FLOATING BALL VALVES FEATURE

GENERAL

KJS floating ball valves are designed in accordance with API 608 or ISO17292(BS5351) for ANSI Class rating 150 to 2500, Nominal size from 1/2" to 12".
Valves have been designed for use with various combinations of materials such as; Carbon Steel, Low Carbon steel, special alloy, stainless steel, monel, inconel.

BODY JOINT CONSTRUCTION

The one piece unibody end entry design, graphite ring or-oring viton (on request) seals ensure absolute seal integrity.
The two piece bolted body designs include a tight toleranced overlapping metal fit between the body and the adapter to minimize any possibility of movement due to pipeline stress. A special high temperature spiral wound stainless steel/grafoil filled gasket is utilized for absolute seal.
This gasket is encapsulated by body and adapted on all four sides. Body and adaptors are dimensioned for metal contact to ensure correct gasket crush.

BLOW-OUT PROOF STEM

Stem is made separately from the ball, anti blow-up design with suitable PTFE and graphite rings and antistaitc device.
The lower and of the stem is designed with an integral collar to be blowout-proof. It also functions as the backseat for assured stem sealing. (fig. A)

ANTI-STATIC DEVICE

All Flow Control floating flange ball valves include dual grounding systems from stem to ball and stem to body. Valve testing to ISO17292(BS5351) was perfomed for all sizes, and witnessed by a third party inspection company.
An antistatic feature is provided to ensure electrical continuity for assured stem sealing. (fig. B)

LIVE LOADED GLAND FLANGE

Live loading is designed to provide gland load retention, compensating for expected in-service consolidation of the packing. A Set of Belleville-Spring Washers are used on each gland stud to helpexert a continuous compressive force on the gland follower flange and therefore reduce fugitive emissions from the stem packing. KJS standard Belleville-Spring Washers are protected by a weatherproof cap to keep them free from environmental contamination, resulting in a long stable life. (fig. C)

LOCKING DEVICE

Stem head design provides mounting of the lever handle always in parallel to the flow passage. Facility for mounting a locking device for prevention of accidental valve operation is provided. (fig. D)

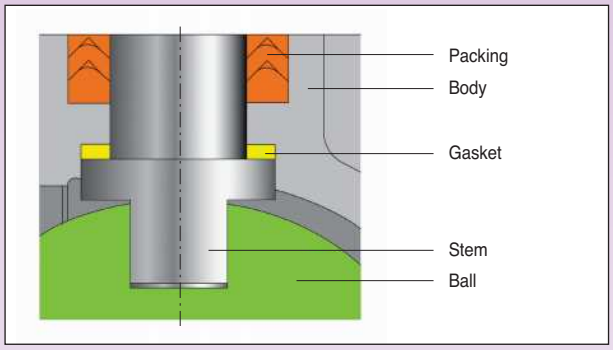


Fig. A

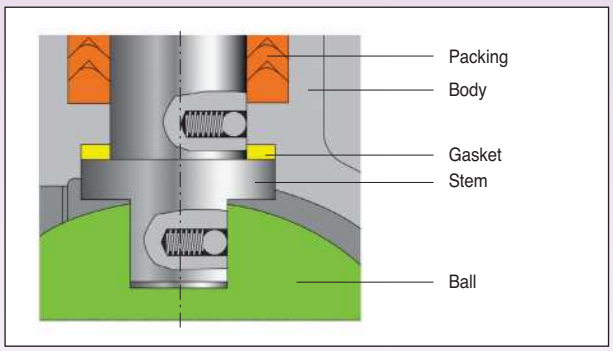


Fig. B

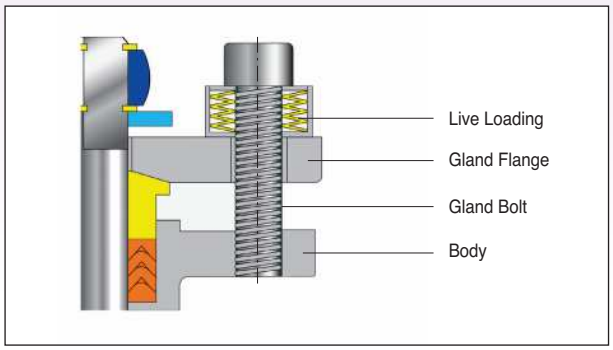


Fig. C

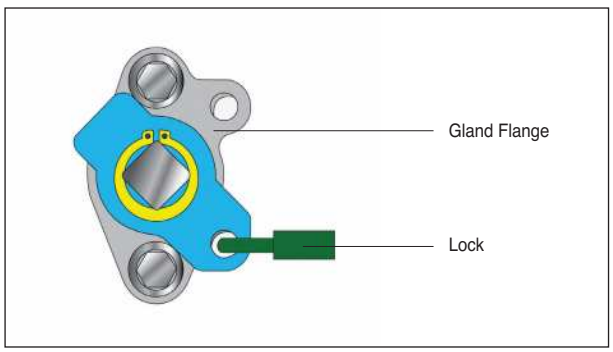


Fig. D

FLOATING BALL VALVES FEATURE

CONTACT BETWEEN STEM AND VALVE SHELL

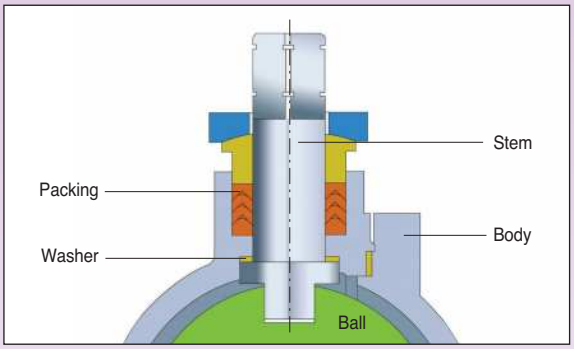


Fig. E (Befor Fire)

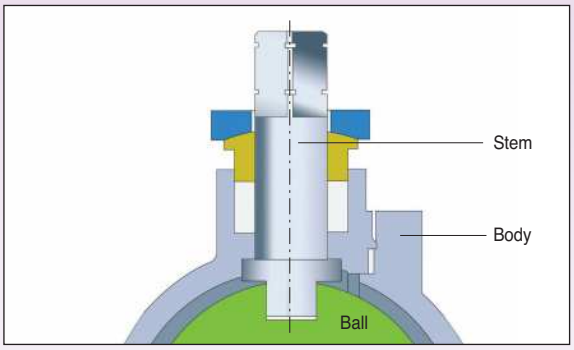


Fig. F (After Fire)
Metal-to-metal contact

CONTACT BETWEEN BALL AND VALVE SHELL

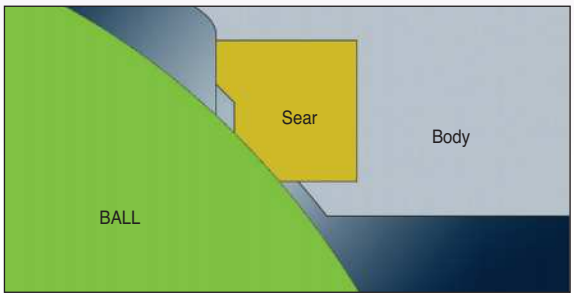


Fig. G (Befor Fire)

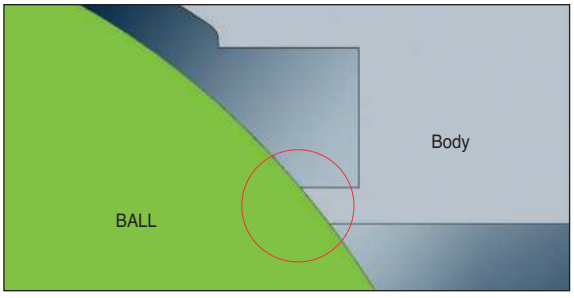


Fig. H (After Fire)
Metal-to-metal contact

FIRE SAFETY

All-fire-safe valves conform to API 607 and API 6FA standards.
When fire accident occurs at valve operating jobsite, and components such as seat ring, stem back seat, stem packing and mid-flange gasket which made of non-metallic material such as PTFE were broken or destroyed.

However, **KJS** particularly metal to metal added seal seated designed ball valves can effectively control external or internal leakage.

KJS soft seated fire safety designed as follows:

LONGEVITY OF LIFE

Special consideration was devoted to the attainment of enhanced life and operation of our valve throughout design, development, testing and manufacturing stages.

Valve designs combined with the selection of advanced materials are such that long periods of inactivity should not affect the operations of efficiency.

VALVE SHELL COUPLING FLANGES OF SPLIT BODY DESIGN

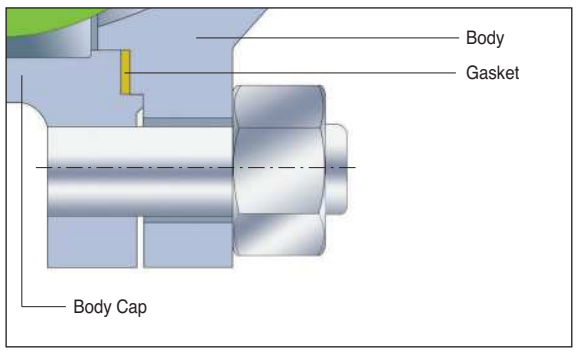


Fig. I (Befor Fire)

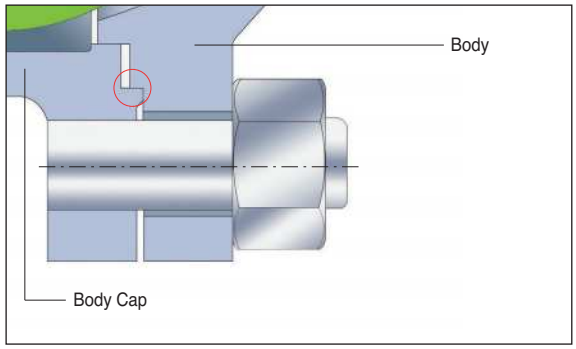
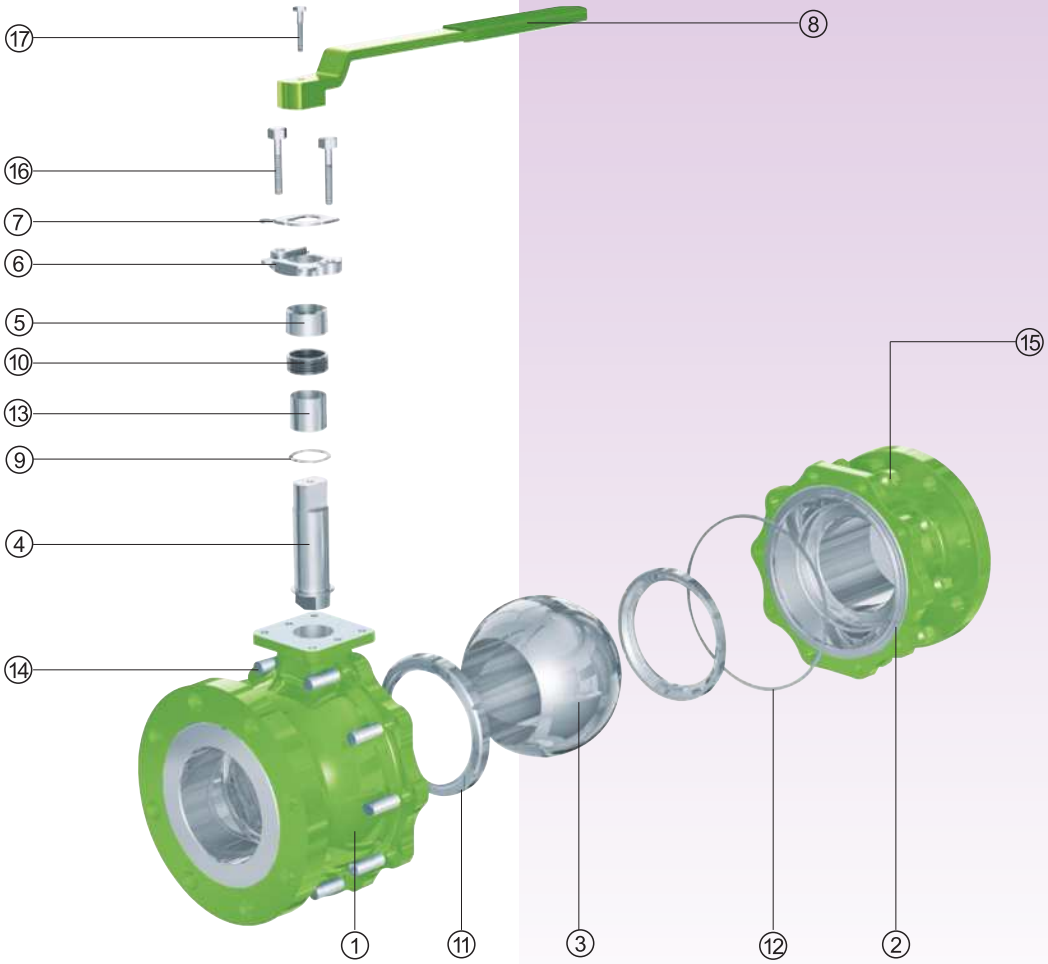


Fig. J (After Fire)
Metal-to-metal contact

BALL VALVES

BOLTED CAP

PART LIST AND MATERIAL SPECIFICATIONS (TYPICAL)

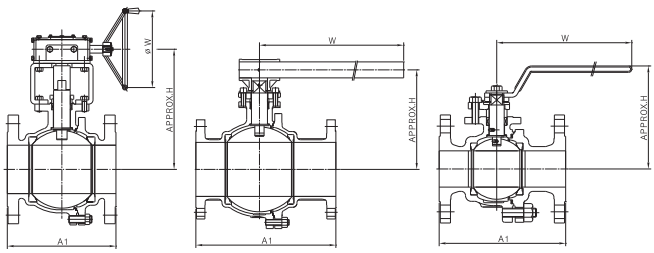


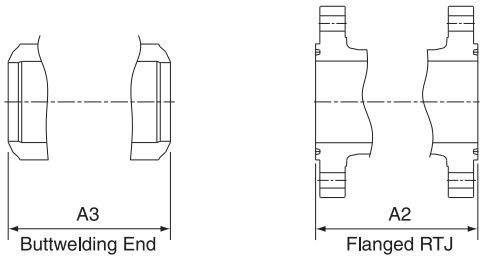
NO	PART NAME	Q'TY	CARBON STEEL	STAINLESS STEEL
1	BODY	1	A216-WCB	A351-CF8M
2	CAP	1	A216-WCB	A351-CF8M
3	BALL	1	A351-CF8M	A351-CF8M
4	STEM	1	A276-316	A276-316
5	GLAND	1	A276-304	A276-304
6	GLAND FLANGE	1	A351 CF8	A351-CF8
7	STOPPER	1	A240-304	A240-304
8	HANDLE	1	A283-D, A536	A283-D, A536
9	THRUST WASHER	1	PTFE	PTFE
10	GLAND PACKING	1Set	GRAPHITE +CARBON FIBER	GRAPHITE +CARBON FIBER PTFE
11	SEAT	2	RTFE	RTFE
12	GASKET	1	316HOOP+GRAPHITE	316HOOP+GRAPHITE
13	STEM BEARING	1	RTFE	RTFE
14	CAP BOLT	1Set	A193-B7	A193-B8
15	CAP BOLT NUT	1Set	A194-2H	A194-8
16	GLAND BOLT	2	A193-B7	A193-B8
17	HANDLE BOLT	1	A193-B8	A193-B8

BALL VALVES

BOLTED CAP

FLOTING BALL VALVE





CLASS 150

VALVE SIZE	in	1/2	3/4	1	11/2	2	3	4	6	8	10	12
	mm	15	20	25	40	50	80	100	150	200	250	300
A1	in	4.3	4.6	5.0	6.5	7.0	8.0	9.0	15.5	18.0	21.0	24.0
	mm	108	117	127	165	178	203	229	394	457	533	610
H	in	3.3	3.5	4.0	5.0	5.6	6.7	8.1	12.2	16.0	18.7	21.3
	mm	84	88	102	127	142	170	206	310	406	475	541
W	in	5.1	5.1	6.1	9.1	9.1	13.8	17.7	23.6	15.7	19.7	22.0
	mm	130	130	155	230	230	350	450	600	400	500	560
WEIGHT RF	lb	4.4	6.6	8.8	7.6	24.3	50.7	72.8	183.0	330.7	496.0	617.3
	kg	2	3	4	8	11	23	33	83	150	225	280

CLASS 300

VALVE SIZE	in	1/2	3/4	1	11/2	2	3	4	6	8	10
	mm	15	20	25	40	50	80	100	150	200	250
A1	in	8.5	9.5	11.1	12.0	8.5	11.1	12.0	15.9	16.5	18.0
	mm	216	241	282	305	216	282	305	403	419	457
H	in	3.3	3.5	4.0	5.0	5.6	6.7	8.1	12.2	16.0	18.7
	mm	84	88	102	127	142	170	206	310	406	475
W	in	5.1	5.1	6.1	9.1	9.1	13.8	17.7	23.6	15.7	19.7
	mm	130	130	155	230	230	350	450	600	400	500
WEIGHT RF	lb	6.6	8.8	13.2	24.3	30.9	70.5	108.0	233.7	401.2	557.8
	kg	3	4	6	11	14	32	49	106	182	253

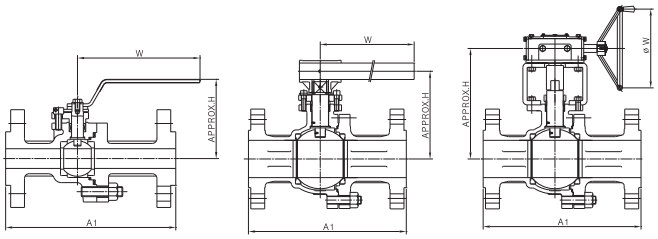
CLASS 600

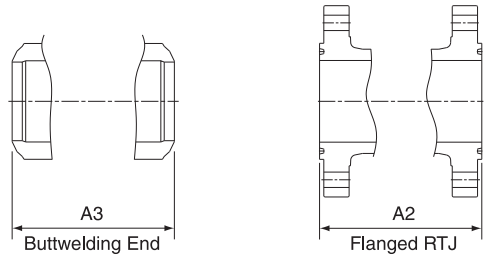
VALVE SIZE	in	1/2	3/4	1	11/2	2	3	4	6
	mm	15	20	25	40	50	80	100	150
A1 & A3	in	6.5	7.5	8.3	9.5	11.5	14.0	17.0	22.0
	mm	165	190	210	241	292	356	432	559
A2	in	6.4	7.5	8.3	9.5	11.6	14.1	17.1	22.1
	mm	163	190	210	241	295	359	435	562
H	in	3.5	3.7	4.7	5.0	5.3	6.7	8.1	10.8
	mm	90	93	120	126	135	170	206	275
W	in	5.1	5.1	6.1	9.1	13.8	17.7	23.6	17.7
	mm	130	130	155	230	350	450	600	450
WEIGHT RF	lb	8.8	11.0	15.4	28.7	57.3	114.6	202.8	385.8
	kg	4	5	7	13	26	52	92	175

BALL VALVES

BOLTED CAP

FLOTING BALL VALVE





CLASS 900

VALVE SIZE	in	1/2	3/4	1	11/2	2
	mm	15	20	25	40	50
A1 & A3	in	8.5	9.0	10.0	12.0	14.5
	mm	216	229	254	305	368
A2	in	8.5	9.0	10.0	12.0	14.6
	mm	216	229	254	305	371
H	in	3.9	4.0	4.6	5.7	6.1
	mm	100	102	116	144	156
W	in	6.1	9.1	9.1	13.8	13.8
	mm	155	230	230	350	350
WEIGHT RF	lb	19.8	26.5	33.1	57.3	86.0
	kg	9	12	15	26	39

CLASS 1500

VALVE SIZE	in	1/2	3/4	1	11/2	2
	mm	15	20	25	40	50
A1 & A3	in	8.5	9.0	10.0	12.0	14.5
	mm	216	229	254	305	368
A2	in	8.5	9.0	10.0	12.0	14.6
	mm	216	229	254	305	371
H	in	3.9	4.0	4.6	5.7	6.1
	mm	100	102	116	144	156
W	in	6.1	9.1	9.1	13.8	13.8
	mm	155	230	230	350	350
WEIGHT RF	lb	19.8	26.5	33.1	57.3	86.0
	kg	9	12	15	26	39

CLASS 2500

VALVE SIZE	in	1/2	3/4	1	11/2	2
	mm	15	20	25	40	50
A1 & A3	in	10.4	10.7	12.1	15.1	17.8
	mm	264	273	308	384	451
A2	in	10.4	10.7	12.1	15.2	17.9
	mm	264	273	308	387	454
H	in	3.9	4.0	4.6	5.7	6.1
	mm	100	102	116	144	156
W	in	9.8	9.8	11.8	11.8	13.8
	mm	250	250	300	300	350
WEIGHT RF	lb	33.1	44.1	63.9	77.2	110.2
	kg	15	20	29	35	50