	
450	18"	150	203	635	533.4	39.6	2	577.9	32	16	1-1/8"	380	
		300	264	711	533.4	60.5	2	628.6	35	24	1-1/4"	490	
		600	362	743	533.4	82.6	7	654.0	45	20	1-5/8"	670	
		900	451	787	533.4	101.6	7	685.8	51	20	1-7/8"	820	
		1500	468	914	533.4	162.1	7	774.7	74	16	2-3/4"	1010	
500	20"	150	219	699	584.2	42.9	2	635.0	32	20	1-1/8"	400	
		300	292	775	584.2	63.5	2	685.8	35	24	1-1/4"	520	
		600	368	813	584.2	88.9	7	723.9	45	24	1-5/8"	690	
		900	451	857	584.2	108.0	7	749.3	54	20	2"	840	
		1500	533	984	584.2	177.8	7	831.8	80	16	3"	1130	
600	24"	150	222	813	692.2	47.8	2	749.3	35	20	1-1/4"	440	
		300	318	914	692.2	69.9	2	812.8	42	24	1-1/2"	590	
		600	438	940	692.2	101.6	7	838.2	51	24	1-7/8"	800	
		900	495	1041	692.2	139.7	7	901.7	67	20	2-1/2"	980	
		1500	559	1168	692.2	203.2	7	990.6	92	16	3-1/2"	1240	

Wafer Lug type

ASME B16.47 Series A Class 150, 300, 600

CKD-WL Series





PARTS LIST

NO.	PART NAME	STANDARD MATERIALS SPECIFICATION	
		CARBON STEEL	STAINLESS STEEL
1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	NBR	NBR
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)					Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	ϕD	ϕG	T	F						
650	26"	150	279	870	749.0	68.7	2	806.5	35	24	1-1/4"	610	
		300	356	970	749.0	84.6	2	876.3	45	28	1-5/8"	660	
		600	457	1015	749.0	132.5	7	914.4	51	28	1-7/8"	850	
700	28"	150	305	925	800.0	71.9	2	863.6	35	28	1-1/4"	640	
		300	368	1035	800.0	90.9	2	939.8	45	28	1-5/8"	690	
		600	483	1075	800.0	137.8	7	965.2	54	28	2"	895	
750	30"	150	305	985	857.0	75.1	2	914.4	35	28	1-1/4"	570	
		300	368	1090	857.0	95.7	2	997.0	48	28	1-3/4"	690	
		600	505	1130	857.0	146.7	7	1022.4	54	28	2"	925	
800	32"	150	356	1060	914.0	81.4	2	977.9	42	28	1-1/2"	650	
		300	406	1150	914.0	100.5	2	1054.1	51	28	1-7/8"	750	
		600	533	1195	914.0	154.7	7	1079.5	61	28	2-1/4"	970	
850	34"	150	356	1110	965.0	83.0	2	1028.7	42	32	1-1/2"	680	
		300	455	1205	965.0	105.2	2	1104.9	51	28	1-7/8"	790	
		600	580	1245	965.0	161.0	7	1130.3	61	28	2-1/4"	990	
900	36"	150	368	1170	1022.0	90.9	2	1085.9	42	32	1-1/2"	680	
		300	483	1270	1022.0	111.6	2	1168.4	54	32	2"	850	
		600	635	1315	1022.0	169.0	7	1193.8	67	28	2-1/2"	1100	
1000	40"	150	419	1290	1124.0	90.9	2	1200.2	42	36	1-1/2"	730	
		300	546	1240	1086.0	114.8	2	1155.7	45	32	1-5/8"	920	
		600	660	1320	1111.0	169.0	7	1212.9	61	32	2-1/4"	1150	
1050	42"	150	432	1345	1194.0	97.3	2	1257.3	42	36	1-1/2"	760	
		300	568	1290	1137.0	119.5	2	1206.5	45	32	1-5/8"	940	
		600	701	1405	1168.0	178.5	7	1282.7	67	28	2-1/2"		
1100	44"	150	432	1405	1245.0	102.1	2	1314.5	42	40	1-1/2"	870	
		300	568	1355	1194.0	124.3	2	1263.7	48	32	1-3/4"		
		600	701	1455	1226.0	184.8	7	1333.5	67	32	2-1/2"		
1200	48"	150	524	1510	1359.0	108.4	2	1422.4	42	44	1-1/2"	890	
		300	629	1465	1302.0	133.8	2	1371.6	51	32	1-7/8"	1100	
		600	787	1595	1334.0	202.3	7	1460.5	74	32	2-3/4"		
1350	54"	150	591	1685	1511.0	121.1	2	1593.9	48	44	1-3/4"		
		300	718	1660	1467.0	152.9	2	1549.4	61	28	2-1/4"		
		600	889	1780	1492.0	224.5	7	1632.0	80	32	3"		
1500	60"	150	660	1855	1676.0	132.2	2	1759.0	48	52	1-3/4"	1070	
		300	838	1810	1626.0	164.0	2	1701.8	61	32	2-1/4"	1340	
		600	991	1995	1657.0	249.9	7	1822.5	92	28	3-1/2"		

CHECK VALVES DUAL DISC

Butt Welding type

ASME Class 150, 300, 600, 900, 1500, 2500

Standard Specification

STANDARD DESIGN	API 6D, API 594
FACE-TO-FACE DIMENSIONS	Manufacture's Standard
END FLANGE DIMENSIONS	ASME B16.5 / B16.25
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 594
TEST & INSPECTION	API 6D, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- END CONNECTION : SCH. 40
- SEAT : NBR, Viton, EPDM, Metal-to-Metal
- SPRING : 316 Stainless Steel, Inconel X750, Monel
- Retainerless Design

Product Range

ASME B16.5, Class 150, 300, 600	4" ~ 24"	ASME B16.5, Class 1500	4" ~ 24"
ASME B16.5, Class 900	4" ~ 24"	ASME B16.5, Class 2500	4" ~ 12"

Standard Trim Configurations (API 594)

TRIM NO.	TRIM NO.1	TRIM NO.5	TRIM NO.8	TRIM NO.10
NOMINAL TRIM	13Cr	Hard-faced	13Cr and Hard-faced	Type 316
MATERIAL TYPE	11-13Cr	Co-Cr-A	11-13Cr, Co-Cr-A	13Cr-18Ni-Mo
BODY SEATING SURFACE	A217 CA15	Co-Cr-A	Co-Cr-A	A351 CF8M
DISC SEATING SURFACE	A217 CA15	Co-Cr-A	A217 CA15	A351 CF8M

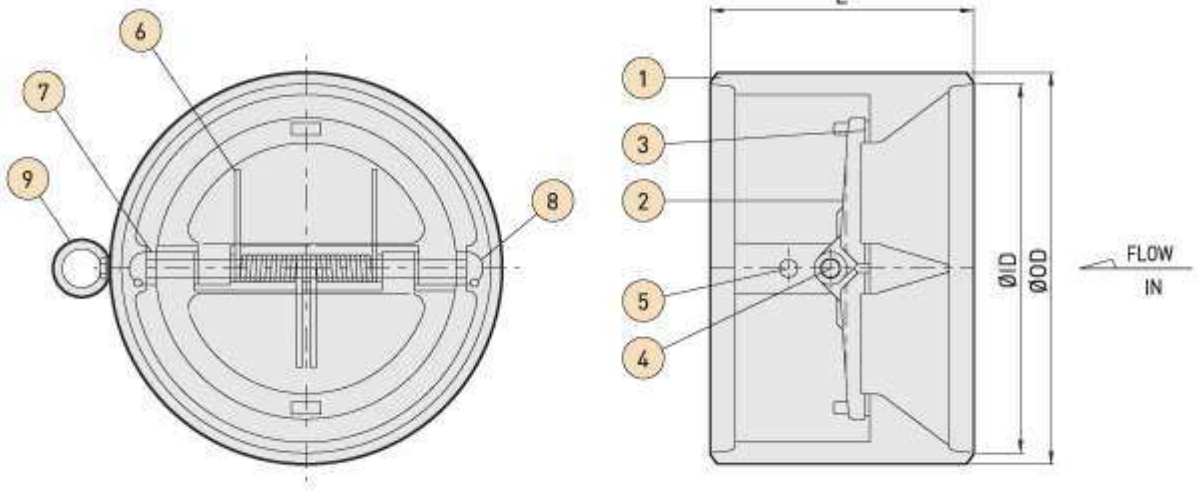
Materials (Applicable ASTM Specification)

Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

Pressure Testing (Working & Test Pressure at Ambient Temperature)

CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 150	19	275	29	413	21	303	6	100		
ASME 300	50	720	75	1080	56	792	6	100	Size (NPS)	Test Time (sec)
ASME 600	99	1440	149	2160	109	1584	6	100	≤2	60
ASME 900	149	2160	224	3240	164	2376	6	100	2½ - 6	60
ASME 1500	248	3600	372	5400	273	3960	6	100	8 - 12	120
ASME 2500	413	5988	620	8982	454	6587	6	100	≥14	120

CKD-BW Series



PARTS LIST

NO.	PART NAME	STANDARD MATERIALS SPECIFICATION	
		CARBON STEEL	STAINLESS STEEL
1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	Co-Cr-A	Co-Cr-A
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

Dimensions and Weights

SIZE		CLASS	SCHED.	Ring Number	DIMENSIONS (mm)			Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS				L	ϕD	ϕG						
50	2"	300	40	-	130	60.3	52.5	-	-	-	-	-	
		600	80	-	140	60.3	49.2	-	-	-	-	-	
		1500	160	-	150	60.3	42.9	-	-	-	-	-	
80	3"	300	40	-	140	88.9	77.9	-	-	-	-	-	
		600	80	-	150	88.9	73.6	-	-	-	-	-	
		1500	160	-	160	88.9	66.6	-	-	-	-	-	
100	4"	300	40	-	150	114.3	102.2	-	-	-	-	-	
		600	80	-	160	114.3	97.1	-	-	-	-	-	
		1500	160	-	170	114.3	87.3	-	-	-	-	-	
150	6"	300	40	-	160	168.2	154.0	-	-	-	-	-	
		600	80	-	180	168.2	146.3	-	-	-	-	-	
		1500	160	-	200	168.2	131.8	-	-	-	-	-	
200	8"	300	40	-	180	202.7	202.7	-	-	-	-	-	
		600	80	-	200	193.6	193.6	-	-	-	-	-	
		1500	160	-	220	173.0	173.0	-	-	-	-	-	
250	10"	300	40	-	200	273.1	254.5	-	-	-	-	-	
		600	80	-	240	273.1	242.9	-	-	-	-	-	
		1500	160	-	280	273.1	215.9	-	-	-	-	-	
300	12"	300	40	-	240	323.8	303.2	-	-	-	-	-	
		600	80	-	290	323.8	288.9	-	-	-	-	-	
		1500	160	-	340	323.8	257.2	-	-	-	-	-	
350	14"	300	40	-	290	355.6	333.3	-	-	-	-	-	
		600	80	-	350	355.6	317.5	-	-	-	-	-	
		1500	160	-	410	355.6	284.1	-	-	-	-	-	
400	16"	300	40	-	350	406.4	381.0	-	-	-	-	-	
		600	80	-	420	406.4	363.5	-	-	-	-	-	
		1500	160	-	480	406.4	325.4	-	-	-	-	-	
450	18"	300	40	-	420	457.2	428.6	-	-	-	-	-	
		600	80	-	480	457.2	409.6	-	-	-	-	-	
		1500	160	-	540	457.2	366.7	-	-	-	-	-	
500	20"	300	40	-	480	508.0	477.8	-	-	-	-	-	
		600	80	-	540	508.0	455.6	-	-	-	-	-	
		1500	160	-	610	508.0	408.0	-	-	-	-	-	
600	24"	300	40	-	540	609.6	574.8	-	-	-	-	-	
		600	80	-	610	609.6	547.7	-	-	-	-	-	
		1500	160	-	660	609.6	490.5	-	-	-	-	-	

CHECK VALVES
DUAL DISC

Hub End type
ASME Class 150, 300, 600, 900, 1500, 2500

Standard Specification

STANDARD DESIGN	API 6D, API 594
FACE-TO-FACE DIMENSIONS	Manufacture's Standard
END FLANGE DIMENSIONS	
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 594
TEST & INSPECTION	API 6D, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- END CONNECTION :
- SEAT : NBR, Viton, EPDM, Metal-to-Metal
- SPRING : 316 Stainless Steel, Inconel X750, Monel
- Retainerless Design

Product Range

ASME B16.5, Class 150, 300, 600	4" ~ 24"	ASME B16.5, Class 1500	4" ~ 24"
ASME B16.5, Class 900	4" ~ 24"	ASME B16.5, Class 2500	4" ~ 12"

Standard Trim Configurations (API 594)

TRIM NO.	TRIM NO.1	TRIM NO.5	TRIM NO.8	TRIM NO.10
NOMINAL TRIM	13Cr	Hard-faced	13Cr and Hard-faced	Type 316
MATERIAL TYPE	11-13Cr	Co-Cr-A	11-13Cr, Co-Cr-A	13Cr-18Ni-Mo
BODY SEATING SURFACE	A217 CA15	Co-Cr-A	Co-Cr-A	A351 CF8M
DISC SEATING SURFACE	A217 CA15	Co-Cr-A	A217 CA15	A351 CF8M

Materials (Applicable ASTM Specification)

Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

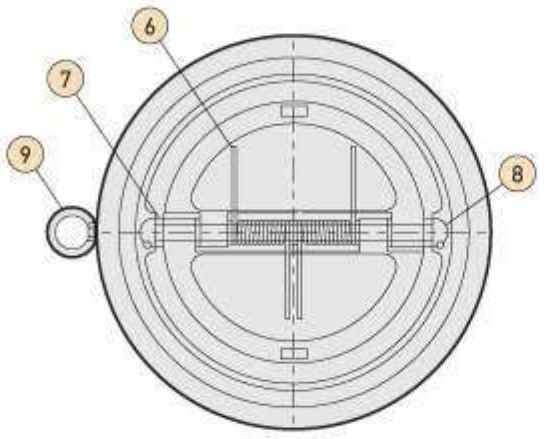
Pressure Testing (Working & Test Pressure at Ambient Temperature)

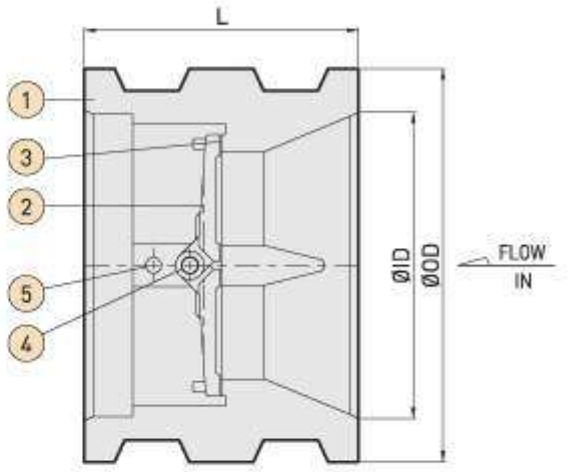
CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 150	19	275	29	413	21	303	6	100		
ASME 300	50	720	75	1080	56	792	6	100	Size (NPS)	Test Time (sec)
ASME 600	99	1440	149	2160	109	1584	6	100	≤2	60
ASME 900	149	2160	224	3240	164	2376	6	100	2½ - 6	60
ASME 1500	248	3600	372	5400	273	3960	6	100	8 - 12	120
ASME 2500	413	5988	620	8982	454	6587	6	100	≥14	120

Hub End type

ASME Class 150, 300, 600, 900, 1500

CKD-HB Series





PARTS LIST

NO.	PART NAME	STANDARD MATERIALS SPECIFICATION	
		CARBON STEEL	STAINLESS STEEL
1	BODY	A216 WCB	A351 CF8
2	DISC	A351 CF8	A351 CF8
3	SEAT	Co-Cr-A	Co-Cr-A
4	HINGE PIN	A276 304	A276 304
5	STOP PIN	A276 304	A276 304
6	SPRING	Inconel X-750	Inconel X-750
7	GUIDE	A276 304	A276 304
8	WASHER	A240 304	A240 304
9	EYE BOLT	A105	A182 F304

Dimensions and Weights

SIZE		CLASS	SCHED.	Ring Number	DIMENSIONS (mm)			Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS				L	ϕD	ϕG						
50	2"	300	40	20	130	60.3	52.5	-	-	-	-	-	
		600	80	20	140	60.3	49.2	-	-	-	-	-	
		1500	160	20	150	60.3	42.9	-	-	-	-	-	
80	3"	300	40	27	140	88.9	77.9	-	-	-	-	-	
		600	80	27	150	88.9	73.6	-	-	-	-	-	
		1500	160	25	160	88.9	66.6	-	-	-	-	-	
100	4"	300	40	40	150	114.3	102.2	-	-	-	-	-	
		600	80	40	160	114.3	97.1	-	-	-	-	-	
		1500	160	34	170	114.3	87.3	-	-	-	-	-	
150	6"	300	40	62	160	168.2	154.0	-	-	-	-	-	
		600	80	62	180	168.2	146.3	-	-	-	-	-	
		1500	160	52	200	168.2	131.8	-	-	-	-	-	
200	8"	300	40	82	180	202.7	202.7	-	-	-	-	-	
		600	80	76	200	193.6	193.6	-	-	-	-	-	
		1500	160	72	220	173.0	173.0	-	-	-	-	-	
250	10"	300	40	102	200	273.1	254.5	-	-	-	-	-	
		600	80	97	240	273.1	242.9	-	-	-	-	-	
		1500	160	84	280	273.1	215.9	-	-	-	-	-	
300	12"	300	40	120	240	323.8	303.2	-	-	-	-	-	
		600	80	112	290	323.8	288.9	-	-	-	-	-	
		1500	160	102	340	323.8	257.2	-	-	-	-	-	
350	14"	300	40	130	290	355.6	333.3	-	-	-	-	-	
		600	80	120	350	355.6	317.5	-	-	-	-	-	
		1500	160	106	410	355.6	284.1	-	-	-	-	-	
400	16"	300	40	140	350	406.4	381.0	-	-	-	-	-	
		600	80	137	420	406.4	363.5	-	-	-	-	-	
		1500	160	120	480	406.4	325.4	-	-	-	-	-	
450	18"	300	40	170	420	457.2	428.6	-	-	-	-	-	
		600	80	162	480	457.2	409.6	-	-	-	-	-	
		1500	160	152	540	457.2	366.7	-	-	-	-	-	
500	20"	300	40	180	480	508.0	477.8	-	-	-	-	-	
		600	80	162	540	508.0	455.6	-	-	-	-	-	
		1500	160	-	610	508.0	408.0	-	-	-	-	-	
600	24"	300	40	220	540	609.6	574.8	-	-	-	-	-	
		600	80	180	610	609.6	547.7	-	-	-	-	-	
		1500	160	-	660	609.6	490.5	-	-	-	-	-	

SEJIN VALVE

Our company endeavor ceaselessly to develop new products and for quality improvement.

SV SEJIN VALVE IND.CO.,LTD.

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www.sjvalve.co.kr

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VALVES

BALL VALVES
GATE VALVES
GLOBE VALVES
SWING CHECK VALVES

SEJIN VALVE IND. CO., LTD.

SEJIN VALVE

We are indeed pleased to take this opportunity to intoduce SEJIN VALVE INDUSTRIAL CO., LTD. and its buisiness activities to you.
We are proud of our clients recognition of its quality and high performance, as reflected in our valves being widely used in service marin, new shipbuilding, water and in power plant and the others plants as well.

HISTORY

1999. Jul. : Established
1999. Nov. : Acquired ISO 9001 Certificate
2000. May : Registered as one of Supplying Vendor for Korea Electric Power Corporation (KEPCO), R-Class (~120")
2000. Sep. : Developed Valve for Ultra-Low Temperature for LNG (-196)
2002. Aug. : Revised ISO 9001 Certificate in 2000 Year Edition (KSA)
2003. May. : Registered as one of Supplying Vendor for Korea Hydro & Nuclear Power Corporation, NUCLEAR R-Class (~120")
2003. Jul. : Obtained Type Approval Certificate from LR
2003. Nov. : Obtained the Fire Test Certificate (VELOSI INTERNATIONAL)
2004. Aug. : Developed Valve for TRIPLE ECCENTRIC BUTTERFLY VALVE
2005. Jan. : Obtained the CE-PED Certificate from BV
2011. Aug. : Obtained API Monogram Certificate
2015. Mar. : Moving New Factory
2016. Jun. : Obtained Fugitive Emission Test Certificate from SGS
2016. Nov. : Obtained Design Approval Certificate from KR
2017. Feb. : Obtained Certificate of Design Assessment from ABS
2017. Feb. : Obtained Type Approval Certificate from DNV·GL
2017. Mar. : Obtained Fire Test Certificate from SGS
2017. April. : Obtained Type Approval Certificate from LR
2017. June. : Obtained Type Acceptance test according to MESC SPE 77/300 from SGS
2017. Aug. : Obtained Type Approval Certificate from BV

CONTENTS

Technological Know-how of SEJIN VALVE

- KS Q 9001 : 2009 / ISO 9001 : 2008
- KS (Korean Industrial Standards) - KS B 2333 / 2002
- KS (Korean Industrial Standards) - KS B 2813 / 2003
- Practical Use Registration - Butterfly Valve / 2003
- KS ISO 14001 : 2009 / ISO 14001 : 2004
- Registered as Supplying Vendors for Korea -Hydro & Nuclear Power corporation (Nuclear T/R-class)
- Registered as Supplying Vendors for Korea -Electric Power Corporation (Kepco T/R-class)
- Acquired Certificate of CE (BUREAU VERITAS)

BALL VALVES

Trunnion Ball, Three-Piece, Flanged, Butt welding

Standard Specification

- Standard Design : API 6D, API 608
- Face-to-Face and End-to-End Dimensions : API 6D, ASME B16.10
- End Flange Dimensions : ASME B16.5
- Pressure and Temperature Ratings, Body Thickness : ASME B16.34
- Fire Safe Design : API 607
- Test & Inspection : API 6D, API 598
- Material : ASTM Material Specifications as per ASME B16.34

Product Range

Class	DN	50	80	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	1000	1050	1100	1200
	NPS	2	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	40	42	44	48
ASME 150																								
ASME 300																								
ASME 600																								
ASME 900																								
ASME 1500																								
ASME 2500																								
API 3000																								
API 5000																								
API 10000																								

Materials (Applicable ASTM Specification)

- Carbon Steel : A105, A216 WCB, A216 WCC
- Low Temperature Carbon Steel : A350 LF2, A352 LCB, A352 LCC
- Austenitic Stainless Steel : A182 F304, A182 F316, A351 CF8, A351 CF8M
- Duplex Stainless Steel : A182 F51(UNS S31803), A182 F53(UNS S32750), A182 F55(UNS S32760)
- Nickel Alloys : Inconel 625(UNS N06625), Monel 400(UNS N04400)

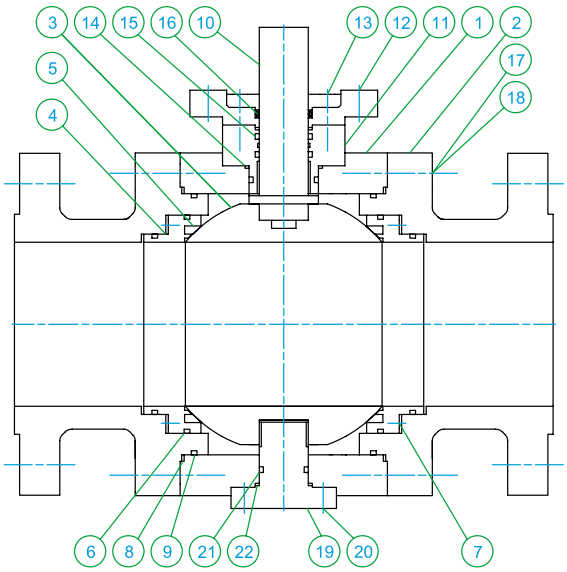
Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 150	19	275	29	413	21	303	6	100		
ASME 300	50	720	75	1080	56	792	6	100		
ASME 600	99	1440	149	2160	109	1584	6	100	Size(NPS)	Test Time (sec)
ASME 900	149	2160	224	3240	164	2376	6	100	≤ 2	15
ASME 1500	248	3600	372	5400	273	3960	6	100	$2\frac{1}{2}$ – 6	60
ASME 2500	413	5988	620	8982	454	6587	6	100	8 – 12	120
API 3000	207	3000	311	4500	228	3300	6	100	≤ 14	300
API 5000	345	5000	518	7500	380	5500	6	100		
API 10000	690	10000	1035	15000	759	11000	6	100		

BALL VALVES

Trunnion Ball, Three-Piece, Flanged, Butt welding

NYV-B-TB Series



Design Features

STANDARD FEATURES

Trunnion Mounted Ball
Anti-Blow Out Stem Design
Double Block
Double Body Seals
Double Piston Effect Seats
Fire Safe Design

FEATURES UPON REQUEST

Metal-to-Metal seat sealing
Anti-static Device
Emergency Sealant Injection on Stem
Energized lip seals for sealing
Special Flanges or end connections
Actuators(Pneumatic,Hydraulic,Electric)
NACE MR0175 / ISO 15156

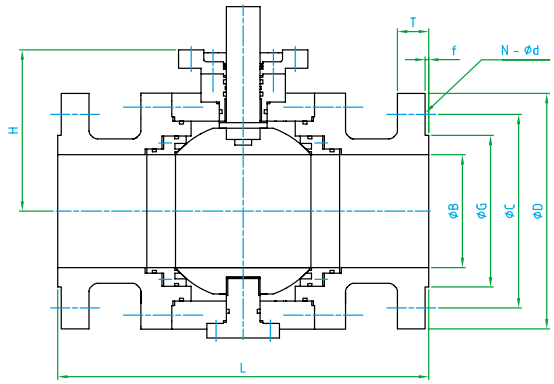
Parts List

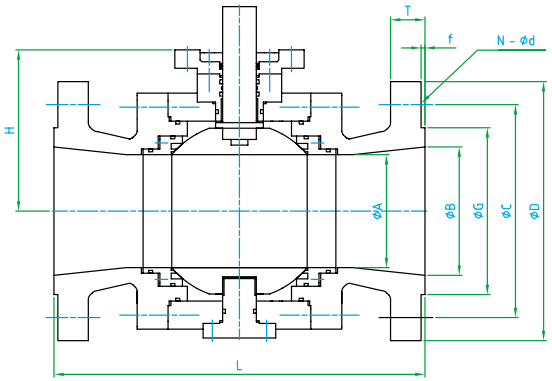
No.	Part Name	Standard Materials Specification		
		Carbon Steel	Austenitic Stainless Steel	Duplex Stainless Steel
1	BODY	A216 WCB	A351 CF8	A182 F51(UNS S31803)
2	COVER	A216 WCB	A351 CF8	A182 F51(UNS S31803)
3	BALL	A105 + ENP	A351 CF8 + ENP	A182 F51 + ENP
4	SEAT	AISI 1045 + ENP	A351 CF8 + ENP	A182 F51 + ENP
5	SEAT INSERT	PTFE	PTFE	PTFE
6	SEAT SEAL	VITON	VITON	VITON
7	SPRING	INCONEL X750	INCONEL X750	INCONEL X750
8	BODY GASKET	A240 316 + GRAPHITE	A240 316 + GRAPHITE	A240 316 + GRAPHITE
9	BODY O-RING	VITON	VITON	VITON
10	STEM	AISI 1045 + ENP	A276 304 + ENP	A182 F51 + ENP
11	STEM COVER	A216 WCB	A351 CF8	A182 F51(UNS S31803)
12	GEAR FLANGE	AISI 1045	A240 304	A182 F51(UNS S31803)
13	GLAND	AISI 1045	A240 304	A182 F51(UNS S31803)
14	GASKET	A240 316 + GRAPHITE	A240 316 + GRAPHITE	A240 316 + GRAPHITE
15	O-RING	VITON	VITON	VITON
16	PACKING	GRAPHITE	GRAPHITE	GRAPHITE
17	STUD BOLT	A193 B7	A193 B8	A193 B8M
18	HEX NUT	A194 2H	A194 8	A194 8M
19	TRUNNION	A216 WCB	A276 304	A182 F316
20	BOLT	A193 B7	A193 B8	A193 B8M
21	O-RING	VITON	VITON	VITON
22	GASKET	A240 316 + GRAPHITE	A240 316 + GRAPHITE	A240 316 + GRAPHITE

BALL VALVES

Trunnion Ball, Three-Piece, Flanged, Full Bore and Reduced Bore, Class 150

NYV-B-TB Series





Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi	≤ 2 : 15 sec	8″–12″: 120 sec
ASME 150	19	275	29	413	21	303	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 150 Full Bore

Dimensions (mm)	DN	50	80	100	150	200	250	300	350	400	450	500	600
	NPS	2	3	4	6	8	10	12	14	16	18	20	24
Bore	øB	49	74	100	150	201	252	303	334	385	436	487	589
Face to Face	L	178	203	229	394	457	533	610	686	762	864	914	1067
Height	H	110	160	200	250	285	325	340	375	410	440	495	590
Connection	øD	152	191	229	279	343	406	483	533	597	635	699	813
	øC	120.7	152.4	190.5	241.3	298.5	362	431.8	476.3	539.8	577.9	635	749.3
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	19.1	23.9	23.9	25.4	28.4	30.2	31.8	35.1	36.6	39.6	42.9	47.8
	f	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	N–ød	4–19.1	4–19.1	8–19.1	8–22.4	8–22.4	12–25.4	12–25.4	12–28.4	16–28.4	16–31.8	20–31.8	20–35.1
Weights(kg)		29	55	93	165	256	391	563	764	1025	1219	1797	2367

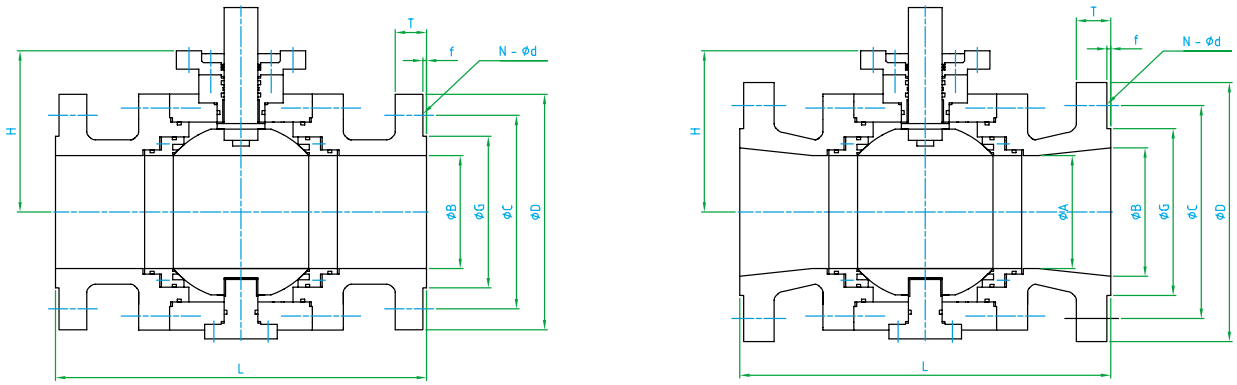
Dimensions and Weights - Class 150 Reduced Bore

Dimensions (mm)	DN	50x40	80x50	100x80	150x100	200x150	250x200	300x250	350x300	400x350	450x400	500x450	600x500
	NPS	2 x 1 ½	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18	24 x 20
Bore	øA	38	49	74	100	150	201	252	303	334	385	436	487
Face to Face	øB	49	74	100	150	201	252	303	334	385	436	487	589
Height	L	178	203	229	394	457	533	610	686	762	864	914	1067
Connection	H	95	110	160	200	250	285	325	340	375	410	440	495
	øD	152	191	229	279	343	406	483	533	597	635	699	813
	øC	120.7	152.4	190.5	241.3	298.5	362	431.8	476.3	539.8	577.9	635	749.3
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	19.1	23.9	23.9	25.4	28.4	30.2	31.8	35.1	36.6	39.6	42.9	47.8
	f	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	N–ød	4–19.1	4–19.1	8–19.1	8–22.4	8–22.4	12–25.4	12–25.4	12–28.4	16–28.4	16–31.8	20–31.8	20–35.1
Weights(kg)		26	32	63	105	189	295	466	614	825	1067	1196	1978

BALL VALVES

Trunnion Ball, Three-Piece, Flanged, Full Bore and Reduced Bore, Class 300

NYV-B-TB Series



Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi	≤ 2 : 15 sec	8″–12″: 120 sec
ASME 300	50	720	75	1080	56	792	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 300 Full Bore

Dimensions (mm)	DN	50	80	100	150	200	250	300	350	400	450	500	600
	NPS	2	3	4	6	8	10	12	14	16	18	20	24
Bore	øB	49	74	100	150	201	252	303	334	385	436	487	589
Face to Face	L	216	283	305	403	502	568	648	762	838	914	991	1143
Height	H	110	160	200	250	285	325	340	375	410	440	495	590
Connection	øD	165	210	254	318	381	445	521	584	648	711	775	914
	øC	127	168.1	200.2	269.7	330.2	387.4	450.9	514.4	571.5	628.7	685.8	812.8
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	22.4	28.4	31.8	36.6	41.1	47.8	50.8	53.8	57.2	60.5	63.5	69.9
	f	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	N–ød	8–19.1	8–22.4	8–22.4	12–22.4	12–25.4	16–28.4	16–31.8	20–31.8	20–35.1	24–35.1	24–35.1	24–41.1
Weights(kg)		29	58	95	185	280	510	737	1032	1420	1598	2199	3466

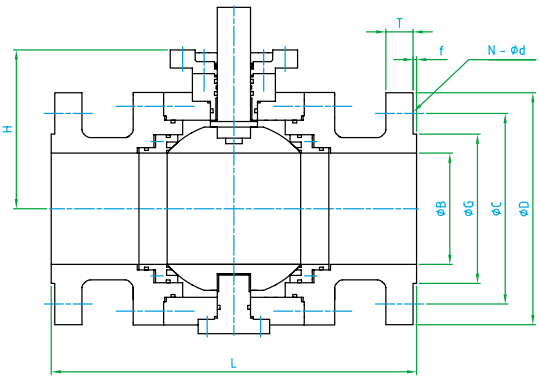
Dimensions and Weights - Class 300 Reduced Bore

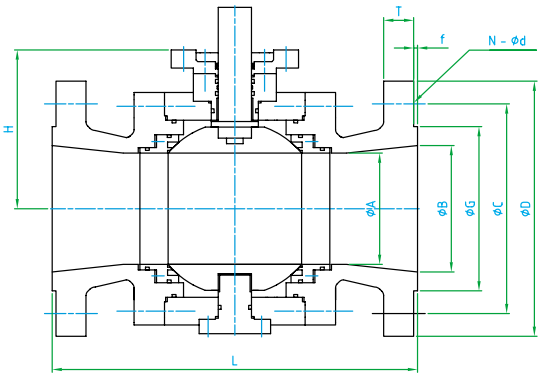
Dimensions (mm)	DN	50x40	80x50	100x80	150x100	200x150	250x200	300x250	350x300	400x350	450x400	500x450	600x500
	NPS	2 x 1 ½	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18	24 x 20
Bore	øA	38	49	74	100	150	201	252	303	334	385	436	487
Face to Face	øB	49	74	100	150	201	252	303	334	385	436	487	589
Height	L	216	283	305	403	502	568	648	762	838	914	991	1143
Connection	H	95	110	160	200	250	285	325	340	375	410	440	495
	øD	165	210	254	318	381	445	521	584	648	711	775	914
	øC	127	168.1	200.2	269.7	330.2	387.4	450.9	514.4	571.5	628.7	685.8	812.8
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	22.4	28.4	31.8	36.6	41.1	47.8	50.8	53.8	57.2	60.5	63.5	69.9
	f	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	N–ød	8–19.1	8–22.4	8–22.4	12–22.4	12–25.4	16–28.4	16–31.8	20–31.8	20–35.1	24–35.1	24–35.1	24–41.1
Weights(kg)		26	35	65	118	223	298	599	820	1128	1597	1796	2670

BALL VALVES

Trunnion Ball, Three-Piece, Flanged, Full Bore and Reduced Bore, Class 600

NYV-B-TB Series





Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi	≤ 2″ : 15 sec	8″–12″: 120 sec
ASME 600	99	1440	149	2160	109	1584	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 600 Full Bore

Dimensions (mm)	DN	50	80	100	150	200	250	300	350	400	450	500	600
	NPS	2	3	4	6	8	10	12	14	16	18	20	24
Bore	øB	49	74	100	150	201	252	303	334	385	436	487	589
Face to Face	L	292	356	432	559	660	787	838	889	991	1092	1194	1397
Height	H	105	169	214	255	289	333	381	397	436	469	505	598
Connection	øD	165	210	273	356	419	508	559	603	686	743	813	940
	øC	127	168.1	215.9	292.1	349.3	431.8	489	527.1	603.3	654.1	723.9	838.2
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	25.4	31.8	38.1	47.8	55.6	63.5	66.5	69.9	76.2	82.6	88.9	101.6
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–19.1	8–22.4	8–25.4	12–28.4	12–31.8	16–35.1	20–35.1	20–38.1	20–41.1	20–44.5	24–44.5	24–50.8
Weights(kg)		33	65	118	257	490	762	1070	1090	1530	2095	2640	4740

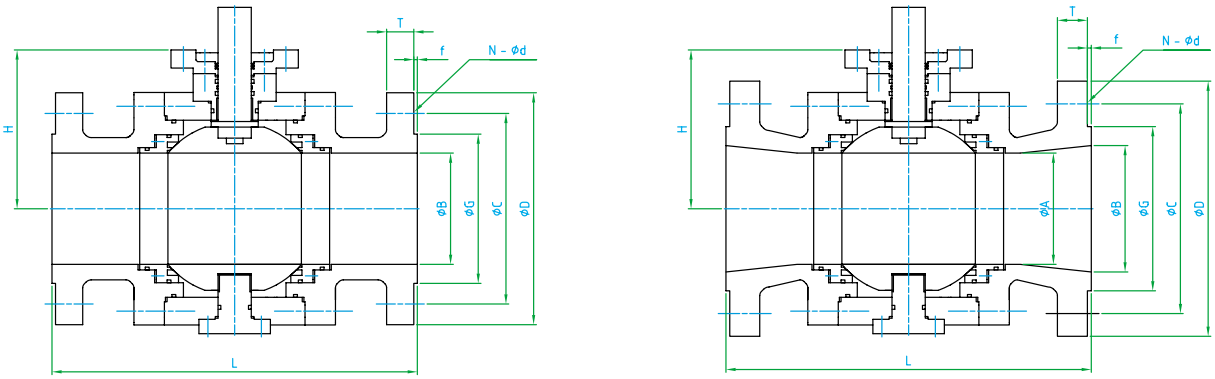
Dimensions and Weights - Class 600 Reduced Bore

Dimensions (mm)	DN	50x40	80x50	100x80	150x100	200x150	250x200	300x250	350x300	400x350	450x400	500x450	600x500
	NPS	2 x 1 ½	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18	24 x 20
Bore	øA	38	49	74	100	150	201	252	303	334	385	436	487
Face to Face	øB	49	74	100	150	201	252	303	334	385	436	487	589
Height	L	292	356	432	559	660	787	838	889	991	1092	1194	1397
Connection	H	100	105	169	214	255	289	333	381	397	436	469	505
	øD	165	210	273	356	419	508	559	603	686	743	813	940
	øC	127	168.1	215.9	292.1	349.3	431.8	489	527.1	603.3	654.1	723.9	838.2
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	25.4	31.8	38.1	47.8	55.6	63.5	66.5	69.9	76.2	82.6	88.9	101.6
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–19.1	8–22.4	8–25.4	12–28.4	12–31.8	16–35.1	20–35.1	20–38.1	20–41.1	20–44.5	24–44.5	24–50.8
Weights(kg)		33	43	85	155	298	560	820	1150	1088	1690	2380	3255

BALL VALVES

Trunnion Ball, Three-Piece, Flanged, Full Bore and Reduced Bore, Class 900

NYV-B-TB Series



Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi	≤ 2″ : 15 sec	8″–12″: 120 sec
ASME 900	149	2160	224	3240	164	2376	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 900 Full Bore

Dimensions (mm)	DN	50	80	100	150	200	250	300	350	400	450	500	600
	NPS	2	3	4	6	8	10	12	14	16	18	20	24
Bore	øB	49	74	100	150	201	252	303	322	373	423	471	570
Face to Face	L	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
Height	H	110	168	215	264	305	348	388	405	440	489	535	620
Connection	øD	216	241	292	381	470	546	610	641	705	787	857	1041
	øC	165.1	190.5	235	317.5	393.7	469.9	533.4	558.8	616	685.8	749.3	901.7
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	38.1	38.1	44.5	55.6	63.5	69.9	79.2	85.9	88.9	101.6	108	139.7
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–25.4	8–25.4	8–31.8	12–31.8	12–38.1	16–38.1	20–38.1	20–41.1	20–44.5	20–50.8	20–53.8	20–66.5
Weights(kg)		52	59	150	370	595	1015	1520	1465	2163	2830	4215	6820

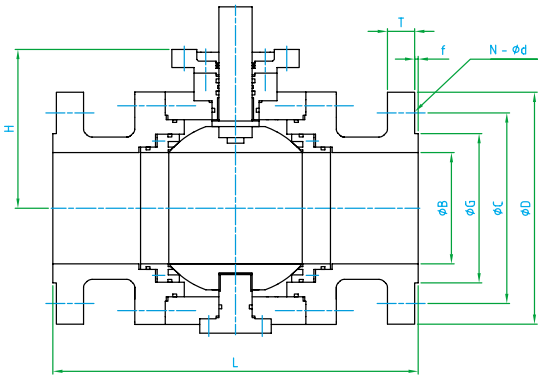
Dimensions and Weights - Class 900 Reduced Bore

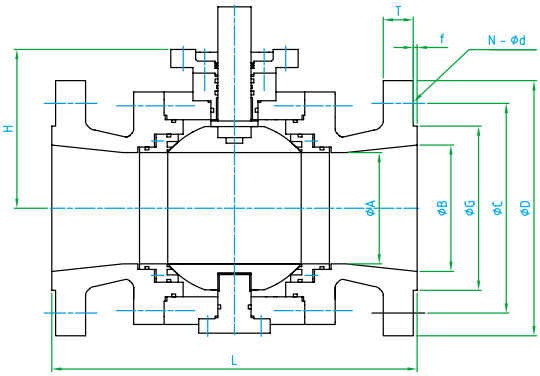
Dimensions (mm)	DN	50x40	80x50	100x80	150x100	200x150	250x200	300x250	350x300	400x350	450x400	500x450	600x500
	NPS	2 x 1 ½	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18	24 x 20
Bore	øA	38	49	74	100	150	201	252	303	322	373	423	471
Face to Face	øB	49	74	100	150	201	252	303	322	373	423	471	570
Height	L	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
Connection	H	110	110	168	215	264	305	348	388	405	440	489	535
	øD	216	241	292	381	470	546	610	641	705	787	857	1041
	øC	165.1	190.5	235	317.5	393.7	469.9	533.4	558.8	616	685.8	749.3	901.7
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	38.1	38.1	44.5	55.6	63.5	69.9	79.2	85.9	88.9	101.6	108	139.7
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–25.4	8–25.4	8–31.8	12–31.8	12–38.1	16–38.1	20–38.1	20–41.1	20–44.5	20–50.8	20–53.8	20–66.5
Weights(kg)		45	55	98	210	450	702	1160	1640	1715	2450	3260	5420

BALL VALVES

Trunnion Ball, Three-Piece, Flanged, Full Bore and Reduced Bore, Class 1500

NYV-B-TB Series





Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi	≤ 2″ : 15 sec	8″–12″: 120 sec
ASME 1500	248	3600	372	5400	273	3960	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 1500 Full Bore

Dimensions (mm)	DN	50	80	100	150	200	250	300	350	400	450	500	600
	NPS	2	3	4	6	8	10	12	14	16	18	20	24
Bore	øB	49	74	100	144	192	239	287	315	360	405	455	530
Face to Face	L	368	470	546	705	832	991	1130	1257	1384	1477	1664	1782
Height	H	110	168	215	264	305	368	420	445	480	570	625	705
Connection	øD	216	267	311	394	483	584	673	749	826	914	984	1168
	øC	165.1	203.2	241.3	317.5	393.7	482.6	571.5	635	704.9	774.7	831.9	990.6
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	38.1	47.8	53.8	82.6	91.9	108	124	133.4	146.1	162.1	177.8	203.2
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–25.4	8–31.8	8–35.1	12–38.1	12–44.5	12–50.8	16–53.8	16–60.5	16–66.5	16–73.2	16–79.2	16–91.9
Weights(kg)		55	105	203	490	832	1512	2260	2855	4082	6205	9090	14295

Dimensions and Weights - Class 1500 Reduced Bore

Dimensions (mm)	DN	50x40	80x50	100x80	150x100	200x150	250x200	300x250	350x300	400x350	450x400	500x450	600x500
	NPS	2 x 1 ½	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18	24 x 20
Bore	øA	38	49	74	100	144	192	239	287	315	360	405	455
Face to Face	øB	49	74	100	144	192	239	287	315	360	405	455	530
Height	L	368	470	546	705	832	991	1130	1257	1384	1477	1664	1782
Connection	H	105	110	168	215	264	305	368	420	445	480	570	625
	øD	216	267	311	394	483	584	673	749	826	914	984	1168
	øC	165.1	203.2	241.3	317.5	393.7	482.6	571.5	635	704.9	774.7	831.9	990.6
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	38.1	47.8	53.8	82.6	91.9	108	124	133.4	146.1	162.1	177.8	203.2
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–25.4	8–31.8	8–35.1	12–38.1	12–44.5	12–50.8	16–53.8	16–60.5	16–66.5	16–73.2	16–79.2	16–91.9
Weights(kg)		45	72	125	292	570	1030	1770	2510	3255	4980	7515	10890

BALL VALVES

Top-Entry, Trunnion Ball, Flanged, Butt Welding

Standard Specification

- Standard Design : API 6D, API 608
- Face-to-Face and End-to-End Dimensions : API 6D, ASME B16.10
- End Flange Dimensions : ASME B16.5
- Pressure and Temperature Ratings, Body Thickness : ASME B16.34
- Fire Safe Design : API 607
- Test & Inspection : API 6D, API 598
- Material : ASTM Material Specifications as per ASME B16.34

Product Range

Class	DN	50	80	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	1000	1050	1100	1200
	NPS	2	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	40	42	44	48
ASME 150																								
ASME 300																								
ASME 600																								
ASME 900																								
ASME 1500																								
ASME 2500																								
API 3000																								
API 5000																								
API 10000																								

Materials (Applicable ASTM Specification)

- Carbon Steel : A105, A216 WCB, A216 WCC
- Low Temperature Carbon Steel : A350 LF2, A352 LCB, A352 LCC
- Austenitic Stainless Steel : A182 F304, A182 F316, A351 CF8, A351 CF8M
- Duplex Stainless Steel : A182 F51(UNS S31803), A182 F53(UNS S32750), A182 F55(UNS S32760)
- Nickel Alloys : Inconel 625(UNS N06625), Monel 400(UNS N04400)

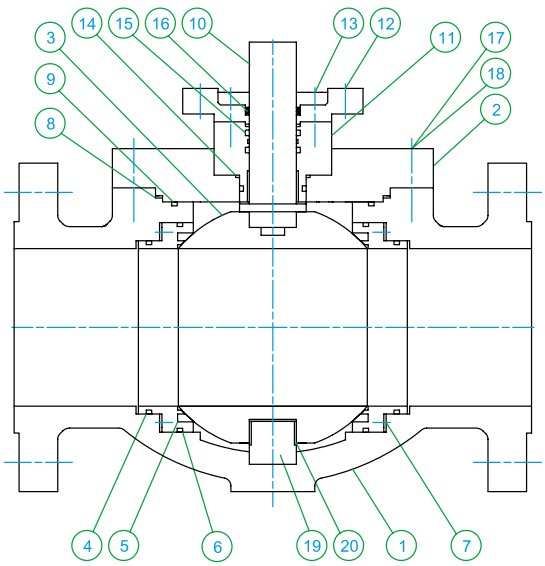
Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 150	19	275	29	413	21	303	6	100		
ASME 300	50	720	75	1080	56	792	6	100		
ASME 600	99	1440	149	2160	109	1584	6	100	Size(NPS)	Test Time (sec)
ASME 900	149	2160	224	3240	164	2376	6	100	≤ 2	15
ASME 1500	248	3600	372	5400	273	3960	6	100	$2\frac{1}{2}$ – 6	60
ASME 2500	413	5988	620	8982	454	6587	6	100	8 – 12	120
API 3000	207	3000	311	4500	228	3300	6	100	≤ 14	300
API 5000	345	5000	518	7500	380	5500	6	100		
API 10000	690	10000	1035	15000	759	11000	6	100		

BALL VALVES

Top-Entry, Trunnion Ball, Flanged, Butt Welding

NYV-B-TE Series



Design Features

STANDARD FEATURES

Trunnion Mounted Ball
Anti-Blow Out Stem Design
Double Block
Double Body Seals
Double Piston Effect Seats
Fire Safe Design

FEATURES UPON REQUEST

Metal-to-Metal seat sealing
Anti-static Device
Emergency Sealant Injection on Stem
Energized lip seals for sealing
Special Flanges or end connections
Actuators(Pneumatic,Hydraulic,Electric)
NACE MR0175 / ISO 15156

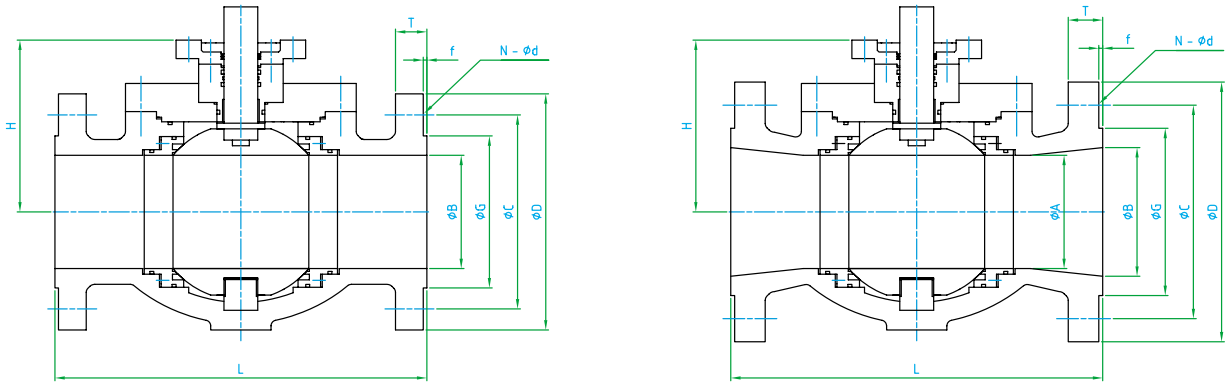
Parts List

No.	Part Name	Standard Materials Specification		
		Carbon Steel	Austenitic Stainless Steel	Duplex Stainless Steel
1	BODY	A216 WCB	A351 CF8	A182 F51(UNS S31803)
2	COVER	A216 WCB	A351 CF8	A182 F51(UNS S31803)
3	BALL	A105 + ENP	A351 CF8 + ENP	A182 F51 + ENP
4	SEAT	AISI 1045 + ENP	A351 CF8 + ENP	A182 F51 + ENP
5	SEAT INSERT	PTFE	PTFE	PTFE
6	SEAT SEAL	VITON	VITON	VITON
7	SPRING	INCONEL X750	INCONEL X750	INCONEL X750
8	BODY GASKET	A240 316 + GRAPHITE	A240 316 + GRAPHITE	A240 316 + GRAPHITE
9	BODY O-RING	VITON	VITON	VITON
10	STEM	AISI 1045 + ENP	A276 304 + ENP	A182 F51 + ENP
11	STEM COVER	A216 WCB	A351 CF8	A182 F51(UNS S31803)
12	GEAR FLANGE	AISI 1045	A240 304	A182 F51(UNS S31803)
13	GLAND	AISI 1045	A240 304	A182 F51(UNS S31803)
14	GASKET	A240 316 + GRAPHITE	A240 316 + GRAPHITE	A240 316 + GRAPHITE
15	O-RING	VITON	VITON	VITON
16	PACKING	GRAPHITE	GRAPHITE	GRAPHITE
17	STUD BOLT	A193 B7	A193 B8	A193 B8M
18	HEX NUT	A194 2H	A194 8	A194 8M
19	TRUNNION	A216 WCB	A276 304	A182 F316
20	BOLT	A193 B7	A193 B8	A193 B8M
21	O-RING	VITON	VITON	VITON
22	GASKET	A240 316 + GRAPHITE	A240 316 + GRAPHITE	A240 316 + GRAPHITE

BALL VALVES

Top-Entry, Trunnion Ball, Flanged, Full Bore and Reduced Bore, Class 150

NYV-B-TE Series



Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi	≤ 2″ : 15 sec	8″–12″: 120 sec
ASME 150	19	275	29	413	21	303	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 150 Full Bore

Dimensions (mm)	DN	50	80	100	150	200	250	300	350	400	450	500	600
	NPS	2	3	4	6	8	10	12	14	16	18	20	24
Bore	øB	49	74	100	150	201	252	303	334	385	436	487	589
Face to Face	L	292	356	432	559	660	787	838	889	991	1092	1194	1397
Height	H	210	228	288	305	330	363	480	460	470	510	570	620
Connection	øD	152	191	229	279	343	406	483	533	597	635	699	813
	øC	120.7	152.4	190.5	241.3	298.5	362	431.8	476.3	539.8	577.9	635	749.3
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	19.1	23.9	23.9	25.4	28.4	30.2	31.8	35.1	36.6	39.6	42.9	47.8
	f	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	N–ød	4–19.1	4–19.1	8–19.1	8–22.4	8–22.4	12–25.4	12–25.4	12–28.4	16–28.4	16–31.8	20–31.8	20–35.1
Weights(kg)		33	59	110	224	415	570	725	772	1120	1530	1935	3215

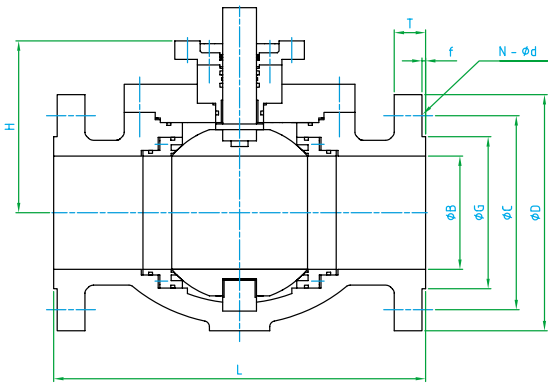
Dimensions and Weights - Class 150 Reduced Bore

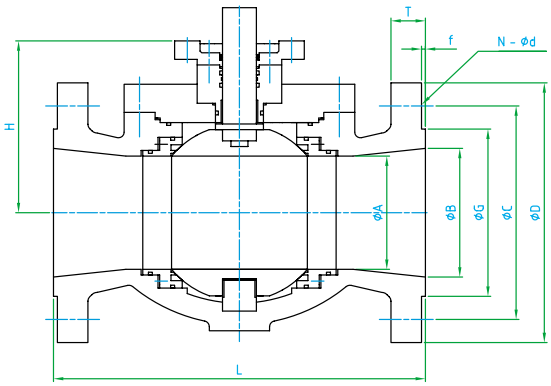
Dimensions (mm)	DN	50x40	80x50	100x80	150x100	200x150	250x200	300x250	350x300	400x350	450x400	500x450	600x500
	NPS	2 x 1 ½	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18	24 x 20
Bore	øA	38	49	74	100	150	201	252	303	334	385	436	487
Face to Face	øB	49	74	100	150	201	252	303	334	385	436	487	589
Height	L	292	356	432	559	660	787	838	889	991	1092	1194	1397
Connection	H	205	210	228	288	305	330	363	480	460	470	510	570
	øD	152	191	229	279	343	406	483	533	597	635	699	813
	øC	120.7	152.4	190.5	241.3	298.5	362	431.8	476.3	539.8	577.9	635	749.3
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	19.1	23.9	23.9	25.4	28.4	30.2	31.8	35.1	36.6	39.6	42.9	47.8
	f	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	N–ød	4–19.1	4–19.1	8–19.1	8–22.4	8–22.4	12–25.4	12–25.4	12–28.4	16–28.4	16–31.8	20–31.8	20–35.1
Weights(kg)		26	35	74	135	255	460	492	792	915	1255	1750	2390

BALL VALVES

Top-Entry, Trunnion Ball, Flanged, Full Bore and Reduced Bore, Class 300

NYV-B-TE Series





Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi	≤ 2″ : 15 sec	8″–12″: 120 sec
ASME 300	50	720	75	1080	56	792	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 300 Full Bore

Dimensions (mm)	DN	50	80	100	150	200	250	300	350	400	450	500	600
	NPS	2	3	4	6	8	10	12	14	16	18	20	24
Bore	øB	49	74	100	150	201	252	303	334	385	436	487	589
Face to Face	L	292	356	432	559	660	787	838	889	991	1092	1194	1397
Height	H	215	230	290	285	330	366	482	465	470	515	570	620
Connection	øD	165	210	254	318	381	445	521	584	648	711	775	914
	øC	127	168.1	200.2	269.7	330.2	387.4	450.9	514.4	571.5	628.7	685.8	812.8
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	22.4	28.4	31.8	36.6	41.1	47.8	50.8	53.8	57.2	60.5	63.5	69.9
	f	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	N–ød	8–19.1	8–22.4	8–22.4	12–22.4	12–25.4	16–28.4	16–31.8	20–31.8	20–35.1	24–35.1	24–35.1	24–41.1
Weights(kg)		38	65	110	225	418	572	720	770	1115	1525	1945	3220

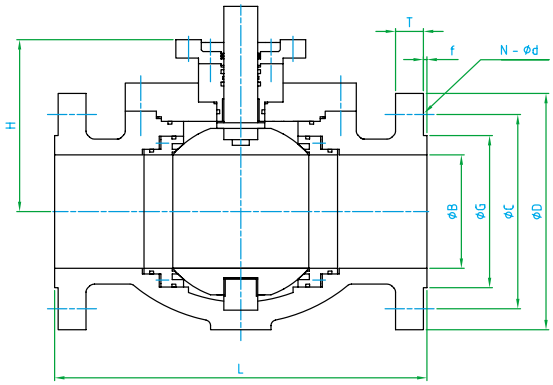
Dimensions and Weights - Class 300 Reduced Bore

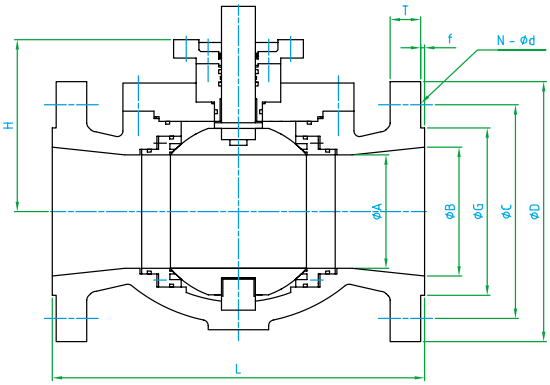
Dimensions (mm)	DN	50x40	80x50	100x80	150x100	200x150	250x200	300x250	350x300	400x350	450x400	500x450	600x500
	NPS	2 x 1 ½	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18	24 x 20
Bore	øA	38	49	74	100	150	201	252	303	334	385	436	487
Face to Face	øB	49	74	100	150	201	252	303	334	385	436	487	589
Height	L	292	356	432	559	660	787	838	889	991	1092	1194	1397
Connection	H	210	215	230	290	285	330	366	482	465	470	515	570
	øD	165	210	254	318	381	445	521	584	648	711	775	914
	øC	127	168.1	200.2	269.7	330.2	387.4	450.9	514.4	571.5	628.7	685.8	812.8
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	22.4	28.4	31.8	36.6	41.1	47.8	50.8	53.8	57.2	60.5	63.5	69.9
	f	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	N–ød	8–19.1	8–22.4	8–22.4	12–22.4	12–25.4	16–28.4	16–31.8	20–31.8	20–35.1	24–35.1	24–35.1	24–41.1
Weights(kg)		26	44	85	165	290	540	580	920	1105	1470	2030	2785

BALL VALVES

Top-Entry, Trunnion Ball, Flanged, Full Bore and Reduced Bore, Class 600

NYV-B-TE Series





Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi	≤ 2″ : 15 sec	8″–12″: 120 sec
ASME 600	99	1440	149	2160	109	1584	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 600 Full Bore

Dimensions (mm)	DN	50	80	100	150	200	250	300	350	400	450	500	600
	NPS	2	3	4	6	8	10	12	14	16	18	20	24
Bore	øB	49	74	100	150	201	252	303	334	385	436	487	589
Face to Face	L	292	356	432	559	660	787	838	889	991	1092	1194	1397
Height	H	220	235	296	302	328	370	486	470	475	516	580	630
Connection	øD	165	210	273	356	419	508	559	603	686	743	813	940
	øC	127	168.1	215.9	292.1	349.3	431.8	489	527.1	603.3	654.1	723.9	838.2
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	25.4	31.8	38.1	47.8	55.6	63.5	66.5	69.9	76.2	82.6	88.9	101.6
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–19.1	8–22.4	8–25.4	12–28.4	12–31.8	16–35.1	20–35.1	20–38.1	20–41.1	20–44.5	24–44.5	24–50.8
Weights(kg)		43	70	115	230	420	576	730	782	1120	1535	1955	3220

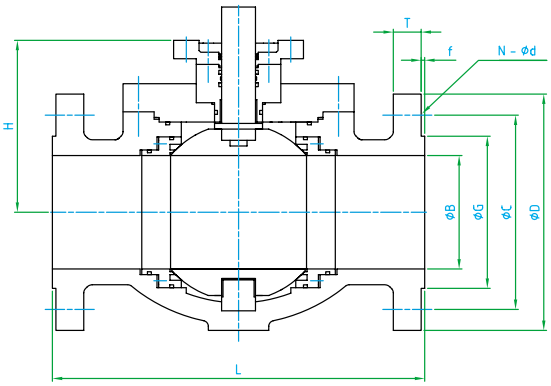
Dimensions and Weights - Class 600 Reduced Bore

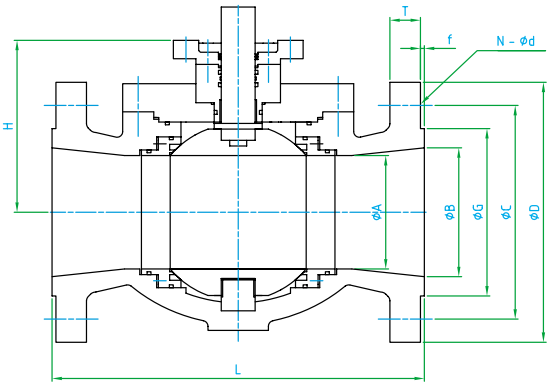
Dimensions (mm)	DN	50x40	80x50	100x80	150x100	200x150	250x200	300x250	350x300	400x350	450x400	500x450	600x500
	NPS	2 x 1 ½	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18	24 x 20
Bore	øA	38	49	74	100	150	201	252	303	334	385	436	487
Face to Face	øB	49	74	100	150	201	252	303	334	385	436	487	589
Height	L	292	356	432	559	660	787	838	889	991	1092	1194	1397
Connection	H	215	220	235	296	302	328	370	486	470	475	516	580
	øD	165	210	273	356	419	508	559	603	686	743	813	940
	øC	127	168.1	215.9	292.1	349.3	431.8	489	527.1	603.3	654.1	723.9	838.2
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	25.4	31.8	38.1	47.8	55.6	63.5	66.5	69.9	76.2	82.6	88.9	101.6
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–19.1	8–22.4	8–25.4	12–28.4	12–31.8	16–35.1	20–35.1	20–38.1	20–41.1	20–44.5	24–44.5	24–50.8
Weights(kg)		38	52	98	155	320	570	720	780	1370	1850	2615	3510

BALL VALVES

Top-Entry, Trunnion Ball, Flanged, Full Bore and Reduced Bore, Class 900

NYV-B-TE Series





Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi	≤ 2″ : 15 sec	8″–12″: 120 sec
ASME 900	149	2160	224	3240	164	2376	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 900 Full Bore

Dimensions (mm)	DN	50	80	100	150	200	250	300	350	400	450	500	600
	NPS	2	3	4	6	8	10	12	14	16	18	20	24
Bore	øB	49	74	100	150	201	252	303	322	373	423	471	570
Face to Face	L	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
Height	H	215	230	280	292	335	390	510	530	545	590	630	697
Connection	øD	216	241	292	381	470	546	610	641	705	787	857	1041
	øC	165.1	190.5	235	317.5	393.7	469.9	533.4	558.8	616	685.8	749.3	901.7
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	38.1	38.1	44.5	55.6	63.5	69.9	79.2	85.9	88.9	101.6	108	139.7
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–25.4	8–25.4	8–31.8	12–31.8	12–38.1	16–38.1	20–38.1	20–41.1	20–44.5	20–50.8	20–53.8	20–66.5
Weights(kg)		55	115	206	440	810	1015	1316	1690	2565	3415	4420	7225

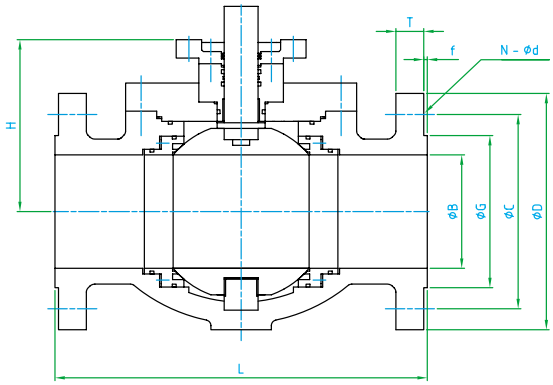
Dimensions and Weights - Class 900 Reduced Bore

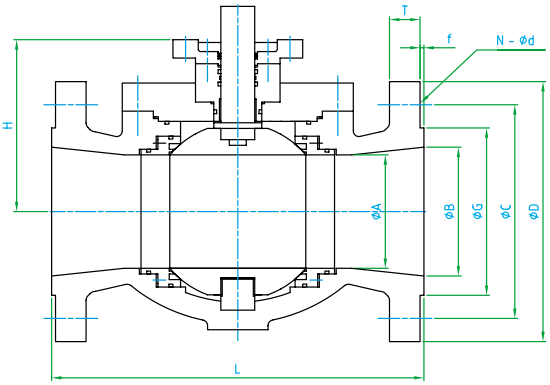
Dimensions (mm)	DN	50x40	80x50	100x80	150x100	200x150	250x200	300x250	350x300	400x350	450x400	500x450	600x500
	NPS	2 x 1 ½	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18	24 x 20
Bore	øA	38	49	74	100	150	201	252	303	322	373	423	471
Face to Face	øB	49	74	100	150	201	252	303	322	373	423	471	570
Height	L	368	381	457	610	737	838	965	1029	1130	1219	1321	1549
Connection	H	210	215	230	280	292	335	390	510	530	545	590	630
	øD	216	241	292	381	470	546	610	641	705	787	857	1041
	øC	165.1	190.5	235	317.5	393.7	469.9	533.4	558.8	616	685.8	749.3	901.7
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	38.1	38.1	44.5	55.6	63.5	69.9	79.2	85.9	88.9	101.6	108	139.7
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–25.4	8–25.4	8–31.8	12–31.8	12–38.1	16–38.1	20–38.1	20–41.1	20–44.5	20–50.8	20–53.8	20–66.5
Weights(kg)		55	78	145	280	552	915	1095	1505	2045	2843	3885	5420

BALL VALVES

Top-Entry, Trunnion Ball, Flanged, Full Bore and Reduced Bore, Class 1500

NYV-B-TE Series





Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi	≤ 2″ : 15 sec	8″–12″: 120 sec
ASME 1500	248	3600	372	5400	273	3960	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 1500 Full Bore

Dimensions (mm)	DN	50	80	100	150	200	250	300	350	400	450	500	600
	NPS	2	3	4	6	8	10	12	14	16	18	20	24
Bore	øB	49	74	100	144	192	239	287	315	360	405	455	530
Face to Face	L	368	470	546	705	832	991	1130	1257	1384	1477	1664	1782
Height	H	215	240	305	310	360	405	525	550	570	595	660	670
Connection	øD	216	267	311	394	483	584	673	749	826	914	984	1168
	øC	165.1	203.2	241.3	317.5	393.7	482.6	571.5	635	704.9	774.7	831.9	990.6
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	38.1	47.8	53.8	82.6	91.9	108	124	133.4	146.1	162.1	177.8	203.2
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–25.4	8–31.8	8–35.1	12–38.1	12–44.5	12–50.8	16–53.8	16–60.5	16–66.5	16–73.2	16–79.2	16–91.9
Weights(kg)		60	160	285	610	1115	1445	2020	2625	3895	5115	6685	11750

Dimensions and Weights - Class 1500 Reduced Bore

Dimensions (mm)	DN	50x40	80x50	100x80	150x100	200x150	250x200	300x250	350x300	400x350	450x400	500x450	600x500
	NPS	2 x 1 ½	3 x 2	4 x 3	6 x 4	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18	24 x 20
Bore	øA	38	49	74	100	144	192	239	287	315	360	405	455
Face to Face	øB	49	74	100	144	192	239	287	315	360	405	455	530
Height	L	368	470	546	705	832	991	1130	1257	1384	1477	1664	1782
Connection	H	210	215	240	305	310	355	410	540	550	560	600	660
	øD	216	267	311	394	483	584	673	749	826	914	984	1168
	øC	165.1	203.2	241.3	317.5	393.7	482.6	571.5	635	704.9	774.7	831.9	990.6
	øG	91.9	127	157.2	215.9	269.7	323.9	381	412.8	469.9	533.4	584.2	692.2
	T	38.1	47.8	53.8	82.6	91.9	108	124	133.4	146.1	162.1	177.8	203.2
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	8–25.4	8–31.8	8–35.1	12–38.1	12–44.5	12–50.8	16–53.8	16–60.5	16–66.5	16–73.2	16–79.2	16–91.9
Weights(kg)		55	105	210	385	712	1280	1542	2705	3110	4215	5920	9230

BALL VALVES

3-Way Type, Flanged, Threads, Soket Welding, Butt Welding

Standard Specification

- Standard Design : API 6D, API 608
- Face-to-Face and End-to-End Dimensions : Manufacture's Standard
- End Flange Dimensions : ASME B16.5
- Pressure and Temperature Ratings, Body Thickness : ASME B16.34
- Fire Safe Design : API 607
- Test & Inspection : API 6D, API 598
- Material : ASTM Material Specifications as per ASME B16.34

Product Range

Class	DN	15	20	25	32	40	50	80	100	125	150	200	250	300
	NPS	1/2	3/4	1	1 1/4	1 1/2	2	3	4	5	6	8	10	12
ASME 150														
ASME 300														
ASME 600														
ASME 900														
ASME 1500														
ASME 2500														
API 3000														
API 5000														
API 10000														

Materials (Applicable ASTM Specification)

- Carbon Steel : A105, A216 WCB, A216 WCC
- Low Temperature Carbon Steel : A350 LF2, A352 LCB, A352 LCC
- Austenitic Stainless Steel : A182 F304, A182 F316, A351 CF8, A351 CF8M
- Duplex Stainless Steel : A182 F51(UNS S31803), A182 F53(UNS S32750), A182 F55(UNS S32760)
- Nickel Alloys : Inconel 625(UNS N06625), Monel 400(UNS N04400)

Pressure Testing (Working & Test Pressure at Ambient Temperature)

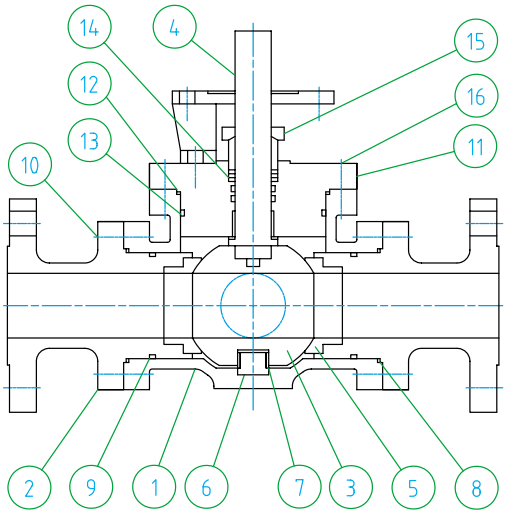
Class	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)
	bar	psi	bar	psi	bar	psi	bar	psi	
ASME 150	19	275	29	413	21	303	6	100	
ASME 300	50	720	75	1080	56	792	6	100	
ASME 600	99	1440	149	2160	109	1584	6	100	
ASME 900	149	2160	224	3240	164	2376	6	100	
ASME 1500	248	3600	372	5400	273	3960	6	100	
ASME 2500	413	5988	620	8982	454	6587	6	100	
API 3000	207	3000	311	4500	228	3300	6	100	
API 5000	345	5000	518	7500	380	5500	6	100	
API 10000	690	10000	1035	15000	759	11000	6	100	

Size(NPS)	Test Time (sec)
≤ 2	15
$2\frac{1}{2}$ – 6	60
8 – 12	120
≤ 14	300

BALL VALVES

3-Way Type, Flanged, Threads, Soket Welding, Butt Welding

NYV-B-3W Series



Design Features

STANDARD FEATURES

Trunnion Mounted Ball
Anti-Blow Out Stem Design
Double Block
Double Body Seals
Double Piston Effect Seats
Fire Safe Design

FEATURES UPON REQUEST

Metal-to-Metal seat sealing
Anti-static Device
Emergency Sealant Injection on Stem
Energized lip seals for sealing
Special Flanges or end connections
Actuators(Pneumatic,Hydraulic,Electric)
NACE MR0175 / ISO 15156

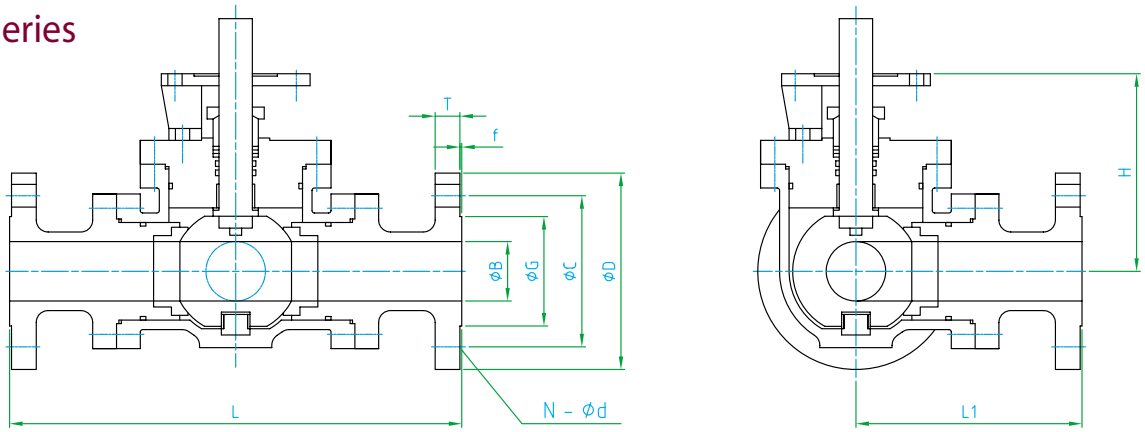
Parts List

No.	Part Name	Standard Materials Specification		
		Carbon Steel	Austenitic Stainless Steel	Duplex Stainless Steel
1	BODY	A216 WCB	A351 CF8	A182 F51(UNS S31803)
2	COVER FLANGE	A216 WCB	A351 CF8	A182 F51(UNS S31803)
3	BALL	A351 CF8 + ENP	A351 CF8 + ENP	A182 F51 + ENP
4	STEM	A276 304 + ENP	A276 304 + ENP	A182 F51 + ENP
5	SEAT INSERT	PTFE	PTFE	PTFE
6	TRUNNION	A276 304	A276 304	A182 F51(UNS S31803)
7	TRUST BEARING			
8	COVER GASKET	A240 316 + GRAPHITE	A240 316 + GRAPHITE	A240 316 + GRAPHITE
9	COVER O-RING	VITON	VITON	VITON
10	STUD BOLT	A193 B7	A193 B7	A193 B7
11	BODY COVER	A216 WCB	A351 CF8	A182 F51(UNS S31803)
12	BODY GASKET	A240 316 + GRAPHITE	A240 316 + GRAPHITE	A240 316 + GRAPHITE
13	BODY O-RING	VITON	VITON	VITON
14	PACKING	GRAPHITE	GRAPHITE	GRAPHITE
15	GLAND	AISI 1045	A240 304	A276 316
16	STUD BOLT	A193 B7	A193 B8	A193 B8M
17				
18				
19				
20				
21				
22				

BALL VALVES

3-Way Type, Flanged, ASME Class 150, 300

NYV-B-3W Series



Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 150	19	275	29	413	21	303	6	100	≤ 2 : 15 sec	8″–12″: 120 sec
ASME 300	50	720	75	1080	56	792	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 150

Dimensions (mm)	DN	15	20	25	32	40	50	80	100	150	200	250	300
	NPS	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12
Bore	øB	13	19	25	32	38	49	74	100	150	201	252	303
Face to Face	L												
Height	L1												
Connection	H												
	øD	89	99	108	117	127	152	191	229	279	343	406	483
	øC	60.5	69.9	79.2	88.9	98.6	120.7	152.4	190.5	241.3	298.5	362	431.8
	øG	35.1	42.9	50.8	63.5	73.2	91.9	127	157.2	215.9	269.7	323.9	381
	T	11.2	12.7	14.2	15.7	17.5	19.1	23.9	23.9	25.4	28.4	30.2	31.8
	f	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	N–ød	4–15.7	4–15.7	4–15.7	4–15.7	4–15.7	4–19.1	4–19.1	8–19.1	8–22.4	8–22.4	12–25.4	12–25.4
Weights(kg)													

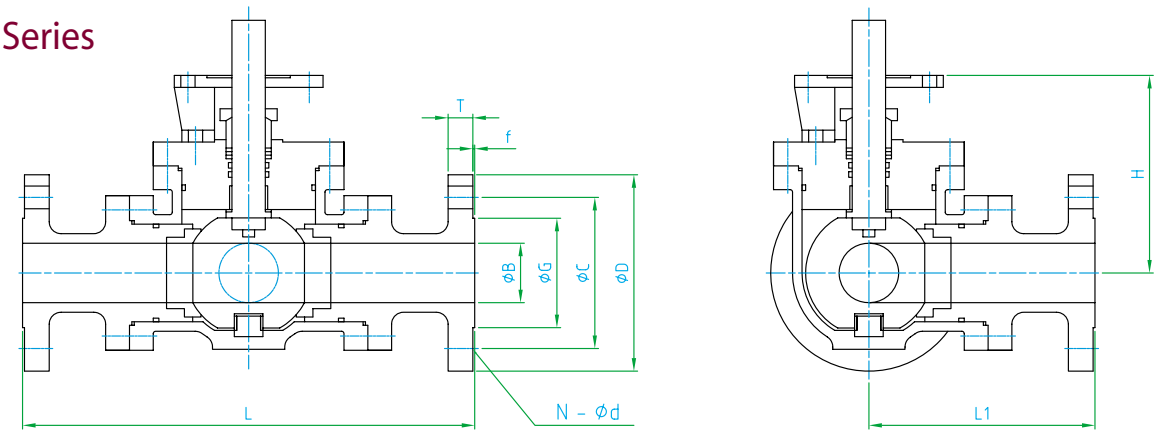
Dimensions and Weights - Class 300

Dimensions (mm)	DN	15	20	25	32	40	50	80	100	150	200	250	300
	NPS	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12
Bore	øB	13	19	25	32	38	49	74	100	150	201	252	303
Face to Face	L												
Height	L1												
Connection	H												
	øD	95	117	124	133	155	165	210	254	318	381	445	521
	øC	66.5	82.6	88.9	98.6	114.3	127	168.1	200.2	269.7	330.2	387.4	450.9
	øG	35.1	42.9	50.8	63.5	73.2	91.9	127	157.2	215.9	269.7	323.9	381
	T	14.2	15.7	17.5	19.1	20.6	22.4	28.4	31.8	36.6	41.1	47.8	50.8
	f	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	N–ød	4–15.7	4–19.1	4–19.1	4–19.1	4–22.4	8–19.1	8–22.4	8–22.4	12–22.4	12–25.4	16–28.4	16–31.8
Weights(kg)													

BALL VALVES

3-Way Type, Flanged, ASME Class 600, 900

NYV-B-3W Series



Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 600	99	1440	149	2160	109	1584	6	100	≤ 2 : 15 sec	8″–12″: 120 sec
ASME 900	149	2160	224	3240	164	2376	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 600

Dimensions (mm)	DN	15	20	25	32	40	50	80	100	150	200	250	300
	NPS	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12
Bore	øB	13	19	25	32	38	49	74	100	150	201	252	303
Face to Face	L												
Height	L1												
Connection	H												
	øD	95	117	124	133	155	165	210	273	356	419	508	559
	øC	66.5	82.6	88.9	98.6	114.3	127	168.1	215.9	292.1	349.3	431.8	489
	øG	35.1	42.9	50.8	63.5	73.2	91.9	127	157.2	215.9	269.7	323.9	381
	T	14.2	15.7	17.5	20.6	22.4	25.4	31.8	38.1	47.8	55.6	63.5	66.5
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	4–15.7	4–19.1	4–19.1	4–19.1	4–22.4	8–19.1	8–22.4	8–25.4	12–28.4	12–31.8	16–35.1	20–35.1
Weights(kg)													

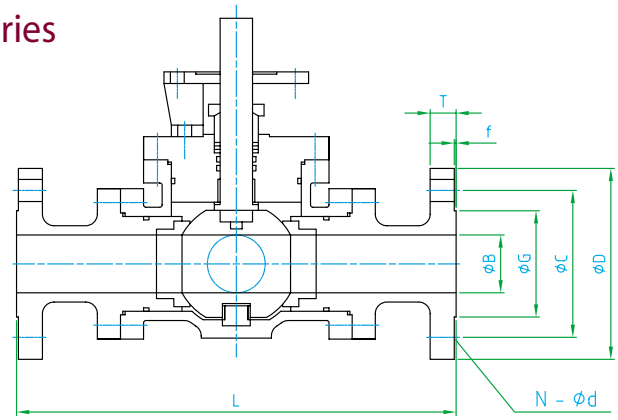
Dimensions and Weights - Class 900

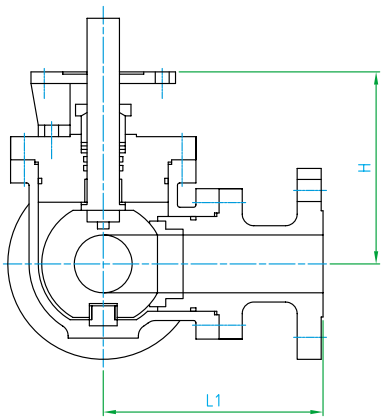
Dimensions (mm)	DN	15	20	25	32	40	50	80	100	150	200	250	300
	NPS	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12
Bore	øB	13	19	25	32	38	49	74	100	150	201	252	303
Face to Face	L												
Height	L1												
Connection	H												
	øD	121	130	149	159	178	216	241	292	381	470	546	610
	øC	82.6	88.9	101.6	111.3	124	165.1	190.5	235	317.5	393.7	469.9	533.4
	øG	35.1	42.9	50.8	63.5	73.2	91.9	127	157.2	215.9	269.7	323.9	381
	T	22.4	25.4	28.4	28.4	31.8	38.1	38.1	44.5	55.6	63.5	69.9	79.2
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	4–22.4	4–22.4	4–25.4	4–25.4	4–28.4	8–25.4	8–25.4	8–31.8	12–31.8	12–38.1	16–38.1	20–38.1
Weights(kg)													

BALL VALVES

3-Way Type, Flanged, ASME Class 1500, 2500

NYV-B-3W Series





Pressure Testing (Working & Test Pressure at Ambient Temperature)

Class	Working Pressure		Hydrostatic Body		Hydrostatic Seat		Air Seat Test		Duration of Required Test Pressure	
	bar	psi	bar	psi	bar	psi	bar	psi		
ASME 1500	248	3600	372	5400	273	2376	6	100	≤ 2 : 15 sec	8″–12″: 120 sec
ASME 2500	413	5988	620	8982	454	6587	6	100	2½″– 6″ : 60 sec	≤ 14″ : 300 sec

Dimensions and Weights - Class 1500

Dimensions (mm)	DN	15	20	25	32	40	50	80	100	150	200	250	300
	NPS	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12
Bore	øB	13	19	25	32	38	49	74	100	150	201	252	303
Face to Face	L												
Height	L1												
Connection	H												
	øD	121	130	149	159	178	216	267	311	394	483	584	673
	øC	82.6	88.9	101.4	111.3	124	165.1	203.2	241.3	317.5	393.7	482.6	571.5
	øG	35.1	42.9	50.8	63.5	73.2	91.9	127	157.2	215.9	269.7	323.9	381
	T	22.4	25.4	28.4	28.4	31.8	38.1	47.8	53.8	82.6	91.9	108	124
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
	N–ød	4–22.4	4–22.4	4–25.4	4–25.4	4–28.4	8–25.4	8–31.8	8–35.1	12–38.1	12–44.5	12–50.8	16–53.8
Weights(kg)													

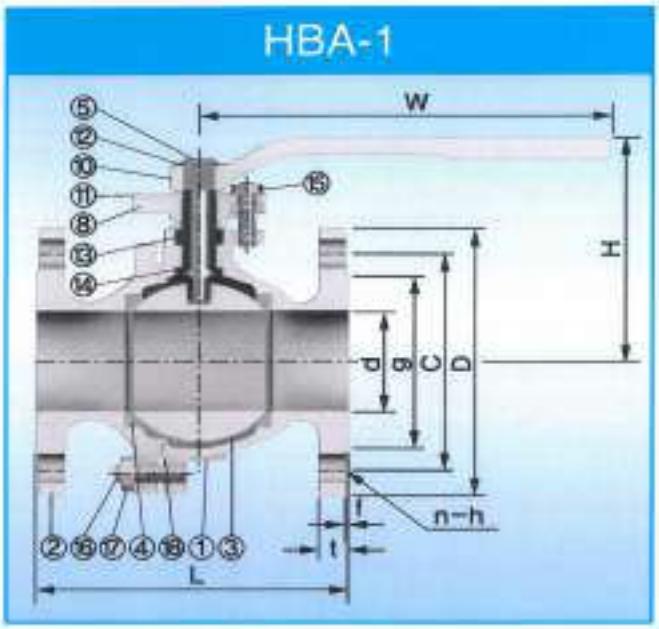
Dimensions and Weights - Class 2500

Dimensions (mm)	DN	15	20	25	32	40	50	80	100	150	200	250	300
	NPS	1/2	3/4	1	1 1/4	1 1/2	2	3	4	6	8	10	12
Bore	øB	13	19	25	32	38	49	74	100				
Face to Face	L												
Height	L1												
Connection	H												
	øD	133	140	159	184	203	216	267	311				
	øC	88.9	95.3	108	130	146.1	171.5	228.6	273.1				
	øG	35.1	42.9	50.8	63.5	73.2	91.9	127	157.2				
	T	30.2	31.8	35.1	38.1	44.5	50.8	66.5	76.2				
	f	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35				
	N–ød	4–22.4	4–22.4	4–25.4	4–28.4	4–31.8	8–28.4	8–35.1	8–41.1				
Weights(kg)													

BALL VALVES

Floating Ball Type, ASME Class 150, 300 / JIS 10K, 20K

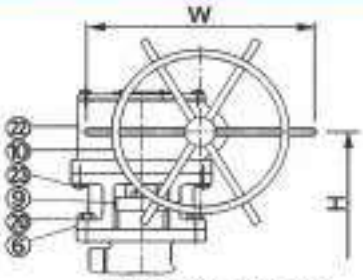
HBA-1



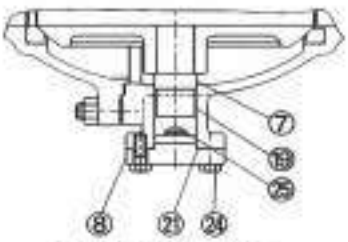
PARTS OF MATERIAL

No	PARTS NAME	KS SPECIFICATIONS CORROSION SERVICE			REMARKS
1	BODY	SCS 13	SCS 14	SCS 16	
2	CAP	SCS 13	SCS 14	SCS 16	
3	BALL	SCS 13	SCS 14	SCS 16	
4	SEATRING	PTFE	PTFE	PTFE	
5	STEM	STS 304	STS 316	STS 316L	
6	YOKE	STS 304	STS 304	STS 304	
7	LOWER STEM	STS 304	STS 316	STS 316L	
8	BOTTOM CAP	SCS 13	SCS 14	SCS 16	
9	GLAND FLANGE	SCS 13	SCS 14	SCS 16	
10	HAND LEVER	GCD 450	GCD 450	GCD 450	
11	STOPPER	STS 304	STS 304	STS 304	
12	SNAP RING	SK 5	SK 5	SK 5	
13	PACKING	TEFLON	TEFLON	TEFLON	
14	BACK SEAT	TEFLON	TEFLON	TEFLON	
15	GLAND BOLT	STS 304	STS 304	STS 304	
16	COVER BOLT	STS 304	STS 304	STS 304	
17	COVER NUT	STS 304	STS 304	STS 304	
18	GASKET	TEFLON	TEFLON	TEFLON	
19	STEM BUSH	TEFLON	TEFLON	TEFLON	
20	YOKE BOLT	STS 304	STS 304	STS 304	
21	BOTTOM GASKET	TEFLON	TEFLON	TEFLON	
22	GEAR BOX	FC 200	FC 200	FC 200	
23	MOUNTING BOLT	TEFLON	TEFLON	TEFLON	
24	BOTTOM CAP BOLT	STS 304	STS 304	STS 304	
25	LOWER PAD	TEFLON	TEFLON	TEFLON	

NOTE 1. Packing & gasket material : customer's requirements

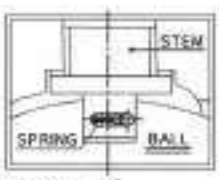


GEAR OPERATION
250 & OVER

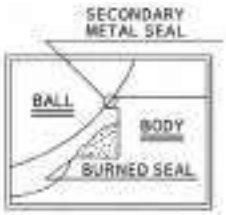


TRUNNION TYPE
250A & OVER

DETAIL A"



DETAIL B"
ANTI-STATIC TYPE



FIRE SAFE DISIGN

■DIMENSION

(mm)

CLASS	SIZE / DIMENSION																		
	IN	½	¾	1	1¼	1½	2	2½	3	4	5	6	8	10	12	14	16		
	MM	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400		
10K 150LB	L : FACE TO FACE (RF)	108	117	127	140	165	178	190	203	229	356	394	457	533	610	686	762		
	H : VALVE HEIGHT	67	72	80	95	105	118	133	153	183	220	265	310	580	630	650	720		
	W : HAND WHEEL DIA.	160	160	200	200	240	240	240	400	400	550	550	550	GEAR OPERATOR					
20K 300LB	L : FACE TO FACE (RF)	140	152	165	178	190	216	241	283	305	381	403	502	568	648	762	838		
	H : VALVE HEIGHT	70	80	80	100	115	135	150	165	205	240	280	350	590	655	680	750		
	W : HAND WHEEL DIA.	160	160	200	200	240	240	240	400	400	550	550	550	GEAR OPERATOR					

BALL VALVES

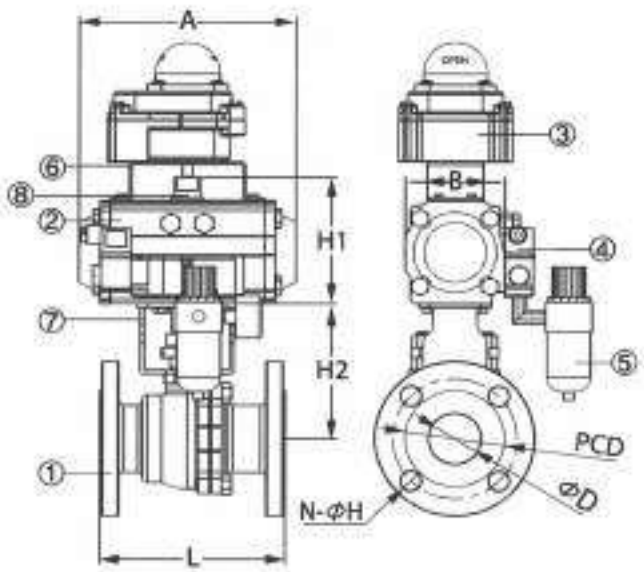
Floating Ball Type, ASME Class 150, 300 / JIS 10K, 20K

HBA-AU

PARTS OF MATERIAL

No	PARTS NAME	MATERIAL
1	VALVE	SCS 13 / SCS 14 / SCS 16
2	ACTUATOR	"
3	LIMIT SWITCH	"
4	SOL. V/V	"
5	AIR UNIT	"
6	BRACKET 1	"
7	BRACKET 2	"
8	COUPLE RING	"

NOTE 1. Packing & gasket material : customer's requirements



■DIMENSION

(mm)

SIZE	A	B	H1	H2	ØD	PCD	N-ØH	L	ACTUATOR
15A	140	72	92	118	15	70	4-15	108	HP-050
20A	140	72	92	126	20	75	4-15	117	HP-050
25A	162	84	105	138	25	90	4-19	127	HP-063
32A	162	84	105	143	40	100	4-19	140	HP-063
40A	208	96	123	149	40	105	4-19	165	HP-075
50A	208	96	123	152	50	120	4-19	178	HP-075
65A	243	108	136	177	65	140	4-19	190	HP-088
80A	268	123	148	188	80	150	8-19	203	HP-100
100A	268	123	148	217	100	175	8-19	229	HP-100
125A	349	151	189	269	125	210	8-23	356	HP-125
150A	450	202	226	287	150	240	8-23	394	HP-160

CAST STEEL
BOLTED BONNET

GATE VALVES

① BODY

The body is in cast steel and is carefully designed in all its details. The basic dimension,i.e.wall thickness, face to face and flange comply with the relevant API and ANSI standards. The body-to-bonnet flange is normally circular, except in the 150 lb Class which is oval. The sealing surface for connection to the bonnet are flat finish in the 150 lb Class recessed in the 300lb Class or may be ring joint in the 600 lb Class and above. The body is threaded for renewable seats. Bosses are provided for drain taps or by-pass piping.

② BONNET

The bonnet is in cast steel. It is machined to accept the yoke sleeve and incorporates a stuffing box dimension in accordance with the API standard.

③ WEDGE

The wedge is part of the trim. It is in cast stainless and alloy steel for diameters up to 10" and in cast steel for larger valves. It is connected to the stem by means of a T-joint. The guides on each side of the wedge are machined for proper alignment with the body guides. Special attention is given to the seating surface which are ground and lapped to insure a perfectly tight seal.

④ SEAT RINGS

The seat rings are part of the trim. They are completely threaded outside and notched on their inner surface to ease installing and dismantling. Special attention is given to the sealing surface which are ground and lapped for a perfectly tight seal.

⑤ STEM

The stem is part of the trim. The stem is provided with a T-head. A ground backseat is provided to ensure a perfectly tight seal to the stuffing box when the valve is fully open. The stem is ground to minimize friction and prevent damage to gland packing. The threading is trapezoidal ACME type. Dimensions comply with the API 600 standard.

⑥ BONNET BUSHING

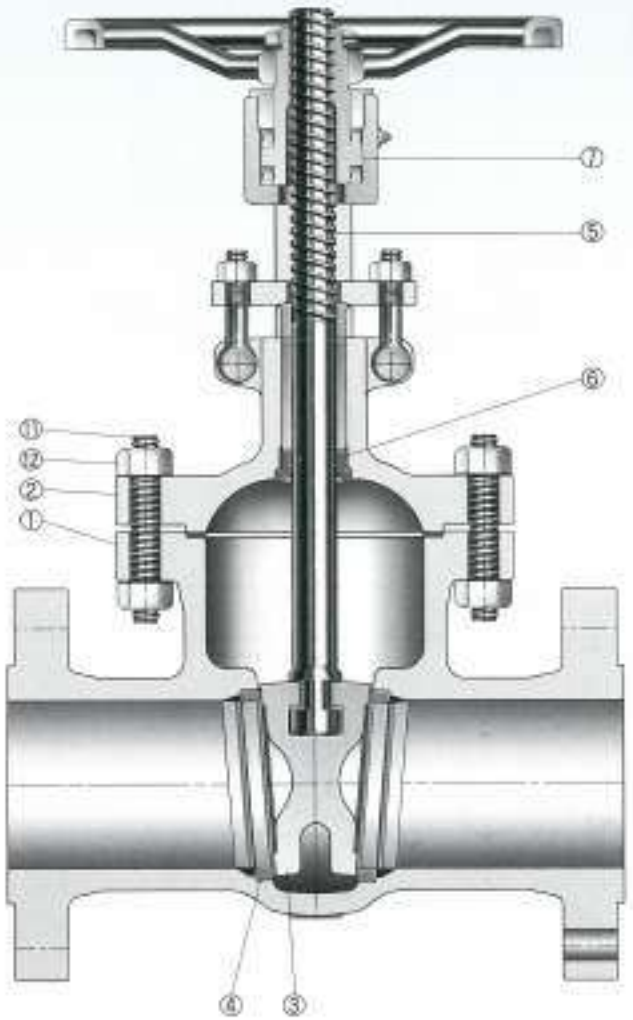
The bonnet bushing or backseat is part of the trim. Special attention is given both to its machining and heat treatment to insure a proper seat.

⑦ YOKE SLEEVE

The yoke sleeve is made from cast austenitic ductile iron having high resistance to wear and a high melting point. It is designed to permit removal from the bonnet or the yoke while the valve is in service. Gate valves 6" 600lb. Class and above are fitted with a ball thrust bearing.

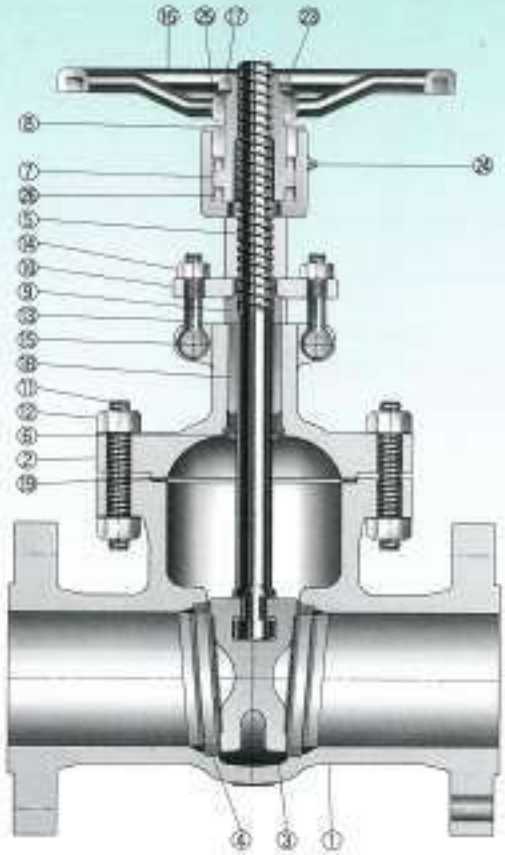
⑪.⑫ BONNET BOLTING

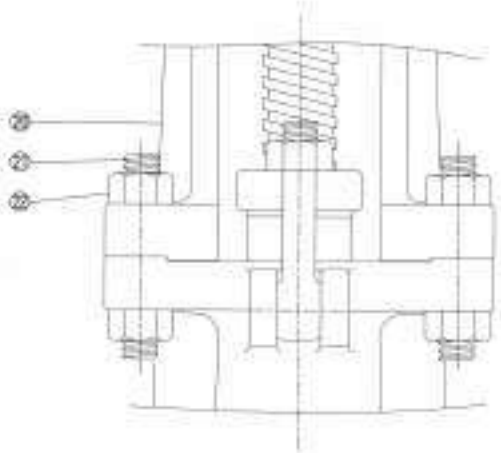
Bonnet studs and nuts are manufactured from alloy steel to the relevant ASTM standard.



CAST STEEL
BOLTED BONNET

GATE VALVES



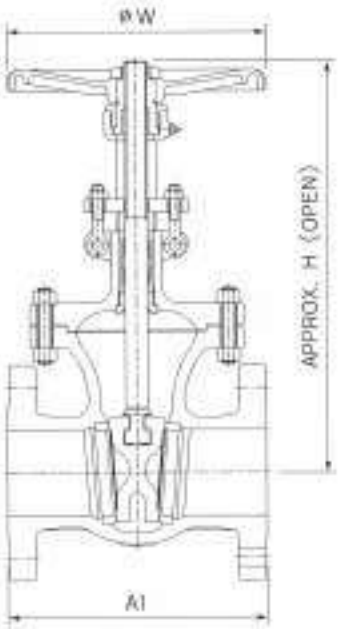


No	PARTS NAME	ASTM SPECIFICATIONS						REMARKS
		STANDARD	LOW TEMP. SERVICE		HIGH TEMP. SERVICE			
1	BODY	A216-WCB	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	
2	BONNET	A216-WCB	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	
3	WEDGE	A217-CA15	A351-CF8	A351-CF8	A217-CA15	A217-CA15	A217-CA15	NOTE 1
4	BODY SEAT RING	A108-C/S1020+HF	A182-F304+HF	A182-F304+HF	A182-F11+HF	A182-F22+HF	A182-F5a+HF	
5	STEM	A276-410	A276-304	A276-304	A276-410	A276-410	A276-410	
6	BACK SEAT RING	A276-410	A276-304	A276-304	A276-410	A276-410	A276-410	
7	YOKE SLEEVE	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C	
8	YOKE CAP	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	
9	PACKING GLAND	A276-410	A276-304	A276-304	A276-410	A276-410	A276-410	
10	GLAND FLANGE	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	
11	BONNET BOLT	A193-B7	A320-L7	A320-L7	A193-B16	A193-B16	A193-B16	
12	BONNET NUT	A194-2H	A194-4	A194-4	A194-4	A194-4	A194-4	
13	GLAND BOLT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	
14	GLAND NUT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	
15	HINGE PIN	A108-C/S1020	A108-C/S1020	A108-C/S1020	A108-C/S1020	A108-C/S1020	A108-C/S1020	
16	HAND WHEEL	A536	A536	A536	A536	A536	A536	
17	HAND WHEEL NUT	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	
18	PACKING	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	NOTE 2
19	GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	NOTE 2
20	YOKE	A216-WCB	A352-LCB/A216-WCB	A352-LCB/A216-WCB	A217-WC6/A216-WCB	A217-WC9/A216-WCB	A217-C5/A216-WCB	
21	YOKE BOLT	A193-B7	A193-B7	A193-B7	A193-B7	A193-B7	A193-B7	
22	YOKE NUT	A194-2H	A194-2H	A194-2H	A194-2H	A194-2H	A194-2H	
23	SET SCREW	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	
24	GREASE NIPPLE	B16	B16	B16	B16	B16	B16	
25	NAME PLATE	AL./A240-304	AL./ A240-304	AL./ A240-304	AL./ A240-304	AL./ A240-304	AL./ A240-304	
26	BEARING	A295-52100	A295-52100	A295-52100	A295-52100	A295-52100	A295-52100	

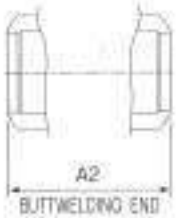
NOTE 1. Size 10" & larger : body material with trim material overlayed
2. Packing & gasket material : customer's requirements

GATE VALVES
BOLTED BONNET

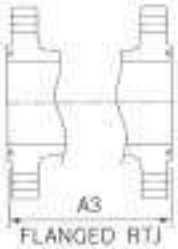
CLASS 150/300



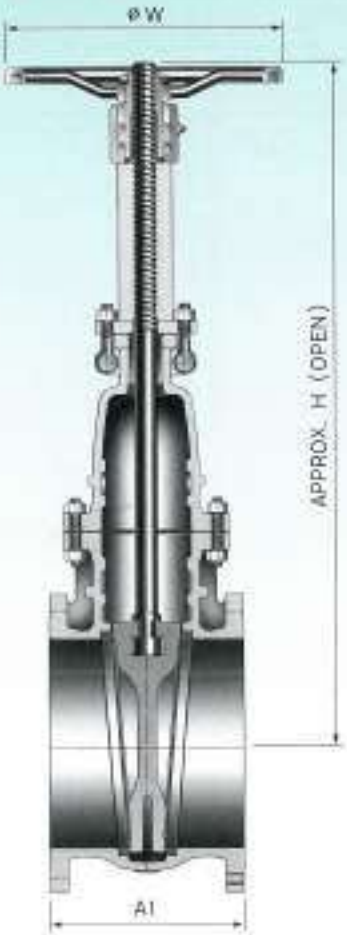
CLASS 300



BUTTWELDING END



FLANGED RTJ



CLASS 150

■ BB GATE 150LB TABLE

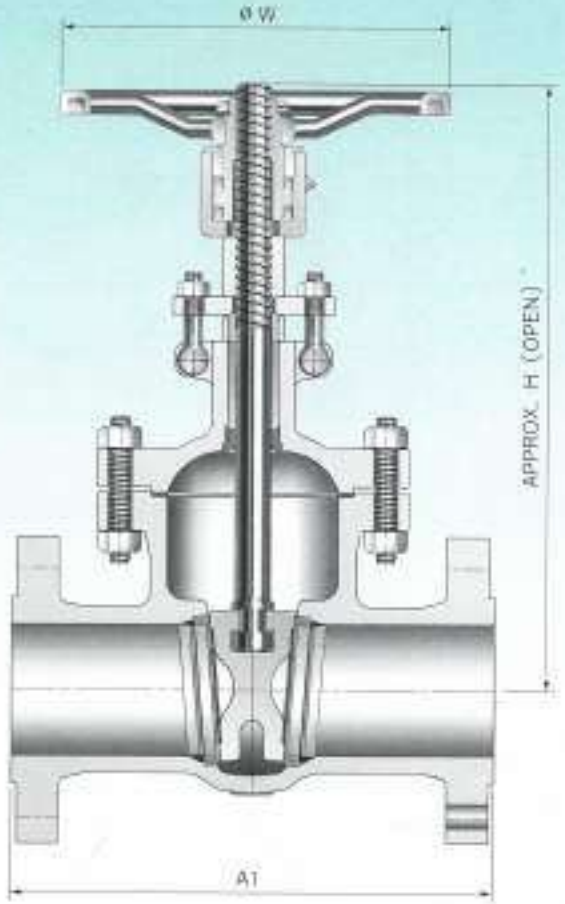
VALVE SIZE		2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36
	inch	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900
A1 (RF)	inch	7	7.5	8	9	10.5	11.5	13	14	15	16	17	18	20	24	24	28
	mm	178	191	203	229	267	292	330	356	381	406	432	457	508	610	610	711
A2 (BW)	inch	8.5	9.5	11.12	12	15.87	16.5	18	19.75	22.5	24	26	28	32	36	36	40
	mm	216	241	282	305	403	419	457	502	572	610	660	711	813	914	914	1016
H (OPEN HEIGHT)	inch	15.75	16.14	18.50	20.87	30.39	39.17	46.26	55.12	60.24	69.29	76.77	84.25	99.21	113	125	142.5
	mm	400	410	470	530	772	995	1175	1400	1530	1760	1950	2140	2520	2870	3175	3620
W (HANDWHEEL DIA.)	inch	7.87	7.87	8.82	9.84	12.4	13.98	15.75	17.72	19.69	27.95	27.95	31.5	31.5	31.5	31.5	31.5
	mm	200	200	224	250	315	355	400	450	500	710	710	800	800	800	800	800

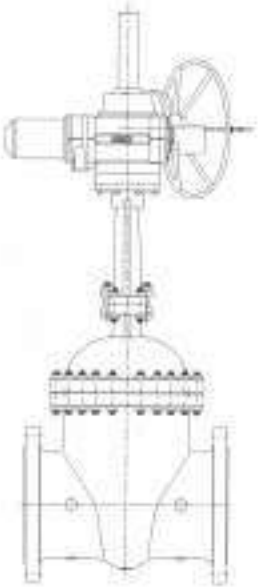
■ BB GATE 300LB TABLE

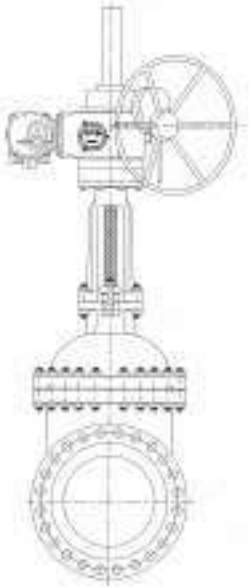
VALVE SIZE		2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36
	inch	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900
A1&A2 (RF)&(BW)	inch	8.5	9.5	11.12	12	15.87	16.5	18	19.75	30	33	36	39	45	53	55	68
	mm	216	241	282	305	403	419	457	502	762	838	914	991	1143	1346	1397	1727
A3 (RTJ)	inch	9.12	10.12	11.75	12.62	16.5	17.12	18.62	20.37	30.62	33.62	36.62	39.75	45.88	54	56	69.12
	mm	232	257	298	321	419	435	473	517	778	854	930	1010	1165	1372	1422	1756
H (OPEN HEIGHT)	inch	16.93	19.09	21.06	25.59	35.04	42.91	51.18	56.89	70.08	77.17	84.45	98.62	110.04	126	142	165.5
	mm	430	485	535	650	890	1090	1300	1445	1780	1960	2145	2505	2795	3200	3607	4204
W (HANDWHEEL DIA.)	inch	7.87	7.87	8.82	9.84	13.98	15.75	19.69	19.69	27.95	27.95	31.5	31.5	31.5	31.5	31.5	31.5
	mm	200	200	224	250	355	400	500	500	710	710	800	800	800	800	800	800

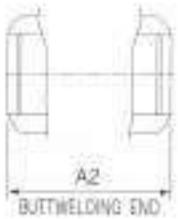
GATE VALVES
BOLTED BONNET

CLASS 600/900









■ BB GATE 600LB TABLE

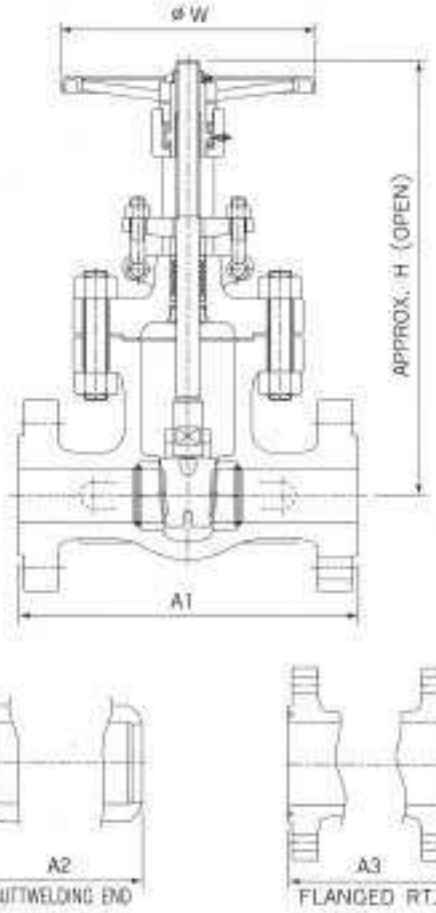
VALVE SIZE	inch	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750
A1&A2 (RF)&(BW)	inch	11.5	13	14	17	22	26	31	33	35	39	43	47	55	61	65
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1549	1651
A3 (RTJ)	inch	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.35	61.5	65.5
	mm	295	333	359	435	562	663	790	841	892	994	1095	1200	1407	1562	1664
H (OPEN HEIGHT)	inch	22.05	23.62	24.41	28.74	38.98	46.57	55.12	63.39	70.47	78.35	84.65	94.09	117.52	138.5	151.2
	mm	560	600	620	730	990	1183	1400	1610	1790	1990	2150	2390	2985	3518	3840
W (HANDWHEEL DIA.)	inch	8.82	9.84	12.4	13.98	17.72	19.69	27.95	27.95	31.5	31.5	31.5	31.5	31.5	31.5	31.5
	mm	224	250	315	355	450	500	710	710	800	800	800	800	800	800	800

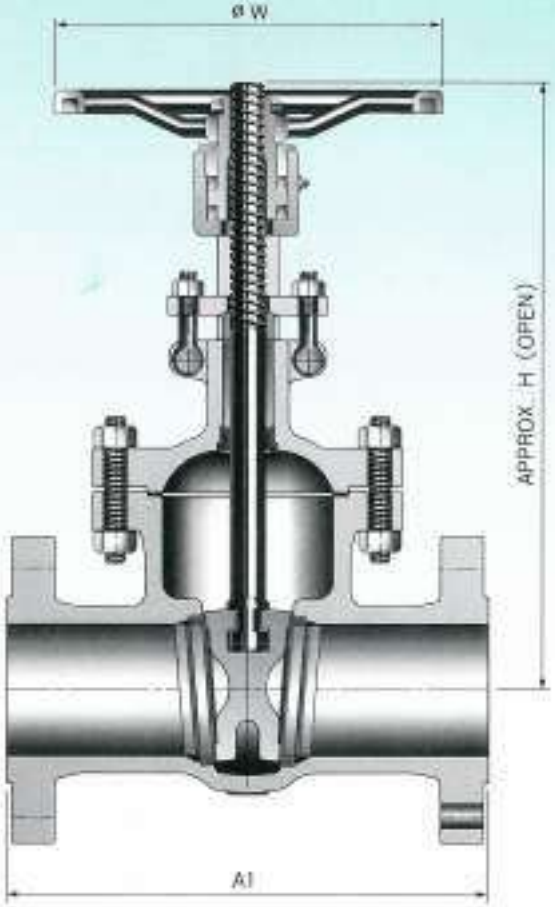
■ BB GATE 900LB TABLE

VALVE SIZE	inch	2	2.5	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1&A2 (RF)&(BW)	inch	14.5	16.5	15	18	24	29	33	38	40.5	44.5	48	52	61
	mm	368	419	381	457	610	737	838	966	1029	1130	1219	1321	1549
A3 (RTJ)	inch	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.5	52.5	61.75
	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1334	1568
H (OPEN HEIGHT)	inch	22.44	24.02	24.80	31.89	41.34	53.54	56.51	66.93	74.41	77.95	84.66	93.70	117.50
	mm	570	610	630	810	1050	1360	1410	1700	1890	1980	2150	2380	2985
W (HANDWHEEL DIA.)	inch	9.84	9.84	12.4	15.95	17.72	19.69	19.69	27.56	31.5	31.5	31.5	31.5	31.5
	mm	250	250	315	355	450	500	500	700	800	800	800	800	800

GATE VALVES
BOLTED BONNET

CLASS 1500/2500





■ BB GATE 1500LB TABLE

VALVE SIZE		2	2.5	3	4	6	8	10	12	14	16	18	20	24
	inch	50	65	80	100	150	200	250	300	350	400	450	500	600
A1&A2 (RF)&(BW)	inch	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5	49.5	54.5	60.5	65.5	76.5
	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943
A3 (RTJ)	inch	14.62	16.62	18.62	21.62	28	33.13	39.38	45.12	50.25	55.38	61.38	66.38	77.62
	mm	371	422	473	549	711	842	1000	1146	1276	1407	1559	1686	1972
H (OPEN HEIGHT)	inch	22.44	24.02	28.5	29.3	45.5	58.5	64.5	79.5	83.5	96.3	106.5	119.3	142.5
	mm	570	610	724	744	1156	1486	1638	2019	2121	2421	2705	3030	3620
W (HANDWHEEL DIA.)	inch	9.84	9.84	13.98	15.75	19.69	27.56	27.56	31.50	31.50	31.50	31.50	31.50	31.50
	mm	250	250	355	400	500	700	700	800	800	800	800	800	800

■ BB GATE 2500LB TABLE

VALVE SIZE		2	2.5	3	4	6	8	10	12
	inch	50	65	80	100	150	200	250	300
A1&A2 (RF)&(BW)	inch	17.75	20	22.75	26.5	36	40.25	50	56
	mm	451	508	578	673	914	1022	1270	1422
A3 (RTJ)	inch	17.87	20.25	23	26.88	36.5	40.87	50.88	56.88
	mm	454	514	584	683	927	1038	1292	1445
H (OPEN HEIGHT)	inch	23.50	30.50	30.50	41.50	56.50	61.30	79.50	88.50
	mm	597	775	775	1054	1435	1557	2019	2248
W (HANDWHEEL DIA.)	inch	12.40	13.98	15.75	19.69	27.56	31.50	31.50	31.50
	mm	315	355	400	500	700	800	800	800

CAST STEEL
BOLTED BONNET

GLOBE VALVES

① BODY

The body is in cast steel. The basic dimension,i.e.wall thickness, face to face and flange comply with the relevant API and ANSI standards. The body-to-bonnet flange is circular and the sealing surface for connection to the bonnet are recessed in the 150lb and 300lb class or may be ring joint in the high classes. The body is threaded for renewable seats. Bosses are provided for drain taps or by-pass piping.

② BONNET

The bonnet is in cast steel. It is machined to accept the yoke sleeve and incorporates a stuffing box dimension in accordance with the API standard.

③ DISC

The disc is part of the trim. It is in cast stainless steel for diameters up to 8" and in cast steel for larger valves. It is normally supplied of the flat, tapered or plug type or, on request, of the parabolic regulating type, always free to rotate on the stem. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

④ SEAT RING

The seat ring is part of the trim. Its outer diameter is threaded and its bore is notched to ease installing and dismantling. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

⑤ STEM

The stem is part of the trim. A ground backseat is provided to ensure a perfectly tight seal to the stuffing box when the valve is fully open. The stem is attached to the disc by means of a threaded ring which allows the disc to rotate. The stem is ground to minimize friction and prevent damage to gland packing.

⑥ BONNET BUSHING

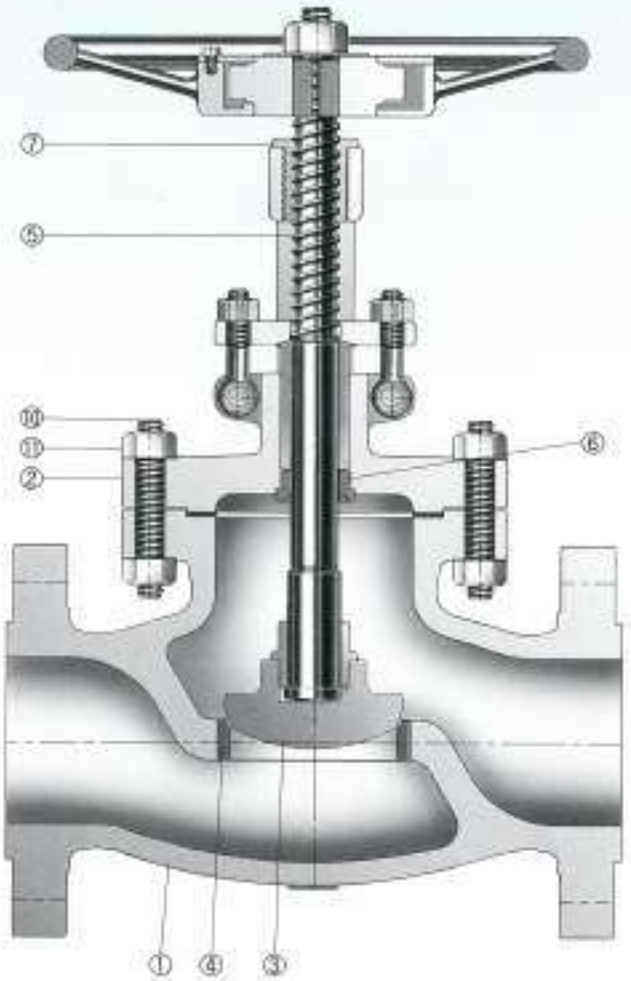
The bonnet bushing or backseat is part of the trim. Special attention is give to its machining and heat treatment to insure a proper seat for gland repacking under pressure. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

⑦ YOKE SLEEVE

The yoke sleeve is made from cast austenitic ductile iron having high resistance to wear and a high melting point. It is screwed into the bonnet and properly sized to withstand the stresses which develop when opening and closing the valve.

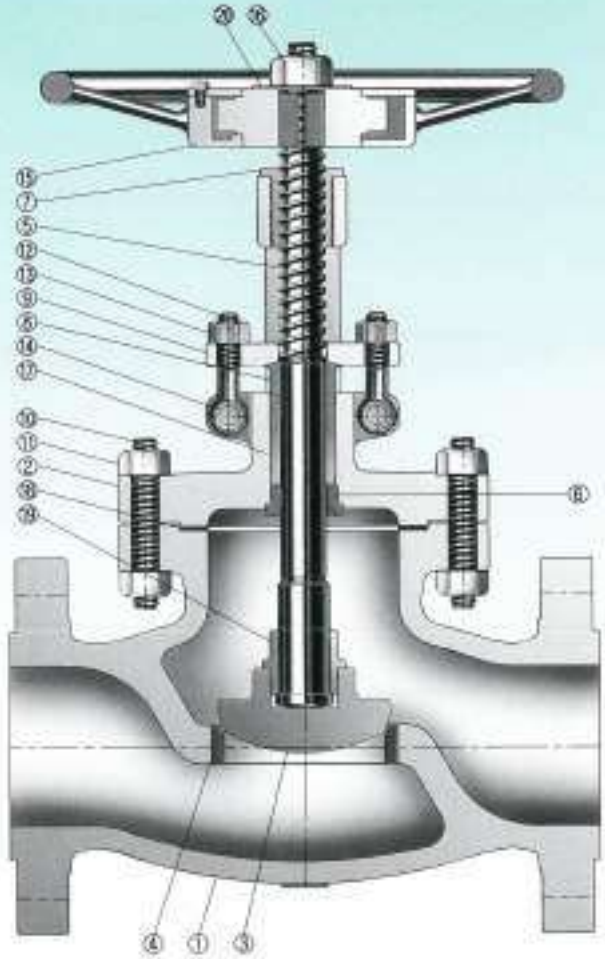
⑩,⑪ BONNET BOLTING

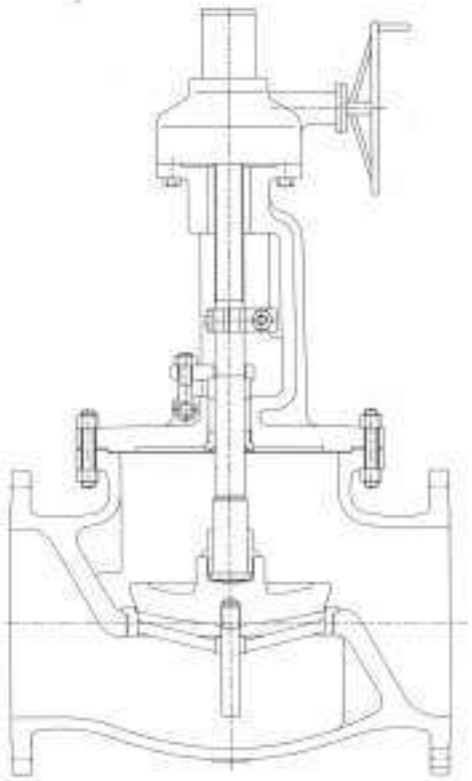
Bonnet studs and nuts are manufactured from alloy steel to the relevant ASTM standard.



CAST STEEL
BOLTED BONNET

GLOBE VALVES



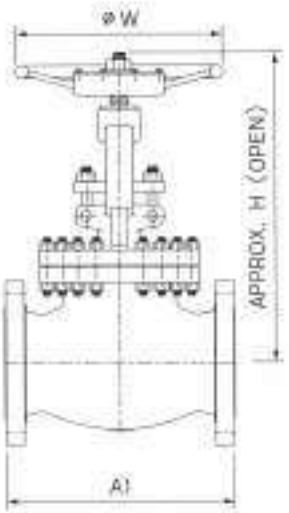


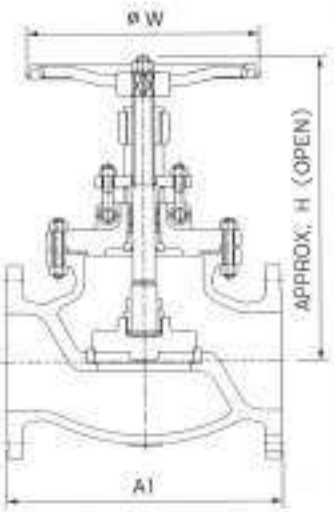
No	PARTS NAME	ASTM SPECIFICATIONS						REMARKS
		STANDARD	LOW TEMP. SERVICE		HIGH TEMP. SERVICE			
1	BODY	A216-WCB	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	
2	BONNET	A216-WCB	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	
3	DISC	A217-CA15	A351-CF8	A351-CF8	A217-CA15	A217-CA15	A217-CA15	NOTE 1,2
4	BODY SEAT RING	A108-C/S1020+HF	A182-F304+HF	A182-F304+HF	A182-F11+HF	A182-F22+HF	A182-F5a+HF	NOTE 2
5	STEM	A276-410	A276-304	A276-304	A276-410	A276-410	A276-410	
6	BACK SEAT RING	A276-410	A276-304	A276-304	A276-410	A276-410	A276-410	
7	YOKE SLEEVE	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C	
8	PACKING GLAND	A276-410	A276-304	A276-304	A276-410	A276-410	A276-410	
9	GLAND FLANGE	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	
10	BONNET BOLT	A193-B7	A320-L7	A320-L7	A193-B16	A193-B16	A193-B16	
11	BONNET NUT	A194-2H	A194-4	A194-4	A194-4	A194-4	A194-4	
12	GLAND BOLT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	
13	GLAND NUT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	
14	HINGE PIN	A108-C/S1020	A108-C/S1020	A108-C/S1020	A108-C/S1020	A108-C/S1020	A108-C/S1020	
15	HAND WHEEL	A536	A536	A536	A536	A536	A536	
16	HAND WHEEL NUT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	
17	PACKING	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	NOTE 3
18	GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	NOTE 3
19	DISC LOCK NUT	A276-410	A276-304	A276-304	A276-410	A276-410	A276-410	
20	NAME PLATE	AL./A240-304	AL./ A240-304	AL./ A240-304	AL./ A240-304	AL./ A240-304	AL./ A240-304	

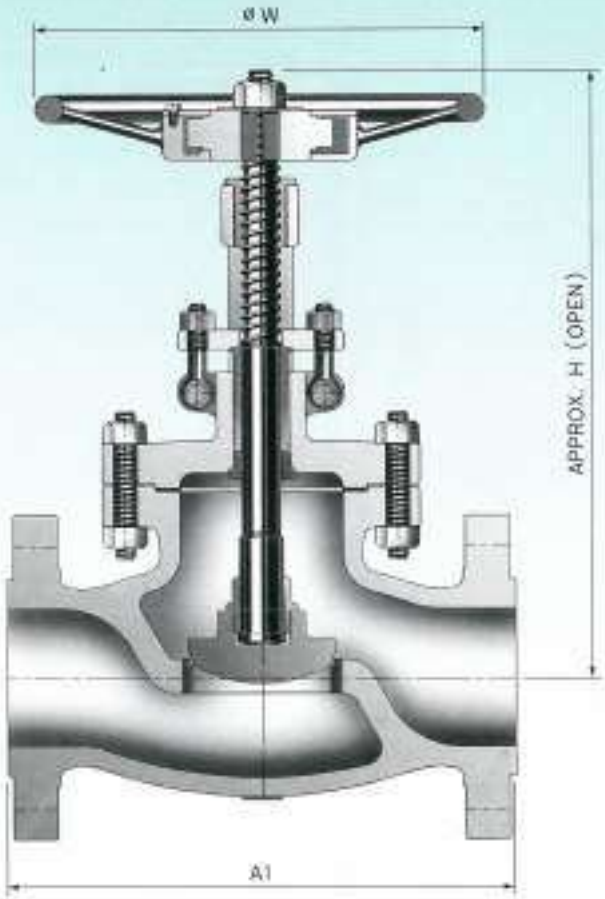
NOTE 1. Size 10" & larger : body material with trim material overlayed
2. Size 8" & larger : bottom guide type
3. Packing & gasket material : customer's requirements

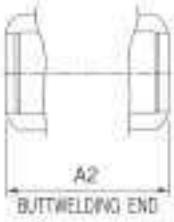
GLOBE VALVES
BOLTED BONNET

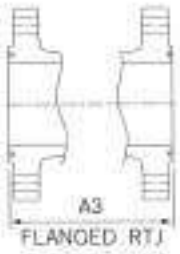
CLASS 150/300











■ BB GLOBE 150LB TABLE

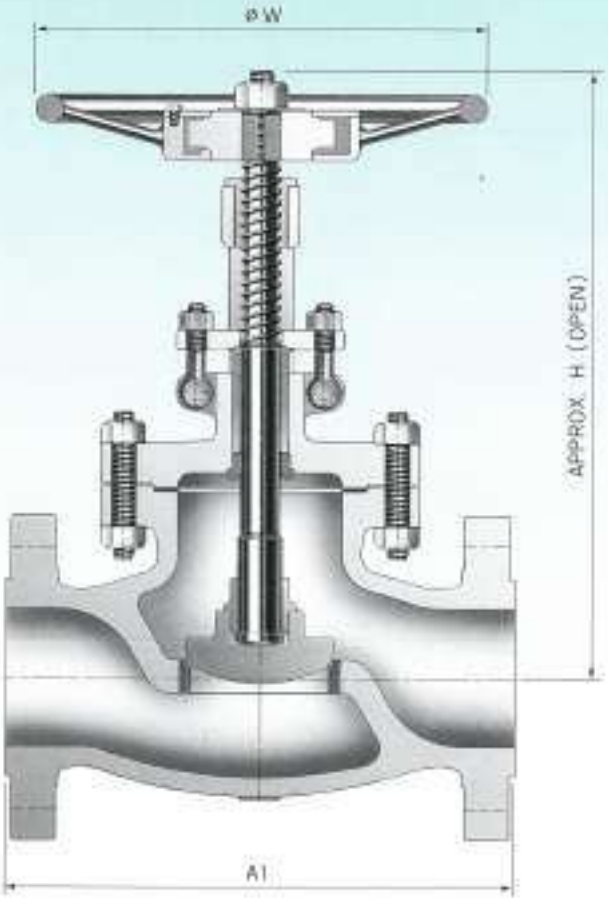
VALVE SIZE												
	inch	2	2.5	3	4	6	8	10	12	14	16	18
	mm	50	65	80	100	150	200	250	300	350	400	450
A1&A2 (RF)&(BW)	inch	8	8.5	9.5	11.5	16	19.5	24.5	27.5	31	36	38.5
	mm	203	216	241	292	406	495	622	699	787	914	978
H (OPEN HEIGHT)	inch	14.57	15.35	17.32	18.11	20.47	25.59	31.50	35.04	40.94	46.85	53.94
	mm	370	390	440	460	520	650	800	890	1040	1190	1370
W (HANDWHEEL DIA.)	inch	7.87	7.87	8.82	9.84	12.4	13.98	15.75	17.72	19.69	27.95	27.95
	mm	200	200	224	250	315	355	400	450	500	710	710

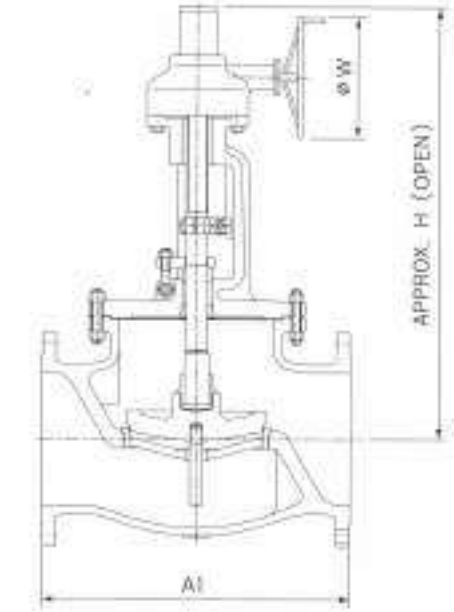
■ BB GLOBE 300LB TABLE

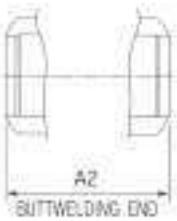
VALVE SIZE											
	inch	2	2.5	3	4	6	8	10	12	14	16
	mm	50	65	80	100	150	200	250	300	350	400
A1&A2 (RF)&(BW)	inch	10.5	11.5	12.5	14	17.5	22	24.5	28	33	34
	mm	267	292	318	356	445	559	622	711	838	864
A3 (RTJ)	inch	11.12	12.12	13.12	14.62	18.12	22.62	25.12	28.62	33.62	34.62
	mm	282	308	333	371	460	575	638	727	854	880
H (OPEN HEIGHT)	inch	15.75	17.32	18.50	22.06	28.36	33.86	41.73	51.18	57.09	62.99
	mm	400	440	470	560	720	860	1060	1300	1450	1600
W (HANDWHEEL DIA.)	inch	7.87	7.87	9.84	12.4	13.98	15.75	19.69	19.69	27.95	27.95
	mm	200	200	250	315	355	400	500	500	710	710

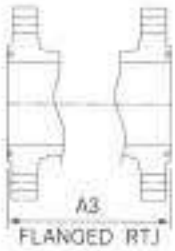
GLOBE VALVES
BOLTED BONNET

CLASS 600/900









■ BB GLOBE 600LB TABLE

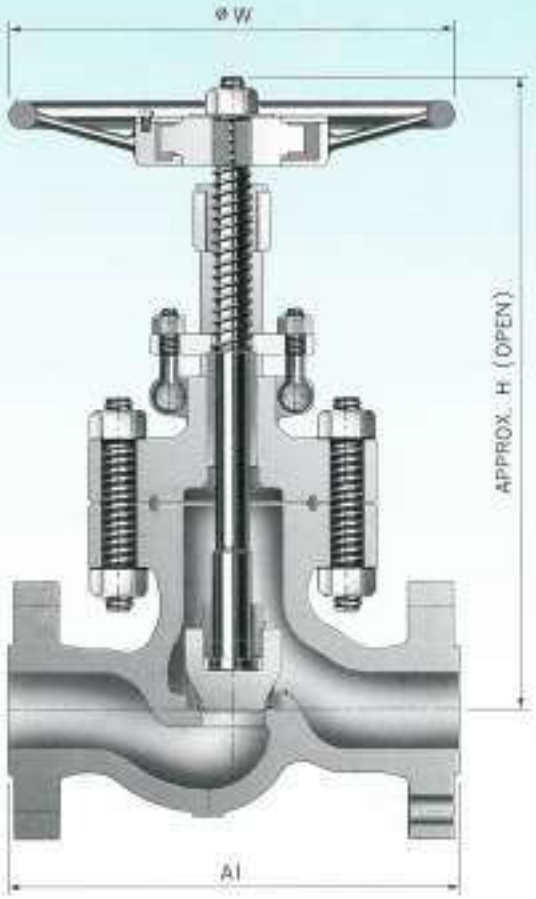
VALVE SIZE		2	2.5	3	4	6	8	10	12
	inch	2	2.5	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
A1&A2 (RF)&(BW)	inch	11.5	13	14	17	22	26	31	33
	mm	292	330	356	432	559	660	787	838
A3 (RTJ)	inch	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12
	mm	295	333	359	435	562	663	790	841
H (OPEN HEIGHT)	inch	20.47	22.44	23.62	31.50	39.76	47.24	55.12	59.84
	mm	520	570	600	800	1010	1200	1400	1520
W (HANDWHEEL DIA.)	inch	9.84	12.4	13.98	17.72	17.72	19.69	31.5	31.5
	mm	250	315	355	450	450	500	800	800

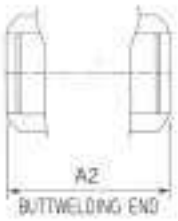
■ BB GLOBE 900LB TABLE

VALVE SIZE		2	2.5	3	4	6	8	10	12
	inch	2	2.5	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
A1&A2 (RF)&(BW)	inch	14.5	16.5	15	18	24	29	33	38
	mm	368	419	381	457	610	737	838	965
A3 (RTJ)	inch	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12
	mm	371	422	384	460	613	740	841	968
H (OPEN HEIGHT)	inch	22.05	23.23	25.20	31.89	41.34	53.54	61.81	66.93
	mm	560	590	640	810	1050	1360	1570	1700
W (HANDWHEEL DIA.)	inch	12.4	13.98	13.98	15.75	19.69	27.56	31.5	31.5
	mm	315	355	355	400	500	700	800	800

GLOBE VALVES
BOLTED BONNET

CLASS 1500/2500





■ BB GLOBE 1500LB TABLE

VALVE SIZE		2	2.5	3	4	6	8	10	12
	inch								
	mm	50	65	80	100	150	200	250	300
A1&A2 (RF)&(BW)	inch	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5
	mm	368	419	470	546	705	832	991	1130
A3 (RTJ)	inch	14.62	16.62	18.62	21.62	28	33.13	39.38	45.12
	mm	371	422	473	549	711	842	1000	1146
H (OPEN HEIGHT)	inch	22.05	23.23	29.53	36.02	48.62	64.96	83.46	96.46
	mm	560	590	750	915	1235	1650	2120	2450
W (HANDWHEEL DIA.)	inch	12.40	13.98	15.75	19.69	27.56	27.56	31.50	31.50
	mm	315	355	400	500	700	700	800	800

■ BB GLOBE 2500LB TABLE

VALVE SIZE		2	2.5	3	4	6	8	10	12
	inch								
	mm	50	65	80	100	150	200	250	300
A1&A2 (RF)&(BW)	inch	17.75	20	22.75	26.5	36	40.25	50	56
	mm	451	508	578	673	914	1022	1270	1422
A3 (RTJ)	inch	17.87	20.25	23	26.88	36.5	40.87	50.88	56.88
	mm	454	514	584	683	927	1038	1292	1445
H (OPEN HEIGHT)	inch	25.59	28.15	32.48	47.05	70.47	91.14	105.31	127.95
	mm	650	715	825	1195	1790	2315	2675	3250
W (HANDWHEEL DIA.)	inch	13.98	17.72	19.69	27.56	27.56	31.50	31.50	31.50
	mm	355	450	500	700	700	800	800	800

CAST STEEL
BOLTED COVER

SWING CHECK VALVES

① BODY

The body is in cast steel, carefully designed to keep pressure drops to a minimun. A wide opening on top of the body permits easy inspection and maintenance. The basic dimension,i.e.wall thickness, face to face and flanges, comply with the relevant API and ANSI standards. The body-to-cover flange is circular. The body is threaded for a renewable seats and an integral over-travel stop is incorporated for the disc. Bosses are provided for drain taps or by-pass piping.

② COVER

The cover is in cast steel. The sealing surface for the connection to the body are recessed in the 150 and 300 class and ring joint in the higher classes.

③ DISC

The disc is part of the trim. The back side has a threaded stud for attachment to the hinge with a stainless steel nut and split pin to insure a strong connection. The seating face is ground and lapped, for a perfectly tight seal.

④ BODY SEAT RING

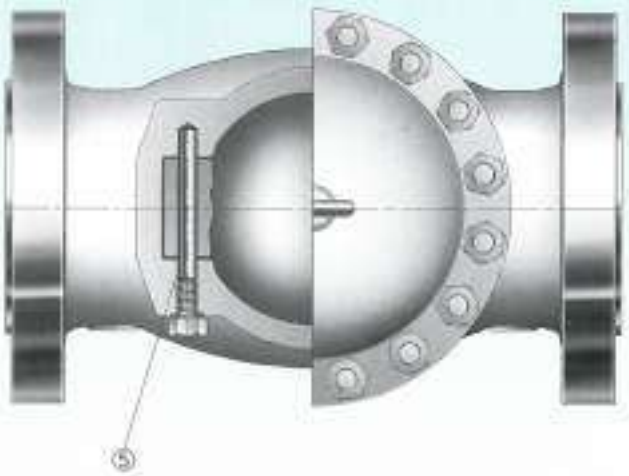
The seat ring is part of the trim. Its outer diameter is threaded and its bore is notched to ease installing and dismantling. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

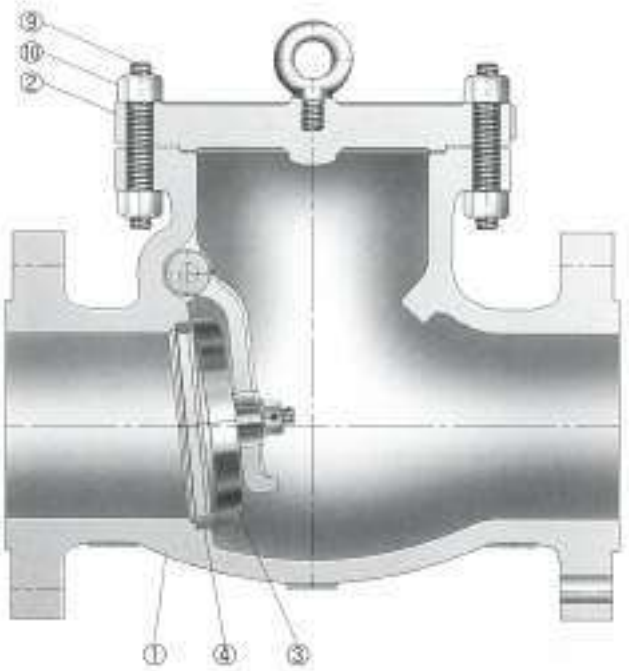
⑤ HINGE PIN

The hinge pin is part of the trim. The hinge pin is retained in the body by threaded plugs and sealed by metallic or non-asbestos gaskets. The pin can be easily removed for maintenance of the valve.

⑨,⑩ COVER BOLTING

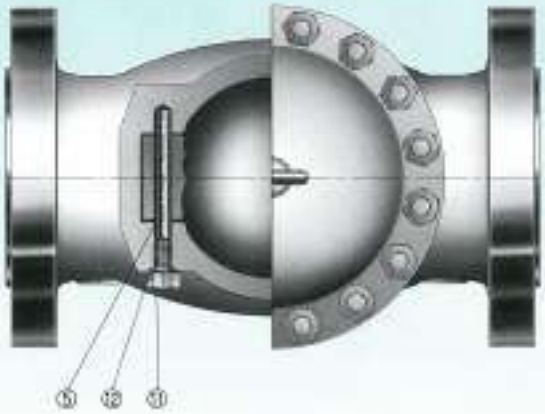
Cover studs and nuts are manufactured from alloy steel to the relevant ASTM standard.

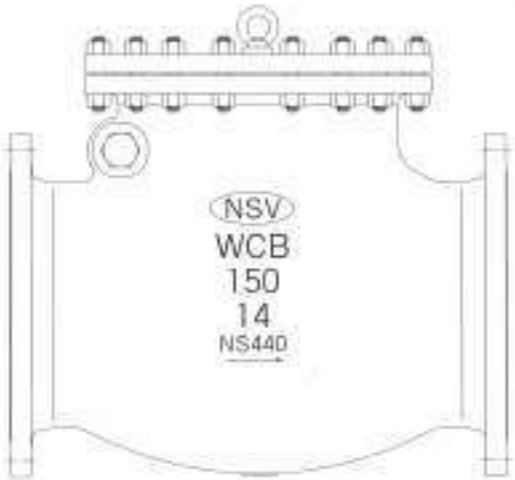


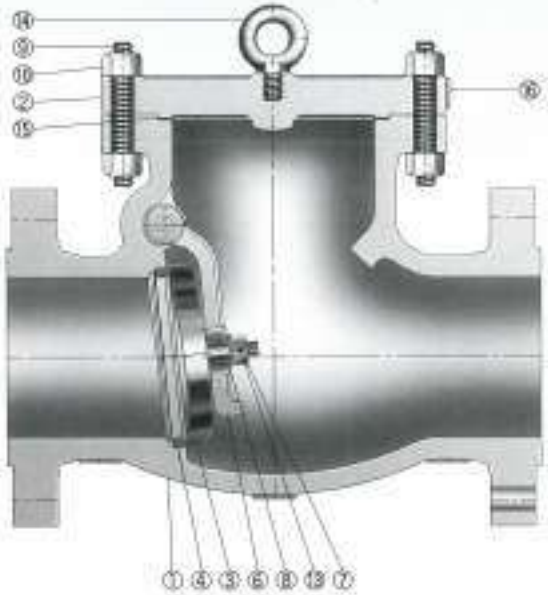


CAST STEEL
BOLTED COVER

SWING CHECK VALVES





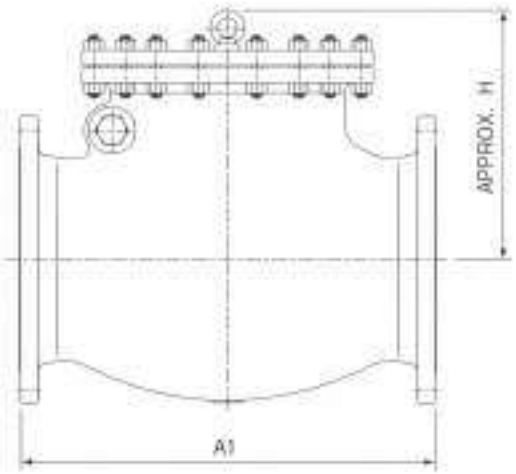


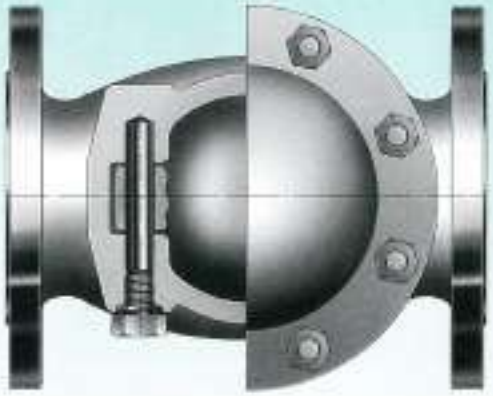
No.	PARTS NAME	ASTM SPECIFICATIONS						REMARKS
		STANDARD	LOW TEMP. SERVICE		HIGH TEMP. SERVICE			
1	BODY	A216-WCB	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	
2	COVER	A216-WCB	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	
3	DISC	A217-CA15	A351-CF8	A351-CF8	A217-CA15	A217-CA15	A217-CA15	NOTE 1
4	BODY SEAT RING	A108-C/S1020+HF	A182-F304+HF	A182-F304+HF	A182-F11+HF	A182-F22+HF	A182-F5a+HF	
5	HINGE PIN	A276-410	A276-304	A276-304	A276-410	A276-410	A276-410	
6	ARM	A216-WCB	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5	
7	DISC NUT	A194-8	A194-8	A194-8	A194-8	A194-8	A194-8	
8	WASHER	A240-304	A240-304	A240-304	A240-304	A240-304	A240-304	
9	COVER BOLT	A193-B7	A320-L7	A320-L7	A193-B16	A193-B16	A193-B16	
10	COVER NUT	A194-2H	A194-4	A194-8	A194-4	A194-4	A194-4	
11	PLUG BOLT	A307-B	A276-304	A276-304	A276-410	A276-410	A276-410	
12	PLUG GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	NOTE 2
13	SPLIT PIN	A580-304	A580-304	A580-304	A580-304	A580-304	A580-304	
14	EYE BOLT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	
15	GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	NOTE 2
16	NAME PLATE	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	

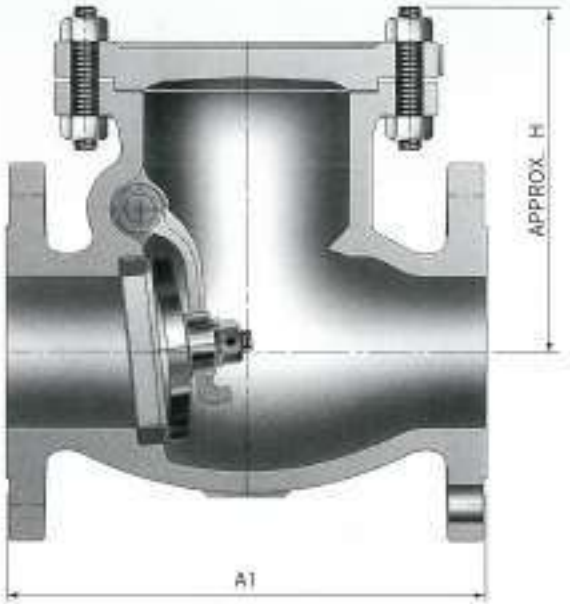
NOTE 1. Size 10" & larger : body material with trim material overlayed
2. gasket material : customer's requirements

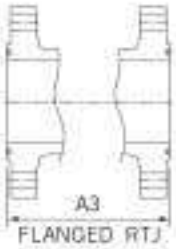
SWING CHECK VALVES
BOLTED COVER

CLASS 150/300









■ BC SW-CH 150LB TABLE

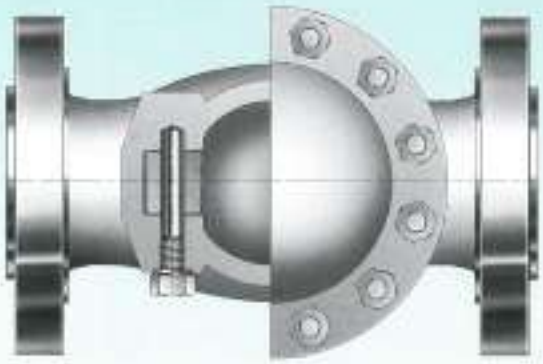
VALVE SIZE	inch	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900
A1&A2 (RF)&(BW)	inch	8	8.5	9.5	11.5	14	19.5	24.5	27.5	31	34	38.5	38.5	51	57	60	77
	mm	203	216	241	292	356	495	622	699	787	864	978	978	1295	1448	1524	1956
H (VALVE HEIGHT)	inch	5.51	6.30	6.69	8.27	9.84	11.02	12.60	12.99	15.55	17.72	20.87	22.44	26.38	35.24	36.42	45.28
	mm	140	160	170	210	250	280	320	330	395	450	530	570	670	895	925	1150

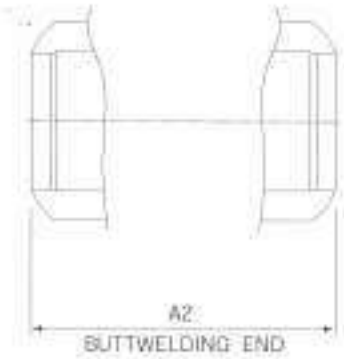
■ BC SW-CH 300LB TABLE

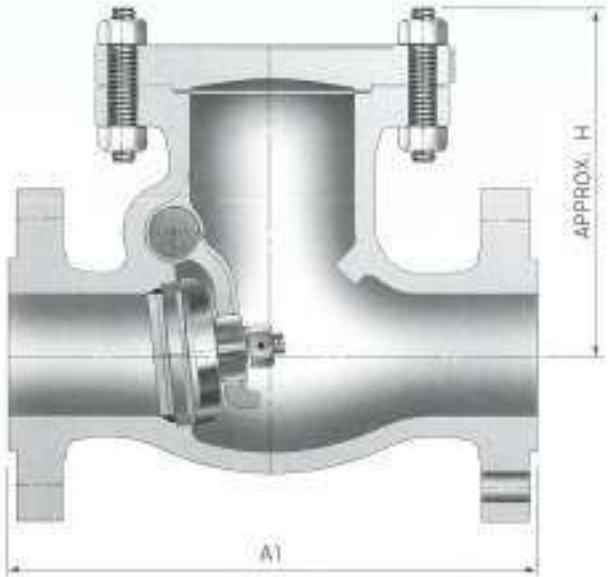
VALVE SIZE	inch	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900
A1&A2 (RF)&(BW)	inch	10.5	11.5	12.5	14	17.5	21	24.5	28	33	34	38.5	40	53	59	62.75	82
	mm	267	292	318	356	445	533	622	711	838	864	978	1016	1346	1499	1594	2083
A3 (RTJ)	inch	11.12	12.12	13.12	14.62	18.12	21.62	25.12	28.62	33.62	34.62	39.12	40.75	53.88	60	63.75	83.12
	mm	282	308	333	371	460	549	638	727	854	879	994	1035	1369	1524	1619	2111
H (VALVE HEIGHT)	inch	6.30	6.69	7.28	9.06	11.61	13.58	15.35	17.52	18.50	20.08	21.46	23.62	27.17	36.42	37.99	49.21
	mm	160	170	185	230	295	345	390	445	470	510	545	600	690	925	965	1250

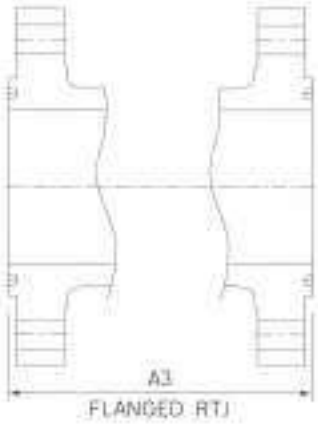
SWING CHECK VALVES
BOLTED COVER

CLASS 600/900









■ BC SW-CH 600LB TABLE

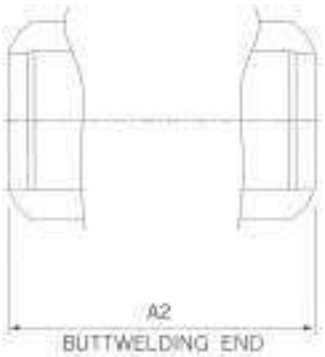
VALVE SIZE	inch	2	2.5	3	4	6	8	10	12	14	16	18	20	24	28	30
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750
A1&A2 (RF)&(BW)	inch	11.5	13	14	17	22	26	31	33	35	39	43	47	55	63	65
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1600	1651
A3 (RTJ)	inch	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	36.12	39.12	43.12	47.25	55.38	63.5	65.5
	mm	295	333	359	435	562	663	790	841	892	994	1095	1200	1407	1615	1664
H (VALVE HEIGHT)	inch	7.50	7.87	9.50	10.10	12.65	14.96	17.65	18.50	21.75	26.50	27.75	29.55	31.50	34.5	38.5
	mm	191	200	241	257	321	380	446	470	552	673	705	751	800	876	978

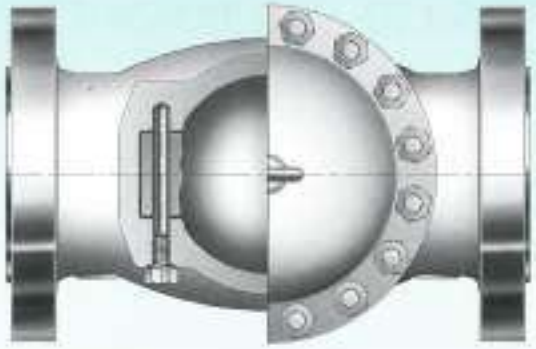
■ BC SW-CH 900LB TABLE

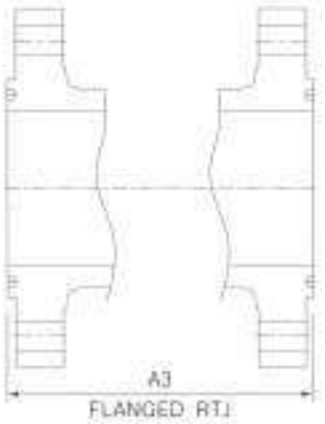
VALVE SIZE	inch	2	2.5	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
A1&A2 (RF)&(BW)	inch	14.5	16.5	16	18	24	29	33	38	40.5	44.5	48	52	61
	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
A3 (RTJ)	inch	14.62	16.62	15.12	18.12	21.12	29.12	33.12	38.12	40.88	44.88	48.5	52.5	61.75
	mm	371	422	384	460	536	740	841	968	1038	1140	1232	1334	1568
H (VALVE HEIGHT)	inch	7.87	9.06	9.84	11.42	12.99	16.14	18.31	20.47	22.83	27.48	28.43	31.42	33.27
	mm	200	230	250	290	330	410	465	520	580	698	722	798	845

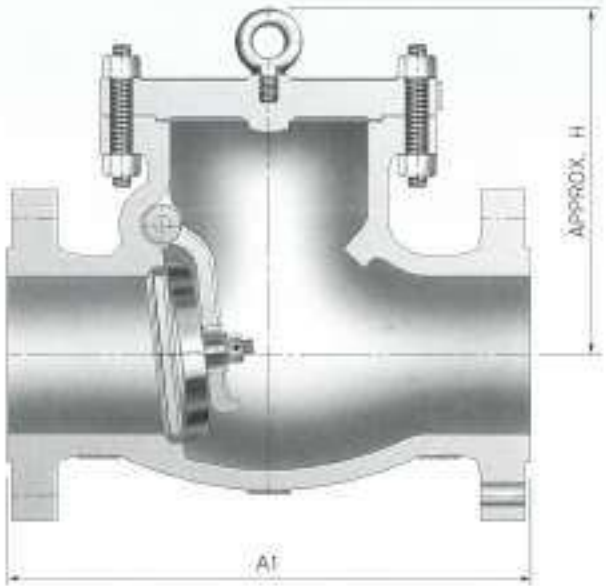
SWING CHECK VALVES
BOLTED COVER

CLASS 1500/2500









■ BC SW-CH 1500LB TABLE

VALVE SIZE		2	2.5	3	4	6	8	10	12	14	16	18	20	24
	inch	50	65	80	100	150	200	250	300	350	400	450	500	600
A1&A2 (RF)&(BW)	inch	14.5	16.5	18.5	21.5	27.75	32.75	39	44.5	49.5	54.5	60.5	65.5	76.5
	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943
A3 (RTJ)	inch	14.62	16.62	18.62	21.62	28	33.13	39.38	45.12	50.25	55.38	61.38	66.38	77.62
	mm	371	422	473	549	711	842	1000	1146	1276	1407	1559	1686	1972
H (VALVE HEIGHT)	inch	7.87	9.06	12.99	14.76	16.54	20.87	23.43	25.98	29.13	30.91	32.87	34.06	37.40
	mm	200	230	330	375	420	530	595	660	740	785	835	865	950

■ BC SW-CH 2500LB TABLE

VALVE SIZE		2	2.5	3	4	6	8	10	12
	inch	50	65	80	100	150	200	250	300
A1&A2 (RF)&(BW)	inch	17.75	20	22.75	26.5	36	40.25	50	56
	mm	451	508	578	673	914	1022	1270	1422
A3 (RTJ)	inch	17.87	20.25	23	26.88	36.5	40.87	50.88	56.88
	mm	454	514	584	683	927	1038	1292	1445
H (VALVE HEIGHT)	inch	10.83	13.19	13.78	15.16	18.70	24.61	28.03	35.63
	mm	275	335	350	385	475	625	712	905

SEJIN VALVE

Our company endeavor
ceaselessly to develop
new products and
for quality improvement.

SEJIN VALVE IND. CO., LTD.

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www.sjvalve.co.kr

SEJIN VALVE

CRYOGENIC VALVES

Double-Flanged BUTT-Weld
ASME Class 150

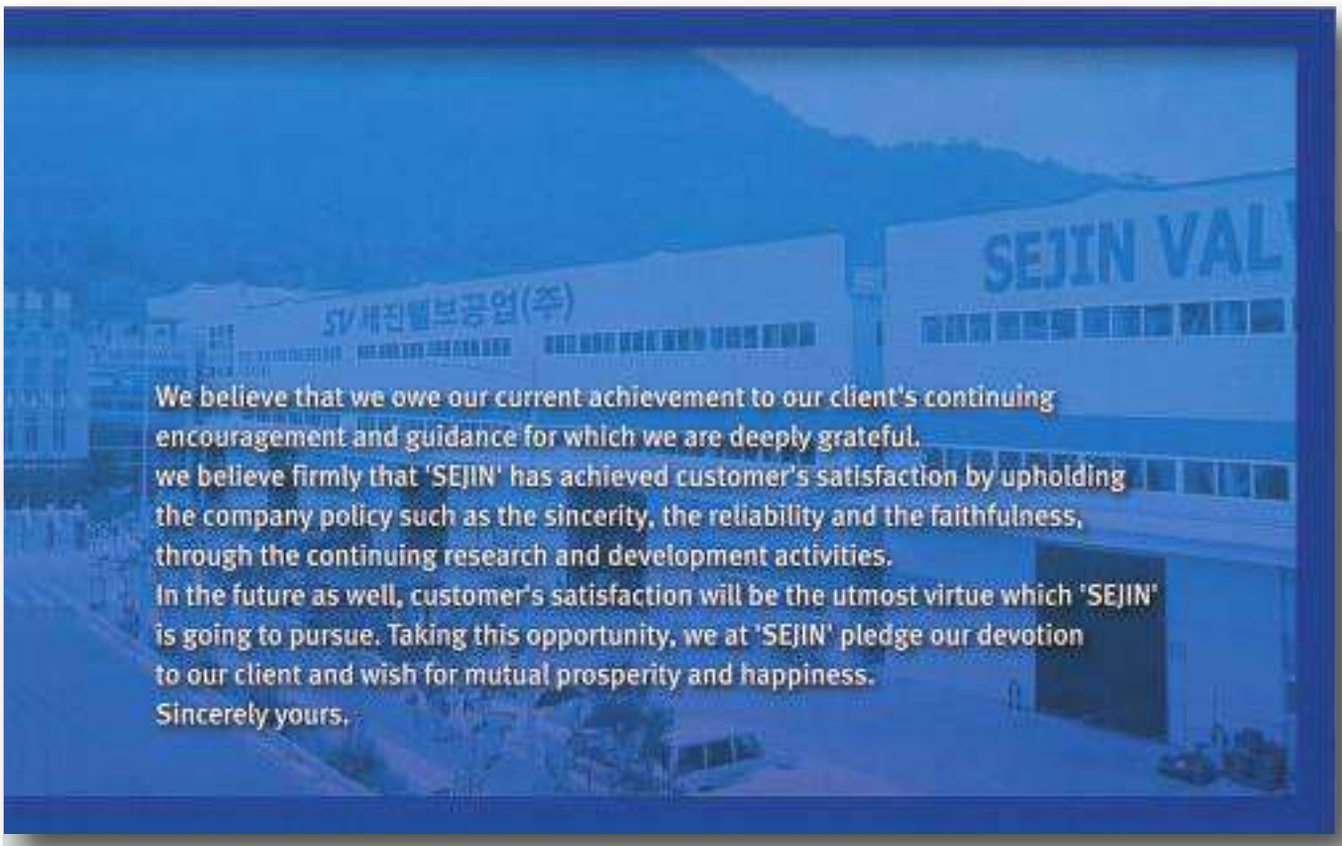
SEJIN VALVE IND. CO., LTD.

SEJIN VALVE

We are indeed pleased to take this opportunity to introduce SEJIN VALVE INDUSTRIAL CO., LTD. and its business activities to you.
We are Proud of our clients recognition of its quality and high performance, as reflected in our valves being widely used in service water and in power plant and the others plants as well.

HISTORY

1999	Established SEJIN VALVE CO.
	Converted to Corporation, SEJIN VALVE IND.CO.,LTD.
	Obtained Licence of Trading Business (The Firdt Grade)
	Acquired ISO 9001 Certificate from KS
2000	Subscription of a Member of Korea Valve Industry Corporation
	Regidtered as One of Supplying Vendors for Korea Electric Power Corporation (KEPCO).
	R-Class / 120″ and smaller.
	Developed Valve for Ultralow Temperature for LNG (-196℃)
	Developed Dual Plate Check Valve
2002	Acquired Certificate of KS (KSB 2333)
2003	Acquired Certificate of KS (KSB 2813)
	Registered as One of Supplying Vendors for Korea Hydro & Nuclear Power Corporation.
	NUCLEAR R-Class / 120″ and smaller.
2004	Developed Valve for Triple Eccentric type Butterfly Valve.
2005	Moved New Factory to Singjeong-dong, Kangser-gu, Busan, Korea.
	Acquired Certificate of CE (BUREAU VERITAS)
2006	Up-grade as One of Supplying Vendors for Korea Hydro & Nuclear Power Corporation.
	NUCLEAR T-Class / 120″ and Smaller.
2010	Moved New Factory to Hwajeon-dong, Kangseo-gu, Busan, Korea.
2014	Acquired ISO 14001 Certificate from KS
2015	Moved New Factory to Noksan Industrial Complex.
2017	Acquired Certificate of Butterfly Valves Type Approval(ABS, BV, DNVGL, KR, LR)
2020	Acquired Certificate of RMRS(Russian Maritime Register of Shipping)
2021	Acquired Certificate of Cryogenic Ball Valves Type Approval(BUREAU VERITAS)



Our company endeavor ceaselessly to develop new products and for quality improvement.

Technological Know-how of SEJIN VALVE

- KS Q 9001 : 2009 / ISO 9001 : 2008
- KS (Korean Industrial Standards) - KS B 2333 / 2002
- KS (Korean Industrial Standards) - KS B 2813 / 2003
- Practical Use Registration-Butterfly Valve /2002
- KS I ISO 14001 : 2009 / ISO 14001 : 2004
- Registered as Supplying Vendors for Korea -Hydro & Nuclear Power corporation (Nuclear T/R-class)
- Registered as Supplying Vendors for Korea -Electric Power Coporation (Kepco T/R-class)
- Acquired Certificate of CE (BUREAU VERITAS)
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CRYOGENIC BUTTERLY VALVES

ASME Class 150

HCT Series

DOUBLE FLANGE TYPE

7P

STANDARD FEATURES

ASME Class 150
SIZE : 4″~32″
END CONNECTION : Raised Face
One-Piece Shaft Design
Hard Faced Seat
MATERIALS : Stainless steel
Manual Gear Operation
Actuators(Pneumatic,Hydraulic,Electric)

HCT Series

BUTT-WELD TYPE

8P

STANDARD FEATURES

ASME Class 150
SIZE : 4″~32″
One-Piece Shaft Design
Hard Faced Seat
MATERIALS : Stainless steel
Manual Gear Operation
Actuators(Pneumatic,Hydraulic,Electric)

CRYOGENIC BALL VALVES

ASME Class 150

CBV Series

DOUBLE FLANGE TYPE

10P

STANDARD FEATURES

ASME Class 150
SIZE : 2″~12″
END CONNECTION : Raised Face
SEAT : PCTFE
MATERIALS : Stainless steel
Manual Gear Operation
Actuators(Pneumatic,Hydraulic,Electric)

CBV Series

BUTT-WELD TYPE

11P

STANDARD FEATURES

ASME Class 150
SIZE : 2″~12″
SEAT : PCTFE
MATERIALS : Stainless steel
Manual Gear Operation
Actuators(Pneumatic,Hydraulic,Electric)

CRYOGENIC BUTTERFLY VALVES

Double Flanged/Butt-Weld Type
ASME Class 150

– Standard Specification

■ STANDARD DESIGN	API 609, ASME B16.34
■ FACE-TO-FACE DIMENSIONS	Maker Standard
■ END FLANGE DIMENSIONS	ASME B16.5
■ TEST & INCPECTION	API 598/API 6D/ISO 5208/BS6364/BS EN ISO 28921-1/-2
■ MATERIAL	ASTM Material Specifications as per ASME B16.34

– Design Features

- TOP ENTRY FOR IN-LINE MAINTENANCE.
- BI-DIRECTIONAL.
- ANTI BLOW OUT STEM DESIGN.
- ACTUATORS(PNEUMATIC, HYDRAULIC, ELECTRIC).

– Product Range

- SIZE : 4″(DN100) ~ 32″(DN800)
- ASME Class 150, 300, 600
- BS EN PN6, PN10, PN16, PN25
- JIS 5K, 10K, 16K, 20K, 30K

– Materials (Applicable ASTM Spexification)

■ Austrnitic Stainless Steel	A351 CF8M/CF3M, A182 F316/F316L

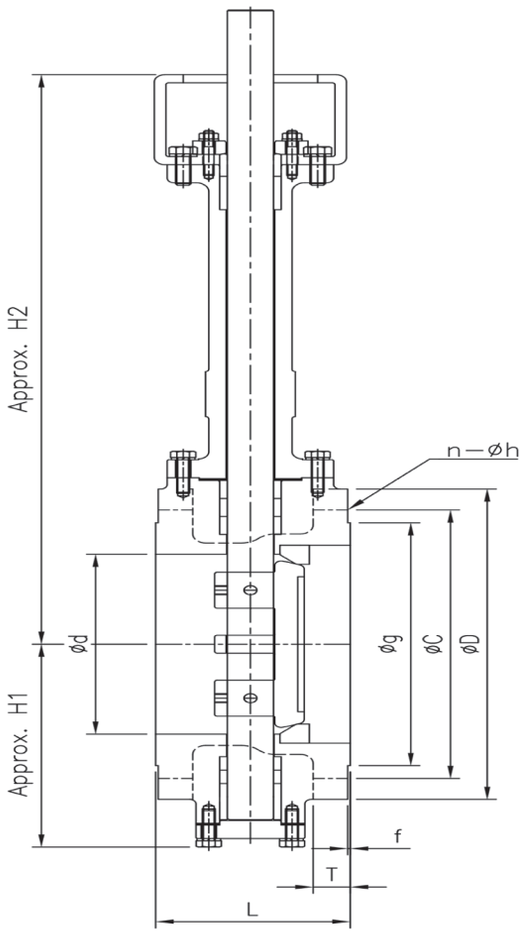
– Pressure Testing Procedure

1) Ambient Temperature
   · Shell Leakage Test
   · Seat Leakage Test
2) Cryogenic Temperature
   · Initial Proving Test
   · Open/Close 20 Operating Cycles Test
   · Torque Test
   · Seat Leakage Test at Incremental Pressures
3) Return to Ambient Temperature
   · Shell Leakage Test
   . Seat Leakage Test

DOUBLE FLANGE tYPE
ASME Class 150

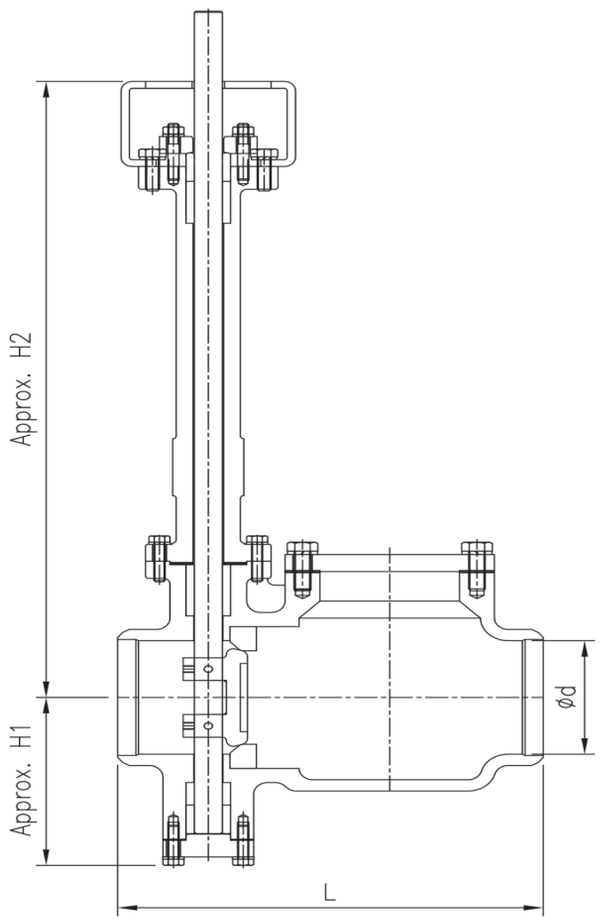
CRYOGENIC BUTTERFLY VLAVES

HCT Series



DIMENSIONS										
SIZE	Ø d	L	Ø D	Ø C	n – Ø h	Ø g	f	T	H1	H2
4″	100	127	230	190.5	8-19	157.2	2	22.3	148	565
6″	150	140	280	241.3	8-22	215.9	2	23.9	180	605
8″	200	152	345	298.5	8-22	269.9	2	27	226	645
10″	250	165	405	362	12-25	323.8	2	28.6	272	710
12″	300	178	485	431.8	12-25	381	2	30.2	302	745
14″	350	190	535	476.3	12-29	412.8	2	33.4	335	850
16″	400	216	595	539.8	16-29	469.9	2	35	380	940
18″	450	222	635	577.9	16-32	533.4	2	38.1	430	1000
20″	500	229	700	635	20-32	584.2	2	41.3	460	1100
24″	600	267	815	749.3	20-35	692.2	2	46.1	560	1230
26″	650	292	870	806.4	24-35	749	2	66.7	590	1260
28″	700	292	925	863.6	28-35	800	2	69.9	620	1290
30″	750	318	985	914.4	28-35	857	2	73.1	650	1340
32″	800	318	1060	977.9	28-41	914	2	79.4	680	1380

HCT Series



DIMENSIONS				
SIZE	∅ d	L	H1	H2
4″	100	305	148	545
6″	150	403	200	585
8″	200	419	226	605
10″	250	457	272	710
12″	300	490	302	745
14″	350	520	335	850
16″	400	555	380	940
18″	450	580	430	1000
20″	500	615	460	1100
24″	600	670	560	1230
26″	650	740	590	1260
28″	700	760	620	1290
30″	750	820	650	1340
32″	800	900	680	1380

Double Flanged/Butt-Weld tYPE
ASME Class 150

CRYOGENIC BALL VALVES

CBV Series

– Standard Specification

■ STANDARD DESIGN	API 6D, ASME B16.34
■ FACE-TO-FACE DIMENSIONS	Maker Standard
■ END FLANGE DIMENSIONS	ASME B16.5
■ TEST & INCPECTION	API 598/API 6D/ISO 5208/BS6364/BS EN ISO 28921-1/-2
■ MATERIAL	ASTM Material Specifications as per ASME B16.34

– Design Features

- TOP ENTRY FOR IN-LINE MAINTENANCE.
- BI-DIRECTIONAL.
- ANTI BLOW OUT STEM DESIGN.
- ANTI STATIC DESIGN.
- DB(BLOCK BLEED), DBB(DOUBLE BLOCK BLEED), DIB(DOUBLE ISOLATION BLEED).
- ACTUATORS(PNEUMATIC, HYDRAULIC, ELECTRIC).

– Product Range

- SIZE : 2″(DN50) ~ 12″(DN300)
- ASME Class 150, 300, 600
- BS EN PN6, PN10, PN16, PN25
- JIS 5K, 10K, 16K, 20K, 30K

– Materials (Applicable ASTM Spexification)

■ Austmitic Stainless Steel	A351 CF8M/CF3M, A182 F316/F316L

– Pressure Testing Procedure

1) Ambient Temperature
   · Shell Leakage Test
   · Seat Leakage Test
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   · Seat Leakage Test at Incremental Pressures
3) Return to Ambient Temperature
   · Shell Leakage Test
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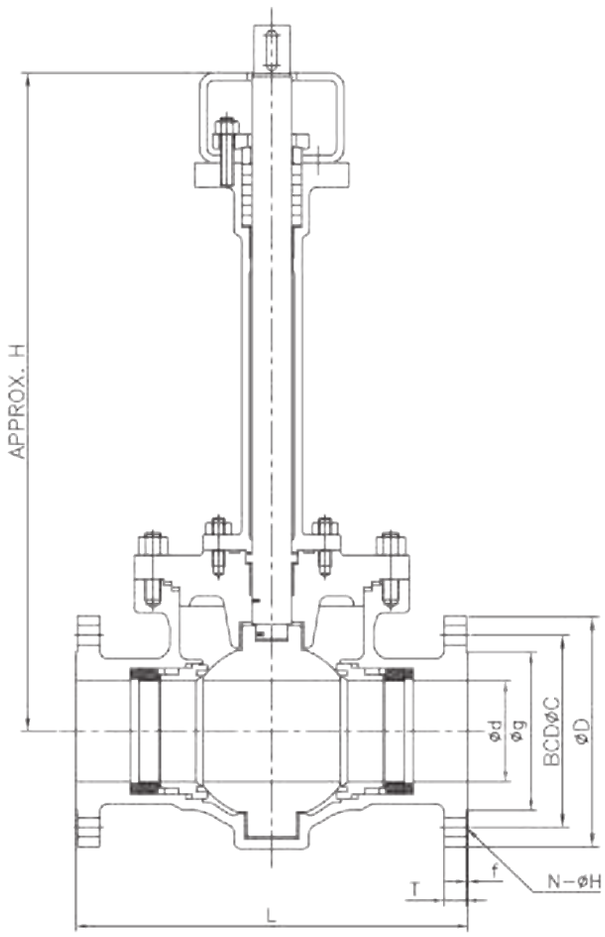
CBV Series

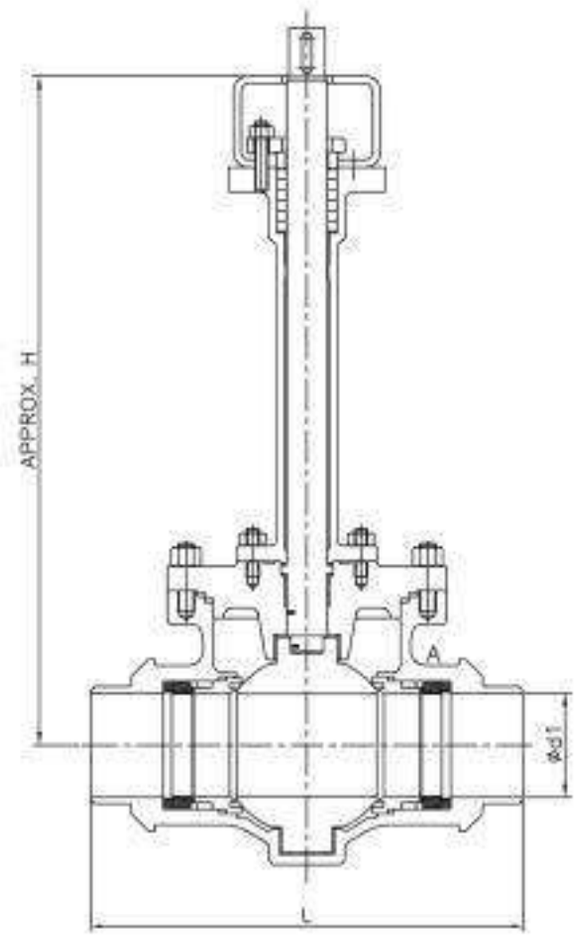


DIMENSIONS								
SIZE	L	H	Ø D	Ø C	Ø g	T	f	N– Ø H
2″	229	309	150	120.7	92.1	14.3	2	4-19
3″	305	382	190	152.4	127	17.5	2	4-19
4″	394	478	230	190.5	157.2	22.3	2	8-19
6″	457	849	280	241.3	215.9	23.9	2	8-22
8″	559	880	345	298.5	269.9	27	2	8-22
10″	610	992	405	362	323.8	28.6	2	12-25
12″	762	1072	485	431.8	381	30.2	2	12-25

Butt-Weld tYPE
ASME Class 150

CRYOGENIC BALL VALVES

CBV Series



DIMENSIONS			
SIZE	L	H	∅ d
2″	292	309	52.5
3″	356	382	77.9
4″	406	478	102.3
6″	502	849	154.1
8″	597	880	207.7
10″	660	992	254.5
12″	838	1072	304.8

SEJIN VALVE

Our company endeavor ceaselessly to develop new products and for quality improvement.

SV SEJIN VALVE IND.CO.,LTD.

HEAD OFFICE & FACTORY

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Tel. 82-51-831-7747~9 Fax. 82-51-831-7740 E-mail. sjvalve@korea.com

www.sjvalve.co.kr

SEJIN VALVE

TRIPLE, DOUBLE-OFFSET BUTTERFLY VALVES

Double-Flanged Lug-type Wafer-type
ASME Class 150, 300, 600

SEJIN VALVE IND. CO., LTD.

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- Acquired Certificate of CE (BUREAU VERITAS)

TRIPLE - OFFSET BUTTERFLY VALVES

ASME Class 150, 300, 600

BFO-TDF Series

DOUBLE FLANGE TYPE

6~9P

STANDARD FEATURES	FEATURES UPON REQUEST
Triple-offset Disc Rotation	
ASME Class 150, 300, 600	ASME Class 900,1500
SIZE : 3"~60" (Short, Long Pattern)	SIZE : 66"~144"
END CONNECTION : Raised Face	END CONNECTION : RTJ
One-Piece Shaft Design	Fire Safe Design
Hard Faced Seat	Cryogenic Type Design
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys
Manual Gear Operation	Actuators(Pneumatic,Hydraulic,Electric)

BFO-TLF Series

LUG TYPE

10~13P

STANDARD FEATURES	FEATURES UPON REQUEST
Triple-offset Disc Rotation	
ASME Class 150, 300, 600	ASME Class 900,1500
SIZE : 3"~60"	SIZE : 66"~144"
END CONNECTION : Raised Face	END CONNECTION : RTJ
One-Piece Shaft Design	Fire Safe Design
Hard Faced Seat	Cryogenic Type Design
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys
Manual Gear Operation	Actuators(Pneumatic,Hydraulic,Electric)

BFO-TWF Series

WAFER TYPE

14~17P

STANDARD FEATURES	FEATURES UPON REQUEST
Triple-offset Disc Rotation	
ASME Class 150, 300, 600	ASME Class 900,1500
SIZE : 3"~60"	SIZE : 66"~144"
END CONNECTION : Wafer Flat Face	END CONNECTION : RTJ
One-Piece Shaft Design	Fire Safe Design
Hard Faced Seat	Cryogenic Type Design
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys
Manual Gear Operation	Actuators(Pneumatic,Hydraulic,Electric)

DOUBLE - OFFSET BUTTERFLY VALVES

ASME Class 150, 300

BFO-DDF Series

DOUBLE FLANGE TYPE

18~21P

STANDARD FEATURES	FEATURES UPON REQUEST
Double-offset Disc Rotation	
ASME Class 150, 300	
SIZE : 3"~60" (Short, Long Pattern)	SIZE : 66"~144"
END CONNECTION : Raised Face	
SEAT : Rubber	SEAT : EPDM, Teflon, Metal
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys
Manual Gear Operation	Actuators(Pneumatic,Hydraulic,Electric)

BFO-DLF Series

LUG TYPE

22-25P

STANDARD FEATURES	FEATURES UPON REQUEST
Double-offset Disc Rotation	
ASME Class 150, 300	
SIZE : 3"~60" (Short, Long Pattern)	SIZE : 66"~144"
END CONNECTION : Raised Face	
SEAT : Rubber	SEAT : EPDM, Teflon, Metal
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys
Manual Gear Operation	Actuators(Pneumatic,Hydraulic,Electric)

BFO-DWF Series

WAFER TYPE

26-29P

STANDARD FEATURES	FEATURES UPON REQUEST
Double-offset Disc Rotation	
ASME Class 150, 300	
SIZE : 3"~60" (Short, Long Pattern)	SIZE : 66"~144"
END CONNECTION : Raised Face	
SEAT : Rubber	SEAT : EPDM, Teflon, Metal
MATERIALS : Cabon steel, Stainless steel	MATERIALS : Nickel Alloys
Manual Gear Operation	Actuators(Pneumatic,Hydraulic,Electric)

REFERENCE DATA

30P

BUTTERFLY VALVES
TRIPLE-OFFSET

Double-Flanged Type
ASME Class 150, 300, 600

Standard Specification

STANDARD DESIGN	API 609
FACE-TO-FACE DIMENSIONS	API 609
END FLANGE DIMENSIONS	ASME B16.5 / B16.47 Series A
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 609
TEST & INSPECTION	API 609, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- TRIPLE-OFFSET DISC ROTATION
- ONE-PIECE SHAFT DESIGN
- HARD FACED SEAT
- METAL-TO-METAL SEAT SEALING
- SHORT, LONG PATTERN DESIGN
- FIRE SAFE DESIGN
- CRYOGENIC TYPE DESIGN (OPTION)
- SPECIAL FLANGS OR END CONNECTIONS
- ACTUATORS (PNEUMATIC, HYDRAULIC, ELECTRIC)

Product Range

ASME B16.5 / B16.47 Series A, Class 150, 300	3" ~ 60" (SHORT PATTERN)
ASME B16.5 / B16.47 Series A, Class 600	3" ~ 24" (SHORT PATTERN)
ASME B16.5 / B16.47 Series A, Class 150, 300, 600	3" ~ 36" (LONG PATTERN)

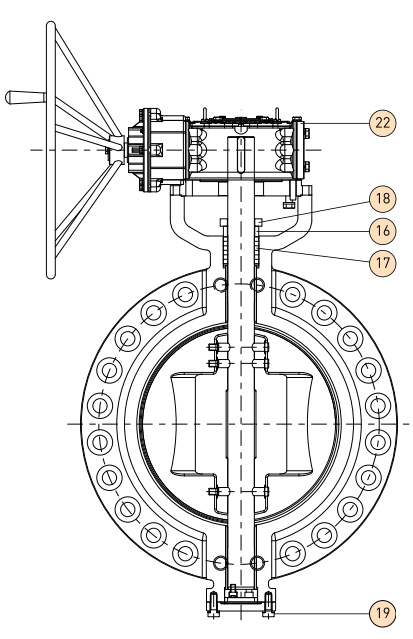
Materials (Applicable ASTM Specification)

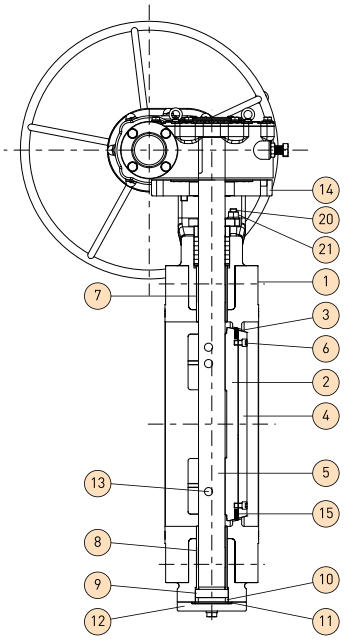
Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

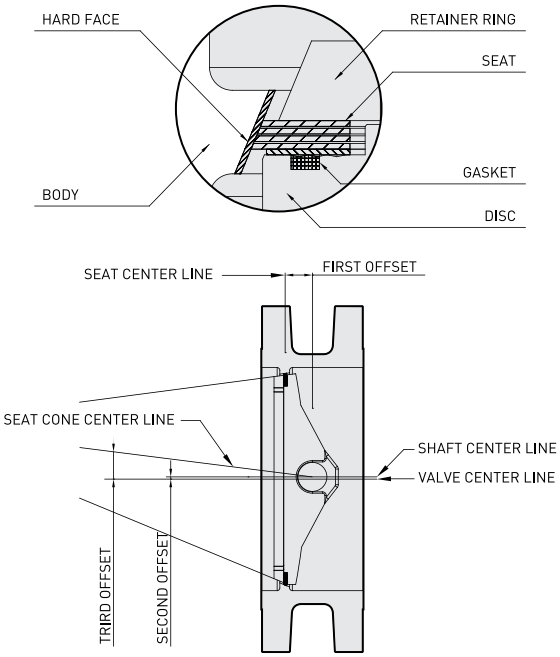
Pressure Testing (Working & Test Pressure at Ambient Temperature)

CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi	size (NPS)	Test Time (sec)
ASME 150	19	275	29	413	21	303	6	100	2" ~ 6"	60
ASME 300	50	720	75	1080	56	792	6	100	8" ~ 12"	120
ASME 600	99	1440	149	2160	109	1584	6	100	≥14	120

BFO-TDF Series







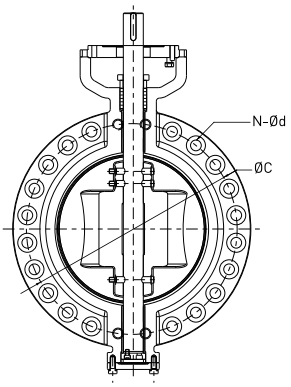
TRIPLE-OFFSET GEOMETRY

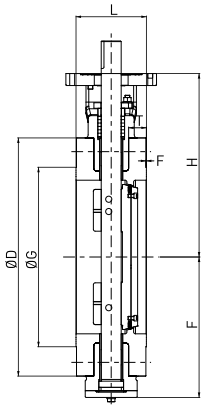
Parts List	No.	Parts Name	Standard Materials Specification		
			Cabon Steel	Austenitic Stainless Steel	Duplex Stainless Steel
	1	BODY	A216 WCB	A351 CF8M	A995 4A(S31803)
	2	DISC	A351 CF8	A351 CF8M	A995 4A(S31803)
	3	SEAT	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
	4	SHAFT	A276 304A	A276 316	A182 F51
	5	RETAINER	240 304	A240 316	S31803
	6	SOCKET BOLT	A197 B8	A320 B8M	A320 B8M
	7	BUSING-TOP	A276 304	A276 316	A182 F51
	8	BUSING-BOTTOM	A276 304	A276 316	A182 F51
	9	THRUST BEARING	A276 304	A276 316	A182 F51
	10	COLLER	A276 304	A276 316	A182 F51
	11	GASKET-COVER	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
	12	COVER	A36	A240 316	A182 F51
	13	DISC PIN	A276 304	A276 316	A182 F51
	14	FLANGE-TOP	A36	A240 316	A240 316
	15	GASKET-SEAT	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
	16	GLAND BUSING	A276 304	A276 316	A182 F51
	17	PACKING	GRAPHITE	GRAPHITE	GRAPHITE
	18	PACKING GLAND	A276 304	A276 316	A240 316
	19	BOLT-COVER	A193 B8	A320 B8M	A193 B8M
	20	BOLT-GLAND	A193 B7	A320 B8M	A193 B8M
	21	NUT-GLAND	A194 2H	A320 8M	A194 8M
	22	GEAR BOX	-	-	-

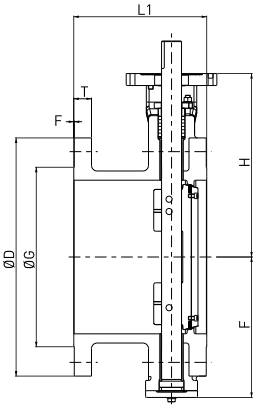
Double-Flanged Type

ASME B16.5 Class 150, 300, 600

BFO-TDF Series (Short, Long Pattern)







Dimensions and Weights

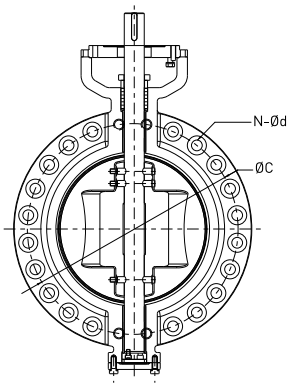
SIZE		CLASS	DIMENSIONS (mm)								Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)	
DN	NPS		L (Short)	L1 (Long)	F	H	ϕD	ϕG	T	F						Short	Long
80	3"	150	114	203	137	208	190	127	23.9	2	152.4	4	19	5/8"	105	32	
		300	180	282	139	208	210	127	28.4	2	168.3	8	23	3/4"	121	36	
		600	180	356	143	208	210	127	31.8	7	168.3	8	23	3/4"	127	43	
100	4"	150	127	229	155	213	230	157.2	23.9	2	190.5	8	19	5/8"	105	37	
		300	190	305	166	233	255	157.2	31.8	2	200	8	23	3/4"	127	46	
		600	190	432	182	275	275	157.2	38.1	7	215.9	8	26	7/8"	150	69	
150	6"	150	140	267	170	263	280	215.9	25.4	2	241.3	8	23	3/4"	115	48	
		300	210	403	203	293	320	215.9	36.6	2	269.9	12	23	3/4"	140	76	
		600	210	559	222	300	355	215.9	47.8	7	292.1	12	29	1"	175	135	
200	8"	150	152	292	210	308	345	269.7	28.4	2	298.5	8	23	3/4"	121	89	
		300	230	418	240	330	380	269.7	41.1	2	330.2	12	26	7/8"	155	93	
		600	230	660	248	350	420	269.7	55.6	7	349.2	12	32	1-1/8"	200	162	
250	10"	150	165	330	230	340	405	323.9	30.2	2	362	12	26	7/8"	127	112	
		300	250	457	264	375	445	323.9	47.8	2	387.4	16	29	1"	175	164	
		600	250	787	325	436	508	323.9	63.5	7	431.8	16	35	1-1/4"	220	268	
300	12"	150	178	356	280	394	483	381	31.8	2	431.8	12	26	7/8"	135	161	
		300	270	502	299	419	521	381	50.8	2	450.8	16	32	1-1/8"	185	222	
		600	270	838	348	455	559	381	66.5	7	489	20	35	1-1/4"	230	369	
350	14"	150	190	381	308	435	533	412.8	35.1	2	476.3	12	29	1"	150	228	
		300	290	762	349	485	584	412.8	53.8	2	514.4	20	32	1-1/8"	195	298	
		600	290	889	378	485	603	412.8	69.9	7	527	20	38	1-3/8"	235	364	
400	16"	150	216	406	345	480	597	469.9	36.6	2	539.8	16	29	1"	150	303	
		300	310	838	389	499	648	469.9	57.2	2	571.5	20	35	1-1/4"	210	357	
		600	310	991	425	515	686	469.9	76.2	7	603.2	20	42	1-1/2"	260	632	
450	18"	150	222	432	383	517	635	533.4	39.6	2	577.9	16	32	1-1/8"	160	364	
		300	330	914	430	530	711	533.4	60.5	2	628.6	24	35	1-1/4"	215	499	
		600	330	1092	458	552	743	533.4	82.6	7	654	20	45	1-5/8"	275	739	
500	20"	150	229	457	393	543	699	584.2	42.9	2	635	20	32	1-1/8"	175	499	
		300	350	991	471	597	775	584.2	63.5	2	685.8	24	35	1-1/4"	230	621	
		600	350	1194	500	658	813	584.2	88.9	7	723.9	24	45	1-5/8"	290	879	
600	24"	150	267	508	470	622	813	692.2	47.8	2	749.3	20	35	1-1/4"	185	699	
		300	390	1143	553	695	914	692.2	69.9	2	812.8	24	42	1-1/2"	260	910	
		600	390	1397	560	725	940	692.2	101.6	7	838.2	24	51	1-7/8"	335	1423	

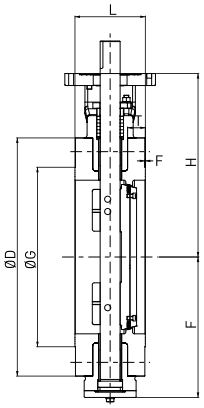
Double-Flanged Type

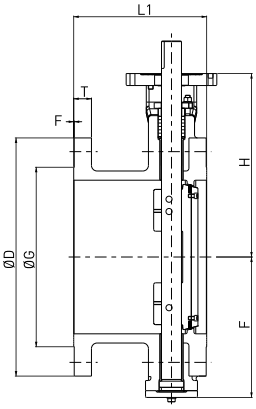
ASME B16.47 Series-A Class 150, 300, 600

BUTTERFLY VALVES
TRIPLE-OFFSET

BFO-TDF Series (Short, Long Pattern)







Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)								Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)	
DN	NPS		L (Short)	L1 (Long)	F	H	ϕD	ϕG	T	F						Short	Long
650	26"	150	292	559	490	635	870	749	68.7	2	806.5	24	35	1-1/4"			
		300	410	1245			970	749	84.6	2	876.3	28	45	1-5/8"			
		600		1448			1015	749	132.5	7	914.4	28	51	1-7/8"			
700	28"	150	292	610	555	686	925	800	71.9	2	863.6	28	35	1-1/4"		860	
		300	430	1346			1035	800	90.9	2	939.8	28	45	1-5/8"		1417	
		600		1549			1075	800	137.8	7	965.2	28	54	2"			
750	30"	150	318	610	580	711	985	857	75.1	2	914.4	28	35	1-1/4"		1085	
		300	450	1397			1090	857	95.7	2	997	28	48	1-3/4"		1715	
		600		1651	705	815	1130	857	146.7	7	1022.4	28	54	2"			
800	32"	150	318	660	620	760	1060	914	81.4	2	977.9	28	42	1-1/2"		1241	
		300	470	1524			1150	914	100.5	2	1054.1	28	51	1-7/8"		1957	
		600		1778	725	870	1195	914	154.7	7	1079.5	28	61	2-1/4"			
850	34"	150	318		660	800	1110	965	83	2	1028.7	32	42	1-1/2"			
		300					1205	965	105.2	2	1104.9	28	51	1-7/8"			
		600					1245	965	161	7	1130.3	28	61	2-1/4"			
900	36"	150	330	711	676	845	1170	1022	90.9	2	1085.9	32	42	1-1/2"		1716	
		300	510	1727			1270	1022	111.6	2	1168.4	32	54	2"		2590	
		600		2083			1315	1022	169	7	1193.8	28	67	2-1/2"			
950	38"	150	410		712	870	1240	1073	87.8	2	1149.4	32	42	1-1/2"			
		300	530				1170	1029	108.4	2	1092.2	32	42	1-1/2"			
		600					1270	1054	162	7	1162	28	61	2-1/4"			
1000	40"	150	410		757	915	1290	1124	90.9	2	1200.2	36	42	1-1/2"		2208	
		300	550				1240	1086	114.8	2	1155.7	32	45	1-5/8"		2585	
		600					1320	1111	169	7	1212.9	32	61	2-1/4"			
1050	42"	150	410		784	920	1345	1194	97.3	2	1257.3	36	42	1-1/2"		2488	
		300	570				1290	1137	119.5	2	1206.5	32	45	1-5/8"		2849	
		600					1405	1168	178.5	7	1282.7	28	67	2-1/2"			
1100	44"	150	470		824	975	1405	1245	102.1	2	1314.5	40	42	1-1/2"			
		300					1355	1194	124.3	2	1263.7	32	48	1-3/4"			
		600					1455	1226	184.8	7	1333.5	32	67	2-1/2"			
1200	48"	150	470		862	1052	1510	1359	108.4	2	1422.4	44	42	1-1/2"		3440	
		300	630				1465	1302	133.8	2	1371.6	32	51	1-7/8"		4106	
		600					1595	1334	202.3	7	1460.5	32	74	2-3/4"			

* Please contact the sales office.

Lug Type
ASME Class 150, 300, 600

Standard Specification

STANDARD DESIGN	API 609
FACE-TO-FACE DIMENSIONS	API 609
END FLANGE DIMENSIONS	ASME B16.5 / B16.47 Series A
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 609
TEST & INSPECTION	API 609, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- TRIPLE-OFFSET DISC ROTATION
- ONE-PIECE SHAFT DESIGN
- HARD FACED SEAT
- METAL-TO-METAL SEAT SEALING
- FIRE SAFE DESIGN
- CRYOGENIC TYPE DESIGN (OPTION)
- SPECIAL FLANGS OR END CONNECTIONS
- ACTUATORS (PNEUMATIC, HYDRAULIC, ELECTRIC)

Product Range

ASME B16.5 / B16.47 Series A, Class 150	3" ~ 48"
ASME B16.5 / B16.47 Series A, Class 300	3" ~ 36"
ASME B16.5 / B16.47 Series A, Class 600	3" ~ 24"

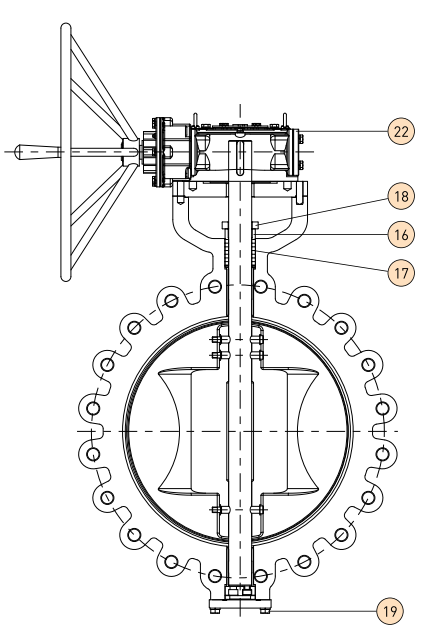
Materials (Applicable ASTM Specification)

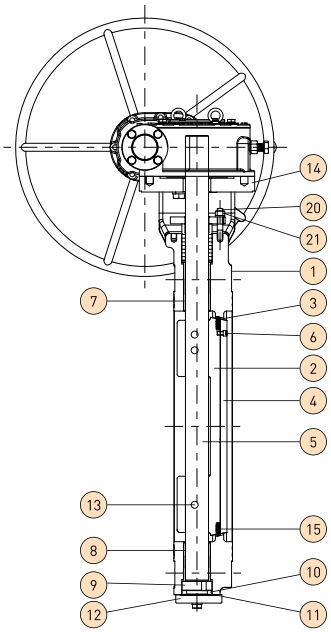
Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

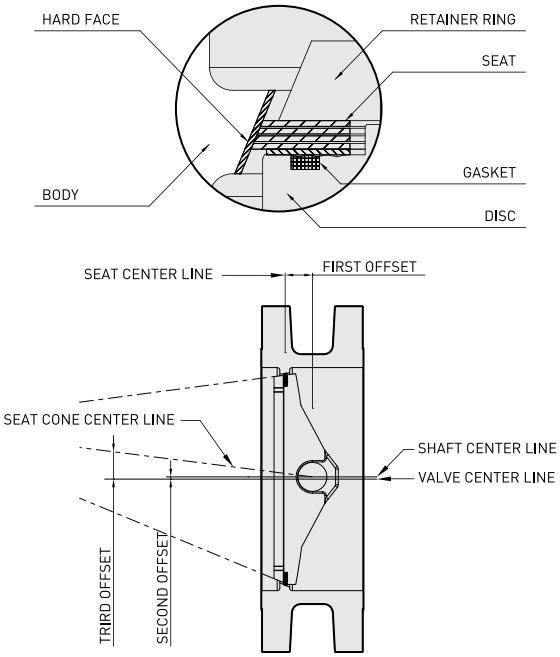
Pressure Testing (Working & Test Pressure at Ambient Temperature)

CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi	size (NPS)	Test Time (sec)
ASME 150	19	275	29	413	21	303	6	100	2" ~ 6"	60
ASME 300	50	720	75	1080	56	792	6	100	8" ~ 12"	120
ASME 600	99	1440	149	2160	109	1584	6	100	≥14	120

BFO-TLF Series







TRIPLE-OFFSET GEOMETRY

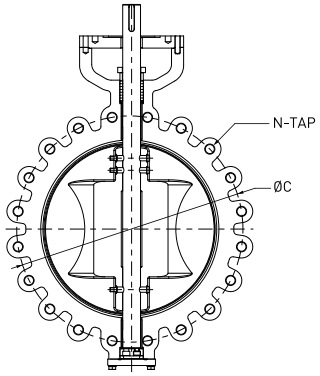
Parts List

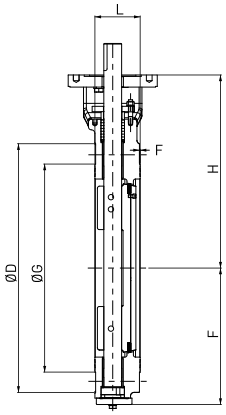
No.	Parts Name	Standard Materials Specification		
		Cabon Steel	Austenitic Stainless Steel	Duplex Stainless Steel
1	BODY	A216 WCB	A351 CF8M	A995 4A(S31803)
2	DISC	A351 CF8	A351 CF8M	A995 4A(S31803)
3	SEAT	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
4	SHAFT	A276 304	A276 316	A182 F51
5	RETAINER	A240 304	A240 316	S31803
6	SOCKET BOLT	A197 B8	A320 B8M	A320 B8M
7	BUSING-TOP	A276 304	A276 316	A182 F51
8	BUSING-BOTTOM	A276 304	A276 316	A182 F51
9	THRUST BEARING	A276 304	A276 316	A182 F51
10	COLLER	A276 304	A276 316	A182 F51
11	GASKET-COVER	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
12	COVER	A36	A240 316	A182 F51
13	DISC PIN	A276 304	A276 316	A182 F51
14	FLANGE-TOP	A36	A240 316	A240 316
15	GASKET-SEAT	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
16	GLAND BUSING	A276 304	A276 316	A182 F51
17	PACKING	GRAPHITE	GRAPHITE	GRAPHITE
18	PACKING GLAND	A276 304	A276 316	A240 316
19	BOLT-COVER	A193 B8	A320 B8M	A193 B8M
20	BOLT-GLAND	A193 B7	A320 B8M	A193 B8M
21	NUT-GLAND	A194 2H	A320 8M	A194 8M
22	GEAR BOX	-	-	-

Lug Type

ASME B16.5 Class 150, 300, 600

BFO-TLF Series





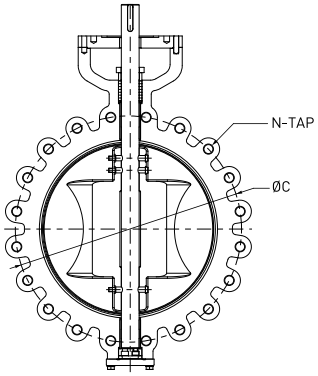
Dimensions and Weights

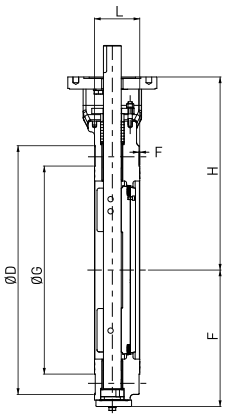
SIZE		CLASS	DIMENSIONS (mm)							Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	F	H	ϕD	ϕG	T	F						
80	3"	150	48	137	208	190	127		2	152.4	4	19	5/8"	105	
		300	48	139	208	210	127		2	168.3	8	23	3/4"	121	
		600	54	143	208	210	127		7	168.3	8	23	3/4"	127	
100	4"	150	54	155	213	230	157.2		2	190.5	8	19	5/8"	105	
		300	54	166	233	255	157.2		2	200	8	23	3/4"	127	
		600	64	182	275	275	157.2		7	215.9	8	26	7/8"	150	
150	6"	150	57	170	263	280	215.9		2	241.3	8	23	3/4"	115	
		300	59	203	293	320	215.9		2	269.9	12	23	3/4"	140	
		600	78	222	300	355	215.9		7	292.1	12	29	1"	175	
200	8"	150	64	210	308	345	269.7		2	298.5	8	23	3/4"	121	
		300	73	240	330	380	269.7		2	330.2	12	26	7/8"	155	
		600	102	248	350	420	269.7		7	349.2	12	32	1-1/8"	200	
250	10"	150	71	230	340	405	323.9		2	362	12	26	7/8"	127	
		300	83	264	375	445	323.9		2	387.4	16	29	1"	175	
		600	117	325	436	508	323.9		7	431.8	16	35	1-1/4"	220	
300	12"	150	81	280	394	483	381		2	431.8	12	26	7/8"	135	
		300	92	299	419	521	381		2	450.8	16	32	1-1/8"	185	
		600	140	348	455	559	381		7	489	20	35	1-1/4"	230	
350	14"	150	92	308	435	533	412.8		2	476.3	12	29	1"	150	
		300	117	349	485	584	412.8		2	514.4	20	32	1-1/8"	195	
		600	155	378	485	603	412.8		7	527	20	38	1-3/8"	235	
400	16"	150	102	345	480	597	469.9		2	539.8	16	29	1"	150	
		300	133	389	499	648	469.9		2	571.5	20	35	1-1/4"	210	
		600	178	425	515	686	469.9		7	603.2	20	42	1-1/2"	260	
450	18"	150	114	383	517	635	533.4		2	577.9	16	32	1-1/8"	160	
		300	149	430	530	711	533.4		2	628.6	24	35	1-1/4"	215	
		600	200	458	552	743	533.4		7	654	20	45	1-5/8"	275	
500	20"	150	127	393	543	699	584.2		2	635	20	32	1-1/8"	175	
		300	159	471	597	775	584.2		2	685.8	24	35	1-1/4"	230	
		600	216	500	658	813	584.2		7	723.9	24	45	1-5/8"	290	
600	24"	150	154	470	622	813	692.2		2	749.3	20	35	1-1/4"	185	
		300	181	553	695	914	692.2		2	812.8	24	42	1-1/2"	260	
		600	232	560	725	940	692.2		7	838.2	24	51	1-7/8"	335	

Lug Type
ASME B16.47 Series-A Class 150, 300, 600

BUTTERFLY VALVES
TRIPLE-OFFSET

BFO-TLF Series





Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)							Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	F	H	ϕD	ϕG	T	F						
650	26"	150	165	490	635	870	749		2	806.5	24	35	1-1/4"		
		300	209	640	800	970	749		2	876.3	28	45	1-5/8"		
		600				1015	749		7	914.4	28	51	1-7/8"		
700	28"	150	165	555	686	925	800		2	863.6	28	35	1-1/4"		
		300	209	660	810	1035	800		2	939.8	28	45	1-5/8"		
		600				1075	800		7	965.2	28	54	2"		
750	30"	150	165	580	711	985	857		2	914.4	28	35	1-1/4"		
		300	241	690	825	1090	857		2	997	28	48	1-3/4"		
		600		705	815	1130	857		7	1022.4	28	54	2"		
800	32"	150	190	620	760	1060	914		2	977.9	28	42	1-1/2"		
		300	241	720	860	1150	914		2	1054.1	28	51	1-7/8"		
		600		725	870	1195	914		7	1079.5	28	61	2-1/4"		
850	34"	150	190	660	800	1110	965		2	1028.7	32	42	1-1/2"		
		300	241	740	920	1205	965		2	1104.9	28	51	1-7/8"		
		600				1245	965		7	1130.3	28	61	2-1/4"		
900	36"	150	200	676	845	1170	1022		2	1085.9	32	42	1-1/2"		
		300	300	750	930	1270	1022		2	1168.4	32	54	2"		
		600				1315	1022		7	1193.8	28	67	2-1/2"		
950	38"	150	200	712	870	1240	1073		2	1149.4	32	42	1-1/2"		
		300				1170	1029		2	1092.2	32	42	1-1/2"		
		600				1270	1054		7	1162	28	61	2-1/4"		
1000	40"	150	216	757	915	1290	1124		2	1200.2	36	42	1-1/2"		
		300				1240	1086		2	1155.7	32	45	1-5/8"		
		600				1320	1111		7	1212.9	32	61	2-1/4"		
1050	42"	150	251	784	920	1345	1194		2	1257.3	36	42	1-1/2"		
		300				1290	1137		2	1206.5	32	45	1-5/8"		
		600				1405	1168		7	1282.7	28	67	2-1/2"		
1100	44"	150	251	824	975	1405	1245		2	1314.5	40	42	1-1/2"		
		300				1355	1194		2	1263.7	32	48	1-3/4"		
		600				1455	1226		7	1333.5	32	67	2-1/2"		
1200	48"	150	276	862	1052	1510	1359		2	1422.4	44	42	1-1/2"		
		300				1465	1302		2	1371.6	32	51	1-7/8"		
		600				1595	1334		7	1460.5	32	74	2-3/4"		

* Please contact the sales office.

Wafer Type
ASME Class 150, 300, 600

Standard Specification

STANDARD DESIGN	API 609
FACE-TO-FACE DIMENSIONS	API 609
END FLANGE DIMENSIONS	ASME B16.5 / B16.47 Series A
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 609
TEST & INSPECTION	API 609, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- TRIPLE-OFFSET DISC ROTATION
- ONE-PIECE SHAFT DESIGN
- HARD FACED SEAT
- METAL-TO-METAL SEAT SEALING
- FIRE SAFE DESIGN
- CRYOGENIC TYPE DESIGN (OPTION)
- SPECIAL FLANGS OR END CONNECTIONS
- ACTUATORS (PNEUMATIC, HYDRAULIC, ELECTRIC)

Product Range

ASME B16.5 / B16.47 Series A, Class 150	3" ~ 48"
ASME B16.5 / B16.47 Series A, Class 300	3" ~ 36"
ASME B16.5 / B16.47 Series A, Class 600	3" ~ 24"

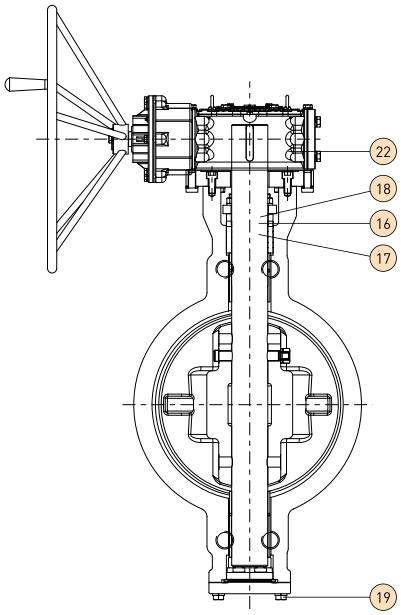
Materials (Applicable ASTM Specification)

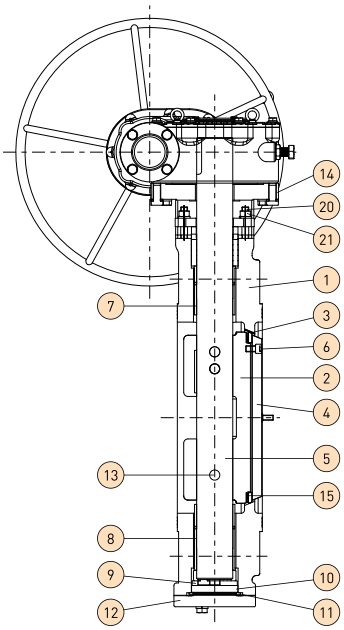
Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

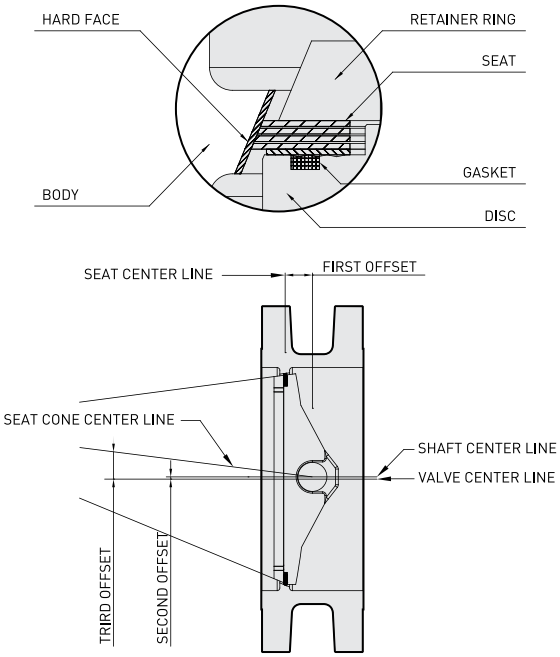
Pressure Testing (Working & Test Pressure at Ambient Temperature)

CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi	size (NPS)	Test Time (sec)
ASME 150	19	275	29	413	21	303	6	100	2" ~ 6"	60
ASME 300	50	720	75	1080	56	792	6	100	8" ~ 12"	120
ASME 600	99	1440	149	2160	109	1584	6	100	≥14	120

BFO-TWF Series







TRIPLE-OFFSET GEOMETRY

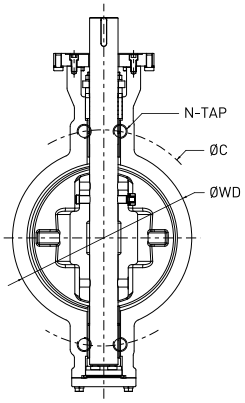
Parts List

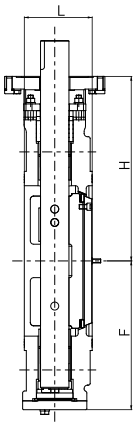
No.	Parts Name	Standard Materials Specification		
		Cabon Steel	Austenitic Stainless Steel	Duplex Stainless Steel
1	BODY	A216 WCB	A351 CF8M	A995 4A(S31803)
2	DISC	A351 CF8	A351 CF8M	A995 4A(S31803)
3	SEAT	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
4	SHAFT	A276 304	A276 316	A182 F51
5	RETAINER	A240 304	A240 316	S31803
6	SOCKET BOLT	A197 B8	A320 B8M	A320 B8M
7	BUSING-TOP	A276 304	A276 316	A182 F51
8	BUSING-BOTTOM	A276 304	A276 316	A182 F51
9	THRUST BEARING	A276 304	A276 316	A182 F51
10	COLLER	A276 304	A276 316	A182 F51
11	GASKET-COVER	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
12	COVER	A36	A240 316	A182 F51
13	DISC PIN	A276 304	A276 316	A182 F51
14	FLANGE-TOP	A36	A240 316	A240 316
15	GASKET-SEAT	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
16	GLAND BUSING	A276 304	A276 316	A182 F51
17	PACKING	GRAPHITE	GRAPHITE	GRAPHITE
18	PACKING GLAND	A276 304	A276 316	A240 316
19	BOLT-COVER	A193 B8	A320 B8M	A193 B8M
20	BOLT-GLAND	A193 B7	A320 B8M	A193 B8M
21	NUT-GLAND	A194 2H	A320 8M	A194 8M
22	GEAR BOX	-	-	-

Wafer Type

ASME B16.5 Class 150, 300, 600

BFO-TWF Series

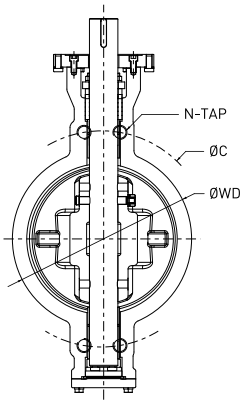


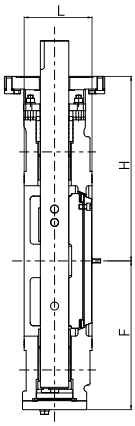


Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)							Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	F	H	ϕWD	ϕG	T	F						
80	3"	150	48	137	208					152.4	4	19	5/8"		
		300	48	139	208					168.3	4	23	3/4"		
		600	54	143	208					168.3	4	23	3/4"		
100	4"	150	54	155	213					190.5	4	19	5/8"		
		300	54	166	233					200	4	23	3/4"		
		600	64	182	275					215.9	4	26	7/8"		
150	6"	150	57	170	263					241.3	4	23	3/4"		
		300	59	203	293					269.9	4	23	3/4"		
		600	78	222	300					292.1	4	29	1"		
200	8"	150	64	210	308					298.5	4	23	3/4"		
		300	73	240	330					330.2	4	26	7/8"		
		600	102	248	350					349.2	4	32	1-1/8"		
250	10"	150	71	230	340					362	4	26	7/8"		
		300	83	264	375					387.4	4	29	1"		
		600	117	325	436					431.8	4	35	1-1/4"		
300	12"	150	81	280	394					431.8	4	26	7/8"		
		300	92	299	419					450.8	4	32	1-1/8"		
		600	140	348	455					489	4	35	1-1/4"		
350	14"	150	92	308	435					476.3	4	29	1"		
		300	117	349	485					514.4	4	32	1-1/8"		
		600	155	378	485					527	4	38	1-3/8"		
400	16"	150	102	345	480					539.8	4	29	1"		
		300	133	389	499					571.5	4	35	1-1/4"		
		600	178	425	515					603.2	4	42	1-1/2"		
450	18"	150	114	383	517					577.9	4	32	1-1/8"		
		300	149	430	530					628.6	4	35	1-1/4"		
		600	200	458	552					654	4	45	1-5/8"		
500	20"	150	127	393	543					635	4	32	1-1/8"		
		300	159	471	597					685.8	4	35	1-1/4"		
		600	216	500	658					723.9	4	45	1-5/8"		
600	24"	150	154	470	622					749.3	4	35	1-1/4"		
		300	181	553	695					812.8	4	42	1-1/2"		
		600	232	560	725					838.2	4	51	1-7/8"		

BFO-TWF Series





Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)							Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	F	H	ϕWD	ϕG	T	F						
650	26"	150	165	490	635					806.5	4	35	1-1/4"		
		300	209	640	800					876.3	4	45	1-5/8"		
		600								914.4	4	51	1-7/8"		
700	28"	150	165	555	686					863.6	4	35	1-1/4"		
		300	209	660	810					939.8	4	45	1-5/8"		
		600								965.2	4	54	2"		
750	30"	150	165	580	711					914.4	4	35	1-1/4"		
		300	241	690	825					997	4	48	1-3/4"		
		600		705	815					1022.4	4	54	2"		
800	32"	150	190	620	760					977.9	4	42	1-1/2"		
		300	241	690	825					1054.1	4	51	1-7/8"		
		600		725	870					1079.5	4	61	2-1/4"		
850	34"	150	190	660	800					1028.7	4	42	1-1/2"		
		300	241	740	920					1104.9	4	51	1-7/8"		
		600								1130.3	4	61	2-1/4"		
900	36"	150	200	676	845					1085.9	4	42	1-1/2"		
		300	300	750	930					1168.4	4	54	2"		
		600								1193.8	4	67	2-1/2"		
950	38"	150	200	712	870					1149.4	4	42	1-1/2"		
		300								1092.2	4	42	1-1/2"		
		600								1162	4	61	2-1/4"		
1000	40"	150	216	757	915					1200.2	4	42	1-1/2"		
		300								1155.7	4	45	1-5/8"		
		600								1212.9	4	61	2-1/4"		
1050	42"	150	251	784	920					1257.3	4	42	1-1/2"		
		300								1206.5	4	45	1-5/8"		
		600								1282.7	4	67	2-1/2"		
1100	44"	150	251	824	975					1314.5	4	42	1-1/2"		
		300								1263.7	4	48	1-3/4"		
		600								1333.5	4	67	2-1/2"		
1200	48"	150	276	862	1052					1422.4	4	42	1-1/2"		
		300								1371.6	4	51	1-7/8"		
		600								1460.5	4	74	2-3/4"		

* Please contact the sales office.

Double-Flanged Type
ASME Class 150, 300

Standard Specification

STANDARD DESIGN	API 609
FACE-TO-FACE DIMENSIONS	API 609
END FLANGE DIMENSIONS	ASME B16.5 / B16.47 Series A
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 609
TEST & INSPECTION	API 609, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- DOUBLE-OFFSET DISC ROTATION
- ONE-PIECE SHAFT DESIGN
- HARD FACED SEAT (OPTION)
- TEFLON, METAL-TO-METAL SEAT SEALING (OPTION)
- SHORT, LONG PATTERN DESIGNF
- SPECIAL FLANGS OR END CONNECTIONS
- ACTUATORS (PNEUMATIC, HYDRAULIC, ELECTRIC)

Product Range

ASME B16.5 / B16.47 Series A, Class 150, 300	3" ~ 60" (SHORT PATTERN)
ASME B16.5 / B16.47 Series A, Class 150, 300	3" ~ 36" (LONG PATTERN)

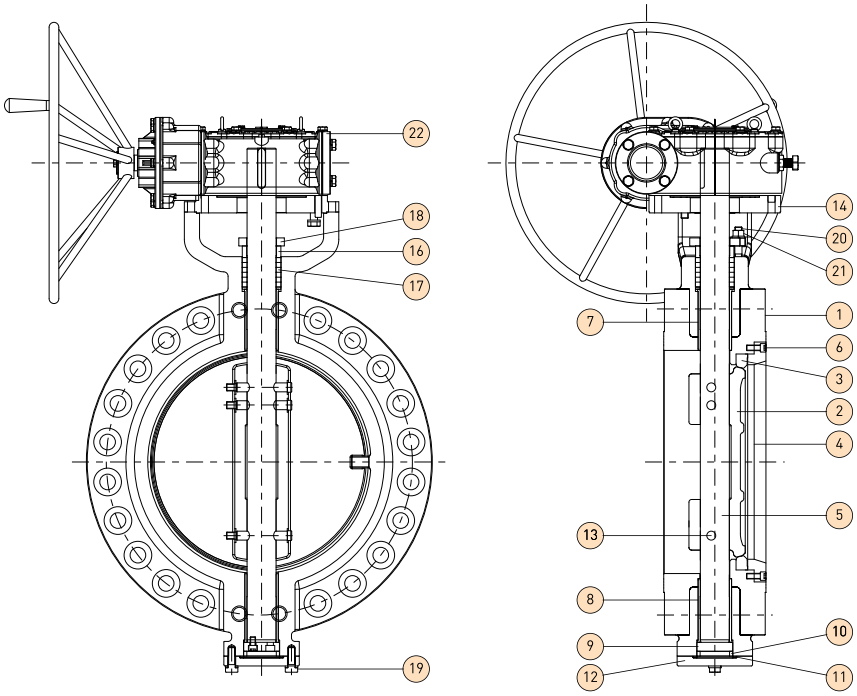
Materials (Applicable ASTM Specification)

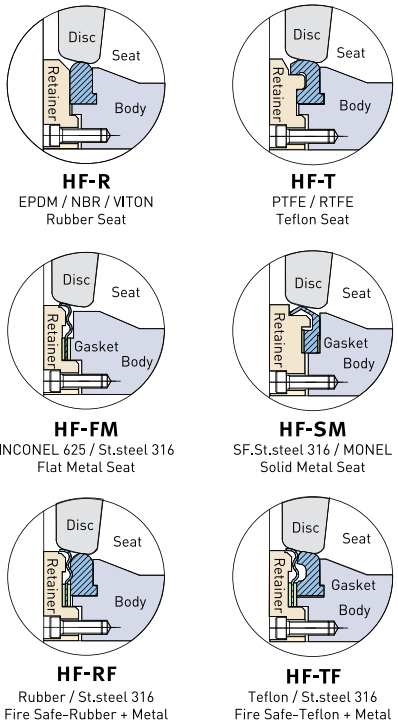
Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

Pressure Testing (Working & Test Pressure at Ambient Temperature)

CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi	size (NPS)	Test Time (sec)
ASME 150	19	275	29	413	21	303	6	100	2" ~ 6"	60
ASME 300	50	72	75	1080	56	792	6	100	8" ~ 12"	120
									≥14	120

BFO-DDF Series





HF-R
EPDM / NBR / VITON
Rubber Seat

HF-T
PTFE / RTFE
Teflon Seat

HF-FM
INCONEL 625 / St.steel 316
Flat Metal Seat

HF-SM
SF.St.steel 316 / MONEL
Solid Metal Seat

HF-RF
Rubber / St.steel 316
Fire Safe-Rubber + Metal

HF-TF
Teflon / St.steel 316
Fire Safe-Teflon + Metal

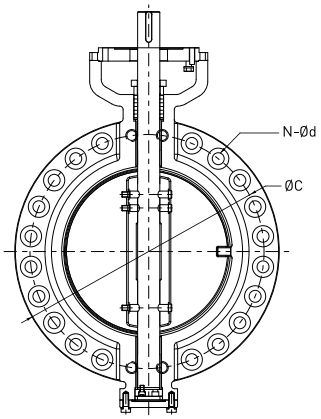
Parts List

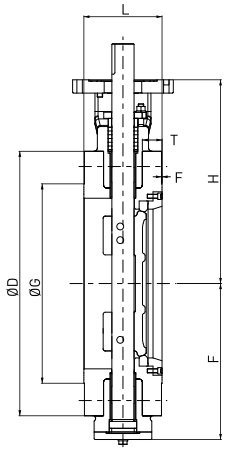
No.	Parts Name	Standard Materials Specification		
		Cabon Steel	Austenitic Stainless Steel	Duplex Stainless Steel
1	BODY	A216 WCB	A351 CF8M	A995 4A(S31803)
2	DISC	A351 CF8	A351 CF8M	A995 4A(S31803)
3	SEAT	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
4	SHAFT	A276 304	A276 316	A182 F51
5	RETAINER	A240 304	A240 316	S31803
6	SOCKET BOLT	A197 B8	A320 B8M	A320 B8M
7	BUSING-TOP	A276 304	A276 316	A182 F51
8	BUSING-BOTTOM	A276 304	A276 316	A182 F51
9	THRUST BEARING	A276 304	A276 316	A182 F51
10	COLLER	A276 304	A276 316	A182 F51
11	GASKET-COVER	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
12	COVER	A36	A240 316	A182 F51
13	DISC PIN	A276 304	A276 316	A182 F51
14	FLANGE-TOP	A36	A240 316	A240 316
15	GASKET-SEAT	-	-	-
16	GLAND BUSING	A276 304	A276 316	A182 F51
17	PACKING	GRAPHITE	GRAPHITE	GRAPHITE
18	PACKING GLAND	A276 304	A276 316	A240 316
19	BOLT-COVER	A193 B8	A320 B8M	A193 B8M
20	BOLT-GLAND	A193 B7	A320 B8M	A193 B8M
21	NUT-GLAND	A194 2H	A320 8M	A194 8M
22	GEAR BOX	-	-	-

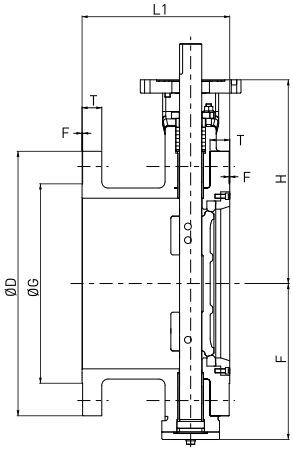
Double-Flanged Type

ASME B16.5 Class 150, 300

BFO-DDF Series (Short, Long Pattern)



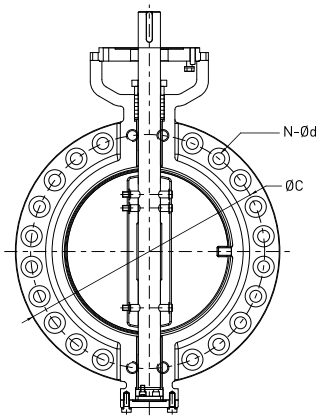


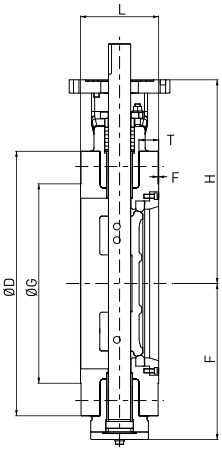


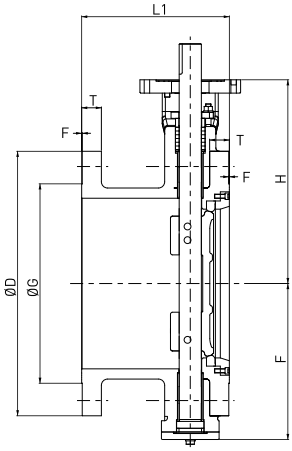
Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)								Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)	
DN	NPS		L (Short)	L1 (Long)	F	H	ϕD	ϕG	T	F						Short	Long
80	3"	150	114	203	137	208	190	127	23.9	2	152.4	4	19	5/8"	105	32	
		300	180	282	139	208	210	127	28.4	2	168.3	8	23	3/4"	121	36	
100	4"	150	127	229	155	213	230	157.2	23.9	2	190.5	8	19	5/8"	105	37	
		300	190	305	166	233	255	157.2	31.8	2	200	8	23	3/4"	127	46	
150	6"	150	140	267	170	263	280	215.9	25.4	2	241.3	8	23	3/4"	115	48	
		300	210	403	203	293	320	215.9	36.6	2	269.9	12	23	3/4"	140	76	
200	8"	150	152	292	210	308	345	269.7	28.4	2	298.5	8	23	3/4"	121	89	
		300	230	418	240	330	380	269.7	41.1	2	330.2	12	26	7/8"	155	93	
250	10"	150	165	330	230	340	405	323.9	30.2	2	362	12	26	7/8"	127	112	
		300	250	457	264	375	445	323.9	47.8	2	387.4	16	29	1"	175	164	
300	12"	150	178	356	280	394	483	381	31.8	2	431.8	12	26	7/8"	135	161	
		300	270	502	299	419	521	381	50.8	2	450.8	16	32	1-1/8"	185	222	
350	14"	150	190	381	308	435	533	412.8	35.1	2	476.3	12	29	1"	150	228	
		300	290	762	349	485	584	412.8	53.8	2	514.4	20	32	1-1/8"	195	298	
400	16"	150	216	406	345	480	597	469.9	36.6	2	539.8	16	29	1"	150	303	
		300	310	838	389	499	648	469.9	57.2	2	571.5	20	35	1-1/4"	210	357	
450	18"	150	222	432	383	517	635	533.4	39.6	2	577.9	16	32	1-1/8"	160	364	
		300	330	914	430	530	711	533.4	60.5	2	628.6	24	35	1-1/4"	215	499	
500	20"	150	229	457	393	543	699	584.2	42.9	2	635	20	32	1-1/8"	175	499	
		300	350	991	471	597	775	584.2	63.5	2	685.8	24	35	1-1/4"	230	621	
600	24"	150	267	508	470	622	813	692.2	47.8	2	749.3	20	35	1-1/4"	185	699	
		300	390	1143	553	695	914	692.2	69.9	2	812.8	24	42	1-1/2"	260	910	

BFO-DDF Series (Short, Long Pattern)







Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)								Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)	
DN	NPS		L (Short)	L1 (Long)	F	H	ϕD	ϕG	T	F						Short	Long
650	26"	150	292	559	490	635	870	749	68.7	2	806.5	24	35	1-1/4"			
		300	410	1245			970	749	84.6	2	876.3	28	45	1-5/8"			
700	28"	150	292	610	555	686	925	800	71.9	2	863.6	28	35	1-1/4"		860	
		300	430	1346			1035	800	90.9	2	939.8	28	45	1-5/8"		1417	
750	30"	150	318	610	580	711	985	857	75.1	2	914.4	28	35	1-1/4"		1085	
		300	450	1397			1090	857	95.7	2	997	28	48	1-3/4"		1715	
800	32"	150	318	660	620	760	1060	914	81.4	2	977.9	28	42	1-1/2"		1241	
		300	470	1524			1150	914	100.5	2	1054.1	28	51	1-7/8"		1957	
850	34"	150	318		660	800	1110	965	83	2	1028.7	32	42	1-1/2"			
		300					1205	965	105.2	2	1104.9	28	51	1-7/8"			
900	36"	150	330	711	676	845	1170	1022	90.9	2	1085.9	32	42	1-1/2"		1716	
		300	510	1727			1270	1022	111.6	2	1168.4	32	54	2"		2590	
950	38"	150	410		712	870	1240	1073	87.8	2	1149.4	32	42	1-1/2"			
		300	530				1170	1029	108.4	2	1092.2	32	42	1-1/2"			
1000	40"	150	410		757	915	1290	1124	90.9	2	1200.2	36	42	1-1/2"		2208	
		300	550				1240	1086	114.8	2	1155.7	32	45	1-5/8"		2585	
1050	42"	150	410		784	920	1345	1194	97.3	2	1257.3	36	42	1-1/2"		2488	
		300	570				1290	1137	119.5	2	1206.5	32	45	1-5/8"		2849	
1100	44"	150	470		824	975	1405	1245	102.1	2	1314.5	40	42	1-1/2"			
		300					1355	1194	124.3	2	1263.7	32	48	1-3/4"			
1200	48"	150	470		862	1052	1510	1359	108.4	2	1422.4	44	42	1-1/2"		3440	
		300	630				1465	1302	133.8	2	1371.6	32	51	1-7/8"		4106	

* Please contact the sales office.

Lug Type
ASME Class 150, 300

Standard Specification

STANDARD DESIGN	API 609
FACE-TO-FACE DIMENSIONS	API 609
END FLANGE DIMENSIONS	ASME B16.5 / B16.47 Series A
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 609
TEST & INSPECTION	API 609, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- DOUBLE-OFFSET DISC ROTATION
- ONE-PIECE SHAFT DESIGN
- HARD FACED SEAT (OPTION)
- TEFLON, METAL-TO-METAL SEAT SEALING (OPTION)
- SPECIAL FLANGS OR END CONNECTIONS
- ACTUATORS (PNEUMATIC, HYDRAULIC, ELECTRIC)

Product Range

ASME B16.5 / B16.47 Series A, Class 150	3" ~ 48"
ASME B16.5 / B16.47 Series A, Class 300	3" ~ 36"

Materials (Applicable ASTM Specification)

Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

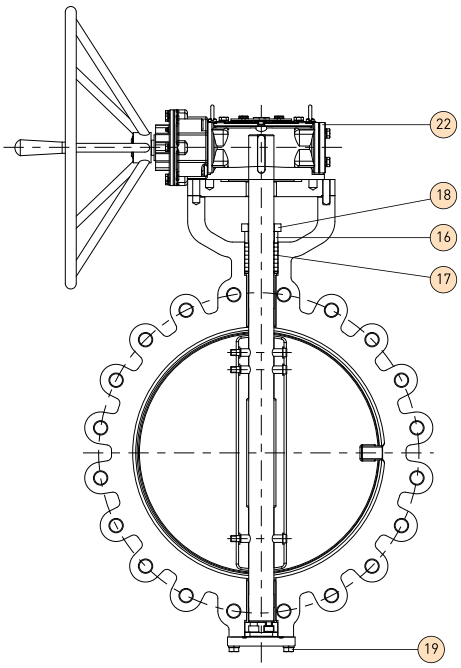
Pressure Testing (Working & Test Pressure at Ambient Temperature)

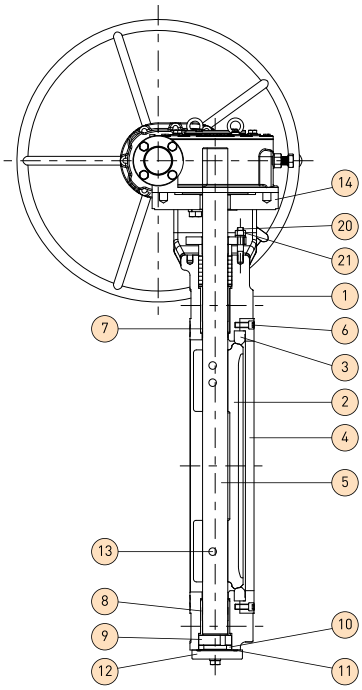
CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi	size (NPS)	Test Time (sec)
ASME 150	19	275	29	413	21	303	6	100	2" ~ 6"	60
ASME 300	50	720	75	1080	56	792	6	100	8" ~ 12"	120
									≥14	120

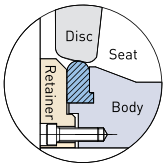
Lug Type
ASME Class 150, 300

BUTTERFLY VALVES
DOUBLE-OFFSET

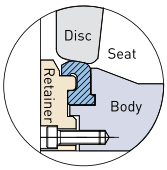
BFO-DLF Series



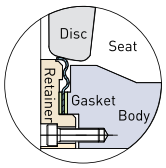




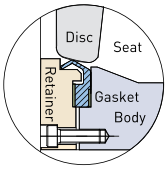
HF-R
EPDM / NBR / VITON
Rubber Seat



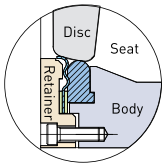
HF-T
PTFE / RTFE
Teflon Seat



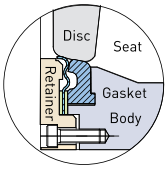
HF-FM
INCONEL 625 / St.steel 316
Flat Metal Seat



HF-SM
SF.St.steel 316 / MONEL
Solid Metal Seat



HF-RF
Rubber / St.steel 316
Fire Safe-Rubber + Metal



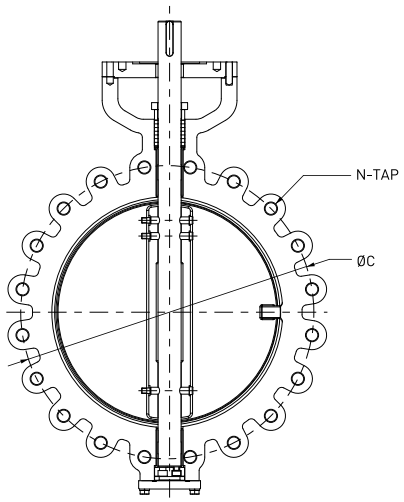
HF-TF
Teflon / St.steel 316
Fire Safe-Teflon + Metal

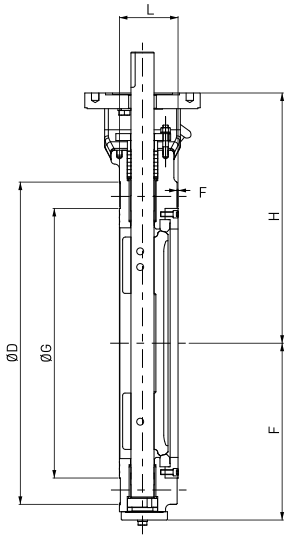
Parts List

No.	Parts Name	Standard Materials Specification		
		Cabon Steel	Austenitic Stainless Steel	Duplex Stainless Steel
1	BODY	A216 WCB	A351 CF8M	A995 4A(S31803)
2	DISC	A351 CF8	A351 CF8M	A995 4A(S31803)
3	SEAT	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
4	SHAFT	A276 304	A276 316	A182 F51
5	RETAINER	A240 304	A240 316	S31803
6	SOCKET BOLT	A197 B8	A320 B8M	A320 B8M
7	BUSING-TOP	A276 304	A276 316	A182 F51
8	BUSING-BOTTOM	A276 304	A276 316	A182 F51
9	THRUST BEARING	A276 304	A276 316	A182 F51
10	COLLER	A276 304	A276 316	A182 F51
11	GASKET-COVER	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
12	COVER	A36	A240 316	A182 F51
13	DISC PIN	A276 304	A276 316	A182 F51
14	FLANGE-TOP	A36	A240 316	A240 316
15	GASKET-SEAT	-	-	-
16	GLAND BUSING	A276 304	A276 316	A182 F51
17	PACKING	GRAPHITE	GRAPHITE	GRAPHITE
18	PACKING GLAND	A276 304	A276 316	A240 316
19	BOLT-COVER	A193 B8	A320 B8M	A193 B8M
20	BOLT-GLAND	A193 B7	A320 B8M	A193 B8M
21	NUT-GLAND	A194 2H	A320 8M	A194 8M
22	GEAR BOX	-	-	-

Lug Type
ASME B16.5 Class 150, 300

BFO-DLF Series





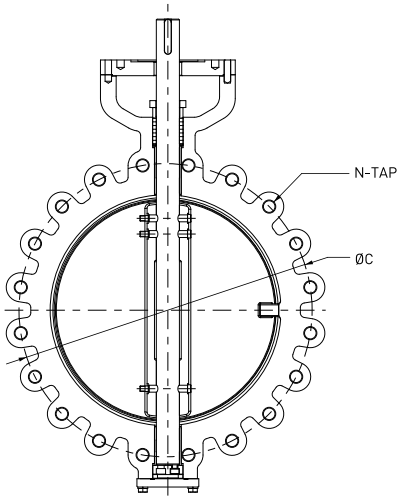
Dimensions and Weights

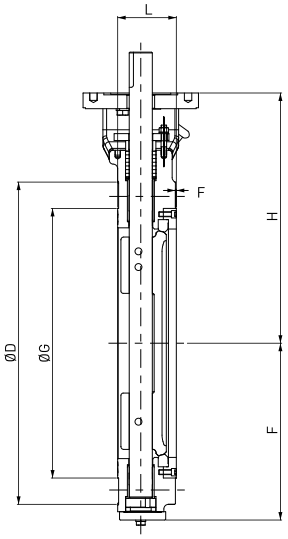
SIZE		CLASS	DIMENSIONS (mm)							Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	F	H	ϕD	ϕG	T	F						
80	3"	150	48	130	190	190	127	23.9	2	152.4	4	19	5/8"	105	
		300	48			210	127	28.4	2	168.3	8	23	3/4"	121	
100	4"	150	54	149	209	230	157.2	23.9	2	190.5	8	19	5/8"	105	
		300	54	160	230	255	157.2	31.8	2	200	8	23	3/4"	127	
150	6"	150	57	175	260	280	215.9	25.4	2	241.3	8	23	3/4"	115	
		300	59	203	288	320	215.9	36.6	2	269.9	12	23	3/4"	140	
200	8"	150	64	213	298	345	269.7	28.4	2	298.5	8	23	3/4"	121	
		300	73	240	330	380	269.7	41.1	2	330.2	12	26	7/8"	155	
250	10"	150	71	247	342	405	323.9	30.2	2	362	12	26	7/8"	127	
		300	83	275	375	445	323.9	47.8	2	387.4	16	29	1"	175	
300	12"	150	81	289	394	483	381	31.8	2	431.8	12	26	7/8"	135	
		300	92	313		521	381	50.8	2	450.8	16	32	1-1/8"	185	
350	14"	150	92	321	426	533	412.8	35.1	2	476.3	12	29	1"	150	
		300	117	349		584	412.8	53.8	2	514.4	20	32	1-1/8"	195	
400	16"	150	102	357	462	597	469.9	36.6	2	539.8	16	29	1"	150	
		300	133	390	510	648	469.9	57.2	2	571.5	20	35	1-1/4"	210	
450	18"	150	114	383	498	635	533.4	39.6	2	577.9	16	32	1-1/8"	160	
		300	149	427		711	533.4	60.5	2	628.6	24	35	1-1/4"	215	
500	20"	150	127	418	533	699	584.2	42.9	2	635	20	32	1-1/8"	175	
		300	159	457	592	775	584.2	63.5	2	685.8	24	35	1-1/4"	230	
600	24"	150	154	481	596	813	692.2	47.8	2	749.3	20	35	1-1/4"	185	
		300	181	535	680	914	692.2	69.9	2	812.8	24	42	1-1/2"	260	

Lug Type
ASME B16.47 Series-A Class 150, 300

BUTTERFLY VALVES
DOUBLE-OFFSET

BFO-DLF Series





Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)							Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	F	H	ϕD	ϕG	T	F						
650	26"	150	165	490	635	870	749	68.7	2	806.5	24	35	1-1/4"		
		300	209	640	800	970	749	84.6	2	876.3	28	45	1-5/8"		
700	28"	150	165	555	686	925	800	71.9	2	863.6	28	35	1-1/4"		
		300	209	660	810	1035	800	90.9	2	939.8	28	45	1-5/8"		
750	30"	150	165	580	711	985	857	75.1	2	914.4	28	35	1-1/4"		
		300	241	690	825	1090	857	95.7	2	997	28	48	1-3/4"		
800	32"	150	190	620	760	1060	914	81.4	2	977.9	28	42	1-1/2"		
		300	241	690	825	1150	914	100.5	2	1054.1	28	51	1-7/8"		
850	34"	150	190	660	800	1110	965	83	2	1028.7	32	42	1-1/2"		
		300	241	740	920	1205	965	105.2	2	1104.9	28	51	1-7/8"		
900	36"	150	200	676	845	1170	1022	90.9	2	1085.9	32	42	1-1/2"		
		300	300	750	930	1270	1022	111.6	2	1168.4	32	54	2"		
950	38"	150	200	712	870	1240	1073	87.8	2	1149.4	32	42	1-1/2"		
		300				1170	1029	108.4	2	1092.2	32	42	1-1/2"		
1000	40"	150	216	757	915	1290	1124	90.9	2	1200.2	36	42	1-1/2"		
		300				1240	1086	114.8	2	1155.7	32	45	1-5/8"		
1050	42"	150	251	784	920	1345	1194	97.3	2	1257.3	36	42	1-1/2"		
		300				1290	1137	119.5	2	1206.5	32	45	1-5/8"		
1100	44"	150	251	824	975	1405	1245	102.1	2	1314.5	40	42	1-1/2"		
		300				1355	1194	124.3	2	1263.7	32	48	1-3/4"		
1200	48"	150	276	862	1052	1510	1359	108.4	2	1422.4	44	42	1-1/2"		
		300				1465	1302	133.8	2	1371.6	32	51	1-7/8"		

* Please contact the sales office.

Wafer Type
ASME Class 150, 300

Standard Specification

STANDARD DESIGN	API 609
FACE-TO-FACE DIMENSIONS	API 609
END FLANGE DIMENSIONS	ASME B16.5 / B16.47 Series A
PRESSURE AND TEMPERATURE RATINGS BODY THICKNESS	ASME B16.34, API 609
TEST & INSPECTION	API 609, API 598
MATERIAL	ASTM Material Specifications as per ASME B16.34

Design Features

- DOUBLE-OFFSET DISC ROTATION
- ONE-PIECE SHAFT DESIGN
- HARD FACED SEAT (OPTION)
- TEFLON, METAL-TO-METAL SEAT SEALING (OPTION)
- SPECIAL FLANGS OR END CONNECTIONS
- ACTUATORS (PNEUMATIC, HYDRAULIC, ELECTRIC)

Product Range

ASME B16.5 / B16.47 Series A, Class 150	3" ~ 48"
ASME B16.5 / B16.47 Series A, Class 300	3" ~ 36"

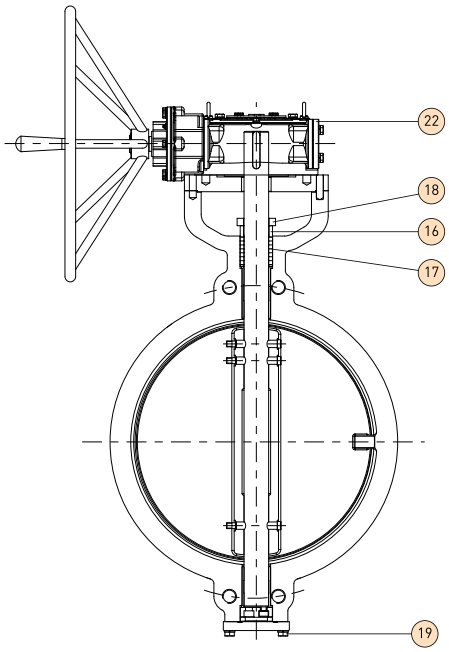
Materials (Applicable ASTM Specification)

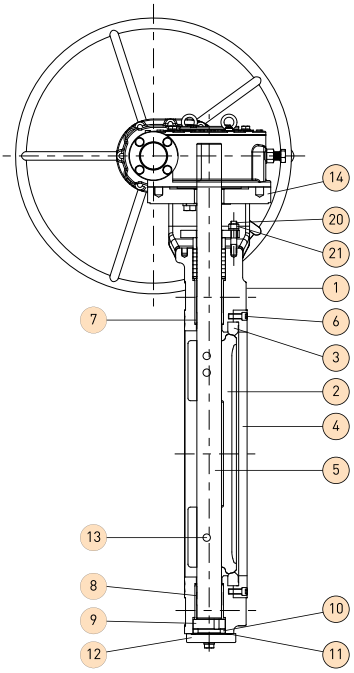
Cabon Steel	A105, A216 WCB, A216 WCC
Low Temperature Cabon Steel	A350 LF2, A352 LCB, A352 LCC
Austenitic Stainless Steel	A182 F304, A182 F316, A351 CF8, A351 CF8M
Duplex Stainless Steel	A182 F51 (UNS S31803), A182 F53 (UNS S32750), A182 F55 (UNS S32760)
Nickel Alloys	Inconel 625 (UNS N06625), Monel 400 (UNS N04400)

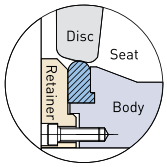
Pressure Testing (Working & Test Pressure at Ambient Temperature)

CLASS	Working Pressure		Hydrostatic Shell Test		Hydrostatic Seat Test		Air Seat Test		Duration of Required Test Pressure (API 598 Standard)	
	bar	psi	bar	psi	bar	psi	bar	psi	size (NPS)	Test Time (sec)
ASME 150	19	275	29	413	21	303	6	100	2" ~ 6"	60
ASME 300	50	720	75	1080	56	792	6	100	8" ~ 12"	120
									≥14	120

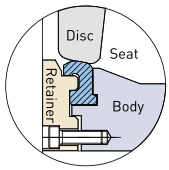
BFO-DWF Series



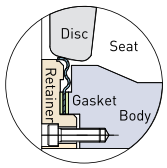




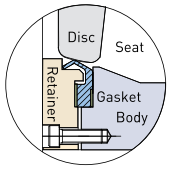
HF-R
EPDM / NBR / VITON
Rubber Seat



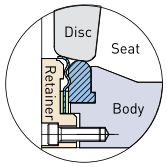
HF-T
PTFE / RTFE
Teflon Seat



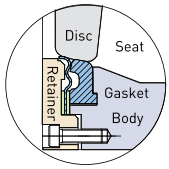
HF-FM
INCONEL 625 / St.steel 316
Flat Metal Seat



HF-SM
SF.St.steel 316 / MONEL
Solid Metal Seat



HF-RF
Rubber / St.steel 316
Fire Safe-Rubber + Metal



HF-TF
Teflon / St.steel 316
Fire Safe-Teflon + Metal

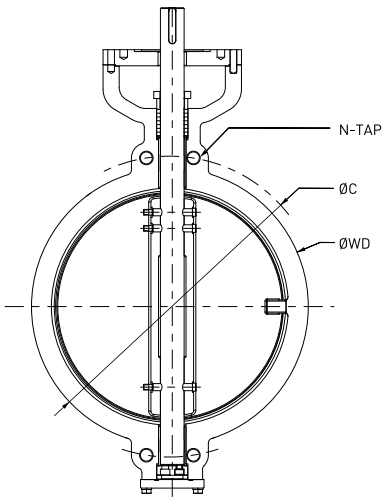
Parts List

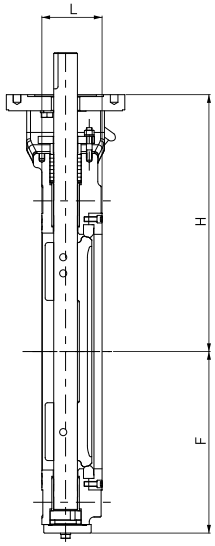
No.	Parts Name	Standard Materials Specification		
		Cabon Steel	Austenitic Stainless Steel	Duplex Stainless Steel
1	BODY	A216 WCB	A351 CF8M	A995 4A(S31803)
2	DISC	A351 CF8	A351 CF8M	A995 4A(S31803)
3	SEAT	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
4	SHAFT	A276 304	A276 316	A182 F51
5	RETAINER	A240 304	A240 316	S31803
6	SOCKET BOLT	A197 B8	A320 B8M	A320 B8M
7	BUSING-TOP	A276 304	A276 316	A182 F51
8	BUSING-BOTTOM	A276 304	A276 316	A182 F51
9	THRUST BEARING	A276 304	A276 316	A182 F51
10	COLLER	A276 304	A276 316	A182 F51
11	GASKET-COVER	SS316+GRAPHITE	SS316+GRAPHITE	DUPLEX + GRAPHITE
12	COVER	A36	A240 316	A182 F51
13	DISC PIN	A276 304	A276 316A	A182 F51
14	FLANGE-TOP	A36	240 316	A240 316
15	GASKET-SEAT	-	-	-
16	GLAND BUSING	A276 304	A276 316	A182 F51
17	PACKING	GRAPHITE	GRAPHITE	GRAPHITE
18	PACKING GLAND	A276 304	A276 316	A240 316
19	BOLT-COVER	A193 B8	A320 B8M	A193 B8M
20	BOLT-GLAND	A193 B7	A320 B8M	A193 B8M
21	NUT-GLAND	A194 2H	A320 8M	A194 8M
22	GEAR BOX	-	-	-

Wafer Type

ASME B16.5 Class 150, 300

BFO-DWF Series

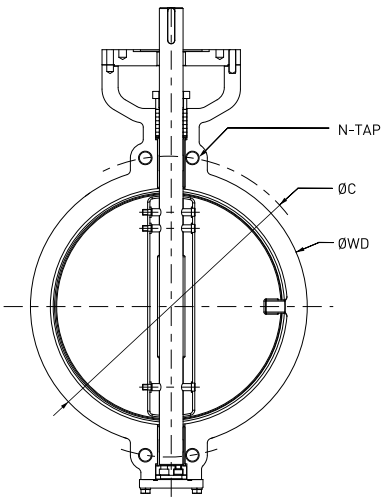


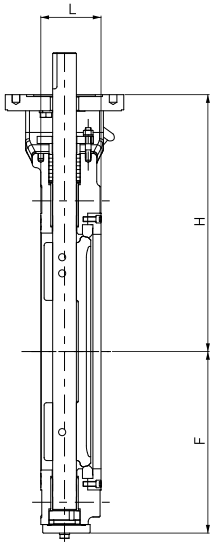


Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)							Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	F	H	ϕWD	ϕG	T	F						
80	3"	150	48	130	190					152.4	4	19	5/8"	105	
		300	48							168.3	8	23	3/4"	121	
100	4"	150	54	149	209					190.5	8	19	5/8"	105	
		300	54	160	230					200	8	23	3/4"	127	
150	6"	150	57	175	260					241.3	8	23	3/4"	115	
		300	59	203	288					269.9	12	23	3/4"	140	
200	8"	150	64	213	298					298.5	8	23	3/4"	121	
		300	73	240	330					330.2	12	26	7/8"	155	
250	10"	150	71	247	342					362	12	26	7/8"	127	
		300	83	275	375					387.4	16	29	1"	175	
300	12"	150	81	289	394					431.8	12	26	7/8"	135	
		300	92	313						450.8	16	32	1-1/8"	185	
350	14"	150	92	321	426					476.3	12	29	1"	150	
		300	117	349						514.4	20	32	1-1/8"	195	
400	16"	150	102	357	462					539.8	16	29	1"	150	
		300	133	390	510					571.5	20	35	1-1/4"	210	
450	18"	150	114	383	498					577.9	16	32	1-1/8"	160	
		300	149	427						628.6	24	35	1-1/4"	215	
500	20"	150	127	418	533					635	20	32	1-1/8"	175	
		300	159	457	592					685.8	24	35	1-1/4"	230	
600	24"	150	154	481	596					749.3	20	35	1-1/4"	185	
		300	181	535	680					812.8	24	42	1-1/2"	260	

BFO-DWF Series



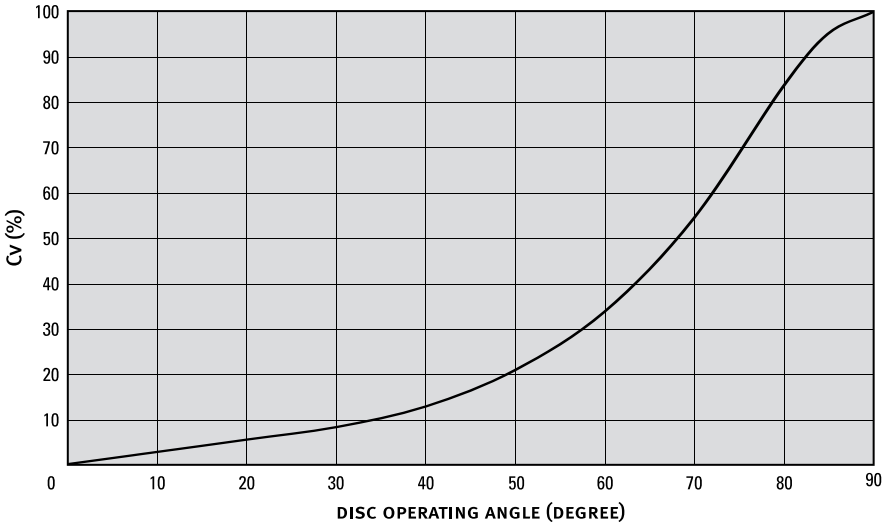


Dimensions and Weights

SIZE		CLASS	DIMENSIONS (mm)							Diameter of Bolt Circle (ϕC)	Number of Bolt (N)	Diameter of Bolt Holes (ϕd)	Diameter of Bolt	Bolt Length	Approx Weight (kg)
DN	NPS		L	F	H	ϕWD	ϕG	T	F						
650	26"	150	165	490	635					806.5	24	35	1-1/4"		
		300	209	640	800					876.3	28	45	1-5/8"		
700	28"	150	165	555	686					863.6	28	35	1-1/4"		
		300	209	660	810					939.8	28	45	1-5/8"		
750	30"	150	165	580	711					914.4	28	35	1-1/4"		
		300	241	690	825					997	28	48	1-3/4"		
800	32"	150	190	620	760					977.9	28	42	1-1/2"		
		300	241	690	825					1054.1	28	51	1-7/8"		
850	34"	150	190	660	800					1028.7	32	42	1-1/2"		
		300	241	740	920					1104.9	28	51	1-7/8"		
900	36"	150	200	676	845					1085.9	32	42	1-1/2"		
		300	300	750	930					1168.4	32	54	2"		
950	38"	150	200	712	870					1149.4	32	42	1-1/2"		
		300								1092.2	32	42	1-1/2"		
1000	40"	150	216	757	915					1200.2	36	42	1-1/2"		
		300								1155.7	32	45	1-5/8"		
1050	42"	150	251	784	920					1257.3	36	42	1-1/2"		
		300								1206.5	32	45	1-5/8"		
1100	44"	150	251	824	975					1314.5	40	42	1-1/2"		
		300								1263.7	32	48	1-3/4"		
1200	48"	150	276	862	1052					1422.4	44	42	1-1/2"		
		300								1371.6	32	51	1-7/8"		

* Please contact the sales office.

FLOW COEFFICIENTS(Cv) & CURVE



SIZE	DN	80	100	150	200	250	300	350	400	450	500	600	700	750	800	900	1000	1050	1200
	NPS	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	36"	40"	42"	48"
CLASS	150	95	220	625	1495	2415	3998	5124	6815	9142	11452	17654	25247	30321	36544	44135	57955	61985	81256
	300	92	210	620	1311	2245	3572	4786	6384	8562	11325	16241	23875	29156	35624	43526			
	600	90	195	585	1010	1625	2460	3395	4658	5986	8259	12235							

TORQUES Triple-Offset Butterfly Valves

Torques Triple-Offset Butter Valves	SIZE		CLASS 150				CLASS 300				CLASS 600			
	DN	NPS	Torques (Nm)	6 bar	10 bar	20 bar	Torques (Nm)	10 bar	20 bar	50 bar	Torques (Nm)	20 bar	50 bar	100 bar
	80	3"	42	25	30	34	43	26	31	34	45	27	32	36
	100	4"	52	31	37	42	55	33	40	44	58	35	42	46
	150	6"	88	53	63	70	105	63	76	84	125	75	90	100
	200	8"	135	81	97	108	195	117	140	156	236	142	170	189
	250	10"	223	134	161	178	305	183	220	244	725	435	522	580
	300	12"	345	207	248	276	495	297	356	396	1205	723	868	964
	350	14"	532	319	383	426	756	454	544	605	1763	1058	1269	1410
	400	16"	925	555	666	740	1153	692	830	922	3125	1875	2250	2500
	450	18"	1325	795	954	1060	1625	975	1170	1300	3958	2375	2850	3166
	500	20"	2242	1345	1614	1794	2845	1707	2048	2276	6125	3675	4410	4900
	600	24"	3520	2112	2534	2816	4562	2737	3285	3650	9564	5738	6886	7651
	700	28"	7980	4788	5746	6384	9865	5919	7103	7892				
	750	30"	10552	6331	7597	8442	12645	7587	9104	10116				
	800	32"	11956	7174	8608	9565	14256	8554	10264	11405				
	850	34"	13256	7954	9544	10605	16584	9950	11940	13267				
	900	36"	15255	9153	10984	12204	18623	11174	13409	14898				
	1000	40"	21865	13119	15743	17492								
	1050	42"	25863	15518	18621	20690								
	1100	44"	29540	17724	21269	23632								
	1200	48"	36254	21752	26103	29003								

BUTTERFLY VALVES FOR JOB REFERENCE

PROJECT SHUAIBAH PH.3 IWPP (POWER AND DESALINATION STATION)

CLIENT SWEC (SAUDI ARABIA) / DOOSAN
ITEM & SIZE TOM Series for DN 1300, 1100, 900

PROJECT JEBEL ALI POWER AND DESALINATION STATION 'L'- PHASE II

CLIENT DUBAI ELECTRICITY & WATER AUTHORITY / HYUNDAI
ITEM & SIZE TOM Series for DN 2200, 1600

PROJECT SHANGHAI - BASF

CLIENT KLAUS UNION (GERMANY)
ITEM & SIZE TOM Series for DN 450

PROJECT NAMJEJOO DEIESEL POWER PLANT

CLIENT KOREA SOUTHERN POWER CO.,LTD.
ITEM & SIZE TOM Series for DN 200

PROJECT YONGHUNG #3,4 POWER PLANT

CLIENT KOREA SOUTH-EAST POWER CO.,LTD.
ITEM & SIZE HFA Series for DN 3000

SEJIN VALVE

Our company endeavor ceaselessly to develop new products and for quality improvement.

SV SEJIN VALVE IND.CO.,LTD.

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