

## 5000 SERIES WITH V PORT BALL

Short Pattern V Port Control Valve for industrial and process applications.



The Jarecki 5000 Series Control Valve provides superior control. 5000 Series valves are used for applications in the Aerospace, Chemical, Power, Pulp and Paper, Petrochemical, Oil and Gas, and Mining Industries.

### Standard Applications:

Saturated Steam  
Abrasive Media  
Chlorine  
Nitrogen  
Hot Air  
Acid Service  
Chlorine Dioxide  
Brine  
Salt Water  
TiCl<sub>4</sub>

### 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

- 150# Through 2500#

### Valve Size

- 1/2" to 12" 150# to 300#
- 1/2" to 10" 600#
- 1/2" to 8" 900# to 1500#
- 1/2" to 6" 2500#

### End Connections

- Flanged

### Valve Construction

- 2 Piece Valve Design
- Lugged Body Connection
- Flange Connection Per ANSI B16.5
- Forged Body
- Floating Ball
- Spiral Wound Body Gasket
- Actuator Mounting Pad
- Live Loaded Stem Packing
- Designed to B16.34
- Blow Out Proof Stem
- Heavy Duty Stem For High Torque

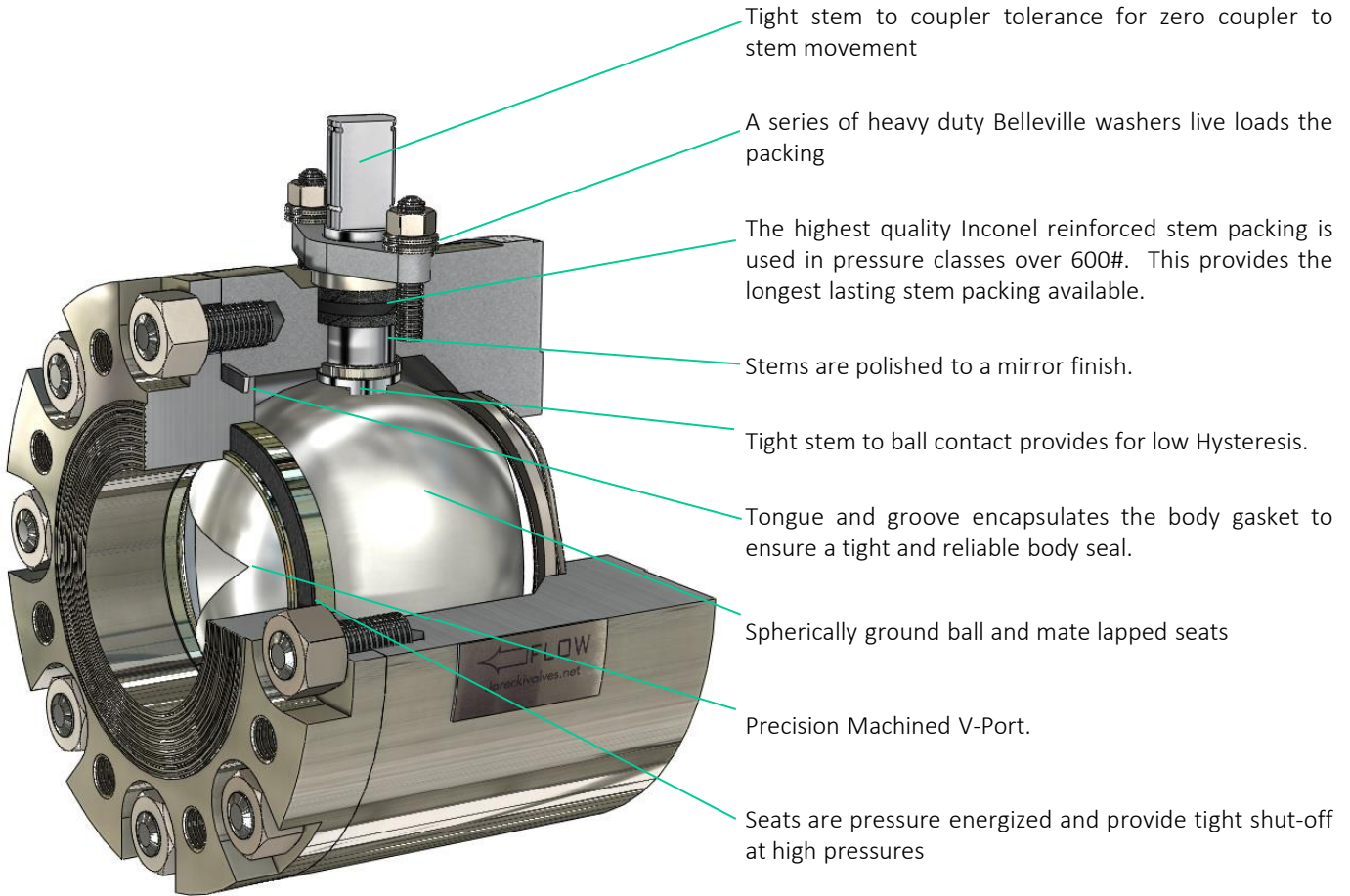
### Seat Designs

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

### Service Conditions

- Temperatures Up to 1500 deg F
- Pressures as low as Vacuum Service
- Pressures as High as 3750 psi
- For Clean and Abrasive Services
- Acid Service and Corrosive Applications

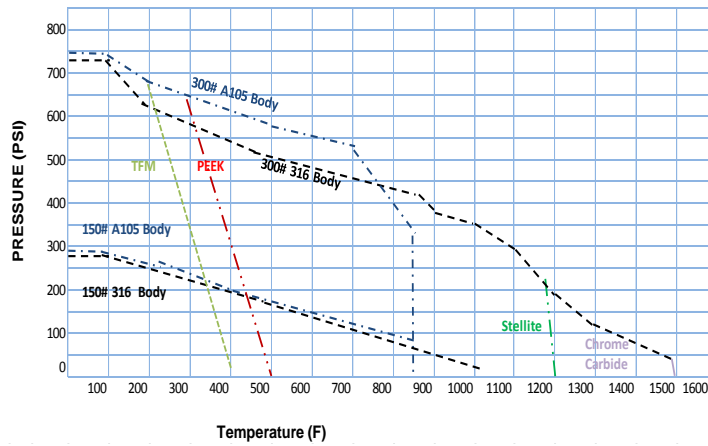
## FEATURES



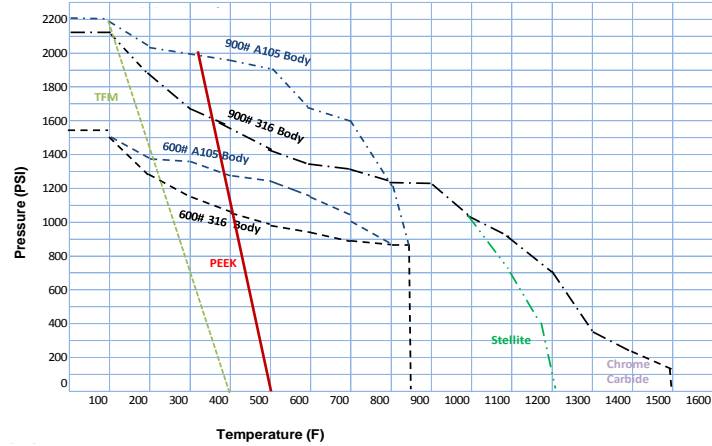
## V PORT ADVANTAGE

- Great Rangeability, can exceed 800:1.
- V-Port Ball design provides both excellent control and tight shut-off.
- Higher flow rates than similar sized globe valves means smaller pipeline sizes required.
- Capable of higher temperatures than other control valves
- Increased Linear Response due to direct flow pattern through the valve body.
- Slotted Ball ports available for micro control
- Modified shapes available on request
- Precise and accurate control

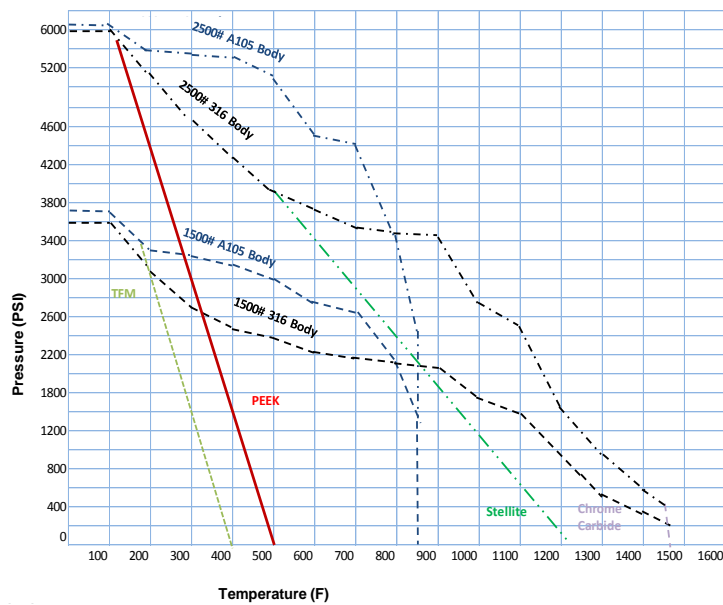
### 150# & 300# Pressure / Temperature Chart



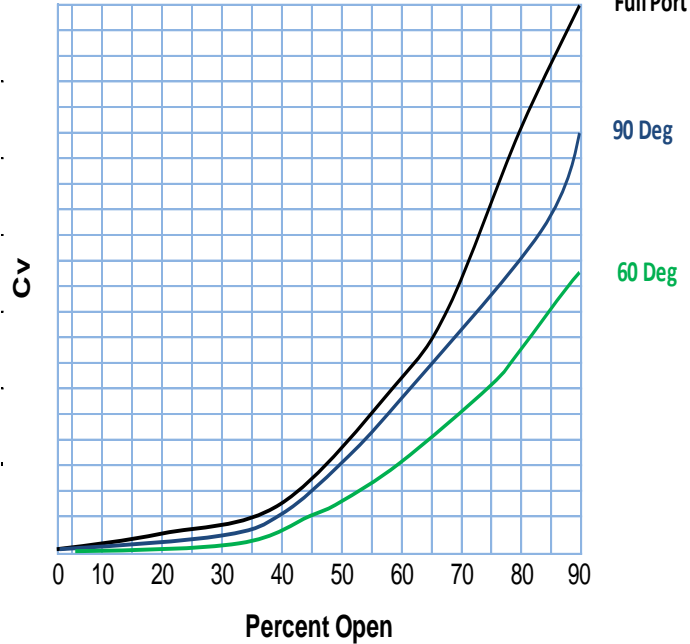
### 600# & 900# Pressure / Temperature Chart



### 1500# & 2500# Pressure / Temperature Chart



### Modified Equal Percentage Characteristic



## 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
- Valve Length Meets ISA S75.08 in most sizes
- Pressure Testing Of Valves MSS-SP-61
- Standard Marking for Valves MSS-SP-25
- Minimum wall thickness meets ANSI B16.34
- Valves are tested per ANSI FCI 70-2-1991 and B16.34
- ASME B31.1 Power Piping
- ASME B31.3 Chemical Plant Piping
- 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



## V BALL VALVE FLOW COEFFICIENT Cv CHART

### V-Port Ball Valves

Valve Size	V-Port Angle	Percent and Angle of Ball Rotation										
		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
		0	9	18	27	36	45	54	63	72	81	90
1/2"	15	0	0.03	0.17	0.43	0.68	0.98	1.63	2.11	2.84	3.63	4.29
1/2"	30	0	0.03	0.23	0.46	0.76	1.18	1.81	2.46	3.42	4.66	5.57
1/2"	60	0	0.04	0.28	0.72	1.11	1.84	2.91	4.28	6.99	9.43	12.77
1/2"	90	0	0.05	0.46	0.84	1.27	2.04	3.23	4.74	8.24	11.62	14.73
3/4"	15	0	0.04	0.23	0.55	0.89	1.33	2.14	2.74	3.75	4.74	5.54
3/4"	30	0	0.06	0.29	0.61	0.98	1.55	2.42	3.23	4.51	6.11	7.34
3/4"	60	0	0.07	0.34	0.92	1.45	2.41	3.84	5.63	9.22	12.42	16.27
3/4"	90	0	0.08	0.58	1.11	1.68	2.68	4.26	6.22	10.84	15.27	19.38
1"	15	0	0.05	0.31	0.94	1.48	2.33	3.81	4.69	6.49	8.49	9.85
1"	30	0	0.07	0.45	1.24	2.05	3.53	5.31	7.71	10.48	12.83	15.47
1"	60	0	0.08	0.67	1.73	2.77	5.12	8.01	11.87	18.69	23.21	32.85
1"	90	0	0.11	0.93	2.77	5.08	7.73	12.21	17.32	24.47	26.78	43.88
1-1/4"	15	0	0.02	0.26	0.82	1.64	2.8	4.08	5.89	7.98	10.85	12.86
1-1/4"	30	0	0.05	0.48	1.37	2.47	4.12	6.09	8.83	11.76	14.88	17.38
1-1/4"	60	0	0.07	0.66	2.03	3.42	6.48	10.79	15.38	22.34	33.36	44.19
1-1/4"	90	0	0.09	0.78	2.93	5.42	10.23	17.28	19.48	34.94	51.75	66.01
1-1/2"	15	0	0.05	0.38	1.16	2.28	3.84	5.59	8.11	10.98	18.86	17.85
1-1/2"	30	0	0.07	0.64	1.87	3.41	5.67	8.35	12.13	16.18	20.43	23.89
1-1/2"	60	0	0.09	0.91	2.8	4.69	8.88	14.86	21.16	30.72	45.89	59.75
1-1/2"	90	0	0.11	1.06	4.02	7.43	14.05	23.77	26.77	48.02	71.16	90.51
2"	15	0	0.05	0.68	2.25	4.44	7.29	10.68	15.41	21.38	28.76	35.06
2"	30	0	0.08	1.18	3.78	7.53	12.26	17.82	26.43	36.45	48.08	55.92
2"	60	0	0.11	1.52	5.79	10.39	20.59	33.99	48.76	69.03	104.24	136.51
2"	90	0	0.16	1.88	7.29	13.57	25.38	42.29	55.55	87.05	129.76	167.33
2-1/2"	15	0	0.08	1.76	2.43	5.24	8.09	11.74	16.43	22.36	27.23	32.11
2-1/2"	30	0	0.09	1.14	4.42	7.92	13.4	20.04	30.42	41.92	69.76	77.19
2-1/2"	60	0	0.13	1.45	5.91	11.91	23.23	37.93	59.32	83.28	113.65	162.5
2-1/2"	90	0	0.18	1.82	7.28	16.45	31.15	53.54	77.89	118.29	177.32	240.11
3"	15	0	0.07	0.91	2.99	6.64	9.59	13.49	19.62	26.68	31.8	38.39
3"	30	0	0.12	1.21	4.14	9.48	15.97	26.77	38.92	53.32	69.76	85.92
3"	60	0	0.16	2.88	6.69	15.83	29.36	46.33	73.59	106.73	149.89	193.19
3"	90	0	0.2	4.11	8.66	21.08	41.08	69.28	105.92	161.03	237.22	360.22
4"	15	0	0.11	1.39	3.76	8.88	16.78	27.91	41.86	59.27	75.54	97.06
4"	30	0	0.18	1.74	7.83	18.58	35.22	58.59	87.88	124.42	158.52	197.09
4"	60	0	0.26	2.19	12.45	33.67	62.98	106.25	160.5	233.97	329.49	437.3
4"	90	0	0.35	4.36	19.68	50.28	91.82	157.42	240.52	365.16	546.61	830.86
6"	15	0	0.22	2.49	6.66	15.78	29.89	49.74	74.55	105.55	134.47	172.06
6"	30	0	0.29	3.12	13.96	33.15	62.69	104.36	156.54	221.57	282.32	349.7
6"	60	0	0.46	5.42	22.14	59.98	112.16	189.23	285.82	416.69	586.82	800.79
6"	90	0	0.68	7.79	35.06	89.57	163.56	280.37	428.33	650.33	973.49	1479.25
8"	15	0	0.33	4.24	11.32	26.87	50.79	84.6	126.89	395.08	503.39	292.35
8"	30	0	0.51	5.33	23.77	56.36	106.69	177.63	266.38	377.05	480.46	595.19
8"	60	0	0.8	6.67	23.82	102.06	190.87	322.05	486.42	709.12	998.69	1325.4
8"	90	0	1.07	13.25	59.63	152.42	278.32	477.14	728.95	1106.68	1656.78	2518.19
10"	15	0	0.52	6.65	17.69	41.98	79.59	132.2	198.19	617.29	786.49	457.11
10"	30	0	0.77	8.31	37.13	88.06	166.74	277.52	416.23	589.15	750.73	930.09
10"	60	0	1.24	10.42	37.19	159.46	298.24	503.21	760.01	1107.99	1560.44	2070.89
10"	90	0	1.67	20.73	93.19	238.14	434.91	745.52	1139.01	1729.19	2588.69	3934.66
12"	15	0	0.75	9.39	24.79	58.79	111.16	185.01	277.5	864.21	1101.06	640.49
12"	30	0	1.09	11.62	52.01	123.26	233.41	388.53	582.72	824.83	1051.03	1301.81
12"	60	0	1.73	14.57	52.08	223.24	417.53	704.52	1064.02	1551.18	2184.64	2910.26
12"	90	0	2.32	29.99	132.09	338.39	610.75	1045.59	1601.01	2449.25	3640.21	5505.25

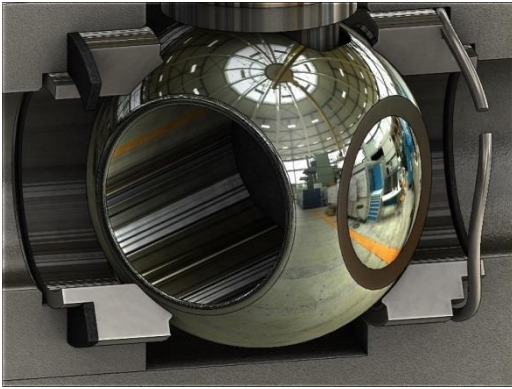
### Valve Flow Coefficient (Cv):

Number of U.S. gallons per minute of 60 deg F water that will flow through a valve with a one psi pressure drop.

Ball Valves have an inherent equal percentage characteristic flow curve which is very desirable for a majority of control applications. The V Profile provides a more linear equal percentage flow characteristic.

## SEAT STYLES

### P Seat - Spring Loaded (Standard)



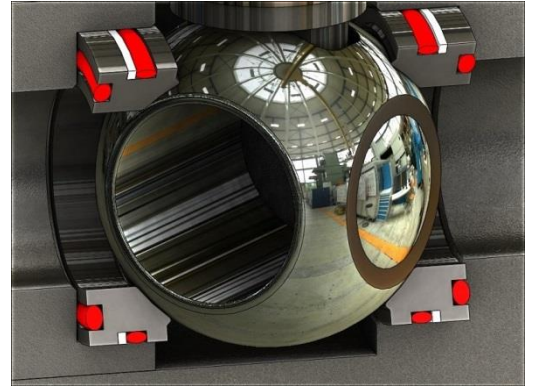
For unidirectional applications. The sealing seat is available as a separate seat ring for reparability, or integral with the tailpiece for high temperature applications. The spring seat OD seal prevents media from building up between the spring and the back of the seat.

**Temperature Range:** -40 to 1300 deg F

**Application:** Steam, Hot Air, Gases, Low Pressure Differentials, High Temperatures

**Shut-Off:** Class V, Class VI, Bubble Tight

### O Seal - Graphite Sealed Seat



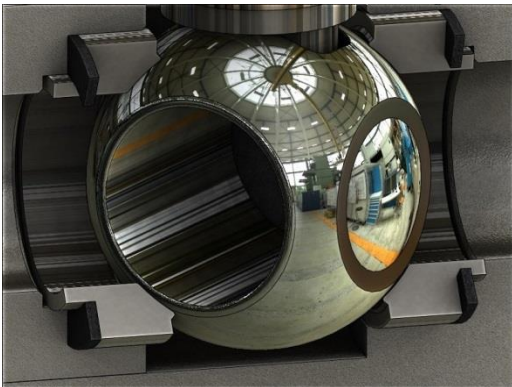
A double seal design providing both spring loading and excellent sealing capabilities. There is no area for media to build up behind the seat, which prevents the valve from locking up.

**Temperature Range:** --40 to 650 deg F

**Application:** Steam, Abrasion, Low Pressure Differentials, Fine Solids, Emulsions

**Shut-Off:** Class V, Class VI, Bubble Tight

### G Seal - Graphite Sealed Seat



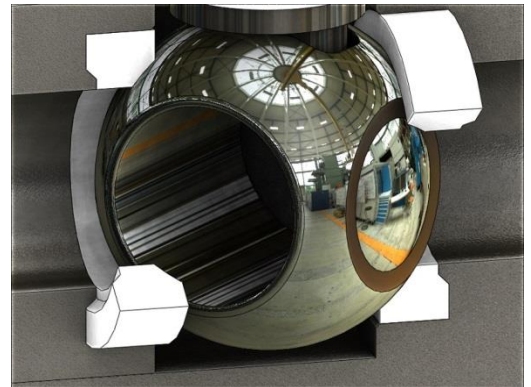
A series of Graphite seal rings behind the metal seat prevents media from building up behind the seat. The rings also allow for expansion of the internal valve components in high temperature applications. This design is great for applications involving fine solids as the graphite prevents the media from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

**Temperature Range:** -20 to 1500 deg F

**Application:** Steam, Abrasion, High Temperatures, Fine Solids, Slurry

**Shut-Off:** Class V, Class VI, Bubble Tight

### T Seat - Reinforced TFE Seat



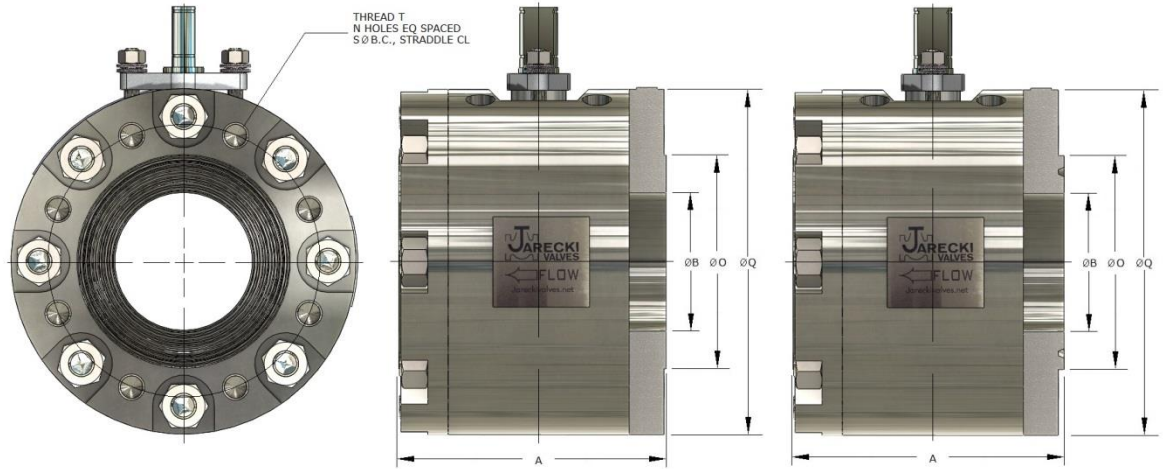
The T Seat Style designates a soft seat material. There are many seat materials available with TFM being the standard option. A metal lip on the body and tailpiece provides fire safety and meets API 607 requirements.

**Temperature Range:** -20 to 450 deg F

**Application:** Steam, Low Pressure Differentials, Emulsions, Nonabrasive Media

**Shut-Off:** Class VI, Bubble Tight

# DIMENSIONS



## ANSI 150# FULL PORT

SIZE	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8	10	12
A	3.00	3.00	4.00	CF	4.50	4.88	CF	6.50	7.62	9.00	9.56	11.69	13.31
ØB	0.58	0.78	1.00	1.25	1.50	2.00	2.55	3.00	4.00	5.99	7.90	9.85	11.82
ØQ	3.50	3.88	4.25	4.62	5.00	6.00	7.00	7.50	9.00	11.00	13.50	16.00	19.00
N	4	4	4	4	4	4	4	4	8	8	8	12	12
ØO	1.38	1.69	2.00	2.50	2.88	3.62	4.12	5.00	6.19	8.50	10.62	12.75	15.00
ØS	2.38	2.75	3.12	3.50	3.88	4.75	5.50	6.00	7.50	9.50	11.75	14.25	17.00
T	1/2"-13	1/2"-13	1/2"-13	1/2"-13	1/2"-13	5/8"-11	5/8"-11	5/8"-11	5/8"-11	3/4"-10	3/4"-10	7/8"-9	7/8"-9
WEIGHT	12	12	15	28	35	38	61	70	112	173	250	415	657

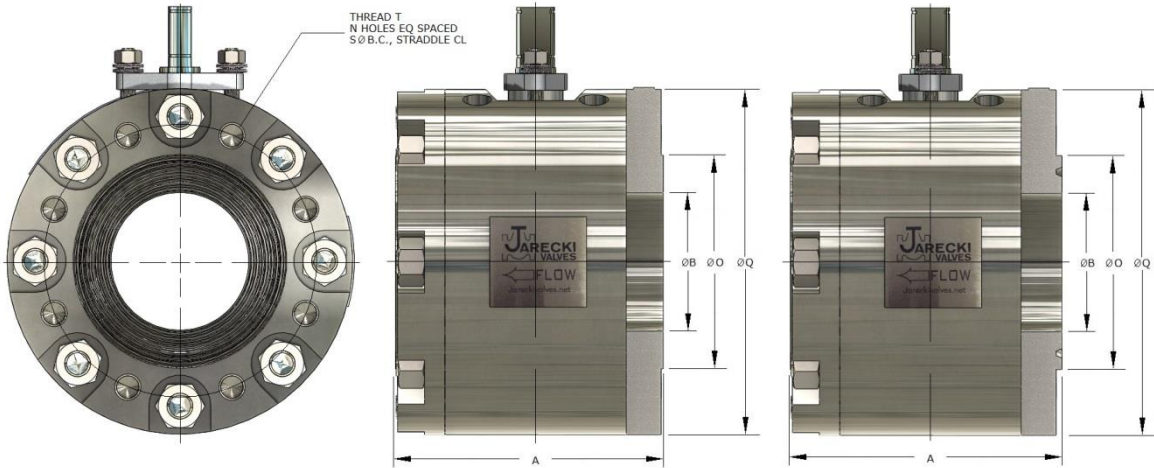
## ANSI 300# FULL PORT

SIZE	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8	10	12
A	3.00	3.00	4.00	CF	4.50	4.88	CF	6.50	7.62	9.00	9.56	11.69	13.31
ØB	0.58	0.78	1.00	1.25	1.50	1.98	2.55	2.99	3.99	5.98	7.88	9.85	11.82
ØQ	3.75	4.62	4.88	5.25	6.12	6.50	7.50	8.25	10.00	12.50	15.00	17.50	20.50
N	4	4	4	4	4	8	8	8	8	12	12	16	16
ØO	1.38	1.69	2.00	2.50	2.88	3.62	4.12	5.00	6.19	8.50	10.62	12.75	15.00
ØS	2.62	3.25	3.50	3.88	4.50	5.00	5.88	6.62	7.88	10.62	13.00	15.25	17.75
T	1/2"-13	5/8"-11	5/8"-11	5/8"-11	5/8"-11	5/8"-11	3/4"-10	3/4"-10	3/4"-10	3/4"-10	7/8"-9	1"-8	1 1/8"-7
WEIGHT	15	15	20	30	37	42	70	86	144	244	353	552	893

## ANSI 600# FULL PORT

SIZE	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8	10
A-RF	3.00	3.00	4.00	CF	4.50	4.88	CF	6.50	7.62	9.00	9.56	11.69
ØB	0.58	0.78	1.00	1.25	1.50	1.98	2.55	2.99	3.99	5.98	7.88	9.85
ØQ	3.75	4.62	4.88	5.25	6.12	6.50	7.50	8.25	10.75	14.00	16.50	20.00
N	4	4	4	4	4	8	8	8	8	12	12	16
ØO	1.38	1.69	2.00	2.50	2.88	3.62	4.12	5.00	6.19	8.50	10.62	12.75
ØS	2.62	3.25	3.50	3.88	4.50	5.00	5.88	6.62	8.50	11.50	13.75	17.00
T	1/2"-13	5/8"-11	5/8"-11	5/8"-11	3/4"-10	5/8"-11	3/4"-10	3/4"-10	7/8"-9	3/4"-10	1"-8	1 3/8"-8

## DIMENSIONS



### ANSI 900# FULL PORT

SIZE	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8
A-RF	4.00	4.00	4.50	CF	4.88	6.50	CF	7.62	9.00	9.56	11.69
A-RTJ	5.25	5.75	6.75	CF	7.25	6.75	CF	7.88	9.25	9.75	11.87
ØB	0.58	0.78	1.00	1.25	1.50	1.98	2.55	2.99	3.99	5.98	7.88
ØQ	4.75	5.12	5.88	6.25	7.00	8.50	9.62	9.50	11.50	15.00	18.50
N	4	4	4	4	4	8	8	8	8	12	12
ØO	1.38	1.69	2.00	2.50	2.88	3.62	4.12	5.00	6.19	7.50	10.63
ØS	3.25	3.50	4.00	4.38	4.88	6.50	7.50	7.50	9.25	12.50	15.50
T	3/4"-10	3/4"-10	7/8"-9	7/8"-9	1"-8	7/8"-9	1"-8	7/8"-9	1 1/8"-8	1 1/8"-8	1 3/8"-8

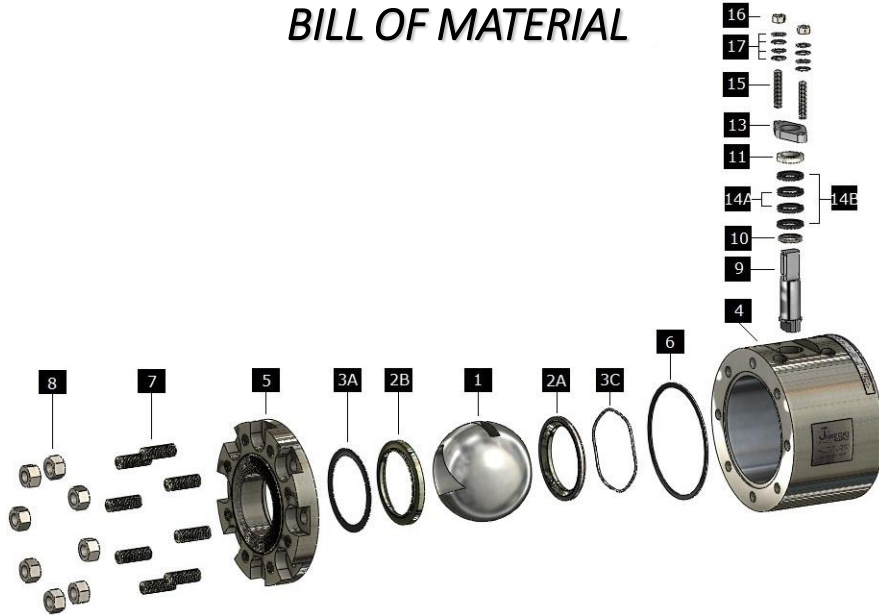
### ANSI 1500# FULL PORT

SIZE	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8
A-RF	5.00	5.50	6.50	CF	7.00	7.50	CF	9.00	10.00	18.50	13.50
A-RTJ	5.25	5.75	6.75	CF	7.25	7.75	CF	9.50	10.50	19.00	14.00
ØB	0.58	0.78	1.00	1.25	1.50	1.98	2.55	2.99	3.99	5.98	7.88
ØQ	4.75	5.12	5.88	6.25	7.00	8.50	9.62	10.50	12.25	15.50	19.00
N	4	4	4	4	4	8	8	8	8	12	12
ØO	1.38	1.69	2.00	2.50	2.88	3.62	4.12	5.00	6.19	7.50	10.63
ØS	3.25	3.50	4.00	4.38	4.88	6.50	7.50	8.00	9.50	12.50	15.50
T	3/4"-10	3/4"-10	7/8"-9	7/8"-9	1"-8	7/8"-9	1"-8	1 1/8"-8	1 1/4"-8	1 3/8"-8	1 5/8"-8

### ANSI 2500# FULL PORT

SIZE	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6
A-RF	6.00	6.50	7.50	CF	8.00	8.50	CF	13.00	15.00	20.25
A-RTJ	6.00	6.50	7.50	CF	8.00	8.50	CF	13.00	15.00	20.25
ØB	0.50	0.63	0.63	1.00	1.00	1.50	2.00	2.00	3.00	5.00
ØQ	5.25	5.50	6.25	7.25	8.00	9.25	10.50	12.00	14.00	19.00
N	4	4	4	4	4	8	8	8	8	8
ØO	1.38	1.69	2.00	2.50	2.88	3.62	4.12	5.00	6.19	7.50
ØS	3.50	3.75	4.25	5.12	5.75	6.75	7.75	9.00	10.75	14.50
T	3/4"-10	3/4"-10	7/8"-9	1"-8	1 1/8"-8	1"-8	1 1/8"-8	1 1/4"-8	1 1/2"-8	2" - 8

# BILL OF MATERIAL



Other materials available upon request

## METAL SEATED VALVES

ITEM NO.	NAME	MATERIAL
1	BALL	Chrome Plated 316sst / Chrome Carbide Coated 316sst / Hastelloy / Chrome Plated Inconel / Colmonoy Coated Inconel
2	SEAT	Stellite / Colmonoy / Chrome Carbide / Tungsten Carbide / Hastelloy
3a	SEAT SEAL (IF APPLICABLE)	TFE/Viton/Graphite
3b	SEAT SPRING (IF APPLICABLE)	17-7 SST / 718 Inconel / A286
4	BODY	A105 / 316sst / Hastelloy / Titanium / Inconel / Monel
5	TAILPIECE	A105 / 316sst / Hastelloy / Titanium / Inconel / Monel
6	BODY GASKET	Graphite / TFE
7	BODY STUD	ASTM A193 B8M / B7
8	BODY NUT	ATM A194 Gr. 8M / 2H
9	STEM	316sst / Hastelloy / Titanium / Inconel / Monel
10	THRUST WASHER	TFE / PEEK / Stellite / Nitronic 60 / Colmonoy / Chrome Carbide
11	COMPRESSION RING	316sst / Hastelloy / Titanium / Inconel / Monel
13	COMPRESSION PLATE	316 SST
14	STEM PACKING	TFE/GRAPHITE
15	GLAND STUD	ASTM A193 B8M / B7
16	GLAND NUT	ATM A194 Gr. 8M / 2H
17	BELLEVILLE WASHER	17-7 SST / 718 Inconel

## SOFT SEATED VALVES

ITEM NO.	NAME	MATERIAL
1	BALL	316sst / Hastelloy / Titanium / Inconel / Monel
2	SEAT	RTFE / Accrolon / PEEK / TFM
4	BODY	A105 / 316sst / Hastelloy / Titanium / Inconel / Monel
5	TAILPIECE	A105 / 316sst / Hastelloy / Titanium / Inconel / Monel
6	BODY GASKET	Graphite / TFE
7	BODY STUD	ASTM A193 B8M / B7
8	BODY NUT	ATM A194 Gr. 8M / 2H
9	STEM	316sst / Hastelloy / Titanium / Inconel / Monel
10	THRUST WASHER	TFE / PEEK
11	COMPRESSION RING	316sst / Hastelloy / Titanium / Inconel / Monel
13	COMPRESSION PLATE	316 SST
14	STEM PACKING	TFE/GRAPHITE
15	GLAND STUD	ASTM A193 B8M / B7
16	GLAND NUT	ATM A194 Gr. 8M / 2H
17	BELLEVILLE WASHER	17-7 SST





## ABOUT US

Jarecki Valves has been an American valve manufacturer and rebuilder for more than 40 years, providing customers with high quality metal and soft seated ball, control, and check valves. Jarecki Valves got its start engineering and manufacturing valves for the Navy Nuclear Industry, which involved working with exotic materials and manufacturing valves for critical service. Jarecki Valves has had high temperature valves in Power Plants since the mid 1980's

Jarecki supplies valves to a variety of industries. Some of which include Aerospace, Chemical, Petrochemical, Power, Oil and Gas, Mining, and Municipal.



## ORDERING INFORMATION

SIZE	-	SERIES	PORT SIZE	SEAT	MATERIAL	BALL	BALL COATING	BODY	-	CLASS	END CONNECTION	PORT STYLE
1/2"	5	5000	F FULL	0 NONMETAL	C Colmonoy	A 316SST	C CHROME	A 316SST	01	150#	B FLANGED	V15 15°
TO			R REDUCED	1 O SEAT	P PEEK	D Inconel	E ENP	D Inconel	03	300#	C RTJ Flanged	V30 30°
12"				2 G SEAL	R Chrome Carbide	F Hastelloy	R Chrome Carbid	F Hastelloy	06	600#		V60 60°
				4 P SEAT	S STELLITE	I Monel	O NONE	I Monel	09	900#		V90 90°
				5 P SEAT	T RTFE	H Alloy 20		H Alloy 20	15	1500#		SL32 SLOT 1/32"
					750 F TO 1000 F	T Titanium		T Titanium	25	2500#		SL63 SLOT 1/16"
						X Duplex		X Duplex				

Example: 2" 5000 Series, Full Port, Spring Loaded Unidirectional Seats, Stellite Seats, 316ss Ball with Chrome Plating, 316 body, 600# Flanged RF

**2 - 5 F 4 S A C A - 06 B V60**

