

Seeking a Great Name in Valve Technology

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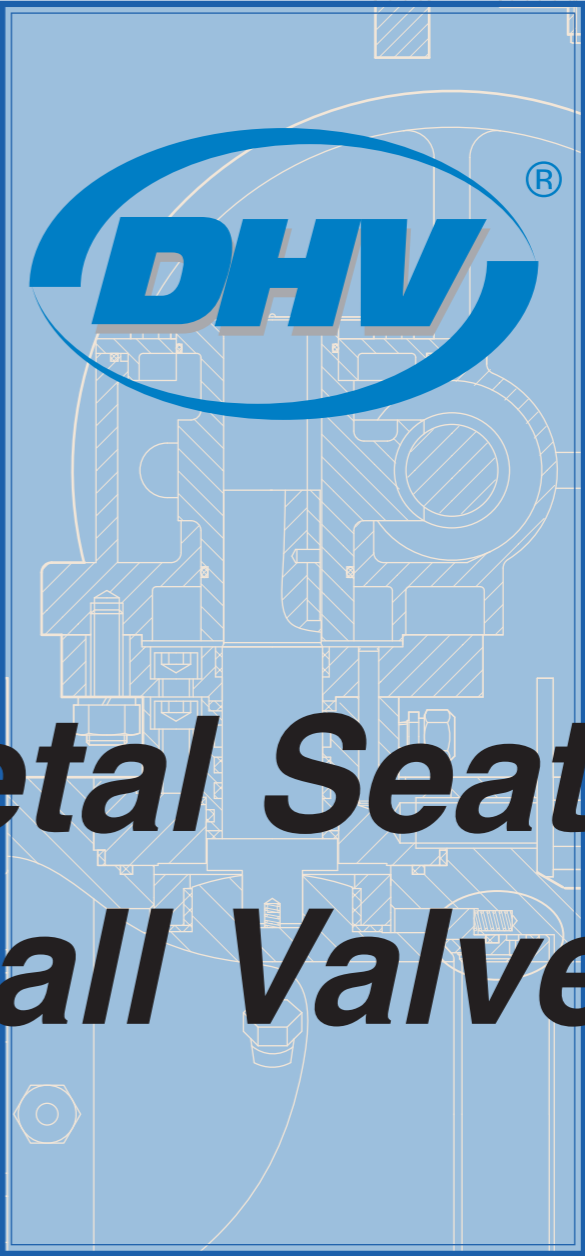
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***Metal Seated
Ball Valves***



Table of Contents

Introduction

Quality is our commitment, while competitive price and timely delivery is our promise. **From** the beginning, the DHV name has become associated with quality in every step of our manufacturing process. For the past decades our customers worldwide have trusted us to provide them with consistent and reliable valve products in their most severe and critical service. **We** at DHV are proud of our ability to meet the stringent requirements of Refining, Gas/Oil, Pipeline, Petrochemical and Power Plant. **DHV** Ball Valves are designed, manufactured and tested to the latest manufacturing specifications of the American & International Standards Organizations. We welcome your challenges and look forward to serving your critical project needs.

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DHV Figure Numbers

Ball Valves

Type

1 = Floating Ball Split Body, Full Bore	C3 = Trunnion Ball Valve, Fully Welded, Two-Piece Body, Full Bore
2 = Floating Ball Split Body, Reduced Bore	C4 = Trunnion Ball Valve, Fully Welded, Two-Piece Body, Reduced Bore
3 = Trunnion Ball Two-Piece Body, Full Bore	C5 = Trunnion Ball Valve, Fully Welded, Three-Piece Body, Full Bore
4 = Trunnion Ball Two-Piece Body, Reduced Bore	C6 = Trunnion Ball Valve, Fully Welded, Three-Piece Body, Reduced Bore
5 = Trunnion Ball Three-Piece Body, Full Bore	D = Rising Stem Ball Valves, Full Bore
6 = Trunnion Ball Three-Piece Body, Reduced Bore	E = Rising Stem Ball Valves, Reduced Bore
7 = Floating Ball One-Piece Body, Reduced Bore	X = Special
8 = Small size Floating Ball valve. see*	
9 = Top Entry Trunnion Ball Valves	
0 = Three Way Ball Valves	

Note: *For valve bore type note designated, For valve bore type not designated, add R for reduce bore, F for full bore. 8R is reduce bore small size ball valve, 8F is full bore small size ball valve.

Pressure Class

15 = Class 150
30 = Class 300
60 = Class 600
80 = Class 800
90 = Class 900
150 = Class 1500
250 = Class 2500
100=1000 WOG
200=2000 WOG
300=3000 WOG
500=5000 WOG
600=6000 WOG
1000=10000 WOG

Body Material

0 = ASTM A216 WCB
1 = ASTM A105
2 = ASTM A352 LCB
3 = ASTM A350 LF2
4 = ASTM A351 CF8M
5 = ASTM A182 F316
6 = ASTM A351 CF8
7 = ASTM A182 F304
8 = ASTM A890 4A
9 = ASTM A182 F51
A = ASTM A352 LCC
B = Inconel
C = Monel
D = Super Duplex S.S.
E = ASTM A240 UNS N08926
F = ASTM A216 WCC
X = Special

Code

B = Ball Valves
L = Cryogenic Ball Valves
M = Metal-to-Metal Seat Ball Valves

8" Metal-to-Metal Seat Ball Valve, Trunnion Ball, Three-Piece Body, Full Bore, Class 300LB, A105 Body & Adapter Raised Face Flanged End, with S.S.+T.C Trim and T.C+elastomer / Graphite Seat and Seal, Gear Operated, Inconel 625 Overlay, Single Piston Seat.

Example: 8"-M5301FDB-GO-I-SPE

End Connections

F = Raised Face Flanged End
R = Ring Type Joint Flanged End
P = Plain Flat Face Flanged End
B = Butt-welded End
T = Threaded End
S = Socked-Welded End
X = Other Type End Connection
G = Grayloc Hub End
U = Pup Piece End

Trim Material

1 = C.S. + ENP	B = S.S.+ HCr
2 = 304SS	C = Super Duplex S.S.
3 = 316SS	D = S.S.+ T.C
4 = 13Cr / F6	E = C.S.+ T.C
5 = Duplex S.S.	F = C.S.+ Ni
6 = Monel	G = C.S.+ HCr
7 = Inconel	H = C.S.+ CCC
8 = B16	I = S.S.+ CCC
9 = B62	X = Special
A = S.S.+ Ni	

Seat Material

1 = PTFE
2 = R-PTFE
3 = NYLON
4 = VITON
5 = DEVLON
6 = NBR
7 = PEEK (HT4)
8 = Ni
9 = STL
A = CCC
B = T.C
M = NYLON-M
C = PCTFE
P = PAI
X = Special

Operator

NONE = Lever or Handwheel Operator
CO = Chain Wheel Operator
GO = Gear Operator
BS = Bare Stem
EM = Electric Motor Operator
PA = Pneumatic Actuator
HA = Hydraulic Actuator
PH = Pneumatic-Hydraulic Actuator

Internal Coating

None = No Coating
P=Plasite 7159
E = Enduro Bond
I = Inconel 625 Overlay
N = Inconel 825 Overlay
D = Duplex SS Overlay

Seat Function

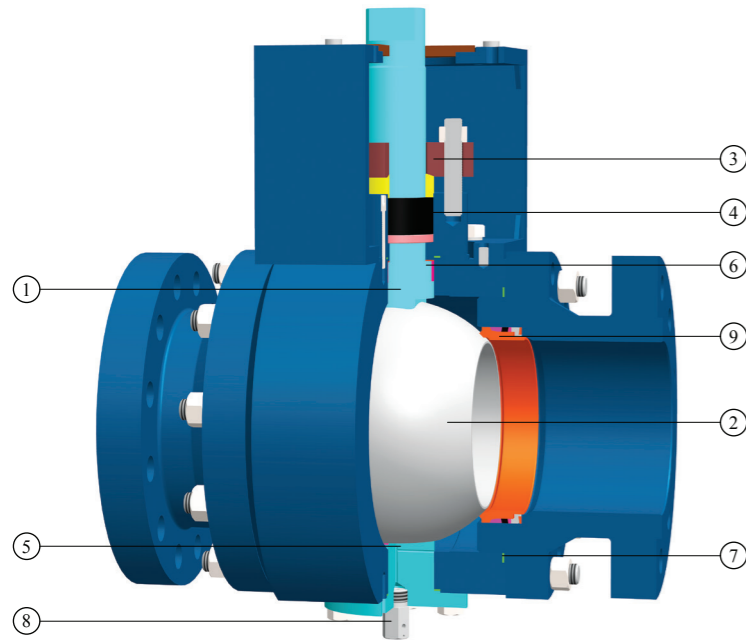
None = Self Relieving Seat
SPE = Single Piston Effect
DIB-1 = DPE x DPE
DIB-2 = SPE x DPE
BB = Block and Bleed
DPE = Double Piston Effect



Metal Seated Trunnion Mounted Ball Valves

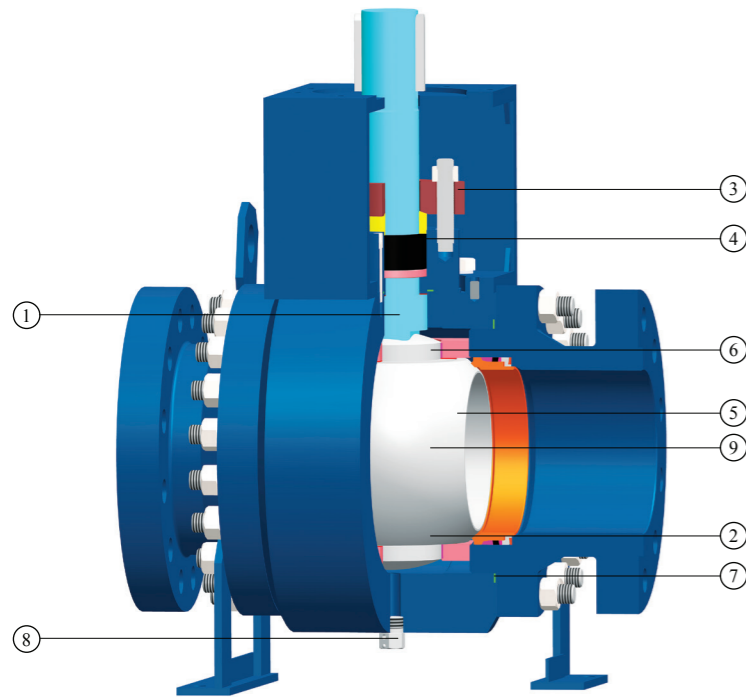
TJ Series

Typical Structure



- ① Anti-Blowout stem.
- ② Unique hard sealing material & Structural design for working conditions.
- ③ Dynamic load pressing plate.
- ④ Graphite packing is molded to ensure long life stem seal and meets the requirements of API 6FA.
- ⑤ Anti-static Structure.
- ⑥ Self-lubricating bearing reduces operating torque.
- ⑦ Gasket & metal surface provide tight seal.
- ⑧ Drain fitting for double block & bleed and on-line testing.
- ⑨ DBB feature is available for trunnion ball valves.

General Note: Structure shown in the picture is only typical structure, other configurations are available upon request. We will choose suitable design and material according to the actual working temperature, pressure and medium.



Metal Seated Trunnion Mounted Ball Valves

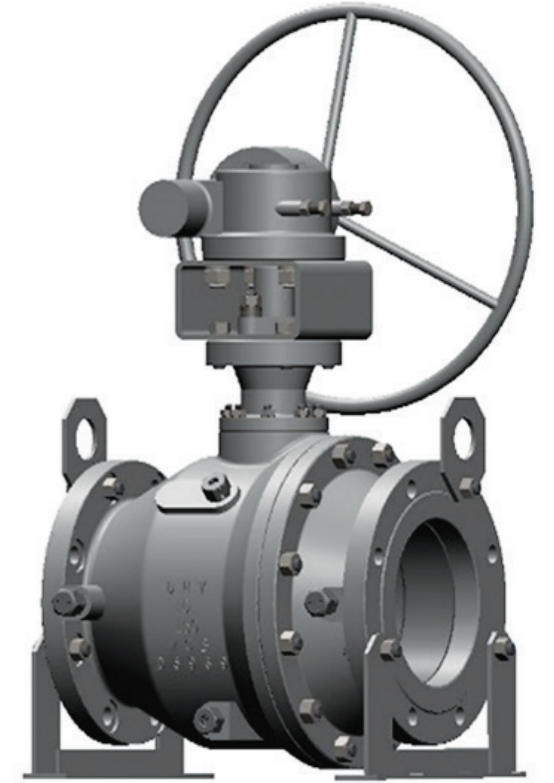
TJ Series

Applicable Standards

- Basic Design: **API 6D, API 608, ASME B16.34**
Face to Face: **ASME B16.10, API 6D**
Flange End: **ASME B16.5 (up to 24"), ASME B16.47 series A (26" and above)**
Butt Welding End: **ASME B16.25**
Test and Inspection: **API 6D, API 598, ISO 5208**
Fire-safe Test: **API 6FA or API 607**
Manufacturing to NACE latest version on request
CSA Z245.15 latest version compliance is available

Specifications

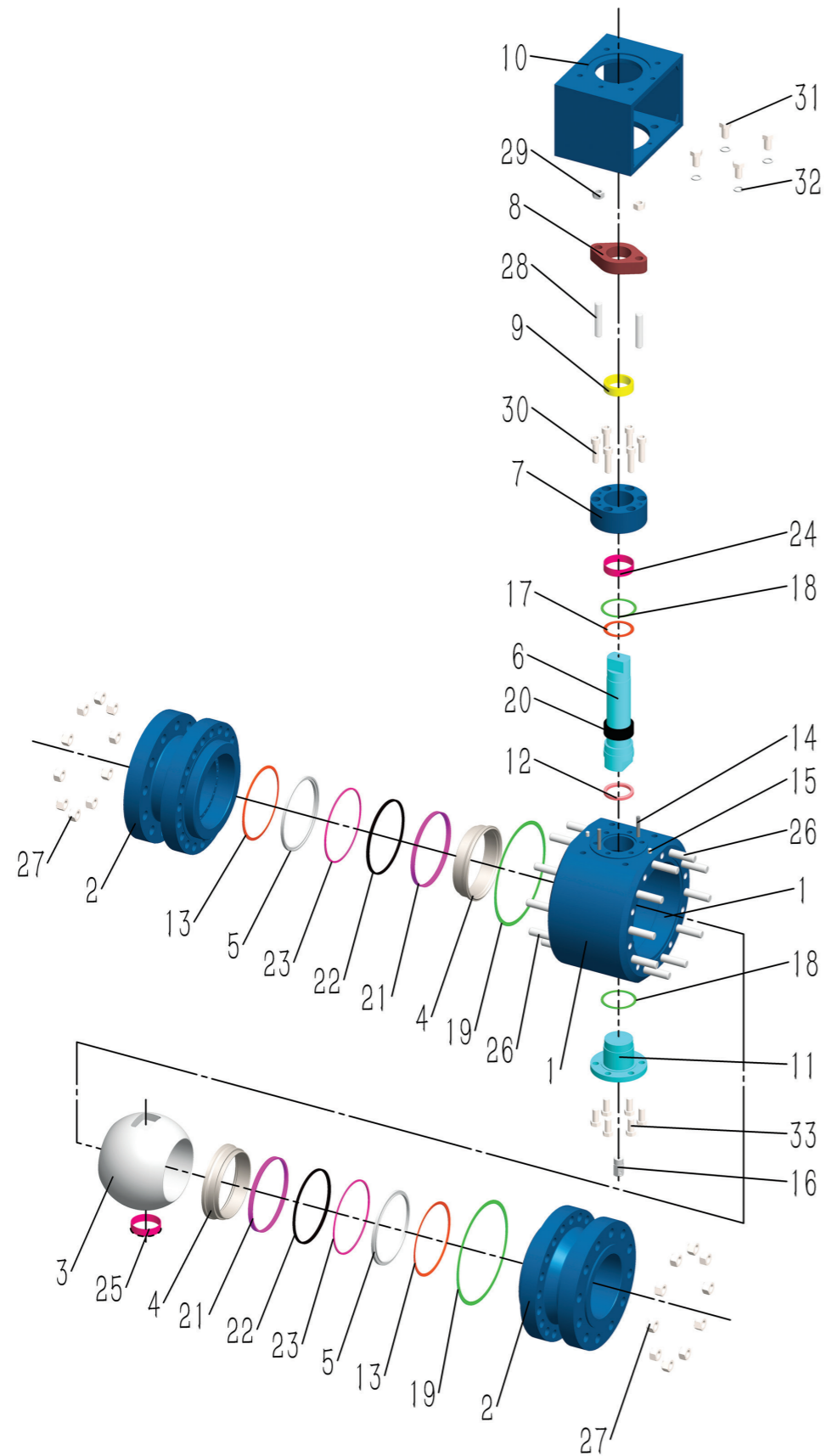
- Size Range: **2"~24"**
Pressure Range: **150LB ~ 2500LB**
End Connection: **Flanged End / Butt Welding End**
Bore: **Full Bore / Reduced Bore**
Body constructoin: **Three-piece Split Body, Forged Steel Or Cast Steel**
Valve Direction: **Bi-directional**
Service: **Chemical, Petrochemical, Refining, Power generation, Mining, High cycle applications, And more**
Operation: **Manual operation, Actuated operation, Gear operators are "preferred" for all sizes**
Material: **Body: Carbon Steel, Low Alloy Steel, Stainless Steel**
Trim: Stainless Steel, Inconel, Etc
Ball Coating: Chrome Carbide, Tungsten Carbide, Etc
Seat Coating: Cobalt Based Alloy, Chrome Carbide, Tungsten Carbide, Etc





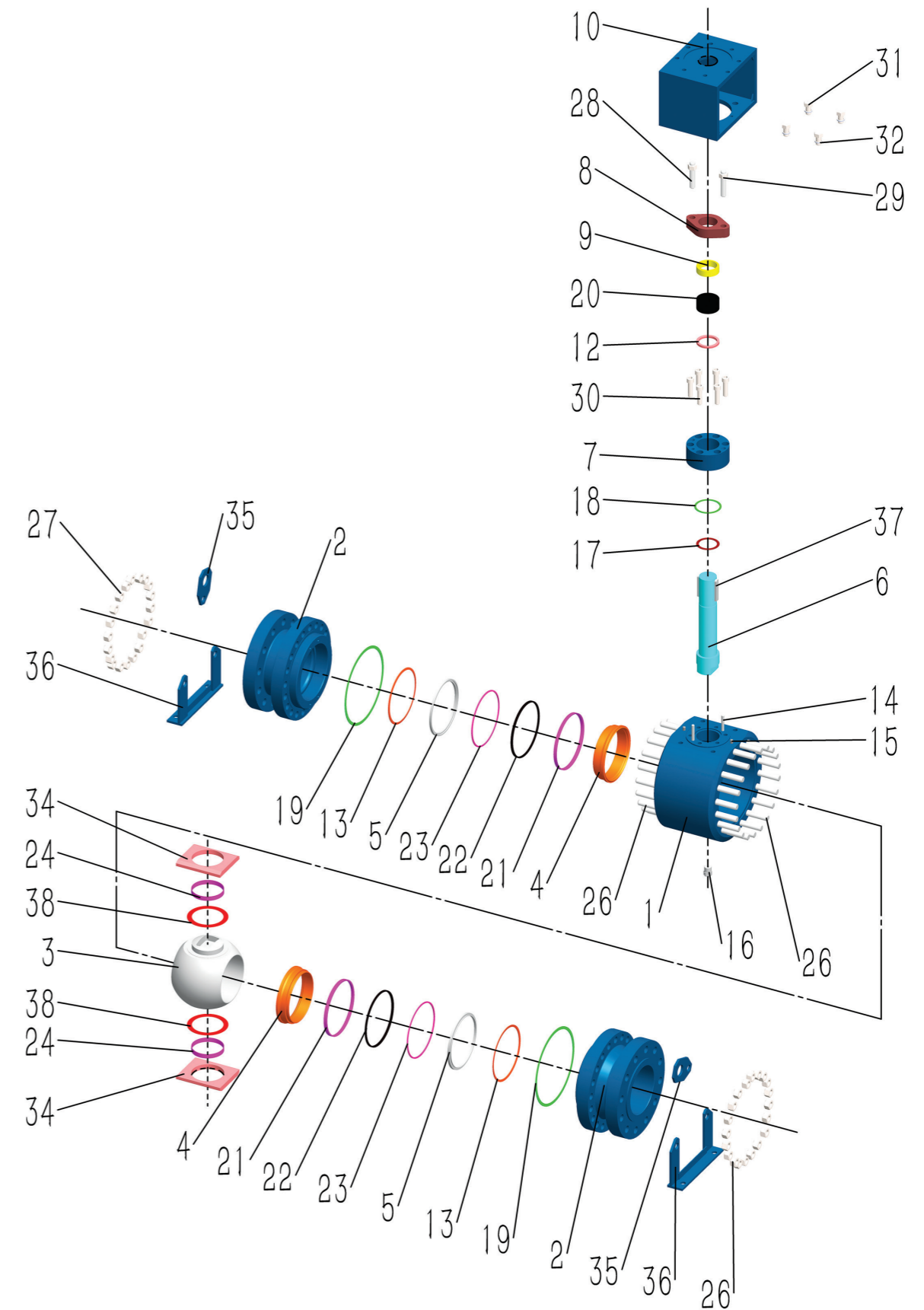
Metal Seated Trunnion Mounted Ball Valves

TJ Series, 2" to 24"



Metal Seated Trunnion Mounted Ball Valves

TJ Series, 6" and above





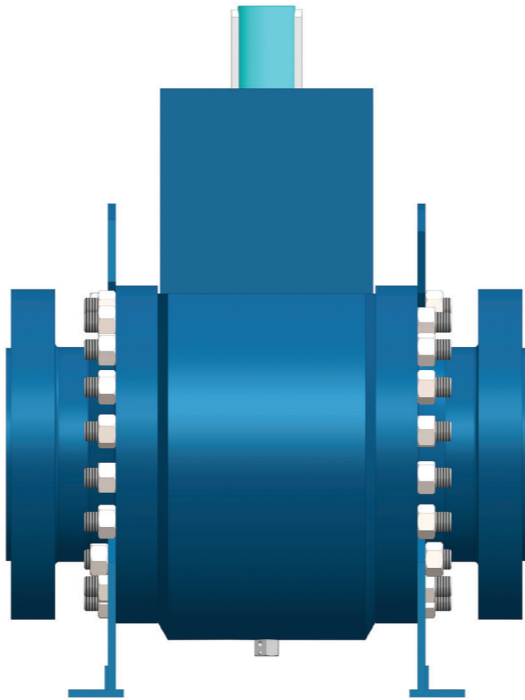
Metal Seated Trunnion Mounted Ball Valves

TJ Series

Material Specification

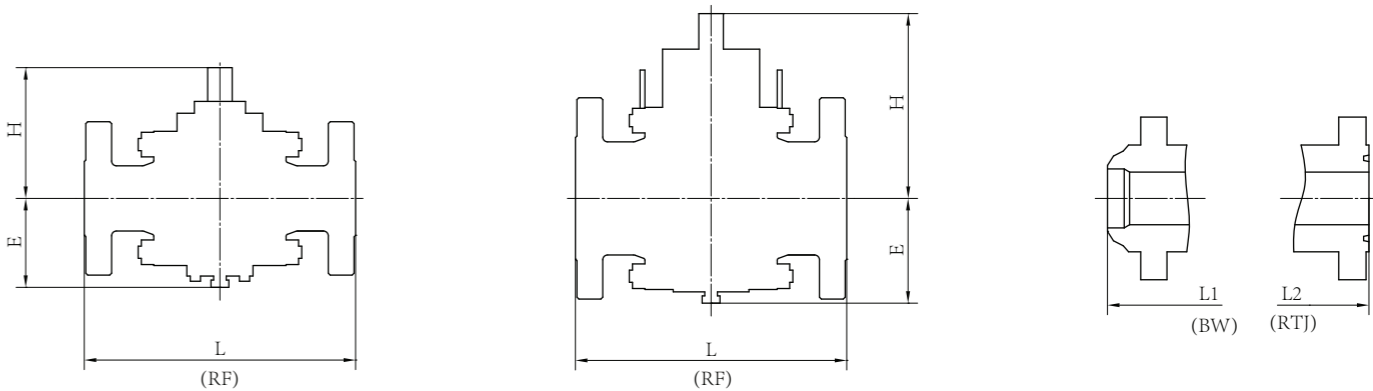
No.	Description	Carbon Steel		Stainless Steel
1	Body	A105	A350 LF2 (I)	A182 F316
2	Cap	A105	A350 LF2 (I)	A182 F316
3	Ball	A182 F316+T.C./Cr3C2/HCr		
4	Seat	A182 F316+T.C./Cr3C2/HCr		
5	Backing Ring	A182 F316		
6	Stem	17-4PH		
7	Gland	A105	A350 LF2 (I)	A182 F316
8	Packing Gland	A105	A350 LF2 (I)	A182 F316
9	Packing Ring	A182 F6a		A182 F316
10	Bracket	Carbon Steel		
11	Trunnion	A105	A350 LF2 (I)	A182 F316
12	Packing Bushing	410SS		A182 F316
13	Wave Spring	Inconel		
14	Pin	A193 B7		
15	Pin	A193 B7		
16	Drain Fitting	Assembly		
17	Thrust Washer	F316+QPQ		
18	Gasket	Metal & Flexible Graphite		
19	Gasket	Metal & Flexible Graphite		
20	Graphite	Graphite		
21	Graphite	Graphite		
22	Graphite	Graphite		
23	Graphite	Graphite		
24	Bearing	F316+QPQ		
25	Bearing	F316+QPQ		
26	Stud	A193 B7	A320 L7	A193 B8M
27	Nut	A194 2H	A194 7	A194 8M
28	Stud	A193 B7	A320 L7	A193 B8M
29	Nut	A194 2H	A194 7	A194 8M
30	Bolt	A193 B7	A320 L7	A193 B8M
31	Bolt	A193 B7	A320 L7	A193 B8M
32	Washer	Carbon Steel		Stainless Steel
33	Bolt	A193 B7	A320 L7	A193 B8M
34	Bearing Retainer	A105	A350 LF2 (I)	A182 F316
35	Lifting Lug	Carbon Steel		
36	Support Leg	Carbon Steel		
37	Key	Carbon Steel		
38	Thrust Washer	F316+QPQ		

Note: Materials shown in the table are only typical configurations, other materials can be provided upon request.



Metal Seated Trunnion Mounted Ball Valves

TJ Series



150LB

Description		Valve Size											
		2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Flanged End L	in	7	8	9	15.5	18	21	24	27	30	34	36	42
	mm	178	203	229	394	457	533	610	686	762	864	914	1067
Weld End L ₁	in	8.5	11.13	12	18	20.5	22	25	30	33	36	39	45
	mm	216	283	305	457	521	559	635	762	838	914	991	1143
Height H	in	5.51	7.01	9.06	12.2	13.78	16.54	18.5	20.47	22.83	25.59	28.35	35.43
	mm	140	178	230	310	350	420	470	520	580	650	720	900
Height E	in	3.54	4.33	5.51	6.89	7.48	9.06	11.61	14.17	16.73	18.5	20.87	25.98
	mm	90	110	140	175	190	230	295	360	425	470	530	660
Weight	Kg	18	38	58	144	230	350	550	700	950	1200	1500	2100

300LB

Description		Valve Size											
		2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Flanged End L	in	8.5	11.13	12	15.88	19.75	22.38	25.5	30	33	36	39	45
	mm	216	283	305	403	502	568	648	762	838	914	991	1143
Weld End L ₁	in	8.5	11.13	12	18	20.5	22	25	30	33	36	39	45
	mm	216	283	305	457	521	559	635	762	838	914	991	1143
RTJ L ₂	in	9.13	11.73	12.64	16.5	20.4	23	26.14	30.63	33.62	36.6	39.76	45.87
	mm	232	298	321	419	518	584	664	778	854	930	1010	1165
Height H	in	5.51	7.01	9.06	12.2	13.78	16.54	18.5	20.47	22.83	25.59	28.35	35.43
	mm	140	178	230	310	350	420	470	520	580	650	720	900
Height E	in	3.54	4.33	5.51	6.89	7.48	9.84	12.44	15.67	19.29	19.69	20.87	25
	mm	90	110	140	175	190	250	316	398	490	500	530	635
Weight	Kg	25	55	90	170	325	480	725	1050	1450	1800	2250	3500



Metal Seated Trunnion Mounted Ball Valves

TJ Series

600LB

Description		Valve Size											
		2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Flanged End L	in	11.5	14	17	22	26	31	33	35	39	43	47	55
	mm	292	356	432	559	660	787	838	889	991	1092	1194	1397
Weld End L ₁	in	11.5	14	17	22	26	31	33	35	39	43	47	55
	mm	292	356	432	559	660	787	838	889	991	1092	1194	1397
RTJ L ₂	in	11.63	14.13	17.13	22.13	26.13	31.13	33.13	35.13	39.13	43.13	47.25	55.38
	mm	295	359	435	562	664	791	841	892	994	1095	1200	1407
Height H	in	6.14	8.66	9.84	14.37	17.32	20.47	22.83	24.41	27.17	29.92	32.28	37.8
	mm	156	220	250	365	440	520	580	620	690	760	820	960
Height E	in	6.42	7.05	8.62	8.19	9.65	12.05	13.74	15.75	17.72	19.76	22.28	25.63
	mm	163	179	219	208	245	306	349	400	450	502	566	651
Weight	Kg	40	80	140	290	470	850	1050	1360	2000	2500	3200	4660

900LB

Description		Valve Size											
		2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	
Flanged End L	in	14.5	15	18	24	29	33	38	40.5	44.5	48	52	
	mm	368	381	457	610	737	838	965	1029	1130	1219	1321	
Weld End L ₁	in	14.5	15	18	24	29	33	38	40.5	44.5	48	52	
	mm	368	381	457	610	737	838	965	1029	1130	1219	1321	
RTJ L ₂	in	14.63	15.13	18.13	24.13	29.13	33.13	38.13	40.88	44.88	48.5	52.5	
	mm	371	384	460	613	740	841	968	1038	1140	1232	1334	
Height H	in	6.14	8.66	9.84	14.37	17.32	20.47	22.83	24.41	27.17	29.92	32.28	
	mm	156	220	250	365	440	520	580	620	690	760	820	
Height E	in	4.53	4.69	7.87	8.78	12.87	14.69	13.15	13.78	18.9	20.71	22.8	
	mm	115	119	200	223	327	373	334	350	480	526	579	
Weight	Kg	80	115	170	450	760	1230	1700	1980	2530	3320	4195	

1500LB

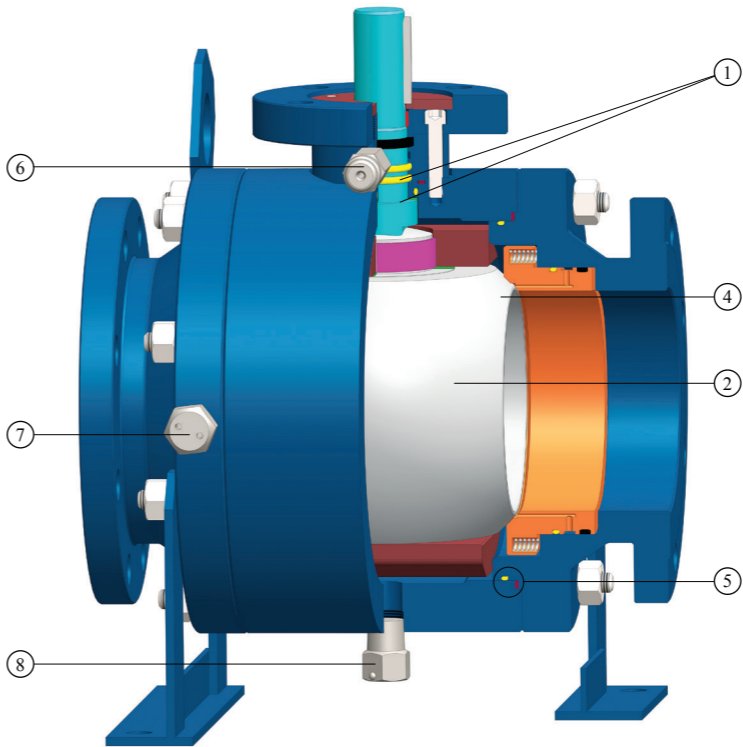
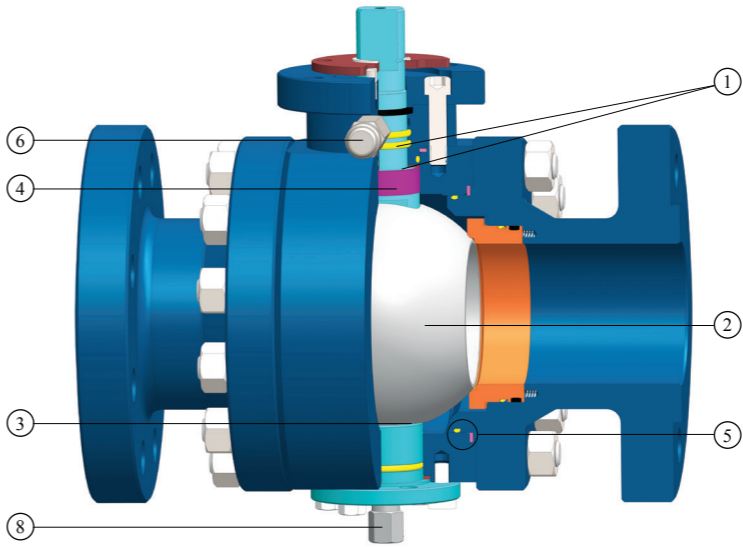
Description		Valve Size						Valve Size					
		2"	3"	4"	6"	8"	10"	2"	3"	4"	6"	8"	10"
Flanged End L	in	14.5	18.5	21.5	27.75	32.75	39	17.75	22.75	26.5	36	40.25	50
	mm	368	470	546	705	832	991	451	578	673	914	1022	1270
Weld End L ₁	in	14.5	18.5	21.5	27.75	32.75	39	17.75	22.75	26.5	36	40.25	50
	mm	368	470	546	705	832	991	451	578	673	914	1022	1270
RTJ L ₂	in	14.63	18.63	21.63	28	33.13	39.38	17.88	23	26.88	36.5	40.88	50.88
	mm	371	473	549	711	841	1000	454	584	683	927	1038	1292
Height H	in	6.3	9.06	11.02	14.76	17.72	22.05	6.3	9.06	11.02	14.76	17.72	22.05
	mm	160	230	280	375	450	560	160	230	280	375	450	560
Height E	in	4.92	6.69	7.09	12.28	15.75	19.13	6.3	7.09	8.27	14.96	19.29	19.76
	mm	125	170	180	312	400	486	160	180	210	380	490	502
Weight	Kg	100	200	300	600	1050	1780	150	315	485	1206	1670	3100



Metal Seated Trunnion Mounted Ball Valves

MT Series

Typical Structure



- ① Anti-Blowout stem & double O-ring seals.
- ② Unique hard sealing material & Structural design for working conditions.
- ③ Anti-static Structure.
- ④ Self-lubricating bearing reduces operating torque.
- ⑤ O-ring & gasket combination provide tight seal.
- ⑥ Stem injection fitting for lubricating and emergency sealant.
- ⑦ Seat injection fitting with internal check valve for emergency sealant.
- ⑧ Drain fitting for double block & bleed and on-line testing.

General Note: Structure shown in the picture is only typical structure, other configurations are available upon request.



Metal Seated Trunnion Mounted Ball Valves

MT Series

Applicable Standards

Basic Design: **API 6D, ASME B16.34**
Face to Face: **ASME B16.10, API 6D**
Flange End: **ASME B16.5 (up to 24"),**
ASME B16.47 series A (26" and above)
Butt Welding End: **ASME B16.25**
Test and Inspection: **API 6D, API 598**
Fire-safe Test: **API 6FA or API 607**
Manufacturing to NACE latest version on request
CSA Z245.15 latest version compliance is available



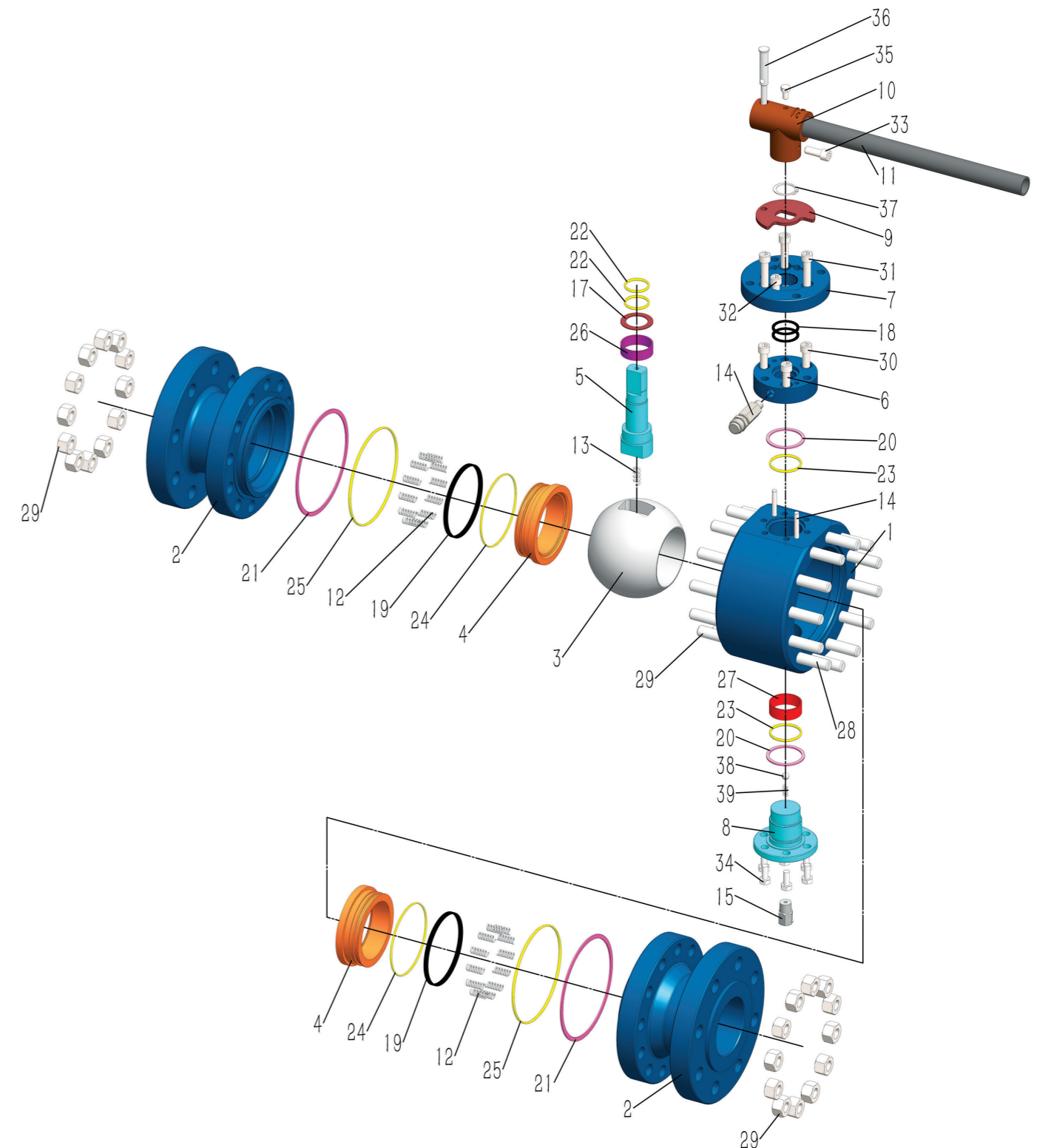
Specifications

Size Range: **2"~48"**
Pressure Range: **150LB ~ 2500LB**
End Connection: **Flanged End / Butt Welding End**
Bore: **Full Bore / Reduced Bore**
Body constructoin: **Three-piece Split Body, Forged Steel Or Cast Steel**
Valve Direction: **Bi-directional**
Service: **Chemical, Petrochemical, Refining, Power Generation, And More**
Operation: **Manual operation, Actuated operation, Gear operators are "preferred" for all sizes**
Material: **Body: Carbon Steel, Low Alloy Steel, Stainless Steel**
Trim: Stainless Steel, Inconel, Etc
Ball Coating: Chrome Carbide, Tungsten Carbide, Etc
Seat Coating: Cobalt Based Alloy, Chrome Carbide, Tungsten Carbide, Etc



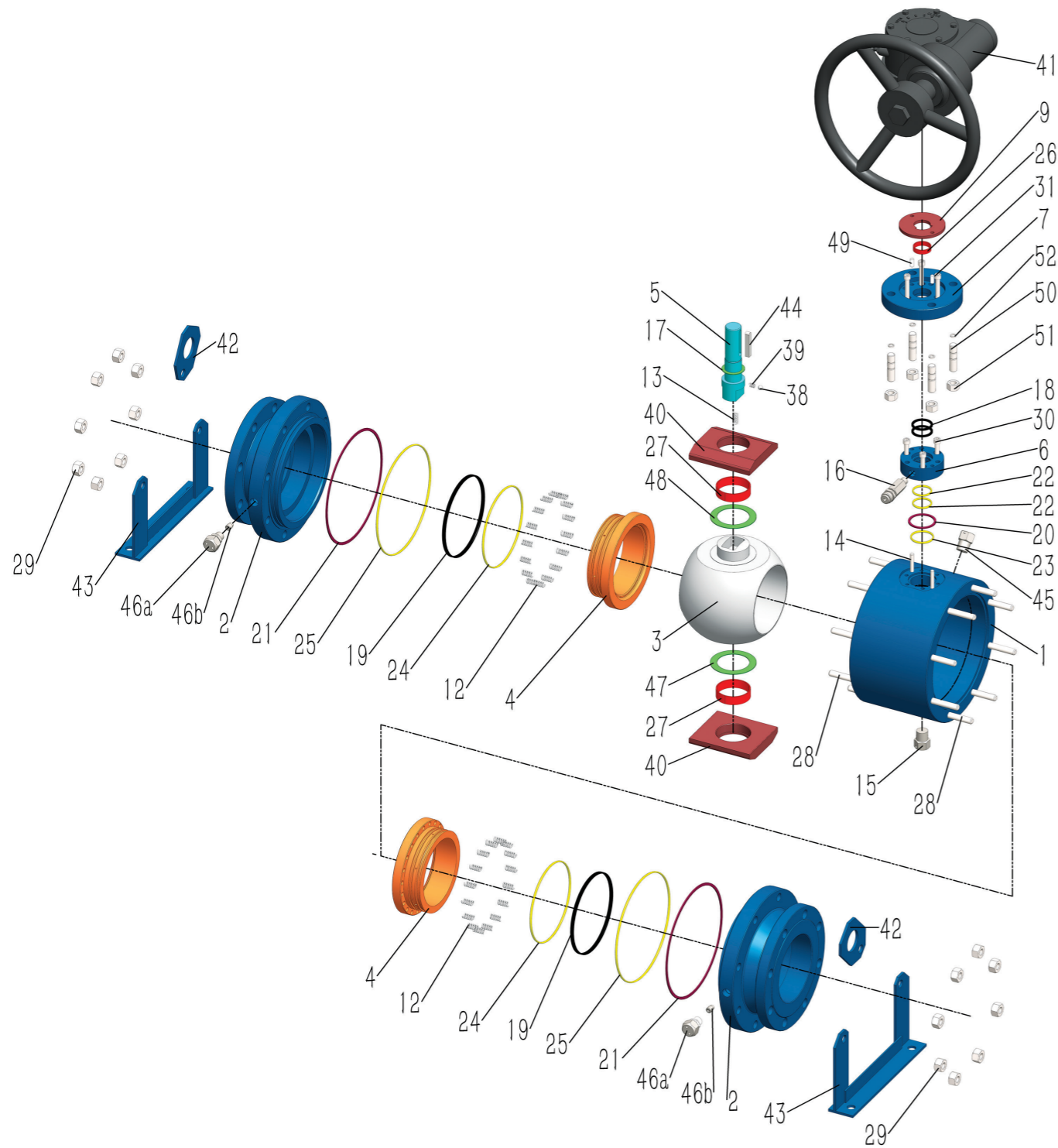
Metal Seated Trunnion Mounted Ball Valves

MT Series, 4" and Below





Metal Seated Trunnion Mounted Ball Valves
MT Series, 6" and Above

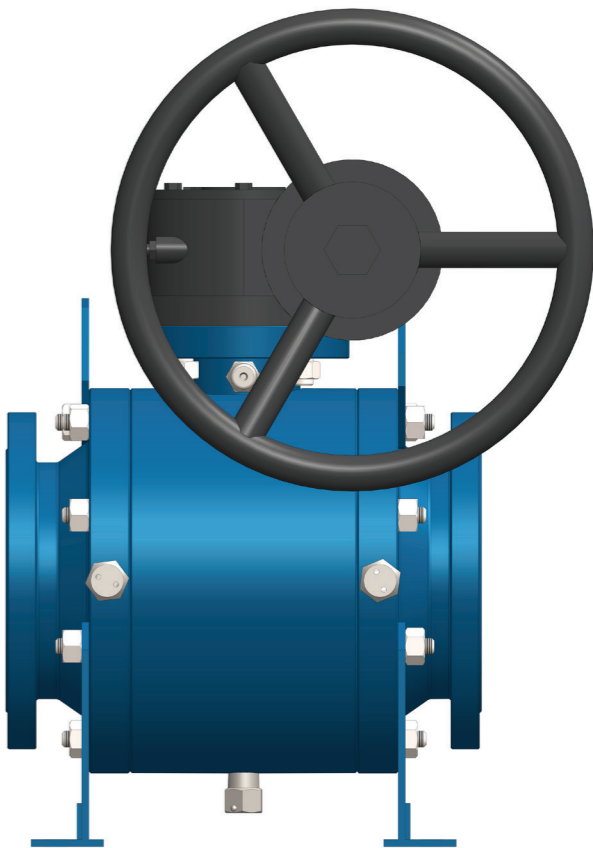


Metal Seated Trunnion Mounted Ball Valves
MT Series

Material Specification				
No.	Description	Carbon Steel		Stainless Steel
1	Body	A105	A350 LF2 (I)	A182 F316
2	Cap	A105	A350 LF2 (I)	A182 F316
3	Ball	A182 F316+T.C. / Cr3C2 / HCr		
4	Seat	A182 F316+T.C. / Cr3C2 / HCr		
5	Stem	17-4PH		
6	Gland	A105	A350 LF2 (I)	A182 F316
7	Top Flange	A105	A350 LF2 (I)	A182 F316
8	Trunnion	A105	A350 LF2 (I)	A182 F316
9	Stop Plate	Carbon Steel		
10	Handle Adapter	Carbon Steel		
11	Handle	Carbon Steel		
12	Spring	Inconel		
13	Anti-Static Device	Stainless Steel		
14	Pin	Alloy Steel		Stainless Steel
15	Drain Fitting	Assembly		
16	Sealant Injection Fitting	Assembly		
17	Thrust Washer	R-PTFE / Metal Backed PTFE		
18	Fire-safe Seal	Graphite		
19	Graphite	Graphite		
20	Gasket	Metal & Flexible Graphite		
21	Gasket	Metal & Flexible Graphite		
22	O-Ring	VITON-B	HNBR	
23	O-Ring	VITON-B	HNBR	
24	O-Ring	VITON-B	HNBR	
25	O-Ring	VITON-B	HNBR	
26	Bearing	Metal Backed PTFE		
27	Bearing	Metal Backed PTFE		
28	Stud	A193 B7	A320 L7	A193 B8M
29	Nut	A194 2H	A194 7	A194 8M
30	Bolt	A193 B7	A320 L7	A193 B8M
31	Bolt	A193 B7	A320 L7	A193 B8M
32	Stop Bolt	A193 B7	A320 L7	A193 B8M
33	Bolt	A193 B7	A320 L7	A193 B8M
34	Bolt	A193 B7	A320 L7	A193 B8M
35	Bolt	A193 B7	A320 L7	A193 B8M
36	Locking Pin	Carbon Steel		Stainless Steel
37	Snap Ring	Carbon Steel		Stainless Steel
38	Anti-Static Device	Stainless Steel		
39	Anti-Static Device	Stainless Steel		

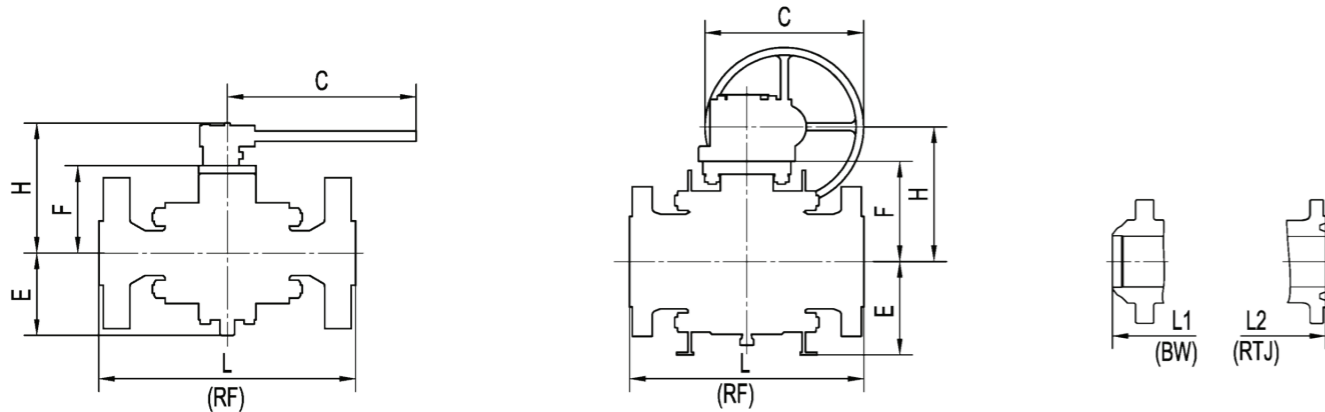
Note: Materials shown in the table are only typical configurations, other materials can be provided upon request.

Material Specification				
No.	Description	Carbon Steel		Stainless Steel
40	Bearing Retainer	A105	A350 LF2 (I)	A182 F316
41	Gearbox	Carbon Steel		
42	Lifting Lug	Carbon Steel		
43	Support Leg	Carbon Steel		
44	Key	Carbon Steel		
45	Vent Fitting	Assembly		
46	Sealant Injection Fitting	Assembly		
47	Check Valve	Assembly		
48	Thrust Washer	R-PTFE		
49	Pin	Alloy Steel		
50	Stud	A193 B7	A320 L7	A193 B8M
51	Nut	A194 2H	A194 7	A194 8M
52	Washer	Carbon Steel	Stainless Steel	





Metal Seated Trunnion Mounted Ball Valves
MT Series



150LB

Description		Valve Size																	
		2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	32"	36"	40"	42"	48"
Flanged End L	in	7	8	9	15.5	18	21	24	27	30	34	36	42	51	54	60	69	70.5	78.5
	mm	178	203	229	394	457	533	610	686	762	864	914	1067	1295	1372	1524	1753	1790	1995
Weld End L1	in	8.5	11.13	12	18	20.5	22	25	30	33	36	39	45	55	60	68	77	82	94
	mm	216	283	305	457	521	559	635	762	838	914	991	1143	1397	1524	1727	1956	2083	2388
Height F	in	4.65	5.39	6.18	8.11	9.92	12.09	13.5	15.51	17.17	18.86	20.51	24.57	30.83	32.87	34.25	36.34	38.07	44.29
	mm	118	137	157	206	252	307	343	394	436	479	521	624	783	835	870	923	967	1125
Height H	in	7.13	8.11	8.86	10.63	12.44	14.88	16.73	18.66	20.39	21.46	23.74	29.88	37.95	40	41.38	44.21	45.94	52.17
	mm	181	206	225	270	316	378	425	474	518	545	603	759	964	1016	1051	1123	1167	1325
Handle Length / Handwheel Dia C	in	15.75	15.75	15.75	19.69	19.69	19.69	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	39.37	39.37	39.37
	mm	400	400	400	500	500	500	700	700	700	700	700	700	700	700	700	1000	1000	1000
Height E	in	4.53	4.65	5.35	9.09	10.39	13.9	15.43	17.09	18.62	20.08	25.39	32.87	38.39	39.37	41.85	43.5	46.61	47.99
	mm	115	118	136	231	264	353	392	434	473	510	645	835	975	1000	1063	1105	1184	1219
Weight	Kg	17	31	62	122	253	454	705	760	1017	1596	1832	3148	5102	6890	9890	12434	14137	20850

300LB

Description		Valve Size																	
		2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	32"	36"	40"	42"	48"
Flanged End L	in	8.5	11.13	12	15.88	19.75	22.38	25.5	30	33	36	39	45	55	60	68	77	82	85.5
	mm	216	283	305	403	502	568	648	762	838	914	991	1143	1397	1524	1727	1956	2083	2170
Weld End L1	in	8.5	11.13	12	18	20.5	22	25	30	33	36	39	45	55	60	68	77	82	85.5
	mm	216	283	305	457	521	559	635	762	838	914	991	1143	1397	1524	1727	1956	2083	2170
RTJ L2	in	9.13	11.73	12.64	16.5	20.4	23	26.14	30.63	33.62	36.6	39.76	45.87	56	61.14	69.13	-	-	-
	mm	232	298	321	419	518	584	664	778	854	930	1010	1165	1422	1553	1756	-	-	-
Height F	in	4.84	5.51	6.38	8.11	10.2	12.24	13.7	15.59	17.09	19.13	20.51	24.8	30.83	32.87	33.58	36.34	38.07	44.29
	mm	123	140	162	206	259	311	348	396	434	486	521	630	783	835	853	923	967	1125
Height H	in	7.13	8.66	9.49	10.63	12.64	15.04	16.93	18.74	20.31	22.32	23.74	30.12	37.91	40	40.71	44.21	45.94	52.17
	mm	181	220	241	270	321	382	430	476	516	567	603	765	963	1016	1034	1123	1167	1325
Handle Length / Handwheel Dia C	in	15.75	19.69	19.69	19.69	19.69	19.69	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	39.37	39.37	39.37
	mm	400	500	500	500	500	500	700	700	700	700	700	700	700	700	700	1000	1000	1000
Height E	in	4.53	5.12	5.98	9.09	10.39	14.02	15.91	17.09	18.66	20	21.5	33.23	38.78	39.37	41.85	43.5	46.61	47.99
	mm	115	130	152	231	264	356	404	434	474	508	546	844	985	1000	1063	1105	1184	1219
Weight	Kg	27	46	69	149	289	494	751	1036	1465	1813	2176	3430	7550	7678	10179	13637	15944	22060



Metal Seated Trunnion Mounted Ball Valves
MT Series

600LB

Description		Valve Size																	
		2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	32"	36"	40"	42"	48"
Flanged End L	in	11.5	14	17	22	26	31	33	35	39	43	47	55	65	70	82	81.9	85.6	95.88
	mm	292	356	432	559	660	787	838	889	991	1092	1194	1397	1651	1778	2083	2080	2175	2435
Weld End L1	in	11.5	14	17	22	26	31	33	35	39	43	47	55	65	70	82	85.43	85.63	95.88
	mm	292	356	432	559	660	787	838	889	991	1092	1194	1397	1651	1778	2083	2170	2175	2435
RTJ L2	in	11.63	14.13	17.13	22.13	26.13	31.13	33.13	35.13	39.13	43.13	47.25	55.38	65.5	70.63	82.63	85.43	85.63	95.88
	mm	295	359	435	562	664	791	841	892	994	1095	1200	1407	1664	1794	2099	2170	2175	2435
Height F	in	4.72	5.67	6.65	9.21	10.91	13.11	14.57	15.63	17.91	20.79	22.76	26.38	31.3	33.23	35.08	39.96	40.76	46.3
	mm	120	144	169	234	277	333	370	397	455	528	578	670	795	844	891	1015	1035	1176
Height H	in	7.4	8.78	10.55	11.65	13.7	16.26	17.8	18.86	21.14	26.1	28.66	32.28	38.43	40.35	42.95	-	-	-
	mm	188	223	268	296	348	413	452	479	537	663	728	820	976	1025	1091	-	-	-
Handle Length / Handwheel Dia C	in	19.69	27.56	29.53	19.69	19.69	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	-	-	-
	mm	500	700	750	500	500	700	700	700	700	700	700	700	700	700	700	-	-	-
Height E	in	4.53	5.28	6.34	9.41	11.02	14.53	16.46	17.56	19.13	21.14	22.6	33.98	38.9	40.94	43.27	45.79	48.94	51.02
	mm	115	134	161	239	280	369	418	446	486	537	574	863	988	1040	1099	1163	1243	1296
Weight	Kg	31	57	117	266	423	732	1011	1311	1718	2610	3338	5545	7675	9842	12853	17418	21142	29252

900LB

Description		Valve Size															
		2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	32"	36"	
Flanged End L	in	14.5	15	18	24	29	33	38	40.5	44.5	48	52	61	74	80	90	
	mm	368	381	457	610	737	838	965	1029	1130	1219	1321	1549	1880	2032	2286	
Weld End L1	in	14.5	15	18	24	29	33	38	40.5	44.5	48	52	61	74	80	90	
	mm	368	381	457	610	737	838	965	1029	1130	1219	1321	1549	1880	2032	2286	
RTJ L2	in	14.63	15.13	18.13	24.13	29.13	33.13	38.13	40.88	44.88	48.5	52.5	61.75	74.88	80.9	91.13	
	mm	371	384	460	613	740	841	968	1038	1140	1232	1334	1568	1902	2054	2315	
Height F	in	5.28	5.91	7.2	9.65	11.34	13.11	15.91	17.76	19.45	21.73	23.46	26.89	31.81	33.95	36.72	
	mm	134	150	183	245	288	333	404	451	494	552	596	683	808	862	933	
Height H	in	8.43	9.41	11.22	12.44	14.57	16.3	19.13	23.07	24.76	27.64	29.37	34.02	38.94	41.81	43.27	
	mm	214	239	285	316	370	414	486	586	629	702	746	864	989	1062	1099	
Handle Length / Handwheel Dia C	in	27.56	29.53	19.69	19.69	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	39.37	39.37
	mm	700	750	500	500	700	700	700	700	700	700	700	700	700	700	1000	1000
Height E	in	4.92	5.59	6.73	10.08	11.46	15.47	17.4	18.27	20.04	21.61	31.42	34.61	39.29	41.39	45.95	
	mm	125	142	171	256	291	393	442	464	509	549	798	879	998	1051	1167	
Weight	Kg	59	84	122	337	566	907	1391	1644	2128	2850	4142	6679	9230	10820	15842	

1500LB

Description		Valve Size												Valve Size							
		2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	2"	3"	4"	6"	8"	10"	12"	
Flanged End L	in	14.5	18.5	21.5	27.75	32.75	39	44.5	49.5	54.5	60.5	65.5	76.5	17.75	22.75	26.5	36	40.25	50	56	
	mm	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943	451	578	673	914	1022	1270	1422	
Weld End L1	in	14.5	18.5	21.5	27.75	32.75	39	44.5	49.5	54.5	60.5	65.5	76.5	17.75	22.75	26.5	36	40.25	50	56	
	mm	368	470	546	705	832	991	1130	1257	1384	1537	1664	1943	451	578	673	914	1022	1270	1422	
RTJ L2	in	14.63	18.63	21.63	28	33.13	39.38	45.13	50.25	55.38	61.38	66.38	77.63	17.88	23	26.88	36.5	40.88	50.88	56.88	
	mm	371	473	549	711	841	1000	1146	1276	1407	1559	1686	1972	454	584	683	927	1038	1292	1445	
Height F	in	5.28	6.69	9.17	10.12	11.93	15.16	18.19	20.31	21.73	23.31	24.84	28.82	6.5	7.87	9.96	12.36	14.57	17.8	21.73	
	mm	134	170	233	257	303	385	462	516	552	592	631	732	165	200	253	314	370	452	552	
Height H	in	8.43	10.71	11.61	13.35	15.16	18.39	23.5	25.79	27.64	29.21	31.97	36.69	10	10.98	13.19	14.72	17.8	23.11	27.64	
	mm	214	272	295	339	385	467	597	655	702	742	812	932	254	279	335	374	452	587	702	
Handle Length / Handwheel Dia C	in	27.56	29.53	19.69	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	27.56	29.53	19.69	19.69	27.56	27.56	27.56	27.56	
	mm	700	750	500	700	700	700	700	700	700	700	700	700	750	500	500	700	700	700	700	
Height E	in	4.92	6.06	8.19	10.28	12.6	16.46	18.58	19.96	21.77	23.5	33.07	39.37	5.87	6.81	9.8	12.01	14.45	18.98	20.67	
	mm	125	154	208	261	320	418	472	507	553	597	840	1000	149	173	249	305	367	482	525	
Weight	Kg	59	111	225	471	819	1328	1902	2990	4047	6080	8835	13823	83	204	387	789	1363	2109	3183	



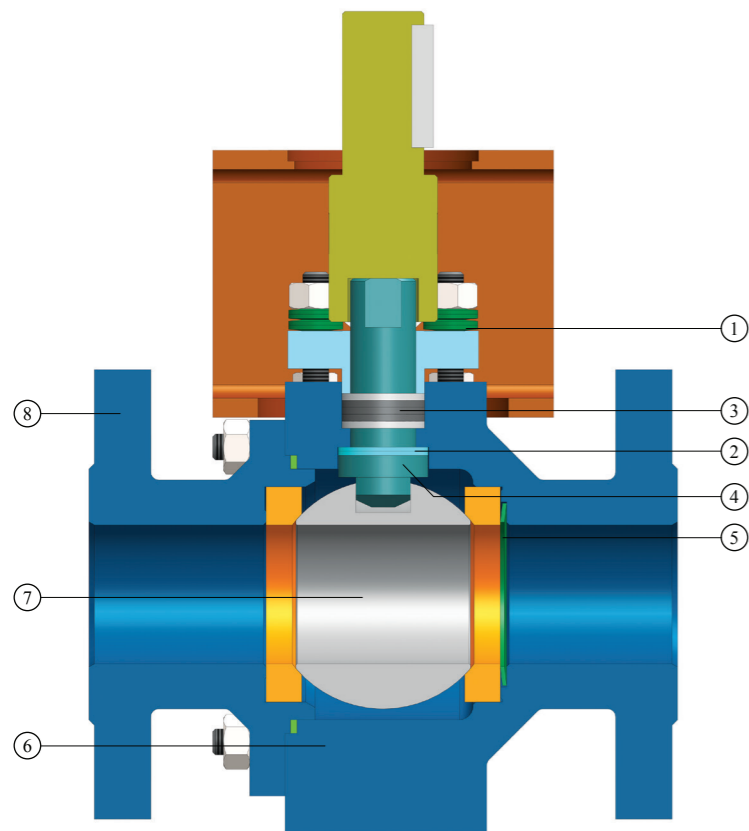
Metal Seated Floating Ball Valves

FE Series

Typical Structure

- ① Live-loaded stem packing for reduced maintenance.
- ② Two thrust washers act as stem bearing and stem inner seals.
- ③ Low emission stem seal
- ④ Blow-out Proof Stem
- ⑤ Disc spring maintain constant sealing contact between the ball and seats, other seat structure available.
- ⑥ Metal-to-metal body contact
- ⑦ Various hard facing materials can be selected to meet different applications.
- ⑧ Two-piece design forged steel for standard, cast steel is available.

*General Note: Structure shown in the illustration is typical, other configurations are available upon request.
We will choose suitable design and material according to the actual working temperature, pressure and medium.*



Metal Seated Floating Ball Valves

FE Series

Applicable Standards

- Basic Design: **API 608, ASME B16.34**
Face to Face: **ASME B16.10**
Flange End: **ASME B16.5**
Butt Welding End: **ASME B16.25**
Test and Inspection: **API 598, ISO 5208**
Fire-safe Test: **API 6FA**

Manufacturing to NACE latest version on request

CSA Z245.15 latest version compliance is available



Specifications

- Size Range: **1/2"~8"**
Pressure Range: **150LB ~ 2500LB**
End Connection: **Flanged End / Butt Welding End**
Bore: **Full Bore / Reduced Bore**
Body constructoin: **Two-piece split body, forged steel or cast steel**
Valve Direction: **Uni-directional for standard, bi-directional upon request**
Service: **Chemical, Petrochemical, Refining, Power generation, Mining, High cycle applications, and more**
Operation: **Manual operation, Actuated operation, Gear operators are "preferred" for all sizes**
Material: **Body: Carbon steel, Stainless steel, Duplex Stainless steel, etc.**
Trim: Stainless Steel, Inconel, Etc
Ball Coating: Chrome Carbide, Tungsten Carbide, Etc
Seat Coating: Cobalt Based Alloy, Chrome Carbide, Tungsten Carbide, Etc



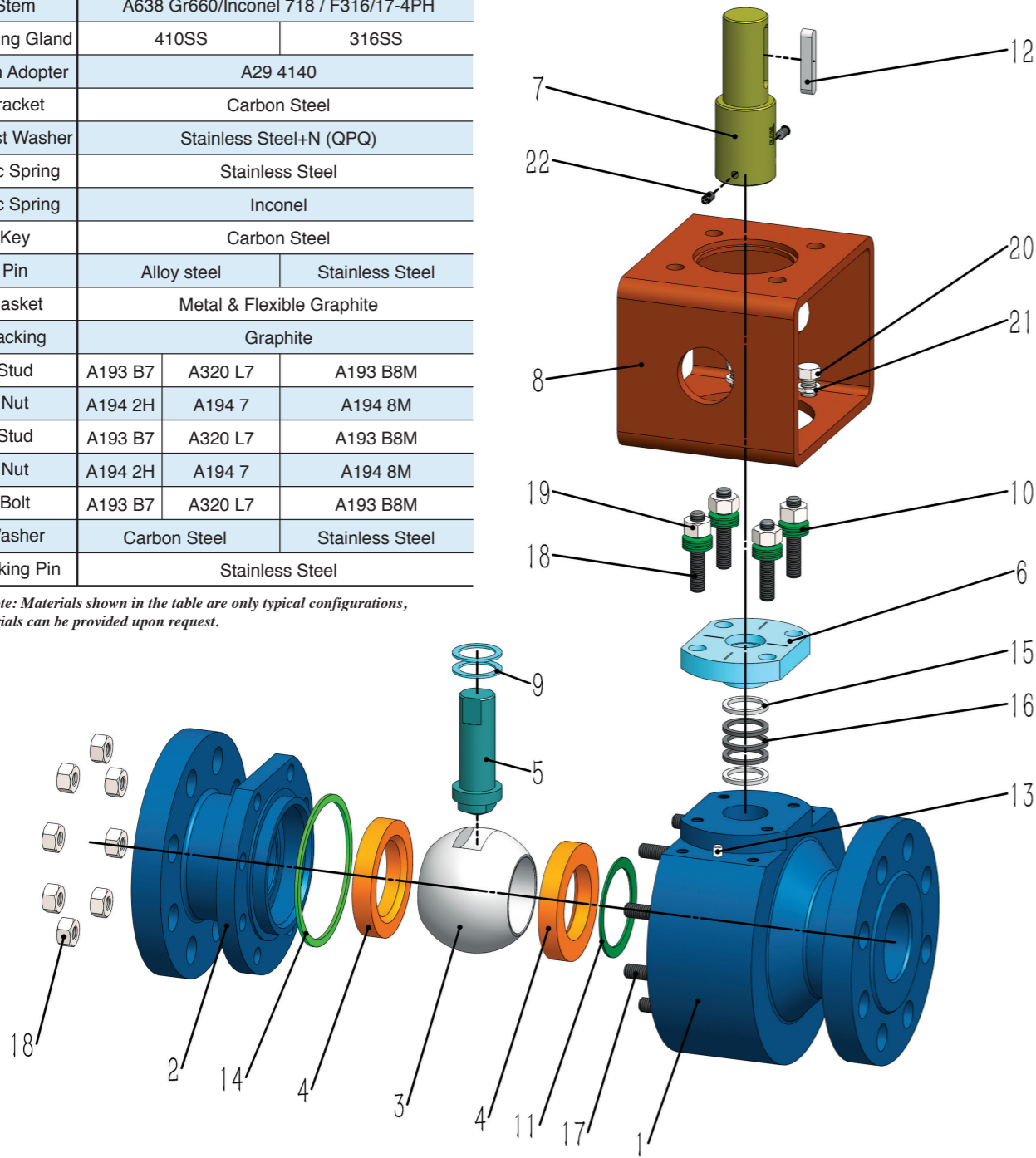
Metal Seated Floating Ball Valves

FE Series

Material Specification

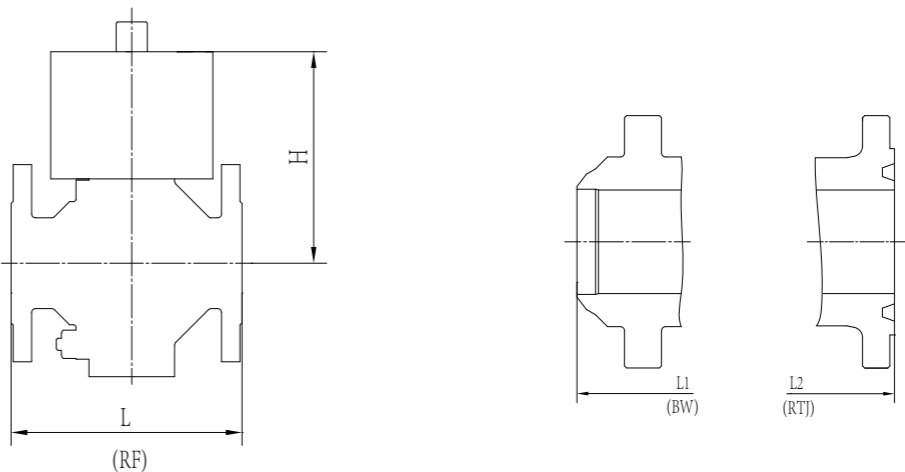
No.	Description	Carbon Steel		Stainless Steel
1	Body	A105	A350 LF2 (I)	A182 F316
2	Cap	A105	A350 LF2 (I)	A182 F316
3	Ball	410SS+T.C./Cr3C2		316SS+T.C./Cr3C2
4	Seat	410SS+T.C./Cr3C2/STL		316SS+T.C./Cr3C2/STL
5	Stem	A638 Gr660/Inconel 718 / F316/17-4PH		
6	Packing Gland	410SS		316SS
7	Stem Adopter	A29 4140		
8	Bracket	Carbon Steel		
9	Thrust Washer	Stainless Steel+N (QPQ)		
10	Disc Spring	Stainless Steel		
11	Disc Spring	Inconel		
12	Key	Carbon Steel		
13	Pin	Alloy steel		Stainless Steel
14	Gasket	Metal & Flexible Graphite		
15	Packing	Graphite		
16	Stud	A193 B7	A320 L7	A193 B8M
17	Nut	A194 2H	A194 7	A194 8M
18	Stud	A193 B7	A320 L7	A193 B8M
19	Nut	A194 2H	A194 7	A194 8M
20	Bolt	A193 B7	A320 L7	A193 B8M
21	Washer	Carbon Steel		Stainless Steel
22	Locking Pin	Stainless Steel		

General Note: Materials shown in the table are only typical configurations, other materials can be provided upon request.



Metal Seated Floating Ball Valves

FE Series



150LB

Description		Valve Size									Valve Size									
		1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	
Flanged End L	in	-	4.62	5.00	6.50	7.00	8.00	9.00	15.50	18.00	5.50	6.00	6.50	7.50	8.50	11.12	12.00	15.88	19.75	
	mm	108	117	127	165	178	203	229	394	457	140	152	165	191	216	283	305	403	502	
Height H	Full Bore	in	4.76	4.76	5.04	5.59	6.42	8.46	12.48	14.09	15.43	4.61	4.92	4.67	5.43	6.42	7.52	9.33	14.33	15.91
		mm	121	121	128	142	163	215	317	358	392	117	125	119	138	163	191	237	364	404
	Reduce Bore	in	-	4.76	5.04	4.92	5.59	6.42	8.46	12.48	14.09	-	4.76	4.92	4.67	5.12	6.42	7.52	9.33	14.33
		mm	-	121	128	125	142	163	215	317	358	-	121	125	119	130	163	191	237	364

600LB

Description		Valve Size									Valve Size									
		1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	
Flanged End L		in	6.50	7.50	8.50	9.50	11.50	14.00	17.00	22.00	26.00	9.00	9.00	10.00	12.00	14.49	15.00	18.00	24.00	29.00
		mm	165	191	216	241	292	356	432	559	660	229	229	254	305	368	381	457	610	737
Height H	Full Bore	in	4.61	4.53	4.67	5.43	7.01	7.80	12.99	14.17	16.50	4.69	4.69	5.98	6.42	7.60	12.56	15.75	15.94	17.56
		mm	117	115	119	138	178	198	330	360	419	119	119	152	163	193	319	400	405	446
	Reduce Bore	in	-	4.61	4.53	4.67	5.43	7.01	7.80	12.99	14.17	-	4.69	4.84	5.98	6.42	7.60	12.56	15.75	15.94
		mm	-	117	115	119	138	178	198	330	360	-	119	123	152	163	193	319	400	405

1500LB

Description		Valve Size										Valve Size								
		1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	
Flanged End L		in	9.00	9.00	10.00	12.00	14.49	18.50	21.50	27.75	32.75	9.00	9.00	10.00	12.00	17.75	22.75	26.50	36.00	40.25
		mm	229	229	254	305	368	470	546	705	832	229	229	254	305	451	578	673	914	1022
Height H	Full Bore	in	4.69	4.69	5.98	5.98	7.60	12.64	14.33	16.93	19.33	10.16	10.16	10.16	11.34	12.60	14.69	13.94	17.05	19.02
		mm	119	119	152	152	193	321	364	430	491	258	258	258	288	320	373	354	433	483
	Reduce Bore	in	-	4.69	4.84	5.98	5.98	7.60	12.64	14.33	16.93	-	10.16	10.16	10.16	11.34	12.60	14.69	13.94	17.05
		mm	-	119	123	152	152	193	321	364	430	-	258	258	258	288	320	373	354	433



Terms & Conditions

1. DEFINITIONS

(a) “The CONTRACT” - The General Conditions of Orders together with COMPANY’S quote and any exhibits, attachments and other documents incorporated by reference.

(b) “The PRODUCT’S” - valves and related products and services as well as their packaging that form the subject-matter of the CONTRACT.

(c) “The COMPANY” – DHV Industries, Inc. or DHV Valve Company, Inc. or alternatively any affiliated company named in COMPANY’S quotation.

(d) “The CUSTOMER” - The individual, firm, partnership, company or other party with whom the Company contracts.

(e) “FORCE MAJEURE” - Any cause or circumstances (including but not limited to, act of God, fire, storm, flood, drought, earthquake, malicious damage, shortage of material, manufacturer’s inability to provide the Product, embargo, riot, strike, look-out, trade dispute, civil disturbance, war, compliance with any law or government order, rule or direction or any other event or accident) beyond the reasonable and direct control of COMPANY.

2. SCOPE

(a) These General Conditions set out the standard terms on which the COMPANY supplies PRODUCTS to the CUSTOMER. Accordingly, these General Conditions apply to all quotations and sales unless otherwise agreed in writing.

(b) The legality, validity, and enforceability of other clauses in these General Conditions will not be affected if one of the clauses is, or becomes illegal, invalid, or unenforceable.

(c) We reserve the right to institute changes in material, design and specification without notice.

3. QUOTATIONS AND ORDERS

(a) Unless otherwise expressly stipulated, all of the COMPANY’S quotations and prices are subject to change without notice, and to availability. Prices are valid only for the duration indicated in the quotation and are subject to change without notice.

(b) Any written or oral purchase order received from the CUSTOMER by the COMPANY (“Order”) shall be interpreted as a written acceptance of the COMPANY’S offer to sell, and shall be filled in accordance with the terms and conditions of the sale set forth herein. The terms and conditions of the Company’s proposal (if at all any) shall prevail over any conflicting or different terms in CUSTOMER’S orders unless the CUSTOMER notifies the COMPANY in writing of its objections thereto within the earlier of the date of shipment of the Product or fifteen (15) days from receipt of COMPANY’S General Conditions. CUSTOMER’S standard terms of purchase will not be considered as a counter-offer to COMPANY’S terms and conditions of sale. The COMPANY will not be bound by conflicting purchasing conditions or reservations made by the CUSTOMER even if the COMPANY does not explicitly contradict the conditions or reservations.

(c) No order in pursuance of any quotation or otherwise shall be binding on the COMPANY unless and until such an order is accepted by the COMPANY. The COMPANY may reject any order in whole or part. A contract between the COMPANY and CUSTOMER is finalized once the COMPANY issues a telephonic, electronic, or written order confirmation to the CUSTOMER or ships the Product to the CUSTOMER. Except as otherwise specifically provided herein, the Order is the final and complete expression of the agreement between the parties, setting forth the entire agreement between the parties regarding this transaction and including all promises and representations both express and implied. Any matters not contained herein, or otherwise referenced or incorporated herein, are not part of the Order.

(d) Subject to the specific procedures for changes to the Order, none of the terms and conditions contained herein may be added to, modified, superseded, or otherwise altered except by a written instrument specifically referencing the affected provision of the Order signed by the President or Vice President of the COMPANY.

4. PRICES

(a) All prices shown are in U.S. dollars and are F.O.B. COMPANY’S shipping point, unless otherwise expressly agreed to by COMPANY.

(b) Prices exclude any duties, federal, state or local taxes or other government charges and delivery costs, which the CUSTOMER must pay unless the law specifically provides that the COMPANY must make such payment in which case the CUSTOMER shall reimburse the COMPANY for such payments as part of the purchase price. All prices include the COMPANY’S

standard packing, but not pallets or crating for export goods.

5. PAYMENTS AND LICENSES

(a) Payment must be made in the currency specified in COMPANY’S invoice.

(b) The CUSTOMER must pay the full invoice amount before the shipment from the date of the invoice unless otherwise agreed in writing. The COMPANY is entitled to charge interest on overdue payments at the greater of the following two rates: (a) 1.5% monthly or (b) 2% annually above the current monthly base rate of the COMPANY’S bank. In no event shall the interest rate be higher than the maximum rate permitted by applicable law.

(c) In addition to exercising its rights at common law or under statute, the COMPANY is entitled to terminate the CONTRACT by written notice to the CUSTOMER if the CUSTOMER is in material breach of its obligations under the CONTRACT or any other agreements with the COMPANY. The CUSTOMER is in material breach:

- If it fails to meet its liabilities when they fall due;
- If it seeks a composition with its creditors;
- If all or part of its property is subject to receivership; or
- If a petition for liquidation, winding-up or administration is filed in respect of the CUSTOMER.

(d) The CUSTOMER is not entitled to withhold, set off or deduct claims against the COMPANY from an amount that it owes the COMPANY under the CONTRACT or other agreement with the COMPANY.

(e) The COMPANY is obligated to deliver a PRODUCT only if the CUSTOMER has made due payment of all amounts that it owes to the COMPANY at the date of delivery under the CONTRACT or other agreement with the COMPANY. The COMPANY is entitled to suspend delivery of a PRODUCT if the CUSTOMER is in default without this affecting the COMPANY’S other rights under the CONTRACT or other agreement with the CUSTOMER. The COMPANY is not obligated to resume deliveries until the CUSTOMER has paid all overdue amounts, including all expenses and accrued interest.

(f) It is the CUSTOMER’S exclusive responsibility to obtain all licenses, exchange control documents and other consents needed for the import and use of the PRODUCTS as well as for payment of the PRODUCTS. The CUSTOMER will not be discharged from his obligations under these General Conditions because he fails to obtain a license or other consents.

6. DELIVERY AND FORCE MAJEURE

(a) While the COMPANY will endeavor to deliver the PRODUCTS by any date or within any period agreed upon, such dates and periods are estimates only given in good faith and the COMPANY will not be liable for any failure to deliver by such date or within such a period. Time for delivery shall not be of the essence of the CONTRACT.

(b) Should the COMPANY be delayed in or prevented from making the delivery of the PRODUCTS due to Force Majeure, the COMPANY may terminate the CONTRACT or suspend the Order without incurring any liability for any loss or damage arising there from, but without prejudice in any such case to rights accrued to the COMPANY for deliveries already made.

(c) Unless otherwise agreed to in writing by the COMPANY, the COMPANY shall deliver the PRODUCTS by the means most convenient to the COMPANY to the address or addresses specified by the CUSTOMER at the time of placing the Order or (in the event that the CUSTOMER fails so to specify an address) to an address at which the CUSTOMER resided or carries on business. The PRODUCTS are considered to be delivered when they are physically handed over to 1) the CUSTOMER, 2) the CUSTOMER’S agent or a person that the CUSTOMER has authorized to take delivery, or (3) the carrier, regardless of who pays shipping costs. The COMPANY shall be entitled to add to the contract price a reasonable charge for packaging, delivery and insurance. Off-loading will be at CUSTOMER’S expense.

(d) The CUSTOMER is obligated to pay all costs that the COMPANY incurs because of the CUSTOMER’S failure to take delivery either 1) on the date stated in the invoice or the COMPANY’S confirmation, or 2) when the PRODUCTS are ready, if the COMPANY has notified the CUSTOMER in writing of their readiness and the CUSTOMER has not taken delivery within seven days or any period to which the parties agree.

(e) If the COMPANY is responsible for delivery, the CUSTOMER must thoroughly inspect the PRODUCTS sent at the COMPANY’S risk. The CUSTOMER is to notify the COMPANY in writing immediately of loss, damage or shortage of PRODUCTS. If the CUSTOMER does not receive the PRODUCTS on the agreed date of delivery, it is to notify the COMPANY within 48 hours of the agreed date of delivery. The COMPANY disclaims all liability, and the CUSTOMER waives its rights of recovery, under this provision unless the CUSTOMER’S information is sufficient to



Terms & Conditions

COMPANY HAVE ANY LIABILITY WHATSOEVER FOR ANY CLAIM ARISING FROM OR RELATING TO THE ORDERS OR THE PRODUCTS FOR AN AGGREGATE AMOUNT IN EXCESS OF THE INVOICED PRICE FOR THE PRODUCTS.

(c) The COMPANY shall not be liable for any damage resulting from delays, failure of the PRODUCTS, loss of profit or revenues, loss of time or loss of use, cost of capital, diminution of goodwill, or claims of CUSTOMER’S customers.

(d) IN NO CIRCUMSTANCES WILL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, PUNITIVE OR INDIRECT LOSS OR DAMAGE WHATSOEVER.

(e) The COMPANY is not liable if the CUSTOMER’S use of the PRODUCTS infringes on a third party’s patent rights.

(f) Any exclusions or limitations of liability in this CONTRACT in favor of the COMPANY are agreed to be extended for the benefit of all COMPANY’S and/or individuals within the COMPANY’S group of COMPANIES. The CUSTOMER agrees in the appointment of the COMPANY as its agent or trustee solely for the extension of the benefit of the exclusions and limitations of liability. All duties, liabilities and obligations that would otherwise result from this agency are expressly excluded.

(g) The COMPANY warrants the PRODUCTS provided to the original CUSTOMER, not any third party, for a period of one year after date of shipment, that PRODUCTS will be free from defects in materials and workmanship under proper and normal installation and use. Any claim for defect goods should be by written notice to the COMPANY immediately upon discovery. NO warranty shall apply to PRODUCTS which has been modified or changed in design or function, misused, or improperly maintained. The COMPANY shall be able to inspect claimed defects at original CUSTOMER’s facility to determine its obligation. Without written authorization of COMPANY, any repair labor or material is not allowed. No PRODUCTS may be returned without written permission from COMPANY.

9. SPECIFICATION, INSTRUCTIONS AND/OR DESIGN

If PRODUCTS are modified to a specification, instruction or design supplied by CUSTOMER or any third party on behalf of CUSTOMER, then:

(a) The suitability and accuracy of that specification, instruction and/or design will be CUSTOMER’S responsibility.

(b) The CUSTOMER will indemnify COMPANY against any infringement or alleged infringement of any third party’s intellectual property rights including but not limited to patent, design right, registered design, trademark, trade name or copyright and any loss, damage or expense which it may incur by reason of any such infringement or alleged infringement in any county, and

(c) The CUSTOMER will indemnify COMPANY against any loss, damage or expense in respect of any liability arising in any country by reasons of the PRODUCTS being made to such specification, instruction or design.

10. CHOICE OF LAW AND JURISDICTION

(a) The laws of the State of California, including the Uniform Commercial Code, shall govern this CONTRACT. Jurisdiction and venue shall be the Superior Court of Kern County, Bakersfield, California. However, the CUSTOMER expressly agrees that the COMPANY may take action in another jurisdiction to obtain security for the COMPANY’S claims under the CONTRACT.

(b) The CONTRACT constitutes the entire agreement between the COMPANY and the CUSTOMER concerning the supply of the PRODUCTS. The CUSTOMER agrees that he has no other rights of recourse to the COMPANY other than those expressly stated in these General Conditions. The General Conditions apply whether or not the CUSTOMER has a cause of action because the COMPANY or its representative has acted negligently.

11. ATTORNEY’S FEES

In the event of any litigation or arbitration or any quasi-judicial or administrative proceeding involving the parties hereto to enforce any provision of this Agreement, to enforce any remedy available upon default hereunder, or seeking a declaration of the rights of either party hereunder, the prevailing party shall be entitled to recover from the other such attorney’s fees and costs as may be reasonably incurred, including the costs of reasonable investigation, preparation and professional or expert consultation incurred by reason of such litigation, arbitration or proceeding. Sums actually expended in the prosecution or defense of any litigation, arbitration or proceeding within the meaning of the foregoing sentence shall be prima facie evidence of reasonable attorneys’ fees, costs and disbursements.

allow the COMPANY to make a valid claim against the carrier of the PRODUCTS for their loss or damage.

(f) If the CUSTOMER is responsible for delivery, the COMPANY will not be responsible for delays or failure to deliver by the carrier set up by the CUSTOMER or due to causes beyond the COMPANY control. Delivery of material to a common carrier shall be considered delivery to the Buyer. Claims for loss or any damage to material in transit shall be filed by the Buyer direct with the carrier. Claims for any shortage, corrections or deductions must be made in writing within 48 hours after receipt of goods.

7. PASSING OF RISK AND TITLE, CANCELLATION AND RETURNS

The COMPANY’S liability for the PRODUCTS passes from the COMPANY to the CUSTOMER on the earlier of the following two dates: 1) the date when the PRODUCTS are delivered to the CUSTOMER, the CUSTOMER’S agent, or a person that the CUSTOMER has authorized to accept delivery, or 2) the agreed date of delivery, if the CUSTOMER fails to take delivery as required.

(a) Under the CONTRACT.

(b) The COMPANY remains the owner of the PRODUCTS until it receives full payment for all PRODUCTS whether or not the PRODUCTS are delivered to the CUSTOMER. If the CUSTOMER sells the PRODUCTS to a third party before the COMPANY receives full payment, the proceeds of the sale shall first apply to pay all amounts due to the COMPANY. The COMPANY or its representative is entitled to recover or resell the PRODUCTS and to enter the CUSTOMER’S premises for that purpose, without this affecting its other rights; if the CUSTOMER has not paid the full purchase price or if insolvency proceedings are commenced against the CUSTOMER.

(c) Purchase Orders once placed by CUSTOMER and accepted by COMPANY can be cancelled only with COMPANY’S written consent and upon terms which will save COMPANY from loss. No PRODUCTS may be returned for credit or adjustment without written permission from COMPANY’S officer authorized to issue such permission.

(d) All sales are final. This means that the CUSTOMER is not entitled to credit for returned PRODUCTS whether or not the CUSTOMER has made a complaint or a claim. If the Company expressly agrees in writing that the COMPANY will credit the CUSTOMER for returned PRODUCTS, the CUSTOMER must return the PRODUCTS promptly, carriage-paid, and in the COMPANY’S opinion in good condition to receive the credit. If the COMPANY expressly agrees in writing that the CUSTOMER can return the PRODUCTS, cancel order or change order, the CUSTOMER will be charged for work performed, based on the following schedule. All freight for return or cancelled/changed goods shall be prepaid by CUSTOMER.

- Twenty Five (25%) percent of price on stock items.
- Fifty (50%) percent of price of stock items ordered in quantities which exceed normal inventory levels.
- Twenty Five (25%) percent of price prior to drawing submittal on made to order items.
- Forty (40%) percent on drawing approval, but prior to start of castings.
- Seventy (70%) percent during casting cycle, dependent on the state of completion.
- One Hundred (100%) percent on castings that are not standard materials used by COMPANY in daily sales; i.e. Stainless Steel, Duplex, Nickel, etc.
- Eighty (80%) during machining and assembly operations, this is dependent on the state of completion.
- One Hundred (100%) percent after final assembly and test.
- Special Product Orders: or non standard products are not subject to any schedule level of cancellation, except on such terms as COMPANY may specify on application only.

8. WARRANTY AND LIMITATIONS OF LIABILITY

(a) As to all PRODUCTS sold hereunder, the COMPANY expresses no warranties whatsoever but only assigns to CUSTOMER all transferable warranties and remedies granted by the manufacturer of such PRODUCTS to which COMPANY is entitled and CUSTOMER agrees to look solely to such manufacturers with regard to claims and remedies relating to such PRODUCTS. THE COMPANY SPECIFICALLY DISCLAIMS ALL WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND SATISFACTORY QUALITY. THE COMPANY MAKES NO WARRANTIES AND REPRESENTATIONS, AS TO QUALITY, CAPABILITIES, OPERATIONS, NONINFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS, PERFORMANCE AND SUITABILITY OF THE PRODUCTS.

(b) LIMITATION OF LIABILITY. CUSTOMER’S EXCLUSIVE REMEDY AGAINST COMPANY FOR DEFECTS IN THE PRODUCTS IS THE MANUFACTURER’S WARRANTY SET FORTH IN SECTION 8 (a). THE PARTIES AGREE THAT UNDER NO CIRCUMSTANCE SHALL THE