TV SERIES TRUNNION BALL VALVES

Split Body metal seated ball valves for industrial and process applications.

The Jarecki TV Series ball valve is an economical choice for your high temperature and abrasive media valve needs. TV Series valves are used for applications in the Chemical, Power, Pulp and Paper, Petrochemical, Oil and Gas, and Mining Industries.

Standard Applications:

Condensate
Hot Oil
Saturated Steam
Feedwater
Abrasive Media
Natural Gas
Nitrogen

Seat Leakage Class:

RTFE Seats Bubble Tight
RTFE Seats API 598
Metal Seats Class V - **Standard**
Metal Seats Class VI
Metal Seats Zero Leakage
Metal Seats API 598
Metal Seats ISO 5208

Design

Pressure Rating
- 600# Available in Sizes ½" to 12"
- 900# Available in Sizes ½" to 12"
- 1500# Available in Sizes ½" to 12"

Valve Size
- 2" to 12" Full Port
- 3" to 12" Reduced Port

End Connections
- Flanged
- Butt weld Available On Request

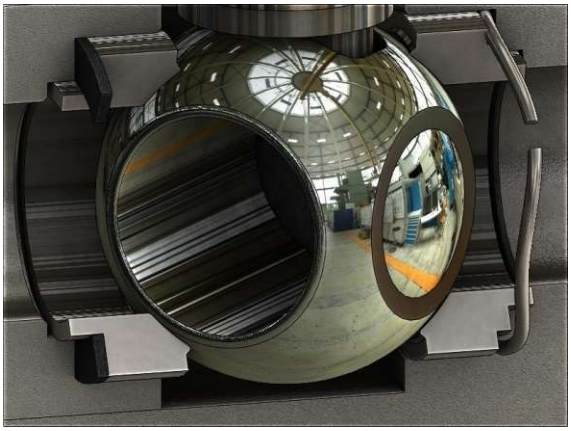
Valve Construction
- 2 Piece Valve Design
- Cast Body and Forged
- Split Body
- Trunnion Mounted Ball
- Spiral Wound Body Gasket with Secondary Metal to Metal Seal
- Actuator Mounting Pad
- Live Loaded Stem Packing
- Designed to B16.34
- Blow Out Proof Stem
- Heavy Duty Stem For High Torque

Seat Designs
- Bi-Direction RTFE Seats
- Bi-Direction Metal Seats
- Uni-Directional Metal Seats – **Standard**

Service Conditions
- Temperatures Up to 1000 deg F
- Pressures as low as Vacuum Service
- Pressures as High as 740 psi
- For Clean and Abrasive Services

SEAT STYLES

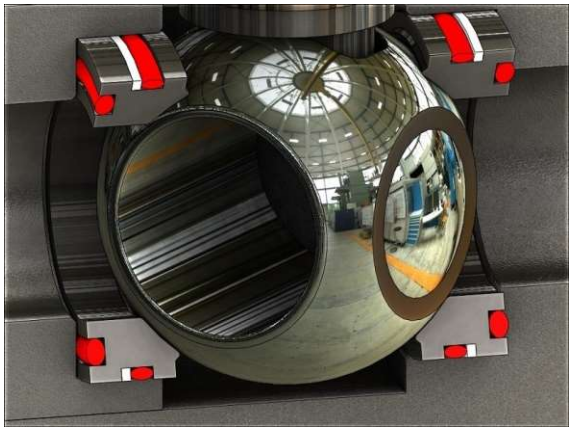
P Seat - Spring Loaded (Standard)



For unidirectional applications. The sealing seat is available as a separate seat ring for reparability, or integral with the tailpiece for high temperature applications. The spring seat OD seal prevents media from building up between the spring and the back of the seat.

Temperature Range: -40 to 1000 deg F
Application: Steam, Hot Air, Gases, Low Pressure Differentials, High Temperatures
Shut-Off: Class IV

O Seal - Graphite Sealed Seat



A double seal design providing both spring loading and excellent sealing capabilities. There is no area for media to build up behind the seat, which prevents the valve from locking up.

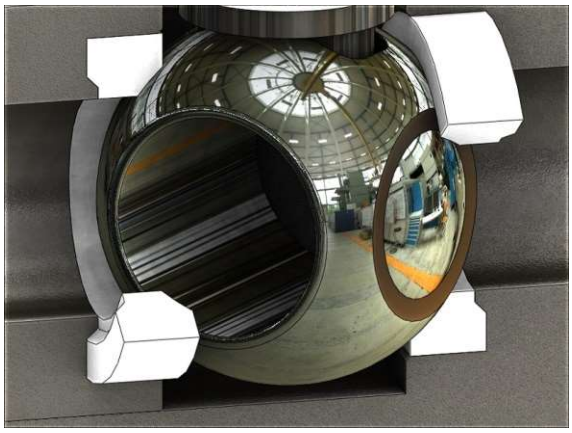
Temperature Range: --40 to 650 deg F
Application: Steam, Abrasion, Low Pressure Differentials, Fine Solids, Emulsions, Condensation, Natural Gas
Shut-Off: Class V, Class VI, Bubble Tight

G Seal - Graphite Sealed Seat

A series of Graphite seal rings behind the metal seat prevents media from building up behind the seat. The rings also allow for expansion of the internal valve components in high temperature applications. This design is great for applications involving fine solids as the graphite prevents the media from building up behind the seats.

Temperature Range: -20 to 1000 deg F
Application: Steam, Abrasion, High Temperatures, Fine Solids, Slurry
Shut-Off: Class IV

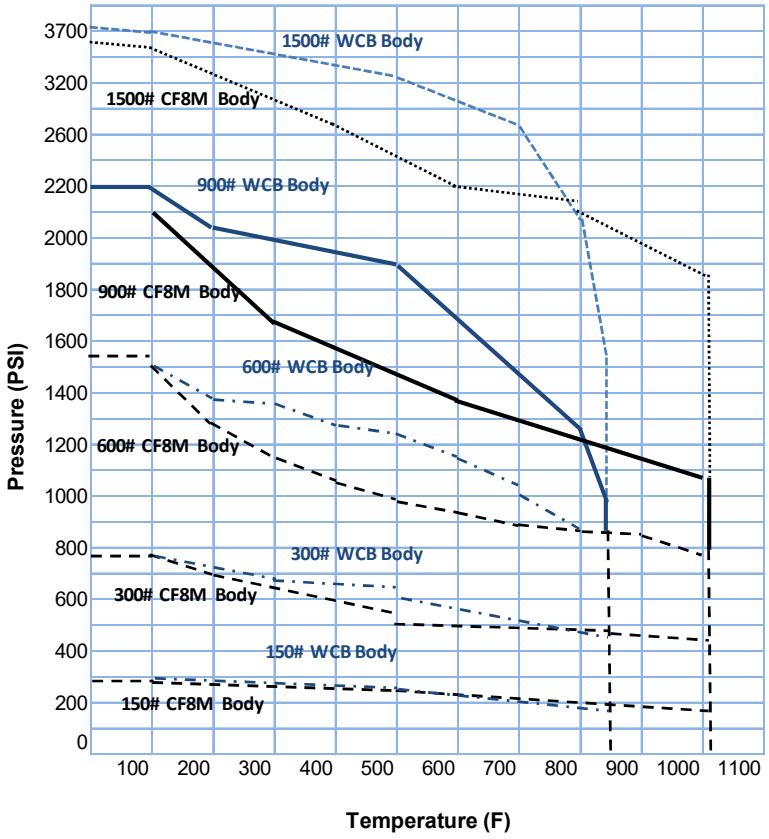
T Seat - Reinforced TFE Seat



The T Seat Style designates a soft seat material. There are many seat materials available with TFM being the standard option. A metal lip on the body and tailpiece provides fire safety and meets API 607 requirements.

Temperature Range: -20 to 450 deg F
Application: Steam, Low Pressure Differentials, Emulsions, Nonabrasive Media
Shut-Off: Class VI, Bubble Tight

PRESSURE / TEMPERATURE CHART



Live Loaded Packing System

- Blow-Out proof stem design to ensure workman safety.
- Live-Loaded stem packing to compensate for temperature fluctuations and normal wear.
- Care is taken not to over torque the stem packing at the testing facility..

Reliable Body Seal

- The body and end connections are bolted with a metal to metal contact to ensure that proper compression on the body gasket is achieved. This metal to metal contact also guarantees that the dimensions inside the valve are correct. The torque is constant, and both the body and seat seal gaskets will always have the proper compression.

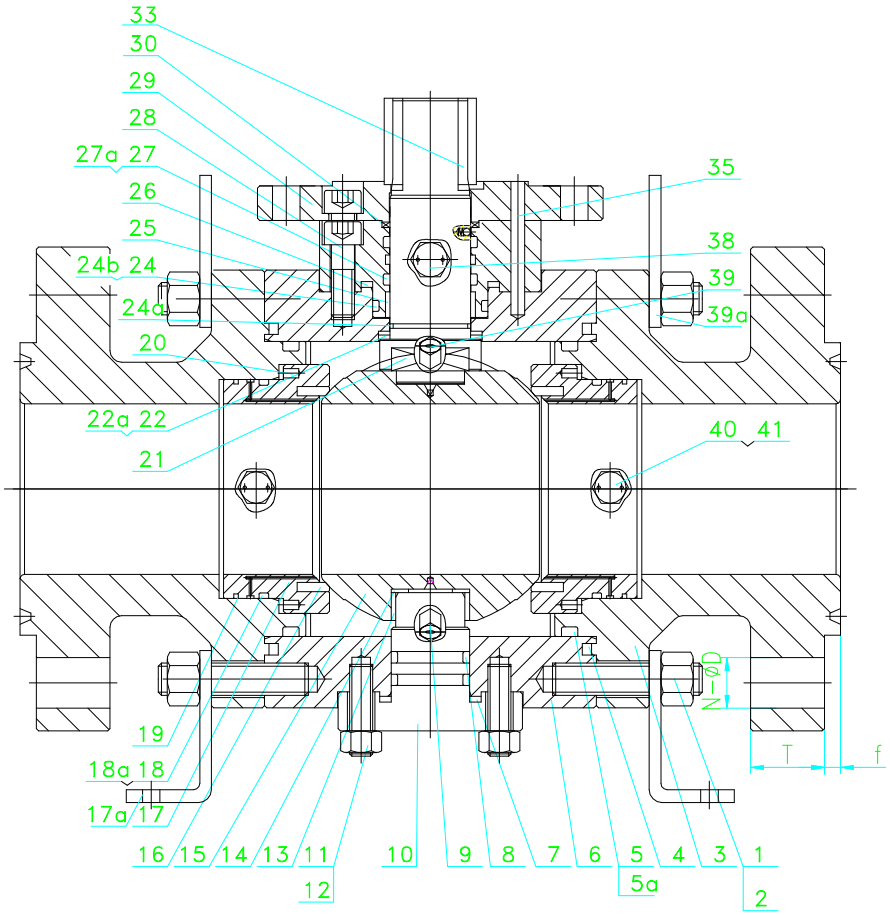
Specifications

Valves covered in this bulletin are available to conform to the following industry standards and specifications

- Flanged Ends meet ANSI B16.10 and B16.5
- Butt Weld end connections meet MSS SP72
- Pressure Testing Of Valves MSS-SP-61
- Standard Marking for Valves MSS-SP-25
- Valves are tested per ANSI FCI 70-2-1976
- Minimum wall thickness meets ANSI B16.34
- Valves are tested per ANSI FCI 70-2-1976 and B16.34
- ASME B31.1 Power Piping
- ASME B31.3 Chemical Plant Piping
- MSS SP-55 Quality Standards For Castings
- MSS SP-6 Standard Finishes for Contact Faces of Pipe Flanges
- API 607 Fire Test For Soft Seated Valves
- NACE MRO175 Sulfide Stress Cracking Resistant Materials For oilfied Equipment*
- API 6D Specifications for Pipeline Valves

* Must specify this as a requirement at time of order

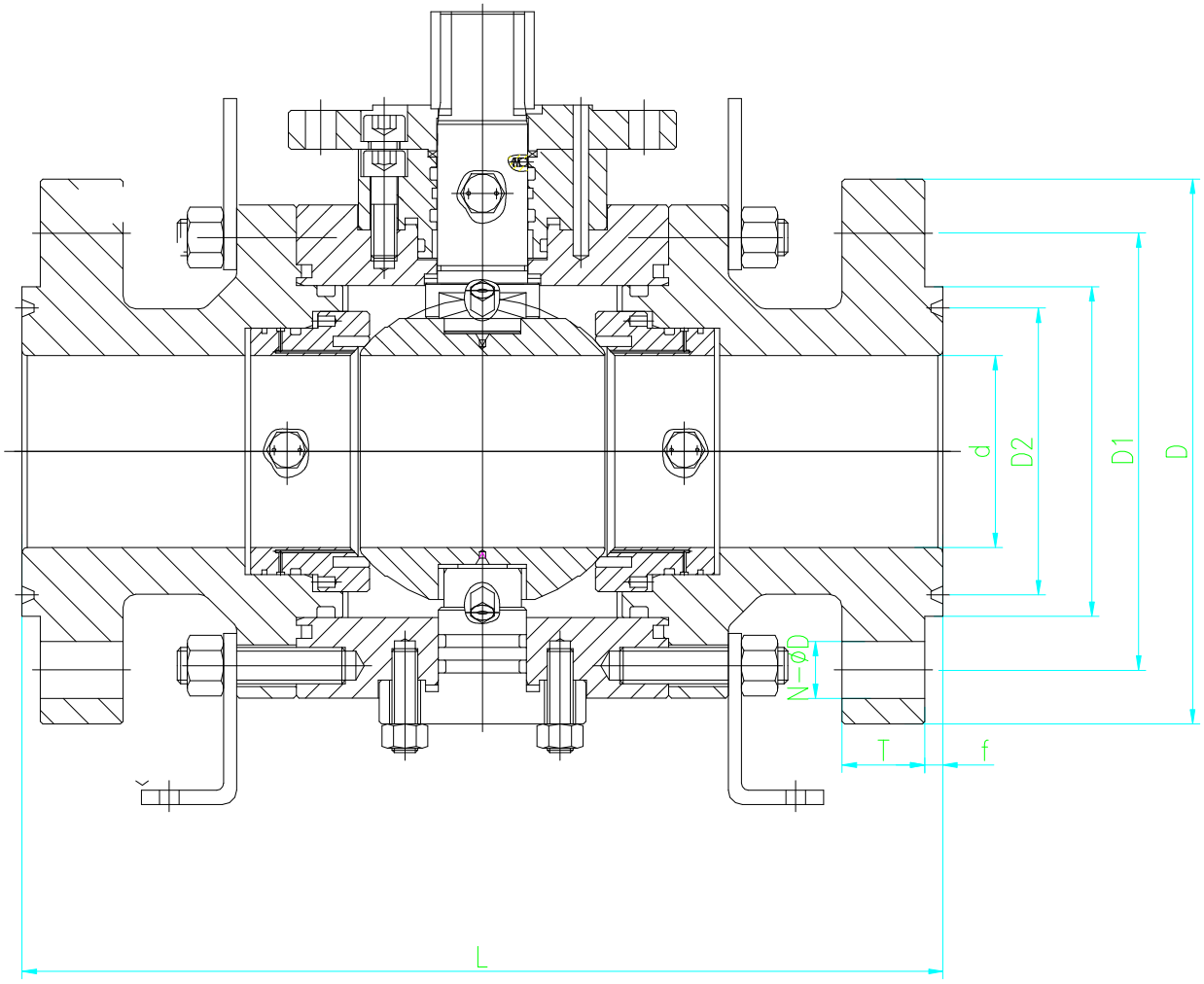
BILL OF MATERIAL



NO.	Part Name	Material
1	Stud	A193 B8M
2	Nut	A194 8m
3	Tailpiece(s)	A182 F316 / CF8M / WCB
4	Gasket	316 + Graphite
5	O-Ring	Viton
5a	Thrust Washer	PTFE
6	Body	A182 F316 / CF8M / WCB
7	Gasket	316 + Graphite
8	O-Ring	Viton
9	Drain Valve	SS 316
10	Trunnion	A182 F316*
11	Stud	A193 B8M
12	Nut	A194 8M
13	Bearing	304 + PTFE
14	Thrust Bearing	PEEK
15	Ball	A182 F316 / A182 F51
16	Seat	Devlon/ TFE/ PEEK
17	Seat Retainer	A182 F316
17a	Foot Stand	A36+Zinc
18	O-Ring	Viton
18a	Thrust Washer	PTFE
19	Packing	Graphite

NO.	Part Name	Material
20	Spring	X750
21	Stem	A182 F316 / A182 F51
22	Thrust Bearing	PEEK
22a	Thrust Washer	A240 316
23	Anti-Static Device	x750
24	O-Ring	Viton
24a	O-Ring	Viton
24b	Thrust Washer	PTFE
25	Bearing	316 + Graphite
26	Gasket	316 + Graphite
27	O-Ring	Viton
27a	Thrust Washer	PTFE
28	Bolt	ASTM A183 B8m
29	Seal Sleeve	A182 F316
30	Packing	Graphite
33	Key	ANSI 1045
35	Pin	ANSI 1035
38	Sealant Fitting	SS 316
39	Release Valve	SS 316
39a	Lifting Lug	A36 + Zn
40	Check Valve	SS 316
41	Sealant Fitting	SS 316

DIMENSIONS



Class 150, Class 300 Full Port

Full Bore Body Design standards: DIN, JIS, GB or others

Pressure Class	\	DN	d	L			D	D1	D2		f		R	T	N	Z	Weight Lbs
				RF	RTJ	BW			RF	RTJ	RF	RTJ					RF, RTJ
ANSI Class 150	2	50	1.97	7.00	7.50	8.50	6.00	4.75	3.62	4.00	0.06	0.25	R22	0.75	4	0.75	42
	3	80	2.95	8.00	8.50	11.12	7.50	6.00	5.00	5.25	0.06	0.25	R29	0.94	4	0.75	62
	4	100	3.94	9.00	9.50	12.00	9.00	7.50	6.19	6.75	0.06	0.25	R36	0.94	8	0.75	110
	6	150	5.91	15.50	16.00	18.00	11.00	9.50	8.50	8.62	0.06	0.25	R43	1.00	8	0.88	353
	8	200	7.91	18.00	18.50	20.50	13.50	11.75	10.62	10.75	0.06	0.25	R48	1.12	8	0.88	595
	10	250	9.92	21.00	21.50	22.00	16.00	14.25	12.75	13.00	0.06	0.25	R52	1.19	12	1.00	915
	12	300	11.93	24.00	24.50	25.00	19.00	17.00	15.00	16.00	0.06	0.25	R56	1.25	12	1.00	1455
	14	350	13.15	27.00	27.50	30.00	21.00	18.75	16.25	16.75	0.06	0.25	R59	1.38	12	1.12	1962
	16	400	15.16	30.00	30.50	33.00	23.50	21.25	18.50	19.00	0.06	0.25	R64	1.44	16	1.12	2381
ANSI Class 300	2	50	1.97	8.50	9.12	8.50	6.50	5.00	3.62	4.25	0.06	0.312	R23	0.88	8	0.75	49
	3	80	2.95	11.12	11.74	11.12	8.25	6.62	5.00	5.75	0.06	0.312	R31	1.12	8	0.88	84
	4	100	3.94	12.00	12.62	12.00	10.00	7.88	6.19	6.88	0.06	0.312	R37	1.25	8	0.88	132
	6	150	5.91	15.88	16.50	18.00	12.50	10.62	8.50	9.50	0.06	0.312	R45	1.44	12	1.00	397
	8	200	7.91	19.75	20.37	20.50	15.00	13.00	10.62	11.88	0.06	0.312	R49	1.62	12	1.12	650
	10	250	9.92	22.38	23.00	22.00	17.50	15.25	12.75	14.00	0.06	0.312	R53	1.88	16	1.25	992
	12	300	11.93	25.50	26.12	25.00	20.50	17.75	15.00	16.25	0.06	0.312	R57	2.00	16	1.25	1543
	14	350	13.15	30.00	30.62	30.00	23.00	20.25	16.25	18.00	0.06	0.312	R61	2.12	20	1.38	2557
	16	400	15.16	33.00	33.62	33.00	25.50	22.50	18.50	20.00	0.06	0.312	R65	2.25	20	1.38	2954

Note: All weights are estimated.

DIMENSIONS

Class 150 & 300 Reduced Port

Reduced Bore Body Design

Pressure Class	NPS	DN	d	d1	L		D	D1	D2		f		R	T	N	Weight Lbs
					RF	RTJ			RF	RTJ	RF	RTJ				RF, RTJ
ANSI Class 150	3" x 2"	80	2.95	1.97	8.00	8.50	7.50	6.00	5.00	5.25	0.06	0.25	R29	0.94	4	62
	4" x 3"	100	3.94	2.95	9.00	9.50	9.00	7.50	6.19	6.75	0.06	0.25	R36	0.94	8	110
	6" x 4"	150	5.91	3.94	15.50	16.00	11.00	9.50	8.50	8.62	0.06	0.25	R43	1.00	8	353
	8" x 6"	200	7.91	5.91	18.00	18.50	13.50	11.75	10.62	10.75	0.06	0.25	R48	1.12	8	595
	10" x 8"	250	9.92	7.91	21.00	21.50	16.00	14.25	12.75	13.00	0.06	0.25	R52	1.19	12	915
	12" x 10"	300	11.93	9.92	24.00	24.50	19.00	17.00	15.00	16.00	0.06	0.25	R56	1.25	12	1455
	14" x 10"	350	13.15	11.93	27.00	27.50	21.00	18.75	16.25	16.75	0.06	0.25	R59	1.38	12	1962
	14" x 12"	350	13.15	11.93	27.00	27.50	21.00	18.75	16.25	16.75	0.06	0.25	R59	1.38	12	1962
	16" x 12"	400	15.16	13.15	30.00	30.50	23.50	21.25	18.50	19.00	0.06	0.25	R64	1.44	16	2381
	16" x 14"	400	15.16	15.16	30.00	30.50	23.50	21.25	18.50	19.00	0.06	0.25	R64	1.44	16	2381
ANSI Class 300	3" x 2"	80	2.95	1.97	11.12	11.74	8.25	6.62	5.00	5.75	0.06	0.312	R31	1.12	8	93
	4" x 3"	100	3.94	2.95	12.00	12.62	10.00	7.88	6.19	6.88	0.06	0.312	R37	1.25	8	137
	6" x 4"	150	5.91	3.94	15.88	16.50	12.50	10.62	8.50	9.50	0.06	0.312	R45	1.44	12	254
	8" x 6"	200	7.91	5.91	19.75	20.37	15.00	13.00	10.62	11.88	0.06	0.312	R49	1.62	12	432
	10" x 8"	250	9.92	7.91	22.38	23.00	17.50	15.25	12.75	14.00	0.06	0.312	R53	1.88	16	772
	12" x 10"	300	11.93	9.92	25.50	26.12	20.50	17.75	15.00	16.25	0.06	0.312	R57	2.00	16	1217
	14" x 10"	350	13.15	11.93	30.00	30.62	23.00	20.25	16.25	18.00	0.06	0.312	R61	2.12	20	1420
	14" x 12"	350	13.15	11.93	30.00	30.62	23.00	20.25	16.25	18.00	0.06	0.312	R61	2.12	20	1720
	16" x 12"	400	15.16	13.15	33.00	33.62	25.50	22.50	18.50	20.00	0.06	0.312	R65	2.25	20	2002
	16" x 14"	400	15.16	15.16	33.00	36.62	25.50	22.50	18.50	20.00	0.06	0.312	R65	2.25	20	2436

Note: All weights are estimated.

Class 600 & 900 Full Port

Full Bore Body Design

Pressure Class	NPS	DN	d	L			D	D1	D2		f		R	T	N	Z	Weight Lbs
				RF	RTJ	BW			RF	RTJ	RF	RTJ					RF, RTJ
ANSI Class 600	2	50	1.97	11.50	11.62	11.50	6.50	5.00	3.62	4.25	0.25	0.312	R23	1.00	8	0.75	84
	3	80	2.95	14.00	14.12	14.00	8.25	6.62	5.00	5.75	0.25	0.312	R31	1.25	8	0.88	143
	4	100	3.94	16.00	17.12	16.00	10.75	8.50	6.19	6.88	0.25	0.312	R37	1.50	8	1.00	260
	6	150	5.91	19.50	22.12	19.50	14.00	11.50	8.50	9.50	0.25	0.312	R45	1.88	12	1.12	551
	8	200	7.91	23.50	26.12	23.50	16.50	13.75	10.62	11.88	0.25	0.312	R49	2.19	12	1.25	948
	10	250	9.92	26.50	31.12	26.50	20.00	17.00	12.75	14.00	0.25	0.312	R53	2.50	16	1.38	1499
	12	300	11.93	30.00	33.12	30.00	22.00	19.25	15.00	16.25	0.25	0.312	R57	2.62	20	1.38	2172
ANSI Class 900	2	50	1.97	14.50	14.62	14.50	8.50	6.50	3.62	4.88	0.25	0.312	R24	1.50	8	1.00	126
	3	80	2.95	15.00	15.12	15.00	9.50	7.50	5.00	6.62	0.25	0.312	R31	1.50	8	1.00	192
	4	100	3.94	18.00	18.12	18.00	11.50	9.25	6.19	7.62	0.25	0.312	R37	1.75	8	1.25	425
	6	150	5.91	24.00	24.12	24.00	15.00	12.50	8.50	9.75	0.25	0.312	R45	2.19	12	1.25	750
	8	200	7.91	29.00	29.12	29.00	18.50	15.50	10.62	12.50	0.25	0.312	R49	2.50	12	1.50	1257
	10	250	9.92	33.00	33.12	33.00	21.50	18.50	12.75	14.62	0.25	0.312	R53	2.75	16	1.50	2011
	12	300	11.93	38.00	38.12	38.00	24.00	21.00	15.00	17.25	0.25	0.312	R57	3.12	20	1.50	2921

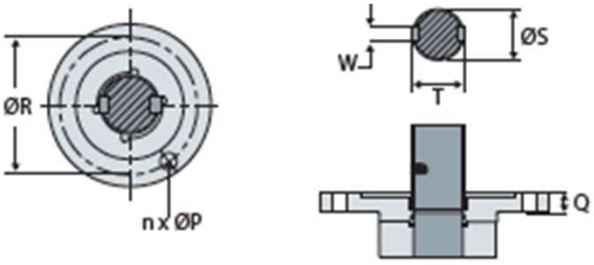
Note: All weights are estimated.

Class 1500 & 2500 Full Port

Full Bore Body Design

Pressure Class	NPS	DN	d	L			D	D1	D2		f		R	T	N	Z	Weight Lbs
				RF	RTJ	BW			RF	RTJ	RF	RTJ					RF, RTJ
ANSI Class 1500	2	50	1.97	14.50	14.62	14.50	8.50	6.50	3.62	4.88	0.25	0.312	R24	1.50	8	1.00	126
	3	80	2.95	18.50	18.62	18.50	10.50	8.00	5.00	6.62	0.25	0.312	R35	1.88	8	1.25	370
	4	100	3.94	21.50	21.62	21.50	12.25	9.50	6.19	7.62	0.25	0.312	R39	2.12	8	1.38	507
	6	150	5.67	27.75	28.00	27.75	15.50	12.50	8.50	9.75	0.25	0.375	R46	3.25	12	1.50	1510
	8	200	7.56	32.75	33.13	32.75	19.00	15.50	10.62	12.50	0.25	0.438	R50	3.62	12	1.75	2189
	10	250	9.41	39.00	39.38	39.00	23.00	19.00	12.75	14.62	0.25	0.438	R54	4.25	12	2.00	3926
	12	300	11.30	44.50	45.12	44.50	26.50	22.50	15.00	17.25	0.25	0.562	R58	4.88	16	2.12	5027
	14	350	12.40	49.50	50.25	49.50	29.50	25.00	16.25	19.25	0.25	0.625	R63	5.25	16	2.38	6614
	16	400	14.17	54.50	55.38	54.50	32.50	27.75	18.50	21.50	0.25	0.688	R67	5.75	16	2.62	8413
	18	450	15.98	60.50	61.38	C/F	36.00	30.50	21.00	24.12	0.25	0.688	R71	6.38	16	2.88	13658
	20	500	17.87	65.50	66.38	C/F	38.75	32.75	23.00	26.50	0.25	0.688	R75	7.00	16	3.12	20007
ANSI Class 2500#	2	50	1.65	17.75	17.87	17.75	9.25	6.75	3.62	5.25	0.25	0.312	R26	2.00	8	1.12	309
	3	80	2.44	22.75	23.00	22.75	12.00	9.00	5.00	6.62	0.25	0.375	R32	2.62	8	1.38	476
	4	100	3.43	26.50	26.88	26.50	14.00	10.75	6.19	8.00	0.25	0.438	R38	3.00	8	1.62	723
	6	150	5.16	36.00	36.50	36.00	19.00	14.50	8.50	11.00	0.25	0.500	R47	4.25	8	2.12	2271
	8	200	7.05	40.25	40.87	40.25	21.75	17.25	10.62	13.38	0.25	0.562	R51	5.00	12	2.12	3461
	10	250	8.78	50.00	50.88	50.00	26.50	21.25	12.75	16.75	0.25	0.688	R55	6.50	12	2.62	5622

DIMENSIONS



n = Number of Bolts
ØP = Hole Diameter
Q = Min. Flange Thickness
ØR = Bolt Circle Diameter
ØS = Stem Diameter
T = Stem Diameter Over Keys
W = Key Width

CLASS 150

ISO 5211 FLANGE IN MILLIMETERS (MM)								
SIZE (DN)	ISO	N	ØP	Q	ØR	ØS	T	W
50	F10	4	10.9	13	102	22	27	6
80	F10	4	13.0	13	102	30	36	10
100	F12	4	14.0	15	125	30	36	8
150	F16	4	22.1	15	165	36	42	10
200	F16	4	22.1	20	165	43	49	12
250	F25	8	18.0	20	254	53	61	16
300	F25	8	18.0	20	254	53	61	16
350	F25	8	18.0	30	254	62	70	18
400	F25	8	18.0	30	254	62	70	18
450	F25	8	18.0	30	254	72	81	20
500	F25	8	18.0	30	254	72	81	20
600	F30	8	22.1	35	298	85	95	22

CLASS 300

ISO 5211 FLANGE IN MILLIMETERS (MM)								
SIZE (DN)	ISO	N	ØP	Q	ØR	ØS	T	W
50	F10	4	10.9	13	102	22	27	6
80	F10	4	13.0	13	102	30	36	10
100	F12	4	14.0	15	125	30	36	8
150	F16	4	22.1	15	165	36	42	10
200	F16	4	22.1	20	165	43	49	12
250	F25	8	18.0	25	254	53	61	16
300	F25	8	18.0	25	254	62	70	18
350	F25	8	18.0	30	254	62	70	18
400	F25	8	18.0	30	254	72	81	20
450	F25	8	18.0	30	254	85	95	22
500	F25	8	18.0	30	254	85	95	22
600	F30	8	22.1	35	298	100	112	28

CLASS 600

ISO 5211 FLANGE IN MILLIMETERS (MM)								
SIZE (DN)	ISO	N	ØP	Q	ØR	ØS	T	W
50	F12	4	14.0	18	125	25	31	8
80	F14	4	18.0	23	140	35	41	10
100	F16	4	22.1	23	165	40	46	12
150	F16	4	22.1	25	165	50	57	14
200	F16	4	22.1	25	165	50	57	14
250	F25	8	18.0	30	254	60	68	18
300	F25	8	18.0	30	254	80	90	22
350	F25	8	18.0	30	254	80	90	22
400	F25	8	18.0	30	254	80	90	22
450	F30	8	22.1	35	298	100	112	28
500	F30	8	22.1	35	298	100	112	28

CLASS 900

ISO 5211 FLANGE IN METRIC UNITS (MM)								
SIZE (DN)	ISO	N	ØP	Q	ØR	ØS	T	W
50	F12	4	14.0	18	125	25	31	8
80	F14	4	18.0	23	140	35	41	10
100	F16	4	22.1	23	165	40	46	12
150	F16	4	22.1	23	165	50	57	16
200	F25	8	18.0	25	254	60	68	18
250	F25	8	18.0	25	254	75	84	20
300	F25	8	18.0	25	254	85	95	22
350	F30	8	22.1	30	298	90	100	25
400	F30	8	22.1	30	298	100	112	28
450	F35	8	33.0	38	356	105	117	28
500	F35	8	33.0	38	356	115	129	32
600	F40	8	39.1	45	406	140	156	36

CLASS 1500

ISO 5211 FLANGE IN MILLIMETERS (MM)								
SIZE (DN)	ISO	N	ØP	Q	ØR	ØS	T	W
50	F12	4	14.0	18	125	25	31	8
80	F14	4	18.0	23	140	35	41	10
100	F16	4	22.1	23	165	40	46	12
150	F25	8	18.0	25	254	63	71	18
200	F25	8	18.0	25	254	75	84	20
250	F25	8	18.0	25	254	85	95	22
300	F30	8	22.1	30	298	105	117	28

CLASS 2500

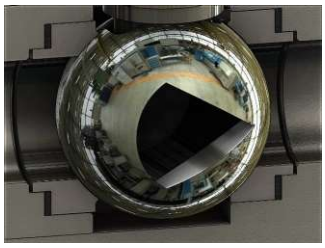
ISO 5211 FLANGE IN MILLIMETERS (MM)								
SIZE (DN)	ISO	N	ØP	Q	ØR	ØS	T	W
50	F14	4	18.0	20	140	36	42	10
80	F16	4	22.1	20	165	43	49	12
100	F25	8	18.0	25	254	53	61	16
150	F25	8	18.0	25	254	72	81	20
200	F25	8	18.0	25	254	50		

Mounting Dimensions Can Change. Ask for updated mounting information at time of order.

OTHER BALL DESIGNS AVAILABLE

Patented Phantom Port

- Greatly extends valve life in corrosive applications
- Seat sealing area protected from flow media which adheres to the ball diameter
- Proven to last three times longer than a standard ball in difficult services
- 75% less wear on seats
- Excellent choice for Green and Black Liquor



V Port Control Valve

- Accurately Cut V-Port For Excellent Control
- Jarecki's V-Port Design Offers Great Rangeability
- Tight Stem To Ball Contact Provides A Valve With Very Low Hystersis
- V-Port Ball Design Provides Both Excellent Shut-Off And Control

ORDERING INFORMATION

SIZE	-	SERIES	PORT SIZE		SEAT		SEAT MATERIAL		BALL		BALL COATING		BODY	-	CLASS		END CONNECTION	
1/2"		TV	F	FULL	0	No Seat Seal	A	AlCrN	A	316SST	A	AlCrN	A	CF8M	01	150#	B	RF Flanged
TO			R	REDUCED	1	O SEAT	B	Boronizing	F	Hastelloy	B	Boronizing	B	WCB	03	300#	C	RTJ Flanged
12"					2	G SEAL	C	COLMONOY	G	Incoloy	C	CHROME	H	Alloy 20	06	600#	D	BUTTWELD
							D	Devlon	H	Alloy 20	E	ENP	X	2205 SST	09	900#		
							G	Graphite	I	Monel	I	Ceramic			15	1500#		
							M	Tantalum Chrome Oxide	X	2205 SST	M	Tantalum Chrome Oxide						
							N	HARD CARBON			N	HARD CARBON						
							P	PEEK			L	Colmonoy						
							Q	CERAMIC			Q	CERAMIC						
							R	CHROME CARBIDE			R	CHROME CARBIDE						
							S	STELLITE			S	STELLITE						
							T	TFE			T	TFE						
							U	UHMWPE			U	Micro Tuff™						
							W	TUNGSTEN CARBIDE			w	TUNGSTEN CARBIDE						
											O	no coating						

Example: 4" TV Series, Full Port, O-Ring Seat Seals, Stellite Seats, 316ss Ball with Tungsten Carbide Coating, WCB body, 900# Flanged RF

2 - TV F 1 W A W B - 09 B

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