since1987 | KOSDAQ LISTED COMPANY

HS VALVE

TRUNNION MOUNTED BALL VALVES

HS VALVE Co.,Ltd

The leading Valve manufacturer HS VALVE

GREETING

Ever since our foundation in 1987, we have produced and supplied various pipeline valves. As the Korea's largest general valve maker, we have constantly developed new products from small-sized valves to large-sized valves for various chemical, oil & gas and industrial plants and continually invested in a higher value-added business and quality upgrade. As a result, we have acquired varied international certifications such as KS, ISO, API; Fire Test and CE as well as developed and patented non-conductive ball valves for the first time throughout the world.

To maintain non-defect quality goods and services is our top priority and we believe it will be achievable through our properly organized quality management system. We also believe that our lofty goal of earning the trust of the customers must be realized with ceaseless efforts into the superior quality of products.

For this reason, not only do all employees work in harmony to satisfy our customers by conforming to the requirements of ISO 9001, API 6D, PED and the customers, but to provide reasonable quality and price which are the essential element for the member of international society as well as for the contribution to the development of Korea's economies.

With a slogan of "Global Marketing and Customer First", we are ready to lead the future of 21 century as a world-class general valve maker and a more advanced specialist of valves.

Won Gyu Chang / President

COMPANY PROFILE

1987. 03	Established HS VALVE CO., LTD.
1987. 04	HS VALVE CO., LTD. incorporated.
1996. 12	Received mayor's award
1997. 11	Received president's award
1999. 03	Acquired ISO9001, API-6D
1999. 09	Venture enterprise
1999. 10	Received president's award
1999. 11	Received mayor's award
2000. 02	Designated excellent technical competition enterprise
2000. 03	Listed in KOSDAQ
2000. 10	Started to manufacture gas filter
2001. 03	Acquired fire tests for ball valve -API 607
2001. 10	Superiority technology enterprise selection technique -KOREA TECHNOLOGY CREDIT GUARANTEE FUND-
2001. 11	Received president's award
2003. 03	Awarded a model taxpayer
2003. 06	Received a men of merit's award
2004. 01	Acquired CE(CE0036-TUV suddeutschland)
2004. 07	Selected of world leading SME appointed by gyeongsangbuk-do
2004. 12	Acquired fire tests(ball valve)-API 6FA
2006. 05	Acquired ISO 9001:2000(0588)-API
2006. 05	Acquired ISO/TS 29001(TS-0125)-API
2006. 05	Acquired API Spec Q1(Q1-0319)-API
2006. 11	Awarded the order of industrial sevice merit of silver tower
2007. 12	The head office building purchase/move
2008. 09	Acquired GOST R & HYGIENIC
2009. 06	Acquired GOST RTN
2011. 03	Built 3rd factory
2013. 05	Awarded "The 20th Korea Gas Safety Awards" of Bronze Tower
2014. 07	Acquired INNOBIZ(Innovation Business)
2014. 12	Acquired Stainless Steel Welding Flanges (KS B1506)
2015. 02	Approved by Petroliam National Berhas (PETRONAS)
2015. 10	Vendor Approved by Kuwait National Petroleum Company (KNPC)
2016. 09	Acquired TR CU 032
2017. 04	Vendor Approved by National Iranian Gas Company (NIGC)

QUALITY

HS VALVE is guaranteed by ISO 9001 & 14001 audited quality standards.

HS VALVE provides the highest quality valves to meet customer's requirements and manufactures in accordance with API, ASME and other standards.
HS valves are tested and documented to the API 6D and API 598.

HS valves are manufactured to comply with NACE standard and provide complete material's traceability.

CERTIFICATES

API 6D 0308

ISO 9001

ISO 14001

CE 0045

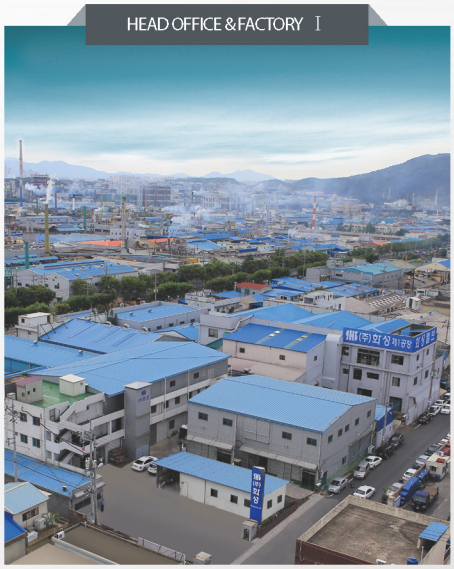
TR CU 032

API 607 Fire test

API 6FA Fire test

EN10204-3.1

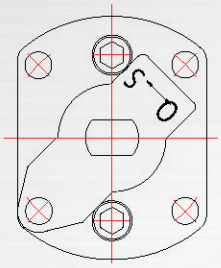
HEAD OFFICE & FACTORY Ⅰ



FACTORY Ⅱ

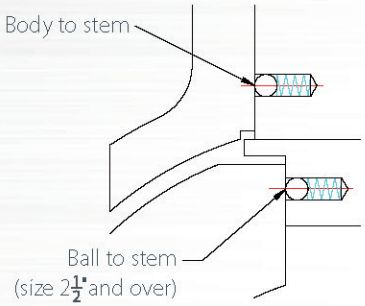
FACTORY Ⅲ

LOCKING DEVICE



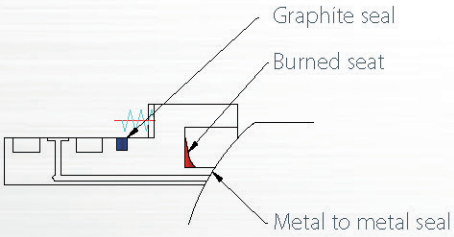
LOCKING DEVICE

HS valves are lockable in either full open or closed position



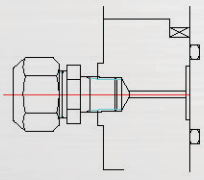
ANTI-STATIC DEVICE (EN ISO 17292)

HS valves have anti-static device which provides contact between stem and ball, and stem and body to eliminate static electricity.

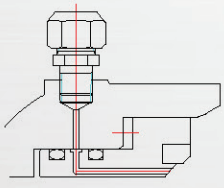


FIRE SAFE DESIGN (API 607 / API 6FA)

The secondary metal seat is provided to maintain contact between the seat and ball in the event the primary non-metallic seat is destroyed by fire.
The double body and cap seals provide maximum security.
HS valves are fitted with special graphite seals so as to effectively preclude leakage in the event of fire.
All HS trunnion mounted ball valves have been tested to API-607 or API 6FA



Stem sealant injection

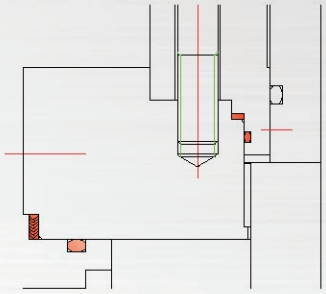


Seat sealant injection

SEALANT INJECTION

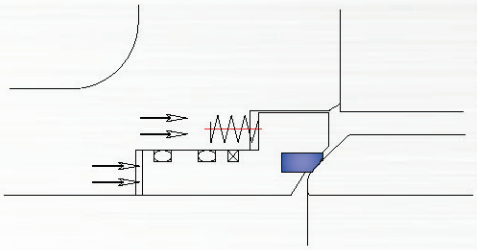
TF/TR type ball valves are designed to provide high integrity shut-off. upon request, sealant lubrication fittings are installed. In the event of seat insert or stem seal damage, external or internal leakage can occur. Emergency sealant injection can save the integrity of the valve by incorporating a sealant seal around the stem or between the seat and the ball until such time the valve may be properly serviced.

CONSTRUCTION & FUNCTION



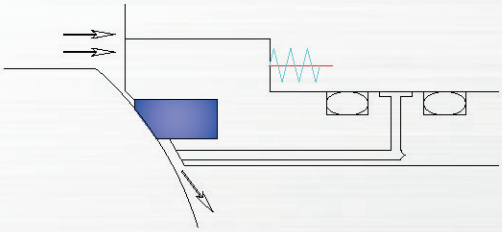
DOUBLE SEALS AT ALL JOINTS

All connection parts employ a double sealing design incorporating a spiral wound gasket and o-ring ensure positive sealing.



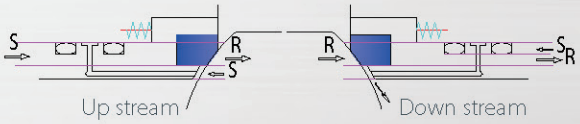
SEAT SEALING

Soft seats are standard. Seat inserts of synthetic material such as DEVLON, NYLON, RPTFE or PEEK are contained within a metal seat ring.
With no or very low line pressure, sealing between the seats and ball is achieved by seat springs.
With higher line pressure, the line pressure, in conjunction with the spring load, forces the upstream seat ring against the ball, which results in tighter sealing.



SELF RELIEVING SEAT

This standard feature is designed to prevent excessive pressure buildup within the valves by automatically relieving pressure when body cavity pressure exceeds the spring load on the seats.



DOUBLE BLOCK AND BLEED

Trunnion ball valves employ a sealing principle that facilitates all services requiring double block and bleed integrity.

CLASS 150 & 300 TRUNNION MOUNTED BALL VALVES

FIG. NO. B2TFA15, A30 / B2TRA15, A30

CONSTRUCTION

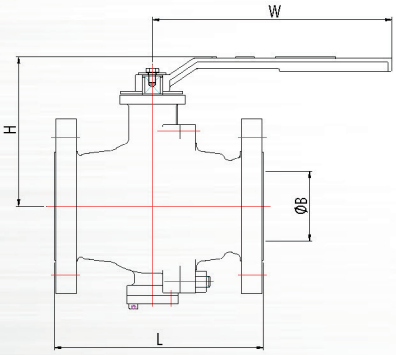
2-Piece body, Full & reduced bore.
Trunnion ball.
Fire safe design.
Anti-static device.
Locking device.
Blow-out proof stem.
ISO 5211 Mounting pad.
Double seal design.
Double block and bleed.
Pressure relieving seats.

BASIC MATERIALS

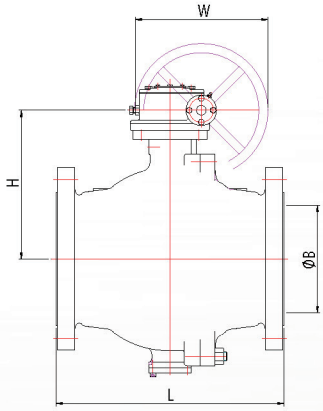
PART NAME	CARBON STEEL	STAINLESS STEEL
BODY	A216-WCB, A352-LCC	A351-CF8, CF8M
BALL	A351-CF8, CF8M	
SEAT	RPTFE, DEVLON	

PRODUCTION SPECIFICATIONS

BASIC DESIGN	API 6D & ASME B16.34
FACE TO FACE	ASME B16.10
END FLANGE	ASME B16.5
TEST & INSPECTION	API 6D & API 598



Size : 4" & Below



Size 6" & Larger

RANGE & DIMENSIONS

(unit : mm)

VALVE SIZE		2"	3x2"	3"	4x3"	4"	6x4"	6"	8x6"	8"	10x8"	10"	12x10"	12"	14x12"	14"	16x12"	16"
B		51	51	76	76	102	102	152	152	203	203	254	254	305	305	337	305	387
L	150#	178	203	203	229	229	394	394	457	457	533	533	610	610	686	686	762	762
	300#	216	282	282	305	305	403	403	502	502	568	568	648	648	762	762	838	838
H		140	140	180	180	200	200	275	275	327	327	386	386	430	430	468	430	545
W		240	240	240	240	350	350	440	440	400	400	450	450	450	450	560	560	630
WEIGHT (kg)	150#	27	30	35	40	45	49	106	102	162	178	242	290	385	470	570	590	875
	300#	30	35	45	47	50	95	135	123	175	210	300	380	465	580	720	820	1,010

● Other material & size is available upon request.

CLASS 150 & 300 TRUNNION MOUNTED BALL VALVES

FIG. NO. B3TFA15, A30 / B3TRA15, A30

CONSTRUCTION

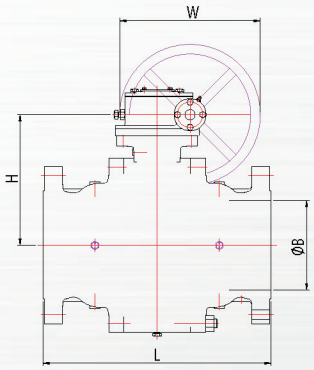
3-Piece body, Full & reduced bore.
Trunnion ball.
Fire safe design.
Anti-static device.
Locking device.
Blow-out proof stem.
ISO 5211 Mounting pad.
Double seal design.
Double block and bleed.
Pressure relieving seats.

BASIC MATERIALS

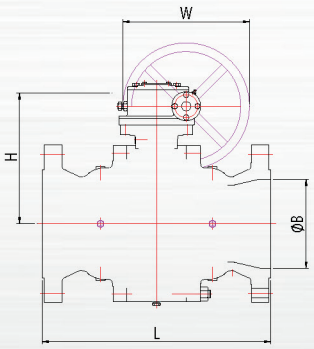
PART NAME	CARBON STEEL	STAINLESS STEEL
BODY	A105, A350 LF2	A182 F304, F316
BALL	A351-CF8, CF8M, A182 F304, F316, ENP	
SEAT	RPTFE, DEVLON	

PRODUCTION SPECIFICATIONS

BASIC DESIGN	API 6D & ASME B16.34
FACE TO FACE	ASME B16.10
END FLANGE	ASME B16.5
TEST & INSPECTION	API 6D & API 598



For full bore



For reduced bore

RANGE & DIMENSIONS

(unit : mm)

VALVE SIZE		14"	16"	18"	20"	22"	24"	26"	28"	30"	36"	42"	48"
B		337	387	438	489	538	591	633	684	735	874	1,020	1,166
L	150#	686	762	864	914	991	1,067	1,143	1,245	1,295	1,524	1,855	1,995
	300#	762	838	914	991	1,092	1,143	1,245	1,346	1,397	1,727	2,083	2,170
H	150#	468	526	568	623	707	773	805	844	922	1,031	1,152	1,320
	300#	468	526	568	623	707	773	820	863	965	1,080	1,198	1,380
W		560	630	630	710	710	710	800	800	800	800	1,000	1,000
WEIGHT (kg)	150#	685	980	1,690	2,240	2,470	3,100	3,820	4,550	5,550	8,800	14,250	21,900
	300#	740	1,200	2,040	2,300	2,960	2,600	4,600	5,770	6,600	10,100	16,100	24,060

● Other material & size is available upon request.

CLASS 600 TRUNNION MOUNTED BALL VALVES

FIG. NO. B2TFA60 / B2TRA60

CONSTRUCTION

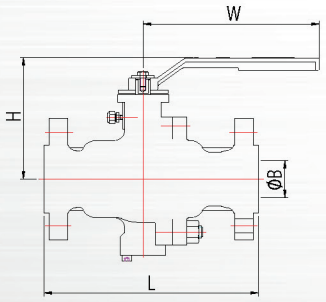
2-Piece body, Full & reduced bore.
Trunnion ball.
Fire safe design.
Anti-static device.
Locking device.
Blow-out proof stem.
ISO 5211 Mounting pad.
Double seal design.
Double block and bleed.
Pressure relieving seats.

BASIC MATERIALS

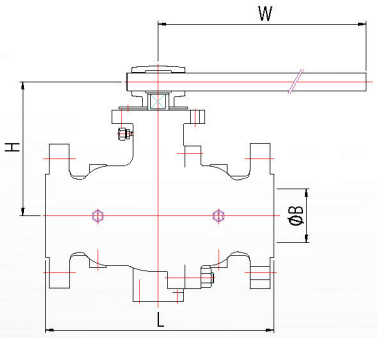
PART NAME	CARBON STEEL	STAINLESS STEEL
BODY	A216-WCB, A352-LCC	A351-CF8, CF8M
BALL	A351-CF8M	
SEAT	DEVLON	

PRODUCTION SPECIFICATIONS

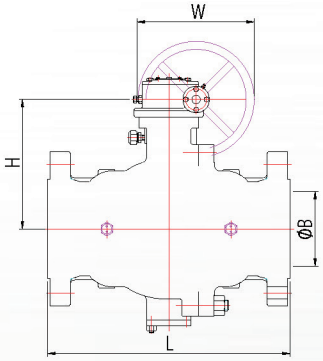
BASIC DESIGN	API 6D & ASME B16.34
FACE TO FACE	ASME B16.10
END FLANGE	ASME B16.5
TEST & INSPECTION	API 6D & API 598



Size : 3" & Below



Size 4" & 6"



Size : 6" & Larger

RANGE & DIMENSIONS

(unit : mm)

VALVE SIZE	2"	3x2"	3"	4x3"	4"	6x4"	6"	8x6"	8"	10x8"
B	51	51	76	76	102	102	152	152	203	203
L	292	356	356	432	432	559	559	660	660	787
H	166	166	195	195	284	284	327	382	437	437
W	240	240	350	350	600	600	450	450	560	560
WEIGHT(kg)	35	45	50	72	102	165	230	260	370	580

● Other material & size is available upon request.

CLASS 600 TRUNNION MOUNTED BALL VALVES

FIG. NO. B3TFA60 / B3TRA60

CONSTRUCTION

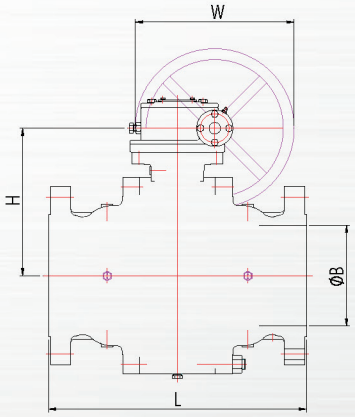
3-Piece body, Full & reduced bore.
Trunnion ball.
Fire safe design.
Anti-static device.
Locking device.
Blow-out proof stem.
ISO 5211 Mounting pad.
Double seal design.
Double block and bleed.
Pressure relieving seats.

BASIC MATERIALS

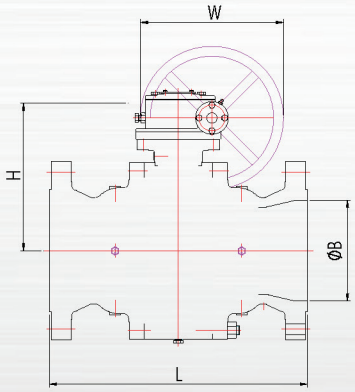
PART NAME	CARBON STEEL	STAINLESS STEEL
BODY	A105, A350 LF2	A182 F304, F316
BALL	A351-CF8, CF8M, A182 F304, F316, ENP	
SEAT	RPTFE, DEVLON	

PRODUCTION SPECIFICATIONS

BASIC DESIGN	API 6D & ASME B16.34
FACE TO FACE	ASME B16.10
END FLANGE	ASME B16.5
TEST & INSPECTION	API 6D & API 598



For full bore



For reduced bore

RANGE & DIMENSIONS

(unit : mm)

VALVE SIZE	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"	36"	42"	48"
B	254	305	337	387	438	489	538	591	633	684	735	874	1,020	1,166
L	787	838	889	991	1,092	1,194	1,295	1,397	1448	1,549	1,651	2,083	2,437	2,540
H	413	458	498	553	609	698	769	807	870	878	1002	1,140	1,200	1,340
W	560	560	630	710	630	710	710	710	800	800	800	800	1,000	1,000
WEIGHT(kg)	810	1,110	1,250	2,270	2,560	3,400	4,680	5,700	6,000	6,760	8,370	13,300	17,250	30,000

● Other material & size is available upon request.

CLASS 900 TRUNNION MOUNTED BALL VALVES

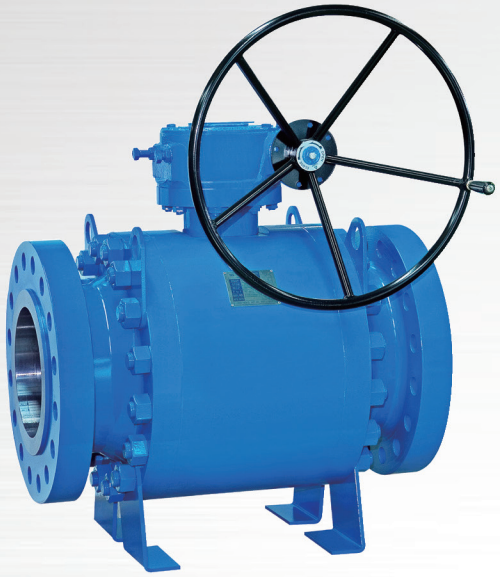


FIG. NO. B3TFA90 / B3TRA90

CONSTRUCTION

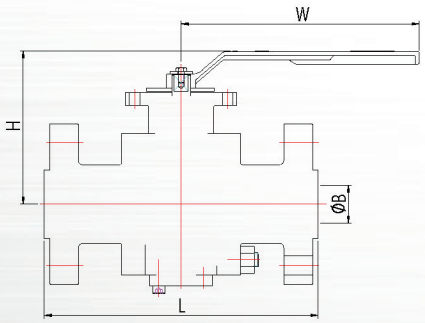
3-Piece body, Full & reduced bore.
Trunnion ball.
Fire safe design.
Anti-static device.
Locking device.
Blow-out proof stem.
ISO 5211 Mounting pad.
Double seal design.
Double block and bleed.
Pressure relieving seats.

BASIC MATERIALS

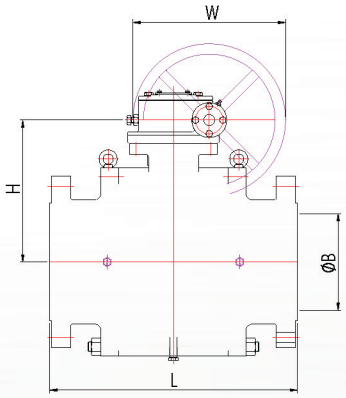
PART NAME	CARBON STEEL	STAINLESS STEEL
BODY	A105, A350 LF2	A182 F304, F316
BALL	A351-CF8, CF8M, A182 F304, F316, ENP	
SEAT	DEVLON	

PRODUCTION SPECIFICATIONS

BASIC DESIGN	API 6D & ASME B16.34
FACE TO FACE	ASME B16.10
END FLANGE	ASME B16.5
TEST & INSPECTION	API 6D & API 598



Size : 3" & Below



Size : 4" & Larger

RANGE & DIMENSIONS

(unit : mm)

VALVE SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
B	49	74	100	150	201	252	303	322	373	423	471	570
L	368	381	457	610	737	838	965	1,029	1,130	1,219	1,321	1,549
H	205	220	283	323	381	432	488	517	610	700	740	800
W	320	350	400	560	560	630	710	710	800	800	800	1,000
WEIGHT(kg)	51	88	170	390	620	820	1,230	1,500	2,150	2,800	3,500	6,500

● Other material & size is available upon request.

CLASS 1500 TRUNNION MOUNTED BALL VALVES

FIG. NO. B3TFA51 / B3TRA51

CONSTRUCTION

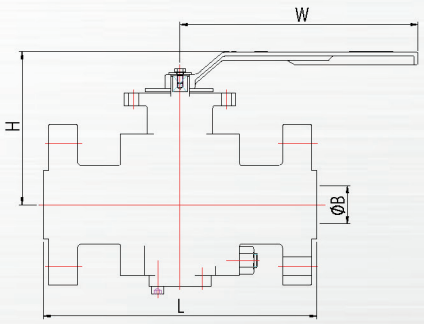
3-Piece body, Full & reduced bore.
Trunnion ball.
Fire safe design.
Anti-static device.
Locking device.
Blow-out proof stem.
ISO 5211 Mounting pad.
Double seal design.
Double block and bleed.
Pressure relieving seats.

BASIC MATERIALS

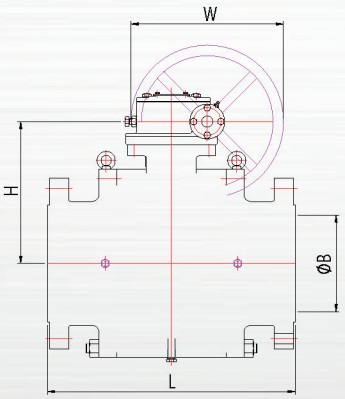
PART NAME	CARBON STEEL	STAINLESS STEEL
BODY	A105, A350 LF2	A182 F304, F316
BALL	A351-CF8, CF8M, A182 F304, F316, ENP	
SEAT	DEVLON	

PRODUCTION SPECIFICATIONS

BASIC DESIGN	API 6D & ASME B16.34
FACE TO FACE	ASME B16.10
END FLANGE	ASME B16.5
TEST & INSPECTION	API 6D & API 598



Size : 3" & Below



Size : 4" & Larger

RANGE & DIMENSIONS

(unit : mm)

VALVE SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
B	51	74	100	144	192	239	287	315	360
L	368	470	546	705	832	991	1,130	1,257	1,384
H	215	220	288	343	408	466	584	620	645
W	320	440	500	560	630	710	800	800	800
WEIGHT(kg)	59	116	204	575	750	1,500	2,250	2,850	4,070

● Other material & size is available upon request.

CLASS 2500 TRUNNION MOUNTED BALL VALVES

FIG. NO. B3TFA52 / B3TRA52

CONSTRUCTION

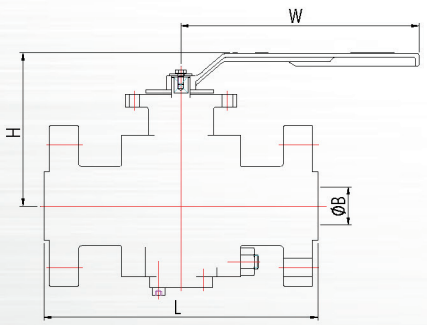
3-Piece body, Full & reduced bore.
Trunnion ball.
Fire safe design.
Anti-static device.
Locking device.
Blow-out proof stem.
ISO 5211 Mounting pad.
Double seal design.
Double block and bleed.
Pressure relieving seats.

BASIC MATERIALS

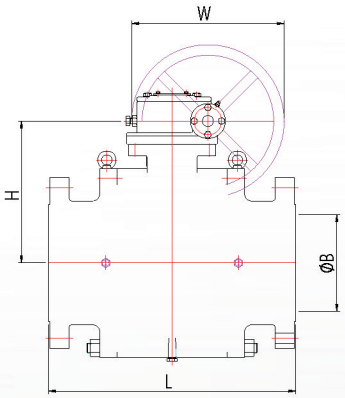
PART NAME	CARBON STEEL	STAINLESS STEEL
BODY	A105, A350 LF2	A182 F304, F316
BALL	A351-CF8, CF8M, A182 F304, F316, ENP	
SEAT	DEVLON	

PRODUCTION SPECIFICATIONS

BASIC DESIGN	API 6D & ASME B16.34
FACE TO FACE	ASME B16.10
END FLANGE	ASME B16.5
TEST & INSPECTION	API 6D & API 598



Size : 2" & Below



Size : 4" & Larger

RANGE & DIMENSIONS

(unit : mm)

VALVE SIZE	2"	3"	4"	6"	8"	10"	12"
B	42	62	87	131	179	223	265
L	451	578	673	914	1,022	1,270	1,422
H	205	210	270	340	400	440	470
W	320	440	500	560	630	710	800
WEIGHT(kg)	90	190	380	770	1,350	2,100	3,210

● Other material & size is available upon request.

STANDARD MATERIAL SPECIFICATIONS

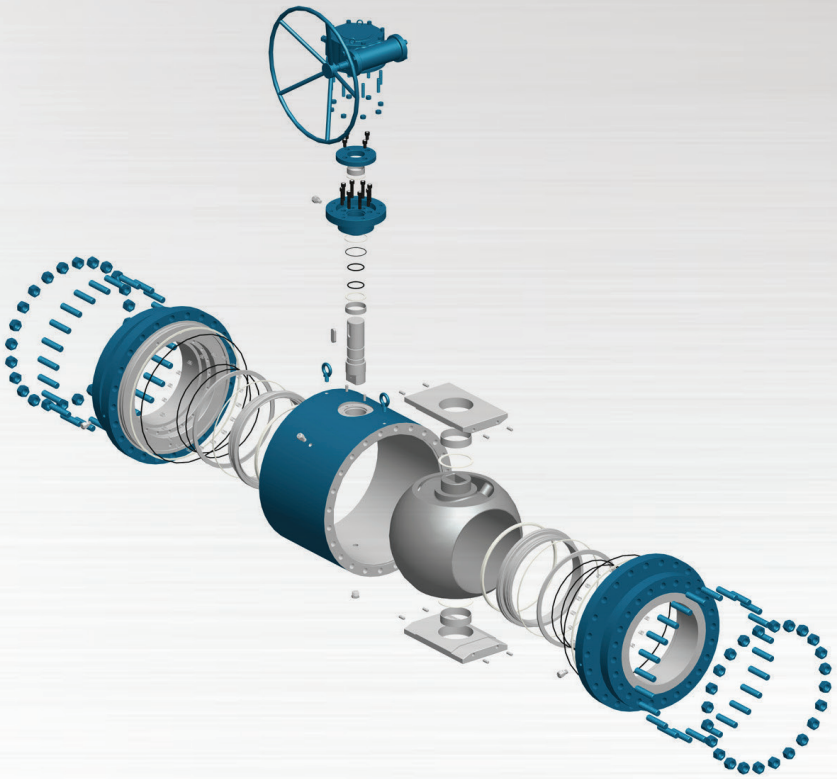
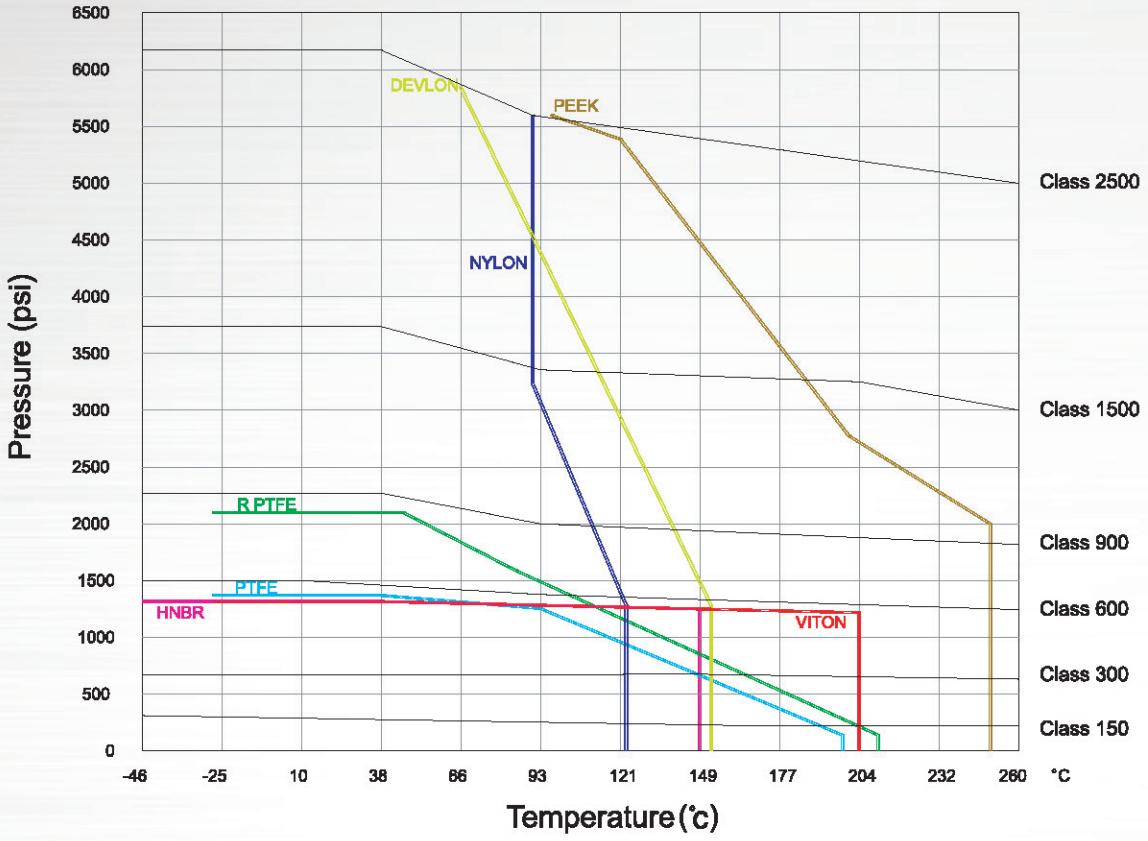


FIG NO. : B3TFA15, A30, A60, A90, A51, A52 / B3TRA15, A30, A60, A90, A51, A52

NO	PART NAME(API 6D)	MATERIALS			REMARKS
		A105, WCB/316	LF2, LCB,LCC/316	F316, CF8M/316	
1	BODY	A105, A216-WCB	LF2, A352-LCB, LCC	F316, A351-CF8M	
2	BODY CAP	A105, A216-WCB	LF2, A352-LCB, LCC	F316, A351-CF8M	
3	BALL	316SS			
4	SEAT	RPTFE, DEVLON			
6	STEM	316SS			
13	STEM SEAL	GRAPHITE			
14	BODY SEAL	316SS+GRAPHITE			SPIRAL WOUND G/K
15	BODY BOLT	A193-B7	A320-L7	A193-B8	
16	BODY NUT	A194-2H	A194-7	A194- 8	
17	O-RING	VITON			
20	ANTI-STATIC DEVICE	316SS			
26	TRUNNION	316SS			
27	TRUNNION SEAL	GRAPHITE			
28	RETAINER SEAL	GRAPHITE			
30	SEAT SPRING	INCONEL X-750			
31	RETAINER	316SS			
36	GEAR BOX / LEVER	A536			
40	COVER	A105	A320-LF2	A182-F316	
41	COVER BOLT	AISI 4140		A193 B8	
42	COVER SEAL	GRAPHITE			
50	SEALANT INJECTION	A105+Zn PLATE		316SS	
52	BODY VENT & DRAIN PLUG	A105+Zn PLATE		316SS	

ENGINEERING DATA

PRESSURE - TEMPERATURE RATINGS



SEAL MATERIALS

MATERIALS	TEMPERATURE(℃)		MATERIALS	TEMPERATURE(℃)	
	MIN.	MAX.		MIN.	MAX.
NBR	-37	100	FKM GLA (VITON GLA)	-40	180
HNBR	-40	150	DEVLON-V	-60	150
RPTFE (GLASS 15%)	-100	180	NYLON	-40	121
RPTFE (CARBON 25%)	-100	200	PEEK	-60	250
FKM A (VITON A)	-25	180			

TEST PRESSURE (Acc. to API 6D, Material : A216 WCB)

TEST PRESSURE(Psig)			
CLASS	SHELL(Hydro)	SEAT(Hydro)	SEAT(Air)
150	450	315	80
300	1,125	815	
600	2,225	1,630	
900	3,350	2,445	
1500	5,575	4,080	

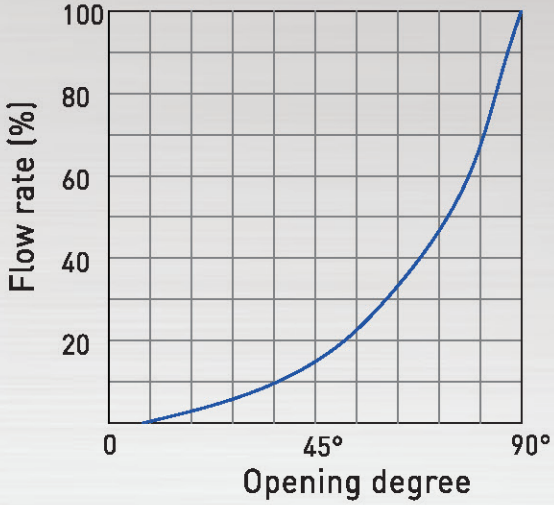
MIN. TEST DURATION (Minutes)		
VALVE SIZE	SHELL	SEAT
1/2"~2"	2	2
2" ~ 4"	2	2
6" ~ 10"	5	5
12" ~ 18"	15	5
20" and larger	30	5

ENGINEERING DATA

FLOW CHARACTERISTICS

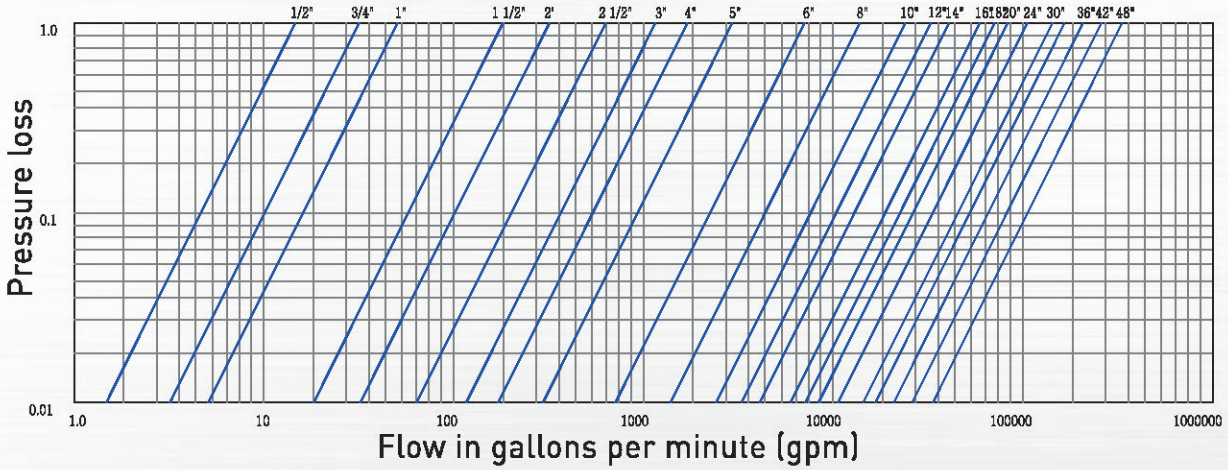
One of the best advantages of ball valves is that ever flow per any given bore size is larger than other types of valves.
Fluid is mush less disturbed by eddy currents or pulsation.
To obtain the figure of flow per valve opening, simply multiply the flow rate (%) given here by the corresponding value given in the table of pressure loss vs. flow rate.

VALVE OPENING VS. FLOW RATE

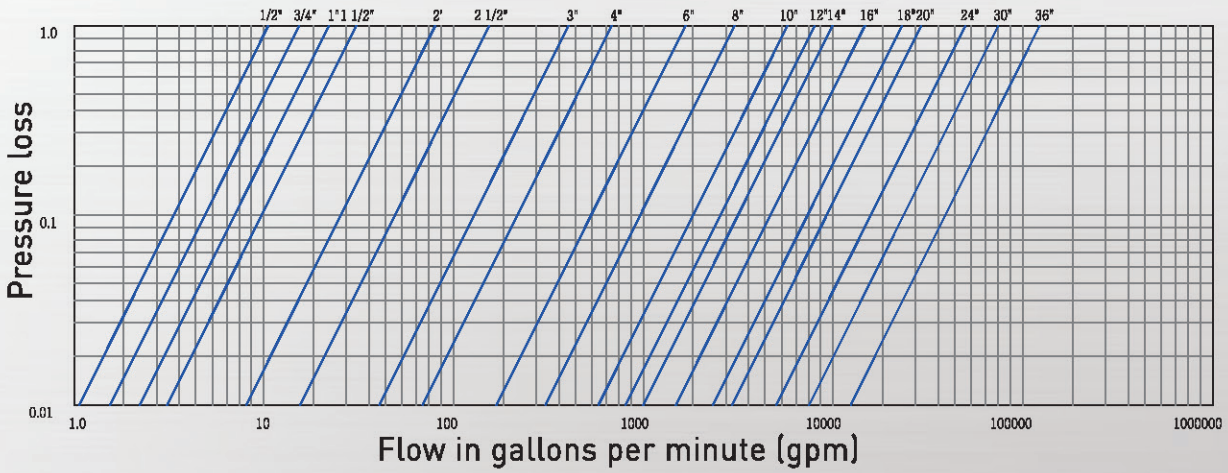


PRESSURE LOSS VS. FLOW RATE

FULL PORT BALL VALVES



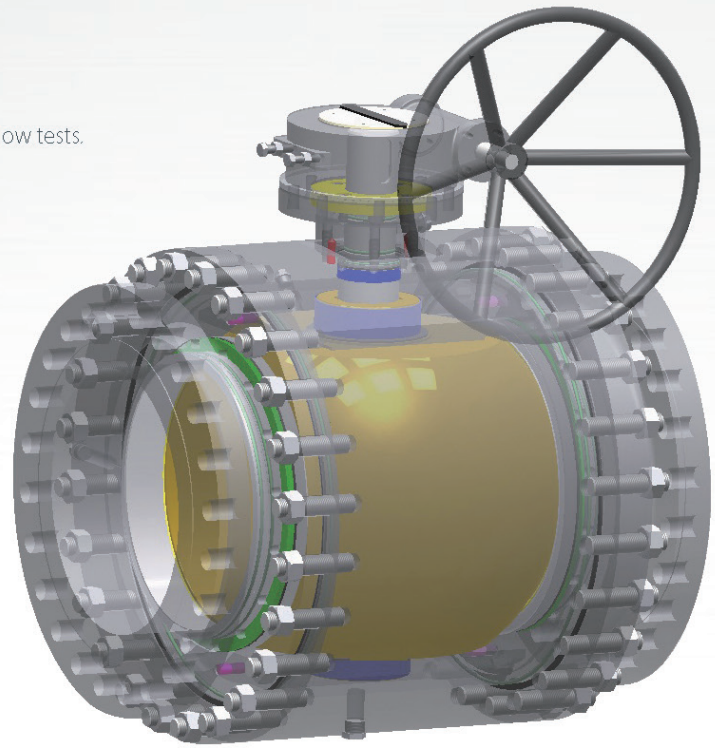
REDUCED PORT BALL VALVES



ENGINEERING DATA

Cv FLOW COEFFICIENT VALUE

The coefficient of flow Cv expresses the rate of flow in gallons per minute at 60°F water with a pressure drop of 1 psig across the valve. The Cv coefficients for the various types and sizes, shown in the tables, have been determined from actual flow tests.



SIZE	CLASS 150, 300, 600		CLASS 900		CLASS 1500		CLASS 2500	
	FB	RB	FB	RB	FB	RB	FB	RB
2"	430	136	350	150	330	125	250	120
3"	1,250	220	950	210	820	180	500	180
4"	2,250	630	1,850	620	1,700	560	1,500	550
6"	5,200	820	4,500	820	3,800	780	3,500	770
8"	9,600	2,200	8,650	2,200	7,400	2,150	7,400	2,100
10"	15,200	4,350	14,500	4,550	11,500	4,450	11,500	4,100
12"	23,000	7,600	21,300	8,200	18,000	9,000	18,000	7,550
14"	28,460	14,000	25,300	13,000	21,000	12,900		
16"	37,500	15,000	34,500	14,500	27,500	14,500		
18"	49,000	21,000	45,000	19,500	37,000	19,500		
20"	59,000	28,300	55,200	25,000	47,800	25,000		
24"	111,200	46,000	86,000	46,000				
26"	123,000	57,000						
28"	143,000	68,000						
30"	164,000	82,000						
36"	235,000	130,000						
40"	267,000							
42"	321,000							
48"	358,000							

ENGINEERING DATA

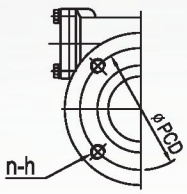
TORQUE DATA

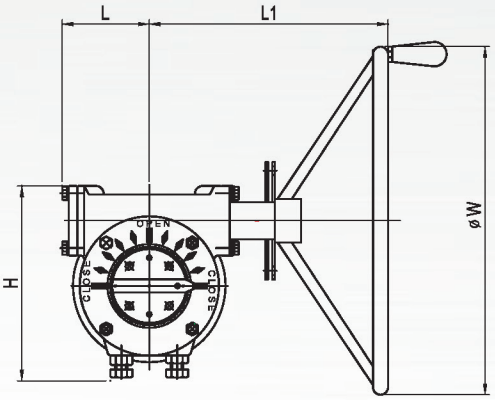
(Unit : N.m)

TYPE	TRUNNION(FB)					
SIZE	RPTFE		DEVLON			
	CLASS 150	CLASS 300	CLASS 600	CLASS 900	CLASS 1500	CLASS 2500
2"	60	97	160	300	510	670
2 1/2"	83	125	220	415	730	950
3"	120	200	320	605	1,020	1,130
4"	210	350	590	1,050	1,810	2,170
6"	380	650	1,100	1,950	3,400	4,600
8"	720	1,230	1,900	3,500	5,900	8,980
10"	810	2,630	3,300	6,100	10,050	14,970
12"	1,236	3,240	5,250	9,750	18,200	20,420
14"	1,590	4,164	7,400	13,800	22,300	
16"	3,465	5,650	10,300	19,500	32,200	
18"	4,680	8,050	13,900	25,100	43,100	
20"	6,030	10,400	17,800	33,800		
22"	7,032	10,930	18,130	34,260		
24"	9,180	13,770	19,160	35,250		
26"	13,330	18,170	26,000			
28"	15,460	21,100	30,300			
30"	16,860	23,880	35,260			
32"	19,210	28,680	44,070			
36"	22,390	33,590	51,800			
40"	27,320	41,190	63,750			
42"	29,480	44,630	69,300			
48"	43,540	74,110	123,830			

● At working pressure states ● Safety factor : about 30%

ENGINEERING DATA





GEAR BOX DIMENSION & SELECTION CHART

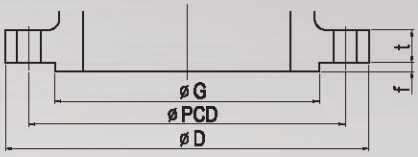
MODEL NO.	H	L	L1	W	MAX. STEM DIA.	MAX. TORQUE(N.m)	GEAR RATIO
SBWG-BF	123	58	121	200	20	310	32 : 1
SBWG-0	151	72	155	250	28	600	36 : 1
SBWG-00	178	84	206	300	36	1,000	38 : 1
SBWG-01	203	93	230	400	46	1,550	42 : 1
SBWG-02	247	111	279	450	60	2,400	48 : 1
SBWG-03	288	124	312	560	75	4,300	52 : 1
SBWG-04	365	182	371	630	95	7,700	56 : 1
SBWG-05	437	231	425	710	115	14,800	60 : 1
SBWG-06	553	244	513	800	140	26,700	64 : 1
SBWG-07	651	306	536	900	180	51,100	68 : 1
SBWG-08	800	336	615	1,000	225	106,000	58 : 1

ISO 5211 MOUNTING SELECTION

ISO FLANGE	PCD	n-Mh	MAX. TORQUE(N.m)	CLASS & SIZE(FB)					
				150	300	600	900	1500	2500
F07	70	4-M8	250	2", 2 1/2"		1 1/2", 2"			
F10	102	4-M10	500	3 ~ 4"		2 1/2"			
F12	125	4-M12	1,000	6"		3"	2"~3"	2"~3"	
F14	140	4-M16	2,000	8"		4"	4"	4"	2"
F16	165	4-M20	4,000	10, 12"		6", 8"	6"	6"	3"
F20	205	8-M16	6,000	14"		10", 12"	8"	8"	4"
F25	254	8-M16	8,000	16", 18"		14"	10"	10"	6"
F30	298	8-M20	16,000	20", 22"		16", 18"	12",14"	12"	8"
F35	356	8-M30	32,000	24"~36"	24"~28"	20",24"	16",18"	14", 16"	10", 12"
F40	406	8-M36	63,000	40"	30"~40"	26",28"	20",24"		
F48	483	12-M36	125,000	42", 48"	42",48"	30",36"			
F60	603	20-M36	250,000			40",42",48"			

ENGINEERING DATA

ASME B16.5



CLASS 150 FLANGE DIMENSIONS

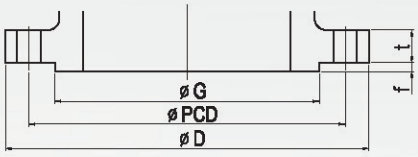
NOMINAL PIPE SIZE	D	PCD	G	t	f	DRILLING		DIA. of BOLT
in						DIA. of BOLT HOLE(mm)	NO. of BOLT HOLES	
1/2"	90	60.3	34.9	8.0	2	15.9	4	1/2"
3/4"	100	69.9	42.9	8.9	2	15.9	4	1/2"
1"	110	79.4	50.8	9.6	2	15.9	4	1/2"
1 1/4"	115	88.9	63.5	11.2	2	15.9	4	1/2"
1 1/2"	125	98.4	73.0	12.7	2	15.9	4	1/2"
2"	150	120.7	92.1	14.3	2	19.1	4	5/8"
2 1/2"	180	139.7	104.8	15.9	2	19.1	4	5/8"
3"	190	152.4	127.0	17.5	2	19.1	4	5/8"
4"	230	190.5	157.2	22.3	2	19.1	8	5/8"
5"	255	215.9	185.7	22.3	2	22.2	8	3/4"
6"	280	241.3	215.9	23.9	2	22.2	8	3/4"
8"	345	298.5	269.9	27.0	2	22.2	8	3/4"
10"	405	362.0	323.8	28.6	2	25.4	12	7/8"
12"	485	431.8	381.0	30.2	2	25.4	12	7/8"
14"	535	476.3	412.8	33.4	2	28.5	12	1"
16"	595	539.8	469.9	35.0	2	28.5	16	1"
18"	635	577.9	533.4	38.1	2	31.8	16	1 1/8"
20"	700	635.0	584.2	41.3	2	31.8	20	1 1/8"
24"	815	749.3	692.2	46.1	2	34.9	20	1 1/4"

CLASS 300 FLANGE DIMENSIONS

NOMINAL PIPE SIZE	D	PCD	G	t	f	DRILLING		DIA. of BOLT
in						DIA. of BOLT HOLE(mm)	NO. of BOLT HOLES	
1/2"	95	66.7	34.9	12.7	2	15.9	4	1/2"
3/4"	115	82.6	42.9	14.3	2	19.1	4	5/8"
1"	125	88.9	50.8	15.9	2	19.1	4	5/8"
1 1/4"	135	98.4	63.5	17.5	2	19.1	4	5/8"
1 1/2"	155	114.3	73.0	19.1	2	22.2	4	3/4"
2"	165	127.0	92.1	20.7	2	19.1	8	5/8"
2 1/2"	190	149.2	104.8	23.9	2	22.2	8	3/4"
3"	210	168.3	127.0	27.0	2	22.2	8	3/4"
4"	255	200.0	157.2	30.2	2	22.2	8	3/4"
5"	280	235.0	185.7	33.4	2	22.2	8	3/4"
6"	320	269.9	215.9	35.0	2	22.2	12	3/4"
8"	380	330.2	269.9	39.7	2	25.4	12	7/8"
10"	445	387.4	323.8	46.1	2	28.5	16	1"
12"	520	450.8	381.0	49.3	2	31.8	16	1 1/8"
14"	585	514.4	412.8	52.4	2	31.8	20	1 1/8"
16"	650	571.5	469.9	55.6	2	34.9	20	1 1/4"
18"	710	628.6	533.4	58.8	2	34.9	24	1 1/4"
20"	775	685.8	584.2	62.0	2	34.9	24	1 1/4"
24"	915	812.8	692.2	68.3	2	41.3	24	1 1/2"

ENGINEERING DATA

ASME B16.5



CLASS 600 FLANGE DIMENSIONS

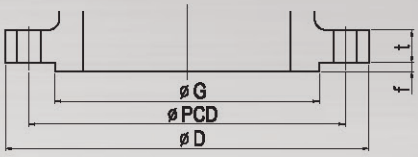
NOMINAL PIPE SIZE in	D	PCD	G	t	f	DRILLING		DIA. of BOLT
						DIA. of BOLT HOLE(mm)	NO. of BOLT HOLES	
1/2"	95	66.7	34.9	14.3	7	15.9	4	1/2"
3/4"	115	82.6	42.9	15.9	7	19.1	4	5/8"
1"	125	88.9	50.8	17.5	7	19.1	4	5/8"
1 1/4"	135	98.4	63.5	20.7	7	19.1	4	5/8"
1 1/2"	155	114.3	73.0	22.3	7	22.2	4	3/4"
2"	165	127.0	92.1	25.4	7	19.1	8	5/8"
2 1/2"	190	149.2	104.8	28.6	7	22.2	8	3/4"
3"	210	168.3	127.0	31.8	7	22.2	8	3/4"
4"	275	215.9	157.2	38.1	7	25.4	8	7/8"
5"	330	266.7	185.7	44.5	7	28.5	8	1"
6"	355	292.1	215.9	47.7	7	28.5	12	1"
8"	420	349.2	269.9	55.6	7	31.8	12	1 1/8"
10"	510	431.8	323.8	63.5	7	34.9	16	1 1/4"
12"	560	489.0	381.0	66.7	7	34.9	20	1 1/4"
14"	605	527.0	412.8	69.9	7	38.1	20	1 3/8"
16"	685	603.2	469.9	76.2	7	41.3	20	1 1/2"
18"	745	654.0	533.4	82.6	7	44.4	20	1 5/8"
20"	815	723.9	584.2	88.9	7	44.4	24	1 5/8"
24"	940	838.2	692.2	101.6	7	50.8	24	1 7/8"

CLASS 900 FLANGE DIMENSIONS

NOMINAL PIPE SIZE in	D	PCD	G	t	f	DRILLING		DIA. of BOLT
						DIA. of BOLT HOLE(mm)	NO. of BOLT HOLES	
1/2"	120	82.6	34.9	22.3	7	22.2	4	3/4"
3/4"	130	88.9	42.9	25.4	7	22.2	4	3/4"
1"	150	101.6	50.8	28.6	7	25.4	4	7/8"
1 1/4"	160	111.1	63.5	28.6	7	25.4	4	7/8"
1 1/2"	180	123.8	73.0	31.8	7	28.5	4	1"
2"	215	165.1	92.1	38.1	7	25.4	8	7/8"
2 1/2"	245	190.5	104.8	41.3	7	28.5	8	1"
3"	240	190.5	127.0	38.1	7	25.4	8	7/8"
4"	290	235.0	157.2	44.5	7	31.8	8	1 1/8"
5"	350	279.4	185.7	50.8	7	34.9	8	1 1/4"
6"	380	317.5	215.9	55.6	7	31.8	12	1 1/8"
8"	470	393.7	269.9	63.5	7	38.1	12	1 3/8"
10"	545	469.9	323.8	69.9	7	38.1	16	1 3/8"
12"	610	533.4	381.0	79.4	7	38.1	20	1 3/8"
14"	640	558.8	412.8	85.8	7	41.3	20	1 1/2"
16"	705	616.0	469.9	88.9	7	44.4	20	1 5/8"
18"	785	685.8	533.4	101.6	7	50.8	20	1 7/8"
20"	855	749.3	584.2	108.0	7	53.9	20	2"
24"	1,040	901.7	692.2	139.7	7	66.7	20	2 1/2"

ENGINEERING DATA

ASME B16.47 Series A



CLASS 150 FLANGE DIMENSIONS

NOMINAL PIPE SIZE in	D	PCD	G	t	f	DRILLING		DIA. of BOLT
						DIA. of BOLT HOLE(mm)	NO. of BOLT HOLES	
26"	870	806.4	749	66.7	2	34.9	24	1 1/4"
28"	925	863.6	800	69.9	2	34.9	28	1 1/4"
30"	985	914.4	857	73.1	2	34.9	28	1 1/4"
32"	1,060	977.9	914	79.4	2	41.3	28	1 1/2"
34"	1,110	1,028.7	965	81.0	2	41.3	32	1 1/2"
36"	1,170	1,085.8	1,022	88.9	2	41.3	32	1 1/2"
38"	1,240	1,149.4	1,073	85.8	2	41.3	32	1 1/2"
40"	1,290	1,200.2	1,124	88.9	2	41.3	36	1 1/2"
42"	1,345	1,257.3	1,194	95.3	2	41.3	36	1 1/2"
44"	1,405	1,314.4	1,245	100.1	2	41.3	40	1 1/2"
46"	1,455	1,365.2	1,295	101.6	2	41.3	40	1 1/2"
48"	1,510	1,422.4	1,359	106.4	2	41.3	44	1 1/2"
56"	1,745	1,651.0	1,575	122.3	2	47.6	48	1 3/4"

CLASS 300 FLANGE DIMENSIONS

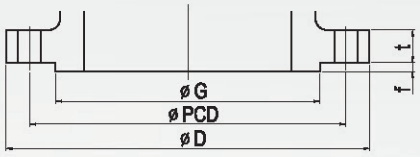
NOMINAL PIPE SIZE in	D	PCD	G	t	f	DRILLING		DIA. of BOLT
						DIA. of BOLT HOLE(mm)	NO. of BOLT HOLES	
26"	970	876.3	749	77.8	2	44.5	28	1 5/8"
28"	1,035	939.8	800	84.2	2	44.5	28	1 5/8"
30"	1,090	997.0	857	90.5	2	47.6	28	1 3/4"
32"	1,150	1,054.1	914	96.9	2	50.8	28	1 7/8"
34"	1,205	1,104.9	965	100.1	2	50.8	28	1 7/8"
36"	1,270	1,168.4	1,022	103.2	2	54.0	32	2"
38"	1,170	1,092.4	1,029	106.4	2	41.3	32	1 1/2"
40"	1,240	1,155.7	1,086	112.8	2	44.5	32	1 5/8"
42"	1,290	1,206.5	1,137	117.5	2	44.5	32	1 5/8"
44"	1,355	1,263.6	1,194	122.3	2	47.6	32	1 3/4"
46"	1,415	1,320.8	1,245	127.0	2	50.8	28	1 7/8"
48"	1,465	1,371.6	1,302	131.8	2	50.8	32	1 7/8"
56"	1,710	1,600.2	1,518	152.4	2	60.3	28	2 1/4"

CLASS 600 FLANGE DIMENSIONS

NOMINAL PIPE SIZE in	D	PCD	G	t	f	DRILLING		DIA. of BOLT
						DIA. of BOLT HOLE(mm)	NO. of BOLT HOLES	
26"	1,015	914.4	749	108.0	7	50.8	28	1 7/8"
28"	1,075	965.2	800	111.2	7	54.0	28	2"
30"	1,130	1,022.4	857	114.3	7	54.0	28	2"
32"	1,195	1,079.5	914	117.5	7	60.3	28	2 1/4"
34"	1,245	1,130.3	965	120.7	7	60.3	28	2 1/4"
36"	1,315	1,193.8	1022	123.9	7	66.7	28	2 1/2"

ENGINEERING DATA

ASME B16.47 Series B



CLASS 150 FLANGE DIMENSIONS

NOMINAL PIPE SIZE in	D	PCD	G	t	f	DRILLING		DIA. of BOLT
						DIA. of BOLT HOLE(mm)	NO. of BOLT HOLES	
26"	785	744.5	711	39.8	2	22.2	36	3/4"
28"	835	795.3	762	43.0	2	22.2	40	3/4"
30"	885	846.1	813	43.0	2	22.2	44	3/4"
32"	940	900.1	864	44.6	2	22.2	48	3/4"
34"	1,005	957.3	921	47.7	2	25.4	40	7/8"
36"	1,055	1,009.6	972	50.9	2	25.4	44	7/8"
38"	1,125	1,070.0	1,022	52.5	2	28.6	40	1"
40"	1,175	1,120.8	1,080	54.1	2	28.6	44	1"
42"	1,225	1,171.6	1,130	57.3	2	28.6	48	1"
44"	1,275	1,222.4	1,181	58.9	2	28.6	52	1"
46"	1,340	1,284.3	1,235	60.4	2	31.8	40	1 1/8"
48"	1,390	1,335.1	1,289	63.6	2	31.8	44	1 1/8"
56"	1,600	1,543.0	1,490	89.0	2	31.8	60	1 1/8"

CLASS 300 FLANGE DIMENSIONS

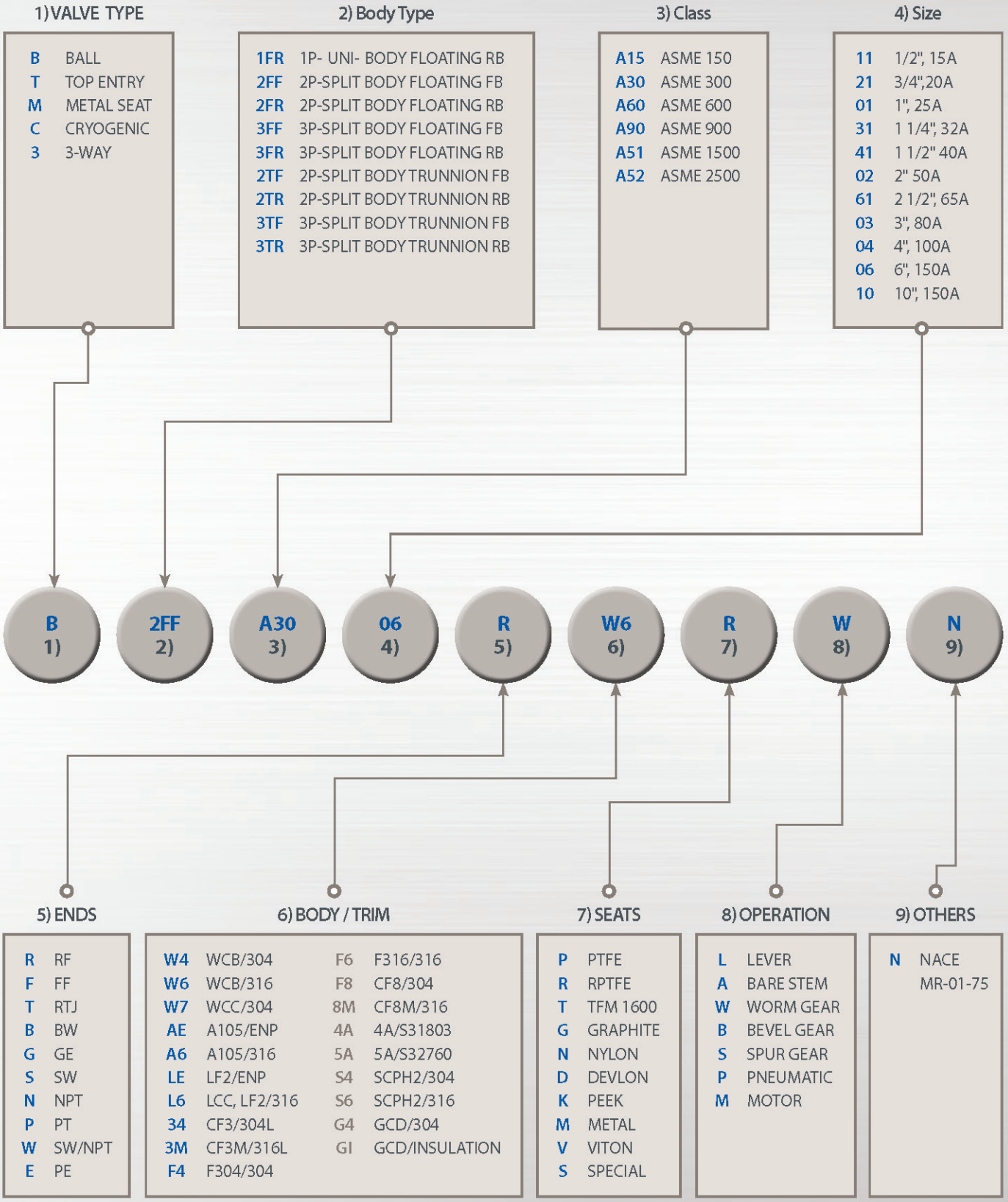
NOMINAL PIPE SIZE in	D	PCD	G	t	f	DRILLING		DIA. of BOLT
						DIA. of BOLT HOLE(mm)	NO. of BOLT HOLES	
26"	865	803.2	737	87.4	2	34.9	32	1 1/4"
28"	920	857.2	787	87.4	2	34.9	36	1 1/4"
30"	990	920.8	845	92.1	2	38.1	36	1 3/8"
32"	1,055	977.9	902	101.6	2	41.3	32	1 1/2"
34"	1,110	1,031.9	953	101.6	2	41.3	36	1 1/2"
36"	1,170	1,089.0	1,010	101.6	2	44.5	32	1 5/8"
38"	1,220	1,139.8	1,060	109.6	2	44.5	36	1 5/8"
40"	1,275	1,190.6	1,114	114.3	2	44.5	40	1 5/8"
42"	1,335	1,244.6	1,168	117.5	2	47.6	36	1 3/4"
44"	1,385	1,295.4	1,219	125.5	2	47.6	40	1 3/4"
46"	1,460	1,365.2	1,270	127.0	2	50.8	36	1 7/8"
48"	1,510	1,416.0	1,327	127.0	2	50.8	40	1 7/8"
56"	1,765	1,651.0	1,537	152.4	2	60.3	36	2 1/4"

CLASS 600 FLANGE DIMENSIONS

NOMINAL PIPE SIZE in	D	PCD	G	t	f	DRILLING		DIA. of BOLT
						DIA. of BOLT HOLE(mm)	NO. of BOLT HOLES	
26"	890	806.4	727	111.2	7	44.5	28	1 5/8"
28"	950	863.6	784	115.9	7	47.6	28	1 3/4"
30"	1,020	927.1	841	125.5	7	50.8	28	1 7/8"
32"	1,085	984.2	895	130.2	7	54.0	28	2"
34"	1,160	1,054.1	953	141.3	7	60.3	24	2 1/4"
36"	1,215	1,104.9	1,010	146.1	7	60.3	28	2 1/4"

FIGURE NUMBER SYSTEM FOR HS VALVES

EX) BALL VALVE, SPLIT BODY FLOATING, FULL BORE, CLASS 300, SIZE 6"
RF FLANGE, WCB BODY, 316SS BALL & STEM, RPTFE SEAT, GEAR OP., NACE



BULLETIN : 1708-BT05

THE MOST COMPETITIVE PRICE

THE HIGHEST QUALITY

THE ON TIME DELIVERY

HEAD OFFICE & FACTORY Ⅰ
29, Paldal-ro 2-gil, Seo-gu,
Daegu, Korea(Zipcode: 41701)
T +82-53-353-5789 F +82-53-352-1179

FACTORY Ⅱ
222, Gongdan 8-ro, Jillyang-eup, Gyeongsan-si,
Gyeongsangbuk-do, Korea(Zipcode: 38461)
T +82-53-857-5789 F +82-53-857-5784

FACTORY Ⅲ
138, Damun-ro, Jillyang-eup, Gyeongsan-si,
Gyeongsangbuk-do, Korea(Zipcode: 38459)
T +82-53-854-5780 F +82-53-854-5784

www.hsvalve.com / www.hsvalve.co.kr
E-mail master@hsvalve.com

HS VALVE

WARRANTY

HS VALVE is guaranteed against defects in material and workmanship for period 12 months from date of installation or 18 month from date of shipment when products are properly installed and used within service.
This warranty includes limited replacements free of charge for any parts found to be defective by HS VALVE.
This liability does not extend to claims for any labor or any other loss, damage or expense of any consequential charges.
This warranty does not apply to products manufactured by others or unauthorized labor or material.