

JSB Series

V-Port Segment Control Valve

JSB Series V-segment valve is the segment ball with V-notch design for both regulating and shut-off services. The high valve capacity with optimum flow characteristics provides the ideal solution in flow control.

Industrial Fields:

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



Product Features:

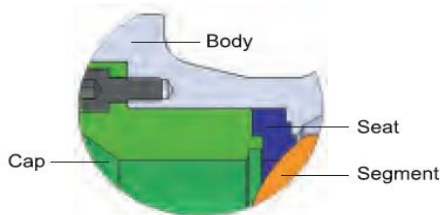
1. 1-PC Body design reducing the leakage.
2. V-segment design providing a large and straight path giving a high Cv even in case of fibers or particles.
3. Trunnion design with self-lubricating bearings making the torque lighter and life cycle longer.
4. V-notch in the segment offering a shearing function to allow fibrous mediums or slurries to pass without any obstruction.
5. Optional seat design meeting many applications.
6. Alternative hard faces satisfying numerous services.
7. Spring-loaded metal seat design providing a lower torque.
8. Removable end-cap making the maintenance easier.
9. Equal percentage flow characteristics.
10. Spline stem design reducing the deadband to optimize the control performance.
11. Available in flangeless (wafer) or flanged connections.
12. ISO 5211 mounting pad.
13. Anti-static design.
14. Anti-blowout stem design.

Applications

1. Flow control.
2. Pressure control.
3. Slurries or viscous mediums.
4. Mediums containing powders or particles.
5. Mediums with chips or fibers, especially in the Pulp & Paper industry.

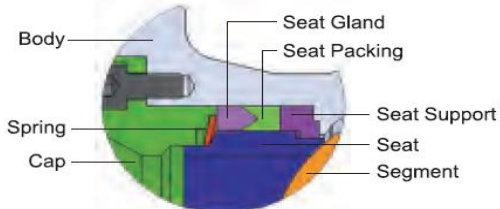
Design & Structure

Seat Options:



Soft Seat

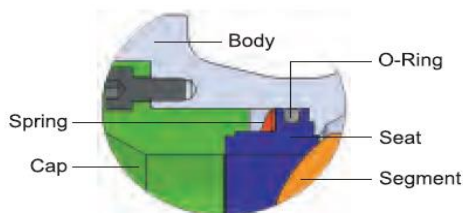
Temp. : -20~356 °F (-29~180 °C)



Metal Seat-S01 Type

Temp. : -20~661 °F (-29~350 °C)

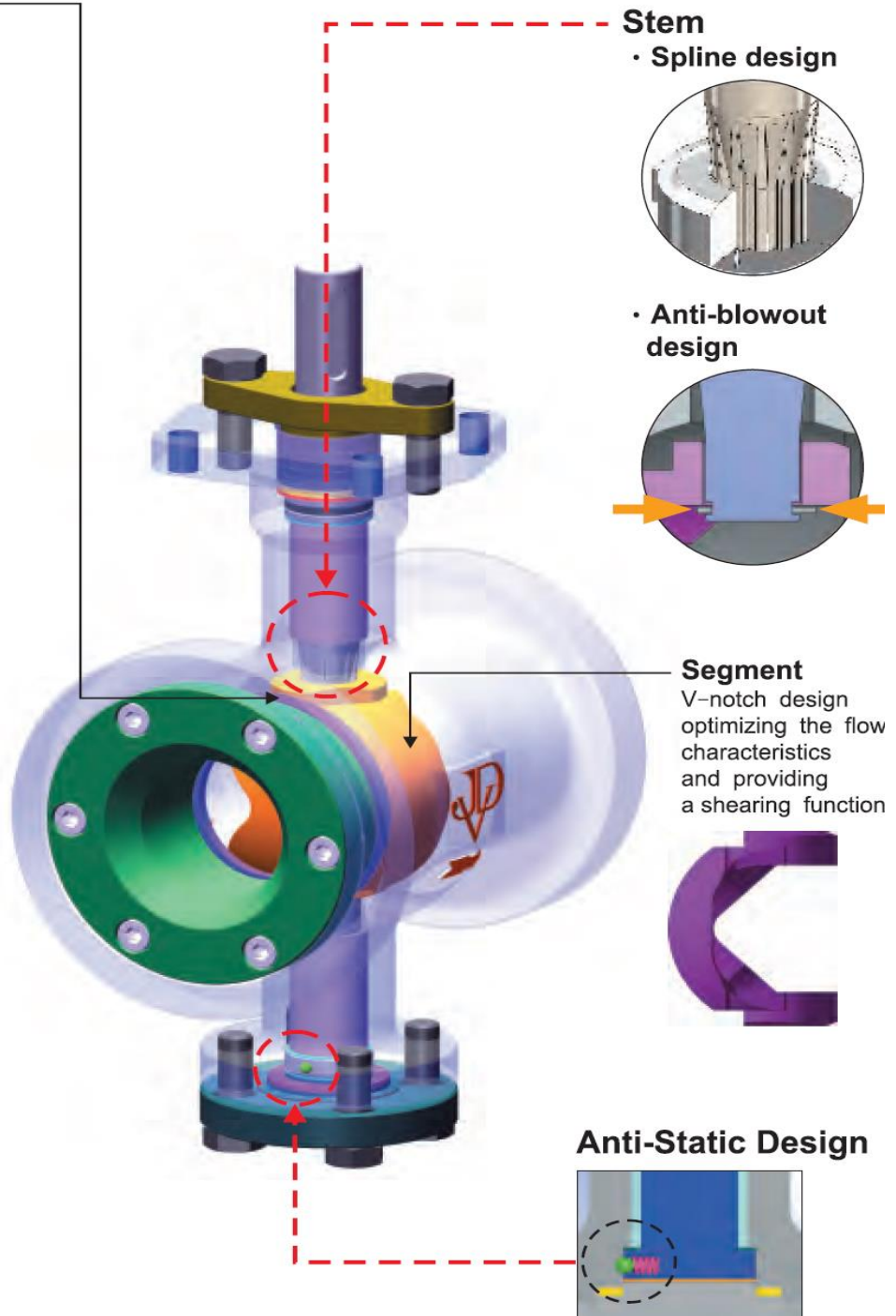
Graphite seat packing design allowing higher temperature range.



Metal Seat-S02 Type

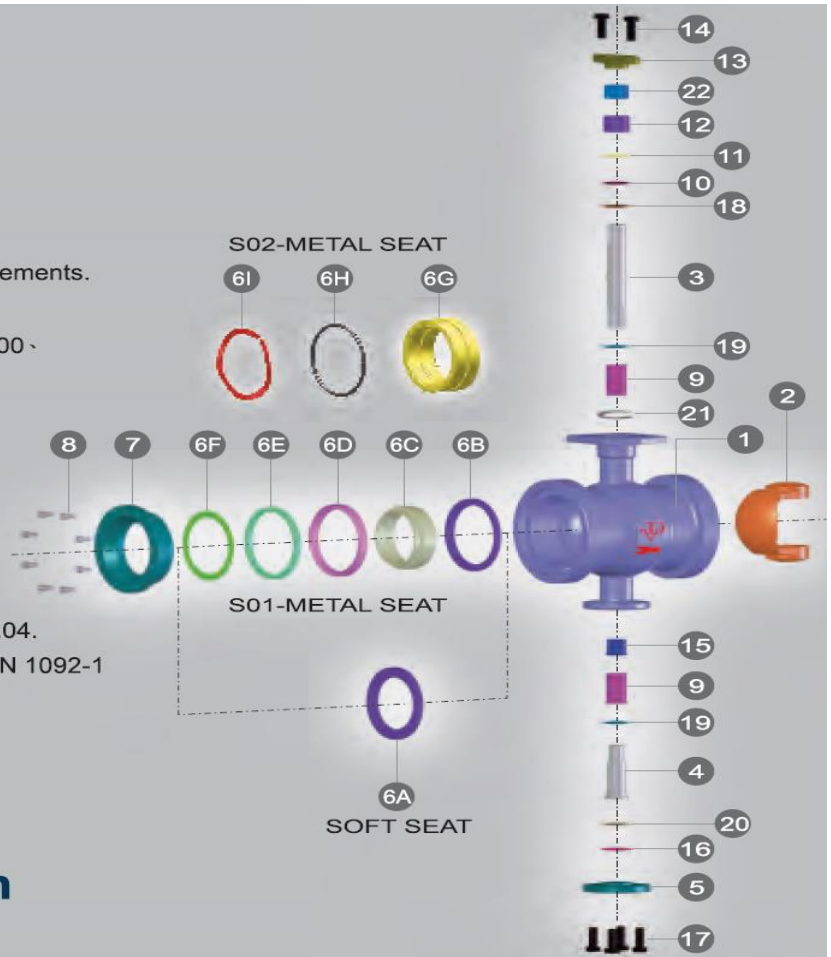
Temp. : -20~446 °F (-29~230 °C)

FKM O-Ring design providing light torque to enhance the control performance.



Applicable Standards

- Body Material: Standard in WCB 、CF8 、CF8M.
Other materials are available according to requirements.
- Nominal Size: 1" to 16" (DN 25 to DN 400)
- Pressure Rating: JIS 10K 、ASME CLASS 150/300 、
DIN PN16/40.
- End Connections: Flangeless / RF Flanged
- Rangeability: Greater than 150:1.
- Seat Leakage: ANSI/FCI 70-2
Soft-seat : Class VI.
Metal-seat : Class IV.
- Temperature Range: -20~661 °F (-29~350 °C)
- Face-to-Face Dimensions: According to ISA S75.04.
- Flange Dimensions: JIS B2220 / ASME B16.5 /EN 1092-1



Technical Specification

STANDARD MATERIALS

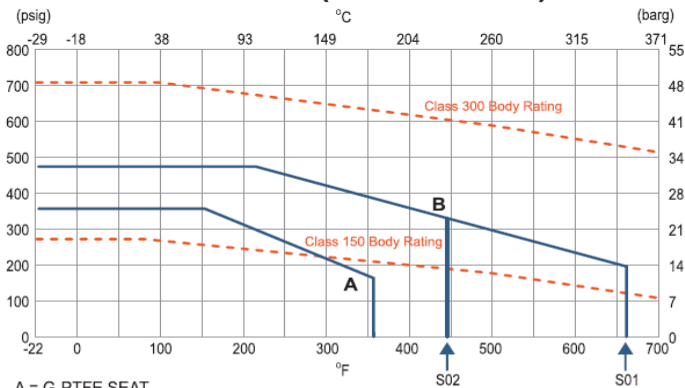
NO		NAME	MATERIAL		
1		BODY	A216-WCB	A351-CF8	A351-CF8M
2-1		SEGMENT - SOFT SEAT	A351-CF8		A351-CF8M
2-2		SEGMENT - METAL SEAT	A351-CF8+HCR ⁽¹⁾ / TC ⁽¹⁾		A351-CF8M+HCR / TC
3		STEM	A276-304		A276-316
4		SHAFT	A276-304		A276-316
5		END COVER	AISI-1045	A276-304	A276-316
SOFT SEAT	6A	SEAT	G-PTFE		
S01 METAL SEAT	3	STEM	A564-630(HH1150)		
	4	SHAFT	A564-630(HH1150)		
	6B	SEAT SUPPORT	A351-CF8		A351-CF8M
	6C	SEAT	A351-CF8+STELLITE® / TC		A351-CF8M+STELLITE® / TC
	6D	PACKING	GRAPHITE		
	6E	SEAT GLAND	A351-CF8		A351-CF8M
S02 METAL SEAT	6F	SPRING	INCONEL® X-750		
	6G	SEAT	A351-CF8+STELLITE®		A351-CF8M+STELLITE®
	6H	O-RING	FKM		
	6I	SPRING	INCONEL® X-750		
7		CAP	A351-CF8		A351-CF8M
8		BOLT ⁽²⁾	304SS		
9		THURST BEARING	A240-316+PTFE/A240-316+HARD FACE		
10		WASHER	G-PTFE/GRAPHITE		
11		WASHER	A240-316+HARD FACE		
12		GLAND PACKING	G-PTFE/GRAPHITE		
13		GLAND	A351-CF8		
14		GLAND BOLT	304SS		
15		SUPPORT ⁽³⁾	A276-304		A-276-316
16		COVER GASKET	G-PTFE/GRAPHITE		
17		COVER BOLT	304SS		
SOFT SEAT & S02 METAL SEAT	18	STEM O-RING ⁽⁴⁾	FKM		
19		WASHER	TFE COMP./A240-316+HARD FACE		
20		WASHER	TFE COMP./GRAPHITE		
21		C-CLIP	INCONEL® X-750		
22		GLAND BEARING	G-PTFE / A240-316+PTFE		

NOTES: (1) HCR = Hard Chrome TC = Tungsten Carbide (2) For size 2" and above. (3) For size 2-1/2" and above. (4) Max temp 446 °F (230 °C)

The above materials may be changed with different using conditions.

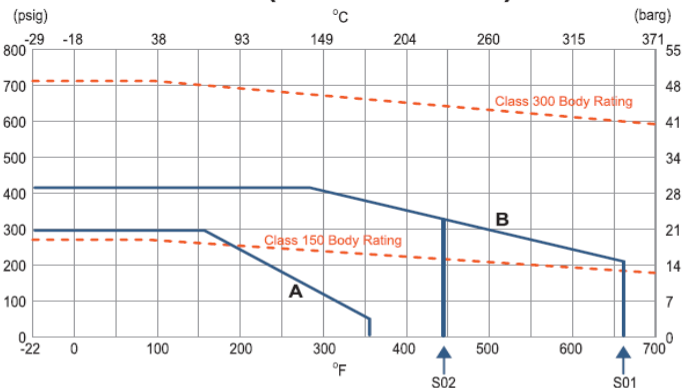
TEMPERATURE & PRESSURE DIAGRAM

1/2"~4" (DN25~DN100)

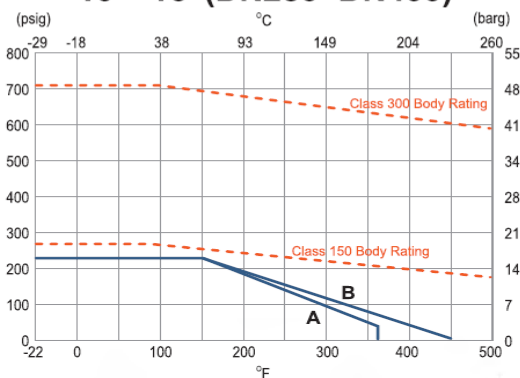


A = G-PTFE SEAT
B = METAL SEAT S01 / S02

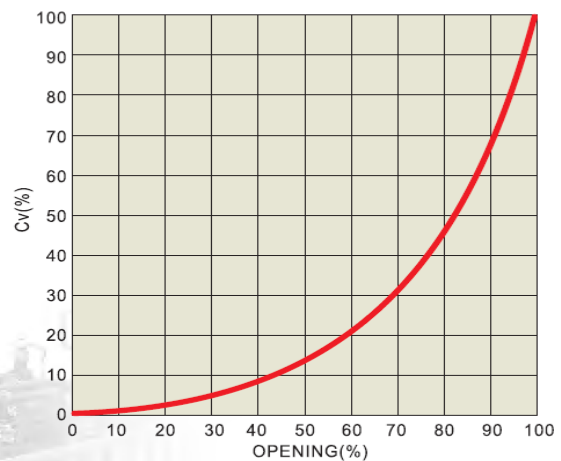
6"~8" (DN150~DN200)



10"~16" (DN250~DN400)



INHERENT FLOW CHARACTERISTICS

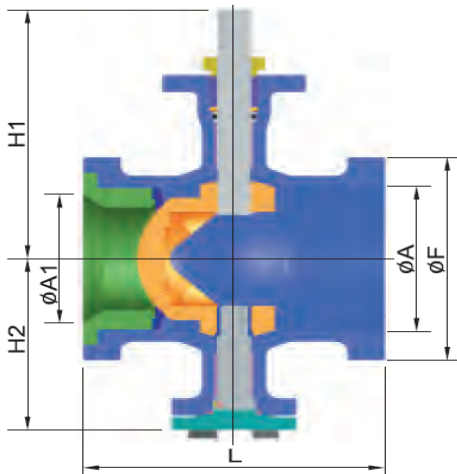


Cv VALUES

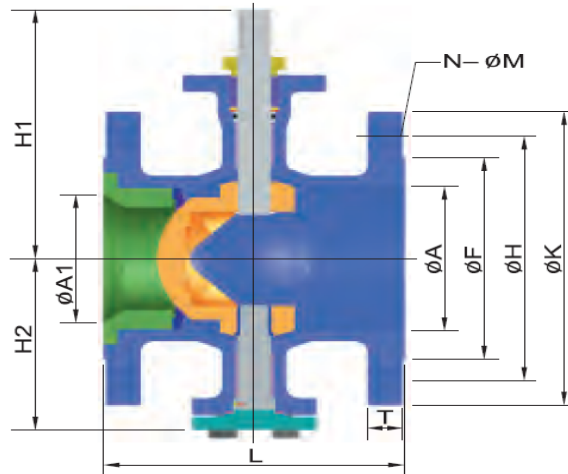
SIZE	OPENING %									
	10	20	30	40	50	60	70	80	90	100
1"	0.01	0.52	1.66	3.44	5.87	9.11	13.36	18.83	27.54	40.50
1-1/2"	0.02	1.06	3.35	6.95	11.85	18.38	26.96	38.00	55.55	81.70
2"	0.04	1.68	5.30	11.00	18.75	29.10	42.67	60.12	87.90	129.30
2-1/2"	0.06	2.79	8.80	10.23	31.10	40.26	70.78	99.74	145.86	214.50
3"	0.10	4.54	14.30	29.67	50.62	78.50	115.20	162.30	237.40	349.10
4"	0.15	6.57	20.70	43.00	73.30	113.70	166.80	235.00	343.70	505.50
5"	0.23	10.20	32.10	66.64	113.70	176.40	258.70	360.60	533.00	784.00
6"	0.38	16.70	52.70	109.30	186.50	289.50	424.54	598.20	874.80	1286.50
8"	0.50	21.90	69.00	143.00	244.10	378.90	555.68	783.00	1145.00	1683.90
10"	0.93	39.58	124.85	258.80	441.50	685.13	1004.80	1416.00	2040.00	3045.00
12"	1.29	55.96	176.50	366.00	624.20	968.60	1420.60	2001.80	2927.40	4305.00
14"	1.73	75.30	237.40	492.20	839.50	1302.00	1910.70	2663.40	3937.00	5790.00
16"	2.27	98.30	310.20	643.00	1097.00	1702.00	2497.00	3480.00	5145.00	7566.00

※ Above values are just for reference, and the exact values will be presented by the practical testing.

FLANGELESS TYPE

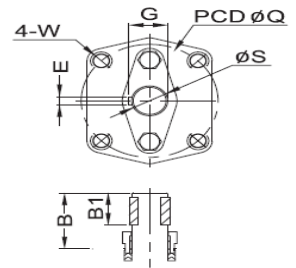


FLANGED TYPE

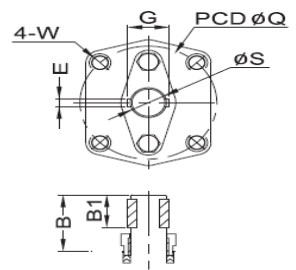


ISO MOUNTING PAD

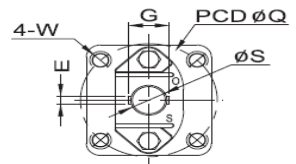
1"~4"(DN25~DN100)



5"~10"(DN125~DN250)



12"~16"(DN300~DN400)



DIMENSIONS FOR FLANGELESS TYPE (JSB-W1)

(mm)

SIZE	A	A1	L	F	H1	H2	S	E	G	B	B1	Q	W	Wt (Kg)
25 1"	33	25	102	64	108	70	15.5	5	17.5	33	20	50	M6	2.5
40 1-1/2"	49	40	114	82	134	84	15.5	5	17.5	45	30	70	M8	3.75
50 2"	60	50	124	100	142	92	15.5	5	17.5	44	30	70	M8	4.8
65 2-1/2"	73	65	140*	118	151	101	15.5	6	17.5	45	30	70	M8	5.51
80 3"	89	80	165	131	164	112	22	8	25	45	30	70	M8	9.11
100 4"	113	100	194	158	193	134	22	8	25	51	30	120	M10	14.85
125 5"	140	125	254*	185	215	154	25	8	31	52	30	102	M10	25.9
150 6"	160	132	229	216	232	171	25	8	31	52	30	102	M10	28.22
200 8"	203	200	243	267	279	198	30	8	36	70	45	140	M16	45.2
250 10"	252	250	297	326	326	234	36.3	14	46.3	76	55	140	M16	75
300 12"	300	285	338	375	386	272	48	14	61	86	67	165	M20	125

Face-to-Face dimensions L according to ISA S75.04

*Not in ISA standard

DIMENSIONS FOR FLANGED TYPE (JSB-A1 SERIES JIS 10K)

(mm)

SIZE		A	A1	L	F	JIS 10K					H1	H2	S	E	G	B	B1	Q	W	Wt (Kg)
						H	K	M	N	T										
25	1"	33	25	127	68	90	125	19	4	14	108	70	15.5	5	17.5	33	20	50	M6	3.7
40	1-1/2"	49	40	165	81	108	140	19	4	16	134	84	15.5	5	17.5	45	30	70	M8	5.8
50	2"	60	50	178	96	120	155	19	4	16	142	92	15.5	5	17.5	44	30	70	M8	7.5
65	2-1/2"	73	65	190	116	140	175	19	4	18	151	101	15.5	6	17.5	45	30	70	M8	11.8
80	3"	89	80	203	126	150	185	19	8	18	164	112	22	8	25	45	30	70	M8	12.8
100	4"	113	100	229	151	175	210	19	8	18	193	134	22	8	25	51	30	102	M10	23
125	5"	140	125	254	182	210	250	23	8	20	215	154	25	8	31	52	30	102	M10	31.5
150	6"	160	132	267	212	240	280	23	8	22	232	171	25	8	31	52	30	102	M10	38
200	8"	203	200	292	262	290	330	23	12	22	279	198	30	8	36	70	45	140	M16	62.5

Face-to-Face dimensions L according to JIS B 2002

DIMENSIONS FOR FLANGED TYPE (JSB-C1/C2 SERIES ASME CLASS 150/300)

(mm)

SIZE	A	A1	L	F	ASME CLASS 150					ASME CLASS 300					H1	H2	S	E	G	B	B1	G	W	Wt (Kg)	
					H	K	M	N	T	H	K	M	N	T										CLASS 150	CLASS 300
25 1"	33	25	102	68	79.5	108	16	4	14.3	89	124	19	4	17.5	108	70	15.5	5	17.5	33	20	50	M6	3.4	5.8
40 1-1/2"	49	40	114	81	98.5	127	19	4	17.5	114.5	156	22	4	20.7	134	84	15.5	5	17.5	45	30	70	M8	5.4	8.9
50 2"	60	50	124	96	120.5	152	19	4	19.1	127	165	19	8	22.3	142	92	15.5	5	17.5	44	30	70	M8	7.2	12.8
65 2-1/2"	73	65	140*	116	139.5	178	19	4	22.3	149	190	22	8	25.4	151	101	15.5	6	17.5	45	30	70	M8	11	16
80 3"	89	80	165	126	152.5	190	19	4	23.9	168	210	22	8	28.6	164	112	22	8	25	45	30	70	M8	14.5	19.8
100 4"	113	100	194	151	190.5	229	19	8	23.9	200	254	22	8	31.8	193	134	22	8	25	51	30	102	M10	21.8	32.8
125 5"	140	125	254*	182	216	254	22	8	23.9	235	279.4	22	8	35	215	154	25	8	31	52	30	102	M10	30	42
150 6"	160	132	229	212	241.5	279	22	8	25.4	270	318	22	12	36.6	232	171	25	8	31	52	30	102	M10	36	51
200 8"	203	200	243	262	298.5	343	22	8	28.6	330	381	25	12	41.3	279	198	30	8	36	70	45	140	M16	59	86.5
250 10"	252	250	297	324	362	406.4	25	12	30.2	387.4	445	29	16	47.7	326	234	36.3	14	46.3	76	55	140	M16	98.6	143.3
300 12"	300	285	338	381	432	483	25	12	33.4	450.8	521	32	16	50.9	386	272	48	14	61	86	67	165	M20	165	210.6
350 14"	350	335	400	413	476.3	533.4	29	12	35	514.4	584	32	20	54	445	315	48	14	61	100	80	165	M20	255	340
400 16"	400	385	400	470	539.8	597	29	16	36.6	571.5	648	35	20	57.2	505	373	67	20	76	135	100	165	M20	340	450

Face-to-Face dimensions L according to ISA S75.04

*Not in ISA standard

DIMENSIONS FOR FLANGED TYPE (JSB-D2/D4 SERIES DIN PN16/40)

(mm)

SIZE	A	A1	L	DIN PN16								DIN PN40								H1	H2	S	E	G	B	B1	G	W	Wt (Kg)	
				F	H	K	M	N	T	F	H	K	M	N	T	DIN PN16	DIN PN40													
25	1"	33	25	102	68	85	115	14	4	18	68	85	115	14	4	18	108	70	15.5	5	17.5	33	20	50	M6	5.5	5.5			
40	1-1/2"	49	40	114	88	110	150	18	4	18	88	110	150	18	4	18	134	84	15.5	5	17.5	45	30	70	M8	8	8			
50	2"	60	50	124	102	125	165	18	4	18	102	125	165	18	4	20	142	92	15.5	5	17.5	44	30	70	M8	13	13			
65	2-1/2"	73	65	140*	122	145	185	18	8	18	122	145	185	18	8	22	151	101	15.5	6	17.5	45	30	70	M8	13.5	15			
80	3"	89	80	165	138	160	200	18	8	20	138	160	200	18	8	24	164	112	22	8	25	45	30	70	M8	15	17			
100	4"	113	100	194	158	180	220	18	8	20	162	190	235	22	8	24	193	134	22	8	25	51	30	102	M10	19.5	26			
125	5"	140	125	254*	188	210	250	18	8	22	188	220	270	26	8	26	215	154	25	8	31	52	30	102	M10	30.5	36.7			
150	6"	160	132	229	212	240	285	22	8	22	218	250	300	26	8	28	232	171	25	8	31	52	30	102	M10	36.5	41			
200	8"	203	200	243	268	295	340	22	12	24	285	320	375	30	12	34	279	198	30	8	36	70	45	140	M16	54	76.5			
250	10"	252	250	297	320	355	405	26	12	26	345	385	450	33	12	38	326	234	36.3	14	46.3	76	55	140	M16	99	133			
300	12"	300	285	338	378	410	460	26	12	28	410	450	515	33	16	42	386	272	48	14	61	86	67	165	M20	155	191			
350	14"	350	335	400	438	470	520	26	16	30	465	510	580	36	16	46	445	315	48	14	61	100	80	165	M20	240	320			
400	16"	400	385	400	490	525	580	30	16	32	538	585	660	39	16	50	505	373	67	20	76	135	100	165	M20	320	440			

Face-to-Face dimensions L according to ISA S75.04

*Not in ISA standard

HOW TO ORDER

JSB Soft Seat

Ex: → **W1** → **04** → **C** → **G** → **03** → **050** → **A1**

A. SPECIFICATION	B. BODY MAT'L	C. SEGMENT MAT'L	D. SEAT MAT'L	E. STEM MAT'L	F. SIZE	G. OPTION
W1 FLANGELESS	02 WCB (1.0619)	A CF8 (1.4308)	G G-PTFE (15% GLASS FIBER+PTFE)	02 304 (1.4301)	025 1"	I LIVE LOADING
A1 JIS 10K	03 CF8 (1.4308)	C CF8M (1.4408)		03 316 (1.4401)	040 1-1/2"	H LEVER
C1 ASME CLASS 150	04 CF8M (1.4408)	D CF3 (1.4306)	S S-PTFE (50% SS316+PTFE)	05 317 (1.4449)	050 2"	G GEAR
C2 ASME CLASS 300	05 CF3 (1.4306)	E CF3M (1.4404)	T TFM-1600	07 304L (1.4306)	065 2-1/2"	A BARE SHAFT
D2 DIN PN16	06 CF3M (1.4404)	F CG8M (1.4412)	E PEEK	08 316L (1.4404)	080 3"	
D4 DIN PN40	07 CG8M (1.4412)	I CD3MN (1.4470)		10 S31803 (1.4462)	100 4"	
	15 CD3MN (1.4470)				125 5"	
					150 6"	
					200 8"	
					250 10"	
					300 12"	
					350 14"	
					400 16"	

JSB Metal Seat

Ex: → **C1** → **04** → **C** → **7** → **050** → **A1** → **S01** → **HCR**

A. SPECIFICATION	B. BODY MAT'L	C. SEGMENT MAT'L	D. STEM MAT'L	E. SIZE	F. OPTION	G. TEMPERATURE
W1 FLANGELESS	02 WCB (1.0619)	A CF8 (1.4308)	02 304 (1.4301)	025 1"	I LIVE LOADING	S01 -20~661 °F (-29~350 °C)
A1 JIS 10K	03 CF8 (1.4308)	C CF8M (1.4408)	03 316 (1.4401)	040 1-1/2"	H LEVER	S02 -20~446 °F (-29~230 °C)
C1 ASME CLASS 150	04 CF8M (1.4408)	D CF3 (1.4306)	05 317 (1.4449)	050 2"	G GEAR	
C2 ASME CLASS 300	05 CF3 (1.4306)	E CF3M (1.4404)	07 304L (1.4306)	065 2-1/2"	A BARE SHAFT	
D2 DIN PN16	06 CF3M (1.4404)	F CG8M (1.4412)	08 316L (1.4404)	080 3"		
D4 DIN PN40	07 CG8M (1.4412)	I CD3MN (1.4470)	10 S31803 (1.4462)	100 4"		
	15 CD3MN (1.4470)		22 630 (1.4542)	125 5"		
				150 6"		
				200 8"		
				250 10"		
				300 12"		
				350 14"		
				400 16"		

H. HARD FACE
HCR SEGMENT W / HCR
SEAT W / STELLITE®
TC SEGMENT W / TC
SEAT W / TC