Contents

LT METAL BALL VALVES

- LT MEANS Low Torque

LT Series : LTF, LTT, LTS

LTF: LOW TORQUE FLOATING TYPE
LTT: LOW TORQUE TRUNION TYPE
LTS: LOW TORQUE SEGMENT BALL TYPE

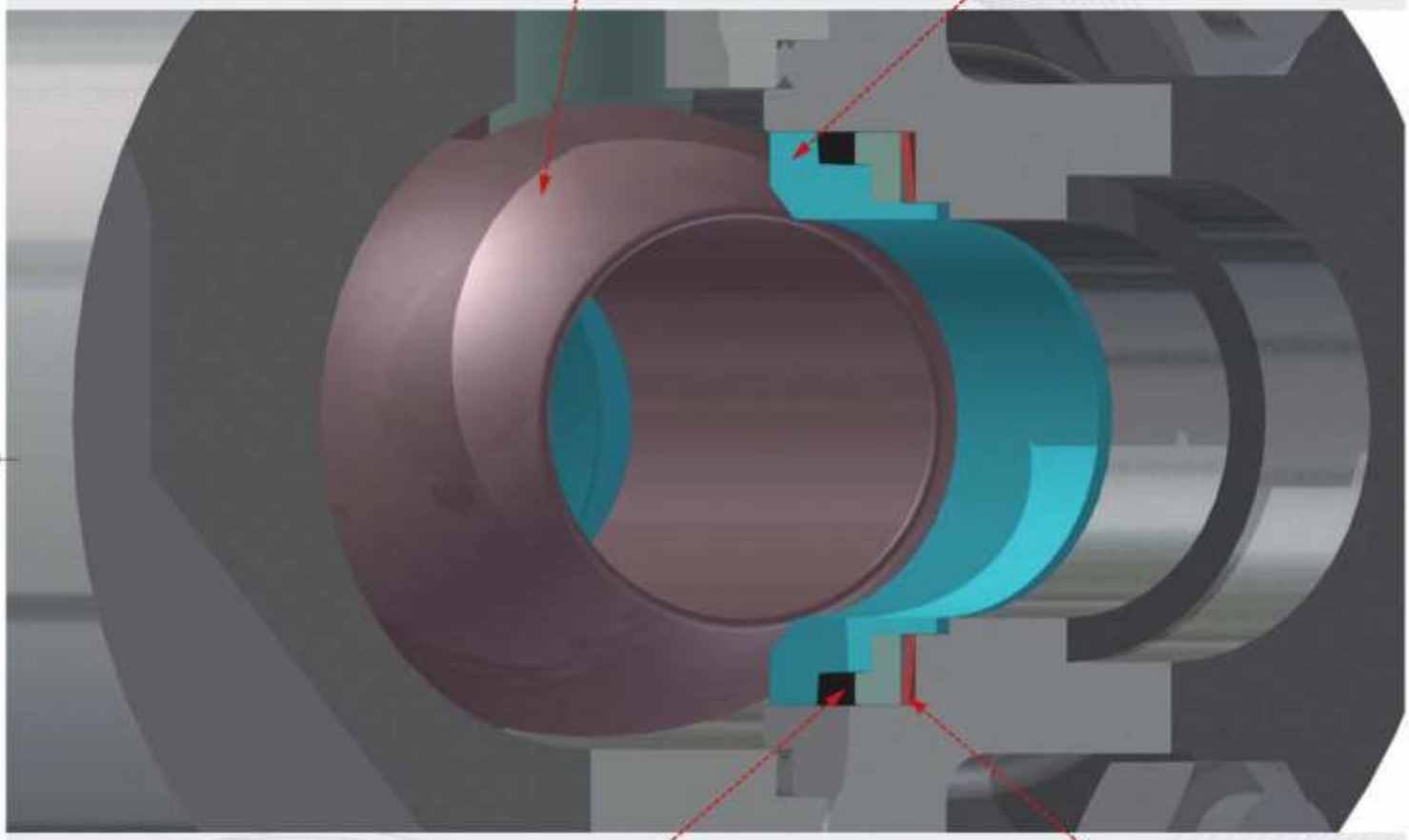
EASY TO MOUNT
EASY TO MAINTENANCE
EASY TO TURN

Ball

1. PVD Coating
2. Anti-Corrosion Improvement
3. Anti-Erosion Improvement
4. High Smooth Facing
5. Low Torque due to Low Friction

Seat Ring

1. PVD Coating
2. Anti-Corrosion Improvement
3. Anti-Erosion Improvement
4. High Smooth Facing
5. Low Torque due to Low Friction
6. Excellent Guiding



Seat Seal

1. Zero Leakage through to Inner and Outer Side.
2. Anti-Aging against High Temperature.
3. Good Performance due to Low Friction

Seat Spring

1. Disc Spring Adequate to narrow Space.
2. Good Design fit to High Temperature.
3. Excellent Resilience under the Severe Condition.

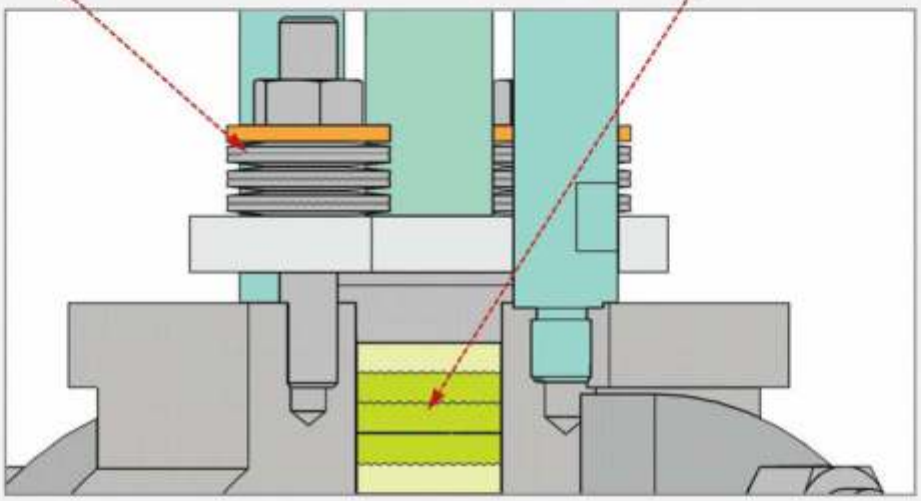
LT METAL BALL VALVES

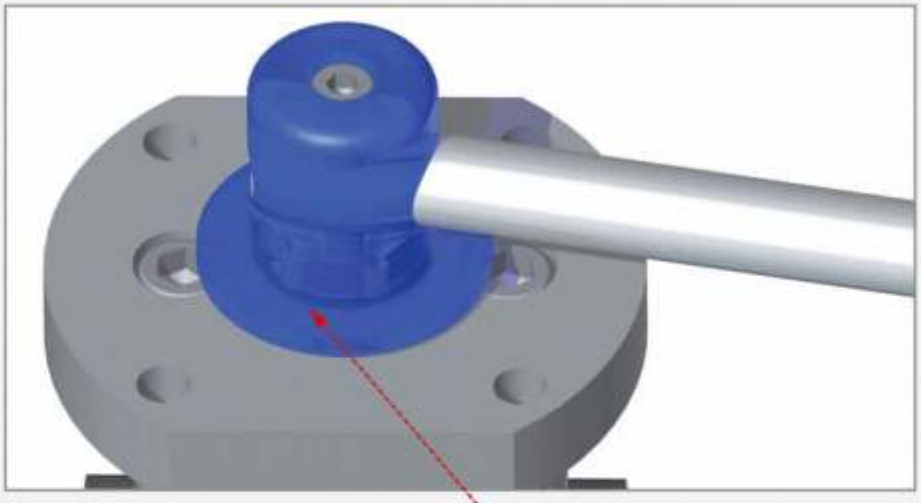
Live Loading System

1. Compensate Sealing Force Owing to Live Loading Spring.
2. Compulsory Requirement about ASME Class 600 and Over.

Gland Packing

1. Leak-proof System
2. Lower Friction independent to Valve Torque





Lever Connector

1. Open and Closing Adjustment.
2. Easy to Attach and Detach form Valve Assembly

LT METAL BALL VALVES

LTF Series

LT Floating Metal Ball Valves

STANDARD MATERIALS

PART NAME	MATERIALS
BODY	A105 or A182-F91 /F22
BALL	400SS + Coating
STEM	Alloy Steel + Coating
SEAT RING	400SS + Coating
SEAT SEAL	Graphite
SEAT LOAD RING	400SS
SEAT SPRING	Alloy Steel
GASKET	Graphite + 304SS
PACKING	Graphite
DISC SPRING	SK5M

SPECIFICATIONS

1) Valve Size: 1/2" ~ 2"
2) Applicable Rating: ASME Class 600
3) Temperature: Max. . 300℃
4) Code & Standard: API, BS, ASME, ASTM
   Designed by ASME B16.11 /16.34 /16.5 /BS5351
   API 6D /API 608 Compliant
   Tested by API 598
5) Constructions
   * Three-piece Type /Floating Ball Type
   * End Connection: Socket-welded and Flanged
   * Full Bore /Blow-out Proof Stem
   * Double Seal, Double Block & Bleed /Anti-static Design
   * Pressure Relieving Seats /Live-loading System
   * Fire Safety Construction: API 607
6) Special Order for temperature, 350℃ and over.

LT METAL BALL VALVES

LTT Series

LT Trunion Metal Ball Valves

* Under preparations for patent

STANDARD MATERIALS

PART NAME	MATERIALS
BODY	A105 or A182-F91 /F22, C.S., S.S.
BALL	400SS + Coating
ST	Alloy Steel + Coating
SEAT RING	400SS + Coating
SEAT SEAL	Graphite
SEAT LOAD RING	400SS
SEAT SPRING	Alloy Steel
GASKET	Graphite + 304SS
PACKING	Graphite
DISC SPRING	SK5M

SPECIFICATIONS

1) Valve Size: 2 1/2" ~ 8"
2) Applicable Rating: ASME Class 600
3) Temperature: Max. . 300℃
4) Code & Standard: API, BS, ASME, ASTM
   Designed by ASME B16.11 /16.34 /16.5 /BS5351
   API 6D /API 608 Compliant
   Tested by API 598
5) Constructions
   * Two-piece Type /Trunion Ball Type
   * End Connection: Socket-welded and Flanged
   * Full Bore /Blow-out Proof Stem
   * Double Seal, Double Block & Bleed /Anti-static Design
   * Pressure Relieving Seats /Live-loading System
   * Fire Safety Construction: API 607
6) Special Order for temperature, 300℃ and over.

LT METAL BALL VALVES

LTS Series

LT Segment Metal Ball Valves

* Under preparations for patent

STANDARD MATERIALS

PART NAME	MATERIALS
BODY	A105 or A182-F91 /F22, C.S., S.S.
BALL	400SS + Coating
STEM	Alloy Steel + Coating
SEAT RING	400SS + Coating
SEAT SEAL	Graphite
SEAT LOAD RING	400SS
SEAT SPRING	Alloy Steel
GASKET	Graphite + 304SS
PACKING	Graphite
DISC SPRING	SK5M

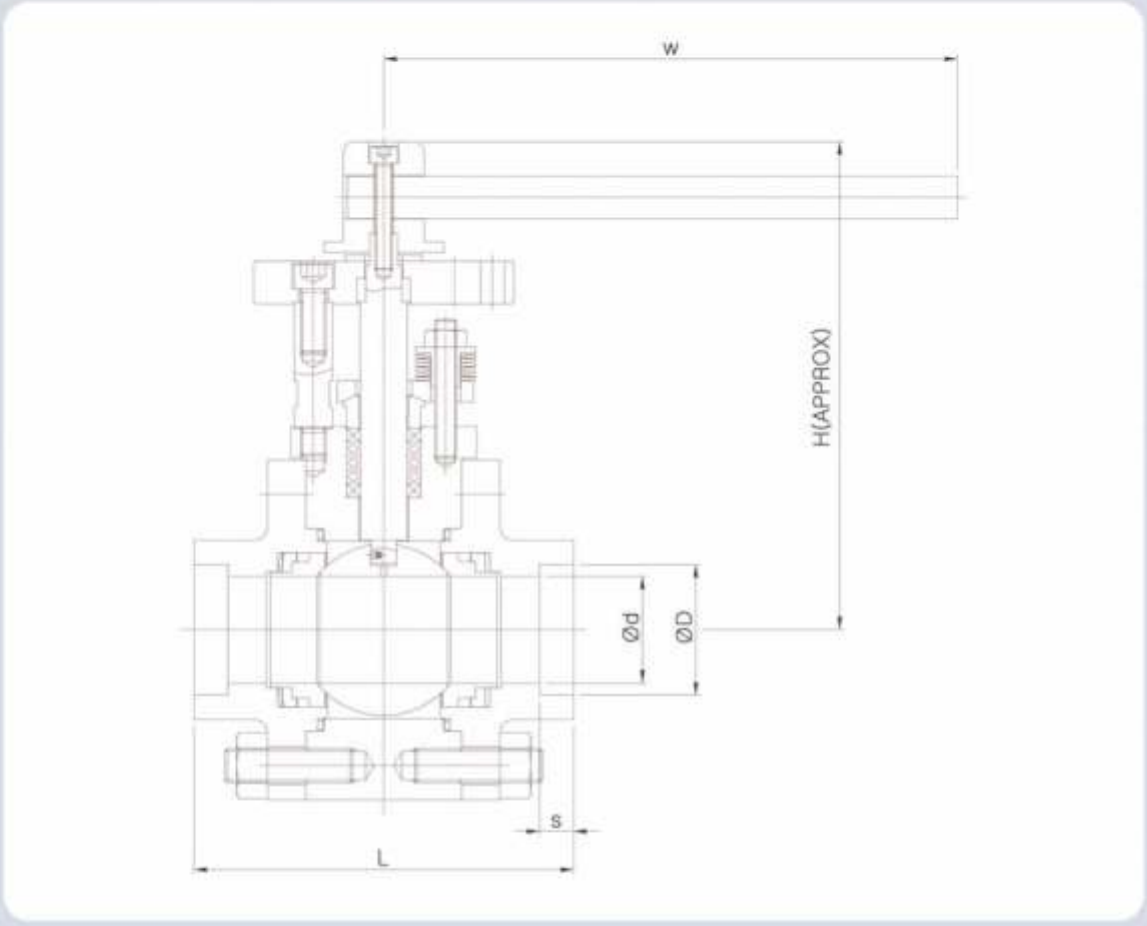
SPECIFICATIONS

1) Valve Size: 2" ~ 8"
2) Applicable Rating: ASME Class 300
3) Temperature: Max. . 300℃
4) Code & Standard: API, BS, ASME, ASTM
Designed by ASME B16.11 /16.34 /16.5 /BS5351
API 6D /API 608 Compliant
Tested by API 598
5) Constructions
* Two-piece Type /Trunion Ball Type
* End Connection: Socket-welded and Flanged
* Full Bore /Blow-out Proof Stem
* Double Seal, Double Block & Bleed /Anti-static Design
* Pressure Relieving Seats /Live-loading (over class 600)
* Fire Safety Construction: API 607
6) Special Order for temperature, 300℃ and over.

LT METAL BALL VALVES

LTF, LTT Series

LT Floating & Trunion Metal Ball Valve



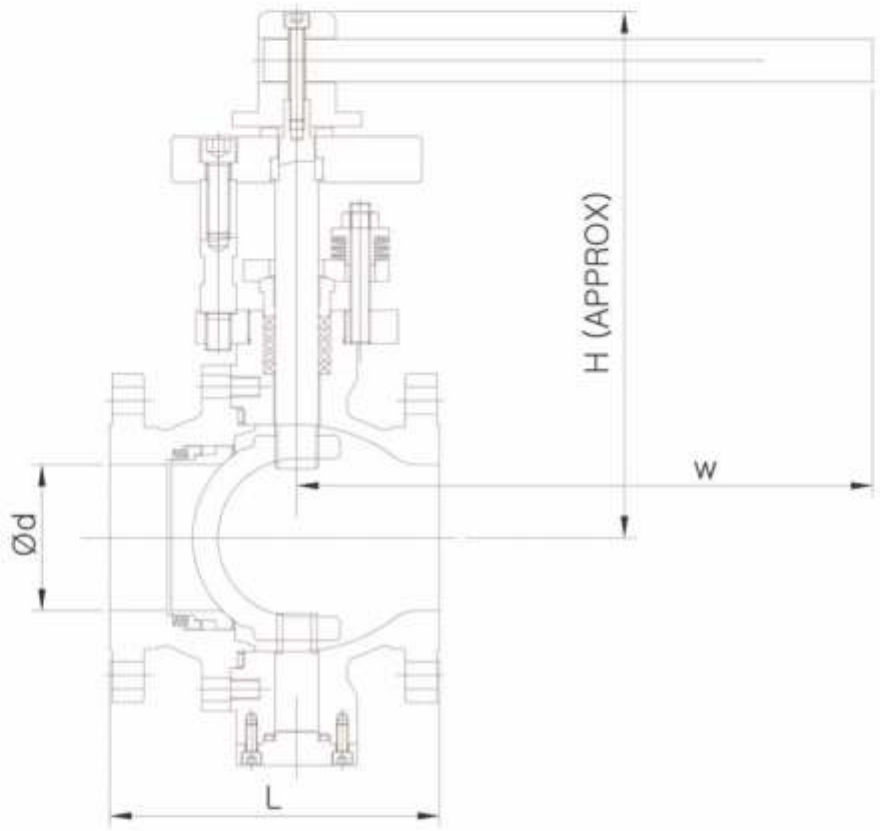
››› CLASS 600 DIMENSIONS IN MILIMETERS

Port	Size	Ød	ØD	S	W	H	L			Note
							RF	WE	RJ	
Full	1/2"	12.7	21.7	10	180	120	165	108	168	WE=S.W Floating, Side Entry
	3/4"	19.1	27.1	13	180	120	190	118	193	
	1"	25.4	33.8	13	180	130	216	127	219	
	1 1/4"	31.8	42.6	13	230	174	229	140	232	
	1 1/2"	38.1	48.7	13	230	174	241	165	244	
	2"	51	61.1	16	283	229	292	175	295	
Full	2 1/2"	63.5	-	-	293	230	330	191	333	WE=B.W Trunion, Side Entry
	3"	76.2	-	-	299	275	356	203	359	
	4"	101.6	-	-	312	366	432	229	435	
	6"	152.4	-	-	331	549	559	267	562	
	8"	203	-	-	355	731	660	400	664	

LT METAL BALL VALVES

LTS Series

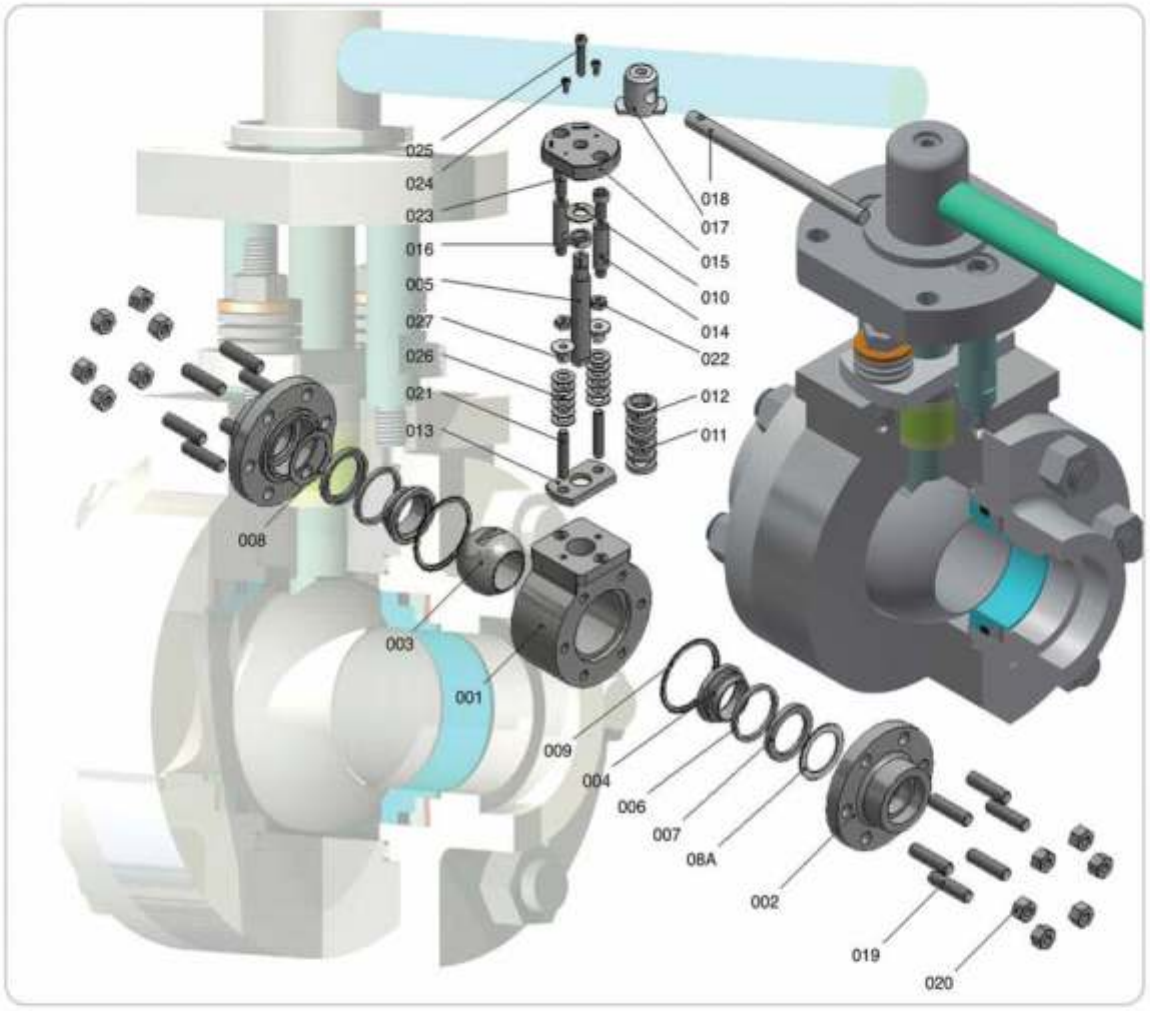
LT Segment Metal Ball Valves



››› CLASS 300 DIMENSIONS IN MILIMETERS

Port	Size	Ød	W	H	L			Note
					RF	WE	RJ	
Full	2"	51	283	229	178	178	181	Trunion, Side Entry
	2 1/2"	63.5	293	230	190	190	193	
	3"	76.2	299	275	203	203	206	
	4"	101.6	312	366	229	229	232	
	6"	152.4	331	549	267	267	270	
	8"	203	355	731	292	292	296	

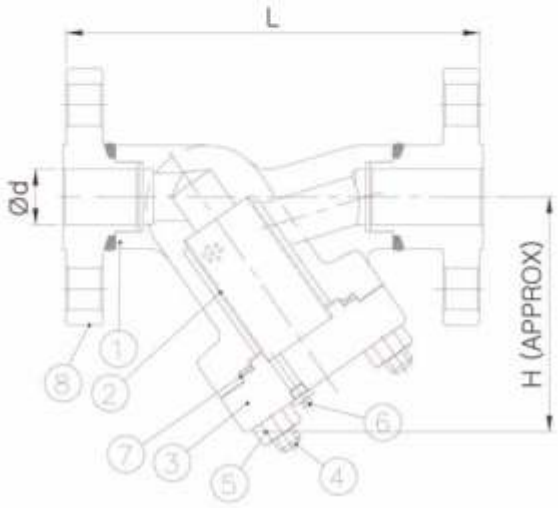
LT METAL BALL VALVES

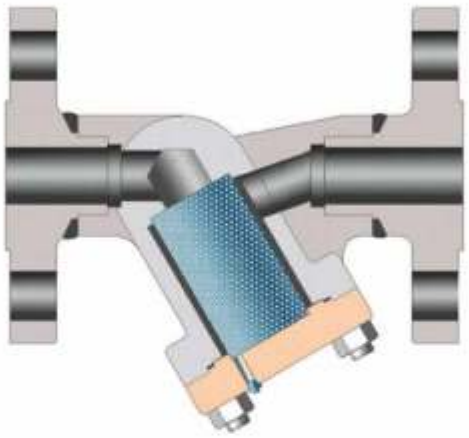


NO.	PART NAME	MATERIAL	NO.	PART NAME	MATERIAL
001	BODY	A105	013	GLAND FLANGE	A105
002	CONNECTOR	A105	014	YOKE BAR	A564-630 (H1100)
003	BALL	440C + PVD	015	YOKE FLANGE	A105
004	SEAT RING	440C + PVD	016	STEM BEARING	304 + PVD
005	STEM	A564-630	017	LEVER CONNECTOR	A276-304
006	SEAT SEAL	GRAPHITE	018	LEVER	A105
007	SEAT LOAD RING	440C	019	CONNECTOR BOLT	A193-B7
008	SEAT SPRING	630 (H900)	020	CONNECTOR NUT	A194-2H
08A	SEAT SPRING SPACER	630 (H900)	021	GLAND BOLT	A193-B7
009	BODY GASKET	GRAPHITE+304	022	GLAND NUT	A194-2H
010	LEVER CONNECTOR WASHER	A276-304	023	YOKE FLANGE BOLT	SCM435
011	PACKING	GRAPHITE	024	LEVER CONNECTOR BOLT	SCM435
012	PACKING GLAND	A276-304	025	ROTATION LOCKER	SCM435

Y-STRAINER

GENERAL TYPE





MATERIAL SPECIFICATION

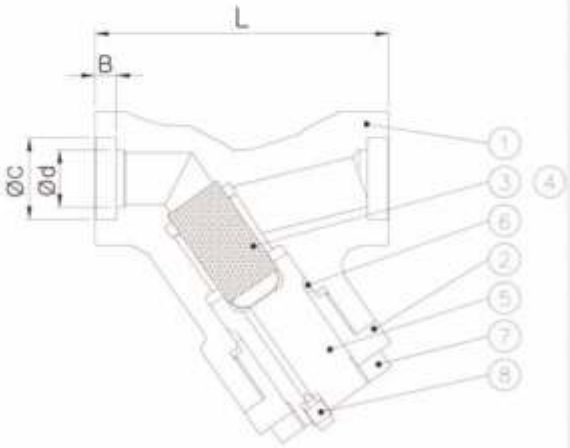
No.	PART NAME	MATERIALS
1	BODY	A105/F11/F22/F304/F316
2	SCREEN	316SS
3	CAP	A105/F11/F22/F304/F316
4	CAP BOLT	ASTM A193-B8
5	CAP BOLT NUT	ASTM A194 Gr.8
6	PLUG	304SS/316SS/410SS/420SS
7	GASKET	Graphite + 304SS
8	FLANGE	A105/F11/F22/F304/F316

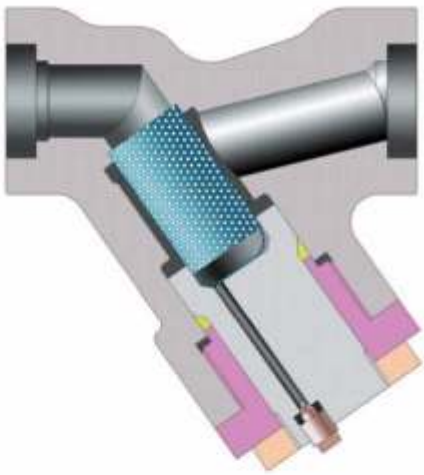
DIMENSIONS (UNIT:mm)

ASME Class	SIZE	H	L	d
150	1/2"	97	190	13
	3/4"	97	200	18
	1"	116	224	23
	1 1/4"	157	272	30
	1 1/2"	157	272	35
	2	157	285	46
300	1/2"	97	190	13
	3/4"	97	200	18
	1"	116	224	23
	1 1/4"	157	272	30
	1 1/2"	157	272	35
	2	157	286	46
600	1/2"	97	190	13
	3/4"	97	200	18
	1"	116	224	23
	1 1/4"	157	272	30
	1 1/2"	157	272	35
	2	157	286	46
900	1/2"	97	190	13
	3/4"	97	200	18
	1"	116	224	23
	1 1/4"	157	272	30
	1 1/2"	157	272	35
	2	157	286	46
1500	1/2"	97	190	13
	3/4"	97	200	18
	1"	116	224	23
	1 1/4"	157	272	30
	1 1/2"	157	272	35
	2	157	286	46

Y-STRAINER

PSB TYPE





MATERIAL SPECIFICATION

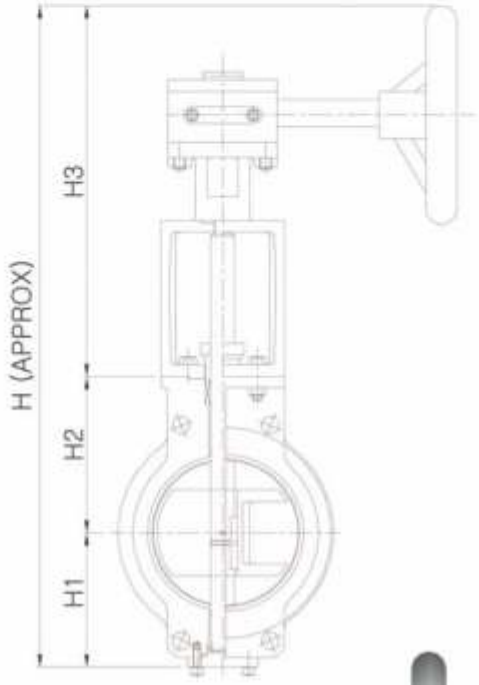
No.	PART NAME	MATERIALS
1	BODY	Alloy Steel
2	CAP	Alloy Steel
3	CAN	304SS
4	SCREEN	304SS
5	BONNET	Alloy Steel
6	PRESSURE SEAL	Graphite + 316SS
7	LOCK NUT	Alloy Steel
8	VENT PLUG	410SS

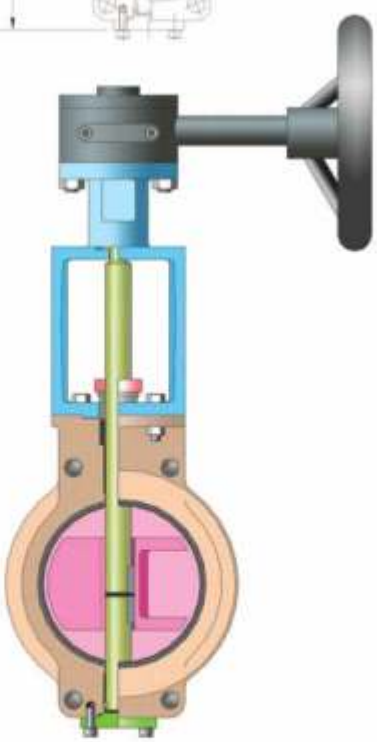
DIMENSIONS (UNIT:mm)

ASME Class	SIZE	L	Ød	ØC	B
2500	1/2"	114	10	21.70~22.20	10
	3/4"	130	11	27.05~27.55	13
	1"	150	15	33.80~34.30	13
	1 1/4"	190	20	42.55~43.05	13
	1 1/2"	190	28	48.65~49.15	13
	2"	220	35	61.10~61.60	16

BUTTERFLY VALVE

For High Temperature of 500℃





* Gear or MOV Actuator Available

››› DESIGN SPECIFICATION

1) Double Eccentric Structure: Available Double Seal
2) Disc & Seat Material: Corrosion-proof Material
3) This Structure gives perfect watertight, even when used for a long time.
4) The Valve has been developed independently by Seoheung MCO.
5) Applicable Temperature: Max. 500℃ and over

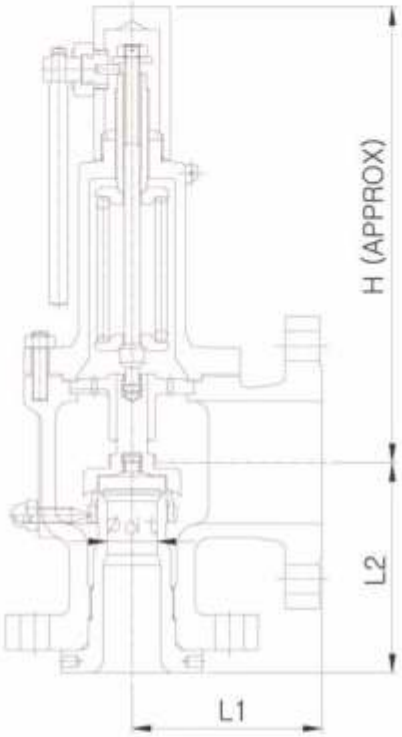
››› MATERIAL SPECIFICATION

PART NAME	MATERIALS
BODY	A217-WC9
DISC	A217-WC9
SEAT(LAMINATED)	316SS + Annealed Sheet
STEM(UPPER)	A564-TP630
STEM(LOWER)	A564-TP630
GLAND	304SS
PACKING	N.A + Graphite
GASKET	304SS + Graphite

››› DIMENSIONS (UNIT:mm)

ASME Class	SIZE	L	Ød	H1	H2	H3	H
600	2"	43	53	88	103	250	441
	3"	49	80	130	145	250	525
	4"	64	90	155	170	299	624
	6"	78	130	210	223	299	732
	8"	89	196	291	311	500	1102
	10"	114	248	358	378	500	1236
	12"	114	275	400	420	600	1420
	14"	127	320	460	480	600	1540
	16"	140	384	539	559	800	1898

SAFETY RELIEF VALVE



››› DESIGN SPECIFICATION

1] Applicable Pressure Rating: Class 300 and Below
2] Applicable Temperature: 200℃ and Below
3] Applicable Orifice Size : API Orifice D – T
4] Easy Bellows Installation.
5] Less Simmering Range

››› MATERIAL SPECIFICATION

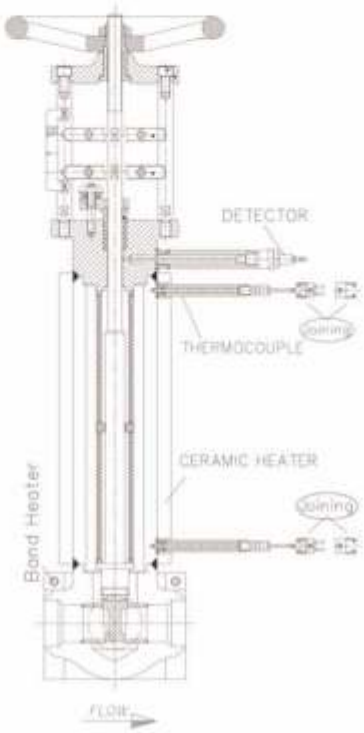
PART NAME	MATERIALS
BODY	Carbon Steel, Stainless Steel
SEAT	316SS
DISC	316SS
RING	304SS
STEM	304SS
GUIDE	316SS
SPRING	Alloy Steel

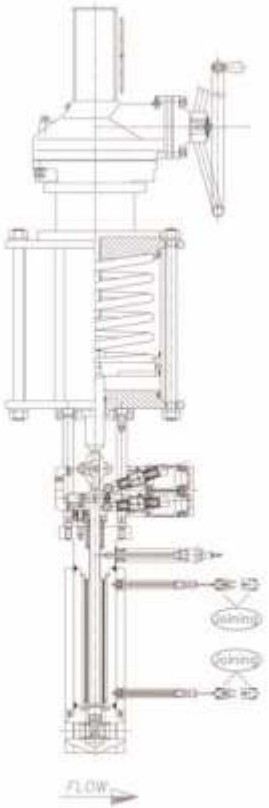
››› DIMENSIONS (UNIT:mm)

SIZE	ORIFICE 1) SIZE	DIMENSIONS		
		L1	L2	H
3/4" x 1"	D	90	95	250
1" x 2"	D, E	105	105	250
1 1/2" x *3"	E, F, G, H	124	137	300
2" x 3"	G, H, J	124	137	300
2 1/2" x 4"	J	143	155	350
3" x 4"	J, K, L	170	172	400
4" x 6"	L, M, N, P	195	190	550
6" x 8"	Q, R	254	240	750
8" x 10"	T	279	276	880

Note 1] API Orifice Designation
D=9.5mm, E=12.7mm
F=15.9mm, G=20.3mm
H=25.4mm, J=32.5mm
K=38.9mm, L=48.4mm
M=54.4mm, N=59.7mm
P=72.4mm, Q=95.3mm
R=114.6mm, T=146.1mm

HEATING BELLOWS SEAL GATE VALVE





››› FEATURES

The Sodium Valve, which used for development of the unique measurement technology, is selected as Bellows Seal Valve.
There is no leakage even at high temperature 550℃ because of the good performance of bellows due to heating.

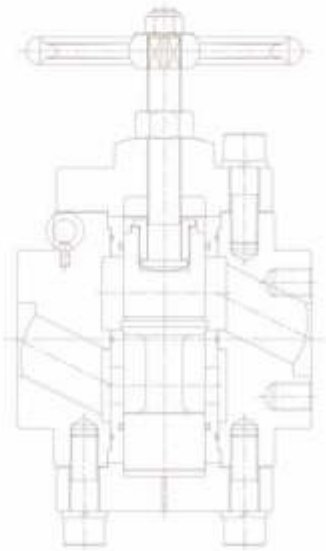
››› DESIGN SPECIFICATION

1] Valve Size & Rating: 1/2" ~ 4", ASME Class 300
2] Operating Type: Manual or Auto (Actuator)
3] Code & Standard
Seat Leakage :ASME B 16.104
End: ASME B 16.34
Power Piping :ASME B31.1
Hydrostatic Test: ISA-S75.19

››› MATERIAL SPECIFICATION

PART NAME	MATERIALS
BODY	A182-F316
WEDGE	A351-CF8M+H.F
STEM	A564-630
BELLOWS	INCONEL 625
BONNET	A276-304
GLAND PACKING SET	Graphite
DISC SPRING	A519

HYDRAULIC STOP VALVE



››› FEATURES

Perfect Sealing Structure: There is no leakage through the bonnet and bottom cap because of piston and cylinder structure.
This Valve is Adequate to Hydraulic Oil

››› DESIGN SPECIFICATION

1] Valve Size: 1 1/2" ~ 5"
2] Applicable Fluid: Hydraulic Oil
3] Applicable Max. Working Pressure: 350 kgf/㎠
4] Applicable Temperature: 15℃ ~ 80℃
5] Operating Type: Manual or Auto

››› MATERIAL SPECIFICATION

PART NAME	MATERIALS
BODY	Carbon Steel
DISC	420SS
STEM	410SS
DISC GLAND	410SS
SEAT RING	420SS
UPPER GUIDE	420SS
BONNET	Carbon Steel

››› CAUTIONS

1] Use the Valve at M.A.W.P or below.
2] Keep Hydraulic Oil Clean always.
(NAS Gr. 12 or below)
3] O-ring shall be selected according to kinds of Hydraulic Oil.
4] Wipe off Hydraulic Oil adhering to the Valve or to the floor.

MAINTENANCE SERVICE

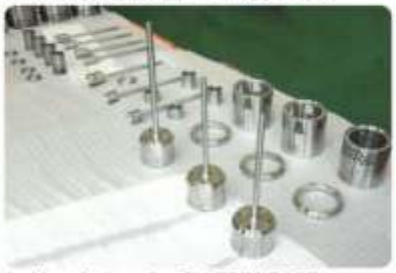
MAINTENANCE for VALVE TRIM

▶ Manufacture for PCV-01 TRIM PART

▶ Manufacture for BFPT RECIR. CV

▶ Manufacture for BFP CV MULTI CAGE

▶ Structural Revision for RH BLOCK VALVE TRIM PART



▶ Manufacture for CV TRIM PART

▶ Structural Revision for RH SPRAY VALVE TRIM PART

MAINTENANCE on FIELD

▶ FIELD WORK for CONTROL VALVE

▶ FIELD WORK for BN MSV SEAT

▶ FIELD WORK for MAIN FEED WATER VALVE

MAINTENANCE on FACTORY

▶ Maintenance for Butterfly Valve

▶ Maintenance for Safety Valve

▶ Maintenance for MSV Disc

▶ Maintenance for MOV Gate Valve

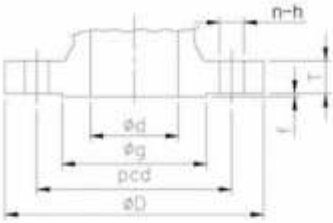
▶ Maintenance for MSV Main Pilot Plug

▶ Maintenance for Tilting Check Valve

TECHNICAL DATA

Steel Pipe Flange Code

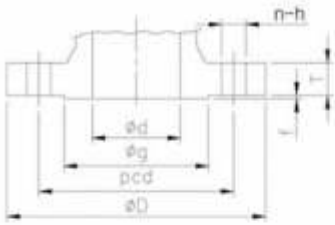
CODES		KS B 1511 (kg/㎠) JIS B 2210					KS B 6216 (kg/㎠) JIS B 8210			
Size	Dim.	10	20	30	40	63	10	20	30	40
15	g	51	51	55	55	55	-	-	-	-
	bcd	70	70	80	80	85	-	-	-	-
	D	95	95	115	115	120	-	-	-	-
	n-h	4-15	4-15	4-19	4-19	4-19	-	-	-	-
	T	12	14	18	20	23	-	-	-	-
	f	1	1	1	1	1	-	-	-	-
20	g	56	56	60	60	60	67	70	70	70
	bcd	75	75	85	85	95	90	95	95	100
	D	100	100	120	120	135	125	130	130	140
	n-h	4-15	4-15	4-19	4-19	4-23	4-19	4-19	4-19	4-23
	T	14	16	18	20	25	18	20	22	27
	f	1	1	1	1	1	1	1	1	1
25	g	67	67	70	70	70	76	80	80	80
	bcd	90	90	95	95	100	100	105	105	110
	D	125	125	130	130	140	135	140	140	150
	n-h	4-19	4-19	4-19	4-19	4-23	4-19	4-19	4-19	4-23
	T	14	16	20	22	27	20	22	24	30
	f	1	1	1	1	1	2	2	2	2
32	g	76	76	80	80	80	81	90	90	90
	bcd	100	100	105	105	110	105	120	120	130
	D	135	135	140	140	150	140	160	160	175
	n-h	4-19	4-19	4-19	4-19	4-23	4-19	4-23	4-23	4-25
	T	16	18	22	24	30	20	22	24	32
	f	2	2	2	2	2	2	2	2	2
40	g	81	81	90	90	90	96	105	105	105
	bcd	105	105	120	120	130	120	130	130	145
	D	140	140	160	160	175	155	165	165	185
	n-h	4-19	4-19	4-23	4-23	4-25	8-19	8-19	8-19	8-23
	T	16	18	22	24	32	20	22	26	34
	f	2	2	2	2	2	2	2	2	2
50	g	96	96	105	105	105	116	130	130	130
	bcd	120	120	130	130	145	140	160	160	175
	D	155	155	165	165	185	175	200	200	220
	n-h	4-19	8-19	8-19	8-19	8-23	8-19	8-23	8-23	8-25
	T	16	18	22	26	34	22	26	30	38
	f	2	2	2	2	2	2	2	2	2
65	g	116	116	130	130	130	132	140	140	140
	bcd	140	140	160	160	175	160	170	170	185
	D	175	175	200	200	220	200	210	210	230
	n-h	4-19	8-19	8-23	8-23	8-25	8-23	8-23	8-23	8-25
	T	18	20	26	30	38	24	28	32	40
	f	2	2	2	2	2	2	2	2	2
80	g	126	132	140	140	140	145	150	150	150
	bcd	150	160	170	170	185	170	185	185	205
	D	185	200	210	210	230	210	230	230	255
	n-h	8-19	8-23	8-23	8-23	8-25	8-23	8-25	8-25	8-27
	T	18	22	28	32	40	24	30	34	42
	f	2	2	2	2	2	2	2	2	2
100	g	151	160	160	165	165	195	195	200	200
	bcd	175	185	195	205	220	225	230	250	265
	D	210	225	240	250	270	270	275	300	325
	n-h	8-19	8-23	8-25	8-25	8-27	8-25	8-25	8-27	8-33
	T	18	24	32	36	44	26	36	40	50
	f	2	2	2	2	2	2	2	2	2



JPI (LB)		ASME B 16.5 - 2003 (LB)						DIN 2543-2548 (BAR)					
150	300	150	300	600	900	1500	2500	16	25	40	64	64	160
34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	45	45	45	45	45	45
60.3	66.7	60.3	66.7	66.7	82.6	82.6	88.9	65	65	65	75	75	75
90	95	90	95	95	120	120	135	95	95	95	105	105	105
4-16	4-16	4-16	4-16	4-16	4-22	4-22	4-22	4-14	4-14	4-14	4-14	4-14	4-14
9.6	12.7	9.6	12.7	14.3	22.3	22.3	30.2	14	16	16	20	20	20
2	2	2	2	7	7	7	7	2	2	2	2	2	2
42.9	42.9	42.9	42.9	42.9	42.9	42.9	42.9	58	58	58	58	58	58
69.9	82.6	69.9	82.6	82.6	88.9	88.9	95.2	75	75	75	90	90	90
100	115	100	115	115	130	130	140	105	105	105	130	130	130
4-16	4-19	4-16	4-19	4-19	4-22	4-22	4-22	4-14	4-14	4-14	4-18	4-18	4-18
11.2	14.3	11.2	14.3	15.9	25.4	25.4	31.8	16	18	18	22	22	22
2	2	2	2	7	7	7	7	2	2	2	2	2	2
50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	68	68	68	68	68	68
79.4	88.9	79.4	88.9	88.9	101.6	101.6	108	85	85	85	100	100	100
110	125	110	125	125	150	150	160	115	115	115	140	140	140
4-16	4-19	4-16	4-19	4-19	4-25	4-25	4-25	4-14	4-14	4-14	4-18	4-18	4-18
12.7	15.9	12.7	15.9	17.5	28.6	28.6	35	16	18	18	24	24	24
2	2	2	2	7	7	7	7	2	2	2	2	2	2
63.5	63.5	63.5	63.5	63.5	63.5	63.5	63.5	78	78	78	78	78	78
88.9	98.4	88.9	98.4	98.4	111.1	111.1	130.2	100	100	100	110	110	110
115	135	115	135	135	160	160	185	140	140	140	155	155	155
4-16	4-19	4-16	4-19	4-19	4-25	4-25	4-29	4-18	4-18	4-18	4-23	4-23	4-23
14.3	17.5	14.3	17.5	20.7	28.6	28.6	38.1	16	18	18	24	24	26
2	2	2	2	7	7	7	7	2	2	2	2	2	2
73	73	73	73	73	73	73	73	88	88	88	88	88	88
98.4	114.3	98.4	114.3	114.3	123.8	123.8	146	110	110	110	125	125	125
125	155	125	155	155	180	180	205	150	150	150	170	170	170
4-16	4-22	4-16	4-22	4-22	4-29	4-29	4-32	4-18	4-18	4-18	4-23	4-23	4-23
15.9	19.1	15.9	19.1	22.3	31.8	31.8	44.5	16	18	18	26	26	28
2	2	2	2	7	7	7	7	3	3	3	3	3	3
92	92	92	92	92	92	92	92	102	102	102	102	102	102
120.7	127	120.7	127	127	165.1	165.1	171.4	125	125	125	135	135	145
150	165	150	165	165	215	215	235	165	165	165	180	180	195
4-19	8-19	4-19	8-19	8-19	8-25	8-25	8-29	4-18	4-18	4-18	4-23	4-23	4-27
17.5	20.7	17.5	20.7	25.4	38.1	38.1	50.9	18	20	20	26	26	30
2	2	2	2	7	7	7	7	3	3	3	3	3	3
104.8	104.8	104.8	104.8	104.8	104.8	104.8	104.8	122	122	122	122	122	122
139.7	149.2	139.7	149.2	149.2	190.5	190.5	196.8	145	145	145	160	160	170
180	190	180	190	190	245	245	265	185	185	185	205	205	220
4-19	8-22	4-19	8-22	8-22	8-29	8-29	8-32	4-18	8-18	8-18	8-23	8-23	8-27
20.7	23.9	20.7	23.9	28.6	41.3	41.3	57.2	18	22	22	26	26	34
2	2	2	2	7	7	7	7	3	3	3	3	3	3
127	127	127	127	127	127	127	127	138	138	138	138	138	138
152.4	168.3	152.4	168.3	168.3	190.5	203.2	228.6	160	160	160	170	170	180
190	210	190	210	210	240	265	305	200	200	200	215	215	230
4-19	8-22	4-19	8-22	8-22	8-25	8-32	8-35	8-18	8-18	8-18	8-23	8-23	8-27
22.3	27	22.3	27	31.8	38.1	47.7	66.7	20	24	24	28	28	36
2	2	2	2	7	7	7	7	3	3	3	3	3	3
157.2	157.2	157.2	157.2	157.2	157.2	157.2	157.2	158	162	162	162	162	162
190.5	200	190.5	200	215.9	235	241.3	273	180	190	190	200	200	210
230	255	230	255	275	290	310	355	220	235	235	250	250	265
8-19	8-22	8-19	8-22	8-25	8-32	8-35	8-41	8-18	8-23	8-23	8-27	8-27	8-30
22.3	30.2	22.3	30.2	38.1	44.5	54	76.2	20	24	24	30	30	40
2	2	2	2	7	7	7	7	3	3	3	3	3	3

Steel Pipe Flange Code

CODES		KS B 1511 (kg/㎠) JIS B 2210					KS B 6216 (kg/㎠) JIS B 8210			
Size	Dim.	10	20	30	40	63	10	20	30	40
125	g	182	195	195	200	200	230	235	240	240
	bcd	210	225	230	250	265	260	275	295	305
	D	250	270	275	300	325	305	325	355	365
	n-h	8-23	8-25	8-25	8-27	8-33	12-25	12-27	12-33	12-33
	T	20	26	36	40	50	28	38	44	54
	f	2	2	2	2	2	2	2	2	2
150	g	212	230	235	240	240	275	280	290	290
	bcd	240	260	275	295	305	305	320	345	360
	D	280	305	325	355	365	350	370	405	425
	n-h	8-23	12-25	12-27	12-33	12-33	12-25	12-27	12-33	12-33
	T	22	28	38	44	54	30	42	50	60
	f	2	2	2	2	2	2	2	2	2
200	g	262	275	280	290	290	345	345	355	355
	bcd	290	305	320	345	360	380	390	410	430
	D	330	350	370	405	425	430	450	475	500
	n-h	12-23	12-25	12-27	12-33	12-33	12-27	12-33	12-33	12-39
	T	22	30	42	50	60	34	48	56	68
	f	2	2	2	2	2	2	2	2	2
250	g	324	345	345	355	355				
	bcd	355	380	390	410	430				
	D	400	430	450	475	500				
	n-h	12-25	12-27	12-33	12-33	12-39				
	T	24	34	48	56	68				
	f	2	2	2	2	2				
300	g	368	395	405	410	410				
	bcd	400	430	450	470	485				
	D	445	480	515	540	560				
	n-h	16-25	16-27	16-33	16-39	16-39				
	T	24	36	52	60	77				
	f	3	3	3	3	3				
350	g	413	440	450	455	455				
	bcd	445	480	495	515	530				
	D	490	540	560	585	615				
	n-h	16-25	16-33	16-33	16-39	16-46				
	T	26	40	54	64	81				
	f	3	3	3	3	3				
400	g	475	495	510	515	515				
	bcd	510	540	560	570	590				
	D	560	605	630	645	680				
	n-h	16-27	16-33	16-39	16-39	16-46				
	T	28	46	60	70	89				
	f	3	3	3	3	3				
450	g	530	560							
	bcd	565	605							
	D	620	675							
	n-h	20-27	20-33							
	T	30	48							
	f	3	3							
500	g	585	615							
	bcd	620	660							
	D	675	730							
	n-h	20-27	20-33							
	T	30	50							
	f	3	3							
600	g	690	720							
	bcd	730	770							
	D	795	845							
	n-h	24-33	24-39							
	T	32	54							
	f	3	3							



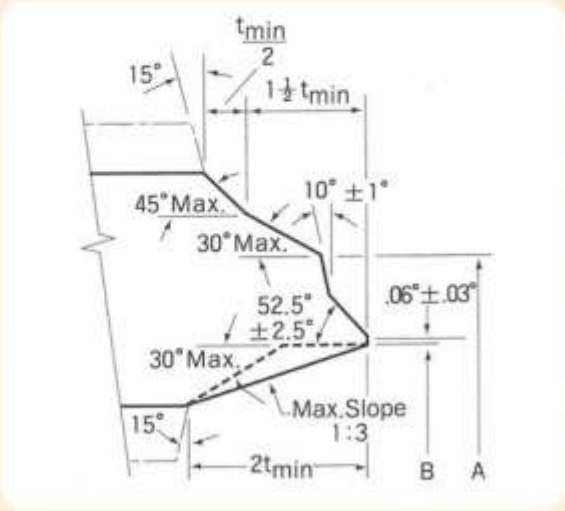
JPI (LB)		ASME B 16.5 - 2003 (LB)						DIN 2543-2548 (BAR)					
150	300	150	300	600	900	1500	2500	16	25	40	64	100	160
185.7	185.7	185.7	185.7	185.7	185.7	185.7	185.7	188	188	188	188	188	188
215.9	235	215.9	235	266.7	279.4	292.1	323.8	210	220	220	240	250	250
255	280	255	280	330	350	375	420	250	270	270	295	315	315
8-22	8-22	8-22	8-22	8-29	8-35	8-41	8-48	8-18	8-27	8-27	8-30	8-33	8-33
22.3	33.4	22.3	33.4	44.5	50.8	73.1	92.1	22	26	26	34	40	44
2	2	2	2	7	7	7	7	3	3	3	3	3	3
215.9	215.9	215.9	215.9	215.9	215.9	215.9	215.9	212	218	218	218	218	218
241.3	269.9	241.3	269.9	292.1	317.5	317.5	368.3	240	250	250	280	290	290
280	320	280	320	355	380	395	485	285	300	300	345	355	355
8-22	12-22	8-22	12-22	12-29	12-32	12-38	8-54	8-23	8-27	8-27	8-33	12-33	12-33
23.9	35	23.9	35	47.7	55.6	82.6	108	22	28	28	36	44	50
2	2	2	2	7	7	7	7	3	3	3	3	3	3
269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	268	278	285	285	285	285
298.5	330.2	298.5	330.2	349.2	393.7	393.7	438.2	295	310	320	345	360	360
345	380	345	380	420	470	485	550	340	360	375	415	430	430
8-22	12-25	8-22	12-25	12-32	12-38	12-45	12-54	12-23	12-27	12-30	12-36	12-36	12-36
27	39.7	27	39.7	55.6	63.5	92.1	127	24	30	34	42	52	60
2	2	2	2	7	7	7	7	3	3	3	3	3	3
323.8	323.8	323.8	323.8	323.8	323.8	323.8	323.8	320	335	345	345	345	345
362	387.4	362	387.4	431.8	469.9	482.6	539.8	355	370	385	400	430	430
405	445	405	445	510	545	585	675	405	425	450	470	505	515
12-25	16-29	12-25	16-29	16-35	16-38	12-51	12-67	12-27	12-30	12-33	12-36	12-39	12-42
28.6	46.1	28.6	46.1	63.5	69.9	108	165.1	26	32	38	46	60	68
2	2	2	2	7	7	7	7	3	3	3	3	3	3
381	381	381	381	381	381	381	381	378	395	410	410	410	410
431.8	450.8	431.8	450.8	489	533.4	571.5	619.1	410	430	450	460	500	500
485	520	485	520	560	610	675	760	460	485	515	530	585	585
12-25	16-32	12-25	16-32	20-35	20-38	16-54	12-73	12-27	16-30	16-33	16-36	16-42	16-42
30.2	49.3	30.2	49.3	66.7	79.4	123.9	184.2	28	34	42	52	68	78
2	2	2	2	7	7	7	7	4	4	4	4	4	4
412.8	412.8	412.8	412.8	412.8	412.8	412.8		438	450	465	465	465	
476.3	514.4	476.3	514.4	527	558.8	635		470	490	510	525	560	
535	585	535	585	605	640	750		520	555	580	600	655	
12-29	20-32	12-29	20-32	20-38	20-41	16-60		16-27	16-33	16-36	16-39	16-48	
33.4	52.4	33.4	52.4	69.9	85.8	133.4		30	38	46	56	74	
2	2	2	2	7	7	7		4	4	4	4	4	
469.9	469.9	469.9	469.9	469.9	469.9	469.9							
539.8	571.5	539.8	571.5	603.2	616	704.8							
595	650	595	650	685	705	825							
16-29	20-35	16-29	20-35	20-41	20-45	16-67							
35	55.6	35	55.6	76.2	88.9	146.1							
2	2	2	2	7	7	7							
533.4	533.4	533.4	533.4	533.4	533.4	533.4							
577.9	628.6	577.9	628.6	654	685.8	774.7							
635	710	635	710	745	785	915							
16-32	24-35	16-32	24-35	20-45	20-51	16-73							
38.1	58.8	38.1	58.8	82.6	101.6	162							
2	2	2	2	7	7	7							
584.2	584.2	584.2	584.2	584.2	584.2	584.2							
635	685.8	635	685.8	723.9	749.3	831.8							
700	775	700	775	815	855	985							
20-32	24-35	20-32	24-35	24-45	20-54	16-79							
41.3	62	41.3	62	88.9	108	177.8							
2	2	2	2	7	7	7							
692.2	692.2	692.2	692.2	692.2	692.2	692.2							
749.3	812.8	749.3	812.8	838.2	901.7	990.6							
815	915	815	915	940	1040	1170							
20-35	24-41	20-35	24-41	24-51	20-67	16-92							
46.1	68.3	46.1	68.3	101.6	139.7	203.2							
2	2	2	2	7	7	7							

Schedule Pipe for ASME & JIS Code

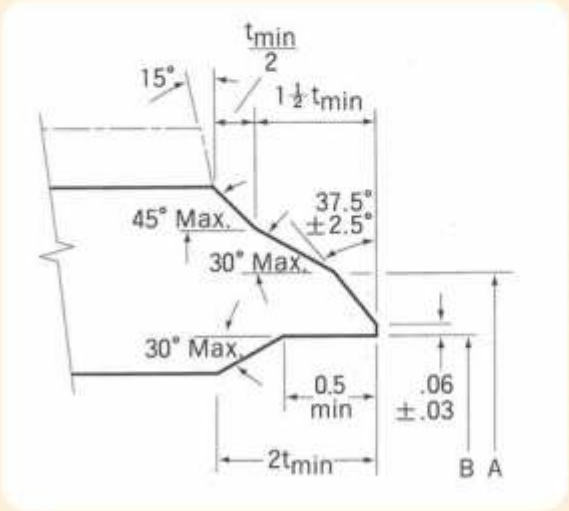
Unit: mm

Size		Outside Dia.		Carbon Steel												Stainless Steel				SGP	Size
				Schedule No.									Weight Designation			Schedule No.					
Inch	mm	ASME	JIS	10	20	30	40	60	80	100	120	160	Std.	X-Stg.	XX-Stg.	10S	20S	40S	80S		Inch
3/8	10	17.1	17.3	-	-	-	2.3	-	3.2	-	-	-	2.3	3.2	-	1.7	2	2.3	3.2	2.3	3/8
1/2	15	21.3	21.7	-	-	-	2.8	-	3.7	-	-	4.7	2.8	3.7	7.5	2.1	2.5	2.8	3.7	2.8	1/2
3/4	20	26.7	27.2	-	-	-	2.9	-	3.9	-	-	5.5	2.9	3.9	7.8	2.1	2.5	2.9	3.9	2.8	3/4
1	25	33.4	34	-	-	-	3.4	?	4.5	-	-	6.4	3.4	4.5	9.1	2.8	3	3.4	4.6	3.2	1
1 1/4	32	42.2	42.7	-	-	-	3.6	-	4.9	-	-	6.4	3.6	4.9	9.7	2.8	3	3.6	4.9	3.5	1 1/4
1 1/2	40	48.3	48.6	-	-	-	3.7	-	5.1	-	-	7.1	3.7	5.1	10.2	2.8	3	3.7	5.1	3.5	1 1/2
2	50	60.3	60.5	-	-	-	3.9	-	5.5	-	-	8.7	3.9	5.5	11.1	2.8	3.5	3.9	5.5	3.8	2
2 1/2	65	73	76.3	-	-	-	5.2	-	7	-	-	9.5	5.2	7	14	3	3.5	5.2	7	4.2	2 1/2
3	80	88.9	89.1	-	-	-	5.5	-	7.6	-	-	11.1	5.5	7.6	15.2	3	4	5.5	7.6	4.2	3
3 1/2	90	101.6	101.6	-	-	-	5.7	-	8.1	-	-	-	5.7	8.1	16.2	3	4	5.8	8.1	4.2	3 1/2
4	100	114.3	114.3	-	-	-	6	-	8.6	-	11.1	13.5	6	8.6	17.1	3	4	6	8.6	4.5	4
5	125	141.3	139.8	-	-	-	6.6	-	9.5	-	12.7	15.9	6.6	9.5	19.1	3.4	5	6.6	9.5	4.5	5
6	150	168.3	165.2	-	-	-	7.1	-	11	-	14.3	18.2	7.1	11	21.9	3.4	5.6	7.1	11	5	6
8	200	219.1	216.3	-	6.4	7	8.2	10.3	12.7	15.1	18.2	23	8.2	12.7	22.2	4	6.5	8.2	12.7	5.8	8
10	250	273.1	267.4	-	6.4	7.8	9.3	12.7	15.1	18.2	21.4	28.6	9.3	12.7	25.4	4	6.5	9.3	12.7	6.6	10
12	300	323.9	318.5	-	6.4	8.4	10.3	14.3	17.4	21.4	25.4	33.3	9.5	12.7	25.4	4.5	6.5	9.5	12.7	6.9	12
14	350	355.6	355.6	6.4	7.9	9.5	11.1	15.1	19	23.8	27.8	35.7	9.5	12.7	-	-	-	-	-	7.9	14
16	400	406.4	406.4	6.4	7.9	9.5	12.7	16.7	21.4	26.2	30.9	40.5	9.5	12.7	-	-	-	-	-	7.9	16
18	450	457.2	457.2	6.4	7.9	11.1	14.3	19.1	23.8	29.4	34.9	45.2	9.5	12.7	-	-	-	-	-	-	18
20	500	508	508	6.4	9.5	12.7	15.1	20.6	26.2	32.5	38.1	50	9.5	12.7	-	-	-	-	-	-	20
22	550	558.8	558.8	6.4	9.5	-	15.9	-	28.6	-	-	54	9.5	12.7	-	-	-	-	-	-	22
24	600	609.6	609.6	6.4	9.5	14.3	17.5	24.6	31	38.9	46	59.5	9.5	12.7	-	-	-	-	-	-	24
26	650	660.4	660.4	6.4	9.5	-	18.9	-	34	-	-	64.2	9.5	12.7	-	-	-	-	-	-	26
30	750	762	-	7.9	12.7	15.9	-	-	-	-	-	-	9.5	12.7	-	-	-	-	-	-	30

Butt-Weld Ends for ASME & JIS Code



▶ Compound Bevel
Connection Pipe Wall Thickness Larger Than 7/8" Size



▶ Plain Bevel
Connection Pipe Wall Thickness 7/8" And Smaller Size

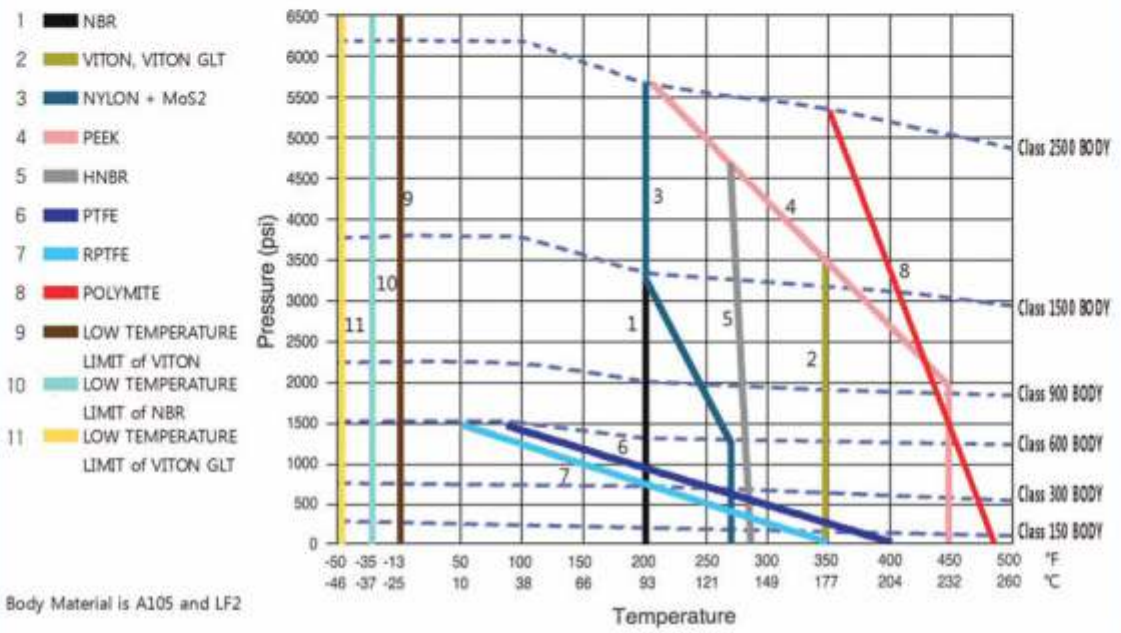
Unit: mm

Nominal PipeSize		O.D [A] 1)		I.D [B] 2)													
				SCH 10		SCH 20		SCH 30		STD.	SCH 40		SCH 60		XH	SCH 80	
Inch	mm	ASME	JIS	ASME	JIS	ASME	JIS	ASME	JIS	JIS	ASME	JIS	ASME	JIS	ASME	ASME	JIS
2	50	60.3	60.5	-	-	-	54.1	-	-	52.5	52.5	52.7	-	50.7	49.25	49.25	49.5
2 1/2	65	73	76.3	-	-	-	67.3	-	-	62.713	62.71	65.9	-	64.3	59	59	62.3
3	80	88.9	89.1	-	-	-	80.1	-	-	77.93	77.93	78.1	-	75.9	73.66	73.66	73.9
4	100	114.3	114.3	-	-	-	104.5	-	-	102.26	102.26	102.3	-	100.1	97.18	97.18	97.1
5	125	141.3	139.8	-	-	-	129.6	-	-	128.19	128.19	126.6	-	123.6	122.25	122.25	120.8
6	150	168.3	165.2	-	-	-	154.2	-	-	154	154	151	-	146.6	146.33	146.33	143.2
8	200	219.1	216.3	-	-	206.38	203.5	205	202.3	202.72	202.72	199.9	198.45	195.7	193.68	193.68	190.9
10	250	273.1	267.4	-	-	260.35	254.5	257.45	251.7	254.51	254.51	248.7	247.65	242	247.65	242.93	237.2
12	300	323.9	318.5	-	-	311.15	305.7	307.09	301.7	304.8	303.23	297.9	295.3	289.9	298.45	288.95	283.7
14	350	355.6	355.6	342.9	342.8	339.7	339.8	336.55	336.6	336.55	333.35	333	325.48	325.4	330.2	317.5	317.6
16	400	406.4	406.4	393.7	393.6	390.53	390.6	387.35	387.4	387.35	381	381	373.07	373.4	381	363.58	363.6
18	450	457.2	457.2	444.5	444.4	441.33	441.4	434.95	435	483.15	428.65	428.6	419.1	419.2	431.8	409.6	409.6
20	500	508	508	495.3	495.2	489.95	489	482.6	482.6	488.95	477.88	477.8	466.75	466.8	482.6	455.63	455.6
24	600	609.6	609.6	-	-	590.55	-	581.05	-	590.55	574.8	-	560.43	-	584.2	547.73	-

※ 1) 2) Allowable Tolerance
A : Outer Diameter of Matching Pipe, Wrought or Fabricated Component
B : Nominal Inner Diameter
t min : Minimum Wall Thickness

Valve Size	431.8	431.8	431.8
A	0 -0.8		
B	±0.8	±1.6	+3.2 -1.6

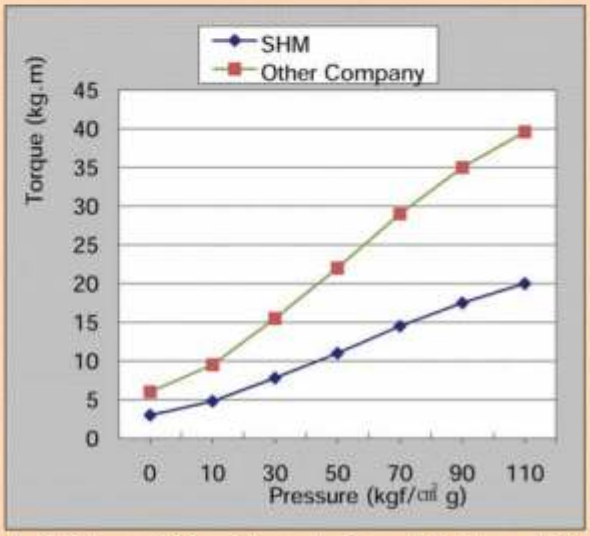
P & T Chart for Non-metallic Materials



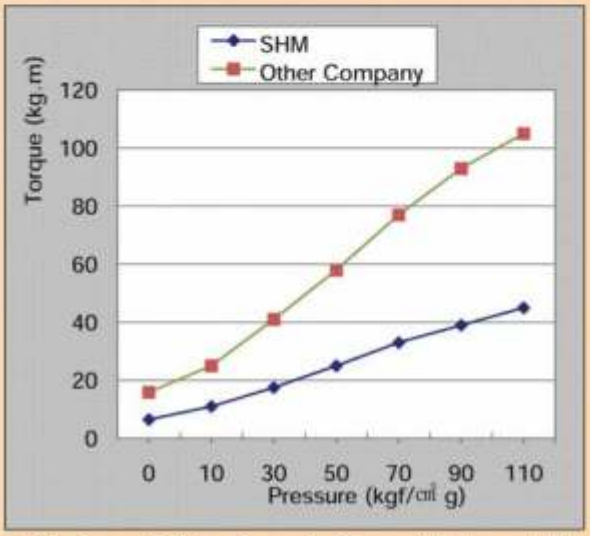
Body Material is A105 and LF2

MATERIALS	Applicable Temperature Range
NBR (Buna-N, Nitrile)	-37℃ ~ 100 ℃
NYLON 6 + MoS2	-54℃ ~ 121 ℃
POLYMITE	-54℃ ~ 135 ℃
HNBR (HSN)	-40℃ ~ 149 ℃
FKM A (VITON A)	-25℃ ~ 204 ℃
FKM GLT (VITON GLT)	-40℃ ~ 204 ℃
PTFE, RPTFE	-100℃ ~ 232 ℃
PEEK	-54℃ ~ 260 ℃

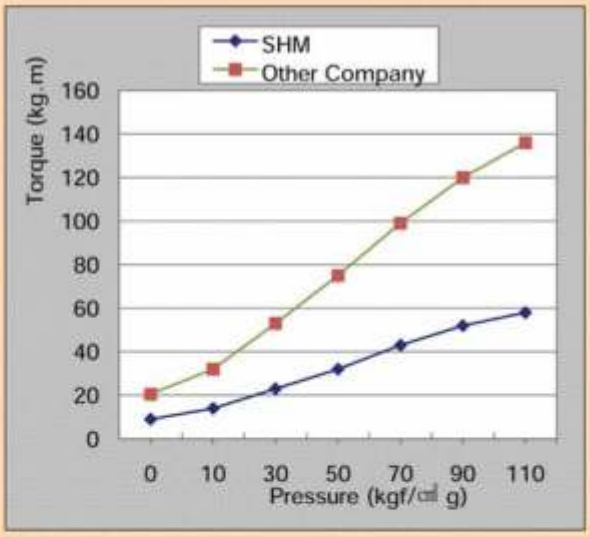
Max. Torque Graph for LT Metal Ball Valve



▶ 2" Class 600 – Close to Open (at Max. ΔP)



▶ 3" Class 600 – Close to Open (at Max. ΔP)



▶ 4" Class 600 – Close to Open (at Max. ΔP)

Description

1) SHM Series has Lower Torque than the other company.
2) The Graphs are about Typical Size 2" and 3" of LTF, LTT Series.
3) The More Lower Torque Acts on LTS Series (Segment Ball Valve)