

JBF

S E R I E S

E / ED / ELK Type

Semiconductor Ball Valves



JBF - E / ED / ELK

BALL VALVE

Industrial fields

- Semiconductor
- Clean For Oxygen Service
- Hook Up
- Inert Bulk Gas Distribution
- CDA / OFAS systems
- Utility Nitrogen Systems
- Bulk Chemical Delivery
- Process Vacuum Exhaust
- Point-of-Use Isolation

Application Standards / Tests

- **Valve Body Material**

304 / 316 / 304L / 316L
Other materials on request.

- **Size**

- JBF-E: Tube OD 1/4" to 6"
Pipe ID 1/2" to 14"
- JBF-ED: Pipe 1/2" to 4"
- JBF-ELK: Tube OD 1/4" to 3/4"

- **Temperature Range**

-20~350°F (-29~175°C)

- **Pressure Rating**

ASME CLASS 150
JIS 10K / JIS 20K

- **Connection Type**

- SCH 5S/TUBE by automatic butt welding
- SCH 10S by manual butt welding

- **Clean Production Line**

- 10,000 Particles clean room
- Oil-free treatment
- Fully assembly and testing in clean room
- Vacuum bag package

- **Operation Mode**

- Lever / Handle / Gear Box
- Actuator

- **Purge Port Options**

NPP / OPP / IOPP

- **Casting Standard**

MSS-SP-25 / MSS-SP-55

- **Leak Test**

100% Leak tested.

- **Helium Leakage Rate**

- 1/4" - 8" valves leak tested to 1×10^{-8} scc / sec
- 10" - up valves leak tested to 1×10^{-7} scc / sec

- **Internal Surface Roughness Level**

- AP: Ra 0.8μm
- BA: Ra 0.4μm for 4" and below
- Ra 0.5μm for 5" and above
- EP: Ra 0.2μm Electrolytic Polishing
- Average roughness can be customized according to project requirements.

Highly-sophisticated Clean Process

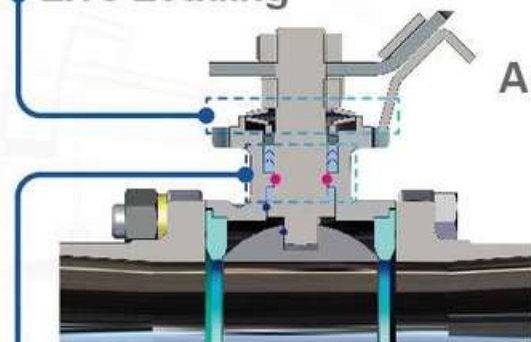


JBF - E / ED TYPE 1/4"~4" (8A~100A) **DESIGN FEATURES**



Lockable
 1/2"~4" (15A~100A)

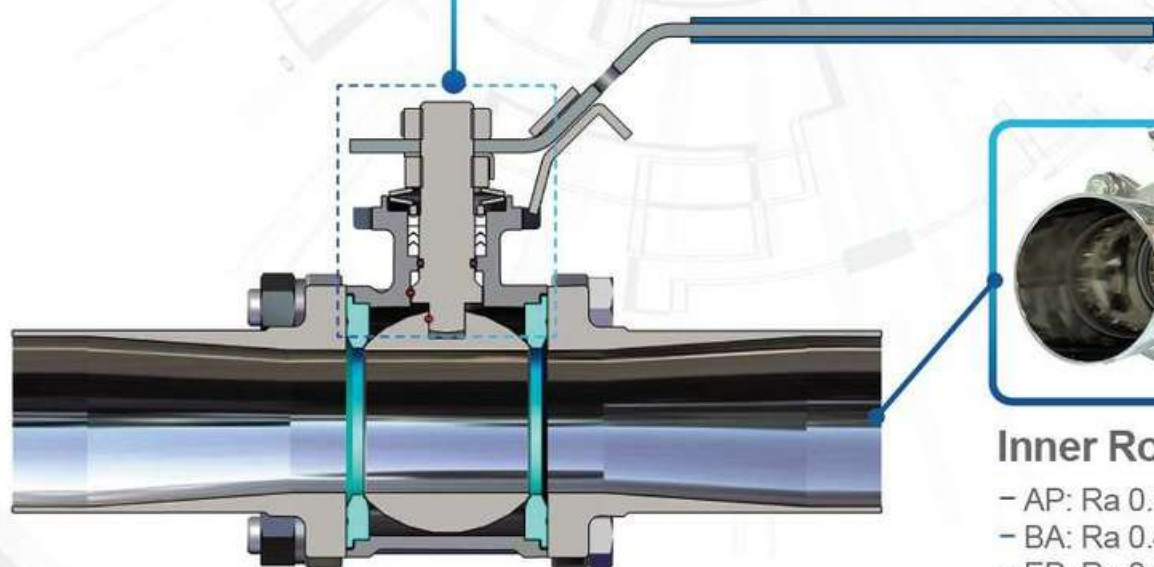
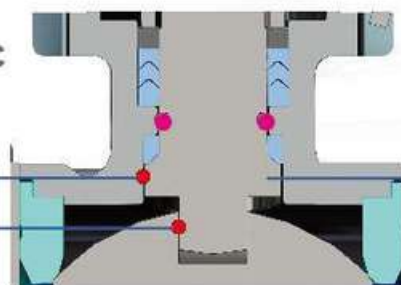
Live Loading



Low - Emission

Anti-blow out stem

Anti static device



Inner Roughness

- AP: Ra 0.8 um
- BA: Ra 0.4 um
- EP: Ra 0.2 um

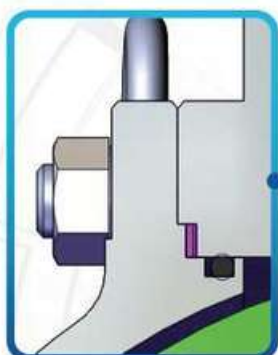
JBF - E TYPE 5"~14" (125A~350A) DESIGN FEATURES



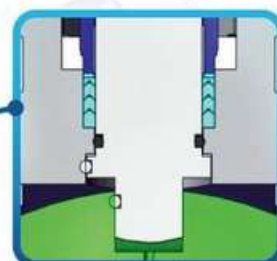
Adjustable Gland



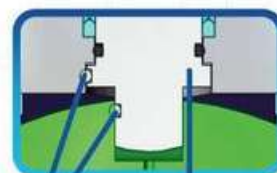
ISO 5211 Direct
Mounting Pad



Double
Seal Ring

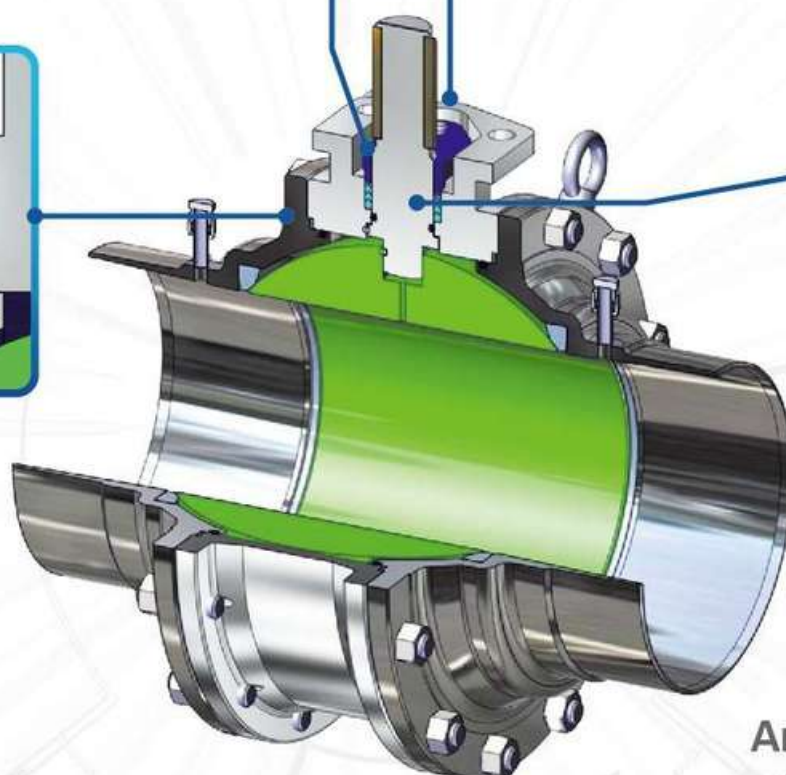


Low-Emission



Anti static
device

Anti-blow
out stem



Lifting
Eye Bolt

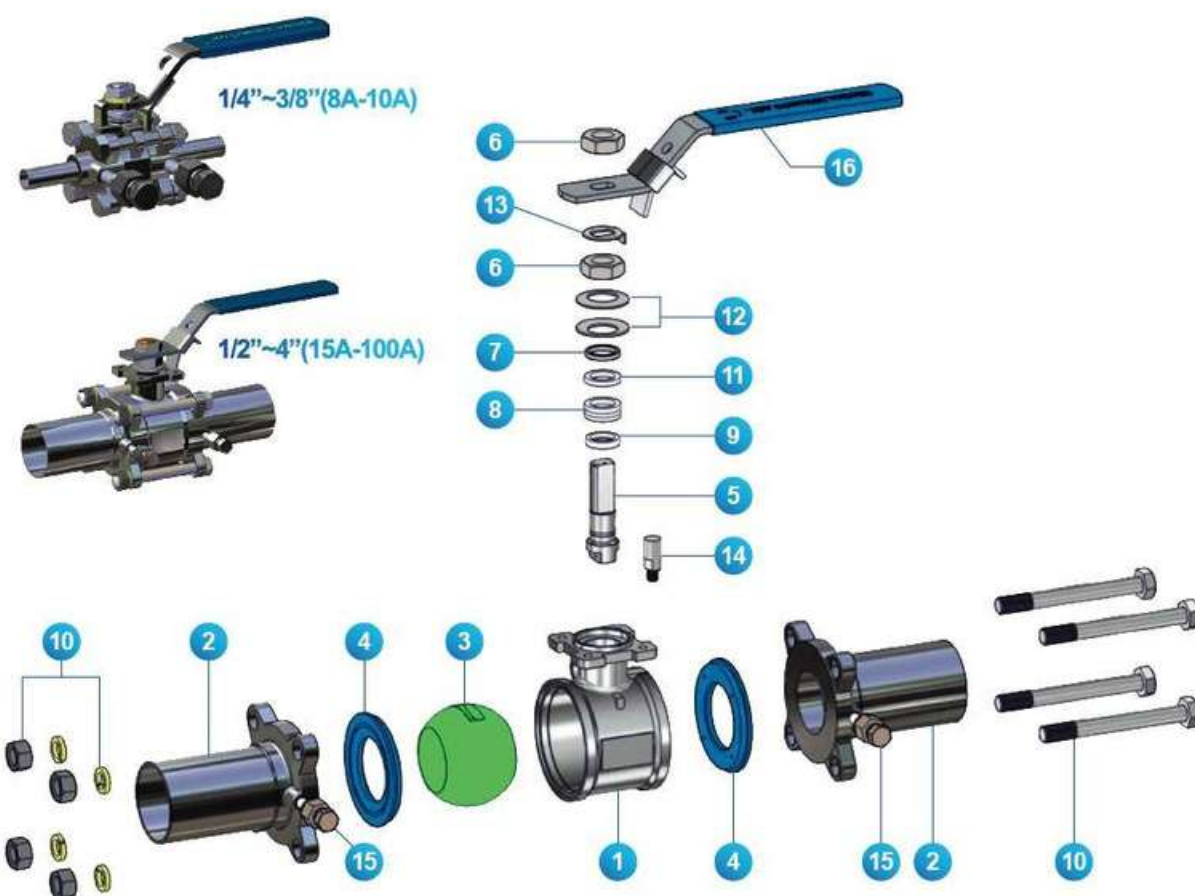
Purge Port
NPP / OPP / IOPP
SIZE: 1/4" or 1/2"

Lock Device



JBF - E

SIZE 1/4"~4" (8A~100A)

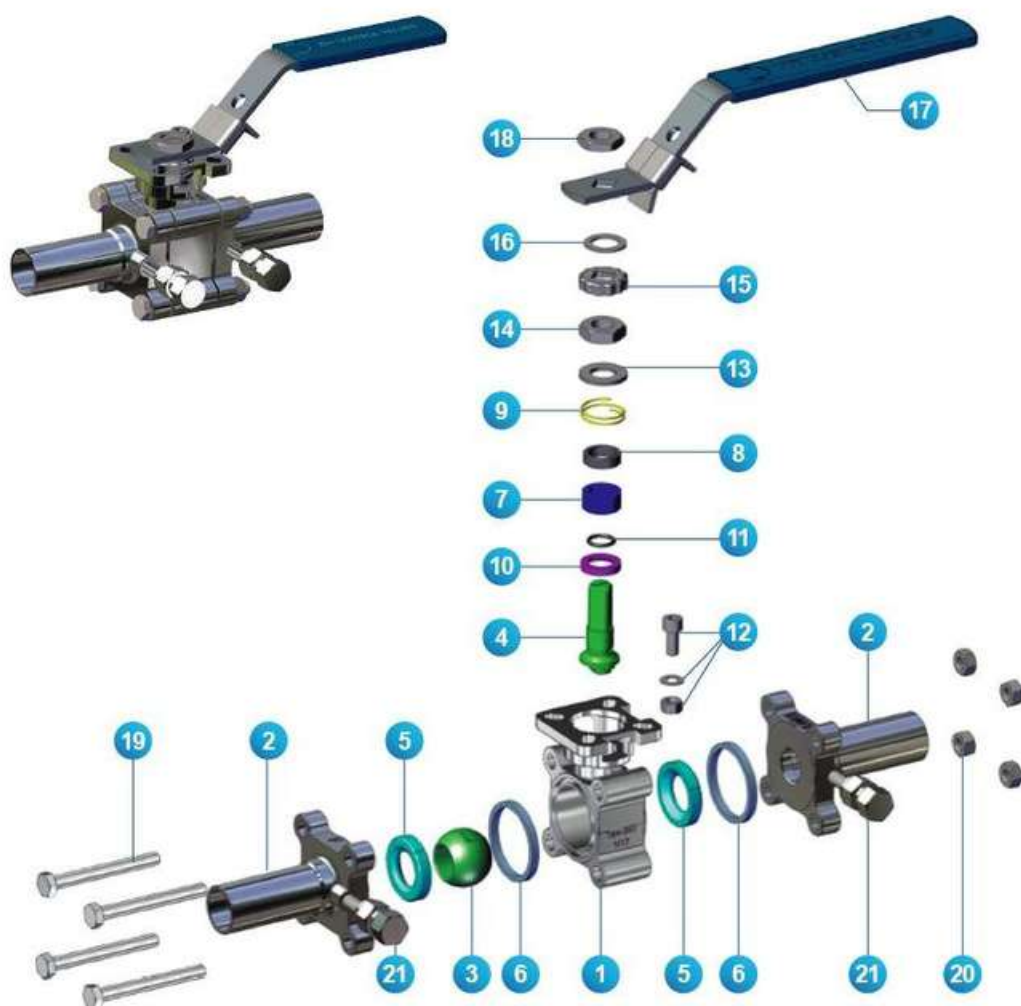


MATERIALS

NO	PART NAME	MATERIAL	NO	PART NAME	MATERIAL
1	BODY	316 / CF8M	9	STEM WASHER	PTFE
2	END CAP	316L / CF3M	10	BOLT & NUT & WASHER	304SS
3	BALL	316SS	11	BEARING	50% Stainless Filled PTFE
4	SEAT	PTFE	12	SPRING	301SS
5	STEM	A276-316	13	WASHER	304SS
6	GLAND NUT	304SS	14	POSITIONING PIN	304SS
7	GLAND BEARING	304SS	15	PURGE PORT SET	316SS
8	GLAND PACKING	PTFE	16	HANDLE SET	304SS

JBF - ED

SIZE 1/2"~4" (15A~100A)



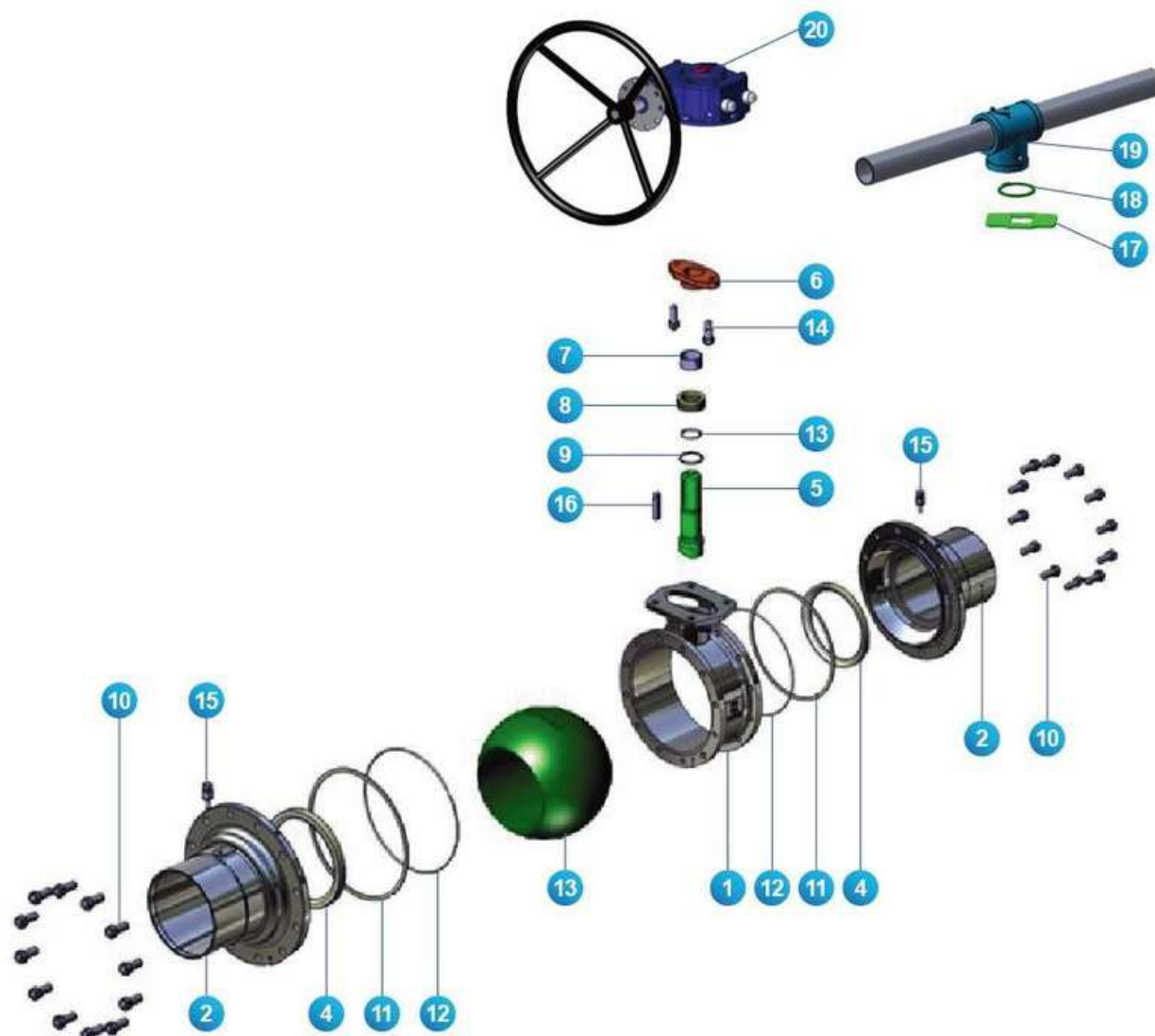
MATERIALS

NO	PART NAME	MATERIAL	NO	PART NAME	MATERIAL
1	BODY	SCS14A (316 / CF8M)	11	O-RING	FKM
2	CAP	SCS16A (316L / CF3M)	12	STOPPER SET	A2-70 /SS304
3	BALL	A182-316	13	BELLEVILLE WASHER	SS301
4	STEM	A182-316	14	STEM NUT	A2-70
5	SEAT	G-PTFE	15	SAFETY CAP	SS304
6	GASKET	PTFE	16	DISTANCE RING	SS304
7	PACKING	PTFE	17	HANDLE	SS304-PVC
8	PRESSURE RING	SS316	18	LOCK NUT	A2-70
9	SPRING	SS304	19	SCREW	A2-70
10	STEM SEAL	PTFE	20	NUT	A2-70
			21	PURGE PORT	316SS

NOTE : 1.NO.9 SPRING for 1/2"(15A) ONLY

JBF - E

SIZE 5"~10" (125A~250A)

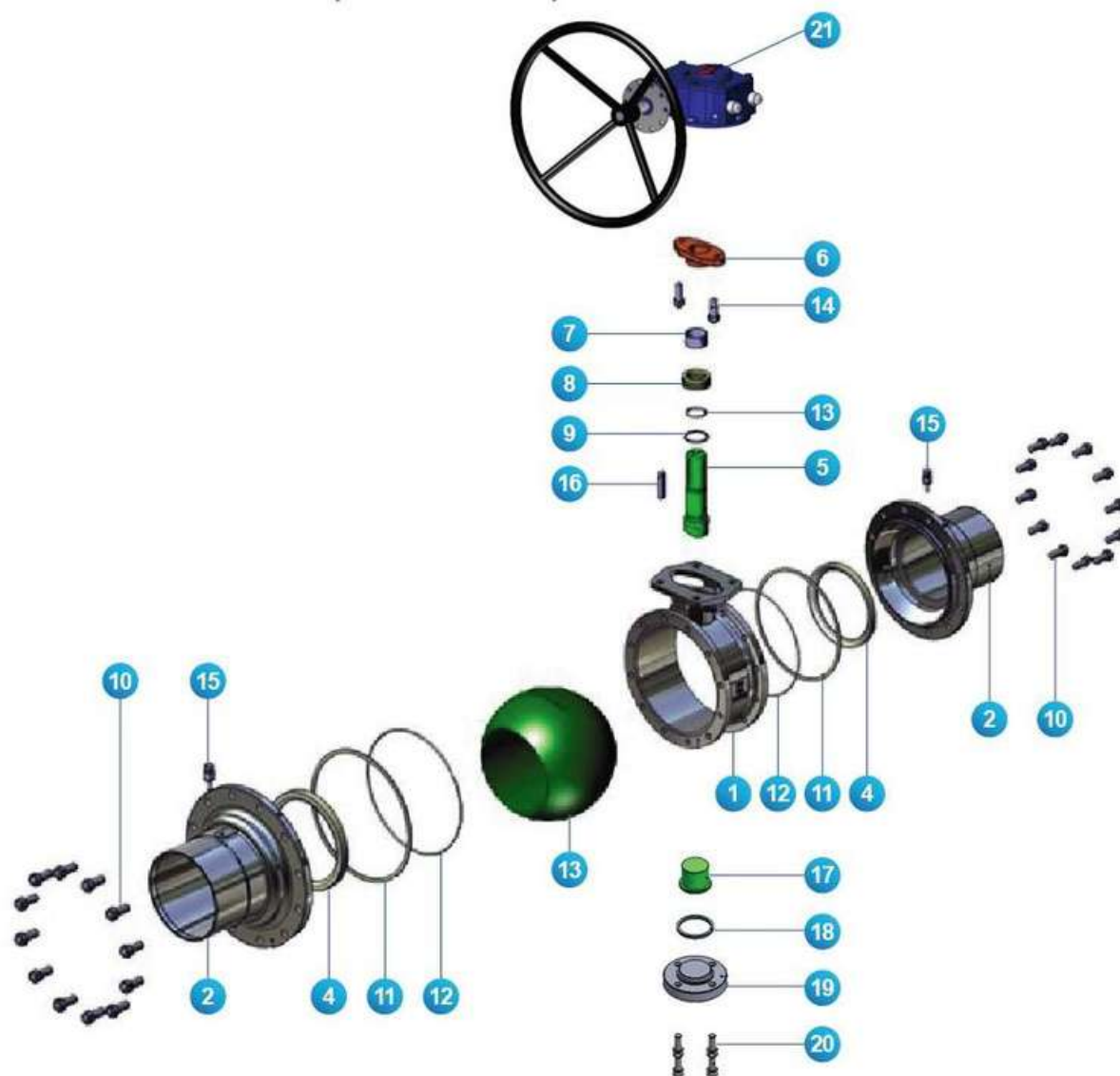


MATERIALS

NO	PART NAME	MATERIAL	NO	PART NAME	MATERIAL
1	BODY	SCS13A / SCS14A CF8 / CF8M	11	BODY SEAL	PTFE
2	END CAP	SCS19A / SCS16A CF3 / CF3M	12	O-RING(BODY)	VITON
3	BALL	A351-CF8M	13	O-RING(STEM)	VITON
4	SEAT	RTFE	14	BOLT & NUT	A2-70
5	STEM	A276-316	15	PURGE PORT SET	316SS
6	GLAND	A351-CF8	16	KEY(GEAR BOX)	S45C
7	GLAND BEARING	RTFE	17	TRAVEL STOP(MO)	A240-304(5")
8	GLAND PACKING	PTFE	18	SNAP RING(MO)	AISI 420(5")
9	STEM WASHER	RTFE	19	HANDLE SET(MO)	FCD45+SGP(5")
10	BOLT & NUT	A2-70	20	GEAR GROUP	DUCTILE IRON / STEEL

JBF - E

SIZE 12"~14" (300A~350A)

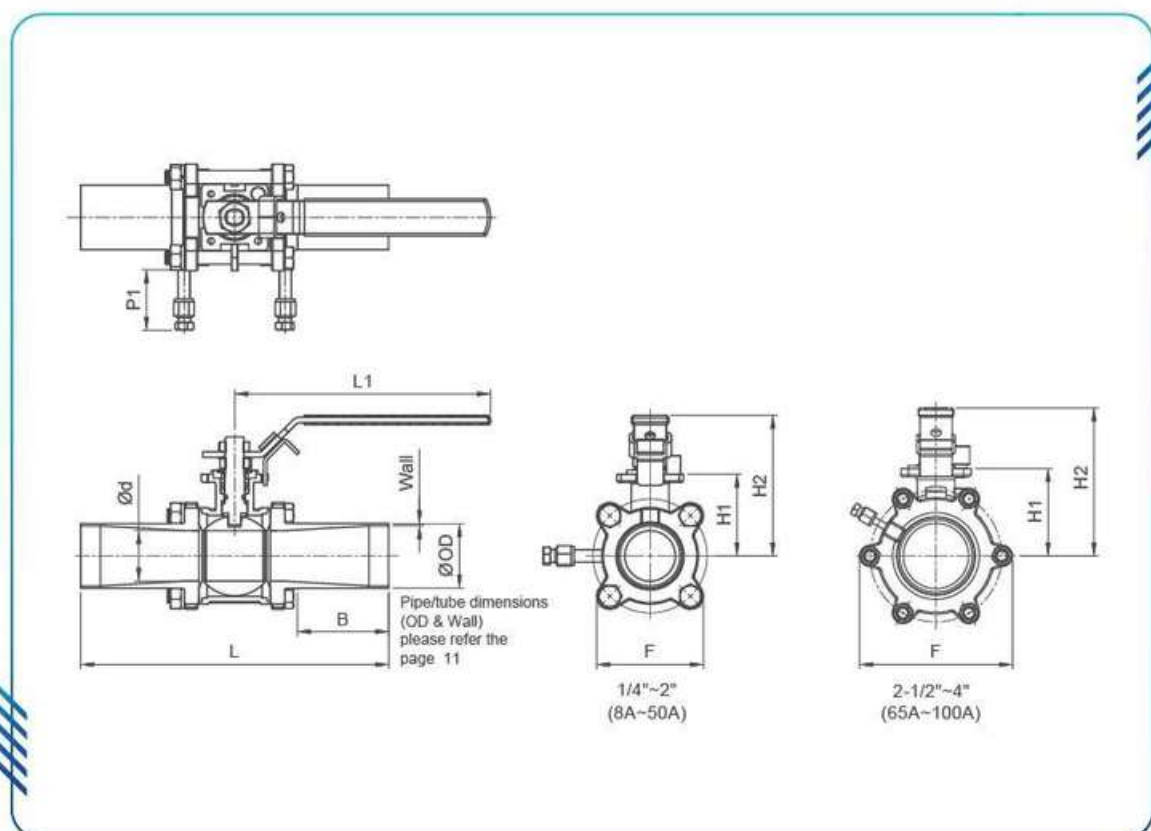


MATERIALS

NO	PART NAME	MATERIAL	NO	PART NAME	MATERIAL
1	BODY	SCS13A / SCS14A CF8 / CF8M	11	BODY SEAL	PTFE
2	END CAP	SCS19A / SCS16A CF3 / CF3M	12	O-RING(BODY)	VITON
3	BALL	A351-CF8M	13	O-RING(STEM)	VITON
4	SEAT	RTFE	14	BOLT & NUT	A2-70
5	STEM	A276-316	15	PURGE PORT SET	316SS
6	GLAND	A351-CF8	16	KEY(GEAR BOX)	S45C
7	GLAND BEARING	RTFE	17	SUPPORT STEM	A276-316+HF
8	GLAND PACKING	PTFE	18	SUPPORT STEM GASKET	PTFE
9	STEM WASHER	RTFE	19	COVER	A276-316
10	BOLT & NUT	A2-70	20	BOLT	A2-70
			21	GEAR GROUP	DUCTILE IRON / STEEL

JBF - E

SIZE 1/4" ~4" (8A-100A)



DIMENSIONS

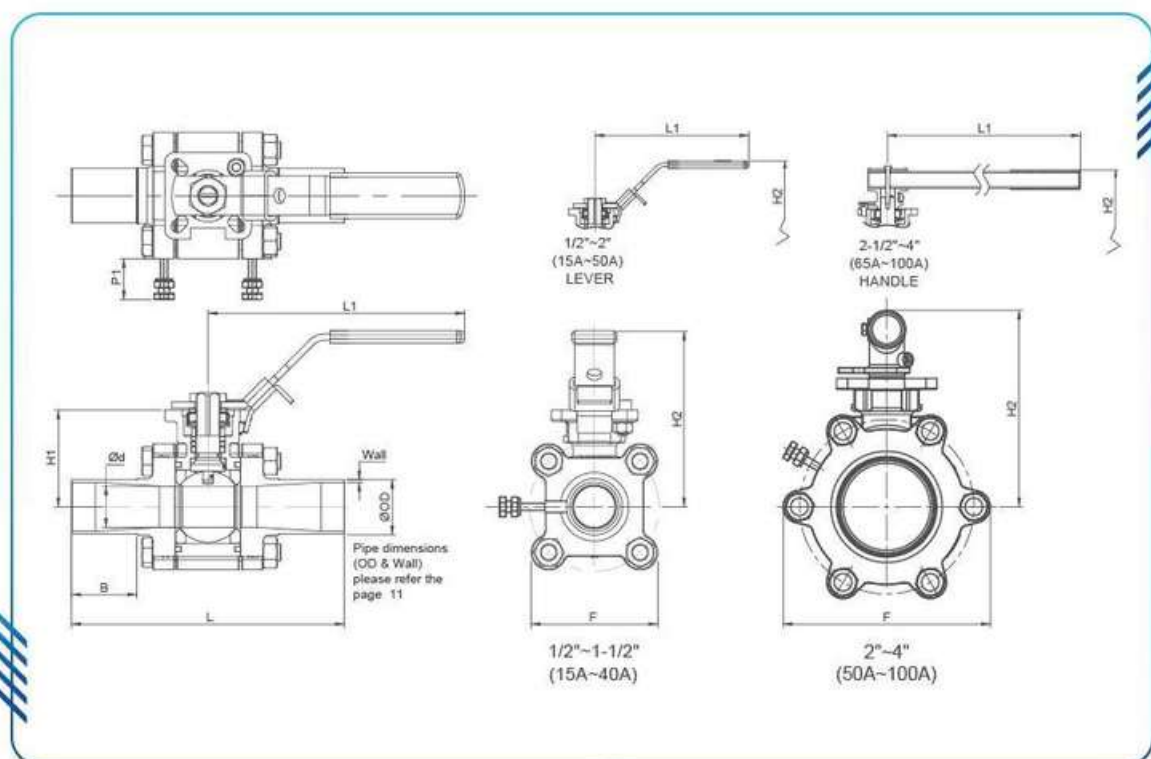
(mm)

SIZE		d (bore)	L	F	B	P1	H1	H2	L1	TUBE	PURGE PORT	PIPE	PURGE PORT	Wt (Kg)	
														TUBE	PIPE
8A	1/4"	8	100.4	37	25.4	39	-	50	105	V	1/4"	-		0.5	-
10A	3/8"	10	100.4	37	25.4	39	-	50	105	V	1/4"	-		0.5	-
15A	1/2"	15	150.7	46.2	45.3	39	34.5	71.7	136	V	1/4"	5S	1/4"	0.8	0.9
20A	3/4"	20	155.7	51.2	45.3	39	37	74.2	136	V	1/4"	5S	1/4"	1	1.1
25A	1"	25	186.2	56.9	58.3	39	43.5	95.4	152	V	1/4"	5S	1/4"	1.4	1.5
32A	1-1/4"	32	195.6	65.0	58.3	39	49.0	100.9	152	V	1/4"	5S	1/4"	1.9	2.1
40A	1-1/2"	38	231.6	78.7	67.9	39	57.1	105.7	190	V	1/4"	5S	1/4"	3	3.2
50A	2"	50	243.4	90.4	68.0	39	65.3	113.9	190	V	1/4"	5S	1/4"	4.4	4.4
65A	2-1/2"	65	290.2	152.3	77.8	39	87.0	148.5	303	V	1/4"	5S	1/4"	9.53	9.65
80A	3"	80	302.2	180.8	78.0	39	96.5	157.5	303	V	1/2"	5S	1/4"	13.95	13.47
100A	4"	100	324.6	215.1	76.8	39	117.5	182.7	446.5	V	1/2"	5S	1/4"	22.79	22.93

*Pipe/Tube dimensions please refer the page "xx"

JBF - ED

SIZE 1/2" ~4" (15A-100A)



DIMENSIONS

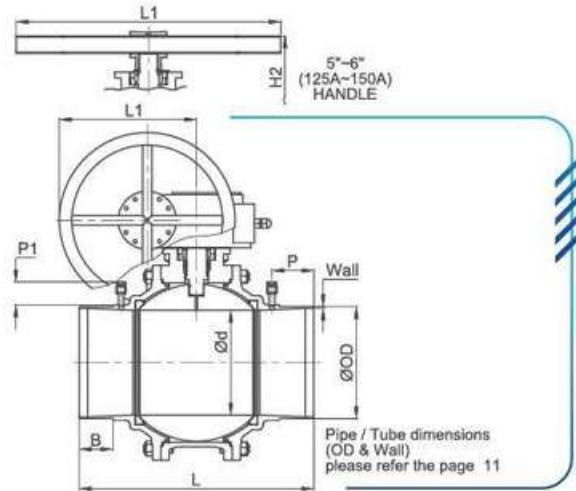
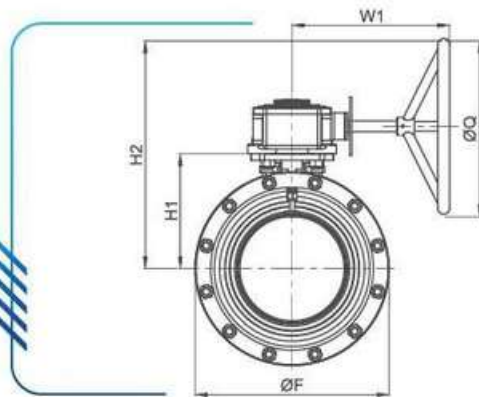
(mm)

SIZE		d (bore)	L	F	B	P1	H1	H2	L1	PIPE	PURGE PORT	Wt (Kg) ----- PIPE
15A	1/2"	15	150.7	59.5	45.5	39	42.6	80.7	144	5S/10S	1/4"	0.9
20A	3/4"	20	155.7	66.5	45.5	39	46.8	85.8	144	5S/10S	1/4"	1.1
25A	1"	25	186.2	74.6	58.5	39	59.3	95.6	165	5S/10S	1/4"	1.5
32A	1-1/4"	32	195.6	86.1	58.5	39	62.6	99.6	165	5S/10S	1/4"	2.1
40A	1-1/2"	38	231.6	103.8	68.5	39	79.0	127	215	5S/10S	1/4"	3.2
50A	2"	50	243.4	120.3	68.5	39	87.7	135.7	243.4	5S/10S	1/4"	4.4
65A	2-1/2"	65	290.2	152.3	78.5	39	108.7	173	290.2	5S/10S	1/4"	9.65
80A	3"	80	302.2	177.8	78.5	39	117.7	185	302.2	5S/10S	1/4"	13.47
100A	4"	100	326.2	212.9	78.5	39	133.7	198	326.2	5S/10S	1/4"	22.93

*Pipe/Tube dimensions please refer the page "xx"

JBF - E

SIZE 5"~14"(125A~350A)

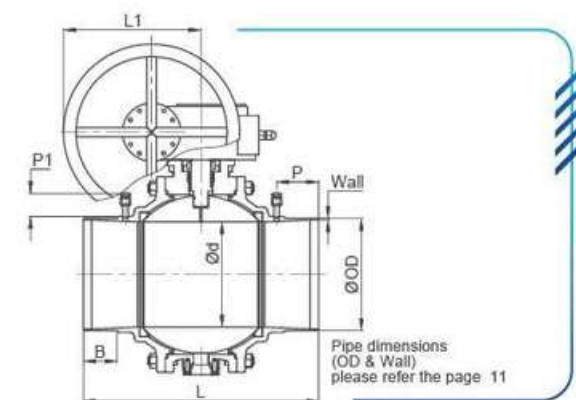
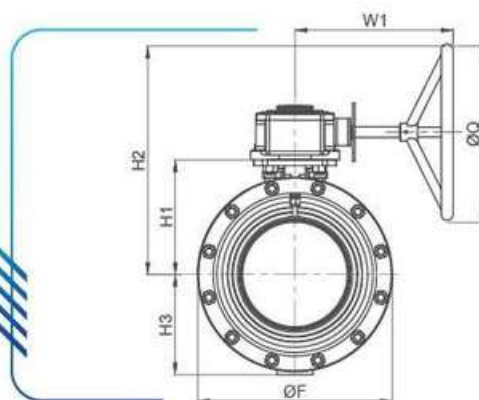


DIMENSIONS

(mm)

SIZE	d	L	F	B	P	P1	H1	HANDLE		GEAR BOX				TUBE	PURGE PORT	PIPE	PURGE PORT	Wt (Kg)	
								H2	L1	H2	L1	W1	Q					TUBE	PIPE
125A 5"	125	386	250	65	80	39	172	250	450	412	266	288	400	V	1/2"	5S/10S	1/4"	45	51
150A 6"	150	415	295	65	80	54	191	274	600	431	266	288	400	V	1/2"	5S/10S	1/4"	67	74
200A 8"	200	521	380	80	100	54	237	-	-	477	266	288	400	-	1/2"	5S/10S	1/2"	123	123
250A 10"	250	559	465	80	100	54	275	-	-	626	386	329	600	-	1/2"	5S/10S	1/2"	218	218

*Pipe/Tube dimensions please refer the page "xx"



DIMENSIONS

(mm)

SIZE	d	L	F	B	P	P1	H1	H3	GEAR BOX				PIPE	PURGE PORT	Wt (Kg)
									H2	L1	W1	Q			
300A 12"	300	635	560	80	100	54	340	287	695	386	329	600	5S/10S	1/2"	360
350A 14"	336	810	635	80	100	54	613	402	970	405	330	600	5S/10S	1/2"	687

*Pipe/Tube dimensions please refer the page "xx"

PIPE DIMENSIONS

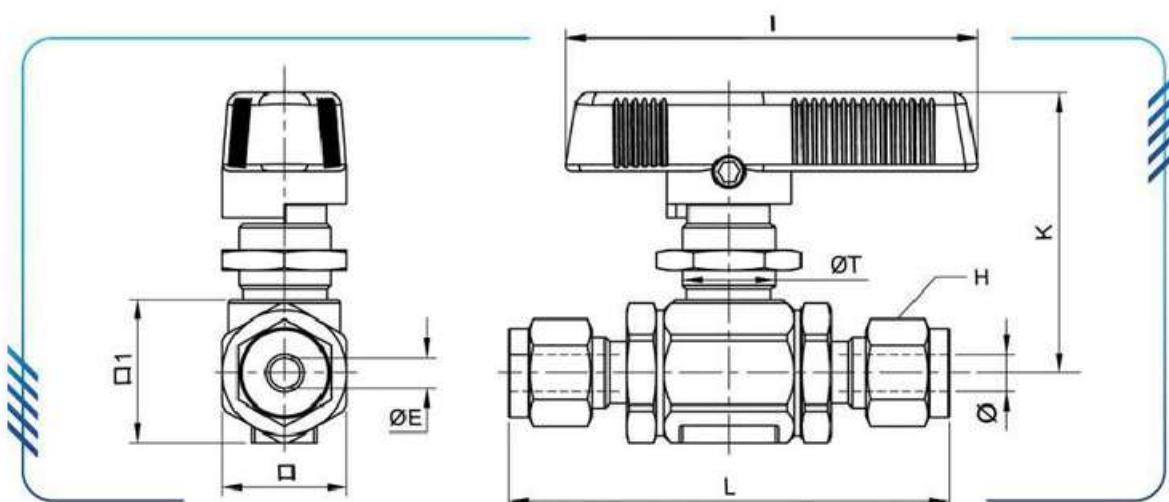
ASME PIPE Dimensions							JIS PIPE Dimensions in Millimeters			
SIZE	O.D.		5S Wall		10S Wall		SIZE	O.D.	5S Wall	10S Wall
	in	mm	in	mm	in	mm				
NPS 1/2	0.840	21.34	0.065	1.65	0.083	2.11	15A	21.7	1.65	2.10
NPS 3/4	1.050	26.67	0.065	1.65	0.083	2.11	20A	27.2	1.65	2.10
NPS 1	1.320	33.53	0.065	1.65	0.109	2.77	25A	34.0	1.65	2.80
NPS 1-1/4	1.660	42.16	0.065	1.65	0.109	2.77	32A	42.7	1.65	2.80
NPS 1-1/2	1.900	48.26	0.065	1.65	0.109	2.77	40A	48.6	1.65	2.80
NPS 2	2.380	60.45	0.065	1.65	0.109	2.77	50A	60.5	1.65	2.80
NPS 2-1/2	2.880	73.15	0.083	2.11	0.120	3.05	65A	76.3	2.10	3.00
NPS 3	3.500	88.90	0.083	2.11	0.120	3.05	80A	89.1	2.10	3.00
NPS 3-1/2	4.000	101.60	0.083	2.11	0.120	3.05	90A	101.6	2.10	3.00
NPS 4	4.500	114.30	0.083	2.11	0.120	3.05	100A	114.3	2.10	3.00
NPS 5	5.560	141.22	0.109	2.77	0.134	3.40	125A	139.8	2.80	3.40
NPS 6	6.620	168.15	0.109	2.77	0.134	3.40	150A	165.2	2.80	3.40
NPS 8	8.620	218.95	0.109	2.77	0.148	3.76	200A	216.3	2.80	4.00
NPS 10	10.750	273.05	0.134	3.40	0.165	4.19	250A	267.4	3.40	4.00
NPS 12	12.750	323.85	0.156	3.96	0.180	4.57	300A	318.5	4.00	4.50
NPS 14	14.000	355.60	0.156	3.96	0.188	4.78	350A	355.6	4.00	5.00
NPS 16	16.000	406.40	0.165	4.19	0.188	4.78	400A	406.4	4.50	5.00
NPS 18	18.000	457.20	0.165	4.19	0.188	4.78	450A	457.2	4.50	5.00
NPS 20	20.000	508.00	0.188	4.78	0.218	5.54	500A	508.0	5.00	5.50
NPS 22	22.000	558.80	0.188	4.78	0.218	5.54	550A	558.8	5.00	5.50
NPS 24	24.000	609.60	0.218	5.54	0.250	6.35	600A	609.6	5.50	6.50
							650A	660.4	5.50	8.00

TUBE DIMENSIONS

ASME / JIS TUBE Dimensions					ASME / JIS TUBE Dimensions				
SIZE	O.D.		Wall		SIZE	O.D.		Wall	
	in	mm	in	mm		in	mm	in	mm
1/8"	0.125	3.18	0.028	0.71	1-1/2"	1.500	38.10	0.065	1.65
1/4"	0.250	6.35	0.035	0.89	2"	2.000	50.80	0.065	1.65
3/8"	0.375	9.53	0.035	0.89	2-1/2"	2.500	63.50	0.065	1.65
1/2"	0.500	12.70	0.049	1.24	3"	3.000	76.20	0.065	1.65
3/4"	0.750	19.05	0.065	1.65	4"	4.000	101.60	0.083	2.11
1"	1.000	25.40	0.065	1.65	6"	6.000	152.40	0.109	2.77

JBF-ELK

SIZE 1/4"~3/4" (8A~20A)



DIMENSIONS

MATERIAL : 316/CF8M/SCS14A

Order No.	Tube OD	Panel Hole Size	Dimensions						H
	$\varnothing$	$\varnothing T$	$\varnothing E$	I	K	L	$\square$	$\square 1$	
JBFF-ELK-8A-F JBFF-ELK-8A-C	1/4"	16.3	4.8	53	53.5	69	22	22	14
JBFF-ELK-10A-F JBFF-ELK-10A-C	3/8"	16.3	7	53	53.5	71	22	22	17
JBFF-ELK-15A-F JBFF-ELK-15A-C	1/2"	19.5	9.2	71	60	81.5	26	28	22
JBFF-ELK-20A-F JBFF-ELK-20A-C	3/4"	19.5	12.6	71	65.5	86.6	32	34	28.57

F: FORGING 316SS

C:CASTING CF8M / SCS14A

TORQUE TABLE

JBF-E / ED PIPE / TUBE BALL VALVE (8A~100A)

SIZE	1 Mpa	2 Mpa	Type
8A	3	7	TUBE
10A	3	7	TUBE
15A	6	13	PIPE / TUBE
20A	10	21	PIPE / TUBE
25A	12	25	PIPE / TUBE
32A	16	33	PIPE / TUBE
40A	18	37	PIPE / TUBE
50A	22	45	PIPE / TUBE
65A	60	122	PIPE / TUBE
80A	75	152	PIPE / TUBE
100A	110	223	PIPE / TUBE

JBF-E PIPE / TUBE BALL VALVE (125A~350A)

SIZE	1 Mpa	2 Mpa	Type
125A	227	454	PIPE / TUBE
150A	418	680	PIPE / TUBE
200A	672	1184	PIPE
250A	855	1421	PIPE
300A	1150	1600	PIPE
350A	1750	2650	PIPE

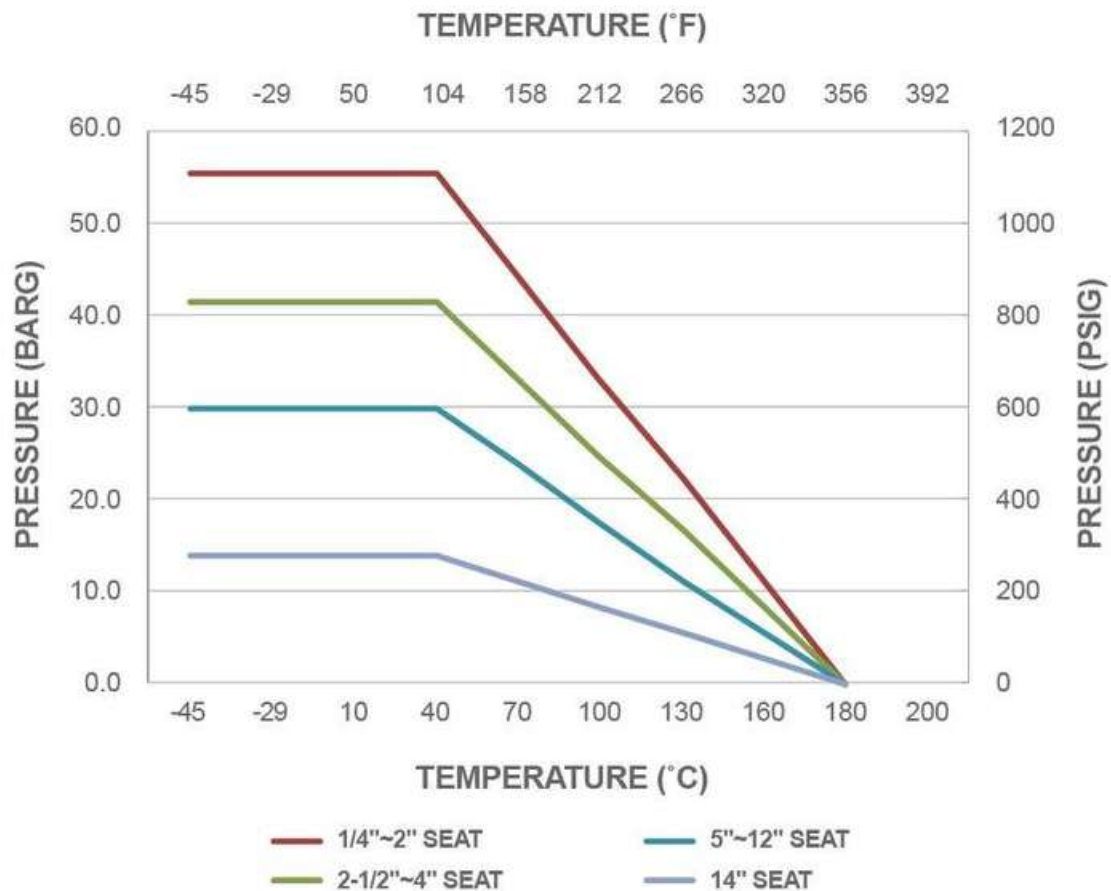
JBF - E C_v VALUES

DIMENSIONS

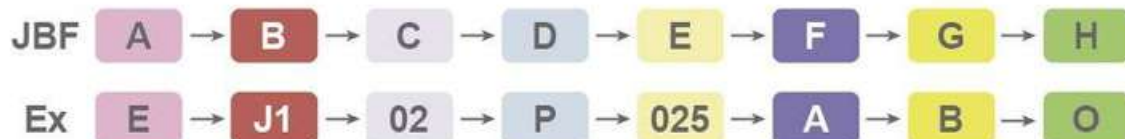
(mm)

SIZE	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A	350A
	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"
Tube	2.9	9	16	41	86	146	223	432	713	1069	1971	3171	4688	-	-	-	-
Pipe	-	-	37	69	110	178	269	481	839	1301	2085	3338	4902	8980	14354	21048	26864

JBF - E P-T Chart



How to order



A. TYPE		B. SPECIFICATION		C. BODY MAT'L		D. SEAT MAT'L	
E ED	J1	JIS SCH 5S	01	CF8 / CF3	P	PTFE	
	J2	JIS SCH 10S	02	CF8M / CF3M	G	G-PTFE	
	A1	ASTM SCH 5S				(15% GLASS FIBER+PTFE)	
	A2	ASTM SCH 10S			T	TFM-1600	
	T	TUBE					

E. SIZE	F. OPTION	G. ROUGHNESS	H. Purge Port
008 1/4"	A BARE SHAFT	A AP	N NPP
010 3/8"	H LEVER	B BA	O OPP
015 1/2"	G GEAR BOX	E EP	IO I/OPP
020 3/4"	C ACTUATOR		
025 1"			
040 1-1/2"			
050 2"			
065 2-1/2"			
080 3"			
100 4"			
125 5"			
150 6"			
200 8"			
250 10"			
300 12"			
350 14"			

Reference Photos - Semiconductor Industry



Buk Gas System



CDA System



Bulk Gas System



Buk Gas System



CDA, N2, System

Certificates

More than 180 certificates included quality system and product function tests to satisfy various market demand



ISO 9001



CE / PED



ISO 14001



ISO 18001



API 6D



API 609



ISO 45001



API 607



ISO 10497



API 6FA



ATEX



TA LUFT



ISO 15848



High Temperature Test



Cryogenic Test



SIL2/3



CRN



TSG



German TÜV Rheinland



OWNS Most Patents in Taiwan



Taiwan



China



USA



Germany

The 1st valve manufacturer in Taiwan got awarded by Taiwan Excellence, and has been continuously 10 years.



• R&D

- The product features innovative R&D, demonstrating excellence in product functions and service systems.
- The product is characterized by intelligence and safety, energy efficiency, and design with environmental benefits such as energy conservation and carbon reduction.

• Design

- Adopts a systematic development strategy and has market competitiveness potential.
- The materials and processes used in the product do not cause pollution and are designed for environmental protection, energy saving, and carbon reduction.

• Product

- Total Quality Management (TQM) is extended to supply chain vendors, rapidly providing high-quality, innovative products that meet potential customer needs.
- Customer satisfaction is highly valued, with a systematic approach to measuring satisfaction that is integrated into the company's operational processes and control.

• Marketing

- Having a highly effective customer service system that can resolve customer issues in the shortest possible time.
- Developing and integrating diverse marketing communication media to conduct brand marketing and promotion.

The only valve manufacturer in Taiwan approved by TIPS (Taiwan Intellectual Property Management System) in Taiwan



Patents, Trademarks, Trade secrets Copyrights

Developed by the JDV R&D/IP team, patent law firms, etc., to establish a patent map layout and manage the patent search database. Effectively grasp the core technology to ensure smooth operations for avoiding design conflicts, infringement protection, and resource utilization.

Letters of Appreciation



SABIC



SCG Thailand



BASF



HITACHI
Singapore



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CONTROL
VALVES**

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