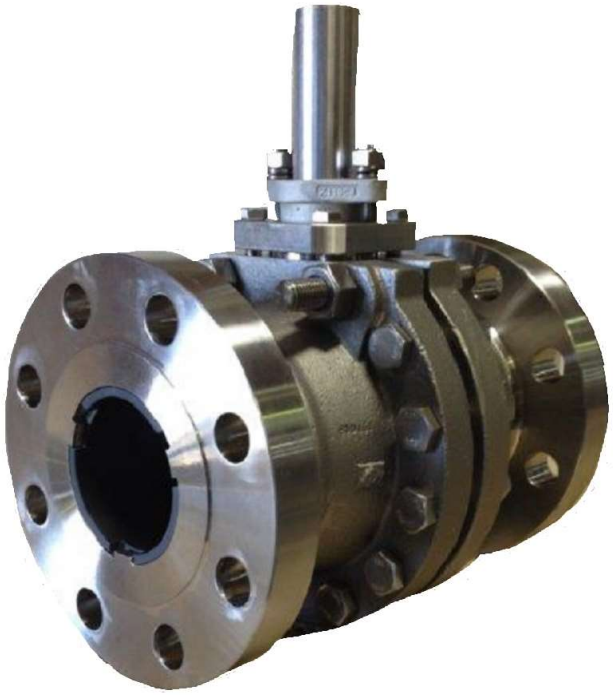
N SERIES 2-PIECE BALL VALVES

Ceramic Lined Ball Valves



The Jarecki N Series ceramic lined ball valve is the right choice for your high abrasive media. N Series valves are used for applications in the Chemical, Power, Pulp and Paper, and Mining Industries.

Standard Applications:

Abrasive Media
Lime Mud
Coke and Ore
Sand

Seat Leakage Class:

Metal Seats Class V - **Standard**
Metal Seats Class VI
Metal Seats API 598
Metal Seats ISO 5208

Design

Pressure Rating
- 150# Available in Sizes ½" to 12"
- 300# Available in Sizes ½" to 12"

Valve Size
- 1/2" to 12" Full Port
- 6" to 12" Reduced Port

End Connections
- Flanged
- Butt weld Available On Request

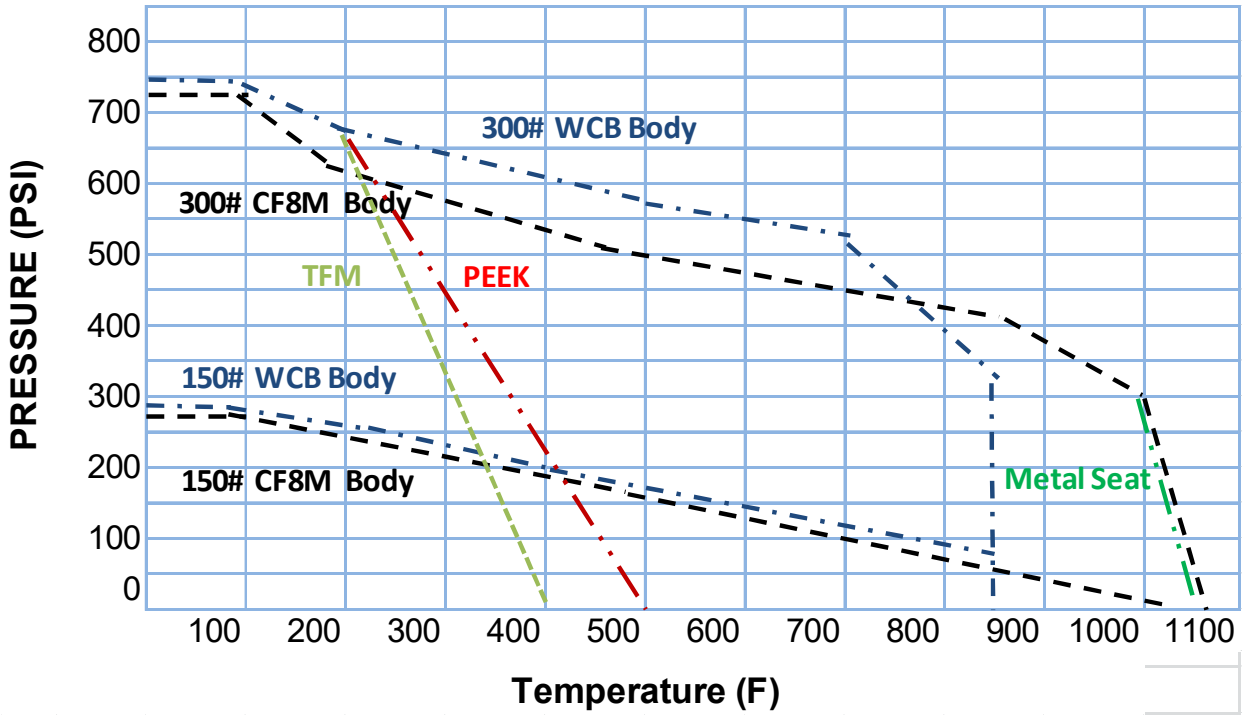
Valve Construction
- 2 Piece Valve Design
- Investment Cast Body Size ½" to 4"
- Split Body
- Actuator Mounting Pad
- Live Loaded Stem Packing
- Designed to B16.34
- Blow Out Proof Stem
- Heavy Duty Stem For High Torque

Seat Designs
- Bi-Direction 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 Abrasive Services

The N Series is designed for abrasion and wear applications. It is not designed for ACID services where the Ceramic is used to protect the metal valve housing.

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

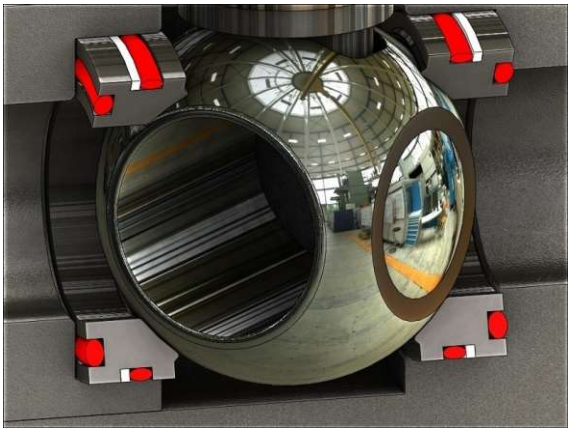
Valves covered in this bulletin are available to conform to the following industry standards and specifications

- 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 70-2-1991 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

SEAT STYLES

O Seal – O Ring 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 620 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 1000 deg F
Application: Steam, Abrasion, High Temperatures, Fine Solids, Slurry
Shut-Off: Class V, Class VI, Bubble Tight

Reliable Shut-Off

- Tight shut-off is accomplished by grinding every ball to very tight tolerances and excellent finish, generating a true radius each individual seat to its mating ball, and then carefully lapping them together through our proven polishing process.
- Every valve that leaves the plant has both a hydrostatic, torque and cycle test, and seat leakage test performed on it.
- Standard Shut-Off is Class V. ISO 5208 Rate A,B,C and ANSI Class VI available As Options.

Quality

- Jarecki Valves is an ISO 9000 Company and quality is an important part of our culture
- In Metal Seat Valves, .003 Thousands of an inch can make all the difference in torque, shut-off and overall valve performance. Our quality system requires this.
- At Jarecki Valves, 95% of our business is metal seated ball valves. The employees understand and excel at producing the highest quality metal seated valves available.

FEATURES

STAINLESS STEEL BALL WITH CERAMIC LINER

Why ceramic line the ball instead of going with a solid ceramic ball? Some plants see their ceramic balls break at the stem connection. Others have seen the stem break in service. Thermal shock, high torque or sudden impact can damage ceramic due to its low ductility. For these types of services you need the strength of steel mixed with the protection of ceramic.

Spherically Ground Ball Matches The Seat Sealing Area For A Tight Shut-Off

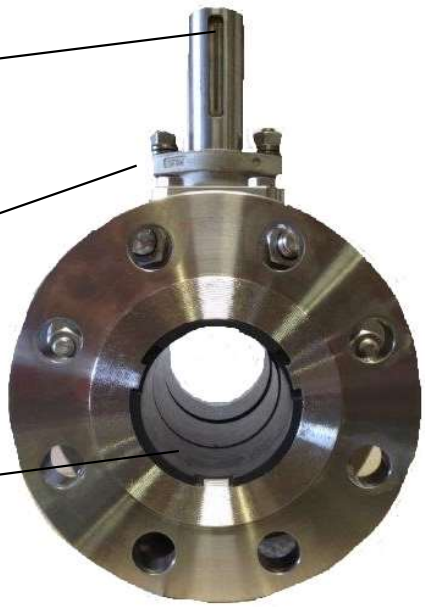
¼" Thick Ceramic Liner For Maximum Protection

Precision Machined Seats Mate Lapped To The Ball For Tight Shut Off.

Keyway for tight coupler conection with no hysterisis

Live Loaded Adjustable Stem Packing Along With O-Ring Primary Seal

Ceramic Lined Bore To Prevent Wear and Erosion in the valve body bore and the ball bore.



FEATURES

¼" Thick Ceramic Body Liners For Maximum Protection

Precision Machined

Sleeves Can Be Removed and Replaced During Repair

CERAMIC BALL WITH CERAMIC LINER

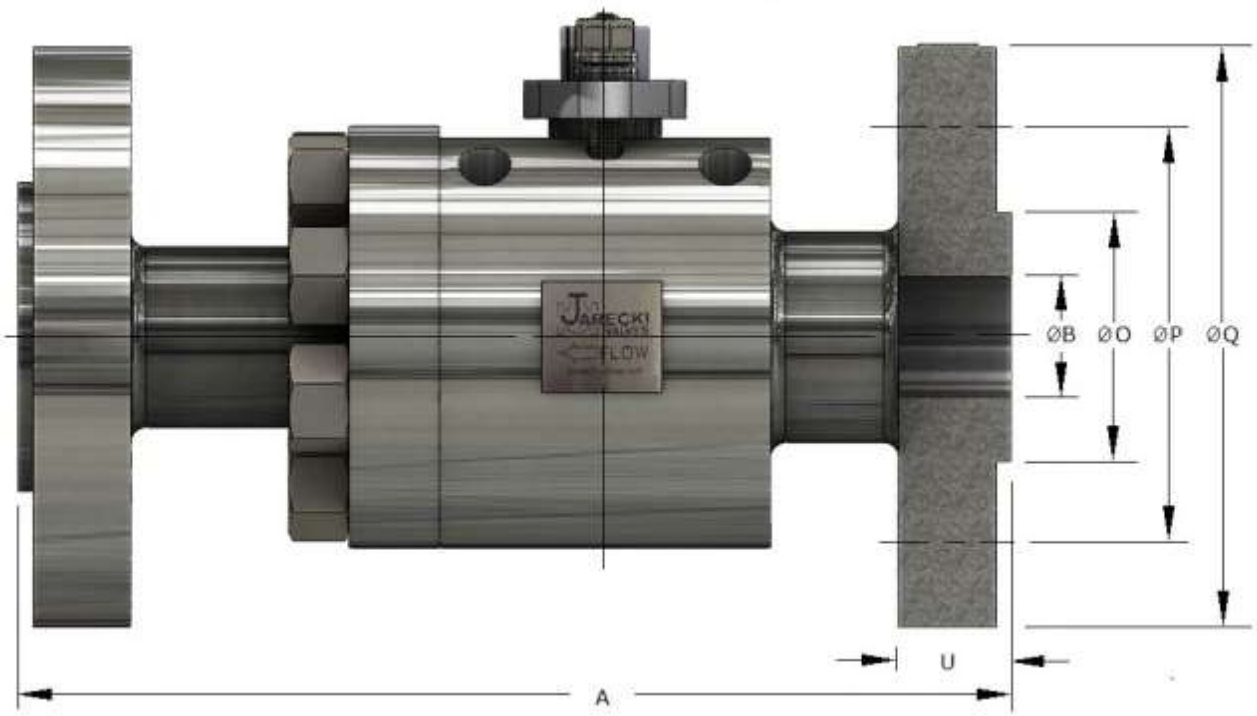
Ceramic trim is an excellent choice for abrasive media which steel parts will not last. Our ceramic trim is precision machined, ground and then lapped to the mating seats. This offers a low torque trim that seals cycle after cycle.

Ceramic Ball Precision Ground For Low Torque and Smooth Operation

Lapped To Seats For High Polish Finish and Great Shut-Off

Wide Stem Slot To Distribute Stress. This increases the Torque Allowed

DIMENSIONS



ANSI 150# FULL PORT

SIZE	1	1 1/2	2	2 1/2	3	4	6	8
A	5.00	6.50	7.00	7.85	8.00	9.00	15.50	18.00
ØB	1.00	1.50	2.00	2.55	3.00	4.00	5.99	7.90
ØO	2.00	2.88	3.62	4.12	5.00	6.19	8.50	10.62
ØP	3.12	3.88	4.75	5.50	6.00	7.50	9.50	11.75
ØQ	4.25	5.00	6.00	7.00	7.50	9.00	11.00	13.50
Cv	80	260	410	650	1000	1730	5250	10075
WEIGHT	35	55	65	85	95	150	390	580

ANSI 300# FULL PORT

SIZE	1	1 1/2	2	2 1/2	3	4	6	8
A	6.50	7.50	8.50	9.50	11.12	12.00	15.88	19.75
ØB	1.00	1.50	1.98	2.55	2.99	3.99	5.98	7.88
ØO	2.00	2.88	6.32	4.12	5.00	6.19	8.50	10.62
ØP	3.50	4.50	5.00	5.88	6.62	7.88	10.62	13.00
ØQ	4.88	6.12	6.50	7.50	8.25	10.00	12.50	15.00
Cv	75	255	405	645	990	1715	5000	10000
WEIGHT	35	65	70	95	140	180	480	675

DIMENSIONS ARE IN INCHES

ORDERING INFORMATION

SIZE

.5	1/2" Valve Size	1	1" Valve Size	2	2" Valve Size	4	4" Valve Size	8	8" Valve Size
.75	3/4" Valve Size	1.5	1 1/2" Valve Size	3	3" Valve Size	6	6" Valve Size		

VALVE SERIES

N	N Series Ceramic Lined Ball Valve

SEAT SEALS

1	Low Temp Seals
2	High Temperature Graphite Seals

SEAT MATERIAL

W	316 Stainless Steel Ball and Seats with Tungsten Carbide Coat
1	Silcone Carbide Ceramic Seats

BALL MATERIAL

AW	Ceramic lined 316 Stainless Steel Ball with Tungsten Carbide Coat	HC	Ceramic lined Hastelloy Ball with Colmonoy Coat
10	Silcone Carbide Ball	DC	Ceramic lined Inconel Ball with Colmonoy Coat

BODY MATERIAL

A	316 Stainless Steel	H	Hastelloy
B	A105 Carbon Steel	D	Inconel 600

PRESSURE CLASS

01	ANSI 150# Pressure Class
03	ANSI 300# Pressure Class

END CONNECTION

B	RF FLANGED

ACTUATION

L	Lever
DT8	Dynatorque DT8 Manual Gear Operator With Handwheel, 8,000 in.lbs rating
DT12	Dynatorque DT12 Manual Gear Operator With Handwheel, 12,000 in.lbs rating
DT21	Dynatorque DT21 Manual Gear Operator With Handwheel, 21,000 in.lbs rating
125FC	V-Tork 125 Pneumatic Actuator Fail Closed, High Temperature Seals, 1,083 in.lbs rating
140FC	V-Tork 140 Pneumatic Actuator Fail Closed, High Temperature Seals, 1,747 in.lbs rating
160FC	V-Tork 160 Pneumatic Actuator Fail Closed, High Temperature Seals, 2,337 in.lbs rating
190FC	V-Tork 190 Pneumatic Actuator Fail Closed, High Temperature Seals, 3,866 in.lbs rating
210FC	V-Tork 210 Pneumatic Actuator Fail Closed, High Temperature Seals, 5,213 in.lbs rating
240FC	V-Tork 240 Pneumatic Actuator Fail Closed, High Temperature Seals 8,720 in.lbs rating
270FC	V-Tork 270 Pneumatic Actuator Fail Closed, High Temperature Seals, 11,885 in.lbs rating

SOLENOID

0	No Options
S7AC	VERSA CGS-3232-NB2-XXL4-A120 Solenoid, Nema 7 Explosion Proof, 120 VAC
S7DC	VERSA CGS-3232-NB2-XXL4-24 Solenoid, Nema 7 Explosion Proof, 24VDC

LIMIT SWITCH

0	No Options
L1	Moniteur Limit Switch, AMYB-E120, explosion proof limit switch dual spdt
SA	Stonel Axiom Model AN35S1NC02RA. The Axiom is a Combined Limit Switch and Solenoid
DK8	DK800RA35S0M,DK Smart Positioner Single Acting, Class 1 Div 2 Group B,C,D. Nema 4x,
YTS	YT-3300RSA5504S, Smart Positioner, FC, Class 1 Div 2 Group B,C,D. Nema 4x,

EXAMPLE

4	— N	F	2	W	AW	A	— 03	B	000	240FC	0	SA

Model No. 4-NF2WAWA-03B000240FC0SA 4" N Series Ball Valve, Seats 316 Stainless with Tungsten Carbide, Graphie Seat Seals, Ceramic Lined 316 Stainless Steel Ball with Tungsten Carbide coat, 316 Stainless Body with Ceramic Liner, No Options, V-Tork 240 Pneumatic Actuation Fail Closed, Stonel