

## Design

KATA steel ball valves are designed manufactured to provide maximum service life and dependability. All ball valves are full ported and meet the design requirements of American Petroleum Institute standard API 608&API 6D, British standard BS 5351 and generally conform to American Society of Mechanical Engineers standard ASME B16.34 valves are available in a complete range of body/bonnet materials and trims.

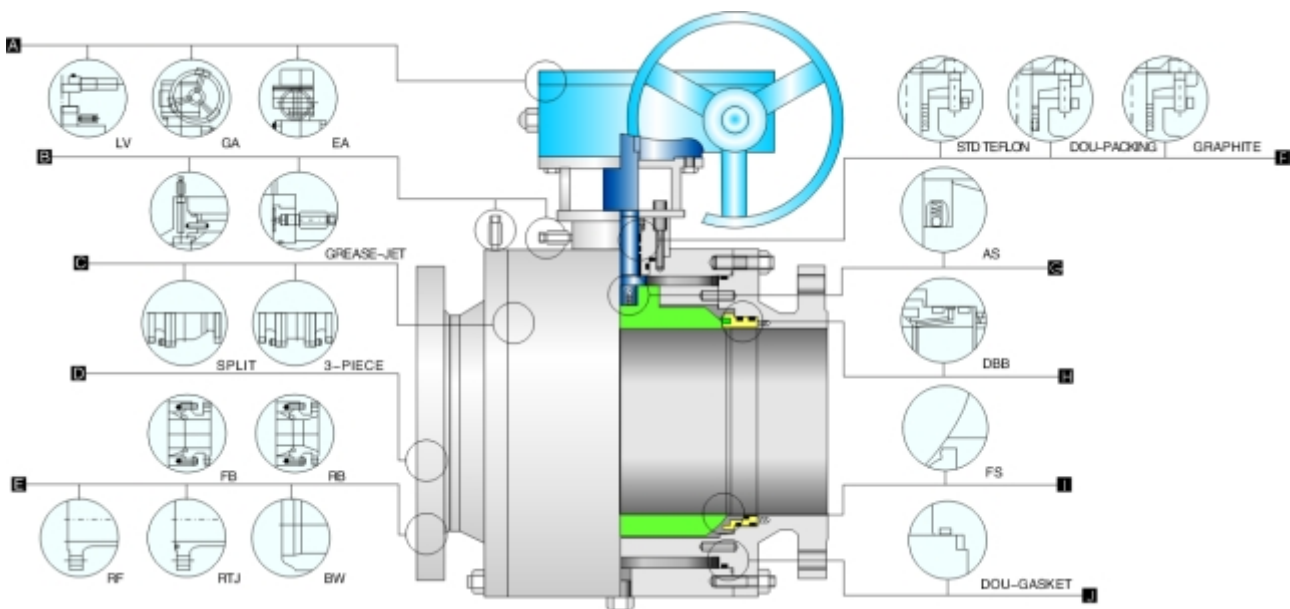
## Ranges of Materials

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless steels, for special applications they can be supplied in other grades of alloy and stainless steel, there's a full range of trim materials to match any service optional packing and gasket materials are available for a full range of service conditions.

## Available Modifications for KATA Cast Steel Valves

Trim changes  
End connection modifications  
Packing and gasket changes  
Operator mounting  
Handwheel extensions

Pressure equalizing  
AS OR FS  
Customer specified coatings  
Weld end bore changes  
Oxygen&chlorine cleaning&packaging



### **A** Operation

Extended lever for easy operation. Also available with gearing, motor actuators, pneumatic or hydraulic actuators for more difficult services

### **B** Grease-jet joint

Installed in prescriptive part accord to the apply and satisfied with ecumenical situations and realize seal in spot with maintenance easily.

### **C** Body&Bonnet

Split or 3-piece, split body& bonnet for 8" & small. Disassembles easily for repair or replacement of internal components.

### **D** BORE

Full bore or reduced bore. Full-bore design provides exceptional flow control.

### **E** End Connectios

A choice of flanged RTJ flanged or buttwelding end for piping flexibility.

### **F** Packing

Std packing multiple v-teflon packing, combined with live loading, maintains packing compression under high-cycle and severe service applications. Graphite packing is used for high-temperature situation.

### **G** AS

Anti statics. A metallic contact is always granted between ball and stem/body to discharge eventual statics build-up during service.

### **H** DBB

Double block&bleed. The body cavity is isolated when the ball is in either fully closed or fully opened position, the medium entrapped in it can easily be bled to avoid over pressure.

### **I** FS

Fire Safe. Designed to API607 or BS 6755 to grant their operation suitability in case of fire. Secondary metal-to metal seal acts as backup if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

### **J** Gasket

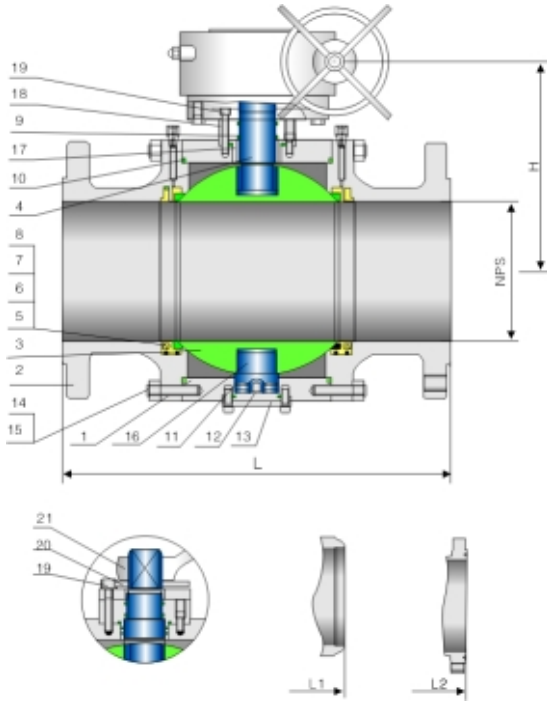
Adopt high-performance rubber seal ring and spiral wound graphite.

### Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATICS, API 608
- STEEL VALVES, ASME B16.34
- FACE TO FACE ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598/ API 6D

### Design descriptions:

- FULL PORT DESIGN
- BB, BOLTED BONNET, SPLIT BODY
- THREE PIECES BODY FOR 12" & ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



### Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr-9Ni-2Mo	Carbon Steel
1	Body	A105	A182-F316	A350-LF2
2	Bonnet	A105	A182-F316	A350-LF2
3	Ball	A182-F304 <sup>1)</sup>	A182-F316	A182-F304 <sup>1)</sup>
4	Stem	A276-304	A276-316	A276-304
5	Seat	A105+ENP	A182-F316	A350-LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313-304	Inconel X-750	A313-304
8	Seat O-Ring	NBR	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304 <sup>2)</sup>	Graphite+316 <sup>2)</sup>	Graphite+304 <sup>2)</sup>
11	Bonnet O-ring	NBR	Viton	Viton
12	Antistatic Spring	A313-304	A313-316	A313-304
13	Lower Cover	A182-F304	A182-F316	A182-F304
14	Bonnet Stud	A193-B7	A193-B8	A320-L7
15	Bonnet Stud Nut	A194-2H	A194-8	A194-4
16	Trunnion	A276-304	A276-316	A276-304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland	A105	A182-F316	A350-LF2
19	Gland Bolt	A193-B7	A193-B8	A193-B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note: 1) A105+ENP optional  
2) Spiral wound construction.

### Dimensional datas of ANSI Class 150Lb

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in mm
L (RF)	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	27.00	30.00	34.00	36.00	42.00	45.00	49.00	51.00	54.00	60.00	in mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	68.00	in mm
H	4.00	6.00	7.00	9.25	9.88	11.00	12.62	15.38	16.50	21.88	23.62	25.00	28.00	29.50	31.50	34.00	36.00	38.50	in mm
W	16	16	24	24	24	24	32	32	32	32	32	32	32	40	40	40	40	40	in mm
wt(kg)	28	35	55	80	190	290	445	570	780	1520	2300	2500	3950	4890	6300	7100	8950	13500	RF
	25	28	49	71	182	277	553	553	747	1481	2266	2460	3904	4939	6362	8149	9000	13570	BW

### Dimensional datas of ANSI Class 300Lb

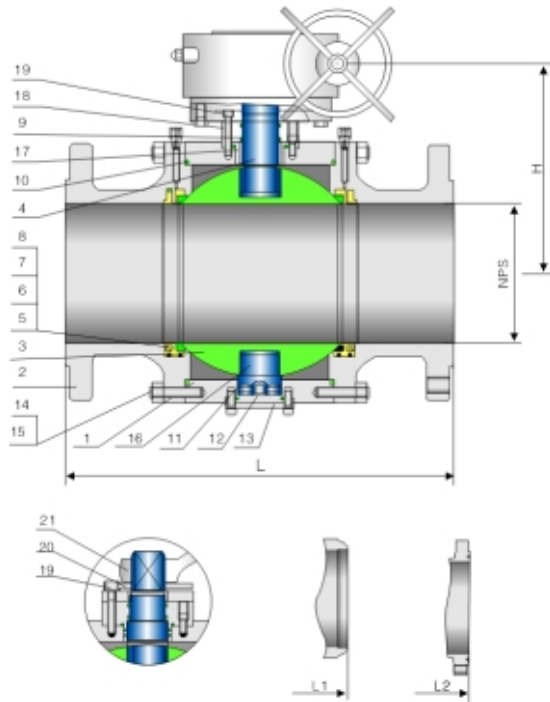
NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in mm
L (RF)	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	-	in mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	-	in mm
H	4.00	6.00	7.00	9.25	9.88	11.00	12.62	15.38	16.50	21.88	23.62	25.00	28.00	29.50	31.50	34.00	36.00	-	in mm
W	16	16	24	24	24	24	32	32	32	32	32	32	32	40	40	40	40	-	in mm
wt(kg)	30	40	60	90	200	325	490	690	900	1810	2620	2860	4430	5430	6810	7655	9590	-	RF
	24	31	49	72	169	280	424	598	872	1665	2440	2635	4075	4880	6225	7115	9230	-	BW

## Applicable Standards:

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- STEEL BALL VALVES ISO 14313
- FIRE SAFE, API 607
- ANTI STATICS, API 608
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## Materials of parts

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2	Bonnet	A105	A182-F316	A350-LF2
3	Ball	A182-F304 <sup>1)</sup>	A182-F316	A182-F304 <sup>1)</sup>
4	Stem	A276-304	A276-316	A276-304
5	Seat	A105+ENP	A182-F316	A350-LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313-304	Inconel X-750	A313-304
8	Seat O-Ring	NBR	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304 <sup>2)</sup>	Graphite+316 <sup>2)</sup>	Graphite+304 <sup>2)</sup>
11	Bonnet O-ring	NBR	Viton	Viton
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17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland	A105	A182-F316	A350-LF2
19	Gland Bolt	A193-B7	A193-B8	A193-B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note: 1) A105+ENP optional  
2) Spiral wound construction.

## Dimensional datas of ANSI Class 600Lb

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	28	in mm
L/L1 (RF/BW)	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	mm
L2 (RTJ)	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.50	61.50	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1461	1562	mm
H	6.50	7.00	7.88	11.00	12.25	14.00	16.12	18.00	19.25	21.00	24.88	25.62	30.12	31.88	34.62	in
	165	180	200	280	310	355	410	455	490	535	630	650	765	810	880	mm
W	16	24	24	24	32	32	32	32	32	32	40	40	40	40	40	in
	400	600	600	600	800	800	800	800	800	800	1000	1000	1000	1000	1000	mm
wt(kg)	34	53	65	125	245	505	640	910	1380	2250	3400	3850	4900	6700	8300	RF
	27	43	49	95	188	418	495	740	1185	1960	3050	3406	4275	6025	7590	BW

## Dimensional datas of ANSI Class 900Lb

NPS DN	2	2½	3	4	6	8	10	12	14	16	18	20	24	in mm
L/L1 (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00	in
	368	419	381	457	610	737	965	965	1029	1130	1219	1321	1549	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	38.12	38.12	40.88	44.88	48.50	52.50	61.75	in
	371	422	384	460	613	740	968	968	1038	1140	1232	1334	1568	mm
H	6.72	7.50	8.25	11.38	12.62	15.38	18.50	18.50	20.88	24.00	26.00	27.50	30.75	in
	170	190	210	290	320	390	470	470	530	610	660	700	780	mm
W	24	24	24	32	32	32	32	32	32	40	40	40	40	in
	600	600	600	800	800	800	800	500	800	1000	1000	1000	1000	mm
wt(kg)	45	65	73	135	360	650	1350	1350	1890	3100	4300	4950	7100	RF/RTJ
	37	53	56	98	291	545	1145	1145	1650	2750	3875	4410	6485	BW

### Applicable Standards:

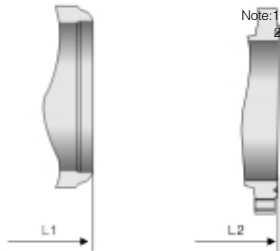
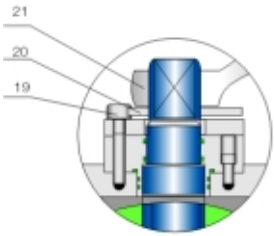
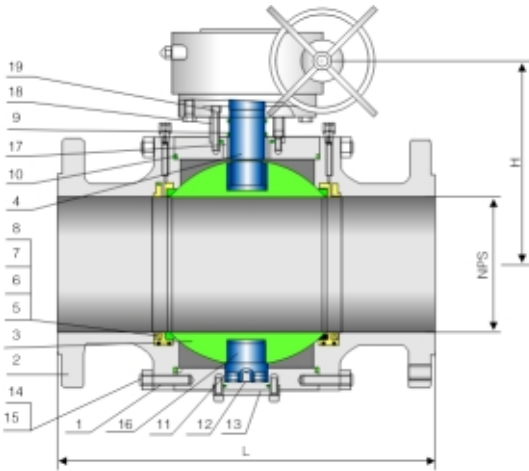
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21	Handle	Carbon Steel		



Note: 1) A105+ENP optional  
2) Spiral wound construction.

### Dimensional datas

NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)	
<b>ANSI Class1500Lb</b>																					
2	50	14.50	368	14.62	371	6.75	170	24	600	55	40	17.75	451	17.88	454	7.50	190	24	600	68	57
2 1/2	65	16.50	419	16.62	422	7.50	190	24	600	75	55	20.00	508	21.25	540	9.00	230	32	800	95	74
3	80	18.50	470	18.62	473	5.25	210	32	800	95	65	22.75	578	23.00	584	11.00	280	32	800	120	91
4	100	21.50	546	21.62	549	11.38	290	32	800	150	115	26.50	673	26.88	683	14.12	360	32	800	185	122
6	150	27.75	705	28.00	711	13.00	330	32	800	540	420	36.00	914	36.50	927	15.75	400	32	800	675	555
8	200	32.75	832	33.12	841	15.75	400	32	800	880	685	40.25	1022	40.88	1038	18.88	480	40	1000	1100	918
10	250	39.00	991	39.38	1000	17.38	440	32	800	1360	1025	50.00	1270	50.88	1292	20.50	520	40	1000	1650	1355
12	300	44.50	1130	45.12	1146	22.00	560	40	1000	1980	1555	56.00	1422	56.88	1445	26.38	670	40	1000	2300	1950
14	350	49.50	1257	50.25	1276	25.25	640	40	1000	3100	2600	-	-	-	-	-	-	-	-	-	-
16	400	54.50	1384	55.38	1407	27.12	690	40	1000	4650	3930	-	-	-	-	-	-	-	-	-	-
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	bw	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW