



JDV
CONTROL
VALVES



JBT-F / JBT-M Type

Trunnion Type **Soft Metal** Seat Ball Valve



*We link all you need
and more than you expect.*



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JBT-F / JBT-M Type

Trunnion Type **Soft Metal** Seat Ball Valve

Full Bore Three Piece Flanged Ends

ASME CLASS 150/300/600/900/1500/2500

The JBT-F / JBT-M Type are Trunnion-mounted ball valves designed with vanguard engineering and highly sophisticated technology. Our in-house High Velocity Oxygen Fuel-sprayed hard faces allow them to defy the toughest operating conditions, such as high pressure, abrasive and corrosive mediums, slurries, etc. Successfully used in the Oil & Gas industry, Refineries and Power Plants, these API 6D certificated valves provide an outstanding tightness, stability, safety and reliability that exceed most industry standards.

Product Features

1. True bidirectional design and wide temperature range satisfying all applications.
2. Cavity pressure relief design protecting against any excess of pressure in the body cavity.
3. Trunnion ball design ensuring a tight contact between seats and balls, and allowing the valves to withstand extremely high pressures.
4. Single Piston seat rings that guarantees the self-relief of the body cavity in case of overpressure.
5. Double piston design in option, securing both upstream and downstream sealings.
6. Optional double block and bleed design ensuring a safe isolation simultaneously on both upstream and downstream seats.
7. Splined stem design strengthening the trim to withstand heavy torques under high pressure drops.
8. Emergency sealant injection design on request to restore the seat or packing integrity immediately.
9. Optional drain plug device to empty the cavity or to detect any leakage.
10. Body gland providing a trustworthy anti-blowout function and an easy maintenance.
11. Several alternatives of soft and metal seats to meet any kinds of requirement.
12. Optional purge device guaranteeing a complete cleaning of the body cavity.
13. Fire safe design according to API 607 or API 6FA.
14. Anti-static device.
15. ISO 5211 Mounting Pad design.

Applicable Standards



API 607/6FA Fire Safe Design



HVOF Thermal Spray

- Body Material : Standard in WCB, CF8, CF8M. Other materials are available according to requirements.
- Nominal Size : 2" to 24" (DN50 to DN600)
- Pressure Rating : ASME CLASS 150/300/600, 900/1500/500 on request.
- End Connections : RF / RTJ
- Temperature Range : Soft seat : -320~482°F (-196~250°C)
Metal seat : -320~932°F (-196~500°C)
, higher temperature on request.
- Face-to-face Dimensions : ASME B16.10
- Flanged Dimensions : ASME B16.5
- Body Pressure Test : ASME B16.34/API 598/API 6D
- Seat Leakage Test : Soft seat : ASME B16.34/API 598/API 6D
Metal seat : ANSI/FCI70-2 Class V in standard,
Class VI in option.
- Casting : MSS-SP-25 / MSS-SP-55
- Fire Safe Design : Certificated according to API 607 / API 6FA

Industrial Fields:

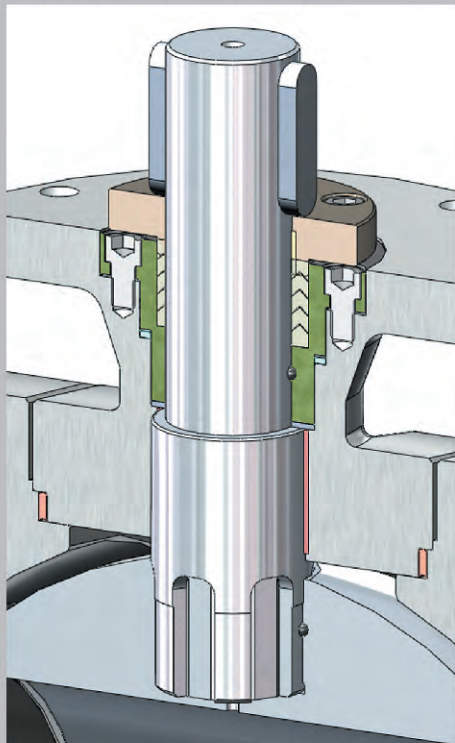
Oil & Gas
Refinery / Petrochemical
Chemical
Pulp & Paper
Power Plant
Steel Mill
Food
Mining





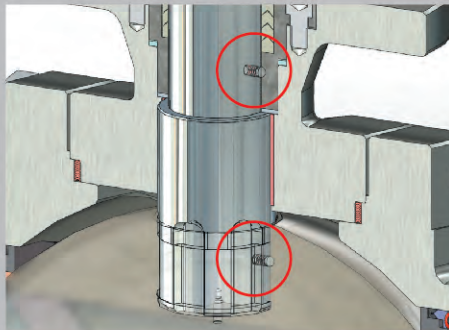
Standard Design

Anti-blowout Design

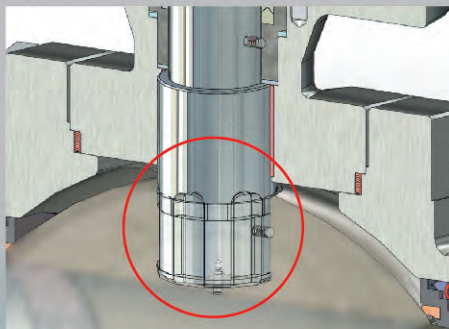


Body Gland prevents the stem from blowing out, and also provides an easy maintenance to the stem packing if necessary.

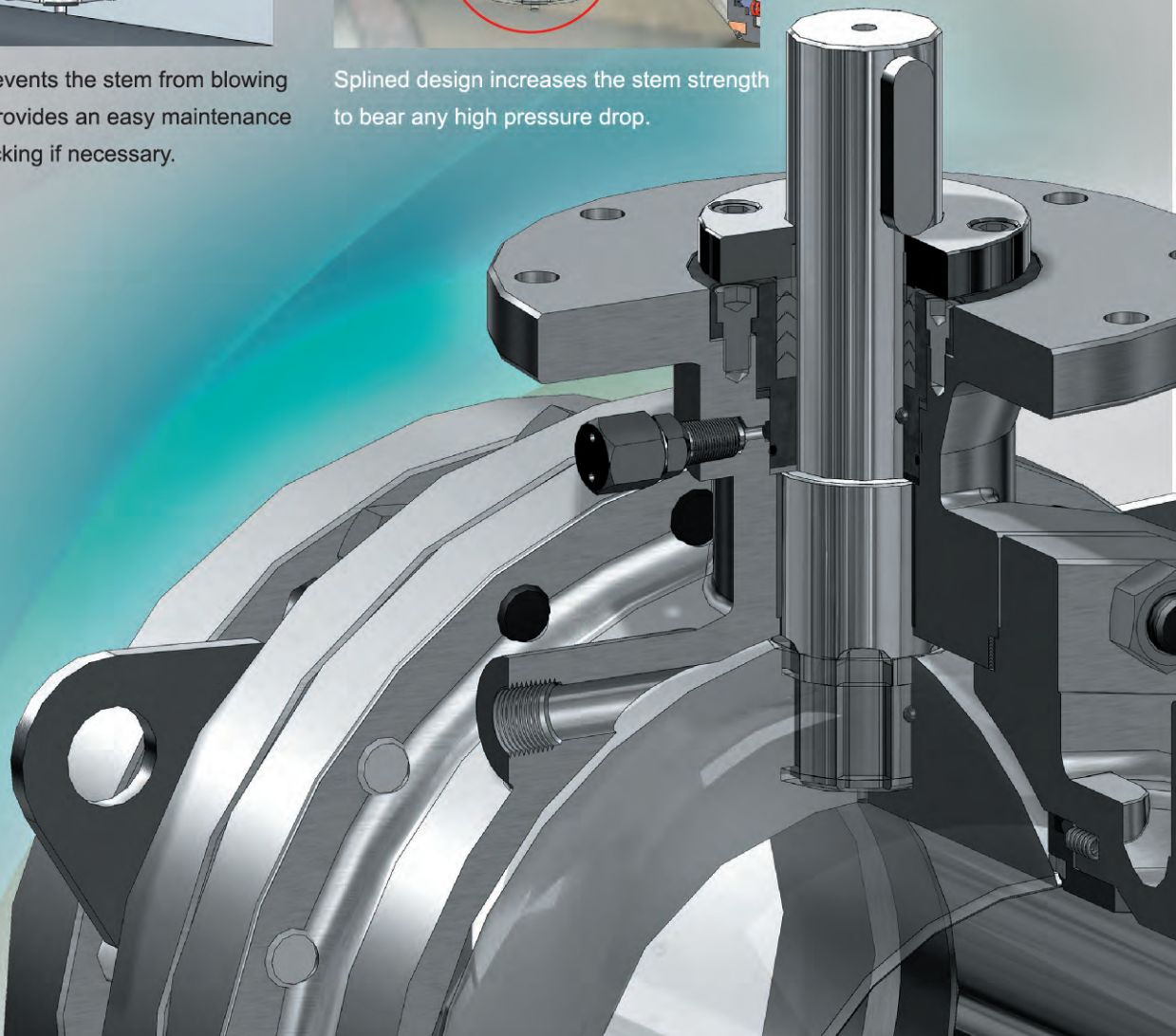
Antistatic Design



Splined Stem Design



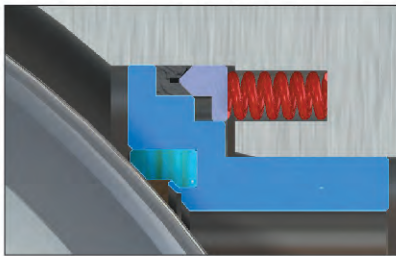
Splined design increases the stem strength to bear any high pressure drop.



Standard Design

Optional Seats:

Soft Seat Design

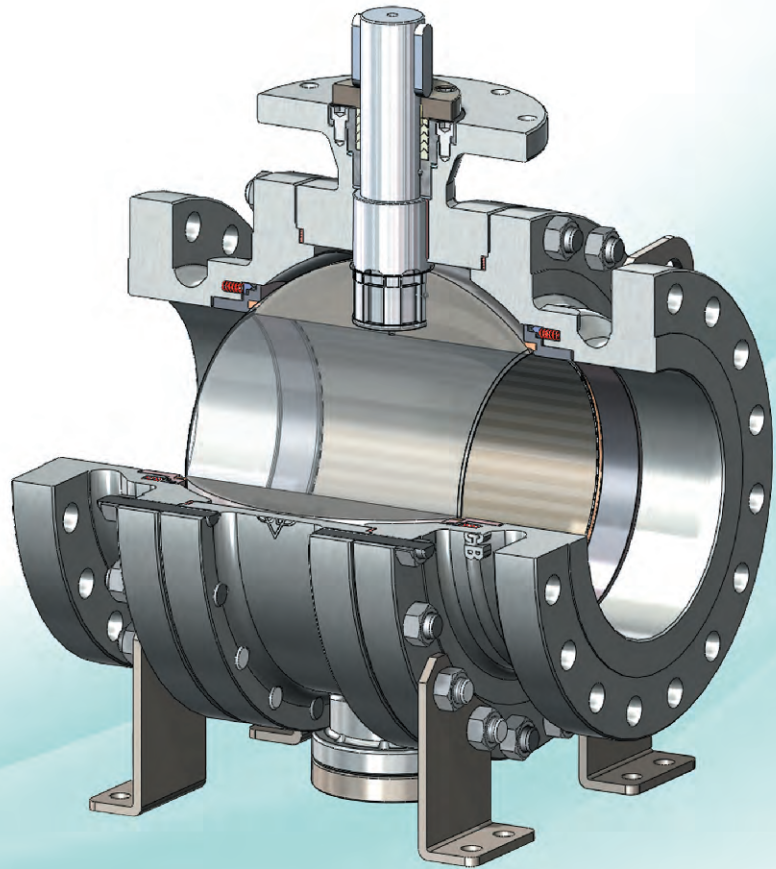


- Bidirectional design.
- Alternative materials available.

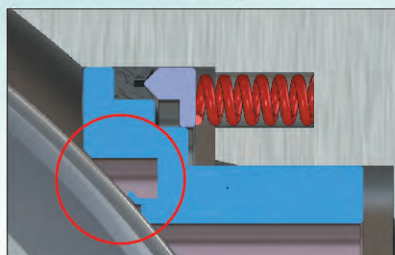
Metal Seat Design



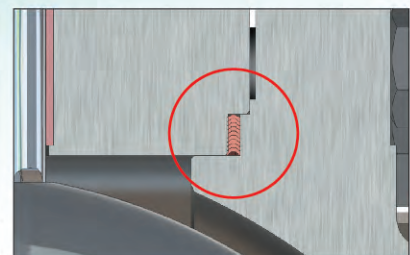
- Bidirectional design.
- Various hard faces in option.



Fire Safe Design

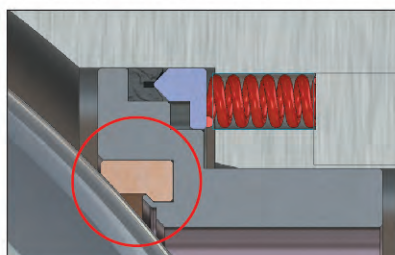


Metal-to-Metal contact after the soft seat is burned.

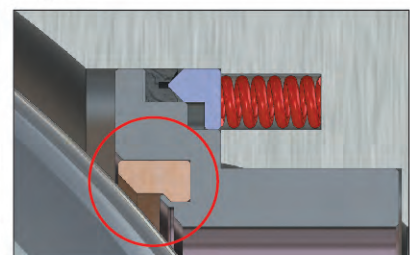


Graphite Body Gasket

Cavity Pressure Relief Design



Before pressure relief



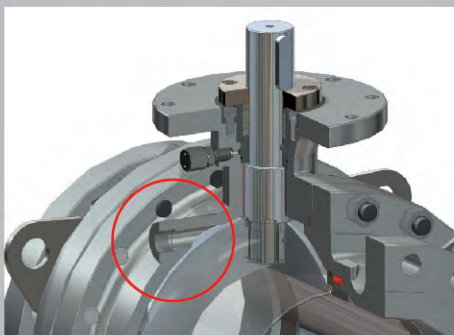
After pressure relief



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Optional Designs

Purge Design



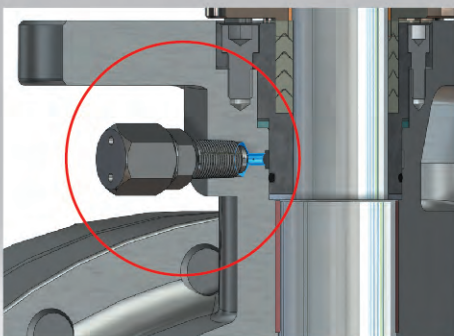
Purge design makes it easy to clean the body cavity.

Double Piston Effect Seat Ring



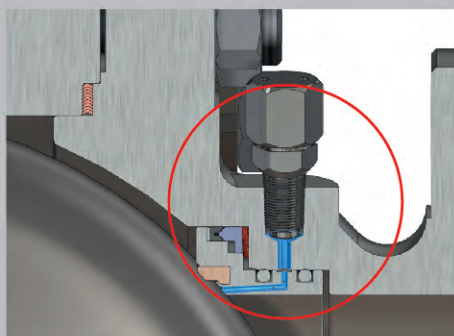
Double Piston Effect Seat Rings ensure the sealing upstream and downstream when the cavity is overpressured. This is available for working temperature -4~392 °F (-20~200 °C)

Emergency Sealant Injection



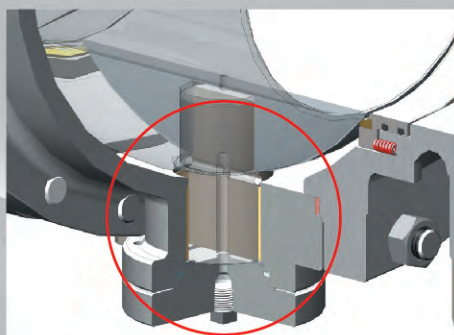
Injection to the Packing

Emergency sealant can be injected to restore the packing and seats. This is available for working temperature -4~392 °F (-20~200 °C)



Injection to the seats

Drain Plug Design



Drain plug design allows to vent or detect the leakage.

OUR IN-HOUSE H.V.O.F. COATINGS

Most severe applications are accompanied by high temperature, high abrasion, or high pressure using conditions. In order to make valves withstand these tough services, the balls and seats may need to be strengthened by another material. For this purpose, we built our own HVOF (High Velocity Oxygen Fuel) coating facility, to control the core of technology in the metal seat ball valve. The lower thermal energy preventing the metal deformation, and the higher kinetic energy increasing the strength and adhesion of the bond, offer unique advantages over other hard face methods.



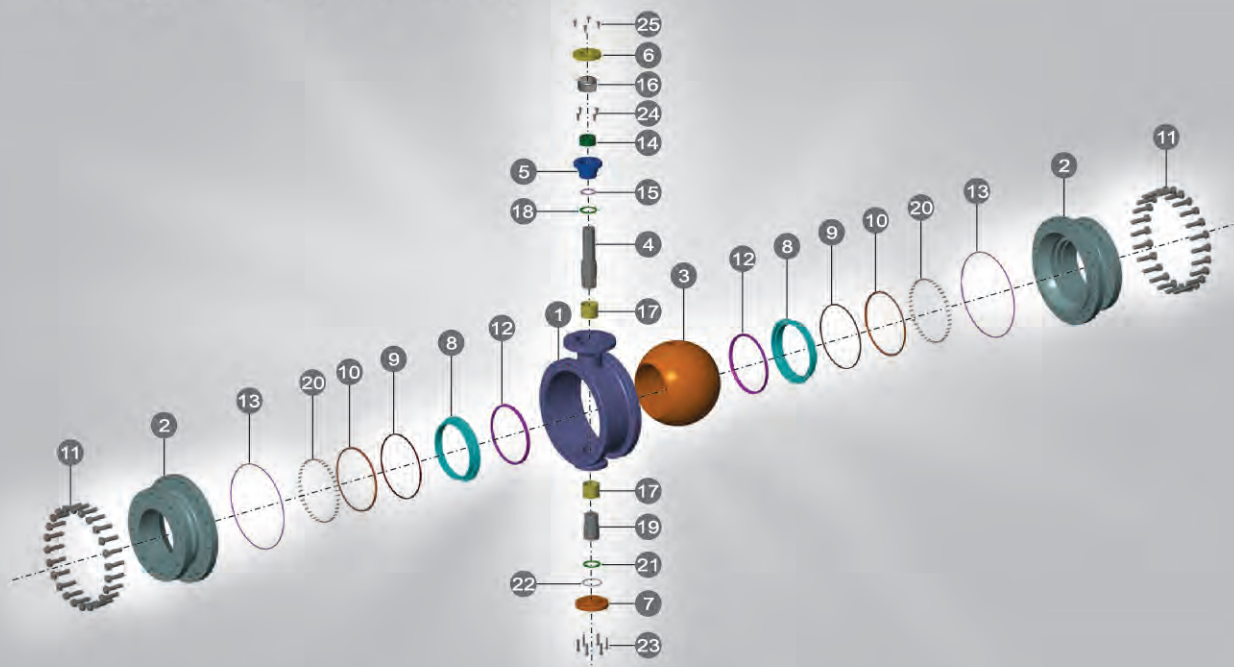
JDV Standard Coatings

Series	Ball Coating	Seat Coating	Max. Temperature	Hardness	Applications
SH1	Tungsten Carbide	Tungsten Carbide	842 °F 450 °C	HCR70	Excellent for high temperature, high wearing, and corrosion resistance.
SH2	Chrome Carbide	Chrome Carbide	932 °F 500 °C	HCR60	Excellent for high temperature cavitation, abrasion and sliding wear. Good for hot gas and corrosion resistance.



JDV CONTROL VALVES

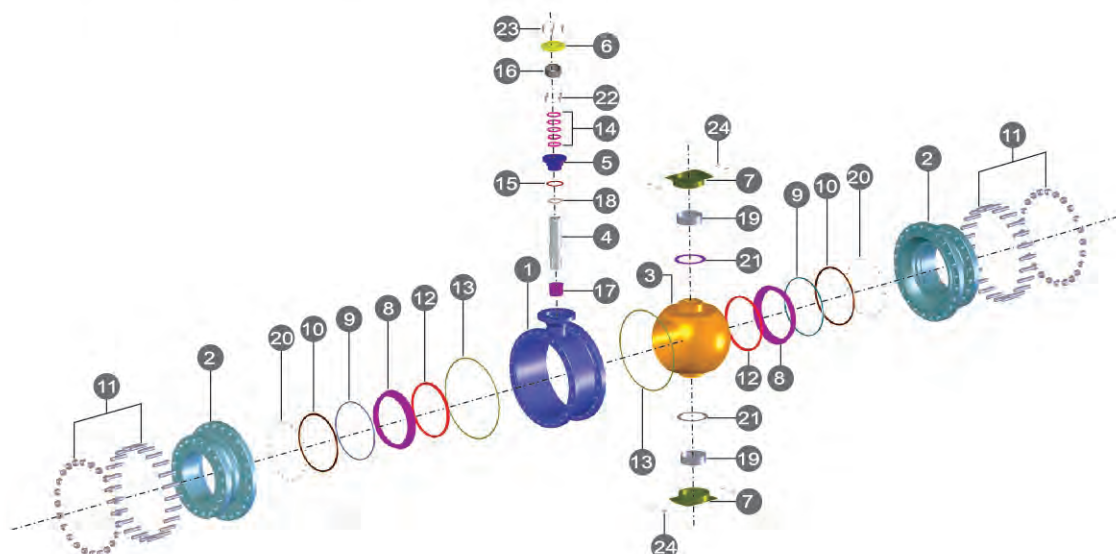
JBT-F Type 2"~14" (DN50~DN350)



STANDARD MATERIALS

NO	PART NAME	MATERIAL		
1	BODY	A216-WCB	A351-CF8	A351-CF8M
2	CAP	A216-WCB	A351-CF8	A351-CF8M
3	BALL	A351-CF8	A351-CF8	A351-CF8M
4	STEM	A276-304	A276-304	A276-316
5	BODY GLAND	A216-WCB	A351-CF8	A351-CF8M
6	GLAND	A216-WCB	A351-CF8	A351-CF8M
7	BEARING RETAINER	A216-WCB	A351-CF8	A351-CF8M
8	SEAT RING	A351-CF8	A351-CF8	A351-CF8M
9	SEAT RING SEAL	GRAPHITE	GRAPHITE	GRAPHITE
10	SEAT RING RETAINER	A351-CF8	A351-CF8	A351-CF8M
11	BOLT & NUT	A193-B7 & A194-7	A193-B8 & A194-8	A193-B8 & A194-8
12	SEAT	G-PTFE/TFM-1600	G-PTFE/TFM-1600	G-PTFE/TFM-1600
13	BODY GASKET	316SS+GRAPHITE	316SS+GRAPHITE	316SS+GRAPHITE
14	GLAND PACKING	GRAPHITE	GRAPHITE	GRAPHITE
15	GLAND THRUST WASHER	GRAPHITE	GRAPHITE	GRAPHITE
16	GLAND BEARING	G-PTFE	G-PTFE	G-PTFE
17	STEM BEARING	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
18	STEM THRUST WASHER	G-PTFE	G-PTFE	G-PTFE
19	TRUNNION STEM	A276-304	A276-304	A276-316
20	SPRING	INCONEL® X-750	INCONEL® X-750	INCONEL® X-750
21	TRUNNION STEM WASHER	G-PTFE	G-PTFE	G-PTFE
22	TRUNNION STEM GASKET	GRAPHITE	GRAPHITE	GRAPHITE
23	RETAINER BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
24	BODY GLAND BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
25	GLAND BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

JBT-F Type 16"~24"(DN400~DN600)



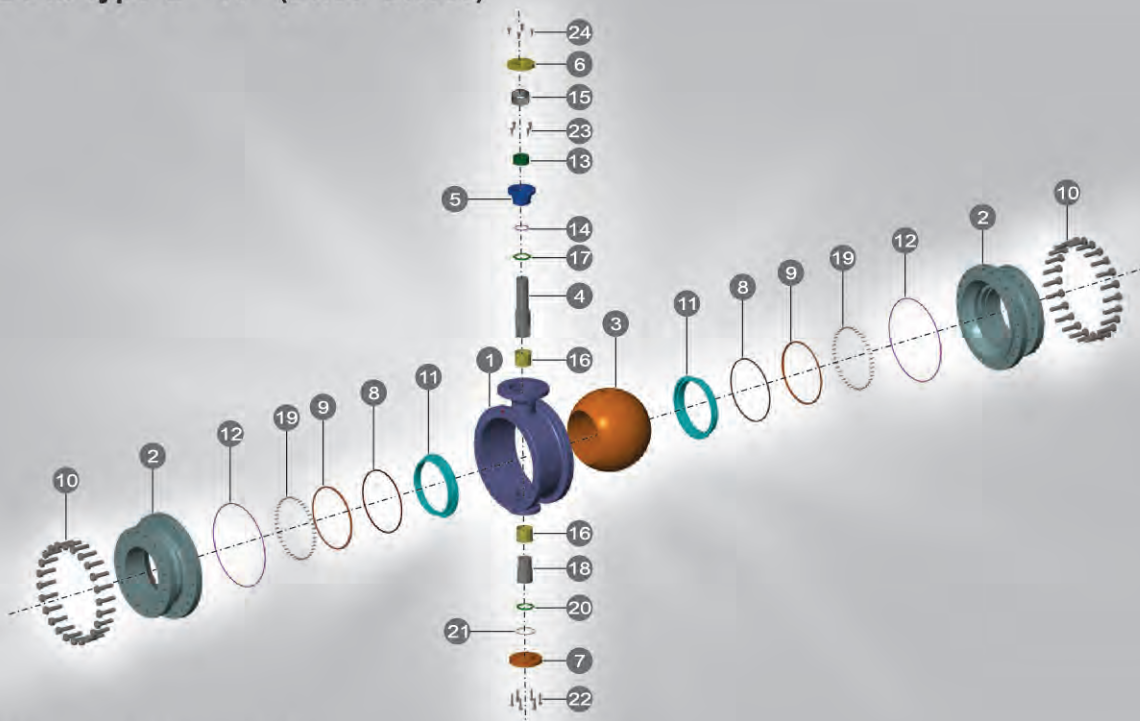
STANDARD MATERIALS

NO	PART NAME	MATERIAL		
1	BODY	A216-WCB	A351-CF8	A351-CF8M
2	CAP	A216-WCB	A351-CF8	A351-CF8M
3	BALL	A351-CF8	A351-CF8	A351-CF8M
4	STEM	A276-304	A276-304	A276-316
5	BODY GLAND	A216-WCB	A351-CF8	A351-CF8M
6	GLAND	A216-WCB	A351-CF8	A351-CF8M
7	TRUNNION	A216-WCB	A351-CF8	A351-CF8M
8	SEAT RING	A351-CF8	A351-CF8	A351-CF8M
9	SEAT RING SEAL	GRAPHITE	GRAPHITE	GRAPHITE
10	SEAT RING RETAINER	A351-CF8	A351-CF8	A351-CF8M
11	BOLT & NUT	A193-B7 & A194-7	A193-B8 & A194-8	A193-B8 & A194-8
12	SEAT	G-PTFE/TFM-1600	G-PTFE/TFM-1600	G-PTFE/TFM-1600
13	BODY GASKET	316SS+GRAPHITE	316SS+GRAPHITE	316SS+GRAPHITE
14	GLAND PACKING	GRAPHITE	GRAPHITE	GRAPHITE
15	GLAND THRUST WASHER	GRAPHITE	GRAPHITE	GRAPHITE
16	GLAND BEARING	G-PTFE	G-PTFE	G-PTFE
17	STEM BEARING	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
18	STEM THRUST WASHER	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
19	TRUNNION BEARING	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
20	SPRING	INCONEL® X-750	INCONEL® X-750	INCONEL® X-750
21	WASHER	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
22	BODY GLAND BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
23	GLAND BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
24	PIN	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

The above materials may be changed with different using conditions.



JBT-M Type 2"~14" (DN50~DN350)



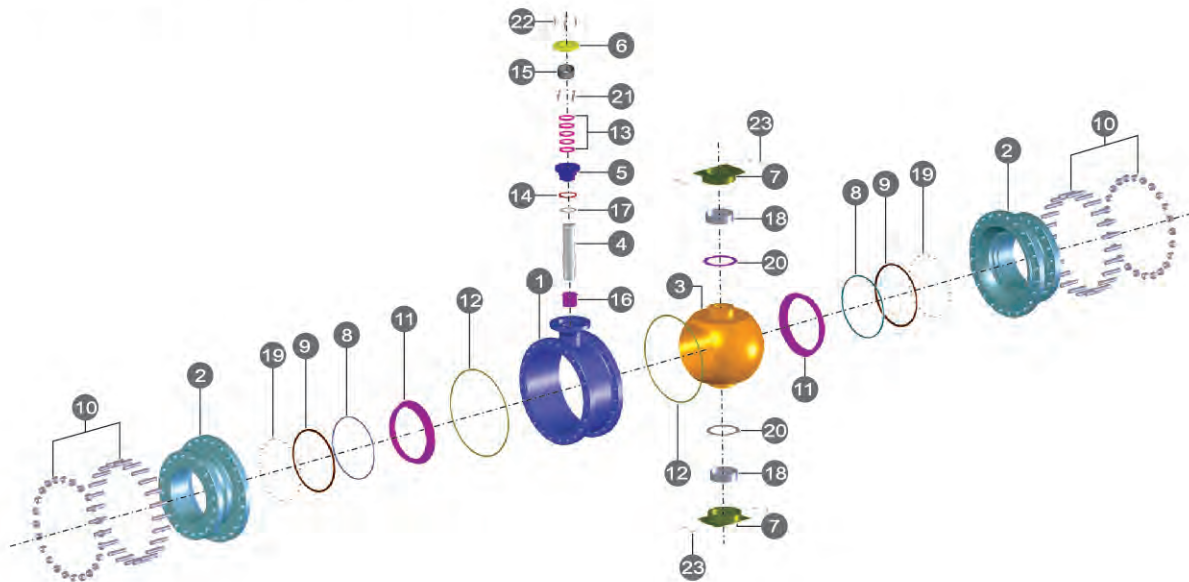
STANDARD MATERIALS

NO	PART NAME	MATERIAL		
1	BODY	A216-WCB	A351-CF8	A351-CF8M
2	CAP	A216-WCB	A351-CF8	A351-CF8M
3	BALL	A351-CF8+HCR ⁽¹⁾ /TC ⁽¹⁾ /CRC ⁽¹⁾	A351-CF8+HCR/TC/CRC	A351-CF8M+HCR/TC/CRC
4	STEM	A564-630 (Hh1150)	A560-630 (HH1150)	A638-S66286
5	BODY GLAND	A216-WCB	A351-CF8	A351-CF8M
6	GLAND	A216-WCB	A351-CF8	A351-CF8M
7	BEARING RETAINER	A216-WCB	A351-CF8	A351-CF8M
8	SEAT RING SEAL	GRAPHITE	GRAPHITE	GRAPHITE
9	SEAT RING RETAINER	A351-CF8	A351-CF8	A351-CF8M
10	BOLT & NUT	A193-B7 & A194-7	A193-B8 & A194-8	A193-B8 & A194-8
11	SEAT	A351-CF8+STELLITE® /TC/CRC	A351-CF8+STELLITE® /TC/CRC	A351-CF8M+STELLITE® /TC/CRC
12	BODY GASKET	316SS+GRAPHITE	316SS+GRAPHITE	316SS+GRAPHITE
13	GLAND PACKING	GRAPHITE	GRAPHITE	GRAPHITE
14	GLAND THRUST WASHER	GRAPHITE	GRAPHITE	GRAPHITE
15	GLAND BEARING	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
16	STEM BEARING	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
17	STEM THRUST WASHER	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
18	TRUNNION BEARING	A564-630 (HH1150)	A564-630 (HH1150)	A638-S66286
19	SPRING	INCONEL® X-750	INCONEL® X-750	INCONEL® X-750
20	TRUNNION STEM WASHER	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
21	TRUNNION STEM GASKET	GRAPHITE	GRAPHITE	GRAPHITE
22	RETAINER BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
23	BODY GLAND BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
24	GLAND BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

Notes:

(1) HCr = Hard Chrome TC = Tungsten Carbide CRC = Chrome Carbide

JBT-M Type 16"~24"(DN400~DN600)



STANDARD MATERIALS

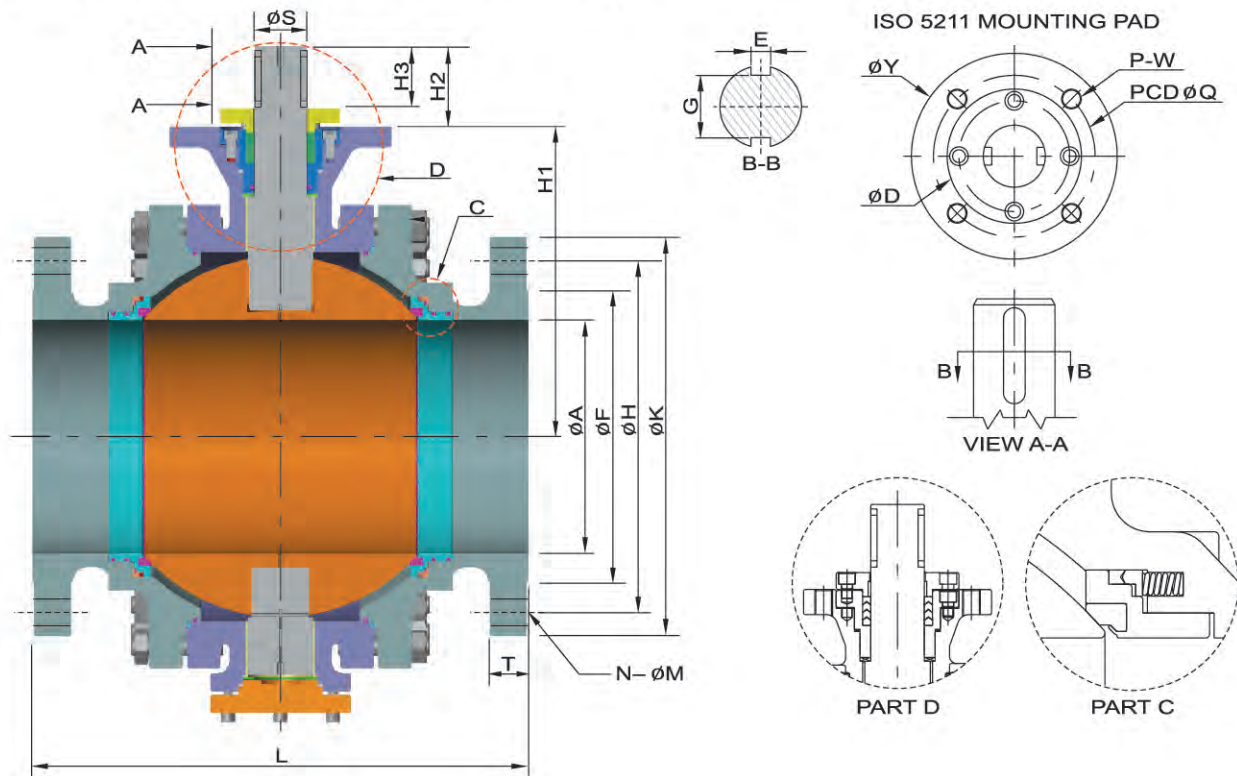
NO	PART NAME	MATERIAL		
1	BODY	A216-WCB	A351-CF8	A351-CF8M
2	CAP	A216-WCB	A351-CF8	A351-CF8M
3	BALL	A351-CF8+HCR/TC/CRC	A351-CF8+HCR/TC/CRC	A351-CF8M+HCR/TC/CRC
4	STEM	A564-630 (HH1150)	A564-630 (HH1150)	A638-S66286
5	BODY GLAND	A216-WCB	A351-CF8	A351-CF8M
6	GLAND	A216-WCB	A351-CF8	A351-CF8M
7	TRUNNION	A216-WCB	A351-CF8	A351-CF8M
8	SEAT RING SEAL	GRAPHITE	GRAPHITE	GRAPHITE
9	SEAT RING RETAINER	A351-CF8	A351-CF8	A351-CF8M
10	BOLT & NUT	A193-B7 & A194-7	A193-B8 & A194-8	A193-B8 & A194-8
11	SEAT	A351-CF8+STELLITE® /TC/CRC	A351-CF8+STELLITE® /TC/CRC	A351-CF8M+STELLITE® /TC/CRC
12	BODY GASKET	316SS+GRAPHITE	316SS+GRAPHITE	316SS+GRAPHITE
13	GLAND PACKING	GRAPHITE	GRAPHITE	GRAPHITE
14	GLAND THRUST WASHER	GRAPHITE	GRAPHITE	GRAPHITE
15	GLAND BEARING	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
16	STEM BEARING	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
17	STEM THRUST WASHER	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
18	TRUNNION BEARING	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
19	SPRING	INCONEL® X-750	INCONEL® X-750	INCONEL® X-750
20	WASHER	METAL+HARD FACE	METAL+HARD FACE	METAL+HARD FACE
21	BODY GLAND BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
22	GLAND BOLT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
23	PIN	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL

The above materials may be changed with different using conditions.



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JBT-F / JBT-M Type 2"~14" (DN50~DN350)



DIMENSIONS (ASME CLASS 150)

(mm)

SIZE	A	F	H	K	M	N	L	T	H1	H2	H3	S	E	G	Q	W	P	Y	D	Wt (Kg)
50 2"	50	92	120.5	152	19	4	178	15.9	116.5	60	40	27	8	17	102	M10	4	130	73	17.3
80 3"	76	127	152.5	190	19	4	203	19.1	155.5	61	40	36.3	10	26.3	102	M10	4	130	85	31
100 4"	100	157	190.5	229	19	8	229	23.9	181	84	60	40	10	30	125	M12	4	153	100	50.7
150 6"	150	216	241.5	279	22	8	394	25.4	235	91	70	48	14	37	165	M20	4	210	125	119
200 8"	201	270	298.5	343	22	8	457	28.6	300	100	75	60	18	46	165	M20	4	210	128	210
250 10"	252	324	362	406	25	12	533	30.2	340	100	75	60	18	46	165	M20	4	210	128	318
300 12"	303	381	432	483	25	12	610	31.8	405	120	95	70	20	54	254	M16	8	290	156	490
350 14"	334	413	476.5	533	29	12	686	35.0	438.5	146	110	75	20	59	254	M16	8	290	170	630

DIMENSIONS (ASME CLASS 300)

(mm)

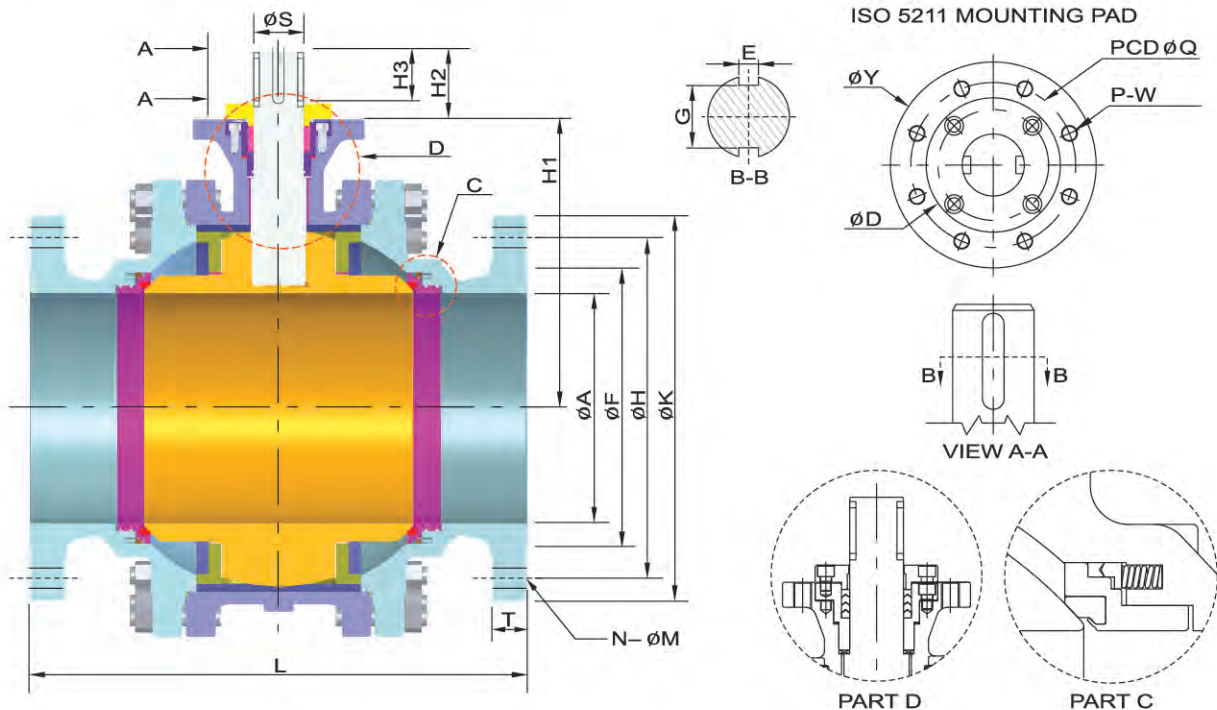
SIZE	A	F	H	K	M	N	L	T	H1	H2	H3	S	E	G	Q	W	P	Y	D	Wt (Kg)
50 2"	50	92	127	165	19	8	216	22.3	116.5	60	40	27	8	17	102	M10	4	130	73	21.5
80 3"	76	127	168	210	22	8	282	28.6	155.5	61	40	36.3	10	26.3	102	M10	4	130	85	47
100 4"	100	157	200	254	22	8	305	31.8	181	84	60	40	10	30	125	M12	4	153	100	74.8
150 6"	150	216	270	318	22	12	403	36.6	235	91	70	48	14	37	165	M20	4	210	125	150
200 8"	201	270	330	381	25	12	502	41.3	300	100	75	60	18	46	165	M20	4	210	128	268.5
250 10"	252	324	387.5	444	29	16	568	47.7	340	100	75	60	18	46	254	M16	8	290	128	432
300 12"	303	381	451	521	32	16	648	50.8	405	120	95	70	20	54	254	M16	8	290	156	657
350 14"	334	413	514.5	584	32	20	762	54.0	438.5	146	110	75	20	59	254	M16	8	290	170	855

DIMENSIONS (ASME CLASS 600)

(mm)

SIZE	A	F	H	K	M	N	L	T	H1	H2	H3	S	E	G	Q	W	P	Y	D	Wt (Kg)
50 2"	50	92	127	165	19	8	292	31.8	116.5	60	40	27	8	17	102	M10	4	130	73	28.3
80 3"	76	127	168	210	22	8	356	38.2	155.5	61	40	36.3	10	26.3	102	M10	4	130	85	61.7
100 4"	100	157	216	273	25	8	432	44.5	181	84	60	40	10	30	125	M12	4	153	100	108.7
150 6"	150	216	292	356	29	12	559	54.1	235	91	70	48	14	37	165	M20	4	210	125	219
200 8"	201	270	349	419	32	12	660	62	300	100	75	60	18	46	165	M20	4	210	128	437
250 10"	252	324	432	508	35	16	787	69.9	340	100	75	60	18	46	254	M16	8	290	128	645
300 12"	303	381	489	559	35	20	838	73.1	405	120	95	70	20	54	254	M16	8	290	156	870
350 14"	334	413	527	603	38	20	889	76.2	438.5	146	110	75	20	59	254	M16	8	290	170	1145

JBT-F / JBT-M Type 16"~24" (DN400~DN600)



DIMENSIONS (ASME CLASS 150)

(mm)

SIZE	A	F	H	K	M	N	L	T	H1	H2	H3	S	E	G	Q	W	P	Y	D	Wt (Kg)
400 16"	387	470	539.8	597	29	16	762	36.6	487	145	108	85	24	65.6	254	M16	8	209	179	885
450 18"	438	533	578	635	32	16	864	39.7	531	170	135	100	28	80	254	M16	8	209	200	1158
500 20"	489	584	635	698	32	20	914	42.7	562	180	145	110	32	84	356	M30	8	415	210	1450
600 24"	589	692	749.5	813	35	20	1067	47.6	650	200	160	120	32	109	356	M30	8	415	230	2030

DIMENSIONS (ASME CLASS 300)

(mm)

SIZE	A	F	H	K	M	N	L	T	H1	H2	H3	S	E	G	Q	W	P	Y	D	Wt (Kg)
400 16"	387	470	571.5	648	35	20	838	57.2	487	145	108	85	24	65.6	254	M16	8	209	179	1200
450 18"	438	533	628.7	711	35	24	914	60.3	531	170	135	100	28	80	254	M16	8	209	200	1574
500 20"	489	584	686	775	35	24	991	63.5	562	180	145	110	32	84	356	M30	8	415	210	1966
600 24"	589	692	813	914	41	24	1143	69.9	650	200	160	120	32	109	356	M30	8	415	230	2688

DIMENSIONS (ASME CLASS 600)

(mm)

SIZE	A	F	H	K	M	N	L	T	H1	H2	H3	S	E	G	Q	W	P	Y	D	Wt (Kg)
400 16"	387	470	603	686	41	20	991	82.6	487	145	108	85	24	65.6	254	M16	8	209	179	1663
450 18"	438	533	654	743	45	20	1092	89	531	170	135	100	28	80	254	M16	8	209	200	2140
500 20"	489	584	724	813	45	24	1194	95.3	562	180	145	110	32	84	356	M30	8	415	210	2605
600 24"	589	692	838	940	51	24	1397	108	650	200	160	120	32	109	356	M30	8	415	230	3559



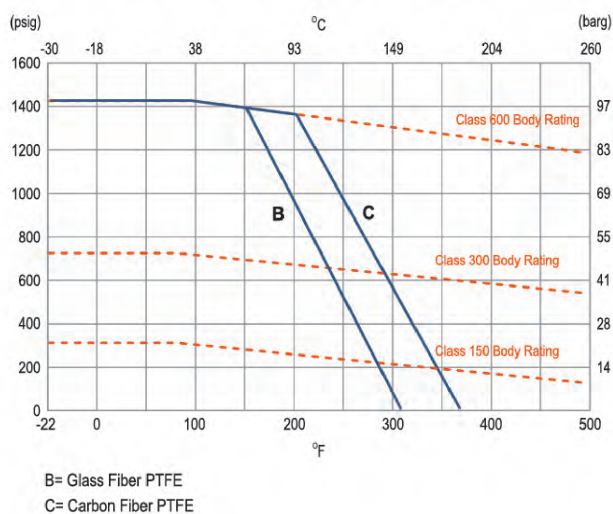
JDV CONTROL VALVES

Cv VALUES

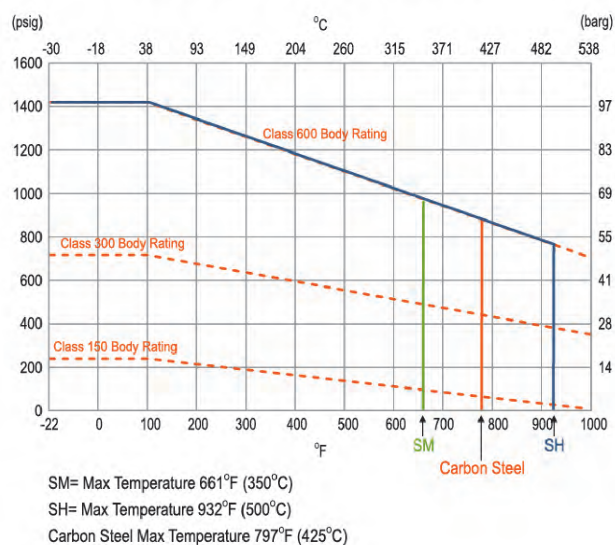
Size	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Cv	501	1158	2118	5074	9337	14590	21802	29675	38760	51058	63035	90770

TEMPERATURE & PRESSURE DIAGRAM

JBT-F 2"~24" (DN50~DN600)



JBT-M 2"~24" (DN50~DN600)



HOW TO ORDER

JBT-F → **A** → **B** → **C** → **D** → **E** → **F** → **G** → **H**

Ex: **JBT-F** → **C1** → **04** → **C** → **G** → **03** → **250** → **FGES** → **RF**

A. SPECIFICATION	B. BODY MAT'L	C. BALL	D. SEAT MAT'L	E. STEM MAT'L
C1 ASME CLASS 150	02 WCB (1.0619)	A CF8	G G-PTFE (15% GLASS FIBER+PTFE)	02 304
C2 ASME CLASS 300	03 CF8 (1.4308)	C CF8M	C C-PTFE (15% CARBON+PTFE)	03 316
C3 ASME CLASS 600	04 CF8M (1.4408)	D CF3	S S-PTFE (50% 316+PTFE)	05 317
C4 ASME CLASS 900	05 CF3 (1.4306)	E CF3M	T TFM-1600@	08 316L
C5 ASME CLASS 1500	06 CF3M (1.4404)	F CG8M	E PEEK	10 S31803
C6 ASME CLASS 2500	07 CG8M (1.4412)	I CD3MN		
	11 LCB (1.1138)			
	12 LCC (1.7219)			
	15 CD3MN (1.4470)			

F. SIZE	G. OPTION	H. END CONNECTION
050 2"	F FIRE SAFE	RF RF FLANGED
080 3"	L EXTENDED STEM	RT RTJ FLANGED
100 4"	I LIVE LOADING	
150 6"	H LEVER	
200 8"	G GEAR	
250 10"	A BARE SHAFT	
300 12"	N NACE	
350 14"	ES EMERGENCY GREASE SEALS	
400 16"	DB DOUBLE BLOCK & BLEED	
450 18"	DP DOUBLE PISTON	
500 20"	DR DRAIN	
600 24"	PG PURGE	
	CY CRYOGENIC DESIGN -40~-320 °F (-40~-196 °C)	

JBT-M → **A** → **B** → **C** → **D** → **E** → **F** → **G** → **H**

Ex: **JBT-M** → **C1** → **04** → **C** → **35** → **250** → **FGES** → **RF** → **SH2**

A. SPECIFICATION	B. BODY MAT'L	C. BALL & SEAT MAT'L	D. STEM MAT'L
C1 ASME CLASS 150	02 WCB (1.0619)	A CF8	02 304
C2 ASME CLASS 300	03 CF8 (1.4308)	C CF8M	03 316
C3 ASME CLASS 600	04 CF8M (1.4408)	D CF3	05 317
C4 ASME CLASS 900	05 CF3 (1.4306)	E CF3M	08 316L
C5 ASME CLASS 1500	06 CF3M (1.4404)	F CG8M	10 S31803
C6 ASME CLASS 2500	07 CG8M (1.4412)	I CD3MN	22 630
	11 LCB (1.1138)		35 S66286
	12 LCC (1.7219)		
	15 CD3MN (1.4470)		

E. SIZE	F. OPTION	G. END CONNECTION	H. TEMPERATURE
050 2"	F FIRE SAFE	RF RF FLANGED	SH -20~661 °F (-29~350 °C)
080 3"	L EXTENDED STEM	RT RTJ FLANGED	BALL W/HCR
100 4"	I LIVE LOADING		SEAT W/STELLITE®
150 6"	H LEVER		SH1 -20~842 °F (-29~450 °C)
200 8"	G GEAR		BALL W/TC
250 10"	A BARE SHAFT		SEAT W/TC
300 12"	N NACE		SH2 -20~932 °F (-29~500 °C)
350 14"	ES EMERGENCY GREASE SEALS		BALL W/CRC
400 16"	DB DOUBLE BLOCK & BLEED		SEAT W/CRC
450 18"	DP DOUBLE PISTON		
500 20"	DR DRAIN		
600 24"	PG PURGE		
	CY CRYOGENIC DESIGN -40~-320 °F (-40~-196 °C)		

HOW TO ORDER