3000 SERIES Welded Body BALL VALVES

Triple Body Seal ball valves for the Power Industry

The Jarecki 3000 Series ball valve is an excellent choice for your high temperature and pressure needs. 3000 Series valves are used for applications in the Power Industry and the Aerospace Industry.

Standard Applications:

Feedwater
Superheated Steam
Saturated Steam
Hot Air

Seat Leakage Class:

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# to 900# available in Sizes ½" to 4"
- 2500# available in Sizes ½" to 3"

Valve Size
- 1/2" to 4" Full Port
- 3/4" to 4" Reduced Port

End Connections
- Socket Weld
- Butt Weld
- Threaded

Valve Construction
- 2 Piece Valve Design Seal Welded
- Forged Valve Body
- Floating Ball
- Trip Body Seal To Ensure No Body Leakage
- 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

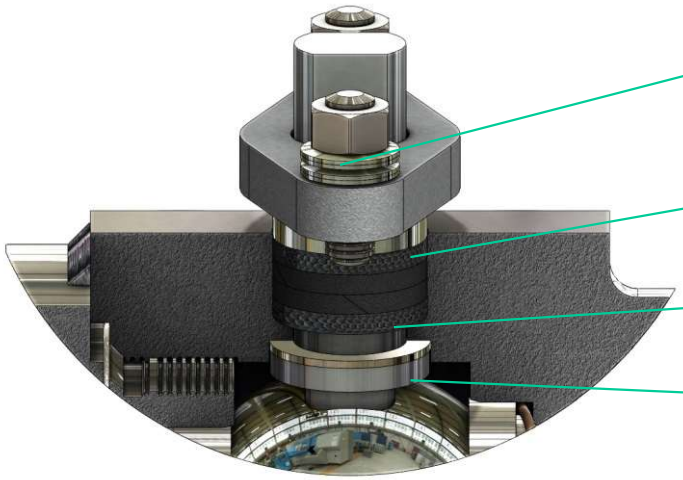
Service Conditions
- Temperatures Up to 1500 deg F
- Pressures as low as Vacuum Service
- Pressures as High as 11,250 psi
- For Clean and Abrasive Services

Specifications

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

- Butt Weld end connections meet MSS SP72
- 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
- API 6D Specifications for Pipeline Valves

QUALITY PACKING SYSTEM



A series of heavy duty Belleville washers live loads the packing

The highest quality Inconel reinforced stem packing is used in pressure classes over 600#. This provides the longest lasting stem packing available.

Stems are polished to a mirror finish.

Blow-Out proof stem design to ensure workman safety.

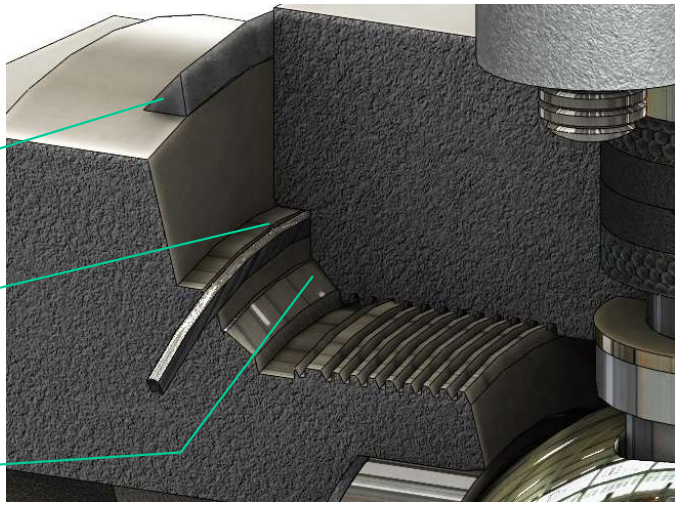
TRIPLE BODY SEAL

The Triple Body Seal consists of a primary seal as well as a back-up seal. This ensures that no leakage through the body can occur.

SEAL ONE: The body and tailpiece are seal welded together insuring that no body leakage will occur.

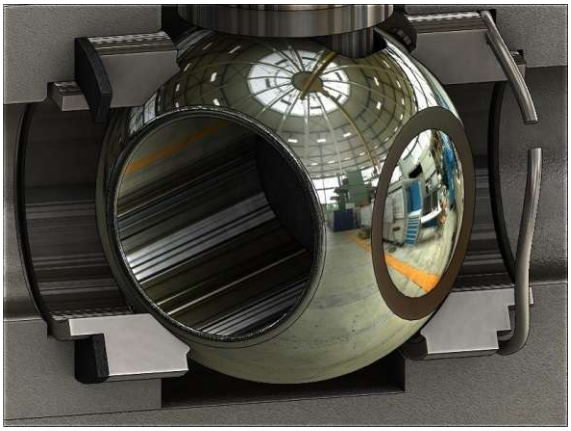
SEAL TWO: A flexitallic gasket provides the main seal

SEAL THREE: The body and tailpiece each have a metal sealing surface. When the two are threaded together and torqued, this provides a metal to metal seal.



SEAT STYLES

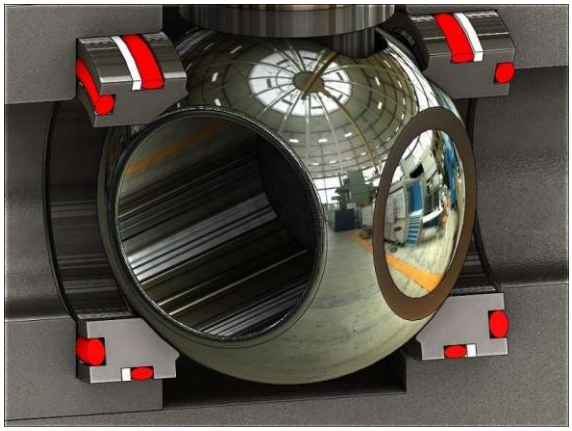
P Seat - Spring Loaded (Standard)



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 V, Class VI, Bubble Tight

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.

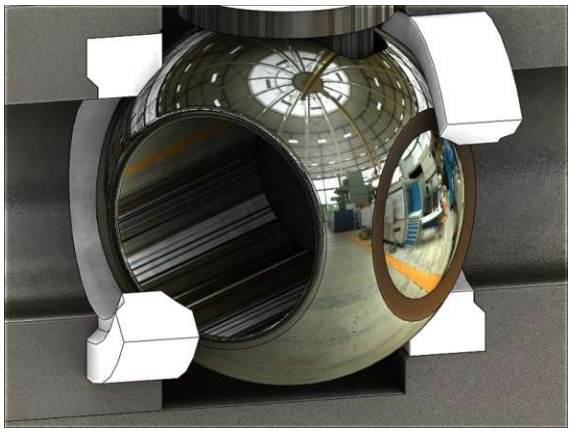
Temperature Range: --40 to 650 deg F
Application: Steam, Abrasion, Low Pressure Differentials, Fine Solids, Emulsions
Shut-Off: Class V, Class VI, Bubble Tight

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 1000 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.

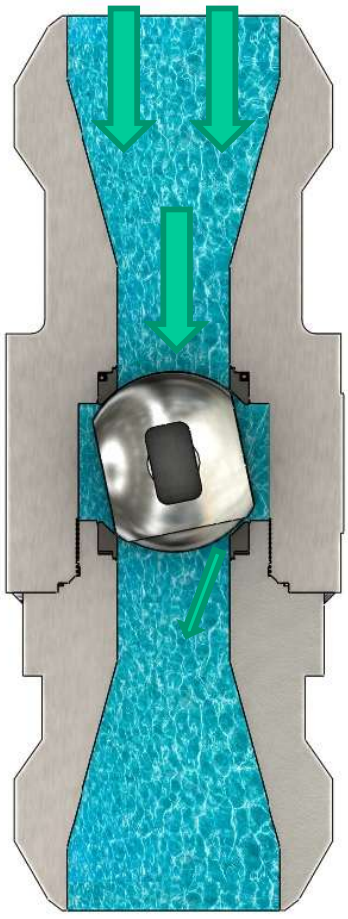
Temperature Range: -20 to 450 deg F
Application: Steam, Low Pressure Differentials, Emulsions, Nonabrasive Media
Shut-Off: Class VI, Bubble Tight

PHANTOM FLOW

The Patented Phantom Port feature greatly reduces the effects of cavitation and wire draw on feed water applications. This provides a valve for long and reliable service life.

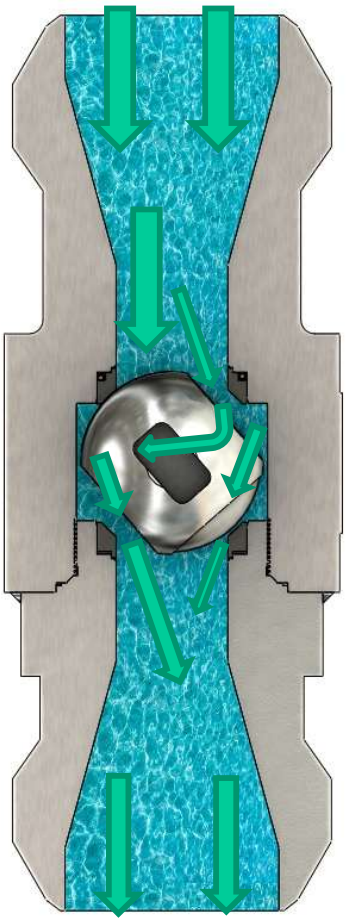
0-5 deg Rotation

As the valve just starts to open, the downstream side releases any internal body pressure. This is due to the Phantom Port feature. Because the downstream is already open, velocity will be higher at the upstream – non sealing seat.



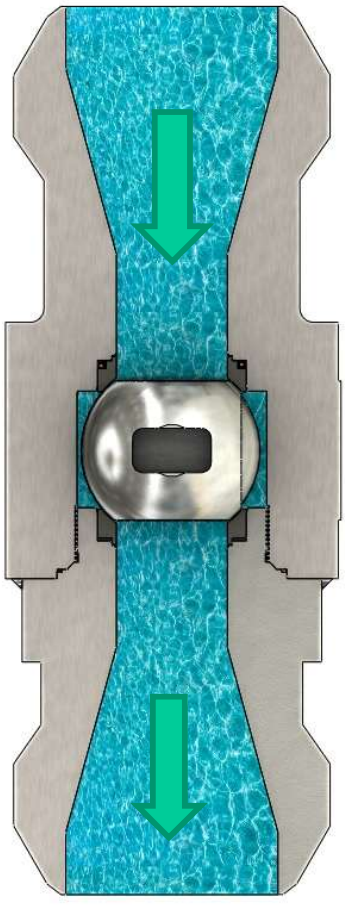
5-20 deg Rotation

Flow passes through the valve as it starts to open. There is more volume at the exit of the valve trim due to the dual flow path created by the Phantom Port. Reducing affects of Wire Draw and Cavitation.



Full Open

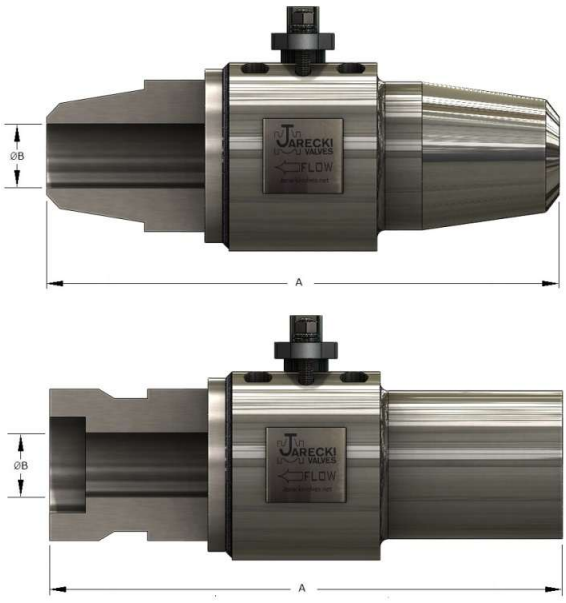
Full Port and Reduced Port Valves Offer a higher Cv than globe valves. The sealing surface of the seats are protected in the open position from wear.



DIMENSIONS

REDUCED PORT

FULL PORT



ANSI CLASS 600#

SIZE	A-S.W.	A-BW	ØB
1/2	5.00	6.50	0.50
3/4	5.00	7.50	0.75
1	5.00	8.50	0.96
1 1/2	8.50	9.50	1.50
2	8.50	11.50	2.00
3	10.50	14.00	3.00
4		17.00	3.94

ANSI CLASS 900#

SIZE	A-S.W.	A-BW	ØB
1/2	5.00	8.50	0.50
3/4	5.00	9.00	0.75
1	5.00	10.00	0.96
1 1/2	8.50	12.00	1.50
2	8.50	14.50	2.00
3	10.50	15.00	3.00
4		18.00	3.94

ANSI CLASS 1500#

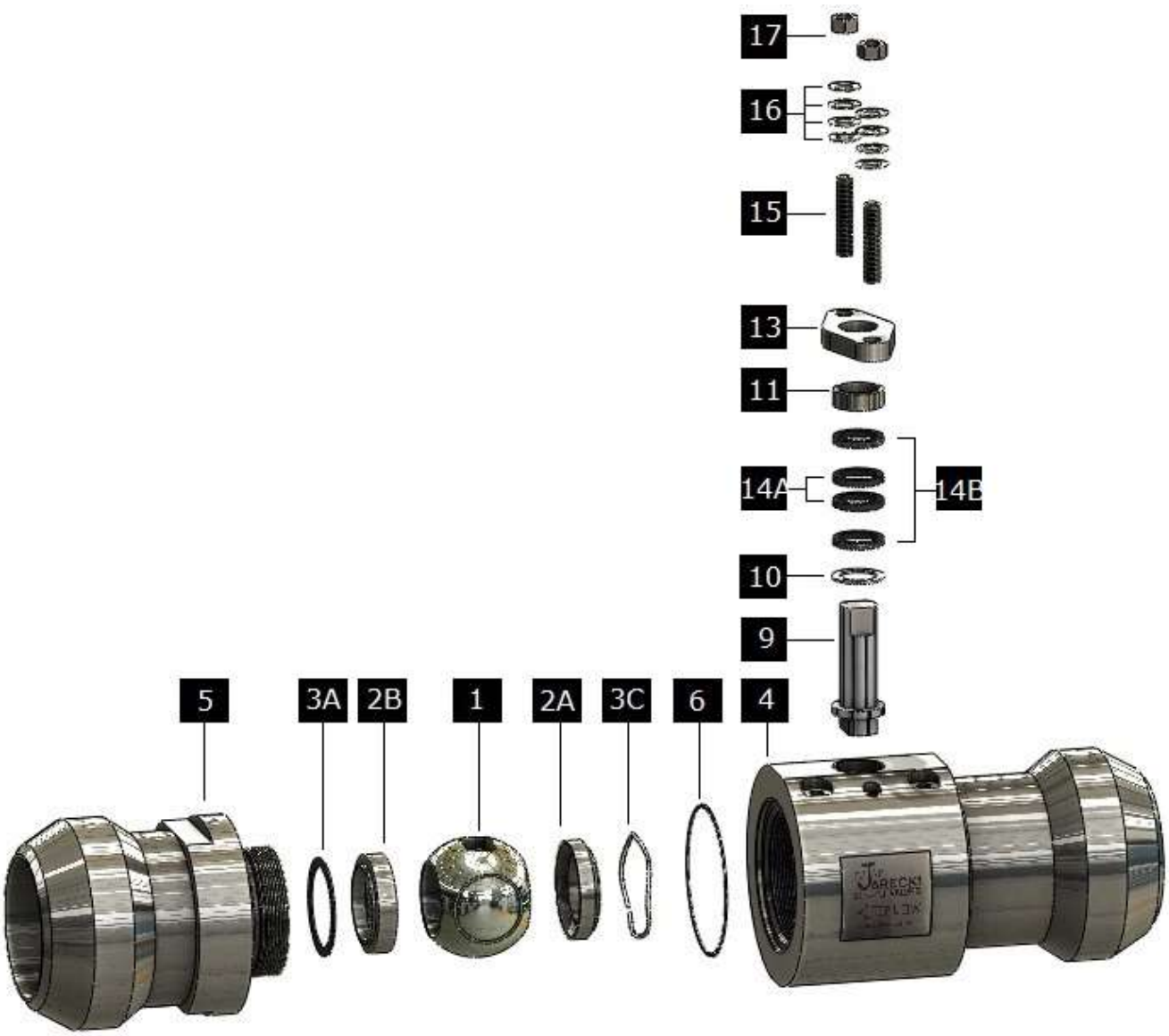
SIZE	A-S.W.	A-BW	ØB
1/2	5.00	8.50	0.50
3/4	5.00	9.00	0.75
1	5.00	10.00	0.96
1 1/2	8.50	12.00	1.50
2	8.50	14.50	2.00
3	10.50	15.00	3.00

ANSI CLASS 1700#

SIZE	A-S.W.	A-BW	ØB
1/2	5.00	8.50	0.50
3/4	5.00	9.00	0.75
1	5.00	10.00	0.96
1 1/2	8.50	12.00	1.50
2	9.50	14.50	2.00
3	10.50	18.50	3.00

ANSI CLASS 2500#

SIZE	A-S.W.	A-BW	ØB
1/2	6.00	8.50	0.50
3/4	6.00	9.00	0.63
1	6.00	10.00	0.88
1 1/2	9.50	12.00	1.30
2	10.50	14.50	1.50
3	12.00	18.50	2.60



ITEM NO.	NAME	STAINLESS STEEL	A105	ALLOY 20	DUPLEX	F-22
1	BALL	316 W/ HARD CHROME*	316 W/ HARD CHROME*	ALLOY 20 W/ COLMONOY*	2205 W/ Tantalum Chrome Oxide *	718 W/ CHROME CARBIDE
2A	GUIDE SEAT (IF APPLICABLE)	316 W/ STELLITE HF*	316 W/ STELLITE HF*	ALLOY 20 W/ COLMONOY*	2205 W/ Tantalum Chrome Oxide *	316 W/ CHROME CARBIDE
2B	SEALING SEAT	316 W/ STELLITE HF*	316 W/ STELLITE HF*	ALLOY 20 W/ COLMONOY*	2205 W/ Tantalum Chrome Oxide *	316 W/ CHROME CARBIDE
3A	SEAT SEAL	TFE/Viton/Graphite	TFE/Viton/Graphite	TFE/Viton/Graphite	TFE/Viton/Graphite	GRAPHITE
3C	SEAT SPRING (IF APPLICABLE)	17-7 SST/ A286	17-7 SST/ A286	ALLOY 20	2205 DUPLEX SST	A-286
4	BODY	316 SST	A105	A182 CN7M	A351 CD3MN	F-22
5	TAILPIECE	316 SST	A105	A182 CN7M	A351 CD3MN	F-22
6	BODY GASKET	316sst w/ Graphite Filler*	316sst w/ Graphite Filler*	ALLOY 20 w/ Graphite Filler*	2205sst w/ Graphite Filler*	316sst w/ Graphite Filler*
7	BODY STUD	ASTM A193 B8	ASTM A193 B8	ASTM A193 B8	ASTM A193 B8	ASTM A193 B8
8	BODY NUT	ATM A194 Gr. 8	ATM A194 Gr. 8	ATM A194 Gr. 8	ATM A194 Gr. 8	ATM A194 Gr. 8
9	STEM	17-4SST/XM-19*	17-4SST/XM-19*	2205 DUPLEX SST*	2205 DUPLEX SST*	718 INCONEL
10	THRUST WASHER	Nitronic 60/TFE	Nitronic 60/TFE	STELLITE	STELLITE	STELLITE
11	COMPRESSION RING	316 SST	316 SST	ALLOY 20*	2205 DUPLEX SST*	316 SST
13	COMPRESSION PLATE	304 SST	304 SST	304 SST	304 SST	304 SST
14a	STEM PACKING	TFE/GRAPHITE	TFE/GRAPHITE	TFE/GRAPHITE	TFE/GRAPHITE	TFE/GRAPHITE
15	GLAND STUD	ASTM A193 B8	ASTM A193 B8	ASTM A193 B8	ASTM A193 B8	ASTM A193 B8
16	BELLEVILLE WASHER	301 SST	301 SST	301 SST	301 SST	301 SST
17	GLAND NUT	ATM A194 Gr. 8	ATM A194 Gr. 8	ATM A194 Gr. 8	ATM A194 Gr. 8	ATM A194 Gr. 8

* Other materials and coatings available upon request

Cv's

FULL PORT

SIZE	600	1500	2500
1/4"	20	18	15
3/8"	24	22	21
1/2"	30	23	22
3/4"	50	45	43
1"	94	80	75
1 1/2"	265	200	175
2"	502	450	400
2 1/2"	812	790	750
3"	1148	880	790
4"	2130		

REDUCED PORT

SIZE	600	1500	2500
1/2"	18	16	15
3/4"	20	18	17
1"	40	38	36
1 1/2"	120	118	116
2"	200	195	185
2 1/2"	300	289	270
3" x 2"	470	440	390
3"	640	590	510
4"	900		

ANSI 2500

	1" NPS		1 1/2" NPS		2" NPS		2 1/2" NPS	
BORE	SCH 160	SCH XXS	SCH 160	SCH XXS	SCH 160	SCH XXS	SCH 160	SCH XXS
0.63	23	31	16	18				
0.88			42	52	34	37		
1"			55	68	44	48		
1.3					105	120	80	90

ORDERING INFORMATION

Example: 2" 3000 Series Full Port, P Seat, Stellite Seat Material, 316 Ball Chrome Plated, 316 Body, 1500# Pressure Class Socket Weld Ends

0 is a Zero in the model Number.

2	-	3	F		4		S		A		C		A	-	15		E	
SIZE	-	SERIES	PORT SIZE		SEAT		MATERIAL		BALL		BALL COATING		BODY	-	CLASS		END CONNECTION	
1/2"	3	3000	F	FULL	0	NONMETAL	A	Arlon 1555	A	316SST	B	BORONIZING	A	316 SST	01	150#	A	NPT
TO			R	REDUCED	1	O SEAT	B	BORONIZING	C	410SST	C	CHROME	B	A105	03	300#	D	Buttweld
12			D	Double Red	2	G SEAL <750 deg F	C	COLMONOY	D	Inconel	E	ENP	D	Inconel	06	600#	E	Socket Weld
			T	Tripple Red	4	P SEAT <750 deg F	G	Graphite	E	304Lsst	L	COLMONOY	F	Hastellloy	09	900#		
			0.00	Bore Size	5	P SEAT 750F to 1200F	K	Kel-F	F	Hastellloy	M	TANTALUM	G	Incoloy	17	1700#		
					6	G Seal <1100	M	TANTALUM	G	Incoloy		CHROME OXIDE	H	Alloy 20	25	2500#		
					7	G Seal Unidirectional <1350		CHROME OXIDE	H	Alloy 20	R	CHROME CARBIDE	M	Monel				
					8	G Seal <1500deg Uni-directional	N	Hard Carbon	I	Monel	S	STELLITE	N	Ni Al				
					A	G Seal Preferred Direction	P	PEEK	J	410 sst	W	TUNGSTEN CARBIDE		Bronze				
					B	P Seat 1100 Deg F Bi-Directional	R	CHROME CARBIDE	L	316L	0	no coating	T	Titanium				
					D	G Seal with OD O-Ring	S	STELLITE	M	Inconel 825			X	2205 SST				
					A	G Seal Preferred Direction	T	TFE	N	Ni-Al Bronze								
					B	P Seat 1100 Deg F Bi-Directional			O	Inconel 625								
					D	G Seal with OD O-Ring	U	UHMWPE	P	17-4 PH								
					N	P Seat with Downstream O Seat	W	TUNGSTEN CARBIDE	Q	304H								
					H	P Seat Up To 1500 deg F	V	Vaccuum PTFE	R	F-91								
					I	P Seat Integral Seat with No Seat Seal			T	Titanium								
									U	A286								
									X	Duplex								
									3	LF2								
									4	321H								

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