

TRUNNION

FULL BORE BALL VALVE

MODEL : DK3.....MANUAL OPERATED TYPE

MODEL : TF5-W.....WITH WORM GEAR OPERATED TYPE

HISAKA BALL VALVES



A. Trunnion type in which a ball is fixed securely with the upper and lower axes.

The trunnion type ball valve is a ball valve in which a ball is kept perpendicular to the direction of fluid by arranging the fixed axes above and under the ball. In the conventional ball valve (floating type), a ball is moved in the flow direction by fluid pressure to stop the flow. However in the trunnion type, a ball is fixed tightly. Fluid flow is shut off by depressing the ball to the valve seat regardless of the flow direction and the value of pressure.

B. Excellent tight closing irrespective of pressure variation and flow direction.

HISAKA's trunnion type ball valve ensures excellent closing by utilizing the mutual action of spring effect and fluid pressure. This specific structure has eliminated the problem of leakage which may occur in the floating type valve due to flow pressure change, change of flow direction or at low pressure.

C. Most suited for high-pressure and large-size piping.

The trunnion type ball valve features that under pressure does not affect the seat in high pressure piping. The large-size ball is hard to cause floating and requires high torque. The only way to solve these problems is to use the trunnion type.

D. Other features

1. Trunnion has a sufficient strength
2. Torque in low, ensuring easy operation.
3. Fire safe structure.
4. Internal pressure rise prevention function (self relief).
5. Remaining fluid in the valve is discharged outside (block and bleed)
6. The ball is integral type using the through conduit.
7. The most suited seat material can be chosen.
8. Free of a low pressure leakage liable to be caused by low pressure.
9. Show high seal ability by dint of double seal structure.

■ JIS 10K, ANSI 150Lb

SHELL	JIS 10K ...21kg/cm ² (AIR) ANSI 150Lb...30kg/cm ² (AIR)
SEAT	6kg/cm ² (AIR)

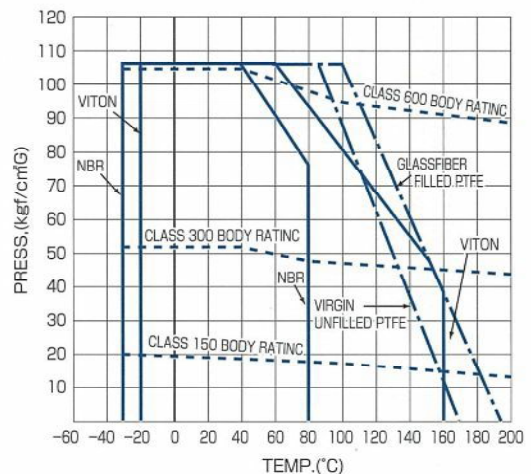
■ JIS 20K, ANSI 300Lb

SHELL	JIS 20K ...51kg/cm ² (WATER) ANSI 300Lb...77kg/cm ² (WATER)
SEAT	6kg/cm ² (AIR)

STANDARD MANUFACTURING RANGE

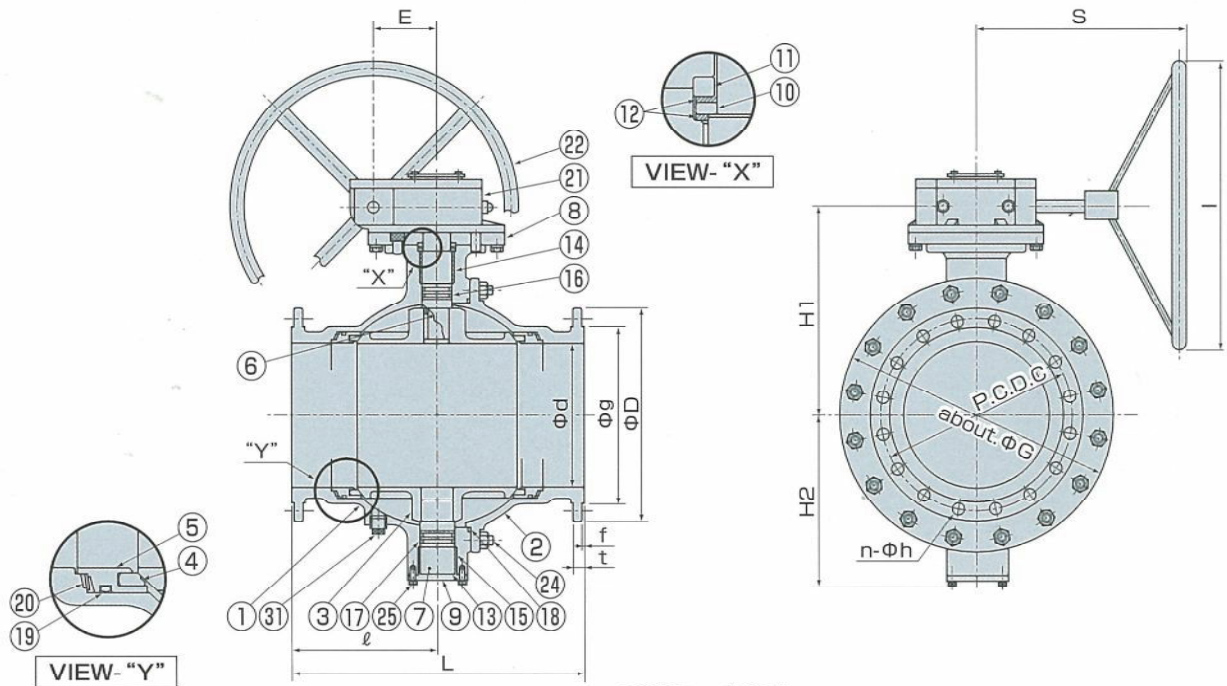
MATERIAL		SCS13A(CF8)		SCS14A(CF8M)		WCB	
CLASS	Lbs	150	300	150	300	150	300
	K	10	20	10	20	10	20
VALVE SIZE	1 1/2B	DK3	DK3	DK3	DK3	DK3	DK3
	2B	DK3	DK3	DK3	DK3	DK3	DK3
	2 1/2B	DK3	DK3	DK3	DK3	DK3	DK3
	3B	DK3	DK3	DK3	DK3	DK3	DK3
	4B	DK3	DK3	DK3	DK3	DK3	DK3
	5B	DK3	DK3	DK3	DK3	DK3	DK3
	6B	DK3	DK3	DK3	DK3	DK3	DK3
	8B	TF5	TF5	TF5	TF5	TF5	TF5
	10B	TF5	TF5	TF5	TF5	TF5	TF5
	12B	TF5	TF5	TF5	TF5	TF5	TF5
	14B	TF5	TF5	TF5	TF5	TF5	TF5
	16B	TF5	TF5	TF5	TF5	TF5	TF5
	18B	TF5	TF5	TF5	TF5	TF5	TF5
	20B	TF5	TF5	TF5	TF5	TF5	TF5
24B	TF5	TF5	TF5	TF5	TF5	TF5	

MAXIMUM NON-SHOCK PRESSURE/TEMPERATURE RATING



Body Ratings shown above are for ASTM A216 Gr.WCB
For ratings of other valve shell materials, refer for the latest edition of ANSI B16.34

TF5-W



200A~400A

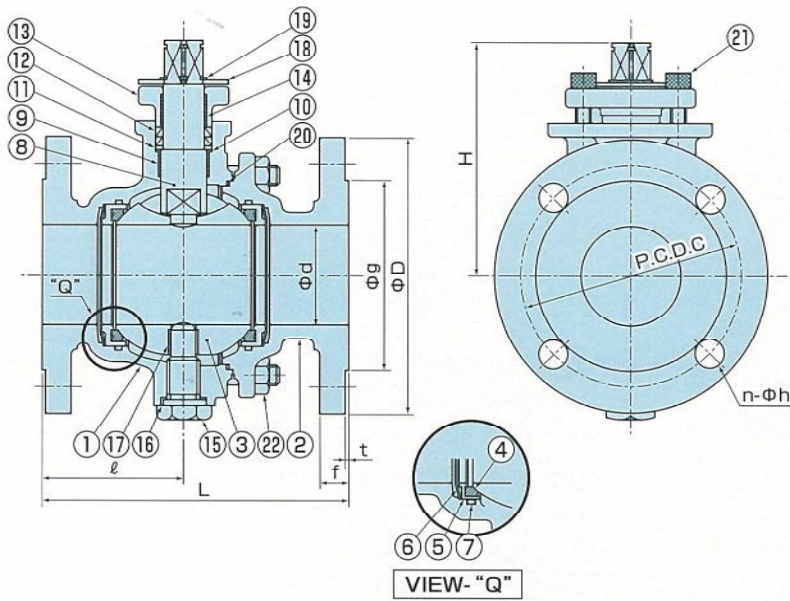
MATERIAL

No.	NAME	Qty	MATERIAL			No.	NAME	Qty	MATERIAL		
1	BODY	1	SCS13A ASTMCF8	SCS14A ASTMCF8	WCB ASTMA216	12	THRUST BEARING	2 SET	PTFE	PTFE	PTFE
2	BODY CAP	1	SCS13A ASTMCF8	SCS14A ASTMCF8	WCB ASTMA216	13	THRUST BEARING	1	PTFE	PTFE	PTFE
3	BALL	1	SCS13A ASTMCF8	SCS14A ASTMCF8	SCS13A ASTMCF8	14	BEARING	1	R.PTFE+SUS316	R.PTFE+SUS316	
4	BALL SEAT	2	PTFE	PTFE	PTFE	15	BEARING	1	R.PTFE+SUS316	R.PTFE+SUS316	
5	SEAT RETAINER	2	SUS304 AISI304	SUS316 AISI316	S25C AISI1025 RUST PROOF	16	O-RING	2	NBR	NBR	NBR
6	STEM	1	SUS304 AISI304	SUS316 AISI316	SUS403 AISI403	17	O-RING	2	NBR	NBR	NBR
7	BOTTOM STEM	1	SUS304 AISS25C	SUS316 AISI316	SUS403 AISI403	18	O-RING	1	NBR	NBR	NBR
8	GLAND FLANGE	1	S25C AISI1025 RUST PROOF	SUS316 AISI316	S25C AISI1025 RUST PROOF	19	O-RING	2	NBR	NBR	NBR
9	BOTTOM CAP	1	SUS304 AISI304	SUS316 AISI316	S25C AISI1025 RUST PROOF	20	FLAT RING	2	SUS304 AISI304	SUS316 AISI316	SUP10 AISI6150 RUST PROOF
10	STEM RING	1	SUS304 AISI304	SUS316 AISI316	SUS403 AISI403	21	GEAR UNIT	1	TYPE AB:ALECTO PAINTING		TYPE AB:ALECTO PAINTING
11	STEM RING	1	SUS304 AISI304	SUS316 AISI316	SUS403 AISI403	22	HANDLE	1	PAINTING		PAINTING

DIMENSIONS

SIZE		d	L	H1	H2	G	I	E	S	ℓ	WORM GEAR	D	g	C	n	h	t	f	STD of FLANGE							
mm	IN																									
200	8	203	457	321	247	421	600	71	288	228	AB 550N	330	262	290	12	23	22	2	JIS 10K							
																			343	269.7	298.4	8	22	28.5	1.6	ANSI 150Lb
																			350	275	305	12	25	30	2	JIS 20K
																			318	269.7	330.2		26	41.5	1.6	ANSI 300Lb
250	10	254	533	376	305	496	800	86	311	266	AB 880N	400	324	355	12	25	24	2	JIS 10K							
																			406	323.8	362	26	30.5	1.6	ANSI 150Lb	
																			430	345	380	12	27	34	2	JIS 20K
																			444	323.8	387.4	16	29	48	1.6	ANSI 300Lb
300	12	305	610	431	352	576	800	130	437	304	AB 1950N	445	368	400	16	25	24	3	JIS 10K							
																			483	381	431.8	12	26	32	1.6	ANSI 150Lb
																			480	395	430	16	27	36	3	JIS 20K
																			521	381	450.8		32	51	1.6	ANSI 300Lb
350	14	337	686	465	385	635	800	130	387	342	AB 1950N	490	413	445	16	25	26	3	JIS 10K							
																			535	412.8	476.2	12	29	35.5	1.6	ANSI 150Lb
																			540	440	480	16	33	40	3	JIS 20K
																			585	412.8	514.4	20	32	54	1.6	ANSI 300Lb
400	16	387	762	514	435	710	400	211	409	381	AB 1950N/SP4	560	475	510	16	27	28	3	JIS 10K							
																			597	469.9	539.8	29	37	1.6	ANSI 150Lb	
																			605	495	480	16	33	46	3	JIS 20K
																			650	469.9	571.5	20	35	57.5	1.6	ANSI 300Lb

DK-3



MATERIAL

No.	NAME	Q'ty	MATERIAL		
1	BODY	1	SCS13A ASTMCF8	SCS14A ASTMCF8	WCB
2	BODY CAP	1	CS13A ASTMCF8	CS14A ASTMCF8	WCB
3	BALL	1	SUS304 AISI304	SUS316 AISI316	SUS304 AISI304
4	BALL SEAT	2	R.PTFE		
5	SEAT RETAINER	2	SUS304 AISI304	SUS316 AISI316	SUS403 AISI304
6	FLAT RING	2	SUS304 AISI304	SUS316 AISI316	SUP10 AISI615
7	O-RING	2	AFLAS		NBR
8	STEM	1	SUS304 AISI304	SUS316 AISI316	SUS403 AISI403
9	STEM BEARING	1	R.PTFE		
10	THRUST BEARING	1	PTFE		
11	STEM RING	1	SUS304 AISI304	SUS316 AISI316	SUS403 AISI403
12	GLAND PACKING	2 SET	PTFE		
13	GLAND CAP	1	SCS13A ASTMCF8	SCS16A ASTMCF3M	SCS13A ASTMCF8
14	GLAND BEARING	1	R.PTFE		
15	BOTTOM STEM	1	SUS304 AISI304	SUS316 AISI316	SUS304 AISI304
16	GASKET	1	PTFE		
17	BOTTOMSTEM BEARING	1	R.PTFE		
18	STOP PLATE	1	SUS304 AISI304		
19	SNAP RING	1	SUS304 AISI304	SK5 AISIW1	
20	GASKET	1	PTFE		
21	SOCKET HEAD BOLT	2	SUS304 AISI304	SCN435 AISI4135	
22	STUD BOLT & NUT	4-8	SUS304 AISI304	S45C AISI1645	
-	LEVER HANDLE	1	FCD 450 ASTM A536-G65		

DIMENSIONS

SIZE		d	L	H	l	☆	D	g	C	n	h	t	f	STD.of FLANGE
mm	IN													
40	1 1/2	38	165	110	75	200	140	81	105	4	19	16	2	JIS 10K
			127	73	98.4		4	16	14.5	1.6	ANSI 150Lb			
			140	81	105		4	19	18	2	JIS 20K			
			156	73	114.3		4	23	21	1.6	ANSI 300Lb			
50	2	51	178	122	85	250	155	96	120	4	19	16	2	JIS 10K
			152	92.1	120.6		4	20	16	1.6	ANSI 150Lb			
			155	96	120		8	19	18	2	JIS 20K			
			165	92.1	127		8	20	22.5	1.6	ANSI 300Lb			
65	2 1/2	64	190	146	88	300	175	116	140	4	19	18	2	JIS 10K
			178	104.8	139.7		4	20	17.5	1.6	ANSI 150Lb			
			175	116	140		8	19	20	2	JIS 20K			
			191	104.8	149.2		8	23	25.5	1.6	ANSI 300Lb			
80	3	76	203	162	92	350	185	126	150	8	19	18	2	JIS 10K
			191	127	152.4		4	20	19.5	1.6	ANSI 150Lb			
			200	132	160		8	23	22	2	JIS 20K			
			210	127	168.3		8	23	29	1.6	ANSI 300Lb			
100	4	102	229	186	112	400	210	151	175	8	19	18	2	JIS 10K
			229	157.2	190.5		8	20	24	1.6	ANSI 150Lb			
			225	160	185		8	23	24	2	JIS 20K			
			254	157.2	200		8	23	32	1.6	ANSI 300Lb			
125	5	127	320	304	160	700	250	182	210	8	23	20	2	JIS 10K
			254	185.7	215.9	8	23	24	1.6	ANSI 150Lb				
			270	195	225	8	25	26	2	JIS 20K				
			279	185.7	234.9	8	23	35	1.6	ANSI 300Lb				
150	6	152	394	324	197	1000	280	212	240	8	23	26	2	JIS 10K
			279	215.9	241.3	8	23	25.5	1.6	ANSI 150Lb				
			305	230	260	12	25	28	2	JIS 20K				
			318	215.9	269.9	12	23	37	1.6	ANSI 300Lb				

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