

### ■ General

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Metal Seated Ball Valves is particularly applicable in severe service conditions such as granule medium, pasty stock, coom, lime-ash, and of advantage such as reliable sealing capacity and low operation torque value.

### ■ Utilize advanced technique of ball and seat hardening

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Many techniques has been applied in ball and seat hardening such as, including supersonic spraying, nimonic alloy spraying-weld, surface peculiarly hardening, carbide spraying-weld and high strength high hardness ceramic materials etc, the hardness of ball and seat can generally reach HRC 62 above, even surpass HRC 70. Refractory of sealing material can generally reach 540 centigrade, and 980 centigrade at its highest. Materials bond-strength can reach 10000PSI or above, Sealing material jiss also of the capability of braze-proof and impact-proof.

### ■ High capability of seal

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With peculiar lapping crafts for the ball, spinning the ball to the lapping appliance from different directions to make the ball surface reach sky-high circularity and cleanliness, the sealing capacity of valve can fully reach or surpass the requirement of standard

### ■ Moveable seat design

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Achieves Zero leakage sealing in bi-directional flow and pressure relief for over-pressure protecting.

### ■ High temperature warming design

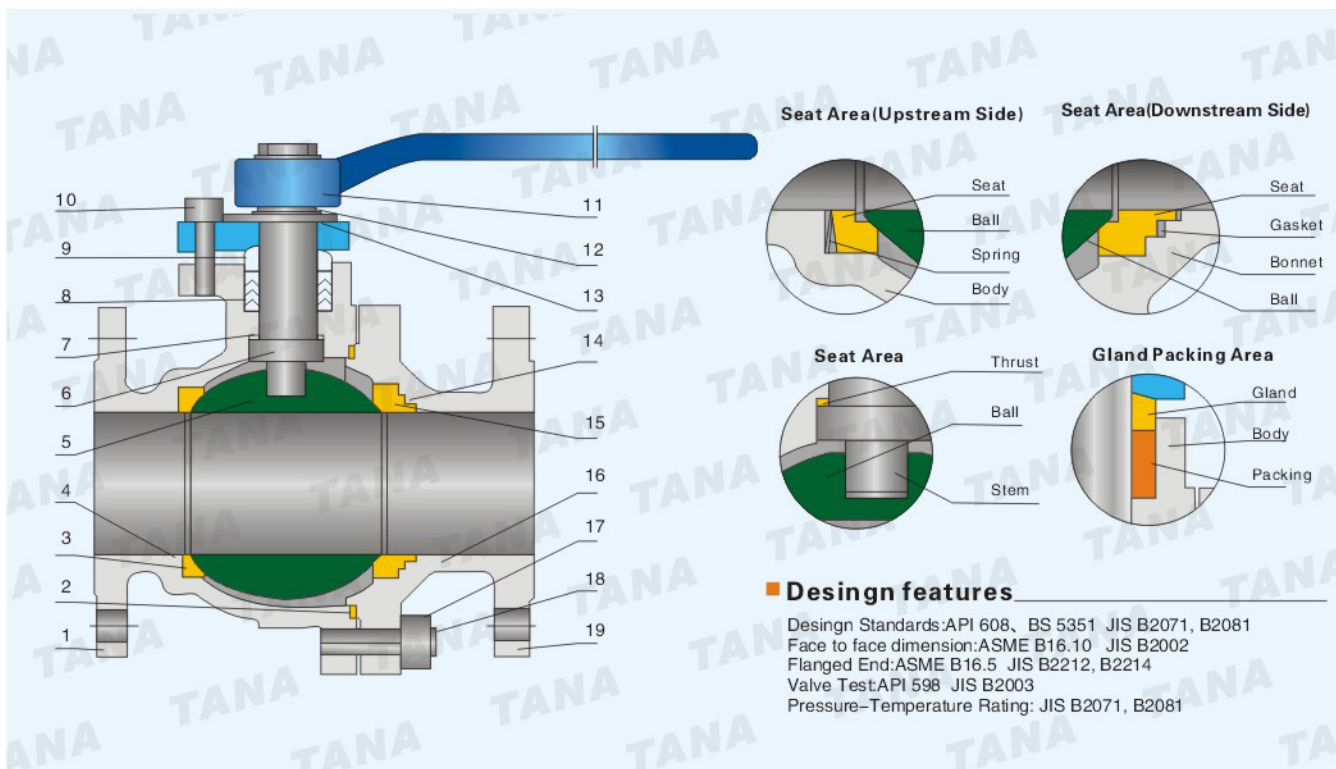
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Cup spring supported S.S. ball Seats are of high hardness HV 1500 due to special surface treatment, cup spring made of Inconel alloy can self-compensate the thermal expansion caused by high temperature medium.

### ■ Fully fire safe design structure

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Metal to Metal sealing structure in the sealing surface, and flexible graphite as packing, stainless steel+flexible graphite as gasket, so when if fire burns up the valve can be sealed properly.



■ Design features

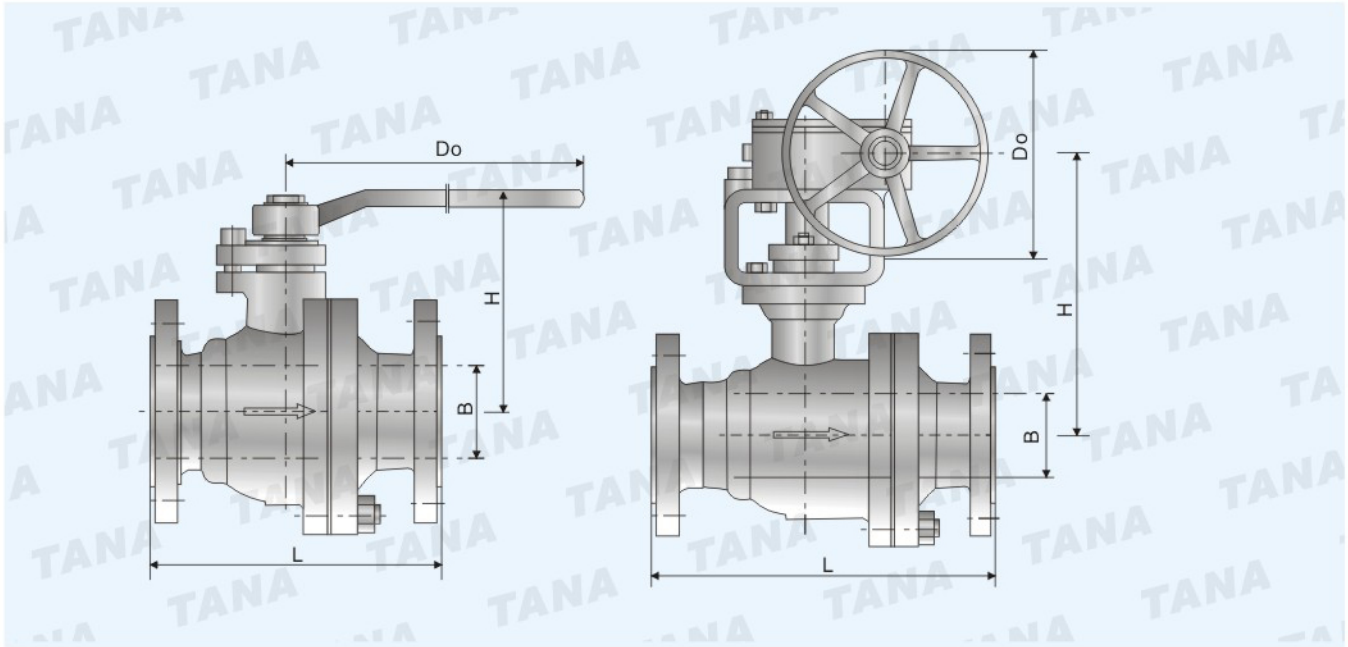
Design Standards: API 608, BS 5351 JIS B2071, B2081  
 Face to face dimension: ASME B16.10 JIS B2002  
 Flanged End: ASME B16.5 JIS B2212, B2214  
 Valve Test: API 598 JIS B2003  
 Pressure-Temperature Rating: JIS B2071, B2081

■ Material List

Item	Carbon Steel		Stainless Steel	
	-29°C~250°C	250°C~425°C	-29°C~250°C	250°C~550°C
Body	ASTM A216 Gr.WCB		ASTM A351 CF8M	
ball	ASTM A 182 F304/coating		ASTM A 182 F316/coating	
Stem	ASTM A 182 F6a		ASTM A182 F316	
Seat	ASTM A 182 F316/Stellite Overlay		ASTM A 182 F316/Stellite Overlay	
Gasket	PEEK	Graphite+304 S.S.	PEEK	Graphite+316 S.S.
Gland Packing	PEEK	Graphite+304 S.S.	PEEK	Graphite+316 S.S.
Stem Bearing	PEEK	Graphite+304 S.S.	PEEK	Graphite+316 S.S.
Spring	17-7PH	Inconel x-750	316 Stainless Steel	Inconel x-750
Bolt	ASTM A 193 B7		ASTM A 193 B8M	
Nut	ASTM A 194 2H		ASTM A 194 8M	
Seat Seal Gasket	Graphite+304 S.S.		Graphite+316 S.S.	

■ Applications of metal seated ball valve

Type	Size	Temperature Range	Auxiliary Seal	Ball/Seats Seal	Working Condition
Floating Ball Valve	pressure Range Class: 150,300,600 NPS:1/2"-8"	-50°C~250°C	PEEK	Ball:nitriding or Nickel base/Co base alloy overlay Seat:Stellited	1.finishing mixture 2.solid containing fluids 3.high temperature and high pressure
		-50°C~380°C	Graphite		
		-35°C~550°C	Graphite	Ball:Nickel Base/Co base alloy overlay Seat:Stellited	



■ Dimensions ( Class 150/10K )

Size(in)	1/2	3/4	1	1-1/2	2	1-1/2	3	4	6	8
B(mm)	12.7	19	25.4	38	51	64	76	102	152	203
L(mm)	108	117	127	165	178	190	203	229	267	292
H(mm)	54	59	64	90	102	112	121	166	208	246
Do(mm)	140	140	160	160	260	260	260	320	400	300
WT(kg)	2.1	3	4.1	6.5	9	11.2	15.3	28.6	53	81

■ Dimensions ( Class 300/20K )

Size(in)	1/2	3/4	1	1-1/2	2	1-1/2	3	4	6	8
B(mm)	12.7	19	25.4	38	51	64	76	102	152	203
L(mm)	140	152	165	190	216	241	282	305	403	419
H(mm)	54	59	64	90	102	112	121	166	208	246
Do(mm)	140	140	160	160	260	260	260	320	300	300
WT(kg)	2.8	3.6	4.9	10.4	10	16.1	23	39.5	82	124

■ Dimensions ( Class 600 )

Size(in)	1/2	3/4	1	1-1/2
B(mm)	13	19	25	38
L(mm)	165	190	216	241
H(mm)	180	180	250	300
Do(mm)	65	70	85	105
WT(kg)	8.5	11.5	16.3	19.5