JDV | JBF Series Severe Service Metal-Seated Ball Valves

NXGEN
Valves for Power

Valves for Power Generation

ASME Classes
600 – 4500

A New Generation of Valves

www.jdvusa.com | 832.939.9944 | 12411 Citypark Dr #100 Missouri City, TX 77489

The JDV Story

JDV was founded in Taiwan in 1975, and from its inception has focused on developing technically superior flow control products. It has steadily expanded its product portfolio since its founding, and now has a wide product offering with a focus on research and development, and new technology adoption. JDV's product portfolio now encompasses everything from commodity valves to its flagship engineered products: Metal-seated ball valves, Metal-seated triple offset butterfly valves, and control valves.

JDV has made a name for itself with excellence in metal-seated technologies; with in-house HVOF and other hardfacing capabilities that allow it to design valves to handle the most severe high-temperature, corrosive and erosive applications.

The NxGEN JBF Severe Service Ball Valves are the newest products in the JDV portfolio, and JDV has completed this new cutting-edge product with Computer-Aided Drafting & Design, Finite Element Analysis, verified and validated by prototyping and extensive design testing in its Research & Development Center. The result is a robust, thoughtful, feature-rich design that we are confident will exceed the expectations of even the most demanding valve users.

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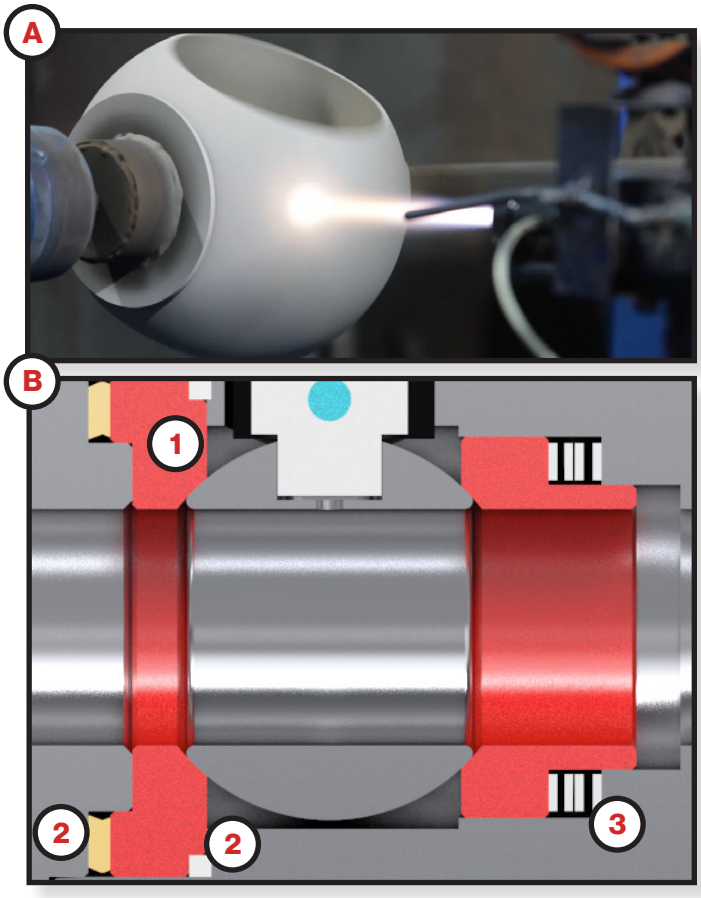
JDV 5-Year Warranty

JDV Model JBFL and JBFH metal-seated ball valves for the power industry are warrantied for 60 months after shipment from the factory or 48 months after installation in service, whichever occurs first. This warranty covers defects in material and workmanship only and not for consequences of improper installation or application and is limited to the value of JDV's repair or replacement. It does not imply, nor authorize, any backcharges for unauthorized repair or replacement. This warranty is based upon the valves being utilized in services, and within pressure and temperature parameters, for which they are designed. Additionally, this warranty applies only to new, and not previously used, valves nor valves which have been modified in any way without the expressed written consent of JDV USA. This warranty also does not cover valves which have been stored improperly and subjected to elements that could be detrimental to the performance of the valves. Finally, this warranty is restricted to the value of the valves and does not include any consequential expenses. In the event of a warranty claim, it is JDV's sole authority to determine, after analysis, whether to repair or replace in kind.

JBFL – Low Pressure Severe Service Metal-Seated Ball Valve

We are proud to introduce the JDV JBF Series of Severe Service Metal-Seated Ball Valves, which combines cutting-edge metal-seated ball valve technology, a robust set of features, and superior manufacturing & workmanship to present a unique value in the industry. The JBF series is ideal for the high temperatures and pressures, and thermal cycling found in today's power generation industry.



Product Scope

Size Range **Flanged:** 1/2" through 4" **Socketweld & Buttweld:** 1/2" through 2-1/2"
Maximum Temp: 1,022 °F / 550 °C
Standard Design: ASME B16.34, API 608, API 598 (Valve Hydrotest), ISO 5211 (Standard Actuator Mounting)
Available Body Materials: Carbon Steel (A105), Low Alloy (F22, F5, F9, F91), Stainless Steel (316SS, 317SS, 347SS) Other materials available on request
Pressure Class Range: ASME 150, 300, 600
Sealing Directionality: Unidirectional
Available End Connections: SW (B16.11), BW (B16.25), FNPT (B1.20.1), RF (B16.5 & B16.10)
Available Trim Materials: 410SS, 316SS, Gr. 660 (Stem), Inconel 718. Other materials available on request.

Features and Benefits

Advanced Coating Technologies *(Figure A)*

- HVOF coating with Chromium Carbide (Tungsten Carbide also available) is applied with state-of-the-art technologies to ensure long-lasting performance in the most severe conditions.
- QPQ Nitrided Trim is also available as an economical option for lower cycle, less challenging applications.

Flanged Seat Design *(Figure B/1)*

- With our HVOF coating technology, valves are resistant to the attack of abrasive magnetite and ferrous oxides that may be seen in the steam flow.

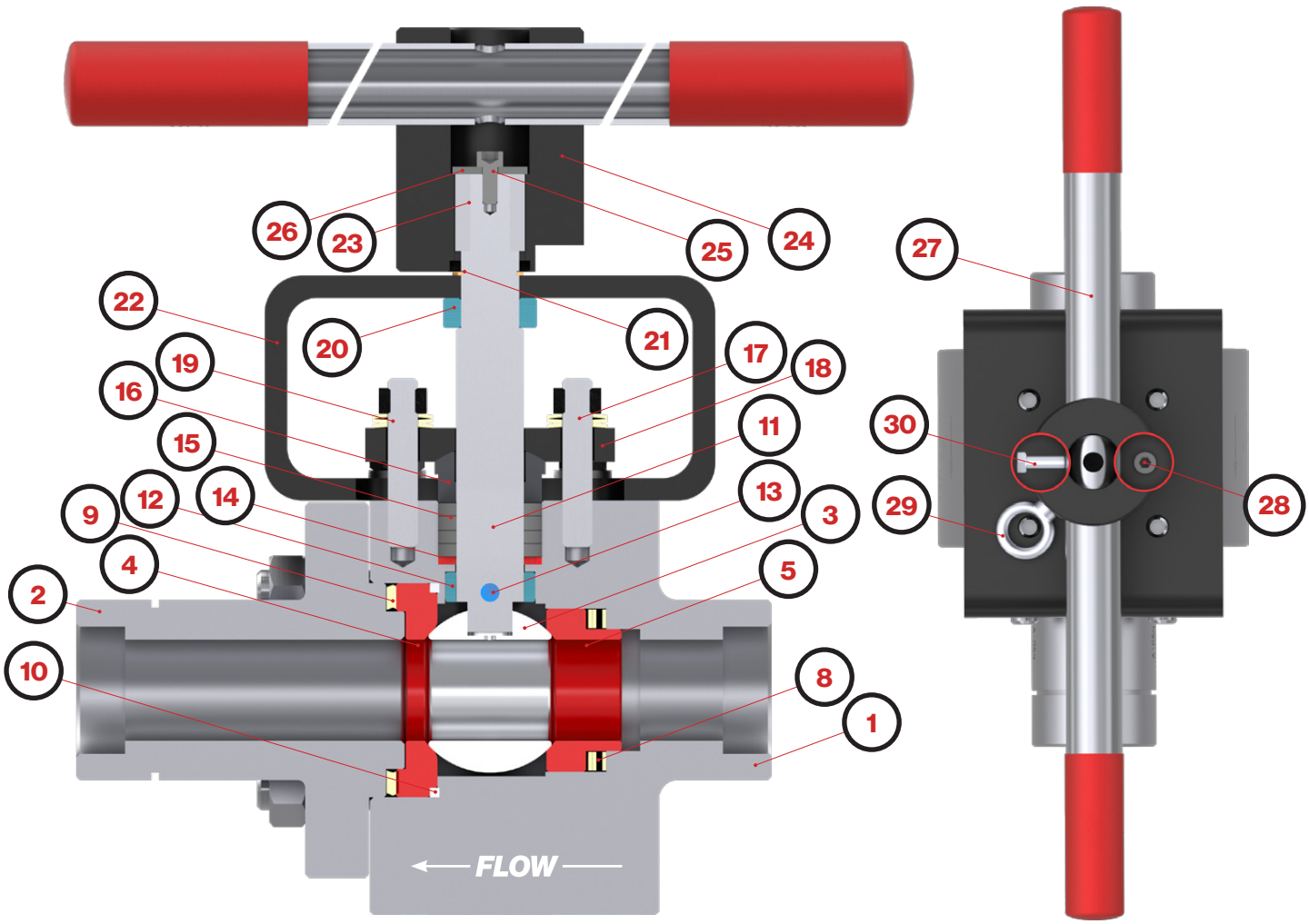
Spiral Wound Gasket *(Figure B/2)*

- A graphite double gasket design for an optimal seal.

Wave Spring *(Figure B/3)*

- More predictable at lower pressures.
- Last 3-5 times longer than Belleville springs.

JBFL – Parts & Materials

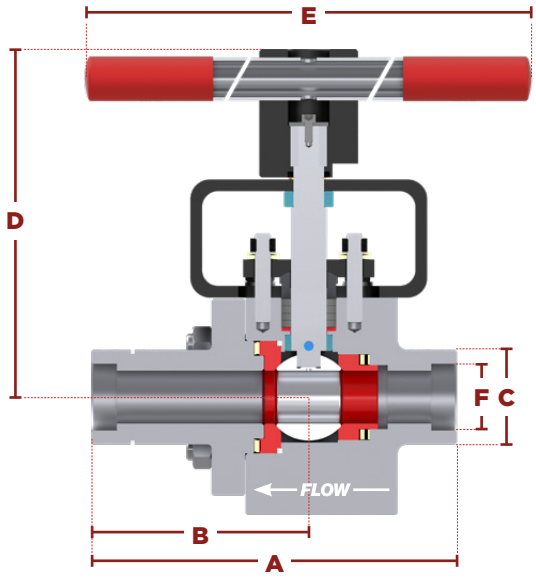


NO	PART NAME	CARBON, LOW ALLOY & STAINLESS STEEL		
1	BODY	A105N	A182-F9	A182 F317
		A182-F22 CL3	A182-F91 TYPE 2	A182-F347
		A182-F5a	A182-F316	-
2	CAP / END CONNECTION	A105N	A182-F9	A182 F317
		A182-F22 CL3	A182-F91 TYPE 2	A182-F347
		A182-F5a	A182-F316	-
3	BALL	410SS+QPQ		
		410SS+CRC		
		316SS+QPQ		
		316SS+CRC		
4	DOWNSTREAM SEAT	410SS+QPQ		
		410SS+CRC		
		316SS+QPQ		
		316SS+CRC		
5	UPSTREAM SEAT	410SS+QPQ		
		410SS+CRC		
6	BOLTING	A193-B7 / A194-7	A193-B16 / A194-7	A193-B8M / A194-8M
7	BOLTING (NACE)	A193-B7M / A194-2HM	A193-B16 / A194-7	A193-B8M / A194-8M
8	SEAT WAVE SPRING	INCONEL X750		
9	BODY GASKET	SPIRALWOUND		
10	SEAT GASKET	GRAPHITE		

NO	PART NAME	CARBON, LOW ALLOY & STAINLESS STEEL
11	STEM	410SS+QPQ
		A286+QPQ
12	STEM RETAINER RING	410SS+QPQ
13	STEM RETAINER PIN	INCONEL 718
14	PACKING RING	410SS+QPQ
15	PACKING SET	GRAPHITE API 622
16	GLAND FOLLOWER	410SS+QPQ
17	GLAND BOLTING	A193-B8M / A194-8M
18	GLAND FLANGE	410SS+QPQ
19	BELLEVILLE WASHER	INCONEL X750
20	UPPER RETAINER RING	410SS+QPQ
21	STEM SNAP RING	STAINLESS STEEL
22	BRACKET	CS+EDP
23	KEY	CS
24	ADAPTOR	CS+PAINTING
25	ADAPTOR SCREW	A4-70
26	ADAPTOR WASHER	STAINLESS STEEL
27	HANDLE	CS+PAINTING
28	PRECISION STOP	A4-70
29	LOCKING DEVICE	STAINLESS STEEL
30	HANDLE SCREW	A4-70

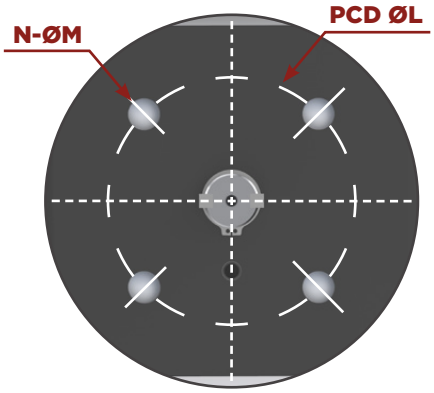
CRC - Chrome Carbide Coating | **QPQ** - Quench-Polish-Quench Nitrocarburizing

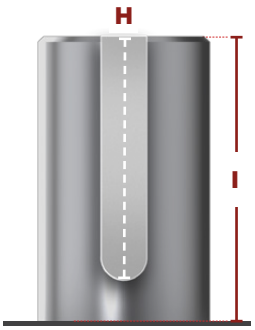
JBFL – Dimensional Info

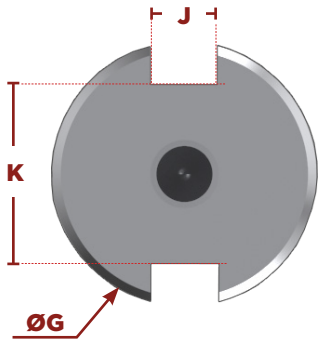


Dimensions - ASME 150 / 300 / 600 Limited Class																	
SIZE		BORE		A		B		C		D		E		F		G	
DN	NPS	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
15	½"	14	0.55	165	6.5	95	3.74	41	1.61	93	3.66	380	15	21.8	.86	12	0.47
20	¾"	18.3	0.72	165	6.5	95	3.74	41	1.61	93	3.66	380	15	27.2	1.07	12	0.47
25	1"	26.9	1.06	185	7.28	110	4.33	48	1.89	110	4.33	450	17.7	33.9	1.33	15.5	0.61
40	1½"	36.6	1.44	241	9.49	126	4.96	64	2.52	143	5.63	450	17.7	48.8	1.92	22	0.87
50	2"	49.3	1.94	292	11.5	167	6.57	80	3.15	155	6.10	450	17.7	61.2	2.41	22	0.87

Dimensions - ASME 150 / 300 / 600 Limited Class															
SIZE		BORE		H		I		J		K		ISO 5211	ISO DIMS	WT	
DN	NPS	mm	in	mm	in	mm	in	mm	in	mm	in		metric	imperial	kg	lb
15	½"	14	0.55	20	.79	27	1.06	3	.12	8.4	.33	F07	9*4	0.35*4	6.6	14.5
20	¾"	18.3	0.72	20	.79	27	1.06	3	.12	8.4	.33	F07	9*4	0.35*4	6.6	14.5
25	1"	26.9	1.06	22	.0.87	27	1.06	4	.16	10.5	.41	F07	9*4	0.35*4	10	22
40	1½"	36.6	1.44	27	1.06	32	1.26	5	.2	16	.63	F10	12*4	0.47*4	24	52.8
50	2"	49.3	1.94	27	1.06	32	1.26	5	.2	16	.63	F10	12*4	0.47*4	32	70.4







JBFL – Maximum Operating Pressure Rating (PSI) vs. Temperature

Temp (°F)		-20° to 100°	200°	300°	400°	500°	600°	650°
Temp (°C)		-29° to 38°	93°	149°	204°	260°	316°	343°
ASME 600	A105	1500	1500	1480	1465	1465	1465	1430
	A182 Gr. F22 Cl. 3	1500	1500	1480	1455	1450	1440	1430
	A182 Gr. F91	1500	1500	1500	1500	1500	1500	1500

Temp (°F)		700°	750°	800°	850°	900°	950°	1000°
Temp (°C)		371°	399°	427°	454°	482°	510°	538°
ASME 600	A105	1380	1270	1030	-	-	-	-
	A182 Gr. F22 Cl. 3	1415	1415	1415	1355	1200	953	687
	A182 Gr. F91	1465	1460	1440	1355	1200	953	862

(1) A105 body material not recommended for prolonged use above 800 ° F / 427 ° C
(2) F22 body material not recommended for prolonged use above 1100 ° F / 593 ° C

Product Scope

Size Range: ½" through 2½"
Maximum Temp: 1,200 °F / 650 °C
Standard Design: ASME B16.34, API 598 (Valve Hydrotest), ISO 5211 (Standard Actuator Mounting)
Available Body Materials: Carbon Steel (A105), Low Alloy (F11, F22, F5, F9, F91) - Other materials available on request
Pressure Class Range: ASME 900 through 4500 LTD
Sealing Directionality: Unidirectional
Available End Connections: SW (B16.11) - Standard, BW (B16.25)
Available Trim Materials: 410SS, Gr. 660 (Stem), Inconel 718 - Other materials available on request

Features & Benefits

› Advanced Coating Technologies *(Figure A/B)*

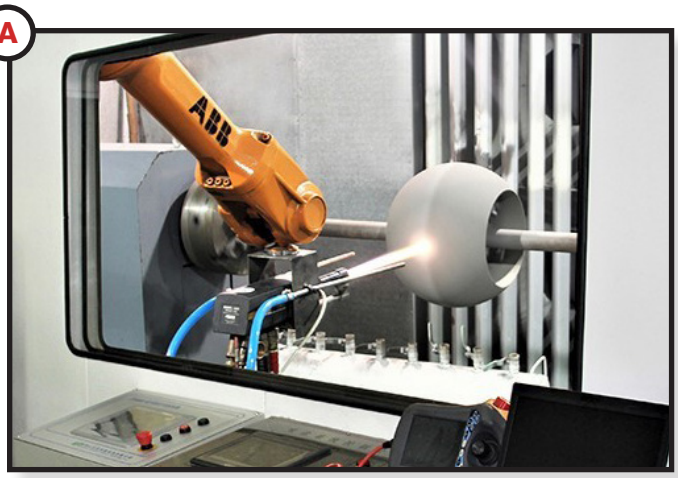
- HVOF coating with Chromium Carbide (Tungsten Carbide also available) is applied with state-of-the-art technologies to ensure long-lasting performance in severe conditions.

- Spray & Fuse technology provides superior wear resistance and a better bond to the substrate material due to its metallurgical bond.

› Full Spherical Lapping *(See Below)*

- Full spherical lapping laps the entire ball to the seat which prevents the coating thickness from being compromised as during traditional one-sided lapping techniques.

A



B

Oversized One-Piece Stem *(Figure C)*

- One piece quarter turn non-rising stem does not deteriorate packing and minimizes hysteresis when adapting to actuation. Fully-retained pins are contained and hardened to meet ASME B16.34 blow-out proof stem requirements.

Articulating Gland Flange *(Figure E)*

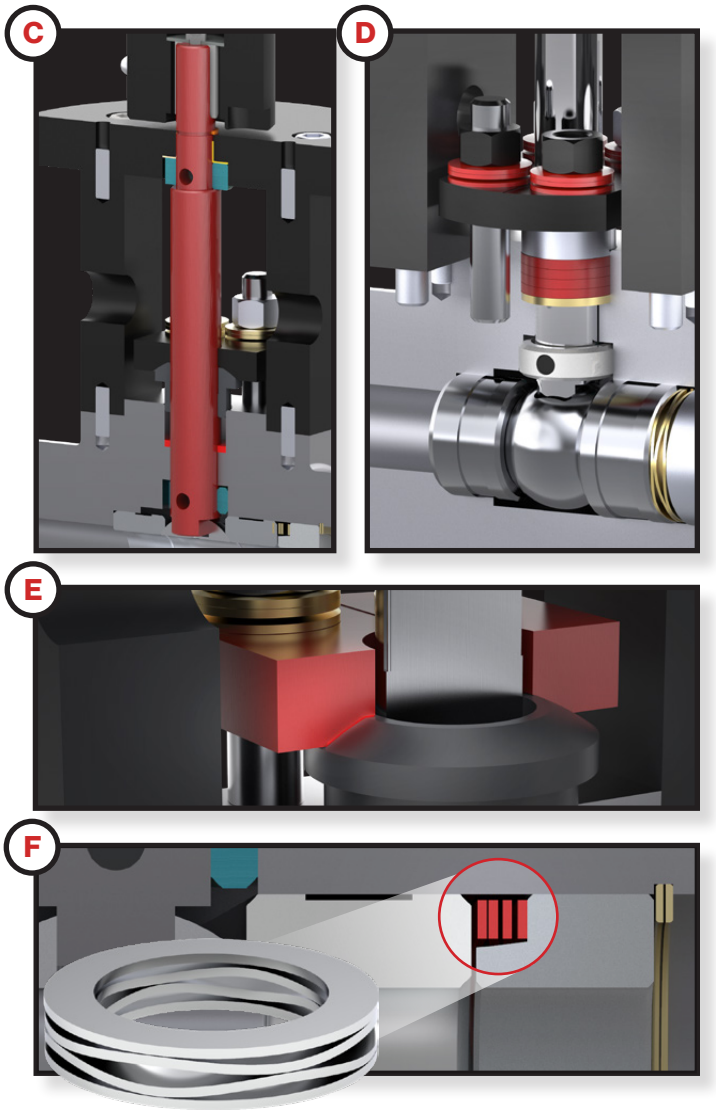
- The spherical gland flange and packing follower allows for equal distribution of packing and is live loaded eliminating the need for routine packing adjustments.

Live Loaded Packing Box *(Figure D)*

- Live loaded packing ensures continuous load pressure through thermal cycles. API 622-compliant packing set including braided wiper rings combined with die-formed graphite rings provide reliable sealing and longevity under constant load.

Wave Spring *(Figure F)*

- Wave spring reduces the risk of error in assembly and delivers a predicable performance, minimizing load variances both outperforming and lasting longer than a standard Belleville spring.



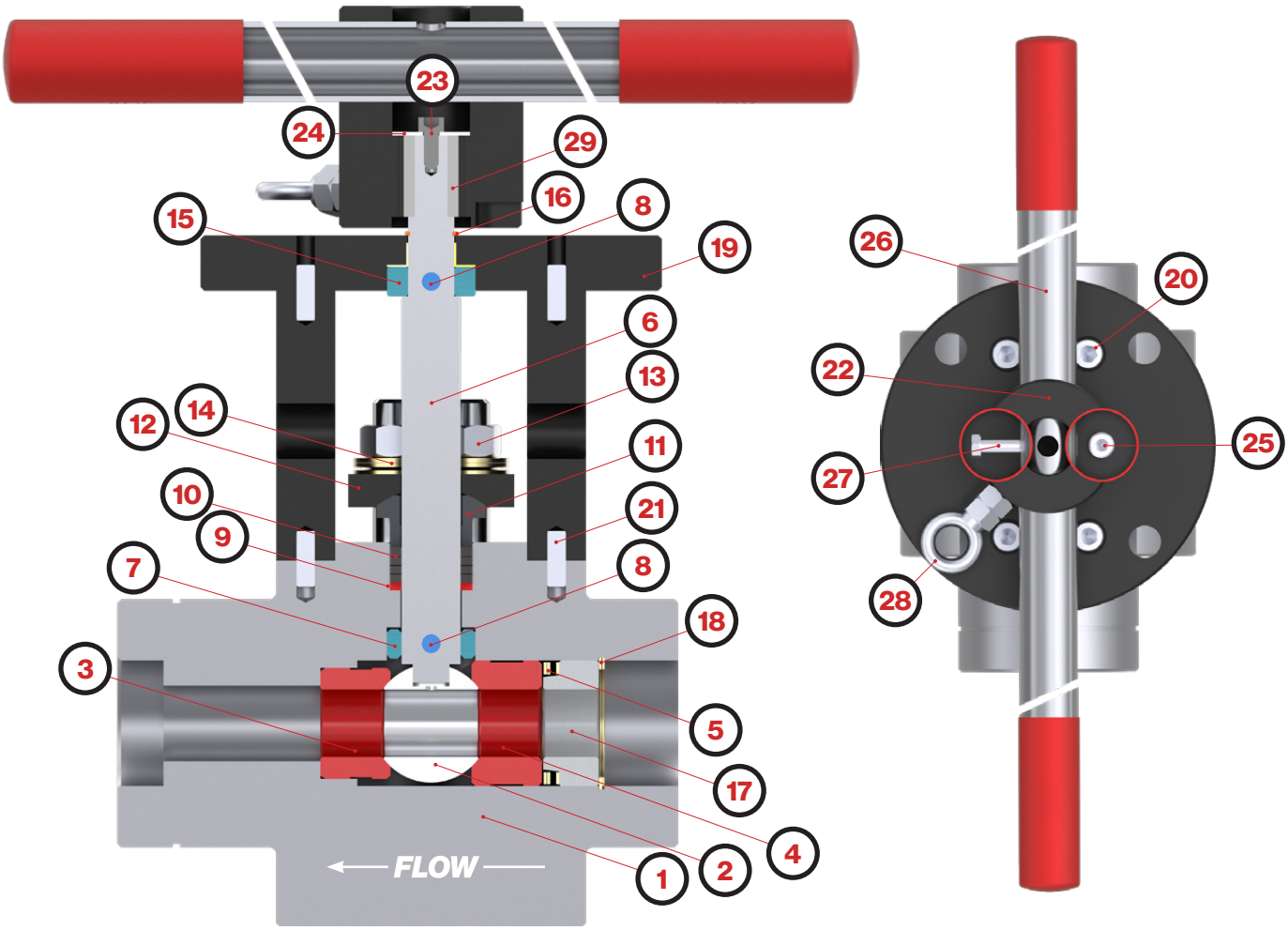
JBFH – Maximum Operating Pressure Rating (PSI) vs. Temperature

Temp (°F)		-20° to 100°	200°	300°	400°	500°	600°	650°	700°
Temp (°C)		-29° to 38°	93°	149°	204°	260°	316°	343°	371°
ASME 1500 LTD	A105 | A182 Gr. F22 Cl. 3 | A182 Gr. F91	2500	2500	2500	2500	2500	2500	2500	2500
ASME 3200 LTD	A105 | A182 Gr. F22 Cl. 3 | A182 Gr. F91	4500	4500	4500	4500	4500	4500	4500	4500
ASME 4500 LTD	A105 | A182 Gr. F22 Cl. 3 | A182 Gr. F91	6000	6000	6000	6000	6000	6000	6000	6000

Temp (°F)		750°	800°	850°	900°	950°	1000°	1050°	1100°
Temp (°C)		399°	427°	454°	482°	510°	538°	566°	593°
ASME 1500 LTD	A105	2500	2500	-	-	-	-	-	-
	A182 Gr. F22 Cl. 3	2500	2500	2500	2500	2412	1785	1170	732
	A182 Gr. F91	2500	2500	2500	2500	2412	2250	2250	2015
ASME 3200 LTD	A105	4500	4500	-	-	-	-	-	-
	A182 Gr. F22 Cl. 3	4500	4500	4500	4500	4500	4135	2707	1687
	A182 Gr. F91	4500	4500	4500	4500	4500	4500	4500	4500
ASME 4500 LTD	A105	6000	6000	-	-	-	-	-	-
	A182 Gr. F22 Cl. 3	6000	6000	6000	6000	6000	6000	4064	2546
	A182 Gr. F91	6000	6000	6000	6000	6000	6000	6000	6000

(1) A105 body material not recommended for prolonged use above 800 ° F / 427 ° C
(2) F22 body material not recommended for prolonged use above 1100 ° F / 593 ° C
(3) Pressure ratings shown above are limited by design considerations.
(4) Valve bodies are designed in accordance with ASME B16.34 Limited Class pressure rating requirements for the given pressure class.
(5) Maximum differential pressure across valve = 6,000 psig

JBFH – Parts and Materials

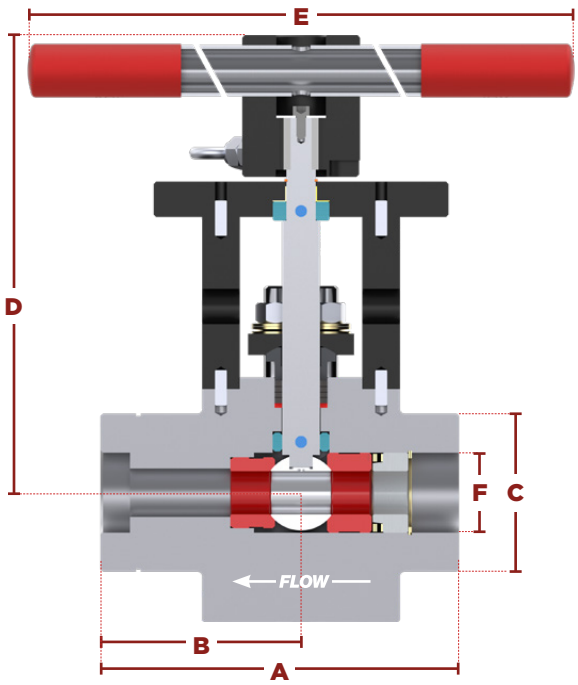


NO	PART NAME	CARBON, LOW ALLOY & STAINLESS STEEL		
1	BODY	A105N	A182-F22 CL3 A182-F91 TYPE 2	A182-F316
2	BALL CL600- 3200	410SS+CRC INCONEL 718+SF(OPTION)		
	BALL CL4500	INCONEL 718+SF		
3	DOWNSTREAM SEAT CL600- 3200	410SS+CRC INCONEL 718+SF(OPTION)		
	DOWNSTREAM SEAT CL4500	INCONEL 718+SF		
4	UPSTREAM SEAT CL600-3200	410SS+CRC INCONEL 718+SF(OPTION)		
	UPSTREAM SEAT CL4500	INCONEL 718+SF		
5	SEAT WAVE SPRING	INCONEL X750		
6	STEM	410SS+QPQ	A286+QPQ	INCONEL718+QPQ
7	STEM RETAINER RING	410SS+QPQ		
8	STEM RETAINER PIN	INCONEL 718		
9	PACKING RING	410SS+QPQ		
10	PACKING SET	GRAPHITE API 622		
11	GLAND FOLLOWER	410SS+QPQ		

NO	PART NAME	CARBON, LOW ALLOY & STAINLESS STEEL
12	GLAND FLANGE	410SS+QPQ
13	GLAND BOLTING	A193-B8M / A194-8M
14	BELLEVILLE WASHER	INCONEL X750
15	UPPER RETAINER RING	410SS+ QPQ W/ NORGLIDE® T BEARINGS
16	STEM SNAP RING	STAINLESS STEEL
17	TRANSITION PIECE	410SS
18	LOAD RING	INCONEL X750
19	MOUNTING SET	CS+PAINTING
20	MOUNTING SET SCREW	A4-70
21	MOUNTING FLANGE PIN	CS+PAINTING
22	ADAPTOR	CS+PAINTING
23	ADAPTOR SCREW	A4-70
24	ADAPTOR WASHER	STAINLESS STEEL
25	PRECISION STOP	A4-70
26	HANDLE	CS+PAINTING
27	HANDLE SCREW	A4-70
28	LOCKING DEVICE	STAINLESS STEEL
29	KEY	INCONEL 718

CRC - Chrome Carbide Coating | **SF** - Spray & Fuse Coating | **QPQ** - Quench-Polish-Quench Nitrocarburizing

JBFH – Dimensional Info

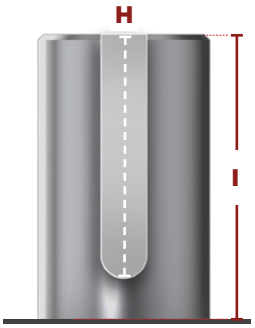


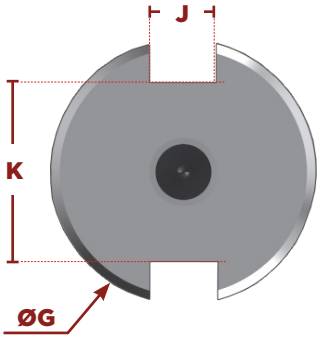
Dimensions - ASME 900 / 1500 / 3200

SIZE			A		B		C		D		E		F	
DN	NPS	BORE	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
15	**½"**	**0.55**	192	7.56	85	3.35	55	2.16	162	5.83	6.83	15	21.8	.86
20	**¾"**	**0.55**	152	5.98	85	3.35	55	2.16	162	5.83	6.83	15	27.2	1.07
25	**1"**	**0.55**	152	5.98	85	3.35	65	2.56	162	5.83	6.83	15	33.9	1.33
		0.72	152	5.98	85	3.35	67	2.64	173	6.26	6.81	15	33.9	1.33
40	**1½"**	**0.72**	152	5.98	85	3.35	85	3.35	173	6.26	6.81	15	48.8	1.92
		1.06	184	7.24	105	4.13	95	3.74	214	7.71	8.43	17.72	48.8	1.92
50	**2"**	**1.06**	184	7.24	105	4.13	108	4.25	214	7.71	8.43	17.72	61.2	2.41
		1.34	210	8.27	105	4.13	110	4.33	224	8.38	8.82	17.72	61.2	2.41
-	**2½"**	**1.34**	210	8.27	105	4.13	125	4.92	224	8.38	8.82	17.72	73.9	2.91

Dimensions - ASME 4500

SIZE			A		B		C		D		E		F	
DN	NPS	BORE	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
20	**¾"**	**0.66**	224	8.82	110	4.33	67	2.64	226	8.89	450	17.72	27.2	1.07
25	**1"**	**0.66**	184	7.24	110	4.33	67	2.64	226	8.89	450	17.72	33.9	1.33
40	**1½"**	**0.66**	184	7.24	110	4.33	92	3.62	226	8.89	450	17.72	48.8	1.92
		1.00	210	8.27	120	4.73	95	3.74	267	10.51	450	17.72	48.8	1.92
50	**2"**	**1.00**	210	8.27	120	4.73	115	4.53	267	10.51	450	17.72	61.2	2.41
-	**2½"**	**1.00**	210	8.27	120	4.73	136	5.36	267	10.51	450	17.72	73.9	2.91



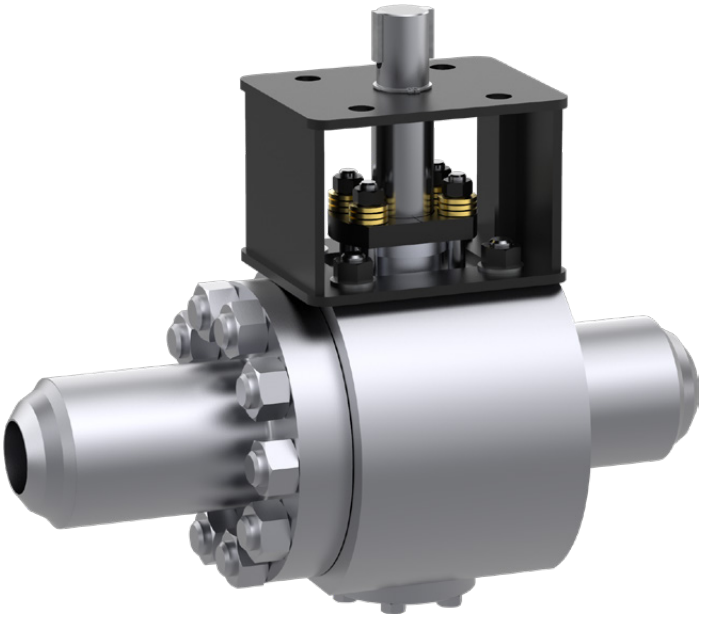


Dimensions - ASME 900 / 1500 / 3200

SIZE		BORE		G		H		I		J		K		ISO 5211	ISO DIMS				WT	
DN	NPS	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		metric		imperial		kg	lb
15	**½"**	**14**	**0.55**	12.5	.5	22	.87	27	1.06	3	.12	8.9	.35	F10	12 * 4		0.44 * 4		8.1	17.8
20	**¾"**	**14**	**0.55**	12.5	.5	22	.87	27	1.06	3	.12	8.9	.35	F10	12 * 4		0.44 * 4		7.7	16.95
25	**1"**	**14**	**0.55**	12.5	.5	22	.87	27	1.06	3	.12	8.9	.35	F10	12 * 4		0.44 * 4		7.7	16.95
		18.3	**0.72**	12.5	.5	22	.87	27	1.06	3	.12	8.9	.35	F10	12 * 4		0.44 * 4		10.04	22
40	**1½"**	**18.3**	**0.72**	12.5	.5	22	.87	27	1.06	3	.12	8.9	.35	F10	12 * 4		0.44 * 4		11.04	24.3
		26.9	**1.06**	18	.71	31	1.22	36	1.42	4	.16	13	.51	F10 / F12	12 * 4	14 * 4	0.44 * 4	0.55 * 4	18.3	40.26
50	**2"**	**26.9**	**1.06**	18	.71	31	1.22	36	1.42	4	.16	13	.51	F10 / F12	12 * 4	14 * 4	0.44 * 4	0.55 * 4	19.6	43.12
		34	**1.34**	25	.98	37	1.46	42	1.65	5	.2	19	.75	F10 / F12	12 * 4	14 * 4	0.44 * 4	0.55 * 4	24.2	53.24
60	**2½"**	**34**	**1.34**	25	.98	37	1.46	42	1.65	5	.2	19	.75	F10 / F12	12 * 4	14 * 4	0.44 * 4	0.55 * 4	26.2	57.64

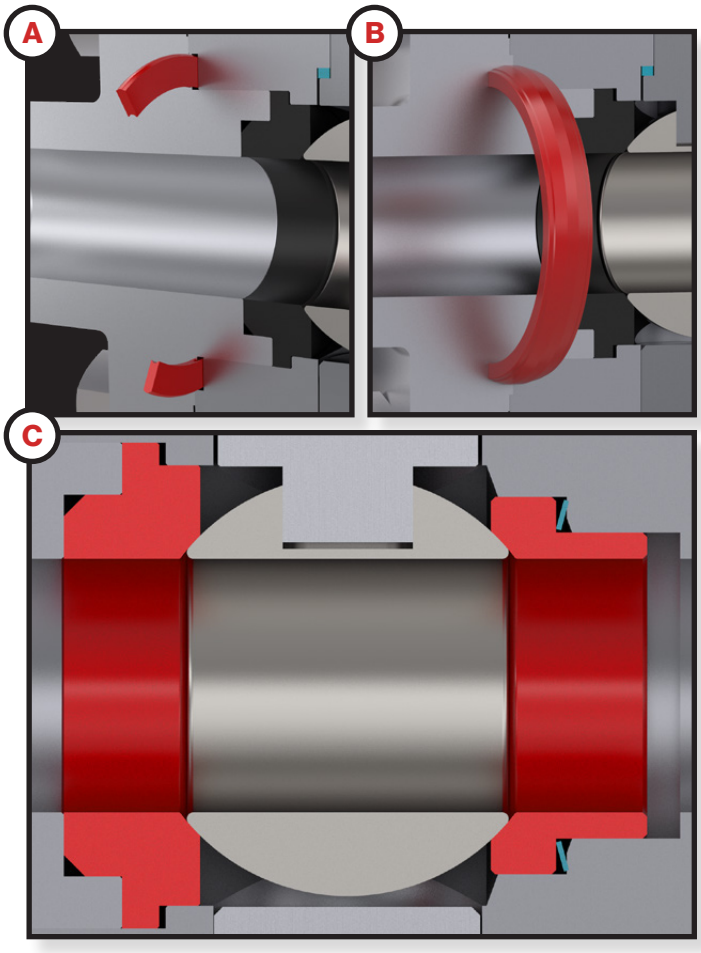
Dimensions - ASME 4500

SIZE		BORE		G		H		I		J		K		ISO 5211	ISO DIMS				WT	
DN	NPS	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		metric		imperial		kg	lb
20	**¾"**	**17**	**0.66**	18	.71	31	1.22	36	1.42	4	.16	13	.51	F10 / F12	12 * 4	14 * 4	0.44 * 4	0.55 * 4	14.7	32.34
25	**1"**	**17**	**0.66**	18	.71	31	1.22	36	1.42	4	.16	13	.51	F10 / F12	12 * 4	14 * 4	0.44 * 4	0.55 * 4	14.2	31.24
40	**1½"**	**17**	**0.66**	18	.71	31	1.22	36	1.42	4	.16	13	.51	F10 / F12	12 * 4	14 * 4	0.44 * 4	0.55 * 4	16	35.2
		25.4	**1**	25	.98	37	1.46	42	1.65	5	.2	19	.75	F10 / F12	12 * 4	14 * 4	0.44 * 4	0.55 * 4	24.5	53.9
50	**2"**	**25.4**	**1**	25	.98	37	1.46	42	1.65	5	.2	19	.75	F10 / F12	12 * 4	14 * 4	0.44 * 4	0.55 * 4	27	59.4
60	**2½"**	**25.4**	**1**	25	.98	37	1.46	42	1.65	5	.2	19	.75	F10 / F12	12 * 4	14 * 4	0.44 * 4	0.55 * 4	33	66



Product Scope

Size Range: 3" through 12"
Maximum Temp: 1,200 °F / 650 °C
Standard Design: ASME B16.34, API 598 (Valve Hydrotest), ISO 5211 (Standard Actuator Mounting)
Available Body Materials: Carbon Steel (A105), Low Alloy (F11, F22, F5, F9, F91) - Other materials available on request
Pressure Class Range: ASME 900 through 4500
Sealing Directionality: Unidirectional
Available End Connections: BW (B16.25) - Standard, Other end connections such as flanged, hub ends available on request
Available Trim Materials: 410SS, Gr. 660 (Stem), Inconel 718, other materials available on request



Features & Benefits

Body Sealing *(Figure A/B)*

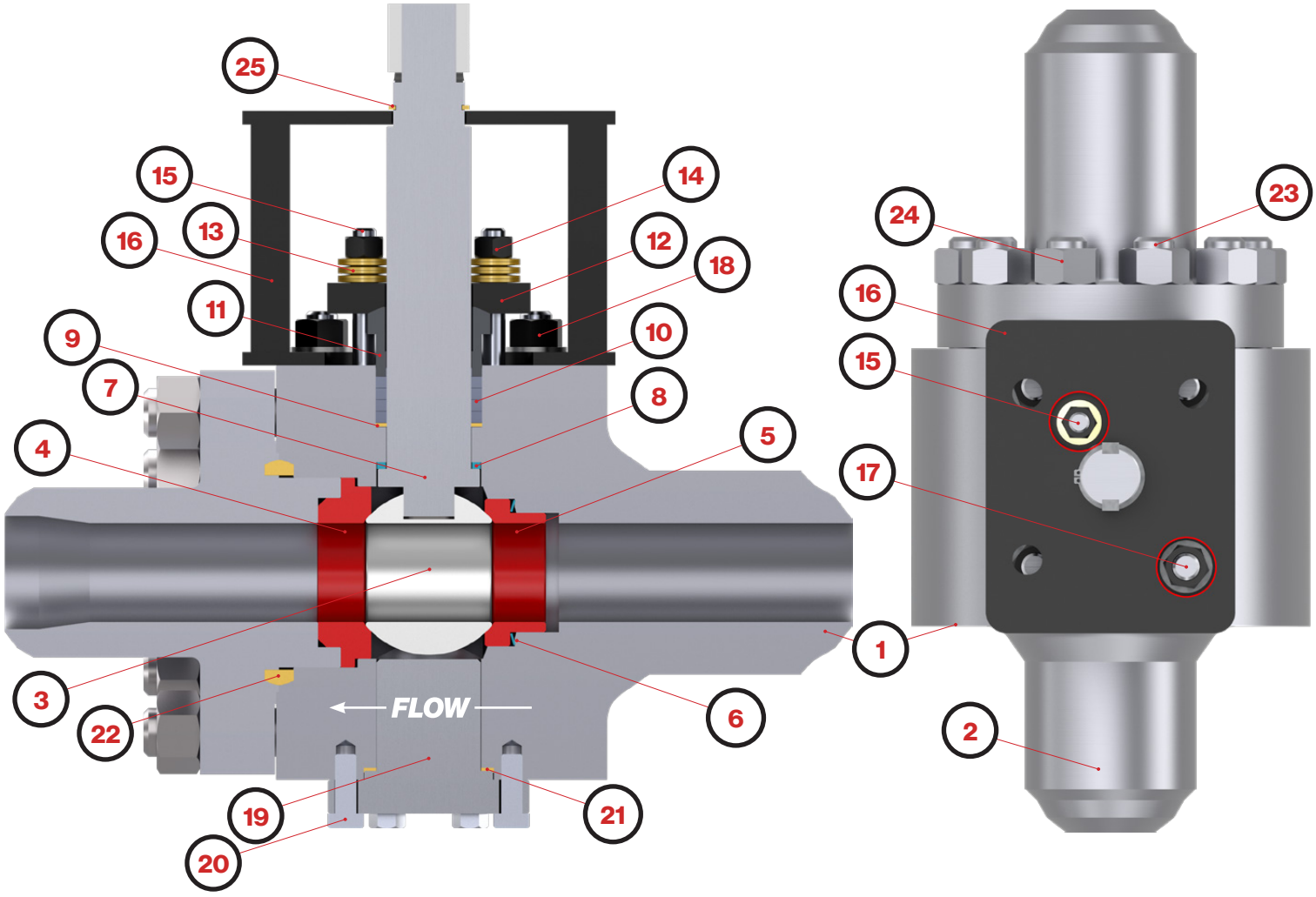
- **Spiral Wound Gasket** - Class 900-1500 are equipped with spiral-wound gaskets for ease of maintenance (Figure A)

- **Delta Ring** - Class 2500 and higher are equipped with an advanced delta ring for reliable high pressure containment (Figure B)

Flanged Seat Design *(Figure C)*

- With our HVOF coating technology, valves are resistant to the attack of abrasive magnetite and ferrous oxides that may be seen in the steam flow.

JBFX – Parts & Materials

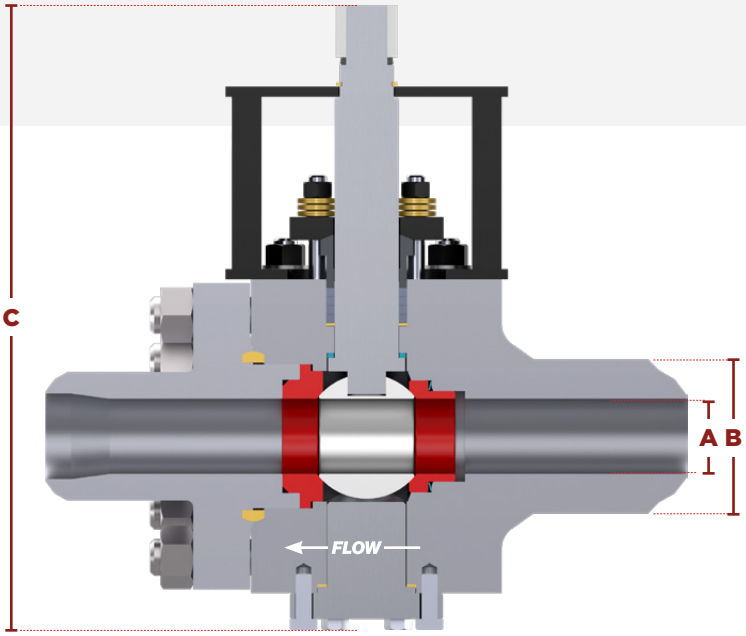


NO	PART NAME	CARBON, LOW ALLOY & STAINLESS STEEL	
1	BODY	A105N	A182-F22 CL3 / A182-F91
		A105N	A182-F22 CL3 / A182-F91
2	END CONNECT	A105N | A182-F22 CL3 / A182-F91	
3	BALL	410SS+CRC	
		INCONEL 718+SF(OPTION)	
4	DOWNSTREAM SEAT	410SS+CRC	
		INCONEL 718+SF(OPTION)	
5	UPSTREAM SEAT	410SS+CRC	
		INCONEL 718+SF(OPTION)	
6	BELLEVILLE SPRING	INCONEL X750	
7	STEM	A286 + QPQ	
8	STEM RETAINER WASHER	316SS+QPQ	
9	PACKING RING	316SS+QPQ	
10	PACKING	API 622 PACKING	
11	PACKING FOLLOWER	A479-410 COND.2 +QPQ	
12	GLAND FLANGE	A479-410 COND.2 +QPQ	

NO	PART NAME	CARBON, LOW ALLOY & STAINLESS STEEL
13	BELLEVILLE WASHER	INCONEL X750
14	GLAND BOLT	A2-70
15	GLAND NUT	A2-70
16	MOUNTING BRACKET	CS +PAINTING
17	MOUNTING NUT	A2-70
18	MOUNTING BOLT	A2-70
19	RETAINER	A105N
20	RETAINER SCREW	A2-70
21	RETAINER GASKET	SPIRAL WOUND
22	BODY SEAL	INCONEL X718
23	BOLT	A193-B7
24	NUT	A194-7
25	SNAP RING	STAINLESS STEEL

CRC - Chrome Carbide Coating | **QPQ** - Quench-Polish-Quench Nitrocarburizing

JBFX – Dimensional Info



Dimensions - CL900							
SIZE		A		B		C	
DN	NPS	mm	in	mm	in	mm	in
80	3"	76	3	381	15	100	3.9
100	4"	92	3.62	457	18	118	4.64
150	6"	140	5.5	610	24	178	7
200	8"	183	7.19	737	29	228	8.97
250	10"	230	9.06	838	33	286	11.25
300	12"	273	10.75	965	38	338	13.29

Dimensions - CL1500							
SIZE		A		B		C	
DN	NPS	mm	in	mm	in	mm	in
80	3"	66.5	2.62	470	18.5	99.6	3.92
100	4"	87.4	3.44	546	21.5	127	5
150	6"	131.8	5.19	705	27.75	189	7.43
200	8"	173	6.81	832	32.75	246	9.69
250	10"	216	8.5	991	39	303	11.94
300	12"	257.5	10.13	1130	44.5	360	14.19

Dimensions - CL2500							
SIZE		A		B		C	
DN	NPS	mm	in	mm	in	mm	in
80	3"	58.5	2.30	578	22.75	110	4.33
100	4"	80.0	3.15	673	26.5	150	5.91
150	6"	124.5	4.90	914	36	218	8.58
200	8"	173.0	6.81	1022	40.25	302	11.89
250	10"	216.0	8.50	1270	50	371	14.61
300	12"	257.5	10.13	1422	56	443	17.44

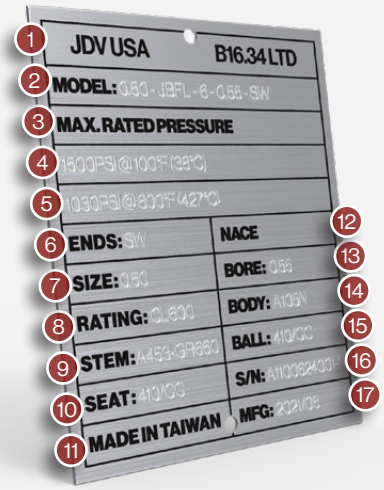
JBFX – Maximum Operating Pressure Rating (PSI) vs. Temperature

Temp (°F)		-20° to 100°	200°	300°	400°	500°	600°	650°	700°	750°
Temp (°C)		-29° to 38°	93°	149°	204°	260°	316°	343°	371°	399°
ASME Class 900	A105	2,220	2,035	1,965	1,900	1,810	1,705	1,650	1,590	1,520
	A182 Gr. F22 Cl. 3	2,250	2,250	2,185	2,115	1,995	1,815	1,765	1,705	1,595
	A182 Gr. F91	2,250	2,250	2,185	2,115	1,995	1,815	1,765	1,705	1,595
ASME Class 1500	A105	3,705	3,395	3,270	3,170	3,015	2,840	2,745	2,655	2,535
	A182 Gr. F22 Cl. 3	3,750	3,750	3,640	3,530	3,325	3,025	2,940	2,840	2,660
	A182 Gr. F91	3,750	3,750	3,640	3,530	3,325	3,025	2,940	2,840	2,660
ASME Class 2500	A105	6,170	5,655	5,450	5,280	5,025	4,730	4,575	4,425	4,230
	A182 Gr. F22 Cl. 3	6,250	6,250	6,070	5,880	5,540	5,040	4,905	4,730	4,430
	A182 Gr. F91	6,250	6,250	6,070	5,880	5,540	5,040	4,905	4,730	4,430
ASME Class 4500	A105	11,110	10,185	9,815	9,505	9,040	9,515	8,240	7,960	7,610
	A182 Gr. F22 Cl. 3	11,250	11,250	10,925	10,585	9,965	9,070	8,825	8,515	7,970
	A182 Gr. F91	11,250	11,250	10,925	10,585	9,965	9,070	8,825	8,515	7,970

Temp (°F)		800°	850°	900°	950°	1000°	1050°	1100°	1150°	1200°
Temp (°C)		427°	454°	482°	510°	538°	566°	593°	621°	649°
ASME Class 900	A105	1,235	-	-	-	-	-	-	-	-
	A182 Gr. F22 Cl. 3	1,525	1,460	1,350	1,160	800	525	330	-	-
	A182 Gr. F91	1,525	1,460	1,350	1,160	1,090	1,080	895	585	360
ASME Class 1500	A105	2,055	-	-	-	-	-	-	-	-
	A182 Gr. F22 Cl. 3	2,540	2,435	2,245	1,930	1,335	875	550	-	-
	A182 Gr. F91	2,540	2,435	2,245	1,930	1,820	1,800	1,490	975	600
ASME Class 2500	A105	3,430	-	-	-	-	-	-	-	-
	A182 Gr. F22 Cl. 3	4,230	4,060	3,745	3,220	2,230	1,455	915	-	-
	A182 Gr. F91	4,230	4,060	3,745	3,220	3,030	3,000	2,485	1,630	1,000
ASME Class 4500	A105	6,170	-	-	-	-	-	-	-	-
	A182 Gr. F22 Cl. 3	7,610	7,305	6,740	5,795	4,010	2,625	1,645	-	-
	A182 Gr. F91	7,610	7,305	6,740	5,795	5,450	5,400	4,475	2,930	1,800

(1) A105 body material not recommended for prolonged use above 800 ° F / 427 ° C

(2) F22 body material not recommended for prolonged use above 1100 ° F / 593 ° C

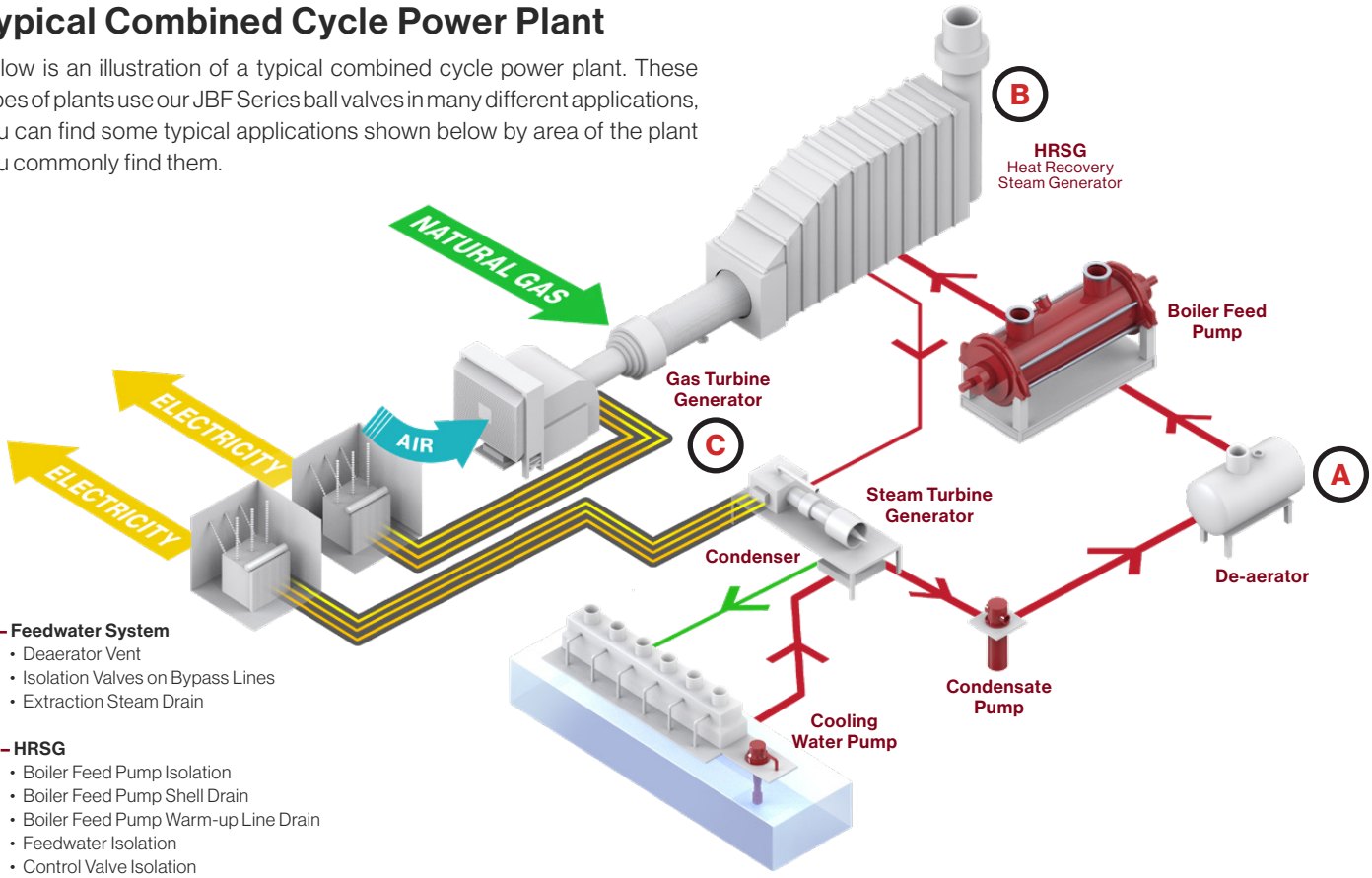


Valve Nameplate Information

1. Our Brand and Specifications
2. Model: *Refer to How-To-Order Guide*
3. Max. Rated Pressure
4. Max. Pressure Low Temperature
5. Max. Pressure High Temperature
6. End Connections
7. Valve Size
8. Rating
9. Stem Material
10. Seat Material
11. Manufacturing Location
12. NACE
13. Bore Size
14. Body Material
15. Ball Material
16. Serial Number
17. Manufacturing Number

Typical Combined Cycle Power Plant

Below is an illustration of a typical combined cycle power plant. These types of plants use our JBF Series ball valves in many different applications, you can find some typical applications shown below by area of the plant you commonly find them.



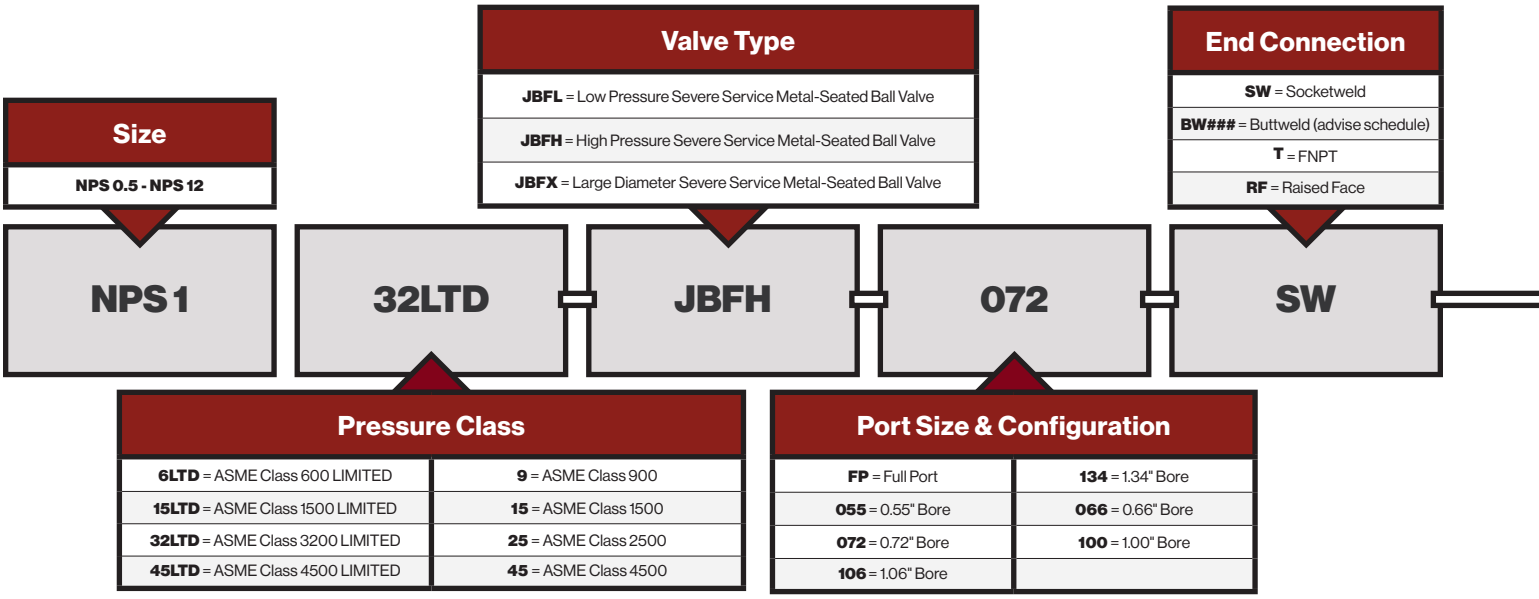
A – Feedwater System
- Deaerator Vent
- Isolation Valves on Bypass Lines
- Extraction Steam Drain

B – HRSG
- Boiler Feed Pump Isolation
- Boiler Feed Pump Shell Drain
- Boiler Feed Pump Warm-up Line Drain
- Feedwater Isolation
- Control Valve Isolation
- Reheat & Superheat Spray Isolation
- Instrument Isolation
- Drum Blowdown Root Valve & Isolation Vents
- Drum Instrument Isolation
- HP/LP/IP HRSG Tube Drains
- Bypass Valves
- Mass Boiler Blowdown
- Superheat Isolation
- Boiler Blowdown
- Tandem Blowdown
- Primary & Secondary Superheat Vent & Drain
- Control Valve Isolation
- Sight Glass Isolation
- Superheat Spray Block
- Reheat & Superheat Spray Isolation
- Automated Bottom Blowdown
- SCR Steam Induction Isolation

C – HP, IP & LP Steam Supply & Extraction
- Main Steam Drain
- Main Steam Before and After Seat Drain
- Bypass Valves
- Turbine Bypass Isolation
- Cold Reheat Drain
- Supply & Extraction Systems
- IP & LP Turbine Extraction Drain
- Hot Reheat Drain
- Hot Reheat at the CRV Drain

How To Order Guide

We've created an easy guide to help our customers order our severe service ball valves.



JBF CV TABLE

JBFH CV - ASME 600~3200 LTD

BORE	PIPE SIZE								
	0.5			0.75			1.00		
	SCH80	SCH160	XXS	SCH80	SCH160	XXS	SCH80	SCH160	XXS
0.55	13.1	9.1	1.9	14.3	15.0	9.1	13.1	13.8	15.0
0.72	-	-	-	-	-	-	29.3	31.2	18.4
1.06	-	-	-	-	-	-	-	-	-
1.34	-	-	-	-	-	-	-	-	-

JBFH CV - ASME4500 LTD

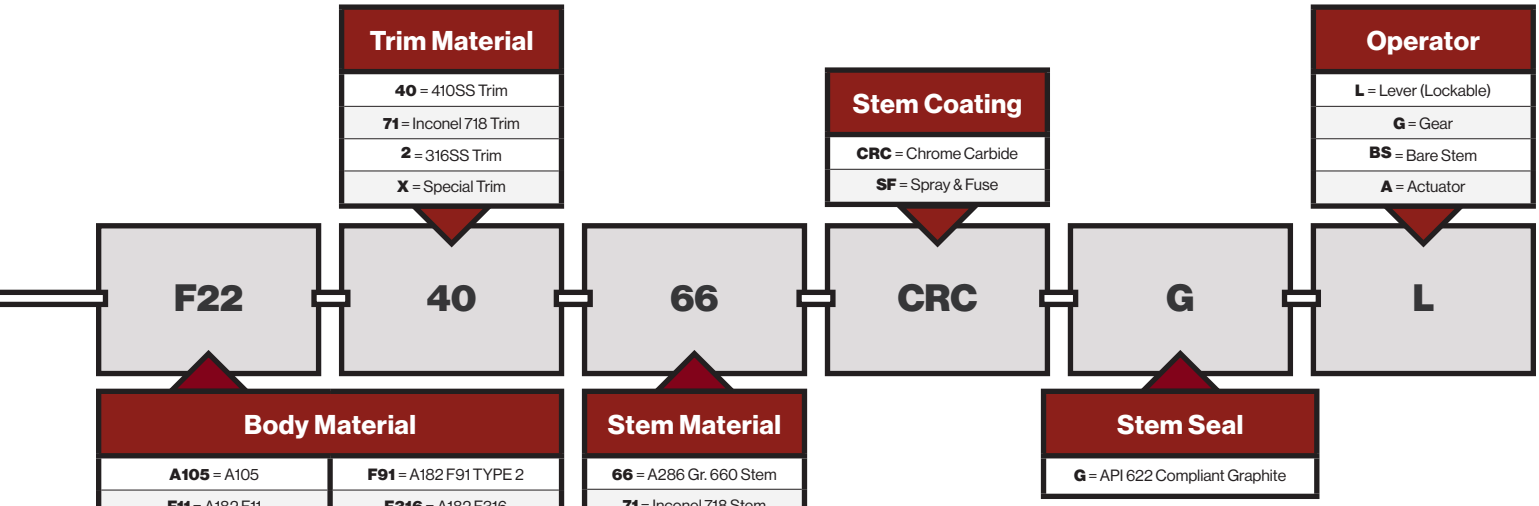
0.66	-	-	-	15.8	15.3	7.1	17.2	17.2	15.3
1.00	-	-	-	-	-	-	-	-	-

JBFL CV

0.55	26.3	26.3	26.3	-	-	-	-	-	-
0.72	-	-	-	61.4	61.4	61.4	-	-	-
1.06	-	-	-	-	-	-	113.8	113.8	113.8
1.44	-	-	-	-	-	-	-	-	-
1.94	-	-	-	-	-	-	-	-	-

NPS 1 32LTD-JBFH-072-SW-F22-40-66-CRC-G-L

Example: NPS 1, Class 3200 Limited, JBFH Series, 0.72" Bore, Socketweld Ends, F22 Body, 410SS Trim + Chrome Carbide Coated, A286 Gr. 6600 Stem, Graphite Packing, Lever Operated



Trim Material

40 = 410SS Trim
71 = Inconel 718 Trim
2 = 316SS Trim
X = Special Trim

Stem Coating

CRC = Chrome Carbide
SF = Spray & Fuse

Operator

L = Lever (Lockable)
G = Gear
BS = Bare Stem
A = Actuator

Body Material

A105 = A105	**F91** = A182 F91 TYPE 2
F11 = A182 F11	**F316** = A182 F316
F22 = A182 F22 CL 3	**F317** = A182 F317
F5 = A182 F5	**F347** = A182 F347
F9 = A182 F9	

Stem Material

66 = A286 Gr. 660 Stem
71 = Inconel 718 Stem
***** = Omit if Not Required

Stem Seal

G = API 622 Compliant Graphite

JBF CV TABLE

JBFH CV - ASME 600~3200 LTD

BORE	PIPE SIZE								
	1.50			2.00			2.50		
	SCH80	SCH160	XXS	SCH80	SCH160	XXS	SCH80	SCH160	XXS
0.55	-	-	-	-	-	-	-	-	-
0.72	30.5	32.0	34.7	-	-	-	-	-	-
1.06	52.5	58.5	73.9	70.6	73.8	80.1	-	-	-
1.34	-	-	-	119.9	138.3	148.6	122.6	129.9	150.3

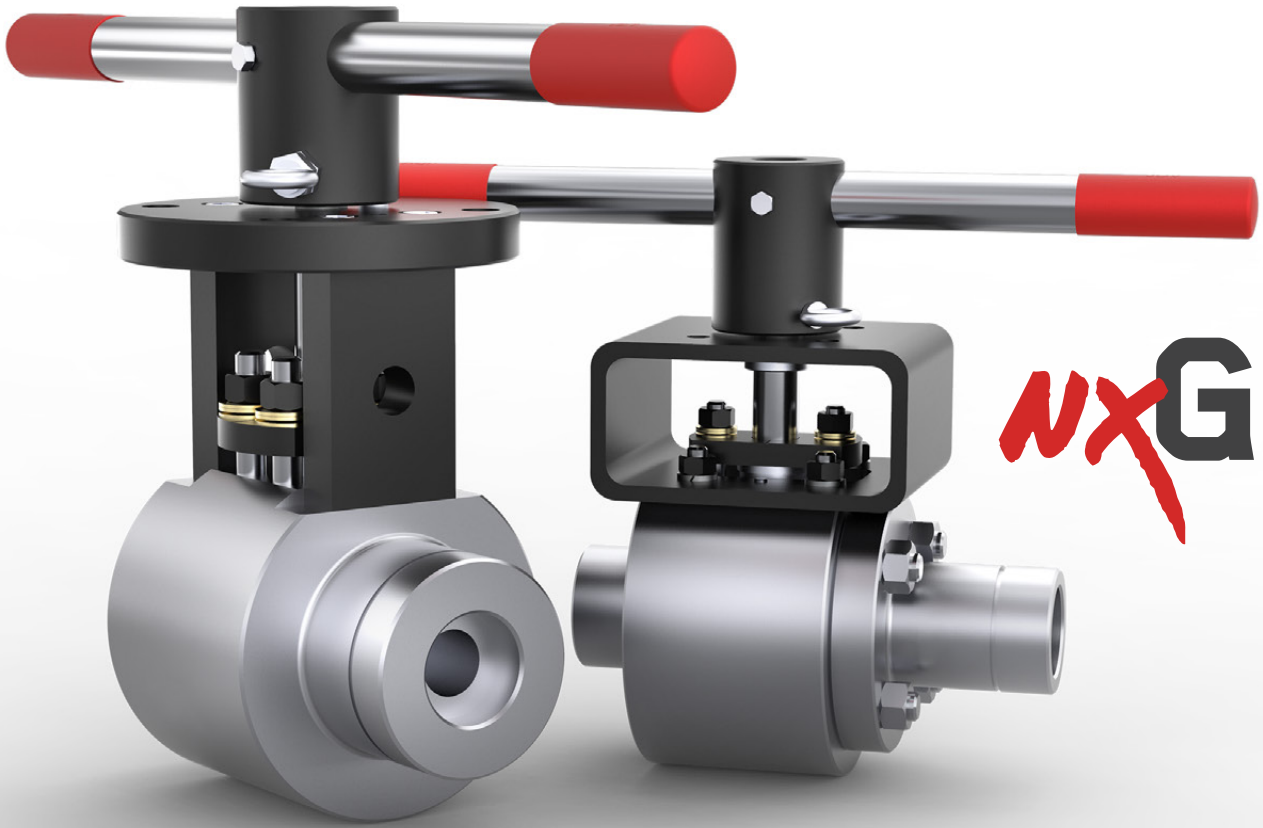
JBFH CV - ASME4500 LTD

0.66	16.3	17.3	18.4	-	-	-	-	-	-
1.00	56.3	61.9	73.3	59.4	64.7	68.7	51.7	57.3	63.6

JBFL CV

0.55	-	-	-	-	-	-	-	-	-
0.72	-	-	-	-	-	-	-	-	-
1.06	-	-	-	-	-	-	-	-	-
1.44	268	268	268	-	-	-	-	-	-
1.94	-	-	-	501	501	501	-	-	-

A NEW GENERATION OF VALVES



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